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THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VII.


A MONTHLY JOURNAL.

Devoted to Architecture, Decorating, and Furnishing.

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The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO., No. 440 Montgomery Street, Rooms 11, 13.

Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, JANUARY 5, 1886.

CONTENTS.

GENERAL—

Child and State—True and False—Saw and Hatchet Carpenters—

Flushing—Confidence—Obese Strength of Stone—Yellow Pine—The Year Begins Well—Mr. Garrett's Porch—Building Report from Woodland.

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THEir Seventh Volume.

With present issue commences the seventh volume of this journal as a monthly, and its eighth, including the quarterly of 1879. As will be noticed, the enlargement,commencing with present number, increases the length of the book two inches, thus adding 576 inches of additional printed matter each month, the number of pages being as heretofore, thirty-two.

Early in its history it was recognized, and by action of San Francisco Chapter confirmed as the official organ of the profession on the Pacific Coast, which enrolling recognition it continues to enjoy, and no effort in the future, within possibilities, shall be wanting in rendering it worthy of that distinction.

Situated as we are, far distant from the great principal centers of commerce, manufacturing, building, and other great interests and enterprises of the country, and at the extreme westerly terminus of communication across the American Continent, with not a foot of territory between us and the setting sun, short of the shores beyond the broad waters of the Pacific Ocean, other than the intervening islands; with mountain ranges and vast spreading, barren plains, separating us from advantages at easy command to all our Eastern contemporaries; with entire lack, or high cost of many facilities and things necessary in making up an acceptable journal, its great success is phenomenal.

Sir F. Buxton has well said: "The longer I live, the more I am certain that the great difference between men—the feeble and the powerful, the great and the insignificant—is energy, invincible determination, a purpose once fixed, and death or victory. That quality will do anything that can be done in the world, and no talent, no circumstances, no opportunities, will make a two-legged creature a man without it."

It was the spirit of the above quotation that influenced the founding of this, the first journal published upon the Pacific Coast, in the interest of architectural and building sciences, and that too under the most forbidding and unpromising circumstances and conditions, within and without—has sustained it, lo, these seven years, and will be its inspiration in the years to come.

Whatever of abilities or talent may have been lacking in the past, there has been no absence of honest purposes and desires. The great ambition has been to establish permanently, a class publication devoted to the interests represented in this journal, and such has been accomplished to an astonishingly beyond the expectation of thousands who, in the days of its beginning, doubted the possibility of permanency.

But it has been done, and all things considered, fairly if not handsomely done, and, although "the future is a great land, a man cannot go around it in a day, cannot measure it with a bound, cannot bind its harvests into a single sheaf, and is wider than the vision, and has no end," its hopes inspire and its promises encourage earnest, persevering effort, the fullest developing possible of which the patrons of this journal may expect to realize during the year just entered upon, of which the present issue is the representative number.

Wishing happiness and prosperity to one and all of our kind readers, we ask a return of the consideration, in a renewal and continuation of subscription and advertising patronage, and the generous support that has heretofore come to us from all quarters.

Lien Law Decision as to Proper Time of Filing Lien.

THE Supreme Court of California has rendered an important decision in the case of Ferry, Woodworth & Co. vs. Brainard, which definitely settles the question as to whether any lien under the Pacific Building Act has a continuing, perpetual, or absolute interest in the property lien against, when the mechanics complete the work, or when the work is completed, and the achievement of which is complete when the work is actually finished. The Supreme Court of California has rendered an important decision in the case of Ferry, Woodworth & Co. vs. Brainard, which definitely settles the question as to whether any lien under the Pacific Building Act has a continuing, perpetual, or absolute interest in the property lien against, when the mechanics complete the work, or when the work is completed, and the achievement of which is complete when the work is actually finished.
Building Prospects—1886.

As a matter of course, all statements reaching beyond the present hour, are more or less speculative and hypothetical. But well trained human judgment may safely venture to stop a little beyond the limits that held the future in abeyance, and surmise the probabilities that are to be. The past and present are the measures by which the future may be measured and weighed, and upon which results yet unborn may reasonably be predicated and predicted. There have been but few years since the organization of this State, in which all the conditions have been more favorable at the commencement of the year, for general prosperity throughout the State.

Timely and abundant rains have gladdened all hearts, in cities and country districts, and the common feeling everywhere prevailing is buoyant and cheerful. Large crops and harvestings are confidently anticipated, and the promise of abundance in all directions seems assured. As a natural sequence, confidence and hope abound in all circles of active life, and the opening of the year 1886 is full of prospective blessings.

Among the prominent good influences affecting and producing the desired state of things, is the turn matters have been taken in regard to the Chinese labor question. The monster evil had set down in our midst, taken strong root, and was fast sending its tendrils into every field of labor, trade, and commerce, until it became bold, defiant, and put an arrogant strike, demanding the discharge of white men, and asserting the Mongolian right to control at least the cigar manufacturing trade. The serfs and slaves of the six companies felt that they had their fingers firmly fixed upon the throat of labor, with power to crush out all opposition, and master the situation. But the daring, aggressive move made was a grand mistake against the invaders of labor rights, and resulted in the overthrow of a gigantic Mongolican civil war, the result of which is that Chinese labor is more gloomy to them than it has been at any period in the history of the State.

The feeling inspired by the results in this connection is of the most pleasing one, and the immediate effects is the substitution of several hundred of our own race, some of them with families, as permanent, congenial fellow-citizens, instead of a like number of human beings having no sympathy with the conditions of society, or the mercenary purposes and perversions ever present with that people. These facts in this connection are material only so far as they bear an influence upon the future of San Francisco, which they do in this writer's opinion. Such an addition to the population, as against a Chinaman, is a gain in a general sense, as each individual so added becomes a consumer of American product, while the Chinaman spends nothing that can be saved and carried away to his foreign home.

But the more desirable feature of the case is the influences that flow from this improved condition of things; the healthful feeling invited, not only among the working people, but among employers and manufacturers, who feel a relief in the break that has been made, which foreshadows a redemption from the thraldom that has rested upon them, and the prospect of freedom from that cruel competition which so sternly threatened destruction to honest white effort in legitimate pursuits.

The advantages of the movement of white contractors will be the other branches of manufacture, so much demoralized by the invading hordes of Chinamen. The boot and shoe trade, from men and women's fine work, down to common slippers, is largely in the hands of Chinese operatives, and with many other branches of manufacture, demands the pruning knife of reformation. And as one by one, the white men, girls, and boys assert their rights to perform such labor, and purify the present polluted streets, it is but a question of how the demand for their work will arise, and, with the Mongolians gone, a better condition of things will come to pass, and brighter skies will span the heavens of manufacture and labor upon the Pacific Coast, and lead to numerous boomings of prosperous building.

All this foreshadows the better future, and points to increased wealth among the working classes, and increased demands for white men's homes. Aside from this, with the large amount of building done during the past five years, there are comparatively few houses to rent. This fact presents encouragement, and with the low price of all kinds of building materials, and the abundant supply of mechanical labor, it is fair to anticipate a prosperous year in building pursuits. Without committing the anticipated error indulged in by some of our daily contemporaries, of inflating prospects by statements of "contemplated work," much of which, as published, not likely of consummation, we may state the assured fact that a great number of plans are in preparation in architects' offices, and the outlook for spring is good.

Royal Institute of British Architects.

The journal of proceedings is regularly received at this office, and contains much of interest, as showing the earnest interest taken by the members in matters pertaining to architectural sciences. The fact cannot be successfully controverted that all such organizations, properly conducted, are a source of special profit to every active member, of general benefit to the profession, and from which the building community derives great advantage.

Stand by the California Journal; Besieged But Not Dismayed.
patronage and support, and seeking to allure to their sub-
scription net all who can be reached through the devices
incorporated in Christmas numbers.

Unparallelled efforts. The number of Eastern journals re-
presented this year, and the mass of sample copies distrib-
X X, from E, the point now found, 5, is an important one, as it finds the direction and lean of timber when in position.

Now to find the point 5 is all that is needed to get at all the needed views of timbers; move to the other end of plan; draw line, 7; 8; square up to 9, 7 9 being the height of elevation; connect 8, 9, and take it in the compass; come back to 5; stand in 5; describe curve, cutting at 6; now take the distance 1.5 in the compass, and stand at E and draw the curve 2; when they cut at 6, connect E 6; then E is the distance that will lay level in position over 1.3 in the ground plan. Repeat that same rule on the four corners, and cut all around the outside edges; hinges and stand in 1 2 will have a model to show every timber in position. Weaken with the back of a knife or compass, on each hinge line, and stand up on the ground plan line; cut all around the outside of the figure, and there can be no possible mistake. In general, another form of roof will be treated. Models in card-board, illustrating the foregoing, can be seen at the office of this journal.

M. J. Marion.

Mr. Garrett's Porch.

I

Our November issue we gave a brief account of the unfortunate litigation between Messrs. Robert Garrett, President of the Baltimore and Ohio Railroad, and his neighbor, Henry Janes, the mill-ionaire merchant of that city, by which the latter has secured a victory over Mr. Garrett's erection of a certain building in front of his palatial residence, now building on Mt. Vernon Place; and we remarked upon the ambiguities and puerile contradictions which are so apt to characterize our building ordinances. The latest intelligence is that Mr. Janes has announced, that his devise and suit fails to stop the erection of Mr. Garrett's porch, he will relieve himself of its ominous proximity by moving out of his own residence, which he will then donate to the Colored Orphans' Association of Baltimore for use as an asylum for their dusky proteges. Here's a "bow-dye-do," unquestionably, of a very pronounced type, and one that affects not only Messrs. Janes and Garrett, but all the other residents of this especially aristocratic section of Baltimore. It suggests remark upon the great desirability of an amended legislation against nuisance as to protect public-spirited citizens, who have erected costly homes, from wanton spoliation by the recklessness or malice of a neighboring owner. It is plainly a crying outrage if all the other residents in Mr. Vernon Square must have the value of their investments in that section, amounting to many hundreds of thousands of dollars, impoverished by a quarrel between neighbors Janes and Garrett, in which the neighbors have no part and which they are helpless to control. It is a well-understood principle that no man has a right to use his property so as unnecessarily to injure that of his neighbor, and in all cities there are laws which in this view prohibit the erection of slaughter houses, rendering establishments, and other unhealthful nuisances.

But the law fails to recognize the fact that there are many erections which cannot be strictly defined as injuries to health, which yet destroy the value of adjacent property just as completely. Such is the case above cited. If Mr. Janes erects his colored orphan asylum next to Mr. Garrett, the result cannot fail to be a disastrous depreciation in all the property on Mt. Vernon Square. In St. Louis, recently, a livery stable proprietor drove a profitable trade for several years by purchasing lots in a choice residence section and advertising his purpose to build a stable there. In a number of cases he was taught only by the payment of a large bonus from the adjacent property owners, whereupon Mr. Russell would immediately solicit and repeat the transaction. For a waterfront fellow established a sort of reign of terror among property holders in the finer parts of the city and earned the title of "livery stable fiend," and he recently had an imitator in Chicago. Of course we cannot here outline the necessary enactment to protect the community from such outrages, but it will doubtless provide for a considerable enlargement of the definition of the term nuisance so as to cover injury to property as well as to health.—*Inland Architect and Builder*.

Toughening Timber.—An exchange says: It is claimed that by a new process white wood can be made so tough as to require a cold chisel to split it. The result is obtained by steaming the timber and submitting it to end pressure, technically "upsetting" it, thus compressing the cellulose. We believe the opinion that wood can be compressed 75 per cent, and that some timber which is now considered unfit for use in such work as carriage building, could be made valuable by this means.

Real Estate Transactions, 1885.

Nothing more clearly indicates the degree of prosperity prevailing in any city or locality than the number of real estate transactions, and the prices paid for building lots and land, under a well-balanced market unfluenced by either depressed or excited conditions.

The real estate circular furnishes the following items of facts: Sales in 1884, 3,574; value, $13,374,207. In 1885, 7,556; value, $15,250,000. The average value, twenty per cent within twelve months, the present prices being from $550 to $1,000 per front foot, for a depth of one hundred feet. The cable road-streets have been instrumental in retaining instead of losing the larger lots of the city, and increasing those in the outlying sections, where, a few years ago, and until the extension of the cable roads, they remained at nominal prices. The difference in time required to reach localities ten blocks beyond the old limits is in matter of small consequence, requiring less than one minute per block.

Two years ago a lengthy article appeared in this journal, advising the immediate improvement of all lots on Market Street improved with frame structures to last a few years and then give way to more permanent buildings. *Business for architects.* The foregoing foreshadows future prospects for architects. Even the older portions of the city must give a large field of work to be done in old and worn-out buildings, and the substitution of new edifices of greater or less cost; in addition to which will be all the growth in residence improvements which follows business in new locations, and progressive desire for larger houses, and the buildings on principal streets, will necessarily stimulate improvements on all cross and adjacent streets, and in neighborhoods where some must locate to obtain lower rent rates.

Fall of a Brick Wall—One Man Killed.

While the December number of this journal was being worked off, a rather sad affair happened on Seventh Street, in the city of Oakland, resulting in the death of a human being, who was standing idly upon what proved to be a fatal spot.

A brick building, twenty-two feet frontage, and three stories in height, was in course of construction, and so far advanced as to be up to the level of the third-floor joist. A cast-iron girder was placed at the proper point to provide for the store front openings. About the girder, and resting thereon, were the two side wings or sections of brick-work, the center portion of the front wall being omitted to provide for building a bay-window through each story, twelve feet wide.

Without any sign or warning, the iron girder dropped to the ground floor, and with it fell in a mass all brick work resting on the casting, and a portion of the westery wall, the westerly wall being partly a chimney. The first man was killed directly under the girder and front wall, at the time of the occurrence, and was badly bruised.

There are two reasonable explanations for the let-down: one, that the girder was defective, and yielded under the superincumbent weight placed upon it; the other, that the
PLATE 1.—FRONT ELEVATION.
brick seating on which the westerly end of the girders rested, gave way, owing to the soaked condition of the bricks from the heavy rains, and the soft mortar in the joints, the cement in which had not set sufficiently to produce any hardening effect. The wall that fell, facing the heavy rains then so copiously, however, naturally kept the new brickwork very tender, and added greatly to the general weight, and it is altogether likely that the secret of the tumble was in the suggested order.

The girders were defective in that there was a flaw in the bottom plate, which, although 11 1/4 inch, was rendered of no value by the flaw. But the center rib, 1x24 inch, with a top or crown flange, 1 1/8 inches, was more than sufficient to carry safely all the load imposed, with no more than five feet of front wall at the sides of the building.

S. F. Chapter of Architects.

WING to the regular meeting night falling on New Year's, no session was held for the month of January. It is to be hoped that the members of the profession will re-double their interest in the Chapter work the current year. There are possible results which should call forth the united energies and efforts of every architect upon the Pacific Coast.

Dooming and friendly intercourse is necessary to a healthful spirit of our profession, which is surrounded with as much from the innovations of the scale bugs, teredos and other venomous and destructive professional insects.

P. S. A called meeting of the Chapter was held on the 8th, but the regular order of business, few were present. After reading of minutes, order of payment of bills, and receiving the application of Mr. Sader, of Sacramento, to become a fellow, the Chapter adjourned to meet the first Friday in February.

Nature and Art in Arboriculture.

It does not need the arguments of Hazlitt to convince any body who will give five minutes' consideration to the subject," remarks the Daily News of Monday last, "that we have no source but nature from which to borrow ideas of real beauty, and nature never gave us as a single example of a flower-bed laid out with geometrical figures, or a flowery bank cut up by zigzags and straight lines. Nature abhors a straight line almost as much as she does a vacuum, and all her operations in woods and fields are a perpetual present against formal regularity. It is certain, in this matter as in all others, every effort towards beauty is unanswerable. We must be content to conform to nature's laws, or all our efforts will be of a bad and bastard type, however much we may admire it for a time. It will be of the type which Pope so neatly satirizes when he speaks of the garden where grove ends at grove, each sley has a brother, and half the platform just reflects the other. This is the journeyman artist's style of garden planning—the cunning of the compass and the straight edge. We have had enough of this sort of thing and are tired of it. What we want is a new style, in which the freedom and irregularity of nature are combined with the order that should characterize the garden plot—the order which is Heaven's first law, not the order which delights in clipping shrubs into exact shapes, which always will have tulips planted in beautiful straight lines and exactly equally spaced, and which year after year has, for the sake, we suppose, of a neat and orderly appearance, nipped and clipped all our embellishment planes into sprouting scaffold poles, utterly destroying the natural characteristis of nature. And, as the 'mixed border,' as it is present managed, is not altogether satisfactory, though it is really safe to predict that it will be in the direction of the mixed border combined, perhaps, with the maiming of color shown in the flower beds that future developments of flower-gardening will be effected. We have in some of our parks and public gardens many an odd corner in which nature and art are combined with exquisite effect; but as yet these odd corners are the minor features of our public gardening, and stars and garters, stripes and circles, squares, griddles, bootjacks, and hot-cross buns, are still predominant, and very often they are worked out in colors that strike the cultivated eye as the squeak of an ungreased wheelunless the ass. Now is the time to brood over these things, and plan something better for the ensuing year."—Timber.

Science of Architecture.

[Special for this Journal. By F. Hilleret, Architect and Mechanical Engineer.]

(Continued.)

The purpose of the expansion apparatus is to take the increased volume of expansion by the expansion capacity of heat. For the size of the apparatus, see the same for water heating, which is located at the highest point of the arrangement. Since the water is heated to 200° Celsius, the highest point must be closed. The expansion apparatus is a pipe closed and filled with air (expansion pipe), or a suction and compressing valve (expansion valve) surrounded and closed in by the expansion reservoir.

The expansion pipes have a width of 60 to 70 mins. (2 1/8 to 2 1/2), and its length is from 1 1/10 to 1 1/4 of the whole string of pipes. The expansion pressure valve must be so loaded by weight (inclosed in the reservoir) that at a pressure of about 15° atmospheric the same opens, and the expanded water by heat flows into the reservoir; the expansion suction valve at the cooling of the arrangement permits the water (contracted in the pipe) to run in and fill up the system from the reservoir.

II. MEAN OR MIDDLE PRESSURE WATER HEATING.

This system can be deduced from the warm (low pressure) water as well as from the hot (high pressure) heating.

From a warm water (low pressure) arrangement a middle pressure heating can be made, when, as in the high pressure heating, the highest point of the pipe is closed by a pressure valve, furnishing the possibility of heating the water above 160°.

From a high pressure heating apparatus we obtain a mean pressure heating arrangement, so soon as the first is calculated, that the required heat in the room is so arranged that the water in the fire-ell is not heated above 120°.

The advantage which the warm water middle pressure heating apparatus has over the warm water low pressure arrangement is in the somewhat smaller first cost. The disadvantages are, in the higher pressure all the parts have to sustain by the insertion of the pressure valve.

The advantage which the middle pressure heating apparatus has over the high pressure, consists in the smaller tension in the fire-coil, and in the lower temperature of the water, giving a milder and less strong radiating heat, a larger reserve of hot water. The disadvantages are only in the first higher cost of the arrangement.

Apparately, in general, for warm water heating the form of low pressure is the most recommendable, and for hot water heating that of mean pressure.

STEAM HEATING.

The same depends on the extraction of the so-called latent heat of the steam. In a similar manner, as with water heating, steam the beauty we shall have to be warmed. In the heater the condensation of the steam to water sets free the latent heat to be given over to the walls of the heater, and by the same distributed in the surrounding air.

The important parts of the steam heating arrangement are: (a) the steam boiler; (b) the conducting pipes for the steam and for the condensed water; (c) the condensation apparatus.

The steam boiler for steam heating is constructed on the same principle as with the condensation apparatus as with the condenser for steam heating.

Important for boilers for heating purposes is the volume of water and the tension of the steam. The first (water) is selected in large quantities, since the use of steam is very irregular. The use of steam is large at the starting of the heating, before a constance of heat distribution in the system is present. At tubular boilers, are in general, less to be recommended than smoke-eject boilers. The boilers used in such places as we showed, are often placed by using the tubular boiler (so-called incompressive). They all agree in this respect, that, through the small quantity of water and steam in them, a considerable large damage by explosion is excluded.

The use of such boilers has the same advantage, and a larger measure of water-heating capacity, since by the small volume of water in the tubular boiler and the large
PLATE 2.—SIDE ELEVATION.
heating surface of the same, it may happen, at the beginning of the firing, to be impossible for the feed-pumps to supply—by the fast creation and use of the steam—the loss of water in the furnace as required.

The feed apparatus for tubular boilers, according to these circumstances, have from two to three times the capacity for those boilers with a large quantity of water.

Furnaces at the back of the boiler, in addition to 3 to 4 atmospheres can be taken; for pipes and heater, not above 2 atmospheres. The reduction of the pressure is made by a so-called reduction valve. For feed water for the boiler the conditioned water, even from the last meters should be used as much as possible.

In the disposition of the steam conducting pipes special care must be taken to avoid a cooling off of the pipes as much as possible, and the condensation water to run off with the steam. The steam in a main pipe direct to the highest point of the arrangement, and from there conduct the same by the shortest route to the heater. This method of conducting impossible by local reasons? And when there should be a necessity to place the main conduit of the steam lower than the heater, then the conducting pipes in all cases must run ascending, the incline to be in the direction of the motion of the steam; also, care must be taken that the condensing water has an outlet at its lowest point. All branching off for steam must be made at the upper circumference of the main steam conducting pipes.

Where heaters are to be placed in the different stories above each other, the common steam conducting pipe can be used for the condensing water conduit from the heater, by connecting the admitting and discharging pipes from each heater with the steam pipe, and insert in the connecting pipe of the back-lift valve must be arranged, so that, when the surface of the condensation water in the heater reaches a certain height, this column of water will open the same, giving an opportunity for the water to escape. The steam pipe, arranged for the common use of steam and water, is not recommended; it is difficult to remove the air accumulated from the heater, the action of the back-lift valve making a disturbing noise all along the pipe. It is therefore better to arrange separate steam and condensing water pipes, and insert in each of them, with the boiler, a valve.

The section of the steam pipe should be taken at least as large as the section of a safety valve required for a boiler, to furnish the needed amount of steam for a boiler, the expansion of pipes does not produce unattractiveness and leakage.

The condensation water—draw off—pipes, which must also be run with care, must descend continually to the end. The diameter of the same—steam having a 1000 larger volume than the condensed condensation water, which must be much smaller than the steam pipes; but it also must be considered that the condensation water conduits, at the beginning of the heating and before the state of continuance is established, the condensation being more intense, must carry off quickly all the condensed water.

The heater applied for steam heating is similar in form as the warm water heater described before. In the construction of the same, no alteration must be used to prevent any unions of water and leakage by the sudden start and letting on of steam. All tightening of joints, etc., must be made with metallic or mineral stuff; all organic matters are, therefore, to be excluded. For the heating of the heater the previous former warm water heating can be used; as an average figure may be taken, that a wrought-iron steam heater can condense in the state of continuance—the temperature of the surrounding air being 26° to 1.5 kg. (5.31 lbs.) of steam per square foot (10.76 sq. ft.) in an hour’s time, emitting about 800 units of heat, provided that the surface being washed by the steam is like the heat-emitting surface. With other heaters a corresponding—heat-exchanging—figure must be brought in account. Special precaution is necessary that the heater, when taken, and removed, be not to be is not confined to any particular locality, but prevails over the entire country to the great detriment of the skilled mechanic and annoyance of the lumber dealer, besides being an imposition on the citizen. A reform in this matter is much needed. If a citizen has work that is needed at all it is worth doing well, and ought to be worth a fair living price.—Southern Californian.
Confidence in one's self goes far toward success. The machinist who is able to go about an ugly job feeling sure that he can devise ways and means for successfully completing the work, is the man who is valuable to his employer. A man who knows how to think, is apt to be such a man, while the man who must depend upon some job he has done before, or who must obtain an idea from his neighbor before he can complete the work, is not the man to make a successful mechanic.

The machinist who don't know what to do, or how to do it after he has got a hint, is a sorry chap on a strange job. He is in misery, and so are all around him. He gets nervous, jumps here and there, picks up a tool and lays it down again without using it; he asks everybody's advice, and don't know what to do with the advice after he gets it.

If a man finds himself in this condition he ought to study to overcome it. Let him learn to think out the effect of a blow before he strikes, and he will soon be able to tell just what kind of a blow will produce a desired result.

The whole secret of being a good mechanic: to be able to see in advance just how a finished job should look; to see history, past and present, to frame the matter as desired, and to know just how to make the required cuts.

Watch the "good machinist" and you will see that he knows in advance exactly the effect of every action he takes. He is like a good artist. He sees the picture as completed, and knows what marks to make and just how to make them.

An otherwise good man may have no confidence in himself. He may be too easily led by surrounding circumstances. He may underestimate himself, when his method is best if he only had the nerve to stick to it.

The other extreme is often met with. The "self-sufficient" workman is the man. What he doesn't know about a job, never ought to be known. This man is another who doesn't know how to think. He sees or hears of a certain way of doing, and advocates that method without thinking why and wherefore, or if the method he advocates will have the desired effect.

The thinking machinist is neither of the above men. He is between them, and never reaches either extreme. He thinks when he is not aware of it, and methods and jigs suggest themselves to him naturally.

No matter how ugly the job, a way to do it always comes along by the time it is wanted. Such a machinist is an example well worth following. He goes quietly about his work, makes no fuss or confusion, and is never at a loss for ways and means. Let us, therefore, learn to think. Instead of running our brains on telling stories, and telling which is the best brand of tobacco, just try the effect of thinking out how work is done, and how it should be done.

When a good way of doing a job is thought of, then stick to that way, and have confidence that you are right. The man who thinks is apt to have confidence in his ideas, and can go ahead to the successful completion of any job that comes to him—James F. Hobart.

How Much Ventilation?

Under the above title Mr. James L. Greenleaf, of the School of Mines of this city, has published in Omin's Engineering Magazine for November, 1885, a carefully prepared and interesting paper, designed, as he says, to clear away from the minds of some people a feeling that the asserted requirements of ventilation are made by enthusiasts and hobby riders.

After showing that healthy men are constantly vitiating the air in which they live, and that the dangerous and unpleasant impurity thus added to the air is mainly the organic matter given off from the lungs and skin rather than the carbonic acid, he goes on to discuss the practical question, "How much air is necessary per individual to keep the impurities down to a safe limit?" His conclusion is that if we are content with a somewhat tainted air, from 1,000 to 1,500 cubic feet of fresh air per head per hour will answer, but that if we wish the air in our rooms to be entirely free from traces of mustiness, and to be perfectly fresh
W OOD finishing is the process of applying to the surface of wood objects prepared by planing and smoothing. By another, a thin coating of varnish or other substance, to render it durable, enhance its beauty, or change its appearance. There are numerous methods of finishing, and a variety of materials are used, the varieties of varnish being the principal. The distinctive qualities of these varieties are treated under their proper headings.

In their natural state all woods are more or less porous, consisting of closely packed fibers, with interstices filled with a softer substance. These constitute the grain, and as the hard or soft parts predominate, the wood is said to be hard, fine, or close-grained, or soft and open-grained. To fill these softer parts, or pores, and give to the whole an even, uniform surface, hard, and capable of a brilliant polish, is the object of the finisher's art. This hard, firm surface was formerly gained by the successive application of several coats of varnish, at least three preliminary coats being required. The objectional properties were then removed by the sand or glass-paper, and several additional coats laid on, the last, after becoming thoroughly hard, being polished if desired. In this operation, however, a great quantity of varnish is absorbed by the open pores of the wood, and it is consequently so expensive that it is now seldom used. Reconce therefore is generally to have many plans to render the wood non-absorbent before applying varnishes, and certain compounds are largely used for this purpose.

Richness of effect may be gained in decorative wood-work by using woods of different tone, such as amaranth and amboyna, or inlaying and veneering. The Hungarian ash and French walnut afford excellent veneers, especially for mantel boards. A few useful notes on the woods of recent American authority. In varnishing, the varnishes used can be toned down to match the wood, or be made to darken it, by the addition of coloring matters. The patented preparations, known as "wood fillers," are prepared in different colors for the purpose of preparing the surface of wood previous to the varnishing. They fill up the pores of the wood, rendering the surface hard and smooth. For polishing mahogany, walnut, etc., the following is recommended: Dissolve beeswax by heat in spirits of turpentine until the mixture becomes viscid; then apply, by a clean cloth, and rub thoroughly with a flannel or cloth. A common mode of polishing is by rubbing it first, with linseed oil, and then by a cloth dipped in very fine brick-dust; a good gloss may also be produced by rubbing with linseed oil, and then holding trimmings or shavings of the same material against the work in the lathe. Glass-paper, followed by rubbing, also gives a good finish.

Logwood, lime, brown soft-soap, dyed oil, sulphate of iron, nitrate of silver exposed to the sun's rays, carbonate of soda, bichromate and permangante of potash, and other alkaline preparations, are used for darkening the wood; the last three are specially recommended. The solution is applied by dissolving one ounce of the alkali in two gills of boiling water, diluted to the required tone. The surface is saturated with a sponge or flannel, and immediately dried with soft rags. The coarse paste used for dark woods. Oil tinged with rose madder may be applied to hard woods like birch, and a red oil is prepared from soaked alicant root in linseed oil. The grain of yellow pine can be brought out by two or three coats of Japan, much diluted with turpentine, and afterwards, with pure oil and rubbed. To give mahogany the appearance of age, lime water used before oiling is a good plan. In staining wood, the best and most transparent effect is obtained by repeated light coats of the same. For oak stain a strong solution of oxalic acid is employed; for mahogany, dilute nitric acid. A primary coat or a coat of wood fillers are advantageous. For mahogany stains, the following are given: two ounces of dragon's blood dissolved in one quart of rectified spirits of wine, well shaken, or raw sienna in beer, with burnt sienna to give the required tone; for darker stains, half a pound of madder and two ounces of logwood chips in one gallon of water, and brush the detection while hot on the wood; when dry, paint with a solution of two ounces of potash in one quart of water. A solution of permangante of potash forms a rapid and excellent brown stain.

THE statement of building intelligence for 1885, as appearing in December number of this journal, and in the S. E. Chroni- cle Alta, California, and other journals that used our table of facts were correct. The statement these terming journal, making the sum of expenditures $7,858,110 was not true, except in this,—to take the total sum of reports appearing in this journal, and upon general principles adding thereto ten per cent, which gives this total according to the city press in our city, presented to the readers of that journal as original facts, while in truth the reports of this journal were taken as a basis, and the ten per cent added, to what one word of credits to us for the preparing done from our columns.

The attempt, of the journal referred to, to furnish weekly building reports in imitation of our monthly, are lamentable failures. To make up large lists and details monthly are sometimes resurrected and pared to swell up the list; cases are reported which have not existed in fact; small jobs of a hundred or two dollars are magnified into respectable operations, and extravagant exaggerations utilized to swell appearances and bolster up appearances beyond fair and legitimate facts.

For several years, and until a few months since, this was the only journal that attempted to furnish reports of building operations, which were depended upon monthly by the city press generally, most of whom gave due credit, including the evening journal in question, until it fell upon the idea of a new stroke of enterprise in imitating and patternning after us, and fixing upon weekly reports.

One thing is certain, the grand flourish of 7,858,110 for the year was not derived from any original data in possession of the Evening Bulletin. It was borrowed capital without acknowledgment.

Yellow Pine.

In places where wooden floorings or trimmings undergo severe or constant use, the valuable Southern yellow pine has become largely the most indispensable. All shipworks, ship work its durability has long been acknowledged, but it is only within a few years that its usefulness for house purposes has been appreciated. In former times it was tedious staff to work by hand, but its tediousness is now overcome by the use of more and more tools and steam dressing, and the increased call for hard pine wainscotings and ceilings that have attended the active building operations of late has been readily supplied. No wooden flooring that is used bare is superior to narrow strips of Georgia yellow pine. A well-laid surface of the wood improves with age and friction; its resonant quality hardens for it a sort of natural varnish. Art, too, has recently touched this sturdy old timber. Thin door panels are sawed out of planks containing thick deposits of resin, and the latter, in granular form, may be used to make resinous doors and covers for windows. In the sun the sun can strengthen, the effect produced is a rich, red wine color, showing inside the room. There is a process of artificially seasoning pine. There is also one of steaming it, so that the resin will show uniformly in the board, but these very wet surfaces are handsomely covered and properly smoothed.

The supply of this timber seems exhaustible. A large fleet of schooners and other craft is devoted exclusively to its transportation from Virginia, North and South Carolina, Georgia and Florida. The latter State is renowned for the long boards that are cut from its trees. Georgia owns the standard of quality, but any untapped stock rates high. Trees from which the pit has been partly removed in the manufacture of turpentine turn out lighter wood, but such cuttings have not the wearing merit of savings from virgin trees. Since the war, owing to better railroad facilities, large tracts of new forests have been opened to commerce. Europe, especially England, is a large buyer of this wood. Its excellence in railroad work on account of toughness and comparative lightness, is becoming recognized abroad as well as in this country.

When yellow pine vessels become dismasted or capsized at sea, they form most dangerous wrecks, and at times speak, there is an especial danger to navigation, as the cargoes prevent them from sinking, and they become, so to speak, a floating reef. Several abandoned schooners have been known to drift about the ocean from six to eighteen months. Not long ago one known as the coast of Peru with a cargo of copper wire was reported by the Government. The Government in turn spreads the information, but the danger is only partly provided against, as currents or driving winds can vary the situation indefinitely.

A little girl of two and a half years burnt her finger for the first time the other day. She placed her finger on a hot potato, and suddenly drew it back, exclaiming, "Oh, le's a pin in it!"
The Mechanics' Lien Law, and Supreme Court Decision.

At considerable expense, we have had the Mechanics' Lien Law of the State of California compiled from Deering Code of Civil Procedure, and had the same printed and bound in convenient book form, with flexible cloth covers; price, 50 cents per copy. Sent by mail to any address, free of postage.

Also, such decisions of the supreme court as bear directly upon lien law issues. Every architect, owner of real estate, and every contractor and workman should secure a copy. The trade supplied.

America's Sham Castles.—There is the trouble with the American. If he has $100,000 to spend, he makes the building look like a $200,000 house. I don't suppose there is a building in Detroit that would make a decent ruin. We build for show. We put on these absurdly high coal furnaces, and paint them to look like stone. If we have a single roof, we color it so as to look like slate or tiles. We put up brick buildings and thinly face them with stone. The only genuine thing, as well as the only original thing, about American architecture is the pioneer log-house of the backwoods. There the logs were logs with the bark on, and the roof was of clapboards split from the oak blocks, the chimney was built of clay, and stood boldly and generously out as if it were not a thing to be hidden, but the warmest and most inviting thing about a house. The floor was uncovered boards, and the blackened beams overhead stood boldly out in the grateful light of a hickory fire blazing on the huge, ample hearth. The log-house was a product of the immediate land around it. The clay dug from the well made the chimney, the logs cut in the clearing made the house. Now we live—or try to—in an age of furnaces, of hot and cold water, of shoddy and sewer gas, and die of malaria and diphtheria and all modern improvements.—Detroit Free Press.

One of the most encouraging features in the labor movement is the desire for arbitration, for intellectual entertainments, for laborers' night schools, lectures, etc. The American workingmen recognize that the true path to peace is to know more, to understand the great and vital questions underlying trade, commerce, manufacturing and government itself. Mere theories take very little hold. Socialists have less influence than ever with the masses. The wage-workers will not be led into the adoption of wild schemes. Our public school system has made it impossible for the brain and brawn of a country to attempt destructive remedies. Men and women are arising out of labor ranks, becoming fair writers and lecturers.—The Tradesman.

Some investigations made relative to the heat of combustion of stone coal have led to the conclusion by Meunier and others that during the formation of coal a certain quantity of heat must have been absorbed, since the theoretical heat of combustion was always less than that actually observed. From want of knowledge, however, as to the real constitution of coal, it is regarded as impossible to determine the nature of this absorption. It is also a fact that, from want of knowledge as to the composition of coal, the heat of combustion cannot be calculated. It is well known that two coals of precisely the same chemical composition may and do afford very different degrees of heat in combustion.

PLATE 4.—SECOND FLOOR PLAN.

The London plumbers and gas-fitters are adopting a system of registration, for protection against incompetent workmen, who assume to do work on their own account and, by botching it, injure the reputation of the trade.

It is stated that the Pennsylvania Railroad Company has under consideration the Frost gasoline light as a means by which to furnish illumination for its passenger coaches. The Frost light has an illuminating power equal to seventy-five candles, or nearly as much as a 6' Langren burner.
PUBLISHED by, and in the interest of, the Boys' and Girls' Aid Society of this city, contains the elevation design for the building, and many interesting facts and statements. Through the generosity of Senator Fair, the society was enabled to secure an eligible lot, and the timely gift of Mr. Crocker, of $31,000, supplies the means of the final necessary to active operations. It is hoped that before the advent of 1887 the society will not only have a "roof over its head," but a completed and fairly, if not thoroughly equipped home for hundreds, who, but for the doings of the society, might remain upon the currents of life leading to unhappiness and a bad ending.

The $4,000 from the late Mr. Sharon will still further help on the work; and pre-supposing some things not yet made known, it is fair to set down, in the list of likely things, considerable sums from others moved by innate nobility of soul, or by the example of the few millionaires and wealthy men who have, by their grand gifts to deeds of charity and public benefaction, reared monuments of fame, which will perish when, and not until, good deeds shall no longer be considered meritorious.

HOUSING OF THE BERLIN POPULACE. — A flood of light is let in on the singular spread of socialism in the German capital by statistics showing that in Berlin no less than 34,000 families, comprising nearly 400,000 individuals, have to live, sleep, and often work in suites of a single room. In 5,000 of these rooms there is neither stove nor fire-place. One-fourth of their tenants are poor lodgers. Twenty-five thousand families live in cellars under sanitary conditions that are characterized as absolutely shocking. Such meager accommodations as our beloved New York tenements afford, with their two or three rooms to each family, are at a premium, and would be accounted a great boon by thousands. Only of the poorest and the best classes of dwellings — those renting at 10,000 reichmark a year or over — is there abundance, for the Berlin builder is a speculator, not a philanthropist. The poor have not even the chance of going to church of a Sunday, to meditate on better things to come, were they so minded; for all the Protestant churches and chapels in Berlin have together hardly seats for 50,000, while the servant girls alone number over 60,000. — New York Tribune.

THE BRONZE BACCHUS FROM THE TIBER. — The chalyx incrustation which covered the bronze statue lately found in the bed of the Tiber has been removed, and the admirable modeling of the statue has thus been fully revealed. It is one of the most beautiful works of the kind, and with the exception of some damage to the legs and left hand, is in a capital state of preservation. The statue, about six feet, is doubtless that of the youthful Bacchus. In the left hand is the usual staff, while the right probably held a drinking-cup; in the attitude so often seen in pictures of the god at Pompel. The soft and feminine form, the lovely wreath on the head, the luxuriously waving hair, which is modeled in the manner of the hair of Apollo, are other proofs that the statue was meant for Bacchus. It seems to belong to the first century of the Roman Empire, when Rome was illuminated by the last rays of Greek art. The lines and surfaces of the statue in all the uninjured parts are as fresh and pure as if the work had just left the master's hand. The figure was only half buried, head downward in the bed of the river, so that the action of the water has roughened the lower parts. The eyes inserted are of ivory and give extraordinary vitality to the expression. — London Daily News.

Some Pittsburg men who looked for a leak in a natural gas pipe, with a lantern, found the leak, and then went to the hospital.

ATTENTION is directed to the illustrations given in this issue. Plates 1 and 2 represent the front and side elevation of a very comfortable private residence, suitable for either city or country. Plates 3 and 4 show the two floor plans, which sufficiently explain themselves. As will be seen, the arrangements are complete for a comfortable home, with possibilities for additional rooms and enlargement. Plates 5 and 6 are the two elevations for a convenient, moderate cost, suburban cottage. There are but few journals, even during the holiday season, which have produced illustrations of greater practical value than those in present number.

[From an address by Professor Thurston, of Cornell University.]

At Bloomfield, New Jersey, the authorities are introducing most successfully a course of instruction of both boys and girls in the use of tools in their public school system. A manual training school affords a means of rewarding merit at Girard College, where the best students and most promising youth are admitted into the wood-working and machine shops under instruction, and there, under the careful and skillful tuition of expert mechanics, I have seen boys of twelve doing work at the vise with hammer and chisel and file that many an old workman might be glad to rival. The city of Chicago has a manual training school; at St. Louis, Washington University is doing excellent work in well-appointed shops. Boston, in her great Institute of Technology, besides the classes of aspirant mechanical engineers, has organized other classes of boys ambitious to learn the use of tools, and is cultivating the special Yankee talent in a systematic and fruitful manner; and all over the country these primary technical schools are springing up. "A year or more ago, I received a letter from a capable and successful superintendent of schools in a Western city, saying that he had seen plainly the approach of the new era in primary education of the people for the work and life of the people, and desired to be ready for its advent in his own city, and asked to be instructed that he might intelligently direct the changes of method and system inevitably to come in his own organization.
He came East and worked in the shop and studied under instructors all summer, to obtain the requisite knowledge and skill. Fortunately, he proved a natural mechanic, and an extraordinarily capable man, and he is now ready to lead in the movement when the looked-for time shall arrive. "Trade schools now form a part of every school of engineering, and schools of engineering are springing up all over the land."

ANCIENT SANITARY LAWS.—That sanitary regulations are not wholly the invention of the present generation, is evidenced by the historical fact, which perhaps is not generally known to most people, that more than two centuries ago the father of Shakespeare was fined by the authorities of Stratford-on-Avon for depositing garbage in the street in front of his cottage.

Building Report from Woodland, Yolo County. Messrs. Gilbert & Son kindly furnish us the following facts relative to building improvements in that part of the State:—

"The private residences taken alone are decidedly better, and show a marked improvement over the majority of former years, and confidence is felt that the buildings and improvements for 1885 will compare favorably with any town of same size in Northern California in number of buildings and aggregate value.

PLATE 6.

"The two months showing smallest returns were January and May—25 buildings at $31,700, and the two largest months, September and November—61 buildings at $107,375."

THE SUBSTITUTION OF GLASS FLOORING FOR BOARDS CONTINUES TO INCREASE IN PARIS, THIS BEING ESPECIALLY THE CASE IN THOSE BUSINESS STRUCTURES IN WHICH THE CELLARS ARE USED AS OFFICES. At the head-quarters of the Crédit Lyonnais, the whole of the ground is paved with large squares of roughened glass, imbedded in a strong iron frame, and in the cellars beneath there is sufficient light, even on dull days, to enable clerks to work without gas. The large central hall at the offices of the Comptoir d'Escompte has also been provided with this kind of flooring, and it is said that, although its prime cost is considerably greater than that of boards, glass is, in the long run, far cheaper, owing to its almost unlimited durability.
Masons' and Builders' Exchange of San Francisco.

**Room 11, 314 Montgomery St.**

Brown will be found a list of the names comprising this Exchange. Bulks are pre-

**Printed for each member, so that architects, owners, or others desiring the services of any particular mason, builder, or contractor, can directly connect with that of the Exchange, can readily ascertain the appearance of the person and have his note in the respective columns.

**Brady, O. E., President, 222 Valencia Street.**
**Butler, Thomas, 503 Ash Avenue, Treasurer.**
**Bowers, T. N., Oakland, 504 Castro Street.**
**Brown, J. H., 10 Clay Street.**
**Buck, J., 19 Eleventh Street.**
**Calvert, John, 312 Hyde Street.**
**Cox, John, 698 Jones Street.**
**Cowles, L. E., 129 Oak Street.**
**Dunbar, Wm., 27 Eleventh Street.**
**Dunlop, John, 360 Minna Street.**
**Dunphy, Ed., 1006 Bryant Street.**
**Ferris, Crawford, 9 Battery Street.**
**Glynn, Jas., 432 Clementina Street.**
**Havlazan, John H., 111 Jessie Street.**
**Huck, T., 422 Golden Gate Avenue.**
**Humphreys, Robert, 1724 Jessie Street.**
**Hughes, John, 310 Seventeenth Street.**
**Jordan, D. L., 936 Clay Street.**
**Knollinger, W. G., 1013 Vallejo Street.**
**Kline, H. J., 829 Pine Street.**
**Lieber, J. G., 330 Oak Street.**
**Loane, F. M., 434 Golden Gate Avenue.**
**Mitchell, Robert, 97 Turk Street.**
**McCarthy, John, 2560 Folsom Street.**
**McLaws, A. M., 470 Ninth Avenue.**
**McDermott, John, 124 Tenth Street.**
**McGuire, John, 272 Grove Street.**
**McKearney, J. F., 641 Larkin Street.**
**Nagel, Geo. D., 467 Montgomery Street.**
**Owen, Wm., 1994 Market Street.**
**O'Brien, D. J., 323 Deepwell Street.**
**O'Sullivan, F., 459 Ninth Street.**
**Richardson, Geo. M., 513 Ellis Street.**
**Richardson, M. B., 624 Shotwell Street.**
**Riley, H. F., 979 Pacific Street, Secretary.**
**Robinson, S. N., 54 Third Street.**
**Stevens, W. E., cor. Larkin and Market Streets.**
**Strong, John, 158 Chestnut Street.**
**Waterson, J., Potrero Avenue bet. 223 and 232 Streets.**
**Worrell, C. R., 888 Seventeenth Street.**
**Wright, Wm. G., 538 Market Street.**
**Young, Lewis.**

**RESERIES—IRON MEN.**

**KALTON, H. & J., Iron-men and Contractors.**
**LEWELLYN, R., Columbia Foundry.**
**PITTSBURGH, Thos., Howard Iron Works.**

**WESTERN IRON WORKS.**

**STOKE.**

**Schulcke, F. W., Patent Stone.**
**Somervell, W. S., Granite Building Co.**
**Peterson, H. N., Sand and Gravel.**
**Richardson, M. B., Concrete.**

**BNEK.**

**Roberts & Davis, Sacramento Brick.**
**RICKELBER, K. M. & Co.**
**Patent Brick Co.**
**Peterson, T. W. & Co., San Jose, Brick Co.**

**STEVEN, W. E.**

**BOWELL, J.**

**CLAWSON, L.**

**DAVIE & COBBEL, Lime and Cement.**

**WHITTEN, J. A., Asphaltum.**
**McCune, P. L., Grader and Waterman.**
**SIBLEY, E. T., Transporter.**
**WILLER, F. C., Grader.**
**Bosma, A. J., Grader.**
**Kelso, J. C., Grader.**
**ENGLISH W. D., Co., Graders.**
**Rockey, T. C., plaster, Co.**
**HARREY & SON, Street Contractors.**

**AN EXTRAORDINARY OFFER.**

We want Live, Enterprising, and Capable Agents in every county in the United States of Canada, to sell a patent article of great merit, on reasonable terms, and a new article of great utility, the profits on which will enable the agent to raise over 100 per cent on his capital, without having any competition, and on which the agent is protected in the exclusive right to sell in their county by means of our patent, but with all these advantages to our agents, and the fact that it is an article that can be sold to every house owner, it might not be necessary to make an "extraordinary good offer" to agents at once, but we have concluded to make it now, not only because of the confidence in the merits of our invention, but because of an agent that will handle it with success. Agents now at work are making from $150 to $300 a month clear, and this last makes it safe for us to make our offer to all who are out of employment now to get out and make our business a thirty-day one and fail to clear at least $100 in this time, above all expenses, can return all goods unsold to us, and we will refund the money paid for them. Any agent or general agent who would like ten or more counties and work them through sub-agents for ninety days, and fail to clear at least $750, above all expenses, can return all unsold and make money back to us, as an employer of agents ever dared to make such offers, nor would we if we did not know that we have agents now making more than double the amount we guaranteed, but at the same day, on a large scale, we give a profit of $250 per sale, and that one of our agents took eighteen orders in one day, and this large description of our offer is only to send to every one out of employment who will send us three one-cent stamps for postage. Send at once and secure the agency in time for the sale, and go to work on the terms named, and earn a profit of $250 per sale. We would like to have the address of all the agents, sewing-machine builders, and carpenters in the country, and ask any manufacturer of this paper who reads this offer, to send us at once the same address of all such they know. Address at once, or you will lose the best chance ever offered to those out of employment to make money.

**HENRY MANUFACTURING CO.,**

116 Smithfield St., Pittsburgh, Pa.

**Market Reports.**

Hereafter we will give, as far as practicable, the Market Report (monthly) in the following manner:

**LUMBER—Nothing doing in cargo lots, and prices for same are $1 50 to $2 below the following rates, which are for retail lots:**

<table>
<thead>
<tr>
<th>Material</th>
<th>Rate</th>
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<tbody>
<tr>
<td>Rough Pine</td>
<td>merchandise... per M feet</td>
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<tr>
<td></td>
<td>&quot;  No. 2</td>
</tr>
<tr>
<td></td>
<td>&quot;  Redwood, No. 3</td>
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<tr>
<td></td>
<td>&quot;  No. 2</td>
</tr>
<tr>
<td></td>
<td>&quot;  T &amp; G. No. 1 Pine</td>
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<td></td>
<td>&quot;  No. 1</td>
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<td></td>
<td>&quot;  Siding, G. &amp; T. X. G. No. 1 Pine</td>
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<tr>
<td></td>
<td>&quot;  No. 2 Pine</td>
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<tr>
<td></td>
<td>&quot;  Stepping Pine</td>
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<tr>
<td></td>
<td>&quot;  Surface Redwood, No. 1</td>
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<tr>
<td></td>
<td>&quot;  T &amp; G. Redwood, 2 ft. or over</td>
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<td></td>
<td>&quot;  1 x 6</td>
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<td></td>
<td>&quot;  1 x 6 &amp; T. 6. G. Redwood, No. 2</td>
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<td></td>
<td>&quot;  Siding, 1 x 6</td>
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<td></td>
<td>&quot;  Fancy Fickets</td>
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<td></td>
<td>&quot;  Rough Square</td>
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<td>&quot;  Shingles</td>
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<td>&quot;  Gutters</td>
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</tbody>
</table>

The reduction in above rates is caused by Eastern factories unloading again on this market.

**FAINS AND OILS—**


**Tarpentine, per gallon**

50 cts. [This is a lively competition between Eastern Linedo and Home Manufacturers.]

**BRICK—California Building Description, soft per 1,000,85 60 cts. per girl, hard, 100 75 60 cts. per girl**

**Building Intelligence.**

Where owners' names are left blank, it is so done in most instances by special request.

**B**

**California, bet. Larkspur and Sausalito, three-story pressed brick.**

H. M. Campbell, C. W. B. Brandy, $650.00

**Clay, son Franklin, two-story frame.**


**Concrete, corner Durand, two-story frame.**

A. M. Godfrey, T. D. & J. B. D., $650.00

**Chateau Rouge, bet. Twenty-second and Twenty-third, four-story frame.**

A. E. Hewit, A. E. Hewit, $650.00

**Dundee, near Seventh and Twenty-eighth streets, frame church.**

A. C. German, Methodist Episcopal Church, $650.00

**Eddy, on Mission, Additions and alterations.**

A. C. German, C. M. McDermid, $650.00

**Eddy, on Delaware, Two-story frame.**

D. C. French, A. E. Hewit, $650.00

**Henderson, on Twenty-second and Twenty-fourth streets, frame church.**

A. C. German, Methodist Episcopal Church, $650.00

**F**

**Fair Oaks, bet. Twenty-second and Twenty-third frame house.**

H. J. Rice & J. E. Rice, $650.00

**THE CALIFORNIA ARCHITECT AND BUILDING NEWS.**

**Vol. VII, No. 1**

[This page contains advertisements and notices for various building materials and services.]
Hardware and Builders' Materials

Importers, Wholesale and Retail Dealers.

A Full Line Of

Messrs. P. & F. Corbin's Cold and Silver-Plated, Light and Dark Shades of Plain Antique and Tuscan Bronze, House Trimmings.

Also, a Full Line Of

Carpenters' and Machinists' Tools, Cutlery, Etc.

Joseph Budde's Patent Water Closets

The Golden Gate Plug Closet.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:

1. It has a simple, strong valve, suitable for any pressure.
2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.
3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the floor chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

The Combination Hopper.

This hopper is constructed to take 2 inch pipes, one to the right and one to the left, and a back in the center. It has a removable strainer on top to take the wash water. The lower part of the hopper is made to be seasoned with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to switch, therefore there will be either position of pipe. This hopper can be used only for surface, for waste, or for leader, either inlet will be stopped up with iron caps if so desired.

Pacific Pan Closet.

This Closet is superior to all others, every working part and bolt being made of brass, cast and valve acting heavy casting. Particular attention is called to No. 1. The hopper has no Cardinal points in the lower brass stamp and bolts. No breaking of parts possible required to renew a pan. The forming of two large brass into separate pieces with brass from the receiver. It has a heavy nickel plated cap and polished brass rings.

These Closets have been in use since February, 1885. Plumbers and wholesale dealers give them the best recommendation.


Basket Hoppers are made in one piece with Nickel Brainers.

Side View, Combination Hopper. No. 43 Fremont Street, San Francisco, Cal.
RENTON, HOLMES & CO.
LUMBER DEALERS

A Complete Assortment of Building Lumber constantly on hand.
SPARS AND PILES OF ALL SIZES IN STOCK.

Office, PIER 3 STEUART STREET,
San Francisco, Cal.

CARGOES FURNISHED TO ORDER.

BERNARD H. REICHLING, Secretary.

MOORE & SMITH,
Proprietors PORT DISCOVERY MILLS, W. T.
LUMBER YARDS
San Francisco, Pier 10, Steuart Street.
Stockton, San Joaquin County.
Modesto, Stanislaus County.

A. D. MOORE.

LUMBER YARDS
San Francisco, Pier 10, Steuart Street.
LUMBER YARDS
San Francisco, Pier 10, Steuart Street.

SIDEWALKS, GARDEN WALKS, CORRIDORS, OFFICES, CARRIAGE DRIVES, STABLE AND CELLAR FLOORS, KITCHENS, ETC.

The Courts here and in the East have decided that Artificial Stone Pavements with plastic concrete and its detached blocks are infringements of the Schillinger Patent; and also that when the plastic material is blocked off with a trowel and cut through far enough to control the cracking caused by shrinkage, that such pavement is in law the same as if laid in detached blocks, and is an infringement of the patent. All property owners having such pavements laid without the license of the above Company will be prosecuted.

Office, 404 Montgomery Street, San Francisco.

EGBERT JUDSON, President.

CALIFORNIA ARTIFICIAL STONE PAVING CO.
SCHILLINGER'S PATENT.

SHILOH MINE.

The only Lumber having the Patent Antifriction Latch.
LIGHT BRONZE,
ANTIQUE BRONZE.

JOOST BROS.
A Complete Assortment of Locks, including the
EASTLAKE DESIGN
of Bronze Goods of
MALLORY, WHEELER & CO.,
NEW HAVEN, CONN.

FABIAN JOOST.

JOOST BROS.

Hardware

A Full and Complete Line of
Real Bronze House Trimmings,
FROM THE CELEBRATED
RUSSELL & IRWIN MANUFACTURING CO.
NEW BRITAIN, CONN.
The only locks having the Patent Antifriction Latch.
LIGHT BRONZE,
ANTIQUE BRONZE.

DAMASCENE FINISH,
Unrivalled for Beauty of Workmanship.

1438-1440 Mission Street, near 11th, San Francisco Cal.

Hardware Importers.
THE SAN FRANCISCO
Embosed Glass Works,
997 MARKET St.,
Corner of Sixth, San Francisco,

W. H. WARREN, Proprietor

THOS. C. BUTTERWORTH,
GLAZIER,
AND DEALER IN
Window Glass of All Descriptions,
No. 314 Montgomery Street.
Masons' and Builders' Exchange.
Box 48, Residence, 300 Twenty-first St., San Francisco.

S. E. HOPPER.

ORNAMENTAL GLASS WORKS
145 VALENCIA STREET,
Glass Staining, Embalming, Bending,
Embazing, Etc.
W. HOLST, Proprietor.

JAMES McCARTHY,
Ornamental Glass Cutting
10 Stevenson Street,
(Two doors from First—Pioneer Mill.),
Between Market and Mission, San Francisco.
Designs to suit the various departments in Buildings, etc.

J. H. DINNIENE,
Glass-Cutting, Embossing,
Bending, Engraving, and Designing Works,
NO. 108 MAIN STREET,
Bet. Mission & Howard, San Francisco.

Drilling of Holes and Repairing of Broken
Articles a Specialty. Estimates
Given on Plain Glass.
GROUND GLASS ALWAYS ON HAND.

Sierra Lumber Company
MANUFACTURER AND DEAL IN
Doors, Windows, Blinds
SUGAR PINE, YELLOW PINE, SPRUCE & FIR
LUMBER.
Cor. Fourth & Channel Sts., San Francisco.

Pacific Coast Planing Mill
A. KENDALL,
Corner Grove and Second Streets, Oakland.
Moldings, Brackets, Frames,
DOORS, SASH AND BLINDS.
Water Tanks, Ornamental Fences.
Book Cases and Mantels to Order.

STAIR BUILDING A SPECIALTY,
COUNTRY ORDERS SOLICITED.

JAMES YOUNG.
W. J. THOMSON.

BEALE STREET MILL
YOUNG, THOMSON & CO.,
Manufacturers of
FRAMES, SASH, BLINDS,
DOORS AND SHUTTERS.
308 Mission Street.

Made to Order, all kinds of Outside and Inside Finish and Moldings. Brackets and Scroll Hinges and Wood Turning in all their branches, done with dispatch.

JOINING A SPECIALTY.

GLADDING, McBEAN & CO.
SEWER, WATER AND
CHIMNEY PIPE.
LINC10N PLACER CO.CAL.
1358 MARKET ST. S.F.

WEED & KINGWELL,
CALIFORNIA
Brass Works,
125 FIRST STREET.
Manufacturers of all kinds of Brass, Composition, Zinc and Brass Foundries, Church and
STEAMBOAT BELLS.
A full stock of Plumbers' Goods constantly on hand.
Agents for Siebert's Eureka Lubricators.
The Cut represents our Patented Valley, particularly adapted for outside garden hose and fire plugs. It is better and 25 per cent, cheaper than the common hose bib.

GOLDEN GATE
PLASTER MILLS
215 and 217 Main Street,
Between Howard and Howard.
SAN FRANCISCO.
LUCAS & COMPANY,
Manufacturers.
CALCINED PLASTER.
(PLASTER OF PARIS.)
Marble Dust, Land Plaster, and Terra Alba.

DAVIS & COWELL,
Manufacturers of
Santa Cruz Lime,
Importers of
Cement, Plaster, Hair, Marble Dust, Fire Clay, etc.
211 & 215 Third St.,
Between Clay and Washington.
SAN FRANCISCO.
P. O. Box 1042.

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Drilling of Holes and Repairing of Broken
Articles a Specialty. Estimates
Given on Plain Glass.
GROUND GLASS ALWAYS ON HAND.
SACK'S AUTOMATIC SELF-DISCHARGING
WATER CLOSET,
THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns every house into a sanitarium, and is an assurance to those who trust it, that neither sewer gas nor nauseous vapors that invade our houses weighted with disease and death, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! It has no "overflow," rendering it a positive seal against sewer gas and reeking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbersome and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principles, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "main" with perfect purity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its foot.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish its end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "paws," or "pulleys," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-cleaner it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape in a continuous stream, or for any length of time.


It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke-flue A, of fire-clay, 6 feet length, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke-flue which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is boxed together and secured to the studding by iron bands C every four feet.

W. E. STEVENS,
MASON AND BUILDER,
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Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., MAY 10, 1886.

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What is the Difference?—New Device in Blinds—Lack, "Good and Bad"—Lien on Public Buildings—New York Court of Appeals—New Zealand Insurance Company's Offices.

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Building Review

Bay Windows over Street Lines

Quiet Not Against an Architect

Great Influx of Strangers

Growth of San Francisco

Science and Architecture

Hard and Easy States

Marson Artiste

S. F. Chapter of Architects

TRANSPARENCY COLORS

MISTAKES IN BUILDING.

78

Material Facts for Owners' Consideration.

Good buildings are sometimes erected without the professional services of an architect. But whether as good and as complete as they would have been under the planning and superintendence of a competent architect, is a question. The proposition suggested is reasonable. For the incessant and perpetual study of an architect is to discover and develop new ideas, to determine and mature better plans, to overcome difficulties encountered in prior experiences, to provide against defects and errors which may have occurred, and in a word concentrate the entire energies of his mind and brain to producing improved results; and it is not reasonable to suppose that among men of equal intelligence, education, judgment, industry, and advantages, those who devote their time, and employ their mental and physical energies in special pursuits, can properly understand and practice their selected avocation, and, by incidental application, also understand as proficiently these specialties which others, their equals in all intellectual and physical senses, have made matters of constant study and daily application. Men generally master not more than one thing or calling, and as the "old saw" goes, "They that are jacks at all trades master none." We admit that there are a host of contractors who would have become most excellent architects had they so applied themselves. But a reasonably perfected knowledge of architecture can only be obtained by the possession of the natural qualifications of mind and judgment, and constant practice and study. Incidental scholarship and superficial knowledge does not, by any means, qualify men to assume the practice of a profession, than which no other requires the more intense exercise of every mental and intellectual faculty. Hence, we find men calling themselves architects who are simply pretenders, mere frauds, aspiring to be what they can never become, through fatal defects in their natural or acquired qualifications. But a host of mistakes sometimes occur even with the best and most careful architects, and generally when no architect is employed, and most always when buildings are entrusted to the manipulations and control of parties whose presumption is only equalled by their fearful lack of judgment, and complete ignorance of every correct principle of architecture.

Building Movements.

But little of more than ordinary interest has developed during the past month in building circles. Yet our monthly report presents a more favorable showing than has either of the preceding months of the present year. Our January report showed a gain over the same month for $5 in the sum of $45,535, which was followed by a falling off in February and March of $608,218. But May furnishes returns in building facts which places it $326,781 ahead of May of previous year, and so far recovers the lost ground of the two prior months.

The architects' offices generally in this city have been, as are well filled with engagements, so much so that we have not been able to find competent draughtsmen to fill the many orders sent to this office for help. The offices in San Francisco are well supplied with but occasional appeals for these services.

From other parts of the State orders have been received, but in every instance with, "send us good man," thus indicating that the tendencies are such that it requires the best of architectural and draughtsman skill to meet the demands of clients. But the supply has not been, and is not at present equal to the demand.

The prices of building materials and labor remains in favor of owners, and the fierceness of competition—if the recklessness illustrated by the following recent dodge bearing on the building profession is an index—may be so denominated—removes all liability of contracts being let for more than a fair value on the transaction; and as often as otherwise the contract amount falls short of paying one hundred cents on the dollar at completion. So that, as a rule, gains and advantages are mainly with owners.

Some of the amounts given in our building intelligence list are but partial. These on the Nightingale building, of $8,926, and on the Davis Bros.' building, of $41,185, being sums in addition to partial statements heretofore made on the same structures. The $249,500 on J. C. Flood's building includes only the carpenter work, $102,000; cast-iron work, $19,000; wrought-iron work, $45,000; grading, $5,500; and brickwork, $48,000. There are several contracts yet to be let. The summary for the month shows:

19 frame buildings

4 brick

Alterations and additions

Total for current month

GAIN IN MAY, 1886, OVER SAME, 1885

The exigency of getting a living, and this is especially true in large towns and cities, compels many children to begin work when they ought to be at school. This is unpleasant, but it is nevertheless a fact. As labor makes the wealth which pays taxes, it is no more than an act of justice that children thus compelled by circumstances to work through the day should be provided with facilities for pursuing in the evening the studies they have dropped. To this end evening schools, including those equal in every respect to the "high schools," now a part of the school system, will be established. This would enable many an ambitious young man to do with greater dispatch and less labor what he will probably do anyway, viz., acquire a fair education of the kind attained in schools. In these times the need of education is pressing, and every facility for its acquirement should be provided. As previously intimated, a young man of the right quality is likely to learn any way, but as the labor of those who are obliged to work in years when they ought to be at school goes to enrich the community, they have a right to demand that the way be smoothed for them.

American Machinist.

The State Department at Washington has issued a pamphlet belonging to its series of U. S. Consular Reports, entitled "Scouring of Wool in Belgium, Great Britain, and Germany." The pamphlet illustrates three machines used in Belgium for this purpose.
Bay Windows over Street Lines.

S A N F R A N C I S C O has been, and not inappropriately, styled the city of light. In the old days it was so; and what is more, the windows, the street lights, the electric lights, are so still; but very few—safely to say not more than two and one-half per cent—of all dwelling and tenement houses erected within the county limits, other than those in the erection of which the closest economies have been practiced, that one member of the public has not been allowed to see the brick buildings sitting back from the street lines, the number and sizes are always regulated by the pleasure or caprice of the owner or architect. But when projecting over the lines of streets, the size and height by the fire limit laws, shall prescribe both width or spread, and projection beyond the face of the walls.

Before the recent amendment, were also prohibited by the ordinance, being seen that parties with sufficient influence might, and often have danced through its loose meshes by securing permits of privilege not common to all, except through channels not understood by some, who recognize ordinances and common authorities as general and inclusive alike upon all. Hence the iniquitous special permit practice worked injustice; for even if two parties applied for like privileges, the one being in good favor or possessing the necessary influence outside the tracts of the case, and the other having himself abstracted himself, or gained disfavor in certain directions, the one might, and in cases has been denied privileges granted to the other. This sort of thing has been done in this city in many cases of "special permits," other than bay windows.

THE ORDNANCE AMENDED.

The universal objection to the restrictions enforced by the original ordinance, and the numerous conflicts encountered by the guardians of the law in the matter of bay windows—architects and builders, alike, were regarding for curbing their individual judgments in the matter—the amendments following have been passed by the Board of Supervisors, and are the law in the case until changed by subsequent municipal legislation.

[Amendatory of Sections 27, 28 and 30 of Order No. 1,750, to define the Fire Limits of the City and County of San Francisco and making regulations concerning the same, as amended by Ordinances Nos. 88, 280 and 333 of the City and County of San Francisco by the People of the City and County of San Francisco do ordain as follows:—]

Section 27. No party wall with a window which shall project over the line of any street more than three feet, or more than nine feet in width, or shall be higher than the bay or oval window of less than fifteen (15) feet from the finished floor on which it is located, or bay or oval window shall be constructed upon any street, lane, alley or place which is less than thirty (30) feet in width. No wall shall be erected unless the walls are entirely of fire-proof materials, and no bay or oval window shall project from any ewall front. Bay or oval windows constructed in frame buildings shall have piers or spaces of not less than five feet in width between them. Bay or oval window constructed in brick buildings shall for a two-story building have piers of not less than six feet in width between them, and for a four-story building the space separating said windows shall not be less than eight feet in width, and bay or oval window shall be more than four stories in height above sidewalk. No bay or oval window shall be erected on the corner of the building in brick buildings shall be supported on lintels of four (4) feet each story, said lintels to be the full width of the wall and rest upon the sills on each floor and the top of the openings shall be covered with a brick or stone sash. The exterior frames of bay or oval windows constructed in brick buildings shall be of fire-proof materials.

Section 28. Any building more than forty (40) feet in height in the City and County of San Francisco, whether already erected or hereafter to be built, shall have sash frames and sash made and generally constructed with some fire proof material, and all sash shall have ladders leading to the same; and all such sash or lookout windows shall be at least two (2) feet by three (3) feet, and if a bulk head is used or obstructed in any building more than the United maturity or eight feet high and be not projecting over the roof. The close of the bulkhead or any sash, shall not be above the roof, and shall be not above the second floor bays.

All skylights of buildings outside of the fire limits where located less than three feet from roof shall be beading or substantial railing not less than three feet in height. Within the fire limits all skylights exceeding twenty superficial feet shall have the frame of the same material, and shall be glazed with glass three tenths of an inch in thickness, shall be covered with protecting covers of No. 10 (10) wire, or a lead and a half inch old, and shall be secured to the iron framing at least three inches from the glass.

Section 29. No Order of 1,752 is hereby amended to read as follows:—

[Removal of Inflammable Walls, Buildings, Chimneys, etc. by the Board of Fire Wardens by the order of the Board of Supervisors, 1879.]

Section 25. Whatever, in the opinion of the Board of Fire Wardens, may be considered as combustible, or other inflammable substance, or as being capable of becoming a charge of fire, shall be removed as far as may be, at the expense of the owner, from such building within the fire limits. The Board shall, in the judgment of the said Board, be their own agents for such purposes, and shall, in all transactions, be entitled to the same rate of compensation they might receive for the performance of such services, and the actual value of materials removed, and the cost of removing the same, and when cost of labor is necessary, may be remitted to the said Board for the use of the State of California in aid of the State of Georgia, 1853.

A Quer" Suite against an Architect.

T HE story runs thus: Some year or more ago, a lady called on Mr. T. J. Welsh, architect, and entered into an arrangement for plans, specifications, etc., for two buildings, to cost $10,000. The agreement for compensation was fixed at five per cent for full professional services, and two and one-half per cent should the buildings not be erected. They were not, and the architect allowed his claim to remain unsettled until, after receiving the same, with the requirement thereof. In the event of a dispute as to the amount of compensation due, the Board of Fire Wardens, said depa, will be determined by arbitration of competent mechanics, the manner to select one arbitrator, the Board of Fire Wardens to select two, and to determine the difference between them. The arbitrators as chosen cannot agree, they shall select a third, and the determination of this third shall be final and conclusive—all expenses of the arbitration to be paid by the owner.

Herefore, corner bay windows have not been allowed, and still are forbidden in the erection of brick buildings. But Sec- tion 27 as amended, omits frame buildings from this restriction. Consequently, those who desire them, can erect corner bay win- dows at the intersection of any two streets, over the sidewalk, where the distance from the sidewalk to the front of the bay is not less than 14 feet.

Great influx of Strangers.

A t the end of the railroad war and low fares, very many thousands of people, representing nearly every county of the State of California generally, and, San Francisco in particular; some from motives of pleasure and curiosity; others uniting with these, business objects and interests, and possible permanent abiding in this State or city; and a large number of the former, and hopeful that when the demand for labor upon this coast would be such as to give employment to all wage-earners who might avail themselves of the unprecedented opportunities afforded by the railroad people of the coast. Mr. T. J. Welsh, architect, in the Continuous "for a song." Of the latter, those who have come to California with no other expectation or purpose than to find work as journeyman mechanics, artisans, or laborers,—a very large proportion must meet disappointment; as
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the labor market was well supplied before the commencement of the great rush of visitors or immigrants which has within a few weeks added so many thousands to the number of strangers within our gates."

The people of California would only too gladly welcome that condition of things which would give employment to tens of thousands of the hardsy sons of toil, other than those whose homesteads for years have been in this city and State; but with no new special developments in business enterprise, nor any unfolding in any direction demanding an increase of skilled or unskilled labor, over and above the resident supply, it is impossible that more than a limited number of the more persevering and diligent seers should find employment.

Now discoveries, requiring large forces to operate them, or offering inducements to those willing to risk the uncertainties of fortune in pursuit of prospective results; the expansion of great interests and improvements demanding a large amount of manual labor, and the employment of thousands of working people to prosecute them, present inducements and justify the concentration, and gathering together at available points of a sufficient number of men to meet and supply the demand. But a rush of people to a given center, where none of these exigencies exist, and all the conditions are normal, with supply fully equal to demand, disappointment must result to some.

A CHANCE FOR HUNGRY MEN.

Although what we have written expresses the general condition of things in California, as far as any considerable number of wage-earners recently arrived are concerned, there are nevertheless reasonably well sustained good prospects for a goodly number of really competent and qualified men to find employment. This of course will depend largely upon the earnestness with which each in his respective calling shall seek to secure an engagement. The chances for the competent and skilful men are fair, but those who are not willing to find it difficult to obtain more than incidental opportunities to labor as per diem workmen.

This however may be added—that the element of versatility and progressiveness abounds in California, and there are doubtless many very as yet undeveloped means, methods and channels of business successes and enterprises possible of introduction in this State; so that those who may fail in the realization of their first conceived purposes, may, by the exercise and practical application of that genius so universally accorded to the descendants of the Pilgrim Fathers, lead to results of—at present, unthought of magnitude. Necessity is said to be the mother of invention, and it is to be hoped that many who have come, not finding openings readily made for them, nor grooves run, into which without effort they may settle, will go to work and make openings and plow new grooves in which to operate, alike with profit to themselves and benefit to the general interest. The resources of California are by no means exhausted, but remain awaiting further development which we, hope, will, in many directions, be stimulated by the massing of so many new people on this coast at the present time.

The Growth of San Francisco.

VIEWED from the early days—the time when the briny ocean tides ebbed and flowed over nearly every foot of that portion of the city now occupied by substantial brick buildings in which the great bulk of importing and mercantile business is at present transacted; the days when steamships of three, four, and five thousand tons lay at anchor, or securely moored to piers and wharves, three and four blocks in shoreward from the present eastern bulkhead or water front; when the block upon which the present post-office and appraisers' building was so deep in mud and tide water that the latter could not be reached by the longest pile possible of being driven for foundation purposes; when the entire site of the city was subdivided into valleys, by high hills of natural formation, or ridges of sand ground, and thrown up by the ocean upon the western shore of the peninsula, and by the winds driven across sand hills and dunes, to altitudes towering above the tallest buildings.—San Francisco rightly stands as a marvel of energy and enterprise.

The amount of money expended in cutting and filling to produce the present contour of the city's surface, would be prohibitory, to purchase the land out and out, and to erect substantial buildings for a city of twenty-five thousand inhabitants in any other new and promising section of country.

The present and prospective greatest street business of the city, Market Street, as late as 1858, was, west of Third Street, a continuous sand hill diverging northerly after passing Fourth Street, thereby forming "St. Ann's Valley," including the site of the present Baldwin Hotel and Theater, with the location of which California tourists generally are familiar.

Golden Gate Park, now ranking well, and destined in time to be second to but few in the United States as a public park, was, but a few years ago, a barren, desolate waste, covered with sand drifts and dunes, and stunted growths, seemingly ashamed to claim membership in the tree family.

But with all these drawbacks and disadvantages, the city now spreads itself over many square miles of territory, and the extension still continues, while the vast tract of land within the older limits are being filled up with permanent structures, most of them being in pretensions and cost, "good enough," for the better parts of the metropolis of the United States.

From time to time there existed the spirit of complaining and business murmuring that things were not better or money anything less easy than in the early days of California's existence. Still the car of progression has rolled on and is still advancing, and even many of those who have complained most, have become rich or the "Father of the West." And taking in the entire situation, it is reasonable and altogether likely, that within a generation from the present time, San Francisco will spread to fully twice its present size, and double, if not triple its present number of inhabitants.

The most as far as its building improvements are concerned, about one-tenth of the city is included within the fire limits, in which brick, stone, iron or other indestructible material alone is permitted in the erection of buildings. But beyond these limits, wood is used exclusively, except for business structures. The most costly residences are, with a single exception, wood con-structions, including the private residence of Senator Leland Stanford; that of the late Mark Hopkins, costing about $1,000,000; the residence of Chas. Crocker; Senator Herst; Porter Ash; and many others of the millionaire class.

View, from the heights, Mr. Flood, being the only notable exception; his city residence now in course of completion being of imported stone, brick, etc. No small amount of reflection has been cast upon Mr. Flood, in view of the fact that his great fortune has been drawn mainly from the pockets of the people of this city and coast, and the universal sentiment is that it would have been but a small act of justice on his part to have confined his expenditures to and among those, and the community in and from whom and which he has gathered his great fortune.

The street and section of the city where the Stanford, Hopkins, Crocker, Flood, and other mansion residences stand, was, as late as 1860 or later, a rough, ungraded hill-top, covered with sand and shrubbery, and by no means desirable, being over 300 feet altitude above tide level, and adjudged unsuitable for real life, owing to the difficulty of ascent. But the grand view afforded from this elevation, taking in the whole scope of country over land and water, from all parts of the compass, was indescribably inviting and fascinating, and by degrees the tax upon limbs and muscle to make the ascent, yielded to the magnificence of the prospect when home was reached.

THE CABLE-STREET RAILROADS.

When this device as a street-car motor became a certainty, a demonstrated fact, hills no longer bore a forbidding aspect. When it was made sure that the accents up steep grade could be made with the same ease and personal comfort, and a great deal more of scenic and romantic looks than substantial hill tops so far as traversed by the new mode of travel, soon gained favor, and advanced in value more than double within a single year.

These cable roads have not only helped and improved hill property, but in every direction where they are operated, prop-
To measure the velocity of the air, anemometers are used. The instruments in practice, therefore, are Rotatory Anemome-
ters, consisting of a very small, light-winged wheel, made of aluminum, and being propelled by the pressure of the air. An in-
dicator, attached to the spindle of the wheel, furnishes the number of revolutions made in a certain time, from which the velocity of
the air, with the aid of a constant, found for each instrument, separately, can be obtained.

The common Rotatory anemometers are used to find the mean average velocity, but do not give any variations in the velo-
city of the current during the operation; i.e., one hour under given conditions; for example, for the examination of the effect of a ventilation arrangement for the contracted and guaranteed quantity of air to be furnished.

The velocity of the air in the different places of the channels in general will not be the same; since, further, by
the introduction of the anemometer in the channel a small decrease
in the same and a consequent deviation in the direction of the
current is made; also the constant of the instrument to be re-
liable after a certain time, must be found anew and from other causes, those measurements of velocity can only give approxi-
mate results, with which we must be satisfied, since means are
being found to arrive at a certain section of time, i.e., one hour under given conditions;
for example, for the measurement of the effect of a ventilation arrangement for the contracted and guaranteed quantity of air to be furnished.

There are two different kinds of hygrometers. The first kind is
lacked thereon, to decide for the moisture presently contained
in the air, the temperature of the thaw point, and from the same
under assistance of the actual existing temperature of the air to
find the percentage of saturation; the second kind of Instrument
uses the changes of a delicate hydrosopic body produced and
conditioned by the moisture of the air for the direct finding of the percentage of saturation. The last kind of hygrometer is for use the most recommendable, and are those of others.
The first kind are those of Daniel, August, and Regnault.

Apparatus for moistening the air. With air heating the moistening is mostly done by placing open vessels filled with
water in the heating chamber. The filling of the pans (arranged
for a variable water surface) and the control over the same must
be done from outside of the heating chamber.

This method of moistening the air is incomplete. An
improvement can be made when the water pans are so arranged
that the water warmed by the heated water is blown toward the
face of the water. For this purpose the heating chambers in a
certain height are divided into two compartments, in one of them
water pans are placed (arranged with overflows), one on top of
the other, with small openings between, through which the heated
air passes over the water surfaces. The effect of moistening is cer-
tainly increased with the increase of water surfaces. Approxi-
mately can be taken, for each square meter of the channel, 15 square meters of water surface.
A self-regulating apparatus may be constructed which will fulfill the condition that when a certain desired state of moisture is passed, the apparatus will discharge, self-acting, the wanted quantity of water. A hygrometer of a separate construction closes an electric current, which opens a valve by means of an electric magnet, discharging steam or water spray so long, until the desired degree of moisture is regained, when the interruption of the electric current will close the valve and stop the flow.

The reason of writing the above was a displeasure felt by the pausing and enforcement of certain municipal laws—and other matters—which are and were erroneous, having no basis. They created displeasure in society and do not give the comfort and protection which a beneficial law should. Once begun, one subject leads to another on the same scientific matter; it is inexhaustible, and may be proceeded with by able men.

Practice was the forerunner and the foundation of the sciences in the course of progress of human culture. The fire made by friction by the primitive man, to prepare his food and to warm himself when cold, compared with the making of steam for preparing all raw material by mechanical process for the protection and comfort of men; and with chemical process by decomposition, etc., for explosives and thousands of other things, is only a slight illustration.

There has been a cry by practical men against theory, when hardly anything can be and is done by them without using the intellect, either direct or indirect. The men, for instance, attending to a shaping machine; the Chinamen, attending to the loom, work under and use the spirit and genius the inventor placed in the

machine, requiring of him only the mechanical labor as attendant. They do not wish to acquire, and have not the scientific knowledge; hence criticize and condemn what they do not understand.

"Hard" and "Easy" Stairs.

There is no feature in house and building construction which should be more carefully considered, or receive greater attention from architects, than the stair work; as the stairs are a part and portion of the edifice used by every one, young and old, in passing from story to story, and a sense of fatigue or comparative comfort follows each successive ascent. The architect may not, and is not supposed to understand as

fully as the skilful stair builder, the many practical details of construction, gained and made perfect by daily and incessant application; or the science of obtaining the numerous intricate lines, cuts, levels etc., involved in stair building; but he should understand most perfectly every requirement necessary to produce stairs that will afford the greatest amount of comfort to those who may use them. Stair builders are never to blame for "hard" or uncomfortable stairs, when controlled by plans made by another. Whether "hard" or "easy" depends altogether upon the allotment of space for construction. The limitation of horizontal distance for run, to vertical height from floor to floor for rise, at once determines results; for if the run is made less than it should be, as compared to the height or rise, no amount of money that might be expended, nor the skill of a thousand stair builders, could pos-
sibly prevent the continuous use of comfort resulting from the lack of sufficient space.

The rise, height from floor to floor, is absolutely arbitrary, admitting of no concession or compromise; and upon this fixed factor, all other calculations in stair building must be based; so that, as the cost or hardship and length of the ascent, and upon the proper accommodation of run to rise. Hence, if the architect restricts the space within which the stairs are to be built, to less than what is necessary for the purpose, he thereby establishes an invariable obstacle to easy-stair construction; and in every case where the ascent of a flight of stairs is not comparatively comfortable, the responsibility rests upon the party designing and planning the same, whether stair builder or architect—if an architect is engaged, and his plans limit the space for the stairs, he alone is responsible for the results. No stair builder, however skillful he may be, can possibly make easy stairs where the horizontal and vertical distances are not proportionately correct.

PROMOTERS OF AILMENTS AND DISEASE.

The importance and materiality of the subject-matter under notice is probably best shown by saying that these stairs do tire me so; "It puts me all out of breath to go up these stairs," etc., are perpetual and incessant expressions, particularly with the feeble and aged; and frequently smart and active people find themselves well out of breath by going up stairs a little lively; all of which goes to set up the fact that a vast amount of physical force and energy is required and expended in the ordinary use of stairs—millions of people the world over, being every moment going up and down. But the act of ascending the indispensable house conveniences. And the fact is well known, especially among the medical fraternity, that "climbing stairs" is a most injurious exercise to weakly and ailing persons—those not blessed with strong physical constitutions. The doctor's prohibition is placed upon multitudes, and untold numbers of prostrations upon beds of suffering have origin in too much stair exercise. And this being true, that ascending stairs is hurtful to those who are not strong, it is not an extra tax upon the strength and energies of every man and woman who is required or compelled to pass from floor to floor by means of stairs! It is more tiresome to even the strongest and stoutest of men to ascend stairs to the height of fifty feet, than to walk on level ground. The strain, although a man might, and very possibly could, "walk all day" without exhaustion, it is doubtful whether a human being could be found, capable of enduring the fatigue of one single hour's continuous ascent of stairs. The regularity of these denominated "hard" to ascend. The strain upon the muscular and physical forces would be far too great for human endurance. It is questionable whether in the entire population of San Francisco a single individual exists who would be able to perform the feat, and if found, the condition at the ending of the performance would be exceedingly dilapidated.

All this serves to verify the common everyday experiences and aversions in families and among business men and people generally to the use of stairs. The ever-present disinclination in this regard remains unexpressed from the force of circumstances, —the compulsory ascent of stairs as the only means of reaching the upper stories. People do not "go up-stairs" for any pleasure found in the act of going up. There may be pleasures reached through and by the act, but not in its performance. And it is safe to say, if necessary, curiosity, or some other special incentive never existed, rendering the use of stairs more or less compulsory, they would remain unused.

Stair building is one of the necessities created by the building together of communities of people, in cities, towns, and villages. And it is necessary to establish structures which require structure in height, to furnish apartments sufficient for the purposes of business and domestic life. When mankind dwelt in tents, and spread their dwelling-places over large tracts of land, the stair was unknown. But the centralizing and restricting effect of civilization brought about the necessity for buildings with multiplicity of stories, to utilize which, stairs became an indispensable requirement as a means of reaching the several stories, above one another; and for ages, they have been submitted to as an evil without remedy. But during later years, NUMEROUS DEVICES IN PASSENGER ELEVATORS

Having been invented and brought into practical use to relieve and obviate the fatigues and exertions of "stair climbing." And hundreds of thousands of persons who are "afraid of elevators," and speak of them as "dangerous," are nevertheless willing to "risk their lives" upon these "dangerous contrivances," to avoid the discomforts of reaching upper stories by means of stairways.

All this goes to show that stairs, while a common necessity in our domestic residences, are more a source of enforced Alkoholism, than of comfort and healthfulness. And being so, their most perfect appointment of run and rise should receive the most skillful and careful consideration, as no amount of expenditure of convenience, nor value of hardship and labor, can provide the facility, can relieve the hindrances imposed upon those compelled to use stairs not built in conformity with the best understood rules productive of "easy stairs."

What Is the Difference?

SOME of our readers may think that too frequent reference to the subject of sewer gases, is made in the columns of this journal. If health and life are immaterial considerations, then it is true. If they are important and valuable, then too much cannot be said of the practical artificial breathing apparatus, which will preserve for one moment to dispute or deny, that those poisonous vapors are breathed day and night, sickness and death must ensue. Their fatal character is beyond controversy, and the rapidity of their work depends only upon the quantity inhaled.

Reader, permit us to suggest the following: If a man should fell his wife, mother, child or friend to the floor by a blow, and he should die from the effects of the blow, would not a death be caused by the hand of him who struck the blow? Or if either should be pushed into the waters of the bay, and were drowned, would not he who did the pushing be responsible for the death? In either case, it is manslaughter. Now then, if a man builds a house for his family, and its construction, appointments, and defects are such that the sewer gases are admitted, and killed ones die from the effects of those gases, is it any less a death? The blow caused death, the pushing caused death, and the pushing caused death. The only difference is in the manner and circumstances of the cases. We shall not presume to say that there is the same degree of guilt in either case, but that the result is the same is certain. A man, woman, or child when killed, is killed, the only remaining question being the means and manner of producing the death. And when death occurs, whatever may be the cause thereof, the usual stereotyped notice occurs, in the providence of God, etc., it caused the Lord to call him home. Almighty responsible in all cases, while in so many instances in this connection sickness and deaths are caused by men assuming to know a great deal, yet possessing but a small amount of proper, practical knowledge in many important respects in the erections of homes for their families; doing, or permitting things to be done, at variance with all right rules and principles familiarly known to all intelligent physicians and architects to involve dangerous risks, if not fatal consequences. If the Almighty has anything to do with such cases, to cause the¾ men, causing them to build imperfect and incomplete houses, and employ incompetent men to plan them, and others to execute the blundering work, so that he may kill off some level one. We hold that for the building of the frame, or constructed home in the erection of their homes, nor does he require the blunderings of either architects, plumbers, sewer layers, or any other to work out his purposes. If he uses these means in any way in which it is to punish those who fail to observe the natural laws of creation and life, and bring upon themselves bereavements and sorrows.

A New Device in Blinds.

IN answer to several inquiries concerning Hill's Patent Inside Sliding Blinds, now being introduced on this coast, and whose advertisement appears on page 80, we give the following short description.

These blinds are made by machinery specially constructed for this work, from the best material; they are finished by hand, and are very neat, economical, and efficient. They are constructed of light material, it possesses more durable qualities than a hinged shutter. It can be closed with the window raised, and will not blow open or rattle. The inside blinds are an important feature in most every building, too much care cannot be exercised in selecting that system and style of blinds whose general qualities are simplicity and convenience. Considerable objection has been raised against the inside folding blinds now in ordinary use, and for good cause. They are to be without any rather than be bothered with their curtains continually catching when folding in and out. Many also object to the pocket at each side of the frame, as it forms a receptacle for dirt and dust. The Hill blinds are formed in compartments or sections, and are made to run in grooves, each section sliding past the other with secreted springs to hold them in position at any point. They are very easily managed, and are entirely out of the way of
any article upon the window-sill; they do not in any way interfere with the curtains or draperies, and by pressing the blind to the right edge, they can be instantly removed, and taken from the room and cleaned.

Wherever introduced, these blinds have given entire satisfaction. They are very popular in the Eastern States. And, as they are for the places, neat and ordinary persons, are not so desirable as the folding blind, we think it would be advantageous to those interested, to call on Edward B. Hudes, 330 Pine Street, room 53, who is agent for the association on this coast, and see full size models.

Luck—"Good" and "Bad."

There are but few words in the English language more loved and misapplied than the term, Luck; which is used to express some unknown, invisible, undefined something, having no tangible existence or application other than a speculative, convenient sentiment, utilized to fill endless numbers of gaps in the experiences and vicissitudes of life,—a substitute for the less acceptable idea of destiny; for if a man possesses in his moral, mental, or physical nature, or is specially surrounded with an influence or controlling principle or element which entitles him to the coronation-appellation of a lucky or unlucky individual, then his fortunes or misfortunes must be the result of the agency not under his control, and not the result of clear discernment, good judgment, and prudent and discrete action; but is the result of his own carelessness or non-action, or which is wholly above and beyond the control of the recipients.

Those who pass through life enjoying its common comforts and successes without any specially noticeable occurrences, are considered simply good, careful business men, in whose life is not to be found any freak of either good or bad luck. But those who by acts of shrewdness, cunning, or unscrupulous boldness make big strikes, and gather in great fortunes,—perhaps millions,—are regarded as "lucky," "every move they make wins," while others of equal integrity and calmer wealth fall like heroes under similar opportunities, because restrained by broader and more liberal views of justice and right beyond themselves.

The extravagant and reckless, as well as the weak-spirited, and the misfortunes of work, all their qualifications and consolutions from the same source—"luck."

Those who have swamped fortunes in wild speculations, attribute their adversities to "ill luck." The criminal with the blood of his fellow creature upon his hands, and those guilty of lesser crimes, unite to patch up treaties with conscience by persuading themselves they have been the victims of circumstances—"unlucky."

For all the faults and failures of men, their positive sins and culpable short-comings, "luck" is the antidote.

People generally pay for their failures and mistakes fully according to the theory of "luck," calling it destiny. Alexander the Great depended upon this pre-text for human failures. Pliny says, "Some people refer their successes to virtue and ability, but it all fate." Napoleon believed in luck.

There are such things accredited as happy and unhappy accidents and happenings. We read of a painter who produced a long-sought effect by throwing his brush at a canvas in a fit of rage. Franklin ascribed his turn of thought and conduct through life, to the finding of a copy of Cotton Mather's essays.

It must, however, be admitted that very many most singular things occur. One man may seek to extract the juice from an orange, and perhaps meet his death by choking from the lodged in a single seed in his throat, while another may have an iron bar run through his body and survive; another may cut his flesh with a thorn and die, despite the efforts of the best medical treatment, while another may swallow a jack-knife, pass it through his body, and still live. All in a full period of life.

The thing called "luck" is but a baguette—a delusion for the unphilosophical, spiritless, and indifferent to rest upon. The success of human kind are those who do the right thing in the right way and at the right time. Those called "lucky fellows" are but those men who have been quick to utilize opportunities, and persistently follow up advantage, hunting for additional agencies and sources of wealth, and handling and protecting their gain in the one direction of profit and increase.

"Lucky" is the opposite of the theory is demoralizing, delusive, and mischievous, and a cloak and covering for human faults and weaknesses. The things attributed to luck and chance as commonly understood, are but combinations of events, coming and going like the waves of the sea, which, if set in motion, are not successfully manipulated, yield their reward; while if neglected and allowed to pass by unimproved, they are but as the fleeting winds, those securing advantages being called "lucky," and those who do not, because they failed to succeed, through indolence or inactivity, are credited the royal plume of "or lucky dogs."

The New York Court of Appeals has recently decided a lawsuit involving an architectural detail of an inferior court. The New York Daily Register gives a rather meager report of the case, but there are several interesting points in the decision. The circumstances seem to have been that a certain builder contracted in the usual form to build a house under certain conditions, and charged with the ordinary stipulation that no payment should be made until a certificate of the architects that the payment was due had been presented to the owner. There was another provision in the contract to the effect that the construction or meaning of the plans should be decided by the architects, but that any other difference between the parties should be submitted to the arbitration of two competent and disinterested persons, to be selected in a specified manner, and delay in completion was also agreed upon. The house was not completed for four months after the contract time, but the owner then moved in. The builder applied to the architects for a final certificate, but was told that the owner had instructed them to give no more certificates. He then went to the owner, who pointed out some little matters still remaining unfinished, and told him that when those were done he would pay at once the balance due, after deducting the amount of the forfeiture for delay. It would seem that this promise was not fulfilled, for the builder subsequently brought suit for his money. The defense claimed that the certificate of the architect was agreed to be a necessary prerequisite to obtaining payment, so that the owner after the event submitted the entire contract to arbitration, and as the builder failed to bring the certificate, he had no right of action against the owner for refusing to pay.

Many decisions show that under ordinary circumstances this is an unanswerable argument but in the present case it was not disputed that the owner had instructed the architects to give no more certificates, and the court held that the owner, who had introduced the stipulation in regard to certificates into the contract for his own benefit, might waive it, and that, if he accepted the house as under a completed contract, the plaintiff would be entitled to recover, although no certificate had been given, and even if the architect was not satisfied." Another point was made by the defense, that, as the contract contained that all their differences were to be treated by arbitration, the plans should be decided by arbitration, this stipulation should have been complied with before bringing suit. In regard to this the court held that it was no more the duty of one party than of the other to resort to arbitration, and as the defendant, so far as was shown, took no steps toward the selection of arbitrators, it was unnecessary to consider this defense. The questions which the jury was called upon to consider were two in number, the first being whether the owner accepted the house as a completed contract, and whether the delay in its completion was caused by the owner's fault.

What was the jury's decision we do not know, but the Court of Appeals held that these questions were properly submitted to it, and confirmed the verdict. The case is Mather v. South, from Alco, and seems to have been decided some time in March last. It is worth observing that the ground on which the jury decided that the owner had virtually accepted his house as complete seems to have been rather his promise to pay the contract price when certain small alterations had been made, than his occupancy of the building. It has been decided more than once, that we think, that the owner's moving into a new house does not constitute an acceptance of it, but in the present case the fact of his moving in, coupled with the assurance to the builder that he would pay the balance of the price, less deductions for delay, as soon as some small matters had been attended to, seems to have been regarded as a virtual acceptance from which he could not retreat without good reason, and his duty enforced by the enforcement of the law. The question which the accessories of the cases are those in which, on a field or ground of some secondary shade, the pattern consists of some small repeats, touched slightly with primary color in various tints, relieved or edged with gray.
New Zealand Insurance Company.

In November, 1883, we illustrated the proposed new building of the New Zealand Insurance Company, to be erected in this city on their property, 310, 312, 314 California Street. The Pacific Coast manager, Mr. Hugh Craig, has lately returned from a trip to the head office, Auckland, New Zealand. The company, for the present, have decided to let the old buildings remain and fit up for their own convenience No. 312. To carry out this idea, Messrs. Wright & Sanders were employed to prepare designs for the interior fittings. How well their instructions were carried out may be seen by a visit to the company's new quarters between the hours of 9 a.m. and 5 p.m.

The contract for the carpenter and mill work was given to Mr. W. A. Knowles, of Oakland. The interior decorating is the work of Cook Bros., 108 and 110 Post Street.

A general idea of the arrangements may be gathered from the accompanying desk elevations and interior perspective on following pages. All the woodwork is in solid Eastern oak. The wainscot is surrounded by a band of Limusta Walton 15 inches in width. The frieze and cornice are frescoed in cool, light grays, producing a very pleasing effect, and displaying excellent taste in this style of decorating. A vault of solid brick and cement 18 feet 6 inches by 9 feet 9 feet has been built across the rear of the room. The area of the office is 18 feet 6 inches by 68 feet 6 inches, and is only sufficient for the City Fire and Marine Departments.
The property upon which the offices are located was purchased from Sir Robert Burnett, Aberdeen, Scotland, the Newhall heirs, and M. Rosenbaum of this city. The frontage of the three properties is 60 feet on California Street, with a depth of 124 feet, with a rear frontage on Halleck Street of 60 feet 6 inches.

When foreign capital, represented by companies of this standing, comes among us and identifies itself with our citizens, we cannot, do better than give it our earnest support. Had the above investment been made by a company hailing from London, we would not have been at all surprised, because we can give them a much greater turn than can be obtained in the United Kingdom. But it has remained for the most progressive and youngest of Britain’s daughters to come to us and put New Zealand money, which brings a higher rate of interest at home, into property in San Francisco.

We wish them continual prosperity, and hope the receipts of this bold and conservative company will so far exceed the losses and expenses as to justify them in soon erecting the large building and spacious offices for which Messrs. Wright & Sanders have already prepared plans.

The following brief history, showing the progress of this company, was handed to us by Mr. Hugh Craig, Manager for the Pacific Coast:

"The company was established in Auckland, New Zealand, May, 1859, with a paid-up capital of $24,225. In 1862 its paid-up capital had increased to $75,000; in July, 1863, to $150,000; in July, 1864, to $225,000; in January, 1865, to $250,000; in 1871, to $475,000; in 1873, to $500,000; and to-day the paid-up capital stands at $1,000,000; assets, over $2,750,000, with unlimited liability of shareholders."

To initiate black rosewood.—The work must be ground black, after which take some red lead well ground and mixed in the usual way, which lay on with a flat, stiff brush in imitation of the streaks in the wood; then take a small quantity of lake, ground fine, and mix it with brown spirit varnish, but not with more color than will just tinge the varnish, and if still too red, add a small quantity of Vandyke brown. If the work is well done, the surface, when varnished and polished, will scarcely be known from rosewood.—Painters’ Magazine and Coach Painter.

Shingle Roofs Should be Well Painted.—There is no portion of a building of greater importance, and none subject to greater “wear and tear,” than the roof. And as a general rule, no part which receives so little attention after it is on. Owners seldom trouble themselves about the roof so long as it keeps out the rains, and no effort is made to preserve it, until it begins to leak; by which time the decay assumes such magnitude, that patching and repairs simply prolong for a year or two, the time when the putting on of a new roof will become inevitable. All exposed portions of buildings require constant attention and care, and this is supremely true in reference to roofs, whether laid of shingles or metal. Shingle roofs may be preserved for a lifetime, by being properly painted when new, followed by additional coats at proper intervals. The preservative advantages of painting shingle roofs have not attracted general attention from either owners or architects, although there is no place in the known world where the necessity is greater than in California, particularly in San Francisco, where as an almost universal rule none but thin redwood shingles are used. The severe and sudden changes to which roofs are subjected, of hot suns, heavy fogs and dews, “north winds,” occasional spells of “scorching heat,” heavy rains, etc., etc., are very severe upon so light a roof covering as the fragile redwood shingles. It is, therefore, wise to protect them by painting, which increases durability, adds largely to appearances, and if a really good fire proof paint is to be found, and is used, gives security from fire to a considerable extent; as burning embers falling on a roof so painted, will not ignite the shingles.

Editor California Architect—Dear Sir: How few there are who give credit to the architect, or appreciate his many perplexing studies. He is expected to furnish, off-handedly, all information demanded of him, by whomsoever asked, whether the inquirer be a tailor, a shoemaker, a hatter, a blacksmith, or even a full-blow flower of femininity—an old maid. Even the judicial mind makes demands upon the mental resources of the architect, and but little credit is given for the numerous and varied experiences and studies necessary to all this. The professional architect is looked upon as one whose mind is equal to a common library.

If duly qualified as such, he stands at the head of all the professions. He must be a good geometician; must be skilled in the art of writing up contracts and bonds; must be fully conversant with the strength of all building materials—wood, iron, stone, bricks, cement, etc.; also the market value of lumber of all grades—hardware, wrought and cast iron, glass, paints, slate, plumbing
INTERIOR OF NEW SAN FRANCISCO OFFICE, NEW ZEALAND
Wright & Sanders Architects
THE CALIFORNIA ARCHITECT AND BUILDING NEWS. [Vol. VII, No. 5

materials, etc. Also enjoy a knowledge of the difficult science of acoustics—a study requiring a large portion of a life-time to gain proficiently. In addition to all these, the mechanical science of construction, ventilation, proportions, symmetry, foundations, stairs, and innumerable other things must be well, if not absolutely perfectly understood.

But in the matter of remuneration, it is too often the case that the professional man’s services are demanded upon the basis of but little better than day’s labor compensation, although his services are erected to an almost inestimable. If the standard of remuneration for architectural professional services could be measured by the rules applied in other professions, where far less hard mental work and general knowledge are required, the profession would represent a large amount of wealth. The doctor, for a d乘’s worth of powder, or a shilling’s worth of fluid, accompanied by a grasp of the wrist and a glance at the tongue, is at liberty to demand five or per chance ten or more dollars as a fee for some operation if not rendered in good faith, which multiplied by numerous patients each day, must—as it does in numerous cases—rapidly augment the cash or bank account of the medical man, and enable him to erect buildings, and luxuriate in all the pleasures of a fine span of horses, with appurtenances, etc.

The legal brother professional likewise for an hour’s consultation may demand a fee of twenty-five to a thousand or more dollars, and the charge is more frequently paid than refused. But the architect is drawn down under taught, financial lines, without any of the soft snaps enjoyed in the other professions. The architect must content himself with wending his way to buildings under charge as best he pleases, through mud, slush, and dust, and move around through mortar beds, under plasterers’ scaffolds, to be besmeared with the compound of lime, sand, and hair; climb up ladders and upon scaffolds of not over safe construction, over roofs and dangerous places, sometimes spoiling a whole suit of clothes, lime burning a pair of boots, and knocking fifty per cent out of the value of a silk hat, if such a luxury is indulged in,—all in daily devotion to the duties imposed upon him as an architect.

But these are not all; at the office, numerous views draw upon time, and days in each month are wasted in profitless intrusions upon valuable time. Endless questions have to be answered, work on the boards criticized and corrected, calculations and estimates prepared, documents to write up, and the days filled up with cares and watchfulness for the best interests of clients, and sketching and planning carried late into the hours of night.

Pardon if I have assumed too much in this writing; but I have been so much in contact with architects’ offices in so many States and large cities in the Union, that I feel an interest in the high and honorable profession, and regard its worthy, intelligent, and proficient practitioners as men entitled to the highest considerations. And pity it is that the profession is marred by a single individual whose exalted standing in point of honor, competency, and invulnerable integrity and trustworthiness are not such as to defy criticism.

The following cut furnishes a graphic instruction of finding the cuts over a quarter turn stairs. Let B be the base of cylinder; make C, D the center of rail; make half breadth of rail rigid and left of O, as F; square through center of rail from C and D to 5', as tangents of rail falls there; space off the risers in the cylinder as shown; set up the height of risers, as 1, 2, 3, 4; now continue line D, 5 to J; take compass and stand in 5, and draw curve from F to line 5; 4, do the same with curve 1; next draw the line of pitch from J to 5, 4; continue line from D to K; likewise line 5 to L; square from K, D, over to L, from pitch line J, 5; square through L, take compass, and stand in 1; open out to K; draw curve N, cutting line M, M at 2; connect 1 and 2; which will give the tangent in mould; make line J, O parallel with line 1, 2; make line P, 2, parallel with J, 1; we will then have the parallelogram wherein the mould is found.

Now to find the bevel, draw through 5, 5' to 6; square from 6 over to 7; stand at 7; draw curve 8 to 9; connect 9, 5; that gives the bevel; breadth of 5'-6' is found at 3, 5; take breadth of rail; lay off each s de of 2 and 3; now find the pin points, and draw the curve of a cowl; after mould being drawn, you can cut and stand up as a model.

Explanation: Cut around curve S; cut from J to 5', from 6 to 5 4'; from 4 to line D; hinge from 5' to 1, from 5' to D, from J to 6; cut across the joints and stand up.
S. F. Chapter of Architects.

The regular routine of business being disposed of, and the member designated to address the Chapter on "Ancient and Modern Plumbing" not being present, and having delivered the Secretary that it would be impossible for him to prepare a paper for the occasion which would be to him satisfactory, or instructive to the Chapter, other subjects were taken up and discussed until a late hour, with earnestness and profit.

Mr. W. Gillmor presented a drawing delineating a device for safety at elevator wells in cases of fire, which was favorably received and commented upon. The necessity for greater security in this connection was admitted, and it is only a matter of the time necessary to obtain sufficient confidence that some practically perfect method will be found, serving that purpose, without the necessity of inclining elevators in brick or iron shafts.

The recent destruction of Bancroft & Co.'s building, and facts known in connection with its construction, were freely talked over, with no flattering comments as to its deficiencies as a five-story structure. It is generally understood that the best quality of hard-burned brick, laid in mortar composed of a good and sufficient quantity of Portland cement, were not imposed requirements at the time the building was erected; consequently the walls were not the most difficult ever built to topple and fall. The runs, of course, expose the system of bond iron employed, which, if sufficient to meet the requirements of the fire law at the time the building was built, would not be so considered at the present time by any qualified architect.

The construction of the walls was such as is generally employed, as far as the plan concerned, by the leaders each course. The value of this method of bonding was contrasted with that of the English and Flemish bond, with no concession in favor of the former, except custom and cheapness.

This was followed by a general and earnest discussion of the matter of plan competition in connection with the Stockton Court House, Hall of Records, and Jail.

The course determined upon by the Board of Supervisors having been played, it cannot be reviewed upon those unimpeached as unjust, iniquitous, and promotive of, if not designed to cover up purposes and intents which dare not face the clear light of square and upright dealings. It is well understood, and well and conclusively known by all intelligent architects having any experience in such matters, what is meant and intended by $800 for the first, $400 for the second, and $300 for the third best plan—all of which, however, to remain the property of the Board. The joker in such cases is an old familiar card, and cannot be played with impunity upon those unimpeached as unjust.

It may be that the San Joaquin County Board may be better than other Boards have been, and may be innocent in the error they have made. But if so, then they had better seek shelter by resigning their offices, and propose to do must rest on them, whether they are acting and do act understandingly and intelligently for themselves, or are the servitors of others.

There have been too many of the unfair and unjust, and too few honorably and equitably conducted competitions for informed and competent architects not to feel aggrieved at the repetition of what, upon its face, is transparent in the case under review; and while the members of the Chapter recognize their entire inability to reform the abuses practiced in such cases, or to convince those who have happened or managed to be placed in position, to repeat another competitive wrong in the Golden State, they have the right, as architects, citizens, and men, to express in unmeaning terms any dissatisfaction of the method and manner of competition resorted to by the Stockton managers.

Mr. Sanders presented a drawing, delineating a most ingenious device applicable in testing the strength of timbers in various ways, utilizing a one pound weight in a given position to produce a pressure at another point of 2,000 pounds. The whole affair is simple and possible of being made useful in many ways. No attempts to complete a working model of the device; a committee was appointed to collect the data obtained in the competition matter, and report resolutions in reference thereto at a special meeting of the Chapter, to be held on the 14th inst.

"Family colors" is a term familiar to English coach painters. In this heightened land of ours, under the new order of things, there is no distinction in "regard to color or previous form of service."

Pure linseed oil may be free from adulteration, yet unfit for use, because not properly refined, or freed from mucilaginous matter.

Transparent Colors.

It is well understood that transparency in the proper sense is opposed to opaqueness. A transparent body—strictly speaking—suffers rays of light to pass through it, so that objects can be seen distinctly.

Air, water, and glass are examples of transparent bodies. The word, however, is sufficiently accurate for all practical purposes, and, although in the use of a transparent color we cannot see the ground color over which it is laid, still the groundwork exerts a modifying influence on the so-called transparent color, and the educated eye of the painter sees the ground color, or at least is conscious of its modifying effect on the superimposed color. Within the frame of the human eye and mind, and taking the end sought being what painters term depth and richness, which cannot be gained by an opaque or heavy-bodied color. An opaque color presents to the eye a compact film, while the beauty of a glazing color is due to its property of lying loosely, so to speak, and as varnish is employed the color is asserted by the transparent medium.

The painter may obtain transparent colors in crimson, scarlet, purple, blue, yellow, green, and brown, and semi-transparent ones of less purity of tone; and as these may be used clear, over various grounds, mixed with another, or modified by small proportions of opaque colors, every desired effect presented in nature may be correctly imitated, and the extreme richness be produced on surfboards.

Carmine and the lakes, from cochineal and the madder root, supply all that is desirable in red. Dutch pink, Italian pink, and patent yellow furnish the yellow tone, and ultima is used to advantage for shades concerned. Verdin., emerald green, and green lake add to the list transparent greens of great beauty; and asphaltum has no equal among the browns. Raw sienna supplies a dull yellow, and burnt sienna a very valuable brown orange. The list might be somewhat enlarged, but those given comprise those which are most useful.

An opaque color may be rendered semi-transparent by using a large proportion of the vehicle to that of color, but such mixtures are not of value as compared with the transparent colors. Transparent colors are usually applied so as to retain the tone of the pigment, as it appears when moistened with oil or varnish. Thus scarlet, crimson, and purple-toned lake are painted over grounds of light and deep vermillion, Indian and Tuscan red, and as greater depth of color is desired, the change is made in the ground color. A very brilliant red is produced, by giving a thin wash of carmine over vermilion, and the same shade of carmine may be deepened through browns of varying depths, the limit being black. We may gain lake over blue, or blue over lake, and produce purple and violet hues, but this is not generally practiced outside of striping and ornamenting. The red-toned lakes place at the disposal of the painter a wealth of warm glazing colors; in fact, no contrast could be imagined.

Next in order is yellow, which is termed an advancing color, and when free from the orange cast, and is glazed over white, or delicately tinted grounds, produces brilliance, without garishness.

Patent yellow gives clear, bright toasts. Dutch pink and yellow lake, when "wet up," are of a dull yellow, and may be glazed over drab ground-colors, with good effect, but they are at present employed to add richness to what are termed sea, bottle, and olive greens. In this arrangement, the true color of the yellow is hidden, and its yellow tone intersperses between the foundation color and the eye, a yellow medium thus producing transparency and richness that cannot be gained by any other means.

The soft, mild green-gold, lake over blue, or blue over lake, is well known to coach painters, and they know also, that the precise tone cannot be imitated.

A pure, dark, rich blue is supplied by ultramarine blue. It may be classed as something better than many shades of green that are popular, and yet blue is but little used for panels. It is usually glazed over, dark lead color; and mixtures of Prussian or Antwerp blue and white.

But that is by no means the limit, as it may be successfully glazed over with transparent colors. Verdin, is a perfectly transparent, bluish green, of exceeding beauty, and in former times was in constant use by coach painters, for the panels of heavy work.

Ornamental paintings are lavished of it on gold and silver leaf, and it has almost lost its place as a panel color. Among the browns, asphaltum is the most transparent, and when painted over a dark groundwork, imparts richness, all its beauty.

Transparent colors are sometimes modified or changed by the addition of those that are opaque. Thus, burnt umber and yel-
Mistakes in Building.

OWNERS are often sadly disappointed and grieved at their mistakes in the means adopted by them to avoid the expense of an architect, and obtain plans for their buildings. Sometimes they know, or become acquainted with some honest mechanic, to whom they are induced to intrust the whole matter of plans, specifications, and construction, only to repent when it is too late. The party to whom the proposition is made, elated with the splendid opportunity opened up to him, and full of conceit in his own abilities, uses all possible means to secure and consummate the arrangement, and plans are drawn—and plans!—and the work progresses. Once under way, there is no stopping it, and step by step the owner discovers and realizes, one after another, his errors, which are difficult to remedy. And when the building is completed, he simply feels discomforted.

Imperfect arrangement, poor construction, hostile design, and incurable defects crowd upon him, as the reward of his folly; and regrets for his error haunt him day and night, but it is too late—the lawsuit precedes him and he must bear its defects.

But the first general dissatisfaction is primary and bearable; compared with after experiences in their various details. The plumbing work has, perhaps, been done by some tenth-rate man—a speaker of good materials, wastes entirely too small, and sometimes so cramped in making bends as to diminish their practical size one-half. "Tinker" instead of "wiper" joints; leaks at various points and places; wetting and spooling ceilings and walls, and not infrequently carpets have to be torn up to escape the deluge. All this was followed by a still more serious defect—one affecting the health and lives of the occupants, viz., imperfect or insufficient traps, pipe ventilation, bad sewerage, etc., resulting in the distasteful operations of victims and sewers of gases through the building, and as a consequence, the ill health and sometimes premature death of loved ones. The intended pleasant home is thus transformed into a mere furnace, a disease-producing chamber, unfit for human habitation.

All this is followed by continual repairing, tearing up floors, removing finishes to get at concealed places, etc.; and for all this the owner has been made to pay a good round price, amounting to more, as a rule, than it would have cost him to have secured a good building erected under the superintendence of a trustworthy architect. But had plumbing work is not the only serious defect which so often occurs in such cases. The foundation is often wholly insufficient, and settling occurs, with any quantity of cracks in the plastering. The structure is perhaps so poorly braced that the edifice trembles with every wind that blows. And when the rains fall, leaks are found at every exposed window and opening, and the roof itself yields its proportion of internal wastage. In short, we will not confine our enumeration of "bad things," as to do so would consume columns of space.

Such cases are known to all architects, and many a "servant of mankind" is indulged in, upon the principle that a competent physician ought not to be charged for the sufferings of a patient whose pains and agues result from self-treatment, practice, and the self-satisfied lawyer smiles when his client gets himself into a terrible fix by intrusting his case to some pettigroger, or who tried to work out the intricacies and problems of law by his own self-conceived management.

UNCOVERING THE BASE OF THE SPHINX.—Since the 7th of January last, several hundred Egyptians have been at work under the direction of Brugsch Bey (formerly commissioner to the Centennial Exhibition) removing the sand which has hitherto enshrouded the great Sphinx up to its very neck. By the end of this month the whole of it, amounting to over 20,000 cubic meters, will have been removed, and the grand old monument, cleared by Brugsch Bey, for many years ago, will be again visible in all its beauty. A high wall is being built around it, to prevent the desert-sands from again submerging it.—New York Mail and Express.

THE ARCHITECT OF THE CELESTIAL KINGDOM.—The Mormons have just had another revelation from Heaven, which indicates that their prophet, the late Mr. Joseph Smith, is much too innocently employed there than he was on earth. They are building a big tabernacle at Provo, the second city in importance in Utah Territory, and the architect, a Mr. Folsom, was much perplexed about the entrances and exits, when (as is known) Prophet Joseph appeared to him in a vision and straightened out the crookedness, remarking that architecture is his particular employment in the celestial kingdom. The Salt Lake Herald, a journal run by Mr. Caime, the Mormon delegate in Congress, observes:

"As the arrangement is altogether novel, and a great improvement over similar edifices throughout the Territory, there is reason for crediting Mr. Folsom's somewhat startling assertion."

We recommend this seemingly well-attested vision to the consideration of the American Institute of Architects. We have heard that when the elevators were put into the Equitable Life Assurance Society's Building in New York, Mr. Folsom carefully consulted his deceased father or uncle, through a medium in Ohio, for the plan of them. If the Institute can make a permanent arrangement with the late Mr. Smith for temporary services in difficult cases, it will be a great thing for American architecture. It is a pity that some way to communicate with him was not contrived during the building of our local monstrosity, the New York post-office. But it may not be too late even now to call him over for consultation about the Albany capital.—New York Herald.

LIENS UPON PUBLIC BUILDINGS.—A decision of the supreme court involving the question of the validity of mechanics' liens upon public buildings, holds that liens of this character are contrary to public policy, and therefore void.

Parties contracting for the erection of this class of structures should therefore bear in mind that, although this decision gives them no protection in case of failure on the part of boards, and commission controlling constructive—public—works to pay the contract sum. There are methods by which collections may be reached, through suits, relief bills, etc., but these are always more or less vexations, and often very expensive to the creditor.
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This Closet is the best of its kind, having been so far constructed, it has the following advantages:
1. It has a simple, strong valve, suitable for any pressure.
2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.
3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the floor chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.
This Hopper is constructed to take 2 1/2-inch pipes, one to the right and one to the left and a 1-inch leader in the center. It has also a movable stripper on top to take the overflow pipe. The hopper with side outlet is to be connected with the sewer pipe, either right or left, of the hopper part is independent from the hopper and is made to screw, therefore it will not escape the water of pipe. This hopper can be used in a limited number of surfaces, for waste, or for leader, either outlet will be stopped up with iron caps if so desired.

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This Closet is superior to all others, every working part and bell being made of brass, the hopper and valve extra heavy matter. Particular attention is called to No. 4. This Closet has an oval basin fastened to the cover by brass hinges and bolts. No breaking of pottery joints required to renew a pan. The hopper is made to screw, the leader has an outlet to a hopper, for leader or waste, it may be used, if desired, to work in the same Closet.

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The proposition announced in another part of this issue, offering to dispose of our entire interest in this journal, will be a surprise to very many of its readers, and, in view of the fact that it is, and is recognized as, one of the journalistic successes of the period, it will naturally lead to inquiry as to the reasons for the course proposed.

We answer: It is a conclusion most reluctantly reached; but there is a period in human life when nature calls for relief from excessive cares and labor; when ambitions should yield to the restful peace of contentment with that which has been accomplished.

More than is meet for a guest to attempt, is not wise; nor can any one divide between two purposes the time required for one, and do either well.

This we realize, and therefore propose to relinquish our editorial relationships, and devote ourselves exclusively to the duties of our profession as practicing architect, with the earnest hope and desire that those who succeed us may, in every way, be fitted and qualified for the responsible duties of directing and managing its future successfully, profitably, and alike creditably to themselves and to the class journal literature of the United States.

The multiplicity of personal engagements, and other drawbacks and interruptions in our editorial work, have imposed unusual and excessive mental and physical labors, and prevented the utilization of the numerous possibilities of the situation, which are practical, accessible, and important, and rightly manipulated, sufficient in themselves to furnish an almost exhaustless amount of matter and fact for future publication.

A change of management will also remove all the old, prejudices, and jealousies more or less existing among architects, builders, and others, by reason of the fact of its being published by a practicing architect. For while it has been edited and conducted upon the broadest and most generous and liberal principles, consistent with its reputation as a representative journal, carefully avoiding and excluding all matter and references which could—in reason, without torture or forced construction of plain language, and a total disregard of fair interpretation of intended meanings—be charged as designed for personal, professional benefit, still there are those who claim to be able to trace the personal feature in every issue, from which they draw the conclusion and advocate the theory that a practicing architect in the chair editorial, no matter what the qualifications, is incapable of independence.

We have realized and do realize the delicacy of our position in this regard, and have often restrained the free use of our pen in directions where to have done so would have been attributed to wrong motives on our part.

Not a restraint need exist under a new administration, and we hope our successor will exercise his fullest liberty without fear or favor; for in California, of all other places, those who read journals of any class, like fire and force in the lines they read, eloquence simplified to the common understanding, and information and instruction plainly and clearly expressed.

As an individual enterprise, it offers strong inducements for investment, as, in the hands of right parties, it can be made

The very best paying class journal published west of the Rocky Mountains.

And the fact is beyond all question, that a journal of its kind is an absolute necessity in San Francisco, to represent all interests in any manner pertaining to the architecture, erection, decoration, furnishing, and completion in every detail, of buildings of every class, together with all mechanical, laboring, manufacturing, and producing interests.
all its interests are entirely free and clear from all indebtedness and incumbrances. Its future in the hands of an incorporated company of architects and builders, collectively or separately, or of individuals seeking investment, with proper editorial and managerial appointments, can be made to yield a large return upon the sum required in its purchase and improvement; particularly so, if, combined with the journal enterprise, there is a complete outfit and presses added for general and job printing, in addition to the journal work. We have thus far continued the printing, etc., of the journal by contract, but have frequently considered favorably the arrangement above suggested, and declined its adoption solely upon the ground that such a course would augment cares and responsibilities of which we have had more than we wish to continue in the journal work alone, in addition to our numerous architectural engagements and duties.

It is but seldom that an interest of so great value and assured prospect is offered for sale, but, feeling the twofold weight of professional and editorial responsibilities, it is a personal duty to ourselves to be content with the results of the former.

Redwood vs. Brick Foundations.

In the "early days of California," redwood was considered to be a suitable and lasting material for foundation purposes, and was almost universally adopted. Many stores were related in regard to its durability, among which was one, that a certain post then (1851-52) stapling in a "perfect state of preservation" at Santa Clara, had been planted by "the fathers, a hundred years ago." The general impression prevailed that redwood would last for all time, and nothing better was necessary for foundations, as a rule. But experience has demonstrated the fallacy of these early opinions, and shown that the redwood of California yields to the processes of decay when placed in the ground, varying only in rapidity of decomposition, according to the special characteristics of the earth, sand, or clay formation in which it is bedded, and the sapless nature of the wood itself. The black-heart redwood is far preferable to the softer, more punky and fibrous wood, but for many years it has been difficult to obtain the better kind in quantities, without selecting and extra cost. So that while some of the earlier put in foundations, where the better quality of redwood was employed, have lasted well, the material generally used at the present time, and for a few years back, is from upland growth, and will not last one-half as long, particularly with the common practice of the day, not to spend any time in selecting the really good pieces, and rejecting the bad, but to "take it from the pile," using all that does not possess conspicuously bad defects; and contractors generally are not critical in their judgment on this score. When a load of lumber is sent to a building, the next most important question is its speedy consumption in the work of construction, which might be retarded if portions of the materials were set aside, and a delay occasioned until a substitution could be effected. So, generally the good and bad go in together, either and both of which answer all purposes to the fulfillment of the contract, and the matter of last and decay is left with the owner, as a matter to be attended to as after circumstances may develop.

The old wood foundations of very many buildings have been substituted by brick, and many more will have to be. Some very good structures rest on wood foundations, but the progress of decay and settling is such that changes are necessary. The removal of the poorer for the better and more durable is always expensive, and more or less damaging to the office. The difference between wood and brick is so small that no prudent man who is not pressed in circumstances is wise to build on wood foundations.

There are, however, in San Francisco, localities where either redwood or Oregon pine will last for generations, if not forever. Along the filled-in city front, where timber is boiled below the
 tide level, rot does not occur. Illustrations establishing this fact
 can be seen at the office of this journal, one of which is of Oregon
 pine, taken from the foundation of an old brick building which
 stood on the northeast corner of Battery and Sacramento.

 old bulkhead built on
 the line of Market Street, below First,
 and removed in 1855, show no sign
 of decay. Each of

 Streets. It was placed in the ground in 1853, as planking under
 the walls of the building, and removed in 1875 for the erection
 of a new edifice. It is not only apparently as sound as ever, but
 exhibits signs of petrifaction, and perhaps would have main-
tained its soundness for a hundred years or more, if it did not by
 that time assume an everlasting character. Two other samples,
one of redwood and another of Oregon pine, taken from th-

—the chairs being, perhaps, Renaissance, the table no particular style, the mirror Grecian, the mantel Egyptian, and the carpet some gaudy thing without any particular appropriateness or design. Too much care cannot be exercised in these and all other particulars, so as to insure harmony and appropriateness. The matter of hard wood finishes is one which adds much to the comforts of home where there is an appreciation of the beautiful and elegant, while the extra cost to indulge in them, in certain rooms, is not so great as to preclude their use where absolute restriction in outlay does not exist.

The front elevation of the house should be carefully considered, for the rule, the picture insures construction, any great order certain the Consistency strongly walnut; wood, Take taste, be all conception understood where of them, much priateness. A word or two on the subject of finishing may be amusing. Take for instance the parlor. It should present a cheerful and pleasing appearance. The trim may be in some bright-colored wood, say butternut, primavera or cherry, combined with black walnut; or, if preferred, make it all black walnut. The furniture should show quiet taste, simple in construction, but strongly made. If carvings are added they should be from natural subjects. In fact, a piece of furniture should be like a book—something from which to educate the mind. The carpets should be of quiet colors, harmonizing with the curtains and hangings. The hall, if laid in hard wood, say two inches wide, with a narrow carpet, presents a fine appearance; and if the hat-rack is placed in a recess, removes an obstacle which generally exists in halls; and if doors with cut or colored glass inclusive the same, so much the better. A dining-room with floor of hard wood, either continuous lengths of narrow widths or in ornamental figures, would obviate the expense of carpets, except the cost of a rug in the center for the table, which, with neatly-paneled wainscoting, paneled ceiling, and trim of openings in butternut or oak, or other suitable hard wood, make a neat finish. The side-board should be built in a niche, and in my opinion should be a picture of the building and part of the room. The table should be of proper size, with the legs well under it, so that those sitting around it would not be required to hold a table leg between their knees.

Now, my reader, let me remark, that when you are ready to build, take the advice of your architect in reference to the interior finish and furniture of the building. When you are sick, you send for a physician. When you want to build, consult an architect; and in doing so, consult him in everything, for his studies and experiences qualify him to be your best adviser.

Honorable Emulations.

Practical in the higher and more elevated senses, free from all the belittling influences of the human mind, they are proper and productive of good, and tend to higher developments, and greater and grander results to mankind. They are simply the result of mind upon mind, thought feeding thought, and he who produces the greater should honor the source from whence his thinking came. For the larger part of the art, scientific and mechanical developments of the nineteenth century, derive their source of origin in something that has been suggested, produced, or expressed in ages gone by. There is scarcely anything of recent production which does not find its thought inception in the past; as the steam, with its ten thousand applications and uses, came to light through the humble tontette, and the prolific brain of a boy. And those who have emulated and improved upon those first thoughts, are indebted to a very insignificant and humble origin.

The proudest achievements of the present day are largely the borrowed ideas of the past. Perhaps the origin in many cases may be very obscure, and their obscurity may almost obliterately identity, yet the germ has been planted in years or centuries gone by, and as still and quiet inspirations have come to men of later days, from inconceivable sources, their minds have enlarged and expanded into greater achievements, whether scientific, intellectual, or mechanical, commanding and receiving the admiration of the world. The world is a great school-house, and all men are scholars, some bright and apt to learn, while others are dull and slow, grooping along in mediocrity and scaling down to the lower grades of human life, and some sinking into the depths of vice and degradation.

The apt scholars grasping, mastering, and perfecting the more difficult problems, bringing forth hidden treasures of mind and matter, and making the world wider, brighter, and better. As the rains from the clouds descend to refresh, invigorate, and fructify the seed planted in the soil, the trees and flowers, to grow and mature, and produce other seed and fruit, so do good and bad, wise and unwise thoughts spread broadcast before the world give birth to other thoughts, similar in kind, and the fields of good and evil, advancement and retrograde, are replenished and enlarged by the daily developments of life. Personal glorifications too generally enter into results produced and labors are poured upon those who have simply stood and waited upon and perfected results, from the conceptions of some other and perhaps humbler minds to whom the thought properly belonged. As Jacob, through his mother's device, secured to himself the birthright of Esau, so have thousands since that time secured to themselves credit and praise for results produced, which would not have been conceived or reached by them, had not the origin existed in other quarters. Still, honorable emulations are proper, and the world and society are improved and
rendered wiser and better by the opening up of new, and the onward march of improved thought. And while present generations rejoice in their attainments over the past, they are furnishing ideas which will be emulated and improved upon in the future, by those who will hereafter perform their part in the great drama of life; and with increased learnings and experiences as age after age rolls on in the great volume of time, other and greater accessions will be made to the record of mind develop-

ments, and one after another will appear on earth, simply to emulate, and still further improve upon the past and present, adding link to link, lengthening the great chain of human thought, results and developments, the ends of which will never meet, until human life shall cease, and the great family of mankind pass from earth.

REPORT OF COMMITTEE
APPOINTED BY
San Francisco Chapter, A. I. A.
TO CONSIDER AND REPORT UPON THE MATTER OF
PLAN COMPETITION
FOR THE PROPOSED
STOCKTON COURT HOUSE AND JAIL.

San Francisco, May 14, 1886.

To the officers and members of San Francisco Chapter, American Institute of Architects:

Your committee to whom was referred consideration and report, the matter of competitive plans invited by the Board of Supervisors of San Joaquin County, State of California, in connection with the erection of a public building to be located in the city of Stockton, and for the purposes of Court House and county jail, respectfully report and submit the following:

That the invitation issued to architects by said Board to submit plans for said building, contains provisions and features recognized by the profession generally as objectionable, and subversive of all right rules which should govern in all such cases.

That the conditions and propositions are inequitable, and therefore unjust; that the same proposed as awards are insufficient—the cost of the building considered—and not so apportioned as to be an inducement to qualified and competent men, to employ their time and professional skill in the preparation of plans; that the apparent arrangements are such as to invite and make possible the practice of manipulations, the like of which, in many well-known instances have wrought great injustice upon architects who have relied solely and only upon the merits of their plans for success; that the retention by the Board of all plans receiving awards of premiums, should receive the unqualified commendation of San Francisco Chapter, and all intelligent architects individually, as a suspicious means, through and by which great injustices may be, and in other cases have been accomplished, by the controlling powers selecting any one set of plans to receive the first premium, whether meritorious or otherwise; thus preparing the way for placing the work in the hands of preferred parties, and thus in execution adopting in part or as a whole, either of the other premium plans, as the basis of construction; thus depriving their authors of the professional credit and financial profits which should accrue to them.

Such things are both repugnant and possible, because known to have been so often repeated, that a large majority of qualified architects refuse to participate in any class of competitions; the fact being recognized in professional circles, that fair and just results are seldom reached out to participants.

The propositions tacitly expressed, to terminate all architectural services with the adoption of plans, is unjust. If this is adhered to, then the all-important and material work of details and construction must be entrusted to some favored party, who may or may not be competent. Whether this is intended as challenging the integrity of architects, or is provided to serve special purposes, it is a course which, if persisted in, must and will militate against the best interests of the commonwealth supplying the funds for construction. And if the proposition is not suggested in good faith, with full intent to carry the same into practical execution, then its present intimation is misleading and deceptive.

The Board certainly has erred in withholding the assurance of full architectural services and fee to the successful competitor. The right of an architect to furnish details, and supervise the construction of buildings planned by him, is one recognized and held throughout the profession, universal—as sacred. It cannot be questioned that the man who conceives and mature thought and study into practical illustrations on paper, is the better and only one fully qualified to exemplify such thoughts in practical execution. Plans are but outward expression of general ideas in tangible form—the germ of proportions and fitness lying in the development of the unexpressed thoughts, made complete through the harmonies and combinations in the details.

The need for the services of architects in planning important edifices, is universally conceded, in and by the fact that such services are sought in all such cases, as an indispensable requirement—Stockton not excepted; and so sought because of their value and materiality. Then why those studied efforts to withhold from those whose services and skill are admitted to so essential, fair, full and right compensation for services performed?

An important omission also appears in the entire absence of any provision for an impartial and intelligent arbitration of the merits of the respective plans. While this should be done by experienced and reliable men, fully qualified by practical, architectural and mechanical experiences—men entirely disinterested and free from all bias and personal or local interests or feelings,—such determination, and the rights and opinions of the competing parties are left contingent upon the judgment, whims, and caprices of the honorable Board, and such influences as may be brought to bear.

It further appears that this is another of the numerous cases in which
the attempt is being made to procure three sets of plans for a public building, at a price far below the rates of charges established by architectural societies, and the ranges of the profession the civilized world over—for a single act—total cost of building considered; in addition to the large wastage of time and labor by those whose charges of any award is exceedingly remote and uncertain.

While it may not be, and conceivably is not within the province, power, or influence of San Francisco Chapter, nor any number of chapters combined, to define and dictate rules, regulations, and methods of procedures in matters of competition for any class of building, nor to preclude the making of rules for any purpose, nor to determine the rights and privileges that shall be held as binding in such cases, we, as a Chapter, and as individual architects, express our hearty disapproval of practices and procedures which are calculated to be, and in numerous well-known instances, have been so prolific in impostions upon our fair and equitable rights, that the echoes of favoritism, tricks, schemes, plots, and manipulation are, and reasonably may be pre-supposed in every case where general competitions are invited.

The above consideration may appear comprehensive, and to some questionable; but the facts known in architectural circles are such that we feel warranted in the assumption, that the reasonable and possible proofs fully establish all and none there is in this report.

We further recommend that no member of this Chapter, nor any reputable practicing architect in this State, contaminate or participate in the competition in question, nor any of like objectionable character that may hereinafter be offered for general competition.

In conclusion, we claim that, as a Chapter, and as individual members of an honorable profession, we have just and honorable rights which should be respected by those directing our professional services; that the intelligence, knowledge, skill, and professional men to be disfranchised by such unfair practices and procedures, are the results of arduous study and earnest devotion to their high vocation; and as individual members, we will not, nor be just to ourselves to remain silent and permit infringements of our rights to pass without an expression of disapproval.

All of which is respectfully submitted.

JAMES E. WOLFE,
HENRY C. MACY,
GEORGE H. SANDERS,
WILLIAM CURRITT.

The above report was unanimously adopted as expressive of the views and sentiments of the Chapter upon the subject matter involved in the report.

Art and Architecture.

[Special for this Journal. By P. Holsey, Architect and Mechanical Engineer.]

In the first part of the present century, some architects at the time had the praiseworthy ambition—so far as the ambition went—to invent the sixth order of architecture; but it was simply recommended to them to study the orders existing, to study the principles of art and the laws of nature governing them.

This continent was settled by the Caucasian race of Europe. The southerly part was invaded and conquered by Spain, the conquerors having in the one hand the sword, in the other the enthusiasm of Christianity. Judging from the constant strife and struggle, the Spanish conquerors were not able and vigorous enough to create out of the existing and destroyed civilization a new and better culture. The object of the conquerors was to gather from the conquered, treasures to be brought to the advantage of the conquerors; they gave nothing in return. Christianity has not fulfilled its mission.

The northern part was peaceably settled by emigration from nations of the European countries. The emigrants bringing with them their customs, knowledge, culture, and unlimited energy, to make themselves here a new and happy home under the wings of liberty, social and religious, and a moderate climate, conditions required for a progressive, higher culture, if not retarded and stopped by political strife, interference and unlimited dishonesty.

The culture forming here had its beginning, its history, and tradition at the homes of the emigrant, and to there we must look and turn for information and assistance. So is it with art and architecture. The architect cannot invent a new style of architecture, unless he invents and applies a new building material, of a different cohesive structure than the one used in old and new times.

Art and architecture, to produce works of art, result from the collective exertions of all nations, from the very cradle of humanity. A true work of art will only be produced by genius, or the result of rules or reasons forming from art work, and based on the laws of nature, and not by bygones or traditions for the purpose of producing something without that thought and phantasy have been exerted. The rule of thumb will not make a new style. Some works of pretension, appearing in execution and in print, show symmetry and asymmetrical equilibrium; do not bear out the stamp of purpose and utility. They are unnatural, and not truthful. They show really the want of knowledge of the beautiful, and of thought, and simply to criticise in the spirit of art, would be doing injustice, unless it is known that the designer was in possession of the laws of the beautiful; when, being conscious of the same, he would and could not help using and applying them.

When architecture follows the dictates of popular fashions, of an unnatural taste and useless purpose, and imitating the vagaries and abominations of an unhealthy imagination, ever and ever again, then this is a sign of a degenerated art time. When architects of some pretensions send out such work on the public, such artists have failed in their mission as instructors and cultivators of the public taste. Art, then, has failed to take its place in the general culture of mankind.

Modern architecture has no new style or types. It uses old perceptions, improving them in form and beauty, assisted in the execution of this work by a perfected mechanism and skill. Different is it with mechanical science, which in the last half century has made large strides in the progress, aided by the progressive sciences. To it society is indebted for the immense progress made in every branch of human activity.

I. UNANIEABLE DRIFF IN MEN FOR ACTIVITY.

The necessity of self-preservation compels man, even at the lowest state of culture, to express his wants and make an effort on the natural things surrounding him, to use them to satisfy his wants. The cravings of hunger compel the individual man to seek food to sustain his existence. The feeling of cold, to find shelter; these, and other wants and needs, compel him to exert his mental and bodily powers to provide against them. The first and primitive drift in man, is a deeply seated instinct for the exertion of his energies.

The result of his exertions on the outside world, and the benefits derived hereby, create in him not only satisfaction, but also the action itself. The feeling of his power, and the confidence in using the same, create pleasure and delight in him. He is urged from action to action; and therein rest in human beings an unalienable drift and impulse, the proof of which every leaf in history shows, and a glance in his own bosom proves.

II. THREE KINDS OF ACTIVITY.

In three kinds of activity, in which all human efforts range and concentrate, this natural drift shows and expresses itself, and obtains final results, which designate and mark the highest possibilities of our feeling, actions, and thinking. As ideal, without which human being is impossible, and accordingly to it, are set up the ideas of liberty, immortality, and of (God) himself.

Liberty is the highest aim of our will, to which reason prescribes the laws of morality, without which, liberty is impossible. The idea of God leads to truth, then out of the conception of God, as the highest condition of the possibility of all, follows the perception of truth. The idea of immortality leads to beauty. Then the preservation of human products in their first original form, and the constant changes of nature, gives us a perception of internal duration, and we name, without prejudice to other definitions of beauty, the most perfect of such products, out of which, more than others, the semblance of imperishability is shown, beauty.

The aims of all human efforts are, therefore, in intellectual respects, truth; in ethics, liberty, and in esthetics, beauty.

III. EXISTENCE OF THE SAME.

The natural instinct in its three different forms exists in every man, and shows itself with all nations, from the first and oldest traces of human culture up to our present day. The child's
question, "What is it," on seeing a strange object, is an expression of his inner instinct after truth. The struggle of a grown person with his bad instincts is nothing else but his effort for liberty; and the crippling of the feet of the Chinese woman is only the outcome of the instinct for beauty. Everywhere are perceptible the traces and the results of the activity of these impulses; here, in a known, clear practice; there, in an unknown, instinctive expression; here, in a uniform, systematic relation; there, in a sharp contrast of crude exaggeration and stupid neglect. With the India man the intellectual capacity is very small, the ethic laws deficient, and the esthetic creations, or forms, variegated exaggerations of an unclear phantasy. Harmony and accord predominated with the ancient Greeks. In the Middle Ages the intellectual stood back. Ethic and esthetic were shrouded and tied to positive, unremovable and fixed statutory laws and forms. In modern times these spheres balance each other more and more.

IV. PROGRESSIVE DEVELOPMENT OF THE SAME. FIRST, IN THE ETHIC DOMAIN.

Only those denying history will dispute progress, and deny the educational advance made by mankind in ethical respect, during the last thousand years. From barbaric custom and degrading slavery, men lifted themselves to a regulated form of state, and to noble finer sentiments. But neither the theocracy of the Jews in their supersensible doubtlfulness, nor the democracy of the Greeks in their dissolve development; neither the Jew's polygamy, nor the Greek's contempt of woman, designate a happy portion of the important part of the moral problem. Miller customs and perceptions were brought about and introduced by Christianity. But the sanctity of family; love of fellowship, and the pure moral laws, stood under an outside influence, not necessarily belonging to the spirit of Christianity, and gradually threatened to destroy the fruits of one and a half thousand years—threatened to make the priest a god. Our time created a clear way and put a stop by the secretions of the sick places; at least it tried, even if not everywhere with success; and open warfare exists yet between its spirit and the one of its predecessor. But only in conflict man tries his powers, and in the same decided, destiny will call on him again. But our time makes its moral law by the sentence, "Do good for the sake of good," which is comprehensible, and points hereby to the rapture consummated to the obedience of human fancy or to the dogmas of ecclesiastic by means of education to the belief of temporary or eternal punishment or blessedness.

V. IN THE INTELLECTUAL SPHERE.

The thoughts of men moved in an uninterrupted progressive education through centuries, even if the particular developing epochs were only of short duration and seldom returned. But in the time between them the attained culture acted quietly and powerfully, in making large strides onward, and preparing out of itself a new power, which again, together with the remnants of the old, started the same developing process over again. From the nearest outside things to begin, which thought men, as if it were, the spelling of thinking, he went over to other meditations on himself, inquiring after the laws of thinking and the boundary of his reason; be inquired after the connection of nature and the cause of all being—God.

VI. IN THE ESTHETIC SPHERE.

Not less is the same continuous succession to a continuous higher development in the esthetic sphere in existence. If we concentrate the exertions of the human intellectual drift in this direction in the widest sense, we comprehend hereby every change made on the objects nature has offered, and we will here unite all arrangements for the exterior living—all things that serve for the necessity, utility, convenience, education and the pleasure. It is evident that from the men of remote antiquity, living in forest and caverns, to the men living in wooden huts or...
solid houses, the most influenced progress took place. Just so from this to the one which gave to the letter thousand tongues; to the speed of the wind; to the transmission of the speed of light. So on in general and the whole. A kind of thing is between them, which we do not actually call necessary, useful, instructive, or agreeable, but which we will bear. These we separate and select from those we would explore, investigate, and unite scientifically; and this is the problem of art history. To recognize their beauty and prominently the spirit of them, is the subject matter of the fine arts, or esthetic, in a limited sense.

The word esthetic means every observation made by our senses. In such an expansion it was used, setting in opposition esthetic and logic in relation to the sensible observation and reason. A new language is confined only to beautiful things, and we understand, in general, by esthetic, the science of the beautiful.

VII. CONTINUOUS PROGRESS IN ALL THREE SPHERES.

The progress in intellectual, ethical, and esthetic relation increases in an uninterrupted succession, notwithstanding the seeming retrogradation and stagnation in the activity of man; and with his larger achievements grows the next problem, and so on; thus a never-resting process of development is uninterrupted effected, being the result and consequence of preceding conditions and the necessary conditions of all inter actions. Then it seems as if at many times, many nations were at a complete standstill; that the progress of the world was accidental. This was only seemingly. Unobserved, here and there, are germs of culture formed, and at another place just at the time important visible steps of progress are made. An illustration of the action of the principal and consequent influence of the same facilities, the most powerful progress was effected in the necessary fundamental principles, and later centuries proved that this time was of a far-reaching consequence, and its appearance was conditioned by the inner necessity.

VIII. COMMUNITY IN ALL THREE SPHERES.

The expression of the esthetic impulse in man is the first; then, before he is capable and in a position to think and to act morally, other objects impress on his mind, through his senses, and his necessary wants and requirements compel him to approach them direct, and unknowingly make them serviceable to himself. His first exertions are instinctively those of forming, making, and using the simplest form of organization, the club, broken off a tree, with which he killed an animal, men progressed continuously to make a multitude of well-formed instruments and tools, made well-arranged habitations, thereby all assisted by the promiscuous gift of fire. But now he begins to think, and ask, who was the master of the other; parents brought up their children; families united to larger communities, and, lastly, originated from many such families and communities a whole—

A State—in which ruled a law made and sanctioned by all, or they were governed by the fancy of a chief. In the same time the unknown impulse led men to inquire of the cause of the nature surrounding him, and also of himself, and brought him to think of the same as of a divine spirit. So was religion formed.

Inasmuch as not one has reached truth, it is imperfection true in each, they are, nevertheless, the most important means of culture of the human race, and early man manifested the desire to make himself of that which he venerated as the highest cause, a picture or image, to give to his sensitive views a nutriment heretofore required. If now he venerated the fire, it was easily made; was it an animal, he shaped it as well as he could, or something similar; was it a higher developed spirit, he fell to the impossibility and adhered to the abstractions which the sense of the elevation of the ecleistic, or proclaimed as his divine will.

Fitting scenes are the Brahman pictures of the Indiana people, with their fantastic monstrosities. Liberal thinking outside of the ecleistic rules could alone be serviceable in this direction, and to improve the condition returned to its proper place with the Greek nation. When the human race has once outgrown its primitive condition, its impulses are purified and refined from the instincts to the known, and are in a constant reciprocity, leading to a flow to a lot of unknown expression of affective impulses together. The action must be forethought; the forming and shaping desired and wanted, and even thinking about it can only, by exercise, give sense to those of action and forming and mode capable to turn to the abstract; then a purely contemplative condition towards nature cannot be thought of. In this large, general, and intensive reciprocity, men strive together for truth, liberty, and beauty, and try to perfect their beings in every direction.

(The to continued.)

The Average Life of Buildings.

How long does it take for a city to re-build itself? said the Building Inspector. "Well, that depends upon the progressiveness of the city. I should say about sixty-five years. That is the average life of a building now-days. There are very few houses in this city that were standing seventy-five years ago. The old houses on North Capitol Street, built by General Washington, are older than that, and there are other old buildings, but I am speaking of private houses. The buildings erected by the Government, under careful supervision and at great expense, of course, are more durable structures than those erected for private resources. The building which is being erected by Mr. Albee, on F Street, will cost more five thousand. I suppose, than most Government buildings. No; it may not be a "good investment, but it is not being put up as an investment; it is a monument. The new State, War, and Navy Department Building is, however, just as well built as that. That building will be standing a thousand years from now. It may, of course, need some repairs before that time, and the roof, of course, may have to be rebuilt. No material or work is allowed to go into that building unless it is said to be permanent, that is, that those who have charge are very strict. Of course a private individual would not put up such a building. It would not pay. Yes; good brick ought to be as durable as stone. It depends a good deal upon the manner in which the bricks are laid. Good mortar becomes harder with age. It becomes harder than the brick itself. When dry bricks are laid during the warm months the bricks will absorb all the strength of the mortar. Brick laid at such a time ought to be wet. A wall erected in April or May, or October and November, of sufficient thickness, ought to last two or three centuries."—Washington Star.

In a recent editorial article entitled "Architectural Conservatism Indoors," the British Architect draws the following characteristics of English architecture:

"We are, as a profession, too conservative, and begin apt to reject a useful suggestion because it happens to move and contrary to our preconceived notions of what is right according to recognized rules and practice. We think some of the fault of this conservatism can be traced to a lack of thorough education, and the consequent inability to form a clear and direct opinion, or be practical and theoretical, which may not have been included in past experience. Then, again, we need a more liberal spirit of inquiry amongst us, and instead of using a material or an article merely because it is made here, we can, if we know the certain knowledge on the part of the architect that no better is in the market. And when a new suggestion is made, or a new invention brought out, which has a reasonable likelihood of being turned to practical account, it is as well to try how best it can be utilized, rather than to see how effectually we can put stumbling-blocks in the way of its adoption."

Much of which is, without doubt, equally true of our American architects.

According to the British Architect, there is some talk of erecting the huge metallic tower invented by M. Eifel, the mechanical engineer, on some convenient site within the precincts of the Paris Exhibition Buildings, and it is also satisfactory to know that a new tower will be erected at a height of 300 meters in height, and entirely constructed of iron. It will rest on five pillars, forming four immense arcades, lofty enough to exceed in height the towers of Notre Dame. On the summit of the tower, it is proposed to erect an electric light-house, and a terrace to which visitors will be admitted. The form of the tower is specially adapted to give it stability in high winds. The oscillation at the top, under the influence of the most severe storms, will not be greater than 75 centimeters, and, at a height of 70 meters, there will be a gallery of glass, which may be used as a cafe, or restaurant. A lift will take visitors to the summit. The expense of construction is estimated at 5,000,000 to 5,500,000 francs.

The elaboration of interior decoration with hard woods is increasing to a great extent in cities, and dyes of satin, maple, cherry, mahogany, etc., are freely used.
THIS JOURNAL

WITH ALL ITS INTERESTS,

WILL BE DISPOSED OF TO

Parties Qualified to Assume Its Management and Control.

THE

California Architect & Building News

IS THE PIONEER JOURNAL

Published Within the Boundaries of the Pacific States of America,

IN THE INTERESTS OF

Architectural, Building, and Collateral Sciences,

AND THE

Manufacturing and Labor Arts and Interests.

Its publication as a Monthly was inaugurated during the dark and gloomy period of 1880 preceded by the Quarterly of 1879. And from the feeble beginning, which then lacked all the essential elements of journalistic experience, in addition to the absence of innumerable facilities requisite to its publication,

It Has Grown in Reputation and Influence,

Until It Is Now Recognized,

Throughout the United States and Europe,

AS THE

Representative and Leading Class Journal

Published West of the Rocky Mountains,

IN THE INTERESTS IT ADVOCATES.
The California Architect and Building News is a very useful and interesting publication. It is handsomely illustrated with designs for homes and business buildings.—Reno Evening Gazette, Jan. 23, 1886.

The California Architect and Building News is a monthly journal devoted to architecture, building, decorating, and furnishing, and is the official organ of the Pacific Coast association of architects. In its enlarged form it is most admirably conducted. —News Age, Feb. 12, 1886.

The California Architect and Building News is an invaluable publication, not only to architects and contractors, but to house owners as well. It gives valuable plans for houses, and useful attention to decoration, ventilation, and sewage.—Daily San Jose Herald, Feb. 5, 1886.

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PERSPECTIVE AND PLANS OF A COUNTRY RESIDENCE (ERECTED AT HONOLULU, H. I.).
ARCHITECTS and sculptors will be much interested in the statements recently published in some of our foreign exchanges, that the long-lost quarries of valuable ancient marbles have been rediscovered. Among colored marbles employed by the Romans in their palaces and monuments some authors quote the Numidian marbles. But this name is misleading, for several quarries containing the genuine *giulio antico*, also a rose-colored marble, and a brown *breccia*, are located outside of the geographical limits of Numidia. One of these is situated east of Numidia, near Simmutta, in the Medeserian Valley, along the railroad between Algiers and Tunis. The other quarry is said to have been discovered by Mr. Delmonte, dealer in Carrara marble, and is described as being situated along a line of hills near the village of Kleber. Mr. Delmonte offers to deliver the marble in Oran, ready for shipping, at a price of 450 francs—90 dollars per cubic meter. The marble of this quarry, originally of a pure white color, has assumed an ivory tint due to the presence of oxides of iron. There is also a pink variety, capable of being highly polished. Other varieties are also found, notably a yellow marble, similar to the *giulio antico*, a dark red marble, resembling the *rossa antico*; another variety called *puroazzu*, on account of its resemblance to the colors of the feathers of a peacock. Some of the varieties of marble were used in the construction of the English church at Algiers. It is also rumored that a French geologist has discovered clues towards the finding in Upper Egypt of the Lucullan marble, a pure black variety, used in Roman architecture.—BUILDING.

**Book Notices.**


"Builders' Work and the Building Trade." By Col. H. C. Seldon, R. E. Bound in cloth; price, $4.00. For sale by Jos. A. Hoffman, 208 Montgomery Street, San Francisco, Cal.

This is an English work just published by the Rivingtons, of London, England, and makes a valuable addition to the two volumes, "Notes on Materials and Building Construction," published some time since by this firm.

This work has nearly 300 illustrations, showing nearly every style of brick and stone work, diagrams of constructive carpentry and joiner's work, tiling and skating, and a lot of other information pertaining to the building trades.

There is a very useful and practical chapter on bricklayer's work; also one on concrete and plastering; and some useful information is given on painting, colorings, weathers, and the tools used for cutting and rubbing for ornamental brick work. Very useful hints are also given for estimating the cost of all kinds of brick, stone, and concrete work. The methods of framing, in the chapter on carpenter's work, will be found very explanatory, as many illustrative diagrams have been given. The other trades appear to be thoroughly dealt with. There are several useful appendices, giving experiments upon concrete slabs, forms of specifications for concrete floors and roofs, and several valuable tables.

This work will undoubtedly take its place as a text-book of technical reference in all that relates to practical building operations.

**Copp's Lists of Patented Mines.**

HENRY N. COPP, the land and mining lawyer of Washington, has issued a book of 150 pages, which gives lists of about 10,000 mines patented by the United States government, January, 1886. These lists are arranged by States and Territories, and then under by counties and districts. It also gives instructions for the restoration of lost or obliterated corners of the public surveys.

This publication is an added evidence of Mr. Copp's industry, and will, without doubt, be in every mine-owner's library. In it we observe the names of many of our wealthy and enterprising citizens. Parties contemplating the purchase of a mine can now readily determine if it has been patented. The purchase of unpatented mines in a risky business, as lawsuits are frequently purchased at the same time. The book sells for fifty cents, and can be had through the news dealers and of the publisher.
THE May number of *Art and Decoration* contains fifty-four illustrations among which are pictures in the National Academy, two studio interiors in perspective, designs for stained glass window, suggestions for panel in lobby of theater, suggestions for work, designs for inscriptions painted by twenty illustrations by Raguenet, with many short, interesting, and instructive articles pertaining to interior and exterior ornament. Subscription price, $2.50 per year. Single copies, 25 cents.

Published by Art and Decoration Company, 7 Warren Street, New York.

The May number of the *Inland Architect and Builder* is unusually attractive and valuable. The leading articles are reminiscences of the late architect, H. H. Richardson, who ranked at the head of his profession in the U. S., written by P. B. Wight, and a practical illustrated essay on Brickwork, by George Beaumont. Reports of the Nebraska State Convention of Architects and of the Cleveland meeting of the National Engineers' Society are given, besides building news from over one hundred Western cities. Among the illustrations are the new Court House at Madison, Wis., the West Chicago Club House, a design by Architect Beman for a Grant memorial, and several well-designed residences by prominent architects. Architects and others interested in building will find the *Inland Architect and Builder* profitable reading. Published by The Inland Publishing Co., Chicago. Subscription price, $3 a year.

The *American Architect and Building News* (Gelatine Edition). The following is the table of contents for the May number:

- Subscription price in St. Peter's, Lowell—House at Ottawa, Canada (Gelatine Print, issued only with Imperial and Gelatine Edition).—Wood Architecture of the Northern Harts, Germany—Court House, Clarion County, Pa.—House at Garrison on Hudson, N. Y.—Architect Light-house, Island of Pharos—Modern Light-house, Island of Pharos.

Subscription for the Gelatine Edition, $7.00. Published byTicknor & Co., 211 Tremont Street, Boston, Mass.


There are also extracts from Rev. T. T. Munger on "Truth," from Rev. H. M. Doolittle, on "An Element in the Disease." "More Metaphysical Twins," is a report of several cases where persons were seemingly united in some psychical manner, that caused one to suffer the same mental or physical pains that disturbed the other, even though they were hundreds of miles apart. All those interested in the problem of "Mind in Nature," will find this little magazine well worth ten cents. *Cosmic Publishing Company*, 171 Washington Street, Chicago.

Decidedly unique and original is the little cycling scrap-book just issued by the Pope Manufacturing Co., of Boston, Mass. Upon the covers are fac-similes of the covers or front pages of the leading American publications, and inside are between two and three hundred newspaper and magazine clippings, and quotations from prominent personages pertaining to the hygienic, business, and pleasurable advantages of cycling. By arrangement of tint and type, the selections have the appearance of genuine clippings, which makes the book worth perusal for a curiosity, as well as for the really valuable information it contains. The book will be sent upon request free by mail upon receipt of stamp, to any one interested in cycling.

Complaints are often made by those using iron saw-tables that the table becomes charged with electricity to such an extent as to be disagreeable. The table is undoubtedly charged by the friction of the legs. To prevent the table from becoming charged, run a small copper wire from the leg of the table to a water, gas, or steam pipe. Anything that will carry off the current, as fast as produced will do the work effectually.

The Building Interest of Woodland and Yolo County. For the second quarter of 1888.

EDITOR OF THE CALIFORNIA ARCHITECT: In comparison with the corresponding three months of 1887, the reader will hardly see a decrease in the amount of capital invested this quarter, and as a ready conclusion infer that the building interest has taken a retrograde movement, and the following report is conclusive evidence. But when the true cause is considered, the report is not serious nor depressing, but, to the contrary, is believed as an indication of prosperity.

The present outlook of the grain crop, the fruit of the orchard and vineyard, are, beyond a doubt, better and far more promising than ever before known in this country; therefore all are too much engaged in preparing for the coming harvest to look after building, which is considered of second importance, and the lumber is only an index of better and more prosperous times in the near future; and with the coming fall it is certain that building in all its branches will be brisk, and there will be plenty of work.

**CITY OF WOODLAND.**

15 frames, value... $40,005
7 improvements, value... 4,556

**YOLO COUNTY.**

22 frames, value... $35,150
4 improvements, value... 1,000

**Total.**

$30,750

Total for city and county, 48 buildings; value, $51,305.

Number for corresponding months of 1885, 45 buildings; value, $130,000, proves the decrease in the "They have our thanks for past favors and courtesies. Respectfully yours,

Woodland, June 4, 1886.

GILBERT & SON.

The Building Interest.

SOME idea of the rapid spread of the rapidly growing cities in the United States may be gathered from the following statistics of buildings erected during 1885:

<table>
<thead>
<tr>
<th>City</th>
<th>Buildings Erected</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philadelphia</td>
<td>5,097</td>
<td>$5,927,950</td>
</tr>
<tr>
<td>St. Paul</td>
<td>3,451</td>
<td>$3,290</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>3,797</td>
<td>$4,289</td>
</tr>
<tr>
<td>New York</td>
<td>1,383</td>
<td>$3,183</td>
</tr>
<tr>
<td>Chicago</td>
<td>3,183</td>
<td>$3,183</td>
</tr>
</tbody>
</table>

There were 7,900 building permits issued in Philadelphia during the year. In the above compilation, however, the only buildings included are 5,627 dwelling houses, and 310 other separate and substantial buildings for factories, stores, etc. Smaller structures, or additions to buildings already erected, are not included. It will be seen that Philadelphia is 2,500 buildings ahead of its foremost competitor. Twenty-five hundred buildings of this class furnish enough accommodation for a new city of 10,000 inhabitants.—*Iron Trade Review*.

**Carpenters.**

ND others interested in building: We call your attention to the advertisement of Ives' Patent Sash, Lock, and Door Bolt, on page XI. Mr. Ives offers to forward to any carpenter one Ives' Patent Sash Lock for ten cents in stamps to cover expense of mailing. These locks are manufactured to meet the present demand, and we have seen, and we think it would be an advantage to all interested in building to send for one of these samples before selecting any other style, and see the advantages obtained by using the Ives' patent.
San Francisco Chapter of Architects.

Owing to death and sickness in the family of the Secretary, the usual postal notices were not mailed in proper season, and but few members received them until after the evening of the meeting. Consequently, there were so few in attendance that all business, and the discussion of the subject appointed for the evening, was deferred until the July meeting, reports in the daily papers to the contrary notwithstanding.

The San Rafael Unpleasantness.

We have received several letters in reference to the school building at San Rafael, in which the position is assumed that the Chapter of Architects should take the matter in hand. The names of the parties is, to some extent, made up in the affair, which, as far as the purchase of the school-house lot is concerned, has led to the resignation of the Board of Trustees and their arrest for bribery, etc., terminating in the suicide of one of the parties to the transaction—a man who, until the exposures in the case became a matter of public concern and notoriety, had maintained a good reputation for integrity and good citizenship.

As far as the architect in question is concerned, the reflections thrown out are wholly speculative and intemperate, beyond the fact that the new Board have found, or claim to have found, the necessity for, and have advertised to "receive sealed bids for doing certain work in the new-school house on Fourth Street, in the town of San Rafael etc., with all of which the Chapter certainly can have nothing to do, nor is it a part of the Chapter work to interfere in matters of the kind, unless the same is brought before it in some tangible form by the parties aggrieved.

Our Illustrations.

The two sketches representing views in Chinatowns are from life, and correct in every part, except that there is but one Chinaman reproduced for every twenty to be seen in the same locality from early morn till midnight. The front elevation, perspective, and plans of cottage are self-explanatory. The perspective and plans for a residence are those of a building planned by us, and erected at Honolulu, H. I.

The remaining illustrations carry with them sufficient explanations.

Market Report.

Fine, Rough .......... per M feet $15.00
" 40 to 50 feet $1.75
" 60 00
" 70 00
" 90 00
" 120 00
" 180 00
" Selected 195.00
" Fire Wood 25.00

T. G. Flooring. 1 x 6 8.00
1 x 6, 1 4 4.00
1 x 3, and narrower 3.00

Sapling, No. 2 27.50
Furring, 1 22.25 per linear foot

Redwood, Rough 18.00
19.00
20.00
25.00

T. & G. 6 in 12 ft. and over 25.00
7 to 11 ft. 25.00
under 7 feet 25.00

Rustic 30.00

Redwood, Beaded 25.00

" 7 to 11 ft. 25.00

" under 7 ft. 25.00

Siding, 1 2 inch 22.50

Pickets, Fancy per M. 12.00

Rough Pointed 16.00


Battens 1 3.00

Shingles, per M. 2.00


Nails—Rates were recently reduced to—

200 kg bolts 2.75

100 less 2.75

Small quantities 2.50

PINE AND SALES OILS

Pioneer White Lead (local factory), 5 tons lots. 65 cts. @ 65
Linseed Oil, raw (single bbl lots) 45.


BRICK—California Building Description, sold, per 1,000 L.

" red, 6.50

" hard, 7.50


Building Intelligence.

Where owners' names are left blank, it is to be done in most instances by special request.

Gold Gate Avenue, bet. Pierce and Scott. Two-story frame.

Golden Gate Avenue, southeast cor. Jackson.
A. E. Conley, A. E. Conley.

Green, bet. Powell and Mason. Two-story frame.
A. E. Conley, A. E. Conley.


A. E. Conley, A. E. Conley.

Gold Gate Avenue, cor. Lyon. Two-story frame.
A. E. Conley, A. E. Conley.

Howard, cor. Twelfth. Frame house.
A. E. Conley, A. E. Conley.

Hayes, southeast cor. Laguna. Two-story frame.


Harrison, bet. Twenty-fourth and Twenty-fifth. Ten-story frame.

Hyde, cor. Sutter. Two and one-half story frame.
A. E. Conley, A. E. Conley.

Hyde, bet. Webster and Fillmore. Two-story frame.

Jackson, cor. Franklin. Two-story frame.

Jackson, cor. Franklin. Two-story frame.


Lincoln Avenue, bet. Octavia and Laguna. Addition.
S. C. Allsop.

Mission, north side, bet Fifth and Sixth.
A. E. Conley, A. E. Conley.
McAllister, Jr., Steiner. Two-story frame, two rails.
A. A. McDonald.
C. J. F. Long.
$6,000.

A. J. T. Welch.
A. Vandeventer.
A. C. Anderson Ros.
$2,500.

Madison Avenue, off Harrison, bet. Fifth and Sixth, One-story frame.
A. Thurs. McCough.
A. S. Follis & Moore.
C. H. Linder.
$2,900.

Market, bet. Church and Tenth. Addition.
A. A. Smith.
A. Miller & Arnallage.
C. R. Doyle & Son.
$2,900.

A. H. Hermann Messe.
A. Miller & Arnallage.
A. D. Birk lawk.
C. F. Merrell.
$9,000.

Balance of contract not yet let.

Market, bet. courts and Noe. Two-story frame.
A. W. Johnson.
A. Cha. S. Haven.
C. J. Goeg.
$2,500.

N
O. C. Galagher.
C. D. Sonny.
$2,500.

O

Olive Avenue, bet. Yok and Van Ness. Two-story frame.
O. J. W. Braggerson.
A. H. T. Beater.
C. H. Russel.
$2,500.

Oak, cor. Devendian. Three-one story frame stores.
O. L. L.
O. W. Shephard.
$2,500.

Oak, bet. Pierce and Scott. One-story frame.
O. M. B. Wolf.
C. B. Dryer.
$2,500.

Oakland.

P

O. M. B. Wolf.
A. Miller & Arnallage.
J. R. Rees.
$1,400.

O. M. M. Durand.
A. J. T. Welch.
$2,900.

Post, bet. Pierce. Two-story frame.
O. and R. J. C. Wiener.
$2,800.

O. A. C. McFann.
A. J. C. J. E. Bum.
$6,000.

Sutter, bet. Lagana. Additions.
O. W. Butt.
Day work.
$1,000.

T

O. L. B. Travis.
A. C. Walker.
$2,900.

Sutter, bet. Pierce and Scott. Two-story frame.
O. M. B. Wolf.
C. H. Russel.
$2,900.

Sanchez, bet. Seventeenth and Eighteenth. Two-story frame.
O. M. M. Durand.
A. J. Mapp.
C. R. Chadly & Wilson.
$2,900.

Sanchez, no. Seventeenth, One-story frame.
O. C. H. Patena.
C. D. Pasker.
$2,500.

Seventeenth, bet. Sanchez. Two-story frame.
O. M. M. Durand.
A. C. J. Chalmers.
C. R. Omya.
$2,500.

Sonny Avenue, cor. Twenty-seventh. Two and one-half story frame.
O. M. B. Wolf.
A. J. R. Comerford.
Day work.
$1,000.

Stevenson, no. Herriman, Two-story frame.
O. M. M. Durand.
A. J. T. Welch.
C. H. A. Conard.
$2,000.

O. and R. J. C. Wiener.
Day work.
$1,000.

Steiner, bet. Pike and California. Two-story frame.
O. A. C. McFann.
A. C. J. E. Bum.
$6,000.

A. W. Hoozer.
C. L. C. California.
$2,500.

A. C. J. E. Bum.
Day work.
$1,500.

A. J. E. Bum.
$2,500.

O. C. Walker.
C. H. A. Trenchell.
$2,000.

O. E. C. L. W. Winton.
C. H. J. McKinley.
$2,500.

O. A. J. M. H. Miller.
C. H. L. Nelson.
$2,000.

O. A. M. B. Herr.
C. S. J. J. Newton.
C. J. O. Nelson.
$2,500.

W

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They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require no hinges—all trimmings furnished with blinds—are MADE OF ALL woods, finished or unfinished, and less costly than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

The following are a few of the owners who have adopted the Hill Blind in preference to any other.


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PATENT

WATER CLOSETS

WITH TRAP.

The Golden Gate Plug Closet.

WITH OFFSET.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:

1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level; thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the floor chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1886, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 1 1/2 inch pipe, one to the right and one to the left and a 6 inch header in the center. It has also a movable strainer or plug to take the sewer pipe. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The hopper is independent from the lower, and is made to pivot, therefore it will not either position of pipe. This hopper can be used only for vertical, for waste, or for leader; either inlet will be stopped up with iron cap if so desired.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, direct and machine heavy casting. Particular attention is called to No. 4. This Closet has an oval body fastened to the cover by brass clamps and bolts. No breaking of petty joints required to remove a pan. The bousing of two large brass ants will separate to cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

These Closets have been in use since February, 1885. Plumbers and wholesale dealers give them the best recommendation.

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Builder's estimates, galloway, eight plans for houses—etc., etc. Many who own more expensive works on carpentry have bought this book, saying that it is more easily understood and that it contains all that the majority of workmen require, besides giving much valuable information not given in other works. 4,000 copies sold in three years almost its popularity. Nearly 75 copies of an earlier and much smaller edition were sold in 8 days by a canvasser in Newport, R. I. Another with 15 copies in Boston in a single day. Get a copy and study it these long winter evenings. Single copies sent free by mail on receipt of the price, 50c. in C.0.s, Postage 10c. prepaid. Price, $2.00, complete. By W. A. SYLVESTER.

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SACK’S AUTOMATIC SELF-DISCHARGING WATER CLOSET,
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A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns every house into a sanitarium, and is an assurance to those who trust it, that neither sewer gas nor noxious vapors that invade our houses are ever present in the world! It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

1. It is the only Self-Acting, Tight-Seal Water Closet in the World! It has no "overflow," rendering a positive seal against sewer gas and noxious, poisonous vapors.

2. It is Cleanly. It always presents a clean bowl. It rinses the bowl before and after each and every operation.

3. It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

4. A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

5. It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop that is utilized, thus dispensing with the superfluous amount that causes unsanitary closets, in order that their cumbersome and inefficient machinery may indifferently execute what has been ill conceived.

6. It is Scientific. Its action is governed by principle, and under all degree of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

7. It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl-water as pure as when it left its foot.

8. It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "act-screw," "springs," "pans," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-flusher it is most effectual. In this regard it has no equal. "Obstructions in the lower" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape, in a continuous stream, or for any length of time.

It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

STEVEN’S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 3 feet lengths, with robbed joints and girted with bands of iron, makes the seat and upper parts of the whole. The bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipes are put up in two foot lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

VENTILATION, ETC.

At the back of exterior pipe is a three-fold conductor D extending to outside of wall for fresh air, which, passing up becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is accomplished by means of an opening P, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joints to conduct by a small conductor G with the above mentioned air space.

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You positively cannot afford to do without the Norris Pulley Mortising Machine. It is the only machine made that will mortise for every kind of Pulley. No difficulty in starting machinery; no scraping off edges of hole; nothing to get out of shape. It is a heavy, solid, substantial machine, built for work, and we guarantee it to do five times the work of any other Pulley Mortising Machine. It does not require any skill to run it, no bolt tightening to wear out the bolts. In fact, it is pronounced by all, and is recognized as the only machine for Mortising Pulleys. Our Pulleys are the finest, on the best lands in the country. We make 660 different qualities, and if any other style of pulley was given to us it would not pay to use it. We refer you to the leading Sash, Door, and Blind Manufacturers of the entire country. Information and Samples sent on application.

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OWNERS who are about to Re-paint, Grain, Fresco, or otherwise beautify their homes or property, will save time and money by communicating with me.

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

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OF LONDON.

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URNS, VASES, STONE COPING and STEPS
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STANDARD WROUGHT IRON STEAM PIPE, Special Fittings, Carefully Protected from Rust, SCREW JOINTS, and only where NECESSARY for Branches, HAND-HOLES at Bends, supported ONLY at Bottom, therefore not affected by SETTLEMENT of Walls and Floors: in fact, a PERMANENTLY TIGHT SANITARY SOIL PIPE.

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SLATE AND IRON MANTELS.

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FINE WOOD MANTELS.

Gas Fixtures of Every Description, of Latest Designs.

Tiles, Grates, and Mantel Trimmings.

BUSH & MALLETT, 34 Geary Street, Above Kearny.
Negotiations not Concluded.

The announcement in its last issue, that the entire interests of this Journal could be purchased, has resulted in large numbers of inquiries and offers, but none as yet conclusive. The opinion that it is a splendid property,

Has been freely expressed, but the query of personal qualifications to edit and manage such a Journal seems to intervene. There has not been to us a single doubt expressed that, in right hands, it is the best class journal plant west of Chicago.

Still, the "peculiar personal qualifications and fitness" called for seem to be a barrier, and a thousand suggestions have been volunteered as to the class of mind, intelligence and executive abilities required in its conduct, all of which we know of experience to be more or less imaginary and hypothetical; for when the present management began its publication, in 1879, it was without the slightest experience in connection with the publication business, and equally as little as editor and manager.

Besides which, at the time of its commencement, the building, financial and all other interests of the State, were encompassed and engulfed by the terrible state of depression brought about by sand-lotism, and the fearful gang of management and panic, besides which, the Preventing of any failure to receive this journal, and also of any change in their address.

Advertisements Inserted at reasonable rates.

SAN FRANCISCO, CAL., JULY 10, 1886.

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Building Intelligence Facts.

Although there has been a great deal of complaining about dull times during the past month, the number and cost of buildings reported as commencements since our last issue, show that the work still goes bravely on, and that many owners of property are by no means inclined to allow their real estate to lie unimproved. This would not be the case were the indications not encouraging and promising. Those who buy or own building lots are, as a general thing, competent to judge correctly the advisability of planting more of their means in building improvements. And, further, such persons are generally cautious and calculating, and require good and sufficient evidence to induce them to invest, which they are not apt to do unless there exists at least fair assurances of satisfactory returns upon the money invested. Hence it may reasonably be inferred that the outlook is sound and prospectively good.

There is a permanent, healthy tone and under-current which shows many owners to active operations in building improvements, while others, who hold back, are strongly inclined to break away from the influences that restrain them, which state of facts assures of a continuation of activities. For those who "want to improve," and do not from trivial causes, will not long remain inactive, while others go ahead and reap the results of their greater confidence.

As will also be noticed by the report, many of the improvements are of the better class, and in the list of "this," and houses for renting, the cost indicates good buildings generally. The labor agitation has had a somewhat retarding influence, as some owners are disposed to resent by withholding expenditures, when seeking arbitrary demands are imposed. But in the building trades in San Francisco, there have been no strikes among operatives calculated to unduly advance prices. The tendencies have rather been, among contractors, to under-value and underbid on work offered; so much so, that during the season the pro rate settlements have been numerous.

REPORT FOR JUNE.

79 frame buildings...........cost, $612,526
2 brick...........19,000
15 alterations and improvements...........111,195
99, total of buildings...........$652,721

FOR SAME PERIOD IN 1885,

96 engagements at a total value of...........$347,721
Showing a gain for 1886 of...........$304,182

A gain on preceding month of 1886 of...........$304,182

Most terrible conditions,

Which passed away only by slow degrees as time rolled on, this Journal worked and paid its way, increasing in influence and public favor, until it has reached its present high position among the class journals of the country.

If, therefore, from a beginning unaccompanied by a single encouragement, other than a personal determination and purpose to brave the issue, so much has been accomplished, what we ask may not be anticipated for its future, with its foundations well and firmly laid and cemented, its superstructures, all well proportioned, and its surroundings all of the most favorable character.

Who should own and control it?

Many personal propositions have been made to purchase, by men seemingly well, if not in every respect qualified for its management, but who have not the financial resources.

The more general sentiment prevailing is, that it should be controlled by the architectural profession as a whole, or by a syndicate of prominent architects, to make it absolutely the representative architectural journal of California and the entire Pacific States and Territories.

Under such management and control, the splendid reputation it has already gained by the unaided efforts of a single individual, would be increased ten-fold.

At present there exist jealousies and prejudices, which would disappear, with the Journal under the general, interested management of a number of reputable architects.

If, as some now suppose and say, the present and past successes of the Journal are the results of the influence of one architect and his office, it is not then fair to presume that if twenty or more architects should concentrate their personal and office influence in its favor, its future would be grand beyond comparison.

Present management urged to continue. A large number of personal friends and patrons, among them many of our most prominent professional brethren, leading contractors, advertising patrons, and owners of real estate, have urged us to continue our publication labors, adding, "The Journal must be continued;" "It is a necessity on this coast;" "Such a Journal we must
Twenty-first Industrial Exhibition of the Mechanics' Institute.

THE annual exhibition of the Mechanics' Institute will be opened in this city on Monday, August 16. Its general character will be similar to that of its predecessors. The Directors have separated the exhibits into two classes, viz., those that are entered for exhibition, and those for competition. If the latter, they must be in position, and receipted for, on or before August 26. If not entered by that time, under no circumstances will such articles be allowed in competition, except with the written consent of all the contesting exhibitors, and the sanction of the Board of Trustees.

The following extract from the Rules and Regulations will be of benefit to those desiring to enter articles for either exhibition or competition:

The award of a gold medal for best general display will declare any article in the same from competing for any other premiums. Space applied for and not occupied by August 21, may be assigned to other exhibitors.

No articles will be allowed in the Exhibition of an explosive, inflammable, dangerous, or offensive character.

No articles allowed in the building.

Articles must remain on exhibition until the close of the Fair.

All exhibitors will be required to keep the space under their control clean, and in good order. All coverings over goods to be removed before 11 A.M.

The greatest care and vigilance will be exercised by the managers, and the most effectual means taken, through the agency of the police and otherwise, to effectually guard and protect the property on exhibition; but under no circumstances will the Mechanics' Institute, or the managers of the Fair, be responsible for any loss or injury to articles placed on exhibition. The owner must take all risks.

The list of articles in the premium list is divided into forty-seven classes. The prizes consist of gold, silver, and bronze medals, and diplomas. Coin prizes will be given in the various classes as follows:

Agriculture and Farm Products. In the former class, the first, second, third, and fourth prizes are, respectively, $75.00, $50.00, $40.00, and $25.00. In addition, special prizes will be awarded to best display of flowers from private gardens. Prizes in this class will be a medal and coin, the latter being in amount, $15.00, $10.00, and $5.00, according to merit.

The largest premium to be given is Class 47, Farm Products, viz.: For the best, most extensive, and varied exhibit of farm products (exclusive of live stock) from any county in the State, Gold Medal and $250; second best display, Grand Silver Medal and $150; third best display, Silver Medal and $100; fourth best display, Bronze Medal and $75.00.

All articles entered under the headings, Fruit, Dried Fruits, Nut, Canned and Preserved Fruits, Vegetables, Dairy Products, Honey, Meats, etc., Wool, and Cottons, will be subject to competition for medals or diplomas, and a monetary prize, ranging in value from $75.00 to $5.00.

The Directors have been very earnest in their endeavors to include in the different classes all articles liable to be placed on exhibition, but should anything be entered not included in the list, they have reserved the right to declare the exhibitor entitled to a special prize.

We sincerely hope that the Directors will take measures to illustrate to their patrons the practical workings of technical schools. This can be readily done, and perhaps be the means of inducing some of our moneyed men to encourage the establishment of such schools in many different portions of the State.

As an inducement to increase their membership, the Directors wisely adopted a rule by which each and every one belonging to the Institute can purchase a season ticket to the Fair at onehalf the usual rates.

Risk of Contractors.

ONE of the most serious risks which building contractors incur and yet one which many of them habitually overlook is the costly damage such contractors are liable to suffer in the performance of their contracts due to the negligence or lack of skill on the part of the workmen. This arises particularly in the employment of substitutes for men who are not engaged in the business. The first and the most injurious damage is a loss of time which, in many cases, is far more important than the direct loss in the actual expense of the work. The second, and in some cases more important, is the damage caused by the substitution of non-competent workmen who are not so well skilled in the art of masonry and carpentry.

A bound volume of this Journal, for either of the years, 1880, 1881, and 1882, is free to all new subscribers for balance of this year and 1887.
ages. It was held to be a contractor's duty diligently to care for the safety of his men by all reasonable means, to warn them of the dangers attending their employment in the places where their work was to be done, and to furnish adequate protection where possible. In this case, the contractor, failing to do this or even to warn the man of his danger, was responsible for the fatal accident, which a little more care on his part might have prevented. The editor remarks, in connection with the right of the French courts to increase the severity in estimating the responsibilities of employers for the safety of their workmen, and cites another case where it was explicitly held that contractors are bound "to care for the safety of their workmen from the dangers incident to their work;" that "under penalty" they must anticipate "possible causes of accident," and take, and cause to be taken by their agents, all necessary precautions to prevent or avert them; that "they are under a duty to guard the workmen against the consequences of their own imprudence." The general rule of the French courts is, further, to acquit the employer of responsibility only where "the imprudence of the victim has been the sole cause of the accident." This looks severe, but we should hesitate to say it is not in strict accord with the dictates of a sound public policy, as well as of humanity. It would certainly be well for American contractors to lay it to heart, as a measure of their moral, if not legal, responsibility.

In connection with the rigid rules of the French courts, it may be well to note the tendency of English law on the same subject. A recent case, that of Griffiths against the St. Katherine's Dock Co. of London, reported in the Building and Engineer, gives an illustration. The plaintiff was injured by the fall of an iron door, which had been in an unsafe condition for a long time previous to the accident, and this fact was well known to the defendant company, as was proved and admitted on the trial. The court held that this alone was sufficient to hold the company answerable in damages, that it was necessary further to prove that this danger was unknown to the plaintiff, up to the time of the injury. The general principle was laid down that, "if a servant enters or continues in an unperfect state the danger incident thereto, he cannot assert, since he might have escaped by leaving the service." It may be well, perhaps, to admonish some classes of employees, that if they continue in dangerous work, they do so at their own risk; but it is not difficult to imagine cases where the peculiar nature of the business or of the workman's position is such that he is practically unable to leave his employment, though he knows it to be dangerous. In overcrowded London, a man who should throw up one place might suffer much privation before he could get another, and have yet more dangerous, the old, and farther from his home and in many other ways less desirable. But it is difficult to imagine a reason other than criminal negligence, why a corporation should knowingly permit the presence to be in an unsafe condition and remain so; and the law relieve a corporation of responsibility for accidents which happen to its men through such wilful neglect to repair its own premises, on the heartless excuse that the injury had been caused by the danger, looks rather like a temptation to manslaughter than anything else. We trust it will not be considered an authoritative precedent for American courts.—The Inland Architect and Builder.

Farms and Fireside of April 1 gives some interesting figures showing how the mechanics of Springfield, Ohio, are kept in poverty. It cites two cases of losses, the first being a loss of $25,000 by fire, and the second a loss of $5000 by coal. "The result has been a dollar a ton higher than in Columbus, the difference in prices being more than double the difference in cost of hauling." The five thousand families will burn during the year not less than ten thousand tons of coal, on which they have been wrongfully taxed more than a half dollar a ton, or $25,000 per annum, which might have been saved by uniting in the purchase of coal. The other loss is one that comes through rain. Springfield maintains 175 saloons, and the estimate is made that the $25,000 spent on spirits expense $500 annually, which enormous sun is mainly drawn from the pockets of laboring men.

The first Bessemer steel converted in the South was made at Chattanooga, Tenn., on April 19, by the South Tregaran works. The experimental cast of two gross tons proved excellent steel under all tests applied. The material used was pig-iron from Columbus, Ohio, and the iron ore to be excellent steel material. The plant has a capacity of eighty-five tons per day. The success has caused much gratification among Southern iron-masters.

A bound volume of this Journal, for either of the years 1880, 1881, or 1882, will be sent free to all new subscribers for balance of this year and 1887.

Building Permits.

As we understand it, in nearly all the Eastern cities, laws or ordinances exist, requiring the obtaining of building permits, in all cases of erection of new, or alteration of old buildings. Such a regulation is good, and should be in practice everywhere, as it would regulate procedures and prevent many of the difficulties which so often arise in San Francisco, particularly in connection with the alteration of buildings within the limits. At present, there are no provisions for preventing the opening to streets, for the putting in of sewers, etc., on which a deposit of twenty dollars is required, to insure the proper replacing of the street, and also permits to occupy a certain portion of the street during the erection of buildings. It would also be possible, in certain parts of the city, at least. If this permit rule was general and imperative in all cases, it would furnish an easy method of ascertaining the extent of building improvements made during the preceding years. As it is, however, there is no check upon irregularities. There should be a compulsory and imperative law upon this point. It would be an easy matter for an owner, architect, or builder, to report every improvement entered into, and obtain a permit; and a penalty should be attached to every violation of the rule. The doctor's pleasure practice is all well enough in most matters, but there are others in which individual rights and privileges should be made to subserve public interests. No harm could possibly result from such a regulation, while the general information it would be at least gratifying to every one interested in the growth and improvement of the city. Speculative estimates are often indulged in as to the amount of work under way at certain periods, a system varying materially with the system of rules. Such a system would remedy this, and furnish daily statistics of what was being done in the building line. Excessive or diminished estimates of business conditions sometimes do harm, and the degree of business prosperity is intimately related to wrong conclusions. In cases of death, and in other matters, obligatory ordinances compel notices of the occurrences, because the public good seems to demand it, and the growth and prosperity of the city is a matter in which all citizens are interested, and in reference to which they have a right to be informed, which would be the case if a perfect permit system was established; one which could not be ridden over with impunity, as too many of the regulations on the ordinance book are.

The modern improvements of the past few years have received great favor and general adoption in nearly all classes of buildings—but practically in the better kind. But with the convenience afforded by them, they have been the medium of a vast amount of sickness, suffering, and loss of life,—not of necessity, but because too great neglect and carelessness have been practiced in their application, and too little attention to serious consequences. The modern improvements as a general thing are good, but the best invention in the world may be rendered worthless, or injurious by being tampered with by unskilful hands. There are hundreds of precluding mechanical skill, and wise to intrust anything requiring good judgment and practical mechanical skill, and the greater number of defects and failures in connection with the introduction of these improvements, grow out of this one cause or fact. There is no good reason to believe that laws, etc., may not be set in any chamber or place, with perfect freedom and security from all bad effects, yet there are hundreds of ladies who object to their introduction, because of known cases where they have proved offensive,—while in fact, the whole difficulty exists in the incompetency of the superintending party, or the mechanic doing the work, and not in the thing objected to.

Circumstances.

That circumstances have a great deal to do in shaping a man's life, no one can deny; for experience teaches us, and observation and historical research prove it so. Shakespeare says, "There is a divinity [for something else] which shapes our ends, roughsaw them as we will." There is no absolute dictation or iron-bound fatality in this quotation, but rather the opposite. While we would not ignore the existence of a divine power in the universe, we do maintain that control are all things in heaven and earth, while there is at times some circumstances over which man has no control, still there is nothing in these two facts which in any way hinder man from being successful and happy if he observes well the laws of his being, and the laws that govern the areas, et cetera, of ordinary life.

We are not, by any means, mere living and breathing human machines, but, on the contrary, we are free, responsible agents, gifted with the power of choice, and capable of discovering right from wrong, and with full liberty to do what we will, and be what we may.
THE regular night for the meeting of the Chapter occurring this month on the eve of the holiday, the attendance was limited to but a few members. The time was, however, profitably spent in general conversation and discussion of topics of interest to the profession. The reading of papers by Mr. Sanders was postponed until next month, when it is hoped there will be a full attendance.

Ash, oak, walnut, etc., must step down and out before many years, and give place to mahogany, which is now used for insides and for ornamental work on railway coaches; 10,000,000 feet of mahogany annually is now the figure, as against 500,000 feet five years ago. It is said that the mahogany is now but slightly dearer than our native woods—walnut and cherry—but that it is superior to them, in that it does not warp nor check.
Eight-Hour Movement.

The full strength of the eight-hour movement at the end of the first week after May 1, the date of its attempted inauguration, was clearly shown by statistics published. The total number of workmen connected to it in all parts of the country was estimated by Broadstreet's at 325,000. The demand for shorter hours was early conceded to 150,000 without a strike, and to 356,000 as the result of the strike, leaving 140,000 still strike that the time referred to, or defeated. The trades in which the movement was most successful are those connected with house building, agricultural implement making, furniture making and machine building. These trades are not subject to foreign competition. In those trades which are subject to such competition, either in the way of exchange of the domestic product or importation of the foreign, the movement met with very little success. The whole movement may be regarded as experimental. In these branches of industry which yield sufficient profit to warrant an increased wages, and for that is what it is, the wage, as far as commonly signifies, the increase has been very generally granted. In others it has not been granted, or, if granted, it will be withdrawn later. The principal part of the loss entailed by such an increase is that which will affect the wages of those who have been drawn into the movement. This machinery may be of the nature of general business subintendence, clerical force and organized system, as well as actual machines and tools in use. A deduction of 20 per cent. from the producing mind is often very beneficial, and the manufacturing establishment menus more to the community than a deduction of one-fifth of the laboring force.

The organization of labor has thus far proceeded upon a false assumption, namely, that the wage-earners are a class having rights and interests other than and different from those of other classes. In a republic, where all men are equal before the law, and where the theory of government presumes that the greatest good of the greatest number will, be sought in the framing and execution of all statutes, the idea of class rights and interests is unnecessary, and has none of the qualities of the interests of all citizens. The time cannot be far distant when the need of yet another organization among the workingmen of this country will be recognized—an organization to protect intelligent and conscientious workmen of the country from oppression of those who follow the lead of dangerous demagogues, and are blinded by ignorance, prejudice, and passion, to their own welfare. The happenings of the past six months have been very instructive as emphasizing the tendency of labor to oppress labor, and the need of protection for those of independent thought and action against its cruel coercion. The order of Knights of Labor, however restrained, cannot accomplish this object. Its purpose, as defined in its fundamental law, is not to that to which a majority of the thoughtful and intelligent wage-earners of the country can subscribe. It demands a scheme of national and State legislation inconsistent with the best interests of the community, and especially of the wage-earner. Those who are attracted to the order by its profession of principles are not safe leaders of a movement which wise men can follow.—Carpentry and Building.

Proportion of Rooms.

Speaking on the subject of proportion of rooms, with reference to their sanitary features, Douglass Colton says: “The height of a room is often the least notion, and the height must bear some relation to the size. Adequate movement in the currents of air cannot be secured in a room unless the height be proportioned to the width and length. The minimum height must be fixed with regard to the currents of air to circulate without being inconvenient to the occupants. Therefore, in proportion as the width and length of a room are increased, so must the height be increased. On this account it is not advisable to have a much less than ten feet high. With large rooms, as the height should be increased in proportion to the size. If the cubic space be the measure of the number of occupants, the area or floor space per occupant would diminish with the size of the room. As, therefore, the height of rooms is necessarily variable, it follows that it is rather the floor space which must be considered in allotting accommodation to the occupants of a room than the cubic space. In barracks a floor space of from 50 to 60, and occasionally 80, square feet is allowed per occupant. These are for workrooms, as for sleeping-rooms, in work houses, for dormitories, a minimum floor space of 25 square feet has been admitted, provided the ventilation was carefully attended to. In nurseries and servants’ rooms from 50 to 60 square feet is requisite to be secure from a room from 10 feet square, or 10 feet by 12 feet in area, should not contain more than two persons. In schools which are only occupied during parts of a day, and wherein the air can be changed between the periods of occupation, a less amount would suffice, and from 15 to 20 square feet are sufficient.”

But few fully and rightly understand or realize that errors may be committed in the erection of a house for their families. Calculations have been made, and it is calculated to produce sickness and death to loved ones. Yet it is so, and those who contemplate the erection, particularly of private dwellings, cannot exercise too much care and caution in every particular, so as to avoid mistakes and errors of every sort. Too often pretenders, willing to render services for nominal compensation, are engaged to erect a house. Even if the lines and coloring plans is exceedingly limited, and so far as possessed, of an imperfect character, are intrusted with the responsible duties of an architect. Consequently when they enter into the detailed specifications of that which is to be done, they conglomorate ideas so badly, and specify so much at variance with good mechanical judgment and common sense, that a superabundance of serious blunders and impracticabilities at variance with all proper mechanical principles follow. This is particularly the case in reference to plumbing and sewer work, than which there are no more essential features in connection with house-building. They commit, virtually, criminal errors; for their mistakes sometimes destroy more valuable lives than their own. Both owners and architects should consider this subject carefully, the former to avoid the mistakes that all men are competent in the lines of business or profession followed by them, and the latter, not to claim an understanding of matters beyond their actual qualifications and the reach of improvement.

If man is to perform duties in any connection, who conveys the notion that beyond the bounds of his own knowledge there can be no advancement. Advancement and progression have been going on since the day that Noah left the ark, and sensible and practical men realize the fact that there is and ever will be more to learn, and that the fountains of improvement and knowledge will continue to flow as long as life lasts. It is only simpletons who know it all, and assert for themselves absolute superiority of thought and practice. Care is therefore necessary in the selection of parties to intrust with responsible duties, and owners will best subservise their own interests by their fullest exercise in connection with the erection of homes for their families. There can be no question but that tens of thousands of lives have been sacrificed by the employment of cheap incompetent architects, plumbers, etc., resulting in imperfect dwellings, where, through defective plumbing and sewer work, the poisonous gases have entered buildings, to work out their own terrible results. The worst friend of a plumber will often use the absolutely perfect knowledge of the intricacies in this connection, and with the confidence a highwayman claim that those things that have occupied and puzzled capable minds are, to him, well understood. Good meaning, honest owners are often entrapped by such deceivers into a repose of confidence, which results injuriously. If the plastering, painting, and other works of a building are poorly executed, each and all are annoyances, but not fatal to health and life. Hence the importance of certainty in these special directions, by and through which alone healthful homes can be secured.

It would require 50,000,000 pounds of wire to erect a telegraph around the earth at the equator, and but a half-pound of thread made by a certain species of spider.
The Ferry Steamers of California.

Great credit is unquestionably due those who conceived the plans, and to the skill and genius of California mechanics and artisans, in the production of the many elegant and powerful steam vessels used as “ferry-boats” upon the bay of San Francisco and its tributary waters.

Pre-eminent for massiveness and power is the Solano, the special object of the accompanying illustrations, plying between Benicia and Port Costa, across the flowing and ebbing waters of Suisun Bay, and completing the connection of Central Pacific Railroad travel to and from Sacramento and across the continent, while the Piedmont and many other large and commodious passenger ferry-boats, fill out the link between San Francisco and Oakland. The Tiburon, Newark, Bay City, and numerous other elegant ferry vessels—population and travel considered—provide ferry facilities as great and comfortable as are to be found in any part of the world; and in the matters of convenience, size, and completeness, the ferry steamers upon the bay of San Francisco are unsurpassed.

Equal credit is also due to the companies who have by their means brought about these handsome results, in that home labor and material have been employed in nearly every instance, and local industries encouraged. Large amounts of money have been disbursed among mechanics and working people in steam ferry enterprises. The first connection between San Francisco and Sacramento by Central Pacific Railroad was by way of Niles; but the considerable grades on that route and the greater business promise of a shore route, induced the company to seek a right of way along the margins of San Francisco, San Pablo, and Suisun Bays, and the straits of Carquinez. The first change made in the location of the road, while it avoided grade, did not diminish the distance, and this fact, combined with other considerations, culminated in the building of a shorter and more direct line of travel. The distance between San Francisco and the capitol city, Sacramento, by the “old river route,” is one hundred and twenty-five miles, and about the same by the first located roadways. To overcome this, and remedy the discomforts of tedious traveling by water, the project was conceived of building an air-line railroad across the tule and marsh land and through the counties lying westerly from Suisun Bay. To this end, proper surveys were made, showing a decrease of nearly forty miles.

In order, however, to render the proposed new route practicable, it was found necessary to establish a ferry at Port Costa, situated thirty-two miles from San Francisco. To gain time was the principal idea which led to the conception of the largest ferry-boat in the world. Size, indeed, was needed in order to accommodate the numerous trains, crossing and crossing, in order that travelers and merchants would not suffer from long and tedious delays incident to small boat accommodations.

It will be noticed that there are four lines of rails on the deck of the steamer. To show its immense carrying capacity, the following measurements will enable any one conversant with railroad cars to estimate the number the Solano will take at one time. The extreme length of the main deck is 494 feet 8 inches; length of hull, 406 feet 2 inches; width over all, 110 feet; width between wheel casings 64 feet; height amidships, 18 feet 6 inches; height at ends, 15 feet 9 inches; draught when loaded, 6 feet 6 inches; tonnage 3540 tons. From the above measurements, it will be seen that there is ample accommodation for forty-eight freight cars or twenty-four passenger cars, besides locomotive and tender. As long trains have to be divided, it is necessary that an extra locomotive accompany each

PLATE 3.—ThE “SOLANO” IN DOCK, SHOWING GENERAL LONGITUDINAL APPEARANCE.

Train that is ferried over. Our engraving also accurately shows the arrangement of the apron or stage by which trains are transferred to and from the boat. This is so nicely arranged and balanced that scarcely a jolt is felt by the passengers in the cars when the train leaves the steamer for terra firma.

Two separate vertical beam engines propel the boat. These were built by Messrs. Harlan and Hollingsworth, of Wilmington, Delaware. The cylinders are 6 feet 2 1/2 inches in diameter, with 11 feet 28 inches stroke. Each engine is fully capable of developing 2,000 horse-power. Steam is furnished by eight boilers, each 7 feet 25 inches in diameter and 16 feet long. They are made of steel, and have 143 tubes 3.94 inches in diameter, and 16 feet long. The total heating service is 19,630 square feet. No coal is used, the steam being developed by the burning of crude petroleum. The wheels are 30 feet in diameter and have 24 floats. Each wheel can be worked independently of the other. Unlike any other steamer that we have seen, the wheels are not on a line, one being considerably in advance of the other; this was done so that the boat could be easily and quickly turned in order to enter the slips on each end of the ferry route without injuring the same.

The above engraving represents the general construction of the Solano. Beneath each line of rails runs a deep Pratt truss, the top flange of which is attached to the deck and the bottom to the hull of the boat. The latter is divided by bulkheads into
PLATE 5.—FIG. 2, SECTIONAL VIEW OF HULL.

twelve compartments. There are four balanced rudders at each end of the vessel, 10 feet 6 inches long and 6 feet 6 inches high. These are worked by hydraulic steering gear, but can be actuated by hand when desired. The pilot-house is more than 40 feet above the deck. The stages, or aprons, for embarking and disembarking trains, are massive iron structures, 98 feet 6 inches long and weighing 150 tons. They are provided with four lines of rails, and are controlled by hydraulic gear to adapt their position to the rise and fall of the tide.

The two towers seen in the background (Figure 2) near the center of the engraving, are similar to those near the slip where the Solano is at rest. They mark the entrance to the slip on the Benicia side of the bay. The large mountain on the right is called Mount Diablo. The track on the right is the one by which passengers and freight are conveyed to Stockton, Los Angeles, New Orleans, and way stations. It also connects at Lathrop with trains for Sacramento and all points east to New York, via Central Pacific Railroad. Immediately around the turn as shown, are the immense warehouses and docks of the Nevada Transportation Company.

Some difficulty was experienced in selecting a name for the subject of this article. The inhabitants of Benicia, with a just pride, desired the leviathan to be named after that place. After careful deliberation, the company decided that too much confusion would likely be caused in regard to the distribution of mail matter. Letters and packages intended for the boat Benicia might be delivered to the town by that name, and vice versa. So the name of the county in which Benicia is situated was given to the magnificent specimen of marine architecture, justly entitled to be called the largest ferry-boat in the world.

Why Nearly All the Railroads Are Four Feet and Eight and One-half Inches Wide.

A CORRESPONDENT asks: "Why was the standard gauge of railroads fixed at 4 feet 8 ½ inches? What was the scientific reason for adopting the fraction of an inch?"

There is no scientific or any other reason for it, except precedent and custom. In fact, all scientific or practical considerations that can enter into the question are against it. When Mr. Stephenson built his first locomotive, he, for some reason best known to himself, built it to the gauge of the old tramway—for vehicles drawn by horses—in England, which was 4 feet 8½ inches. That became what was known as the "narrow gauge" in England, and was naturally followed in this country to a very great extent. Some of our roads have a gauge of 4 feet 8 ½ inches; others, 4 feet 8 ¾ inches; and still others, 4 feet 9 inches. In England they have a 6-foot "broad-gauge," and at one time, for a very little while, tried a 7-foot gauge. The Erie road, built by English capital, was at first a 6-foot gauge, but in 1876 the changing of it to 4 feet 8 ½ inches was begun, and now it is all of that gauge. The Pennsylvania Railroad Company uses a gauge of 4 feet 9 inches, because that is a compromise gauge between the former gauge of 4 feet 8¾ inches on the Eastern lines and 4 feet 10 inches on its roads west of Pittsburgh. It would be well if the 4 feet 8 ½ inches gauge could be widened a little, to enable greater width of the fire-boxes of locomotives, and consequently more powerful engines, such as it would be desirable to employ.

Light colors absorb less and reflect more heat than dark colors. White is the best reflector, and black the best absorber and radiator, provided the colors are not covered by coatings of varnish.

PLATE 4.—ISOMETRICAL VIEW OF "SOLANO" SHOWING WHARVES AND GENERAL APPROACHES.
A carpenter is known by his shavings." He is also known by the character of his work, and the state of his tools may be known by the same standard.

To Find Number of Stubs Required Around the Outside of Building.—Take three-quarters of the circumference—in feet—of the outside of the building. Add one stub for each corner, angle, and opening; or, allow one stub for every foot of the outside measurement.

In planning stairs, think of your head room from the lowest starting point to the highest landing, or somewhere in ascending or descending, of the various treads, which may accompany grouped treads and broken heads.

The "Steel Square and Its Uses," as it originally appeared in those columns, will not be published in book form. We have, however, a work by that name which we will forward to any address upon receipt of $1.00, either in coin or one-cent stamps.

Bad work is set out by the "rule of thumb."
July 18, 1886 | THE CALIFORNIA ARCHITECT AND BUILDING NEWS. 105

ASKED. ANSWERED. AND COMMUNICATED.

40th. Architects, Contractors, Carpenters, and Mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

A YOUNG mechanic inquires for a "correct method of finding the length of one of the sides of an octagon, the diameter being given."

Rule.—Knowing the diameter of an octagon and the length of one of its sides, to find the length of side of any octagon, add or subtract, as the case may be, to the known length, two and one-half inches for each six inches of diameter.

In order to use this rule, it will be necessary to remember some one certain measurement. Assumes 8 feet as the average width. The length of side will be 3 feet 3 inches. Paste this with the rule on inside of your tool-cheat lid. Suppose diameter is 9 feet 9 inches. Difference between 8 feet and 3 feet 3 inches is 21 inches. Apply the rule, and we have 3 $\frac{3}{4}$ $\times \frac{21}{4}$ $\div 2$, add this to the length of side given, and the result is 4 feet 1 inch, which is the correct length of side.

The weight of zinc per superficial foot is as follows:—

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<th>No.</th>
<th>10</th>
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NEVER use iron nails in laying zinc, as iron and zinc combined, causes galvanic action, which ultimately destroys the latter named metal.

There is no absolute need of painting zinc work; for exposing it to the atmosphere has the effect of coating it with a thin film of oxide, which protects it from the further action of the air as effectually as paint.

Paper hanger's paste and how to apply it.—Good paste for paper hanging is made of old flour, mixed with a milk-like consistency with water. When put in a kettle to boil, a little size or glue may be added, which will increase its tenacity. A little alum may also be added, in order to keep the paste sweet and to cause it to spread more freely. When boiled, it should be of the thickness of ordinary gruel, and laid on the paper smoothly and equally with backward and forward strokes of the brush. Care should be taken not to load the brush with too much paste at one time, lest the paper be rendered too damp. When an over-abundance of paste is used, a little is pressed out at the edge when the cloth is used to dab the paper against the wall. This may be removed by a sponge dipped in clean water.

In answer to a student; there are three primary Greek orders: Doric, Ionic, Corinthian, to which the Romans added the Tuscan and the Composite.

The ancient Greeks seem to have been unacquainted with the principle of the arch, all their doorways, windows, and spaces between columns being on the principles of the architrave. In Roman architecture, the arch is one of the principal features. In Greece, the rivers are very small and the means of crossing them were simple; but in Italy the width of the rivers necessitated the use of arch bridges.

Dormer windows are small windows built out of a high-pitched roof; they are so called because they were originally used for dormitories or sleeping chambers.

A woman made the first orange box in California, and has built up an industry that now amounts to 50,000 boxes a year.

Indications point to an increased price for tools in the wood-working line. Mechanics should make calculations accordingly.

Mortar and paint may be removed from window glass with hot, sharp vinegar.

Soot falling on a carpet, if covered thickly with salt, can be removed without injury to the carpet.

A good moth powder is made of ground hops one dram, Scotch snuff two ounces, camphor gum one ounce, black pepper one ounce, cedar saw-dust four ounces; mix thoroughly, and spread among the furs and woolens to be protected.

LARGEST MASS OF SOLID BRICK WORK.—The Mengoon pagoda is one of the most interesting sights in Burmah, and in its unfinished state is the largest mass of solid brick work in the world.

ORIGIN OF THE DORIC SHAFT.—The Doric shaft, with its characteristic diminution and channelings, was known in Egypt more than 1,000 years before its introduction into Greece, as is proved by the monuments of Beni-Hassen. Commercial relations had existed between the two countries for centuries, and it cannot be assumed that the Greeks had not seen Egyptian architecture. They could not have arrived at precisely the same results by independent invention.

NEW YORK CITY embraces an area of 24,394 acres.

"TOO MANY IRONS IN THE FIRE."—This is an old proverb, another version of which is: "He that hath too many irons in the fire, some of them will burn." This morsel of metaphorical wisdom, evidently the work of a blacksmith, is, of course, intended as a warning against undertaking too much of one kind of work, and this at first sight, sounds like a prudential maxim, well adapted to secure efficiency and singleness of aim on the part of all workers. But, more closely considered, the precept shows for itself what it really is—a piece of narrow-minded, petty prudence, adapted only to the guidance of incapables and fools.

The fact is, nobody who is good for anything needs any such cowardly caution about having "too many irons in the fire." You active, efficient characters, they who do the largest share of work in the world, are the men who want and will bear a great many "irons in the fire." Shovel, poker, tongs and all, these masterly workmen keep them always hot and always busy. The rapidity of their daily accomplishment is only equalled by its variety. Both their combinations and their execution are such as perplex and startle little minds, and lead them to repeat in full chitter such petty maxims as the one now under consideration. It is by such men that human progress is advanced, and inventions and discoveries are made, fortunes are won, and all valuable improvements and reforms are achieved.

ONE cwt. per superficial foot is an ample allowance for the probable load on an ordinary dwelling-house floor, exclusive of the weight of the floor itself. Two cwt. per superficial foot is sufficient, in many cases, for warehouses and factory floors.

The weight of a crowd of men closely packed is about 84 pounds per superficial foot.

GIRDERS are often sawn through the middle, and the two pieces bolted together with the sawn sides outwards, not, however, as is often erroneously supposed, to increase the strength of the girder. It is really weakened by such an operation. The main benefit to be derived is that an opportunity is given to examine the heart of the timber, and thus expose cases of rottenness. Girders cut as suggested are much less liable to rot. The oldest author on architecture, Vitruvius, "directs a space of two fingers' breadth to be left between the beams for forming the architrave over columns in order that air may circulate between and prevent decay." Every observing mechanic has noticed that decay begins at the joints and other places where the pieces are neither perfectly close, nor yet sufficiently open to allow any dampness to evaporate.

In Amsterdam, there is a floor constructed which has no joints whatever. The room is sixty feet square. The floor consists of three thicknesses of tongued and grooved flooring, each layer being one and a half inches thick. The first course is laid diagonally across the opening; the second, also diagonally, but the reverse of the first; and the third course is laid parallel with one of the sides of the room. Each layer is securely nailed to the other. The middle of the floor is kept about two and one-half inches higher than it is at the sides of the room.
Art and Architecture.

As the first efforts in forming must naturally have been crude and simple, nevertheless man tried any way to give to the objects of the same a form which pleased him, if only by its agreeability the purpose in view was expressed. So it proper, even on the most primitive or simple building, a projecting cornice is attached, that the rain-water falling from the roof does not run down the wall; but this cornice gives to the structure an indicating and marked form, pleasant to him if only by the purpose which is by it expressed. Gradually we seek, with consciousness to perfect the necessary and required raw material to such forms, agreeable to the purpose, which, on the whole, finish and complete a work pleasant to our view. In this way manifests itself in the highest degree the impulse or drift to form the sense for beauty. But this sense for beauty is manifoldly graded, and shall itself in most different ways; nevertheless this is the highest earnest of a nation, and the highest perfection of the same by the Greek people, giving to them as such the brightest luster, and shine for all time to come. With the development of such perceptions is necessarily united and conditioned also the standard of culture of the impulse for liberty and truth; then the last impulse could not express itself either with a nation existing in brutal stupidity, or with such living in despotic fetters and bondage, or living together in immoral countries. There would be the sense for beauty, and its expressions and manifestations for nobody's approbation and admiration, and never would come to a perfect execution. Here it would shrivel through fear, or grow wild in licentiousness. Uniform harmonies, development of thought and will, are indispensable for his own perfection, and by the same he gains such active capacities as he can and must use and apply for the general culture of mankind.

X. ITS IMPORTANCE FOR THE EDUCATION OF THE HUMAN RACE.

That the sense of beauty is necessary and unalienable for the promotion of the education of the human race, is clear and evident. If we would take the sense to feel it in our world, we would cease to be human beings. Not only would it destroy the one who is used to live in artificical ideas, and find in its enjoyment the highest pleasure and satisfaction, but even of the most modest and contented every attraction to live would be taken away; from the common girl, the pleasant flower; from the wild man of the desert, the delight in his plenitude and colored adornment.

With necessity is the sense for the beautiful implanted in humanity, and in each human being are unquestionable traces to be found. By the awakening, enlivening, and cultivation of the same will be effected the imperceptible, uninterrupted, and most powerful influence on the whole human race. He knows to give form to the first religious inspiration; he permits the eye to rest always, and always with love, on nature; it leads to deep meditation over the same; it leads to respect of the sexes, to mildness of manners, and, lastly, to art; and by artistic works a considerable restrictive effect is exercised. The importance of the sense for beauty has been intelligently explained and made to become universal property. It would therefore appear as if beauty is only the servant of attaining truth; but this is an illusion; for this beauty, truth must be first established that the highest purpose of life would be exclusively the attaining of truth. But who will assert this, since the purpose of life could be, with the same right, the perfect embellishing and refining of our soul, the reaching of the highest good? And, lastly, should we not also attach to beholding the highest beauty, in the viewing of the "epitome of all heavens" be revealed and disclosed,—be a worthy purpose of life, but not an exclusive one? But also this cannot be correct. The spheres do not exclude, but condition each other; are inseparable, and act always through and by each other, so that it is no profanation of Christian mysteries, but a deep, its—supported, truth, when in the meaning and comprehension of the sense of the "undivided Trinity", truth, goodness, and beauty, the common aim of the intellectual, the ethical, and the esthetic impulses of men have combined. So aspires the sense for the beautiful to the same aim, and finds, indeed, its termination in the same idea, in which rest the origin and fulfillment of truth, and liberty, God.

XI. ART AND POETRY.

As far as history dates back, we find in the earliest nations the coincidence of activity in the sense of the beautiful in the most differing and manifold manner. The first traces of the same appear in the habiliments of man, his utensils, arms, and much like, which were enclosed in a skins, their practical purpose, i.e., the seam in a cloak being covered by a strip of cloth of a different color; or such as by the form of the object the purpose and its conditions were directly visible and ever in a column, same, same. To such structures nothing compels man but his own instinct and drift, so that which he makes gives its form a charm, pleasant to the eye or ear, to read on his mind by the two organs, to give him pleasure in the object and its sense.

Such exertions in the sense of beauty we name art, in the widest sense, or poetry, poesie. Then here are the arts of forming and sounding not yet separated, and the Greek word and meaning taken therefrom means a making, producing and forming by tradesmen as well as artists and poets. The law which guides and inspires him is his own feeling and sense. He is able to bring the undet-risible into form and shape. He is able to perceive, if his impression is expressed, that his sense of beauty is satisfied. The process which goes on in the mind of men we lead back to the fancy or imagination, that is, the capacity of the soul to conceive and put before her things or objects which the organs of sense do not receive. Free and independent in conception, man learns to make and form beautiful objects and things, and he uses for this purpose the natural material and stuff, to bring him (beautiful things) into existence.

XII. DIFFERENCE IN THE ARTS OF SOUNDING AND FORMING.

Is the material or stuff used or employed words or sounds, then the objects formed belong to the domain of the sounding or poetry in the closer sense; the arts such as music. Are the former objects of a bodily form, then they belong to the domain of the forming arts, such as the art of building, sculpture, painting. The means of the first group, that is, the condition by which necessarily the work of the same reach our observation, is time. Those of the latter group is space. The objects of the first group act on the ear, and its forms are conditioned by the motion in the time. Those of the latter act on the eye, and its forms is conditioned by bodily perception. Both are kind of objects, not by their origin and meaning, but merely by the way and manner in which the originators brought them to appearance and expression. There exists not only no distinction and contradictions between them, but there is a kind of a complete uniformity in their origin. Both are only daughters of the same mother; but she gave them to different husbands, the children, the palette, while those of the other took to the pen and to the lyre; but not one of them denies the common origin, and they acknowledge and recognize each other as sisters and brothers, and all breathe the same inspiration.

A series of pursuits and activities are rightfully included in the arts, but with the same right the objects of the same belong to the beauties of nature. These are all living, and only forms the living, without taking from them the conditions of their origin and the passing from their existence. They form and make a transition from nature, and exist principally in the art of gardening, dancing, with the art of riding, to which may be added mimic and the art of play acting.

XIII. ART AND THE BEAUTIFUL.

The common definitions and explanations of "Art" and its spirit are, as known, insufficient and partly empty phrases. This lays in the difficulty of giving a living, and so must limit ourselves to understand and comprehend the capacity of man to produce beautiful objects, either immaterial, as the bodily or the sounding, and further expanded and narrowed down to the totality of all such things, which we call works of art, al though in the dominion of nature (kingdom of animation), the kingdom of art. If we would give an abstract definition of art, we would lose ourselves in the domain of phrases, or proceed solely descriptive, by separating the human action from its subject and make it objective. In the last manner may be seen in art a presentation, that is, an activity, by which the inner thought or spirit comes to appearance. But this illustration is hereby so limited and bounded that...
this activity has no useful, practical purpose, but only to produce or represent. It is clear that by this definition man is forcibly removed, but again being introduced in the same, it would only not be an art at all! that is nothing else but capacity, to produce and make beautiful things. In the same time it has been tried, those which are beautiful things, to be solved with this definition. Nothing and nothing gives us the right to exclude man from this definition of art, since art is not necessarily attached to a certain individual man, or its products without a human originator. Art, man has alone.

XIV. WORKS OF ART.

The object and purpose of art are the making and creating of beautiful things. Beautiful things made by man are therefore works of art, and only because they are beautiful are they works of art. The spirit of a work of art is its beauty, and, figuratively speaking, the purpose of art is beauty. Things having another purpose are called useful, lovely, agreeable, useful, or bad.

If now we review a multitude of such things, which generally are included within the sphere of art, we find between them a large number of such which, to us, do not appear beautiful, and which we must call ugly as the works or objects of remote people; nevertheless we do not object to adopting them as works of art. The reason thereof is that such things and objects, at that time they were made and to those people, appeared beautiful, or were considered as such by their own maker. Who could in real earnest call beautiful the images or figures of the Assyrians at Khorsabad, the paintings of the Egyptians, or a Madonna of the Byzantines; and who could call beautiful the abominations of the robustinians, and the objects that these men produced in a clear, or in an indistinct and with an unconscious intention to make beautiful objects; or that, at the time of their creation and making in general, they were thought to be beautiful.

A complete contrary and contrast would be that which was made intentionally to be ugly and was made ugly. Such an idea of ugliness does not exist, since all which is ugly or kindred to it, horrible, to be the existing of things, especially grief, a tickling of a sensual pleasure, or other perceptions or objects, transformations and deformities, as exist in nature. The humorous, the comic, and the satirical are connected herewith, and will be mentioned hereafter.

A very general, coarse sense and mind will hold that as beautiful which appears to a cultured and refined mind, hard, ugly, and such like. With the general advance of education and culture, the appreciation of beautiful things will increase with the individuals as with whole nations—and to an immense. In regard to its originator, he shows by his work of art his own coarse or refined sense, and since the same, with very few exceptions, always corresponds and is the outgrowth of the sense of beauty commonly existing in his people; then this work of art will show the sense, way of thinking, and sense of feeling of the whole nation. In the series of the works of art made by the same is revealed its inner and particular development and historical culture, which would, without the same, be forever lost and unknown to us. What would we, for example, know of the Greeks, if of the high temples and towns, of the marble figures of the gods, of the pictures and utensils, no trace was preserved; the genius of Homer would be dumb and silent to us, the muse of Sophocles lost forever, and all that which, being kindred to those spheres, would be to the slightest presentiment strange to us. To think this, though, is already impossible, since Greek life without art is not conceivable. By our works of art we will be judged by posterity, justly, according to the merits of the present age.

XV. BEAUTY.

Since the purpose and the spirit of a work of art is the beautiful, we have now arrived at the question: What is beauty? A general logical definition of beauty cannot, by any means, be established or be brought back to that capacity of man which is not of a logical nature, the mind. But the beautiful is, nevertheless, not possible without certain practical relations; the same are again to be put up with difficulty and explanation; for the practical reason is quite something else.

Then, from the divided opinion of men, and the want of proof bearing the logical test of such opinion, to call an object beautiful is to raise the question, Are objects beautiful themselves, or is it only their power of being beautiful? Is beauty an objective property of bodies, such as gravity, expansion, color and such like; or, Is it only a subjective sensation in man transferred to one subject? Without illustrating these points and against it, and perhaps arriving at a result, it may be sufficient to state that beauty is neither purely objective, nor purely subjective, but is both at the same time. If beauty was purely objective, she must appear to all men alike, as a red colored body must appear red to all; but would beauty be purely subjective, she would not make on the many one and the same impression, but would appear different to all; so much different from each other as each individual man's form, mode of thinking and of feeling, differs from those of another. At the same result we would arrive, when we reflect that beauty is not purely spiritual, i.e. is not attached to a certain form, through which it operates on our senses by our eyes and ears. The peculiar form being unconditionally attached to the object, is inseparable from the beauty of the thing itself; then the same would, when changed in its form, cease to be beautiful. If this sense of beauty is something objective, attaching to the object itself. Otherwise is this form, for such a one not comprehending the same, just as incomprehensible as if beauty did not exist, and he would not call the thing beautiful; but only the one will find the thing beautiful, having the power of a clear and proper way and manner of perception, from which it can be concluded that the beauty is transferred to the things by the person enjoying it.

But how are we to proceed? If from general truth, a logical conclusion of the spirit of the beautiful cannot be formed, as therein generally the impossibility to get closer and nearer to the same, or does a method exist which at least approximately leads to this aim? This is the empirical method, which tries to deduct by intuition, and which is, as we cannot proceed in the same way as in geometry, which goes from the general to the special, and singly and from the spirit of the thing to their properties and concludes, but we must content ourselves, from only single pieces, to draw probable conclusions. Of what sort or kind these conclusions must be is clear; that they cannot be purely defining the object; nor be purely of a physiological kind, to explore and investigate the affections and emotions in the human mind; but must refer themselves from the relation of the beautiful thing to man, which in the main will be objective and formative explanations. But the conclusive characteristic signs or marks which we perceive by viewing beautiful things are these—that the thing itself pleases us well, and that we can in the same sense, manifestly take no interest. When we, for example, find a bronze monument beautiful, we do not consider by far the value of the material which, when coined to pence, would make to many no indifferent object. In this feeling, not wished for nor desired (disinterestedly) lies a deep satisfaction in the mind of man to make and produce beautiful things. The capacity and ability on which this satisfaction and pleasure is based, is "Taste," which is man's aesthetic capacity of judging things in regard to the beauty of the subject; taste, as it were, being raised to a school expression, is nothing else than the sense for beauty of the single individual man, so that it is as to be seen, in regard to the definition for the beautiful, we move from an inconstant expression, to the one and our aid,—one that the pleasure of the beautiful is not purely sensitive, and the other, that in the appearance of the beautiful thing lays direct the semblance of a spirit; both differences we must recognize clearly and plainly by our intellect and reason. Now this contentment and expression, which, have been and expanded, are not exclusively in our feeling, then they exist necessarily in accord with feeling and thought, the mind and the spirit, or, as may be expressed, in the harmonious play between imagination and intellect. But that in the appearance of the beautiful thing lays direct a spiritual sense, leads to the recognition of the purpose of the beautiful thing, which directly becomes perceptible without that the intellect sees directly the purpose. The word "beauty" in question is the spiritual meaning, that thing, which in the aspect comes directly to view, in the most suitable manner, so that a perfect harmony between the spiritual meaning and contents—the idea, and the outward appearance of its form, exists.

XVI. BEAUTY OF NATURE.

It is now the time to mention in a few words the relation of beauty in nature to beauty in art. In nature all things have certain practical meaning and purpose, and are established; the process and in an uninterrupted change; and beauty is here only an adornment of the necessary, even if the same in a higher sense itself is selfed, and so united, that with and by each change, the same itself is charged, dissolution of the illusions made by the beauty is attached to nature are inconstant, consequently beginning and ending. Man alone is capable of producing things of which beauty is not a subordinate aim, but is the sole and exclusive purpose, untouched by the changes of nature, unaliquable, retaining its beauty, giving a presentation of eternal duration.
In graining work that is paneled, the lights and shades of the panel should be stronger than on the rest of surface. The rails and stiles of doors should be more simple than the panels in the imitation of dark decorated woods, as rosewood. If the cross rails are full of work, make the upright stiles plain; for their appearance is changed by their position with regard to light. Perhaps the greatest triumph in staining is imitating successfully the curls of mahogany. Graining in maple wood is suitable for dining-rooms; the color of maple varies very much, and therefore it is necessary to select a choice piece for imitation. Polished-oak graining suits well for a dining-room, with its warm color and rich effect, the color varying from the lightness of maple to the darkness of mahogany, so affording a range of choice. Oak color is adapted to all styles of wainscot, harmonizing with warm colors on wall space, whether this be papered or painted, and making pleasing contrasts with cold ones. It also looks well on the ceiling cornices of lobbies. In wainscot graining the lights and shades on the panels should be the strongest. If the prevalent color of a room be warm, the graining of the wood-work should correspond; if crimson, maple, satin wood, or oak graining may be employed; if green, some cool-toned and light-colored wood. Smoothness of surface is important in the grained imitation of woods, as well as the rendering of deep, transparent, and shadowy half tints. The grainer should not revel, as we have seen some do, in knots, which, indeed, should be left out, as well as the representation of cross-grained stuff, which the architects would avoid in real wood, whether for stiles, rails, or panels. Where wood has been previously painted, the grainer should examine it closely to see that it is not liable to peel off, and so spoil his work. Where marble has to be imitated, in order to secure a transparent effect the best polished copal should be used with colors, never turpentine.—Painters' Magazine and Coach Painter.

The world moves on, inventions and progress still rush together for the benefit of the present generation; but we look back with a feeling of veneration to the art and talent displayed in ancient architecture. In all the modern edifices of which we pride ourselves, the striking features are but a reproduction of the thought of the old masters, with the exceptions that we build in a few months buildings that would have taken them years to complete. We are gradually returning to the age of artistic wrought iron, cunning designs in brass, elaborate wood carving and marble tessellate pavements. Acquiring wealth rapidly, we are less inclined to look at the cost of the work so artistic and durable. The old Romans prided themselves on the marble floors of their dwellings, and the proof of their knowledge of its durability is demonstrated by the recent discoveries made in Roman ruins, where the marble mosaic pavement retains its original design and colors. Of late years, an Italian artist, Mr. Caretti, has introduced this work in some of our new-fashioned residences, and a handsome design for the hall of Mr. A. D. Kolm's house is his latest work. Should, in centuries to come, Macaulay's New Zealander be digging in the ruins of Chicago, a marble mosaic pavement may be brought to light, and create a discussion as to whether Chicago was an old Roman city or the creation of a more modern age.

Some of our scientific exchanges are describing a kind of concrete that is said to be in use for building purposes in France. It possesses the desirable qualities of solidity and hardness. It is said to be composed of 8 parts of sand, gravel and pebbles; 1 part of common earth, burnt and powdered; 1 part of powdered cinders, and 1.5 parts of unslaked hydraulic lime. These materials are thoroughly beaten up together, their mixture giving a concrete which sets almost immediately, and becomes in a few days extremely hard and solid, which property may be still further increased by the addition of a small quantity—say 1 part—of cement. Among other constructions to which this material has been applied is a house three stories in height, 65x45 feet, standing on a terrace, having a perpendicular retaining wall 200 feet in length and 20 feet high. Every part of this structure was made of the hard concrete, including foundations, vaults of cellars, retaining wall, and all walls, exterior and interior, as well as the cornice work, moldings, string courses, balustrades, parapets, and the building is without hand iron, lintels, or wood throughout.

In order to render glue insoluble in water, it is only necessary to add a little potassium bi-chromate to the water in which it is dissolved, and expose the glazed part to the light. One-fiftieth part of the bi-chromate will suffice.

A bound volume of this Journal for either of the years 1880, 1891, or 1892, will be sent free to all new subscribers for balance of this year and 1887.
Amateur Carpenters.

It is an excellent thing for any man, whatever his business in life may be, to acquire a fair degree of mechanical skill and familiarity with tools and machinery. Such knowledge never comes amiss, even if its possessor is so fortunate as to be under no necessity of ever using it beyond as a means of proving thorough practical acquaintance with the minutest details of housekeeping is valuable to any woman, though she may be surrounded by luxury all her life, and have a servant to wait on her at every turn.

But it does not follow, by any manner of means, that an amateur or half-trained workman is profitable to his employer, even at half price, or at any price. Experiments of that kind are often made, it would be better for the employer and the workman as well; for it is generally found that a single lesson of that kind is sufficient. In a broad sense the rule that “the best is the cheapest” holds good in carpenter work, as in nearly everything else.

A vigorous protest against the employment of what it calls “save and hatchet carpenters” is made by the Southern Lumberman, which inquires to them not only want of skill, but want of honesty as well. As an illustration, it mentions a building contract which one of that class of carpenters offered to take for $500, while the material alone came to $750. Somebody was badly cheated, of course, and probably the lumber dealer, the workman, and the owner of the building all suffered more or less. Incompetency and false pretense in all trades and professions should be steadily discouraged; and the only way to put an effective check upon them is to give the preference invariably to the trained workman, who has earned and can rightfully wear the title he claims.

What Will Come of the Labor Troubles.

DEFINITE and excellent results will come out of the chaos of strikes and violence and the accompanying discussions. Experience is a thorough teacher.

The first result will be the cutting loose of respectable workmen from association with the anarchists. They see with consternation the hideous purposes of these social bandits, and are humbling to denounce the whole system. The manifesto of the Chicago Knights of Labor has the right ring.

A second result will be an end of strikes and boycotts to force non-union men out of employment. The utter collapse of the strike of the Third International in New York, and the multiplying arrests of boycotters for conspiracy, settle that question. If men want to strike on their own account, they can do it; but by the same measure that their right to quiet work is defended, the right of other men to earn a living by doing an employer's work is offered them will be defended also and at any necessary cost.

A third result will be a little longer in coming, but it will come. American workmen, will learn the lesson which a majority of British workmen learned several years ago, that the only successful strike is the one that never occurs. The waste of strikes has become so enormous that the imagination can scarcely picture it. It has become a chief factor in trade depression, and, as such, a prime cause of low wages. The only way to stop wages is by keeping at work, respectfully presenting the demand for an increase, and abiding loyally by the decision of conference or arbitration, holding the strike in reserve as a last and extreme resource.

The present disturbances are deplorable and disastrous, but they will clear the air.—Ex.

Book Notices.

O'SBORN'S TABLES OF MOMENTS OF INERTIA, AND SQUARES OF RADIUS OF GYRATION. By Frank C. Osborn, C. E. Is designed to supply partially, at least, a need felt by engineers and draughtsmen engaged in structural works in iron and steel.

STEAM HEATING PROBLEMS. Published by the Sanitary Engineer, New York. Contains many valuable suggestions, and one hundred and nine illustrations, upon the subject treated. Its authorship is a sufficient guarantee of its value as a book of information upon its subject matter.

Report of Building Improvements for Woodland, Yolo County.

Editor California Architect: The following statement presents the facts in connection with the building interests in this city for the first six months of each of the years named.

1882—26 engagements of all classes.... Value $73,330
1884—55.... $135,892
1885—91.... 225,320

It will be seen by the number of constructions in the six months of 1886, is nine greater than in 1885, but in cost, $75,895 less.

G. & Son.

Market Reports.

CORRECTED FOR JULY, 1886.

Fine, Rough, per M foot, $15 00
" 6" 2 ft. lengths $12 00
" 6" 10 ft. lengths $17 00
50 00 $15 00
" 6" Selected 20 00
" 6" Clear 8 00
" 6" Fire Wood 4 00
T. & G. flooring, 1 x 6 27 00
" 1 x 6, 1 x 4, 1 x 4, 1 x 1, 1 x 3, and narrower 30 00
Stepping
No. 2 25 00
No. 3 20 00
Redwood, Rough, per M foot, $15 00
" 6" No. 2 14 00
" 6" T. & G. 6 in. 2 ft. and over 25 00
" 6" under 2 feet 25 00
Rustic 30 00
No. 2 30 00
" 6" T. & G. Beaded, 12 ft. and over 30 00
" 6" under 11 ft. 20 00
Sidings, 1/2 inch 22 50
Pickets, Fancy, per M 14 00
" 6" Rough Pointed 16 00
Battens, 4x3, 100 00
Shingles, per M 2 00
Lath, per M 2 00

NAHIS—Rates were recently reduced to—
200 kg. lots 2 70
100 kg. lots 2 75
Smaller quantities 2 75

PAINTS AND OILS:—
Pioneer and Nevada White Lead, 1,000 lb. lots 147,305
Pioneer White Lead (local factory), 5-ton lots 45
Cal. Linseed Oil, raw (single bbl. lots) 45
Boiled 77
Turpentine, per gallon 47

BLICK—California Building Description, soft, per 1,000 lbs 5 50
" hard 6 00

Building Intelligence.

Where owners’ names are left blank, it is to be understood by special request.

B

C.—N. Veumen.

C.—H. Three W. Moon.

Hicks, south east cor. Octavia. Five Two- story frame.
O.—C. B. Sharp.
C.—C. A. Nadler.

C.—W. A. Bragg.

Herron, cor. Twenty-four. Two-story frame, stoves and flat.
O.—C. G. Gillispie.

C.—C. G. Gillispie.

Clark, cor. Webster. Three-story frame.
C.—W. A. Hulbert.


C.—W. A. Hulbert.

G.

California, cor. Fillmore and Steiner. Two-story brick stable.
C.—W. H. Van Vlissingen.

Caldwell, cor. Cherry and Maple. Two-story frame, Children’s Hospital.
O.—Director of Children’s Hospital. A.—M. L. Parker & Son.
C.—J. A. Leonard.

Davies, cor. Devendorf and Broderick. Alterations and additions.
O.—M. Maloney. Day work.

G.

Cheesman, cor. Thirtieth and Randolph. Two-story brick and frame hotel.
C.—J. W. Arner.

E.

C.—J. E. Dugger.

O. and R. L. L. Koffel. Day work.

G.

C.—C. J. Newcomb.

C.—J. A. Smith.

C.—C. J. Newcomb.

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HILLS PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window
And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Boarding or Lodging-Houses are U nexcelled.

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require no hinges—all trimmings furnished with blinds—are MADE OF ALL woods, finished or unfinished, and cost less than old-style folded blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

The following are a few of the owners who have adopted the Hill Blind in preference to any other:


ENGLISH & AMERICAN VENETIAN BLINDS

IMPROVED.

The only Perfect Venetian Blind in the market. For samples, prices and information, address,

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Folding Gate and Guard Company.

These Gates and Guards are manufactured to order in San Francisco, to fit and fill openings as desired. Descriptive Catalogues and Price List furnished.

Protect Your Homes and Business Houses WITH • THE • IRON • FOLDING • GATES • AND • GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against Burglars, Thieves, Tramps and Designing Persons, and can be removed and replaced without unhinging. As a Sanitary Device they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.

DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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JOSEPH BUDDE’S
PATENT
WATER CLOSETS

The Golden Gate Plug Closet.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:

1. It has a simple, strong valve, suitable for any pressure.
2. It has a real sanitary overflow, a copper float attached to a ball of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.
3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the floor chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 2 inch pipes, one to the right and one to the left and a 4 inch leader in the center. It has also a movable strainer on top to take the overflow water. The upper part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if not needed.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. Tha a Pan has an oval basin fastened to the cover by brass chain and bolts. No breaking of Patent joints required to renew a pan. The housing of two large brass nuts will separate cover with basin from the receiver. It has a heavy nickel plated cup and grill and solid brass rod.

These Closets have been in use since February, 1881. Plumbers and wholesale dealers give them the best recommendation.


Basket Hoppers are made in one piece with Movable Strainer.
THE CALIFORNIA ARTIFICIAL STONE PAVING CO.

SCHILLINGER'S PATENT.

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SACK'S AUTOMATIC SELF-DISCHARGING WATER CLOSET,
THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.

Awarded First Premium at the Mechanics’ Fair, held in San Francisco, 1882.

It turns every house into a sanitarium, and is an assurance to those who trust it, that neither sewer gas nor noxious vapors that invade our houses with disease and death, shall enter. It is the invention of a California, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

I am the only Self-Acting, Tight-Seal Water Closet in the World! It has no "overflow," rendering it a positive seal against sewer gas and roekling, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unwholesomeness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispending with the superfluous amount that escapes unused by other closets, in order that their cumbersome and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principles, and under all degrees of pressure it works the same. At a fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "stack" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air.

It holds in its bowl water as pure as when it left its font.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pans," or "pulls" to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-flusher it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape in a continuous stream, or for any length of time.


It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet length, with relined joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

WM. E. STEVENS, MASON AND BUILDER, SOLE OWNER.

VENTILATION, ETC.

At the back of exterior pipe is a three-inch conductor D extending outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated motor piece, letting the foul air pass through and between the joints to conduct by a small conductor G with the above mentioned air space.

The lightest and most patent chimney manufactured.

Approved by the Board of Supervisors.

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Those who have made inquiry by letter, and personally, have asked for all the facts of the case, and what will be included in the sale.

As a general answer, we state: A sale will include every interest of the publication,—its good-will, subscription list and advertising patronage, office appointments, desk, bound volumes and back numbers since 1879, outstanding accounts due from all sources, five hundred copies, more or less, architectural, mechanical, and other publications (optional), and all else pertaining to the publication and circulation of the Journal.

We state, in answer to the question repeatedly asked by correspondents, in reference to

COMPOSING ROOM AND PRESSES,

That there are none. The journal has been conducted incidentally in connection with our architectural pursuits, and printed and bound ready for distribution by contract.

But with these limited facilities and restricted advantages, and personal attention divided between two great interests—editor and manager, and practicng architect,—each demanding our whole time and energies, we have continued our publication work for eight years (less four months) with a profit to ourselves, making a most enviable reputation for the journal, as evidenced by the hundreds of complimentary notices from time to time published by technical, class, and other journals, and preparing the way for some one to continue its publication with great success and profit.

G. A. R.

THE Twentieth Annual Encampment of the Grand Army of the Republic, held in San Francisco, has been a grand affair, meeting the highest expectations of the home guards, the citizens of the Pacific coast, and the visiting host from all quarters of the United States.

But our daily contemporaries of this city have so fully and accurately chronicled all matters pertaining to this great and ever-to-be-remembered gathering of patriotic men and women, that anything on our part, more than a mere notice of the event, is unnecessary.

One remarkable feature, however, is worthy of special mention; that while the number of men, women, and children moving to and fro through the streets of San Francisco, entering and leaving the city by trains and ferries during the period of the encampment, aggregated hundreds of thousands, approximating 2,000,000 persons, not a single accident to life or limb has occurred in connection therewith.

Aggregating the number of trips of street-cars during each day, from 3,000 to 4,000 cars were moved daily, or for the week, some 25,000 to 30,000 trips on all the lines—perhaps more,—yet the accidents reported in this connection do not reach the average of such happenings during ordinary times. This is the more remarkable in view of the fact that Market Street was "swarmed all day long" with the living masses, and parts of each day hundreds of cars passing a given point each hour; while at the Pavilion, on several occasions, the Lackin street-cars were run through surging crowds, and at the park terminus, frequently from one to two thousand people at the same moment transferring to and from cable to steam-cars, or in and out through the entrances to the park. Yet under all these risky conditions, the week passed without leaving any sad and mournful monument of sorrow to mar the pleasures which seemed to flow in all directions.
CIRCUS in this sense—that a circus is a place that offers to the public a variety of funny things, as well as a few instructive—fraternity, and the more really funny the entertainment, the better it draws, consistency being but incidental in its make-up.

In this view of the case—true merit and pure architectural rules and principles aside—the numerous clowish structures errected in the United States and elsewhere, are so thoroughly in general appearance, effect, and detail, that every intelligent architect or competent architectural critic can but laugh at the endear contortions, distortions, ill proportions and absurdities of public game, as if developed in a thoroughly taste with those who seek and accept these structural mal-formations, are something astonishing.

The modern idea of house-building, in the hands of competent and artistic architects, has, in some cases, evolved neat and pretty delineations. But the liberties possible under the false guise of Eastlake have also made it possible for consummate pretenders to operate, and conceal and disguise their ignorance of true principles, and practice their abominations under the pretext of a fancy name, used to excuse error, and gull clients to accept ignorance and incompetency as a style of architecture.

There can be no objection to any neat, consistent, and meritorious departure from the old order, in which symmetry, proportion, and neatness has been respected, but as the one-eighth aggressive age in which we live, not only commends but invites invention upon the forms and features which have held the world subjugated to the creations of the ancients. Beautiful and original, the grand old structures are exxemplifications of that depth of conception which evolved the classic orders, and will so stand until the curtain of time is rung down at the close of all human existences, and the sun shall be hidden by every vestige of human thought, and crumble into ashes the last evidence of human—architectural—skill, if such an event shall ever transpire.

But in architecture, time must work, and has worked, changes, and immense and true merit and excellence will become reknowned and admired, and be placed side by side with those of the early ages, but the nondescripts passed off under the name of Eastlake—meaning any structural abomination, however erroneous, as well as those of modest neatness and pleasing appearance can exist only as reminiscences of the freaks of fancy of the period, to be looked upon in future years as most singular exhibitions of the reckless corruptions tolerated in the latter periods of the nineteenth century.

This is one more severe criticism, as much that is now practiced is defended upon any hypothesis of refined ethics, good taste, convention, or consistent form, and in details innumerable, fearfully with variance rational comparison with anything in truth on both objects and including in barbarous and hideousness in general effect, to structures among barbarous races, or the semi-civilized and idolatrous nations.

In many of the examples the ill-shaped lines and inconsistency, are so repugnant to the eye of those who have studied the beautiful from forms, as handed down to present generations through successive ages; yet there is at the present time a too general disposition to favor extravaganzas in house designing, as in all other things, and to recognize itself the widest imaginativa and concepts of men, who in the attempted pursuit of classic architecture would fall to the deepest depths of obscurity.

Life of Cast-Iron Pipes.

The fact is well sustained that the wear, by rust, in uncoated cast-iron pipe exposed to the action of clean, fresh water on both sides, is not more than one-eighth of an inch in three generations. With the present method of protecting such pipe with asphaltum, the life of the ordinary cast-iron pipe, used in building construction, may be greatly prolonged; indeed, the feasible coating of coal-tar pitch, when properly applied, is sufficient to add at least a score or two of years to its viability. The life of a soil pipe, even when quite thin and uncoated, has been found, by experience to be so great that it is not rare to suppose that the seepage serves to coat and protect the iron from the corrosive action of the water and the acid components of the soage. The defects and leakages more generally met with in such pipes, are caused by the defective manner in which the joints are made, and the improper plugging and securing. Materials and devices used in buildings are often made to bear the faults of bad workmanship, and frequently "taping to pieces" is done under the presumption that the things torn out are worthless, or not good, while the real difficulty lies in the defective handling and fitting.

Copper Boiler Explosion.

The explosion of a copper boiler, in the kitchen of the Winchester House, in this city since our last issue, by which human life was jeopardized, and property damaged to the value of nearly $2,000, was an occurrence of infrequent happening.

The possible explosion or collapsing of copper boilers connecting with ranges or stoves, is a matter well understood among plumbers and engineers as a rule, precautions of tanks and steam pipes are applied in all such cases, and when sufficient and properly connected, there can be but little danger of either collapsing or explosion, even if the sheet metal of the boiler is light. The whining of steam in pipes, and the explosion in the kitchen of the house named, is prima facie evidence that the vent—the "steam pipe," was too small, was trapped, or choked by corrosion or otherwise. To produce an explosion by steam, the vapor must be confined and accumulated until its force becomes greater than the resistance afforded by the vessel or chamber in which it is bound. An insufficiency of water alone would not cause an explosion in any case where a vent was applied capable of carrying off all of the power of the steam beyond the strength of the holder. Hence it is fair to conclude that the cause of the explosion was the absence or obstructed condition of such proper vent or escape. There might have been but a fractional part of the quantity of water required to fill the boiler, and the explosion occurred, if there had been a sufficient escape for the steam produced by the water passing through the water-back. The boiler may have been constructed of light material, but that fact alone would have been sufficient to produce the explosion, and the precaution against the result had been free and of sufficient size.

The fact that the boiler was thrown to a great height, and the building construction in which the accident happened demolished, points that the explosion was immediate, and the destruction of steam by the boiler, and that it was so bound as to obtain a force beyond the resisting and retaining capacity of the shell in which it was held.

The lesson to be drawn from the case under review is, that vent pipes of sufficient capacity to boilers are most important and necessary adjuncts, and that they should be kept free from corrosion or stoppage of any kind.

A second lesson suggests itself to manufacturers of boilers, and plumbers, not to use those of thin wall. The boiler in question had been a little heavier, say five dollars' worth more of copper in the weight of the sheet metal, the accident would not have occurred just when it did, and might not have happened at all. The replacement of the usual pipes for dish-washing and kitchen purposes, after meals, the time when the explosion in question occurred—just after breakfast—when the fire in the range was less than it had been in cooking the meal, cleaning the dishes, and washing the contents of water, terminating as stated, in the explosion of the boiler, loss of a sum in damages to property sufficient to build a neat little homestead for a family, and the severe scolding of one of the helps, and some injury to others.

Staining Marble.—The art of staining marbles in a permanent manner has long been lost, but an American has rediscovered the process or discovered a new one equally effectual. Had it been proper to paint a marble surface with pigments which sink into the substance of the stone to any desired depth and then to polish the surface as highly as before the marble was treated.

ACID PROOF CEMENT.—A cement for resisting sulphuric acid even at boiling heat may be made by mixing caustic soda at a gentle heat and adding, with constant stirring, from six to eight per cent of tallow. Then mix therewith enough dry slaked lime to make the whole the consistency of soft paste; finally, add thereto about one or two per cent of potash, whereby the mass immediately sets hard and dry. A solution of caustic lime in twice its weight of linseed oil, aided by heating, and the addition of an equal weight of pipe-clay, yields a plastic mass which will likewise resist most acids.

SHINING BLACK INK.—The best shining black ink, used for mourning paper, and the manufacture of which has up to the present time been kept a secret by the makers, may be prepared, according to the Papier Zeitung, of lamp-black, borax, and shellac. The ink is made as follows: First dissolve the required amount of borax is dissolved, and to this solution three times the quantity of shellac is added. After this mixture has been properly dissolved, the necessary quantity of lamp-black is added, the whole thing being constantly stirred. Should the latter not be satisfactory, more shellac is added.
In 1881 a series of articles on the "Steel Square and Its Uses" was commenced in this journal. They were continued until late in 1883, and received with great favor by our mechanics. In June, 1882, we presented the above original design by which mechanics at a glance could, by the shortest possible method, determine the proper bevel necessary to make a figure of any given number of sides. The edition containing the above cut has long been exhausted and we have been opportunely over and over again to reprint the illustration and explanation. Many other articles found in back numbers of the California Architect have been inquired for with the request that we republish the same; our rule is always in each number of this journal to furnish to our readers entirely new matter and we for the first time lay aside our rule and republish the above cut with its explanation.

The above design is an ORIGINAL and very simple illustration by which the mechanic can see at a glance the necessary bevel to be obtained to enable him to make a polygon of any number of sides, by simply using the steel square, no drawings being necessary. With the exception of the triangle, all the bevels used are those formed by the short arm of the square; the three side figure being formed by the bevel of the long arm.

But little explanation is necessary to thoroughly understand the cut. If a nonagon is wanted, look for the figure 9 outside of the circle; following the line inside, we find the figures 221 x 9. Place your square against the straight edge of—a piece of lattice, using the above figures to form the bevel. Mark bevel on short arm; cut nine pieces of the same length, with the same bevel; fit the nine pieces together, and you have a nonagon, or polygon of nine sides. Proceed in the same manner with any of the sets of figures given.

By cutting out the above figure, and pasting it on the inside lid of his tool chest, the mechanic will always have handy a guide by which he can easily obtain the bevel of any cut illustrated above.

The lines forming the "crew's feet" at the end of each of the radii, show the direction of the sides necessary to be made to form the figure required, indicated by the number on the outside of the circle.

The series of articles on the Steel Square was commenced in the September number, 1881. Bound Volumes containing the same, $2.50.
THE accompanying engraving represents the plans for a building to be erected near the seashore. One of the first things to be thought of in designing houses to be built near the water is the arranging of the various rooms in such a manner that perfect light and ventilation are secured without the windows being too much exposed to the fury of prevalent storms, or the regular blasts of trade winds. This fact has been carefully kept in view in the plans as presented on this page.

Another fact must be kept in view; Such houses as the one illustrated must be provided with suitable bath and dressing-rooms, handy from the beach. By examining our first-floor plan, it will be seen that two such rooms are provided for. They are directly in front of the intended building and can be entered very easily. The front, as shown, faces the sea, and the main entrance being in the rear. Following out the suggestion given above, no windows have been placed on one side of the building, thus presenting a blank surface to the fury of the storm which may happen to rage. The plan may be reversed so as to have said wall face any point of the compass and still retain the general design shown.

The arrangement of the first story will command itself especially to those who find it inconvenient to have servants around among the living rooms. Ample accommodations are found in this floor for all kitchen work. By means of a dumb waiter, the meals, after being cooked, can readily be transferred to the dining-room, a large cellar affords ample room for the storing of coal, vegetables, etc., while the servants are provided with a fine front room, with a beautiful room.

Via parenthesis, we may remark that one of the principal reasons why servant girls are so hard to keep in one place is the insufficiency of their bedroom accommodations. They are put in such a place which the sun never shines. This is radically wrong; servants are hard-working people, and nature demands that they should have proper rest and well-ventilated rooms.

There are already too many houses in which the servant's room opens directly out of the kitchen; consequently the room is filled with the smoke and fumes arising from the cooking; the bed clothes, etc., are permeated with the noxious vapors, and when the weary servants retire for the night, they are compelled to breathe the same kind of 

The front portion of the attic would make a fine billiard room, having ample room between stair hall and observatory for a children's play room.

While the arrangement, as shown will not be acceptable to many, it must be remembered that a sea-side cottage is not intended for a permanent residence. Compactness with ample accommodations; every convenience and yet only a moderate outlay of money; these two facts must be well borne in mind when planning a house of the character shown. Being away from a town, no water pipes are indicated, nor gas pipes needed; to those wishing to go to the expense, an artistical well and windmill and pump complete will supply the one, and a gas machine the other.

The front elevation we do not give. This may be varied to suit tastes of those building. We have only endeavored to present the general plan of the house, leaving it to an architect to supply the balance of the drawing. A house of the character shown can be built in this section of the country for any amount from $3,000 upwards, depending greatly upon the accessibility of the different materials required in its erection.

Painting Floors.

Now that the fashion is more and more prevalent of using carpets, the old practice of covering the area of the floor, and which thus escape the dust by being so even as to coincide with every angle, recess, or curve of the walls, floor painting should certainly be more generally adopted. Painted borders are well enough, but the whole area of the floor may be advantageously laid out in color. This painting necessarily involves priming, which, in itself, as applied to floors, is hygienic, as having the effect of closing the pores in which dust lodges, the dust, with its darkening and forbidding effect, never failing to obtain lodgment unless, indeed, the boards should be of costly hardwood, which is the exception, not the rule. It may be said that a floor painted all over will not be seen, but, without replying that a painted border where the whole area is not colored in a decoration, we may remark that the entire treatment of a floor or cover affords a security against unsightliness should accident or accident of the central carpet be accidental; the colored portions should be cared for in such a manner as to remove purposes of cleaning the painted ground suffices, especially if enriched with a few rugs or patterned mats.

In the hot summer months a floor artistically painted will be often found preferable to carpet, as aiding in the movement of the air, not harboring dust, and proving on the whole cooler. Paint may be so compounded and laid on floors as to suffer but little injury, even to the course of time. Should the colors become dull, slight varnishing will suffice to renew much of their pristine freshness. There are many rooms in a house which would be all the better for not being fully carpeted. Such especially are bedrooms. When we speak of painting a floor we do not refer to giving it a uniform hue. The handsome designs carried out in encaustic tiles may be repeated in color. Geometrical figures centered with small leaf patterns are peculiarly appropriate; so, too, a host of fresco patterns, these being varied in successive tiers. In longitudinal lines representing the chromatic scale of colors might be repeated at certain intervals. Diagonal lines in different hues, lying thwart each other, in basket-work style, would have a good effect. The borders, as a matter of course, should be differently treated.
THE art or mechanical science of dovetailing consists in fastening boards or timbers together by letting one piece in the form of a dove’s tail spread, or wedge reversed, into a corresponding cavity in another, so that it cannot be drawn out. The mere fact that a mechanic can explain what a dovetail is, does not imply that he is therefore fully acquainted with all the m-chanical skill necessary to perform the operation required with artistic ability. Practice alone, with a careful attention to details, is the true requisite necessary to perform a neat and accurate joint.

Again the mechanic must study; because he has practiced enough to enable him to make joints largely discernible to the naked eye, is no reason why he must consider himself as perfect. He must have a thorough conception of the proportion which a piece made to fit into another should have toward that into which it is fitted, so as to produce the greatest strength with the least possible waste of material. He must also know how to proportion a joint so that it shall not fail or give way before another.

It is in the latter particular why so many joints made by the most skillful workmen separate with a trifling strain, or from being bound too tightly together, fly and split in all directions. This is owing to want of study on the part of the mechanic, as he is lacking the information necessary to estimate the strength required to resist the stress on the joint.

In Fig. 1 we represent the common dovetail. The projecting ends are called the pin of the dovetail, and the aperture into which this pin is fitted is called the socket. The form shown is the strongest of all the various patterns, and is used in tool chests, bookcases, drawers, and in places where strength is considered of more utility than beauty. In laying out the dovetail, it is best to allow the pin to be a little long, so that after the work has been put together, the projections can be smoothed off with the plane, thus making a clean surface.

The strength of the joint depends on the form of the dovetail, as well as on the proportion it bears to the parts cut away. No absolute rule can be given for the bevel of the pin; in ordinary work an angle equal to about 75° or 80° is that usually employed.

To those who do not understand how to obtain the angle required, we would say, take a pair of compasses and scribe a circle; draw two diameters at exact right angles to each other; the arc of the circle will thus be divided into four parts, each equal to 90°; divide the arc of one of these sections into five equal parts; draw a line from the center of circle to the point nearest the perpendicular; this line in relation to the diameter will give the bevel necessary for the pin of the dovetail.

Young mechanics are apt to allow too great a bevel for the pin. This fault must be carefully guarded against. Too much of a bevel decidedly weakens the joint. The best rule to go by is to study the nature of the wood, and give as little bevel as possible and still prevent the possibility of the pieces pulling apart. Hard or tough wood admits of much greater bevel than redwood or pine.

Fig. 2 represents the stopped dovetail. In this form the ends of the dovetail show on one side of the angle only, and is generally used in the front of drawers in cabinets, bureaus, etc., where the side cannot be seen unless the drawers are opened.

Fig. 3 represents the mortise or secret dovetail. In this the dovetails are not seen at all. While, admittedly, this is the weakest form of all the various patterns, still it is very useful where neatness is required, and is generally employed in making fine boxes, etc., for the parlor or library.

As represented in Fig. 4, a tenon may be held tight in a mortise, by framing the latter in the shape of a dovetail, and face-tail wedging the tenon into it; this is done by four thin wedges into and projecting from the end of the tenon, so that on coming in contact with the bottom of the mortise hole, they may be driven into the tenon and enlarge it sufficiently to fill up the dovetailed mortise. Care must be taken to so arrange the wedges that the two outer ones may be driven first, and then the inner ones, by this means only thin pieces of the tenon are split and turned outwards at a time, thus avoiding the risk of splitting the tenon beyond the shoulder, which might occur if fewer and thicker wedges were used. Light blows should be given at first so as to cause the tenon to gradually split.

The mechanic must have his tools in perfect order. Only dull instruments as well as tools slip over work. If the edges are keen, they will grab hold of the wood as if eager to do their part. In fine work it is absolutely essential that the tools be in perfect condition, as a slip of the plane or saw may cause damage which cannot be easily repaired.

Scribing.

Scribbling is the operation by which a piece of wood-work is made to fit against an irregular surface. Thus, for instance, the base-board of a room, by scribing, is made to meet the unevenness of the floor. To determine just the amount of wood necessary to be removed, take a pair of compasses and open them to a width equal to the greatest distance or space between the base-board and the floor. Having set the compass, draw them along the floor so that a mark will be scribed in the board, corresponding to the bumps on the floor.

A curious flower was recently discovered on the Isthmus of Tehuantepec, Mexico. It has a faculty of changing its color during the day. It grows on a tree. Another peculiarity of this floral chamoeon is that it only gives out perfume at noontime. One of the strangest things about this flower, however, is that it should be found in Mexico when its colors are those of the United States flag. In the morning it is white; at noon it changes to red, and at night it adopts a soft blue color.
American Institute of Architects.

We have received a copy of the proceedings of the Institute at its nineteenth annual session, 1886, containing also an expressive likeness of the first president of the Institute (deceased), Richard Upjohn.

The address of welcome was delivered by Dr. Thomas A. Atkinson, who was answered by Mr. Keossal, in which the following occurs: "Additional associations for the furtherance of professional interests have been formed under most favorable auspices, and especially do we feel grateful for the increased facilities for the study of architecture, which are offered by the Institute of Technology, in Boston; by Architectural Department of the School of Mines of Columbia College, in New York, by the Art Union, at Cincinnati, and by other institutions of learning in various parts of the country, so that the student in America can now obtain a professional training, which will be of greater practical value to him than the architectural courses of Paris, Vienna, or Berlin."

The addresses, containing many interesting references, were listened to with deep attention, and received hearty applause from members and guests. The following extracts, from the proceedings indicate the spirit and feelings actuating our professional members of the Institute.

"It would seem desirable that some effort be made to bring about a closer union and relationship between the architectural associations of this country. To this end it seems but proper that some advance be made by the American Institute of Architects toward the organization of a convention on the subject. As a means to that end, it would seem desirable that this Convention take some action looking to a representation through a regularly appointed delegate at all conventions of architectural societies throughout the Union, and that such societies be requested to send such a delegate to all conventions of the A. I. A."

San Francisco Chapter is duly noticed in the report of proceedings.

Matters relating to supervising architects to public works, compensation, competitive plans, etc., were considered.

A "Bill to establish the office of Commissioner of Architecture, and a Board of Public Buildings, and for other purposes," was presented by the committee previously appointed to prepare such a bill, in which among other things occurs:

"Section 27.—That any contractor who shall construct the building on which he is engaged in a different way from that prescribed in the plans and specifications, or who shall supply different or inferior material from that called for in the specifications, or who shall cause the work to be done in a manner different from that called for in the specifications, or in his contract, except as provided for in this act, shall, on conviction of such offense, be fined in any sum not less than five hundred dollars."

Reference is made to the following "words of our first president, Richard Upjohn, spoken at the convention of 1867. After mentioning his early experiences, he said, 'I quote the history of the Institute as Mr. Upjohn said farther: 'It is the duty of every one of its members to throw the full force of his abilities and influence, so far as the demands of his first duties toward himself and his dependents will permit, into combined effort to make the Institute attain its object, and realize its noble ideal. If we do so, if we show that we respect our work, and ourselves as its doers, that we know what we mean, and mean to do it, so far as our providential opportunities will permit, it is as if we have done everything, and show that we have well laid out our plans for the future, and have the men, the intellect, and the culture to carry them out well, we shall find that Providence will not fail us, but will, through the medium of outside co-operations, support and go forward with the material means requisite to make our mental capital available.'"

"Eighteen years have passed since these words were spoken. The Institute has developed and grown strong under its federal supervision. A bright and useful future should be open before us; the art of architecture is more appreciated, and the practical science of building is more generally and better understood. To be members of the American Institute of Architects should be our pride, and an attendance upon its anniversaries, and waiting a journey of pleasure and profit to all fellow and associates."

The many reports of committees, and speeches by able representatives of the profession, contain a large amount of instruction, and furnish data and facts of great value to those earnest in desire to improve themselves in the practice of a profession time-honored and noble, yet ever challenging the best efforts of the human mind to keep pace with its unfoldings, and ever furnishing new bases of thought, and revealing new beauties through each succeeding generation.

The suggestion expressed, that every chapter in the United States should be represented at the annual councils of the grand body, is a good one, and honored, indeed, will be the man who shall be the first from California to represent San Francisco Chapter and the architectural profession upon the Pacific Coast.

Technical Terms.

Some of the technical terms used in the building trades are very curious, and while many of the words may seem strange to those as to their derivation and meaning, others possess nothing whatever to show their signification or origin. Technical terms vary to a far greater extent than one would imagine. Even in different sections of the same district one will often find a considerable difference in the pronunciation and manner of spelling technical words; in fact, it is often difficult to determine what the correct spelling and pronunciation should be. An instance of this variation may be found in the word "relate" in the Dictionary of Architecture, which is therein given, spell in no less than twenty-three different ways: Rabbet, rabbet, rabbit, rabbit, and others are given. Other words, equally as well known, vary in as great a degree.

At a recent examination in building construction the following question was given: "Give a short description and sketch, where necessary, explaining the meaning of each of the following terms: 'Tumbling In,' 'Welsh Arch,' 'Dutch Arch,' 'Birdsmouth,' 'Hot Iron,' 'Coffer,' 'Bent,' 'Bead,' "C."

Although the terms all refer to well-known features of construction, some of the terms are sufficiently uncommon to render an explanation of their meaning of some interest to our readers.

'Tumbling In' is the term used to denote the way in which the courses of bricks are built out of the horizontal or oblique, or the length of a wall.

"Welsh Arch" is another term used in brick work, and refers to a bad piece of workmanship. When beams of any considerable thickness are built into walls, when, in fact, they are more than about seven inches in width, a single brick over them will not carry the superimposed load, and it is therefore usual in good work to turn a ring arch over the end of the beam, leaving a small space around it for the purposes of ventilation. Bricklayers often do not take the trouble to turn a fair arch, but compromise the matter by constructing what they term the "Welsh Arch," which simply consists of a brick spayed at each end, supported on the spayed ends of the adjacent bricks. It need scarcely be added that this construction should not be permitted in any good work.

"Dutch Arch" refers to another form of bad workmanship, where the bricklayer makes a fair arch "curved," the strength of this "arch"—there is really not a single quality of the arch about it—lies wholly in the adhesive power of the mortar.

The word "Birdsmouth" has two meanings. First, it is a term used by fitters as applicable to the common rafter, where it rests upon the wall plate; and, secondly, it is applied to the cutting of bricks where it is necessitated by the corner of a building coming at an acute angle.

"Hot Short" and "Cold Short" are both terms applied to defects or impurities in iron. The presence of sulphur, and, probably, also, magnesium, makes the iron red or hot short, that is, brittle at a high temperature; and the presence of phosphorus and silicon, cold short or brittle at a low temperature. Both are serious defects; the latter the more so. The former is either from the ore or from the coal and flux used in course of its manufacture, and certain materials are, where necessary, used to remove them, common salt being usually employed for the purpose. Should "Natural Bed" be of considerable importance, it refers to the plane of deposit of aqueous or sedimentary rocks. It is very advisable that all such stones should be laid on this bed in order that the stone may the better resist the action of the atmosphere upon it.

"Sandwich Girder" is simply a vulgar name given to the flitch girder, consisting of a beam of wood sawed longitudinally down the center, the two portions being reversed or the faces of the parts previously forming the center being placed outside, a plate of wrought-iron placed between them and the whole well bolted together, forming a strong, light, stiff girder suitable for many positions, and more particularly for loads and positions like those of a breakfast-room.—Artis in Building.

Plumbers should be careful not to use lead in contact with oak, unless the latter is perfectly dry and free from sap, otherwise the gallic or acetic acid in the wood will turn the lead into acetic of lead or cera.
The above unique illustration was designed especially for this journal. If surrounded by trees as shown it will present a very striking and handsome appearance. Much depends upon the manner in which it is painted. Rich, warm colors should be used. The arrangement of the porches and verandas is such as to give shelter from the sun in summer and the storms of winter. The cost may be varied anywhere from $10,000 upward. There is no economy in trying to save a few hundred dollars on such a design as that shown. Only the best material and skillful work should be used and employed. Special pains should be taken to have the chimneys built in a substantial manner.
We have repeatedly called the attention of carpenters and painters to exercise more care in the building of scaffolds, as they are certain death-traps where improperly constructed. There is scarcely a day but what the papers record the death of either a carpenter or painter, resulting from the falling of a scaffold, and it is certainly strange that these repeated warnings do not have more effect upon the workmen who build them. They not only owe it to themselves, but to their families, and we would urge that it be the duty of the architect, builder, or boss, to thoroughly inspect each scaffold erected. By so doing serious accidents will be avoided.

The houses which sell the quickest are the ones which contain the latest improvements. Improvements are in their very nature such as to add to the convenience and comfort of their possessors. And the old-fashioned portable wash-tub and the easterly, hand- mades of the ancient days, we are informed, are being supplanted by the latest improvements. It is possible that the march of progress has not only carried them, but all other kinds of household and personal apparel, to the realms of shade, and so in degree the same may be said of everything pertaining to architecture, sanitation, and equipment. From the cellar to the garret whatever conduces to make a well-appointed, finely-equipped, and properly-piped and ventilated house, is that which is rewarded by prompt and profitable returns.

And what is applicable in one sphere of action applies with equal force to all others. The wise and good architects of this are always left behind, and noke up the long line of "disappoint- 0ed" which strew life's pathway.

To Put AN EGG-SHELL POLISH ON FANCY WOODS.—Three parts of shellac, one part of gun mastic, and one part of sand- arae gum are dissolved together in forty parts of alcohol, and form a beautiful polish, which may be applied with a brush or cloth.

SALT AND DIGESTION.—If a piece of salt is taken into the mouth, the flow of saliva is temporarily increased, though it is not certain that the amount secreted in any given time is any greater than it would have been had no stimulants been used. It has been argued, also, that the effect of salt on the gastric juice in the stomach is the same, and that its use promotes digestion. Some recent experiments, however, on a man who had an artificial opening into his stomach to supply food, which he would not take through the mouth, seems to nullify this as- sumption, and that salt hinders the secretion of the gastric juice and digestion rather than promotes them. If the amount of salt is considerable, digestion almost ceases. Experiments like these have great value, for they help to clear away the superstitions of past ages, which seem to be held by the educated and the ignorant alike.

Steel Nails.—Establishments for the manufacture of steel nails and steel nail plates are on the increase in this country. These nails, it is alleged, are produced much more cheaply than those of iron, owing to the cheaper process—the Bessemer—in preparing the metal, but their grip is less than that of iron nails.

A BILL of goods had been sold, and when the proprietor came in he saw the sales book and hurriedly called the salesman: "Did you sell Edder this bill of goods?" he inquired. "Yes, sir, I did," was the reply. "How did you sell them?" "On time, sir." "On time! good heavens, young man, why didn't you sell them on sternly, so the account wouldn't be outlawed by the statute of limitations."

Wood Preservative.—Introduces into the pores of the wood the following solution: Mix two parts of gum-oil, one part of turpentine, four parts of Paradise; hot to liquify the mixture and apply while hot for future use.

A Fine Lubricant.—A good lubricant for fine machinery and one which will not gum or corrode may be obtained by putting pure olive oil into a cork substance bottle with strips of sheet lead; expose to the sun for two or three weeks and then pour off the clear oil for use.

To Polish GLASS.—To polish plate glass and remove slight scratches, rub the surface gently, first with a clean pad of fine wool, and afterward with a similar pad covered over with cotton velvet which has been charged with fine rouge. The sur- face will acquire a polish of great brilliancy, quite free from any scratches.

The heaviest wood known among the four hundred species of trees found in this country is said to be the black ironwood of Southern Florida, which is thirty per cent heavier than water. Sixteen of the species, it is stated, are so heavy that their per- rectly dry wood will sink in water.
ASKED, ANSWERED, AND COMMUNICATED.

Los Angeles, Cal., July 21, 1886.

EDITORS CALIFORNIA ARCHITECT AND BUILDING NEWS—Gentlemen: I observe in your July issue some one asks for "correct method of finding the length of one of the sides of an octagon, the diameter being given." The rule is given, but the writer cannot exactly see into it. Will you kindly, in your next issue, try to explain the rule more clearly, and illustrate or suppose a case where the diameter is less than twelve inches. By so doing you will greatly forward one of your readers.

The rule, as given in our July issue, is applicable to any octagon, regardless of the length of side. If our correspondent will read carefully, he will find that the rule says, "add or subtract, as the case may be, to the known length, two and one-half inches for each six inches of diameter." Thus the mechanic must remember some one certain measurement for a certain given width. To illustrate, we will use a different width from that given in the July issue. An octagon 7 feet in diameter, the length of one of the sides will be 2 feet 10 inches. Now to find the length when diameter is 12 inches, the difference between 7 feet and 1 foot is 6 feet; allowing 2 1/2 inches deduction for each 6 inches of the 6 feet, will give 2 feet 6 inches; subtract this from the known measurement given above, and we find 2 feet 10 inches less 2 feet 6 inches, leaves 14 inches, the correct length of side when octagon is 12 inches in diameter. We simply used 9 feet for width of octagon, as that is the average width for bay windows. The following are some of the measurements in practical use—

<table>
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<th>Diameter</th>
<th>7 feet 6 inches; side, 3 feet 14 inches</th>
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The rule can be applied whether the diameter is 6 inches or 60 feet.

DRIERS IN PAINTS.—What are they, how used, and how do they act? The above three questions are asked by a young apprentice. Their brevity pleases us. The drying of linseed oil is due to the readiness with which it absorbs oxygen, and any material which promotes this absorption is termed, in painters' parlance, a "drier." These, by yielding up the oxygen they contain, encourage the oxidation of the oil. As many pigments retard the drying of the oil, the addition of driers is necessary to prevent the paint from remaining sticky, or "stuck," as it is termed. The principal driers are acetone, or sugar of lead, sulphate of zine (white copperas), and litharge (oxide of lead). Observe the following points in using driers:—

Not to use them unnecessarily with pigments which dry well in oil color.

Not to employ them in excess, which would only retard the drying.

Not to add them to the color till about to be used.

Not to use more than one drier to the same color.

Avoid the use of driers in the finishing coat of light colors, as they are likely to injure the color.

Our correspondent should procure a standard work on painting, and spend his leisure time in study; this office can furnish any work published in any branch of the mechanical, scientific, or professional occupations and trades.

A BRICKLAYER'S hod, measuring 1 foot 4 inches by 9 inches by 9 inches, equals 1,296 cubic inches in capacity, and contains 20 bricks.

What is meant by "larrying," a term used by bricklayers? The best way of laying the paving or bricks in the body of the wall after sufficient facings have been laid, is to lay in between the face bricks a thick bed of "larry," or rather liquid mortar, and then slide each brick along in it into its proper place, in doing which the mortar rises to the top of the joints, the process being called "larrying."—

Please state specifically the difference between carpenter's work and joiner's work.

Carpenter's work, as distinct from that of the joiner, consists of framing and putting together all the wood-work connected with the proper construction and stability of a building or other kind of structure. He supplies all the wood-work required to be built in or tacked on brick walls, such as plates, templates, etc.; also all centers, turning pieces for arches, etc.; the carpenter constructs roofs, lays the floors, erects partitions, nails on the rustic outside, and what is usually termed inside finishes. It is seldom that a carpenter is a first-class joiner. The larger timbers with which the carpenter has to deal, and the comparative absence of that high finish which is essential to joiner's work, render it almost impossible for the same man to be a first-class hand at both branches of the trade. A first-class joiner is always too slow and cramped at carpenter's work, and a first-class carpenter is not usually sufficiently attentive to those details which constitute highly finished joiner's work.

After a house has been built and covered in, the joiner takes in hand all the wood-work, as a rule, connected with paneled partitions, doors, skirtings, dadoes, etc. In joiner's work, close-fitting joints and smooth surfaces are the chief objects in view, whereas the aim of the carpenter is to give strength to resist the strains to which his work may be exposed.

All surfaces left exposed to view are worked smooth with the plane by the joiner. He must also exercise great care in fitting and framing the various parts together, that they may be affected as little as possible by the shrinking or warping of the material used.

We have stated the difference between a carpenter and joiner as the terms are generally used. In San Francisco, and, in fact, over the Pacific Coast, the term joiner is seldom used except in connection with cabinet work. The first question a foreman asks of an applicant for work is, "Are you a full hand?" and the answer establishes the question's mechanical abilities to perform any certain work. "First hand," "second hand," or "floor nailing," "partition setter," "inside finisher," etc., are terms used by men applying for the honor of swinging a hammer or pushing a jack-plane, etc., on any certain job. We remember seeing a sign as follows,—

JOHN SMITH.

CARPENTER, JOINER, & PIECE WURKER.

Floors nailed and Sash put in.

If the man's abilities were equivalent to the knowledge of grammar, as evidenced by the sign, we pity the looks of the work with which he was connected. Piece workers are the scab's in the carpenter's trade.

LEAD DOPS.—In securing lead to wood-work on roofs, etc., and to effectually protect the nails from rust, etc., the following method is used: Wherever a nail comes, hollow the wood out slightly; drop the lead into the hollow; drive the nail in through the center of the hollow, and then fill up level with solder. The same may be done without hollowing out, but then the lead dot covering the head will project above the surface of the lead work.

In giving lead off in exchange for new lead, it is generally customary to allow six pounds per cent discount on the weight of the old material, on account of the latter containing dirt, etc.

FISH VS. SCARP JOINTS.—When the beams abut end to end, and are connected by pieces of wood or iron placed in each side, and firmly bolted to the timbers, the joint is called a fish joint. When in a joint the pieces overlap each other, and are bolted together, the joint is styled a scarf joint.

As average gas burner consumes about four feet of gas per hour, Windows, as ordinarily constructed, will admit about eight cubic feet of air per minute.

At the drum-tap 9,000,000 drilled soldiers would take arms in Europe.

Art and Architecture.

[Special for this Journal. By F. Hillek, Architect and Mechanical Engineer.]

XVII. BOUNDARY OF PERCEPTION.

To enter on the many explanations of beauty which partly contradict each other is impossible, since the beat of them can be referred back to the harmony of spirit and form, and the accord of the power of imagination with intellect when divested of the learned abroad. The difficulty of the subject matter lies herein, that we must abstract the spirit of the beautiful from a number of beautiful things; that our feeling, depending on many conditions, will always speak with it; and that objectivity and subjectivity, principally and with lasting truth, cannot be parted and separated from general views and definitions, which, in themselves, would be comprehensible. Human speculation finds here a boundary which she cannot pass, but could she succeed in uncovering the secrets of the human heart, and the miraculous blending of spirit and mind, as they are shown by the pleasure in the beautiful, and discover sober and intelligent laws, it may be that the finest ornament of beauty worth living for would be lost irreparable to humanity.

XVIII. IDEAL OF BEAUTY.

By such characteristics of beauty, as well as a pleasurable sensation of man, the quality and nature of things point by the impenetrability of its spirit back to a mystic cause, without which we cannot conceive or think of the consummate perfect beauty. Then set man indeed the truth and unapproachable image always will remain, but will destroy him as soon as he lifts the veil; but, nevertheless, he anyway incessantly aspires and presses towards the eternal tree of knowledge, hunting and seeking his liberty in vain, through all zones and seas, and at last, beginning with the smallest, wrestling with himself, must gain his liberty; so he also strives mightily towards the beautiful, but the highest fulfillment of the same remains to him always concealed. Man has presentiment, demand, and pursues to the highest aims of truth, liberty, and beauty, but he never reaches them. Name the primal cause to which those aims point, as we like, put the relation to a super sensible cause, if we want to express ourselves generally comprehensible; and still more, to give to the human being a contentment of mind, we must, then, always say that the highest truth, and the highest good, as also the highest beauty, rest in God. The being of God once settled, out of him flows the wonderful harmony, which in our feeling, in our mind, in fact, the problem of the spirit and conception of beauty.

The highest beauty is in God, has been said with categorical decisiveness of conviction. And in fact if we speak, from things which by our intellect we do not comprehend, the secret presence in our breast, but anyway are touched in our deepest mind by unexpressable beauty, and almost raised above ourselves, then we find the purest and only fulfillment in the belief in the existence of God. We see then in beautiful things the images of eternal beauty, and in nature the appearance and phenomena in which only one highest spirit, God, is expressed; and in art the secret revelation of the human spirit, in which rises the aspiration of the divine breath,—truly a noble and exalted vision of nature and of art. And if we look back to our inward mind and place together and compare the manner of sentiment of man himself, we recognize that in wonder is divine beauty; and where we find it expressed clear and shining, we stop there admiringly and say, A godlike, a beautiful soul. The pure inner harmony of mind, undisturbed by any blemish, any impurity, finding in itself and its God the utmost satisfaction, and anyway knowing nothing in its own heavenly purity and innocence, but in sacred awe and awe recoils when compelled to approach divinity by a worldly symbol. The soul speaks wondrously and enchantingly, and the figure is blotted out in the eyes of such means rests, visible glorious, and magnificent, a beauty which could be called super terrestrial if she would not appear visible on earth; but even in death such a soul may be able to effuse over its dying face the most perfect peace. Nobody praises the soul higher than a poet. To him she stands higher than beauty of nature or beauty of art, and well may be added, unknown to himself, the beauty of his own soul, unmeaning and barren.

We can easily realize and perceive that with such super sensible and figurative illustrations for our knowledge, nothing is to be gained where our sensitive faculties come direct to play, as with the beautiful.

XIX. SPIRIT AND NATURE OF A WORK OF ART.

When the beautiful, as has been explained, in respect to the things, is perfect, harmony of ideas and appearances, as we commonly say, in accord and harmony with sense and form, so is herewith expressed the characteristic of the meaning of a work of art. But how is this harmony between the spirit and form to be understood? In the immediate, and direct answer, and so that the meaning, the idea, of a certain work of art cannot appear in a changed form; not to be represented and made to appear in other stuff, without itself being changed and altered. Hereby is, in the same time, the impossibility explained, to bring the idea of a certain work of art, and what direct can be seen at each piece of music, on every object of the forming art from which, by the most correct description, a clear view and conception never can be gained; the same finds, with closer analysis, its ultimate, and for sure the sooner as it is tried to reproduce the meaning of a tragedy, of a poem, in other words, the insufficiency and inability appear. The work of art is inseparable from its own peculiar exclusive form, which necessarily belongs to its spirit and meaning, as the body to the soul of man; but the form is enlivened and spirited by the idea showing and existing in the work of art, as its soul, which is invisible, as the soul of man. Considering, and not to draw the comparison of a work of art to its highest pitch, and arrive at discouraging results for the human mind, that man is a living organization, having a purpose of his own will, when the work of art is a make, having only the semblance of an organic life. But since the work of art is the highest achievement of will, but only wants to fulfill this one, to be beautiful, it can attain the same more perfect, as in general the natural organization, having other purposes to fulfill. The idea of a work of art only originates in the fantasy of man, i.e., it originates in the power of his imagination, his mind; without that the intellect in a rational way can get to the same—in direct expectation, with which throughout a more or less raised effect of the mind is connected. The idea of his own imagination, man will and must, by his own inner urge and drift, make visible and conscious to himself, and in doing this he creates at least a basis for his work of art. He does not sober down the charm of his own inner vision, in giving the same in words, and with his intellect seeking an expression accordingly for it; but his inner vision of mind flows direct into the lines, in the color, into the modeling clay. He touches the lyric and draws from it melodious sounds which, in his own imagination, presageful and put knowingly lived, or he powerless in words; he does not seek the whole richness of his soul. So works of art are produced, noble, high, and beautiful in all, perfect and well equipped.

XX. RETROSPECT.

Connecting all together, we obtain from all our observations which we, in regard to the explanation of beauty, as well as in creating a work of art and its enjoyments, always and unanimously referred to instinct, from all logical perception and arriving in us to a consciousness which distorts, stains, and destroys, so soon as we wish to recover them to bases of reason, to establish and prove the same by ideas of reason. But if we now consider that the happiness and the pure contentment is poured out by the world of the beautiful, and when we think that the highest reward for a good and
noble act done disinterestedly lays in our soul, and if, lastly, we must acknowledge to ourselves that even the abstract thought gives us a desire to Admire; and, by then, when in a victorious satisfaction out of a conflict he has gained his object, the world a truth, can rest a moment,—well might we throw up the question, since such moments to the human being grant a complete satisfaction, and hereby a presentiment of the highest happiness.

We spoke of the beautiful, but with it the whole dominion of sensible impressions is not exhausted in regard to the form and its significance. But since to our feeling, if otherwise we do feel desired heightens the two aspects to the development of a divine cause of their creation. Not the magnitude of the spiritual meaning for itself is decisive for the sublime, but this religious notion; not the preponderance of the ideas over the directness with which our mind, by its aspect, the effect which, the sublime is directed to God. But if art wants to effect such like, too, it becomes symbolic; man can only express that by his work, what he comprehends; that lying and being in the sublime, he does not comprehend; he has only a presentiment, and therefore can never make the sublime. On the perfected work of art, we may originate by a breath of divine inspiration, and therefore must, in the perfect work of art, lie a touching point of the sublime, even only a touching point.

XIII. THE CHEERFUL, MERRY.

The cheerful (jolly) is not in nature, but only in art. If before the sublime our disposition becomes one of veneration, even of worship and adoration, then as well to enjoy the beautiful, full and whole; but over the merry we want to laugh. But as not all that we venerate is sublime, that we enjoy is beautiful, so is not all over which we laugh, merry.

To explain, the cheerful or merry, or, as it may be called, the comic man, has not been successful. The question, What is comic? has not been solved. We decide, with surprising security, this or that is merry or that is not; but why we do so we cannot support by a general everywhere-satisfactory definition. Since Aristotle, the comic man has only a presentiment, and therefore are himself merry aesthetically. The grades and undergrades of the merry in all possible arts make it more difficult to bring them to a common subordination, to one definition, which we will leave to the reader, who can by comic, humorous, witty, ironic, the caricature, the burlesque, grotesque. If we limit ourselves to the forming art, we recognize that in all comic works pure harmony is disturbed in a manner, that subject matter belonging together are set up, that is, that contrarieties are united in an unusual manner, and that matters belonging together are connected in an unusual manner. To this opposite only spiritual, only in the idea, then, the work produced is humorous; but if it appear in form, it becomes a caricature.

XIV. THE HUMORISTIC, THE CARICATURE, AND THE SATIRE.

The humoristic picture, the truly proper form of the appearance of the comic art, is always without a sting and harmless, and follows the general rules of form and emotion.

This meaning is in the spiritual conception, in the manner with which the artist entangles the contrarieties and solves them again. With humor we can only view general evil, folly, and weakness, and we can at work, therefore, can only in a general sense perceive its expressions against a certain person; then the conditions of human society furnishes stuff for the forming and introduction of contrarieties. Inasmuch as the plastic in single works can be humoristic, painting is any way the dominion in the leisure art, and indeed a part of the mythological objects, the animal, fable, etc. Caricature is wit drawn, and has always the purpose to ridicule, to scoff, to mock, to humble; is mostly directed against a certain person. She has therefore a point. She is an exaggeration and therein lies her comic result. But since the same already pursues an outward purpose, she does not belong any more to the dominion of the pure art; she uses art as a means for its purpose; may be that the figure is stretched, and that to the same is given an excessive large bulk, and may be that the introduced a thing in an extraordinary relation to other natural things. The caricature always remains a certain premeditated disfiguring and deforming of the peculiar form, and therefore in this sense does not belong to the domain of art. An intermediate between here and the humoristic work is the satyric, which, as it were, in a harmless way, secures its victim, and, when secured, and begins to rejoice over the horror, the person of the same unawares, is struck a blow in the face with the future, and a regular spirit is directed against a certain object with the intention of a covered assault. This particular moment taken from speech is in art difficult to represent, but it may be introduced in the same with the assistance of the artist.

The morning gate of beauty is the consecrated land of perfect humanity; behind him lies the merry world, before him the sublime infinity; but only under the ark of peace, which is a protective haven added with all the gifts of art, as well as the race of mortals, men thrive, whole, good, able, and noble.

XXV. THE DIFFERENT ARTS, THE THREE DIVISIONS.

We have already separated the forming from the art of sounding, according to their marks of perception, and both only in the manner as to their expression, designated them as different. We turn ourselves exclusively to the first, which we, in future, will abbreviate, simply calling art, whereas the forming art generally is introduced as poetry and music, which is the plain language therefore in general use. Of the art in the closer sense we have the art of building (architecture), of sculpture, and of painting, the two latter united to the art of culture, which is founded throughout on the same origin, and their differences are again only in their peculiar condition in which each in their manner brings its work to appearance.

XXVI. THE ART OF BUILDING (ARCHITECTURE).

The art of building is the least art in all its parts since the inventing or designing artist does not himself execute his work, but has the same done by others, under his direction. The sole artistic effect lies in the conception of the plans which he makes and fixes, and accordingly the building is executed.

At such designing the artist's fantasy must be in complete and full execution, to bring it in his mind, as in the same way as it is designed so clear and visible that he can oversee it as with a single glance, detecting no faults and finding it satisfactory. Then with the plan once decided and determined and the execution started, the same, at the face of the building, proceeded with, as changes of any considerable extent and importance are not admissible; when the other artists, and fully the poet and the musician, have unlimited sway. But not only this, but more the mechanical fitting together of the building material, the construction based on the statistical laws; but, before all, the problem that the building itself must satisfy its practical purpose, gives to the art of building an unartistic addition, and yet are these moments absolutely necessary to give to the building a beautiful appearance. Then were the same put up without connecting and joining of material, without construction, hewn and worked out as a whole of the natural rock, as perhaps the free-standing buildings and cavern temples of the Indies, it will always bear the character of the crude and accidental; but when a building has no practical purpose whatever, or at least not a reasonable one, as, for instance, some monuments erected in our time, it brings forth the impression of the gloomy, uncomfortable, and sewers. From this we learn, that the picture or the work comes the art of the idea; that a building without it misses its vital part, as a work of art is in want of the spiritual sense and meaning. It is, then, no more a work of art, but a nonsensical play work; just as a purposeless hooping is in art, and a huge mass of stone would be a senseless play. Herefrom it would also appear that the art of building with its practical purposes could not produce a work of art, which would for itself be beautiful, and in fact all that the demands of art ceased to be art. But the artistic lies in the conception of the purpose in its perfected sense, and in the effort to show this in the building as a direct expression. This is the principal thing;
Building Outlook in San Francisco.

Although the remark is repeated by a thousand tongues daily, that "building is being overdue in this city," still a hundred, a score or less, of owners of building lots demonstrate each month, by commencing building improvements, that the streams of faith in the future of San Francisco continue to flow.

There is a considerable showing of vacant houses in the city, but not sufficient to deter others from improving their real estate. The greater number of erections are for residential purposes, but there are also a large number of private residences under construction and contemplated. The improvements are not confined to any special locality or portion of the city. Some parts are more desired than others, but all alike share in the general prosperity. As to the quality of construction prevailing, it averages fair, but only a small proportion approximating first-class. The universal disposition of owners is to economize, and build as "cheaply as possible." There are but few cases of even reasonably liberalinclination. The dollars of cost are weighed for all they are worth, and made to spread out to the last grain of value, without fair and equitable compromise in the class of material and workmanship. The best of everything is wanted, and any suggestion proposed by architects or master-builders, by introducing low-cost articles of not unquestionable quality, is almost sure to be rejected, with a lingering desire on the part of the owner, to enjoy the benefits of the more expensive without increasing the total cost.

These remarks apply more particularly to houses built to rent, in the erection of which wise and prudent economy is proper, as rentals are generally regulated by the sum of costs of construction, and renters are not willing, as a rule, to pay five or ten dollars per month more for a house containing no more than equal accommodations, simply because the owner may have exercised a fair degree of liberality in introducing better materials or fixtures, which do not produce some visible effect to the eye, and an impression upon the mind of the beholder that the demand for the extra amount is warranted in certain ways and is reasonable.

It is poor economy, however, if not absolute folly on the part of the owner who attempts to cut down expense, by resorting to the use of "shoddy" construction in any part. For, while it may prove a present saving, it is an expensive one by reason of the continual repairs afterward required to "keep things in order," for it will be found, as a rule, that poorly constructed buildings require almost constant attention to keep them in repair and good condition. "Shoddies" of any sort are poor investments, particularly in permanent building constructions, unless a few decades, if not generations, of wear is required. This, intelligent owners readily realize, and, therefore, dictate approximately first-class material and workmanship, as practically the more sensible and economical course. But it is not always the case, indeed, but seldom, that this intelligent understanding of matters is of much use in the execution of buildings, e.g., a wide, large hall, perhaps for the sitting of a legislature, to be made, then are no Doric columns nor Gothic arches or such like to be applied, but inclosing walls are to be erected, over which a wide ceiling, free and easy, is to be suspended. This is, in the same time, foreseen and decided in the plan, and, since, as has been shown, the ornament,—the art language of architecture,—are not to be selected arbitrarily, but must be founded on the construction, then the plan points already to those, and the same is the construction. The unity idea is therefore unconsciously existing, notwithstanding all apparent contrarieties, and as the building artist conceives his problem, and then shapes and forms it, he must complete all in one in his fantasy; plan, position of the building, arrangement to each other, construction, style, ornamentation. One is conditioned by the other, not one before the other, and all besides each other. By means of a comprehensive drawing he supports the picture of his imagination; and his sense of taste must be his guide for the production of a real, true work of art.

It is generally known that the Washington Monument is higher than any other structure now in existence. While this fact is seldom disputed, still it does not equal the Biblical Tower of Babel, which, according to the best authority, before its fall had reached an altitude of about 680 feet, being 125 feet higher than the monument erected to the memory of Washington.

A Frenchman has found means to restore the life-like expression to the eyes of dead persons. He places a few drops of glycerine and water in the corners of the eyes and the effect is said to be startling, so life-like do the eyes become.
Plans for a Commodious Country House

The accompanying engravings will well bear a study from those contemplating the erection of a commodious country building. Where compactness is the principal feature to be taken into consideration. The rooms are ample in size, and a close study will disclose that every convention is provided for, usually found in this class of houses.

About Sleeping.

We believe in sleep and enough of it. A man may get rich faster by long working hours, but certainly he will live the longer by devoting at least eight hours of the twenty-four to reposeful conditions of mind and body. Franklin declared that six hours sleep were enough for any man but a fool. Franklin was undoubtedly a great philosopher, but in this respect he probably erred in making his own frugality the standard for the rest of mankind.

Still one may sleep too much. A recent writer grows enthusiastic over what he calls the forgotten art of lying abed. It is certainly a clever bit of consolation for those who must do it.

"One of the most useful yet neglected of all the arts is that of lying abed. The demons that is done by persons getting up is past all reckoning. All the mischief and crime, the counterfeiting and forgery, the murders and theft, are perpetrated by parties who persist in getting up. Not only individuals do wrongly by leaving their bed, but rivers as well do an immense amount of damage.

"What man ever broke his leg on a slippery pavement or was run over by an omnibus, who lay in bed!"

What great achievements have been accomplished in war, in poetry, in literature, by genius abed! Coming events cast their shadow before—one of the most unmeasurably literate in the English language, the poet, Tom Campbell, one of spread, before he had risen. Longfellow thought out that exquisite poem, "The Wreck of the Hesperus," after he had retired. Ben. Franklin said, "Early to bed and early to rise makes a man healthy, wealthy, and wise." Now Franklin started out all right but got terribly mixed up when he said 'early to rise.' There is the fatal mistake. People who rise early are sure to catch the malaria; the ground is full of half-baked poisonous germs; the sun is not up and has not warmed them into life, giving them wings and set them adrift. Poor mistaken man, he arries, inhales them all; they virtually and poison his entire system; hence chills, fever, malaria, and half the ills that human flesh is heir to.

"Rise before the sun;
And make a breakfast of the morning dew;
Served up on some grassy hill;
You'll find it nectar."

"Was ever more arrant nonsense written? Fancy a man getting up on a cold, rainy morning and climbing high hills on an empty stomach, but to eat—what? Why, dew. How long would that fellow last? Wouldn't he be a fine candidate for Lone Mountain, and no questions asked? But the early bird catches the worm. Yes, but the sharp boy knocked that delusion in the head forever and eternally when he said: 'Father, there's the point—what in thunder did the worm get up so early for? He thrilled with destiny; he tempted fate; he should not have done it.' That boy was a benefactor to the human race. He was sound on the lie abed question."

"That French proverb says: 'De lit a la table, de la table au lit.'—'From bed to grub, from grub to bed.' That's something like it. Get up and eat, and eat and go to bed again. Why not? All the animals do it. All nature, the grandmother of us all, teaches it. Every animal in the world eats and seeks repose. The cow eats, and lying down, placily chews her cud; the anaconda swallowed ox, horns and all, goes to sleep—sleep that knits up the raveled sleeve of care, the birth of each day's life, sore labor's bath, balm of hurt minds, great nature's second chief, nourisher in life's feast.' And yet this is what they would deprive us of who say; Get up, and who oppose the art of lying abed.

"Mrs. Macbeth strikes the key-note when she shouts: 'To bed! to bed!' A Spanish minister, suddenly raised to power, signalized the event by going to bed and staying there for fear he might have something to do. It was in bed in the little inn of Water-lake, that the Duke of Wellington received the list of the dead on the 18th of June 1815. Gray's 'Ode to Music' was written in bed, and Sir John Johnson's 'Lobo's Voyage to Abyssinia' was dictated to the printers before the great author of the 'Lives of the Poets' and lexicographer had arisen. Peter Pindar (Dr. Wolcott) was so fond of lying abed that he received his visitors lying beneath spreads and counterpanes. Rossini wrote one of his finest operas in bed, and was too lazy to pick up a sheet that had fallen away. George IV. lay in bed to read the newspapers, and Macaulay read twenty pages of Schiller before getting up. John Foster thought out his sermons in bed, and the methodical Anthony Trollope used to read an hour before getting up.

The extensive outdoor use of zinc by builders at the present time has directed attention to the peculiar process of oxidation which this metal undergoes, and which is so important to be considered in all applications involving exposure. The rusted surface does not rub off or blow away, but forms a sort of hard crust or enamel upon the surface of the metal, and when laid upon board ing which is or may become damp, or exposed to steam or condensation below, it rests on both sides. The thin zines first introduced in this way were rusted through, brittleness ensuing and failure being the result. But if the zinc be of sufficient thickness, after a certain time oxidation ceases, and the result is a body of solid, sound metal, increased above and below by a solid coating, thoroughly impermeable to the accidents of weather or corrosion, and which requires no further protection. The various ways of spreading zinc consist, mainly, in laying it in a corrugated form without boarding, the trusses of iron or wood of the roof carrying the weight, or in rafters about one foot more or less apart, with a corrugation at each rafter only, or upon a general surface of boarding, in the manner of a lead flat.

It ought to be the aim of every husband and wife to build for themselves some kind of a home, though it be ever so humble, and then to beautify and make it attractive by every device of taste and love. It is possible for very poor people to become real estate owners; the obstacles in the way are not insurmountable; only let each home be built according to its owner's means, not those of their neighbors. How precious is the vine planted by the hands of the children! the shrubs and flowers tended by a mother's loving care! A more intimate knowledge of these pleasures is purifying, ennobling, and strengthening to all natures. The man who loves flowers, trees, and all beautiful things cannot be a bad man; the children who are taught to love these things from infancy, who work, and care for, and help make beautiful their home, are more helpful and useful, less frivolous, and more likely to make good and noble men and women. We believe if there was more home-building there would be a smaller number of unhappy marriages, less recourse to courts of law, and fewer divorces.
Building Intelligences.

Where owners' names are left blank, it is so done in most instances by special request.

**A**

**Army**, by. Guerrero and San Jose Ave.

**Alms House Track** Three-story House

A — City of San Francisco A. — Military & Son.

**Ayres House** Three-story House

A — W. Ayres.

A — J. J. Clark.

C — J. Walls.

$750.


G. — J. Mahoney.

J. J. Clark.

Day work.

$500.


A. — J. J. Clark.

B. — H. Ackerman.

$100.


B. — J. J. Clark.

J. J. Clark.

Day work.

$150.

**Hicks**, cor. Divisadero. Two-story frame.

G. — J. J. Clark.

T. Edwards.

$100.


G. — H. M. Bachelor.

1st work.

$50.


G. — T. C. Delamar.

C. — M. Bachelor.

$5,000.


G. — T. C. Delamar.

$5,000.

**Broadway**, bet. Laguna and Buchanan.

Two-story frame.

B. — C. F. Brown.

$500.


G. — A. E. Walker.

G. — J. Marquis.

C. — Martin & Maguire.

$5,000.


G. — H. M. Bachelor.

1st work.

$50.

**Clay**, bet. Hyde and Laguna.

Two-story frame.

B. — J. Barker.


A. — C. Jackson.

$500.

**Dunsmuir**, bet. Guerrero and Duboce.

Two-story frame.

A. — M. J. Welch.

C. — J. promotional.

$150.
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THERE are entirely inside of the window casing, and while requiring no jarring out or boxing, make it impossible to tear curtains, interfere with plants or window ornamen; ture, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot be left open or raised by wind. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

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The following are a few of the owners who have adopted the HILL BLIND in preference to any other:


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They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require no hinges—all trimmings-fashioned with blinds—are MADE OF ALL WOODS, finished or unfinished, and cost less than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

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A.—J. A. Barnett.
C.—J. A. Jackson. $8,150.
Pierce, nr. Sutter. Two-story frame.
O.—Dr. Balliff.
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C.—F. Green. $1,250.

O.—A. W. Browdy.
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Twentieth, cor. Dolores. One-story cottage.
O.—A. R. Murphy.
A.—J. C. Clark. $1,000.

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O.—J. M. Moore.
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C.—J. C. Bassett. $1,000.
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DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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WATER CLOSETS

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The Golden Gate Plug Closet.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:

1. It has a simple, strong valve, suitable for any pressure.
2. It has a real sanitary overflow, a copper float attached to a ball of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.
3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the soil chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 2 3/4 inch pipes, one to the right and one to the left, and a 1-inch leader in the center. It has a movable strainer on top to take the sewer. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swing, therefore it will not enter either position of pipe. This hopper can be used only for consent, for waste, or for leader; either inlet will be stopped up with iron cap if so desired.

PACIFIC PAN CLOSET.

This Closet is more than all others, every working part and bolt being made of brass, and the valve extra heavy casting. Particular attention is called to No. 4. This Closet has an oval case fastened to the cover by brass clamps and bolts. No breaking of parts or joints required to remove a pan. The cleaning of two large brass nuts will separate cover with bowl from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

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It turns every house into a sanitarium, and is an assurance to those who trust it, that neither sewer gas nor anxious vapors that invade our houses freighted with disease and death, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

1. Is the only Self-Acting, Tight-Seal Water Closet in the World! It has no "overflow," rending it a positive seal against sewer gas and rank, noxious, poisonous vapors.

2. It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after every operation.

3. It is Self-Discharging. No notice to "pull the lever," "set on the water," etc., is necessary or proper.

4. A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

5. It is Economic. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes owned by other closets, in order that their cumbrous and inefficient machinery may indifferently execute what has been ill conceived.

6. It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

7. It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its foot.

8. It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pumps," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-discharger it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape it in a continuous stream, or for any length of time.


It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, is 3 feet lengths, with rebated joints and galvanized iron bands over each joint. Those bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for fresh air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the building by iron bands C every four feet.

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At the back of exterior pipe is the three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted into the air space around the flue to the roof. In addition to this, there is a perforated sector piece, letting the foul air pass through and between the joints to conduct to a small conductor G with the above mentioned air space.

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C. D. HARVEY’S
Hot Water and Steam Heating
For all Classes of Buildings.

I have introduced this system in over 400 houses on this Coast where it is now in operation. All work Guaranteed.

Sole Manufacturer of
HARVEY’S HOT WATER RADIATOR AND BOILER.
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BUNDY’S PATENT STEAM AND HOT WATER RADIATOR.
Also Agent for
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ESTIMATES FURNISHED
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HOT WATER SYSTEM.
We Guarantee Perfect Heating, with Unequaled Economy of Fuel.

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We also desire to call attention to our

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FRENCH RANGES,
SUNSET RANGES.
GEO. H. TAY & CO.
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Interior Decorating,
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Paper Hangers' Tools.
—And a full line of—
Ingrain Tapettry and Body Brussels Carpets
JAMES DUFFY,
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"NONE SUCH"
CHIMNEY TOP VENTILATOR

THIS VENTILATOR is especially valuable for regulating draft (upwards and downwards) made by the light, unstable atmosphere of the Coast Range of Mountains. The hundreds of tall dwellings erected on the chimney tops of houses indicate inconvenience and trouble in the kitchen, the parlor, and chambers below.

To whom it may concern,

I take pleasure in stating that the "None Such" Chimney Top and Ventilator, which was put upon the smoke-stack of the Baldwin Hotel about two months ago, has given complete satisfaction. It has increased the draft to such an extent that there is a perceptible saving in the amount of coal consumed; smaller fires than heretofore will now amount to keep up the steam, thus causing a great saving of the boiler alone. We have hearthstone had much difficulty in keeping up the amount of steam stability required, owing to the lack of draft, all of which is now remedied by the use of the "None Such" Chimney Top and Ventilator. I heartily recommend it to all persons, wherever a strong draft is required.

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Burr's NEW WASTE PIPE HOPPER, For the NEW PLUMBING LAW.

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Burr's WEATHER STRIP, Harsha's Patent.
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SEWER WORK and PATENT CHIMNEYS.
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AND TERRA COTTA WARE.

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reasonable rates.
YARDS: Valencia St., bet. 17th and 18th
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FIRE AND MARINE.
Principal Office, 430 California St., Safe Deposit Building
SAN FRANCISCO
JOHN H. WISE, President.
CHAS. A. LATON, Secretary.

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MANUFACTURER OF
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Basement Floors, Carriage Steps, Colored
Tiles, Building Stone,
URNS, VASES, STONE COPING and STEPS
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its security locking when closed and simultaneously drawing
the meeting rails tightly together. All movements are
accomplished by春 without the instrumentality of springs,
thus avoiding the possibility of getting out of order.
Ives' Patent Door Bolts apply with a bit, and are a greater protection than ordinary locks or bolts affixed. Ives' Patent Sash Locks and Door Bolts are protected by nine letters patent, and are manufactured in over forty
styles of finish.

One sample only; Ives' Patent Sash Lock, mailed post-paid
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Illustrated price lists, showing forty-six styles of goods,
mailed free.

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Ives' Patent Sash Locks and Door Bolts, sold by all dealers
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Norris' Window Pulley Mortising Machine and Pulley.

CAPACITY:
Nine Mortises
Per Minute.

The Norris Machine and Pulley is used by nearly all the Leading Sash, Door, and Blind
Manufacturers of the following Cities:

NASHUA, New Hampshire; BURLINGTON, Vermont; BOSTON, Massachusetts; WATERTOWN, Massachusetts; CANTON, Massachusetts; LOWELL, Massachusetts; WORCESTER, Massachusetts; BURLINGTON, Maine; Lawrence, Massachusetts; New York, New York; BUFFALO, New York; BROOKLYN, New York; PHILADELPHIA, Pennsylvania;
Harrisburg, Pennsylvania; Williamsport, Pennsylvania; SUNBURY, Pennsylvania; PITTSBURG, Pennsylvania; GLEN ROY, Pennsylvania; WARDEN, Pennsylvania; MIDDLETOWN, Pennsylvania;
Columbus, Columbus Ohio; LACONIA, New Hampshire; PORTLAND, Maine; YALE & YARDLEY, Yorke, Massachusetts; MARSHALL, Kentucky; HAMILTON, Virginia; TORONTO, Ontario; SYLVANIA, Ohio; ALBANY, New York; CHATTANOOGA, Tennessee; RICHMOND, Virginia; LYNCHBURG, Virginia; CLINTON, Iowa; PORT DEPOSIT, Maryland; PAOLUO, Kentucky; BIRMINGHAM, Alabama.

You may safely, without risk to the Norris Mortiser, and not spoiling edges of glass, mortise to get out of repair. It is a heavy, solid, substantial machine, built for work, and we guarantee it to do five times the work of any other Pulley Mortiser. It is not procure any skilled labor to erect it, a man can set it up in an hour, and, in fact, it is pronounced by all and is considered the only machine for Mortising Pulleys. Our Pulleys are the strongest and best made in the country. We make 60 different qualities, and any other style of pulley was given to us it would not pay to use it. We offer you the leading sash, door, and blind manufacturers of the entire country. Information and samples sent on application. Very respectfully yours.

C. SYDNEY NORRIS & CO., 36 Hanover Street, Baltimore, Md.
Durham System of House Drainage.

STANDARD WROUGHT IRON STEAM PIPE, Special Fittings, Carefully Protected from Rust, SCREW JOINTS, and only where NECESSARY for Branches, HAND-HOLES at Bends, supported ONLY at Bottom, therefore not affected by SETTLEMENT of Walls and Floors; in fact, a PERMANENTLY TIGHT SANITARY SOIL PIPE.

SEND FOR PAMPHLET. CALL AND SEE FULL SIZE MODEL.

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Gas Fixtures of Every Description, of Latest Designs.

Tiles, Grates, and Mantel Trimmings.

BUSH & MALLETT, 34 Geary Street, Above Kearny.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VII.


COMPOSING ROOM AND PRESSES.

That there are none. The journal has been conducted incidentally in connection with our architectural pursuits, and printed and bound ready for distribution by contract.

But with these limited facilities and restricted advantages, and personal attention divided between two great interests—editor and manager, and practicing architect—each demanding our whole time and energies, we have continued our publication work for eight years less three months with a profit to ourselves, making a most enviable reputation for the journal, as evidenced by the hundreds of complimentary notices from time to time published by technical, class, and other journals; and preparing the way for some one to continue its publication with great success and profit.

San Francisco Chapter American Institute of Architects.

THE regular meeting of the Chapter was held on September 3, in the rooms of the San Francisco Art Association.

The proposition of H. T. Bestor to become a member as Fellow, was favorably acted upon, and he was duly elected.

Proposition was received from A. M. Squire to become a student member. Messrs. Piissis, Curtiss, and Sanders were appointed as an Investigating Committee.

The following communication was received from the Builders Association of California:

TO S. F. CHAPMAN, A. I. A.: The Builders Association of California, recognizing the fact that there is in use in San Francisco nearly as many different forms of contracts as there are architects in the city, and believing it to be desirable to adopt one form for use in contracts that will meet the requirements of the building trades, that shall be alike equitable and just to both the owner and contractor, have appointed the undersigned a committee on the part of said association, with instructions to communicate with you and ask the appointment of a like committee on your part, to meet, consider, and present a form to our respective associations for adoption and general use. We would, therefore, respectfully request your association to appoint such a committee at its next meeting, to meet with us at such time and place as you may select, for the purpose aforesaid.

Hoping the above will meet with your favorable consideration, we remain, gentlemen, your obedient servants,

JOE WILCOX, J. P. O. HARONEY, C. C. TEBBELL.

The Chapter, in accordance with above, appointed Messrs. Wolfe, Kirk, and Gash as the committee.

Election of officers being in order, the following gentlemen, having received the highest number of votes, were duly installed in their offices for the ensuing term: President, A. Pianis; Vice-President, T. A. Eisen; Secretary, B. E. Henrichsen; Treasurer, J. M. Curtiss; Trustees, G. H. Sanders, A. Laver, J. E. Wolfe, J. Gash, W. P. Moore.

Resolution carried that delinquent members be notified to pay up; failing to do so, suspension will follow.

Summary of Building Activities.

Below will be found the third quarterly report for 1886; as compared with 1885:

<table>
<thead>
<tr>
<th>Description</th>
<th>1886</th>
<th>1885</th>
</tr>
</thead>
<tbody>
<tr>
<td>399 engagements for 34 quarter</td>
<td>$1,638,260</td>
<td>$1,498,570</td>
</tr>
<tr>
<td>277</td>
<td>1,458,814</td>
<td>1,498,570</td>
</tr>
</tbody>
</table>

83 decrease $147,814

As may be seen, the difference of 83 engagements and cost of $147,814 must be recorded in favor of 1885. The corresponding monthly report for the month of September is:

<table>
<thead>
<tr>
<th>Description</th>
<th>1885</th>
<th>1886</th>
</tr>
</thead>
<tbody>
<tr>
<td>169 engagements for 1885</td>
<td>$785,700</td>
<td>$485,177</td>
</tr>
<tr>
<td>106 &quot;</td>
<td>1,458,814</td>
<td>1,498,570</td>
</tr>
<tr>
<td>83 &quot; in favor of 1885</td>
<td>$337,923</td>
<td></td>
</tr>
</tbody>
</table>
We Want YOU, Who Have Not, TO PAY UP.

ANTICIPATING retirement from the management of this journal, those who have not paid us their subscription dues will confer a favor by doing so at once.

Let there be no delay in this matter. We propose to clean up as neatly and nicely as the good pleasure of honestly disposed patrons may make possible, and as thoroughly—as the law provides—and with those who refuse or neglect to settle their accounts.

Every unpaid dollar due us has been faithfully earned by unceasing desires and earnest efforts to found and perpetuate a California class journal in the interests represented in these columns; and measured by the mental and physical cares and labors, and the financial requirements to this end, every dollar yet due us has been honestly earned and should be paid promptly.

We hope not to be required in any case to invoke legal redress, but as protection of publication interests, which have been and are so often abused by that portion of the reading public who seek to obtain their reading matter without cost, the law in such cases made and provided is, that every man who receives a subscription journal of any sort, can be held and made to pay the full amount of subscription, up to the time of payment and stoppage.

Questions and Answers.

BUSINESS MANAGER OF ARCHITECT: Will you please to let me into one of the secrets of the “performers’ art,” and tell me how it is possible to make such much “triple extract of heliotrope,” when I know from my extended travels, there is very little indeed of heliotrope flowers cultivated for the performer to use?

San Jose.

ANSWER.—I do not know that it is just right to expose the secrets of the performer or any other art or profession. But as “Curiosity” is an old friend, I will just this once let her know how to make essence of heliotrope without the flowers. Add to a tincture of vanilla a small proportion of oil of bitter almonds; add essence of rose, and orange flower, q. s., and you will have an excellent extract of heliotrope.

San Francisco.

ANSWER.—A man working for us, that put on three thousand a day, each shingle to be well nailed, would be doing a very faithful day’s work. Of course, we know five, and as high as six thousand, have been put on by one man; but we are not answering to “slipping” them on, but simply a good day’s work well done.

BUSINESS MANAGER OF ARCHITECT: I have a roof, the span or width of which is forty eight feet, and the height eighteen feet. It is rectangular, hipped at each end. I can figure out the length of my common rafters easily enough, viz., thirty feet. What will be the length of my hip-rafters? Also, how do you get the length of the latter?

ANSWER.—If your rafters are 30 feet in length (I notice that does not allow of any projection), by the same rule your hip-rafters will be 38.41 feet. You have simply worked out the problem of finding the hypotenuse, two sides being given. Apply same principle to the hip-rafter—regarding a common rafter as one of the sides, and half the width of the roof the other side of the triangle.

ANSWER.—If you want to furnish all materials for my building, I take the liberty of asking you how much of lime, sand, and hair will it require to make enough good mortar at plaster 100 square yards?

ANSWER.—Eight bushels good lime, sixteen bushels clean sand, one bushel of hair. The longer the latter the better.

A hour in danger, a family in peril.

The builder that deceives the architect wrongs the client as well, and if he convinces at last workmanship he demoralizes the workman and constitutes himself a criminal.

Garden mold may be good for vegetables, but as a component of mortar it spells early ruin.

Good workmanship needs no coat of paint to enhance the execution, for like sculptor’s work, good workmanship is best judged in the nude without drapery or color.

Wet your bricks, wash your sand, shake your lime, but perish not your mortar with water, or your work will not be worth its bond.

The Shingling Question.

It is rather amusing to see one whose experience is more than local, to read the questions and answers appearing in various journals in reference to what constitutes a good day’s work at shingling. Many unwise and intelligent discussions arise from the diversity of answers given and opinions expressed; while the fact is, that no general answer can be framed which will apply to the sections of country—the reason that shingles, like nearly all else used in the erection of buildings, possess special characteristics within certain naturally prescribed limits. The man who might perchance “lay” 2,500, or even 3,000, of California’s soft reduced shingles, or 1,000 Eastern cypress—might lose upon a bet to lay 1,500 Eastern cypress shingles—or in some cases, 1,000—fully half an inch thick, within the same number of hours. There is, also, a material difference whether six-penny or four-penny nails are used, and whether there is to be one or two nails driven in each and every shingle, or on an average, two nails to each three shingles. Again, it makes quite a difference whether the shingles are made of soft redwood, the only shingle used in San Francisco, or sugar-pine, or white fir, qualities more common in other parts of the Pacific Coast. Either of these kinds, compared with those made of harder wood in other States, and much thicker, requiring six-penny nails, bear no comparison. And the man who glories, as some do, over the feat of laying 2,500 or 3,000 redwood shingles, performs no better nor more noteworthy day’s work than do other men who enjoy a sense of pride at having laid 1,000 of a heavier and more difficult kind to lay.

Material Facts for Owners’ Consideration.

Good buildings are sometimes erected without the professional services of an architect, but whether as good and complete as they would have been under the planning and superintendence of a competent architect, is a question. The proposition suggested is reasonable. For the theory of an architect is to discover and develop new ideas, to determine and nature better plans, to overcome difficulties encountered in prior experience, to provide against defects and errors which may have occurred, and, in a word, to concentrate the entire energies of his mind and brain, to producing improved results; and it is not reasonable to suppose that among men of equal intelligence, education, judgment, industry, and advantages, that those who devote their time, and employ their mental and physical energies in special pursuits, can properly understand and practice their selected avocation, and by incidental application, also understand as proficiently, those specialties which others, their equals in all intellectual and physical senses, have made matters of constant study and daily application. Men generally master not more than one thing or calling, and as the “old saw” goes, “They that are jacks at all trades, master none.” We admit that there are a host of contractors who would have become most excellent architects had they so applied themselves. But a reasonably perfected knowledge of architecture can only be obtained by the possession of the natural qualifications of mind and judgment, and constant practice and study. Incidental scholastic and superincidental knowledge does not, by any means, qualify men, to assume the practice of a profession, than which no other requires the more intense exercise of every mental and intellectual faculty. Hence, we find men calling themselves architects who are simply漂亮ners, mere frauds, aspiring to be what they can never become, through fatal defects in their natural or acquired qualifications. But mistakes sometimes occur even with the best and most careful architects, and generally when no architect is employed, and almost always when buildings are intrusted to the manipulations and control of parties whose presumption is only equalled by their fearful lack of judgment, and complete ignorance of every correct principle of architecture.
Facade of Suburban Dwelling.

VARIETY in architectural arrangements is as much to be desired as variety in dress. The accompanying illustration presents the front view of a dwelling lately erected in a suburban portion of a country town. The original plan contemplated two houses with exactly the same facade, only having the main entrance doors on opposite ends of the front. By this arrangement of two owners combining the main features of a design, and building conjointly, a much richer and grander effect is produced. From a short distance away, the house would present the appearance of a magnificent villa. As shown, wood, brick, or stone may be used in the construction. Shingles on the gables would much heighten the effect. Due regard must be exercised in regard to the colors used in painting the exterior.

Art and Architecture.

[Special for this Journal. By F. Blacker, Architect and Mechanical Engineer.]

XXVI. SCULPTURE.

The art of building incloses space and makes rooms, to which, by the form signifying the purpose, and its creation the semblance of organic life is given, raising the same to a work of art.

With sculpture, every practical purpose for the use of its work drops away; its way of beginning and the staff are of themselves indifferent; they are only wanted to be seen. From the art of building to sculpture, is a large step for independent development, to pure liberty of art from all outside efforts connoted.

What conditions are imposed upon sculpture, above all visible, bodily appearance of the work? The same have, with the work of architecture in common, the extension in length and breadth, but as works of art they are inaccessible to their inside, even as a colossal, the Statue of Liberty of New York, etc., and only its outside in her artificial form, immaterial of the same, is hollow or of a solid mass. The ideas which man can speak out and embody in such work of art, must be shown and given in bodily individuality. The sculptor is to individualize, that is, to make figures. From the—from nature borrowed, mathematically schematized—ornament by which the art of building indicates, sculpture makes a large stride, by taking the organic living for its model and pattern. Men and animals, single or in groups combined, are her objects, but she has to represent the same so that, out of the form, the figure speaks directly the spiritual, also the character, an action or a general idea. In the structure of the body, the position, the tension of the muscles, the motion, the form of the head and the features of the face, must lie this spirit, spatially or in reference to a certain action, an Olympic and sword combat, or a certain character, such as of a sudden anger, must lie near by and be self-evident. In reference to the repre-entation of a personified idea it is more difficult to find the right; but she must admire the high sense for beauty of the ancients, which gave to them the idea of love, the most graceful figure; to the idea of pain, the noblest expression; to that of strength, the most perfect form. In the gods and heroes of the ancients are general ideas personified, and this is the highest problem of the plastic. The Christian plastic, compared with the antique, is, ideally taken, poor, since, with the exception of the crucified, of Maria and the disciples, by the legions of saints, is hardly a figure, in which really something general, human, and dignified is spoken out; and only lately we arrived to represent faithful, devout submission, the joyful death of a sacrifice and similarities, even if more so shown in painting.

The works of sculpture are made from one kind of stuff, worked from outside toward the inside, as with stone, marble; or from the inside toward the outside, by putting on, as with modeling clay; or they are cast in a certain form with bronze, iron, and cast-stone, etc. Since, first, what was probably done in marble and cast-work models of clay were made, then is, in regard to a true work of art, the making of the model in clay is decisive. The later executions are secondary, and belong to the technique, whereby we must not lose sight that the artist already at the making of the model must know how later he will complete his work, since the manner of his execution here and there in single parts at the commencement will require a different treatment.

By all works of sculpture is only one kind of stuff, therefore only one color in existence, sculpture colored, as, perhaps, the gilded ivory pictures of the ancients, inlaid bronze work, or even heads of marble with eyes of precious stones, and such like exceptions and change nothing in the principle; colored painting of a statue is something barbaric and belongs always to the period of transition. The corporeity and the hardness of the material, as well as the single color, limit principal sculpture in its production and point the same irreversibly to the statue and figures, denying to the same the physical life, the world of sensibility, and, namely, of deep passions. The eye is yet closed and dead; the soul does not speak through those bright stars. The eyes closed, which is only missing on few figures, gives also indication for the whole manner in which the plastic forms. Not bodies in imitation of nature she desires to make, but figures—idealized, spiritual, and godlike. So is the outline of the plastic art the ideality, which, not considering accidentalities of definite persons, conditions the image in heroic purity. Partially and seemingly dessication from this highest axiom will afterwards be referred to.

Selecting a group, there can come to expression a situation or a conflict, since the position and relation of the single figures to each other can speak and point to an action, or they all can be united to a common idea, as the former, t. e., in the group of the Parthenian bull, and the latter in the group of Neobe and her children, is the case. The single statue will always bear the character of “in itself” sufficient.

But the plastic possesses more, as in the group the means to show actions and situations, namely, in the raised picture, the relief which, from the complete fullness of the space, is already set back from the surface, and by a slight raising and drawing of the bodies from the background, giving to the same the semblance of a full appearance. Besides the statues is here the representation of other things possible, as trees, buildings, implements, and such like; and the plastic finds here an expansion of her domain, outside and above her original limits without, however, taking away from her the conditions of bodily matter, and points hereby to the possibility, by extensive training, to an art which is equipped with farther-reaching means, and which is persistent.

XXVII. THE ART OF PAINTING.

This art abandons the body of the idea of building and sculpture, and sacrifices the real actuality, whose semblance she reaches and again obtains, by a delusion or by other means. She is set back in the surface, the plain or curved, and her means of representation is the color. As the things appear to the eye, which only can be seen from a point, and that only from one side at the time, so she would let the same also appear in the picture. If we, in the rear of a visible object for the eye, the front side of the thing would set up a perpendicular wall, then this would represent the
ground plan of the picture; but the plan is filled up with the visible front part of the things, and, indeed, so that those being farther back in the space appear smaller, as they actually are. This semblance is reproduced in the picture, and is designated with the name of "perspective." A work of painting is, therefore, the representation of objects conceived of color and perspective, produces the semblance of reality, naturally understood under the general condition of a work of art. By the possibility to represent in an unlimited manner the whole of the visible state, painting and sculpture mean to bring to view the inner feelings of the soul, the tender, soft emotions, general ideas of the most affecting modesty to the highest magnanimity, as far as they can take in general a visible form. It corrects a hand for the object, and how to bring the same with astonishing ease to appearance. Color is her stuff and material, and a few strokes drawn with a pencil on paper, obtain first and have only appeared before the semblance by the painter, are set off from the paper. The different coloring material used conditions the appearance of the painter's work; then that which is only drawn in one color, on a certain priming ground, will only in part arive to the semblance of reality, and the same to be tried to be gained by shading and shading; but, that which is in many colors, obtains again, by the material condition of the color, a different character. The different coloring material requires also surfaces for painting of a different material. The unity of the coloring painting is an inscrutable source of error, and the treatment of singularities, have also a considerable influence on the colored, that is, the color in her artistic effort, that the finest gradations needed everywhere are made possible. In the coloring painting is an inestimable source of error, presenting the most opposite and contrary dispositions, and hardly perceptible shades. Works, of painting are divided, partly in reference to the kinds of means used in representing, and partly according to the kinds of the presented object, and both, as can already be seen, only refer to the outside aspect.

More correct would be a separation of the different works according to the kind of ideas they represent, so that such works which would unite the most important, significant and essential to others, and which contains accidental, mean and insignificant, to another group. The first would be named the historical works in the highest and most expanded sense; the latter, to be designated as general. The dividing line of the two groups is far from being drawn, but will be compelled to divide the same according to the kind and method of painting, as above indicated, or according to the subject treated, such as religious, historic, historic genera, general, etc.; animals, birds, etc.

**XXVIII. RELATION OF THE THREE ARTS TO EACH OTHER.**

While the art of building must content itself to give, by indication to their works, the semblance of the organic, while the sculpture has to remain in the outer form of the organic, the painting penetrates to the organism itself, and lays down the deeper nature of the spiritual and objective in general, which has departed from nature so far, that the same, instead of the natural occupation of space, which the art of building and nature demand, has withdrawn to a surface, and on it, as illustrated, the spiritual and objective reality made palpable. But of the three arts, is the art of building the fundamental and lawful, standing in the forefront, historically and aesthetically before the others; it educates so, as to say, the artistic sense and the art, and makes man capable to feel himself independent to form, and again, to perceive the work of art as something different from the creations of nature. The sculptor, whose hand and skill for work have already been trained in making of building adornments, the ornaments, columns, etc. steps in next, and at last, the painting, completely into the art of the other rooms it adorns and ornaments; but she also wakes to an independent consciousness, and teaches above all others the beautiful proportion and the ideality. The painting, which has perfected itself the last, enters now open to art the second of things and of the soul. The sister arts are supplementary to each other; they finish the circle of the beautiful, as far as visible to man. Their principles unite themselves to a higher unit, which every one of them separately, and must be combined, namely, cannot be pointed out to so lively conception of the strict laws of the art of building, which give, well and truly comprehended, everywhere a sure foundation for intuition, judgment and the execution. Through the union of the three, their works, speaks a higher whole, and only so arrives each to its worthiest position, to the solution of its highest problems. Nothing better and higher exists in the plastic, as the adornment of the sanctuaries of Olympia and Athens, nowhere is painting higher than there, where it ornaments walls and ceiling of a large room, etc.; and where a building shall arrive at a true and real beauty, perfect monumentality and greatness of the sister arts must reach out and assist the wreath of plastic and figurative ornament, as in museums and fine theaters. But as architecture is connected with the building trades, so points painting however by its effect the souls of men, which only exist in the time to make them visible in space, already to poetry and music the art of sounding. So it could appear, as if the arts overlapped each other—the art of building over sculpture, and the polyphonic painting over the figurative, forming to painting by the relieve or raised picture to the simple drawing; but nevertheless the boundaries are fixedly drawn and must be strictly kept; then if one of the arts should forget its proper ground, and pass over to the domain of the other next above, her works become unthoughtful, repulsive, and repellent, then the art of building would become individualized, or the sculpture pictures give, then they are not to be supposed; their works do not please a refined and cultivated taste. Then, therefore, painting draws statuesque or architectonic, if figurative forming forms architectonic, it is this, anyway, a restraining of the artistic capacity; but the work carries with it severity and dignity.

It has already been said that a work of art is the reflection of the state of culture of its originator, his time, and of his people, and this, therefore, coming direct from the original self of its originating, perceives and separates in the grace and dignity of its kind and mode of thinking, with him and with his people. In the different periods of history must, therefore, appear a different kind of art. The main reason lies in the religion of the people; then the beginning has an inscrutable source of error, presenting the most opposite and contrary dispositions, and hardly perceptible shades. Works, of painting are divided, partly in reference to the kinds of means used in representing, and partly according to the kinds of the represented objects, but both, as can already be seen, only refer to the outside aspect.

Art is intimately related to religion; then the impulse after divinity does not satisfy at first a reasonable persuasion, but it leads much more to the lowest state of all perceiving, corresponding to the sensitive intuition, necessarily thereto, that man tries and endeavors to make himself a concrete presentation of that which his soul desires very much to see. The most sensitive religious object, with elements, images, etc., and man's similarities, and pass over to natural things, trees, animals, and such like. An imposing progress lies then in the taking of personal objects as deities; and, lastly, the personification of a god-like, any idea referring to that, such as for example antiquity, is true for the whole humanity up to to-day, with the exception of Protestantism, as far as they are true to its spirit and principles; then Judaism and the Mohammedans, who discard images of God and set up only hereby a wise prohibition against extravagancies of painting; but the Protestantism, that is, the universal historical idea, and not in the accidental exterior communality with the so-called "Evangelists," whereby it is intended to disabuse a misunderstanding against the works of art of eminent, not Protestant artists, is not hostile to art; as to the former religions, he is only from its own inner spirit against the works of art as images of the godly divinity, and repels from it all supernatural; wherefrom he only accentuates the purely human and the nobility of human reach. It is a large and, going over to the domain of the other next above, her works become unthoughtful, repulsive, and repellent, then the art of building would become individualized, or the sculpture pictures give, then they are not to be supposed; their works do not please a refined and cultivated taste. Then, therefore, painting draws statuesque or architectonic, if figurative forming forms architectonic, it is this, anyway, a restraining of the artistic capacity; but the work carries with it severity and dignity.

**XXIX. NATIONAL ART AND RELIGION.**

The national art rules the collective antiquity. Here every nation has its own national religion, and art oversteps the boundary of
the people only together with the religion. The types of the old kinds of art are different in their main spirit; and even then, if we believe that some early relation existed between them, we are on the main only authorized to find in them the first impulses to an independent activity within their own nationality. The most important example permitting the dispute on this influence which the Egyptian and Asiatic art had on the ancient Greek art. In the face of the monuments, to deny such influence unconditionally is the prerogative privilege of the superannuated Hellenist, when otherwise to trace and pursue the traces up to the prime period of the Greek art, to find in all imitations and perfected Egyptian patterns and models, is a preconceived prejudice of those who are incapable to conceive and comprehend the independent people's character. If the old Pelas- gians, and, more so, the old Dorians and Ionians, received from the more advanced people the incitement for art exercises, then this is by no means a lowering of the Greek spirit, but sooner a glorification, since they obtained imperfect and raw germus, which, by their own force, were brought to the highest perfection. Something similar executes itself uninterruptedly in all dominions of life, and the judgment here goes from one extreme to the other. At the time of the Roman emperors, as the deities of the different nations and their culture were introduced in Rome, an inclination for a barbaric art was gained, as numerous sculptur- es of this period, which were executed in the Egyptian style, show. Religion is now undoubtedly conditioned by the natural disposition of the people, their bodily constitution, the fulfillment of their soil, the lay of their country, and similar influences; but it is already formed, in some measure, by the art training of some nominal value, and thus stands in a closed and fixed relation to the same, which is naturally without detriment to any change after time may make with it. So we find perfectly formed religious creeds, which have already called forth a certain fixed art, but which were proclaimed by an interested priesthood as unimpeachable commandments of divinity. The true reason is the immediate desire of power and self-interest of the priests, who, by their divine threatening and menace to exclude the people from every and any interest in their religious organizations, and every, even the slightest, attempt in that direction, is punished in the severest way. So originated the perfect stand-still in the religion, and the once created art forms are retained unchanged. Art is therefore under such conditions that the vein of its life is tied and its development played out. In this way it happened that the same unaltered types of art remained thousands of years in Egypt, and the rigid and stiff Byzantinism, longer than five centuries, showed the same lifeless forms.

In the India was the appearance of the reformed Buddhism that took the place of a new and less important art, or the one of the Brahmanas, but the Asiatic and African nations, being under the domination and rule of an oppressing priest religion, their art is, therefore, more or less typically stiff, without any developing power.

The liberty of the Greeks created the first true art from small, typical, narrow commencement to a perfected beauty. The Romans were, in art and religion, essentially dependent on Greek influence, but by both were taken up in their peculiar national form.

Please Make Immediate Settlement.

As an entire change in the management of this journal is likely to occur at an early day, those who are indebted to us will greatly oblige by MAKING PROMPT PAYMENT. Do not hold off because you may for a time, but pay up at once and remove the obligation. It is our due and your duty.

The most celebrated carpenter I ever heard of, was the Carpenter of Rosen. You never saw him, but you have seen the ruin of the carpenter, perhaps.—Builder and Woodworker.

We carpenters never ruin any thing, but we have seen fellows who pretended to be, that did ruin everything they undertook, including their own and the prospects of good carpenters for profitable jobs. We suppose this is the case common to any one. In Rosen, Paris, London, Amsterdam, New York, and all other cities. We certainly don't need any "Rosen" or "ruin" carpenters here.—Southern Lumberman.

Remember on the occasion of our successor taking charge of this Journal, we propose to publish entirely a delinquent list of subscribers. Prompt attention to paying your back subscriptions is absolutely essential.

A COUNTRY SKETCH.

Spoiled Buildings—Owners' Follies and Griefs.

OWNERS are often brought to grief by their mistakes in the means adopted by them to avoid the expense of an architect, and obtain plans for their buildings. Sometimes they know, or become acquainted with some honest mechanic, to whom they are induced to intrust the whole matter of plans, specification and construction, only to repeat it when it is too late. The party to whom the proposition is made, elated with the splendid opportunity opened up to him, and full of conceit in his own abilities, uses all possible means to secure and consummate the arrangement, and plans are made—and such plans— and the work progresses. Once under way, there is no stopping it, and step by step the owner discovers and realizes, one after another, grievous errors, which are difficult to remedy. And when the building is completed, he simply feels disgusted. Improper arrangement, poor construction, hasty design, and incurable defects crowd upon him, as the reward of his folly; and regrets for his error haunt him day and night, but it is too late—the building is erected, and he must endure its defects. But the first general dissatisfaction is primary and bearable; compared with after experiences in their various details. The plumbing work has, perhaps, been done by some tenth-rate man—some spoiler of good materials—for there are, in San Francisco, some of the least qualified men to be found in the United States, who call themselves "practical plumbers"—men who have not the slightest idea of what constitutes a really good job, not to say first-class. Nor would the payment to such men, of ten times the value of the work done, secure skillful workmanship at their hands, for the simple reason that they do not possess, and therefore cannot practice, mechanical skill and abilities. And owners who employ this class of plumbers are unfortunate, indeed. But to continue, defects show themselves in all connections. Pipes are put in of insufficient capacity, wastes entirely too small, and sometimes so cramped in making bends as to diminish their practical size one-half; "tinker" instead of "wiped" joints; leaks at various points and places; wetting and spoiling ceilings and walls, and not unfrequently carpets have to be torn up to escape the deluge. All this is followed by a still more serious defect—one affecting the health and lives of the occupants, viz., imperfect or insufficient traps, pipe ventilation, bad sewers, etc., resulting in the distribution of the vicissitudes of sewer gases through the building, and, as a consequence, the ill health, and sometimes premature death of loved ones. The intended pleasant home is thus transformed into a mere fume-clash, a disease-breeding charnel-house, not fit for human habitation. All this is followed by continual repainting, tearing up floors, removing fins shoes to get at concealed places, etc.; and for all this the owner has been made to pay a good round price, amounting to more, as a rule, than it would have cost him to have secured a good building, erected under the superintendence of a trustworthy architect. But bad plumbing work is not the only serious defect which so often occurs in such cases. The foundation is often wholly insufficient, and settling occurs, with any quantity of ugly cracks in the plastering. The structure is perhaps so poorly braced that the edifices tremble with every wind that blows; and, when the rains fall, leaks' are found at every exposed window and opening, and the roof itself yields its proportion of internal wettings. But we will not continue our enumeration of "bad things," as to do so would consume columns of space. Such cases are known to all architects, and many a "served him right" is indulged in, upon the principle that a competent physician laughs at the sufferings of a patient whose pains and gains result from self-treatment or quack practice, and the educated lawyer smiles when his client gets himself into a terrible fix by intrusting his case to some pettifogger, or who tries to work out the intricacies and problems of law by his own self-conceived legal ingenuity.
Landlord’s Liability for Bad Drains.

The old question of the responsibility of a landlord for the defects of a house which he had let to a tenant came again before the High Court in the case of Bartram vs. Aldous, which was the first case tried before Mr. Justice Grantham. The case is specially instructive, as the fact of the house being in an unsanitary state was not disputed. Evidence, which was admitted to prove that, was given to show that the water from the bath-room opened direct into the main sewer, and that the house-drains were untrapped. The natural consequence was that sewer-gas escaped into the house, and the tenant’s family became sick. The tenant refused to live there, and the quarters’ rent which was due, and brought a counter claim for the damages which he had sustained through becoming tenant of a house which was uninhabitable.

By reason of the landlord who lets a house does not ordinarily warrant that it is fit for habitation. The tenant is supposed to make inquiries, and ascertain the material facts for himself; and if he makes a bad bargain, so much the worse for him. The fact of the drains being defective, of itself, affords no answer to a claim for rent, and Mr. Aldous was obliged to rely on a representation which he alleged the landlord to have made at the time of letting the house, to the effect that the drains and water-supply were both perfect. On the occasion of the examination of the individuals of the sanitary commission, it transpired that there was a conflict of evidence, and the jury gave their evidence in favor of the landlord. Whether this verdict was right or not is a matter which does not concern us here. The case shows plainly that a tenant of an ordinary house, cannot rely on his bargain, and that he therefore be liable to pay damages consequent on its not being so.

The Housing of the Working Classes Act of last year, 48 & 49 Vict. c. 72, sect. 12, also provides that in any contract “for letting of habitation by persons of the working classes, a house or part of a house, there shall be implied a condition that the house is at the commencement of the holding in all respects reasonably fit for human habitation.” Neither the Legislature nor the judges have seen fit to incorporate any such condition into contracts for the letting of houses of a superior class, and there is therefore liable to pay damages consequent on its not being so.

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A very simple test to ascertain whether the air of any apartment contains sewer gas is made by saturating unashed paper with a solution of one ounce of pure lead acetate in half a pint of rain water; let it partially dry, then expose in the suspected air. The presence of sewer gas in any considerable quantity soon darkens or blackens the test-paper.

In Semeaine des Constructeurs publishes a short note upon a matter of considerable importance to builders. So far as we can gather from the note, a contractor agreed with the architect of a certain town to construct a building in accordance with plans and specifications offered him on behalf of the town. He carried out his contract to the letter, but after the building was completed it showed signs of weakness, and the contractor was called upon to make good the work. He contended that he had neglected to inform the town officials of the improper character of the materials specified, and to warn them that it would be impossible to do good work with them. This dispute was given by the Council of State on the day of last April and is reported in the journal Droit of the eleventh, will surprise those contractors who think it business-like to conceal their knowledge of defects in plans or specifications in the hope that they will be able to get a good price later for extra work in changing the work done in accordance with imperfect documents, but there can be no doubt that it expresses the general policy of the law. As applied to architects, this policy requires that the client should be clearly informed of the inconveniences or risks which would be incurred in following out his instructions, if the architect, knowing of these inconveniences, would free himself from responsibility. For the law, the architect is always the adviser of his client, and is bound to advise him faithfully. In the absence of explicit instructions, and even, to some extent, in opposition to them, he is clothed with a very extensive authority in directing the conduct of the work which is placed in his charge, and, therefore, the discretion which the law allows him is obliged to assume a proportionate responsibility. The client may, in unmistakable terms, take this responsibility away from him, but interference with the architect’s work, and the contravention of contrary orders, will not have the effect of shifting the responsibility for the building from the architect to the client unless the former takes care to warn his client against the possible consequence of his actions, so far as he can foresee them.

Paint, Putty, and Piety.

“Mr. Esq: I wish you would say a word about putting one’s religion into one’s work. Last year I built a new house, and employed a Christian man to paint it. He makes good prayers at the prayer-meetings, and utters a good word of advice to the young. But in his work he failed to exercise the same degree of moral sentiments, and did not fill up the nail holes in many parts of the work, and did not paint the top edges of the upper story, and other places which could not be seen from below, but which as much, or more, needed painting. He took care to slight the work just where he thought it could not be discovered, and the nails not being put in, they cause the painter’s wall and the edges, which you would not be detected, go unpainted! Was it Christian-like? Was it manly? Was it honest, particularly toward a woman—a Christian sister? We advise painters who pray and talk well, to putty and paint well; for right doing is better than right talking and loud praying. We want Christian painters who will fill up the holes with putty, and paint well the upper edges.” (An Eastern editor’s criticism on above.)

And the California Architect and Building News adds: This is severe criticism, but the Christian painter does not want his clients to be deceived, and therefore neither will the painter in San Francisco, Christians! If none but Christian painters leave nail holes unpainted, and upper edges, roof gutters, and parts not easily seen, go unpainted, Christianity is certainly any more aesthetically perfect than any quality represented in our midst. The lady brings no charges in reference to the character of stock used by the Christian painter. It may have been pure lead and oil. San Francisco Christian (t) painters sometimes don’t use those ingredients—soup, potch, whitin, etc, are cheaper, and owners often want cheap work, and they get it. We have known painters in this city whose Christianity and piety have not been evident nor self-evident, and their prayers—sort of ejaculatory expressions—prefixed to sentences, beginning with the letters “H,” who have been, perhaps, the best painters of the rest, we won’t repeat, they call it paint, painting, and pure stock!
A Representative San Francisco Dwelling.

The above cut and accompanying plans on opposite page aptly represent the average architecture of a dwelling intended for those who move in the well-to-do walks of life. Although the design is intended for any location, still the building appears to better advantage when placed on the side of a hill. The exterior is in perfectly good taste, without any attempt to clap on the 'Eastlake, Queen Anne, etc.' styles commonly but erroneously styled as Eastlake, Queen Anne, etc. When finished as per plan, the beholder is at once struck with the solidity, clean-cut finishes, and the general well-to-do appearance of the structure, thus establishing at once the owner as a practical business man.

The general plans, and arrangement of the rooms on the different floors, will well repay a careful study. The first thing observed is that no waste room exists in the house; no dark closets to bother the careful housewife; in fact, while studying the general plans, you are at once impressed with the general compactness in the whole arrangement. This feature especially recommends itself to the lady of the house, as it requires much less work to keep the various rooms in the shining dollar order. Notice the basement; it extends under the whole house, and is
amply lighted in every portion by numerous windows judiciously placed. Servants have a care-
less fashion of disposing of old boots, bottles, worn-out umbrellas, and all sorts of trash in the dark
holes of the basement; but in the plans now laid on, there is no chance exists for receptacles of the stuff
that should only find a place in the ash barrel that is emptied regularly by the proper person.
Should it be desired to heat the house by steam or hot water, ample room exists in basement for a
furnace room.
The billiard room is large and convenient. Should more light be required, extra windows can
be placed each side of the chimney. There is also ample room for a children's ten-pin alley between
the billiard table and the hall partition. If so used for this purpose, care should be taken to have
the flooring of extra good quality.
The partitions in rear of the billiard room can be either plastered, or made of tongued and grooved
boards planed both sides. The latter gives more room and answers every purpose.
The main floor plan is at once suggestive of compactness and convenient arrangement. Should
it be desired, the sliding doors in parlors may be done away with, and the opening arranged for a
portiere. While we do not advocate the use of portieres between a hall and parlor or dining-
room, still between two such parlors as shown in engravings, we think they are much preferable to
sliding doors. The latter will every once in a while get out of order, but the former having none of
its portions concealed from view, will last as long as—a good housewife informs us—as long as the
stuff of which it is composed is in fashion. According to this lady's authority, portieres are like
fashions in dresses, to be changed as often as the purse will allow.
The dining-room is so situated that no smell from thence can permeate into the parlors, the
intervening hall proving an effectual barrier. The latter is an especial feature in the arrangement
of the main floor; by its use you have access to
Yard, basement, parlors, and
rear
rooms, and cuts off completely all danger from the smell of
cooking, etc., ascending to the second floor. All such doors
should be provided with self-closing springs, so as to guard
against their being accidentally left open by careless servants or
the future heirs of the master of the house. No cornice is
shown in rear hall, that being a matter solely regulated by the
owner's purse. The kitchen is well lighted, and is handsomely
arranged to have access from hall and yard and also convenient to the basement,
which is reached by stairs both from outside and inside. Pantry
is large, and is provided, as shown, with a sink, shelves, and
drawers.

Much care and study have been exercised in the arrangement of
the second or bedroom floor, so that, suitable and convenient
spaces may be had for beds, bureaus, chairs, tables, etc. Many
designs have been presented to us as individual owner's studies,
representing plans that would suit said owner's ideas to perfec-
tion, and yet, after a little talk, they have been either torn up or
thrown into the waste basket. The first duty appears to have
been either the best, or not thought of at all, viz., the arrange-
ment of the room for the proper disposal of the furniture neces-
sary for the uses to which the room is to be subjected. Take
the front chamber in plan. The alcove at once suggests the
proper place for a bed. The largest size of a double bed is not
over 5 feet in width. The above is 11 feet 2 inches in length.
Thus over 3 feet each side of the bed is left for such purposes as
the occupant of the room may desire. Between the chimney and
bay window there is a suitable space for a bureau, organ, book-
case, lounge, or any other article of furniture. The best plan
for a bureau is to place it in the dressing room between the window and
wall-shade. If placed there, the space in front room as men-
tioned can be used for a large looking-glass, by which ladies can
see their full dress uniform to advantage. It will also be no-
ticed that room on the walls is abundant for the hanging of pic-
tures, etc.

All the other rooms are equally convenient, being so arranged
that, when furnished, they will present an appearance at once
indictive of home comforts.
The attic is large, well lighted, and ventilated. The large room
can be used as a dance hall or for any other purpose which sug-

sections, and cuts off completely all danger from the smell of
cooking, etc., ascending to the second floor. All such doors
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Mortar and paint may be removed from window glass with hot, sharp vinegar.

Ground wood should be washed with cold tea, and then, after being wiped dry, rubbed with linseed oil.

Remove flower-pot stains from window-sills by rubbing with fine wood ashes and rinsing with clean water.

Strong brine may be used to advantage in washing bed-stands. Hot alum water is also good for this purpose.

Oil-cloths should have a coat of varnish applied once in six months, after being scrubbed with hot soap-suds and thoroughly dried.

Plush goods and all articles dyed with aniline colors, faded from exposure to light, will look as bright as ever after spounging with chloriform.

Soot falling on the carpet from open chimneys, or from carelessly handled stove-pipes, if covered thickly with salt, can be brushed up with out damage to the carpet.

Carpet should be thoroughly beaten on the wrong side first and then on the right side, after which spots may be removed by the use of ox gall or ammonia and water.

Whole cloves are now used to exterminate the merciless and industrious moth. It is said they are more effectual as a destroying agent than either tobacco, camphor, or cedar shavings.

A good moth powder is made of lupinule (ground hops) one dram; Scotch snuff, two ounces; camphor gum, one ounce; black pepper, one ounce; cedar sawdust, four ounces. Mix thoroughly and strew among the furs and wooleens to be protected.

Furniture needs cleaning as much as other woodwork. It may be washed with warm soap-suds quickly, wiped dry, and then rubbed with an oily cloth. To polish, rub it with rotten-stone and sweet oil. Clean off the oil and polish with chamois skin.

A cheap paint for a kitchen floor, that will save much work in cleaning, can be made with five pounds of French ochre and a quarter of a pound of glue dissolved in two quarts of boiling water; then apply enough boiled linseed oil to make the paint flow easily from the brush.

When hard-finished walls have been calcined, the soiled coats should be washed or scraped off; a new one is put on. This is the most disagreeable part of the process. The furniture should be covered, as the lime makes spots that are removed with difficulty, especially upon black walnut.

To clean marble the following is recommended: Common soda, two pounds; powdered pumice-stone and finely powdered chalk, one pound each. Pass through a fine sieve and mix to a thin paste with water. Rub it well all over the marble and the stains will be removed; then wash the marble over with soap and water and it will be as clean as it was at first.

Build with seasoned timber, or you will build to your own discredit and others' loss.

After the dust has been thoroughly beaten out of carpets, and they are tacked down again, they can be brightened very much by scattering corn meal mixed with coarse salt over them, and then sweeping it all off. Mix the salt and meal in equal proportions.

Ladies the Best Planners.

In many particulars in connection with the comforts and convenience of family residences, the mistress often displays better judgment than the master. Nor is this fact at all strange. If the lady is observant and intelligent, her continued experiences and contact with the general arrangement of home more fully qualify her to comprehend, on the convenient and practical, and the objectionable arrangements met by her in home experiences, and gathered in the course of her visits among friends. Sometimes men are obstinate, and refuse their wives the privilege of any say in the matter—following their own views in all things; but, as a rule, better and more satisfactory results are reached, when the opinions of an intelligent wife are at least consulted. Although some architects "don't want anything to do with the women," yet it is questionable whether every man in the profession who enjoys the patronage of female clients, either as wives or sole owners, has not received from them many sensible and practical suggestions; and it is perfectly reasonable that it should be so; for while the architect may fully understand the theories and principles of architecture in every phase and department, he cannot understand the detail workings of his plannings, except so far as he may have "tested them" in some special manner; while the women-folk are brought in hourly contact with all defects or perfections that exist, and are thereby the better qualified to at least express an opinion. In addition to this, it is an incontrovertible fact, that many ladies enjoy much better general ideas of planning buildings than do their husbands; not because the husband lacks good intelligence and business capacities, but for the reasons already stated. Home and house experiences on the part of the wife, and the intense desire and determination on her part to have everything just as it should be, naturally qualify and leads the mind to right conclusions. With all the objections urged by some, to women interfering with such matters, if the many little details of occurrences that transpire during the period in which the "talking over" of plans is indulged in between man and wife could be discovered, perhaps there would be but few well-arranged houses found not to a large extent shaped by the mind of woman. For from the hour when the husband reveals an intention to build, the wife, as a rule, enters heartily into the proposition, and she at once commences to study up her part, not only as to how she shall do it, but as to secure for herself all of the little conveniences of ar. rangement which would never be thought of by the husband, but to make the house generally as perfect in detail as the amount of money to be expended and "best judgment" will accomplish. Consequently, in the repeated discussions which ensue, the wife introduces this, and that, and the other feature, until by the time a final conclusion is reached, first thoughts are materially changed, and, to a greater or less extent, the wife's ideas and suggestions permeate almost if not quite every arrangement of the building.
A correct mechanical method by which two fences can be set at right angles to each other.

From any scale of equal parts, as that represented by the line D, which contains 5, set off from B, on the line A B, the distance h equal to three of these parts; then from B, with a radius equal to four of the same parts, describe the arc a b; also from C as a center, with a radius equal to five parts, describe another arc intersecting the former in C. Lastly, join B C; the line B C will be perpendicular to A B.

This mode of drawing right angles is troublesome on paper; but in laying out grounds or foundations of buildings it is often useful; since, with a measuring rod, line, or chain, perpendiculars may be set out very accurately. The method is demonstrated thus: the square of the hypotenuse being equal to the sum of the squares of the other two sides, the same property must be inherent in any three numbers of which the squares of the two lesser numbers added together are equal to the square of the greater. For example, take the numbers 3, 4, and 5; the square of 3 is nine; the square of 4 is 16; and 9 added, make 25, which is 5 times 5, or the square of the greater number. Although these numbers, or any multiple of them, such as 9, 8, 10, or 12, 16, 20, etc., are the most simple and most easily retained in the memory, yet there are other numbers, very different in proportion, which can be made to serve the same purpose. Let a denote any number; then \( n^2 - 1 \), \( n^2 + 1 \), and \( 2n \), will represent the hypotenuse, base, and perpendicular of a right angle triangle.

Suppose \( n^2 = 6 \); then \( n^2 + 1 = 37; n^2 - 1 = 33; 2n = 12 \). Hence, 37, 33, and 12, are the sides of a right angle triangle.

How to make a circle with a square:

Drive in a nail at the points A and B. It is better to use a "French" nail, as, being round, the square slips easily. The nails evidence cannot be further apart than the length of the "tongue." Place the square in the position indicated in the cut; and with a pencil held firmly in the crotch at C, and the square kept on the nails, a circle can easily be drawn.

A simple way to describe an equilateral triangle within any given circle:

Upon any given point A in the circumference, with the radius A S, describe the arc B S F. Draw B F. Make B D equal to B F. Join D F. B D F will be the equilateral triangle required.

Friend Architect: Please tell me how to compute the number of joints it takes in a building when spaced sixteen inches from centers.

Answer.—Multiply the length of the building in feet by 3, and divide the product by 4. For instance: the building is 124 feet long = 124 x 3 = 372 ÷ 4 = 93, the number of joints required. This rule is applicable, no matter what the thickness of joints may be, as long as they are spaced 16 inches from centers. Allow one extra, except when the end sills are utilized in place of joint. Of course deduct when the latter is the case.

Business Manager Architect: How many pounds of lath nails does it take to put on 1,000 laths?

Answer.—There are 420 lath nails in a pound. So 11 pounds is what you will require for 1,000 laths.

Business Manager Architect: Will you please illustrate a method for drawing the half oval; one that will apply to making an elliptic on a large gateway?

Palo Alto Farm.

Answer.—There are many methods by which the required curve can be made. One of the oldest, as well as simplest, we present below.

Let C D be a given distance, and A B a given height. Take a straight edge; from the end of this set off 1, 3, equal to the distance C B, and again, set off 1 2, to equal A B. Now lay the straight edge on the line C D, with 1 at C. Then, with a pencil, make any number of points, all of which will be in the curve, by moving the straight edge, keeping 3 on the line A B, and 2 on the line C D.

Another simple way is represented by the adjoining cut:

C D being any distance, A B any height. Mark two points on C D, as at E G, to correspond to the distance C B or B D, using A for the center.

In these two points put a pin or nail. Tie a string at E, stretching it over the point A, and fastening at G. Now, with a pencil in which a groove has been cut, to prevent slipping, sweep the curve.

Let no building workman be too proud to take a hint from the humblest laborer that attends him, for the experienced looker-on betimes sees more than the door.

Artificial, like natural drainage, is governed by gravitation, and the absence of a proper fall in either is as opposed to nature as a swamp is to health.

How to find the diameter and center of a circle with the square:

This cut shows at a glance how the diameter and center of a circle can be found. Place the square as shown at A B C. The line B C will be the diameter. Place the square so that the point of the square A will touch any other point of the circle, as at D; draw E F. The point of intersection, H, will be the center of the circle.

J. C. is informed that no regular rule can be laid down for the projection of cornices on buildings. Much depends on the style of architecture employed. To use a general rule, however, we might say that for a building seventy feet in height, the proper projection should be about thirty-six inches.
ASKED, ANSWERED, AND COMMUNICATED.

THE columns of this journal are open to all who differ with us or upon any subject presented. We are too old to yearn and experience to assume that we have passed the ring of human liability to err, or for one moment to suppose that we have reached the realms of thought where perfection reigns supreme. But this we do assert—that whatever of error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

Editor Architect: What is the exact height of Mount Diablo?

Oakland.

Answer.—According to Professor Davidson, it is 3,845.63 feet above tide level.

To square a board with a pocket rule, no square being necessary:

Apply the rule on the board as shown by the engraving. Make a dot at the point C. With the left hand hold firmly that part of the rule denoted by A B, and with the right hand extend the rule as shown by the letters A B D. Draw a line through the points C and D, and it will be found to be exactly at right angles to the edge of the board. It is evident that the above method may be employed, using the rule at any angle.

The Chinese Must Count.

The Chinese have a most ingenious method of reckoning by the aid of the fingers, performing all the operations of addition, subtraction, multiplication, and division, with numbers from one up to 100,000. Every finger of the left hand contains nine figures, as follows: The little finger represents units, the ring finger tens, the middle finger hundreds, the forefinger thousands, and the thumb tens of thousands. When the three joints of each finger are touched from the palm towards the tip, they count one, two, and three of each of the denominations named. Four, five, and six are counted on the back of the fingers in the same way; seven, eight, and nine are counted on the right side of the joints from the palm to the tip. The forefinger of the right hand is used as a pointer. Thus, 1,234 would be indicated by first touching the joint of the forefinger next the hand on the inside; next, the middle joint of the middle finger, on the inside; next, the end joint of the ring finger, on the inner side, and finally, the joint of the little finger next the hand, on the outside. The reader will be able to make further examples for himself.

In putting up your screen doors and windows be very particular to have a little hole in one corner so that the flies can go outdoors when they get tired of being inside.

WAXING FLOORS.—The following is a good recipe for waxing floors, and the method of application. Stir twenty-five parts of shredded yellow wax into a hot solution of twelve parts of pearl-ash in soft water. Keep the mixture well stirred until the efferves-cence ceases, then remove it from the fire and stir in twelve parts of finely-ground yellow ocher. It may now be poured into cans to cool. When wanted for use, one part of it is dissolved in five parts of boiling water. Apply warm with a paint brush. It dries in a few hours, when the floor is polished with a floor-brush, and afterward wiped with a wooden cloth. It is said this wax coating will last for six months with ordinary use.

Queen Anne Hodge Podge.

Architect.—Well, I declare that is a pretty fair house plan for an amateur, only you have left no space for stairways and closets. Did you make it yourself?

Prospective Builder.—Yes, but the only thing that puzzles me is to know what style of cottage it is. It is not Gothic, nor Italian, nor—

Architect.—No, it is absolutely nothing. As to style, it is simply a meaningless hodge-podge, to be frank with you.

"Well, what shall I call it, have you no name for hodge-podges?"

"Oh! yes. We call 'em Queen Annes."

The Very Latest.—A man out West bought a bedstead, the wood of which was so green that one warm spring day it broke out all over with little groves of waving branches. In autumn the children picked the chestnuts from the side pieces, and the next spring tapped the headboard for maple sugar.

Don't.—Don't call a very large, strog, sinewy man a prevaricator. If you are sure he is a prevaricator, hire another man to break the news to him.

Glycerine Glue.—A German chemist has discovered that the strength of glue is very greatly increased by the addition of one fourth as much glycerine as glue. Glycerine has many other uses, among which one of the least known is its property of removing pencil marks from paper in a very perfect manner. It may also be combined with starch and plaster of Paris, to form one of the most durable cements for various kinds of apparatus.

There is nothing so tending to shorten the lives of old people, and to injure their health, as the practice of sitting up late, particularly winter evenings. This is especially the case where there is a grown-up daughter in the family. This sanitary item is published at the request of seventy young men.

To remove iron taste from new kettles, boil a handful of hay in them, and repeat the process if necessary. Hay water is a great sweetener of tin, wooden, and ironware. In Irish dairies everything used for milk is scalded with hay water.

A cushion under the legs of a work-bench will deaden the sound of hammering so completely that it will not disturb the inmates of adjoining rooms.

What has become of the straw lumber which, three or four years ago, we were told would revolutionize the lumber business?

One of the most important features in an interior arrangement is the actual and relative height and width of doors and windows. The question is whether the apparent proportions of apartments cannot be greatly modified by the treatment of the necessary openings. A window in the center of one side of a room gives more light than if at one side of the center, but it has the effect of shortening the length of that side. The same is true of doors in similar positions. The higher a window is the more light it will give, but the lower the room will appear. In doors, nothing is gained by increasing the height beyond a proportion to the width that shall prevent a stunted appearance. Their relative height to that of the windows is a nice question of balance that can be best determined by experience.

Wood may acquire an oak, walnut, or cherry tree color by staining it with ordinary tincture of iodine diluted with spirit until the exact shade is obtained. White shellac must be added to the iodined solution if the stain is to be made permanent, or the wood after the stain is applied may be French polished. The iodine may be laid on with a rag or a brush.

If stove polish is mixed with very strong soap-suds, the luster appears immediately; consequently there is less dust to breathe and blacken.


Sacramento.

Well, Sonny, we have always used a saw for that performance; but if you want to know a rule by which you can cut any kind of a rafter, we will be most happy to inform you.
We understand that M. de Lessaps has succeeded in having a large part of his new loan of one hundred and twenty million francs taken up, mainly, it is said, by females of the pension class. If half that is said about the real condition of affairs at the Isthmus is true, this enterprising entrepreneur is likely to prove one of the greatest moral soundings of the age, and we do not envy him the objurgations which, when failure is at length acknowledged, will shower upon him. But there are some things which even the magisterial de Lessaps cannot accomplish, and we are not surprised that in face of the double condition of his undertaking at the Isthmus of Panama, the Tunisian Government has refused to allow him to undertake the flooding of the chotts that lie between the coast of the Mediterraneum and the great desert to the south of them. M. de Lessaps estimated that the cost of digging the canal that would be necessary for this immense irrigation scheme would be forty million dollars, which he probably looks on as a mere bagatelle, but which the canny Africans seem to believe could hardly be raised by a man who already finds it hard to raise money for the prosecution of an enterprise in which the whole world is interested, and of which the bonds and securities can be bought in any market, if any one thinks them worth the purchase.—American Architect.

A LITTLE paragraph has been going the rounds of the technical journals about the painting of tin roofs, which seems to contain a valuable suggestion. Most persons suppose that a tin roof ought to be left exposed to the weather for a month or so, until the iron of the plates has corroded enough to cover the tinmed surface with a tinge of rust, probably forced through the pores of the coating. The theory of this notion seems to be that paint will not stick to a fresh surface of tin, which is apt to be greasy as well as smooth, and that the slight roughness given by the rust is of value for holding the paint; but the writer of the paragraph in question believes that if painting is delayed until oxidation has begun, the action continues beneath the coating, until the plates are destroyed, while a layer of paint put on over fresh plates would defend them for an indefinite period from the commencement of oxidation. There is certainly a possibility that this view of the matter is the correct one, and architects, who have many opportunities for observing the weathering of roofs, might do their fellow-citizens a service by investigating the facts with care.

MANY a man who has failed to make a home, or, strictly speaking, a homestead that his children can love, has been doomed to see them leave it, and seek in other places, and amid new surroundings, those satisfactions that have been denied him in what should have been the dearest spot on earth. The charm of a beautiful home would go far to kindle and keep alive that enthusiasm which sustains the soul, enabling it to triumphantly contend against discouragements and obstacles.

The most afflicted part of the house is the window. It is always full of pains, and who has not seen more than one window blind?
Building Intelligences.

Where owners' names are left blank, it is to be done in most instances by special request.

A
Army, bet. Guerrera and San Jose Ave.-One-story frame, O. & T. M. Comerford. Day work.
Buchanan, bet. Turk and Broadway, Three story frame.
Baker, bet. Sutter and Bush, Two story frame.
Huang, bet. Third and Fourth. Two story frame.


Devina, bet. Eddy and Ellis. Two story frame.
Devisadero, bet. Sutter and Broadway. Two story frame.


Eleventh, bet. Howard and Broadway. Two story frame.


Ellis, cor. Octavia. Eight story frame.

Eleventh Avenue, bet. Polk and Lobos. Two story frame.

Fifth, bet. Sixth and Seventh. Three story frame.

Fifth, bet. Seventeenth and Twentieth. Two story frame.


Guerrero, bet. Twelfth and Twentieth, Two story frame.


Larkin, cor. Market, Two story frame.


Missouri, bet. Polk and Market. Three story frame.

Mission, cor. Second, Additions.


Mission, bet. Twenty-sixth and Twenty-eighth. Four story frame.

Mcklister, bet. Buchanan and Webster. Two story frame.

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Are Adapted to Any Style of Window

And suitable for all buildings, stores, office buildings, and for houses built to rent, hotels, boarding or lodging-houses are L neglected.

The blinds are seen at the Mechanics' Fair. For samples, prices, and further information, address

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Or W. S. HOLLAND, Pasadena, Cal., Manufacturer and owner of the Patent. Rights to manufacture and territory for sale.

There is no sagging, ranging, or getting out of order. They are made in three sections in height (each section sliding past the other), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require no hinges—all trimmings fastened with blinds—are all made of metal, finished or unfinished, and cost less than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

ENGLISH AND AMERICAN VENETIAN BLINDS (IMPROVED).

The perfect Venetian Blind in the market. The blinds can be seen at the Mechanics' Fair. For samples, prices, and further information, address

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Protect Your Homes and Business Houses

WITH THE IRON FOLDING GATES AND GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against Burglars, Thieves, Tramps and Designing Persons, and can be removed and replaced without unhinging. As a Sanitary Device they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.

DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

GEO. H. RICE, E. J. ROBINSON, Agent, J. P. LECOUNT, President. 109 California Street, San Francisco, Cal. Secretary.
SACK'S AUTOMATIC SELF-DISCHARGING
WATER CLOSET,
THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

Economy! Cleanliness! Health
Permits Engaged in Sanitary Enterprises,
ARCHITECTS, CONTRACTORS
AND BUILDERS,
Are especially invited to examine the practical workings of
Sack's Automatic Water-closet.

It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.
This Chimney consists of the following parts: A smoke flue A, of fire clay, in 1 foot lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron water pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh air, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands every four feet.

WM. E. STEVENS,
MASON AND BUILDER,
SOLE OWNER.

VENTILATION, ETC.
At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes branched, and can be introduced in any room above by a register E, near the floor. The vents for rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the fresh air pass through and between the joints to conduct by a small collar G with the above ventilation air space.

The lightest and safest patent chimney manufactured.
Approved by the Board of Supervisors.
WAREHOUSES,
N. E. Corner of Larkin and Market Streets,
SAN FRANCISCO, CAL.
Hardware AND Builders' Materials

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PATENT

WATER CLOSETS

The Golden Gate Plug Closet.

WITH TRAP.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:

1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1883, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 2 inch pipes, one to the right and one to the left and a 4 inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the hopper and is made to swivel, therefore it will be either position of pipe. This hopper can be used only for surface, for waste, or for leader; other inlet will be stopped up with iron cap if so desired.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. This Closet has no oval basin fastened to the group by brass clamps and bolts. No breaking of putty joints required to renew a pan. The housing of two large brass nuts will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass handle.

The above closets have been in use since February, 1883. Plumbers and wholesale dealers give them the best recommendation.

Square Slip Hopper. Square Waste Hopper. Basket Hopper. Basket Hoppers are made in one piece with Movable Strainer.

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HOUSE & FRESCO PAINTER.
Plain and Decorative Paper Hanging.
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WHITENING AND TINTING A SPECIALTY.
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Stone Fountain Basins, etc.
SAN FRANCISCO OFFICE, 28 New Montgomery St. OAKLAND OFFICE, 407 Ninth St. Residence, 809 Oak St. Oakland.

National Assurance Company,
OF IRELAND.

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OF LONDON.

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H. M. NEWHALL & Co.,
GENERAL AGENTS.
309 and 311 Sansome St., - - - San Francisco, Cal.

IVES' PATENT
SASH LOCKS AND DOOR BOLTS.

A very important feature of the IVES SASH LOCK is its simplicity in locking when closed and simultaneously drawing the meeting rails closely together. All the movements are accomplished by means without the instrumentality of springs, thus avoiding the possibility of getting out of order.

IVES' PATENT DOOR BOLTS apply wholly with a bit, and are a greater protection than ordinary locks or bolts afford. Ives Patent Sash Locks and Door Bolts are protected by nine letters patents, and are manufactured in over forty styles of finish.

Our Sample only Ives Patent Sash Lock, mailed post-paid to any Carpenter sending his address, with 10 cts. in stamps. Illustrated price lists, showing many styles of goods, mailed free.

H. B. IVES & Co.,
Sole Manufacturers and Patentees, New Haven, Conn.
Ives Patent Sash Locks and Door Bolts, sold by all dealers in Hardware.

Norris’ Window Pulley Mortising Machine and Pulley.

CAPACITY:
Nine Mortises Per Minute.

The Norris Machine and Pulley is used by nearly all the Leading Sash, Door, and Blind Manufacturers of the following Cities:

NASHUA, New Hampshire; HURSTON, Vermont; BOSTON, Massachusetts; WATERTOWN, Massachusetts; CAMBRIDGE, Massachusetts; LOWELL, Massachusetts; WORCESTER, Massachusetts; ROCHESTER, Massachusetts; LAWRENCE, Massachusetts; NEW YORK, New York; BUFFALO, New York; BROOKLYN, New York; PHILADELPHIA, Pennsylvania; WILMINGTON, Delaware; PHILADELPHIA, Pennsylvania; SAVANNAH, Georgia; BALTIMORE, Maryland; HAVRE DE GRACE, Maryland; WASHINGTON, Indiana; ASBURY PARK, New Jersey; CAMBRIDGE, Massachusetts; BOSTON, Massachusetts; BALTIMORE, Maryland; CINCINNATI, Ohio; LONDON, England; MILWAUKEE, Wisconsin; CHICAGO, Illinois; DETROIT, Michigan; PORTLAND, Oregon; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Maine; WASHINGTON, D.C.; CINCINNATI, Ohio; CHICAGO, Illinois; PITTSBURG, Pennsylvania; CLEVELAND, Ohio; DETROIT, Michigan; CHICAGO, Illinois; SANFORD, Maine; BURLINGTON, Vermont; TOLEDO, Ohio; SANFORD, Main...

WALL PAPER

NOTICE, OWNERS and CONTRACTORS!
Bell Hanging, Gas Lighting, Locksmithing in All Its Branches.
ESTIMATES GIVEN.
WILL & FINCK, 769 Market Street.

Durham System of House Drainage.

STANDARD WROUGHT IRON STEAM PIPE. Special Fittings, Carefully Protected from Rust, SCREW JOINTS, and only where NECESSARY for Branches, HAND-HOLES at Bends, supported ONLY at Bottom, therefore not affected by SETTLEMENT of Walls and Floors; in fact, a PERMANENTLY TIGHT SANITARY SOIL PIPE.

SEND FOR PAMPHLET. CALL AND SEE FULL SIZE MODEL.
WM. T. BLUNT, C. E., 413 Montgomery St., San Francisco.

Architectural and Mechanical Books AT WHOLESALE PRICES.
As we are closing out our stock of Shelf Books, we will dispose of those on hand at first cost.

THOSE IN WANT OF BARGAINS SHOULD CALL EARLY.

GAS FIXTURES, AND MANTELS.
AGENCY SCANLAN & CO., LOUISVILLE, KY.
FINE MARBLEIZED SLATE AND IRON MANTELS.
AGENCY CONWAY MFG CO., MILWAUKEE, WIS.
FINE WOOD MANTELS.
Gas Fixtures of Every Description, of Latest Designs.
Tiles, Grates, and Mantel Trimmings.

BUSH & MALLETT, 34 Geary Street, Above Kearny.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VII.

THE
California Architect & Building News.

A MONTHLY JOURNAL,
Devoted to Architecture, Decorating, and Furnishing.

PRICE, $2.00 PER ANNUM.

The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO., No. 840 Montgomery Street, Rooms 11, 12, 13.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., OCTOBER 15, 1886.

THE OFFERED SALE OF THIS JOURNAL.

Since the first announcement in its pages that the entire interests of this journal would be disposed of to competent parties, a great many personal inquiries have been made, and propositions submitted and declined.

A sale contingent upon certain stipulations might have been made three months ago, but as we propose an unconditional surrender of the situation, we shall hold the fort until a competent commander-in-chief shall arrive, with satisfactory financial credentials.

Negotiations now pending with parties and firms east of the Rocky Mountains, may result in a full change of management by the first of January next, if not sooner. In the meantime the journal will be continued as heretofore to the best of our over-burdened abilities.

A GENERAL EXPLANATION.

Those who have made inquiry by letter, and personally, have asked for all the facts of the case, and what will be included in the sale.

As a general answer, we state: A sale will include every interest of the publication—its good-will, subscription list and advertising patronage, office appointments, desk, bound volumes and back numbers since 1879, outstanding accounts due from all sources, five hundred copies, more or less, architectural, mechanical, and other publications (optional), and all else pertaining to the publication and circulation of the journal.

We state, in answer to the question repeatedly asked by correspondents, in reference to COMPOSING ROOM AND PRESSES,

That there are none. The journal has been conducted incidentally in connection with our architectural pursuits, and printed and bound ready for distribution by contract.

But with these limited facilities and restricted advantages, and personal attention divided between two great interests—editor and manager, and practicing architect—each demanding our whole time and energies, we have continued our publication work for eight years (less two months) with a profit to ourselves, making a most enviable reputation for the journal, as evidenced by the hundreds of complimentary notices from time to time published by technical, class, and other journals, and preparing the way for some one to continue its publication with great success and profit.

We Want YOU, Who Have Not, To PAY UP.

Anticipating retirement from the management of this journal, those who have not paid up their subscription dues will confer a favor by doing so at once. Let there be no delay in this matter. We propose to clean up as neatly and nicely as the good pleasure of honestly disposed patrons may make possible, and as thoroughly as the law provides—with those who refuse or neglect to settle their accounts.

Every unpaid dollar due us has been faithfully earned by unceasing desires and earnest efforts to found and perpetuate a California class journal in the interests represented in these columns; and measured by the mental and physical cares and labors, and the financial requirements to this end, every dollar yet due us has been honestly earned and should be paid promptly.

We hope not to be required in any case to invoke legal redress, but as protection of publication interests, which have been and are so often abused by that portion of the reading public who seek to obtain their reading matter without cost, the law in such cases made and provided is, that every man who receives a subscription journal of any sort, can be held and made to pay the full amount of subscription, up to the time of payment and stoppage.

Summary of Building Activities.

The number of engagements and the cost of same for month of October, as compared with same month of 1885, may be seen below:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Cost 1885</th>
<th>Cost 1886</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>in favor of 1885</td>
<td>$348,394</td>
<td>$348,394</td>
</tr>
</tbody>
</table>

Antiquity of the Hot-Air Furnace.

The younger Pliny, writing to one of his friends about one of his country seats, mentions among other things that next to the smaller drawing-room there is a semi-circular room with windows arranged so as to get the light of the sun all day. He says: "Out of this is a bedroom which can be warmed with hot air." He also refers to the "bath with its cooling room and its hot room." As Pliny, Jr., lived A. D. 62-116, we may assume that hot-air furnaces are no new thing.

Pointers for Advertisers.

Don't expect an advertisement to bear fruit in one night. You can't eat enough in a week to last you a year, and you can't advertise on that plan either.

People who advertise only once in three months, forget that most folks cannot remember anything longer than seven days. If you can arouse curiosity by an advertisement, it is a great point gained. The fair sex doesn't hold all the curiosity in the world.

Quitting advertising in dull times is like tearing out a dam because the water is low.

It would require 50,000,000 pounds of wire to erect a telegraph around the earth at the equator, and but a half pound of the thread made by a certain species of spider.
How to Pay a Compliment.

To pay a high compliment is to tell the truth, and to tell it as though you mean it. And the only way to do that is to say it. If a girl is pretty or accomplished, who plays well, or sings well, or dances well, or talks well; in a word, if sheplease, why in the name of common sense shouldn’t she be told of it? Don’t blur it out before everybody. That will only make her feel uncomfortable, and make you appear ridiculous. Say it quietly when opportunity offers, but say it strongly. Convey the idea distinctly and fully, so that there may be no mistake about it. But don’t do it “officially.” Formality is about the coldest thing known. More than one maiden has been made happy—say for half an hour—by a man’s taking the trouble to say a pleasant thing about a toilet that he liked, and many of fashion’s follies have been given up by girls when they noticed a discreet silence concerning them on the part of their gentlemen friends. A bewitching little black-eyed beauty once said to a gentleman: “I like to have you say sweet things to me, it seems to come so easy and natural.” In general terms, it may be said that it is always better to say an agreeable thing than a disagreeable one; better for all parties. The gallant who, when a young lady stepped on his foot while dancing, and asked pardon, said, “Don’t mention it; a dainty little foot like that wouldn’t hurt a daisy,” not only told the truth, but doubtless felt more comfortable than the lady who, when his bones stepped on, reared out, “That’s right; climb all over me with your great clumsy hoofs.”

**Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.**

**Quarrying Large Stones.**

The Greeks had a predilection for large blocks of marble or stone, and their method of quarrying is interesting every day. They were extracted in the following manner:

In order to procure the square stones—after the top and front faces of a given mass of the rock in the quarry have been brought to a level plan, narrow incisions, usually from 4 to 5 inches wide, were made on the top surface, marking out the boundaries of the intended size of the block. These incisions being continued down to the desired depth of the block, there remained nothing more to be done than to separate it from its lower bed, which operation was performed, as there is every reason to think, by the expansion of wooden wedges saturated with water. The cylindrical courses for the shafts of the columns were extracted (as may be observed at the quarries of Selinus, Sicily) by means of a circular passage-way, 2 feet 8 inches in width, being hewn out of the rock and taking the entasis of the intended column, thus leaving an isolated mass of stone in the center the exact shape and size of the intended shaft. I should here add that the stone columns of every temple occupy almost invariably the same relative position in the building which they occupied in the quarry.

This circular mass of stone has now, like the square blocks, only to be lifted from its lower bed; and the method employed, which, from the examinations of the quarries at Selinus, can be no longer doubted, bears me out in a conjecture I had previously made on the square blocks. A hole, or deep incision, wedge-shaped, was made in the lowest part of the insalated cylinder, in the direction of its center, but considerably to one side, reasons for which will be obvious. Into this hole, I presume, a wooden wedge was inserted, which was saturated with water, and which, being suffered to expand while in this position, would, at no great distance of time, leave up the mass on the same principle applied to the splitting of slate and mill-stones in France, and so to move it in the direction of its bed. Nothing, I think, appears more likely, from the consideration of the facts observed at Selinus, than what was the method employed; and since I see from my memorandum that I observed the branch of a shrub not one inch in diameter, which by its growth in a crevice of a rock had split a mass of stone weighing about 50 tons, I can readily conceive that the small crfice with its wooden wedge would have been sufficient to make it move, and that the required mass.

**In our December issue we will publish complete a list of those who are in arrears for subscriptions to this journal. Avoid publicity by sending us the amount of your indebtedness immediately.**

**Loaing.**

**W**HILE there are many complaints made, from time to time, says the *Mechanices Magazine,* about the dullness of business and the hardness of the workman’s lot, we hazard the statement that about one-half of the hard times and business depression is the direct or indirect result of loafing—either good, cold, square, old-fashioned, primitive loafing, or the newer revised version, which is called, for some occult reason or other, “soldiering.”

There are very few honest, safe, and profitable occupations in which success can be attained by sitting down and waiting for it, or, as it is called by some, “with your back against the wall.” There is a marked difference between workmen who are doing for themselves, or who are piece-working, as well as among those who are “by time.” One man will lose away an hour a day. It may be listening to, or watching his neighbor; or hunting a match or helping one another, or wondering what to do next; or it may be distributed all through the day by deliberate and careful attention to the science of shoe moving as applied to the prevention of heat or rupture; but it is there, all the same; there is an unproductive hour, or a day with a tenth or an eighth less work in it than it should have.

A day’s workman cannot afford to loaf. He may lose his place, for a selfish reason. He is not giving an honest equivalent to what he receives, for a general one. He is getting into the habit of working slowly, which will interfere with his profits if he gets on piecework—selfish reason No. 2. He is setting a bad example to others to render a poor equivalent for their pay—selfish reason No. 2. We could offer piling up reasons of each kind against loafing, but they will suggest themselves; and then the case is some what analogous to the one where the lawyer announced twenty-nine reasons why his client did not appear at the trial. In the first place, he hadCX. The second reason was that “the first reason was reason enough.”

There are many foundries and factories, mills and shops, where no smoke issues from the stack and no rumble of work is in the air, and in which more energy and less loafing, on the part of proprietors and employees, would have enabled work to continue right along, at least at a rate which would pay hands and keep the business in public mind until times were better. Ten per cent more work out of every man would have done any one, and would have made just the difference between a slight loss in the business, and “expenses cleared.” And that ten per cent more work would have improved every man on the place.

We just heard an anecdot of a noted stenographer who drops into profanity if a day goes by without his having anything to do; not because he loses the earnings of that day, but because he loses speed. He gets some one to read fast to him, in order to keep up his speed.

Go into an engine room and see the engineer doing nothing all day, and you will see a man who will not earn any more ten years from now than he is now getting. Instead of loafing, he might be reading, or drawing his engine out to scale, or learning something about the machinery his engine drives.

The time for loafing is after work. Then it should be free and unreserved, and will be beneficial and rightly earned.

**Third Quarterly Report.**

**Endorse with September, for town of Woodland and Yolo County Woodland—16 frames Cost, $25,900**

" 3 brick... " 14,500

" 9 improvements... " 3,900

Total—28... " 44,300

County—3 frames... Cost, $7,500

" 1 brick... " 7,000

" 3 improvements... " 2,100

Total—7... " 16,900

City and County for 1886—Engagements... Cost, $ 61,300

" " " 1885—58 " " " 160,875

Excess in favor of 1885—23... " 89,675
Method of Obtaining Length of Rafters.

For some months past there has been quite a discussion of various plans for obtaining the length of rafters. Many of the methods presented are not desirable, for the want of accuracy. Some years ago the subject came up for discussion where I was at work, and I then prepared the following table, which is very simple and mathematically correct. Any mechanic can copy it on the back of a business card and tack it to the lid of his tool-chest, where it will always be handy for reference. The word "pitch" means such a fractional part of the width of the building. The further north you go the steeper the pitch, on account of the snow; also certain localities have pitches peculiar to that section of the country.

<table>
<thead>
<tr>
<th>Pitch</th>
<th>Square</th>
<th>Rafter</th>
<th>Bruce</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6</td>
<td>4 and 12</td>
<td>0.527046</td>
<td>1.054092</td>
</tr>
<tr>
<td>5-24</td>
<td>5 and 12</td>
<td>0.541666</td>
<td>1.083333</td>
</tr>
<tr>
<td>1-4</td>
<td>6 and 12</td>
<td>0.556017</td>
<td>1.118034</td>
</tr>
<tr>
<td>7-24</td>
<td>7 and 12</td>
<td>0.578852</td>
<td>1.157704</td>
</tr>
<tr>
<td>1-2</td>
<td>8 and 12</td>
<td>0.609295</td>
<td>1.201560</td>
</tr>
<tr>
<td>2-8</td>
<td>9 and 12</td>
<td>0.628571</td>
<td>1.250000</td>
</tr>
<tr>
<td>5-12</td>
<td>10 and 12</td>
<td>0.650854</td>
<td>1.301782</td>
</tr>
<tr>
<td>11-24</td>
<td>11 and 12</td>
<td>0.675263</td>
<td>1.356588</td>
</tr>
<tr>
<td>1-12</td>
<td>12 and 12</td>
<td>0.707107</td>
<td>1.414214</td>
</tr>
</tbody>
</table>

The first column indicates the pitch of the roof; the second gives the figures on the square that will cut the various pitches; the third gives the length of a rafter for a building one foot wide, and the fourth gives the length of braces for runs of the same proportion as the figures in the second column.

The manner of using the table is as follows: For any given pitch multiply the tabular number by the whole width of the building, and the product will be the length of the rafter in feet and decimals of a foot.

Example.—What is the length of a rafter of a building 18 feet wide at 1/2 pitch?

Solution. — 0.609295 × 18 = 10.96165 feet, or 10 feet 11-16 inches.

Example.—What is the length of a brace having 40×18 inch run?

Solution. — 40×18 inches is the same proportion as 10×12; hence, 1.301782×48=62.482 inches, or 62 inches, always using the larger run for multiplier.

Example.—What is the length of a brace having 35×35 inch run?

Solution. — 1.4142136×35 = 47.4974 inches, or 47-1/2 inches.

"Editor, California Architect: I often have occasion to round off the corners in various branches of my work, and what I require is a rule by which I can do so, and have the curvature perfect. Will you kindly furnish me the information, as others besides myself would no doubt be benefited. Respectfully, Ajax."

Ans.—The accompanying cut will explain a very simple way. It is applicable wherever there is a right angle:

Let B A, A B represent the square corner of a shelf, or any object. Suppose the radius of the curved corner to be 1 inch. From A, as a center, mark off 1 inch each way, as at B B. With B B as centers, and radius A B, describe the circle A C. The point of intersection, C, will be the center of the arc B B.

"Business Man, of Architect: Is there a quicker method of finding the length of the sides of a bay-window, drawn on paper, than the old way of spanning around with a pair of compasses, till you get the three sides equal?"

Reader. — The cut will explain a very neat way.

Extend C F or E H; lay off on the line C D a distance equal to the width of your window, as A B. At D drop a perpendicular, and at the point where it intersects E H, as at E, draw E F, parallel with A B.

A carpenter wants to know how to remove the stains in his sloven, caused by wet nails. For his information we will state: Soak the stains in a weak solution of chlorides of zinc and rinse immediately in water.

Do nothing in building by guess-work, and in its conduct trust not too much to memory, for a jotting or too at the proper time are worth a hundred jogs on the brain, for the purpose of safe recollection.

If you would set out good work, do it by practical geometry; if indifferent or bad, by the "rule of thumbs."

A fair day’s work for a fair day’s wages should be estimated by its quality as well as its quantity.

Though a strong man, the carpenter cannot raise his frame without assistance.
We will be pleased to receive for publication in this column items of information in regard to practical ideas connected with the mechanical part of the building trade. We especially invite suggestions from apprentices and young practitioners.

Business Manager of Architect: In putting on a moulding around a circular head of a window, it is necessary, of course, to kerf the moulding in order that it may bend without breaking. Is there any rule by which we may know just how much solid wood to leave between each kerf?

Ans.—There are many solutions to this problem, but for simplicity and exactness, the following rule is better than any other, which we can at present call to memory:

Let A B C D be a square. Draw the diagonals A D and C B and the center lines e f and g h. From the center i, with a distance equal to half the width of the square, as i k, mark on the diagonals the points k l m n. Join e k, f k, g l, g l, etc., and you have the figure required.

The following tables will be found of much benefit to parties residing in the country, who desire to know the weight of doors, sashes, blinds, etc., so as to form a basis for railroad expenses:

<table>
<thead>
<tr>
<th>WEIGHTS OF DOORS.</th>
<th>1 inch</th>
<th>1½ inch</th>
<th>1¾ inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 ft. 6 in. x 0 ft. 6 in.</td>
<td>20 lbs.</td>
<td>25 lbs.</td>
<td>28 lbs.</td>
</tr>
<tr>
<td>2 ft. 9 in. x 1 ft. 0 in.</td>
<td>22 lbs.</td>
<td>27 lbs.</td>
<td>30 lbs.</td>
</tr>
<tr>
<td>3 ft. 0 in. x 1 ft. 8 in.</td>
<td>24 lbs.</td>
<td>30 lbs.</td>
<td>35 lbs.</td>
</tr>
<tr>
<td>3 ft. 0 in. x 1 ft. 10 in.</td>
<td>26 lbs.</td>
<td>32 lbs.</td>
<td>37 lbs.</td>
</tr>
</tbody>
</table>

WEIGHTS OF WINDOWS.

<table>
<thead>
<tr>
<th>WEIGHTS OF BLINDS.</th>
<th>1 inch</th>
<th>Glaazed</th>
<th>Unglaazed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 x 9</td>
<td>11 lbs.</td>
<td>18 lbs.</td>
<td>6 lbs.</td>
</tr>
<tr>
<td>8 x 10</td>
<td>15 lbs.</td>
<td>24 lbs.</td>
<td>9 lbs.</td>
</tr>
<tr>
<td>9 x 12</td>
<td>20 lbs.</td>
<td>30 lbs.</td>
<td>12 lbs.</td>
</tr>
<tr>
<td>10 x 12</td>
<td>25 lbs.</td>
<td>35 lbs.</td>
<td>15 lbs.</td>
</tr>
<tr>
<td>10 x 14</td>
<td>30 lbs.</td>
<td>40 lbs.</td>
<td>18 lbs.</td>
</tr>
<tr>
<td>10 x 16</td>
<td>35 lbs.</td>
<td>50 lbs.</td>
<td>21 lbs.</td>
</tr>
</tbody>
</table>

WEIGHTS OF LUMBER—DRY.

| Sugar Pine, rough, per M. R. | 2.00 lbs. |
| Yellow Pine, rough | 2.75 lbs. |
| Rustic | 3.00 lbs. |
| Flooring | 1.50 lbs. |
| Ceiling, 1 in. thick, s. | 1.25 lbs. |
| " " 1½ in. thick, s. | 1.50 lbs. |
| " " 2 in. thick, s. | 2.00 lbs. |
| Common Boards, surfaced one side, per M. R. | 1.60 lbs. |
| Dimensions, rough, per M. R. | 2.75 lbs. |
| Misplices per board | 10 lbs. |
| Pickets, per 100 ft. of lumber contained | 50 lbs. |

Business Manager of Architect: Will you please illustrate a method for setting a gauge for an octagon without drawing the figure?

Ans.—Let B D E H be any square. From B with the radius A B, draw A C. Set the gauge to equal C H.

Mechanical Editor of Architect: I send you a method I have used for some time, to get the bevel cuts for splayed work, or work having sides equally inclined or flared, the base of the work being a right angle.

Draw two parallel lines, any distance apart, as A B, C D. Let 2 A be the given flare; from A, square down a line cutting in C; take 2 as a center, and A radius, strike the arc cutting the perpendicular from 2 in F; join C F. This gives bevel P for direction of cut on face of stuff.

To find a bevel for mitre on the edge:

Take 2 as center; strike an arc, touching line A B and cutting at D; join D F. This gives bevel R for mitre on edge of stuff, which should be square for application of bevel.

I do not claim the above at all as original. It is simply the way I learned in the East, and put in practice on my work in California.

To find the bevel of a cut necessary to be made for a right angle triangle, place the blade of the square on t, and the tongue on A. The bevel to use is the one formed by the blade or long arm of the square.

Any multiple of the above-mentioned figures may be used, as 3/2 to 2, 14 to 8, etc. Take three pieces of scantling or other lumber, apply the square as per rule, cutting all three pieces of equal length and with the same mitre; by putting the pieces together a perfect equilateral triangle will be formed.

In planning stairs, think of your headroom from the lowest starting-point to the highest landing, or somewhere in ascending or descending stunning falls and broken limbs may accompany bruised foreheads and battered hats.

Perspective is necessary in drawings, but do not carry its principles into practice in putting together workmanship.

Houses may not be built from the roof downwards, though they are often burned in that direction by plumbers’ fires.

In making out building quantities do not overrate them too much, for you may calculate too liberally for your own good, as well as estimate by guess-work too lowly to your own and others’ loss.
ASKED, ANSWERED, AND COMMUNICATED.

Free to All.

The columns of this journal are open to all who differ with us upon any subject presented. We are too old in years and experience to estimate that we have passed the roof of human liability to err, or for one moment to suppose that we have reached the region where the perfect and complete truth is ascendant. The critics of this journal are correct in one thing, and honest in all things. They point out mistakes whenever a mistake is made, and improvements whenever there may be room for improvement. The exercises are as much an act of charity as it was an act of piety to send the columns of this journal to the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

SAN FRANCISCO, Sept. 30, 1886.

Editor Architect: Will you please answer the following questions in your columns:

1. From which part of the redwood tree do the bird’s-eye and curled bars which are used for everything and anything, etc. come? Are there any limited numbers of trees containing such bars? Is there any difference in the quality of redwood lumber growing in the different parts of the State? and does the redwood grow in the Sierra Nevada Mountains?

Answer.—Bird’s-eye and curled bars are obtained from the lower part of the tree. In fact, many stumps have been dug out and sawn up for the sole purpose of obtaining the above varieties, the upper or lumber portion having, in many cases, been used long ago. Only a limited number of trees contain bird’s-eye specimens. The different kinds of redwood are not generally confused, and are hard and soft, according to the part of the tree from which it is obtained. Redwood does not grow in the Sierra Nevada Mountains, except in very isolated instances. Its natural growth is confined to the vicinity of the ocean; in fact, a foggy condition of the atmosphere seems essential to its natural growth.

To construct a scale by which the side of any octagon is known at once.

Take any right angle, as A B F. From B, with any radius, draw the quadrant A D; divide it at C, with G as a center and with any radius, make an arc at O; with same radius and center D intersecting the arc; through the point of intersection draw B K, and the scale is complete.

To prove the scale, make the distance B C equal A D; figure 5; square up from E, cutting at H; then F K equals I J, the side of the octagon.

The above is an exceedingly neat and easy way to get the side of an octagon without drawing the whole figure.

Editor Architect: As you have extended invitations to our readers to submit questions to our mechanics, asking them for communications in regard to improved methods of finding the length of rafters, I beg to offer a method for finding the hypotenuse, as it is so near exact that the difference cannot be noticed, and it is a far quicker method than the usual one.

I do not think that any simpler method can be given for finding the bevel at the heel and point of rafters than that explained in the issue of your journal referred to, so in this article I will deal with the length alone.

The most common width of buildings in California is 24 feet. I propose to take that width for the practical test of my proposition. As you have given several ways by which the same result can be obtained, I will take up each of them and compare with my method.

Finding the length of the hypotenuse by the old rule, we obtain for a one-quarter pitch 13: 4: 59, or, as near as it can be used on the square 12 feet 6 inches.

Allowing one inch to the foot and trying your second method, we find, as the result, 13 inches and 7-10 scant, or 13 feet 6 inches.

This is a very simple method, and when the rule is kept perfectly straight, the results are very satisfactory.

By my way I simply multiply the width of the building by the decimal .56, 24 x .56 = 13-44, or, as near as can be worked by the square, 13 feet 5 inches.

Let us try the same rule for a greater width—say 60 feet. By finding the hypotenuse we find as near as can be used by the square, 33 feet 6-1 inches. By my method it would be .56 x 60, or 33-60, equal to 33 feet 7 inches full. By this method a rafter of 60 feet is given 1-1 inches too long. Thus, if the building is 52 foot wide, by the hypotenuse it would be 29 feet 1 inch; my way it would be 29 feet 1-1 inches. I consider this an advantage, as it leaves the point of intersection correct. For a one-third I follow the same plan, only using the decimal .6. Unlike the decimal used for a quarter-pitch, the lengths obtained are a very small fraction short; as, for instance: a rafter for a building 60 foot wide, by finding the hypotenuse, would be 36 feet 1-6 of an inch. By my way, 60 x .6 = 36 feet. A slight difference, truly, if building is 48 feet wide, then by the first method we find 28 feet 10 inches full; by my way, 28 feet 9-8 inches. A little practice will enable the mechanic to allow for this slight difference, so that when rafters are put together the fit will be perfect.

The one-half pitch can be found in the same manner by using the decimal .71. Taking the 24-foot building, length of rafters by the hypotenuse we find 18 feet 11-1 inches; my way they would be 17 feet full. Again, if building is 48 feet wide, by finding the hypotenuse method would be 42 feet 6-1 inches; by my way 60 x .71 = 42 feet 6 inches. By using this decimal, the length is so near practically exact that it can be used in all cases.

For a full pitch use the decimal 1.12, and as in the preceding mentioned pitch, and it will be seen so near correct that it can be practically used in all cases.

I will be noticed that I have not made any allowance for projection of rafters over the eave. In this way just the crowning side of your rafter the thickness of your projection; allow enough for the latter, and find the lower level according to the plan you described. I was only asked to measure the length of your rafter from where this bevel crosses the gauge line.

A little practice will enable the mechanic to lay off a rafter in a very short time. I think the method is only a little trouble whatever. If any of your readers will work out the lengths of rafters according to their own methods, and can show that the answer I use here is the correct one, they will be pleased to hear from them through the columns of your journal. Trusting that the above will so meet with your appreciation that you will deem it worthy of your notice, I am, respectfully, your well-wisher.

W. HILLIARD.

E. M. H. writes: "I have been working on buildings where the head carpenter, with a ten-foot pole, a pencil, and a square, will lay out the pattern for the rafters in less time than it takes me to think of this method of finding information. I have even tried to explain it to the one who would not listen. I was told to study the matter as he had done. Please give me a more practical answer.

Although not a very polite answer to receive from a fellow-workman, it is directly to the point. If E. M. H. will invest a few dollars in practical works on the "Stiel Square and Its Uses," etc., he will, with a little study, lay out rafters as easily as the "head carpenter." Of course, in laying out a rafter, the first thing to find out is the pitch, or rise, of the roof. A quarter-pitch is one where the peak of the roof is one-quarter of the width of the building higher than the plate; one-third pitch, peak one-third higher, etc. Or, in other words, a one-quarter pitch has a six-inch rise in each foot of width; a third pitch has an eight-inch rise in each foot, etc.

Pick out a straight piece of timber for a pattern. For a quarter-pitch, place the square against the straightest edge, with the tongue on 6 and the blade on 12. The bevel of the blade will be the bevel of the heel of the rafter, or the part resting on the plate. The bevel of the tongue will be the bevel on the point of the rafter.

Proceed in the same way with any given rise to the foot. For 5-inch rise to the foot, use 5 and 12 on the square; for 7-inch rise to the foot, use 7 and 12; and so on. The length of the rafter may be obtained in several different ways. Suppose the building is 30 feet in width, roof one-quarter pitch. On the square lay your rule so that the point will be at 18 on the blade, or one-half the width of the building, allowing one inch to the inch, and let the rule cross the tongue at the figure 9, which will give the bevel of the roof, or one-quarter pitch. We find by looking at the rule the distance is 20 inches, or 1 inch to the foot—20 inch 14 inches. For a third pitch, lay the rule cross at 12 instead of 9, and we have the length 21 feet 7 inches.

Use a smaller scale for buildings that have a greater width than that described in the preceding application of the square root, that plan enables them in a very short time to get the precise length of the rafter. In this way past experience has been made for projections of rafters over the plate. It is obvious that a little different application of the principle will have to be applied if the rafter has a projection of one, two, or three feet.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

Octavius Morgan.

THE subject of our sketch is a gentleman well-known in the Southern part of this State. A stranger upon his arrival in Los Angeles, he has, by his own individual energy, raised himself to a standard to be envied. He began his career as an architect in the beautiful "City of the Angels" in connection with Mr. Kyser. Since the formation of the partnership, the firm has had charge of a great many of the more principal buildings, both in Los Angeles and the surrounding country, some of their artistic plans ranking with those of any architect in the State. Octavius Morgan is a member of the San Francisco Chapter, American Institute of Architects.

"By Day's Labor."

THERE is perhaps a less comparative proportion of work done "by the day" in San Francisco than in any other city. The "day's work jobs" are limited in number, and only in exceptional cases are they of any considerable extent or cost. The reasons why this state of things exists are numerous, and their rectial in elucidation of the many facts involved would fill hundreds of pages of this journal. There are two sides to the main question, each prolific in argument, tending to illustrate that selflessness, avarice, cipidity, covetousness, and their kindred inspirations, control the acts of men in innumerable instances.

The more fatally forcible argument is against the operating classes, who apparently fail to comprehend or realize the error so often committed in their part, in seeking to protract and make the most of work, and the labor is done under the "day's work" system, either by excessive charges for material furnished, or tardi-amounting to what is understood by the term "loans," i.e., killing time, and biling away the time, so as to prolong the work in hand and extend its duration.

The mischievous fact of the matter, as far as the working classes are concerned, is in the creation of a general sentiment and belief that workingmen cannot be treated—work done by the day costs very much more than a right and proper price, and excessively more than if done by contract. Consequently, this conclusion has become general, if not universal, that safety from excessive charges and wasteful cost in the execution of all classes of work can only be secured under contract arrangements.

This state of things induces a feeling of distrust, and creates antagonism between employers and employees, often amounting to a "class war." Tricks and deceptions are imagined on the one hand, even where not in practice; and, on the other hand, resorted to in fact in many cases, because the underlying principles are defective. The attempt to use advantages wrongly often works to the disadvantage of those making the attempt, and operators generally have lessened their opportunities and reputations by "piling on" too much; and, instead of being content with legitimate and fair profits, and working as steadily and faithfully on day's-work jobs as when restricted by contracts, have created prejudices against "day's work," and enforced the contract rule.

If the contract system was preferred for reasons alike honorable to all concerned, there could be no objection to its adoption; but, from the fact that it is more the outcome of irregularities practiced and suffered, from necessity or preference, it amounts to a partial, if not conclusive, presumption, that under contract forms of operation certain protections are afforded to the paying party, that are not assured by the "day's work" rule; and that the fact that protection is sought, argues the existence of a wrong or evil, either real or imaginary, as protection is wholly unnecessary in the absence of danger; and this feeling or sentiment of distrust and fear of overcharges and excessive cost, influences many to adopt the contract system, who, if confident that they would be honestly and squarely dealt by, would prefer to have their work done under the "day's work" regulation. This adverse sentiment to day's labor because it is cut from the good and honest men, who would exercise as great diligence and integrity in the execution of work by "the day" as though bound by contract obligations. There are many such, but the more general experience creates the rule by which such acts are judged; and, by this rule of judgment, the conclusion is almost universal that proper economies and fair dealing cannot be secured where work is permitted to be done without contract restraints and limits.

It is to be regretted that this conclusion is too well sustained by the practice of a considerable number, if not a majority, of those who have been intrusted in good faith with the execution of works of various kinds, upon the presumed integrity of the operating parties. Many—infected by one, or either, or all the evil inspirations mentioned in the preceding portion of this article—overstep all bounds of consistency and fairness, and, frequently, for no other reason than manifest excess in charges, are compelled to modify their demands.

All this is greatly to be regretted, as it works to the disadvantage of the working classes, and justly so—only so far as right and honest principles and rules of trade are violated and questionable methods adopted to draw from paying parties more than a true and right value for the work performed and materials used.

By the "stringing it out" and "piling on process," men may sometimes secure large pay and profit for the time being, but every such occurrence works to the after disadvantage of the party who enjoys (!) such temporary profitable results; and, however much or little justified as other men are concerned, those who suffer by wrong acts—"it matters not by whose committed—naturally withhold confidence in others, and pre-judge the virtue of the masses, by the experiences encountered in one or more individual cases.

"Alas for the alum in the bread, and the chalk in the milk, and the powdered glass in the sugar, and the Venetian red in the cocoa, and the no-one-knows-what in the syrup. If a man not at all bigoted, but very liberal on the subject of temperance, and of the high-brow persuasion, wants to imbibe some inspiration to help him fight down the fanaticism which gives up to the counter and pays for an honest drink, he swallows and sniffs his lips over cocoaels indius, and potash, and cochineal, and blue vitriol, and other delectables; some of these things put in to make the beverage hot, and some in to make it mix, and some to counteract the fatality of the others. Our officers of health have done a good work, but their chief work is yet to be accomplished. The ghastliness of diet to which millions of the American people are subjected may account for much of the sudden death and otherwise unaccountable inc reasing suicide. It is amazing that there is any good sound health left for this systematized and most universal poisoning process. Let us agitate the subject."

When you have the woodwork in a room painted, it is a good plan to have about two inches of the floor painted also; have the paint the same color as that of the base board; then if, when changing carpets, the carpet will not come close to the wall, the little space left will not be so unsightly.
A Convenient Plan for a Country or Suburban Home.

The provision of a convenient dwelling for a family in the country, or the suburb of a city, is a matter of great importance, and, perhaps, no portion of the architect's practice has been so usefully bestowed as that which has been devoted to the study of a plan for the occupancy of those who have to calculate every item of housekeeping cost, and who, living by mechanical labor, have need of frugal employment of their means to bring up a family in comfort.

The plan presented is peculiarly adapted to those having a small family, and yet like to have a guest chamber when needed.

In case of friends who call to stop overnight, what more convenient, and, perhaps, no portion of the whole front of the house is at the disposal of the guests for their quiet enjoyment, and no noise from the kitchen will mar their slumbers should they sleep till late from being overtired from a long ride.

The parlor is large and well lighted, and so is the dining-room. Bath-room and conveniences. Ample closet room is found wherever needed.

Should more room be desired, the laundry could be placed under the house and the existing space transformed, with but little alteration, into a bedroom. If cost is an item to be considered, the cornices designated in the four principal rooms, could be omitted.

As shown, the plan could be carried out at a cost ranging from $1,800 to $2,500, depending entirely on the finishes and the depth of the owner's pocket.

Does Good Plumbing Render a House Safe?

Many vague ideas still prevail with laymen about what constitutes a safe system of 'sanitary plumbing.' It is, however, not too much to expect that architects who are constantly arranging in their plans for the so-called 'modern conveniences,' should have at least a fair knowledge of the rudiments of modern plumbing. What, then, shall we say of an architect who can be guilty of such gross misrepresentations and misstatements as those which appeared recently under the heading, "The Danger of Sanitary Plumbing," in the correspondence columns of the New York Evening Post? Starting with the incorrect assertion that "experts disagree both in system and workingmanship as to good or sanitary plumbing," this architect tries his best to alarm the public by stating that water (in traps) will not at any time prevent the steady flow of sewer gas, and that "sewer gas rises, expands, presses, constantly generates, and must have space," and broadly maintains that "so far as all appliances yet known to the plumbing trade under the head of sanitary plumbing, as back air or direct ventilation go, no absolutely safe plan has yet been devised by which water and waste can be introduced into any bedroom or adjoining closet, and the health of its inmates be unimpaired." It seems almost superfluous at this day to say that the above contains gross exaggerations and only goes to prove that "Architect" is not sufficiently well posted on the subject, a fact which becomes more apparent by his description of a fine house, said by him to have been "the best plumbed house in New York," done by experts, and which he takes as an example to illustrate the danger of modern sanitary plumbing. In this house, he tells us, five basins and one bath were trapped by a single unventilated trap in the cellar, at a distance of about 60 feet from the fixtures. How "Architect" can make the untruthful assertion that the above house was plumbed by experts it is hard to understand. He has probably never heard of Board of Health Regulations, which, since 1881, require in this and other cities such wash-basin and other fixture to have a separate ventilated trap placed immediately underneath the fixture.

"Architect" winds up by advising the householder to "strip his bedrooms of all plumbing whatever; to let no sewer connection of any kind come into a sleeping-room; to go back to the clean, old-fashioned bowl and pitcher, and to put all plumbing in an annex or separate building"—advice which, by the way, is not at all new, for years ago the late Dr. Frank H. Hamilton recommended the same thing. Thanks to the better understanding of the subject, such views are now considered to be old-fogyish and exaggerated.

Only last week we had occasion to make some remarks upon the uselessness of assertions, by well-meaning but ill-informed physicians, in regard to the unreliability, from a health point of view, of so-called "safe sanitary plumbing." Such ideas, spread by means of the daily press, are apt to do a great deal of harm. We are glad to note that "Architect's" ideas have been ventured by an architect of the highest standing, Mr. Carl Pfeiffer, who wrote to the Evening Post as follows:

"Permit me to send you a few remarks referring to the letter of your correspondent "Architect" in the Evening Post of to-day. I do not hesitate to take issue with him. His suggestion that all plumbing should be confined to one wing of a house may be pleasing to old fogies and to timid, nervous old women, but the advice to have no plumbing at all would, no doubt, be still more acceptable to them. If "Architect" will call upon me I will show him in more than one house that there is not only no escape of any air or gas whatsoever from the plumbing pipes, but that the air of the room is sucked into the pipes. One of our well-known citizens and a resident of Murray Hill is so pleased with the plumbing of his house that he feels as secure against the escape of sewer gas, after several years of trial, that he has assured me he would not hesitate to have an open end of his sewer-pipe close to his pillow at night. It seems odd that the same people who are so nervous about plumbing will sit for hours in the poisonous atmosphere of an unventilated parlor, theater, public hall, or church, contributing headaches and more serious thinking of their diseases, without ever consider the necessity of pure air for their lungs. Much has been written against plumbing less reasonable than would be the suggestion to prohibit by law the manufacture of confectionery and the baking of pies and puddings."

How to Make a Rust Joint.

For making a rust joint that will bear heat, cold, and rough usage, the following formula has been highly recommended: Ten parts iron filings, three parts of coal, and enough water to make into paste. Put the mixture in between the pieces to be joined, and bolt them together, leaving until dry. After twelve hours the cement has been known to break off the solid iron.

Japan is said to have less than 10,000 paupers among her 37,000,000 inhabitants. In the country a man whose income is $1,000 a year is regarded as very wealthy.
A Cheap Five-Room Cottage.

Although the tender care of an architect is essentially required when preparing a plan for those in humble circumstances, and yet whose pride must not be cast down by too plain an exterior, or too cramped interior. The plan presented is admirably adapted to meet the wants of the class referred to. The rooms are all of good size, with ample closets; plenty of light and means of ventilation are secured to each room. The house is so arranged that "modern conveniences" can be added at any time. According to the plan shown, the house can be built for a sum ranging from $1,500 to $1,800.

Have we any of this kind on our subscription list? We hope not, and as proof that we have not, we further hope that every subscriber to this journal who has not, will at once forward their subscription balance up to December, 1886, at which time, or earlier, a new management will assume direction of its future. A full list of delinquents will in due time be published in these columns.

Plan for a Narrow Lot.

For a narrow lot, the accompanying plan presents many inducements. Ample light is furnished each room, which are all of good size. Although not shown, a skylight over rear end of hall would be found to be a very useful addition; with a large transom over the door leading to principal chamber, the latter room would be much more cheerful. This house can be built anywhere from $1,300 to $1,500.

The Demand for a Good Pavement.

The American Architect and Building News says: "One of the greatest needs of our cities is a wholly satisfactory material for paving. Many cities have grown weary in experimenting with this and that material, and are still casting about for new ideas and methods. Real estate owners on the busy streets find that the matter of noisy pavements seriously affects the rental of their stores and offices, and men with capital invested in team horses direct their drivers to sacrifice quick transit, and take roundabout streets rather than risk injury to their horses by traversing the greasy asphalt, or the equally insecure wooden blocks. The wooden pavements, that had their origin in the West, and sprang into favor a few years ago, largely because of their comparative cheapness, soon proved their unfitness for the uses of heavy travel. Besides the necessity for their frequent relaying, there was the difficulty experienced in keeping them down. Like the ghost of Banquo they cannot be depended on to remain "laid," as was strikingly shown not long ago in Devonshire Street, Boston, where a slight flooding of the street caused the pavement blocks to rise and float gaily with the tide.

Of the various kinds of asphalt or concrete that are used, opinions differ greatly. Of course much depends upon the particular kind used. Washington, Philadelphia, Cleveland, and other smaller cities, testify to good results from some forms of asphalt, but in Boston there is a pretty general concurrence of opinion against the material. Tamstors, especially, condemn it largely. In Detroit there has been an experiment on a small scale with a hard brick pavement, which is said to have stood the test of heavy travel with considerable success. The smoothness of this surface, however, it seems, must be a serious drawback, if generally adopted. A material that is coming in favor in Western cities is crushed Michigan granite, which has the quality of readily cementing itself and proving very durable, while making roadways sufficiently smooth to obviate undue noise. Its expensiveness is one argument against its more general adoption; but cheap and experimental pavements have certainly had as much attention as they deserve.

In order to close out our large stock of books on hand, we will make a reduction of TEN per cent on the publisher's price. Any book can be furnished by us, no matter what the name, or the cost thereof.

Hiders in the Bushes.

Many subscribers outside the cities and counties in which papers and journals are published, withhold payment of subscription amounts under the fancied and dishonest protection of distance and difficult means of dunning and collection. Not being influenced or controlled by honest motives or purposes, nor shamed by the contempt expressed by publishers and authors universally, and smiling complacently under the lash of strongly worded denunciations from time to time found in print, they deem it smart to beat those who furnish them with valuable informa- tion or reading matter of interest, and think it fine to peruse journals and papers without paying for them, none of which is highway robbery nor burglary in the first degree, but is skin thereto in spirit, requiring simply the occasion and courage to perpetrate the higher crimes. Small thefts, cheating, pecula- tions, and all of their kind are but the lesser offshoots and out-growths of that more sturdy and defiant human growth, which, at times, is found under masks on the highways, with the deadly rifle, revolver, and the keen-edged dagger as means of defense. The nature that is so far tainted with diabolism as to cheat, if it can, the publisher of any book or journal out of the rightful payment of the subscription cost, is one of the kind fitted to perform the role of brigand, provided the other requisites neces- sary to make up a bold and daring character could be contained within the skin of the man who seeks to make a dollar or two by cheating the editor.
Cooking Water.

CHALRES DELMONICO used for the hot-water cure: "The Delmonicos were the first to recommend it to guests who complained of having no appetite. "Take a cup of hot water and lemon, and you will feel better," was the formula adopted." For this anti-anorectic remedy the eaters charged the price of a drink of their best liquors, twenty-five cents or more, and the recipe was a wise way to spend small change rather than in alcohol. "Few people know how to cook water," Charles used to affirm. "The secret is in putting good, fresh water into a neat kettle, already quite warm, and setting the water to boiling slowly, and then taking it off the fire, not off to use, nor to steep, nor to drink, before it is spoiled. To let it steam, and simmer, and evaporate until the good water is all in the atmosphere, and the line and iron and dregs left in the kettle—hah! that is what makes a good many people sick, and is worse than no water at all."

I am very glad to find such excellent authority on a question which has vexed me sorely, not only because of my own epicurean tastes, but because it was nearly impossible to obtain properly cooked water for invalids and convalescents. A critical taste will detect at the first mouthful, if the nose has not already demurred and given warning, the faintest trace of dead water in tea, coffee, porridge, and many other items designed for the stomach.

More frequently than otherwise, the breakfast kettle is set boiling with a remnant of yesterday's supply in it; the coffee urn has been neither washed, dried, annointed, nor aired; possibly, in the interest of a rigid and mistaken economy, some of yesterday's coffee is also "boiled over," and the pot is set to "steam down" in its inmate laws and latent conditions. Whatever else be neglected, the tea-kettle and its associate pots should be thoroughly cleansed, dried, and aired every day; and in no case should water that has stood even an hour in pitcher, pail, or kettle be used for cooking.

If people will drink tea and coffee, let them at least have it as nearly free from poisonous conditions as possible. That much besoin deferit from many poor organs. As soon as possible, hot water is not disputed, but the water should be freshly drawn, quickly boiled in a clean and perfect vessel, and immediately used. The times of using, the adding of milk, mint, lemon, or other fruit juices, is a matter of preference or special prescription. This article has in view the proper preparation of boiled or "cooked" water.

Fire Protection.

THE Eureka Fire Hose Company of New York, is manufacturing a light, strong, cotton, rubber-lined fire-hose, called the "Eureka Mill," which has proven to be the most durable and reliable, and the easiest hose to handle ever made. It is lined with the finest Para rubber, and has now been in a large number of hotels, factories, public buildings, etc., for fire protection purposes, and although in many cases hung over eves or pegs or with short kinks, which would ruin rubber hose in six months, it is still as strong and perfect and reliable for fire duty as when first put in. It is undoubtedly the only hose to use for fire protection, for there is practically no deterioration with age, and it stands an immense pressure, while the rubber hose of to-day is unreliable after six months, good-for-nothing after twelve, stands very little pressure even when new, and is stiff and hard to handle. No hotel, mill, factory, public building, or large house of any kind should be without some inside fire protection. Manufacturers and others of experience always look to it that they are well supplied in this direction, and only those who come directly in contact with this trade begin to realize how often inside fire protection of the right kind really prevents great conflagrations, or at least renders unnecessary the dragging in of the large, heavy hose of the fire department, and the use, and misuse of a large amount of water. A fire should be taken at the start, and this cannot be done unless the hose is handled and in light, that the gutter sex may handle it if necessary, and must be strong to insure efficiency and as a protection against the damage caused by bursting hose. In some of the large buildings going up in this city to-day, there has been no provision whatever made for fire protection, and it behooves the architects of these buildings to bestir themselves and make some provision of pipes, etc., before it is too late, or they may at some future day be severely comumed for neglecting to attend to so important matters. There are a large number of buildings and manufactories in this city now supplied with this hose, and we shall give a list of them at some future day. But we desire particularly to call the attention of these interested, to hose as seen in the fire-closets of the Baldwin Hotel, where it has been since the hotel was completed, over ten years ago, and is to-day as perfect as when first put in. The agency for the Pacific Coast is in the hands of W. T. Y. Scheunke, 256 Market Street, who makes a specialty of fire hose and fire department apparatus and supplies.

Rules Regarding Cement.

EMINENT engineers are authority for the following important conclusions—

Cold water is probably not injurious, only as it retards setting.

All cements when mixed with sand to a proper consistency for mortar will fall to pieces if placed in water before setting has commenced. 'Portlands do so even without sand.

Pressure while setting, with the degree of the thoroughness of the mixing or the gauging, the proportion of water used, and other considerations, may easily affect the results one hundred per cent, or even much more.

If too much water is present in mortar, the consolidation by running is proportionally imperfect.

Any American cement of good quality will with one and one-half to two measures of sand give a mortar strong enough for most engineering purposes.

American cement requires less water than Portland.

Sand retards setting so cement which by itself, would set in half an hour, may not do so for some days if mixed with sand.

When one part sand is added to one part cement, the strength is lessened one-half. Two parts of sand to one of cement, averages labors to one-third the strength of pure cement.

These for tensile and transverse strains. The crushing strength does not diminish so rapidly.

Brick or stone should be moist and entirely free from dust, or mortar will not adhere.

Slack lime retards the setting of cement.

The temperature of air and water has far more influence in the testing of cements than has before been suspected.

After strong in air, or cement, with sand, should be kept moist or watered until completely hard.

Walls of buildings are often built of cement concrete deposited between smooth-faced planks as a mould, the planks being moved upwards as the work goes on. Cement should be nearly dry and tampered hard.

Post holes running down below frost and tamped full with concrete are safe and economical supports for warehouses and similar buildings.

Concrete may be used in large masses under water, and when properly put down, is found good for piers and shore protection.

One-quarter to one-half cement is a common rule of mixture for cement and lime for plaster work in air.

Neither concrete nor cement can be emptied in water loose with good results, but must be conveyed to place in boxes or bags.

The white efflorescence, most common to Portland cement, is supposed to be injurious to the strength of brick and other materials.

Any disturbance of cement after setting commences is prejudicial to strength.

The best sand for concrete is that with angular, coarse grains of uneven size. The more uneven the sizes, the less the voids, and the coarser the grains, the less quantity of cement required to cover the surface.

MECHANICS' GEOMETRY.

Science of Framing by the Aid of Cardboard Models.

We have lately received a number of this Celebrated Work, and will forward a copy to any address $5.00, less 10 per cent.

Our new city hall of Philadelphia is the largest building in the United States. It has already cost $12,000,000 and covers 5,000 square feet of ground more than the Washington Capitol. Its north side tower will rise 525 feet, making its height only 20 feet less than that of the Washington Monument.

In our December issue we will publish complete a list of those who are in arrears for subscriptions to this journal. Avoid publicity by sending us the amount of your indebtedness immediately.
THE spreading of Christianity changed the whole state of things, and the Middle Age does not any more know national differences in art. Of the nations which did not come within the historical development, not considering themselves the art of the Middle Age, are the Christian and the Mohammedan. The latter carried with it so many restrictions, coming from religious commandments, that it was struck with a destiny like so many of the old arts, the same remained typical, and its progressive development is only very small. But it has, with the Christian art, the same property in common that it ruled a number of nations, that it forced the same on every new conquest made, together with the Koran, the holy book of the prophet, from the shores of the Ganges to that of the Ebro. So far as the victorious arms of the sons of Mohammed penetrated, monuments and traces of them are found, but all of them show the same typical form, the same style.

It is different with the Christian art. The Christian doctrine was by the different Christian nations differently taken up, conceived and retained, and in the course of time was developed and became church religion, changed and alternately transformed. The main cause of such transformations was the bodily and spiritual conflicts which were conducted for the defense and propagation, and always obtained a living stream, through which every involuntary or designed stoppage by priests became impossible for any length of time. Art followed all phases of religious development, and always took new forms and modes of expression. There are four main groups to distinguish, to which we must unite the similar monuments, and in course of time they followed each other. It originated periods, which mark a characteristic division of the art of the Middle Ages, which were largely and as a whole in common to all Christian nations, naturally without detriment to the above-mentioned special perceptions and singularities. In the first centuries of the independent Christianity, the relations to the antiquity were numerous and of considerable influence, that the same leaning to the antique traditions, formed an art, in which the Christian elements, as it were, slumbered in the bud; this is the so-called period of the ancient Christians. In the Byzantine is already marked an important step to an independent originality. It alone satisfied itself to arrive at a certain height, then rested, and remained standing in a lifeless rigidity without developing itself to perfection. It reigned over a large portion of Western Europe, besides its native land, the Greek Empire, and soon the same became displaced by an art, the same principle of which originated and grew in Germany, by transforming and uniting the forms of previous centuries to a new art. In this way originated the Romance style, which expanded over all Christian countries at the time, except Byzanz; and the same again became displaced by the Gothic, taking and completing the same route through the Christian nations. As far as the origin of the four periods and the development of the different styles were concerned, and of any influence with and on the religious perceptions, and the churchship, is a problem not here to be discussed; but in general we find in the ancient church and the immediate intonation of the latter, antiquity; in the Byzantine, the turning away from the occidental development and perception; in the Roman, the first independent innovation of the original force of the spirit of the German people; and, lastly, in the Gothic we find expressed the highest development of the church idea of the Middle Age. But that in common to all these periods, and uniting to the same a whole, is the Christian element, and thus a direct and clear view of the Christian religion is everywhere recognized in the works of art.

XXXI. UNIVERSAL INDIVIDUAL ART OF OUR TIME.

With our time the state of affairs is seemingly changed, but only seemingly, that the new religion, which is now forming, and the art, acting developingly, are the spirit of humanity. The coarse, the sensual, has outlived itself, and a nobler and finer spirit conditioned a refined perception. New gods were not proclaimed, but in the breasts of men spoke a sentiment, an inner, invisible voice of a new love. Before the Reformation, this spirit already lived and existed in the nobler natures, and it was the same which brought forth, and enabled the hidden to expression, and to collect together every interest in the combat about the sacred endowments and goods, beside which disappeared the contemplative rest of artistic activity. This led to the highest flourish in art. The noble mind comprehended all which was worthy to be offered, not only breaking the narrow boundaries of ecclesiastical conception, and placing, in place of the supernatural, the human perfection, but also by enlivening the spirit of past times, knowing no boundary than the one it made itself, it became universal,
embracing the whole humanity, and what the same offered to it, as also individual, since that which it received it regenerated out of itself, adorned with the seal of its own spirit. Art in modern times is also universal in reference to the sphere of its objects and forms; individually in reference to the producing artist. Neither in the ancient times, nor in the Middle Ages impressed itself as such in an eminent manner in the works of art. The individuality of its originator, then the feeling, sentiment, and perception of all was the same, and the differences in the works of the artists, originated by their personalities, properties, and perceptions, were proportionately subordinate, so that the person of the master had to recede and stand back. Scopas and Praxiteles created works which in their artistic spirit were alike, and the name is the case with all the preserved Greek sculptures, that we can weigh on the same the measure of beauty, the grace of the technical execution, but we are incapable to give the name of a single artist, except where the name is preserved by traditions.

Similar is the Middle Ages, where the plastic had a smaller practice, and the significant preference extended to the art of painting, on account of the favorable spirit, should have called forth a noted expression on the individuality of the artist who should have been called upon for the remembering and expression of the Christian mode of perception. Style and perception are, on the large and the whole, everywhere the same, and only in our time is it the case that artists and their art schools, in their works, manifest and reveal a peculiar style, and a singular artistic character of their own. In our time the person of the artist is in art, and in its full appreciation, and in regard to objects made, no sphere of life, of history, or of nature is excluded. On the admission of the artistic treatment only the poetic value is significant, and no other laws conduct and lead to art than those established by its own. The right of the individuality is so extensive, that where a pressure from the outside is tried, let it be by political power, or ecclesiastic influence or despotism, such power always, beginning with the lowering of the artist, degrades art, not worthy to be called so, or, what is better, the same causes a general retreat from within itself.

Art demands and requires commands of caprice, it is lost; and the one who tries to guide and manage the same to his will, will be punished with the total loss of the art. History does not lack examples of this kind.

XXXIII. FUTURE.

With this course, seemingly, the development of art in the main possibilities of its beginning, has passed through, and only through and from, the persons of eminent artists and cultured people, who exert an important influence. The pure national and the pure Christian art is buried for all time to come; then only the breaking in of a raw but gifted people of nature could destroy the old culture and art, and, beginning new, could create a natural religious art. But who could believe in the possibility of such incredible events; but what might occur after the wreck of the European people, shall not concern us. Largely gifted men of genius will, as long as our historical culture lasts, produce large, flourishing times of art, and out of the decline and ruin only the conscientious deeds and actions of the newly spirit will be saved from sinking. That the declining of flourishing art is not the work of accident or caprice, but that all goes to conform to unchangeable laws, based on nature, will next be spoken of.

Redwood.

THE redwood—Sequoia sempervirens—is found in any considerable quantity nowhere but in California, in a belt about 400 miles long from north to south, and 30 miles wide, on the average, from east to west, which lies upon the western slope of the Coast Range. North of this belt, pine, fir, and spruce gradually displace the redwood. The region lying between the northern boundary of Santa Cruz County and Russian River has been stripped of this precious timber. A recent careful estimate puts the amount of standing redwood at 26,000,000,000 feet, and the yearly consumption—which is constantly increasing—now reaches 200,000,000. In the southern part of the belt, where there is less rain and fog, the tree does not average more than two or three feet in diameter, and the wood is hard and flinty. Further north, in Humboldt County, the size increases, so that specimens twelve to eighteen feet in diameter and from 150 to 250 feet high are not uncommon; on large tracts experts estimate a quarter million feet per acre. The average size of saw-logs is six and eight feet in diameter. The wood is soft, coarse-grained, and very brittle, and so straight in grain that often it is not a hard matter to split out inch boards eight or ten inches wide, and from ten to fifteen feet long. When dry it is lighter than pine, spruce, or fir. Yet the butt log will often sink in water, when the top logs float like cork. The growth is slow, the annual rings often indicating an age of thousands of years. As the bark, which is very thick, soft, and fibrous, contains no resin, fires which run through the woods do not kill the standing timber, but, of course, must injure young sprouts. The great durability of the wood makes it desirable for shingles, railroad ties, and fence posts. It is highly valued for tannery tanks, which often last ten years, as the tanning solution does not act upon it as upon other woods. Wine merchants
also seek it for vats, because a certain insect found in new grape juice, which bores pine readily, appears to dislike red wood. As its color is similar to that of Spanish cedar, and imports no flavor to tobacco, it is prized for cigar boxes, and is largely used in New York for that purpose. Its extensive use in buildings, it is claimed, largely accounts for the immunity of San Francisco and other coast cities from large fires, there being little or no resin in it, and therefore less difficulty in putting out fire when once started. Some of the grain curls so that when polished and varnished, it rivals rosewood for cabinet uses.

Knots in Lumber.

YOU would probably be surprised," remarked an observing lumberman the other day, "to see how some of my country orders run. I have customers who won't have a knot inspected in their lumber, if they can help it, but who will take lumber so shaky it will hardly hold together, without a kick.

Unnoticed Dangers.

Far too many houses, both in the city and country, stand on made land or at least that which was formerly swampy. The foundation walls, when there are any, for houses often stand on posts alone, are built of solid masonry, but with no cement either outside or in. Such walls are porous and soak up water nearly as rapidly as a sponge. Then it slowly trickles down the inside, emitting malaria and forming a fine soil in which all manner of fungoid growths flourish. The rooms over such places are first-class disease breeders, and every home should be frequently examined to see that these dangers do not exist.

The drain pipes often leak in cellar and basement. This adds to the danger of the rooms above; the two fluids, stagnant water from the sewer and water filtering in through the walls, work in concert to sap the life of the little ones, and to fit them to yield to the first disease.

The walls of the rooms themselves, in far too many houses, are disease breeders. A neat and tasty paper upon the wall makes a room inviting and adds to the home comfort. But, unfortunately, even when the paper is made free from poison, and good paper can be so made, the paste with which it is attached is just the home for minute organisms which produce certain diseases. This is bad enough when there is only a single layer of paper, but when, as is often the case, several layers of paper and paste are laid on the same wall, outside of one another, the danger is multiplied many times; each wall is really a fertile ground for growing mold; the best wall is undoubtedly the plain plastered wall.

All cases like these demand caution. Those who are responsible for the home comfort, cannot be too careful; the health, often the life, of the loved ones, particularly children, depends upon rigid exclusion of all these lurking-places of disease and breeders of death. Beauty should be and is consistent with perfect safety in the home.

Sharpen your tools properly and you will husband your strength.

Please Make Immediate Settlement.

As an entire change in the management of this journal is likely to occur at an early day, those who are indebted to us will greatly oblige

BY MAKING PROMPT PAYMENT.

Do not hold off because you may for a time, but pay up at once and remove the obligation. It is our due and your duty.

NOTICE.

The Office of the TROY

Laundry Machinery Co

And Manufacturers of

LAUNDRY MACHINERY

Has been moved to

200 Fell Street, S. F.

J. E. CHAPPELL, Agt.
Selections from Goethe.

We like to look into the future because we desire the incidental, which we know lies therein, to point our way.

We cannot well be in any company without thinking: the accident that brings us together to a crowd we expect to contain friends of ours.

We may live as retired as we please, still we will be either a debtor or a creditor.

If we meet a body indebted to us we are sure to remember the fact; but when we meet a person to whom we are indebted, ten to one we will forget the fact.

Nobody would talk much in a crowd if they knew how many misunderstood them.

To be communicative, comes by nature; to adopt what others tell us, is culture.

It is presumable that the speeches of others are so much misquoted because they are really not understood.

Whoever talks long before others without flattering them, becomes infamous.

Every word expressed causes counter thought.

Both flattery and opposition make conversation disagreeable.

Nothing indicates men's character better than their ideas of what is ridiculous.

Sensual men laugh where there is nothing to laugh about.

To the intelligent most ridiculous; to the reasonable, almost nothing.

Passions are vices or virtues; they are, 'tis ever, always intensified.

The golden mean is in nothing more desirable than in our confidence or mistrust of those we love.

A passion is tempered by confession.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

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In our December issue we will publish complete a list of those who are in arrears for subscriptions to this Journal. Avoid publicity by sending us the amount of your indebtedness immediately.

A simple and convenient way of obtaining the weight of coat in inches when the number of cubic inches is known, is to divide the number of cubic inches by 4 and then add one per cent of the cubic inches. The result is exactly the same as if it had been multiplied by .26, the weight of one cubic inch.
This document contains text in several different sections. The first few paragraphs appear to be a list of names and addresses, possibly related to architectural firms or individuals. The next section seems to be an advertisement for a Mrs. L. Page, offering a variety of services or products, including blinds. It mentions the Mrs. L. Page company and provides a telephone number. The rest of the text appears to be a collection of business or personal names, possibly related to the architectural field, though the content is not clearly legible. The overall layout suggests a mix of advertisements and directories, typical of a community newspaper or a trade journal.
Protect Your Homes and Business Houses

WITH *THE* IRON *FOLDING* GATES *AND* GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against Burglars, Thieves, Tramps and Designing Persons, and can be removed and replaced without unbolting. As a Sanitary Device they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.

DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

GEO. H. RICE,  E. J. ROBINSON, Agent,  J. P. LECOUNT, President.  199 California Street, San Francisco, Cal.  Secretary.
Wm. H. Milliken,  
Mechanical Engineer and Draughtsman,  
MANUFACTURER OF  
MILLIKEN'S PATENT HYDRAULIC RAM  
ELEVATOR,  
Contractor and Designer  
FOR THE CONSTRUCTION OF ELEVATORS, CABLE  
RAILWAYS, SMOKING BURNING APPARATUS  
ENGINES, BOILERS AND ALL OTHER  
KINDS OF MACHINERY.  
Office, 22 California St., Rooms 19 and 20.

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GOLDEN CATE  
PLASTER MILLS  
216 and 217 Main Street,  
Between Howard and Folsom,  
SAN FRANCISCO.  
LUCAS & COMPANY,  
Manufacturers of  

C. C. CHAMPION  
CALCINED PLASTER.  
(PLASTER OF PARIS.)  
Marble Dust, Land Plaster, and Terra Alba.

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DAVIS & COWELL,  
Manufacturers of  
Santa Cruz Lime,  
Imported of  
Cement, Plaster, Hair, Marble Dust, Fire Tile,  
Fire Bricks, Fire Clay, etc.  
211 & 213 Drumm Street,  
Between Clay and Washington,  
SAN FRANCISCO.  
P. O. Box 1845.

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J. H. DUNNO.  
Glass-Cutting, Embossing,  
Bending, Engraving, and Designing Works,  
NO. 108 MAIN STREET.  
Bet. Mission & Howard. - San Francisco  
Drilling of Holes and Repairing of Broken  
Articles a Specialty. Estimates  
GIVEN ON PLAIN GLASS.  
GROUND GLASS ALWAYS ON HAND.

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RICHARD McCANN,  
CARPENTER AND BUILDER,  
211 Wabler Street.

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CEO. L. HENZEL,  
Electric and Mechanical Call Bells,  
SPEAKING TUBES & TELEPHONES,  
Patent Door Openers and Letter Box Plates. Gas Lighting  
by Electricity.  
ALL WORK GUARANTEED.  
Residence 19132 Market St.; Manufactory, 1305 Mission St,  
Bet. Bush and Folsom, SAN FRANCISCO.  
Phone No. 4129.

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Sierra Lumber Company  
MANUFACTURE AND DEAL IN  
Doors, Windows, Blinds  
SUGAR PINE, YELLOW PINE, SPRUCE & FIR  
LUMBER.  
Cor. Fourth & Channel Sts., San Francisco.

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JAMES YOUNG.  
BEALE STREET MILL.  
YOUNG, THOMSON & CO.,  
Manufacturers of  
FRAMES, SASH, BLINDS,  
DOORS AND SHUTTERS.  
306 Mission Street.  
Made to Order, all kinds of Outside and Inside Finish and  
Moldings. Brackets and Scroll Sawing and Wood Turning,  
in all their branches, done with dispatch.  
JOBING A SPECIALTY.

---

J. J. DUNN,  
CONTRACTOR and BUILDER  
Residence, 615 Jessie Street.

---

D. A. PERRY,  
CARPENTER AND BUILDER,  
214 Guerrero Street,  
Between 15th and 16th, SAN FRANCISCO.  
All Jobbing Promptly Attended to.
SACK'S AUTOMATIC SELF-DISCHARGING WATER CLOSET.

THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns every house into a SANTITARIUM, and is an assurance to those who trust it, that neither sewer gas nor noxious vapors that invade our houses, by disease and death, shall enter. It is the invention of a Californian, and an Oakland enterprise.

It merits surpass description, but a few prominent cases are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! It has no "set-screws," nor needing it a positive seal against sewer gas and rooking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation. It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

Economy!! Cleanness!! Health

Persons Engaged in Sanitary Enterprises, ARCHITECTS, CONTRACTORS, AND BUILDERS,

Are especially invited to examine the practical workings of Sack's Automatic Water-closet.


It will be a pleasure to demonstrate to all who may favor us with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in feet length, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

WM. E. STEVENS,
MASON AND BUILDER,
SOLE OWNER.

VENTILATION, ETC.

At the back of exterior pipe is a three inch conductor D extending to outside of wall for fresh air, which, passing up becomes heated, and can be introduced in any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joints to conduct by a small conductor G with the above mentioned air space.

The lightest and most patent chimney manufactured. Approved by the Board of Supervisors. WAREHOUSES, N. E. Corner of Larkin and Market Streets, SAN FRANCISCO, CAL.
Hardware AND Builders’ Materials

IMPORTERS, WHOLESALE AND RETAIL DEALERS.

A FULL LINE OF

Messrs. P. & F. Corbin’s Gold and Silver-Plated, Light and Dark Shades of Plain Antique and Tuscan Bronze, House Trimmings.

ALSO, A FULL LINE OF

CARPENTERS’ AND MACHINISTS’ TOOLS, CUTLERY, ETC.

SOLE AGENTS FOR


FRANK P. LATSON & CO.,
28 and 30 New Montgomery St., cor. of Jessie,
UNDER PALACE HOTEL.

SAN FRANCISCO.

TURNER, KENNEDY & SHAW,

Lumber Dealers,

FOURTH AND CHANNEL STREETS, SAN FRANCISCO

Down Town Office, No. 5 Post St., near Montgomery.

JOSEPH BUDDE’S

PATENT

WATER CLOSETS

The Golden Gate Plug Closet.

WITH TRAP.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:

1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a ball of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 5 inch pipe, one to the right and one to the left and 4 inch leader in the center. It has also a movable drain on top to take the sewer water. The lower part of the hopper with side outlet, is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to rivet, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, and valve extra heavy casting. Various styles is called No. 1. This Closet has no oval basin fastened to the cover by brass straps and bolts. No breaking of pottery joints required to remove a pan. The lowering of two large brass rings will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass lid.

These Closets have been in use since February, 1892. Plumbers and Wholesale dealers give them the best recommendation.


Basket Hoppers are made in one piece with Invalve Strainer.

No. 43 FREMONT STREET......SAN FRANCISCO, CAL

SIDE VIEW, COMBINATION HOPPER.
J. F. SULLIVAN,
HOUSE AND FRESCO PAINTER.
Plain and Decorative Paper Hanging.
510 Market Street.

EDWARD NORMAN,
HOUSE, SIGN & ORNAMENTAL PAINTER
WHITENING AND LINTING A SPECIALTY.
All work promptly attended to.
222 Golden Gate Avenue, SAN FRANCISCO.

JNO. E. W. COLEMAN,
PAINTER AND WHITENER,
No. 924 Polk Street.
Between Fifth and Sixth, SAN FRANCISCO.
House and Sign Painting, Glazing, Varnishing, and Polishing. Walls and Ceilings Whitened or randomized, with or without colors.

C. CASHMORE,
Painting in all its Branches
DEALER IN
PAINTS, OIL, GLASS, VARNISHES, ETC.,
530 VALENCIA STREET, SAN FRANCISCO.

G. ORSI,
House, Sign, and Ornamental
PAINTER & PAPER-HANGER,
108] JESSIE ST., SAN FRANCISCO.

F. C. JAMES,
HOUSE AND SIGN PAINTING,
1605 Polk Street, Near Sacramento,
SAN FRANCISCO.

H. C. JARMAN,
PAINTER AND WHITENER,
232 Sixteenth St., San Francisco.

J. D. WELCH,
Practical Plumber, Gas & Steam-fitter.
Cor. Fillmore and Golden Gate Ave.
JOBING Promptly Attended To. All work warranted.

JOHN T. CRAY,
230 SUTTER STREET,
PRACTICAL PLUMBER, GAS
And Steam Fitter.
Bad plumbing and sanitary defects thoroughly repaired and guaranteed.

JOHN BOHN,
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IN looking back over the past seven years, as founder and editor of this Journal, very many pleasing recollections present themselves, which will not be forgotten while life lasts. The numerous expressions of personal good-will, friendly feelings, hearty wishes for our success, approval of efforts made, and many expressions of kindly import, have been sources of great pleasure.

While some men conduct and manage newspapers and journals for personal objects and purposes, and shrink from no act, however vile and depraved, to further their designs, nor any means, however corrupt, that will yield gold, even at the expense of truth, honor, or fairness, the chief object of every intelligent and honorable man editing, managing, or to any extent controlling a publication of any character, is to inform, instruct, and edify those who read, in printed form, the thoughts that flow from a pure mind. With truth and right as a bulwark, every good man who wields the pen as an editor, finds an eminent reward in the approbation of those who read his mind productions; not in a feeling of vanity that he has pleased, but in a sense of solid satisfaction at having so expressed himself as to receive approval from others, alike with himself, intelligent and well disposed.

While acknowledging personal defects and short-comings, and a lack of those marked scholarly and intellectual abilities, such as thousands in journalistic pursuits enjoy, we lay honest claim to purity of purpose in the conduct of this Journal. In no instance has there been any purpose to deceive, mislead, or misrepresent. An earnest desire to do justice to all, wrong to none, and to inform, instruct, and benefit our patrons, has been the controlling motive influencing every line from our pen or pencil.

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Delinquent Subscribers.

IT is astonishing with what cool unconcern some people permit their subscription indebtedness to journals to remain unpaid. There seems to be no sense of shame or principle of right and fair dealings with such people; true, sometimes good and honest men forget to pay small indebtednesses, and the object of this notice is to refresh the memory of such good and honest men who have not paid up, that we will very thankfully receive the amount due us, if they will kindly forward the same during the present month.

How Axes Are Made.

IN the manufacture of axes, the material passes through twelve different operations before it is ready for labeling and boxing. At first it is a rectangular piece of iron, about three-fourths of an inch thick, three and one-half inches wide, and about six inches long. The bit is of steel, and in some instances is inserted in a slit made in the iron, and in others it is drawn over the edge of the iron. There is a growing demand for axes made entirely of steel. The most important part of the process is tempering. "This is really where the axe is made," said a manufacturer. The grinding and polishing is the most laudatorio part of the process. It is here that the rough, irregular-shaped semblance of an axe is ground and polished until it is as bright as a mirror. It is said that the work will prove fatal within five years to any man who pursues it steadily. The air is filled with imperceptible dust from the stones, and many of the workmen tie small sponges saturated with water over their nostrils.

Fire Hose and Carden Hose, W. T. Y. Schenck, 256 Market Street.

Be sure to obtain the December number.
Paper Read Before the S. F. Chapter American Institute Architects, by Fellow G. H. Sanders, Nov. 5, 1886.

The President and Gentlemen: The resisting power of our building stones to vertical pressure having been at various times brought to our notice, we decided to settle the question by actual test. Finding that there was a hydraulic press at the miners' foundry, we decided to take advantage of the courtesy of the proprietors, who kindly placed the apparatus at our disposal. Through the good offices of P. H. Jackson all preparations were made, and early in the month all was ready, and the tests were made.

Having at sundry times collected a number of blocks of stone and granite and bricks of various kinds, we were enabled to test the following materials, viz.: Penryn granite, Sutro freestone, Sutro Heights stone, San Jose sandstone, Stock brick, San Jose pressed brick, Chicago pressed brick, Lincoln Hollow brick, and some ordinary concrete blocks. Unfortunately, it soon transpired that the adjustment of the press was not such as to insure anything like a crucial test, the faces of the piston and abutment block not being parallel with each other and the faces of both. But especially the abutment block, which was loosely held between two jaws of an upright stanchion piece (see diagram), was quite rough and from exposure to the air, the stone looked as though it had been used to ram and adjust the abutment block, it was impossible with such means to bring their faces into anything like parallelism. The hurry, too, with which the experiments were conducted prevented the possibility of those careful observations and abundant notes which render such experiments really valuable.

Perhaps after all the chief benefit derived from the tests was found out, in view of a future occasion, how not to do it. Nevertheless, the experiments were of a great interest. In the first place, the question of bedding occurs. Some of the blocks were crushed between pine boards, others between sheets of thick lead. The result seemed to be indifferent, in some cases the lead, and in others the pine, seeming to gain the higher results. In case a brick (the Stock brick) was bedded in cement, but the cement was not allowed sufficient time to set, so that the result was nearly nil. We believe that every specimen should be bedded between plates of planed iron in pure, soft cotton, and roughly set, prised, perhaps, a month or more beforehand, and then placed between truly planed, mathematically adjusted surfaces of the ram. Under such circumstances alone can uniform and reliable results be looked for with any confidence. Secondly, it also appears from the results which will be laid before you, that, as probably might be expected, the largest specimens give the lowest results as to the relative resistance per square inch of area. Thus a block of sandstone 3x3x3 gives a resistance of 75 tons ultimate crushing strength per square inch of area of 3,312 pounds; whereas, a block of Penryn granite 6x6x6 gives an ultimate crushing strength of 125 tons, but a resistance per square inch of surface of only 7,277 pounds. Possibly this is due to the greater difficulty of adjusting the pressure over the whole of a large surface equally, than in the case of a surface of the area. Otherwise one would suppose that the greater bulk should offer as proportionately greater a resistance.

One other point it may be well to notice, namely, the almost uniform occurrence of cracks, spalling, or other partial failure of the material; early in the process of crushing. This is no doubt due to the gradual adjustment of the blocks to the conditions of pressure brought to bear upon them, after which, every part having been brought to an equal bearing, the block is in a position to sustain the pressure until the ultimate limit of resistance is reached. On this account, granting that the surfaces of the ram and the surfaces of the least blocks can be brought to perfect adjustment, there is no doubt that, as some experimenters have found, the highest result would be reached without any intervening bedding substance whatever.

STONE TESTS.

No. 1. San Jose Sandstone.
Block 6x6x6 = area 26 inches. (Note—between sheets of lead.)
20 tons pressure on edge.
50 " " crushed—3,944 lbs., 1 inch area.

No. 2. San Jose Sandstone.
Block 6x5x6 = area 26. (Between sheets of lead.)
10 tons slightly cracked.
50 " " cracked on top.

No. 3. Miles Freestone.
6x5.6=area 33.
60 tons spalled on top.
70 " " cracked in middle.
75 " " in opening.
100 " " crushed—6,000 lbs., 1 inch area.

No. 4. Penryn Granite.
6x5x6 = area 36.
35 tons cracks on top.
105 " " more cracks.
110 " " badly cracked.
115 " " crushed.
125 " " crushed—7,727 3-11 lbs., 1 inch area.

No. 5. Sutro Heights Meteorologic Sandstone.
4x5x5 = area 16.
15 tons corner came off.
30 " " cracked on top.
55 " " in middle.
60 " " crushed—7,500 lbs., 1 inch area.

No. 6. Block of Concrete (made about Jan. 1, 1886). Composed of 2 vol. of fine gravel.
6 " " cracked—40 lbs., 1 inch area.
10 " " cracked.
20 " " crushed—2,666 lbs., 1 inch area.

No. 7. San Jose Sandstone Brick. (Placed between pine boards 3 inches thick.)
60 tons cracked.
80 " " crushed—5,000 lbs., 1 inch area.

No. 8. San Jose Sandstone Block. (Placed between lead plates.)
3x3x3.
15 tons spalled.
25 " " crushed—5,555 lbs., 1 inch area.

No. 9. San Jose Sandstone Block. (Placed between brick beds.)
4x4x4.
75 tons cracked.
75 " " crushed suddenly and completely—9,312 lbs., 1 inch area.

No. 10. 4x3x3=14 block (between pine boards.)
90 tons cracked.
40 " " crushed—5,333 lbs., 1 inch area.

No. 11. Sacramento Stock Brick (rough).
4x3x2 (between wood) = 32 inches area.
50 tons cracked.
40 " " crushed—2,500 lbs., 1 inch area.

No. 12. Peterkin's San Jose Pressed Brick.
4x7x3 = 20 inches area.
15 tons cracked.
5 " " badly cracked.
60 " " crushed—2,700 lbs., 1 inch area.

No. 13. Chicago Pressed Brick. 20 inches area.
25 " " crushed.

4x3x2 = 30 inches area.
10 tons cracked.
35 " " crushed—2,338 lbs., 1 inch area.

No. 15. Gladding McBean & Co.'s Hollow Brick.
4x3x2 = 32 inches area.
Crushed at 23 tons—156 lbs., 1 inch area.
Crushed at about 1 ton's pressure (spalling lengthwise very much in wind.)

In all cases the splitting commenced at the top of the blocks, and worse to the left side of the blocks, indicating a bed adjustment of the apparatus. The surfaces of the ram and the central block were not smooth, especially the latter, being rusty and very rough, and making a very irregular impression in the lead plates and pine boards. This fact would have to be taken into account in judgment of the respective values of the above experiments. In the stone blocks, too, it was not possible to have the surfaces crushed parallel with natural bed in all cases, the bed being in nearly all cases perpendicular to the line of pressure, the blocks and bricks in nearly all cases splitting lengthwise, and bulging up on top (morely on bottom) and spalling. One small San Jose block crushed on natural bed at the high figure of 9,312 pounds per square inch of area, being a block 4 inches square and 31 inches thick.
A Closet Shelf.

If there is anything that adds to one's comfort in an emergency, it is a closet shelf prepared for emergencies. That is clear.

Accidents, nervousness, sudden pain, midnight calls for help, people that want doing up, broken crockery or ornaments, all find a ready answer to their calls on this carefully prepared shelf.

It is so easy to prepare and keep in order, can be small or large, as one decides to confine its contents to a few things or enlarge its use. I intend to give a list for the smallest one that I think it advisable for any one to keep, be she keeping house or boarding.

First of all come the things that are to be ready for illness, sudden or otherwise.—camphor, for faintness, headache, or sudden attack of diarrhea, although, for the latter, there is nothing equal to a tablespoonful of raw flour in a glass of cold water, to be taken in two doses half an hour apart. A closely covered little box of raw flour is easily kept on the shelf, to be often renewed, lest it get musty. A small tin can of flour and mustard, mixed in equal parts, ready to make into a paste for a mustard plaster, is to me a pleasant arrangement for a hastily required mustard plaster than the "mustard leaves" ready at the drug stores. In a little box beside this can should be old linen and cotton rags, for the other half of the plaster, as well as for cuts or bruises; also a strip of flannel a "finger" broad and three-quarters of a yard long, to put upon the outside of a cotton cloth, several times folded and wet in cold water, for a compress for a sore throat. Keep your case of court plaster in this box of rags, and a spool of white linen thread, both conveniently near the necessary pair of small scissors.

Camphorated hole, which is best when made at home by dissolving phosphorus gun in warm olive oil until no more will dissolve, is invaluable for sore throats and chest, or a cold on the lungs. Rub in well, and there will be no cold taken afterwards, as there is after the old-fashioned "goose grease." Vaseline is good for this purpose also, as well as for many others that every one knows about. There is nothing, for chapped hands, equal to glycerine and tincture of hydriats, fifteen drops of the latter to an ounce of glycerine. Wash the hands in warm water thoroughly, and, before wiping, rub in a little or good deal of the mixture, according to the need.

Tannin, a dry, greenish powder, is a great comfort where a sudden severe rose-blood occurs in the family. Once snuffing it up well into the nostrils generally ends the trouble. Tannin forms, with water, a good gargle for a sore throat, as it is a healthy astringent. It is the best thing I know of for severe chafing, especially for infants. The effect is almost magical. Pond's extract of hamamelis is another indispensable for this emergency shelf. It is really good for nearly all the ill mention on the wrapper of the bottle. An excellent way to get hamamelis is by the quart, and it is the cheaper way. On principle, my emergency shelf always holds olive oil, alcohol, and ammonia. Hot summer days, and headaches, find me grateful for my bay rum bottle. I quite forgot to put arnica in my remedy list, although it is decidedly second to tincture of California for cuts or wounds. Both are to be diluted with water when used.

It is very pleasant to turn from the above list and point you to my "Perfect" mucilage bottle; that is its commercial name, and well deserved. How many times you will use it if convenient on its shelf. Next it should stand a bottle of stramon, or one of its relations in the cement family. If my head comes off, or the butter dish cover breaks in two, or your favorite china cup gets into so many bits that it will only do for an ornament after a vigorous use of the cement, you will be glad of the remedy. A bottle of shoe polish, or box of shoe paste, is a handy thing when one dresses in a hurry. Last, but not least, comes a ball of twine. If you are fortunate enough to possess a silk bag, with pretty ribbons and pair of scissors, to hold your string ball, it is delightful. Otherwise, a ball on the end of the emergency shelf will save much hunting for string, and much vexation of spirit.

It Didn't Work.

When the employees in an Indiana furniture factory, operated by a German, struck for eight hours a day, he granted it; but when they wanted ten hours' pay for eight hours' work, he called them up and said—

"My men, maybe I do ash you like. I haf an order from Shoppage for ten dozen shaires. I will sheep him eight dozen, and bill him for ten. If he don't kick in me, it shows me dot der rule works both ways and we vhas all right."

It is needless to add that the idea didn't work; and that his men are receiving eight hours' pay.

Back bound volumes of this Journal sent to any address upon receipt of $2.00.
The plans for a City Residence.

The accompanying plans were adopted by a gentleman in this city whose principal design seemed to be the comfort of his family, with due regard to modern conveniences. He evidently found favor with the rule, "We must begin by observing what has already pleased, if we wish to judge rightly as to what will please in any future production."

The first floor contains a large parlor, connected with a library by sliding doors. In close proximity is a spacious dining-room, with place for sideboard, and an ample butter's pantry, with sink, lockers, cupboard, shelves, etc. The pantry is in direct communication with the kitchen, a large, well-lighted, and ventilated room. From the kitchen access is easily gained to the basement by means of the rear stairs shown, and also to the yard, and to a comfortable servant's bedroom.

The second floor contains five good-sized bedrooms, all amply supplied with closets. Special pains has been taken in the plans shown to have a place for each and every article of furniture necessary to a bedroom. It will be noticed that in each of the upper and lower halls there is shown a door, placed so that all draughts can be shut off between the front and rear stairs. No cornices are shown, these being left to the consideration of those who desire to use, as a model, the plans shown in our engravings.

To find the sides of an eight-sided polygon, draw the square A B O D, and join D B. From D as a center, with D A as a radius, describe an arc, cutting D B in E. Then E B equals the side of polygon, and E F D equals the angle to mitre the sides.

By the use of the square to mitre the sides, place the square with E D on the blade, and E B on the tongue; mark from the latter for the angle required.

By calculation—let E D equal 18x18 inches, equal 324 plus 324 inches, equal 648 inches, square root of which is 25.4558 inches, minus 18 inches, equals 7.4588 inches, or 7 and 7/16ths inches equal E B. By proportion—7.4558 inches : 18 inches = 7.5 inches; 7.5x18 inches equals 135 inches; divided by 7.4558 inches equal 18.1067 inches, or 23 and 3/32 inches equal E D.
Christmas Presents to Mechanics.

We have on hand the largest assortment of mechanical and scientific works to be found in California. These we are determined to close out, as by the beginning of the year, a new management will assume control of this Journal. We publish below a list of works now on hand, with the publisher's price. TO ALL PURCHASERS WE WILL ALLOW A DISCOUNT OF FIFTEEN PER CENT. Select any work from the list. DEDUCT ONE-SEVENTH OF THE PRICE. Forward the money to this office, and by return mail you will receive the book.

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WIVES OF MECHANICS SHOULD ORDER SOME OF THE ABOVE FOR PRESENTS TO THEIR HUSBANDS.

NOTICE PARTICULARLY OUR OFFER. Select any number of Books from list; DEDUCT ONE-SEVENTH of the Price; forward the money to this office, and the books will be sent by return mail.

Remember also that until January 15, 1887, we will forward any book printed at the same reduction, provided any one of above books is contained in order.

Back Bound Volumes of this Journal from 1880 to 1885 will be sent to any address, upon receipt of TWO DOLLARS.

We pay postage on all books ordered from this office.
A Country Villa.

Lath do not make a very good showing, it is said, on the average dealer’s books. There is no profit in them. The handling costs too much in proportion to the quantity and value of the stock turned over. Practically there is as much labor expended in moving a bundle of lath as there is a bunch of shingles, which is worth several times as much. No one ever saw a lumber-shover wrestling with more than one bundle of lath at a time, and though it is a small load, he makes out that it shall be a full one. The margin of twenty-five to thirty-five cents which there is in this item for the dealer, does not cover the expense of handling through the yard, and in consequence the lath account usually shows a balance on the wrong side. But yards must keep them, whether they pay or not. They are like a good many of the small notions that many kinds of retail merchants are obliged to handle; there is no money in them, but they must be kept and sold just the same, because the buyer demands that he shall be accommodated to that extent.—Ex.

An Octagon by the Use of the Square.

Along the face of the “tongue” will be noticed two parallel lines, with a row of dots interspersed with figures, between them. The figures simply show that the dots are numbered by tens. This is known as the “eight square,” or octagonal scale. This scale is based upon the fact that each face of a regular octagonal scale is almost exactly five-twelfths of its shortest diameter.

In using the scale, the timber is first squared to the diameter desired for the octagon, and a line drawn from the center of each face to the center of the opposite face; then, with the dividers, as many spaces of the scale are taken as there are inches in the diameter of the timber, and the distance thus obtained is set off each way from the center line upon each face, which gives the position of the angles of the octagon.

A Country Villa. (Continued)

The elevation and plans here presented will convey to those intending to build an idea of how a comfortable, picturesque building should be erected. We are prepared to furnish the plans for this or any other kind of a dwelling, in any part of California.

A consideration in the use of stone for important buildings is that of having it quarried, stored, and seasoned for some time before being hewn and placed in the walls. By these means the natural sap is allowed to evaporate, and the stone tested as to its quality. This would add to the cost, but the money would be well spent if this precaution prevented the wasting of stones from the rains, frosts, or atmospheric influences, which, especially in our cities, soon act on the surface of a newly quarried stone. Stone that is quarried one day and built the next is in a green state, and unfit for use. It is not in condition—it is at its weakest—and its pores are ready to absorb not only moisture, but the gases and disfiguring influences which tend to its destruction. Every lover knows that to get a polish on a stone that has lain for some time is very different from what he gets on one fresh from the quarry, and this of itself should be sufficient to warrant the precaution recommended, which is to thoroughly season the stone before using it.

How to Lay off an Octagon.

If the timber is not square, mark off the largest square that can be formed. Draw a line from corner to corner, as A B. Mark the distance of one side of the square, as A D, on the diagonal A B, at C. Draw C K parallel to E B. Set a gauge to B K, and run this distance on all four sides of the square. Work off the corners, and a perfect octagon will be formed.

New Motion to a Grindstone.

An improvement in the driving of grinding stones and emery wheels is that by which the wheel is given a reciprocating motion in addition to its rotation. Every one has noticed the advantage of moving a tool from side to side on a hard grindstone so as to equalize the attrition on the different parts of the edge. It is found that by making the grindstone move and keeping the tool still a more perfect result is attained, while the detached particles of steel have an opportunity to drop off the grindstone instead of being crushed into it, and the wear of the stone and the heating of the tool are both greatly diminished.

A piece of iron rolled in the new Falcon Mills at Niles the other day is as thin as a sheet of ordinary paper. It would take 150 sheets to constitute one inch in thickness. The mill made this piece just to see how thin they could roll.
A Country Cottage.

The accompanying plan will suggest a few ideas to those seeking for the elevation of a country cottage, who desire beauty combined with distinctive features, at a low cost.

Priming for Wood, Paper, Lime, or Hard Plaster Walls.

A SUPERIOR priming for these purposes, which, it is claimed by the inventor, Herr Kall, of Heidelberg, is cheaper than linseed oil, and closes the pores so perfectly that least paint is required than with oil and red lead. Priming cost is thus described: The substitute used for boiled oil consists of ten parts of boiled blood, as furnished by the slaughter-houses, with one part of air-slacked lime sifted into it through fine sieve. The two having been well mixed, are left standing for twenty-four hours. The sem that collects on top is cleared off, and the solid portion is broken off from the bin at the bottom; the latter is stirred up with water, left to settle, and the water poured off after the lime has settled. The clear liquid is well mixed up with the solid substance before mentioned. The mass is left standing for ten or twelve days, after which a solution of potash permanganate is added, which decolorizes it and prevents putrefaction. The mixture is then stirred up, diluted with more water to give it the consistence of very thin size, filtered, and then a few drops of oil of lavender added. The preparation, if pressed in closed vessels, keeps a long time without change. A single cost will suffice for priming.

How to Square a Circle.

To square the circle . . . to find the circumference when the radius is given, and for effecting this it is necessary to know the ratio of the diameter to the circumference.

To find the circumference when the radius is given geometrically:—Fig. 1. Let C S equal the radius; from the points C and S as centers, describe the circle and arc C D; tangent to the arc and circle draw D P. Join S P; at right angles to S P draw L, M tangent to the arc C D; and M J equal M L parallel to S P. Then D J equals one-fourth (\( \frac{1}{4} \)) of the circumference of the circle, and S J equals the side of a square equal in area to the area of the circle.

To find the ratio of the diameter to the circumference:—Divide S B, the diameter, into fourteen equal parts, eleven of the parts equal C D, or one-fourth of the circumference, multiplied by four equals forty-four, divided by two equals twenty-two; fourteen divided by two equals seven; equal to seven twenty-seCONDS, the ratio required.

The Law as to Party Walls.

A PARTY wall is the wall dividing lands of different proprietors, used in common for the support of structures on both sides. At common law an owner who erects a wall for his own buildings which is capable of being used by an adjoining proprietor, cannot compel such proprietor, when he shall build next to it, to pay for any portion of the cost of such wall. On the other hand, the adjoining proprietor has no right to make any use of such wall without the consent of the owner, and the consequences may be the erection of two walls side by side, when one would answer all purposes.

This convenience is often assured by an agreement to erect a wall for common use, one-half on each other's land, the parties to divide the expense; if only one is to build at the time, he gets a return from the other party of half of what it costs him. Under such an agreement, each has an easement in the land of the other while the wall stands, and this accompanies the title in sales and descent. But if the wall is destroyed by decay or accident, the easement is gone, unless by a deed such contingency is provided for.

Repairs to party walls are to be borne equally, but if one has occasion to strengthen or improve them for a more extensive building than was at first contemplated, he cannot compel the other to divide the expense with him. In some States there are statutes regulating the rights in party walls, and one may undoubtedly acquire rights by prescription on a wall built by another, which he has long been allowed to use for the support of his own structure.

A plumber was sent to the house of a wealthy stock-broker to execute some repairs. He was taken by the better into the dining-room, and was beginning his work, when the lady of the house entered. "John," said she, with a conspicuous glance toward the plumber, "remove the silver from the sideboard and lock it up at once." But the man of lead was in no wise disconcerted. "Tom," said he to his apprentice, who accompanied him, "take my watch and my chain, and these copper, home to my wife at once. There seems to be dishonest people about this house."

Business Manager of Architect: What is the rule for finding the length of braces between two posts, when they incline one foot in six feet rise?

The cut represents a frame, the posts of which incline one foot in six feet rise. Let the distance B B represent seven feet. The braces are run at an angle of 45°. The post inclining one foot in six, leaves the distance at A A six feet. We have given the rule in a previous number. In this case the brace would be 8 ft. 5 13/16 inches.

Permanent and Unwashable Colors on Walls.

A METHOD of applying paint to a wall so as to secure the greatest possible permanency, is to have the wall coated with mortar composed of lime and sand, and to throw over it a very weak wash of water with which potash silicate is mixed; then proceed to paint, and syringe the surface with a strong solution of the potash silicate. There are, however, a number of colors to be avoided in this process, among which are calcium yellow, Naples yellow, baryta chrome, chrome-red, ultramarine, cobalt blue and green, chrome green, ivory black, also lime carbonate, baryta white, and zinc white, as the alkali would injure some of these and destroy others. The pigments should be mixed with potash silicate. The latter should be applied warm on the painted surface.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

Does Charring Timber Promote Durability?

The general belief has long been that it does, and in accordance with this conviction the practice has been widely followed. But a contrary view of the subject is taken by Wood and Iron. That journal says in a recent issue: "As charcoal would endure for ages in places where timber would decay speedily, the practice of charring the surface of fence posts and other timber has been repeatedly recommended in books and ephemeral publications, as eminently worthy of universal adoption.

"The theory upon which such a recommendation is based would seem to warrant a confident expectation of satisfactory results in practice; but repeated experiments with charred timber have furnished conclusive assurance that the process will not prolong its durability. Indeed, numerous experiments have shown that charring promotes premature decay. Two posts split from the same log may be set side by side in the ground, the surface of one being charred and the other not; and it will be seen that the charred post will perish before the other.

"The same is true of railroad ties, and all such timber as may be exposed to the altering influences of wet and heat. Could the entire timber be changed from its perishable condition to a solid piece of charcoal, the durability would be promoted to a surprising length of time; but the strength of the material would be destroyed. When fence posts or other sticks of timber are exposed to the rapid action of wet and heat, the surface will decay first. One might suppose, therefore, that when timber is enveloped by a layer of charcoal, the durability of the entire piece would be greatly promoted. And such would be the case were it not for the fact that the charcoal is not imperious to water; and as water reaches the timber below the charred surface, decay will commence soon after the grain of the wood has been exposed to the influences of the weather. When the change has begun beneath the charred surface, the dumpy covering of coal will be of no service whatever in preserving any portion of the wood. Taking this practical view of the subject, it will be perceived that if only half an inch of the outside of a post be charred, the post will not endure so long as if the same thickness of wood has been left uncharred, to waste away by slow decay.

"Two or the largest castings in the world are to be seen at Nara and Kamakura, Japan, the one at the latter place being 47 feet high, and the other, at Nara, being 53 1/2 feet from the base to the crown of its head. The statue at Nara is supposed to have been erected in the eighth century, but it was destroyed and recast about 700 years since. In endeavoring to recast it several mishaps occurred, and when last success came, some few thousand tons of charcoal had been used. The casting, which is an alloy of iron, gold, tin, and copper, is estimated to weigh 150 tons.

A Southern writer furnishes this bit of history. The first doors of St. Peter's Church at Rome were made of cypress. They gave way to the bronze doors afterward being in use 100 years, and are as sound as when placed in the building. The boxes in which mummies are found are made of this imperishable wood.

All the cannon foundries of Europe are overrun with orders and working day and night. While they make guns abroad, we make plows and work to raise the food that must support the luxury of war.

Notice Our Holiday Offer on Page 161.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

ART AND ARCHITECTURE.

[Special for this Journal. By F. Sturtevant, Architect and Mechanical Engineer.]

XXXIV. GRADES OF DEVELOPMENT IN ART.

The figure three has evidently a privileged signification in all relation of men and of nature. Was to be and to pass away.

Beginning, middle, and end designate simple forms of those relations whose changes, expansions, and exaggerations are easy, as if self-evident seen, it there only may be remembered, that in the religions of nations being more capable of civilization, or of people more advanced, Trinity appears on the main in Lens, Poeschon, and Hades in the India; Trinity in Brahmas, Siva, and Vishna, up to the unied Trinity of the Christian church. This third partition is also, in the development of the arts, of the largest signification, and her close observation makes amazingly more easy the comprehension of the works of art. Germinate, green, and fade are here also the three kinds of appearances, which show themselves and are recognized at the front step, the flourishing and the declining decaying.

XXXV. FRONT STEP.

By the observation of the spirit of a work of art was the sense, purport, and the form of the same drawn in closer perception, and regard, and set up, the perfect harmony of both leading to the highest beauty. But before man arrived to the same with his work, generations must toil and trouble hundreds and thousands of years to prepare the means for him, that he can find a truly worthy means and purport, to possess a full comprehension of form, and to overcome all hindrances and obstacles successfully in forming the same.

In the petty insignificant beginnings of art the crude predominated first, and the struggle with the resisting material and with his own unskilfulness And even then the human heart just then desired at this grade of culture a visible representation of the most difficult, "divinity" Already many times it has been stated before, that such a desire leads to symbolizing; that is, to a kind of representation, by which something not lying directly in the form should be indicated by the same or certain other signs. She is called the symbolic grade, or, also, since she always desired to bring up a divine holy spirit, the hieratic symbolic grade.

She embraces the art of all barbarous people, those of the Greek to Peodias and his time, and of the Christian nations up to Raphael and his time. She also embraces a great and powerful time and an unmanipulable treasure of works of art and monuments.

The only particular characteristic of all works of this fore grade is, that the spirit overreached the form; that is, that the technical means for its representations were insufficient, and, therefore, partly, as if it were, had to be guessed at. The master of such works thought deeper and felt clearer, as he was able to express, finding the only fitting form insufficient. there remained some of that, which he intended to put in his work, back, which could not be brought direct to view and appearance, but anyway so that it was not altogether without an indication, height of a general historical culture, a striving after knowledge, a craving after liberty, and those conditions are the times of birth of great artistic genius. In full equilibrium and noble harmony set itself in the works of the same, the spiritual and the bodily. Meaning and form correspond perfectly to each
other, and a pure beauty displays itself before the amazed eyes of our own time and the admiring posterity. There is nothing symbolic, nothing which lived in the artist's pre
ceved, and did not obtain expression, and was made visible. In no line, in no motion, is something which has not directly a spiritual signification and expression. Nowhere is there a too much or a too little, there is complete conformity with which the spiritual lives in the appearances, and the form finds its signification and meaning.

As in the highest sense only one beauty exists, we would probably conclude that the highest works of art could only be of our own time and the admiring posterity. There is nothing symbolic, nothing which lived in the artist's presence, and did not obtain expression, and was made visible. In no line, in no motion, is something which has not directly a spiritual signification and expression. Nowhere is there a too much or a too little, there is complete conformity with which the spiritual lives in the appearances, and the form finds its signification and meaning.

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The Strongest Brick Walling.

A BRICK of average quality requires a pressure of from 600 to 2,000 pounds and upwards per square inch to crush it, the figures varying in different descriptions of bricks, and being as high as 4,200 pounds in some cases. Brick walls and brick piers, if properly built, will bear very heavy weights, as will be seen from these figures. The strength of a wall is not dependent, however, upon the strength of its bricks alone, but upon three distinct conditions: (1) the manner in which the bricks are arranged; (2) the strength of the mortar, and (3) the strength of the bricks. Each condition is of considerable moment, and, considering that brick-work is rarely weighed with a load even approaching one of its crushing weight, it is obvious that the first and second conditions are of the greatest importance.

The object of mortar in a wall is simply to form an adhesive material between the bricks of which the wall is composed. It has two functions beyond that. Good mortar is not only as strong as good brick, and the mortar joints should, therefore, be kept as thin as is consistent with the perfect adhesion of the bricks. The current custom of making thick mortar joints has the effect of considerably weakening the brick-work, and should be discouraged.

One of the strongest forms of bonding in brick walls, it is known as "English bond," in which the bricks are arranged in alternate courses of headers and stretchers. The small amount of cutting required, the avoidance of two vertical joints over one another, and the large number of headers in the wall render it very strong and suitable for heavy work; in fact, English bond, if properly carried out, conforms very nearly indeed, to all the requirements of good bonding.

In thick walls of heavy buildings, such as warehouses and structures of the same class, the strength of the bond may be improved, to some extent, by arranging every fourth course of bricks diagonally, forming what is sometimes termed "diagonal bond." The advantage is that a lap of four, instead of two inches, is obtained. The elevation of this bond is the same as that of ordinary English bond. The header courses are the ordinary header courses of English bond, arranged alternately with stretchers and diagonal courses. The diagonal courses are arranged alternately in opposite directions. One disadvantage of this arrangement of the bricks at an angle, is the fact of its leaving small triangular spaces on each side, which tend, to some extent, to weaken the wall. These spaces could, however, be carefully filled in, with pieces of brick, and not be allowed to be left simply filled in with mortar.

The output of a Swiss watchmaker is 40 watches a year; a United States mechanic, 150; and the American earns in his skilled line of labor three times as much as his Swiss competitor.

Take any saw running constantly in one direction, and after having made 10,000,000 revolutions, examine its particles at a newly broken surface with a microscope, and it will be found that every molecule of iron composing that saw has been displaced.

The total cost of the Riel Rebellion in the Northwest Terri
ory was $4,700,000, and the casualties 20 killed and 206 wounded.

November 15, 1886.] THE CALIFORNIA ARCHITECT AND BUILDING NEWS. 167
The Carpet Beetle.

The rapid increase of these insects, and the great destruction of carpets and wooden clothes which they occasion, make it of importance that every housewife be informed as to their history, appearance, and the remedies for preventing and getting rid of the pests. The Zoological Department of the Agricultural College of Michigan has recently issued a very complete bulletin concerning these insects, from which we quote the following paragraphs:

"The carpet beetle belongs to the family Dermestidae, and is closely related to Dermestes lardarius, the bacon beetle, which thrives upon dried insects and other museum specimens, as well as most kinds of animal tissue. It is a minute but handsome beetle only one-eighth of an inch long, and about two-thirds as broad as long. The main color is black, while a dorsal red line extends longitudinally, bordering each wing-cover internally, and is marked by three projections on each wing-cover. Opposite these red projections on the outside of each wing-cover are three white spots. This handsome little pest will be found in concealed places from October till the following spring. As the beetle does not eat, no harm will be done by the insect while in this stage, except as in egg laying it prepares for future mischief.

"The larva—the real mischief maker—is about one-half longer than the beetle. It is ringed with light and darker brown bands, and the body is margined with tufts of brown hairs. These are very long at the ends of the body, and at the front obscure the head. Similar shorter hair clothes the whole body. The ringed and hairy character makes it easy to identify this larva.

"When the larva is fully developed, usually late in July and August, it seeks some concealed place, as the crevice between the boards of the floor, where it changes to a pupa. Sometimes before the full change to the pupa is made, the larva skin breaks open. These pupae, which will be seen from July to October, and even later, are quiet, and so of course do no damage while in this state.

"We see, then, that the injury from the carpet beetle comes through the larva, and is most marked in June, July, and August, when the larve are most numerous and abundant. The fact, however, that beetles are emerging from the pupa state from October till the following spring, together with the artificial conditions of heated rooms, will undoubtedly, as has been the case with the clothes and carpet moths, vary their habits in this respect, so that very likely in our rooms that are always kept warm, development may be hastened, and the insect may become even double brooded, so that quite possibly we may find the larvae feeding at all seasons.

"The fact of the rapid increase of these insects, and the terrible destructiveness which attends an infestation by them, make it imperative that we find a remedy for this evil, or else abandon the luxury of carpets, not to speak of woolen garments. Cases are known where the insects have taken entire possession of houses from basement to garret, in a year or two's absence of the owner, and have destroyed or seriously injured all woolen belongings, even to the picture cords. Its small size, fearful destructiveness, and its power to resist insecticides make it a terrible pest; and wisdom urges that all learn to detect it so as to stamp it out upon its first arrival.

"Experience shows that it first attacks carpets, and there is where we may look for an assault. Like the well-known carpet moth, Tinea tepotella, it works first and most at the borders of the carpet.

"I should recommend the ironing of wet clothes placed over the affected part of the carpet, using flat-irons that are very hot. The clothes may be two or three thicknesses of common toweling, wrung out of water just so they will not drip, then ironed dry. To secure the best results, one ought to have a dozen or more of irons. I have found that this, thoroughly done, is most deadly to the carpet moth larve, and surely the intensely heated steam penetrating every fiber of the carpet, and to every crevice of the floor, must sound the knell of every larval carpet beetle that feels its deadly presence. I have tried this on delicately tinted carpets, and while it was delightfully efficient in destroying insects, it did no injury whatever to the carpet. The only caution here, then, is to make thorough work: be sure of a full head of steam!"

The privy vault, which for the most part cannot be dispensed with in localities which are not watered, and have no regular water supply, is commanding considerable attention just now when sanitary surroundings are so much sought after. Various theories as to the best mode of construction are being advanced, proper regard being had for the safety of wells contiguous thereto, so as to guard against their pollution, and while each plan suggested from time to time may have its merits, it is worth while to consider one which was offered at the late Master Plumbers' National Convention, and which, from its simplicity and cleanliness, must commend itself to general approval. It was in treating the subject of "The Danger of the Privy Vault," in an essay prepared by a member of the Baltimore Master Plumbers' Association, that the best substitute for the privy vault came up for consideration, when the following was offered: Instead of making under the privy seat, in country places, for instance, the usual excavation, the essayist recommends that there should be a strong galvanized iron box made to fit under the seat into which everything could fall. The back or sides of the privy house should be so constructed that when full the box could be drawn out and emptied. Before being put in position, dry earth or ashes to the depth of about four inches should be placed in the bottom, and in the privy there should be a box, with either ashes or earth, a little to be sprinkled over the box, under the seat, whenever used. One effect of such an arrangement would be that the contents of the box would serve as a fertilizer, while the main object, that of keeping the air and the soil free from pollution, would be fully secured.

In Ireland the total number of land-holders is 68,716, and of these 36,141 own less than one acre of ground.

Please Make Immediate Settlement.

As an entire change in the management of this Journal is likely to occur at an early day, those who are indebted to us will greatly oblige.

By Making Prompt Payment.

Do not hold off because you may for a time, but pay up at once and remove the obligation. It is our due and your duty.
Clear.

T. & G. Flooring, 1 x 6.

Firewood.

D.

No. 2.

Stepping.

No. 2.

Furring, 1 x 2.

Rough, Rough.

Boiled Rustic.

Pioneer Smaller.

Rough Pointed.

Clear.

The Square.

No. 2.

Surface.

No. 2.

Redwood, 3 in. and over, 15 ft. and over.

No. 2.

Redwood, 7 in 5 ft.

7 to 11 ft.

under 7 ft.

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In our December issue we will publish complete a list of those who are in arrears for subscriptions to this journal. Avoid publicity by sending us the amount of your indebtedness immediately.

A brief but forcible sermon is preached by the Builder and Woodworker, of New York, on the morality of home decoration. It argues that every improvement in the house is an improvement in morality. The efforts to acquire, to maintain, and to improve it are a daily, life-long schooling in morality, and in the train of these virtues, and akin to them, comes the sense of the beautiful.

The house, the home, is one's own, is as potent as it is simple and unfauling in working these humanizing effects. We see evidences of this in what remains to us of the domestic architecture of the Middle Ages. Men then bestowed much thought on the designing and decoration of their houses, because they were their own.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.
The Havens; Two-story Laherty; C. Albert Treat. [Vol. VIII, p. 62, 1900.]

Carson; H. H. H. & Additions. $2,000.00.
Architects, Turk; possessing open N. Bruns, (one-half)

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Mission, or Potter, Additions. O.— Mrs. M. Zimmerman.
Architects, Turk; $1,500.00.

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Post, bet. Depot and Stockton. Four-

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A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns every house into a sanitarium, and is an assurance to those who trust it, that neither sewer gas nor noxious vapors that invade our houses with disease and death, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! It has no "overflow," rendering it a positive seal against sewer gas and rending the whole house uninhabitable.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," &c., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus rendering to superfluous amounts that escape unused by other closets, in order that their cumbersome and inefficient machinery may inefficiently execute what has been ill-conceived.

It is Scientific. Its action is governed by principles, and under all degrees of pressure it works the same. A bank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "soil" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds its bowl water as pure as when it left its font. It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish its end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

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As a scavenger it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape it in a continuous stream, or for any length of time.


It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

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This Chimney consists of the following parts: A smoke flue A, of fire clay, in 5 feet length, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet length also, and the whole is bound together and secured to the standing by iron bands C every four feet.

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the fumes pass through and between the joints to conduct by a small conductor G with the above mentioned air space.

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This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

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This hopper is constructed to take 2-3/4 inch pipes, one to the right and one to the left and a 4-inch lead in the center. It has also a movable strainer on top to take the excess water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swing, therefore it will emit either position of pipe. This hopper can be used only for sewer, or for waste, or for lead; either inlet will be stopped up with iron caps if not desired.

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THIS VENTILATOR is especially valuable for regulating draft (upwards and downwards) made by the light, unstable atmosphere of the Coast Range of Mountains. The hundreds of tall stovetops erected on the chimney tops of houses indicate inconvenience and trouble in the kitchen, the parlor, and chambers below.

SAN FRANCISCO, October 26, 1885.

To whom it may concern:

I take pleasure in stating that the "None Such" Chimney Top and Ventilator, which was put upon the smoke-stack of the Baldwin Hotel about two months ago, has given complete satisfaction.

It has increased the draft to such an extent that there is a perceptible saving in the amount of coal consumed; smaller fires than heretofore will now answer to keep up the steam, thus reducing the cost of fuel. We have breweries, large and small, and we have noticed a great saving in the amount of fuel consumed through the use of the "None Such." None has ever given such satisfaction as the "None Such." None is the description, and the lack of draft, all of which is now remedied by the use of the "None Such." Chimney Top and Ventilator. I hereby recommend its use to all persons where a strong draft is required.

PERSHON & ARNOLD.

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JOB WORK IN ALL ITS BRANCHES.

Burr's NEW WASTE PIPE HOPPER, For the NEW PLUMBING LAW.

Burr's New Waste Pipe Hopper is the only receiver for Waste Pipes which prevents those disagreeable smells and odors which are caused by the old type of trap. The outlet is closed by a card which can be easily removed.

Burr's New Waste Pipe Hopper is made in two sizes, one for all waste pipes up to 3 inches, and the other for larger sizes. A trap is furnished with the Burr's New Waste Pipe Hopper, and it is recommended for its superiority. Send for Circular.

Burr's WEATHER STRIP, Harsha's Patent.

This hood protects the pipe and makes it look neat; the front is open, making it an open trap Hopper. It has a 2 and 4-inch outlet.

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Ives' Patent Door Bolts apply wholly with a bit, and are a greater protection than ordinary locks or bolts afford. Ives Patent Sash Locks and Door Bolts are protected by nine letters patent, and are manufactured in over forty styles of finish.

One Sample only! Ives Patent Sash Lock, mailed post-paid to any Carpenter sending his address, with 12 cts. in stamps, illustrated price-lists, showing forty-six styles of goods, mailed free.

H. B. IVES & CO.,

Solo Manufacturers and Patentees, New Haven, Conn.

Ives Patent Sash Locks and Door Bolts, sold by all dealers in Hardware.

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**Norris' Window Pulley Mortising Machine and Pulley.**

**CAPACITY:**

Nine Mortises Per Minute.

The Norris Machine and Pulley is used by nearly all the Leading Sash, Door, and Blind Manufacturers of the following Cities:

- NASHUA, New Hampshire, and BURLINGTON, Vermont: BOSTON, Massachusetts; WATERBURY, Connecticut; CAMBRIDGE, Massachusetts; LOWELL, Massachusetts; WORCESTER, Massachusetts; HORTON, Massachusetts; LAWRENCE, Massachusetts; NEW YORK, New York; BUFFALO, New York; BURLINGTON, New York; PHILADELPHIA, Pennsylvania; CAMBRIDGE, Massachusetts; HARTFORD, Connecticut; PITTSBURG, Pennsylvania; GLEN ROCK, Pennsylvania; BAINBRIDGE, New York; PRATTVILLE, Arkansas;breadcrumbs, Baltimore, Maryland; EVANSVILLE, Indiana; PRATTVILLE, Alabama; GALVESTON, Texas; HOUSTON, Texas; COLUMBUS, Ohio; CHATTANOOGA, Tennessee; RICHMOND, Virginia; Lynchburg, Virginia; CLINTON, Iowa; PORT DEPOSIT, Maryland; PUEBLO, Kentucky; BURLINGTON, Kentucky.

You positively cannot afford to do without the NRORRIS PULLEY AND MORTISHER. It is the only machine made that will mortise for every kind of Pulley. No difficulty in starting machine, nor altering of edges of bits; nothing to get out of repair. It is a heavy, solid, substantial machine, built for work, and we guarantee it to do five times the work of any other Pulley Machine. It does not require any skilled labor to run, no leach fasteners to wear out the bolts. In fact, it is proporcioned by all, and is necessary the only machine for Mortising Pulleys. Our Pulleys are the strongest and best made in the country. We make 600 different qualities, and if any other style of pulley is given to you it would not pay to use it. We refer you to the leading Sash, Door, and Blind Manufacturers of the entire country. Information and samples sent on application. Very respectfully yours,

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ON PAGE 9.

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Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements invited at reasonable rates.

SAN FRANCISCO, CAL., JANUARY 10, 1887.

Our patrons are informed that C. L. Crabbe has no connection whatever with this journal. He is not authorized to make any collections, or receive either subscriptions or advertisements.

Bound Volumes of the year 1886 are now ready. We will forward a copy to any address upon receipt of $2.50.

HAND IN OR SEND
Your Subscriptions for 1887

To those who so promptly responded to our request for immediate settlement of subscription and advertising balances,

WE SAY, THANK YOU.

To those against whose names remain unpaid balances, we say,

PLEASE PAY UP AT ONCE.

Remembering that—Defrauding an editor is considered one of the meanest kinds of peculation; that—'Honest men are the gentlemen of nature;' that—'The man who lapses in his honesty, lacks but little of the rogue;' that—'A rogue in spirit is a rogue in gain.'

Therefore,—Let every one who receives or reads this journal, forthwith forward to this office, its subscription price for 1887, and any and all unpaid indebtedness.

The Outlook for 1887.

It is promising. True, the natural tendencies of the human mind, hopes and desires, are to anticipate and prognosticate continuance of good things, and to grasp after every appearance or indication of better; and often, the mere "wish being father to the thought," induces prophesying and predictions which have no other foundation than the desire that the thing predicted may be realized and enjoyed. False hopes are often stimulated by unreal appearances, which, logically and intelligently considered, fail of any reasonably well assured probability; hence people frequently deceive themselves, and venture out upon the merest crust of prospect, beneath which may lie almost fathomless depths of disappointment.

Fully impressed with the correctness of the suggestions made, we glance cautiously at the impenetrable future, and as far as it mysteries can be judged by the appearances and indications possible of utilization, we feel well prepared in saying that the building business in San Francisco will be good during the year 1887. There are signs of encouragement in all directions, and it is safe to anticipate large activities in building improvements.

An Effort in the Right Direction.

The responsible and better class of carpenter contractors in San Francisco, have for a considerable time, maintained an organization designed to remedy the many gross and glaring irregularities, an evil long existing in the building trade. And as we understand it, while the objects and purposes of the society are mutual protection and individual rights and interests, they are claimed upon rational, intelligent, just, and equitable grounds.

To say that the building, particularly the carpenter contracting, business, has, in the main, been run loosely in San Francisco during the past three decades or more, commencing in the early periods of this city's history, and at times since becoming most deplorably bad, with failure succeeding failure, followed by protracted settlements, and discredit upon an honorable business, does not fully express the state of things that has been. The object of the organization is, to arrive at right understandings as between owners and contractors, and the establishment of such practices as will be impartially just between all parties. Owners and contractors have respective equal rights and responsibilities. Neither should seek nor wish to gain undue advantage. But the fact must be admitted that the man who does honest work and pays his bills, one hundred cents on every dollar, stands but little chance in competition with those who satisfy the buyers of workmanship, and settle their indebtedness at ninety or perhaps ten percent on the dollar. And it must also be admitted that it is a most provoking and distressing attitude for men of integrity to be forced to Occupy, to silently witness their chosen life avocation demoralized and abused, and the once honorable distinction of "honest mechanic," besmeared with the filth and foulness of men enjoying but limply, or not at all, mechanical knowledge, to an extent entitling them to recognition as "skillful workmen," and whose honesty of purposes and practices are ever contingent upon the uncertainties of either their defective or design: judgments, with no care for the often damaging results that follow.

Any number of right thinking men who can combine and bring into practice methods and procedures which will abate the evils that have been and are in the building business, and bring about a bettered and improved condition of things, deserves commendation; and we hope that a generous and just disposition will be exercised by all in interest—contractors, architects, and owners alike—each of whom, being just and honest in every intent and purpose, should have but one common sentiment in reference to matters so plain of understanding as those involved in the erection of buildings.

Meeting of the S. F. Chapter.

The regular monthly session of the Chapter was held on the 7th inst, President A. Fissis presiding, B. E. Henrickson, Secretary.

Minutes of previous meeting read and approved. Mr. Sanders on behalf of the Committee on Classes, read an interesting paper in San Francisco in relation to the progress of the class work, and the necessity for increased facilities in the shape of a convenient room for class meetings, as well as a permanent place—a headquarters for the Chapter. Mr. Sanders read the paper with much earnestness, and expressed the hope that ere long there would be that current of action applied, which would secure all that is necessary to make both the class work and the Chapter grand successes. The report was adopted and ordered spread upon the minutes.

The committee on the application of Arthur M. Squires, for student membership, reported favorably, and the candidate was elected. The appointment of a committee to confer with the Board of Freeholders, in reference to a Board of Public Works and a
City Engineer was suggested, and a committee of three, consisting of Mr. John Wright, James E. Wolfe, and J. Gash was appointed for the purpose.

A committee of three—James E. Wolfe, T. J. Welsh, and J. Gash was appointed to consult with a like committee from the Builders' Association of California, in reference to amendments to the Mechanic's Lien Law.

A general discussion of the Lien Law ensued, and some of its many objectionable features reviewed, showing its inequities and uncertainties, and its ill expressed intents, meanings, and applications.

The reading of a paper on ancient and modern plumbing was deferred until the February meeting.

Building Summary for January.

Considering the dull period through which this city has been passing, the statement for the current month is very satisfactory, exceeding in amount any similar period on record. Our country building interests are looking up very finely, and a great deal of work is assured to mechanics during the coming year.

In January, 1885, we reported in this journal,

73 Building Engagements, of the value of $602,585.

In January, 1886,

79 Building Engagements, of the value of $623,250.

In January, 1887,

Eleven brick buildings $475,000
Forty frame " 160,200
Eight additions, etc. 15,500
Making a total for January, 1887, of

59 Building Engagements of the value of $650,750.

COUNTRY BUILDING ITEMS.

We call especial attention to our list of improvements in every portion of the Pacific slope.

"Carpenters' Steel Square and Its Uses."

We have just received a large consignment of this practical work for mechanics, and upon receipt of $1.00 will forward a copy to any address.

NOW IS THE TIME TO SUBSCRIBE FOR 1887, $2.00 PER ANNUM, IN ADVANCE.
Conveniently Arranged Country Home.

On page 2 we present the elevation, and on page 3 the plan, for a very desirable and well arranged country or suburban home. The elevation is one that will attract attention from its neatness and simplicity. It is especially designed to do away with all fancy outside work. The plan is admirably adapted for a home in the country where variations of temperature occur. A perfect system of ventilation can be had through the various parts of the house. In case of a hot spell, there is room enough on the side porch for a table, so the occupants can dine in the cool.

The bath-room is handy of access from several rooms, as well as being in easy communication with the outside porch. A pass slide between the pantry and dining-room closet enables the servants coming out of the small ell of the kitchen to reach its proper quarters. The front chamber is conveniently arranged for visits from"city cousins." There is ample closet room. If thought more desirable, one of the windows looking out on side porch can be changed for a door.

Carpenters' Steel Square and Its Uses, Price $1.00

History of the Saw-Mill.

There are few tools more ancient than the saw. All the ancient nations appear to have had it; certainly the Hindoos, the Egyptians, the Greeks, and the Romans. The saw may have existed even before there were any men on earth. There is a creature called the saw-fly, with the saws in its tail, which it actually uses for sawing the stems, leaves, and fruits wherein its eggs are to be deposited. There is also a saw-fish, the sliding snout of which is a saw. It is said also that the original inhabitants of the island of Madeira found a ready-made saw in the backbone of a fish.

The Greeks had a pretty story attributing the invention of the saw to the accidental finding of the jaw-bone of a snake by one Talus, who used it to cut through a small piece of wood. Being a slave, and finding that the jaw bone eased his labor, he made a saw of iron, and thus gave mankind a new and most valuable tool.

The ancient saws differed from ours in two ways. The teeth were so arranged that the cut was made by pulling instead of pushing; and the teeth, instead of being set one to the right and one to the left alternately, were set so that ten or a dozen in succession were slanted one way, and the same number the other way. The ancients had several varieties of the implement. The Greeks, for example, had crosscut saws for two men, also saws for cutting marble into slabs. And they had a kind of tubular saw for hollowing out a marble bath-tub, similar in principle to the method now employed.

Among the pictures uncovered in the buried city of Heracleanum there is a representation of two men sawing a piece of wood on a carpenter's bench very much like ours, and using a saw with a wooden frame similar to those now employed. Still more strange, the frame saw, tightened with a rope and stick, such as our street wood-sawyers use, was probably as familiar to the Romans as it is to us.

A saw-mill, however, by which wind, water, or steam is made to do the hardest part of the work, was not known to any ancient nation. Sawing by hand, next to digging a stiff clay soil, is about the hardest work that men ordinarily have to do. It is therefore not surprising that our ease-loving race began to experiment a good while ago with a view to applying the forces of nature to the performance of this toil.

A learned German investigator, who has investigated the subject very thoroughly, states that the first trace of the saw-mill yet discovered is in the records of the German city of Augsburg for the year 1337. The reference is slight, and does not fix the fact with certainty. But there are two saw-mills near that city which are known to have existed as far back as 1417, and they are still used. Before that valuable invention, all boards and planks were split with wedges, and then hewn to the requisite smoothness with the ax. The splitting of boards is still practiced in remote settlements, as I myself have seen; and it is recorded of Peter the Great of Russia, that he had much difficulty in inducing the timber cutters of his empire to discontinue the method. At length he issued an edict forbidding the exportation of split planks. Even in Norway, covered with forests as it was, there was not one saw-mill before 1599. Nowhere in Europe, it appears, was the introduction of the saw-mill so long resisted as in England. In 1663 a Hollander erected one in London; but it brought upon the poor man such an outcry and opposition that he was obliged to abandon it. The sawing of timber by hand furnished occupation, at that time, and long after, to large numbers of strong men. In every town there were saw-pits, as they were called, for the convenience of the sawyers, one of whom stood at the bottom of the pit and the other on the log. We can easily imagine that when every beam, plank, and board, thick or thin, had to be sawed by hand, the sawyers must have been a formidable body, both from their numbers and their strength.

After the failure of the Dutchman in 1663, there was no serious attempt to start another saw-mill in England for more than a hundred years. In 1767, an English timber dealer of large capital built a saw-mill to be moved by the wind. It was thought to be a great and difficult enterprise, and it attracted much public attention. Some years before an author had explained the advantages and economy of saw-mills; then the Society of Arts gave the scheme of building one their approval, and finally the mill was actually built by an engineer who had studied the saw-mills of Holland and Norway. No sooner was the mill complete than the sawyers assembled in great force and tore it to pieces. The Government compensated the owner for his loss, as was just. Some of the rioters also were convicted and imprisoned. A new mill was then built, which was allowed to work without molestation, and proved so profitable that others were soon introduced.

Building Correspondence Desired from Every Portion of the Pacific Slope.
Design for Country Mansion.

The accompanying engraving is taken from a design which was awarded a diploma at one of the fairs held by the Mechanics' Institute in this city. James E. Wolfe, architect.

MECHANICS' GEOMETRY, Price $4.00.

Closet Ventilation.

A NEW JERSEY architect claims the distinction of being the first house-dresser to ventilate clothes closets, and this fame-making act was performed in the year of grace '86. Some of our readers may contest the claim, but we are compelled to admit we have never seen a ventilated clothes closet in a private dwelling, although we have long been in search of one. Seriously, this failure on the part of architects is a matter of grave importance, and when it is considered that no cost is attached to the obtaining of what all admit the necessity for, the continued neglect of architects in this respect is past accounting for. The St. Paul Review has been publishing a series of excellent articles on common sense in building, and while it emphasizes the housekeeper's demand for closets, it forgets to ventilate them. It says: 'So, in planning a house, the ladies' wishes must be attentively considered, first, last, and all the time.' Generally the first demand is for closets large and closets many, closets dark and closets airy, closets here and closets there—closets everywhere! But though closets may be classed in the category of those good things of which it is difficult to have too many, still they are to be kept judiciously in the background, filling space which would otherwise be of much use, as at the end of halls and in 'half stories' in the low space under the roof at the side of the structure, if the wing of a house is sixteen feet wide, and the walls run up but three feet above the second floor level, leaving the ceiling to slope from that height upwards, the space near the walls is of very little use in a room. But if the closet be taken off for a closet at each side, then there results a room ten feet wide, with side walls high enough for most purposes in a bedroom, and with two good closets, or one of the closets may be removed from another room or hallway.'

[We print the above merely to show the errors in the article to those acquainted with facts. Plans are on file in this office that are nearly a quarter of a century old, showing plainly the ventilation of closets by means of a hole in the ceiling covered with wire cloth, and having direct communication between the joints with the outside air. How anyone can have the cheek to claim a new invention in '86 that is of almost ancient origin, is an insolvable mystery.—Ed. Architect.]

A Simple Rule for Measuring Straight Logs.

The Southern Lumberman says an experienced log and lumber inspector gives the following short and easily remembered rule for ascertaining the contents of a log by Doyle's rule when a copy of Scribner's book is not available:

Rule:—Square the diameter of the log after subtracting 4 inches from it, and the result will be the exact contents in inch boards of a log 16 feet long. A log 8 feet long will be half this amount, 12 feet long three-quarters, 14 feet long seven-eights, and so on.

Oak may be darkened by exposure to the fumes of ammonia in a close box, but if the work is first oiled with linseed oil and wiped dry with a cotton or linen cloth, and then a solution of bichromate of potash (say half ounce of potash to one pint of water) be applied, it will darken it and not raise the grain, either of oak, mahogany, or cherry. One, however, must be taken that the work is not made too dark by too many applications of the solution.

EVERY ARCHITECT SHOULD TAKE A PRIDE IN BEAUTIFYING THIS JOURNAL.
Design for City Flats.

We present on this page a design for two flats in the Eastlake style of architecture, the first containing six rooms and the second seven. With the exception of a hall bedroom on the second floor, and one or two closets on the first, the two plans are nearly alike, and one description will answer for both. The elevation has a graceful and picturesque effect, and is cheap and economical in construction. The architraves of the bay-window and entablature over portico are supported by small turned columns, unique in design, and very pretty and attractive. The columns of the porch are turned with octagon cap, faced with small rosettes. The frieze of the entablature is constructed with turned balusters, with ornamental scroll work, and a blocked bead mould above. The projecting gable over bay-window is finished with turned rosettes, fancied shingling, and moulded cornice. The light and airy exposure, convenient arrangement, closet accommodations, etc., of the spacious rooms, can readily be seen by referring to the floor plans. The halls extend through the building, thus affording communication with any of the rooms without passing through others. In the hall of the first story are two large closets, and a flight of basement stairs, with door opening into hall, is constructed under stairs leading to second story. The basement is seven feet and six inches high, planked and partitioned off into cellars and other rooms. The rooms are well proportioned, provided with commodious closets, and all other necessary requirements by a family who appreciate the conveniences of a model home. We wish our readers to understand that a plan is the main consideration in building, and that an elevation can be changed into any style to suit the taste of the owner, therefore we devote more time and space to the study and description of the plan, knowing it to be most important.

The above is from a new California work entitled, "Country and City Homes." It contains eighty pages of designs for all classes of buildings, and is sold for 50 cts. a copy. We will forward one to any address upon receipt of the amount.—Ed.

The policy adopted by some large employers of labor of discriminating against members of trade unions and labor organizations in engaging hands is, in our judgment, the most unwise which could be followed. The workmen may be induced to form an alliance with employers for their mutual advantage, but they become restive and intractable when an effort is made to deprive them of their rights. The true policy of the employer is to make no distinction between union and non-union men, and to refuse unconditionally to aid the unions in compelling those who prefer independence to join them. The employer who consents to discharge good men because they will not join the unions and submit to the fines and penalties usually imposed upon them for not having joined sooner, plants himself completely under the control of the worst elements of organized labor, and has no reason to expect fair or just treatment at their hands. In dealing with workmen a little tact usually accomplishes more than a great deal of bluster and obstinacy. For example: Not long ago a manufacturer employing more than a hundred men was waited upon by a committee of the union to which a majority of his workmen belonged, and was told that it would be necessary for him to discharge ten non-union men in one of his departments. To have refused unconditionally would have led to a strike, entailing serious inconvenience and loss. After considering the matter for some minutes, he replied: "Well, boys, this is not good time to quarrel. I am running fuller than the state of the business warrants, and have been thinking of reducing my force. At the end of the week I shall have to discharge twenty men. These will include the ten non-union that you object to, and I will leave it to you to pick out the ten union men I am under the necessity of parting with. Whenever you are ready to report your list of names I will notify the twenty men that I shall not have work for them after Saturday." The committee reported back to the union, but the list was never furnished, and the non-union men are still at work. The alternative presented to the committee was a perfectly fair one, and it carried vastly more weight than argument or angry contention. The manufacturer's interest is to "show fair" in the struggle between independent labor and labor controlled by the unions, and if possible to ally in his employ so closely to himself by the ties of self-interest that there will be no inducement to take shop questions outside the shop for adjustment. Whether a man belongs to a union or not is a question with which the employer has no occasion to concern himself.—Carpentry and Building.
ASKED. ANSWERED, AND COMMUNICATED.

Free to All.

The columns of this journal are open to all who differ with us upon any subject presented. We are too old to years and experience to assume that we have passed the reef of human liability to err, or for once amnest to suppose that we have reached the realm of thought where perfection reigns supreme. But this we do assume—that whatever of error there may be contained in our columns will be equally corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

We intend to make a specialty of this department of our journal, and, in order to make it thoroughly interesting, we desire the co-operation of all architects, mechanical, etc., whether subscribers or not. In this column there is a great opportunity for comparison of ideas upon the practical questions of the day; and we hope to receive from those interested, and especially amongst builders, questions arising in their daily practice. No matter what may be the solutions given to the various problems presented, we shall only be too pleased to receive replies from our readers, where they see other and better solutions for them. If a general interchange of ideas can be brought about, great advantage will ensue to all. Let not a mouth go by without bringing up for discussion practical topics in the architectural, mechanical, or scientific pursuits. We desire a general interchange of opinions, for or against, of every article presented by us. Every communication will receive deliberate and careful consideraton.

EDITORS ARCHITECT: I noticed in your December issue that Mr. D. Bink was in trouble, and had applied to you for information in regard to a rule to mark out the top and bottom cut of a sloping brace of square timber, with the diagonal corners standing vertically over the opposite. In answer, I offer the following:

1. To a man that can make all the cuts and bevels necessary for framing a hip roof. If you compare the top end of the brace with the ridge and valley rafter in a roof, you will readily see that they are the same. So if you take a square stick, say a 4x4, it will form a 3 pitch. If the brace is set at an angle of forty-five degrees, you get the bevel thus:

![Fig. 1](image)

Take one-half of the diagonal width, as at A B, and measure this distance along the edge of the stick, as at C D, Square over to the other and join D F. Measure as before, making E F equal to C D. Square across timber again, and join F G.

2. For a simpler way, that will suit all braces and at any angle, take a piece of timber and mark as above. Suppose you have a 4x4 to be cut, say 6 feet from a post, and run up on the post 8 feet 6 inches. Lay your square on the lines laid down thus:

![Fig. 2](image)

Transfer the distance A B in figure 2 to the side of the timber in figure 3. Square over to the other edge, and join the angles at before; then cut.

Another way: Take your square and find the distance across from 3/4 on one arm of the square to 6 on the other, same as for a common rafter. This distance will mark the side, using the line formed by the arm of the square with the 6.

![Fig. 3](image)

Cross over on the other side and cut.

![Fig. 4](image)

A B represents the ridge or edge of the 4x4; the line to the left of B the valley or side of the 4x4. It will be noticed that the ridge A is one-half the width of the width B.

Of course if my propositions held good, and practical experience has so proven them, any distance can be used instead of those given, by applying the instructions given.

Yours truly,

R. McMANUS.

Oakland, Dec. 29, 1889.

[The above is one of several answers received in regard to the inquiry of Mr. Bink. We thank its author for the interest shown, and trust that all of our mechanical engineers will emulate his example. We will be pleased to hear from those who make a practical demonstration of above theory in regard to the correct working of the principles advanced.—Ed. ARCHITECT.]

EDITOR ARCHITECT: The liability to split and waste of the common channel rustic, has long been a cause of complaint among humbler men and builders. Nor is the V-rustic entirely free from the same objection, but is open to a still worse one from the fact that a split in the tongue will not show after it is covered by the board above, and careless workmen will sometimes take advantage of that fact. The plugging required by channel rustic is another objectionable feature.

I herewith submit a tracing of beaded rustic that in my humble opinion obviates all the above objections. If you think its merits sufficient to warrant an illustration in the CALIFORNIA ARCHITECT, I would be very much pleased to see it submitted to the readers of your Journal for their criticism.

W. H. CARSON.

Woodland, Jan. 4, 1887.

BOUND NUMBERS OF THIS JOURNAL MAKE A SPLENDID BOOK OF REFERENCE.
To find the weight of round iron per foot, square the diameter in inches and divide by six; the quotient is the answer, and very near the actual weight.

It is sound business policy to patronize the liberal advertiser. He has confidence in his goods, or he would not risk his money in advertising them. He can sell cheaper than a non-advertising competitor because he can manufacture in large quantities and get material at lower prices.

For attaching moldings and other light lumber, a new kind of nail has been contrived, which leaves no nail holes. It is made with a point at each end and with an outwardly projecting head or shoulder midway between the points. The nail is first driven into the wood by means of a punch which straddles the protruding point and bears on the head. When enough have been driven in, the mounding is placed over the nails and driven down.

It has been ascertained that timber which has been floated in water for a considerable time is no longer liable to the attack of dry rot. This is a slow process which deprives the fungus of the nutriment needful for its development. A French experimenter has shown that fresh sawdust rots away in a few years in damp earth, whereas sawdust from which the soluble matters have been soaked by water, remains unchanged under like circumstances.

The question of how to prevent checking in the ends of timber when it is being seasoned is engaging the attention of English engineers. According to a recent report, it has been ascertained, after a number of experiments, that by painting the ends of the timber with thick glue several kinds of lumber can be dried without checks. It is supposed that the glue penetrates far enough to cement the layers of the wood together near the ends, and thus keep the ends from drying faster than the rest of the wood. Of course this method requires seasoning under cover, since rain would have the effect of dissolving the glue.

Powdered glass is largely taking the place of sand in the manufacture of sand paper. It is readily pulverized by heating it red hot and throwing it into water, the finishing being done in an iron mortar. By the use of sieves of different sizes of mesh the powder can be separated into various grades, from the finest dust to very coarse, and these should be kept separate. A strong paper is tacked down with a strong size of glue, and the surface covered with powdered glass of the desired fineness; when the glue is dry the surplus glass is shaken or brushed off. Muslin is better than paper, and lasts much longer in use.

The blistering of paint upon wood is not, as is generally believed, the direct effect of heat upon oil in the paint. If it were, we should find it taking the same action upon iron or plaster, which, we need scarcely say, is not the case. Heat, in the case as above noted, is a secondary agency, the primary one being steam, generated from the moisture in the porous wood, below or behind the impervious face or coating of paint. It is truly speaking a blister; but it is also a blow, expansion or cavity caused by the generation of steam. Blisters formed on wood, if cut or pricked at an early stage, so as to let out the steam, may be erased by carefully rubbing them down to their original bed, especially if separation has taken place on the face of the wood, in preference to the face of the priming, or first coat of paint.

Wooden Bolts.

The following article from an exchange on the subject of wooden bolts will doubtless prove of interest to our readers:

"Why do you make so lavish a use of nails in the construction of houses? To the exclusion of the honest, old oaken pin? Pull down any building, if it be merely a barn, more than two hundred years old, and you will not find a single nail in the original work; rafters and joists were all bolted together so stoutly as to almost defy the tools of the destructor. Many an old manor barn, when pulled down of late years—as, unfortunately, only too many of them are—has shown itself to have been better built than most palaces are now. There are arguments in the way of economy of time, and so on, in favor of the use of nails in house building, but they are as nothing compared with the solid advantage of using wooden bolts. The iron nails in time canker and rot rafters and floors, but bolts hold them together 'like grim death,' and render a house practicably indestructible."

The ash is one of the most valuable of trees. Its timber is elastic, tough, and durable. It is called the "husbandman's tree," on account of the great variety of household and agricultural implements that are made of it. It used also to be called "the martial ash," because weapons of war were formed of its light, yet tough wood.

Recent inquiries show that among the 20,000 carpenters in London, the expert workers average only eighteen cents an hour, while the inexpert get only twelve cents. Carpenters in Paris can only earn $1.70 for ten hours' work; in Berlin they work only eight hours a day for $1.05 per day, and are out of work on the average three months in the year.

The latest example of "Queen Anne," or nondescript architecture, is furnished by the Philadelphia Mint, the superintendent of which, in order to obtain more room, and in the absence of ground to build upon, added a roof story, putting a French mansard on a building of pure Grecian architecture. "Engineering News" dubs the new style "Franco-Grecian."

"Moonlight nights are the bane of railroad engineers," recently remarked a head official of the Baltimore and Ohio Railroad. "All engineers dread moonlight nights. They try the nerves to the utmost. Engineers like to run on dark nights. On a moonlight night, they can discriminate better than the trained engineer—shadows. An engineer, looking out from his engine, sees before him all manner of shadows. He is sure that the dark shadow across the track he sees is a man, or a rock, or some kind of an obstruction. He doesn't know, as he hesitates, if a particle of nervous excitement is in his mind. Going around curves, along hillsides, many curious shadows are outlined on the track; and very often an engineer is so worked up over a night's ride that he is scarcely able to perform his duties."

BUILD-UP DOORS.

A FEATURE of the building trade is the extensive use that is made of veneers. The method of using strips of pine has tended directly to this result. The built-up door, made of strips of pine glued together, is stronger than any other kind, at least of equal weight, and will not warp. But it necessitates the use of veneers of some kind. For heavy doors, quarter-inch stuff is used; but for the smaller doors in residences, one-eighth inch is often considered thick enough. The kind of wood depends on the finish of the room. Mahogany, cherry, oak, and curly or bird's-eye maple are perhaps the most common construction. In some cases where the opposite sides of doors have to be finished differently, to correspond with the rooms which they respectively face. This has often been done by making the door of two layers generally of equal thickness, the unequal shrinking and swelling of which was compensated for by twisting the door, and often tapering it to pieces. The objection is raised against veneering that it is dishonest, and so not true art. That criticism should never be made in regard to such work as that mentioned. The built-up door of pine, veneered with mahogany, costs about as much as one of solid mahogany, and is a better one.—EN.

Have a Specialty.

THE following from an exchange is well worth reading—"Many persons fail in achieving their ends, for the reason that their efforts are too diffused and cover too much ground. In engineering, the details are so great, and the fields so vast, that many may be specialists without coming in direct conflict with each other, and the man who knows one thing well, instead of many things superficially, is always in request. Special information, provided it is thorough, is always better paid than general information, that skims the surface and leaves the depths untroubled. In these days of technical papers and encyclopedias, the average reader can know a little of many subjects, but it is notorious that a little knowledge is dangerous, and, we might add also, that it is useless. The versatile man is generally an inefficient one, and, while he may be interesting as a companion, or to while away an hour in gossip, he is of no use in mechanical emergencies. Where would the versatile man be in certain of these, which often arise in the profession? From the necessity of his calling, an engineer may know and be well informed on a great variety of technical matters. He must know these thoroughly or indifferently, according to his desires, but this does not prevent him from making a study and investigation of some particular line or subject."
A Convenient Country "Box."

The accompanying plan is an admirable one for a country or suburban house. It will repay careful study. Prepared especially for this Journal, by James E. Wolfe, architect.

The Architectural Draughtsman.

Numerous inquiries have reached us from time to time from persons anxious to acquire a knowledge of architectural or mechanical drawing, asking us to indicate a course of study which, while being thorough, should not be too extended. Some of the inquirers wished to gain a knowledge of the subject for the purpose of making it a profession, while others desired to learn something of it for the purpose of assisting them in their trades.

The investment of time occupied in learning architectural drawing is almost certain to prove profitable. A mechanical draughtsman who is fairly well educated in other respects is nearly sure of finding employment at a fair salary in almost any town of size, for where there is a town there will be building going on, and the services of a draughtsman needed in getting out the drawings and plans. Even in comparatively new settle-

ments, the services of a man who can make working, and other drawings, are generally in more or less demand. Draughtsmen and designers are required in nearly all the mechanical trades, in the manufacture of silk, woolen and textile fabrics, paper-hangings, lace, carpet, and floor cloths; in fact, it is scarcely too much to say that there is not a mechanical art in existence in which the services of a draughtsman are not either directly or indirectly required.

It is a most erroneous idea to suppose that so long as a man can "draw to scale" he is entitled to call himself a mechanical draughtsman. To become justly entitled to such a term, a course of study of no mean order is necessary. First, we have geometry, which is the real basis and foundation of all mechanical drawing, and a knowledge of that subject is therefore absolutely essential; but a man who wishes to become a good draughtsman must go far beyond that. In the course of his vocation it will frequently happen that problems will arise needing a very intimate knowledge of the principles and practice of orthographic projection for their solution, so that he must make himself acquainted with the subject in a deeper and more extended manner than would be sufficient for the preparation of simple plans.

Then besides a good idea of coloring, and an artistic filling in of finishing off drawings, a draughtsman should know something of isometric projection. Take the case of farm buildings. Probably there is no simpler and clearer way of giving an accurate idea of the extent and arrangement of the agricultural class of buildings than to make the drawings in isometric projection, showing the plan and elevations in one view, and at the same time permitting perfectly accurate measurements being taken from them. The system is simple and very easily acquired, and is of great practical advantage in many other ways. Then perspective drawings are required, and a knowledge of that subject is necessary. The ordinary plans and elevations of a building prepared for working from are not sufficient to give an accurate idea of it to persons unaccustomed to such drawings. As a matter of fact, an elevation is a drawing of a building as it is, and not as it appears, and on that account it is desirable when preparing drawings for a client, to show them in perspective. The art displayed in the coloring and finishing of such a drawing will do much in helping a man to decide upon the eligibility of a design for his purpose. Many architects, in designing the external portions of a structure, remembering this fact sketch their rough designs in perspective, from which they obtain a much better idea of the final appearance than they could possibly get from the ordinary plan and elevation.

What is sometimes termed "free-hand" drawing, that is, drawing without the aid of instruments, is very necessary to a good draughtsman. There is scarcely a drawing, large or small, in which some detail or other by hand is not put in. The neatness of the drawing, as a whole, will largely depend upon the accuracy with which this is done. In the best perspectives the lines are first set out to rule in pencil, and are afterwards inked in by the unaided hand. In this way the stiff and conventional appearance of ruled drawings is avoided. Again the draughtsman must be able to work freely with his unaided hand, in order to put the lettering in neatly. It is surprising how many drawings are spoiled in appearance by the slovenliness and carelessness with which the lettering is done. To gain this practice it is to be condemned, because the letters drawn in such a way will always have a stiff and inartistic appearance, while the very obvious manner in which they were drawn can scarcely redound to the credit of the draughtsman. In finishing off all drawings, excepting, perhaps, the lettering, they are highly finished and elaborate in detail, and the draughtsman should, if he is to be successful, have something of this contemplation and care in all his drawings. Draughtsmen are very often called upon to make quick sketches of buildings, when it is necessary to have some general idea of the building in order to make an estimate of its cost. They are called upon to make such sketches in the most unpromising way, without the use of instruments, and the draughtsman who is to succeed must be able to make such sketches in a way that will be serviceable to the client.

(Continued on page 12.)
A List of Mechanical and Architectural Works

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- How to Paint, $1.00
- Architects' Companion, $2.50
- Mold Homes, $1.00

Hand Railing and Stair Casing, $1.50
Drawing for Carpenters, $1.75
" " Bricklayers, $1.50
" " Cabinet Makers, $1.50
" " Stone Masons, $1.50
Building Construction, $1.25
Linear Drawings, $2.50
Cutting Tools, $1.50
Cuming's Details, $5.00
Carpenter and Joiner, $7.50
Stair Builders' Guide, $3.00
Drawing and Shading, $1.25
Carpenters' Manual, $3.00
Steel Square Problem, $1.00
Work Shop Companion, $3.50
Bound Volume California Architect, $2.00
Specifications, $5.00
Barn Plans, $1.50
Solution Pyramid Problem, $1.50
Standard Scroll Book, $2.00
Swiss Cottage, $3.50
Every Man His Own Mechanic, $3.50
Tredgold's Carpentry, $7.50
Builders' Companion, $3.50
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Builders' Construction, (Three Volumes), Very Fine, $14.00
People's Cyclopaedia, (three large volumes), $20.00
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Ruskin's Works, (four volumes), $6.00
Industrial Drawing for Carpenters, $2.00
Limes, Cement and Mortars, $4.00
Wonders of Art, $1.25
Architecture and Building, $3.50
American Cottage Building, $3.50
Windmills, by Wolff, $3.00
Illustrated Drawing Book, $1.00
Hand-Book of Legendary Art, $3.00

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OUR FEBRUARY ISSUE WILL BE REPLETE WITH INTERESTING INFORMATION.
from the manufacturers' catalogues, can be easily obtained, and will answer the purpose admirably.

The subject of coloring is important. Many a good drawing has been hopelessly spoiled by indifferent coloring. In most cases the colors required are simple washes, but it is quite necessary that they should be perfectly uniform. To obtain a flat, uniform wash, the drawing should be placed on a board, which should be slightly tilted. A full brush of color should be taken each time, so that there is always a little pool of color upon the paper until the bottom is reached, when it will be gathered up. The secret of obtaining good flat washes is to keep the colors very thin, that is, to add plenty of water to them. If the color is too thick it will not flow readily, and it dries too quickly to make it possible to obtain a flat and uniform wash. In cases where a deep flat wash is required, it may be easily obtained by giving the drawing several washes, one on the other, of course allowing each coat of color to dry before another is added. The colors used should be of the best quality. It is absolutely impossible to obtain a satisfactory result with inferior colors, no matter how skilfully they may be applied. Those imported and manufactured by either of the firms, Newton & Windsor, Rowney or Reeves, are among the best.

In conclusion, we would urge the would-be draughtsman to make a systematic study of the subjects above mentioned, to practice regularly and constantly; and to acquaint himself with the technical details of the art he proposes devoting himself to. If architect, then the construction of the various details of building, making himself perfectly familiar with the various technical terms, and obtaining at least some considerable knowledge of the orders of architecture. Remember that absolute accuracy is not only essential to a good drawing, but that an error or a mistake of any kind in the plans may be productive of the most serious consequences when the building is actually erected.

A case in point is within our recollection. A draughtsman, in drawing out the plans for a certain building, omitted to show a window opening onto a light shaft. The plan from which the omission was made was of the same style as the rest, which were all alike. There were six houses being erected from the same designs, so that the simple omission of four lines from the drawing meant the omission of thirty windows altogether. The joinery used in the houses was supplied by a firm under contract for the whole quantity, and they of course declined to supply these windows, as they were not shown on the plans, and they had not therefore allowed for them in their estimate. A clause in the contract to the effect that every article of joinery necessary to properly complete the house should be supplied whether shown upon the plans or not, caused the owner to affirm that these particular windows were obviously necessary. Upon this, however, they could not agree, and litigation was the result; all caused by a small error committed by a draughtsman upon the part of the draughtsman. Probably the best way to avoid errors is to carefully go over the drawings, after they are finished, in the most minute manner, and to check every detail and item. If the specifications are first prepared without reference to the finished drawings, and the two are afterwards compared, errors will be avoided as far as possible.
Design for a Country Home.

We are indebted to Messrs. S. and J. C. Newsom for the above elevation and the accompanying plan on opposite page. The arrangement is one that recommends itself to the lovers of a well-planned house. The elevation will suit those who desire a very showy house, without appearing too gorgeous.

Downing a Redwood.

Now she takes it! Keep clear," shouted Jim Lake, a muscular Sonoma "bull-whacker," in warning to the group of woodchoppers in the redwood forest at the northern end of the San Francisco and North Pacific Railroad, as the death-rattle of a California giant was heard. After hours of under-cutting and cross-sawing, they had cut through all but one and a half inches of the monstrous trunk, fifteen feet in diameter, and the cracking of the wood announced that the monarch was about to fall. Its lofty top, 275 feet above the ground, wavered a moment, and bowed gracefully and with a stately air, like a grand lady courtesying; then gathering impetus as it left the perpendicular, the great trunk rushed to the earth with terrific force. Keeping to the course marked out for it by the woodmen, it tore the foliage from the protruding limbs, filled the air with flying branches and bits of bark, swept away every article in its path, and descending with tremendous force, struck the ground with a thud to be heard a mile. Clouds of dust shot up sixty feet; the earth shook and rumbled. The prostate giant trembled once from top to stump, and was over. It was a death-scene of awful grandeur and solemnity. Even the lumbermen, accustomed to the sight daily, dropped their sledges, double-bitted axes, mauls, goads and water buckets, and gazed in silence at the overthrow of the many-century monarch.

Sometimes an elevator brings a man nearer heaven than he wants to go.

Just Published, "Modern Architectural Practice."

The initial architectural publication for 1887 has been received. It is from the well-known architectural book publisher, W. T. Comstock. The full title of the book is "Modern Architectural Practice," No. 1. A large country house. Bruce Price, architect.

In this work the author presents the full plans and details for a large building to be erected in San Mateo County, Cal. The general design is calculated to represent the "American style" of architecture. The author tersely remarks in the preface: "In handling the problem no style has been followed, for no style could be attempted in its purity. It would answer equally the assertion that 'it is French in its feeling,' 'Romanesque in its handling,' or 'Dutch in its mass,' still it is an American house, planned for American uses, and built of American materials. Its disposition of rooms is new to any style of the past, yet the wants of the client have been fully met, and upon them it has been built."

The book is handomely bound, printed on heavy paper, and contains twenty-four 12x15 plates, and full specifications illustrated by wood-cuts and diagrams, showing special features of construction; containing a large variety of doors, windows, and finish, wainscoting, paneled ceilings, staircases, balconades, mantels, sideboard, pantry, bath-room, and laundry fittings; and other interior details; also exterior details, giving full and complete drawings of stone work; carved work, porches, main entrance, entrance doors, outlines of mouldings, gables, bay-windows, porte cochere, and all other details necessary for a full and complete understanding of the work. The price of the work has been placed at $5.00, upon receipt of which we will forward a copy to any part of the country.

Set out your work with accuracy, and the time you will save will bring profit as well as credit to your employer and yourself.

NEW ENGRAVINGS—ORIGINAL ARTICLES—EACH SUCCESSIVE NO. WILL EXCEL.
COUNTRY BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast. Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. We have been busy the past two months in perfecting arrangements by which we can secure information from every portion of the Pacific slope. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

For eight years there has appeared in this journal, building news from every portion of the country. But in its condensed form it did not attract the attention it deserved. We begin the New Year by making a specialty of the item mentioned. We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure out" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interest of Architects, Contractors, and Material Men.

Alameda.

A new building will be erected on Park Street by Mr. Boehmer.
Artistic Homes, for $3.50.
Modern House Painting, for $1.00.
W. Augustine is erecting a cottage on corner of Pacific Avenue and Chapin Street.
American House Carpenter, for $5.00.
Cutting Tools, for $2.00.
A fine business block will shortly be erected on Park Street near the S. P. R. R.
Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.
Mrs. Gill is having built a $2,500 house on Buena Vista Avenue.
Artisan, for $5.00.
Builders' Guide, for $2.00.
Robert Harvey is about commencing to erect a $3,500 building on San Jose Avenue.
Album of Mantels, for $5.00.
History of Architecture, for $15.00.

Alvarado.

Large additions to the sugar factory are proposed.
Building Superintendent, for $2.00.
American Cottage Homes, for $3.00.

Angeles.

Albrecht & Co. are erecting a brick building for Mr. Langemarberger.
Science of Carpentry, for $4.00.
Universal Assistant, for $8.50.

Aptos.

The saw-mill at this place was lately destroyed by fire. Mr. Hihn, with his accustomed energy, has started to rebuild.
Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

Crescent City.

Plans have been adopted for a $5,000 school-house.
Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Colton.

Plans are being prepared for a new opera house, by Mr. Grey, formerly of San Francisco.
Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

Clayton.

Geo. D. Nagle is erecting large additions to the winery of the Mt. Diablo Vineyard Improvement Co.
Woodward's Farm Homes, for $1.00.
Woodward's Grapery, for $1.00.

Davisville.

Laggett & Drummond are considering plans for an iron warehouse for storage purposes.
Manual for Furniture Men, for $1.00.
Common-Sense Church Architecture, for $1.00.
A Grangers' store and bank building is also on the tapis.
Painter, Gilder, and Varnisher, for $1.50.
Architect's Companion, for $2.50.

Duncan's Mills.

Lumber mills around this neighborhood are shut down for the season.
Hand Railing and Stair Casing, for $1.50.
Drawing for Carpenters, for $1.75.

Fresno.

M. H. White is erecting a handsome building.
Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

It is rumored that T. F. Hughes, et al., are taking active measures in regard to the erection of a $75,000 hotel building.
Artisan, for $5.00.
Builders' Guide, for $2.00.

Highland Springs.

On the tapis, the erection of a $5,000 hotel.
Drawing for Bricklayers, for $1.50.
" " Cabinet Makers, for $1.50.

Los Angeles.

A large bank building is being erected, at a cost of $70,000. S. and J. C. Newsom are the architects.
Drawing for Stone Masons, for $1.50.
Building Construction, for $1.25.

On January 7 a contract was let for a four-story building. Owner, Mr. Vickery; architect, R. B. Young. Cost, about $35,000.

Album of Mantels, for $5.00.
History of Architecture, for $15.00.

Los Gatos.

Architect Clinic, of San Francisco, has just let a contract to Butler & McGowan for a three-story brick building for the Jesuit Fathers. Cost will be about $35,000.
Cutting Tools, for $1.50.
Cannings' Details, for $5.00.

Madera.

C. G. Peck has signed a contract to erect a brick building, to cost $8,000, for Mr. Schmidt.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

Monrovia.

Twenty houses are in course of construction in this town. A street railway will shortly be commenced. Monrovia is in the neighborhood of Los Angeles.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

New Lighthouse

Will be built in Suisun Bay, near junction of Sacramento and San Joaquin Rivers.
San Bernardino.

Plans are being prepared for a hotel in East San Bernardino Valley.

Steel Square Problems, for $1.00.
Work-Shop Companion, for 35c.

The contract for building a large hotel in San Bernardino has been let to Gray & Keeler, for $81,500.

Bound Volume California Architect, for $2.00.
Barn Plans, for $1.50.

So great is the building activity in Ontario that the light of the moon has been utilized to further building interests.

Every Man His Own Mechanic, for $1.50.
Tregold's Carpentry, for $7.50.

Santa Cruz.

A new hotel to cost about $10,000 will shortly be erected here. J. S. Green is to be the owner.

Builders' Companion, for $1.50.

Builders' Work, for 5c.

San Jose.

James Phelan is contemplating the erection of a new building to be used as a theater.

Builders' Construction (three volumes, very fine), for $14.00.
People's Cyclopedia (three large volumes), for $20.00.

San Francisco.

O. and B.—Fontana & Co.
$8,000.


Gery, cor. Martha Place. Four-story brick.


Green, No. 2112. Improvements.

Spencer & Rich are erecting on the corner of Market and San Augustine Streets, a two-story and basement brick building. Architects are J. Lenzen & Son, H. C. Skow being the contractor. Cost, about $6,500.

Pister, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

The same architects and contractor are erecting, for Luis A. Arguello, a two-story brick building on First Street. Cost, $13,500.

Lumberman's Hand-Book, for $4.00.

Practical Geometry, for $1.00.

A one-story cottage is being built on Teenth Street. Owner, W. Taylor; architects, J. Lenzen & Son; contractor, W. Taylor. Cost, $1,500.

Practical Perspective, for $3.00.

Woodward's Country Houses, for $1.50.

Santa Rosa.

Contract for the new County Hospital has been let to Carlo & Croly, of Sacramento. It will cost about $16,000.

Mural Painting (new), for $3.00.

Home Hand-Book, for $10.

San Rafael.

J. Rosenthal is having a two-story frame dwelling erected, at a cost of $10,000.

San Diego.

A large brick building for manufacturing purposes is being erected by Frank Kimball.

Limes, Cements, and Mortars, for $4.00.

Wonders of Art, for $2.45.

Seattle.

T. W. Bennett will shortly erect a large building for storage purposes.

Building Superintendent, for $3.00.

American Cottage Homes, for $5.00.

J. M. Colman will also erect a similar building to the above.

Science of Carpentry, for $4.00.

Universal Assistant, for $2.50.

Visalia.

A new hotel will in a short time be built at this place.

Architecture and Building, for $3.50.

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O. and B.—Anderson Bros. $300.


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Post, cor. Devisadero. One-story and basement frame.

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GRIMSHAW ON SAWS, PRICE - - - $4.00.

EDITOR BUILDING: I should like to have your opinion as to the respective merits of thin and thick mortar joints in brickwork.

The object of mortar in brick walls is to form an adhesive substance between the bricks, and it has little, if any, function beyond. The average bricks of which walls are composed are certainly harder than the hardest mortar, so that the object would seem to be to keep the joints as thin as possible for this reason alone. The wider the bed joints the greater will be the settlement of the building. For these reasons the mortar joints should all be kept as thin as is consistent with perfect adhesion between the bricks, and, without doubt, should be thinner than it is now usual to form them. The side joints will be regulated in size by the dimensions of the bricks. The quality of the mortar in a brick wall is of much more importance than this would seem to be generally understood. This was well illustrated in an accident which happened recently in this city. A flour warehouse fell to the ground by reason of the bad mortar used in its construction. The flour barrels were loosely packed in such a manner as to cause considerable weight upon the walls, and, the mortar being of very bad quality, the bricks were separated, with the result of bringing down the building.

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Its merits surpass description, but a few prominent ones are mentioned below.

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It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbersome and inefficient machinery may inefficiently execute what has been ill-conceived.

It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "suit" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its font.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

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It is a water-economizer. It is impossible for the water to escape in a continuous stream, or for any length of time.

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This Chimney consists of the following parts: A smoke flue A, of fire clay, in 3 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated metal piece, letting the foul air pass through and between the joints to conduct by a small conductor G with the above mentioned air-space.

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2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

The Combination Hopper.

This hopper is constructed to take 2 3-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a removable welch on top to take the surface water. The lower part of the hopper with side cutout is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and it will jump over, therefore it will null either position of pipe. This hopper can be used only for surface, for waste, or for leader, either side will be stopped up with iron caps if so desired.

Pacific Pan Closet.

This Closet is superior to all others, every working part and bolt being made of brass, copper and other sound, heavy casting. Particular attention is called to No. 4. This closet has an oval basin fastened in the cover by brass hinges and bolts. No breaking of rusty joints required to renew a separate basin. Constructing of two large brass pan with hopper for hopper can be used with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod. These Closets have been in use since February, 1885. Plumbers and wholesale dealers give them the best recommendation.

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<td>Architects</td>
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<td>Office, 307 Polk’s Building, Market Street</td>
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<td>A. L. LAVER</td>
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<td>San Francisco Stock Exchange Building,</td>
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<td>Pine Street, bet. Sansome &amp; Montgomery,</td>
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<td>307 Sansome Street, Rooms 16 and 17</td>
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<td>71 North Main St., Rooms 4 and 5</td>
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<td>(Room No. 10, second floor), San Francisco</td>
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Volume VII

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No Others Received.

SAN FRANCISCO, CAL., FEBRUARY 15, 1887.

Our patrons are informed that Clarence L. Crabbe has no connection whatever with this Journal. He is not authorized to make any collections, or receive either subscriptions or advertisements.

Bound Volumes of the year 1886 are now ready. We will forward a copy to any address upon receipt of $2.50.

Mechanic's Lien Law, Twenty-five per cent, Thirty-five Days, Filing Contracts, etc.

The law as it now is, among its many other maladroit provisions, makes it obligatory upon owners to retain in their hands twenty-five per cent of contract sum, for a period of thirty-five days from and after date of completion of buildings, or works of any kind, with the alternative that if paid twenty-five per cent is not so retained, the owner remains liable to creditors of the contractor, who may have performed labor, or furnished materials, for the period of time named, although the owner may, in good faith and with honest intent and purpose, have paid the full sum of agreement to the contractor, at completion, or prior to the expiration of the thirty-five days. Consequently, if an owner pretends to act kindly, and pay promptly upon completion for the materials and labor performed for, furnished to, and enjoyed by him, he must assume all the risks and chances that may follow the payment of more than seventy-five per cent of the amount of contract price, prior to the expiration of the time provided in the statute—nearly one-tenth of a whole year.

The thirty-five day clause serves no good purpose, nor is it just when made compulsory by legal enactment. Parties to any transaction may agree upon credit payments, but when a form of law is passed by the law-making powers, which proposes to compel people to give and accept such credits, unless they are about to do so or not, is an invasion of personal and business rights—"special legislation" in that its operation selects a special class of operators, and subjects these to its special penalties. In addition to this, it imposes positive hardships and inconveniences, more or less upon all concerned, but especially upon those least able to bear them—sub-contractors—who, as a rule, need all they earn as soon as it is earned, and being kept out of any portion of their earnings for thirty-five, or any other number of days, is a deprivation both unjust and unfair. For while some of our building contractors have the means to liquidate all claims against them, promptly, the larger number are possessed of no bank accounts, and can only pay as they receive the contract payments; and as a further rule, they pay their paint, plumbers, carpenters, and other sub-contractors, are made to bear a part of this thirty-five days' requirement, and it is no wonder that "the Lien Law," is a common expression among those who are compelled to bear the burdens it imposes.

Hundreds of thousands of dollars are continually tied up by this process of law, which should be in circulation. But few owners are benefited by this delay in payment, as it infinitely slows, if any, commence building improvements with any single location, if even a knowledge of the fact that the law gives thirty-five days' credit on one-fourth of all contract sums may enter into, exceeding $1,000. Nor is it likely that one in thousand would commence building simply, or to any extent, by reason of this provision of law. Owners, as a rule, see to it that their resources are, or will be equal in proper time to any undertaking ventured upon; and again, as a rule, payment at completion is convenient, and is preferred to having an unsettled balance hanging for thirty-five days. The few who would desire such accommodations, can always make the arrangements, without any necessity of forcing anyone to accept an undesired thing.

It gives no additional security. It is a bad law, in that it does not increase security to any creditor of a contractor, except that it operates as a period or species of notification, in which creditors may be able to find out that certain contract money, as a whole, has been earned. If upon this is based the merits of the provision in question, it is a heavy imposition upon very many incipient parties, and is a legal circumscription which could be greatly simplified by aiming directly at the evil sought to be remedied—that of dishonest men receiving the moneys of contracts, and failing to pay their debts. If creditors must be notified, if they are unable to keep the run of things, and cannot rely upon the integrity of their customers, the law otherwise provides—sensibly—a means of protection, i. e., notify the owner, which don't, the owner must reserve the amount of claim from the contract amount, or be responsible to the creditor in the amount due him. Thus every creditor, by taking timely precaution, can make himself safe, without the unfair, unjust, and infamous imposition of a penalty of thirty-five days' waiting for the payment of moneys due. "Delay" toward the man misbehaved is the common excuse for not pursuing the notification course. "Don't like to," for fear of offending—who? The man whose honesty or ability to pay is questioned. But this course would require personal action and individual responsibility; hence the promoters and advocates of the thirty-five days' rule shirk this plain, reasonable, and effective method, and shun behind the bulwarks of nugeneracle legal construction, to avoid a course that might, perchance, displeasure a customer who had trusted them unsuspected as more disposed than they proved, even if this shirking disposition has the effect of paralyzing the circulation of a few hundred thousand, or, perhaps, a million dollars.

Banks and loaners gain, borrowers lose. Loans, particularly...
when money is tight and interests comparatively high, are charged to the borrower from the time the loan is granted, upon the theory that the amount of the loan is "set apart to the bor-
rower," at the time the loan is passed upon. This, however, is
not practically true in all cases, but when applied, operates as a
grinding process upon the borrower, who receives no pleasure of
interest during the thirty days, while the bank continues to
be liberty to speculate with the in m e s y "placed to the credit
of the borrower," for the full period of the law's duration, and
thereby receives double interest on the amount.

How can the borrower escape these expenses? Every-
body concerned specially, and the entire building trade in gen-
eral. The framers of the preposterous proposition failed to take
in the whole situation, or to exercise intelligent comprehension
so to effects, that in the attempt to catch the dishonest, good
men's rights are threatened. Legislation which proposes to with-
hold moneys due, rightfully belonging to other parties, is ill
conceived and unjust. As a matter of course the law is general
in its application, and good men may be punished by its provisio ns,
in that they may be deprived of moneys due them by right, if
not by law. Of course, owners under contract with good, re-
sponsible men, may pay the contract money at pleasure, and this
asume the doing so, but some are apt to utilize the legal
privilege of holding onto their coin as long as the law allows, and
this is more likely to be the case in large jobs, involving
large sums, more than in those of moderate cost. Take, for in-
tance, the "Flo' building, on Market Street, the contract of which
amounts to over $300,000, which is a contract, the owner
might, in the hands of the millionaire owner, under the thirty-
five days' clause, of the contract amount earned at completion
of the building, seventy-five or more thousand dollars of moneys
rightfully without loss, as may stand to the
owner may laugh and reply: Wait the law's appointed time,
and I will pay you what you have already earned.
The intent of those who manipulated the framing of the pres-
cent law, is unavowed, good in their purpose to provide
better security for the payment of material men, sub-contractors,
and workmen, with that other nicely worked in, objectionable
joker, which makes these furnishing materials the second in
class of obligations, and with the proviso, labor having "first, leaving contractors" third, with no chance to get any pay, may put the balance
due on contract amount at final settlement should be no more
than sufficient to pay, first, workmen; second, material men. To
claim an equity in such a transaction, or at all, is simply a ridiculous absurdity. In cases where there are short-
ages in the contract sums, imposing the only alternative—pro-
ration settlement, every individual creditor is, by every considera-
tion of right, entitled to a fair and just proportion of the money
to which it is entitled. In the last amendment to the bill, or in
operation, were brought about through the efforts, and at the ex-
 pense of those who were personally interested in classifying the
"rank of each lien," as follows: First, all persons performing
services, or having any material furnished to contractor, or
sub-contractors; poor fellows, how gratifying to them to stand
by and hear the Test of the class, the ablest to lose, step in and
take all that is due them, if there is enough for that purpose,
and if not enough, then to take all there is, and those who have
furnished both material and labor, as "sub-contractors," be
smiled on as unfortunate, because in the third class, yet as
justly a creditor, and entitled to pay as much as those who re-
ceive all, or the larger portion of their claim.
The filing of contracts in the manner provided by the law, to
soci, "prior to the commencement of the works," is mischievous,
oppressive, and unjust, in that it jeopardizes and endangers the
rights of owners and contractors, if not so ill-d in point of time,
that the mere holding of the lien is set aside, and the
parts of the contract, and must also be filed, and sometimes to
do this, the commencement must be delayed, which should not
be rendered necessary by wise, and impractical legislation.
Yet if the filing is not done in time, the contract obligation is
rendered void, and the owner must suffer, while all the purposes
of filing might be as well accomplished, if filed within five (or ten)
days after "commencement" was inserted for the arbitrary "on or after the first day of the work," as may stand to the
entire building business in San Francisco, who hold to the "be-fore,"
use a very unfair argument in defense, by claiming that there
are contractors who, in less than ten days after commencement of the
work, do practice due and proper diligence, and such
would not be possible by an earlier filing. To admit this as
true, it does not reflect much credit upon the intelligence or
acumen of those who allow themselves to be caught by such
(fewly) respectable fellows, for none but men without busi-
ness standing or reputation would do any such rascally things;
and if such persons can ply their games, and beat men of long
business experience as material men, still men, etc., those best
ought to acknowledge themselves beaten, and keep quiet through
the r own want of fair business smartness, rather than seek
to impose onerous exactions upon ninety-seven hundreds of
small people in all their cases.

There is a moral debasement running all through the law, as it is,
in which aims at protection to material men, etc., without any con-
sideration of the rights and conveniences of honest mechanics;
architects, etc., or for which reason it should be, and likely will be amended during the present session by the
Legislature.

Contract Equities.

The greater number, in fact nearly all building contracts, are
made up from the owner's standpoint, and too the archi-
tect or attorney who formulates the obligation, is very
careful to include and guard his client's every interest, with no
spur provision to the contrary that the party of the second part—the
contractor. Building contracts, in a general sense, propose two
things: First, that the contractor shall furnish and provide the
material and labor required to carry out and fulfill the require-
ments of the plans and specifications, and, second, that the
owner is to pay the agreed sum of contract for the proper
execution of the work contemplated by, and defined in, the agree-
ment.

If there were no contingencies involved or possible, a contract
containing no more than is written above, would serve all practi-
cal purposes. But as it is, there are numerous possibilities that
amay arise during progress, in refer-nee to the quality of materials
bought to the use of the work, man's abilities for debts created by the contractor, in
jury to person or property, and a variety of mishaps that the
owner must be protected against. This is usually carefully at-
tended to in preparing the contract, with scarce a word not intended to oblige the contractor. He must do the work
and the other thing just in the way and manner prescribed by
the plans and specifications, subject to penalties and charges for
all neglects and failures that may occur; but it is seldom that
contracts provide against hardships that may be imposed upon
the contractor. Yet alike, the man who builds a building,
using his skill and mechanical abilities and his means and credit
to his best advantage, and he who pays coin for such fulfill-
ments have no better standards of use and protection of the
money or credit, and treated as the other as much as the other.
The figuring and valuations leading to contracts, are usually
based upon the plans and specifications, and if the plans do not
show and fairly represent what may afterwards be claimed as
the true instead of the last amendment to the law, the contractor
by the interpretation, is obliged to accept the rendering of the architect, and proceed
accordingly, or, notwithstanding the fee materially to the cost of
the work, more than would be required if the plans were in-
terpreted by disinterested parties. Plans intended to show, and
properly showing true intent and meaning, may be widely differ-
ing in their meaning.

The specifications are another most important factor, and so
clearly comprehended by the owner or user that to cover all require-
ments, there can be no issues in regard to them; but if vague, and
possible of more than one construction, they thereby become
misleading; and if "conclusively" read and interpreted by the
man who has hasted them together with omissions, or through
incompetency failed to incorporate all that was wished for by the
owner, the effect upon the contractor is the same, if bound to
submit to an indefinite and variable construction.

Again, under rulings of the courts in this State, if an owner
neglects or refuses to make the progress payments, the contractor
is not thereby relieved from progressing with the work, nor can
he claim such payments as "prevention of contract" by the
owner; but he must go on and complete before he can lien the
property or commence legal proceedings to recover the
contract moneys. Or an owner may not be prepared at the time
ordered upon to make one dollar to his own advantage, or those interested in the contractor for speculative purposes; meanwhile the contractor
must go on, and receive his credit, provide the necessary cash to pay
workmen, and suffer many hardships, because the owner, etc.,
or forced to delay the work.

Certainly these, and numerous other considerations, which
space will not permit us to recite in this issue, should influence
both architects and owner to a reasonable and just appreciation of the
equities which should be incorporated in building contracts.

NOW IS THE TIME TO SUBSCRIBE FOR 1887, $2.00 PER ANNUM, IN ADVANCE.
San Francisco Chapter American Institute of Architects.

FEBRUARY 15, 1887.

The regular monthly meeting was held on the evening of the 4th inst., A. Postal, president, presiding; B. E. Henriques, vice-president, in attendance.

The committee appointed to interview the freeholders in reference to the Board of Public Works, reported that nothing had been accomplished in regard to the subject matter of its appointment.

James E. Wolfe, of committee, to confer with a like committee from the contractors' association, in reference to the uniform builders' contract, reported that the conference of committees had prepared and submitted a form of agreement, which was thought to adjust the rights and equities of both contracting parties, in lieu of the broad and indefinite obligation generally used, in which the binding clauses are more oppressive than generous to and upon the contractor. The new form presented for the consideration of the Chapter, suggested clauses of contract, which, while compromising none of the owners' fair and reasonable rights, extended such relief and qualifications to the parties of the second part, as were consistent with fair dealings between man and man. A motion to accept and file was debated, the Chairman of the committee urging that the Chapter should express its approval or rejection, or suggest such amendments to the proposed form as would make it acceptable; but the sentiment prevailed that each architect should enjoy the right to draw up contracts to suit his own and his client's notions, and if the building regulations of the city are not interfered with, he can exercise the right to decline signature, leaving the architect the alternative of letting the work to some other party less scrupulous in regard to obligations which might, under certain conditions and circumstances, be made severely oppressive.

This motion prevailed. Hence the time and labor of the joint committee resulted in waste, as far as the concert of action by the Chapter was concerned.

A report was also received, through the same source, in reference to the present as amended bills of costs, allowing the mechanic's lien law, stating that material changes and amendments have been formulated and forwarded to Sacramento for legislative action, with the hope that our law-makers, now assembled at the State Capitol for the autumnal purpose of legislating for the benefit of the public, will oblige nine-tenths of their constituents engaged in the building business, by expunging many of the hardships and weaknesses of the law as it now exists, and substituting fairer and more equal and practical features, much better calculated to insure the proper performance of work, and the fair compensation of labor on the premises.

This, the motion to receive and file was again presented. Hence the time and labor of the joint committee resulted in waste, as far as the concert of action by the Chapter was concerned.

Building Summary for February.

The past month has been dull, as far as letting new contracts is concerned. Allowance must be made for the bad weather of the past few weeks. During the month just passed, the following summary was obtained, the number of building engagements, and the value thereof:

- 30 frame buildings, value: $120,000
- 5 brick
- 12 alterations and additions, value: $3,200
- 48 others

Why Are Bath and Water-Closet Combined?

ODERN houses located in cities, all contain a convenience the names of which are too numerous for mention. Perhaps the French No. 100 is as good as any. "Retiring Room," is a euphemism which will meet the same fate as the once delicate word "priory," which signified a private retiring room. Whatever its name, we all want it; but we want it perfect in its kind, able by its mechanical construction to remove from us the injury to our senses or our health those matters for which the body has no more need.

Most modern houses also contain another convenience, to some extent a necessity, but in great part a luxury. This consists of a tub, usually resembling a coffin in shape, and capable of containing enough water to cover the bottom of the most ample, a bath is a matter of cleanliness; but in its most developed condition it may be considered one of pleasurable sensations, and it is to be noted that unless the latter are received by the bather, he is much inclined to omit the bath.

No matter how carefully the privacy, water-closet, retiring-room, or whatever else it is called, be constructed, the scent of smell will always find some offence thereof, and that of sight may at times have its defilement exposed. Since this is the case, the question may be asked, "Why is it usual to locate the water-closet in the bath-room?" Why is the bather condemn'd to have his sense of smell offended by emanations which proceed from matters excepted either by his own body or those of other members of the family? What natural connection is there between a water-closet and a bath?

If the matter were simply one of smell, or even one of smell and sight combined, it might concern delicacy, but would have no great importance. But in fact it is a matter of health also. Even though the closet be as clean as plumber and sanitary engineer can make it, it ought not to be combined with the bath-room because of the possibility of derangement, the probability of its use by members of the family suffering from sickness or disease, and the fact that it is required conditions different from those of the bath-room in order to maintain it perfect. For half the year, at least, through our long winters, the bath-room, if it is to be at once a source of health and of pleasure, requires to be heated, while the closet is desired and intended to be used at all times.

The former is, or ought to be, a place in which we spend some little time, while the latter is, or ought to be, for actual necessity only.

It is comfortable, no doubt, at times, to have the closet handy, and handy it can be, but should be accessible from the bath-room only by passing through a door. It should be so placed that it can be obtained without entering the bath-room, so that it can be used by one member of a family while another is bathing. Who among us does not know the misery of waiting until another has bathed, or the equal misery of bathing while the too hastily necessary beside the bath is in use?

A great deal of modern delicacy is opposed both to conveni- ence and health; but here is a matter where health and health are consonant with delicacy, since the last is in the highest degree outraged by the usual arrangement; yet delicacy has not yet taken umbrage at the unholy union of privy with bath, nor have conveni- ence or health brought in their batteries against it. —W. N. Lockington, in Furniture and Decorator.

Something to Be Remembered.

Swing all doors to the right as you enter an apartment; they are thus handled conveniently.

It is better to oil doors than to paint them; a monthly rubbing will make them as good as new.

Soiled wall paper may be cleaned with dry broom carefully applied. Bricks in sewer or plumbing pipes may be cleaned by injecting oil of peppermint into any portion of the apparatus.

If varnish or oil does not flow easily, add powdered camphor.

Shellac and borax boiled in water produces a good stain for floors.
Evolution in Architecture.

BY H. M. RUGEMI.

The gradations that have occurred in architecture from the earliest period to the present day are as marked as those that distinguish every other branch of art. The earliest dwellings of which we have any record were caves, or grottoes, which date to a time before ancient Troy was built. Some of these were said to have recently existed in the Island of Sicily; and on the coast of Syria, not many years ago, was an extensive subterranean city, constructed like a beehive. Mud buildings were imitations of marten's nests, and Plutarch mentions cottages made of framework and mud. In the days of Abraham the nomadic tribes dwelt in tents, which they removed from place to place as the exigencies of their herds required, and in Arabia the wandering tribes still live in their primitive houses. These, with the caverns, the mud kreas of the Hottentots, and the wigwams of the American Indians, were the first habitations of man. In their kralid and the home of the Equinacius resemble each other. The one, however, is built of mud, and the other of ice.

Of the cities now existing, Damascus, in Syria, is the oldest, and to this day retains many of its early characteristics. The Wigwam of the American Indian.

In all tribes, from the arrival of Columbus, in 1492, to the present era, displays its original features, although native skill has sometimes produced a few changes in the material. Polis united at the top, and so spread at the base as to encompass a few square feet of ground, form the accustomed frame. Upon this are fastened strips of bark or the skins of animals. The ground is the floor, on a fire is built in the center, the chimney consists, or bark. Windows of an opening left in the covering at the summit of the structure. Here the family reside until a scarcity of food or other social need compels them to remove to another locality.

The home in the forest.

When white men began to emigrate from the Old to the New World, the conveniences to which they had been accustomed, and the inconveniences of the Indian wigwam, led them to erect dwellings more suitable to their tastes and habits. Unlike the Indians, they were producers of various crops, and required more land or a homestead. Shelter was a prerequisite while they were clearing the forest and preparing the soil for cultivation. Building materials and tools were scarce and of the rudest sort; and the home was made of branches of trees for framework, covered and floored with slabs or boards roughly hewn from fallen trees, with fireplaces and chimneys wrought with stones and clay. In other cases the trunks of trees were piled one upon another, leaving great intervals of space between, to be filled with strips of wood and mud. Roofs were constructed of rough slabs, boards, and moss. Windows were few and consisted, in the warmest season, principally of open spaces in the walls. In such dwellings were born and reared some of the noblest men and women whose names and deeds embazon the records of this nation. The ancient cottages of Great Britain, were a trifle in advance of the first home in the wilderness, but still devoid of elegance in either construction or material. Low walls of stone, the doorways reaching nearly to the eaves, the diamond window, and the roof thatched with straw, composed a dwelling both picturesque and comfortable for the rustic family. In such a residence was born the favorite Scottish poet, Robert Burns, near Ayr, in 1759.

The house where George Stephenson, "the father of English railways," was born, at Wylam, England, shows a better class of rural cottages, but is lacking in every element of beauty, indicating the rude, practical bearing of the common laboring class. But the genius of Burns and other Stephensons have cast about these cottages haloes of glory that make them very attractive.

Early Homes in America.

In America, also, the early homes of many of our millionaires, statesmen, and warriors were no better than those in which the great and noble of Europe were first cradled. General Urant's birthplace on the banks of the Ohio; the log cabin of Abraham Lincoln, in the wilds of Mason County, III., in 1830; and the first home of a day Gould, in Connecticut, are fair examples of the dwellings in which many of our most noted men have been reared.

But as the country gradually developed, and its varied resources were brought into requisition, one by one, the agriculturists became competent to erect better dwellings, and with the increase of commerce, merchants acquired more room and means for the exercise of their social tastes, and soon.

Rural and Metropolitan Mansions.

Began to beautify the natural surroundings of town and country. The plain stone or brick mansion, with its square windows and corners, its columns with massive columns, its general air of solidity and comfort, with here and there an ornamental gable, a lichen-barked, and gravelled walks in the gardens, filled with beautiful flowers, succeeded to the uncoth wooden haloes of a"cottage" on the banks of the river.

VARIATIONS OF ARCHITECTURE.

Architecture, like the fashions in dress, has varied with each succeeding age, governed by the necessities of the people quite as much as by their tastes. In the old medieval days of knighthood and fighting henchmen, arose the turreted strongholds, the impregnable castle, the meaet, the drawbridge, and the guarded approach; and the edifices of that age, ruined and picturesque, now adorn many a landscape in the European States. Then rose the abbey and

The Butressed Cathedrals.

With their quaint forms, their solid masonry, their gorgeous windows, their imposing towers, and their fretted interiors, dignified, solemn, and inspiring throughout.

Later ages brought more cheerful ideas of social and religious life. The knights, henchmen, and monks passed away. The new generation was more prone to succumb to strife and spell. Learning and the arts of peace became popular, and genius evolved new and more pleasing forms of architecture. Mansions grew less like castles and dungeons, cathedrals became churches, with more of light and love in their worship, and dignity and arrogance gave
place to gentler emotions. Sociability led to frequent exchanges of opinions; men cultivated those things in architecture and art that tended to elevate and elevate it, educate the taste, and develop comfort, convenience and elegance in the home.

The Progress of Improvement.

As the arts and sciences expanded, they were pressed into service for the improvement and adornment of the residence. Old-fashioned systems were discarded, and new materials and new arts were brought into requisition for the expression of the spirit of the age. The grate superseded the fireplace; the stove succeeded the grate; the furnace took the place of the stove; the steam-heater crowded out the furnace. The whale-oil lamp pushed the candle out of the family room; kerosene oil superseded whale-oil; coal-gas threw both oils out of the household economy, and electric lights drove gas-light into the background. So in architecture. Antebellum granite and costly marble succeeded the limestone and brick in masonry, as common stone and brick had superseded wooden building material.

Security and Grandeur

Were born of iron and terra-cotta; and with each recurring change in building and building material came increased elegance, convenience and luxury.

It is true that this growth of architectural display the styles and rules of the old arts in building have been largely ignored and sacrificed, and new forms and features, unknown in other times, have been pressed into the service of the modern architect and builder.

But in all this is manifested the changing spirit of the ages. Just as the arbitrary sentiments of the medieval times have passed away, and as the liberal spirit of the nineteenth century now prevails, so the architecture of the past has succumbed to the more independent, versatile and attractive shapes assumed in the buildings of to-day. This is the epoch of original and elaborate ornamentation.

And the expansion of these grand architectural achievements is limited only by the capital of the individual who desires to build.

If we compare, for example, the beautiful villa of Alexander Pope, at Twickenham, England (exhibited in the poem on another page), with the magnificent family mansion of James C. Flood, at Menlo Park, in California, twenty miles from San Francisco, we shall be struck with the contrast they present.

Public Edifices

We call attention to one more striking contrast in the architecture of the past and present. A representative of a past age is Independence Hall, Philadelphia, where the Centennial Congress held its sessions, and where the Declaration of Independence was adopted July 4, 1776. Venerable in its architecture and associations, it did honor to the social and political era in which it became famous, but, in contrast with the present Capitol of the United States, it shows the difference that a century has wrought in American architecture.

The Present Capitol at Washington.

Critically considered, externally and internally, may not strictly be termed a grand architectural triumph, but in its vast proportions, imposing elevations and valuable art-works, it shods luster upon the nation which it represents.

In America, for several generations, architecture scarcely kept pace with the improvements in other branches of art throughout the country, and has been more especially developed within the past decade, so far as residences are concerned, than at any former period. For nearly a century there were but few radical changes, and those were improvements rather in securing convenience and comfort than elegance.

Wigwam and Shanty.

It is true that the wigwam and the board shanty had their places, just as they have now, among the Indians and lumbermen of the wilderness, and in these there, was, of course, little or no improvement. Shelter was the object sought, and everything among these primitive classes was sacrificed to comfort, even in its rudest form.

First Farm Houses.

The pioneer settler on new lands felt the necessity of ample shelter for himself and his family, but beyond this his ambition did not extend until he had gained cultivated soil sufficient to yield him all the necessities of life. Then the log house and the board shanty were supplanted by the next, that is frame house, without paint, or cornice, or blind, or a single ornament in its construction. In time a cornice, shutters, and a coat of paint were added. As prosperity increased, a back kitchen was attached. Later on, a wing was projected on one side, with a small portico in front. Next the growing family required another wing on the other side, with another portico.

The House of Six Gables.

Wealth continuing to accrue, a new site and a new house of larger size and more imposing appearance was planned and built. It had a stone cellar, or basement, was two stories high, built of wood, with high ceilings, and had long windows, green venetian blinds, a six gabled roof, dormer windows, and several entrances, reached by steps.

The Rural Mansion.

A few years later, a new location suggested the large square tenement, two stories high, with a substantial cellar, a center hall running through the building, large rooms, immense windows, a square hip roof with heavy cornice, and chimneys on every side; a covered porch extending around three sides of the lower story, and venetian shutters to every window.

The Mansard Villa.

A town residence becoming desirable, brick, stone, and mortar grew into a mansion of two stories and a basement, with bay-windows, or a swell front, a mansard roof, stone steps, and iron balusters, a fanciful porch at the front door, and a general air of gentility pervading the whole. Lawns, walks, and flower-vases distinguished the front yard.

The Home of a Business Man.

Cultivated taste soon induced the wealthy citizen to invest in a more attractive residence. Fifty or a hundred thousand dollars were expended in a family mansion of more elaborate grandeur, the finest material, the most of ornamentation, and a degree of architectural beauty seldom realized, and of which the house-owner had seldom dreamed. To build it, marble, granite, freestone, iron, pressed brick, terra-cotta, and hard woods in great variety were brought into requisition; curves and oblique lines were diversified in its elevation, and a towering cupola embellished with the numerous artistic designs of modern architecture, topped the stately edifice.
THE PALACE OF THE CAPITALIST.

"But the millionaire was not content with this, the most notable architectural triumph of his times. Money bought a noble situation; purchased the taste and skill of the best architects for its design, and ship-loads of the most costly stones that in modern quarters, cost next to nothing, can produce, the best skilled builders, the choicest of everything, native and foreign, that can be used in its construction were ordered, until the expense mounted into a million or more of dollars. Of such is the mansion of James G. Flood, the work of which occupied several years, and it is undoubtedly one of the finest dwellings ever designed and erected in America. In it are combined all the elements that make architecture beautiful.

Architecture possesses the versatility that characterizes the babi-do-scope; it can produce a thousand varied charms, which depend solely upon the good taste of the designer and the skill of the artisan to perpetuate forever.

EGYPTIAN ARCHITECTURE.

The general plan of the great Egyptian temples is thus described by Deyon. 1. An avenue of sphinxes. 2. Two colossal figures on each side of a gateway formed by immense towers of truncated pyramids and overhanging cornices. 3. This gateway led into a court full of columns, and chandeliers around the walls. 4. Passing across this, there are other courts, likewise columns, through gateways ornamented with colossal figures and obelisks. 5. In the center was the sanctuary, without light, consisting of a single excavated block. One, at the Temple of Laton, was raised 60 feet broad in front, carved out of one entire stone, and roofed by the palace of the kings of Babylon, now in ruins, is a vast mass. It was ring 2,100 feet each way. The walls are eighty feet thick, one within another, and strengthened with buttresses. The most astonishing collection of finished and costly architecture in the world, now a mass of splendid ruins, is at Baalbec, in the valley between the plains, on which was raised a temple to Baal, or the sun, consisting of stones thirty feet above the level, more than 60 feet long, 24 feet thick, and 16 broad. Each of these stones measures 23,000 cubic feet, and weighs 2,500 tons, squared, sculptured, and brought from distant quarries. Six of the columns are each 72 feet high, formed of three stones each 7 feet in diameter, with fini-bed Corinthian capitals and friezes. It is believed to have been the work of the giants who formerly, as all authorities agree, dwelt in the mountains of Lebanon. Three stones still remain in a wall that measures 116, 63, 64 feet and 67 feet long. It is said of that the place was in existence in the days of Solomon, when it was called Bashalath, but it was not built by the hands of men.

The modern Arab tent is said to exactly resemble that of the ancient sons of Abraham. The modern Arab tent is said to exactly resemble that of the ancient sons of Abraham.

The Homes of England.

BY MRS. HEMANS.

The stately Homes of England: how beautiful they stand, Amidst their tall ancestral trees, o'er all the pleasant land! The deer cross their greenward bound, Through shady and many a plain, And the swan glides past them with the sound of some reposing stream. The many Homes of England! Around their breathes the light, What gladness wakes of household joy, Meet in the ru]dy glight. There woman's voice swell forth in song, 'tis childhood tale is told, Or lips move musingly along Some glorious page of old.
The blessed Homes of England! How softly on their towers is held the holy gladness that breathes from Sabbath hours! The general plan of the great Egyptian temples is thus described by Deyon. 1. An avenue of sphinxes. 2. Two colossal figures on each side of a gateway formed by immense towers of truncated pyramids and overhanging cornices. 3. This gateway led into a court full of columns, and chandeliers around the walls. 4. Passing across this, there are other courts, likewise columns, through gateways ornamented with colossal figures and obelisks. 5. In the center was the sanctuary, without light, consisting of a single excavated block. One, at the Temple of Laton, was raised 60 feet broad in front, carved out of one entire stone, and roofed by the palace of the kings of Babylon, now in ruins, is a vast mass. It was ring 2,100 feet each way. The walls are eighty feet thick, one within another, and strengthened with buttresses. The most astonishing collection of finished and costly architecture in the world, now a mass of splendid ruins, is at Baalbec, in the valley between the plains, on which was raised a temple to Baal, or the sun, consisting of stones thirty feet above the level, more than 60 feet long, 24 feet thick, and 16 broad. Each of these stones measures 23,000 cubic feet, and weighs 2,500 tons, squared, sculptured, and brought from distant quarries. Six of the columns are each 72 feet high, formed of three stones each 7 feet in diameter, with fini-bed Corinthian capitals and friezes. It is believed to have been the work of the giants who formerly, as all authorities agree, dwelt in the mountains of Lebanon. Three stones still remain in a wall that measures 116, 63, 64 feet and 67 feet long. It is said of that the place was in existence in the days of Solomon, when it was called Bashalath, but it was not built by the hands of men.

The modern Arab tent is said to exactly resemble that of the ancient sons of Abraham. The modern Arab tent is said to exactly resemble that of the ancient sons of Abraham.
Scarcity of Competent Draughtsmen.

ALREADY, architects are beginning to feel the scarcity of competent draughtsmen. This office is naturally looked to by the profession as the headquarters of disengaged draughtsmen; but for months there has not been on our books a single name the owner of which really claimed to possess the abilities required to well and truly delineate the plans and details of an ordinary building. Even second-rate men are very scarce, while the small army of "tracers," copyists, etc., that so infested the various offices two years ago, seem to have disappeared entirely.

The principal reason for this lack of the proper kind of talent, lies in the fact that the surrounding country has drawn off everyone who thought their condition could be bettered. The southern part of the State has a few about as many as the northern part. Just before the holidays, architects from San Diego, Los Angeles, Pasadena, and other places, visited this office, and left carte blanche orders to have their wants supplied, no matter what the wages demanded were. Even with this pressing need to be supplied, but one draughtsman could be found to take the offer.

Several firms in this city have applied for the first disengaged man of whom we may hear. Repeated inquiries, however, develop the fact that there are no idle draughtsmen in this city, and none whose engagements will shortly expire. We need about a dozen more to be added to our regular corps in San Francisco.

Our Eastern friends who read this article, and who may desire to come to this place, need give serious consideration to the following facts. For nine months in the year there is a considerable amount of building going on; the remaining three months finding slack months, as statistics will show. During the past year, in this city alone, 2,782 buildings have been erected at a cost of $19,615,505.

Wages vary from $2.50 to $1.00 per day, depending altogether on the ability of the draftsman. The hours are the same as in most Eastern cities. Above all things, do not come here with the idea that you know it all. Our details are essentially different from those East. There, stone and brick buildings are in the majority as far as numbers are concerned. Here, the exact opposite is the case. Fully nine-tenths of the buildings in California are built altogether of wood, the chimneys, and in some cases the foundations, alone excepted. We do not think in the whole State of California, that there are fifty buildings on which stone "trimmings" are used, and yet there are buildings costing up in the hundreds of thousands. So a new draughtsman must be prepared to spend a little time in studying our details.

Should anyone desire to make the Golden State his future home, we will take pleasure in informing him of the chances of employment. When writing, state age, qualifications etc., in which that simple information can be given to those who will bid you come. Be sure to state the number of years engaged in the profession, and the degree of skill to which you consider that you have arrived. No charge is made for any devices we may give.

Do not—California like—pack up and start for this place as soon as you read this article. From twelve to fifteen good draughtsmen are all we want at present. Write to this office first, give all information necessary, and then wait for our answer; when you get the latter you can depend on any statements we make.

HAND IN OR SEND

Your SUBSCRIPTIONS for 1887

To those who so promptly responded to our request for immediate settlement of subscription and advertising balances,

WE SAY, THANK YOU.

To those against whose names remain unpaid balances, we say,

PLEASE PAY UP AT ONCE.

Remembering that—Defrauding an editor is considered one of the meanest kinds of peculation; that—"Honest men are the gentlemen of nature;" that—"The man who loves in his honesty, lacks but little of the rogue;" that—A rogue in spirit is a rogue in gain."

Therefore,—Let every one who receives or reads this journal, forthwith forward to this office its subscription price for 1887, and any and all unpaid indebtedness.
ASKED, ANSWERED, AND COMMUNICATED

The columns of this journal are open to all who desire to publish a subject yet unprinted. We are too old to experience to assume that we have passed the realm of human liability to err, or for some reason to suppose that we have reached the realms of thought wherein perfection reigns supreme. But this we do assure—that whenever an error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

We are to the makers of this department of our journal, and, in order to make it thoroughly interesting, we desire the co-operation of all architects, mechanics, etc., whether subscribers or not. In this column there is a great opportunity for comparison of ideas on the practical questions of the day; and we hope to receive from those interested, and especially amongst builders, questions asking in their daily practice. No matter what may be the solutions given to the various problems presented, we shall only be too pleased to receive replies from our readers, where they are better and other solutions for them. If a general interchange of ideas can be brought about, great advantages will ensue to all. Let not a month go by without bringing up for discussion practical topics in the architectural, mechanical, or scientific pursuits. We desire a general communication of opinions, for or against, of every article presented by us. Every mechanic should have a copy of this table on the inside of his chest lid.

Lumber Measure. Save This Table.

BELOW will be found, in a very convenient form, a table by the use of which the number of feet in any given size of timber, can be readily and accurately obtained.

The column on the left gives the size of the timber; the figures on the top the length in feet. It will be readily apparent that any quantity can be found besides those given. Suppose the timber was 14 x 32, 100 feet long. This in length would be 2 pieces 30 feet long and 2 pieces 20 feet long = 1,534 feet; double this = 3,068 feet, the correct answer.

A piece 16 x 16 = 30 feet long, can be found similarly, being equal to 4 pieces 8 x 8 of same length.

Every mechanic should have a copy of this table posted on the inside of his chest lid.

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**TABLE OF LUMBER MEASURE.**

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**GRIMSHAW ON SAWS, PRICE - - - $4.00.**

An illustrated article by Fred Lacy, on the "Diagonal Brace Question," will appear in our next.

**STEEL SQUARE, ITS USES, PRICE $1.00.**

Mechanics, and all others interested, should remember that we can furnish any books printed, at the shortest notice and the lowest prices. We have reduced the price of "Science of Carpenter's Work," to $4.00.

CONTRACTORS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.
Paper Read Before the S. F. Chapter, American Institute of Architects, Feb. 4, 1887, by Fellow John Gash, Esq.

Mr. PRESIDENT AND GENTLEMEN: In my papers for this evening's reading, I would say by form of pref- face, that I do not intend to speak of the way in which plumbing should be done, as of this subject, like many others, much has already been said and written; it is rather to show the growth and progress of the sanitary system of the home, built in the midst of the supply of the water for culinary purposes, as also for the bath.

Like most of the subjects that are partially lost in the sands of time, we find dim references of both of these in Biblical lore. The tales of Abraham's wife were being forced from their flocks, and the drinking water was flowing from the wells for domestic use. Nor was this labor unattended by a blessing, as we read of Rebecca, the daughter of Bethuel, going to the well to fetch water, and there meeting the servant of her future husband, Isaac, a domestic romance that has and may well be read and copied by Rebecca's daughters from then till now.

The refreshing advantages of the bath are too well known to the whole animal kingdom and to man in all ages and countries, and its luxuries may be read of in the history of the Jews, Romans, Greeks, and Egyptians, and those ruins of the baths of Caracalla and Diocletian stand as monuments telling of the luxury to which the bath had been carried in those days.

But the drawing of water from the sanitary purposes has long been abandoned, and the introduction of water into dwellings by means of piping, and the conveying of water there- from, has perhaps occupied the attention of more persons in the present age than any other factor in building. The architect, sanitary man, civil engineer, with the army of physicians, have jointly and severally handled this subject, until I am happy to say, our system of plumbing is pretty thoroughly understood, not indeed has any foreign or European country made such advances in this and other parts of our own country, and I would say, perhaps no city in the Union can boast of as thorough a system of plumbing as we can in our own city of San Francisco, without, of course, any reference to its sewerage, which, perhaps, runs to the other extreme.

From many centuries physicians had a practical monopoly of what little was known of the conditions affecting the public health, and there seemed to be no incentive to original investigation and experiment, even if the means of prosecuting an inquiry so important to all classes of the people, had been at the command of those who, under more favorable circumstances, would doubtless have made important contributions to the literature of plumbing.

To the medical profession we owe the greater part of what has already been learned, but still it is recognized by the truth which form the basis of sanitary science. Indeed, so strongly has this matter been taken hold of by the public mind that they no longer attribute the visitation of the "Angel of Death" to the "affecting dispensations of providence" which are so mysterious and painfulelt out.

People often wonder why we do not have such fearful visitations of epidemics at the present day—as the plague of London, the ancient spotted fever, sweating sickness, etc.—yet we have outbreaks of cholera, yellow fever, and typhoid, with other diseases, which may be traced to that most deadly foe of the household, sewer gas, which stealthily creeps through our houses through the night, and midst the dazzling splendor of the beautifully draped parties on our modern gas fires, and whose odors is inhaled by some dear member of the household, perhaps a loving child, a fond parent, or an affectionate brother or sister.

This foe of the fireside, you gentlemen, as architects, should most sanitarily battle against.

When you hear of persons desiring to have their houses filled up with all the modern conveniences, so-called, bear in mind an unseen stranger as above referred to, may be also introduced.

In the sewage system emanation from decomposing sewerage which, when mingled with the confined air of our unventilated living and sleeping rooms, retains its terrible power for mischief long enough to do its deadly work effectually. And how the sewer gas, often termed the "cinder" of the world is poisoning is very often found where sewer gas proper does not penetrate.

In most houses the so-called sewer gas, which is both a nuisance and a danger, is chiefly manufactured on the premises, and does its fatal work not the house, effectually. One wrong name. The worst defects of the commonness plumbing done by contract are rarely noticed in new houses.

All the sewer connections are made that over will be made, but we pass from room to room without noticing any unpleasant smell, and therefore never suspecting danger, then the pipes are fouled by the waste of the house, the trouble begins, and it increases from month to month, and year to year, as the fouls within the waste pipe system accumulates, and until the gaseous products of decomposition within the pipes accumulate. Then a gas is produced mixing with the air we breathe in living and sleeping rooms.

From the most careful analysis of sewer gas, it shows that it is composed chiefly of carbonic acid, nitrogen, sulpharated hydrogen, and some feld vapor. The elementary gases and those of lesser composition which are most commonly found in sewers and unventilated cess-pools, though mostly capable of destroying life under favorable conditions, are not considered responsible for much, if any, of the fatal effects properly attributed to sewer gas. Carbonic acid is the gas which in greatest volumes in sewers, both ventilated and unventilated.

The proportion as determined by analysis varies according to circumstances, but it is usually large. This gas is an invariable product of the decomposition of all substances containing carbon.

Inhaled in concentrated form it quickly produces death, and even when considerably diluted with atmospheric air, produces asphyxia, and unless the victim is quickly rescued from its influence, death follows promptly. It does not readily leave sewers and cess-pools, however, owing to the fact that its specific gravity is considerably greater than the air, and so much of it as would naturally find its way into a house from a sewer or cess-pool, has been proved beyond a reasonable doubt to cause typhoid fever.

In some cases in the town of Carondale, where people have entered the house, it did not smell offensive, only a faint, sickly odor being recognized. In this case the gas was driven into the house by a shower filling the conduits with water.

The problem of the treatment of sewage is so important, thorough ventilation of sewers, and so many ways and means have been suggested that a description of even a few of them would be more than my paper would allow; but the most universally adopted seems to recommend "man-holes" in our streets, covered with gratings as quiet as a grave in a quiet churchyard, and those kept free from street cleanings; and to oblige every house-owner to vent his soil pipe (unobstructed by any form of trap along its line) to a point above his roof; the ventilation of sewers might be a worse nuisance than the incoming tide, etc., the difficulties attending steep grades, and other such obstructions to be not in many cities, would admit of many theories, a paper on which, by one of you gentlemen, would I am sure, warmly received by our Chapter.

But the sanitary conditions of cities and towns nowadays, and those of a couple of hundred years ago, are very gratifying. After the fall of the Roman Empire to the end of the Middle Ages the people of Europe may be said to be unwashed. Of the Rigor, physics, theology, etc., that one day looking from his window, he saw a carrage passing, and the substance forming the streets being stirred up by the revolution of the wheels, emitted a stench so powerful as to overpower the king. This is a thing which we would like to see our citizens to pave the streets, and to assist in the purification of the city he built walls round the cathedral to prevent it from remaining any longer a common corner for convenience.

Nor was the city of London any better. A writer of the period says that the streets around St. Paul's were covered with horse manure a yard deep. Floors were of clay, covered with rushes which grew in the fens, and which were so slightly removed now and then that the lower part remained for many years unburied, and in it such a collection of foulness as can only be carried away in a scavenger's dog-cart. Cleanliness of the person was a thing almost unknown.

One old writer says the better classes of people wore clean garments on the outside, but the lower classes, when worn up, they fell piecemeal away from their unwashed bodies.

Comparing this account with the advance the present generation has made in cleanliness, we bring us as if ourselves to that age in which Rome could so boastingly speak, amongst other things, of her aqueducts for water supply, her public baths, giving facilities to her citizens to take at the rate of 70,000 baths per day. A revival of the luxury of the bath, known under the name of Roman, Turkish, Russian, German, Jewish, Medicinal, Wavy Hot Air, O, featured. Gas, poisoning gases poisoning are very often found where sewer gas proper does not penetrate.

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All the sewer connections are made that over will be made, but
species of polite and manly announcements—to give them any sort of a description would, in fact, require another paper with this, when I will be able to furnish with them a few drawings, showing their internal arrangements, and sections showing their mode of heating such quantities of water, etc.

Warner's Hangers.

It is a pleasing duty to bestow attention to one of the most ingenious of modern architectural conveniences, a device, indeed, which justly claims rank among the necessities of home building.

Warner’s Patent Sliding Door Hangers, owned and manufactured by E. C. Stearns & Co., Syracuse, N.Y., are as nearly perfect in producing the effects desired by their users human ingenuity may hope to achieve.

That over 100,000 sets of these hangers are now in use, that some 1,200 leading architects accord them an unqualified approval, are but the logical sequence to established merit.

The main features of “Warner’s” are too well known and appreciated to need more than a bare summary. They obviate cutting the carpet; do away with the floor rail; always remain on the track; are easily adjusted to skirtings; are entirely concealed, and run so true that the heaviest of doors are easily moved.

“Warner’s” is the pioneer hanger in the market. It has suggested numerous imitations which have done valuable service to the public by advertising the original; for the sale of Warner’s is at present greater than the combined product of its many competitors.

In a word, Warner’s Patent Sliding Door Hangers completely and perfectly fill a great public need, and admit of no rivalry, because they exactly and economically produce the effects required.

Thermometers.

Perhaps not one in a hundred can tell off-hand why a point thirty-two degrees below freezing point on Fahrenheit’s thermometer is called zero. For that matter, nobody knows.

The Fahrenheit scale was introduced in 1720. Like other thermometer scales, it has two fixed points, the boiling point and the freezing point, or rather the melting point of water. The Centigrade and Ranknurn scales call the freezing point zero, and measure therefrom in both directions. Fahrenheit kept the principle on which he graduated his thermometers a secret, and no one has ever discovered it. It is supposed, however, that he considered his zero—thirty-two degrees below freezing—the point of absolute cold or absence of all heat, either in cause, being about the temperature of melting salt and snow, it was the greatest degree of cold that he could produce artificially, or because it was the lowest natural temperature of which he could find any record. The grounds on which Fahrenheit put one hundred and eighty degrees between the freezing and boiling points are likewise unknown.

A Picturesque Cottage.

Our engraving portrays a one-story cottage very conveniently arranged for a small family. The hall is so situated that easy access is obtained to all the principal rooms. If found necessary a fire can be had in every room, the chimneys being so placed that access to fumigation in this line are very convenient. The elevation is plain, but just suited to those whose purses are not of the longest. As shown, the house, with present prices of materials, can be built anywhere from $1,250 to $1,500.

Useful Hints in Building.

See that chimneys are built on good stone foundations; settlement will be avoided and one of the causes of unexplained fires will be removed.

Do not finish windows to the floor; the circulation across the floor is one of the causes of cold houses.

Steps to doors and windows should be fastened with round head screws, so as to be easily moved.

Do not construct solid doors of two kinds of hard wood; the action of the atmosphere on one or the other will cause the door to warp.

In building book-cases let there be a half inch space between the back of the -if- and the wall; dust can then easily be brushed back, falling to the bottom.

Do not locate a furnace register next to a mantel, that is, if you wish to utilize the heat.

Do not build a chimney in the cellar of a house unless you wish to generate unhealthy atmosphere.

A closet fini'd with red cedar shelves and drawers is death to moths and insects.

Porch floors should be of narrow stuff and the joints laid in white lead.

The ceilings of closets may be made lower than the apartment adjoining; it saves plastering.

A ventilating flue from the kitchen into the chimney often does away with atmospheric meals.

In building frame houses, till the stubbing one foot high above the sill with brick; this dispenses the use of rat traps.

Ash pits in cellars under fire places and mantels save taking up ashes, for they may be raked down through a hopper.

Plaster cornices and center pieces are relegated to the past. Paper and fresco work is the proper thing.

Sliding doors into small apartments are to be preferred in place of folding.

Don’t incline the sink; no place in a kitchen is so much neglected.

Do not use one chimney flue for two stove pipes; the draught of one will counteract that of the other.

Lime water is a fire-proof protection for shingles or any light wood-work.
The accompanying plans below, and the perspective above, illustrate a design for a nine-room suburban or country home, suitable for a small refined family wanting all the privacy and elegance of a first-class dwelling, and yet embodied in a small space without any great outlay or expense.

The broken outline of the building, with gables in every direction, finished with fancy shingling, carved brackets, ornamental finishes, and high pitched roof, and the square bay-windows on the front and on the side, would make a very picturesque, attractive building, if surrounded by shade trees or shrubbery. A careful examination of the floor plans will show at once the convenience and beauty of arrangement. The front entrance door opens into a large hall, with the parlor on the right, and doors communicating with dining and sitting-rooms in front. A beautiful conservatory, with glass sides and roof, opens off the rear hall and sitting-room.

The cuts illustrating this article were kindly furnished us by David Salfield, architect, whose office has lately been moved to 339 Kearny Street.

Architects, Attention!

We want every architect on the Pacific Coast to contribute a short article for the March number of this Journal. It should be your aim to make your home journal interesting to all who may read it, and there is no surer way to obtain this end than by each one writing a short article. Illustrate it, if need be; we will make the cuts. Be sure that the articles reach this office by the 6th of the month.

To Contractors.

What contractor in the city but knows of some little idea that would be beneficial to our readers. Help to build up this journal by a free interchange of thoughts. It will pay you tenfold to be in communication through our columns with all the master mechanics of the Pacific Slope. Do not let the thought enter your mind that you cannot write well enough. Do the best you can, and we will see that your ideas are presented in proper shape.

Apprentices.

When you have found out any ideas that should be known by every one, forward them to us, and we will publish them under your own names, that others, hearing of your good deeds, may go and do likewise.

TREGDOLDS CARPENTRY,
Price, - - - - - - $7.50.

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.
COUNTRY BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which can be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. We have been busy the past two months in perfecting arrangements by which we can secure information from every portion of the Pacific slope. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

For eight years there has appeared in this journal, building news from every portion of the country. But in its condenced form it did not attract the attention it deserved. We begin the New Year by making a specialty of the item mentioned.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on"; we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interests of Architects, Contractors, and Material Men.

Alameda.

J. Maristany is erecting two six-room cottages on Alameda Avenue. Cost, $4,500.

Hand Railing and Stair Casing, for $1.75.

Drawing for Carpenters, for $1.75.

Mrs. Brexley will soon erect a new building on Everett Street.

Painter, Glider, and Varnisher, for $1.50.

Architect's Companion, for $2.50.

Henry Godfrey has contracted for a $2,500 brick building.

Manual for Furniture Men, for $1.00.

Common-Sense Church Architecture, for $1.00.

Fresno.

Mr. Timothy Paige is about to erect twenty cottages in the western part of town.

Woodward's Farm Homes, for $1.00.

Woodward's Grapevines, for $1.00.

Wm. Peal and Rohr Minto are building handsome residences near town.

Practical Perspective, for $5.00.

Woodward's Country Homes, for $1.50.

Haywards.

John H. Boden is about to erect a $3,000 dwelling.

Lamberton's Hand-Book, for $3.00.

Practical Geometry, for $3.00.

Los Angeles.

A large building for a passenger depot will be shortly commenced for the A. T. & S. F. Railway Co. It will be of brick, and two stories high. A large freight depot will also be built near the above. The latter, however, will be of frame.

Artistic Homes, for $3.50.

Modern House Painting, for $5.00.

For the winter season there is a vast amount of building going forward. Residences continue to spring up all over the expansive area of the city, which embraces thirty-six square miles, as if by magic. There are not less than two hundred new homes new in course of construction in the municipality. Many of these are very elegant edifices, each of which will cost a great deal of money. Foremost among such are Mr. W. T. Lambie's new house, which covers a slightly knoll in the extreme east of East Los Angeles; the new mansion of Mr. A. Classell, on Fort Hill; and still another in close proximity to this, the Bradbury palace, on the hill at the corner of Court and Hill Streets; the residence of Mr. T. A. Longstreet, and that of Mr. A. H. Judson nearly side by side in the Dana Tract on Figueroa Street. The cost of these will range up from $10,000 to $30,000 each.

In business blocks, there are notably the improvements made by Mr. Hellman and Colonel Baker, near the post-office, which embraces a vast area of space between Main and New High Streets, at the intersection of Sonora Street; the great blocks of brick buildings going up at the corner of Main and Second Streets, for Mr. Newell and others; the big block to cost $250,000 for the Los Angeles Improvement Company on the corner of Second and Fort Streets; a new block on the corner of Upper Main and Walker Streets; the large block for W. A. Clinton; the giant block for Louis Phillips on the corner of Spring and Franklin Streets; a small brick block on the corner of New High and Marchesnil Streets; the large block for Martin Bastincherie on the corner of Commercial and Wilmington Streets. Less magnificent buildings, both for residence and business purposes, are going up all over the city, in all parts. These remarks apply equally to East Los Angeles, Boyle Heights, the hills west of the city, the plains near the river, the region around the University in West Los Angeles, and all the sections that lie between these quarters of the municipality.

As to the future, the architects say the prospect is most excellent. They are ready to gamble heavily on the proposition that there will be more bricks laid in the year of grace, 1887, than were laid in its predecessor, within the city of Los Angeles. This is without reference to the new county Court House, of course.

Plaster, How to Make It, for $1.00.

Shavings and Sawdust, for $1.50.

R. B. Young, architect, is preparing plans for a new building for John Wigmore.

Science of Carpentry, for $4.00.

Universal Assistant, for $2.50.

Modena.

Collections are now being made for a new church building at this place.

Building Superintendent, for $3.00.

American Cottage Homes, for $3.00.

Monrovia.

A two-story building, to cost about $4,000, has just been commenced; Johnson & Parker, owners.

American House Carpenter, for $5.00.

Cutting Tools, for $2.00.

Combs & Banning will shortly commence the erection of a business block.

Every Man His Own Mechanic, for $3.50.

Tredgold's Carpenter, for $7.50.

Rev. J. B. Greenfield, A. Fll, Stewart & Perham, John Thomas, and others, are all contemplating building in the spring.

Builders' Companion, for $1.50.

Builders' Work, for $3.00.

Baptist and Methodist Churches are under way, and also a planing mill.

Builders' Construction (three volumes, very fine), for $14.00.

People's Cyclopædia (three large volumes), for $20.00.

Monrovia is in Los Angeles County.

Lamberton's Hand-Book, for $2.00.

Practical Geometry, for $1.00.

Piedmont.

The inhabitants of this place are much elated over the prospects of having a new $100,000 hotel building.

Cutting Tools, for $1.50.

Cusings' Details, for $5.00.

Pasadena.

J. E. Howard has about completed arrangements for a $10,000 residence.

Each successive number will be complete in its building reports.
Pacific Grove.
A large new hotel building will shortly be erected at this place.

San Diego.
According to the papers here, active work is steadily in progress for the new hotel to be erected on Coronado Beach.

Artistic Homes, for $35.00.
Modern House Painting, for $5.00.

San Bernardino.
The contract for the new Stewart Hotel has been let to Geo. Brothers. Consideration, $62,293. In our last issue we gave Mr. Keefe the credit for the job, but, as he failed to give bonds, Geo Brothers at once qualified. Total cost of the building will be about $65,000.

San Buenaventura.
Dr. Cody has completed a contract with J. C. Capito, for a nice dwelling.

San Jacinto.
F. M. Porter is preparing to build a $6,000 brick building.

Santa Monica.
The Episcopal Church Society have already secured $2,500 towards their proposed new building.

Limes, Cements, and Mortars, for $4.00.
Wonders of Art, for $1.25.

San Francisco Building News.

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<tr>
<td>Bartlett, cor. Twenty-fifth, One-story brick.</td>
<td>O.—Co-operative Factory. $75.00.</td>
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<td>Cliff House. Repairs.</td>
<td>$3,000.</td>
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<td>Stockton.</td>
<td>About $6,000 has been subscribed towards the erection of a $30,000 agricultural pavilion in this place.</td>
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<td>San Jose.</td>
<td>H. Groes and R. Emmett have been buying property upon which, in the spring, they will erect desirable residences.</td>
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<td>Tulare City.</td>
<td>Tyler Beach proposes to erect a $50,000 building on St. John Street.</td>
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<tr>
<td>Selma.</td>
<td>A new hotel has just been commenced. It will be three stories high, and front 120 feet on two different streets.</td>
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<td>San Francisco Building News.</td>
<td>WE WANT A BUILDING CORRESPONDENT IN EVERY TOWN IN THE STATE.</td>
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O’Farrell, bet. Stockton and Powell. Carpenter work on new brick building. $5,000.


Twenty-fifth, nr. Bartlett. Additions. $2,000.


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215, 217, 219 Bush St., S. F.
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Advertisements alone inserted that refer to materials used in the construction and furnishing of houses, and to matters and trades belonging to the building interest.

No Others Received.

SAN FRANCISCO, CAL., JULY 15, 1887.

The Fire Ordinances.

In view of the fact that Acting Police Judge Page has declared order No. 1752, comprising all ordinances relating to fire mat- ters and building construction, invalid, a general meeting of the architects in San Francisco was called and a representative number assembled on the 17th of June last to take the situation into consideration—there being no difference of opinion among the members of the profession that the order named was, and as re-enacted is, defective and insufficient. A free discussion of the subject matter was entered into, resulting in the appointment of a committee of three to prepare a petition to the Board of Sup- ervisors asking that action be deferred in the re-passage of the order until amendatory suggestion could be prepared—it being declared invalid simply upon the technical ground of insufficient publication and requiring only proper re-publication to render it again effective.

The committee performed the duty assigned them, and although the time for completing their work was exceedingly limited, thirty-six of the most prominent architects readily appended their sig- natures to the petition, which was duly presented to the Board and referred without producing the result desired.

The reason for this was, as expressed by His Honor the Mayor and members of the Board, that unless the invalid order was repassed the city might be without any fire law. That while the invalidation restored the ordinance operating prior to the passage of 1752, it was not an assured fact that it would stand the scrutiny and assault of some shrewd limb of the law, who might seek and find fatal defects therein, resulting in like fate that befell order 1752; consequently, for the city's protection and safety, it became necessary to re-enact the invalid order with all its deficiencies and defects until a better could be provided. The assurance was also given that whenever a more practical form of Fire and Building Ordinance should be presented, the Board would give it attention and careful consideration, and if found to be an improvement upon the present, it would be passed.

This places the whole matter in the hands of the architects, builders, and others most directly interested to formulate a code of Building Ordinances that will meet building requirements of the fire department and the entire building fraternity, not including those features which may be more specially denominated Fire Or- dinances, relating to destructive agencies, etc.

There is no disposition expressed on the part of either the ar- chitects or builders in San Francisco to antagonize the fire war- dens, or the chief or members of the fire department, but there is an earnest wish that an ordinance may soon be perfected, re- moved of all those features which in the past have caused annoy- ances, vexations, arrests, etc., which will meet every requirement of the arbitration of a board of impartial, competent referees, would be given consideration according to merit, and adjusted upon equitable basis, instead of—as in the present ordinance—the same rule applying in all cases, the same result prevailing in all cases, the same rating being accorded equally any two are relatively equal. But if anything is to be effected in the matter, the architects or builders, jointly or severally, must take the initiative, and proceed as best judgment and experience may suggest.

Perfect Ventilation and Pure Air Essential to Human Life and Health.

This is no intelligent person will question. It is a fact so univer- sally understood that argument in its support is wholly unnecessary; still, while its vital importance is universally ad- mitted, and its factorship in the healthfulness of mankind rec- ognized, a strange degree of apathy, except in words, exists in the practical application of the means best calculated to secure this highly essential provision of the great Creator, who, in his crea- tion of our earth, not only fixed the great sources of light in the firmament, but also surrounded the planet upon which we dwell with the prerequisite to health—pure air. As is well known, its entire absence produces death, and human life and health, in large degree, are affected by the free or restricted use of this health-giving agency.

All this being well understood, tens of thousands have em- ployed their genius, talents, and both mechanical and scientific skill in discovering and devising the most perfect and practical method of utilizing this indispensable element in dwellings, churches, school-houses, theaters, and places where people dwell or assemble in large numbers for purposes of worship or pleasure, and as a result numerous devices have been perfected and ap- plied that in part, at least, have produced the object sought, while but few of the inexpensive kind have gained a perpetuity beyond occasional use.

Hence it is with pleasure that we notice the invention of our fellow-townswoman, Mr. P. Abrahamson, who has perfected a ven- tilator that must supersede all others in its simplicity, complete- ness, and practicability. The array of testimonials from those who have used them should be sufficient to satisfy the most scrupulous as to its effectiveness for giving, as it does, an abundant supply of fresh air without a particle of draft. It is practical for all purposes of ventilation, from the sick room to the largest structures in which people live or assemble.

Building Summary.

For the first time this year, our monthly report is larger than its predecessor in 1886. Values of reported improvements to date are far ahead of last year to similar period. During the month there have been commenced of building improvements,

<table>
<thead>
<tr>
<th>Type of Building</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 frame buildings</td>
<td>$848,700</td>
</tr>
<tr>
<td>2 brick houses</td>
<td>$55,500</td>
</tr>
<tr>
<td>20 alterations</td>
<td>$50,500</td>
</tr>
<tr>
<td>Total</td>
<td>$954,700</td>
</tr>
</tbody>
</table>

The high prices of building materials is materially affecting the construction of small houses.
Price of Lumber Again Advanced.

Another dollar has been added to the price of lumber, thus making rough lumber 821 per M; rustic, 836 per M, and other kinds in proportion. Our list will be found corrected so as to correspond with latest quotations.

We understand that the "rainy" will come to a halt very soon. Lumber is now 75 per cent greater in price than it was a short time ago. We repeat again that the erection of small buildings has been practically stopped on account of the exorbitant price of materials.

Wood Mantels.

The firm of L. and E. Emanuelle is one of our largest manufacturers of wood mantels. In a conversation with these practical men the following points were brought out:

"The old mantels in England were made of wood. It took America a long time to discover, however, that grave-yard material is not exactly the thing to increase five-places. Why mantels made out of marble slabs should have been introduced, it is difficult in the light of present tastes to understand. They are cold and gloomy. There is a home look about a wooden mantel that is an incentive to proper home conduct. We are not prepared to say that marble mantels have caused unpleasantness that has led to divorce, but it would not be surprising to learn that they had. Pleasant surroundings lead to contentment and happiness. No one will dispute the influence of flowers, happily chosen wall decorations and works of art. While those slabs in our parlors and drawing rooms do not inspire the sympathetic side of human nature, the feeling is to get away from them, and there should be nothing in a home which the inmates should want to get away from. There is nothing inviting about such mantels. They are repellent. They are going fast, and let us hope that no vitiated taste will whir them into fashion again."

Mechanics' Liens.

The laws of nearly all the States and Territories provide for the securing and collection of builders' and mechanics' liens for which materials have been furnished, or on which labor has been performed. The following is a synopsis of the general laws relating to these liens:

A lien is lost by the voluntary surrender of the property to the owner or his agent. There is no common law lien without possession. It is a right created by law in favor of the tavern-keepers, livery-men, pasturers, carriers and mechanics. It may be created by contract between the parties, as in a lease. Whatever is affixed to land belongs to the owner of the land, except in a few cases. Hence, carriage houses on the land of others had no lien. But as the principle is just, and the practice beneficial, States have, by law, given builders and persons who furnish material a lien on the land and building, if claimed within a limited time. Unless this kind of mechanics lien, no possession is required. The right to pay the charge and take the property is a right of redemption which is lost by a public sale of the property. The surplus, if any, is paid to the owner. Lien by State law are generally foreclosed in a court upon a petition for that purpose. By its decree the property is sold and the proceeds divided according to the rights of the parties. Lien may, in certain States, be enforced against vessels and stores as well as buildings, for construction, alteration, or repairs. In most States, while the same general principle is maintained, the modes of procedure vary.

A workman desiring the protection of the law for the security of his labor, frequently, may draw up a paper, addressed to the county clerk of the county where the work was done, filled up in a manner similar to the following form, setting forth all the circumstances of the work done, his bargain with the contractor, the labor performed, the price, and his fears that he will lose all if his lien is not made. This paper, sworn to before a justice or notary public as true, is filed in the county clerk's office and becomes a cloud upon the building, which the owner is only too glad, frequently, to remove by paying the debt himself and taking it out of the contractor's bill. In either event the owner or contractor must pay the debt if it is an honest one.

Notice to the County Clerk

To Philip Best, clerk of the city and county of New York, in the State of New York.

Sir: Please to take notice that I, James Van Horn, residing at No. 45 Couling Avenue, in the city of New York, in said county, have claims against William Y. Heath, owner (or only contractor, as the case may be) of a new two-story brick dwelling-house, amounting to Nineteen Hundred and Sixty-two Dollars and forty cents, new due to me, and that the claim is made for and on account of brick furnished and labor done before the whole work on said building was completed, and which labor and materials were done and furnished within three months of the date of this notice, and that such work and brick were done and furnished in pursuance of a contract for twenty thousand serviceable brick and the mason work of putting up the outer walls of said new building, between the undersigned and the said William Y. Heath, which building is situated on lot —, in block —, in West's Addition to the city of New York, on the west side of Salina Avenue, and is known as No. 452 of said avenue. The following is a diagram of said premises:

[Insert diagram.]

And that I have and claim a lien upon said dwelling house and the appurtenances and lot on which the same stands, pursuant to the provisions of an Act of the Legislature of the State of New York, entitled, "An Act to secure the payment of mechanics, laborers, and persons furnishing material toward the erection, altering, or repairing of buildings in the city of New York," passed, —and, of the Acts amending the same.

James Van Horn.

New York, December 1, 1852.

James Van Horn, being duly sworn, says that he is the claimant mentioned in the foregoing notice of lien; that he has read the said notice, and knows the contents; and that the same is true to his own knowledge, except as to the matters therein stated on information and belief, and as to those matters he believes it to be true.

James Van Horn.

Sworn before me this first day of December, A.D. 1852.

J. L. LESLIE, Police Justice.

The lien laws of certain States provide that any person who shall either labor himself, or furnish laborers or materials for constructing, altering, or repairing any building, shall have a lien thereon upon such building and the specific lot or tract of land on which it is located; but a suit to enforce payment of said claim must begin within six months from the time the last payment therefor is due. Landlord's, also, may enforce a lien for arrears of rent upon all crops of their tenants, whether growing or matured.—Hill's National Builder.

A Remarkable Tree.—A Nevada paper describes a remarkable kind of wood which is said to grow there. The trees do not grow large, a tree with a trunk about a foot in diameter being much above the average. When dry the wood is about as hard as boxwood, and being of a very fine grain, light, no doubt, be used for the same purposes. It is of a rich red color and very heavy. When well seasoned it would be a fine material for the wood carver. In the early days it was used for making boxes, for shaping, and in a few instances for shoes and dies in quartz batteries. Used as a fuel it creates an intense heat. It burns with a blaze as long as ordinary wood would last, and is then found—almost unchanged in form—converted into charcoal that lasts twice as long as ordinary wood. For fuel, for cord it brings the same price as a ton of coal. Unfortunately it burns out stoves faster than any kind of coal.

Draughtsmen Scarcity.

Still the demand for draughtsmen is unabated, and many architects are really pressed for help. We can readily place twenty first-class draughtsmen in good positions. Any information will be furnished upon application to this office, either in person or by letter.
ASKED, ANSWERED, and COMMUNICATED.

Two Steel Square Problems.

To determine by the steel square the result of any number, for example—6 multiplied by the sin 45°: Take 6 on both blade and tongue, and mark the line AC = BC = 6. Then CD drawn to the middle of AB = 6x sin 45°. Sin 45° = 0.7071.

Architectural Pupillage.

Mr. William Woodward, an English architect, gives the following advice concerning instruction for a son who expects to become an architect:

1. Do not think that he is in a fair way of doing justice to himself, or to his master, by confining his studies to the office hours. Home studies, schools of art, and the other accessible fields of morning and evening architectural education, are absolutely necessary.

2. Do not think that your son has acquired much more than the rudiments of his business at the end of three or five years of pupilage, or that the architect with whom you have placed him will be able to inject into him the knowledge which his master has taken thirty years of practice to acquire.

3. At the end of his three or five years of pupillage, put him into another architect’s office for, say, another five years, as an junior. This will enlarge his mind, and get him out of a few awkward grooves into which he slipped in the first office; or, better still, if within your power, let him commence practice on property which is entirely your own.

4. Unless you have friends who will secure him employment at the end of his educational career, settle the best annuity upon him before he is 21.

5. There are abundantly ample (perhaps too many) sources of architectural knowledge open to your son; the rest is in his own hands.

A Practical Hint—This was the way a country blacksmith was removing that portion of the ax handle from the ax that remained in the eye, the break being close to the iron. The wood could not be driven out, and as nails had been driven in at the end, it could not be hewed out. He drove the bit, a sharp spike, into moist earth, and built a fire around the projecting part. The wood was soon charred so that it was easily removed. The moist earth so protected the sharpened part of the ax that it sustained no injury.

For glue to be properly effective it requires to penetrate the pores of the wood, and the more body of glue penetrates the wood the more substantial the joint will remain. Glues that take the longest to dry are to be preferred to those that dry quickly, as slow-drying glues being always the strongest, other things being equal. For general use no method gives such good results as the following: Break the glue up small, put into an iron kettle, cover the glue with water and allow it to soak twelve hours; after soaking boil until done. Then pour it into an air-tight box; leave the cover off until cold, then cover up tight. As glue is required, cut out a portion and melt in the usual way. Expose no more of the made glue to the atmosphere than is necessary, as the atmosphere is very destructive to made glue. Never heat made glue in a pot that is subjected to the direct heat of the fire or a lamp. All such methods of heating glue cannot be condemned in terms too severe. Do not use thick glue for joints or veneering. In all cases work it well into the wood in a similar manner to what painters do with paint. Glue both surfaces of your work, excepting in case of veneering. Never glue upon hot wood, or use hot caulns to veneer with, as the hot wood will absorb all the water in the glue too suddenly, and leave only a very little residue, with no adhesive power in it.

The Dam at San Mateo.—A remarkable dam is about to be constructed by a water company at the San Mateo Cañon, four miles from San Mateo, Cal., in order to form a reservoir. The cañon is very narrow and steep, and 15 feet below the bottom is a solid rock on which the foundations of the dam will rest. The structure will be 176 feet high, 175 feet wide at base, 29 feet at the top, and 700 feet in length. It will be the largest stone dam ever known to have been built. The dike will have a curvature of eighty feet, and the convex side will be upstream. The material will be a new sort of concrete composed of stones. The walls will be perfectly smooth. The reservoir that will be formed by it and the adjacent hills will be about eight miles in length and 150 feet deep in the deepest places. Its capacity will be about 32,000,000,000 gallons. The water will be conveyed by tunnels to the city of San Francisco.

Paint on the walls of a kitchen is much better than kalsomine or whitewash. Any woman who can whitewash can paint her own kitchen. The wall needs first to be washed with water, then covered with a coat of dissolved glue; this may be allowed to dry thoroughly, and then covered with paint. A broad flat brush does the work quickly.

It is very necessary that the floor should be thoroughly seasoned before it is laid; but, when it is, the floor that stands in the forest to-day may form the floor that is laid a week or ten days hence.

When cleaning a stove, if a small quantity of sugar is put into the stove blacking it will not burn off so quickly.
The Essentials of Perspective.

A New Work, by L. W. MILLER.

The aim of the book is to simplify and make real the basic laws underlying the draughtsman's art, in the hope that correct habits of thought and expression will aid in developing an art that will be symmetrical and harmonious, and not disfigured by the errors too often noticed in the work of our artists.

The point of view throughout is that of the artist rather than the merely scientific theorist, and the result is a thoroughly practical and simple text-book free from all unessential or theoretical discussion.

The style is clear, direct, and practical, and its instructions are happily supplemented by the numerous drawings which the author informs us "are the same that he has used for many years in teaching perspective from the blackboard." They therefore have the merit of practically illustrating the fundamental principles of the science, and are purposely made free from burdensome details in order that the applications made may be apparent at a glance.

PRICE, $1.50.

We will send a copy, post-paid, to any address upon receipt of the publisher's price, one dollar and fifty cents.

A PORTABLE SAW MILL.

The above engraving represents a familiar scene to those who have watched the gradual clearing of our forests. In certain localities the timber, from a distance, looks like an immense forest, capable of yielding millions of feet of lumber; but, upon close inspection, the area is very limited that will furnish material for first-class lumber. Again, there are regions that seem to require just so much lumber. The portable mill shown in cut is especially adapted to such places. Easily moved from place to place, and with a cutting capacity of many thousands of feet per day, the mill recommends itself to the consideration of those who are endeavoring to build up new towns. Full particulars can be obtained by addressing the J. I. Case Co., Racine, Wis.

Agreeable Colors.

The most agreeable colors are those difficult to name which seem to tremble on the verge of another color. Both white and black are, in nearly every case, enriched and improved by judicious tempering with other colors. Thus white will be improved with a dash of yellow or red for warmth, blue or green for coldness, so that a green tinted white will look best in a pattern where there is much Indian red, and a pinky white may be opposed to much blue or gray. Black is always improved by the addition of a little blue, in which we follow nature, who rarely employs black unmixed with other color. Black is, after all, a relative color, requiring contrast to advantageously set it off. Under certain circumstances, where it would have a harsh or unpleasant effect, burnt umber may be made to stand for it. It is noticeable that emerald green, so beautiful in itself, regarded as a color, is terribly self-assurant.—Painters' Magazine.
The Pyramids of Ghizeh.

The western banks of the Nile, within a few miles of the renowned city of Cairo, are to be seen the wonderful tombs of Egyptian kings, the pyramids.

Although there are many such structures scattered over the sands of the desert, the three pyramids at Ghizeh command our attention as the most remarkable evidence of mechanical skill and constructive genius of all ancient works. The largest pyramid, as shown by our illustration, stands upon the rock plateau of the Nile, a few hundred feet from its banks, and is the grandest edifice—if it may be so termed—ever erected by Egyptian architects.

The largest, or the Pyramid of Cheops, was 480 feet high and its base is a square measuring 764 feet, and covers an area of about thirteen acres. It is constructed of an almost solid stone of stone masonry, consisting of about two hundred courses, each gradually receding back of the other until the top is reached, which originally was a point, but is now a platform thirty-two feet square.

It is believed that these pyramids were covered with an outer casing of stone or marble. The great pyramid, however, was covered with syenite, red granite, brought from a quarry situated near Syene, nearly 500 miles from Ghizeh. Many remains of this ancient covering are to be found at the base of this pyramid, while a portion of it still remains in place. The theory that these stupendous structures were erected for the purpose of kings' tombs, is evident from the fact that part way up the side upon the north face is to be found a small opening, that originally was sealed up and covered over, probably for ages. Connecting this entrance were long, narrow passages, terminating in small sepulchral chambers, that originally contained the mummy case of the dead. These have long since been removed by robbers and explorers.

The four faces, or sides, of the pyramids are directed to the four cardinal points of the compass, proving that the ancients were acquainted with the laws that govern modern science.

One of the wonderful features of these grand structures, from a mechanical point of view, is the large size of some of the stones used. They gradually vary from the largest at the bottom, from six feet square by sixteen feet long, to three feet by eight feet, the platform at the top being formed of nine large stones, each weighing a ton. When we contemplate the complicated machinery required to raise these blocks to a height of five hundred feet, we are impressed; but when we realize that many of these massive blocks, weighing from ten to thirty tons, were brought from four to five hundred miles, we are amazed at the resource, genius, and constructive ability of that singular and remarkable race of people, the ancient Egyptians.

The Sphinx—The Gigantic Monument of Antiquity—A Remains of Egypt. A few years ago the editor of this journal terminated a long and interesting tour of Egypt at Cairo, within the shadow of the picturesque pyramids and surrounded by the mighty relics of the Egyptian dynasties. Standing on the banks of the historical Nile, and looking out upon that almost unknown sea, the great desert, whose rolling sands have for ages buried many gigantic works of the ancients, our attention was arrested by those huge piles of masonry, which serve as tombs for numberless dead, and which we have learned to call the Pyramids of Ghizeh. Within three hundred feet of these colossal ruins stands the most striking object to be found in Egypt. As if keeping sentinel over the downfall of a mighty people, guarding the sacred relics from the hand of the modern vandal, the Sphinx, that colossal of monolithic structures, raises its head above the ever-drifting, restless sands. Its face is turned toward the east—staring into vacancy and the events of centuries—gigantic, majestic, awe-inspiring, it has witnessed the flight of time for nearly seven thousand years, witnessed the birth and fall of dynasties, the rise and decline of empires, the origin and development of an uncounted millions of mankind.

The archaeologist, who wanders amongst the ruins of ancient Egypt, soon learns that upon that ancient highway, the Nile, are to be found the stupendous and gigantic structures that seem to have exhausted all human resources and rules of construction. Left to the mercy of the ever-drifting, lofty walls and monolithic columns of Carnak and Luxor, the colossal statues of Memnon and Rameses, the Caryatid Temple of Ipsambool, all strike the beholder with a profound awe and reverence, not only for the mighty works themselves, but the resources and deeds of a powerful and potent people.

The Sphinx, in comparison with the great stone structures of Egypt, stands pre-eminently the grandest work of time. Of an uncertain era, yet belonging to prehistoric ages, its workmanship bears witness to a period of educated art that took the lapse of ages, and the hand of time, have not obliterated.

It has generally been supposed that the Sphinx was a stone image entire, partaking of the head and shoulders of a man, and the breast and body of an animal, as many of the Sphinxes of Thebes and Carnak were formed, but recent excavations have dispelled the idea. It was demonstrated by Caviglia, in 1816, that the Sphinx of Ghizeh was shaped from a spar of solid rock, and that instead of being a body formed from the rock itself, it is little more than a gigantic head, 175 feet long and 56 feet high. The length is derived from what would seem to be the rear end of the spar or rock to the nose. The neck is from the neck to the top of the head. The rock in front of the figure at Thebes was removed by the ancient builders to a depth of fifty feet below to the rock or level of the sand on the pyramidal plateau, near which the Sphinx stands.

Caviglia found, upon removing the sand which had for ages accumulated about the breast of the figure, that two thousand three hundred years ago there existed a small nave or temple, built in front of the breast. This chapel was formed of three tablets, dedicated by the Egyptian monarchs, Thoasenes III. and Rameses II., to their deity, the sun, of which the Sphinx was the emblem. These tablets formed the three sides of the temple, the fourth being composed of doors, on either side of which were recumbent lions, as if guarding the entrance. Opposite the doorway was placed a miniature altar, supported between the forepaws of a lion. This is believed to be of Roman origin. In 1869 another effort was made to excavate the statue that had become buried to the neck by the ever-drifting sand, when it was found that surrounding the Sphinx, nearly circular in form, was a flight of stone steps descending from the surrounding plain to the temple before spoken of, and it is now believed that the statue stands in the midst of a circular basin of stone, hollowed out of the solid rock, and that the Sphinx was left in the center, while the surrounding rock was excavated. The rock from which the figure is cut is the common granite to be found on the Nile, and from which much of the work is constructed that lines the banks.

Upon examination it will be found that the Sphinx has been repaired by the introduction of blocks of red syenite or granite, but this work is generally supposed to be of Roman origin. Much of the stone used for this purpose seems to have been
brought from the neighboring temple of Khafra, which was con-
structed of red syenite.

We note that at present renewed efforts are being made under
the supervision of Messrs. Maspero and Orceau, the noted en-
gineers, to excavate the figure. Already the level of the plat-
tform temple and steps has been reached, after a continued labor
of fifteen months, and it is expected that the excavations will be
so far continued that we shall know more of the origin and pur-
pose of this gigantic sentinel of the desert.—Hill’s National
Builder.

Working Without Thinking.

THE practice is too common for the mechanic to work with-
out thinking. Having learned a trade he goes through a daily
routine, which is so familiar that he could almost do it with
his eyes closed, or in the dark. The part he has to do probably
has little or no variety in it, and he settles down to the con-
clusion that there is no avenue open to him for advancement. He
works like an inanimate machine, which, when the power is on
whirs away day in and day out, until it is worn out, and unfit for
further duty.

The unthinking workman does not closely observe even his own
field of operation, and therefore never suggests any improvement
in methods or material. A worker in woods, of this type, never
stops to inquire from whence his supply of wood is obtained;
when is the best time to cut timber, the better method of reason-
ing it, its extreme strength and durability; nothing is thought of
beyond the mere fact that it is to be worked up into wheels,
bodies, buildings, etc., as the case may be. Should anyone put
the question to him covering either of the above, he would very
likely give the curt reply that he had not time to bother his
brains with such things, as they would be of no value to him.

The above model will serve for mechanics of every kind. It is
a fact that some of the most valuable improvements have been
thought out by men who worked at an entirely different branch
from that to which the improvement pertained. In the carriage
line the body-maker has invented a new kind of springing, axle, or
something else. The blacksmith may studied out an im-
provement on the sewing machine; the painter, a new tap and
joints, and the trimmer has brought to light a patent priming or
filler for woods. One’s own trade seems to warry the mind, and
from its monotony came a lack of interest therein, beyond a de-
sire to push it through and get done with it.

Now, if the skilled workman would take greater pride in his
calling, and endeavor to master its every feature by long and ar-
deous study, there would soon be wonderful advancement in the
mechanic arts.—Painters’ Magazine.

Harvey’s Hot Water System of Heating.

THE difficulty of obtaining a uniform distribution of heat
in buildings warmed by hot-air furnaces is well-known,
and this difficulty has been met and overcome by an ingen-
ious device consisting of a water-back in the furnace and
water radiators in rooms remote from furnaces where more heat
is desired; this is produced by hot-water circulation, a very an-
swer method of heating all kinds of buildings, especially dwell-
ing-houses. The advantages in the use of this improvement in
ordinary hot-air furnaces will be readily seen and appreciated by
anyone familiar with furnace and hot-water heat. The hot-
water circulation begins as soon as the furnace fire is started and
the heat of the radiators increases and diminishes with the heat
of the furnace and continues long after the furnace fire is out.
Just here is where the economy comes in, and it is one of the
principal advantages that this combination possesses over that of
the combination hot-air and steam furnace where no heat is de-

erived from radiators until steam is made, and should the fire be-

come too low to make steam the radiators get cool.

The Bundy Hot-water Radiator, with vertical tubes and its
upper and lower circulating chambers, is perhaps the most effi-
cient, and is pronounced by those who have used it the quickest

circulator on the market. It has been extensively used in Can-

ada, England, and the United States for the past three years.

The cost of such an appliance is very moderate.

Its economy is unquestionable.

Its durability is the strongest argument favoring its use.

The comfort afforded and the advantages to health are of the
most practical importance.

It is equally adapted to the small cottage or the largest resi-
dence.

In building a new house a large proportion of the expense of
this system can be saved by discarding the extra chimneys and
mantels, one chimney being sufficient.

It can readily be introduced into houses already occupied with-
out damage to the walls, furniture, or carpets.

C. D. Harvey not only introduces the Bundy Radiator, but also
the Harvey Hot-water Radiator and Furnace, to the atten-
tion of those who desire first-class methods of heating houses.

Mr. Harvey has been in this city over TEN YEARS and has
introduced his system in over five hundred different houses.
Upon application he will furnish a list of testimonials in accord-
ance with the above.

Mr. Harvey can be found at 30 New Montgomery Street, cor-
ner Jessie. He has the largest stock, embracing all the latest
improvements in the heating line, to be found west of the Mis-
sissippi Valley.
The Essentials of Perspective.

BY L. W. MILLER.

I WISH for a moment to consider the principles of perspective as applied to fixing the sizes of the objects represented. In the first place, let it be clearly understood that the only measurements which are of any consequence to the draughtsman are relative measurements. As far as the artist is concerned, he never thinks of any others; but architects and others who work from plans and elevations which are drawn to scale, do indeed use the actual measures, because in their case that is the most convenient way, but even then the actual measures become relative as fast as they are applied to the drawing, and these last are the only ones which appear in the result.

The term "drawing to scale," an expression constantly used in connection with the construction of geometrical plans and diagrams, has absolutely no significance when applied to a drawing in perspective. You may draw two or three lines in it by scale if you wish, but all the others will have to be measured by means of these; and even the first two or three may be put in just exactly as well without reference to any scale at all, and indeed much better, as far as producing a good effect is concerned. No one can tell in looking at a perspective drawing whether a building is twenty feet high or fifty feet, except by comparing it with some other object for which we carry a fairly accurate standard in our minds. Steps, for example, are of about the same height for all kinds of buildings and furnish a pretty good standard by which to measure other things; and lamp posts, gateways for foot-paths, etc., serve a similar purpose. The commonest and surest standard of heights is, however, the human figure. The horse answers pretty well, but you are not so sure of him.

A pony may easily be mistaken for a horse, but a child will never be mistaken for a man if he has been drawn in any respectable fashion; and so the magnitudes of a picture become intelligible the moment the human figure is introduced.

Two kinds of measurements are employed in making pictures. The first enables us to determine the apparent size of an object with reference to some very obvious dimension—its height, for instance; the other relates to the foreshortening of objects, and to fixing distances between them, along lines which run to a vanishing point.

Look at the small engraving at top of page. It is quite a different, and a very much easier, matter to determine how high one driver's head ought to be, as compared with the other's, than it would be to measure the distance between the two. Now the length of the house might be compared with that of another one which was known to stand parallel with it—supposing such an one had appeared in the picture—by just such a process as that employed to determine the relative heights of the two men; but the width of the end of the house—which, as you see, faces the road—would have to be determined by the same method as that which would be employed to measure the distance between the carts.

The same is manifestly true of the spacing of the posts in the fence, or of the widths of the windows, and, generally, of all distances which one has occasion to measure along lines, which are said to "run into the picture," because they go to a vanishing point.

* * * *

MEASUREMENTS BY MEANS OF TRIANGLES.

If the method of measuring by means of diagonals of squares is not applicable to every case that can possibly arise in the course of a draughtsman's practice, another and more general
statement of what really amounts to the same principle, will be found to be so; and as the greater includes the less, this other method might have been described in the first place, and all that has been said about diagonals omitted; if the method explained had not been not only simpler, and for that reason more convenient whenever it was applicable (and is almost always in actual use perspective) but being somewhat easier to understand, its discussion beforehand serves a very good purpose.

If in measuring the windows in a previous study it had also been necessary or desirable to determine the exact length of the house itself, the reader will see that we have not yet learned enough about perspective to do it; there is a way, however, of fixing such measures.

The width of each window and the length of the house itself in our large sketch shown were fixed in this way—at least they might have been so determined, if the drawing had been made to measure instead of being sketched on the spot.

The line to be measured is, in this case, the ground line of the front of the house. Let us measure its length first and attend to the windows afterwards. We have seen that any measures we may have occasion to use must be set off, if we are to be sure of them, on some line that is parallel to the picture plane, and that such a line is always parallel to the horizon of the plane in which it lies; that is, it is always parallel to the original or actual horizon when drawn on level surfaces and always vertical or upright when drawn on vertical surfaces, and so on. Our observation at the screen taught us that long ago. Such a line is drawn, then, in such a position as to have one point in common with the line to be measured. Theoretically, this may be wherever you please, but in practice it will usually be most convenient to draw this imaginary line through the nearest end of the line to be measured. As it is never used for any other purpose, it may be called the 'line of measures.'

The point which was called the vanishing point of diagonals in preceding figures, has been called the vanishing point of the base of the triangle in our large engraving (see the little diagram in the corner).

This name is a good one, because it does not allow the student to forget the real significance of the point, something which pupils find it very easy to do; but it is too long, and we shall have to call the point simply 'measuring point.'—only do not forget that it is always the vanishing point of the base of an isosceles triangle, otherwise it would not be of the slightest use as a measuring point. If your picture necessitates the establishing of many measurements, you have to regard it as in good part covered with pictures of isosceles triangles the bases of which all vanish at one or other of these points.

The above is taken from a new work (by publisher's permission) entitled, "The Essentials of Perspective." We have carefully read the book and can confidently recommend the same to anyone desiring to become proficient in perspective drawing.

**Boys as Inventors.**

Some of the most important inventions have been the work of mere boys. The invention of the valve motion to the steam-engine was made by a boy. Watt left the engine in a very incomplete condition, from the fact that he had no way to open or close the valves, except by means of levers operated by the hand. He set up a large engine at one of the mines, and a boy was hired to work these valve levers. Although this was not hard work, yet it required his constant attention. As he was working those levers he saw that parts of the engine moved in the right direction, and at the exact time that he had to open or close the valves. He procured a long, strong cord, and made one end fasten to the proper part of the engine, and the other end to the valve lever. Then he had the perfect satisfaction of seeing the engine move off with regularity of motion. A short time after, the overseer came around and saw the boy playing marbles at the door. Looking at the engine he soon saw the ingenuity of the boy, and also the advantages of so great an invention. Mr. Watt then carried out the boy's inventive genius in a practical form, and made the steam-engine a perfect automatic working machine. The power-loom is the invention of a farmer boy who had never seen or heard of such a thing. He cut one cut with a knife, and after he had got it all done, he with great enthusiasm showed it to his father, who at once kicked it to pieces, saying that he would have no boy about him who would spend his time on such foolish things. The boy was afterward apprenticed to a blacksmith, and he soon found that his new master was kind and took a lively interest in him. He made a loom of what was left of the one his father had broken up, which he showed to his master. The blacksmith saw that he had no common boy for an apprentice, and that the invention was a very valuable one. He immediately had a loom constructed under the supervision of the boy. It worked to their perfect satisfaction, and so the blacksmith furnished the means to manufacture the looms, the boy to receive one-half the profits. In about a year the blacksmith wrote to the boy's father that he should visit him and bring with him a wealthy gentleman, who was the inventor of the celebrated power loom. You may be able to judge of the astonishment of the old man when his son was presented as the inventor, who told him the loom was the same as the model he (the father) had kicked to pieces but a year before.

Darius H. McCormick was not twenty-two years old when he produced the first practical repeal the world ever saw. Numerous other instances where boys produced valuable inventions might be cited.

In building book-cases, there should be a half-inch space between the shelf and the wall—just can then be easily brushed back, falling to the bottom.
In building a house for myself, to cost about $5,000, what are the special points which I must watch—points which may be overlooked by the architect or contractor, because, perhaps, not properly in their province, or because the owner should himself know them? I have never yet built a house, and am, in consequence, wholly inexperienced—an easy prey to imposition and mistakes.

The writer having had some experience in building houses as an owner, and paid somewhat dearly for it, proposes in this article to indicate some of the points desired.

In the first place, be most careful in the choice of your lot. Do not allow the cost per foot to be the most important element in your decision. A low-priced lot in the beginning may be the dearest in the end; that is, if it is chosen simply because it is low in price. Avail yourself as much as possible of the benefit of others' improvements. If there are desirable residences adjacent to the lot of your choice, the value of yours will be assured at the outset. Remember that you are about to put a certain sum of money upon whatever lot you select, and that a badly located lot will decrease the value of this; while, on the contrary, a good lot will enhance the value. Many have suffered disappointment, and actual loss, by an error of judgment in this regard. Your choice will make the difference between a good asset and a poor one.

Having chosen well to this point, see to it in the second place that the lot can be easily drained. To this end, it is not necessary that the ground should be high, but rather that it have a slope in some direction; otherwise, owing to the soaking into the ground of the surface water, which ought to run off, your collar may be damp or wet at times. A dry collar is of the utmost importance, and this is one of the ways to secure it.

Another point to be considered in your choice should be the exposure it would give your house. If by this we mean the way it should front. A wise decision here will conduce greatly to the comfort and health of your family. The writer's experience is that the best frontage or facing for a house is a little west of south. This, more than any other, opens up the rooms to the sun in the winter and to the southwesterly breezes in the summer, thus making the house warm, healthy, and cheerful in the winter and cool and delightful in the latter, as the prevailing winds during the summer are from the southwest. At the same time, they carry away from the house the odors and heat of the kitchen; and during the winter the living part of the house is protected from the cold northerly blast.

A good size for the lot for a house to cost about $5,000 is 60x150 feet. If a stable in the rear is needed, the lot should not be less than 175 feet deep.

The next subject to be settled upon is the plan and specifications for such a house as your limit of cost will cover. This is a most difficult undertaking, and often ends in disappointment, usually because too much is expected for a given sum of money.

The style of interior and exterior is required, the size must be curtailed. If the rooms must be spacious and numerous, then the style and finish must be plain and unpretentious, both within and without. Of one thing be assured—everything cannot be obtained for $5,000 at the present cost of labor and materials.

This point fully understood, the writer has found that the quickest and best way to get the plan desired is to look at houses already built in the immediate or adjacent towns, which approximate to the cost named. Among the many which are now to be seen in all our suburban towns, there will be no difficulty in finding a house which will entirely satisfy the requirements. No mistake can then be made in the cost, for the builder himself is near at hand to duplicate for you, for a definite sum, the house you may select.

Disappointment in architectural effect will not happen, because you can see beforehand what an appearance the finished house will present.

It is better far to go to an architect with ideas well defined of what is wanted, and to ask of him to add to these his own taste and skill, than to go (as many do) with nothing settled in the mind but the cost, and to require of him to produce something entirely original in design and finish. His effort to fill such an order is generally a failure, not from want of skill on his part, but rather because of his inability to grasp the intangible and indefinite ideas which may be in the mind of another. He must have some standard to work up to besides simply the cost.

If the architect succeeds in his effort so as to the plan, you may consider you have made a fortunate beginning.

The specifications come next. As for these, let them be most carefully drawn, leaving nothing open, indefinitely or obscurely stated. Have them so drawn that they cover everything you want; otherwise you will have extras, which are always very costly.

It is a remarkable fact that anything taken from the specifications, after the contract has been signed, you can get no allowance for, but anything added to them greatly increases the cost. Why this should be so, only the contractor can tell you, and he generally will not. Hence, you must plan beforehand so as to avoid them, or, in the pithy words of the late Rev. Henry Ward Beecher, "First think out your work and then work out your thoughts." This applies preeminently to building operations.—Scientific American.
The Top of the Redwood Tree.

From time to time we have given engravings showing the stumps, thickness of bark, etc., of our great redwood trees. The above cut shows the top of one of our large trees and is a faithful representation of the average tree. No grander sight can be seen in nature than a grove of these magnificent trees, with their tops waving in the air at a height of—in cases—over four hundred feet.

ART SCHOOL—PAINTING—CRAYON.

Mr. W. E. Rollins, formerly teacher of the drawing class in the art school, has opened a studio in the Washington Block, corner Montgomery Avenue and Washington Streets. We can cordially recommend this gentleman to those desiring to become proficient in either painting, or the skilful transferring of natural objects to the canvas by the use of the crayon. Mr. Rollins is a strict disciplinarian, and this feature is one of the most important necessary to a pupil’s thorough advancement, as it enables him to become identified with the preceptor’s ideas, and thereby in after years reproduce with a master hand the various objects in nature.

PICTURESQUE CALIFORNIA HOME, NO. 2. The great success attending the sale of the first volume, prompted the authors to issue the second one. The cuts in No. 2 are entirely new. Mailed to any address, either No. 1 or No. 2, for $3.50 each.
COUNTRY BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eighteen years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. In all cases we will file our authority for any statements made in this column.

No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

We desire the co-operation of every editor and mechanism to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTEENTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interest of Architects, Contractors, and Material Men.

Astoria.
Geo. Favel will erect a brick building.
Album of Mantels, for $5.00.
Architects' Companion, for $2.50.

Burbank.
One and a half story frame cottage, Owner, W. H. Ganchez; architect, Curlett, Eison & Cuthbertson; contractor, E. Lane. Cost, $3,000.
Manual for Furniture Men, for $1.00.
Common-Sense Church Architecture, for $1.00.
Two one-story frame cottages, Owner, W. H. Ganchez; architects, Curlett, Eison & Cuthbertson; contractor, E. Lane. Cost, $1,600 each.
Every Man His Own Mechanic, for $2.50.
Tredgold's Carpenter's, for $7.50.

East Los Angeles.
Two story frame residence. Owner, Dr. S. C. Newton; architect, John C. Pelton, Jr.; contractor, V. Gifford. Cost, $3,000.
Artisan, for $5.00.
Builders' Guide, for $2.00.
Two-story frame residence. Owner, Mrs. Dr. Griffin; architect, John C. Pelton, Jr.; contractor, R. R. Co.; contractor, A. F. Mackay. Cost, $7,000.

One and a half story frame cottage. Owner, Miss M. H. Chapman; architect, John C. Pelton, Jr.; contractor, V. Gifford. Cost, $2,500.
Woodward's Farm Home, for $1.00.
Woodward's Grottoes, for $1.00.

Fresno.
D. D. Hudson will build a $4,000 residence.
Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Haywards.
Lombermann's Hand-Book, for $2.00.
Practical Geometry, for $1.00.
One-story frame. Owner, M. Knox; contractor, Flick. Cost, $3,000.
Steel Square Problems, for $1.00.
Workshop Companion, for $5.00.
Two-story frame. Owner, Heatherington; contractor, Flick. Cost, $2,000.
Practical Perspective, for $5.00.
Woodward's Country Homes, for $1,500.
One-story frame. Owner, Geo. Prouse. Cost, $1,000.
Builders' Companion, for $1.50.
Builders' Work, for $5.00.
Two-story frame. Owner, Alex Alen; cost, $2,500; contractor, Collins Harr.
Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.
Parsonage Congregational Church. Cost, $2,000.
Album of Mantels, for $5.00.
History of Architecture, for $1.50.
Two-story frame. Owner, Chlotts; contractor, Dahl; architect, Matthews. Cost, $4,000.
American House Carpenter, for $5.00.
Cutting Tools, for $2.00.
One-story frame. Owner, A. C. Bloomer. Cost, $2,000.
Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Hollywood.
Drawing for Bricklayers, for $1.50.
Drawing for Cabinet Makers, for $1.50.

Los Angeles.
Stable, 48x100 feet. Owner, Olive Street. Cost, $4,000.

Architects and Building, for $3.50.
American Cottage Building, for $3.50.
Every Man His Own Mechanic, for $3.50.
Tredgold's Carpenter's, for $7.50.

Woodward's Country Homes, for $1.50.
Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.
Science of Carpentry, for $4.00.
Two-story frame residence. Owner, J. M. Riley; architects, Costerian & Meritewell; contractor, day work. Cost, $10,000.
Universal Assistant, for $2.50.
Practical Perspective, for $5.00.
Three-story hotel. Owner, John Eberle; architect, John Hall. Cost, $15,000.
Cutting Tools, for $1.50.
Home Hand-Book, for $1.50.
Cutting Tools, for $1.50.
Cummings' Details, for $5.00.
Artistic Homes, for $3.50.
Modern House Painting, for $5.00.
Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.
Builders' Companion, for $1.50.
Builders' Work, for $5.00.
Practical Perspective, for $3.00.
Woodward's Country Homes, for $1.50.
Artistic Homes, for $3.50.
Modern House Painting, for $5.00.
Pomona.

One-story frame cottage, Owner, J. H. Adams; architect, Costerion & Merrichow; contractor, day work. Cost, $1,500.

Shavings and Sawdust, for $1.50. People's Cyclopaedia (three large volumes) for $20.00.

One and a half story frame cottage. Owner, D. W. D. Crank; architect, J. W. Forsyth; contractor, Henry Hanson. Cost, $3,000.

Science of Carpentry, for $4.00. Universal Assistant, for $2.50.

Santa Monica.

One-story frame cottage, Owners, Potts & Carlisle; architect, J. W. Forsyth; contractor, T. M. Plotts. Cost, $1,800.

Grinnell on Saws, for $4.00. Mechanics' Geometry, for $4.00.

Salinas.

A brick hotel is being built by Jas. J. J. fery. Builders' Companion, for $1.50. Builders' Work, for $1.00.

San Lorenzo.


California, cor. Stockton. Church building. O.—Congregation Shari, Zedek Israel.


Devinderber, bet. Haight and Walker. Two one-story frames. O.—Marchand. C.—Hastfield. $6,000.


Ruskln's Works (four volumes), for $6.00.

Industrial Drawing for Carpenters, for $3.00.

Ventura.

Three-story brick hotel. Owners, Rose & Fargo; architect, Curlett, Elsen & Cuthbertson; contractor, David Perry. Cost, $90,000.

Woodward's Farm Homes, for $1,000.

Woodward's Gardener's, for $1,000.

Walla Walla.

Architect Fabocek has let the contracts for the $10,000 Ennis Block. Building Superintendence, for $3,500. American Cottage Homes, for $3,500.

Winters.

J. Crudwick and H. Seaman are soon to begin a two-story brick building. They will spend about $5,000. A. Ritchie was their architect.

Painter, Gildor, & Vickers, for $1,50. Architects' Companion, for $2.50.

D. P. Edwards is having built a copy $2,000 cottage. T. D. Ball is doing the work.

[Our correspondent claims that the lumber combination will deter many from making improvements, owing to the recent advances in prices.—Ed.]

Limes, Cements, and Mortars, for $4.00. Wonders of Art, for $1.25.

Clay, bet. Van Ness and Franklin.

Additions.


C.—Thos. Mannix. $1,300.


California, cor. Jones. Carpenter work, etc. O.—Chas. Crocker. A.—Curlett & Colberton. C.—Maloney Bros. $6,000.


San Francisco Building News.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.


Lyon, cor. Sacramento. Two one-story frame. O.—J. R. Collins. C.—$1,000.


Larkin, nr. Turk. Additions. $1,000.


Page, bet. Octavia and Laguna. Two-story frame. O.—Mrs. McDermott. $4,000.


S

Stevenson, nr. Seventh. Repairs $1,500.


T


W


New Books Just Received.


ESSENTIALS OF PERSPECTIVE. By L. W. Miller. Price, $1.00. The newest as well as one of the best books on the subject.

IMPROVED PLUMBING APPLIANCES. By J. Pickering Putman, architect. 94 illustrations. Price, $1.50. A perfectly new work just received and too late for further notice in this issue.


MODERN ARCHITECTURAL DESIGNS AND DETAILS. A few copies remain of this really good work. Price, $10.00.

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MECHANICS GEOMETRY, or the Science of Framing by the use of Card-board Models. $5.00.

ARTISTIC TILES AND MANTELS.

O NE of the most artistic displays in Tiling, Mantels, Brass goods, etc., can be found in the rooms of E. A. Pattison & Co., 308 Stockton St., San Francisco. The design in tiling entitled "Cupid among the Roses," is worthy of particular mention. This firm is the sole Pacific Coast Agent for the Perth Amboy Terra Cotta Co. A large and well-selected line of wooden and iron mantels is kept constantly on hand, and the prices are such as to command the attention of those about building. The floors of Messrs. Pattison & Co's warerooms are covered with Tile and Parquette flooring of the most beautiful and artistic designs, and should be examined before purchases are made elsewhere: Special personal attention is given to furnishing designs and estimates for all work connected with the tasteful arrangement of everything connected with Mantels and Tiling. This firm also makes a specialty of stained glass. Write or call for information as per address mentioned.

Union Artificial Stone Paving Co.
Labor Becoming Tyrannic.

PERSONS who watch the movements of various labor organizations of to-day cannot help seeing the evident tendency of those organizations to become monopolies, and to refuse freedom to others, to tyrannize over laborers in various disagreeable ways, and to attempt to acquire control of things not properly within their jurisdiction. For instance, not long ago there was a convention of glassworkers held in Atlantic City, New Jersey, and during the session a resolution was adopted abolishing the apprenticeship system in glass factories. The matter has, perhaps, small importance, but it is significant of the tendency of labor, in the name of a so-called paternalism, to extend beyond the narrow boundaries of the glass industry, because similar action has already been taken by other trades. The point involved is this: Men who are earning their bread at skilled labor formally declare that no American boy shall be allowed to acquire the skill required to perform that labor. They turn their backs on the five or six million young men and boys in this country and deny them their right to become expert mechanics. The purpose, of course, is to make skilled labor scarce, so as to keep up wages.

The result is to exclude the young from the chance to earn good wages, to force many of them into idleness, and to tempt others into crime. Against such a system the people of the country have a right to make vigorous protest. It is a matter that affects society at large. It touches directly every man who has children, and indirectly every human being from the lowest to the highest. The right of a boy to learn any honest trade that he desires to learn is positively indisputable; and to this right it is no way in any sense of a boy limited from any one’s right to help him to acquire knowledge and skill. The denial of these rights by a trade union is tyranny, and it ought to be resisted to the last extremity. We assert that the solitary chance of the success of the labor movement, so called, lies in its elec-

tions to the requirements of justice. When it sets justice at
deiance, it is doomed. The people of this country are not going to permit any body of men to tramplc the most ordinary human rights under their feet.

On the same subject a Chicago journal says: “A father might today trump all over Chicago with a son who wanted to learn an honest trade, so as to become a useful citizen, and fail, unless he took him to the Manual Training School and paid tuition for him. Hundreds of boys are now thus taught handicrafts at the expense of fathers who can afford to pay for it. But let a poor man’s son try it, and he will be met at the door of the factory or shop by a walking delegate of the Knights of Labor and turned away. If that does not do, a young face will be bruised, and he will be sent away by the faces of those who stand by him. If anyone supposes that there is any limit to this kind of opposition, any point at which the would-be monopolists of labor would draw the lines of limitation upon themselves, he does not understand the law of human nature.

If individual liberty to acquire skill and earn bread and control earn-
ings is not protected by law and by resolute public sentiment be-

hind that law, then a reign of absolute lawlessness is visible not very distant in the future. The disbarred classes on one hand, and the employing classes on the other, will join hands and fight for their rights. The violence will not very long be all upon one side, and the violence which has human liberty and rights back of it will win. We are always glad to see a tyrannical and heartless employer forced to do right by ‘organized labor,’ but when organized labor determines to rob the American boy of his birthright, then it is evoking moral and material forces against itself which will not fail to beat it to pieces.——Lumber World.

Household Conveniences.

NOTHING astonishes an American abroad more than the lack-

lessness of foreigners in adopting the little household conven-
tences which with us are matters almost of necessity. On the con-

trary, Russians seem to live in dirt, and to have well-founded objections to staying in their houses any more than they can help, it is not so surprising that great pains should not be taken to render domestic life easy and convenient; but let him see the country, above all others, of benevolent, happy homes, one is often distressed to see the labor habitually expended upon work which in this country would be done almost automatically by some sort of ingenious appliance. We remem-

ber the house in the late Presidential mansion at Washington, ex-

vicinity of India, and finding the kitchen in this aristocratical abode furnished with an enormous open fire-place, in which swung a crane, with pot-hooks and hangers, the whole, with the addition of a brick oven, forming the only cooking apparatus of the establishment; and every traveler can give plenty of illus-

trations of the discomforts of English houses. Even where Ameri-

can devices are transported across the water, they are received with suspicion, and are regarded as novelties even after they have come into universal use with us. The last of these inventions to be introduced to the British public seems to be the well-known electric gas-lighting apparatus. Few houses, even of very modest pretensions, would now be built in or near any of our Northern cities without this indispensable feature; but it appears to gain ground very slowly in England. The Builder says, rather doubtfully, after describing the system by which the gas can either be turned on, lighted, or turned off by a push-button, and is extinguished by a sudden pull of a piece of soft thin iron or copper wire, held in the hand and lighted by a pull at a pendant chain, that the appara-
tus seems to yield rather a pleasing toy than a serious conven-

ence; going on to explain that ‘it is hardly worth while to have a special electric mechanism merely to light the gas.’ This sounds very funny to people who never think of using matches or tapers to light the gas in their houses, and who would not on any account go back to that old-fashioned and dangerous practice. Even if the Builder thinks it of no advantage to be able to light the gas in the room by pulling a chain, or touching a button, in stead of feeling in the dark on the mantel for the match-box, at the peril of upsetting the bica-baca behind which it lies concealed, and then succeeding in reaching the key, and turning on the gas when just in time to have the red-hot charcoal dropped into one’s sleeve, while the gas, unlighted, pours into the room, it must, we should imagine, acknowledge that there is practical utility in an apparatus by which the gas in any room can be turned on or turned off by anyone at any time.

In thousands of American houses the entrance-halls and vestibules are now lighted by the touch of a button in the rooms above, so that a ring at night, or an unusual noise below stairs, is immediately answered by lighting up the house by a bell and displaying a sign in the bedroom to the effect that formidable criminals have arrived in the kitchen, sets in motion an apparatus which begins by suddenly illuminating with great brilliancy the place in which he had intended to do his deeds of darkness, at the same time deafening him by ringing an immense gong close to his head until the attention of the police is attracted to the place; the whole of the little dramas go-

ing on without interrupting the slumber of the unconscious mas-

s located in the house above.——American Architect and Build-

ing News.

LATH OR LATHES?—Lath or lathes is the question. Most of the

newspapers print it in the plural. At the East it is commonly
called lathes. In the West one scarcely ever hears a lumberman
talking about latis; simple lath in a collective sense is good

eough for the wild and untutored Western merchant. Webster’s
dictionary says that laths is right, and that is sufficient for the

Eastern lumbermen who have graduated from college or high

to the lumber yard. Webster has doubtless decided that if it is right to say boards, pickets, and shingles, it is the proper

thing to say laths. By the same rule corn should be corns, beca-

cause lemons are lemons, and trout should be trout. Word-

ing usage makes them. The Lumberman says lath, thus taking

the liberty to disagree from the dictionary, choosing rather to con-

form to common sense and side with the great mass of men who

handle the stuff.

"OAK is the grand, everlasting wood of the ages," quotes a lumber journal.

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Address, PETER ABRAMSON, 1022 Hyde St., San Francisco, Cal., for Circulars and Models.

TESTIMONIALS.

JACK LYNCH, Judge of Police Court No. 12, San Francisco, March 13, 1887.

Mr. P. Abramson, San Francisco—Dear Sir: After giving your Patent Ventilator a thorough test, I am thoroughly convinced that you have founded in it a most wonderful discovery in furnishing ventilation, without creating a draught, have been using two of them for several weeks and take pleasure in pronouncing them a perfect success in fact. I am fully appreciative of their usefulness and think I should like to obtain from you the agency for this county. An early reply will oblige,

Yours truly,

E. F. Baggot.

SUREANDASSURANCECOMPANYOFLONDON.

San Francisco, April 1887.

P. Abramson, Esq.—Dear Sir: Since you placed your Ventilators in the windows of our office, corner of California and Mission streets, I have been able to maintain a comfortable temperature in the room, and have not felt any draught from them. They are very true.

W. J. Latorrpa, 5th Agen.

SUREANDASSURANCECOMPANYOFLONDON.

San Francisco, May 25, 1887.

Mr. P. Abramson—Dear Sir: Your Patent Ventilator you put in my office is a most wonderful and valuable acquisition; it is kept perfectly cool and without the least feeling of draught. I desire to recommend your Ventilators to every office that we have ever owned, and shall be pleased at any time to show the same to any person you may choose to send.

Very respectfully,

A. E. MYRONSON & CO., 12 & 14 Market St.

San Francisco, May 21, 1887.

Mr. Peter Abramson—Dear Sir: The Abramson Ventilators in the windows of the Court Rooms at the Old City Hall have given me satisfaction. I desire you are all set for them, ventilated without draught.

Judge of the Superior Court.

United States Post Office.

Oakland, Cal., May 7, 1887.

E. F. Baggot, Esq., Oakland—Sir: We take pleasure in giving our testimony to the excellent action of the Abramson Patent Ventilator, which in our office are placed and are giving perfect satisfaction. They maintain a perfect temperature in the rooms to which they are applied, and we regard them as the best Ventilators for which we have any knowledge.

L. L. HAYES, F. H. L. M. EDS. ASS. M. P. M.

Architect and Builder.

Oakland, Cal., May 9, 1887.

Mr. Peter Abramson—Dear Sir: In the purview of my business, that of Architect and Builder, I have been enabled to place a number of your Ventilators in different offices and residences in this City, namely, the C. P. B. E. Co's Office and Club, the Pacific Telegraph Office, Mr. E. F. Baggot's Dwelling and Office, and all of them speak of them with the highest praise, recommending them highly to others. In fact I consider your Ventilators indispensable in every office, for their simplicity and efficiency are wonderful. Would you wish to refer any person to me, I shall be pleased to have you do so. I am, Sir, yours, etc.,

W. W. Wulff.

Oakland, Cal., 2nd June, 1887.

Mr. Peter Abramson—Dear Sir: I hereby certify that since you placed your Ventrilators in the Court Room of Department No. 12, Superior Court, the air has been uniformly cool and fresh, and the ventilation has been very efficient without draughts. Your Patent Ventilator is unquestionably a most meritorious invention.

Very respectfully,

J. J. GOODWIN,

Court Room Clerk, Department No. 12, Superior Court.

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San Francisco, June 7, 1887.

Mr. Peter Abramson, Esq.—Dear Sir: Your Patent Ventilator placed in my office a couple of years ago, has now had ample time to prove its merits, and in my opinion the objectives sought by you are largely attained.

The ventilation in one of the most trying, the wind having full access and force upon the point selected. Prior to the installation of your dwelling room ventilators, the ventilation was the forerunner of a very strong draught.

If the statement of the opening was a matter of opinion, but with rare exceptions it has constantly remained upon my side.

Yours truly,

A. K. ENGELS, Sec.

Trine Publishing Company.

Oakland, Cal., June 4, 1887.

Peter Abramson, Esq.—I have one of your Ventilators in my office. It gives perfect satisfaction, and I shall pleasure recommend it to those desiring the advantage of a constant current of pure air without draughts.

Yours truly,

W. E. BORDEI,

Oakland Tribune.

JACOBS & EASTON, Insurance Agents.

San Francisco, June 6, 1887.

Mr. Peter Abramson, Esq.—Dear Sir: We have used your Patent Ventilator in my bedroom for the past two months, that have been a thorough test of the same, and I am fully convinced to those desiring the advantage of a constant current of pure air without draughts. Yours truly,

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This hopper is constructed to take 2 3-inch pipes, one to the right and one to the left and a whole leader in the center. It has also a movable strainer in top to take the sewer pipe. The lower part of the hopper with side outlet in to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swing, therefore it will suit either position of pipe. This hopper can be used only for waste, for waste, or for leader; either tap will be stopped up with iron cap of so desired.

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This Closet is superior to all others, every working part and seat being made of brass, closet and valve with heavy castings. Particular attention is called to No. 4. This Closet has an easy back fastened to cover by heavy damper and bolts. No breaking of parts, joints required to renew a pan. The bending of two large brass costs will separate cover from seat from the receiver. It has a heavy nickel plated cap and pull and solid brass rod. These Closets have been in use since February, 1885. Plumbers and wholesale dealers give them the best recommendation.

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Improving the System.

The building contracting business in San Francisco, and more or less throughout the State, within the past twenty-five years or more, in all the mechanical branches, has been conducted in a manner anything but satisfactory as to the contractors, material men, or the responsible and better class of contractors. The true history of the business during the past quarter of a century presents a deplorable state of facts. Incompetent and irresponsible men, and withal men enjoying no fair degree of honest intent and purpose, have from time to time crowded in and operated as contractors, monopolizing a large proportion of the work offering, taking it at taking prices, with but little concern as to involvements, consequences, or results, thereby rendering it difficult and almost impossible for honest contractors to compete, and in thousands of cases ending in compromise, and, in short, pro rata settlements.

The effect of this has been sadly disastrous all around. The really competent and good men have been prevented from realizing what was and is their due—engagements at living prices, and fair compensation for the skill and service required of them in conducting and executing honest work. Material men have suffered severely by short payments, millions of dollars within the time named being lost through trusting men who had all to gain and nothing to lose by contracts undertaken at ruinous prices, and but for the fact that building materials, especially lumber, the chief commodity used in building construction in California, has always, except at special times when breaks in combinations and fierce competition for a period has "knocked the bottom out" of regular trade, paid, as it is now doing, large margins of profits, many of the dealers would have been forced to succumb under the severe losses which have at times followed in quick succession.

And while architects have not been involved in the direct losses growing out of this state of things, they have been severely contingent losers in time, annoyances, and vexations, as every engagement made with inferior contractors involves trouble and expense to the men of plans, who is expected to combat and connect the short-comings of those under his supervision, and in the event of failure of any kind he is expected to be a Solomon, meeting the antagonizing views of everyone involved in the transaction, and satisfying the demands of all parties, or else meet the denunciations of those who may feel themselves aggrieved. While those who suffer more financially are greater losers in dollars and cents, the architect is by far the worst punished party concerned, in the misrepresentations and vexations annoyances that attach to every case of failure by a contractor.

All this suggests, Who is most to blame? As a rule, those who lose place the blame upon the architect, who has, unfortunately to himself, yet innocently, allowed the contract to fall into impyger hands. But a single second thought must bring the conviction that no sane or sensible architect would willingly permit himself to be the victim of such circumstances as generally follow engagements with men of known disproportionate and dishonest. And when contractors present the credentials of ample credit, and their materia-l men as bondsmen, it is not an easy matter for the architect to convince the owner that he should pass the lowest man, and pay from ten to twenty-five per cent more to the second or third highest bidder. Here, with integrity, archi-
tects reply, and the majority of the better classes of contractors chime in, No; the fault lies in the fact that incompetent men are granted credit without regard to their financial or moral responsibility. The doors of trade are too easy upon their hinges, and the custom has been next to universal that any man, no matter what his actual pecuniary or moral status might be, could find all required credit and bonds necessary to enable him to claim his rights as a contractor, and undertake the work of construction whether large or small.

But with the many-sided views in the issue, it is not likely that a unanimous agreement can possibly be reached as to who is most chargeable, nor is it now necessary, if all inter-

ested contractors, material men, and architects, will combine upon a plan that will serve every best interest, and substitute for the bad that has been, a condition of things that will be just to all concerned, and best alike for contractors, material men, architects, and owners, leaving the possibilities of failures and pro rates in the future to extreme and incidental cases, averaging, at most, fairly within the limits of experience in the comm-invil world, and, we hope, far less.

But some will say, Have owners profited by the state of things referred to? Yes, they have. But in reply, contractors have not done just as all other men have done in other connections, availed themselves of the benefits appearing from this condition of affairs? It is a universal law among mankind to make the best bargain possible, and he who would refuse acceptance of a proposition purporting to lighten the drafts upon his exchequer, would not be estimated in the business world as sagacious and prudent, the results promised being the same. Hence to remedy the evils that have been in the building line, material men, con-

tractors, and architects must advise the method, and by faithful, honest understanding carry into practice such rules and systems as will insure integrity and justice to all parties.

THE REMEDY IN HAND.

A movement is on foot among the material men, and others concerned in the risks and responsibilities of the building trades, which we hope will be worked to a successful issue, the object of which is to close the doors that have been open too wide, and have them against the ingress of impecunious interlopers, by mak-
ing reputation, competency, and responsibility a necessary pass-
word to credit. Let this be done and strictly adhered to, and it will not be long ere the skunk-weed class will disappear.

Building Summary for August.

The past month has been a brisk one as far as building im-

provements are concerned. The number of improvements now under way is much greater than the same period of last year. Recapitulation for the month is as follows:
THE regular meeting was held the evening of the 5th inst., President Pass preceding. After the reading and approval of minutes, reports of committees, and attention to general business, the nomination of officers for the ensuing year followed, the election to be held September 2. The committee reported favorably upon the application of Gingeru Hamada as associate member. At this point a general discussion was indulged in, in regard to the past work of the Chapter, and its future prospects. An expression of abiding faith in its possibilities was unanimous, and the best of feelings pervaded the evening's intercourse.

The many material benefits to the profession, growing out of the Chapter's organization, were fully reviewed. The adoption by the Chapter of a schedule of charges for professional services, which is by our courts recognized as authority, has resulted in considerable increase in fees, with improvement in quality of work. The Chapter has been of great advantage to both members and non-members of the Chapter. But the more special good done by the organization is found in its moral influence in bringing together those interested in the betterment of the profession, and establishing professional courtesies and friendly intercourse for greater than existed prior to the existence of the Chapter.

A more general, interested co-operation of the architects of San Francisco would doubtless add to the efficiency and influence of the Chapter. Among those who have assisted by service as officers and otherwise, and at convenient times or regularly attend the meetings of the Chapter, are Messrs. Wright, Sanders, Corlett, Lauer, Fissis, Walsh, Clark, Moore, Wolfe, Henrickson, Bostick, Curtis, Gough, McClymonds, Everett, Dalston, Bisel, while many others in San Francisco, San Jose, Los Angeles, Oakland, Sacramento, and other places, hold inactive membership, and visits from non-members frequently occur.

The Chapter has not made failure to make that entirely successful advantage possible, and placed itself in the position for good that it might have done, its management has been free from individualism and clique influence. A generous and liberal sentiment of harmony of purpose has prevailed, and those who have been most earnest in the work have been actuated by just judgment and honest intent and purpose; so that whatever mistakes may have been made have been the result of error of judgment.

Those who have not affiliated are alone to blame for any seeming imperfection of the organization, as the doors of the Chapter have been open to every good man, and those who could have done better than seems to them to have been done by those who have done the best they know how, are at fault in not assuming the position that has ever been free to them, and by the force and influence of their greater wisdom helping to found and perpetuate an architectural organization in San Francisco that would accomplish all that could be accomplished by a body of intelligent, practicing architects.

The Sewage System for San Diego, Cal.—The sanitary sewer system of San Diego, Cal., as extended for the several years, has been a subject of considerable interest to the architects of San Diego, particularly in view of the fact that the system which Colonel Waring has engaged to build for San Diego, Cal., at a cost of about $400,000. The main sewer runs a quarter of a mile into the harbor at an outlet-reervoirconnexions along the deep ship-channel. The reservoirs of the sewage system have an area of one acre, and cost some $500. The collected sewage will fill this reservoir not more than one and a half feet deep. High tide will add three and a half feet of sea water to the sewage, and in winter it will be discharged into the outgoing tide by automatic gates opening an hour after high tide, and closing an hour before low tide. At Stockton and Sacramento, where the conditions are nearly identical, Colonel Waring will make wells in various flat parts of the city, connecting with the main sewer by lead pipes. Colonel Waring has used this plan for two years successfully at Norfolk, Va. At Los Angeles he recommends the purchase of 10,000 acres of land six miles from the city, and the disposal of the sewage upon it by irrigation.

THE superiority of well-laid artificial stone sidewalks is universally admitted, and as a rule everybody is having new sidewalks put down, and those who can afford the slight additional expense over wood, especially in front of business buildings, adopt the more durable, and practically more economical, office—artificial stone. There are numerous examples of excellent work of this kind in San Francisco, and some wretched abortions. When the number engaged in this year's business is limited to those who both fully understood the art of manipulating cement, and who retained a feeling of pride in the quality of work done by them, a better class of work was produced. But its growing and rapidly increasing popularity offered inducements to many adventurers to become contractors before they knew the art, and until at the present time there is a host of them—some good workmen, having learned the trade by service under the earlier employers who introduced the business in this city, and as many more who possess not the first item of practical knowledge, except to make a few figures by way of ascertaining the number of square feet contained in the space to be covered, and ordering the required material. As to the proper way to manipulate the same they know nothing, and are forced to depend upon such hired help as they may control; consequently competition is large and zealous, and, as a result, prices low, with the female of miserably poor work.

Some men are actually contracting to put down artificial stone sidewalks in San Francisco for less than the first cost of the raw material alone, required in the execution of good work, with nothing allowed for labor. Many owners think this is nice, and imagine that they are doing a great thing for themselves by a deal of this kind, failing to realize the fact as it is, that they do cheap work of this kind the cheapening is compensated to the worker, by the inferior quality or diminished quantity of cement used, and the economizing of labor. The outcome of all this is that some of the earliest laid sidewalks put down by the pioneer cheap men are, after a few years' wear, worn out or so badly disfigured by cracks that they present very unsightly appearances, while many of the cheaply laid kind laid within the past year or two, in the line of their predecessors in kind, badly cracked. It is all well enough to obtain the thing one wants as cheaply as possible, provided the thing actually wanted can be had for the cheap figure; but it is a little bit of humbuggery played on one's self to smile at a result which in reality gives the occasion to laugh to the party smiled at.

Most of the very cheaply laid sidewalks will prove "good for the trade," insomuch as they will wear out in a few years, and require relaying, while those laid in first-class manner will endure for a generation.

Answer to "Draughtsmen Wanted.

Since the first appearance in this journal of the article with above heading, we have received scores of letters, asking for information in regard to draughtsmen. So far, our time and postage stamps have been freely given to answer inquiries; but we must decline, in future, to answer letters that do not contain return postage. Our books will show that over one hundred letters have been answered, upon which, in addition to our own trouble, we have had to supply stamps in order that the letters may be re- solved by applicants. We will gladly answer any letter sent us by those seeking information, but will only do so when proper postage is inclosed for return answer.

More Draughtsmen Are Wanted.

From present appearances, the demand will be greater than ever. We can give work to good draughtsmen at good wages and a long engagement. Please remember that carpenter sketchmen are not wanted. We can only place thorough draughtsmen, who can execute all the details necessary to every portion of a building.

Plumbers, as well as architects, will be interested in the account given in the Deutsche Baumeister of a novel method for laying a sewer line in ice. The method is used as a preliminary to excavation in winter. Instead of building a fire over the spot to be excavated, as is usual in the ordinary practice, those who use the new method spread over it a layer of quicklime, followed by a stratum of ice about six inches thick. More lime is put on and the ground is frozen to a great depth, several alternate layers are used. The whole is then left to itself overnight, and in the morning the ground is found to be free from frost. If no snow is to be had, water may be used for slaking the lime, which is then to be covered up to keep it in the heat.
ASKEO, ANSWERED, AND COMMUNICATED.

Architects, Contractors, Carpenters, and mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them, and we will make the cuts. We especially invite suggestions from apprentices and young mechanics.

Pitch of Roofs.

From M. O. F., Nevada City, Cal.—I have a dispute with a brother tinner with reference to the pitches of roofs. My argument is that the term one-half pitch, one-third pitch, etc., refers to the fractional parts of the 1/2 circle—in other words, the fractional parts of 90°. Therefore, one-half pitch would be an angle of 45°, and one-third pitch, 30° and so on. The argument of my opponent in this controversy is that a roof that rises 12 in. in 12 in. run is full pitch, while a rise of 6 in. in 12 in. run is one-half pitch, simply because 6 is one-half of 12.

Answer—The term pitch referring to the slope of the rafters of a roof, as used by architects and builders, is dependent upon both span and rise. Pitch is expressed in several different ways. Sometimes it is given in the degrees of angle which the rafter makes with the horizontal. This method, however, is not in common use outside of the books. The most general plan, however, of expressing pitch is by the height in parts of the span. Accordingly, it is quite common to hear a roof spoken of as one-half pitch or one-third pitch. If, for example, the span is 30 feet and the height is 10 feet, the pitch by this method is called "third pitch." Another plan, but not at all general use, is by the length of the rafters in parts of the span. Thus if the span is 30 feet and the length of the rafter 20 feet, by this method the pitch would be called "two-thirds pitch." It would seem from the statement made by our correspondent above that neither he nor his opponent in the controversy is correct. The latter is manifestly wrong, and he employs terms which have apparently been invented for his purpose.

From A. W. H., Westfield.—I desire to refer one or two questions about California redwood shingles to the readers of Carpentry and Building. I have seen redwood shingles that when first put on the walls and oiled looked very well, but after a few days or a week, however, darkened shingles began to appear among them, and accordingly gave a very bad effect to the sides of the building looked very bad indeed. I desire to inquire if there is any way by which this difficulty can be overcome.

In answer to the above, it may be stated that, to insure equality and uniformity of color, redwood shingles intended for oiling should be selected with care. The texture of the California production varies greatly, some being fine-grained, light-colored, soft woods, and other trees producing hard and harsh kinds, down to what is known as heart redwood; consequently the yield in shingles from the respective classes must vary greatly as to color under treatment. Before exposure to the weather, this difference is not so marked, nor even when used in ordinary roofs and painted, or the natural surface exposed to the weather. But it must be apparent that where soft, porous, and hard-grained, brashy shingles are laid in impregnated oil, in some connection, and oiled, the penetrates the one and dissipates, and remains on the surface of the other, producing widely different results in a little time.

Again, sappy redwood shingles should never be used, as the sappy parts have no lasting quality anywhere, and if used in shingles and oiled, the sappy portions will speedily show contrast.

Redwood Shingles.

To Clean Oil Paintings.

The following recipe will be found valuable for the purpose: Mix well together 200 ounces of wood naphtha, one ounce spirits of salts, and a quarter of a pint of linseed oil. Before being used the bottle containing them should be shaken. The application is simply with a soft pad of linen, to which should be given a circular motion. When nearly dry give a second dressing, when the picture will come out in all its details.

Restoring Moulded Picture Frames.

Should any portion of the moulding be destroyed, it may be restored by a composition made by boiling together some Venice turpentine, resin, and linseed oil, then adding glue dissolved in water, and, finally, whitting, till the mass is brought to the consistence of putty. The composition is then shaped to supply the defective part, and is to be colored or gilded to match the rest of the frame.

A DOWN-EAST Yankee has invented a new screw—half nail, half screw—which is said to be almost anything extant. Two blows of the hammer, and two terms of the screw-driver, and it is in. Its holding power in common use is said to be 332 pounds, against 298 pounds, the holding power of the present screw.

Plaster when dry, treated with two coats of warm boiled oil, will, when painted, stand the elements as well as wood. Rogers’ statue is made in this manner. Shellac varnish is sometimes in place of boiled oil, but if there is any common lume in the work it is apt to scale.

To Be Avoided.—Resin is frequently used for producing an immediate adhesion of the belt to the polkey, and for this it is well suited, but if the owner has any regard for the consequences, he will soon learn that while the resin will give an instant grip to the slipping belt, it will soon be ground into the leather, stiffen the material and make the last state of that belt worse than its first.

Not Much Need of It.—There is not so much need of sandpaper in the manufacture of furniture and all cabinet work now adays, as the machinery used turns out very perfect work. It is estimated by one of the largest manufacturers of sandpaper in the country that not more than seventy per cent of the amount of last year’s business will be done this year.

The salt industry at Manistee and Ludington, Michigan, has greatly curtailed the last business. Edgings alone are now cut into lath, as slabs are more valuable for salt-barred staves.
constituting the members of the Building Association of California.

ARTICLE I.

SECTION 1. This Association shall be known as THE BUILDERS' ASSOCIATION OF CALIFORNIA.

ARTICLE II.

SECTION 1. Any carpenter residing and doing business as a carpenter in the State of California, and who has announced his willingness to join this Association prior to the adoption of this Constitution, shall be eligible to membership herein without vote, upon the payment of the fee, as provided in this Constitution and the By-Laws.

SEC. 2. Any carpenter residing and doing business as a carpenter may become a member, upon being proposed by two members and receiving the affirmative vote of two-thirds of the members present at a regular meeting, and paying the fee as prescribed in the By-Laws.

ARTICLE III.

SECTION 1. All meetings shall be held at least once a month upon the day and hour fixed in the By-Laws and in the City of San Francisco.

SEC. 2. The President, or in his absence by the Vice-President, shall read the minutes of the last meeting, and any written request of the Executive Committee or of five of the members.

SEC. 4. Adjourned meetings shall be held at any time at the request of a majority of the members present, at a regular meeting, notice being given of such meeting as provided in the By-Laws, stating the business to be transacted; no other business shall be transacted thereto, except such as is stated in such notice.

ARTICLE IV.

SECTION 1. Nine members shall constitute a quorum for the transaction of business at all meetings.

ARTICLE V.

SECTION 1. Each individual member shall pay an admission fee of not less than twenty-five dollars, which fee shall accompany the application for membership.

SEC. 2. The dues to be paid by each member shall not be less than one dollar and fifty cents per month, payable in advance.

ARTICLE VI.

SECTION 1. The elective officers shall be a President, a Vice-President, a Secretary, and an Treasurer, all appointed by the Committee of seven members.

ARTICLE VII.

SECTION 1. The regular elections for the officers of the Association shall be held semi-annually at the meetings in January and July in each year, and they shall be installed at the first regular meeting in February and August following their election.

SEC. 2. The elections shall be by ballot and the majority of all the votes cast shall be necessary to elect, except where there is only one nominee for an office, which shall be determined by acclamation.

SEC. 3. The time and manner of making nominations by the officers and committees for successive terms or elections to any office, and the qualifications, etc., of officers may be provided for by the By-Laws.

ARTICLE VIII.

SECTION 1. The money of the Association shall be kept in one General Fund.

ARTICLE IX.

SECTION 1. Any amendments to this Constitution must be proposed by a member at a regular meeting, and, if seconded by a member present and voting, ten out of full in it shall be read when amended. Such proposition shall then be laid over for two weeks, and when adopted can be the affirmative vote of two-thirds of the members present, except as provided in section 2 of this Article.

SEC. 2. By-Laws not in conflict herewith may be adopted by a vote of a majority of the members present, except as herein provided. No By-Laws or Rules shall be passed abridging the power of any member to carry on or transact his business in such manner as he may deem best, provided no By-Laws or Rules shall have the affirmative consent of at least five of the members present at any such meeting. Otherwise such By-Law or Rule shall be given to such member a notice of the same at least forty-eight hours before the same shall take effect and be in force. This Section shall not be repealed except by a two-thirds vote of all the members of the Association.

ARTICLE X.

SECTION 1. Any regular business meetings of the Association shall be held on the second and fourth Wednesday of each month, at the hour and place fixed upon by the officers, and not before two and not more than three days' notice of the time and place of meeting shall be given in two or more daily papers of the City and County of San Francisco. The minutes of the business transacted shall be recorded and the nature of the business transacted shall be recorded and the nature of the business transacted.
Carved Signs.

CARVING is practically an art as well as a craft, not merely in interior woodwork but in sign work. Carving well executed in these gives an enriching effect. Soft wood is generally selected for ease of working, this being stained, painted, or gilded. Many fanciful contours are produced, and much taste is frequently displayed in these productions which have laid hold of popular taste. Good carving in the undulations it exhibits will afford not only contrast of form to the general surface but an attractive play of light and shade. The forms at the same time should be well defined, for a mere medley of protuberances and depressions is confusing and unattractive. Right proportion and disposition of parts will impart an aspect of completeness to the design that will not fail to please.

As regards the technique of carving it may be classified in four divisions: 1. The ornamentation of a plane or curved surface with designs in slight relief. 2. The ornamentation of a plane or curved surface in high relief, the alto relievo of the Italians. 3. Work entirely curved or wholly in relief. 4. Figures in the round. The first division includes all carving which follows the contour of the sign-board, or forms the contour itself. Undercutting, as a rule, should be sparingly used.

The wood selected for carving, that is to say, the portion to be operated on, should be rubbed over with chalk and the design outlined in strong, dark lines. The depth of the ground of the relief work having been determined, care must be taken that the tools do not cut beneath this. The amount of detachment or absolute relief will depend on the degree of skill required to be exercised in securing due proportions, proper spaces to clusters of ornament if introduced, and the proper degree of prominence and depression to the figure. There must be an observance of right proportions.—Painters' Magazine.

It is estimated by a leading Chicago commission house that 8,000,000 cross-ties, mainly cedar, were cut in territory contiguous to the great lakes the past winter.

Owing to the increased growth of the fruit-growing industry on the Pacific Coast, box making in California and Oregon has been very brisk this season.

First Floor Plan of $5,500 Dwelling.

Valuable Hints.

If varnish or oil does not flow easily, add powdered camphor.

Shellac and borax boiled in water produces a good stain for floors.

Don't inclose the sink—no place in a kitchen is so much neglected.

Porch floors should be of narrow stuff and the joints laid in white lead.

Lime-water is fire-proof protection for shingles or any light wood-work.

Common brick absorb a pint of water each, and make a very damp house.

The lowest-priced builder is not always the cheapest, as poor work will testify.

A closet finished with red cedar shelves and drawers is death to moths and insects.

Do not locate a furnace register next to a mantel, that is, if you wish to utilize the heat.

Terra-cotta flue linings are a great improvement over the old roughly-plastered chimney.

For basement flooring, oak is preferred to maple because it will stand dampness better.

To properly select the colors applicable to the proper place, consult an educated painter.

A ventilating flue from the kitchen into the chimney often does away with atmospheric meals.

Steps to doors and windows should be fastened with round-head screws, so as to be easily moved.

It is better to oil floors than to paint them—a monthly rubbing will make them as good as new.

Do not use one chimney-flue for two stove-pipes—the draught of one will counteract that of the other.

Do not finish windows to the floor—the circulation across the floor is one of the causes of cold houses.

Ash-pits in cellars under fire-places and mantels save taking up ashes, for they may be raked down through a hopper.

Do not construct solid doors of two kinds of hard wood—the action of the atmosphere on one or the other will cause the door to warp.
Elevators.

This machine has one capacity for light loads, and another which, combined with the first, will lift heavier loads. The loads to be lifted may be varied to suit.

A double-capacity hydraulic elevator divides the water into two parts, and uses water in proportion to the loads lifted. Consequently if the lighter load is lifted a less quantity of water is used than though the maximum load is lifted. A single capacity elevator requires as much water to lift the empty car as to lift the maximum load.

In practice it has been found that the loads are constantly varying, and in an ordinary day's use, they will average about one-half the maximum. It is therefore desirable to have an auxiliary power instantly available for any increased load which may be put upon the car, especially if this auxiliary power costs nothing when not in use. The double-capacity machine fills this requisite, and is practically two elevators combined in one, either of which can be used when required. It stops automatically at each end of its stroke, and may be called from one floor to another by 'pulling the hand-rope at the floor where wanted.'

A very important feature, and one not possessed by other machines, is the patent automatic lock or regulator, which avoids a waste of water by preventing the use of the larger capacity when the smaller capacity is competent for the load. Its action is entirely automatic, and dependent upon the load in the car; and it is impossible for a careless or unskilled operator to use more water than is required. The ordinary method of operating double-capacity elevators heretofore has been for the conductor to pull on the valve-rope until, in his judgment, he has opened the valve; but should he pull too far, the full quantity of water, though not needed, is admitted, and the desired economy is not obtained. A double-capacity machine without an automatic lock is little better than a single-capacity machine, and when it is known that elevators are often operated by those who know little or nothing of their construction, and that at each trip there may be a saving or loss of from fifty to seventy-five gallons of water, dependent upon the variation in pulling of the hand-rope, the object of this invention will be apparent.

This machine is guaranteed to be safe, economical, and durable, all parts being strongly and substantially built and made of the best material; when repairs are needed, the arrangement is such that each and every portion is accessible.

The Bancroft History building has been supplied with these elevators, and it is worth the time and attention of those about to build, to thoroughly examine the workings and cost of running these in actual use, before adopting any other style.

Information in regard to the above will be furnished upon application—either in person or by letter—to the San Francisco Tool Co., corner of First and Stevenson Streets, they being prepared to construct freight or passenger elevators of this style to lift any required load.

In towns and cities having electric plants furnishing light and power the economy of these elevators is still further increased by using pumping apparatus accessory to the elevator, consisting of a tank on top and one at the base of the building, with a pump connecting the two and run by an electric motor actuated by electric power. The pressure and quantity of water are obtained from the upper tank. The elevator discharges into the lower tank, from whence the water is pumped to the upper. The water is thus used over continually without waste.

The San Francisco Tool Co. make such electric motors, under the Keith system, pumps, tanks, etc. The Company is now outfitting the Pacific Power Co., of San Francisco, with a complete large electric plant for distributing power by electricity for elevator and other purposes. It is now running a small plant furnishing power for manufacturing purposes. All interested in this matter are invited to call and inspect the apparatus.
as to destroy the effect of a harmonious whole. The building on the right will take after the Eastlake style in finish, the center one, the Young Men's Christian Association building, which projects and is surrounded by the mansard tower, will be finished nicely after the Queen Anne style. The building on the left is rather quaint, being a modification of the Eastlake and suggestive of the Italian. The first floor of the Young Men's Christian Association building will be introduced by a spacious room under an arch, at the left of which is the ticket office, and directly opposite is the Association lecture board and directory. From this corner you enter a private office to the left and the large store in the center, which will be sub-let by the Association. At the right you enter the hall-way leading to the stairs and rooms above, also to the gymnasium in the rear, with its bowling alley, walking track, gallery, tub and shower baths, and with all the improved gymnasium apparatus. This gymnasium will be one of the finest west of our gulf. The third floor is divided up into class-rooms, ladies' central committee kitchen, rooms for boys' branch, and quite a number of lodging-rooms for young men. These apartments will be airy and commodious and

will afford the Society delightful quarters. These three buildings are each provided with front and back stairways. They will have all modern improvements and lack no really essential feature to make them complete for the purposes. The probable cost of the block will be $25,000 when finished, and will be a credit to the enterprise builders. The Association is fortunate in getting the second Association building erected on this coast, and no doubt its usefulness will be increased a hundred-fold when it gets into the new building. Surely the business men cannot invest their money in anything where it will do as much good and bring larger returns than in the Young Men's Christian Association.

Sobriety in the Saw-Mill.

A GREAT deal is said about total abstinence in different directions of labor, as to the lack of it, or the necessity for it, and the railroads, especially, have been widely commended for their increasing efforts toward its establishment among their employees, who not only have their own lives in their hands, but those of countless others, as well as the safety of all kinds of property. The importance of a level head, under such circumstances, cannot be overstated, and it is more or less a requisite in any vocation.

But if there is any place more than another where drunkenness has no business whatever, it is in a saw-mill; and what is more, it is a very notable and undeniable fact that an intoxicated man at work in a saw-mill is a rarity. It is a place where everything goes with precision, where an error may mean limbs or lives, and where bad judgment might in a second wreck a piece of complicated machinery and occasion great damage. With sobriety and the best of care the accidents that occur in saw-mills are of shocking character and alarming frequency. The injury that might be done in a mill or factory of any kind if a man's functions were upset by drink is, of course, apparent, but a saw-mill seems to present the greater details of danger, and to involve unusual exactness. Give a drunken man full swing of the lever, clear the mill of other workmen, and there is no limit to the havoc he would probably create. If the inebriated sawyer did no other damage, what would be the character of the lumber he saved? If one log looked like three to him, an he could see a double saw, with no ability to tell an inch from a foot, the product he turned out from a log would be a sight to behold.

It would not do to say that an intoxicated man, or one partially under the influence of strong drink, never could or never did run a saw-mill. It would be incredible to suppose there had not been several such cases, but it is the rule that the men who operate saw-mill machinery are sober. Some men have an ability to drink a certain amount of whisky and still control their functions, we reflect, and a man who was a little shot, and a devil-may-care fellow, might pull through a good many tough places.

But the saw-mill owner and the men who labor in it appreciate the situation. They know it means business; they know the danger, and the nasty with which everything must be handled. If they get careless they may pay dearly for it. As a result intemperate men largely keep away from saw-mill labor, either from choice or as a matter of compulsion. It is the exception when it is told that an accident in a saw-mill was caused by intoxication. That the rule of sobriety so generally prevails among saw-mills, while large a question of direct necessity, is a fact for which lumber manufacturer-all deserve to be commended, for it takes determination to enforce it, and demands a recognition of merit, which, to a considerable extent, has been given. The best engineers, foremen, and sawyers are men whose industry, exemplary habits, and consequent skill entitle them to good wages, which they receive, and nobody ought to begrudge them what they get. — North western Lumberman.

SLIDING-DOORS into small apartments are to be preferred in place of folding.

In building frame houses, fill the studsing one foot high above the sill with brick—this discourages the use of rat-traps.
Recipe for a Cement for Repairing Worn Places in Stone Steps.

A SEMAINE DES CONSTRUCTEURS, in reply to a correspondent who asked for the recipe of a cement for repairing the worn places in stone steps, gives the composition of the famous "ciment Sorel," which has for many years been used by a few contractors, who make a great secret of their process, for filling cavities and restoring abrasions in stone or marble. The first person to use the cement, Sorel, was the inventor of the so-called process of "galvanizing" iron, by covering it with a protecting film of zinc. In the course of his experiments he found that the oxide of zinc, mixed with a solution of the chloride of the same metal, gave a substance which soon became in air as hard as marble; and with slight variations, this mixture is the one employed by all his successors. Sorel, in practice, either used the washed residues from the manufactories of zinc white, which are perhaps heavier and less pure than the white pigment, or heated the ordinary zinc white of commerce to redness to increase its density, upon which the hardness of the cement depends. This, when intended for use, he mixed with a rather concentrated solution of chloride of zinc, having a density of fifty to sixty degrees by Beams's hydrometer, usually adding about three per cent of borax or sal-sammoniac to lessen the rapidity of setting. So prepared, the "ciment Sorel," after setting, soon becomes as hard as marble. It adheres very strongly to stone, and resists heat, cold, moisture, and even the action of acids, and may be colored. To reduce the cost, and assimilate it to stone, powdered granite, marble, or hard limestone may be mixed with it, but soft, earthy substances should not be used.

As at present manufactured in Paris, various additions are made to the powdered zinc oxide, to give certain colors or textures, and the chloride solution is sent separately in bottles, the price of the whole, ready for mixing, being about seven cents a pound. The basis of the cement is in all cases the same, some trifling differences in the mode of preparation, such as washing the zinc white with water containing borax before evading it, or using protochloride of iron, or chlorhydric acid, in the solution, in place of zinc chloride, serving mainly to support the claims of particular manufacturers to a special method of fabrication. In general, the heavier the zinc oxide, and the more concentrated the chloride, the stronger is the cement. To repair stone, either in the shape of statues or steps, the portion to be operated upon should first be scraped to a fresh, clean surface, and then moistened with the liquid chloride. A sufficient quantity of the cement is mixed with enough liquid to form a stiff paste, and placed in position, and after being allowed to set a few days, is trimmed off, and smoothed by rubbing with a piece of stone. In summer it will become hard enough to rub down in two days; in winter five or six days are necessary. While setting it must be protected from rain, and two weeks should elapse before a staircase repaired with it is opened to general use. Some of our readers, whose recollections of their experiences in the dentist's chair are fresh, will probably be struck by the similarity of the operations described to those which the dentist goes through in repairing a large cavity with cement filling, and in fact the cement used by dentists is nothing else than the "ciment Sorel," prepared with care for their purposes.

Strength the Great Factor.

The architect or builder who can look back upon a long and honorable career with no element of failure to blot his history can boast of either great prudence and care, or an extreme amount of that commodity called "luck." But few extensive builders have passed through life without recalling some piece of construction where the element of failure was paramount to that of safety. We believe in the truism that it is better to be on the safe side in all our structures. The want of size in timber, the simple absence of a bolt, a few inches in the thickness of a wall, have often brought about elements of danger in buildings that call for the strongest condemnation. There are two reasons for this state of affairs: one is an imprudent knowledge of the edge of the strength and capacity of building materials, and the other is a self-confident conviction of a belief born of a hasty and careless consideration of the subject.

The failure of roof trusses, of girders, and joints, the cracking of walls, the settlement of buildings, may all be indirectly traced to the above causes.

In all constructive architecture the first and important factor to be carefully considered is strength. Where doubt exists, well-known authorities should be consulted and living examples examined. The experience of any architect or builder of extended practice is worthy of consideration.

Especially to the young architect and builder this is a serious matter, and although he may, in self-confidence, assume that he has mastered his profession, he will soon learn that after years of practice he has just begun to learn, and it is at this stage he begins to practice carefulness and give some study—perhaps when it is too late—to the factor of safety. Especially in this, applicable to the construction of masonry. That great common product of every locality, bricks, used in all our great structures, have in them not only the element of safety, but danger to an extensive degree, if not properly used.

A brick of medium quality will withstand a great pressure to crush it, if properly laid. From 400 to 1,000 pounds per square inch will crush ordinary brick-work, if laid carefully. Of course we understand that the figures vary according to the quality of the brick, but the manner of laying has more to do with the safety of brick-work than the strength of the material itself. Not only the manner of laying and bonding, but the mortar goes far to render the work free from failure. The liability to crush and grind, communicated from one brick to another, is much reduced by a bed of good mortar, for the mass, upon becoming compact and homogeneous, is as a solid body upon which movement and crushing effect cannot act; and although the weight of a high wall may be three or four times greater than the bottom as at the top. The fact that much of the brick manufactured by hand in small districts is soft and unburned, renders their use dangerous unless extra care is taken in laying them. Very seldom should brick work be used in isolated or high tens, for the safety of the mass, upon being loaded; but if used at all, they should be of the best quality, hard-burned, and laid in cement divided by good bond-stone. High piers are liable to buckle or spring out of plumb before crushing, and should in all cases be avoided if we have any regard for the great factor of all good construction—strength.
Southern California Sandstone.

A fine specimen of sandstone from quarries near Los Angeles has been left at the office of this journal, than which in texture and color we have seen nothing finer in this State. The deposit is within a mile or two of Los Angeles City, and the ledge is found in strata of from six to sixty inches in thickness. Even the heavier strata are said to be entirely free from seams and fractures, with marked uniformity in color. It appears not to be affected by exposure to the atmosphere, except to improve it in hardness. The proprietors of the quarry propose its introduction for building purposes in San Francisco as soon as transportation facilities are completed.

It is certainly gratifying to notice the unearthing of these natural finer products of our State in building materials. With the sandstone of Santa Clara County, and the more recently discovered Los Angeles stone, an ample supply of beautiful building stone of this kind is at hand, serving all present purposes, with the great probability that other counties of the State will in turn uncover deposits of sand and other fine stones for building purposes, which will redound the propensity of a certain class of owners who feel disposed to "send East" for the brown sandstone of Connecticut, to a simple exhibition of folly.

The American Glossary of Architectural Terms.

The object of this new work has been to prepare a concise dictionary of all proper terms used in America and England, but not to treat of words whose etymology is uncertain. It is the only work of the kind ever issued adapted to the wants of the American architect and builder, arranged from a professional and practical standpoint. The illustrations are the most perfect and complete ever produced in any work of a similar standing, and the method used to exemplify on one page the meaning of the terms on the opposite page certainly recommends itself to all. Architectural students of all degrees should own a copy of this work. It is beautifully bound and printed, and will be sent to any address upon receipt of $2.50.

Steam and Water Radiators.

It will be news to some to know that three-fourths of all the radiators in use in the East are those manufactured by the A. Griffin Iron Co. Not content with supplying one-half of America, they are making great efforts to secure the entire control of the Pacific Coast, and to this end are shipping weekly car-load lots, so as to fully meet all requirements of the trade. Their very best goods are shipped to this city, and in quantities to suit any demand, no matter how large they may be. C. D. Harvey is the agent on this coast, and may be found at 30 New Montgomery, corner Stevenson Street.

The curious fact that the usual heat produced by friction is absent when the articles are magnetized, is just now being discovered by scientists who are seeking an explanation. Very striking examples are described in a late number of a scientific periodical. A workman fastened a couple of powerful magnets to his hat to hold more securely a piece of metal which he wished to drill and turn. The presence of the magnets kept the metal so cool that no water was needed to keep the drill moist and cool. This unusual circumstance may lead to important mechanical advantages. It is such circumstances as the one noted above that lead to valuable discoveries. The scientists, who are looking for a reason why the heat should be absent, may not hit upon any valuable idea, but some practical mechanic probably will.

In arranging the openings of a room, do not forget the wall space. It is sometimes advisable to build a house to suit the furniture.
The vagaries in designs with which architects are wont to trim public and private buildings at the present time are almost without parallel. There is no portion of a building perhaps where odd conceits are more often shown than in the finials surmounting towers. Two pieces of work of this kind are shown in the accompanying engravings. One is a very neat design of a finial carrying a vase, and may be asserted to belong to the conventional order of work of this nature. The other, in addition to the orthodox architectural features of the lower part, has a non-descript beast with wings and forked tongue hanging to the rock. Whatever may be the designs of finials, the question of the material out of which they are to be constructed is a matter of considerable importance to the builder. Sheet metal work is gradually being recognized as the most appropriate article and there are comparatively few pieces of work of this kind at the present time in which this material does not figure as an important element. The designs here shown are selections from a new catalogue recently issued by Haldwell & Mullins, of Salem, Ohio. The work is a volume of 300 pages and contains a thousand or more engravings representing architectural trimmings of almost every conceivable kind ranging on the one side from ambitious allegorical groups and statuary, heroic size, to leaves, rosettes, scrolls, etc., on the other. While the book is only a trade catalogue and intended primarily for the use of the customers of the establishment named, it is more of interest to architects, builders, and sheet metal workers in general on account of the number of designs it contains, more particularly because it shows work that has actually been executed and in many cases indicates the buildings upon which it has been employed. The work is one which will doubtless have a wide circulation.

New Books.
We have on hand the following books, which will be sent to any address upon receipt of the price.

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CIVIL ARCHITECTURE,
A SPLENDID WORK,
PRICE, $10.00.
COUNTRY BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. In all cases we will file our authority for any statements made in this column.

No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on" we do not charge anything for the insertion of such notices. Remember this Journal is in the EIGHTH YEAR of its existence, and is the only Journal published this side of the Rocky Mountains in the interest of Architects, Contractors, and Material Men.

Alameda.
H. K. Starkweather is having built a $2,000 house on Pearl Street. Science of Carpentry, for $4.00. Universal Assistant, for $2.50.

Ahbambra.
Completion of school-house frame. Architect, B. J. Reeve; cost, $2,000.
Cutting Tools, for $1.50.
House Hand-Book, for $10.00.

Covina.
M. E. Church, frame. Owner, M. E. Church; architect, Reynolds; contractor, day work. Cost, $7,000.
Cutting Tools, for $1.50.
Cummings’ Details, for $5.00.

Coronado Beach.
The foundation for a new house, the property of Architect Falkner, has been laid.
Grisham on Saws, for $4.00.
Mechanics’ Geometry, for $4.00.

The laying of the brick foundation for the new building to be erected by the Methodist Society, on the corner of D and Fourth Streets, is commenced. A very handsome three-story brick is projected. The ultimate cost will reach $60,000.

Coronado will have a fine school-house, on a lot 500x500 feet, bounded by E and F Avenues, and Sixth and Seventh Streets, being the second block west of the plaza.

Shavings and Sawdust, for $1.50.
People’s Cyclopaedia (three large volumes), for $20.00.

Earlham.
A Friends College, to cost $50,000, is projected.
Ruskin’s Works (four volumes), for $6.00.
Industrial Drawing for Carpenters, for $5.00.

East Oakland.
Drawing for Bricklayers, for $1.50.
Drawing for Cabinet Makers, for $1.50.

Garvanzo.
A planing-mill is now erected here.
Woodward’s Farm Homes, for $1.00.
Woodward’s Grapers, for $1.00.
A brick-yard is already in war.
Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

The town boasts a new telegraph office.
Painter, Gilder, and Varnisher, for $1.50.
Architects’ Companion, for $2.50.

A large number of houses are under contract and building in Garvanzo.
Lime, Cement, and Mortars, for $4.00.
Wonders of Art, for $1.25.
Judge Hatch is building a $7,000 house.

Woodward’s Farm Homes, for $1.00.
Woodward’s Grapers, for $1.00.
A large addition will be built to the Garvanzo Park Hotel.
Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Los Angeles.

Album of Mantels, for $8.00.
Architects’ Companion, for $2.50.

Manual for Furniture Men, for $1.00.
Common-Sense Church Architecture, for $1.00.
Three-story frame. Owner, Gamble; architect, B. J. Reeve. Cost, $14,000.
Artistic Homes, for $3.50.
Modern House Painting, for $5.00.


Every Man His Own Mechanic, for $3.50.

Tredgold Carpenters, for $7.50.


Architecture and Building, for $3.50.
American Cottage Building, for $3.50.

One-story frame and brick. Owner, Mr. S. Callaghan; architect, John Hall; contractor, J. M. Tibbetts. Cost, $500.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

Four-story and basement brick. Owner, L Phillips; architect, B. J. Reeve, Cost, $100,000.

Every Man His Own Mechanic, for $3.50.

Tredgold’s Carpentry, for $7.50.

Two-story frame residence. Owner, M. E. Church; architect, Reynolds; contractors, Monroe & Co. Cost, $2,000.

Woodwards’ Country Homes, for $1.50.
Practical Perspective, for $3.00.

Four-story and basement brick. Owner, L Phillips; architect, B. J. Reeve; contractor, Grant. Cost, $180,000.

Woodward’s Country Homes, for $1.50.
Science of Carpentry, for $4.00.


Monrovia.
There are between thirty and forty buildings being erected in Monrovia at the present time.

Lumberman’s Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Several more contracts are now being let, some of them for very fine residences.

Steel Square Problems, for $1.00.
Workshop Companion, for 35c.

One-story frame cottage. Owner, Mrs. Hutchinson; architect, E. A. Coxhead; contractor, Leitch. Cost, $2,500.

National City.
Griffith & Heat are building a large brick block on Eighth Avenue. The contract is for $9,000.

Practical Perspective, for $3.00.
Builders’ Companion, for $1.50.

L. E. Brown has prepared plans for another $15,000 house.

Ontario.
Two two-story brick blocks. Owner, C.

Graham on Sawm, for $4.00. Mechanics' Geometry, for $4.00.

**Pomona.**

The demand for building material is so great that a number of carpenters are compelled to suspend operations, awaiting the arrival of some kinds of lumber.

Hand Railing and Stair Casing, for $1.50. Drawing for Carpenters, for $1.75.

W. H. Sailer is building a house in the Garthside tract.

1. Builders' Companion, for $1.50.
2. Builders' Work, for $5.00.

J. W. Heckman is building for L. W. Carpenter a $1,600 house on Holt Avenue.

American House Carpenter, for $5.00. Cutting Tools, for $2.00.

Henry Warren is building a $1,500 house on Centre Street.

Plaster, How to Make It, for $1.00. Shavings and Sawdust, for $1.50.

Complete Catholic Church. Architect, B. J. Reese; cost, $1,900.

1. Builders' Work, for $7.50.
2. Building Superintendent, for $7.50.

**Redlands.**

Jas. F. Drake is having a two-story house built.

1. Builders' Companion, for $1.50.
2. Builders' Work, for $5.00.

**Rialto.**

W. H. Wickersham, of Los Angeles, has given the contract for building the large hotel at Rialto. George B. Robinson, from El Paso, Texas, has taken the contract for doing the brick work. Work on the building will begin at once. The house will cost in the neighborhood of $125,000.

Artsian, for $5.00.

Builders' Guide, for $2.00.

**Riverside.**

H. A. Westbrook is building a residence on Brighton Square. The edifice will cost $10,000.

Lumberman's Hand-Book, for $2.00.

Practical Geometry, for $1.00.

A new chapel is being erected on Sixth Street for the United Brethren.

Science of Carpentry, for $4.00.

Universal Assistant, for $2.50.

T. J. Wood has matured his plans for the erection of a large brick block on Orange Street. It is to be 26x86 feet, two, and perhaps three stories high.

American House Carpenter, $5.00.

Cutting Tools, for $2.00.

**Rosecrans.**

A large hotel is to be built at once.

**San Bernardino.**

Architect C. H. Jones has made plans for a one-story building for Dr. Katz.

1. Builders' Companion, for $1.50.
2. Builders' Work, for $5.00.

The corner-stone of the new $20,000 M. E. Church was laid with appropriate exercises.

Album of Mantels, for $5.00.

History of Architecture, for $15.00.

The Anderson building, opposite the St. Charles Hotel, will be the largest in the city. It will cost $2,900.

1. Builders' Companion, for $1.50.
2. Builders' Work, for $5.00.

The laundry building for the Southern California Road, at this place, will soon be ready for occupancy.

Ruskin's Works (four volumes), for $6.00.

Industrial Drawing for Carpenters, for $2.00.

One-story brick for Katz, $5,000.

Artistic Homes, for $3.50.

Modern House Painting, for $5.00.

Two-story frame for R. H. Skelly, $2,300.

American Cottage Homes, for $3.00.

1. Builders' Work, for $5.00.

Two-story frame for J. E. Drake, $2,500.

1. Album of Mantels, for $5.00.
2. History of Architecture, for $15.

One-story brick for S. Haile, $6,000.

American House Carpenter, for $5.00.

Cutting Tools, for $2.00.


Six cottages for S. Weil, $3,000.

**San Diego.**

An Agricultural Hall is about to be built. Science of Carpentry, for $4.00.

Universal Assistant, for $2.50.

An opera house to cost $300,000 is to be built in the near future.

1. Building Superintendent, for $3.00.
2. American Cottage Homes, for $4.00.

The bricklayers are at work upon the foundation of the new railroad depot at the foot of D Street.

Lumberman's Hand-Book, for $2.00.

Practical Geometry, for $1.00.

The masons have commenced work upon the foundation of the Methodist Church, corner Fourth and D Streets.

Practical Perspective, for $5.00.

Drawing for Carpenters, for $1.75.

Two million dollars' worth of buildings have been lately contracted for, of which half are in the way of construction.

Drawing for Stone Masons, for $1.50.

Building Construction, for $1.25.

Work on the railroad depot at the foot of D Street is being pushed rapidly. A portion of the frame is already in place. The building is to be 60x100 feet.

**San Pedro.**

Two-story frame. Owner, Mr. Bloomfield; architect, John Hall. Cost, $3,000.

**Santa Ana.**

Two-story brick. Owner, Dr. Mollock; architect, B. J. Reave. Cost, $12,000.

**Santa Monica.**

Episcopal Church, brick. Architect, K. A. Coxhead; contractors, Davidson & Johnston. Cost, $3,000.

**San Luis Obispo.**

A $200,000 hotel is shortly to be erected, some three miles south of this town, by a company, and ground for the enterprise has already been broken, water pipes are laid, and erection is to be commenced at once.

Mural Painting (new), for $3.00.

Home Hand-Book, for $10.00.

**Santa Paula.**

Three brick buildings are soon to be erected at Santa Paula, one of which will be occupied by a banking firm.

Album of Mantels, for $8.00.

History of Architecture, for $15.00.

**The Alvarado Bridge.**

The contract of the county of Alameda with the California Bridge Company to construct an iron bridge at Alvarado, was approved recently by the Board of Supervisors.

The contract price is $7,440. The contract for the construction of the new Receiving Hospital was awarded to C. L. Crissman. The contract price is $3,578.

Shavings and Sawdust, for $1.50.

American Cottage Building, for $5.50.

**Miscellaneous.**

Captain Flavel, of Aston, will build two fine brick buildings in that city this season.

Each will be three stories high; one on the corner of Charnamun and Main, the other on the corner of Charnamun and Casa Streets. The cost of both will be $60,000.

Architecture and Building, $5.50.

American Cottage Building, for $3.50.

A $10,000 flooring mill is to be built in Heppner, Or., this summer.

Woodward's County Homes, for $1.50.

Plaster, How to Make It, for $3.00.

J. P. Allen will build a large family residence for Will Shoemake, on the northwest corner of Twelfth and K Streets, Modesto. The building will cost, when completed, between $4,000 and $5,000.

American House Carpenter, for $5.00.

Cutting Tools, for $2.00.

Contract has been let for construction of the Despain Block in Pendleton, Or. It will be of brick, and cost nearly $18,000.

Practical Perspective, for $5.00.

Woodward's Country Homes, for $1.50.

Hoffman & Bates, of Portland, Or., have been awarded the contract for building snow-sheds on the Northern Pacific road west of the Cascades, and High Glen & Co., of The Dalles, for the east side. Both contracts will consume about 11,000,000 feet of lumber.

Artsian, for $5.00.

Builders' Guide, for $2.00.

Mr. H. F. Larrabee is drawing plans for a two-story brick hotel, 48x86 feet, to be erected by Mrs. Kornmeyer, on the east side of Railroad Avenue, Oakland, Cal.

Steel Square Problems, for $1.00.

Workshop Companion, for 35c.

J. M. Mortens has purchased, and will soon erect a fine residence thereon, the lot on the northwest corner of Alameda Avenue and Union Street.

Builders' Companion, for $1.50.

Artistic Homes, for $3.50.
SACRAMENTO, bet. Steiner and Pierce. Alterations.
O.—Schmidt.
A.—Chas. Godley.
$4,500.

TURK, bet. Pierce and Scott. Alterations.
O.—L. Turner.
A.—John & Zimmerman.
C.—B. Knass.
$8,000.

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TURK, bet. Pierce and Scott. Alterations.
O.—L. Turner.
A.—John & Zimmerman.
C.—B. Knass.
$8,000.

O.—E. Fialkory.
A.—C. J. Devlin.
C.—H. Foote.
$4,500.

O.—E. Fialkory.
A.—C. J. Devlin.
C.—H. Foote.
$4,500.

O.—E. Fialkory.
A.—C. J. Devlin.
C.—H. Foote.
$4,500.

Two-story frame.
O.—J. Duns.
A.—Guggelotti.
C.—F. C. Adams.
$2,500.

O.—Mrs. J. Campbell.
A.—Townsend & Wycken.
C.—A. McDonald.
$2,000.

Carpentry Made Easy.

By Wm. E. Bell, a practical mechanic, who fully appreciates, from personal experience, that there are many things perplexing to the under-taught and difficult to do until they are fully explained and tested. It is designed to make the science and art of carpentry clear and comparatively easy to all who require information on the subject. Price, $5.00 by mail, prepaid.

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TESTIMONIALS.

Dr. Lowry's New Hamman, 211 Post Street.
San Francisco, Dec. 9, 1887.

Mr. P. Abrahamson—Dear Sir: In the subject of ventilating without draughts has been my study for years in the various Theresa, and throughout the United States, in order to secure a perfect "Coral Roof," which is the great desideratum to be attained in a Turkish Bath House. Through your invention of the Window and Door Ventilator, we have secured every "desideratum" that we desired for, as I have practically tested it myself, and find it works perfectly satisfactorily, and can readily recommend it to all who are in search of fresh air without draughts. Yours truly,

A. M. LOWRY, M.D.

San Francisco, Feb. 1, 1887.

PETER ABRAHAMSON, Esq.—Dear Sir: The ventilators you put in my bedroom to protect them, they keep the air the fresher. I would not be without them. They enable me to keep the room clean without the cost. I can recommend them to all who are in search of perfect ventilation, without draught. I am pleased to say that, after due trial, both at my house and office, I find it works to my entire satisfaction, and can unhesitatingly recommend it to all. It is the perfect ventilation without draught. I have been using it for several weeks and take pleasure in pronouncing their perfection to fact. I do fully appreciate their merit that I should like to obtain from you the agency for this county. As early reply will oblige.

Yours truly,

(Handwritten address)

Pioneer Woolen Factory.

San Francisco, Feb. 5, 1887.

Mr. P. Abrahamson—Dear Sir: In answer to your question whether I find the Ventilator a thorough one, I am so pleased to say that, after due trial, both at my house and office, I find it works to my entire satisfaction, and can unhesitatingly recommend it to all who are in search of perfect ventilation, without draught.

Mr. Abrahamson is such a man that I have considered unfailingly, so the subject of ventilation I have given considerable time and thought to. With my experience behind me, I feel at liberty to say that I have tested the air pure and free from draughts, and the office is kept perfectly cool and without the least feeling of draught. We take pleasure in recommending your Ventilator as the best we have ever seen, and shall be pleased to have any trial made by us.

Very respectfully,

ABRAMSON & TALLON, 16 & 14 Market St.
San Francisco, May 24, 1887.

Mr. P. Abrahamson—Dear Sir: The Abrahamson Ventilators that you have put into my Court Rooms at the Old City Hall, and all the windows of our offices, I have not had any fora to this time, and I find they are all a crop for you, ventilation without draught.

Yours truly,

(Handwritten address)

Judge of the Superior Court.

United States Post Office.
Oakland, Calif., May 7, 1887.

E. F. DODGE, Esq., Oakland—Dear Sir: We take pleasure in giving our testimony to the excellent use of the Abrahamson Ventilator in our office of which we have been so longed for, and I can not speak too highly of it. It has remained in this office and is giving perfect satisfaction. We maintain ventilation, which is very important to us, and with your Ventilator you are not a draught. You truly,

L. T. FAY, A.M. P. M.

Architect and Building Inspector.
Oakland, Calif., May 9, 1887.

Mr. P. Abrahamson—Dear Sir: In the pursuit of my business, that of Architect and Builder, I have been enabled to place a number of your Ventilators in different office and residences in this City, namely, the C.P. B. & Co. Building Post Office, the Office of Mr. Dyer, the Post Office of the City of Oakland, Mr. E. E. Dyer's Dwelling and Office, and others, all of whom speak of them with the highest praise recommending them highly to others. In fact I consider your Ventilators indispensable in every office, for their simplicity and efficiency are wonderful. Should you wish to place any person to me, I shall be pleased to have you do so.

J. W. WILES,

5216th St., Oakland, Calif.
San Francisco, June 1, 1887.

Mr. P. Abrahamson—Dear Sir: I cheerfully certify that since you placed your Ventilators in the Court Rooms of Department No. 12, Superior Court, the air has been uniformly cool and fresh, and the ventilation has been very perfect. I am greatly indebted to you for your Patent Ventilator that is so very strong draught. Your Patent Ventilator is un—very satisfactorily a very strong draught.

Very respectfully,

J. S. GROUSE.

Court Room Clerk, Department No. 12, Superior Court.

Sutter Street Railroad Co. (Globe Line).

San Francisco, June 7, 1887.

P. Abrahamson, Esq.—Dear Sir: Your Patent Ventilator placed in my office some time ago, has now had ample time to show its merits, and in my opinion the objects sought by you are largely attained. The situation is one of the most trying, the wind having full access and force upon the point selected. Prior to the placement of your screen, an open window was the forerun—er of a very strong draught.

Your Ventilator that the opening was a matter of choice, but with rare exceptions it has constantly remained open day and night. Very truly,

A. K. STEVENS, Sec.

Tribune Publishing Company.
Oakland, Calif., June 9, 1887.

PETER ABRAHAMSON, Esq.—Dear Sir: I have one of your Ventilators in my office. It gives perfect satisfaction, and I take pleasure in recommending it to any one who wants perfect ventilation without draught. You truly,

W. E. B. BASHOR.

Oakland Tribune.

Jacobs & Easton, Insurance Agents.

San Francisco, June 6, 1887.

P. Abrahamson, Esq.—Dear Sir: I have been using your Patent Ventilator in my bedroom for the past two months, thus hav—having through test of the same, and I am inclined to think it is useful in clearing the room of any draught. Your Ventilator is so very strong draught.

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3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

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This hopper is constructed to take 3-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer to stop to take the sewer face water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to slide, therefore it will suit either position of pipe. This hopper can be used only for waste, for waste, or for leader, either inlet will be stopped up with iron caps if so desired.

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THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

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Elevator Guards, Balcony Railings, Wire Partitions, Skylight
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Screws, Arbors, Sand Screens, Garden Arch, Window Screens,
Wire Fences.

Granolithic Paving Company.
(Stuart's Patent.)

W. S. SOMERVILLE, Manager, 422 Montgomery Street,
SAN FRANCISCO.
The attention of architects is called to the proposals for plans for the Provincial Royal Jubilee Hospital at Victoria, B. C. See page 140.

Baltimore, Sept. 27, 1887.

California Architect and Building News—Dear Sir: Our advertisement in your September number is of no value to us, but positive injury, as you have the cut of the pulley upside down. The screw end is the top of the pulley.

Yours respectfully,

C. Sydney Norris & Co.

While we sincerely dislike to do anything displeasing to our advertising patrons, and especially so when assuming the magnitude of "positive injury," yet we are almost glad that our printer did for once, not knowing nor pretending to know the bottom from the top, perpetrated the blunder of turning things upside down in this case, as it has called out the foregoing communication from the firm interested, and demands of us correction and reply. That a printer might innocently make a mistake of the kind is admmissible, but when a competent mechanic, a full man, who has handled thousands of pulleys, deliberately perpetrates a like error in the practical use and application of the pulley in question, it gives rise to the presumption that some of the gear in his mental mechanical department must be terribly deranged or fractured—very much upside down. For if the mechanical construction of the pulley suggests anything in reference to its proper position, it is that the beveled, dove-tailing end should be placed downward to carry the weight of sash, glass and weights, with the screw in the upper end, simply to hold the head in flush with the pulley still; the bottom being insufficient for all other purposes.

Messrs. Norris Co. were doubtless provoked almost to madness when the mistake of the printer was noticed, and we can imagine them in a state of frenzy, ready to pound somebody's hair, if not their own; but if they had been called upon to witness what we personally met with during the present season they would have been vexed, almost as much as we were, and would have been provoked to say as many naughty words as we uttered, when the window frames containing nearly 200 of the Norris pulleys were delivered at the building with every pulley placed in the pulley stiles just as they appeared in the September issue, top end and screw at bottom, and the beveled bottom end at top.

Had this been the result of a set of "jackknife carpenters'" misconception there would have been the palliation of ignorance or stupidity, but occurring as it did in one of the largest and best equipped mills on this coast, where none but competent workmen are employed, it amounts to a set of hallucinations, in which the faculties became deranged and finally settled down with the wrong end up.

The excuse. When called to an account the reason given was that when the pulley is placed upside down, the letters of the word "patent" are upright, while when the pulley is rightly placed, "patent" is upside down. There is a small thread of argument and reason in this which Messrs Norris & Co. might correct, as to some extent misleading; but this should weigh nothing in the mind of practical mechanics as against the conclusively certain proper position of the pulley, as clearly shown by its construction.

Merits of the pulley. We have never used a pulley that works poorer, nor gives more complete satisfaction, being positively noiseless, which, in comparison with the disturbing rattling noise of the ordinary patent pulley, makes them invaluable, and the smooth steel pins of the axles, and the large smooth grooves in the wheels, assure long wear and great service in both pulley and sash cord. They are safe to recommend any time.

San Francisco Chapter, A. I. A.

The regular meeting of the Chapter was held on the 7th inst. and was largely attended. President Pissis presided; B. E. Henricksen, Secretary. After reading an approval minutes, the reception and payment of bills, and the usual routine of business was transacted, the standing committees made report of progress. The Committee on Fire Ordinances also reported, reiterating the facts of the interview with the Committee on the Board
of Supervisors, at which were present of Chapter members, Messrs. Pissis, Welsh, Henrickson, Gash, Wolfe, Bostor, Clark and others. The proposed amendments are elsewhere noticed. Gingero Harnaas, having been duly proposed at previous meeting, was elected to the office of the Chapter. Several communications were received from the Secretaries of the A.I. A. and the Western Association of Architects, in reference to the annual sessions, inviting co-operation. But the time limiting the opportunity for action having passed, the matter of necessity went to file. The elected officers for the ensuing year was next taken up, and resulted as follows: President, George H. Sanders; Vice-president, E. Moore; Secretary, G H. Wolfe; Trustees, John Wright, A. Lavor, E. E. Henrickson, A. Pissis, James E. Wolfe. General discussion followed, in which expressions of hope and promise that the Chapter, under the efficient leadership of the newly-elected President, would be of the most satisfactory character.

It would be well for the architectural profession upon this coast, if the good and right interest, purpose and work of the Chapter organization could be appreciated and entered into with earnest zeal. Much might be done worthy of doing, and good accomplished without injury to anyone. Why not have it so that there would be an annual gathering of the architects upon this coast, of like character with the other semi-national associations which meet once a year, gathering their members from many States and sections of the country? The American Institute of Architects was the first to organize under the name of Architect, for the purpose of concentrating and developing the possibilities of the profession, preserving its grand record of facts and the history of the past as made by the army of worthy men and women of all ages, classes and conditions, and magnify the science of architecture. This was followed by other concludes, embracing one or several States, as the Western Association of Architects, and they have all to a greater or less extent accomplished desirable results, and a large degree of enthusiasm attends their annual sessions.

Then why not the architects of this coast enter into the Chapter work, and from thence evolve the Pacific Coast Association of Architects, holding its annual sessions, and inviting members of the profession from every section of the United States to visit us? Why not be alive to our professional interests beyond the mere mercenary features, and give a little in time and money to enjoy the rich repayment which would follow and flow through a sectional grand body?

Its Continued Prospects.

NOT boastfully, but in a spirit of appreciation and honest gratitude, we refer to the present healthful and substantial condition of this Journal. It has done well, is now doing well, and the prospects for its future are entirely satisfactory. Its eight years of existence with the dangers in the future, are turned into a thriving, sturdy and successful enterprise, notwithstanding the many sources of opposition which have aimed to cripple and injure its influence. We do not ask credit for anything brought about by its agency, but those who will follow the columns through from 1878 to the present time, noting the land marks as they pass along, will scarcely be able to escape the conviction that this journal and its management has exerted an influence in numerous ways for good, and that it has preceded in many directions claimed by others as enterprise. No better proof can be asked or given as to its prosperity than reference to its advertising columns, while its subscription list of paying subscribers continues to increase.

Amending the Ordinances.

The Committee from the Board of Supervisors, Messrs. McDonald, Hawkins and Knory, with the committee from the Fire Wardens, Messrs. Kelly, Mahoney and Sidel, have for several weeks had before them certain amendments proposed by or from the Fire Warden and Underwriter standpoint, some of which relate especially to building construction, and, therefore, of interest to, and should elicit and receive the personal or delegated attention of, every member of the profession. There is no special duty resting upon any one or limited number of architects to interest themselves in the latter, and if they did, it is altogether that a large number of extra officious would be hurled at them by those who will neither do themselves, nor appreciate the doings of others. One of the proposed amendments increases the thickness of walls, and consequently the cost of brick buildings, in that it restricts thirteen-inch walls to the last or upper story only, instead, as heretofore, permitting thirteen-inch walls for the third and fourth, fourth and fifth, etc., stories.

Another proposes to limit the height of buildings to sixty feet from the level of the sidewalk, to the extreme height over all, including main cornices and the horizontal finishes above same. This is insufficient and inadequate, as a practical height and surely discriminating and unfair as between lots level or on the low or declining grade sides, and those on the high or hill sides of streets—the latter certainly and reasonably requiring greater latitude and height.

Another proposes relief, by increasing the limit of span between walls, which heretofore has been 85 feet. The amendment suggests 100 feet, but this is opposed by the chief engineer of the fire department, as being made to conform to the fire limits which is 85 feet enough. The architects present before the committee asked that the limit be extended to the full width of buildings erected on 50 to 50-year lots. This was met by the suggestion from the chairman of the committees, that the limit be made equal to two water lots—two-thirds of a 50 or 50-year lots.

Other amendments affecting theaters, halls, and places for public assemblies, elevator shafts, etc., are in the category of the proposed amendments, requiring a great deal of study and just discrimination to render many of its provisions workable. The proposals, however, should elicit the earnest attention of several thoroughly practical, qualified minds, to arrive at the best and right conclusion.

The entire ordinance as a whole is a map of more or less crude ideas thrown together in a heap, and nothing short of raking the whole pail over, segregating the good and practical that may be found from the absurd and impractical, and the introduction whole cloth of an entire new construction, will be the successful means of producing a fairly complete fire and building ordinance.

The doubtful and possible of double-construction sections, the unnecessary and absurd requirements and restrictions, the overpowering of incompetent men, wholly ignorant of mechanical principles as applied in construction works, to dictate and dominate over those who have applied all the years of their boyhood and manhood to producing themselves as practical architects, builders, and many other wrong features, render the Ordinance under notice far from fair, just, right and equitable, and most unquestionably objectionable to those who suffer so many vexations and annoyances from an arbitrary, insufficient and imperfect law.

Building Summary for October.

A summary of our reports shows a decided gain over the similar period of last year. During the month we report:

| Frame buildings, value | $237,840 |
| Brick | $237,840 |
| 10 alterations | $2,300 |
| 84 | $350,340 |

During the first ten months of 1886 the record shows 1,001 buildings; value, $5,107,042. During the first ten months of 1887, the record shows 924 buildings; value, $5,502,584. Showing a decrease in number of 78, and a gain in value of $321,542.

This is a very fine showing. From present appearances the number of improvements made this year will about equal those of 1886, but the value of the same will large exceed the same in the grand total.

Interesting correspondence may be anticipated in the next succeeding issue of this journal, of items gleaned by the wayside, by the editor of this journal, during a trip across the continent, and through nearly all the more prominent cities of the country.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

THE plans and elevation of a "Woodland" home are well worth the attention of those desiring to build a home that will contain all the necessary requisites to make a country or suburban dwelling truly home-like and comfortable. Entering a spacious front hall, you are at once struck with its handsome appearance, a direct view being obtained of the stair hall with its winding stairs. You pass into the large parlor, arranged especially for comfort, and having superior advantages in the way of light and ventilation. Across the stair hall is shown a large sitting-room, in size 16x12, with five windows, giving ample light. Two bedrooms lead off on either side, and a passage to the dining-room. The kitchen is in close proximity to the laundry, wood-house, etc. On the second floor are seven bedrooms, all well supplied with cupboards. Messrs. Gilbert & Son, of Woodland, are the architects, and the plans shown are of only one of the numerous fine dwellings that have been built by this firm.

THE HOTEL VENDOME, SAN JOSE.

Plans and Specifications Adopted—Work to Be Begun at Once.

A meeting of the Hotel Vendome Directors, the plans and specifications prepared by Jacob Lenz & Son, of 75 East Santa Clara Street, San Jose, were unanimously adopted, and by the coming week contractors will be figuring upon the work.

The Hotel Vendome will be one of the most commodious and elegant suburban hotels in the United States. It will be in the Queen Anne style, and no expense will be spared to make it in every way attractive, comfortable, and luxurious—a credit to San Jose and to the gentlemen who conceived the enterprise and are now, with commendable alacrity, carrying it into execution.

The new structure will be situated 250 feet from First Street, which it will face, and 55 feet from Vendome Avenue. It will stand somewhat back of the Maddox residence, as now situated. The latter building is to be removed to the corner of San Pedro Street and Vendome Avenue, and will be used as a club-house, after the necessary changes in both exterior and interior have been made.

The hotel will have a frontage of 254 feet. The central portion, or main body of the building, will have a depth of 210 feet, with which will be connected two wings, each 42 feet front by a depth of 150 feet. The foundation will be of brick, with pressed brick facing, and the building proper of wood. The floors will be all doubled, with mortar daubing.

The basement will be 9 feet clear, the first story 15 feet high, the second story 12 feet, third story 11 feet, attic 10 feet. The basement will contain dining-rooms for servants, barber shop, fuel and store rooms, bakery, etc.

On the first floor will be the main entrance, 41x66 feet, in which will be located the office, grand stairway, elevator, private stairway, etc. Here, also, will be the dining-room, 30x60 feet, with two wings, 30x40 feet, 30 chambers, ladies' parlor, billiard-room, reading-room, baggage-room, etc.

There will be fifty-three rooms on the second floor. Here suites can be extended to seven rooms, if desirable, and on the front nine rooms can be merged into a single suite. Here, also, will be toilets, bath-rooms, etc.

A neual number of rooms will be on the third floor, with the same facility for suites and an equal number of toilet and bath-rooms.

In the attic there will be forty rooms.

Three towers will rise from the hotel, the central one to be 100 feet high and the others about 50 feet each.

Fire-places will be constructed in each of the principal rooms. Steam will be used to heat the corridors and for other purposes.

The grounds surrounding the hotel will be graded up to the basement, for which no digging will be required.

The stables, laundry buildings, etc., will be situated at some distance in the rear of the hotel.

Jacob Lenz & Son will have the plans sufficiently completed in detail by Tuesday to permit contractors to make estimates upon the different portions of the work, which Mr. Lion states will be pushed forward as rapidly as possible.

NEW WORKS JUST RECEIVED.

"MANTELS AND SIDE WALLS."

Thirty-two lithographic plates in a portfolio representing designs in the Classic, Louis XIII., and Louis XVI. styles. Also plates showing various accessories such as mirrors, decorative panels, wainscoting, clocks, etc. These plates are all by the celebrated designer, M. Frigonet. Price for portfolio, $5.00.

"SHORT HISTORY OF ARCHITECTURE."

From Cha. Scribner's Sons we have received a copy of this new work by Arthur Lyman Tackerman. The general design the author had in view was to trace the origin of each style, its characteristic points, and its connection with those which preceded and succeeded it, without introducing technical terms or any but the most important dates. All the great historical events are presented within a small compass. A fuller description will be given soon, as the book was received too late for an extended notice.

First Floor Plan "Woodland" Home.
As San Francisco is the great maritime center of the woodlands of the Pacific Coast, it would seem to be a foregone conclusion that it should be the seat of great industries in lumber. Add to that the fact that most of the houses of the coast are of wood, and it should appear as if it ought to be overshadowing. As a matter of fact, however, some other special lines of industry surpass it in importance. The quantity of lumber consumed in California in the course of a year is about five hundred and sixty-four million feet, of which two hundred and sixty million feet come from Puget Sound. Thus very nearly two-fifths of the whole is imported. The value of the whole in the State is about eleven and a quarter millions of dollars. Of this San Francisco handles yearly three thousand million feet, worth six million dollars, all coming from the coast from Puget Sound to the Golden Gate, and employing quite a fleet of vessels in its transit. Thus far the raw material which the planing-mill, the manufacturer of doors and sashes, the producer of furniture, the manufacturer of boxes, converts into myriad forms of usefulness and many of beauty. The planing-mills of San Francisco and the manufacturers of sashes, doors, and blinds, equal about six millions of dollars in value. Besides supplying lumber for home building to the city and suburbs around the bay, we export largely of doors, sashes and blinds to every port on the Pacific. The furniture industry will equal in value this year a million and a half of dollars, and what magnificent furniture we can turn out anyone may see for himself in the pavilion. Our box makers have a great field to supply. The value of the product this year will not be less than a million and a quarter dollars. There is a great increase, owing to the heavy packing of canned and dried fruit and of salmon. Cigar boxes of themselves equal in value say $250,000. We have not included cooperage stock in the value of lumber imports to San Francisco, but from the extension of our wine and beer industry the value of cooperage made in San Francisco cannot fall short of a million dollars. Carriages and wagons, of which there are some fine specimens in the fair, will equal a million dollars in value. We will make nearly a hundred thousand dollars in value of billiard goods. Our wooden-ware factories will add to the value of our industries in this line not less than two hundred thousand dollars. The totals of the leading industries noted will not be less than eleven and a half millions of dollars. The grand total of San Francisco's industries in this line will at least equal thirteen millions of dollars.

The processes of manufacture, therefore, on the whole about double the value. The importance of this interest must steadily increase, and it must grow even more rapidly than the growth of the city.

California Veneers.

California sycamore is a wood that is as little known as it is handsome. It has the appearance of quantities of fine vertical lines close together and generally wavy. It looks very much like the Eastern hickory, and before its value for finishing and decorating was discovered it was used for cigar boxes. It is called buttonwood in New York. Sycamore is used principally for veneering, as it is very strong and can be cut easily. It is a very unostentatious wood, being rather fine in its markings and quiet in its shades.

For fancy decoration, panels of furniture, doors and other places where a highly marked wood is required, the redwood, laurel, sycamore and walnut are greatly used. They are usually found handsomely marked. The redwood is probably the most used, as it is not only cheap, but is very beautiful. More variety can be found in this wood than in any other. The walnut is still used, but is gradually giving place to the fancier and more modern woods. The tendency nowadays is to make furniture from lighter and fancier material than formerly, and the somber, gloomy walnut, with its massive appearance, is gradually giving place to the lighter woods.

The finishing of a house is usually done by veneers, as it is cheaper and just as satisfactory as solid wood. The wood is cut into veneers of about one-eighth of an inch in thickness, and they are then planed and polished until reduced to the required dimension. In very hard woods such as the mahogany, the veneers are very thin, indeed, being a thirty-second of an inch in thickness, and often thinner. The polishing is a somewhat slow and laborious job and is always performed by a skilled and special man. It is done by rubbing the wood with boiled linseed oil until it assumes a high polish. Only hard woods can be used, because others do not take a good polish, nor do they last for any length of time.

It is only during the last eight years that the finishing of houses in natural woods has come into prominence at all, and up to a very few years ago this style of interior decoration was used by very few except the rich and esthetic, but of late it has sprung into a deserved prominence. When two or more woods are combined the effect is often very handsome, and the many who are using this method of finishing attest its popularity.

The wood must be cut so as to bring out the figure, or the markings of the wood, otherwise it is worthless. To do this requires great skill and knowledge of the natures of the various woods. Occasionally an apparently worthless piece of wood is found which will contain some very fine and striking markings, in which case somebody usually makes a small fortune, for the prettier the markings the more valuable the wood. The wood generally used comes from Santa Cruz. Occasionally a piece is found which will contain some perfect figure, as an animal, a head or some geometrical figure. This wood is, of course, very valuable and greatly prized.

The figuring in woods is generally attributed to the fact that the bark of a tree outgrows the interior, and thus becomes wrinkled in the attempt to fit itself to the tree. The tree comes to its assistance and attempts to fill up the wrinkles, thus causing the markings. Woods that grow in well-watered soil are always most highly marked on this account.—Wood Worker.
The New City Hall of San Jose.

HEREWITH is presented a view showing the front elevation of the new City Hall. This structure will be one of which San Jose may justly be proud. From the view here presented it may be seen what an imposing edifice it will be.

As seen from the engraving, which shows the north or main front, the structure will be two stories with a basement. In the center of the front will rise the clock tower, and chaste pavilions will ornament the four corners. The finish on the four sides will be similar. The windows are large, with semicircular tops, and they will give the building a light, airy appearance. The style of architecture is modern, with a blending of Greek, presenting a solid but ornate appearance.

The edifice will be of brick. The basement, laid in the excavation already made, will be of solid masonry plastered on the outside to represent stone work. Above the basement the exterior will be pressed brick, the interlying mortar striped with black putty. The steps to the vestibule, the lower floor, and the coping will be of granite; the water tables, window sills, etc., will be of artificial stone; and the ashars, cornice, and general trimmings will be of terra cotta. There will be appropriate projections and recesses in the sides so as to avoid sameness and give a symmetrical outline to the whole.

The inside finish is in keeping with the exterior. Care has been taken to secure the very best means of lighting, arrangements having been made for either gas or electricity; also for supplying water throughout the building, and for draining. The heating apparatus, likewise, has been carefully attended to, and will be either by steam or hot-water radiation.

The basement will be provided with a passage through the center for the accommodation of carts bringing coal and other supplies, and the police carriage. In the basement will be the offices for the police, the jail, and rooms for the storage of supplies, and the furnaces and engines for the use of the building. The rooms in the basement will all be ten feet six inches clear in height, and the walls will present a brick finish.

The first story presents a spacious vestibule and entrance facing Market Street, looking northward, and a side entrance facing San Antonio Street. The front entrance is 32x34 feet, opening into a lobby 18x14 feet, which connects with two stair halls, 20x60 feet. On the west side of the main entrance is the Mayor’s office, and two rooms for the Treasurer. Back of these will be the witness room, connecting with the Police Court room, 40x10 feet. On the east side will be the office of the City Attorney, of the School Superintendent, and, connecting with the latter, the room 20x30 feet for the Board of Education; also a jury room. All the rooms in the first story are to be plastered and will be 21 feet 6 inches high.

Two large stairways conduct from the lower to the second story. In the front part of this story, under the main tower, will be the Council Chamber, 32x84 feet. On this floor will be the offices for the City Assessor and Clerk, the City Engineer, a reading-room, and a large hall, 30x40 feet, for the Free Public Library. The rooms in the second story are to be 24 feet clear.

Should there be a demand for the space the pavilions may each be fitted up with one or more comfortable rooms. Likewise in the tower several fine rooms might be arranged. The room under the belfry, and just over the clock, provided with four oriel windows, will make a fine lookout, commanding a view of the whole city and the surrounding country. A stairway is provided for the tower to ascend to the upper deck.

The main building will be 132 feet long, facing Market Street northward, and 23 feet deep. The height of the main building will be 60 feet, and that of the tower to the upper deck 112 feet.

The awards for the construction are as follows: F. Altman, cast-iron work, $1,887; F. Kuchenbeiser, wrought-iron, $6,890; Coombs, Blanchard & O’Neil, granite, $8,150; P. R. Wells, masonry, carpentry, painting, plastering, and plumbing, $117,000. Total contracts let, $129,927. Estimated costs of other works, vaults, safes, etc., $3,000; furnaces for heating, $2,000; extra plumbing for electric apparatus, $250; elevator, $250. To these figures add the allowances for the architect’s services, 3 per cent, and the total cost of the building will be $139,489.

For the details of this description, as well as for the use of the engraving, the California Architect returns due acknowledgment to the architect, Theophile Lenzen, of San Jose.
The Mechanics' Fair Exhibition.

The fair lately held in this city is justly regarded as the most successful that the Mechanics' Institute has ever conducted. It is impossible to give a complete account of all the exhibits, but such of those more directly connected with the interests of this Journal are here noted.

Cut and ornamental glass.

John Mallon, of 17 and 19 Fremont Streets, presented a beautiful variety of cut and ornamental glass. The designs of the latter were more than usually attractive, and many were the comments upon the push of business ability shown by Mr. Mallon in introducing the artistic designs presented.

Brass bedsteads.

E. H. Marwedel, of 541 Market Street, had a full assortment of brass bedsteads and cornice poles. Each time we passed remarks were heard and praising the general neatness and appearance of the old but new-fashioned bedsteads, with many wishes for the fashion to change again in their favor.

TOWNSEND'S "HOUSEHOLD TREASURE".

C. H. Townsend, of 440 Fifth Street, had samples of his improved kitchen table, yelst the household treasure. Convenient receptacles are found for all the various manipulating articles most in use by the thrifty housewife.

MONEY Bros. RAILROAD CARS.

These gentlemen should be awarded a gold medal for the beautiful car exhibited, to be used on the Powell Street Rail- way. For excellence of material, perfect character of the work employed, artistic arrangement of the various accessories needed, these cars stand the peer of any in use on any cable line in the United States. Mr. Thomas Downing, by his artistic skill as a painter, has done his share towards the achieved success of these cars. Money Bros. deserve a fitting recognition at the hands of the workingmen of San Francisco, for endeavoring to build in our midst a factory that will give employment to scores of the wage workers of the city.

INTERIOR DECORATIONS.

A fine assortment of wall paper, Enrica-wallon, etc., for interior decorations was shown by G. W. Clark & Co., of 495 Market Street. Some of the patterns were very beautiful, and owners will do well to examine the same.

KREILING & SONS.

One of the finest displays in the fair was made by this firm. The furniture and bric-a-brac ornaments commanded the attention of observers, while the richness of the designs of the mantels and the gilded work shown in excellent detail, proclaimed that someone was at the head of the firm who made a study of turning out only designs and material of the very finest workmanship.

MAMMOTH STICK OF LUMBER.

Rentsch, Holmes & Co. had on exhibition the largest stick of timber ever sawed in a mill. It was 20 by 20 inches in size, 151 feet long, and contained 5,033 feet. But very few knots could be seen throughout the whole length of the stick.

FIRE HOSE.

W. T. Y. Schenck exhibited all grades of rubber and cotton hose, and samples of all the parapet fires incident to the complete equipment of a fire department.

ABRAHAMSON'S PATENT VENTILATOR.

Mr. Abrahamson personally attended to his own ventilators, and explained to the thousands who inquired the workings of his patent. He had models of old and new windows, and showed how the ventilators could be adapted to each; also the method of placing them over doors. For full particulars of Mr. Abrahamson's inventions, our readers are referred to page vii of this issue.

STOVES, RANGE, ETC.

George H. Tay & Co. deserve more than ordinary mention for the excellent display of articles in their line. One stove should be particularly noticed. It combines all the features of a handsome parlor ornament with the utility of a cooking stove. Placed in a dining-room, it serves the purpose of heating, and can be used to boil tea, coffee, etc., without in the least affecting the beautiful design. Messrs. Tay & Co. also make a specialty of the hot-water system of heating houses. They should be consulted by owners who desire to have houses thoroughly heated at a minimum expense.

FINE RUTS AND LOCKS.

Frank P. Laton had a beautiful exhibit of fine bronze hardware, such as locks, bolts, etc. All the higher grades were represented, and called for much praise from those interested.

SCHUSTER BROS.

These gentlemen tried to outdo their competitors in having a large show of stoves, range, grates, and stoves. In the latter items the ladies seemed particularly interested.

SIMonds SAWS.

John Simonds, of 511 Mission Street, exhibited a very large and beautifully arranged assortment of saws of every conceivable design.

LUMBER.

Harris & Jones, 338 Bryant Street, showed the immense through what California can do in the way of lumber. Their display of sugar pine, yellow pine, etc., attracted much attention.

LIGHTING SAWs.

Union Saw Co., represented by J. F. Wyman, presented a very attractive arrangement of saws of every conceivable design. Their improved lightning cross-cut saws were the subject of much comment from those who go down in the woods to earn their daily bread.

SUGAR PINE.

Towle Bros., of Nevada County, had two sections of a tree, the first being cut 3 feet above ground, about 12 inches thick, and over five feet in diameter. Another section from the same tree, 101 feet from the ground, was 4 feet 6 inches in diameter. They were deservedly worthy of the attention bestowed upon them.

SONOMA'S LARGE TIMBER.

From the Big Bottom Mill, Sonoma County, a section of a tree was shown over seven feet in diameter.

SAN MATEO'S GRAND LUMBER.

Hanson & Co. take the palm on the exhibit of fine lumber from La Honda, San Mateo County. One plank shown was 13 feet long, 50 inches wide and 3 inches thick. It was perfectly clear, not a knot in its whole length. Also another piece dressed on all sides and edges, 12 feet long, 50 inches wide, 12 inches thick, absolutely free from cracks or knots.

CALIFORNIA WIRE WORKS.

"A magnificent exhibition of one of the industries of the coast." Such was the gist of the remarks made by thousands upon viewing the great display by the above company. Their wire cables attracted unusual attention, from the great size and exquisite workmanship. Crests, fans, finials were also in abundance.

HILLS' PATENT BLINDS.

It is but a short time since these blinds were manufactured in this city, yet by the persevering energy of Mr. Hills this industry is growing of colossal proportions. The first factory was started "Los Angeles Way." That was entirely inadequate to do the work required. So branch after branch was established in various parts of the State, until Hills' Patent Blinds have become household words among builders. Mr. Hills has associated with him Mr. Murray, a man of practical ideas, who insists that his workmen perform every little detail of the various parts of the work with the utmost exactness. These blinds have been endorsed by all the leading architects of the coast.

HUMBOLDT COUNTY.

Just a slice off a redwood tree, but oh how beautiful! Over four feet in diameter, with part of the bark left on for a border, and polished so one's face could be distinctly seen. The specimens of redwood shown were simply grand.

BUNNY RADIATORS.

"Whew, how hot! and where does all this heat come from? I surely not from that little furnace. Mr. Harvey is rodger the substance of which is embodied in the above. The new furnaces now being introduced by Mr. Harvey are giving complete satisfaction and are a wonder in two particulars—economy of space and the small amount of fuel needed. The radiators are of a new pattern and are very handsome in appearance. Any inquiry in regard to heating apparatus will be addressed by addressing C. D. Harvey, 30 New Montgomery Street.
REDWOOD.

What a Worker in all Kinds of Wood, Has to Say about California's Great Production—An Experience of Fifty Years.

EDITOR Wood and Iron: In response to your question, of April 1, as to how you know about redwood, I will state certain facts, which all acquainted with the wood, I am sure will certify to, viz.: That it stands first for general use of all woods known. None are perfect in all requirements, but the redwood certainly comes nearer to perfection than any other known in our day; and this final experience can confirm it. There are the Brazilian and Mexican rosewoods—they can never be depended upon for holding together with glue; they are full of oil—destroy the oil and you destroy the beauty of the wood. The cedar, and the hemlock, and the Douglas, and the fir, and the redwood, all dry; and it will attention to their care. Let some wholesome law be enacted for its protection, at least from vandals; and know that if we stand first in the production of the precious metals, first in cereals, and first in climate, we also stand first in the most beautiful woods on the face of mother earth—these largest of our forest treasures, which not even the most beautiful has been destroyed through ignorance.

Now a word to the finishers or varnishers that do not understand the treatment of redwood. Would you daub a piece of Danubian, or, as it is called, French walnut, with oil? You know you would ruin it, destroy its grain and tints forever. Well, the redwood requires the same care as that, no more, and then you can preserve its beauties for many, many years. The following recipe is one at least that preserves the grain and tints for years, for the truth of which I can show anyone interested. Use as near as may be the following proportions:—

Take one quart spirits of turpentine.
Add one pound corn starch.
Add one-fourth pound brunt sienna.
Add one tablespoonful quicklime.
Add one teaspoonful brown japan.

Mix thoroughly, apply with a brush; let it stand say fifteen minutes; rub all off you can with fine shaving or a soft rag; then let it stand at least twenty-four hours, that it may sink into and harden the fibers of the wood; forty-eight hours is better. Afterward apply two coats of turpentine; rub down well with fine flint paper; then put on from two to five coats of beautifying varnish, as the openness of the grain requires; after it is well dried rub with water and pumice-stone ground very fine; stand a day to dry; after being washed and wiped clean with chamois leather then rub with water and rotten stone; wash as before; lay it one side to dry; clean and rub with olive oil until dry. If you have been careful to fill up all the pores perfectly you have a polished wood that surpasses all others; if you have not the pores or grains perfectly filled, of course you must apply more rubbing with pumice-stone and more varnishing until the object is attained; and friend, you would have to do the same with any other wood. To add weight to what is told in these few lines, I would say that when such architects and artists as Pewey & Smith, and others, have indexed the redwood and its beauties for years, and have worked wonders in bringing it into notice, for mantels, wallcasing, doors, casings, and other inside decorations not necessary to detail, giants in their professions, the demand has been so great, that, until stocked up for years; the red oak you can blow through a piece ten feet long. Our redwoods have none of those failings. Then there is the ash. After being for a few months in use, the grain will rise and sliver, especially if it is knocked about a little. It also produces a burr, but far inferior in quality, in size, or in beauty to the redwood burr. I have some in my possession ten feet long. Not even the far-famed burrs of the Danny, which, when landed in America, bring almost their own weight in gold, exceed in beauty the burrs of our beautiful redwoods. There is the pine, the whitewood, the basswood, and others of the whitewood family, which can be used for certain purposes only. Our redwood fills all their bills, and far beauty and the quality of keeping its place, always famed for the luster of the surface. They are not nearly so hard and dense as the big redwood, and they are not limber and warm. Then come our—oaks—live oak, of Florida, the white, the black, the red of the Eastern States and Canada—not one of them equals the redwoods for general utility or beauty. The yellowwood is the exception. Then, we have the cypress, which is used in the connection of the wooden cribs for the lumber, and until stacked up for years; the red oak you can blow through a piece ten feet long. Our redwoods have none of those failings. Then there is the ash. After being for a few months in use, the grain will rise and sliver, especially if it is knocked about a little. It also produces a burr, but far inferior in quality to our majestic redwood.

But if I do not tire your patience, I would like to contrast the two woods, the first of which are turning out as lumber in the East and in Canada with the treatment given our redwoods: In the first place, they are cut down in the forest when the sap is down, in cold weather. They are hauled to the water, in which they are allowed to swim for months, then carefully sawed, carefully piled; strands are nailed upon the ends of the better boards to preserve them from splitting; they are well and carefully treated; they are left in the water until the little sap left in them is thoroughly washed out. Well do they understand how to make their wood still more valuable.

Now for the contrast. The redwood is felled at any time, mostly when the sap is running and the tree full of life. It is hauled to the mill directly, where, if handy, a vessel lays; piece by piece, as it is landed. It is loaded in the forest to-day, to-morrow at sea in the shape of lumber. Arrived in port, it is sold immediately, or perhaps ordered before it was cut; loaded upon wagons, and built into a house or barn and without inspection. Now it goes there full of sap or life; that dies, decays and rots in the lumber. It is bruised, murdered, abused most shamefully—not through ignorance, for all mechanisms should know that no well-made lumber is allowed to retain its sap when put to practical use.

Compare this murderous abuse of our redwood with the care bestowed upon the others, and you will wonder no longer that its beauties have not been passed over; it being plant, it was made to be abused; it being a home product, it was voted no good; it being cheap, the worship duties to pay, of course then it could not be of any value.

Now, gentlemen in the lumber business, treat it better; cut at the proper season; dry and season in the proper manner; give it its due share of care, and it will attention to its care. Let some wholesome law be enacted for its protection, at least from vandals; and know that if we stand first in the production of the precious metals, first in cereals, and first in climate, we also stand first in the most beautiful woods on the face of mother earth—these largest of our forest treasures, which not even the most beautiful has been destroyed through ignorance.

Some little time ago I was showing a gentleman and lady from the vicinity of Buffalo, New York, some specimens of the beautiful wood, when he said, "Really, friend, taking your climate, your minerals, your fruit, vegetables and cereals, and this really wonderful wood, I must own and regret that the Pilgrim Fathers landed upon the wrong side of the continent."—Wood and Iron.
A New California Industry—Inyo Dolomite Marble.

MILL AND QUARRIES, 1887.

HAVING the many evidences of the great natural wealth of California, few have attracted more attention than the splendid exhibition, in the late Mechanics' Fair, of the marble extracted from the quarries in Inyo County, Cal. And in introducing a new article of commerce, it may be expected, and it is but right and proper, that its claims to superiority should be made known, and wherein it differs from similar material in the market.

The great objection to marble is the tendency to change and decay when exposed to the atmosphere, losing every attraction, and in a few years well-nigh destroyed, which is the main cause, no doubt, of so much Scotch granite being imported into this country for our cemeteries.

In offering you our Inyo Dolomite Marble, we offer you a material that will stand the test of time—equal if not better than granite, which, geology says, "is the most durable stone of primary formation"—for this marble is less affected by the carbonic acid and other gases in the atmosphere than even granite. Italian and Vermont marble are composed of lime and carbonic acid, with some silice, and the gases in the atmosphere acting on the marble, set the carbonic acid free, which destroys the marble. The Inyo Dolomite Marble is composed of carbonate of lime and carbonate of magnesia, and, therefore, these gases have comparatively no injurious effect. The juice of the citrus fruits and the acid in wine will destroy the polish on ordinary marble, but will not damage our Dolomite Marble. This liability or certainty of ordinary marbles receiving injury from causes enumerated, and becoming an offense to people of nice taste, where a blemish or defect would destroy their value in an important sense, has changed marble for wood, as in case of mantels and grate surroundings, where wood cannot be said to be really appropriate or in good keeping, and robbed even fine furniture, to some considerable extent, of a most fit and ornamental covering, which, we believe, will begin to be re-instated in both cases, when it is known there is a marble called "The Inyo Dolomite," that will keep its deep and charming polish and rich luster without blemish, against all these well-known causes.

And we believe, in view of all these tests, especially the effect our atmosphere has on imported marbles, as seen in our cemeteries, that the native stone should be altogether preferred. But so far as climatic influences may have to do with crystallization—though not an accepted scientific theory—we believe if Italian skies are anywhere surpass'd in softness and beauty, and in perpetual clearness of atmosphere, it is around that wonderful sheet of water called Owen's Lake. And one thing we can say and prove, that no marble was ever found under Italian skies, or in Afric formation, having a more perfect, a finer and clearer crystallization, than this to-be-famous Inyo Dolomite Marble, now exposed in solid layers and in place at the base of the old Inyo, near the head of that body of mineral water. But they say it is harder to work. True, it is more solid and compact, but then you have something enduring which will not deteriorate. It is harder to make a knife of steel than of iron, but who wants an iron knife? The difference in labor is trifling, compared to the difference in real enduring worth. Another thing is important: Our marble is free from flint, which cannot be said of the Vermont and Italian; and it will be shown to dealers and consumers that the difference in cost of working, even though trifling, will not be figured to their disadvantage.

A comparative test of the pressure or weight required on fair samples (as believed) of the Vermont, Italian, and Inyo marbles to crush or destroy the piece, was made by Mr. Ennet Rixford, a very intelligent student in the senior class of the University of California, under the supervision of Professor Hesse, with results as follows:

<table>
<thead>
<tr>
<th>Material</th>
<th>Pressure in Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermont</td>
<td>10,000</td>
</tr>
<tr>
<td>Italian</td>
<td>20,000</td>
</tr>
<tr>
<td>Inyo</td>
<td>5,000</td>
</tr>
</tbody>
</table>

This extraordinary solidity or compactness of the Inyo marble accounts for its not absorbing water to any appreciable extent in calculation; also accounts, in a great measure, for its resistance of atmospheric influences, and the action of even the powerful acids. Air and water are the great change workers. If this marble will not absorb any liquid, it cannot etch, or impair its actual, real value, by the use of these positive scientific determinations, and, therefore, it will be conclusive to every thoughtful and logical mind that there is really no experiment in bringing this marble into immediate use.

If the ancient pride in fine marbles and its ideal and architectural uses should be revived, Inyo Marble Quarries can supply the demand. Dealers and consumers who desire to judge the great interests of the State, will at least examine our marble, and will not be deterred by prejudicial remarks from any quarter; that is all we ask, which we are fully confident will result in business, and if this State enterprise be as great a public benefactor to the State, and secure as important results as have ever been secured to any State or people by the production of a similar material or article of commerce in any part of the world.

The Inyo Marble Company of California.

Outside Paints.

VARIOUS opinions are expressed by members of the trade as to the use of linseed oil and zinc in outside paints. Those who favor the mixture of zinc with lead claim that when zinc is thus blended, its characteristic of drying hard, locking into a hard film, and having a better bond to the surface, makes it a desirable material. Lead has certain qualities of the best interests of the State, will at least examine our marble, and will not be deterred by prejudicial remarks from any quarter; that is all we ask, which we are fully confident will result in business, and if this State enterprise be as great a public benefactor to the State, and secure as important results as have ever been secured to any State or people by the production of a similar material or article of commerce in any part of the world.

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The Inyo Marble Company of California.
Redwood Logging in California.

Redwood and Its Future.

The operations of W. Cutten, who has gone East as a representative of the redwood lumber companies of Humboldt, Mendocino and Siskiyou, are, of course, of interest; but it may be questioned whether his object and the object of his constituents are well considered. He proposes to place on the Eastern market redwood in large quantities and at low prices, so as to tempt people to build houses of it instead of pine or hard-wood. We do not believe California can spare redwood for any such purpose as that.

It must be remembered that the area occupied by the Sequoia sempervirens, or true redwood, is limited. It is found in groves of moderate extent in Santa Cruz and San Mateo Counties; it is fairly abundant in Mendocino and Humboldt Counties; there are groves of it in Siskiyou and Trinity, and it is found to some extent further north. But for commercial purposes, it may be said to be found exclusively in Mendocino and Humboldt. The redwood that goes to market from forests outside of these counties cuts no figure in the lumber market. Now, large as these counties look on the map, their five million acres are a very small tract indeed, if they are expected to supply much of the building timber for the Eastern States. It would not take long to exhaust them, and, as is known, though young shoots do spring from the stumps of redwood trees which have been cut down, their growth is so slow that the tree may be practically said not to reproduce itself.

California cannot certainly afford to supply the Eastern States with redwood to build houses at anything like present prices. In a very little while our whole output will be needed for finishing work, decorations, furniture and other superior uses. Redwood is destined to take the place to a considerable extent of mahogany, black walnut, bird's-eye maple, cherry and oak. It is as handsome as any of these, takes a fine polish, is durable and shrinks less than any other soft wood. Ever since rosewood went out of use in consequence of the extinction of the supply, house decorators have been at their wit's end to find a substitute, and they have been driven to fall back on mahogany, which is growing scarcer year by year in consequence of the increased demand. Black walnut can never be made "dresky;" the cherry and the bird's-eye maple do not yield large planks; oak looks burlinal, but is somber for any room except a dining-room. Redwood is suited for any kind of decoration. It makes fine furniture, and for mantels and wainscoots it is equal to the handsomest woods of Australia, which are so scarce and so dear. It is a more question of time when the East and Europe will realize its possibilities, and then it will sell not by the thousand feet, like pines, but by the ton, like mahogany.

In the old houses of the merchant princes of New York, built in the last century, you will still see dining-rooms of solid mahogany. The table is a solid slab of mahogany, with massive mahogany legs; the chairs are mahogany; the sideboard is the same, and even the massive folding-doors, which connect with the library, and the great door from the staircase, are of solid mahogany, worth almost its weight in silver. There was no veneer in those days. Furniture dealers are appalled when they witness such extravagance. But the furniture-maker of the future, when he comes here to pick up a few tons of redwood to complete the decorations of the drawing-room of some Eastern palace, will be far more amazed when he perceives that there was a time here when we built our houses and our stables of redwood, and even paved our sidewalks with the precious wood.

Grates, Mantelpieces, Tiling, etc., etc.

The Exhibit of W. W. Montague & Co.

The house of W. W. Montague & Co., Market Street, had without doubt the finest exhibition at the fair. This was on the gallery over the entrance, and occupied quite a large space. It consisted of the latest and most beautiful designs in grates and mantelpieces, with the usual accessories in very handsomely wrought brass, etc. Of these there were a large number exhibited, all differing in design, but all strictly original, and so much the more attractive on this account. In tiling there was an equally good showing, the patterns in this being very unique. The whole exhibit was brilliantly lighted up, and going at it once realized the fact that it was an art exhibit. Of course to make such an exhibit the house of W. W. Montague & Co. possessed the best facilities. It can take what is required from its stock and never miss them. Each piece shown, however, was representative of a beautiful idea skillfully wrought, and it is therefore not to be wondered at that the display excited far more than ordinary attention. Withstanding the beauty of the articles, they are placed reasonably in price, and this is certainly an added merit. This house, in fact, can sell reasonably, it sells so largely, and its expenses are so moderate proportionately. It certainly to-day, in the above, as in its other lines, stoves, inwara, etc., is recognized as the leading house of San Francisco and the coast. In connection with it the following sketch will prove interesting:

This house was founded just seven years after the year of the Argonauts, 1849. The city differed widely then from to-day. Fourth and Market was about the limit one way, Stockton the other, while North Beach was the fashionable quarter to a certain extent, although Rincon Hill disputed the sway. There
HILL'S

Patent Inside Sliding Window Blinds,

Are Adapted to any Style of Window,

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Hotels, Boarding or Lodging Houses are

Unexcelled.

They are entirely inside of the window casing, and while requiring no cutting out or boxing, it makes it impossible to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle.

The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is no sagging, hanging, or getting out of order.

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. This allows no half trimmings furnished with blinds—are made of all woods, finished or unfinished.

The Blind is the only sliding blind made of white cedar, and where the grooved slide can be used as the window stop, or placed on the pulley stile, similar to the ordinary stop—"the slide is only 22 inches wide"—plenty of room can be obtained by setting the casing flush with the pulley stile, in light studded buildings. NOTE.—Any other sliding blind using the slide as the stop for the seal, is an infringement of our patents of February 26, 1884, and February 24, 1885, and anyone selling, using, or making such a blind will be prosecuted by the HILL SLIDING BLIND ASSOCIATION, as they are determined to stop the sale of several cheap and worthless imitations.

The Hill Sliding Screen, working the same as the blind, is the only screen covering one-half of the window, which will remain at any desired point, and which can be instantly removed, when not required, to clean the windows.

Over eight thousand sets have been specified and put in, throughout the United States, since April 1, 1885.

We refer to the following prominent architects of San Francisco, who have used or specified the Hill Blind and Screen; also hundreds of owners throughout the Pacific Coast:


HINDES & MURRAY,
Main Office and Factory, 411 Mission Street, Corner of Fremont.

Sold under the right to sell and MANUFACTURE for the Pacific Coast, except Counties of San Francisco, Los Angeles, Santa Barbara, Kern, San Luis Obispo, and Ventura in California.
COUNTRY BUILDING INTELLIGENCE

We earnestly desire the co-operation of country editors and mechanics generally to this department of our Journal. Forward us all the building news connected with your different localities. Architects should also notify us of "plans to figure on." No charge is made for such notices. Direct letters to office of this Journal, 210 Montgomery St.

Bakersfield.

O. Mattison will build a two-story brick building at a cost of about $12,000.

A large hotel is contemplated. Address Hirschedl Bros. It will cost about $40,000.

Chico.

A number of prominent citizens have been canvassing the city for contributions to build a new hotel. The citizens are to raise $20,000 and donate a site for the building, and a gentleman from San Francisco will furnish $80,000 and proceed with the building. Fifteen thousand dollars was raised yesterday. William Kehr, F. W. Barnham, F. C. Lusk, and Mayor Barnard are the prime movers in the undertaking.

Los Angeles.

The Main Street Hotel.—Proposals for the excavation of the lot on the corner of Tenth and Main Streets, where the mammoth hotel is to be built, will be opened and the contract will be let shortly afterward. Mr. Denker, of Hammel & Denker, is in the East studying the designs of the hotels there, and upon his return plans will be drawn for the hotel, and the construction will commence shortly after.

Lake Tahoe.

Architects M. J. Curtis and D. Kaiser, of Carson, are at Sugar Point, Lake Tahoe. Mr. Curtis has the contract to build the new hotel at that point for Captain Lapham, and Mr. Kaiser will be the landlord. The hotel will be 3x420 feet and three stories high; also there will be built this fall an annex, a saloon 24x36 and six five-room cottages. The whole to cost $35,000.

Oakland, Alameda, and Vicinity.

D. C. Scanlon is building three cottages on Hobart Street, to cost $2,000 each.

D. C. Scanlon is also building two cottages for Mrs. J. M. Jones, on Jones Street, to cost $1,500 each.

D. C. Scanlon is making $1,000 worth of improvements upon the place of J. T. Gardiner.

W. T. Veitch will shortly begin a $4,500 house for Mrs. Moore.

Scalan & Gearn will shortly begin three cottages on Hobart Street, to cost $2,000 each.

J. C. Wilson, Councilman from the Second Ward, is building five cottages on Hobart Street, to cost $1,500 each.

The total cost of building in this quarter is $33,000.

THE SATHER BUILDING.

The contracts for the Sather building on Washington Street, adjoining the Wilson House, have been let. The Judson Manufacturing Company has received the contract for the iron work, at $725. Knight & Littlefield have the carpenter work, at $19,573. The Remillard Brick Company have the contract for the brick work, at $5,745. The total is $14,543.

The Sather building is well under way.

OAKLAND BUILDINGS.

The Davis Block, on the corner of Washington and Eleventh Streets, is being pushed rapidly forward, and the walls of the first story are up. The framing of the first story has been put in and the cellar has been completed. The undressed stone facings are being put in on either side of the entrance to the upper stories, the whole making a very pretty combination.

It is understood that James de Frenery is having plans drawn for a four-story building on Washington Street.

Dr. J. M. Young is building two cottages on Park Avenue, near Hollis Street, to cost $1,000 each. Robert Jackson is the contractor.

Goodrich & Newlon, of Oakland, are drawing plans for a smelter, etc., for the Crittenden Smelting, Mining, and Milling Co., of Hina County, Arizona. Total cost, $60,000.

W. T. Veitch is refitting the stores 909 and 911 Broadway. George W. Henderson is doing the moving and the iron work. The cost will be $4,000.

EAST OAKLAND BUILDINGS.

A house is being built on Sixth Avenue, between East Fourteenth and East Fifteenth Streets.

F. A. Brown is building a cottage on Eighth Avenue, between East Fifteenth and East Sixteenth Streets, for W. C. Orcutt. The contract price is $2,000.

Charles J. Guigard is building a cottage for W. G. Reese on East Twentieth Street, between Seventh and Eighth Avenues, to cost $1,500.

S. T. Higgins & Sons are building for Mrs. M. C. Littlejohns a cottage on Ninth Avenue, between East Twenty-fourth and East Twenty-fifth Streets, to cost $1,571.

The East Oakland Methodists intend building a church on Eighth Avenue and Seventeenth Street soon.

OUTSIDE THE CITY.

P. S. Glafsdor is having a $1,700 cottage built on the Hillegas Tract, Berkeley, by C. R. Lord.

J. S. Greenleaf is having a house built by Woodhouse & Sandy at Kinknerville, to cost $2,500.

Knowles & Wetmore will build for L. Georges a house at Finns Vale, to cost $2,700.

J. J. & T. D. Newson are the architects. J. B. Cogswell has agreed to erect a house for Mrs. H. Gross in Berkeley to cost $3,100. They will be Hamilton style blackhouses.

Goodrich & Newlon have received orders from M. B. Stieglitz to advertise for bids on his house to be erected in Berkeley.

A. H. Broad has agreed to do the carpenter work for a building for A. Carlisle, on the corner of Vine and Spring Streets, Berkeley. The contract price is $2,720.

Petaluma.

A planing mill is being erected on the corner of C and Second Streets.

PORTLAND, OR.

A. J. Cooper, a Chicago capitalist, offers to build a $700,000 hotel if the citizens give him $250,000.

Permits have been granted for construction of a one-story frame dwelling on the corner of Sixteenth and M Streets, for J. Connor, to cost $2,200; two one-story frame dwellings on the corner of Lansdowne and Clay Streets for Mrs. Rice, to cost $2,200; and a three-story frame dwelling on the corner of Tenth and Mill Streets, for R. F. Eurchart, to cost $8,500.

Work will be commenced in a few days on the building of the cyclorama of the Battle of Gettysburg. It will be located on the corner of Third and Pine Streets.

W. S. Ladd has started the subscription for the new hotel project with $25,000.

A three-story brick addition is to be made at once to the rear of the Oregon office building, and another story added to the main structure. The cost will be about $16,000.

Charles H. Dodd has ordered the construction of a four-story brick block, 75x80 feet, on the southeast corner of Front and A Streets, to cost $60,000.

A two-story frame dwelling is to be built on D Street, between Twelfth and Thirteenth, for P. W. Gillette, to cost $2,000.

Chas. H. Dodd has been granted a permit to build a four-story brick block on the corner of Front and A Streets, to cost $75,000.

A Methodist Church is soon to be built at Burns, to cost about $1,200.

Baker City has voted to issue $30,000 in bonds to build a new school-house.

RIVERSIDE.

A. W. Boggs has secured the contract for the foundations of the Rubidoux Hotel.
Sacramento.

L Street, 3rd, Eighth and Ninth. Two-story and basement residence. Owner, John Sledy; architect, N. D. Goodell; contractors, Bohn Brothers. Cost, $1,000.

G Street, 3rd, Ninth and Tenth, two-story and basement residence. Owner, Mrs. Ellen Manning; architect, N. D. Goodell; contractor, B. F. Bell. Cost, $3, 00.


J Street, 3rd, Ninth and Tenth, alterations and improvements. Owner, L. Eklus; architect, N. D. Goodell; contractors, Bohn Brothers. Cost, $1,200.

J Street, 3rd, Seventeenth improvements and additions. Owner, T. M. Lindley; architect, N. D. Goodell; contractor, W. M. Reese. Cost, $10,000.

San Jose.

There will doubtless be more building done this fall than at any previous period in the history of the town. Among those who propose to erect residence buildings at once, are the following: Eugene Rosendahl, a handsome residence on his lot on Julian Street, between Third and Fourth. G. R. Jones, of Montreal, Canada, residence on Union Avenue, at a cost of $8,000. H. A. Hughes, lately from the East, a neat cottage on North Sixth Street, at a cost of $4,000.

G. D. Smith, of the firm of Kaufman, Smith & Hensley, has recently purchased a very desirable lot on Sixth Street, and has contracted for the erection of a fine dwelling.

G. N. Hensley, of the same firm, residence on Sixth Street.

W. S. Kaufman, the third member of the firm, fine dwelling on Third Street. The builder is supervising the construction of a new residence on the Quinn Ranch, one on the Parr Ranch, one in Alviso, and a three-story hotel and an Ohl Tobacco hall at Salinas. P. R. Basell is completing the plans for a cottage on Lomon Avenue for X. E. Burns, and also a plan for a $50,000 residence for an Eastern gentleman who recently purchased in this city.

Three cottages will soon be erected on the Lendrum Tract, in East San Jose, by William Winter, a San Francisco capitalist. Other San Francisco men propose to build here soon.

E. Brassy and Henry Ahlers have let to A. Kelsey, the well-known builder, a contract for the construction of two handsome residence houses at the corner of McLaughlin and Lick Avenues, in the Brassy & Ahlers addition to East San Jose, the price being $7,000 each.

Mrs. Brassy & Ahlers will build also another house close to the others, to cost $4,500, and the contract for still another will be let in a few days, making four handsome houses in all. San Jose is to be congratulated upon having two such energetic and enterprising men.

Contracts Let.—Contracts have been let by Mrs. M. A. Page, for the completion of the fourth story of East Hall of the University of the Pacific. A. J. Mallivain has the contract for $757.

A contract by the same architect has been made with J. J. McDaniels, for changes and additions to the building of the Home for Feeble-minded Children, $7,700.

A third contract has been let to W. J. Wolcott for excavating and laying the foundation for the Conservatory of Music Chapel of the University of the Pacific for $3,227.

The following bids for building the new City Hall were opened:

J. D. Stewart, common bricks, $112,654; pressed, $117,350; sandstone trimming, extra, $3,800.

P. R. Wells, common, $112,000; pressed, $117,000.

Thos. Livingstone, common, $112,000; pressed, $117,000.

A. J. Mallivain, common, $114,500; pressed, $117,000.

Chas. Turlay, San Francisco Co., common, $115,600; pressed, $119,900.

Albert Wolbur, San Francisco common, $116,881; pressed, $121,881.

Thos. Flynn offered to do the sandstone work if called for, at $2,250.

The contract was awarded to P. R. Wells, and his bonds fixed at 25 per cent of the amount of his bid.

The total cost of the New City Hall will be as follows:

- F. Altman, east-in-work material — $1,850.00
- F. Kuchenheimer, wrought-iron material — $3,350.00
- Obsce, Blanchard & O'Neill, granite — $1,700.00
- Contracts already let — $12,925.00
- P. R. Wells, brick and labor work — $8,000
- Vails, etc. — $3,000.00
- Heaters, four — $2,000
- Electric Wires — $250.00
- Elevator — $250.00

Total — $33,450.00

Architect's services, 3 per cent — $1,002.00

Sam total — $35,452.00

Mrs. Mahony will build a $10,000 dwelling. P. R. Wells, contractor; Theo. Lenzen, architect.

N. D'Oyly is building a $12,000 dwelling from plans prepared by his architect, Theo. Lenzen. Thomas Livingston is contractor.

Thos. Lenzen has prepared plans for two brick buildings for New Hanfouver. Base is contractor; $6,000 will cover the cost.

Six miles from town E. N. Parr will build a $5,000 dwelling. Theo. Lenzen is his architect; E. Davis, contractor.

One mile from town R. Wiltz is building a $4,500 dwelling. Theo. Lenzen, architect; Nickelsen, contractor.

C. Lofaso, seven miles from town, is making a $5,000 addition to his wine cellar. Theo. Lenzen, architect; G. E. McDougall, contractor.

San Rafael.

San Rafael Hotel, three-story frame. Owner, San Rafael Hotel Company; architects, Curlett & Cahalbourn; contractor, Preeighton. Cost, $80,000.

Turlock.

San Strauss, of Turlock, has just purchased a piece of property near that town, and will immediately commence the construction of a $4,000 residence. James E. Wolfe, of San Francisco, is his architect.

Winters.

E. J. Englehardt is erecting a two-story frame to cost about $8,000. A. Ritchie is the architect and builder.

Judge Wu. Sims has a two-story residence built. Gilbert & Son, of Woodland, are architects; R. B. Nissen, of Capay, contractor. T. D. Ball is superintending repairs on Mrs. D. Hemenway's residence.

W. J. Plesantes (seven miles from town) is spending about $5,500 in improvements.

A large force of men are grading on the Winters and Ukiah Railroads.

Most of the business firms of the town are having artificial stone sidewalks laid.

Miscellaneous.

It is estimated that it will require 11,000 feet of lumber to erect the buildings already under contract at San Carlos City, Lower California.

The stone foundation for the new schoolhouse at Hatherly has been laid, and contracts for the carpenter work will soon be open.

The rock foundation for the new Catholic school in St. Helena is completed, and work began on the frame work.

Bassett Brothers, contractors and builders, have commenced work on the frame work of the Catholic College.

J. E. Whitson, of Solma, will soon let the contract for the building of his $50,000 hotel in that town.

The new County Hospital in Fresno City will cost $12,000. J. W. Jones is preparing plans and specifications.

J. H. Hamilton, of Fresno, is building a cottage on 1 Street, north of El Dorado Street.

Contractor Morrison, of Taeuma, was recently awarded the contract for building the addition to the Court House. The bid was $871.

The contract of building the superstructure of the Methodist Church in Seattle, and finishing up the basement, was let recently to Moses Keeler for $15,000.

The S. P. R. R. Co. are making arrangements to build a large, commodious new depot at Summer, the old one will be used exclusively for freight.

The Los Gullucos Hotel.

Thomas J. Ludwich states that he has closed the contract for the erection of a $10,000 hotel at the town site of Los Gullucos, and that work will soon be commenced. Teams have commenced hauling brick and lumber for the foundations.

Anahiem's Hotel—Contractor Schindler Soon To Begin Work.

The contract for the cement sidewalks on the tract has been awarded to the Los Angeles Paving Company, of which Mr. E. A. Sexton, formerly of Anaheim, is manager. They expect to put a number of men at work shortly. Mr. Charles Schindler, who has the contract for the brick work, has received the foundation plans, and will start his work very soon. Directors Golthwaite and Kroeger have the superintendence of the work of grading for the track, grading streets, etc., and they are getting ready to make some wonderful improvements in the property.

Plans Approved.

A meeting was held recently of the State Board of Examiners, Governor Waterman presiding, and Trustees Gally and Cuming-
ham being present. The plans and specifications for the erection of three new wards at the hospital, and for furnishing the building, were submitted to the Board of Examiners by Messrs. Cunningham and Gally, and unanimously approved by the Board.

Work on the San Jose New City Hall.

The work on the New City Hall will be commenced at once. Sunday a cargo of cement arrived in San Francisco, and the amount necessary for the building here has been ordered from pen & Vose.

The sewers will be laid first and then the foundations will be pushed forward. The sub-contractors are as follows: W. J. Woll, brick; F. C. W. Otto, artificial stone and cement work; W. W. Montague, tiling; M. Lenzen, painting; W. F. Dougherty, mill work; John Stock & Sons, plumbing and tinning.

The contracts for the erection of a depot at Carlshard and Eucalipus were let, recently, by the California Southern Railroad Company, to F. M. Johnson, the contractor of the Barstow depot.

Architect Fugh, of Salem, is now engaged in making preliminary drawings of the proposed new Court House of Benton County. The building will cost $55,000, and will be in the Ionic style of architecture, and be of brick and stone. It will be built in 1888.

Fred E. Sander is building a handsome residence on Eighth Street in Seattle, to cost $12,000.

The Donahoe Road will erect a new station in Coleman's Magnolia Tract, near Grant Avenue, San Rafael.

Architect Theo. Lenzen is in Salinas superintending Jeffery's new hotel. It will be a three-story brick building, and will cost $29,000.

The Odd Fellows are erecting a $12,000 hall in Salinas. Theo. Lenzen has prepared the plans.

MRS. Tilden is having built a $7,000 dwelling in Alviso. W. S. Boyles is the contractor, Theo. Lenzen, architect.


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**San Francisco Building News.**

**A**


**B**

Beanan, 2 stories. Additions. $1600.


**Broderick,** cor. Sacramento, One-story frame. $1,000.


**C**


**Capp,** cor. Twenty-fifth. Additions. $1,000.


**Dupont,** nr. Sacramento. Additions. $500.

**E**


**Eleventh Avenue,** nr. Point Lobos Road. Cor. of the Sea Church. D.—Father McCarthy. A.—Charles DeCuir. C.—J. Blake. $10,000.


**Fourteenth,** cor. Belcher, One-story frame. $1,200.

**Garden,** nr. Harrison. Additions. $1,000.


**Guerrero,** nr. Twenty-sixth. Two-story frame. $4,500.


**Howard Court,** nr. Fourth. Repairs. $1,200.


**Market,** cor. Fourth and Fifth. Alterations of old St. Ignatius Church into theater building. $2,500.

**Montgomery,** nr. California. Repairs. $1,200.


**Sutter,** nr. Taylor. Additions in rear. $1,000.
Provincial Royal Jubilee Hospital.

To Architects.

Designs, Plans and Specifications are invited for the above building, in accordance with memorandum of particulars, copies of which, together with contour plans of the site, may be obtained on application to the undersigned. A premium of $800 will be paid for whichever designs and plans, if any, may be adopted. Such designs, plans and specifications to become the property of the Provincial Jubilee Royal Hospital Building Committee.

Plans for this building to be addressed, in sealed envelope, to the undersigned, and to be handed to him by or before noon of the 7th of December next.

WILLIAM CHUDLEY, Hon. Secretary,
Sep't. 13, 1887.
Wharf St., Victoria.

CIVIL ARCHITECTURE,
A SPLENDID WORK,
PRICE, $10.00.

Lumber Market.

The retail price list of the California Lumber Exchange for September 9, 1887, is as follows:

- Pine, Rough, per M feet... $22.50
- Hws, Rough, No. 1... $22.50
- Pine, Rough, 40 to 60 feet lengths... $22.50
- Pine, Rough, 50 to 60 feet lengths... $25.00
- Pine, Rough, 60 to 70 feet lengths... $25.50
- Pine, Selected... $30.50
- Pine, Clear... $35.50
- Pine, Fire Wood... $35.50
- T. & G. Flooring, 1x6... $35.50
- T. & G. Flooring, 1x6, 1x4, 1x6, and narrow... $40.00
- T. & G. Flooring, No. 2... $40.00
- Stepping, No. 2... $22.50
- Redwood, Rough... $22.50
- Redwood, Rough, No. 2... $22.50
- Redwood, Surfaced... $32.50
- Redwood, T. & G. 6 in., 12 feet and over... $32.50
- Redwood, T. & G. 6 in., 7 to 11 feet... $32.50
- Redwood, T. & G. 6 in., under 7 feet... $32.50
- Redwood, Rustic... $32.50
- Redwood, Rustic, No. 2... $32.50
- Redwood, T. & G. Beaded, 12 feet and over... $32.50
- Redwood, T. & G. Beaded, 7 to 11 feet... $32.50
- Redwood, T. & G. Beaded, under 7 feet... $32.50
- Redwood, Split... $32.50
- Pickets, Fancy... $32.50
- Pickets, Rough Pointed... $32.50
- Pickets, Rough Square... $32.50
- Shingles... $4.50
- Laths... $4.50
- Furring, 1x2, per Linear foot... $1.00
- Batteries, 3x5, per Linear foot... $1.00

Sierra... $3500

Sierra, nr. Kentucky, One-storey frame. O.—J. H. Keenan... $1000

Sixth, nr. Harrison. Two-storey frame. O.—J. Holts... $1000

Solano, nr. Iowa. Two-storey frame. O.—George Hooks... $50

Tennessee, nr. Solano. Five one-storey frame. O.—J. R. Davis... $50

Tennessee, Additions to St. Thomas' Church... $1000

Thirteenth, nr. Nee. Two-story frame. O.—Pope... $3500

Treat Avenue, nr. Twenty-second Frame building. O.—Oliver Maslon. A.—J. Welsh... $4500

Twenty-sixth, nr. Dolores. One-storey frame. O. and B.—J. 1, Conerford... $1000

Union, nr. Franklin. Frame school. O.—City of San Francisco. A.—T. J. Welsh... $18449

Sawing and Saw Dust... $150

Shavings and Saw Dust... $150

Linear Drawing... $150

Practical Draughting... $150

Drawing for Cabinet Makers... $150

Hand railing and Staircase... $150

Painter, Glider, and Varnisher... $100

Sewer Gas... $125

Steam Engine Catechism... $100

Paper Hanger's Companion... $125

Builder's Guide... $200

Specifications.

We have on hand a supply of a

NEW FORM OF SPECIFICATIONS,

Especially adapted for the Pacific Coast.

We will send a Copy to any address on receipt of 50 cents, or $5.00 per dozen.

Also Palliser's new Specifications, just received.

We can supply any number of either the above

CARPENTRY MADE EASY.

By Wm. E. Bell, a practical mechanic, who fully appreciates, from personal experience, that there are many things perplexing to the trade and difficult to do until they are fully explained and tested. It is designed to make the science and art of carpentry clear and comparatively easy to all who require information on the subject. Price, $6.00 by mail prepaid.

Manual of Industrial Drawing for Carpenters... $2.00

Illustrated Drawing Book... $1.00

Mathematical Drawing Instruments... $1.50

Drawing for Carpenters... $1.75

Shavings and Saw Dust... $1.50

Linear Drawing... $1.50

Practical Draughting... $1.50

Drawing for Cabinet Makers... $1.50

Hand railing and Staircase... $1.50

Painter, Glider, and Varnisher... $1.00

Water Closets... $1.00

Sewer Gas... $1.25

Steam Engine Catechism... $1.00

Paper Hanger's Companion... $1.25

Builder's Guide... $2.00

Amateur Mechanic's Workshop... $3.00

Principles of House Drainage... $1.00

How To Paint... $1.00

Practical Geometry... $1.00

Lumberman's Hand Book... $2.00

Lien Law... $5.00

Goy Homes... $25.00

Every Man His Own Mechanic... $3.50

Handbook of Legendary Art... $3.00

Dwellings, Reed... $3.00

Plumbing Appliances... $1.50

Modern House Painting... $3.00

Stair Building Made Easy... $3.00

Cabinet Maker's Companion... $2.50

Manual for Furniture Men... $1.00

Rural Architecture... $1.50

Architecture, Horton... $1.50

Wonders of Art... $1.25

Common Sense in Church Building... $1.50

Hints on Household Taste, by Eastlake... $3.00

American Cottage Builder... $3.50

The Suburban Cottage... $3.50

Homes for the People... $2.00

Country Homes, Woodward... $1.50

Cottage and Farm House, Woodward... $1.50

Suburban Houses, Woodward... $1.50

Rural Homes, Wheeler... $1.50

Essentials of Perspective... $1.50

Modern Architectural Designs and De- tails... $1.00

Detail Cottage Architecture... $6.00

Leffel's House Plans... $3.00

Science of Carpenter... $5.00

Mechanic's Geometry... $5.00

Artistic Homes... $5.00

Artistic Homes... $3.50

Mechanical Drawing... $1.00

American House Carpenter... $5.00

Building Superintendent... $3.00

Builder's Companion... $1.50

Cutting Tools... $1.50

Cottages... $1.00

Ornamental Drawing... $1.00

Grimshaw on Saws... $4.00

Universal Assistant... $2.50

Limes, Cement, and Mortars... $4.00

Trussed Roofs, Ricker... $3.00

Gould's Carpenter... $2.50
PERFECT VENTILATION! VENTILATION! VENTILATION!
WITout DRAUGHTS!

The ABRAHAMSON VENTILATOR will produce perfect ventilation. No foul air! No draughts!

PATENTED JANUARY 11, 1887, BY PETER ABRAHAMSON.

THE ABRAHAMSON VENTILATOR IS GUARANTEED TO DO ALL'S THAT'S CLAIMED FOR IT.

It can be applied in a brick wall or between outside walls, or bull partitions, to a glass window or house window, or between the window sash and cap, or to a door or a transom, or any place where ventilation without draught is required.

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Every Box of both these brands is Guaranteed.

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For Foundations, Ceilings, Floors, Walls, Artificial Stone, Etc.
These extraordinary qualities permit an unusually large addition of sand, etc., (20 to 50 per cent. more than other well-known Portland Cement) and will produce the strongest most reliable and durable work.

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True Square Hollow, Octagon and Round Balusters and Newells. The only true Prismatic work, effecting elegance, refinement, Architectural Beauty and comfort.

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Subdivisions of the House.

The manner in which the interior of the human dwelling has been evolved or set apart to different uses forms a curious department in the history of civilization. When man has felt a need he has endeavored in some way to supply it. Even while he was still half wild beast he was obliged to have a shelter from the elements. This satisfied, he lived for unnumbered ages with his family or tribe crowded in a single room like animals in a pen or fold. A sense of delicacy, with a longing for comfort, caused the construction of the bedchamber, a desire for convenience of the kitchen, the need of quiet and retirement of the study and the provision of a place for the display of the household, or the wish to have a chamber where friends might be assembled and which might represent the elegance of the mansion, of the parlor, or as the French now call it, the salon. The word "parlor," (room for speaking or conversation) from which we get the English word "parlor," is still familiar in French dictionaries, but has been banished from Paris and other large French cities to the most rural part of the provinces.

The word "chamber" was by the French originally applied to nearly every subdivision of the house, the parlor and dining rooms included. Now they use it mostly in the sense of a bedroom. Its original usage survives in the phrases, "Chamber of Deputies," "Chambers of Commerce," and some formal modes of speech. The word "apartment," used in English to express the different rooms of a house, means in France an assembly of rooms sufficient for the need of a family.

Of all the rooms of a family mansion the bed chamber has the most interesting history, not nearly so much as it has been the ordinary scene of births and deaths, but for social and political reasons. Let us take France, for instance, as the most pertinent illustration of the subject. Three hundred years ago all occupations of life were performed in a single large room which formed a great part of the mansion. Here were found the master of the house, his family and the servants engaged in their various occupations. Here the head of the family, or the great literary historian of the time, was a man of learning, while the woman of the household spun and wove, and the male domestic cooked or performed other menial duties. This was the rule, to which sometimes, in the case of kings and noblemen, there were exceptions. But even a king's bedchamber was not kept private. If he had had two, one where he could take, if he insisted on it, a good honest sleep, and which was of moderate dimensions, and the other a state bedchamber where he held audience, where his rising in the morning and his going to bed at night were in the presence of a crowd of courtiers and courtiers. He was ordered to die in his private bedchamber, although he could pass there a part of his fatal illness. When his end was evidently at hand he was carried into the large chamber called "chamber of parade," placed in its magnificent bed and permitted there to draw his last breath in the midst of as many of his courtiers and aristocratic subjects as could gain admission. It was because the bedchamber was so public during the Middle Ages that it was so handsomely decorated and that the bedchamber became a work of art, many specimens of which are preserved in European museums. In old engraving the king is represented attending to affairs of state in a bed surrounded by his Ministers and parsons of the Court, and great queens partaking of their meals in their chambers, as was the custom, the bed on one side of the room, the table on the other.

It was while the Bourbons were on the throne that the bed and bedchamber achieved their greatness. Here Louis XIII used to receive and converse affectionately with those whom he intended to turn over to the tender mercies of his Minister Richelieu. Here Anne of Austria, when regent, received her Ministers and her distinguished guests. During the reign of Louis XIV the ceremonial attending his getting up and going to bed became ridiculous. To be permitted to assist at the making of the King's toilet in the morning was considered one of the greatest honors that could be accorded to a courtier; to be allowed to take part in the adjustment of the royal shirt, a distinction to be handed down as a tradition to one's own posterity.
As late as 1750 princes and even honest burgesses resided in their bedchambers. It was during this epoch that the queens of France were born in bed. Many a Man of Mark have bestowed the court before she was out of bed in the morning. Women connected with the French Kings by less honorable ties received the homage of their numberless flatteries in the same manner without shame or without seeming ridiculous in the eyes of those who were thereby influenced near the throne.

The first saloon in French houses only date back to the end of the seventeenth century—that is, to about 1680 or 1690—and the first dining rooms only to 1750. Up to that period the rich had eaten downstairs in the rooms where they slept. As for those in moderate circumstances and the poor, they still lived, cooked, slept and received their friends in the same apartment, or if they had a separate bedroom it was no more than a closet or a hole in the wall into which they forced themselves with difficulty.

In England as on the Continent the bedchamber was evolved in much the same manner. There was originally the central hall occupying the body of the castle or mansion, where everybody lived in common and every household office was performed, except perhaps the cooking, which might have been relegated to an out-house. After the evening meal, which was taken with copious libations, the greater part of those present fell to the floor dead drunk and slept in the straw or rushes that covered it till morning. What bedrooms there were made by hanging pieces of other drapery over the owner of the room, or over some alcove or recess in the wall. In time these transient screens became permanent partitions.

In houses where the architecture later bore elaboration the alcove in which the bed was placed might be flanked by pillars which served as the finishing pieces of the certain. All prefers to sleep in the bedrooms of the Middle Ages, and a period comparatively recent. The Greeks and Romans slept, as any one can see at Pompeii, in little stone rooms that were no larger and not so well ventilated as the cells of an American penitentiary.

In the eighteenth century during a greater part of the eighteenth century no parts of a palace were more warm, least of all the doors and windows were not well made, and the magnificent fireplaces, of which many specimens are extant, served only to give the person, while the floor was benumbed with cold. This is, perhaps, one reason why so many of the fine ladies of the early part of the last century received in bed. It was quite as convenient and far more comfortable for themselves, while as for their guests, who were often persistent and annoying, they would become tired and leave the sooner.

From this account of the gradual division of the dwelling into rooms it will be seen that there was little delicacy and scarcely any comfort, either in England or on the Continent, till the latter part of the last century, or a little more than 100 years ago. The watching in bed, either of kings or their subjects, after Louis XIV the house existed with, or nearly all, its modern appointments. There was a separate room for every household function—the parlor, library, dining room, bedchamber, dressing room, for servants, in short, our civilization owes much, and whose memory, considering the interest he took in the achievement of our independence should be cherished in America. From the first hut made by the savage man by drawing down the branches of a small tree on all sides and plastering it over, with mud there is, let us say, to the house of the American gentleman of to-day, what a distance! It represents the whole sum of human achievement, the entire development of man's faculties of his intellectual needs, his refinement, his self respect, in short, the best that is in him in sentiment, in mental aspiration. There is in the American house let us say any palace—an excess of luxury that may not always be desirable, and apartments, such as smoking and billiard rooms, which were unknown even in the mansions of France in the epoch of Louis XVI. This princely residence has been evolved from the feudal period, when there was a bed in the front room, another bed in the "keeping room," where the family table was spread, and beds also in other rooms, if by good fortune the house was further subdivided. The enlargement of the house came first in the Northeast and the Northwest. In the Northern States the bed is still a conspicuous object in all houses except those of the rich, the peculiarity being due in part to the absence of an entrance hall, which represents in its beauty dimension the hall of the castle in which the old baron held wine and wafer.

The houses are built so close together in Atlanta City, that women can borrow kettlets and flat irons through the windows without going out doors.

San Francisco Chapter, American Institute of Architects.

The regular monthly meeting of the Chapter was held in the rooms of the Art Association on July 6th. W. P. Moore, vice-president, was in the chair. The following members were present: W. P. Moore, t. H. Wolfe, J. C. Clark, A. Pissis, E. J. Wolfe, W. J. Guthbertson, R. H. Daley, H. T. Bestor, M. J. Lyon.

After the routine business was disposed of, the special committee on Competitions reported that as yet they had come to no definite conclusion. The whole matter in regard to Competitions was then thoroughly discussed by every Fellow present.

It was thought that the present was the most opportune time for discussion, owing to the fact that there were two large competitions on hand.

The "Olympic Club Competition" was the one principally discussed, as the renovation offered for plans was totally inconsistent with the amount of work expected.

"It is generally understood that a certain architect had been selected in the first place to prepare the plans; but on the representations made by three other architects, who are members of the Association, that, being members, they were entitled to have an equal show, it was decided to have competition plans.

Ed. Architect.

Great stress was laid on the propositions that the main point to be considered was the appointment of a Professional Referee to decide upon the best plan, and, secondly, the successful competitor to be the superintendant, with compensation at full principles. The committee felt that the whole system of competitions is a fraud. In fully 90 per cent of the competitions in California a committee will, through a circular, invite architects to prepare plans, knowing beforehand in their minds, that the choice of architects has been decided upon. Reference was made to the Competition to regard to a large public building in this state. Eleven competitors offered plans. Each one presented seven sheets of double elephant paper, representing all the points to be shown, thus making seventy-seven sheets in all to be examined in one hour after plans were received by the committee, the award was made showing conclusively that the successful party had been selected beforehand. No honest set of men could have unraveled seventy seven sheets of paper and laid them out on a table ready for a thorough examination on a short notice. It is a King's game.

In another case of a church in this city, one of the trustees of the church came to the speaker and told him it was no use for him to send in his plans, as the selection had been made. It is not to be presumed that a church trustee would steal directly money from your pocket, but here was a clear case of robbery in permitting architects to take their time and the money necessary for draughtsmen's services, paper, etc., knowing full well he was throwing away the same.

Another case, where the church committee wanted it distinctly understood that under no circumstances would any plan be considered, the cost of which exceeded $60,000. Some of the competitors, since dead, religiously prepared their plans, keeping that figure in view. The plan adopted by the committee was one of the most beautiful the committee had ever seen, and was finally rejected by the church committee. The plans were completed, the cost $815,000. The speaker inquired by what right had a committee selected the plan, knowing it could not be built for the amount called for, thus, virtually telling several parties who had honestly striven to comply with the requirements of the printed circulars calling for a competition, that they had been asked to present plans merely for a show of fairness, the architect having been decided upon beforehand.

One member thought that the only way to prevent the abuse referred to was for architects not to engage in competition work.

This was answered by another member, saying in regard to that case eastern architects would be invited. Another member facetiously remarked that Stockton has a dose of good eastern architect, and he for one was not afraid of eastern competition.
Another point was brought out in the discussion. Commit-
tee members were greatly concerned for the future, in the
time prescribed, and in many cases, notably the Lack Trust
Statutory, keep plans after receiving them, for months before
giving a decision. This was unjust to the architect who had
paid out his money for help and given his own time striving
to diminish premiums. The architect had a right to know if
he was to receive any of the advertised premiums.

The committee was granted further time to make a full
report.

One of the members of the committee on the "Registry Block" reported adversely to the proposition made. The matter was
postponed until next meeting, in order to hear from the other
side of the question.

Adjourned.

A Fair View of the Situation.

While the possibilities in California are no less inflated
than they have been, viewed from a building stand-point, they are far
from discouraging. The cooling down from a boom condition, to
one of natural, permanent and regular character, cannot but pro-
duce a changed attitude and exalt the already high expectations that had run wild in outreaching after results, that
should be waited for with some degree of patience. Eagerness and
ease to attain and accomplish ends more rapidly than cir-
stances warrant, as often end in disappointment as success.
The question of control human affairs and even great
轮廓 and equalize things; and when pressures beyond the require-
ments of communities are brought to be enforced, the stimulated
and inflated must yield to the resistance that fixes limitations at
which calculation, ingenuity and persistence must halt.

That overreaching in the influence of transactions in the offer-
ings and sales of building lots and lands in the cities and county
districts of the state, and their values; and that fortunes have
been realized, both by sale and purchase, cannot be denied; but
more than that, one must have a strong will to know when they will be able to ob-
tain present and recent past-investment prices; still the state is
solid in every part, with a grand future in prospect. That which
has been forced is simply anticipating that which was destined to
come to pass in due time. The only question being as to whether
it is always, or at any time prudent to attempt to forestall the in-
violate, by force of vigorous and shrewd efforts, or to go a little
slower, and be patient until the times come when the demand
shall equal the supply, and necessities call for an advance.

By all this the building business has been materially affected in
several respects. In the inflated locality it has caused hasty
building activities, and large demand for building materials.
This has led to advance in prices, not only as to the special locali-
ties in which such activities existed, but in all parts of the state.
The consumption of market for materials so far enlarged the field of
demand, that manufacturers had all their own way in dictating
prices; and so long as this demand continued active prices, how-
ever exorbitant, had to be submitted to because there was no
need for competition, as between manufacturers, each and all being
reaping the fruits of the rule of prices, raising rates; hence, im-
provements everywhere, both in the commercial and older cities,
and in all the newer portions of the state, have, for a year or two
past, cost more than they would have cost when lumber was free
on the market, at from three to ten dollars, or more, per thousand
less than the prices at which it is now held, and has been for the
period named. And while a few dollars per thousand upon the item
of lumber alone is not a material factor in the general result of
cost of a building, it is nevertheless of sufficient importance and
must make their way even to those who deemed rolling prices an extortion,
from undertaking building improvements.

The lumber manufacturers of the Pacific Coast complain
that their product should be made the obstacle to any improve-
ment, and assert that present rates are none too high; that the cost
and product of their warrant, and equity profits not only fully
justify even present prices, but at a still greater advance
would be reasonable.

Be this as it may, the manufacturers are themselves to blame for
the adverse opinions held by the community, as they,—by their
uncertain standards, varying rates from time to time, according to
the spirit of competition in exercise among themselves, sometimes
supplying the market at rates which no informed person would
consider near remunerative, yet impressing the public mind that
if rough lumber could at any time be sold for twelve or thirteen
dollars per thousand, why should it be worth much more at
any time, or under any circumstances.

The fact that the manufacturers were at war among themselves
was a matter of great regret for the past; and the misfortunes of a "broken mar-
ket" that unquestionably did during the great depression result in loss to the lumbermen, is a matter that the public disre-
gard; and owners of real estate have been and are unwilling to
recognize fair dealing in prices of lumber of the same kind and quality at one time twelve, and at other times twenty-two dollars
per thousand.

Another feature of the case is, that building improvements in
the larger cities have been retarded by reason of the very many
and town lot booms that have been offered in nearly every part of the state, with every device known to the arts, design,
active minded men who have managed them, to induce investments;
and hundreds of thousands and millions of dollars in the shape of
speculative purchases have been drawn away from the commercial
centers, that would have been spent in building improvements under less inflated rates of prices.

But reactions under their circumstances do not by any means
indicate failure in any extended sense; but a mere checking up in
the heated race, to acquire wealth speedily, a cooling down from fever heat to a normal condition, and an equalizing of transac-
tions, with the necessities of the times.

Interesting Lawsuit against a Firm of Builders.

A case was recently tried in England involving the responsibil-
ity of contractors, which we find reported in the Builder. The
Messes. Pete Brothers, very eminent builders in London, had a
contract for the erection of a hotel in Covent Garden. In carry-
ing out their contract, they were obliged to excavate about nine
feet below the foundation line of the wall, between the hotel and
the adjoining house and underpin the wall. In doing so the wall was
cracked from top to bottom. The owner of the adjoining estate
sued the Messes. Pete for damage to his wall. The contractors
resisted on the ground that the work which they had done was
necessary to make good the foundation of the Metropolitain act, and that
the settlement and cracking of the superstructure was an inevi-
table consequence of the underpinning, and they argued that
the work having been done in accordance with the statute, no one
could be held liable for the result of it; that if any one could
be held liable, it was the owner of the house which they had
constructed and not themselves, and finally, that the work had been
sold out with the utmost care, and that, as the cracking was
avoidable under any circumstance, there had been no negligence
involving anybody’s responsibility. The defendants did not call
any witness to prove their assertion that the cracking of the wall
was the necessary consequence of underpinning it, and his lord-
ship, the judge, remarked that if all the builders in London had
come and said so he should not believe them. In his opinion
there had been very considerable negligence. He was sure that
the settlement was not the inevitable result of the work which
because he had himself seen a wall underpinned without produc-
ing any cracks, so that the damage not being the necessary conse-
quence of work done according to the statute, the defendants
could not use that for avoiding their responsibility, and in the same
reason, the burden could not be shifted on the shoulders of
their employer. No one remained to bear it except the builders
and the judge condemned them to pay the assessed damage to the
wall, about two hundred dollars, with two hundred and fifty more
as consolation to the owner of the injured house, and the costs of
the suit.—American Architect.

The Mechanics’ Institute Fair.

The annual Fair of the Mechanics’ Institute will be held in
the usual place, commencing next month. It is now about time
that our Carpenters and Joiners made a display. Every other
branch of industry has been represented, but, with the excep-
tion of a large shaving or two, nothing has been exhibited at this
handiwork of a large portion of our wage workers. Perhaps this
notice to the Builders’ Association may cause some of our skilled
carpenters to prepare articles for the next Fair.

STEEL SQUARE AND ITS USES.

We have just received a large number of the above named books.
A copy will be sent to any address upon receipt of ONE DOLLAR.
It contains a full treatise on the Carpenter’s Steel Square and
the numerous uses to which it may be applied.

A widow with a brown-stone house is as attractive as a building
and lots association.
The cross-cut saw gets dull in spite of its teeth.
A Very Interesting Letter From Messrs. N. & G. Taylor Co. of Philadelphia on the Subject of Roofing Tin.

PHILADELPHIA, June 30th, 1888.

Editor, California Architect and Building News, San Francisco, Cal.

Dear Sir: Our attention has just been called to a letter which appeared in your issue of May 15th, signed by Messrs. Merchant & Co. of our city. It is so full of errors and mis-statements, and its tone is so unjust, that we are not substantiated by appearing under your own sanction, we should very much doubt its authenticity and its sincerity.

In fact, no reply from our House would be necessary in any Eastern paper, but some explanation is due to your readers, accompanied with a few facts.

Messrs. Merchant & Co. appear to forget that when they went into the tin plate business not many years ago, they found our firm selling guaranteed and stamped brands of tinplates. They know that it was our custom at that time to stamp the brand and our name on various plates, and they also know that very many years before they introduced the Tillerton's Old Method in imitation of the Genuine OLD STYLE brand, we had always stamped the top and bottom sheet in each box of the Genuine OLD STYLE with the brand and our name. Those of your readers who are fortunate enough to have some of our old circulars or catalogues of that time can confirm in these statements. It was on account of imitations being used that we were compelled to have every sheet of the Genuine OLD STYLE brand stamped with the brand and trade mark, as well as our name as guarantor. While we have been followed by others in the matter of stamping the brand on Roofers, we fail to follow us as far as having their own name added, without which what reads has an architect or property owner.

We cannot conceive how any one can have the presumption to appeal to us as the inventors of novelty which clearly originated with ourselves, and while we regret the tone of their article, and the necessity of a reply on our part, still mis-statements must be corrected.

We fail to see the cause of this outburst of feelings against the Established Importers and Tin rookers (who, as every body knows, are well acquainted with the real value of all brands imported) unless it be their failure to confirm the statement which Messrs. Merchant & Co. wish to place on certain brands of tin. Messrs. Merchant & Co. attack the tin rookers of Philadelphia, using language such as: "But when we look in silence, that every top and bottom sheet of tin stamped with the brand, as we have already stated above, and this was done many years before any rival appeared in the field at all. Later on we found it was imprudent to have every sheet stamped, not only with the brand and thickness, but also with the trade mark of target and arrow, and at the same time, the brand was duly registered in the English courts.

We wish to introduce some collateral evidence here as to who were the first to stamp tin plates or roofing tin. The first selections from the London Ironmonger of May 14th, 1887, and reads as follows:

ROOFING PLATES.

To the Editor of the "Ironmonger":

Sir:—N. & G. Taylor Co., Philadelphia having called our attention to an injustice in an article which lately appeared in your journal, we feel sure that you will give us an opportunity for explanation upon their behalf.

We desire to state for the information of your readers that the "system" of stamping and branding each sheet separately, which is claimed as a novelty by a competing firm is simply a gross imitation of an idea which originated with N. & G. Taylor Co., and has been carried out at their request for their "Old Style" brand of terne-plates over many years.

We have reason to suppose that the new mode of branding became necessary for the better protection of Taylor's purchasers against the misrepresentations of his name and the fraudulently counterfeit the well-known and successful "Old Style" brand, as employed for terne plates of the highest quality.

Yours obediently,

THE COPPERMINERS' TIN PLATE CO., LTD.

H. F. Flower,

Cowan Aron Tinsworth, Pottstown, South Wales, May 9.

The second selection is from a letter to us under date of March 30th, 1887, from the Cookley Tin Plate Works, which letter is in our possession. Many of your readers may recollect the photograph reproduced of it which we issued last year, and extract from it simply the following paragraph bearing on the matter in question:

"As others have followed you in stamping the brands on plates, it is no more than justice to yourselves that the same thing should be extended to you at our works for at least fifteen years, having without interruption during that time so stamped, at your request COOKLEY K Tinned Sheets.

The elaborate catalogue issued by our House in the year 1872 will be found to contain the distinct guarantee made by us on our hand-dipped plates, for which we received the only award of merit given at the Centennial Exposition held in Philadelphia 1876. The diploma and medal we have at our office here for inspection.

At the commencement of their article Messrs. Merchant & Co. say: "The Tillerton's Old Method and Camaret are the only two brands of roofing plates in the market today of which no imperfect or water sheets are imported." This is not true, and the claim is probably made with a view of counteracting the effect of our circular of May 24, 1887, an original copy of which we enclose for insertion elsewhere in your present issue. At that time the Camaret Wasters were stamped exactly the same as primes, and there was no notice at all in the market of this.

As already stated above, importers are well acquainted with the value of all brands imported, and each one knows whether the wasters of his plate is passed through the patent rolls and shipped to America, and sold under another brand as prime, or and for large quantities, simply.

Now there have been never any wasters of Cookley K at all, and we again bring in as a witness the following additional ex-
tract from the same letter of the Cookley Tin Plate Works, a
following:

"The house trade are only too glad to secure the wasters at a
very slight reduction, and these are not shipped to America."

Is anything more conclusive wanted as proof that Cookley K
Wasters have never been imported?

In conclusion, we have to state that there are no Wasters of the OLD STYLE.
We have had them, but they were never stamped, and they could not conflict in any way with the use
of this brand in prime. We discontinued the importation of them
some time since, and if there are any to be had today, they must
be some very old stock indeed. Architects and property owners
have always been fully and amply protected in the use of the
OLD STYLE, by the fact that no Roofing Tin is the Genuine
OLD STYLE brand unless it bears the stamp. Even if the
roof could obtain Wasters he could not use them, as they would
not be stamped. Any one could detect such a substitution, just
the same as if any brand at all were put on in place of the
Genuine OLD STYLE. We do not see how we could more
thoroughly protect architects and property owners in the use
of the OLD STYLE brand.

We thank you for the space you kindly grant us for the in-
sertion of this article. We have tried to make it as brief as
possible. We have stated our position, and fortified it by facts
beyond dispute, and we further strengthen it by evidence from
two of the largest, most prominent and reliable makers of
Roofing Tin in Great Britain.

Very truly yours,

N. & G. TAYLOR CO.

Wood, Plaster and Concrete.

The respective merits of these materials in the construc-
tion of buildings have recently been reviewed in their relation to
the acoustics of theaters, and the general gist of opinion is that
concrete has proved a success. It is obviously difficult to com-
pare two materials like wood and concrete, so different in their
physical properties. Due to the inflammable nature of wood, it
must be admitted to be the most desirable acoustically for the
lining of rooms and halls adapted to music. The Italian con-
gress of architects, in 1880, laid down certain rules respecting
the form and materials desirable for halls of music and theaters,
one of which was that wood was proper material to aug-
ment the energy of sound, and giving preference to it; they also
recommended that the room should be lined with wood, isolated
as much as possible from the fabric of the building; that the
wall of the theater (ceiling) and the fronts of the boxes should
have their surfaces composed of thin planks, fitted together like
boxes, and the columns should be of wood, also hollow.

These recommendations, obviously intended to promote re-
sonance, are opposed to all our ideas of incombustibility, and, in
fact, would promote the spread of flames. Nor better prescrip-
tion for an inflammable interior could be given than that the
hall should be lined with wood isolated, and that the boxes should
be separate boxes of wood.

From acoustical considerations, then wood is preferable to all
other materials as a wall lining, but its inflammable nature ren-
ders it undesirable in the construction of the auditorium of a
theater. For the reinforcement of sound, it stands foremost;
in other respects its presence aids materially to the risks of fire.
The employment of plaster or cement is undoubtedly inferior as an
aesthetic surface; it has none of the vibrating properties of
wood; the sound waves recoil and produce confused sounds.

STEEL SQUARE AND ITS USES.

We have just received a large number of the above named books.
A copy will be sent to any address upon receipt of ONE DOLLAR.
It contains a full treatise on the Carpenter's Steel Square and the
numerous uses to which it may be applied.

A prominent architect of this city has recently given up business
and retired to the country. He is young, talented, energetic, and
a master of his profession; but the question plighted to him by a
female client was too much for him. She asked him why he didn't
divest his plans.

"Where are ye livin' now, Moike?" "In Dongal Street, No. 11.
Come and see me," "Faith, I will. Ought I to come in be the airy, or be the front door?" "I don't care; let me do as I'm occupying
in the garret, it would be more convenient for ye to come in be the
sky-light."
 HOW TO BUILD THE HOUSE.—SOMETHING ONE OUGHT NOT TO DO.

By EDWARD W. BLAKELY.

That there are architects and architects, and that their work ranges from very good to indifferent and extremely bad, is a fact that no observant person will for a moment question. As it must moreover be admitted that the number of really first class architects is limited, it is obvious as a matter of course that there must be a great deal of questionable work done in the way of planning our dwellings and business buildings, especially in our large cities and towns. While recognizing the really excellent result produced by many of our practical architects, and the suggestions there from that others can and ought to be made, it must be said that there are many residences where the illogically disregard for everything but effect is so evident, that one might well wonder if ever an architect designed them, or if like Topsey they "grew out.

I have in mind a house where it is almost impossible to use any article that is of what might be called regular size. Without exception every room is some inches out of the regular width for a carpet, and, in order to cover the floors a fraction of a width must be on one edge, and in the length, the carpet wastes in cutting or setting the borders is considerable. Some of the rooms are quite large, and in selecting an elegant carpet for one of them it was found that as the desired style had one pattern to the yard, and there were eight length required, the waste on account of the awkward wide of the room would be a trifling amount; the yard of carpet over a width must be added to the sides, which necessitated the purchase of an entire length in addition. The trifle more of width, while very little advantage to a room of that size, made six yards of carpet necessary in order to fill a few inches of space, and instead of calculating with any idea of cost the architect entailed a cost in carpet alone of nearly $30 to cover a space two or three inches wide on two sides of a room. Whenever it became necessary to purchase or refit carpets for the floor in that house there was an amount of grumbling, and when it passed into other hands and was offered for rent, several persons refused it because of the enormous waste of carpets, the useless pieces alone costing more than enough to cover the floor of one good sized room.

The ceilings of all the best rooms are elaborate and project some distance into the apartment, and it is necessary to cut out not less than four inches from the edges of the carpets in order to fit them around the moldings. In this way the borders are almost destroyed, and it would be impossible to change them without having the same done to two in another of the rooms.

The windows are about three inches wider than the ordinary, and shades must be made to order, a trifling item for the original owner, but of a great deal of importance when the house came to the renting stage. They are too narrow for fine effects with ordinary articles of furniture, the hall is an eccentrcity; and so over all the house; there appears to be a sort of vicious disregard for established usages, and it is as though the designer had seized with a desire to make every item of fitting up and furnishing as expensive as possible, without in any way giving an adequate return either in comfort or convenience, or even in beauty of detail or general effect. It is really as easy to build a house properly, as to construct one which is so conveniently shaped and badly fitted that nothing one may have will suit it.

There is need of a great deal more practical common sense than is ordinary shown in the planning of houses. Between the traditions of conservers and the technical knowledge of some of our professional architects the housekeeper fars very badly. Economy of space, which in city residences especially is of the highest importance, is apparently quite disregarded, and angles and corners are left vacant when they might be used to the greatest purpose. While the spaces occupied by cupboards and closets could be left free to manifest convenience of those who perform the household service.

In beginning the plans for the building of a dwelling, special consideration for health, convenience and comfort should be the leading idea. Architectural beauty is a minor matter, and where the choice must be made between beauty and convenience the former should always be sacrificed. This is not, however, the plan followed by the average architect, who is quite likely to ignore every principle that conflicts with the beauty of symmetry of his design.

There is an urgent demand for plans in which economy of space and simplicity of design are the leading features. Country people of moderate means have little time and less money to spend on an architectural ornamentation. Given a neat, comfortable dwelling at a moderate cost and they are quite content to dispense with angles, gables, and oriel windows until such time as the farm or the business is paid for, and the income will warrant their indulgences in some of the decorations and luxuries of life.

There is more useless room in the ordinary kitchen than in any other portion of the modern house. The idea seems to have come down through the years that a kitchen must be wide and roomy, and with a big throatened chimney. Other points have been added to the plan of the kitchen in the shape of the skeleton of a suggestion each architect hangs whatever convenience may, according to his conception of the needs of the place, be required. As a result we have for country houses great barn-like rooms, bitterly cold in winter, and exposed to the heating of the summer, a wide space, and a flue is large enough to carry all the warm air out of the place in winter, and so wide that the draft of the stove is more by grace and the weather, than because of any rational arrangement to accord with the principles of health in the yearly life of the family.

Anyone who will take the trouble to go through a ship's kitchen will see at a glance what are the possibilities of economy of space. The entire stoves for hundreds of persons may be prepared in a room fifteen feet square. It costs but little when building a house to provide sensible, practical convenience in the fitting of pantries, cupboards, lockers, and the most trifling outlay may save any amount of hard work and time, which may be turned to valuable account.

Not many years since I heard a farmer's wife say that she spent weeks of time carrying away the droppings of waste water through the kitchen and over an entire length of a long porch to throw it into a drain. It would have cost three or four dollars to run a pipe from the kitchen sink, under the porch to the drain, but this was deemed an unnecessary expense, and so this woman had walked a distance of over three hundred and back from the kitchen sink to drain in an average of eighteen times every day, and in summer weather even much more than this.

Her China closet is situated on the side of the dining room opposite to the kitchen, and every dish must be carried across the dining room to get away. To get to the cellar she must cross the kitchen and dining-room and go down the cellar under the main stairway, or else go half way around the house and enter by the other outside cellar. The milk is kept in a spring house at least six feet multi and the milk things are no sooner brought there for washing the pans, all of the milk things must be brought to the house and washed.

The water for all of this work is drawn from a well with buckets and heated in a kettle or boiler on an ordinary stove. In the evening work could not be used with out much care, and when it passed into other hands and was offered for rent, several persons refused it because of the enormous waste of water, the useless pieces alone costing more than enough to cover the floor of one good sized room.

The water ready must be gone through with. Bucketful after bucketful is drawn and poured into a barrel, and into this is thrown a little wood ashes; just how much the housewife is able to tell exactly by tasting it. Then all must be carried to the kitchen, and the work of washing may begin.

And yet these people are economical of everything except time and strength, or at least they think they are. But the cupboards on the top of the house cost more than a set of stationary tables would have done, with all of the drainagae pipes, and fittings to carry the waste water down a hill and into a small stream at the back of the house. The extra ffliggere work on the porches cost more than a well arranged cistern, and the outlay for a set of brackets under the edge of the roof would have built a cellar stairway.

But under those unfavorable and laborious condition an intelligent American family lived and toiled. That they prospered and grew wealthy was no doubt due to their energy and persistence, but when one takes into account the time and care that would have been saved for even necessary work, the thousand and one things that are always to be done in a farm house, it seems a poor comment on the good sense of the average individual to pay out money for architectural frivolities and unnecessaries, and let the wife and daughters wear themselves out for lack of a few conveniences.

The china closet should be built in the wall between kitchen and dining-room, or in such a location that it is accessible to both rooms. Every house of any pretensions should have drain
sinks from the kitchen or some point near the kitchen door, and pipes to carry water away. If the house stands on an elevation this is a very easy matter. A well or pump should be so arranged that the task of drawing water will be as light as possible. A cistern should be built with every house, no matter how unpretentious. A few hours of work and a very small amount of material will be sufficient to provide a place for enough ice to last nearly all summer.

A couple of ingenious boys once made a most admirable arrangement of this sort at an almost nominal cost. They lived on a bit of table land at the foot of a hill. There was a spring in the side of the hill and a spring house for milk and butter. The boys dug a deep hole in the side of the hill above the spring house smoothed the floor, sloped it slightly downward on the outer edge, and conted the bottom and sides with water-line cement. There was a slight depression in the floor near the front, and from this a few feet of iron pipe led down into the ground and connected with a trench or a spout made of the trunks of small saplings. These the energetic lads had contrived to split in two pieces, the middle was cut out by a gouge and hard work, and the top pieces of the saplings were then nailed together and eined, and with the iron pipe leading thence through three or four feet of earth to the spring house, where it ended over a trough. The bottom of the pit in the hill side was repeatedly wadded and allowed to remain uncovered until snow fell. A large bundle of straw cut out of the pipe and flung back down. The floor of the pit then had about a foot deep of clean sawdust from the neighboring mill. This the mill owner was glad to get rid of and the boys to get it in large loads. A store of sawdust was laid by for future use.

The two twelve feet square by fifteen feet deep, and when the first snow fell the work began.

Every leisure moment was occupied in filling the pit with snow, packing it closely and pouring on just enough water to make it solid. As fast as the pit filled up the boys filled in the sides with a foot or more of sawdust. Long before spring the pit was full. Then a great mound of sawdust was piled over the ice and the earth was thrown over it. Above this were bundles of straw over which sawdust was sifted until it formed an almost solid mass, then more earth was piled on and a double row of Mudanes was placed just at the foot of the sawdust. In the case of this family of other improvements followed this beginning, until the house had its own system of water-works, and by the time they had so prospered that a new house was to be built, the ingenious boys had perfected a plan by which not only their dwellings, but all of the farm buildings were abundantly supplied with water.

The cost of materials used for the first snow pit was less than five dollars, and it was estimated that the gain on its account in dairy dollars alone was not less than fifty dollars for the season. This is economy, and it is a kind that is much less common than it ought to be.—Decorator and Furnisher.

LUMBER INTERESTS.

Unpleasant Charges against the Mills by the Loggers.

"If I have reduced the output of my camp at Stick Junction fully 25 per cent," said Torrence O'Brien, Thursday, "and will shut it down altogether after the Fourth of July, unless the railroad concern does a disposition to be more accommodating in the way of furnishing cars. I shall also REDUCE THE OUTPUT.

Of my camp on the Seattle, Lake Shore & Eastern about one-third. While the mills are cutting down the scale of logs, the loggers are doing the same, and the whole lumber market was at the same time lowering prices until the logs were selling at $4.75 per thousand, and at the time of this writing $5 per thousand, and at that last sale of this season, the mills are getting from $5 to $6.50 for the same grades of logs."

"What remedy would you suggest?"

"Simply a common sense remedy. There is a good foreign as well as a good domestic demand for lumber, and the mills must have logs to supply these markets. My idea would be to REDUCE THE PRODUCTION: Of logs to allow the mills to consume the surplus on hand at present, and then only cut and put into the water sufficient timber to keep the mills running. By pursuing that course the logger would always be enabled to demand a good fair price for his timber, and the mills at the same time be making money.—Seattle Post Intelligencer.

THE IDEAL SASH PULLEY.

We illustrate herewith a new Sash Pulley just completed and now ready for the market. It is known as the "Ideal" and is manufactured by the Sower Manufacturing Co., Free Port Ill., who claim it is the cheapest and best ever offered to the trade, and the cheapest and quickest in price. It requires but a few moments to install and has the advantage of boring of two seven-eight inch hole to make a place in the frame for the Pulley which makes its own mortise by simply driving it in, insuring a perfect fit in every instance. A small Marking Gauge, so illustrated, is used to make the prick marks for boring the holes. The Gauge is laid in the groove in the frame and struck a light blow with a hammer, and the marks are accurately laid out for boring. No chisels or saws are used in applying the Ideal Pulley, and there is no possibility of their becoming loose or getting out of place. The saving of time in putting them in the frame is a great advantage.
EVERYBODY'S COLUMN.

The drawing instruments used by draughtsmen are very susceptible to the incendive properties of the documents. Mix 10 parts of tin putty, 8 parts of prepared buck's horn, and 25 parts of spirits of turpentine, to a paste. Cleanse the articles with this, and finally rub with soft blotting paper.

Eo, Architect.—Kindly inform me of some method by which grease spots on wall-paper can be removed. I have been led to believe that the instruments are highly inflammable.

M. C.

Oil spots on wall-paper caused by persons lighting their heads against walls may be removed by making a paste of Fuller's earth and cold water and laying some gravel on the surface to be cleaned, leaving it until dry, when it may be brushed off and the spot will have disappeared. It works best on plain paper but it does not succeed so well on thoroughly colored.

To Cure a Door in Wind.


To the Editors of the American Architect:

Dear Sirs,—Can any of your readers suggest, or inform me, if they are cognizant of any method by which a twirled door can be made straight? In considering an answer to the above query I apprehended that correspondents will conjecture the kind and situation of the doors. The doors I have in mind when asking the question are veneered with the same kind of wood upon both sides, and have, to remove them, been hinged to the same temperature upon each side, if there is such a thing as the possible straightening of a door out of "wind" I have no doubt it will interest a great many of your readers to know of it.


The possibility of the prosecution of negligent plumbers for bad work leads to the inquiry, what protection have good plumbers from bad ones in the matter of competition? The bad plumber can underbid the good one, and if complaints are well founded, there is a good deal of bad work and cheap work going on. The trade ought to have some sort of control over its members in this respect. The rigid legislation of a year or two ago has not produced all the good results then looked for. The attention of local medical and sanitary authorities has been recently called to unsanitary work, and the matter will probably not be allowed to rest until some better system is devised. The plumbers themselves have as much at stake as anybody else, and the organization could wisely investigate the charges made as to inferior work done in utter disregard of sanitary requirements.

Grindstones.

A correspondent of an Eastern paper gives a description of a visit to the Bay of Fundy and along the shores, where the grindstone quarries are situated. The superintendent of the quarry says when the tide is out his men go down on the rocky shore and work out near the water. At low tide the men on the shore drill some holes in the ledge, put in powder and blast out great pieces of rock.

When the tide again rises they blast out some big logs and empty barrels where the broken rocks are. When the water goes down again they fasten a big rock to the raft with heavy chains, so that when the tide again rises it lifts up the raft and the rock with it. Then they tow it as near the shore as they can. If it is the right kind and size for a millstone, sometimes it is allowed to lie there until the workmen, with stone chisel and hammer work it into the proper shape. At other times, by means of a derrick, it is drawn out on the wharf. Then it is rolled on a track and hauled to the factory.

Sage stone factory the large piece of rock is placed on a carriage with a saw similar to the up and down saw in a mill, the rock is sawed into great slabs of the right thickness for the grindstone.

The saw does not have the manner of teeth, but the edges of the teeth, more or less, are sawed in on the rock with the aid of sand and water, which are continually pouring on. Then the slabs are taken, a hole made in the center of the edges, made off with a chisel, and the slab is placed on a kind of shutoff on the wharf. Then it is rolled on a track and hauled to the factory.

Various expedients have been used and suggestions given for "deafening" floors, as it is called. We have all heard, says the Builder's Guide, May 11, that the old-fashioned method of jiggling laid on rough boards, carried, by tiles fixed to the sides of joists. This sort of jiggling has stood well for centuries, and is found to answer well as a deafening material. Among other substances used are dry lime, sand, lime, hair, and dry ashes. Sawdust, sawdust, and even old clothes have been found in the floors of old houses. Any of these materials in layers of 1 inch to 2 inches will suffice to deaden sound. Recent suggestions have been thrown out in our own city, as some of them are known, and laid before the floor boards. A French journal throws out another suggestion attributed to General Loire, who proposes, instead of loading the floor with plaster, to fill in the space between the boarding and the planking of ceiling with shavings which have been rendered insensible by deglazing them in a tub of lime-wash. As it is known that soft substances inclosing air spaces form an excellent non-conducting material to sound, it is thought that the shavings so treated will be found of great service, and it is said they are so incomparable as to add considerably to the fire-resisting properties of the building. Where it is desired to disinfect the space between the floor and ceiling the shavings may be saturated with chloride of zinc, or the latter may be added to the lime wash. The shavings have at least the merit of being light, which some of the materials we have mentioned 'not, and if they can be rendered non-combustible—a very essential condition—we do not doubt that this kind of deafening, so cheap and easily procured, will be largely used. Slag wool made in the form of tiles or bricks is a good material to prevent the transmission of sound, and any fibrous material formed into cellular slabs answers the purpose.
A Suburban Home.

For real comfort the accompanying plans are just suited for those requiring a house containing commodious rooms with corresponding necessities. The first thing especially noticeable in the arrangement is the ease with which access can be obtained to every portion of the house. There are five entrances on the first floor, thus peculiarly adapting itself to those who may desire a convenient suburban home. Especially if the house be placed on a large lot will this feature recommend itself. The sizes of the rooms are very plainly given. The plans as presented are well worth a careful study. With a neat elevation the house can be built anywhere between $5,000 and $7,000. Any of the architects connected with the San Francisco Chapter can furnish the full plans, details and elevation to those pleased with the general design shown.

Weather Strips.

A great improvement is observable in the mode of insertion and the quality of the material used in the weather strips, as produced by Bradstreet, of this city. Samples may be seen at this office, with prices affixed. By sending a note to the manufactory, 136 Ellis, an agent will call on you and explain thoroughly how to stop your windows from rattling, and to prevent dust from coming in the cracks.

Messrs. E. C. Stearns & Co., of Syracuse, N. Y., report a very gratifying increase in their export trade during the past four months, and mention that the outlook for the balance of the year is very favorable.

Among others, they mention recent shipments of the celebrated "Silent" saw vises, wood clamps, etc., to Glasgow. Bench drills to Northampton, England, and Aspinwall, Panama, and to the United States of Colombia.
CITY BUILDING NEWS.

Battery. No. 915, additions in rear. Cost, $2,000.


Payments: 1st when frame is up, $850; 2nd, when brown coated, $860; 3rd, when white coated, $850; 4th, 35 days after completion, $849. Signed, May 8th; filed, June 11th; limit, August 15th.

Broderick bet. Eddy and Turk, frame building. Owner, G. Dagness; architect, J. J. Clark; contractor, R. O. Chandler; cost, $2,000.

1st payment when frame is up $500; 2nd, when brown coat of mortar is on $500; 3rd, when inside finish is done $400; 4th, usual 35 days, $600.

Broadway bet. Webster and Fillmore, 2-story frame basement and attic. Owner, Mrs. O. Maui; architect, Schmidt & Shea; contractor, Wm. Plun; cost, $1,070.

1st payment, when 1st story floor joists are laid $2,500; 2nd, when floors are laid, $2,520; 3rd, when brown coat of mortar is on and inside finish on $2,500; 4th, when hard finished $2,500; 5th, when completed, $2,700; 6th, usual 35 days $4,550; limit, 182 days; signed, June 24th; filed, June 27th.


1st payment, when rough pipes are in, $700; 2nd, when completed, $785; 3rd, usual 35 days, $850; signed, June 27th filed, June 28th.

Carp. near 20th, 2-story frame. Owner, Ably J. Julkens; architect and contractor, W. T. Veitch; cost, $7,450.

Payments as follows: 1st, when frame is up, $1,837; 2nd, when building is enclosed, $1,537; 3rd, when white coat or hard finish is on, $1,537 4th, 35 days after completion; $1,839; limit, October 1st; signed, June 4th, filed, June 13th.

Carp. 25th, 2-story 2-story frames; cost, $7,000.

Clay and Mason, frame building. Owner, Claus Wreden; architect, Henry Guilfoye; contractors, Victor Hofman; cost, $4,000; signed July 3d; filed July 5th; limit, Oct. 31st.

1st payment, when frame is up, $8100; 2d, when building is enclosed, $1,000; 3d, when the brown coat of plate glass is on and all outside yard and basement work is done, $1,000; 4th, when hard finished and inside work is on, $1,000; 5th, completed and accepted, $950; 6th, 35 days after completion, $1,650.

Clay and Laguna, 2-story frame dwelling. Owner, John Hooper, architect, J. C. Matthews & Son; contractor, Burpee & Johnson; cost, $818,929; signed, June 25th; filed, July 6th; limit, 3 months and 5 days. Payments made at rate of 75 per cent. as work progresses; balance 35 days after completion.

Clay, nr Montgomery, additions; cost, $800.

Delano, bet Dolores and Sanchez, 2-story frame. Owner, Mrs. L. Petsch; architect, J. Durbis; contractor, G. Gerds; cost, $2,500.

Devisadero and Haight, frame building. Owner, Jas. Groome; architect, Cope, land & Banks; contractor, O. E. White; cost, $3,500.

1st payment, when brown coat of mortar is on, $2,000; 2nd payment; when building is finished; 3rd payment, 30 days after completion; limit, 91 days; signed, June 12th filed, June 16th; sureties, F. R. Linton, E. F. Bode.

Eighteenth near Delores, frame building. Owner, Theodore Flood; architect, J. Marquis; contractor, Rountree Bros; cost, $3,425.

1st payment, when roof is on, $600; 2nd, when ready for lathes, $600; 3rd, when brown coat is on and sashes hung, $400; 4th, when hard finished and carpenter work completed, $625; 5th, usual 35 days, $1,000.

Feil St. (2d) Alterations. Owner, Miss Annie McDermond; architect, T. L. Wilson; cost, $1,175; signed, July 5th; filed, July 9th; limit, 60 days.

When building is enclosed, $351.25; 2d, when the building is rough coated, $351.25; 3d, when completed outside and trimmed inside $351.25; 4th, when completed and accepted, $351.25.

Fourth, cor Bryant, repairs to West Coast Furniture Company. Cost, $4,000.

Fourth bet. Harrison and Bryant. 3-story frame. Owner, D. Cutter and Wm. Casar; architect, J. M. Welch; contractor, Tashman & Armstrong; cost, $8,600.

1st payment, when frame is up and rafters on, $1,729; 2d, when first coat is on, $1,729; 3d, when exterior finish is on, $1,729; 4th, when finished and accepted, $1,729; 5th, 35 days after acceptance, $1,729.

Limit, 90 working days; signed, July 5th, 1888; filed, July 9th, 1888, sureties, Geo. Watson and R. L. Taylor; amount of bonds, $8,650.

Franklin, nr Market, 2-story frame. Owner, M. J. German; architect, T. J. Welds; contractor, P. Sullivan; cost, $4,500.

Presson nr Market. 3-story brick building. Owners, Huntington, Hopkins & Co.; architects, Wright & Sanders; carpenter, C. C. Jerrill; bricklayers, O. C. Cuneo & Lewi; granite and stone work, Knowles & Co.; total cost, about $150,000.

Geary, 1200, grading and brickwork. Owner, A. Kahn; architect, J. Marquis; contractor, S. K. O'Connor; cost, $100,000.

1st payment, when brickwork and grading are finished and refuse removed from 1204 and 12, $750; 2d, 3d, 4th days after completion work is finished and refuse removed from 1204 and 12, $750; 2d, 3d, 4th days after completion and acceptance, $800; signed, July 5th; filed, July 6th; limit, 46 days.

Geary nr Octavia. Church; owner, 1st English Evangelical Lutheran Church; architect, Samuel Newson; carpenters, Moore Bros.; cost, $110,160. Signed, July 5, 1888; filed, July 5, 1888; limit, 100 working days.

1st, when Moore Bros. get their 1st payment, $1,000; 2d, when Moore Bros. get their 2d payments, $2,500; 3d, when Moore Bros. get their 3d payment, $1,600; 4th, when Moore Bros. get their 4th payment, $900; 5th, when Moore Bros. get their 5th payment, $800; 6th, when Moore Bros. get their 6th payment, $800; 7th, 35 days after completion and acceptance, $850.

Geary near Octavia, 1st English Evangelical Luthern Church; architect, Samuel Newson; contractor, J. J. Conrad, bricklayer; cost, $16,900.

1st payment when J. J. Conrad gets his 2d day, $2,000; 2nd, when J. J. Conrad gets his 3d pay, $1,000; 3d, when J. J. Conrad gets his 4th pay, $400; 4th, when J. J. Conrad gets his 5th pay; $900; 5th, when J. J. Conrad gets his 6th pay, $800; 7th, 35 days after all the building is completed, $1,000; signed, July 3d, filed, July 9th; limit, 100 working days; surety, T. E. Knowles; amount of bond $5,000.

Geary bet. Laguna and Buchanan, 3-story frame. Owner, David Stang, architect, John & Zimmerman; contractor, Schult & Krecker; cost, $7,865.

Payments as follows: 1st, when frame is up, $1,000; 2nd, when building is enclosed, $3,500; 3rd, when outside finish and brown coat is on, $1,000; 4th, when hard finished and rear building is completed, and inside ready for painters, $1,865; 5th, usual 35 days after completion and acceptance; limit, September 15th; signed, June 7th; filed, June 15th; sureties, A. W. Bode and C. W. Grecker.


Payments: 1st, when building is enclosed, $526.25; 2nd, when brown coated, $526.25; 3rd, when the building is prime coated, $263.37; 4th, 35 days after completion; $87.89; signed, June 20th; filed, June 24th.

Golden Gate Avenue, nr Lott, 1-story frame; cost, $1,500.

Hale and Washington, 2-story cottage. Owner, A. M. Burns; architect, J. C. Matthews & Son; contractor Knight & Littlefield; cost, $7,394.

1st payment, 75 cent as work progresses; balance 35 days after completion; limit, October 10th; signed, June 22nd; filed, June 25th.

Hartford and 19th, alterations. Owner, Capt. Dahler; cost, $1,600.
Market bet. 4th and 7th, 5-story brick. Owner, Jos. Rosenthal; architect, Salfield & Kolbigh; contractor, T. H. Day; cost, $23,950.
1st payment, 75 per cent. as work progresses each month; balance, 35 days after completion; limit, 4 months; signed, June 18th; filed, June 20th; limit, September 15th; surities, H. S. Leone and M. O’Connell; amount, $1,500.

Market bet. 6th and 7th, 5-story brick. Owner, Jos. Rosenthal; architect, Salfield & Kolbigh; contractor, Foley & Looney; brick mason; cost, $38,000.
1st payment, ready for 1st floor joists, $7,000; 2d, when ready for 2d floor, $7,500; 3d, after completion and accepted, $2,500; 4th, when ready for 4th floor joists, $8,000; 5th, when completed and accepted, $2,500; 6th, 35 days after completion; $2,950; limit, April 1, 1889; signed, June 11th; filed, June 18th; surities, C. G. Voss, and B. Kohlberg; amount, $1,500.

Market bet. 6th and 7th, 5-story brick. Owner, Jos. Rosenthal; architect, Salfield & Kolbigh; contractor, W. E. Wisenheiser; cost, $32,500.
1st payment, when clay models for porches accepted, $250; 2d, all models completed; $800; 3d, when Atlas is completed; $1,000; 4th, when plaster work is done; $1,200; 5th, side figures of portico done; $800; 6th, when all are in place; $631; 7th, 35 days as usual; $650; signed March 5th; filed, June 19th.

15 per cent. as work progresses at end of each month; limit, 15 months; signed, June 10th; filed, June 18th.

Market bet. 6th and 7th, Cast Iron Work. Jos. Rosenthal; architect, Salfield & Kolbigh; contractor, Reese Llewellyn; cost, $2,750.
1st payment, when lassengate columns are accepted, $600; 2d, when 1st story columns are accepted; $4,100; balance $750, usual 35 days; signed, June 10th; filed, June 18th.

Market bet. 16th and 17th, 1-story frame. Owner, Littler; contractor, O. E. White; cost, $8,500.

Market bet. 16th and 17th, 5-story frame. Owner and builder, W. Kahan; cost, $7,000.

Mission bet. 18th and 19th, 3-story frame. Owner, John Haman; architect, W. A. Schor; contractor, John Gale and J. C. Mirer; cost, $6,350; limit, October 20th; signed, June 25th filed, July 4th.
1st payment, when frame is up, rustic and roof boards on and chimneys built, $1,650; 2d, when all window frames are set, the mortar on window sills and interior part of the outside finish and roof is on, $1,535; 3d, when hard finish is on, the interior and exterior finish is in, and the job is ready, 1st coat of paint is on, $1,535; 4th, balance 35 days after completion and acceptance; surities, John Gale and A. Powell.

Meahlister and unaltered.

Mission, No. 556, additions. Owners, Dalziel & Moller; cost, $1,000.
Sacramento and Pierce, two-story frame building. Owner, C. J. Wingerter, archi-
tect, Schmidt and Shea; contractor, Win. Flans; cost, $1,270.

COUNTRY BUILDING NEWS.

LOS ANGELES.

The erection of buildings in Los Angeles is
still one of the things which attracts the visi-
ting eye, and the workmen in the city are
now working on the new residence of J. C. de Bland. and there seems to be no cessation to the ac-
tivity in this respect, which has been so mark-
ed during the last six months. The work is on
its last day, and will soon be completed.

The contract for the building was signed
by Mr. Miller, of the firm of Miller and Co.,
and the building will be of the modern 3-story
frame style.

The ceilings will be of the same material
as the floors, and the walls will be of 2x3, 2x4,
and 2x5, according to the height of the build-
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**ENAMELED, POLISHED, AND NICKEL-PLATED GRATES.**

French (set in brick), Portable and Wrought Iron, all sizes, latest and most.

**BRASS AND NICKEL-PLATED FENDERS RANGES.**

The building will contain in all eighty windows, those fronting on J Street being eighty in number, two triple and two million, on each of the upper floors. All of the windows existing on J Street west of the Eastlake style of architecture and surrounded by beautiful terra cotta work, which, when completed, will give the building a very attractive appearance. The whole of the upper floors will be devoted to the use of the postoffice, and will be a model of beauty and convenience. The upper floors will be divided into thirty-nine rooms for offices and living purposes. All of the outside rooms will be supplied with open fireplaces, and will be finished in a most elegant manner. Work on this building will be commenced at once, and when finished it will undoubtedly be one of the finest business blocks in the city.
North, Central and South American Exposition.

NEW ORLEANS, LOUISIANA, NOVEMBER 10, 1885. MARCH 31, 1886.

DIPLOMA OF MERIT
IS AWARDED TO
THEO. W. PETERSEN & CO.
★ OF SAN JOSE ★

In acknowledgement of meritorious display of PRESSED BRICK, in the Collective Exhibit of California.

In acknowledgement of which the Signature of the proper Officials and the seal of the North Central and South American Expositions are hereto attached.

[ATTES'I]
CHARLES TURRILL,
Commissioner.

T. W. PETERSEN & CO.
SAN DIEGO, CAL., FEBRUARY 18, 1886.

DEAR SIRS:

I send you by mail, Diploma awarded you by the North, Central and South American Exposition, for your display under my charge. Kindly acknowledge receipt in enclosed envelope.

Very Respectfully,

CHAS. F. TURRILL,
Commissioner for California; North, Central and South American Exposition, and Manager Southern Pacific Company's Display.

The above diploma was given to the firm mentioned, for the best display of PRESSIED BRICK, at an Exhibition that attracted world-wide attention. Mr. Petersen has made a special study of kiln burning, so as to have all the bricks of an even color. We have seen car-loads of bricks, delivered in this City, and the uniform color pervading the entire lot was such as to attract more than ordinary attention from those around. Mr. Petersen absolutely guarantees that every brick is perfect. If edges or corners are broken, he does not allow them to leave the depot. Any one ordering brick from above firm, can rest assured that they will obtain the very best brick there is made in California. San Francisco address is Townsend St. between 6th and 7th.

San Jose, P. O. Box 187.

Lumber Market.

Pine, Rough, per M feet ..... $22.50
Pine, Rough, No. 2. ..... 18.50
Pine, Rough, 11 to 20 feet lengths. ..... 26.50
Pine, Rough, 31 to 50 feet lengths. ..... 24.50
Pine, Rough, 61 to 70 feet lengths. ..... 26.50
Pine, Select. ..... 10.00
Pine, Clear. ..... 50.00
Pine, Fir Wood. ..... 10.00
T. & G. Flooring, 12 x 6 ..... 40.00
T. & G. Flooring, 11 1/4 x 11 1/4 and Bar. ..... 40.00
T. & G. Flooring, No. 2. ..... 29.50
Stepping. ..... 45.00
Stepping, Spruce. ..... 38.00
Redwood, Rough. ..... 22.50
Redwood, Rough, No. 2. ..... 18.50
Redwood, Surfaced. ..... 10.00
Redwood, T. & G. 6 in., 12 feet and over. ..... 34.00
Redwood, T. & G. 6 in., 7 to 10 feet. ..... 27.50
Redwood, T. & G. 6 in., under 7 feet. ..... 24.00
Redwood, Hard, Select. ..... 28.50
Redwood, Hard, No. 2. ..... 22.50
Redwood, T. & G. Beaded, 12 feet and over. ..... 37.50
Redwood, T. & G. Beaded, 7 to 11 feet. ..... 28.00
Redwood, T. & G. Beaded, under 7 feet. ..... 26.00

CARPENTRY MADE EASY.

By Wm. E. Bell, a practical mechanic, who fully appreciates from personal experience, that there are many things perplexing to the amateur and difficult to do until they are fully explained and tested. It is designed to make the science and art of carpentry clear and comparatively easy to all who require information on the subject. Price, $5.00 by mail, prepaid.

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Ackerman, G. M. ..... 213 Kerron.
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Blake, John ..... 255 Fair Oaks.
Brennan Bros. ..... 1181 17th.
Bunce, John ..... 616 Eddy.
Buckley, Frank ..... 2807 Howard.
Burpee & Hubbard, Barrell, A. ..... 1111 De La Page.
Chisholm, Chris ..... 866 28th St. Oakland.
Chisholm, Dan ..... 230 California.
Chirton, P. ..... 330 Pine.
Christian, Chas. ..... 110 Charlotte.
Chase, J. C. ..... 100 Butte, last floor, Oak. I.
Commawy, Wm. T. ..... 828 Kirkland Oakland.
Corral, Chas. ..... 323 Francisco.
Day, J. H. ..... 804 Hayes.
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Dyer, C. E. ..... 976 Mission.
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Kline, Jacob, 24 ..... 811 Geneva.
Kregger, Wm. B. ..... 326 Fulton.
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PLENTY OF WATER

For the Lawns, Stables and House can be had by putting up

THE CYCLONE WINDMILL

BEST, SIMPLEST, STRONGEST, CHEAPEST.

SEND FOR CATALOGUE TO PACIFIC MANUFACTURING CO.

224 & 221 Sutter St. San Francisco.

W. T. Y. SCHENCK
MANUFACTURER OF
SCHENCK' PATENT
"Paragon" Hose Reel,
And sole Agent for Pacific Coast for
the Celebrated "Eureka" Mill

Hose Reel.

FIRE HOSE
Open Valve. A pull off the Hose and water follows immediately.


Please Read This Carefully!

PERFECT VENTILATION! VENTILATION! VENTILATION!
WITHOUT DRAUGHTS!

The ABRAHAMSON VENTILATOR will produce perfect ventilation. No foul air! No draughts!

Patented January 11, 1897. By Peter Abrahamson.

The ABRAHAMSON VENTILATOR is guaranteed to do all that is claimed for it.

It can be applied in a brick wall or between plastering and outside walls, or half-petitions, also to a door or a window, or any place where ventilation, without draughts, is required.

Address, PETER ABRAHAMSON, 1022 Hyde St. San Francisco, Cal., for Circulars and Models.

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We refer you to parties that have them now in use.

IN ALL THE CLASSES AND TEACHERS' ROOMS OF FOUR NEW PUBLIC SCHOOLS, Prof. J. W. Anderson, Sept. P. S. S. P.

PETER A. SMITH, Supt. Cal. Sugar Refinery, 504 Ninth St., residence


WOODLAND BANK, Cal.

WOODLAND PRESBYTERIAN CHURCH.

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NEW CHAPEL OF St. Mary's Hospital, San Francisco.

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W. W. MONTAGUE & CO.

General Agents for the United States.

309 to 317 Market St., San Francisco
GOLDEN CATE
PLASTER MILLS
215 and 217 Main Street,
Between Howard and Polk,
SAN FRANCISCO.

LUCAS & COMPANY,
Manufacturers of
CALCINED PLASTER. 27
(PLASTER OF PARIS.)
Marble Dust, Land Plaster, and Terra Alba.

JAMES McCARTHY,
Ornamental Glass Cutting
10 Stevenson Street,
(Two doors from First—Pioneer Mills),
Between Market and Mission, San Francisco.

Designs to suit the various departments in Buildings, etc.

CALIFORNIA ELECTRIC LIGHT COMPANY
211 & 213 Jessie Street,
IS PREPARED TO INSTALL COMPLETE
ELECTRIC LIGHTING PLANTS
BOTH ARC AND INCANDESCENT.

Their machines for incandescent lighting are entirely automatic, and the only one in the market that requires no regulating device outside of the machine itself.

Electric Motors Furnished in all parts of the City from One to 100-Horse Power. Estimates Furnished upon Application.

GEO. H. ROE, Secretary

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ASPHALTUM ROOFS AND SIDEWALKS
CONTRACTOR FOR TAKING DOWN OLD BUILDINGS, ETC.

Second-hand Brick and Lumber for sale.

Doors, Sash and Blinds Constantly on Hand

OFFICE AND YARD, 211 AND 213 TOWNSEND STREET, NEAR THIRD.

A. CRAWFORD & CO.,
DEALERS IN
Medal Brand Ready Roofing

ECONOMICAL, DURABLE, FIRE, WATER, AND CHEMICAL PROOF.

In Use for Thirty-Five Years on the Very Best and Largest Buildings in the United States and Canada.

Send for Samples, Circulars, and other information.

APPLY TO US AT:
25 & 27 MARKET STREET,
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GLADDING, MCBEAN & CO.
SEWER & CHIMNEY PIPE, DRAIN TILE,
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211 & 213 Drumm Street,
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REES D. HAYES
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Various Office—Agents immediately.

CARPENTER & McMAHON,
133 and 135 Beale Street,
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Neat Howard,
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House Fronts and Machinery Castings
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SAN FRANCISCO LUMBER COMPANY

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STEAM PRESSED.
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Manufacturers and Dealers in
CHIMNEY PIPE & CHIMNEY TOPS,
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WATER CLOSET---The only Self-Acting, Tight-Seal Water-Closet in the World.

Economy! Gleanliness!

—HEALTH—

Persons engaged in Sanitary Enterprises

Architects, Contractors

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Are especially invited to examine the practical workings of

SACK'S

AUTOMATIC WATER-CLOSET.

Address:—SANITARY PLUMBING MANUFACTURING CO., 910 Webster, St., Oakland

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire-clay, in 3 feet length, with rebated joints and galvanized iron bands over each joint. Three bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two foot lengths also, and the whole is bound together and secured to the studding by iron bands C, every four feet.

WM. E. STEVENS,

MASON AND BUILDER,

SOLE OWNER.

VENTILATION, ETC.

At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes bound, and can be introduced in any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joints to conduct by a small conductor G with the above mentioned air space.

The lightest and safest patent chimney manufactured. Approved by the Board of Supervisors.

WAREHOUSES,

N. E. Corner of Larkin and Market Streets,
SAN FRANCISCO, CAL.
JOSEPH BUDDE'S

PATENT

WATER
CLOSETS

The Golden Gate Plug Closet.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:

1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the raising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the floor chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1888, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 2, 3-inch pipes, one to the right and one to the left; and a 4-inch leader in the center. It has a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either rigid or flexible. The upper part is independent from the lower, and is made to pivot, therefore it will roll either position of pipe. This hopper can be used only for surface or for leader; either inlet will be stopped up with iron caps if so desired.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. This Closet has an oval back fastened to the cover by brass clamps and bolts. No breaking of points required to remove a pan. The housing of two large brass nets will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

These Closets have been in use since February, 1888. Plumbers and wholesale dealers give them the best recommendation.

Basket Hoppers are made in one piece with Movable Strainer.
JULY 15, 1888.

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

Sierra Lumber Company
Manufacturers and Dealers in
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During the current year, the price of lumber in California has been a prominent issue as between owners contemplating building improvements, and the manufacturers of building materials. Our worthy contemporary, Wood and Iron, speaking from the lumbermen’s standpoint, in very kindly terms, says in a late issue, that this journal “still continues off in its views of the price of lumber,” etc. We do not think so, and until convinced of error, we shall remain off.

We admit the argument, “that the price of lumber in a building, not a small figure in its total cost, but a fifty dollars with a rise of one thousand dollars, and no more than two hundred and fifty dollars, with five dollars per 1,000 added to what our lumbermen consider a too low price.

But the difficulty is, that consumers are not convinced that the higher rates, prevailing until recently, were a commercial necessity or necessity. Owners generally understand that lumber has been sold at rates far below those attained by the increased schedule of prices, and they do not trouble themselves to learn the reason why. Those who have in times past bought at twelve, thirteen, and fourteen dollars per 1,000, are thereby led to the conclusion that the very intelligent class of men who handled and produce the great building commodity—lumber, are the parties to know just what lumber is worth in the market; and it being a staple, which should be as steady as a clock dial, owners understand statements however low, when the commodity is not purchasing the interest, as the true indication of value. They do not look for, nor care anything about the causes of depressed markets, nor whether such depression is the result of dealers slaughtering each other, waging a war of competition among themselves or otherwise. The consumer does not ask why it is so, but accepts the advantages of low prices as a fact possible, and unwillingly submits to a rise, when neither flood, famine, nor any recognized sufficient or feasible event has transpired to make it reasonably clear that advance is legitimate. And to make this view of the case stronger, it must not be overlooked that when three or four years ago, lumber was sold for ten dollars per thousand less than the figures reached by the high price schedule of recent date, a very large number of buildings were erected, and the demand fully equal, and sometimes in excess of supply, not because lumber was cheap, but from the fact that lumber was considered it wise policy to build, from a remunerative, paying point of view. There was a steady demand for more buildings of almost any class, and as many would have been erected those house owners not having broken all to pieces by the deliberate acts of the lumber interests in waging a war of business extermination among themselves. Had fair, steady, reasonable prices prevailed, consumers would have been satisfied and accepted the condition as a proper thing. But when those in interest found that the producers of their own will and caprice drove home the steel gag of unwise competition, and topped prices down to the verge of business ruin—and which did bring financial ruin to some—they accepted the advantage thus offered, and recent clamor about high prices resulted more from the course pursued by the manufacturers than any other.

It is always easier to maintain fair values than to regain and stimulate them after demoralization. And it is right here where the growl comes in. The lumbermen having provided and disheled out, at former times and often, rich repasts in cheap lumber, owners have accepted the hospitalities of the industry, and naturally feel sore when the door is either by degrees an, quietly closed or slammed in their faces, and their fears aggravated by an extra charge for admission.

There was no “flagrant error” in our statement, that the decline in building was attributable to the cost of lumber. We should not have so stated, had we not been fully convinced that it was true. People often “cut off their noses to spite their faces,” even in a building sense, but many will submit to almost any amount of loss, rather than consent to what they deem an
over-exaction. It is certainly not extra-wise in owners to allow well located real estate to lie unimproved year after year, because one or two percent of total cost stands in the way. It seems to us "penny wise and pound foolish" for an owner to incur monthly years of loss in rentals and income, simply because to improve may cost an extra sum less than the amount of taxes which must be paid each year on the unimproved property. But still this is the disposition of many, and even wealthy men have been heard to say, "I will not improve at present rates of building materials, but wait for another break in prices"—not because the intrinsic value thereof may not be equal to the price demanded, but because there have been breaks, and breaks being possible at any time, they prefer to wait for them, as generous dispositions from the hands of those who have, and alone can inaugurate them. The force of argument comes in this line of thought, and if material producers would make their bullwarks firm against these irregularities, the public would in time accept the conditions as inevitable, and pay fair prices right along.

"Supply and demand regulates," is all very well as a theory, but singular as it may appear, it is none the less true, that the price of lumber has at times been raised at periods when a decline in demand was unmistakably evident, and but little work preparing in architects' offices. Demand present, or prospective, in such cases has been anything else but justifying, and if the rule applied always, the natural tendency of prices would be downward and not accumulative.

The "stoppage of mills," "rusing up forests," etc., are all questions of serious import, but the true cause of outcry is found in the statements contained in this article.

The New City Hall Tower.

HIS important feature of San Francisco—"New City Hall," is and has for months or longer time, been a bone of contention among those directly—officially—concerned in determining its height, style, proportions—and naturally if not necessarily—involving every specialty connected with its design and construction, from foundation to the final upon its loftiest apex.

The main question in issue, and in reference to which there are varieties of views and opinions, both in the Board of Commissioners, and the mind of the generous public who will be required in due time to furnish the necessary funds, is that of altitude; whether the mythical God—Mercey—with his outstretched wand surrounding the uppermost height of the construction, shall be permitted to stand upon a base 400 feet or more above the heads of the living masses below, or be limited to a standing point 250 feet more or less above the base of the construction.

Beyond such individual consultation and advice as each may have sought, the gentlemen constituting the City Hall Commission, have—until recently handled the questions arising within their official circle—yet neither claiming any special qualifications as scientific, architectural or mechanical experts, to render judgment on, or decide the, in fact, most momentous, material and important issues and involvements, essential or contingent, attaching to the construction of the tower that is to be; the consummation of which must and will stand for generations if not for centuries, as a monument to the good and wise, or the unwise judgment of the men into whose hands as a committee, and upon whom must rest for all time, the responsibility of fixing the height, approving the style and authorizing its construction.

It would be ungenerous to surmise that either of the gentlemen, composing the Commission, have been or are influenced or controlled in their action, by any other motive than the public welfare. While his Honorable Mayor Pond, Auditor Strother and Attorney Flournoy may each—as is his personal right and privilege—have preferences as to the parties who shall perform the various required services, especially in the all important matter of preparing the plans and determining principles and qualities of beauty, height, practical construction, and the many features and delineations which are never fully understood until practically executed, it would be unwise indeed, if true, if such individual preferences were allowed for one moment to inter- vene in a matter so gigantic as the erection of a tower to stand for all time as the city's most conspicuous monument.

An evidence that the Commissioners are both willing and anxious to arrive at the wisest and best conclusion, is exemplified by the fact that they have so far waived their official rights and prerogatives, and the exercise of arbitrary determination of all questions under their control, by inviting the leading civil engineers of the city, and S. F. Chapter of Architects, of the A. I. A., to examine and express judgment as to the various features of the new tower, from a professional, scientific and practical standpoint, and all of whom, however, are beyond question, a very great annoyance to Mr. Laver, the City Hall architect, whose responsibilities unhampered by any extraneous interruption are great, and much more so when fettered by checks and interferences, which prevent the free exercise of his best judgment. Whether the report of the Committee of Architects will remove existing difficulties, remains to be seen.

AN IMPORTANT MEETING.

San Francisco Chapter American Institute of Architects.

The regular monthly meeting of the Chapter was held in the rooms of the Art Association on September 7th, G. H. Sanders, President, in the chair.


Several students were also in attendance.

Edward Kollofath was unanimously elected a member as Fellow.

Propositions for membership were received from Wm. Patton, G. W. Percy and John Newsom. Referred to Committees.

It being the annual meeting, the election of officers next took place for the ensuing term. The result was as follows:

President, (re-elected) G. H. Sanders.
Vice President, (re-elected) W. F. Moore.
Treasurer, J. M. Curtis.
Secretary, (sixth term) G. H. Wolfe.

TRUSTEES.

A. Laver, J. Wright.
A. Pissis, J. E. Wolfe.
B. E. Henricksen.

Secretary presented plans of New City Hall Tower to the Chapter. A general discussion ensued in which every member present took part. The prevailing opinion was that the matter was placed before the Chapter by those in authority, viz., the Board of New City Hall Commissioners, and therefore should be taken hold of in a scientific manner. That in order to do so, certain data and drawings should be in possession of the Chapter. This could best be done by a committee. A motion was made that a committee of five be appointed to take charge of the whole subject matter. After considerable debate, the motion was carried, and the President appointed the following Fellows as such committee: Albert Pissis, James E. Wolfe, B. E. Henricksen, W. J. Cuthbertson, John Wright.

Meeting adjourned subject to the call of the President.

The Redwood Belt.

THE redwood is limited to a strip of country averaging twenty miles in width, extending from the bay of Monterey to the Klamath river, a distance of 330 miles. Redwood lumber is in great demand, and already vast forests of these stately trees have been swept away. The redwood, however, does not grow in poor soil, and in many places where the trees have been cut, young redwood forests are again springing up. Those who imagine that there is any immediate danger of the redwood becoming extinct are certainly wearing upon the very remote future for ills. The tree is of comparatively slow growth, but half a century will give to the young growth quite the appearance of a native forest.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

TWENTY-THIRD INDUSTRIAL EXPOSITION OF THE MECHANICS' INSTITUTE.

HEF. Twenty-third Exhibition of the Mechanics' Institute is over, and we may safely say in its general arrangements and the splendid efforts made by the Directors to please the public generally, a grand success has been scored for the Institute.

We can simply call attention to those articles directly connected with the building interests. First and foremost in the consideration of architects are the subjects of HEATING AND VENTILATION.

Scientific men have given much of their time to the consideration of these subjects. The progress made during the past year has been wonderful, and deserves more than a passing notice.

HEATING

A glance at the back numbers of this journal will show to any one the vast improvement made in Heating Apparatus for buildings. For years the Harvey Radiator was illustrated in the columns. Hundreds of a kind were supplied with them. They were good then, they are good now; and Mr. Harvey's countenance o'erpresents with a smile when he says, "they are not so pretty as those now in use, but the heat gets there all the same."

The system now used by Mr. Harvey is far superior to that of old. Mr. Harvey has recently assumed the agency of the celebrated

This method of artificial heating is recognized as being far superior to grates or hot air furnaces from every point of view. A uniform and spring-like temperature can be maintained throughout the house with but slight attention.

In the exhibit will be found Harvey hot water radiators and boilers, and Bundy's direct steam or hot-water radiators, Bundy's Triumph, for steam or hot water, the Bundy Elite, for hot water or steam, and the Bundy corner direct, column direct, circular direct, angle indirect, horizontal indirect, and Climax indirect radiators. Also, the Bundy hot-closet, dining room radiator, the latter a most useful and highly ornamental contrivance for distributing warmth throughout the dining room, while at the same time affording a very convenient mode of securing an equal degree of heat for meats, vegetables and other food which may be placed within it. The collection of radiators on exhibition illustrates that decorative art in dwellings is not confined to the adornment of walls, floors, ceilings, or wood work, but is carried into the most utilitarian adjuncts of a wisely ordered household.

These radiators are of ornamental design and beautifully decorated in blue and gold, blue and silver, bronze, or bronze and silver, antique bronze, silver embossed, and can be thus decorated to suit the taste of the purchaser. Thus the heating appliances of a room can be made to harmonize in color and design with its wainscottings, panelings and other decorations, and become part and parcel of artistic ensemble. A splendid Bundy Vertical Tube Direct Radiator Screen in highly ornamental antique brass (the first yet imported to this coast) occupies a conspicuous place in the center of Mr. Harvey's exhibit, and it is a thing of beauty. These screens, or covers, are made to fit any style or size of radiators. Mr. Harvey is a thoroughly scientific artisan, and a very close yet comprehensive study of the laws of heat and ventilation, united with a practical experience in constructive work, extending over many years, renders him the best qualified man in our midst for the intelligent direction of this most important sanitary work. He offers hundreds of references from those who have had his valuable services on this coast.

Mr. Bundy publishes references to well-known people in every State and Territory east of the Rocky Mountains.

Is almost directly over that of the Harvey & Bundy Heaters, showing that these two subjects are inseparably connected. Mr. Abrahamson devotes all his time and attention to his perfect ventilators, and he is fully prepared to explain his system satisfactorily to any one.

The advantages of a perfect system of ventilation, which at the same time obviates a draught, are too palpable to admit of any adverse opinion. Peter Abrahamson has mastered a difficult problem in this direction through a patented invention that meets every requirement and commands the approval of numerous prominent citizens, among whom are: President J. W. Anderson, Superintendent Public Schools; Peter A. Smith, Superintendent California Sugar Refinery; Harvey Platt, Superintendent Pioneer Woolen Mills; Alfred W. Perry, M. D., Charles F. Grocker, California cor. Jones; Palace Hotel; Mr. Reed, Berkeley; Dr. Gonzales, Fresno, and many others. By this ingenious system a constant circulation of air is secured, which, admitting pure air from out of doors, also expels the heated and poisoned atmosphere from the rooms where it is used. We give Mr. Smith's testimonial, as follows:

"Peter Abrahamson, Esq.—Dear Sir: The ventilators you put in my bedroom work to perfection; they keep the air fresh and cool. I would not be without them for double the cost. I can recommend them as the best and most perfect I have ever seen. The information will be cheerfully given by calling at 504 Ninth street, San Francisco. Respectfully yours,

"Peter A. Smith, Supt. Cal. Sugar Refinery."

In addition to the above, by consulting the advertising pages of this Journal you will find a long list of those who have adopted Mr. Abrahamson's system. Many of the Architects heartily endorse his views and the general adoption of the Ventilators is but a question of a short time.

FINE ART IN STAINED GLASS.

One of the most attractive displays at the Mechanics' Fair is the exhibition of stained glass from the Pacific Glass Cutting Works of John Malon, 19 Fremont street. The exhibit is fitted up as a room-interior, one wall of which is covered by an immense plate-mirror and the other three by numerous examples of glass windows and panels through which the light enters the apartments, showing in all their detail the brilliancy and fineness of the coloring and delicacy of the workmanship. The two kinds of glass work——the open mosaic and the painting in oil——are represented by many examples. A memorial window designed for the Presbyterian Church of San Diego is an especially handsome production, and a beautiful window of Moreseque pattern composed of 2,500 pieces of brilliantly colored glass, as well as a Longfellow window with a finely painted head of the poet as a center piece, deserve all the admiration that can be bestowed upon them. Fine screens in mosaic abound, which reflect the scintillating light in all the colors of the rainbow. The exhibit is a credit to the industrial interests of the State, and the establishment it represents has almost a monopoly of the home market in its line.

REDWOOD VENEERS.

Of all the elegant booths at the Fair few make a more superb appearance than that of Hurlbut Bros, the leading veneer dealers. The redwood veneer work which is used in the ornamentation of their quarters is by far the finest ever seen on the coast. All who see it express the greatest admiration, and it is generally conceded to be as handsome wood as earth can produce.

"ELASTICA"—Keefe & Fraser have on exhibition what is perhaps the finest display of California redwood ever seen anywhere. It is hard to imagine anything more beautiful in the way of wood than are many of the specimens of curly and burr redwood of California's great staple. The specimens are beautifully finished with "elastica"—a new preparation intended to supersede varnishes for such work. It is simply put on without a chemical check. It is 12 feet long, 44 inches wide and 4 inches thick. They also have beautiful examples of Oregon pine and maple, red and white cedar, spruce, sugar pines, etc. Bryant street, corner Oak Grove avenue is their office.

(To be continued on Page 177.)
"Sonoma"—A Beautiful Country Home—Cost $5,500.

The plans illustrating a country home in Sonoma County, Cal., were kindly furnished to us by Mr. Sam'l Newson. Sizes of the rooms are plainly marked. The various apartments are roomy and every modern convenience has been introduced. As shown, the building can be erected at present price of materials, for the sum named.

PLASTER.

FEW people have any idea what a valuable material plaster of Paris is, and how it enters into the things of every day life about us, from the hard finish on the wall to the lamp collar which is fastened with it.

It is found in raw state in almost every land, and is made of gysum rock, (a sulphate of lime.) It is quarried, calcined, ground to various degrees of fineness and then recalcined or boiled in huge caldrons, and is then fit for use. The best is made mostly in New York, from rock quarried in Nova Scotia, and is the kind used by dentists for all sorts of fine castings. We get another grade from Michigan, sometimes called by the trade blue plaster, on account of a blue cast in it. This kind is used mostly for hard finishing of walls. Another grade, coarser plaster, comes from Iowa, which has been used extensively for what is called "stucco plastering," in which a mortar is made of one part of plaster to two of sand and enough glue size to keep it from settling too quick. It makes one of the hardest kind of walls, but can be attempted only by the most skilled mechanic.

Plaster in setting can be retarded or accelerated by the use of various ingredients. Glue size is best for retarding, as it makes it materially harder after it is dry. Sugar, molasses and cream of tartar can be used for the same purpose. Cream of tartar is dangerous to use, as a little too much will kill the plaster from setting entirely. Two of the best things to use in making plaster set thick are common salt or alum. Plaster that has been kept a long time and has gathered moisture, or that has been set in a damp place, will also set quick. This can be remedied by remov- ing all lumps that may have formed, and heating it on a stove in some metal vessel. When heated it will appear to boil like a liquid. Ground, uncalcined plaster is used extensively to improve what are called sour lands. Plaster in setting heats slightly, which causes it to expand. An eminent authority claims that this expansion will cause it to fill the crevices of a mold. But this is a mistake, as the expansion does not take place until it is quite hard.

MORTAR made in the following manner will stand if used in almost all sorts of weather: One bushel of unskilled lime, three bushels of sharp sand; mix 1 lb. of alum with one pint linseed oil, and thoroughly mix this with the mortar when making it, and use hot. The alum will counteract the action of frost on the mortar.

For seventy yards of surface provide 1,000 pieces of lath, and eleven pounds of lath nails.

For 100 square feet of roof, 1,000 shingles, laid four inches to the weather, and five pounds of shingle-nails, will be necessary.

In estimating amounts of siding and flooring, allow one-fifth more than the surfaces to be covered for the lap in siding and the matching in the flooring.

Experiments with cypress and walnut woods, and also with cypress and cedar, show that they will rot each other while joined together; but on separating them the rot will cease, and both woods then remain perfectly sound for a long time.
An Evidence of Prosperity.

No journal this side of the Rocky Mountains has ever published as complete an edition of news connected with the building interests as the one we present to our readers this month.

Our illustrations are produced by a new process, and are remarkable for their fine, clean appearance. We are prepared to furnish cuts of the same quality of work to those who may desire the same.

Our building news department will, in a short time, be greatly enlarged. We intend to be more thorough than all the other journals combined.

Subscribe now for 1889.

Remaining numbers of this year free to all new subscribers for 1889.

NOW IS THE TIME TO SUBSCRIBE FOR 1889.

We will send the remaining numbers of this year free to all new subscribers for 1889.

WE PROMISE NEW AND BEAUTIFUL ARCHITECTURAL DESIGNS.

With our new process, we are enabled to produce cuts far ahead of anything heretofore presented.

COMPLETE BUILDING REPORTS.

Our corps of building correspondents will be doubled next year. We have also had the city districted and a competent party to take charge of each district. Our city news will, therefore, be perfect.

ARCHITECTS

Have promised, with the new year, to send us each month an article, and, where necessary, illustrations for same.

Subscribe now for 1889.
We give our readers in this issue views of the new Association building now in course of erection at Los Angeles, Cal. The following description of it is sent to us. The site for this important addition to the fine edifices of the “City of Angels” is on the west side of Fort street between Second and Third streets. The lot is 70 feet front by 110 feet deep. The building will cover the whole width of the lot and extend back to within five feet of the rear boundary, thus reserving an alleyway and light for the basement. The plans show a building, four stories in height above the basement, with an attic story. The front portion of the first story is occupied by three stores (two 24 x 40 feet and one 18 x 65) and the main entrance to the Association rooms, the latter being 11 feet between the piles of the arch opening into a vestibule 13 feet wide. The rear part of this story is taken up by a modern part of a gymnasium. Having ascended the main staircase, which is eight feet wide, one finds himself in what is really a part of the reception hall, but if desired, can be shut off from the latter and made to serve as a vestibule to the auditorium. To the left is an arcade of nine semicircular arches, filled in with bronze scroll work, and supported by grace-ful columns with sculptured capitals and bases. Beyond this arcade is the reception hall proper, 23 x 22 feet, situated in the center of the building and having the other rooms arranged around it. Directly opposite the visitor as he enters is the Secretary’s office, so placed that the Secretary or his assistant can command a full view of the entrance, and at the same time overlook the reading room and library.

The members’ parlor, 18 x 36 feet, reading room, 22 x 30, and library, 18 x 30, occupy the front of the building on this floor. A curtained arch divides the reception hall from the reading room, which is the middle one of these three, separated from the library on one side by a scroll-work screen and leading into the parlor through an anteroom on the other side. The anteroom can be thrown into either the reading room or the parlor by means of sliding doors. It also opens out into a balcony over the main entrance, where members can enjoy the open air. The parlor is provided with an oriel bay window of stone, having a slight projection over the sidewalk, thus giving larger window surface, as well as adding to the size of the room. Another lay window extends in front of the library and reading room, and forms a connecting lobby between the two rooms. The library will be fitted up with shelves for books, an open pressed-brick fireplace, and everything made convenient and comfortable for the studious.

The auditorium, 64 x 49 feet, occupies the rear of the building, is directly over the gymnasium, and like the latter is two stories in height. It is calculated to seat 525 persons on the lower floor and 250 in the gallery. To the right of the entrance hall or vestibule are the cloak room and toilet room. The members’ parlor may also be entered from this side. Next to the Secretary’s office is the stairway leading down to the gymnasium. On the third floor are placed the recreation rooms, 14 x 28; the boys’ room, 16 x 30; and a class room, 18 x 32; these rooms being divided one from the other by sliding doors. Another class room is provided in the rear of the one above mentioned, and the two rooms can be thrown together by opening the sliding doors. There is an open court or well on this floor which lights the center of the building and the reception hall which is beneath. The rear of this floor is occupied by the gallery of auditories, a kitchen, 16 x 14; toilet rooms, staircases, etc.

On the fourth floor are ten rooms, to be rented for lodgings to young men; these average 12 x 14 feet and are all outside rooms. Apartments for janitor are also on this floor.

We now turn to the basement, to many the most attractive part of the building—containing the gymnasium and baths. The former occupies the rear of the building and is directly under the large auditorium. A room is set apart at one end for the instructor.

A running track, six feet six inches wide extends around the walls, at about ten feet above the gymnasium floor. Above the running track is a gallery for the convenience of visitors wishing to view the gymnastic exercises. Dividing the gymnasium from the bath rooms are the member’s lockers, about 600 in all, with wash bowls and toilet conveniences adjoining. The remainder of the basement is taken up by the swimming bath, 11 x 44 feet, with diving platform, etc.; eleven sponge baths, five tub baths, shower and needle bath room, two bowling alleys 70 feet long, and the engine and boiler room.

The general style of the building is American Romanesque, although the multiplied and oriel windows and some other features belong, strictly speaking, to the English Gothic style of the fifteenth century, they are made to harmonize with the more severe and impressive style of the three or four centuries earlier. The principal entrance is well-defined and inviting,
and may be said to be typical of the characteristic strength of the Association in all parts of the world. The balconies over the entrance open from the principal rooms of the building, and over these balconies is a circular open tower from which a fine view of the city may be obtained. The front of the building will be faced with pressed brick and brown stone trimmings, with terra cotta panels. The first story will be entirely of brownstone, in pitch-faced broken ashlar work. The entrance will be closed at night time by a portcullis of wrought iron or bronze.

The building, when finished, will cost probably $55,000.

"SANITAS" PLUMBING APPLIANCES.

The superiority of the Sanitas system and appliances is now so widely recognized that the word "Sanitas" has become synonymous with sanitary safety. It suggests scientific and solid construction, and simplicity of form and action, and the use of the Sanitas goods assures these qualities. The fact that their principles of construction are everywhere being imitated by other manufacturers, as far as the Sanitas patents will allow, indicates the reputation they have among the trade.

The extraordinary success which the Sanitas appliances have met with, has, as above indicated, led to a number of imitations and infringements. We are informed that in several instances, even where the Sanitas goods have been called for in specifications for building, portions of the goods furnished under the contract have been such imitations and infringements. We would therefore call the attention of architects, builders and others interested, that every article manufactured by us bears in a conspicuous place, the word SANITAS.

THE "SANITAS" TRAP

(1.) It is sometimes asserted that the Sanitas trap can never be broken under any conditions. This is erroneous. Its seal can be pumped out by a force-pump, or by a laboratory pumping apparatus, especially devised to destroy the seals of traps by siphonage. But the seal of the unvented Sanitas trap never can be and never has been destroyed by siphonage in good plumbing work. Furthermore, the unvented Sanitas trap will stand a severer test of siphoning action than will the vented S-trap. This has been demonstrated over and over again, and the demonstration can be repeated at any time to the satisfaction of any who are interested, provided care be taken to vent the S-trap in a manner which is practical in plumbing, using a vent-pipe the size, length, and average number of bends found in ordinary practice. The seal of the Sanitas trap will be lowered by severe siphoning action, but it cannot be broken.

(2.) Again, it is sometimes asserted that the Sanitas trap cannot be clogged. This is also erroneous. The trap can be clogged by matches or kitchen refuse, if improperly used, just as can any ordinary waste-pipe; but when properly set and used, the Sanitas trap will never become clogged to the point of losing its effectiveness. If improperly used, as when a kitchen sink or the cook takes out the sink strainer and sweeps into the trap bones and refuse never intended for the waste-pipe, the Sanitas trap will be fooled; but it then has the great advantage over all others of providing the easiest and safest means of removing this refuse matter, and that with the aid of an ordinary screw-driver. When used under sinks, the trap should be placed close to the sink outlet, and the sink strainer should never be removed. The grease will then pass through the trap in a liquid state, and be caught in the suitable grease receptacle beyond.

(3.) It is often thought that where special trap vent-pipes are called for, the Sanitas trap is not needed. The Sanitas trap is so constructed that its seal cannot be injured by evaporation produced by trap venting. Therefore, where trap vent-pipes are called for, the use of the Sanitas trap is particularly necessary. In virtue of the peculiar construction of the Sanitas trap, its outlet-pipe forms its own vent-pipe, which is infinitely better than a special vent-pipe, inasmuch as it is always kept open by the scouring action of its own discharges. But even if it should ever become closed by grease, no harm could come in this case, since the same closure would not only shut off sewer gas and siphonage, but also at once announce itself and be removed.

(4.) Finally, the seal of this trap can never be destroyed by back pressure, in properly arranged plumbing. For with the main soil-pipe vented as it should be, no back pressure can be generated strong enough to do mischief, where ordinary care and intelligence are used in originally laying out the work. Besides the trap, the Sanitas Manufacturing Company have a full line of bath tubs, pantry sinks, water closets, etc., etc. The latter will be more fully described in next issue.

WILLIAM E. HOYT, G. E., S. B.
Chief Engineer of the Buffalo, Rochester & Pittsburg Railroad, formerly Chief Engineer of the Massachusetts State Board of Health, in his lecture on "Household Sanitation," delivered before the Academy of Sciences, at Rochester, N. Y., in January, 1886, writes: "I knew of nothing to compare with the Sanitas appliances in convenience, efficiency and safety. They should be regarded in the same light as valuable discoveries in medical science."

These various appliances are kept in full stock in this city by the agents.

ARNOLD & CO., 40 California Street, San Francisco, Cal.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS, VOL. IX, NO. 9.

(Continued from page 112.)

A GRAND REDWOOD PLANK

Perfectly free from knots or checks, there stands against the side of the Pavilion a redwood plank, 13 feet long, 50 1/2 inches wide and 3 inches thick. Where in the world can this be obtained?

CALIFORNIA SLATE

The slate quarry in El Dorado Co. can furnish slate equal to any in the world. The color is a rich blue-black. The grain is very fine and the surface is unusually smooth. The samples in the Fair prove conclusively that those wanting a perfect fireproof material need not go out of the State to procure the same. J. O. Hanscom is Secretary of the Company, and the office is at 10 California street.

RANSOME'S PATENT CONCRETE MIXER

E. L. Ransome, of 102 Montgomery street, presents one of his celebrated Patent Concrete Mixers. In a late issue of the 

Scientific American, attention was called to their superiority. By their aid any one can prepare material ready for instant use. Mr. Ransome has these machines for sale. He also makes a specialty of renting the same, so that those who only want them for certain work can return the "Mixer" when they have finished the job.

CALIFORNIA WIRE WORKS

The grand display presented by the California Wire Works entitles them to a gold medal. In fact it should be a diamond medal, if truly intrinsic merit was considered. They have a machine in active operation making barbed wire fencing. We have noticed people stand for hours watching the same. Then their French or wire nail machine. How it seems to eat up the coils of wire. The latter is placed in such a position that the machine is fed continuously, and the nails drop in a perfect shower in a large box underneath. It will hardly do for one to pick them up, at least for some little time, as they are hot when they leave the machine. Then, the grand display of wire rope for rigging; the mammoth hawse for large vessels; the steel wire rope for our cable systems; beautifully designed summer houses, and even down to fine bird cages; wire screening of every size, from that strong enough for a jail to that in general use for kitchen windows. In fact, everything in the shape of wire ornaments, and for every purpose for which wire can be utilized, this Company presents in its various exhibits the practical results of many years of study and improvements. The office of the Company is at 329 Market.

MANTELS, MIRRORS, AND BRIC-A-BRAC

S. & G. Gump have one of the most exquisite displays in the Fair. The designs in mantels are very artistic. A feature of their display is the beautiful varieties shown in tiles and hearths. Their parlor ornaments attract much attention from their unique styles.

FINE CARPETS

Next to the building of the house comes the furnishing thereof, and the goodly housewife turns her first attention to the carpets. No other place this side of the Rocky mountains can show the assortment of goods exhibited by Sloane & Co. Raisinghly exquisite designs may be seen of the Chebiles and Royal Fereghan (both Persian), Golelin and Victorian Moquettes, Scotch Axminsters, Afghan, and in fact every kind of patterns to suit the most aristocratic taste. Besides the carpets, Messrs. Sloane & Co., keep a full assortment of window hangings and adornments. This grand establishment may be found on Market street, near 3d, No. 641 to 647.

"MATHUSHEK'S PIANOS."

Geo. F. Wells presents a grand display of "Mathushek" pianos. Of the thousands who stand daily at his booth, but few are there who would not at onceaward the palm to the "Mathushek." Mr. Wells feels proud in the fact that the last prize ever given at the Mechanics' Fair for an eastern made piano was won by the "Mathushek." One peculiarity of the firm making these grand instruments is, that they never advertise. So that any one reading a notice of these pianos can say that it was to the excellence of the tone and finish that such praise was given. Some of the Piano Companies spend thousands of dollars yearly in advertising. This must be charged pro rata to each piano. With the "Mathushek," the buyer gets this discount Mr. Wells can be found at 1360 Market street.

LARGE STICK OF TIMBER

Suspended overhead is the largest stick of timber ever sawn at a mill. It is 151 feet long, 20 inches square and contains 5033 1/2 feet of lumber. But few knots can be seen in its entire length.

WILL & FINCK'S CUTLERY, ETC.

This firm's display proves that skill and energy will surmount all difficulties. Starting many years ago, in a very small way, they have gradually advanced, until to-day, there is not a house this side of the Rocky mountains can compete with them. Their display of home-made cutlery is superb. One of the specialties of this firm is their electric bell systems. Many of our largest hotels and other buildings have been furnished with these electric bells and electric lightings. The annunciators furnished by this house are a model of neatness and availability. Their place of business is 816 Market street, in the Phelan building.

Mr. J. B. Kershaw, who represented Messrs. N. and G. Taylor Co., tie plates, metals and tinner's supplies, Philadelphia, from 1879 to 1886 as traveling salesman through the west and northwest, will again fill the same position with this old and reliable house, on and after August 1st. This notice will be found in the Mississippi, extending out to the coast, with whom Mr. Kershaw has hosts of friends.

Messrs. N. and G. Taylor Co. are the sole importers of the genuine and guaranteed brand of OLD STYLE Roofing Tin, and the return of Mr. Kershaw to this live and energetic house is not without considerable significance, and it is fair to presume that he finds it more profitable to sell the guaranteed, and what may be called the original brands of this house, rather than push the sale of any imitations that may be handled by other parties.

Messrs. N. and G. Taylor Co. carry a full line of all their guaranteed brands in not only their Chicago and New Orleans warehouses in addition to the stocks carried by jobbers who handle their goods, but have also placed their goods in the hands of Messrs. W. W. Montague & Co., of San Francisco, the mill of Los Angeles, and we are now advised, have just established an agency with Messrs. Peters & Miller, galvanized iron cornice and tin plate workers, of Tacoma, Washington; in addition to the immense quantity of their guaranteed brands all along the line of the Central and Northern Pacific, in fact, from a circular just issued by this house, we are informed that nearly all the prominent jobbers in plate houses of the United States, which seems to us not only flattering to the brand they represent the sale of, but also creditable to this old and reliable house of Taylor & Co., who established their business as far back as 1810, in the old city of Philadelphia.
SAN FRANCISCO.

The above beautiful design was prepared especially for this Journal, and is peculiarly appropriate for a suburban home.

STANDARD UNIFORM CONTRACT.

Some time ago, special committees from the American Institute of Architects, the Western Association of Architects, and the National Association of Builders, were appointed to draw up a form of contract for general use, all over the United States.

The object sought to be obtained by the Committee was to prepare a Form of Contract which could be received and adopted generally by architects and builders as a Standard Form, and in which the several provisions necessary to constitute an equitable agreement, as between the owner and the builder, would be incorporated. The Joint Committee were empowered by their respective Associations to prepare and adopt such a Form of Contract, and this work, as embodied in the accompanying printed copy, may be said to be the authorized Standard Form of said Association.

A copy of the "Contract" has been forwarded to this office. We present it in full. As the "Contract" has been copyrighted, copies can only be obtained through the "Inland Publishing Co." Chicago, Ill. If desired, forward your application to the Company, and your name and address will be printed in the proper places.

We can furnish them complete, with your names, etc., added for $2.00 per hundred or $10 per thousand.

THIS AGREEMENT, made the ............... day of ............... in the year one thousand ........... hundred and ........... by and between ........... part of the first part (hereinafter designated the Contractor ) and ........... part of the second part (hereinafter designated the Owner ).

WITNESSETH that the Contractor , being the said part of the first part, in consideration of the covenants and agreements herein contained on the part of the Owner , being the said part of the second part, do covenant, promise and agree with the said Owner , in manner following, that is to say:

1st. The Contractor shall and will well and sufficiently perform and finish, under the direction, and to the satisfaction of ........... Architect (acting as Agent of said Owner ), all the work included in the .................. agreably to the drawings and specifications made by the said Architect , and signed by the parties hereto, (copies of which have been delivered to the Contractor ), and to the dimensions and explanations thereon, therein and herein contained, accord-
ing to the true intent and meaning of said drawings, and specifications, and of these presents, including all labor and materials incident thereto, and shall provide all scaffolding, implements and cartage necessary for the due performance of the said work. It is further understood that the workman is hereby intended to be paid for all labor performed by him or any of the matters relative thereto, and are not sufficiently detailed or explained on the said drawings, or in the said specifications, the Contractor shall apply to the Architect for such further drawings or explanations as may be necessary, and shall conform to the same as part of this contract, so far as they may be consistent with the original drawings, and in event of any doubt or question arising respecting the true meaning of the drawings or specifications, reference shall be made to the Architect, whose decision thereon, being just and impartial, shall be final and conclusive. It is mutually understood and agreed that all drawings, plans and specifications are and remain the property of the Architect.

3d. Should any alterations be required in the work shown or described by the drawings or specifications, a fair and reasonable valuation of the work added or omitted, shall be made by the Architect, and the sum herein agreed to be paid for the work according to the original specifications, shall be increased or diminished as the case may be. In case such valuation is not agreed to, the said work shall be procured with the written order of the Architect, and the valuation of the work added or omitted shall be referred to (3) three Arbitrators, (no one of whom shall be personally connected with the Contractor, or with the said drawings, nor shall any of the said Arbitrators have been in any way connected with the work or in any way interested in the proceedings or the decision of the said Arbitrators, and from their decision shall be final and binding, and each of the parties hereto shall pay one-half of the expense of such reference.

4th. The Contractor shall, within twenty-four hours after receipt of notice from the Architect, to that effect, proceed to remove from the grounds or building, all materials condemned by said architect, whether worked or unworked, or take down all portions of the work which the Architect shall condemn as unsound or improper, or as in any way failing to conform to the drawings or specifications, or to the conditions of this contract. The Contractor shall cover, protect and exercise due diligence to secure the work from injury, and all damage happening to the same by neglect, shall be made good by the Contractor.

5th. The Contractor shall permit the Architect and all persons appointed by the Architect, to visit and inspect the said work or any part thereof, at all times and places during the progress of the same, and shall provide sufficient, safe and proper facilities for such inspection.

6th. The Contractor shall and will proceed with the said work in every part thereof, and detail thereof, in a prompt and diligent manner, and shall not refuse to finish the said work according to the said drawings and specifications, and this contract, on or before the day of 

7th. Should the Contractor be obstructed or delay in the prosecution or completion of the work by the neglect, delay or default of any other contractor, or by any alteration which may happen thereto by force, or by the action of the elements, or otherwise; or by the abandonment of the work by the employees through no default of the Contractor, then there shall be an allowance of additional time beyond the date set for the completion of the said work, but no such allowance shall be made unless a claim is presented in writing at the time of such obstruction or delay. The Architect shall award and certify the amount of additional time to be allowed; in which case the Contractor shall be released from the payment of the stipulated damages for the additional time so certified and no more. The Contractor may appeal from such award to arbitrators constituted as provided in Article 3d of this contract.

8th. The Contractor shall not let, assign or transfer this contract, or any interest therein, without the written consent of the Architect.

9th. The Contractor shall make no claim for additional work unless the same shall be done in pursuance of an order from the Architect, and notice of all claims shall be made to the Architect in writing within ten days of the beginning of such work, and therefore be paid therefor.

10th. The Owner agree to provide all labor and materials not included in this contract in such manner as not to delay the material progress of the work, and, in the event of failure so to do thereby causing loss to the Contractor, agree that the Contractor shall be paid an additional amount for the material progress of the work so as to cause any damage for which the Owner shall become liable (as above stated), and shall make good to the Owner any such damage—over and above any damage for general delay herein otherwise caused by such loss or damage, in either case, to be fixed and determined by the Architect, or by arbitration, as provided in Article 3d.

11th. The Owner shall effect insurance on said work, in his own name and in the name of the Contractor, against loss or damage by fire, in such sums as may from time to time be required, to cover work incorporated in the building, and materials for the same in or about the premises, and made payable to the parties hereto as their interest may appear.

12th. Should the Contractor at any time refuse or neglect to supply a sufficient number of properly skilled workmen, or of such quality, to carry out the work with promptness and diligence, or fail in the performance of any of the agreements on the part herein contained, such refusal, neglect or failure being certified by the Architect, the Owner shall be at liberty, after three days written notice to the Contractor, to provide an additional number of laborers, and to deduct the cost thereof from any money then due or thereafter to become due to the Contractor under this contract; and if the Architect shall certify that such refusal, neglect or failure is sufficient to prevent the proper completion of the work, the Owner shall also be at liberty to terminate the employment of the Contractor for the said work and to enter upon the premises and take possession of all materials thereon; and to employ any other person or persons to finish the work, and to provide the materials therefor; and in case of such discrimination of the Contractor he shall not be entitled to receive any further payment under this contract until the said work shall be wholly finished, at which time, if the unpaid balance of the work or materials furnished, or otherwise, shall be paid by the Owner also as herein provided, and the case of the Contractor the Contractor shall be entitled to receive his compensation for finishing the work and any damage incurred through said default of the Contractor, shall be finally paid, and the Contractor shall have the right to retain out of any payment then due or thereafter to become due, an amount sufficient to completely indemnify against such lien or claim, until the
same shall be effectually satisfied, discharged or cancelled. And should there prove to be any such claim after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging any lien on said premises, made obligatory in consequence of the former's default.

14th. It is further mutually agreed between the parties hereto, that no certificate given or payment made under this contract, except the final certificate or final payment, shall be conclusive evidence of the performance of this contract, either wholly, or in part, against any claim of the Owner, and no payment shall be construed to be an acceptance of any defective work.

15th. And the said Owner hereby promise and agree with the said Contractor to employ, and hereby employ, to provide the materials and do the said work according to the terms and conditions herein contained and referred to, for the price aforesaid, and hereby contract to pay the same, at the same time, in the manner, and upon the conditions above set forth.

16th. And the said parties for themselves, their heirs, executors, administrators and assigns, do hereby agree to the full performance of the covenants herein contained.

In Witness Whereof, the parties to these presents have hereunto set their hands and seals, the day and year first above written.

In presence of

Great Chances for Three Inventors.

I have often taken occasion to remark that the world is awaiting the appearance of three great inventors, greater than any who have gone before; and to whom it will accord honors and emoluments far exceeding all ever yet received by any of their predecessors. The first is he who will show us how, by the combustion of fuel, directly to produce the electric current; the second is the man who will teach us to reproduce the beautiful light of the glowing-worm and the fire-fly—a light without heat, the production of which means the utilization of energy without that still more serious waste than the thermo-dynamic loss now met with in the attempt to produce light; while the third is the inventor who is to give us the first practically successful air ship. The first two of these problems are set for the electric engineer, and we may be pardoned excess of faith, should it prove to be such, when, contemplating the enormous gain to humanity which must come of such inventions, we look confidently for the genius who is to multiply the wealth of the world to an extent beside which even the boon conferred by the creators of the steam engine and telegraph will not appear overshadowing. When this inventor comes forward, and most probably not till then, it is very likely that we shall see steam superseeded by a rival.—Prof. R. H. Thorton.

Galvanized Iron for Water Pipes, Tanks, etc.

I had the notion of using galvanized iron pipes, coated inside and out, for the service pipes of my house, but on asking advice on the subject, I have been informed that the material is declared to be unwholesome, and that its uses is forbidden in many places. I happened to notice, also, the accompanying note on the subject, in one of the scientific papers, which is to the same effect (clipping enclosed). Will you please give me the benefit of your opinion?—W. W. Coachman.

Answer. The clipping enclosed read as follows: "We do not consider galvanized iron to be a safe material for water pipes. Zinc is a metal which is readily attacked and dissolved by certain waters, forming unwholesome and poisonous salts." Referring to the above, we do not share in the opinion conveyed in the quoted item. We have never met with any well-authenticated case of hurtful influence exerted by zinc or galvanized iron when used as the contact surface for service pipes or tanks for water for household use. There is but one salt of zinc that may be said to possess actively poisonous qualities—namely, the chlorides; and the likelihood of this salt being formed under any circumstances at least in quantity sufficient to dangerously affect the water is almost infinitely small. The action of portable water on a surface of zinc will be to form an exceedingly thin coating of oxide, and ultimately of carbonate of zinc over the entire surface. And as this salt is very insoluble, it will effectually protect the underlying metal from the further chemical change for an indefinite period. The Massachusetts State Board of Health, some years ago, investigated the subject, and made a report affirming the comparative harmlessness of galvanized iron for the purpose herein named. An instructive confirmation of this judgment is given by the example of the city of Hartford, Conn. In 1855, at the recommendation of the Water Commissioners of that city, service pipes of iron, galvanized inside and outside, were adopted there, and have been in use ever since. They are used also, to a considerable extent in Philadelphia, and other cities. So far as we are aware, in none of these places has the slightest bad effect been traced to the practice. Such evidence ought to outweigh any amount of condemnation based simply on hypothesis. In writing some time since, in this journal, on system, we took occasion to comment on the immunity from any specific disease, of the men who work at the galvanizing pots, that could be traceable to the absorption of the metal. This use of sal-ammoniac as a flux to clean the surface of the melted zinc in the pot, causes clouds of the chloride to be carried into the air. Yet the men work at these pots day after day, sometimes when ventilation is bad (as on a damp day), enveloped in clouds of it so as to appear like shadowy figures at a short distance away, without noticeably affecting their general health. It is safe to assert, we believe, that a galvanizer handling iron about a galvanizing pot, takes into his system through the mouth and nostrils, whence it finds its way into the stomach and lungs, more zinc in the course of a single day's work than he would be likely to get from his galvanized water service pipes in a month. In the face of such a fact as this, the denunciation of zinc for water-storage tanks and conduits, out of fear of the consequences of the homeopathic doses of this metal that would be dissolved, is, in our judgment, a bugaboo.—Mfr. and Builder.
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ARCHITECT AND BUILDING NEWS.

Ash Ave, between Buchanan and Logona, residence. Owner Peter Flynn; architect Henry Geiffus; contractor Jas. Finn, cost $2,015; signed Aug. 16th, ’88; filed Aug. 18th; limit Oct. 20th.

1st payment when roof is on $500; 2d when partition and outside work done $500; 3d when completed $530; 4th usual 35 days $815.

Ashbury and Waller, frame building. Owner, Julia Gascon; architect, Wm. Mooser; contractor, J. J. Finn; cost, $2,800; signed, Aug. 15, 1888; filed Aug. 16, 1888; sureties, F. Joost and C. S. Holmes; limit, 10 days.

Payments, seventy-five per cent as work progresses; balance 35 days.

Arroyo Ave, near San Jose avenue, additions to two buildings. Cost, $800.

Broderick, between Sutter and Bush, one-story frame. Owner, S. Loszynski; architect, W. H. Arminage; cost, $3,900.


1st payment when framed $800; 2d when partitions are up $800; 3d, rough mottled and outside finish on $800; 4th when the inside is ready to paint $750; 5th and last usual 35 days, $1,062.

Buchanan, near O’Farrell, additions. Owner, W. Plans; Cost, $1,500.

Bryan Ave between 25th and 25th, two-story frame. Owner, Patrick Angler; architect and builder, Geo. Houston; cost, $3,000.

Clinton Park, near Dolores, two-story frame. Owner and builder, J. McBain; cost, $4,500.

Capp, near Twenty-fifth, one-story frame. Owner and builder, Louis; cost, $3,000.

Clayton between Page and Oak, one-story cottage. Owner, Miss Marie J. Castlen; architect, Jas. E. Wolf; contractor, J. W. Simix; cost, $1,975; signed, August 30th, filed, September 1st, limit, Nov. 10th; surety, D. Jordan; amount of bond, $1,000.

1st payment, roof shingling on, $300; 2d, floor, $300; 3d, brown coated, $450; 4th, completed, $431; balance, usual 35 days.

Clar between Central Ave and Walnut street, two-story frame. Owner, J. W. Kelly; contractor, S. M. Hills; cost, $2,700.


1st payment, when enclosed, $600; 2d, when brown coated, $600; 3d, when completed, $600; 4th, usual 35 days, $700.


1st payment when roofed $600; 2d, brown coated $600; 3d, finished coated $600; 4th, when completed $510; 5th and balance usual 35 days $770.

Columbia and 34th, improvements. Owner Louis Kahn; architect H. Geiffus; contractor J. W. Simix; cost $1,625; signed Aug. 16th, ’88; filed Aug. 16th, ’88; limit Oct. 16th, ’88.

1st payment when brickwork and plastering is done $600; 2d, when completed $600; 3d, usual 35 days, $425.

Diamond, near Eighteenth, two-story and basement. Owner, N. Straub; architect, John Zimmermann; contractor, J. Klein; cost, $3,000; signed Aug. 25, 1888; filed, Aug. 25, 1888; surety, C. S. Holmes; limit, Nov. 1st, 1888.

1st payment, when frame is up, $825; 2d, when partitions are set, $825; 3d, ready to paint, $425; 4th, when completed, $400; 5th, usual 35 days, $825.

Diamond, near 14th, two-story and basement. Owner, N. Straub; architect, John & Zimmermann; contractor, J. Klein; cost, $3,000; signed Aug. 25, 1888.

1003 Devisadero, alterations. Owner Anna Callingham; architect Schmidt & Shen; contractor Thomas Elum; cost $1,325; signed Aug. 16th, ’88; filed Aug. 17th, ’88.

1st payment when building is enclosed on roof $400; 2d, when completed $500; 3d and last usual 35 days $335.

Emma, near Riley, two-story frame. Owner, J. T. Meyers; contractors, Martin & Maguire; cost, $2,800.

Eddy and Buchanan, two-story frame. Owner, Elizabeth Burns; architect, B. Henrick; contractors, A. G. Fitzpatrick; cost, $1,362; signed Aug. 14th; filed Aug. 16th, sureties, Jas. Pendergrass; limit, 70 days; amount of bond, $1,300.

1st payment, when roof is on, $800; 2d, when brown coated and outside finish on, $800; 3d, white coated and sashes hung, $800; 4th, when varnished and trimmed, $800; 5th and balance, 35 days, $1,062.

Emma near Riley, two-story frame. Owner, E. J. McCall; architect, T. & M. Maguire; cost, $2,950; signed Aug. 6th, ’88; filed Aug. 17th, ’88; sureties, J. W. Watson; limit 35 days.

1st payment when framed $500, 2d, when brown coated and pipes in $500; 3d, plumbing done and doors hung $500; 4th, white coated and prime cost of paint $500; 5th, when completed $900.

Eighteenth and Noe, two-story frame. Owner, Wm. McQueen; contractors, McCormick Bros.; cost, $5,000.

Eighteenth, near Collingwood, one-story frame. Owner, Graham; builders, McCormick & Schetezer; cost, $2,000.

Eighteenth, near Collingwood, additions, cost, $1,200.

fell between Webster and Franklin, two-story frame. Owner, Wm. Olsen; architect, H. D. Mitchell; contractor, R. Simott; cost, $3,000; filed, September 5th, limit, Nov. 12th.

Payments—frame up $900; brown mortar on, $900; white mortar on, $700; balance, $550, 35 days.

fell between Webster and Franklin, building, W. Olsen; architect, H. D. Mitchell; contractor, R. Simott; cost, $3,000; filed, August, 28th; limit, Nov. 5th; surety, C. A. Malin.

Payments—1st, when frame is up, $600; 2d, when brown coated, $700; 3d, when building is primed, $700; 4th, usual 35 days, $620.

fell between Webster and Fillmore, two-story frame. Owner, Katherine Rahling; architect, John & Zimmerman; contractor, Adam Miller; cost, $6,020; signed Aug. 16th; filed Aug. 30th; limit, Nov. 15th; sureties, Olof Lackman and H. Williams.

1st payment, when framed, $1,000; 2d, when partitions are set, $1,000; 3d, outside finish on, $1,500; 4th, when inside is ready to paint, $1,000; 5th, usual 35 days, or when bills are all paid, $1,520.

Ford, near 17th, two two-story frame. Owner and Builder, I. Sullivan; cost, $4,000.

Fifth, near Mission, additional story. Cost, $2,500.
Gold a gate ave near Larkin two-story additions. Owner, M. Shaw & L. Wilbert; architect and builder, J. J. Cannings; cost, $1,120; signed, Aug. 29th; filed, Aug. 30th 1888. 3d, balance, usual 35 days; sureties, F. P. Latson and John F. Kennedy; amount of bond $4,660.

Fillmore between Golden Gate ave and McAllister street, two-story frame. Owner, E. McElwee; architect, M. J. Welsh; contractor, V. Sullivan (plumbing and gas excepted) cost, $3,157; signed, Sept. 4th; filed, Sept. 5th; limit, 79 days.

Payments; frame all up, $870, brown mortar on, $870; completed, $870; balance, $877, 35 days.

Fillmore between Golden Gate ave and McAllister street, two story frame. Owner, E. McElwee; architect, T. J. Welsh; contractor, T. Sullivan; cost, $4,400.

Fifth, near Harrison, two story frame. Owner, Jno. Leffler; architects, John & Zimmerman; contractor, C. Riecher; cost, $190; signed Aug. 30th, 1888; filed Aug. 30, 1888; limit, 30 days. 1st payment, when frame is up, $400; 2d, when roofed, $100; 3d payment, 35 days, $120.

Franklin and Ellis, stair building. Owner, Academy of Sacred Heart; architect, C. J. Devlin; contractor; A. Sanborn; cost, $2,100; signed Aug 9th, 88; filed Aug. 17th, '88.

1st payment when the stringers treads and risers of main stairs are in place $1,000; 2d when completed $1,100.

Franklin and Ellis, sheathing contract. Owner, Academy of Sacred Heart; architect C. J. Devlin; contractor, Martin Carrick; cost, $3,550; signed Aug. 8th, '88; filed Aug. 17th, '88; sureties, Egan & Mason; and amount of bond $5,000; limit Sept. 1st, '88.

1st payment, 1st cost of mortar $900; 2d, hard finish $850; 3d when completed $900; 4th, usual 35 days, $900.

Fulton, No. 426, two-story frame. Owner, Mrs. M. Dowling; architect and builder, G. M. Sablisky; cost, $5,300.


1st payment, when framed, $850; 2d, when brown coated, $1,000; 3d, inside finish ready to paint, $1,300; 4th, usual 35 days, $1,020.


1st payment, when rafters are set, $1,000; 2d, when building is brown coated, $1,100; 3d, balance, usual 35 days, $1,055.

Golden Gate ave near Larkin two-story additions and repairs to building. Owner, Carpenter & Son; architect, W. H. Armitage; cost, $5,000.
O'Farrell, near Laguna, two-story frame. Owner, Franklin Bros.; cost, $14,000.

Pierce v. Pierce and Scott, two-story frame. Mrs. Julia Chadwick; architect, T. J. Welsh; contractor, J. A. Shepard; cost, $4,837; signed, Sept. 7th.

Sanchez, bet. 15th and 16th, 2 story and basement frame. Owner, Christiana and August Greez; architect, A. Geetz; contractor, Wm. Plans; cost, $4,229; signed July 10th, 1888; filed Aug 10th, 1888; sureties J. Joost and W. Thiarks.

1st payment when enclosed and roofed $1,000; 2d, when brown coated $1,000; 3d, when completed $1,210; 4th and balance usual $31,500.

Stockton and California, three story frame. Owner Janet S. Portues; architect and builder, F. E. Neubauer; cost, $1,260; signed Aug 15th, '88; filed Aug 16th, 1888; limit 4 months.

Payments 75 per cent as work progresses; balance usual 35 days.

Sunatra and Susquehanna, one-story frame. Owner, D. Saffles; architect W. H. Architect; cost, $2,800.

Scott, near Jackson, additions. Cost, $400.

Townsend and Clarence Place, three story brick. Owner, Cal. Elec. Light Co.; architects, Percy & Hamilton; cost, $60,000.

Townsend and Clarence Place, brick work. Owner, Cal. Elec. Light Co.; architects, Percy and Hamilton; contractors, Richard & Gale; cost, $10,090; signed, Aug 29, 1888; filed Aug 28, 1888; limit, 75 days.

Payments 75 per cent 1st, Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, wroght iron. Owner, Cal. Elec. Light Co.; architect, Percy Hamilton; contractors, Bigelow and Little; cost, $3,557; signed, Aug. 22, 1888; filed, Aug 28, 1888; limit, 60 days.

Payments 75 per cent 1st, Saturday in each month; balance usual 35 days.


Payments 75 per cent 1st Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, Jordan Hendy machine works. Owner, Cal. Elec. Light Co.; cost, $5,175; signed, Aug 22, 1888; filed, Aug 28, 1888; limit, 35 days.

Payments 75 per cent 1st, Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, iron roofing. Owner, Cal. Elec. Light Co.; architect, Percy and Hamilton; contractor, Jos. F. Foderer; cost, $2,500; signed, Aug 22, 1888; filed, Aug 28, 1888; limit, 20 days.

Payment, 75 per cent 1st Saturday each month; balance usual 35 days.

Turrk near Larkin, two-story frame. Owner, Daley; architect, Welsh; contractor, F. Grant.

Treat ave. between 24th and 26th frame building. Owner J. Quinlin, architect, Geo. Houston; contractor Geo Houston; cost, $3,570; signed Aug 8th, 1888; filed Aug 9th, 1888; cost, $3,500; signed Aug 10th, 1888; 1st payment when rafters are in place $500; 2d, when brown coated $700; 3d, hard finished and inside doors are in place $700; 4th and last $700, 35 days as usual.

Twentieth and Howard, two-story frame. Painting. Owner, Nellie G. Backus; architect, J. H. Littlefield; contractor, Jos. Larson; cost, $590; signed Aug 3rd, 1888; filed Aug 13, 1888; limit, 18 days; 75 per cent as work progresses; balance; usual 32 days.


1st payment, when frame is up $503; 2d, when brown coated, $593; 3d, when completed, $953; 4th and last, usual 35 days, $596.

Twenty-third near Noe, two-story frame. Owner, Mrs. Roberts; architect, W. H. Armitage; cost, $4,500.

Twenty-seventh and Duncan, alterations. Owner, R. Dhu; architect, M. J. Welsh; contractor, E. Edwards; cost, $1,875; signed Aug 13, 1888; filed Aug 13, limit, 60 days; sureties, J. Lewis and P. E. Matthews.


1st payment, when second-story joists are set $3,500; 2d, floors laid, $3,500; 3d, brown coated, $3,500; 4th, outside finish on $3,500; 5th, when completed, $3,950; balance 35 days $6,000; limit, seven months.


1st payment, rough pipes in, $900; 2d, all vessels except washbasins set, $550; 3d, when completed, $785; 4th, usual 35 days, $750.

filed Aug 28, 1888; surety, C. S. Holmes; limit, Nov 1, 1888.

1st payment, when frame is up, $825; 2d, partitions are set, $825; 3d, when ready to paint, $425; 4th, when completed, $400; 5th, usual 35 days, $825.

Van Ness and Sacramento, painting. Owner, J. H. Neustadter; architects, Schmidt & Shea; contractor, J. J. Donavan; cost, $1,185; signed Aug 31, 1888; filed Aug 31st, 1888; limit, 7 months.

1st payment, $600, 2d coated; 2d, completed $750; 3d, 35 days, $465.

Vall ieee, near Webster, dwelling. Owner, D. D. Harris; architects, Fisiss & Moore; contractors, C. W. Shroyer; cost, $2,150; signed, Aug 20, 1888; filed, Aug 30, 1888; limit, 80 days; sureties, Latson & Holmes; amount of bond $2,000.

1st payment, when framed, $1,200; 2d, when coated, $700; 3d, signed, $900; 4th, ready to paint, $900; 5th, completed, $80; 6th, usual 35 days $1,370.


1st payment when frame is up $1,500;
PITALUMA.

Work has been commenced on H. B. Higbee's new residence on the Stanley lot. Ed. Hedges has the contract. It will be one-story cottage and have all the modern improvements.

PORTLAND, ORE.

Architect Kneen has let a contract to Works & Gilbert for a $1,500 cottage for J. C. Ralbye.

SHELTON, WASH.

A hotel building is being erected by Wm. Shorter.

SAN DIEGO.

Architects Clements & Co. notify us that a portion of the Hamilton Building will be erected at once. The total cost will be near $100,000.

Henry Tinkin will erect a $9,000 residence, he having let the contract for same to Breswer & Whalen.

Comstock & Trostche send us word that they are preparing plans for improvements to the Consolidated National Bank. Will cost nearly $60,000.

SEATTLE, WASH.

S. Frandenthal will soon build a $10,000 house.

SCARCITY OF MASON'S—Contractors complain that brick masons are very scarce in Seattle, while the bricklayers' union claims that there are plenty of masons here to do all the work on hand at the present time. This indicates an unaccountable difference of opinion between the contractors and the masons.

Two large school houses will be built. Total cost over $100,000. Address contractor Jas. Parke, for information.

SAN MIGUEL.

G. W. Spencer will have erected a brick building.

A $1,000 hotel is being contemplated. W. J. Smith will soon commence a five-room cottage for Anna Whittemore.

Work will soon commence upon a five-room cottage for Amon Smith. W. J. Smith has the contract.

SAN REBECCANDA.

Architects Jones & Griffith yesterday let a contract to W. G. Hastings to erect two five-room cottages between Second and Third, for Major B. B. Harris.

 Wendell Easton, of Easton & Eldridge, the great realty firm of California, has aptly said that in architecture Los Angeles is entering upon the "stone age." The progress is from adobe to frame, from frame to brick, from common brick to pressed brick, from pressed brick to red stone and granite. Our new quarters will soon inaugurate the "marble age."

SANTA CRUZ.

The plans are being figured on for an Odd Fellows' Building. Address D. A. Dankerhofer.

SAN JOSE.

S. Ellisworth is having a house built on his Saratoga avenue property.

TACOMA, WASH.

Architects Farrell & Darnar have plans for Birmingham & Hogue's $20,000 three-story brick building, and also for an $18,000 brick building for Geo. I. Kandle.

Rev. G. H. Green will have built for him by H. M. Matheson, a $12,000 brick building.

2d, when brown coated $1,500; 3rd when completed $1,560; 4th and last, usual 35 days $1,570.

VALLENCIA, near Hermann, additions. Cost, $600.

WASHINGTON and Waverly Place, three-story and basement, brick. Owner, W. E. T. Reeder; contractor, Dennis Jordan; cost, $3,250; signed Aug. 27, 1888; filed, Aug. 28, 1888; limit, Nov. 25, 1888; surety, R. Llewellyn.

1st payment, when excavated, $500; 2d, when the first story is up, $500; 3d, when the roof is on, $500; 4th, usual 35 days, $500; 5d, $2,000 is to be paid by monthly installments of $100 with interest at 8 per cent.

Webster, bet O'Farrell and Gentry, two frame buildings. Owner, L. Houser; architect, J. Marquis; contractor, M. J. Gorman; cost, $10,550; signed Aug. 13, 1888; filed, Aug. 13, 1888; sureties, J. Mahoney and Duffie Bros.; limit, 17 days.

1st payment, when chimneys up and buildings roofed, $5,050; 2d, ready to lath, $2,000; 3d, when 1st cost of mortar is on, 1 cost of paint and such glazed, $2,000; 4th, when hard finished, plumbing and all fencing done, $2,000; 5th, $2,500, 35 days; 6th, $1,000, at 60 days.

Waverly Place near Clay, three-story brick building. Owner, W. A. Altreuter; architects, Townsend and Wynnec; contractor, J. Pharo; cost $8,000.

COUNTRY BUILDING NEWS.

ALAMEDA.

Work has been commenced upon a small residence for Charles L. Hermann, on Alameda avenue, between Chestnut and Willow streets. It will be two stories in height, contain eleven rooms, and will be equipped with all modern conveniences. The cost will be about $4,500. J. A. Leonard, of this city, is the architect.

ANAHEIM.

A Goldthwaite will give all information in regard to a $6,000 school building to be erected.

CHEMALIS, W. T.

N. B. Coffman can be addressed in regard to a $7,000 school building.

EUREKA, CAL.

Henry Buhne, the tug owner, will build a $10,000 residence. Jas. Simpson has the contract.

FRESNO.

Architect Perna, formerly a partner with Mr. Daley of this city, has taken Mr. Safel into partnership.

They have let a contract to G. B. Campbell for $10,000 additions to the building of J. W. Ferguson. Also a $20,000 brick building to same contractor for S. W. Griffith; plans are being prepared for Griffith & Co's. $5,000 three-story brick building, also for a $7,000 building for P. Myer.

PASADENA.

H. Ridgeway is preparing plans for Mr. Wrockaway. A $2,000 brick building is contemplated.
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At the back of exterior pipe is a three inch conductor D extending to outside of wall for fresh air, which, passing up becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted by the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joints D conducted by a small conductor G with the above mentioned air space.

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This hopper is constructed to take 2 1/8-inch pipes, one to the right and one to the left, and is 4 1/2 inches in the center. It has a movable chamber on top to take the sewer pipe. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent of the lower, and is made to revolve, therefore it will shift either position of pipe. This hopper can be used only for surface, for rough, or for leader, either inlet will be stopped up with iron cut off desired.

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SINCE the first move was made toward the erection of the New City Hall, no one feature of the construction has attracted more general attention, interest and comment, nor provoked more pronounced controversy and disagreement than between the gentlemen composing the Board of Commissioners, than the tower.

To the architect it has been a very hard nut to crack, and the insignificant stipend pocketed by him each month in the shape of salary is a miserable compensation for the numerous annoyances alone encountered, to say nothing of the time, services and skill required of him as an architect. The man has and should have pride and ambition in the matter is both natural and reasonable, and it would be much less than fair to attribute wrong motives to him in striving to carry out and complete, according to his best judgment, so conspicuous and important a part of the work on the City Hall as the tower, which, if he is allowed to proceed with, must stand for all time as a monument to his architectural skill and genius, or stamp upon his name and memory all the ignominy that failure to produce a handsome, well-proportioned and properly-constructed tower will entail. Professionally, it will be life or death to him, as present and future generations will associate his name with praise if good, and reproach and condemnation if he shall produce an architectural deformity at the expense of the public treasury. All this Mr. Laver undoubtedly well understands, and, as a sensible and intelligent man, has fully weighed and considered in his earnest efforts to have his high-tower plan adopted by the Commissioners and carried into execution; and, if the option was left with him, not a day of the time required in the construction of the tower would be lost. Is Mr. Laver wedded to his high-tower proposition? There is no question upon that point, as lie, with many other competent critics and judges, is satisfied that, if erected, the architectural delineations will be imposing and handsome in detail, and the general effect such as to command admiration from those whose aesthetic eye and good judgment are capable of seeing and appreciating the products of other minds than their own, upon the real merits of the thing produced, divested of all selfish and prejudiced cavilings, which, when applied, will see nothing except from the limited standpoint of their own individual notions.

It may be charged by some that this style of reasoning is inconceivable on the part of this journal, in view of the fact of connecting the writer with a report made to the City Hall Commissioners upon the subject matter of this article. If so, we do not see it in that light. We have taken no decided stand in the matter, nor in any way expressed a fixed opinion in favor of or against any “type” of tower. And it appears to us that the question under review and all others, whether square, round or polygonal, have more than one side, to comprehend which, each must be viewed from a proper standpoint.

Mr. Laver, in his recent defense before the Board of Commissioners, very naturally and reasonably commended and argued the force and value of the reports of the two well-known civil engineers named by him, whose qualifications none will question, as against the report of the Chapter of Architects. Mr. Laver would not have been just to himself had he not done so, as the report of the former fully recommended and sustained the carrying out of the high-tower plans, while the latter simply commended said plans as good in architectural design and possible of construction, and further suggested and recommended a change of “type of tower.” But this suggestion was a disturbing and interfering element, which furnished Mr. Laver’s opponents a new battle-axe and subjected him to new and increased difficulties. The two reports concur on some of the propositions involved but differ on others—one in nearly every particular sustaining the architect, the other doing so as far as the judgment and opinions of the chapter thought right, with suggestions added which it was hoped would lead to an amicable and intelligent settlement of all differences of opinion, and result in the erection of a tower satisfactory to all parties directly concerned in its construction, and which would meet favor in the eyes of the community, who are to be the payors for whatever may be done.

VERY IMPORTANT PROCEEDINGS, S. F. CHAPTER OF ARCHITECTS.

Inaugural Address of G. H. Sanders, President of the Chapter.

A goodly attendance of members was noted at the last meeting of the Chapter. Among those present were W. J. Cuthbertson, J. B. Whittimore, H. T. Bestor, J. Gash, R. H. Daley, A. Percy, W. P. Moore, E. Kullendorf, G. H. Sanders, G. H. Wolfe, G. W. Percy, W. Patton and John Newsom were elected members as Fellows.

Proposition received from G. Herbert Hasty to become a Student Member. Referred to Committee.

President read annual address, which was ordered printed in the official organ of the Chapter. (It will be found in full in this issue.—Ed. ARCHITECT.)

A vote of thanks was tendered the President for his able address.

A communication was received from the Secretary of the New City Hall Commissioners requesting the Chapter to examine the revised plan of the tower, as prepared by Architect Laver. Plan of same accompanied the communication. The same was referred to the Committee who had charge of the previous report. The report in full of the Committee appointed by the Chapter to consider the plans of the New City Hall Tower:

To the San Francisco Chapter of the American Institute of Architects:

Your Committee appointed at the last regular meeting to consider the plans of the New City Hall Commissioners in reference to the proposed tower, beg leave to report, as follows:

Immediately on their appointment, your Committee made arrangements to prosecute the work imposed upon them, and on the day succeeding their appointment, called for and received the necessary drawings and other data requisite to enable them to proceed.

Having made a thorough and repeated examination of the drawings submitted for their inspection, have unanimously arrived at the following conclusions:

First.—They consider that the design submitted by Mr. Laver for the New City Hall Tower is in itself well adapted in its external architectural features, to complete and adorn the building to which it is to be added. The height—which has been more or less called in question—is considerable, but is not, in the opinion of the Committee, in excess of the proportions permissible in so vast a structure as that to which it is to be applied. On the contrary, in view of the enormous frontage and other dimensions of the New City Hall, it would be well for the Committee to avoid any structure superior in appearance, and less in proportion to the size and importance of the building. The Committee consequently believe that such a structure in repair and proof against the destructive effects of climate and season, is a powerful argument, though one of an economical rather than artistic nature, in favor of reducing as much as possible the area, and especially the height of the tower.

And here, and upon the Committee would suggest that instead of employing materials, such as galvanized iron or steel in the external casing of the tower, which would need the preservative applications of some sort of paint, and would lead, as before stated, to endless repairs, they are of opinion that the use of copper, though of greater prime cost, would in the end prove of much more economical and of vastly greater architectural value, as it is a material beautiful and artistic in its application and effect, and eminently durable and in every way admirably adapted to the work proposed.

Third.—This brings your Committee to their last and final position. While they fully concede the many points of artistic merit as a whole, of both designs exhibited in Architect Laver's projects for the proposed tower of the New City Hall, and while they are quite ready to admit the possibility of their construction with safety and substantiality compatible with materials of such a perishable nature as those rendered necessary by the adoption of the peculiar method of construction hitherto submitted, they are of opinion that the use of steel, and the application of the proper amount of it, would be much more economical and the employments of the labor necessary for its erection, of far greater value, as it is most admirably adapted to the purposes for which it was designed. The weight of this recommendation has been so great as to induce the Committee to adopt a design which is eminently simple, and in which the materials used consist of wrought iron beams and top and bottom plates should be placed on the circular brick wall surrounding the great circular hall under the tower. This would serve to equalize and distribute all unequal pressure from any possible defects in the foundations of this part of the building. The Committee deem this provision absolutely necessary, for though the construction of the tower (which is of wrought iron, steel and sheet metal) is of the lightest practical description; the weight of the tower alone will be sufficient to give the neighborhood of three thousand tons. But dead weight alone is not the only consideration, since the variable strains caused by windage will be very considerable, under even ordinary circumstances, and there are times when, such as a high wind, the wind will mean several hundred tons added to the ordinary weights at different points of the circle.

Second.—For the above reasons, while the Committee have full confidence in the ability of Mr. Laver to carry to completion the excellent design proposed by him in as satisfactory and substantial a manner as is possible under the circumstances, and with the materials at his command, they feel compelled to say in view of the various objections which may be urged against the erection of any structure of the sort proposed, that they believe some such type as that adopted by the first Commissioners, would be found on the whole, more suitable for the purpose than the new and loftier design, though in the nature of things, less imposing in appearance and less in proportion to the size and importance of the building. The decisions of the Commissioners in favor of erecting such a structure in repair and proof against the destructive effects of climate and season, is a powerful argument, though one of an economical rather than artistic nature, in favor of reducing as much as possible the area, and especially the height of the tower. And here, the Committee would suggest that instead of employing materials, such as galvanized iron or steel in the external casing of the tower, which would need the preservative applications of some sort of paint, and would lead, as before stated, to endless repairs, they are of opinion that the use of copper, though of greater prime cost, would in the end prove of much more economical and of vastly greater architectural value, as it is a material beautiful and artistic in its application and effect and eminently durable and in every way admirably adapted to the work proposed.

Such a structure, the Committee believe, would not only redound to the credit of all concerned in its production, but would ultimately be found to be of great economical advantage to the city generally.

It would be of a height proportioned to its possible diameter, and would compensate in dignity of material for comparative lack in magnitude, though a tower or dome of more than ninety feet in outside diameter, is one out of which it would seem that a very grand and imposing structure could surely be evolved. All of which should be left with confidence in well-known genius and artistic ability of the architect of the building.

Respectfully submitted,

ALBERT PISSIS,
JAMES E. WOLFE,
G. B. L. PARICKSON,
W. J. GUTHERTSON,
JOHN WRIGHT.

Committee.

San Francisco, Sept. 17, 1886.
INaugural Address of G. H. Sanders, President of the
CHAPTER.

Petties and Associates of the San Francisco Chapter:

Duly recognizing the honor and responsibility of addressing you a second time in an "Inaugural," and acknowledging also the ground of expedition which brought this about, I can only proceed to fulfill this my arduous duty, and I therefore re-emphasize the importance of this address during the following year, as well as I know how. It is conceded that an address of this kind should aim at something more than a mere review of a year's progress, so select a few glowing prophecies of future advance in matters of architecture.

So far, indeed, as the Chapter and its work and prospects are concerned, it may be said that we have not been altogether standing still, but that some advance has been made towards winning a position of honorable usefulness and gaining the confidence of the public in matters relating to the important province of constructive taste. Our membership has somewhat increased during the year, and there has been a marked tendency among professional brethren still outside of our society, for increase in par with the Chapter. This is a movement which should meet with every encouragement on our parts, as every added member widens our influence, increases our means of general utility, and brings us more and more en rapport with every portion of the building public and the mercantile classes generally.

It would be easy to tell a long story of our aspirations and our aims, about which indeed, we are apt to talk much and do little. Perhaps it will be better worth while just at the present time to say a few words about a man who, though leaving but little so far as formal expression of thought in set phrases is concerned, has left large evidences on every side of having done more to solve the problem of the architecture of the future, at least in America, than any other man of his age or in America, for the time in which he lived--I allude of course, to the widely influential name of "Richardson." In some degree, like Phidias among the Greeks, or Michael Angelo among the Moderns, but in a wholly different way, the man, Richardson, lived and worked among us--we who have seen him, though by no means as well known and still more widely respected, may rever in his works, and the example which those works place before the impressionable minds of the men of this age and nation--I repeat of this age and nation, for who can doubt that as the age is made by men, so the nation, as far as it proceeds in either work, is made by the works of men. This is the case with the works of Richardson, for they are the outcomes of the times in which they live, and of their peculiar environment.

Now, as to this man, Richardson, I propose in the following remarks to make no extended remarks as regards the works of the principles of design which have made this particular artist and professional man, at this time, so notable a figure in the foreground of architectural art.

In the first place I would say that I do not propose to give any extended remarks as regards the works of this master. The late works, though admirable basis is laid for the same in the notable book of Mrs. Van Rensselaer on the life and works of Richardson, lately published, and which I am indebted for such authentic data as may be found in what I shall read to-night.

Born in 1835, of noble ancestry, (among which, on the mother's side, may be mentioned the well-known philosopher, divine and author, Priestley) educated at Harvard, and professionally trained at the Ecole des Beaux Arts in Paris, the man was undoubtedly broadened out into a very cosmopolitan character, and on that very account was doubtless better fitted than any other man of his day and generation for the life work which fell to his lot. He was constitutionally a large bodied, large hearted, large minded man, who wanted explaining about him as "big" as himself, and who, almost immediately throwing off the servicial effect of his education and training, forthwith set to work with stone-axe and gavel, unfettered by rules and unrestrained by precedents, to lay out a system--an architecture for himself, for his clients, and for such of his brother architects who would follow in his footsteps. At least join him in exploring the new fields he had discovered.

It was inevitable with such a character as his, but that the type of his selection, as regards style, if type he must have, should be full, large and capacious as himself, and nothing could better answer than the broadening characteristic features of the round arched styles of Southern France. But in his hands it assumed a new guise. With him, pillar, arch and lintel seemed to become vitalized into a new existence. Base, shaft and cap seem to be so united and so well fitted for their purpose, that no other shaft, base and cap could by any possibility be devised which could do so then any other. One part that the arch becomes a new creation, each voussoir is in its turn the only voussoir in the whole arch, and every lintel would rest quietly under the weight of the whole, whole wider and never wake up. Every window becomes in turn the most important window in the structure, and every part of it is so thoroughly adjusted to every other part that it is without a peer among windows in its particular place and station. The wall surface is so carefully studied and adjusted, that it is difficult to find fault with a single stone.

The settled purpose he always had before him was absolute perfection in every part. One notable quality of the man, however, was the devoted zeal which he seemed to inspire in every one around him; they worked for him as they worked for no other man, and if each was responsible for the whole, and so each and all conspired to carry out his suggestions in the most thorough manner, as the only way of securing the best result in the whole, so that every part of the work on his buildings shows indefatigable industry and zeal in those who have executed it. A piece of carving from him, and as it must be the only truly ornamental. Every particle of ornamentation must be made in its turn as thoroughly a part of the building and as indispensable as any other merely utilitarian feature; it must be properly distributed and subordinated to the structure, and still, it must be so different from any other kind of ornament that it is carelessly designed and laboriously adjusted until each fits its place like a wheel in a complex ted mass of machinery, and each of which is indispensable to the action of the whole system.

The above remarks to each department and to each material throughout a building, inside and out, and it is easy to see the thorough "technical" quality which would be certain to pervade the structure. But not alone this more strictly utilitarian element with its three subordinate attributes of utility, strength, and beauty, is to be thought of, but one way of breathing into the sum total of the design, but considerations definitely ornamental must claim a still larger share of careful study in proportion to their higher artistic value in the domain of art. Every part must be carefully and completely subordinated to the whole, that whole, so that their every part and every detail have an unity of effect, and not only as to its general forms, but each detail, however unimportant, must be subjected to the same careful scrutiny, consideration and re-consideration—and this regards color as well as form, even to the veriest shade. Decoration, both in exterior form and as if it were the only truly ornamental. Every particle of ornamentation must be made in its turn as thoroughly a part of the building and as indispensable as any other merely utilitarian feature; it must be properly distributed and subordinated to the structure, and still, it must be so different from any other kind of ornament that it is carelessly designed and laboriously adjusted until each fits its place like a wheel in a complex ted mass of machinery, and each of which is indispensable to the action of the whole system.

Thus again we have a trine, the aesthetic series of attributes—decoration or ornamentation, symmetrization and beauty. But we must take higher ground still if we would adequately grasp the full meaning and intent of the remarkable work of the remarkable man we are considering. As the the swelling undulations of the wide-spreading plains are to the sweeping lines of the rolling hills, even so are these hills to the lofty mountains around which they feel they group themselves in humble imitation and adoration. And so are the exaltations of mere technical utility with such incidental and inseparable pleasure-giving qualities as arise from recognized adaptation of material and purpose, to the vastly higher and more exquisite results of ornamental qualities sought for their own sakes and capacity of stimulating the human soul for the beautiful; and these again to those pure aspirations of the intellectual faculties of the mind, rising far above the illusions and seductions of sense into the lofty regions and unlimited atmospheres of the soul. Under the auspices of this high principle, Nis Veils fames becomes a potent and most all-pervading legend, written in effect on each substance, form and subject throughout the whole realm of design, from the lowest foundation stone to the highest finial, from the outermost outline to the innermost detail of the material temple, which in turn become representative of the designer and embody and incarnate him in his work. Every virtue and every vice, which either strengthens or weakens the creative power of thought, will
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find its corresponding impress on the substance and form of every structure which has been evolved out of his consciousness or has obtained the seal of his approval.

And it is manifest that this principle in its turn, will pervade everything which is the subject of the designer's art, from the most utilitarian arrangement of plan to the highest expression of his skill in sculpture and painting. In the first it speaks in mechanical adaptation of means to ends; in the latter it voices its principles—modified or more or less powerful expression, into an utterance of ideas—simple or complex, the case may be, and capable of telling the most momentous truths, with all the added force of dramatic incident and forcible illustration.

The highest, or "phonetic" phase of the architectural art thus also includes a tone of attributes, viz: Symbolical form, artistic expression, and ideal representation.

It is not claimed that all these particular and more or less complicated expressions of analytic thought found any definite utterance in the words or expressed ideas, or even had a conscious existence in the mind of Richardson. It is only claimed in that so far as the above sentiments and principles, crudely expressed and imperfectly formulated as they are in this paper, may be found embodied in the words and example of this man who was so far in advance to establish and promulgate truths which has left an impress on the age, and has aroused a taste for the substantial, the beautiful and the true, which no other man of the present century, or few before him, have succeeded in accomplishing, and in so brief a period as the active portions of Richardson's life really covered. He constantly sought for the evolution of a design, to obtain a single broad and comprehensive idea, and every subordinate part was carefully studied and brought into harmony therewith. In every department of the execution, and every detail feature, truth of form, truth of material, truth of expression, with few and only early exceptions, was sought for with unwavering devotion.

In the often elaborate carvings which adorn his works, this is constantly found to be the case. Not contented with good general forms, authentic detail, graceful curves and some sort of ideal character, even parts of even the least important feature is arranged with scrupulous attention to its relative effect in the whole composition. The beauty and grace must be of the right sort and harmoniously adapted to every other bit of grace and beauty found elsewhere in the structure, and the idea must be expressed in consistent terms. Another notable point was his attention to materials. They must be of the best and carefully selected as to both quality and color. Again they must be properly placed. No degradation of a nobler by subordination to an inferior substance in the material is tolerated for a moment—stained glass, metal, wood, plaster or glass must be of the best attainable quality and placed in the order of their dignity and character.

To convince oneself of the value of these principles, one has only to look about him to find them violated on every side.

Fatal facility of bedizenment in wood, paint and plaster has given us a terribly corrupt herity, in a love for all sorts of finnese ornament and useless and meaningless decoration. "Con-structed Decoration" instead of "Decorated Construction" being regarded apparently as a cardinal virtue and one of the leading canons of architectural art in San Francisco. Even in many of our recent structures in which the materials partake of a substantial character and the mass and lines have been otherwise treated with dignity and propriety, the superimposition of false bearings and the misuse of materials has been altogether disastrous to all truly artistic values in the composition. But not alone in the houses we live in but in the garments we wear, the pictures we buy, and the books we read, is the regenerating influence of principle needed to rectify our taste and improve our material surroundings.

The palpable "decoration" of our houses is too often paralleled in the puffing, paint and powder of our female friends and acquaintances and both in the shallow mockery of our religion, which seeks no material developments amongst us, for the most part, to glorify the apparent, which is but a most utterly ignorable thing in the real.

The works of Richardson embraced every variety of structure from the humble cottage and railway side station to the stately church; the massive Court House and Town Hall as well as the ponderous buildings with their sculptured figure and in all, in different degrees, his leading principles are found embodied in mechanical adaptation, beauty of design and truthful expression of purpose and appropriate treatment of material.

In the Pittsburg Court House and jail, and the great Marshal Field warehouse of Chicago, Richardson himself thought he had touched the highest point of his ideal, and the latter clearly formalizes in its great arches and their horizontal and vertical divisions, the peculiar features of the style which obtains in the most notable of the great structures of the present time devoted to mercantile or commercial purposes. Many will give the palm of excellence to his exquisite library buildings, so many of which were carried into execution; and all of which are unique in their way, and certainly never excelled in their unity, originality and beauty of detail and detail, and perfect fitness of adaptation to the purposes for which they are intended.

Trinity Church, Boston, the first example of the peculiar style which at once became the favorite vehicle of his artistic taste should not be overlooked, but is, in our opinion, considered, though it often is, the best or greatest example of his genius. Externally though very fine in conception and execution, it is accompanied by some rather unnecessary adjuncts, which somewhat detract from the more solid and dignified features of the design. Internally it is for the most part simulated construction, and to the true artist unworthy of its reputation and of its designer. Richardson himself declared it as being intended shan, and to that extent a truthful structure, a logic seemingly worthy of a better cause.

In his Essay, Richardson's was accustomed to throw as much as possible the burden of the responsibility of design upon them, thus early developing their powers, arousing their ambition and making them feel the importance of the work committed to them; in this way he hoped to succeed in uniting all with whom he came in contact, with himself in the effort to improve and to perfect such work as was placed in their hands. A true co-operation of the noblest sort, a co-operation of art workers for art's sake, striving to embody in lasting forms and durable principles, the useful, the beautiful and the true.

Alameda "Encinal."

We are pleased to record the most convincing evidence upon the prosperity of a town that can be chronicled by any one living outside of the place to be noticed. The Encinal has been built for twenty years and the name of its editor is a synonym for success all over the State for genial character, and also as the exponent of excellence of editorial courtesy. Alameda is outgrowing itself and its inhabitants are no longer satisfied with a weekly paper. So our good friend Krauth comes out with the Semi-Weekly Encinal. We hope he will soon be able to change it to a daily. As an exponent of bright local news, with genuine notes, it can be read by our children, the Semi-Weekly Encinal stands without a peer in the State. The best sign of a go-ahead place is the increase of its newspapers, or having those already established appear offener than once a week.

Notes on Painting.

The best time to paint the outside of a house is early in the winter, or in spring, when the air is cool and no dust is flying.

Knots in boards may be killed before painting by several methods. The surest and best, in fine work, is to cover the knot with an oil size and lay silver leaf over it. Glue size, mixed with red lead, or gum bichromate in alcohol and mixed with red lead, or gatta percha dissolved in ether, will satisfactorily cover knots not exposed to sunshine. The heat of the sun draws the pitch in the knot to the surface, through the paint.

If woods to be painted are soiled by smoke or grease, these places are to be washed with some sort of saltpeter in water, or with very thin lime whitewash. If soap and water are used to wash off the smoke or grease, they should be thoroughly rinsed with clean water, or the paint will not harden.

The first, second, and third coats of paint, on the outside of buildings, should be prepared by mixing the white lead with boiled linseed oil, and allowing each coat to dry hard before applying the next.

PRICE OF LUMBER.

Price of lumber is still on the downward grade. It can be bought for $18 per M for rough lumber.

Shingles have also declined 25 cents per M. At $18 per M the price is just to the millmen and low enough to consumers.
Oct. 15, 1888.

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MT. HAMILTON, SANTA CLARA COUNTY, CALIFORNIA—THE SITE OF THE GREAT LICK TELESCOPE.

EDITOR ARCHITECT AND BUILDING NEWS—

Dear Sir: It may be of interest to some of the readers of your valuable journal to know a few observations taken by a Californian while journeying through Europe—of the great variety of buildings and their furnishings, etc. We wrote you last from London, where we took steamer for Christiana (three days' journey). The first thing which pleased us, on our arrival, was the massive stone docks, which are similar to those at Liverpool, but not so extensive; next the streets, which were well-paved with hewn stone and cobbles. Most of the streets are very narrow and crooked, and the sidewalks are so narrow in some places that one is obliged to step into the gutter to allow another to pass. The main thoroughfare leading up to the palace is broad and straight and pleasant to ride upon. Owing to the narrowness of the sidewalks, the people are obliged to walk in the streets. This is not so bad, as the streets are well-paved and always kept clean. The first thing which the eye of a mechanic lights upon is the buildings—how they are built and the materials of which they are constructed. One thing impresses itself upon your mind right away, and that is, the Norge people build to stay; all of their buildings have a solid, substantial look, if they are not all of that style which we of the nineteenth century consider so. Most of the buildings are of brick, then covered with a coat of cement, and subsequently covered in imitation of various stones. Others are built of granite and sandstone, and all the roofs are either slate or tiles, the latter being most used. Among the most conspicuous buildings here which we visited are the Palace, Houses of Parliament, University Buildings, Victoria Apartments, Akers Garden and the Cathedral, the dome of which was very odd indeed, being a combination of the Gothic and old Oriental Mosque. In the afternoon we took a ride down through the Egos to King Oscar's Castle, a beautiful structure of solid masonry, with twisted tower. We were shown all through the various apartments, and then on top, where we had an extended view of the surrounding country and could see over the land and water for miles and miles. Sometimes, when it is clear, you can see down through the Egos as far as—the "moon." We also visited several buildings in course of construction and found them putting in 14x14 inch hewed pine for sub-sills with 12x12 inch girders framed together strongly with 4x4 inch floor joists, all hewed and mortised and tenoned together—this was for an ordinary dwelling—and the roof put together in the same style, having timbers in the plates and rafters heavier than those which we in California put into foundations. And they go on this principle all the way through; even the locks and keys on the doors are as large as those of St. Peter's, and they still cling to the old brass knockers on the doors in place of our electric bells. We saw men hauling granite for a building coming down a steep hill with no breaks for their wagons. I expected to see the whole business roll on to the horses before they got to the foot.

After spending two delightful days here, we went to Stockholm, which is sometimes called the Venice of the North. It is certainly very beautiful, both for what nature and man have done for it. Mr. Werner Cronquist, Chemist for the Royal Navy, took your correspondent around the city and showed him the sights, which were many, and he took pride in them, I was convinced, as he pointed them out to me. Here we have the solid granite docks and bridges that characterize all these cities which I have visited. We see many long blocks of beautiful buildings, built of brick and stone, which will compare favorably with those of any city in the world. We see here that the later styles prevail, making a striking contrast with the city just left. Such a variety of modern architecture one is surprised and pleased to see. The new St. Johannes Church, now being built, is a monster structure, and will be very beautiful when complete. Architect Moller is a man of large experience and has designed some of the finest buildings here. The Church of the Kings is the first I have ever seen with a cast-iron spire and complete spire scroll work. It looks oriental, indeed.

On Sunday I attended the sacred concert given in the new German church, which is a solid granite edifice. The heavy stone columns through the center are six feet in diameter. Some of the most beautiful stained glass memorial windows made are in this church. The choir and organ loft and also the work around the altar is very richly carved and gilded. The pulpit is black and white marble, and was made in 1660. It was transferred from the old church to the new, and is a very pretty work of art. The largest telephone station in the world is located here—so I am told. Certainly the beautiful building, the immense tower and the myriads of wires running hither and thither would indicate as much. I see they are here a preparation for coating brick buildings cemented, which makes them look like various kinds of marble. They use a scaffold such as I never saw in America in putting it on. It is a box 5x5 feet that holds two men. This is held in position by an immense pole 8x8 feet and 80 feet long, running through the center like a gauge on end, with a rope and rocket attachment to hold it in place. It is certainly a novel scaffold. I notice that women are employed on many of the larger buildings to carry brick and wait on the men. They can run up and down five and six-story scaffolds as nimbly as the men. Among the prominent buildings we visited here are Drottningholm, Royal Castle (Tessin architect), Catarina lift building, the Polytechnical High School (Edsund architect), Grand Hotel, germania and Reidberg are large and commodious. The Royal Opera House and the Queen's Palace are solid granite structures. But the people must not be overlooked. They are just what they appear to be—kind, gentlemanly and generous-hearted, and knew how to entertain strangers. I speak from experience.

Yours truly,

E. C. Gilbert.
Practical, Plane and Solid Geometry.

By Arthur Seymour Jennings.

Considering that everything made by man is of geometrical form, it would appear that a more or less perfect knowledge of geometry should be possessed by everyone.

To the mechanical draftsman, the subject is essential and especially that branch which relates to solid geometry and projection, since to the mechanic a knowledge of its forms, almost invariably, is a means to the end of advancement. The artisan in many trades who understands geometry, is he who becomes foreman or superintendent.

This is especially the case in the building and engineering industries where the operations from beginning to end depend upon the geometrical and arithmetical principles. Hence, the civil engineer and the architect find it necessary to gain a knowledge of the subject, while those working under their directions—the builders, carpenters, masons and other mechanics—must be cognizant with it in order that they may be enabled to read the plans and drawings drawn out for their guidance.

The land surveyor is simply one who is versed in geometry and its application to the measurements of the earth's superflaxes. Measurement is a science which depends upon a knowledge of geometry and arithmetical principles for its solution.

The wide usefulness of the subject has had the effect of producing a deal of literature on the subject. For the most part, such books as exist are either too elementary or too advanced for the man of average intelligence; they are either more suitable for the school room than the practical man or else are so far advanced as to be without the scope of a person of ordinary "school education." So far as it is possible within these pages, it is proposed to give a series of articles which shall form the basis of an extended study in this important subject. A solution of the more elementary problems will not be given unless they are not generally known, but sufficient reference to and explanation of them will be made to enable those readers who may not be already familiar with them to obtain their solution from sources.

Particularly in connection with projection, it is hoped that architectural draftsmen and others may find the benefit of studying—not merely reading—this series.

At the risk of a charge of advertising, the author will, where occasion requires, make mention of either firms or books which, from his personal knowledge, he deem likely to be of assistance to the reader. The object of the paper is simply to assist the student in acquiring this knowledge, and with that end he invites criticisms or questions addressed to the editor and will always be pleased to render whatever assistance he can in this connection.

Instruments.

The student of geometry will need a number of instruments in order that he may work out the various problems which are given. These must consist, at least, a compass with pen and pencil points, a pair of dividers and a right line or drawing pen. Drawing boards, triangles, pencils, paper, rubber and thumb tacks will also be needed. Considering that sets of tools may be had from 20 cents up to $300, it will be seen that a description of them would occupy too much space to give here. The student is advised to obtain the catalogues of the various firms of mathematical instrument makers which will be sent free of charge to any one who mentions this paper. In most of the large cities are found dealers, or makers, who publish catalogues and it will be useful to give one or two names here for reference. Kauffel & Essey, Fulton street, New York; Queen & Co., Chestnut street, Philadelphia and W. Stanley, Norway Junction, London, Eng., are among the chief firms, each of which will be found of much value and interest.

Among the less known of mathematical instruments may be mentioned the compass illustrated in Fig. 1 which is employed for describing minute circles. The principle difference between this and other compasses lies in the fact that the pen works on a vertical rod which is held stationary. Pens for making dotted lines up to recent date usually consisted of wheels slided between the ribs of an ordinary right line pen, but they were very far from satisfactory. Probably the best dotting instrument is that shown in Fig. 2 which not only is adaptable to any description of dotted line but does its work clearly and quickly. To change the length of description of the dots, the wheel is taken out and another one is inserted. It is found of con- siderable service to have at hand a curve which may be used in describing ornamental work and a large number of different curves are manufactured in paper, hard rubber and wood for the purpose have formed the subject of patents in recent years. Among these may be mentioned Harden's section liner which is adapted for use on both sections and cylindrical work. Bergen's section liner in Fig. 3 is a very serviceable instrument of the same class while another is the "Universal Ruler," shown in Fig. 4. An entirely new description of form in mathematical instruments has lately been introduced into this country from Germany. They are constructed mainly in cylindrical form and in strength and convenience are claimed to exceed those of the old style. Having possessed himself of the suitable instrument the student will now proceed to study scales.

Scales.—A scale drawing intended to represent some object such as part of a portion of mechanism, etc., may be full sized or it may be larger or smaller. In the last two cases it is said to be drawn to scale. In the erection of an ordinary building some drawing (term of details or detail drawings) are full size and the others on a scale of about a quarter of an inch to one foot. The fraction which exists between a drawing and the object which it represents is termed the representative fraction because it represents the fraction or proportion between the drawing and the object. Thus in a scale of an inch to a foot one inch represents 12 inches and the representative fraction is therefore 1/12. The construction of a plain scale must be very accurate and as it
involves considerable time and care to make, it is advisable that scales should be purchased ready made. These are made on wood, ivory and paper. The last are not at all reliable. The student will do well to make himself thoroughly acquainted with scales and should make for himself several until he is able to produce a result essentially accurate.

The construction and use of a drafting scale does not seem to be so generally known as it might be, considering its efficiency. Its use is to give minute measurements such as for example as one hundredth part of an inch. The principle upon which it is constructed will be clear on reference to Fig. 3. A B is divided into inches the first inch A C is divided into tenths as indicated by the figures placed against the divisions. To obtain the hundredth part of an inch, that is, the tenth part of the smaller divisions, lines are drawn diagonally, being divided up by horizontal lines into ten parts. It will be seen that the diagonal line slope to the left 1/10th of an inch that the horizontal lines will divide that distance up into ten parts, giving the hundredth part of an inch. For example, the distance from X to Y in the figure will be 1.25 inches; that is, one inch, two tenths and five hundredths. It will be obvious that the most minute measurements by this system may be easily obtained and their utility in setting out on a small scale is very considerable.

**Elementary Problems.**

We may here pause to advise the student who is unfamiliar with the methods, to learn how to work out the following problems: Divide a line into equal parts or proportionally, making angles with compass only; bisecting angles and lines; erecting perpendiculars; polygons, triangles, squares and rectangles in circles.

**Polygons.**—The polygon is a figure having more than four sides and angles. When the sides are equal in length it is said to be a regular polygon, and when of unequal length an irregular polygon. The construction of the latter depends upon the length of lines and angles being given. Regular polygons, however eight times as required. Second. When the length of side is given set out the one side E F fig. 7, then work out the following sum:

\[(N - 2) \times 90\]

In this formula N equals the number of sides in the required polygon. Now take the angle so obtained and set it up at E and \( \varphi \) respectively, and where the two lines meet at \( \varphi \) stick in the compass and with radius \( \varphi F \) describe a circle. The line \( \varphi E \) will now step round exactly the number of times required. For example, suppose it is required to draw a pentagon or five sided figure, \( N \) in this case equals 5, therefore 5 divided by 2 equals 3 times 90 equals 270 divided by 5 equals 54. The angles of course may be either set up by means of a protractor or by the scale of chords. This method of constructing polygons is an exceptionally quick one, and with a little care is very accurate. Another way to do the same thing is by an instrument known as the section, an explanation of which will be given in our next paper.

**To be continued.**

**Odd Facts About Buildings.**

The Definitions Used by Insurance Companies.

**WHAT is a building, anyhow?**

A reporter was securing some facts about insurance, and was surprised to find that a fishing scow comes under that heading, while a shanty does not always.

"That depends upon circumstances. Under the rules governing insurance companies a building is described briefly as follows: "A building or "house" is an edifice erected by art, composed of stone, brick, wood or other proper substance, fixed upon or over the soil, and designed for use in the position in which it is fixed."

"A policy upon a "building" simply, without qualifications, will cover only the building as therein described. But the insurance will not include the contents, or the occupancy of the premises beyond that described in the policy."

"If the word building be qualified by additional words, as "sawmill buildings," it would then include everything appurtenant and necessary to fit it for occupancy as a sawmill, and carry with it the right to be used for such purposes."

"Fishing Scows are Buildings—When it is proved that they are used and occupied during the fishing season as dwellings and places of business, and after the fishing season as residence on land."

"A Shanty Not a Building—When used for storing tools, but not used for a workshop."

"Stories of a Building—Where the several stories of a building were owned by separate parties, it was held that such owners of distinct buildings, the one situated over the others, and the owner of the upper story must keep the roof in repair at his own expense; and he cannot recover from the owners of the stories below any portion of such expense, although the repairs were to protect the property of such owners."

"Gilbertson's Old Method" Roofing Tin has been specified by the Architect of the new B. & O. Depot at Smithfield street. One thing certain, the coming generation are sure of a good roof from rain and storm while waiting for trains at the B. & O.—The Builders' Gazette, Pittsburg, Pa., Aug. 15, 1888.
PLUMBING AND DRAINAGE.

Rules and Regulations adopted July 19th, 1888, by the Board of Health, City and County of San Francisco, to take effect immediately.

ORDER NO. 1,982.

Providing for the protection of the Public health, and requiring Plumbers to register their names and addresses at the Health Office, and comply with regulations of the Board of Health in reference to the drainage and plumbing of buildings.

The People of the City and County of San Francisco do ordain as follows:

(Plumbers to Register at Health Office.)

SECTION 1. Every master and journeyman plumber, carrying on his trade in this city and county, shall, under such regulations and rules as the Board of Health of said city and county shall prescribe (not in conflict with general laws), register his name and address at the Health Office of said city and county. And after the establishment of such regulations and rules, it shall not be lawful for any person to carry on the trade of plumbing either as a master or journeyman, or otherwise, unless his name and address be registered as above provided.

(List of Registered Plumbers to be Published in yearly Report of Health Office.)

SECTION 2. A list of the registered plumbers shall be published in the yearly report of the Health Officer or Board of Health.

(Penalty.)

SECTION 3. The drainage and plumbing of all buildings, both public and private, hereafter erected in said city and county shall be executed in accordance with plans previously approved in writing by the Board of Health of said city and county; and suitable drawings and descriptions of the said drainage and plumbing shall, in each case, be submitted to the Board of Health and placed on file in the Health Office.

(Drawings of Drainage and Plumbing to beFiled.)

The said Board of Health is also authorized to receive and place on file drawings and descriptions of the drainage and plumbing of buildings erected prior to the passage of this Order.

(Penalty.)

SECTION 4. Any person violating any of the provisions of this Order shall be deemed guilty of a misdemeanor and upon conviction shall be punished accordingly.

In Board of Supervisors, San Francisco, May 28, 1888. After having been published five successive days, according to law, taken up and passed by the following vote:


JNO. A. RUSSELL, Clerk.

Approved, San Francisco, May 20, 1888.

E. B. POND,
Mayor and ex-officio President Board of Supervisors.

In pursuance of Order 1,982 of the Hon. Board of Supervisors, "providing for the protection of the public health and requiring plumbers to register their names at the Health Office and comply with regulations of the Board of Health in reference to the drainage and plumbing of buildings approved May 29, 1888," the Board of Health for the City and County of San Francisco, have adopted July 19, 1888, the following Rules and Regulations, to take effect immediately:

1. All material must be of good quality and free from defect. The work must be executed in a thorough and workmanlike manner.

2. The arrangement of soil and waste pipes must be as direct as possible.

3. Every house or building must be connected with the street sewer by a cast-iron or iron-stone pipe extending out to the line of the street, and in the case of buildings erected on the street, said cast-iron pipe shall extend three feet beyond the front walls or any area wall. From the points above designated to the street sewer, the drain shall be continued either by the above mentioned cast-iron pipe or by a vitrified iron-stone pipe laid at a uniform grade from the street sewer to a point of juncture with the cast-iron pipe. All joints on said iron-stone pipe shall be made with Portland cement, and each joint of pipe when laid must be properly cleaned on the inside by a suitable scraper before the succeeding pipe is put in place. All joints on a cast-iron pipe shall be made with a suitable packing of hemp or oakum and run full with moxton lead and properly caulked.

4. Every house or building hereafter erected must have the house drain constructed of cast-iron where it lies under the building; but when the house drain is outside the building lines, or where there is an open space under the house of four (4) feet clear in height, it may be of iron-stone pipe. The house drain must have a fall of at least one-quarter of an inch to the foot; it should run along the cellar wall where practicable, or if laid under the lower floor of a building should be hung in iron straps securely fastened to the floor joists; it should be laid in as straight a line as possible. All changes in direction must be made in curved pipes and all connections with Y branches and one-eighth bends, with a trap placed under the sidewalk. The traps must be provided with a fresh-air inlet on the house side of the water-seal, of at least four inches in diameter, leading to the outer air. No brick, sheet metal or earthenware flue shall be used as a sewer ventilator, nor shall any chimney flue be used for this purpose. No T's to be used except in places where otherwise not practicable.

5. Every soil pipe shall be of cast-iron; waste pipe shall be of cast-iron, wrought-iron or lead.

6. All cast or wrought-iron pipe and fittings for waste, vent and soil pipes must be coated both inside and outside with coal-tar pitch, applied hot, or some other equivalent substance.

7. All iron soil or waste pipe, before being covered up, must have all openings stopped, and filled with water and be allowed to stand until inspected and approved. All connections of lead with iron pipe must be made with the brass ferrule of the same size as the lead pipe, and caulked into the iron pipe and connected to the lead pipe by a welded joint. All connections of lead pipe should be welded joints.

8. Every water-closet, sink, basin, bath or set of wash-trays or other vessel connected with the drain pipes, must be separately and effectively trapped. The traps must be placed as near the fixtures as practicable.

9. Traps must be protected from syphonage by special air-pipes of lead, wrought iron or cast iron, not less than the size of waste pipes, and, if to supply air to traps of water closets, not less than two inches in diameter. These pipes must extend two feet above the highest point of roof or coping, or they may be branched into the soil pipe three feet above the highest fixture; they may be combined by branching together those which serve several traps. These air pipes must always have a continuous slope, to avoid collecting water by condensation. When the trap of any fixture is set more than two feet from the vertical line of pipe, a return connection must in all cases be provided.

10. Every safe under a basin, bath, urinal, water-closet, tank or other fixture, must be drained by a special pipe of lead or wrought-iron, not directly connected with any soil, waste-pipe, drain or sewer, but made to discharge outside the house.

11. Rain-water leaders must never be used as soil, waste or vent pipes, nor shall any soil, waste or vent pipes be used as a rain-water leader. All leaders from points below main roof must discharge into open trapped hoppers, on the surface of the ground.

12. No steam exhaust will be allowed to connect with any drain, soil or waste pipe.

13. All waste pipes from all interior plumbing, exclusive of water-closets, shall discharge into an open trapped hopper, except rooms which contain a water-closet, or where a building covers the entire width of the lot of ground.

14. Every line of waste and soil pipe must extend full here to the ridge of the roof, or two (2) feet above the fire walls, not more than one water-closet on the basement of first floor of a building connects with a line of soil pipes, an air pipe of cast or wrought-iron two (2) inches in diameter, extending to the ridge of the roof, or two feet above fire-walls, may be used.
All leaders, soil, waste, air and drain pipes inside of buildings before being covered up, must have all openings stopped up and be filled with water. The said test shall be made in the presence of the Inspector of Plumbing, and if satisfactory, he shall issue a proper certificate. Notice must be given to the Inspector when the work is sufficiently advanced for inspection.

All iron-stone pipe house drains, under houses, shall, after being laid, be filled with water and allowed to remain uncovered until inspected by the Plumbing Inspector of the Board of Health. When cast iron or iron-stone pipe is specified in the foregoing rules and regulations, if desired, wrought-iron pipe of standard steam thickness may be used, provided that the fittings are so constructed as to form a uniform bore with the pipe, without burrs or recesses.

No opening shall be provided in the sewer pipe of any building, for the purpose of receiving the surface drainage of the cellar, unless special permission is granted; and any opening so made must be immediately and permanently closed when directed by this department.

When a building is moved from one part of the city to another, or when an addition is made to a building, the plumbing rules and regulations adopted by the Board shall be followed.

On and after the first day of August, 1888, all plumbers doing business in the City and County of San Francisco, shall register pursuant to the provision of Order 1,982 of the Board of Supervisors, approved, May 29th, 1888, at the office of the Board of Health.

Every master plumber, before he shall be allowed to be registered, shall give a bond to the State of California in the sum of five hundred dollars with two good and sufficient sureties, for the faithful discharge of his duties as plumber; which said bond shall be approved by and filed with the Board of Health.

All applications for registration as master or journeyman plumber shall be made by the party desirous of being registered; and said application shall be subscribed and sworn to by the party making the said application, on blanks to be provided by the Secretary of the Board of Health.

There shall be appointed by the Board of Health an Inspector of Plumbing and Drainage. He shall take and subscribe to an oath that he will faithfully perform the duties of his office, and shall, before entering upon his duties, execute a bond to the City and County of San Francisco, in the sum of five thousand dollars, with two good and sufficient sureties, conditioned for the faithful performance of the duties of his office, and for the benefit of persons aggrieved by his acts or neglect. Said bond shall be approved by and filed with the Board of Health.

The salary of the Inspector shall be fixed at one hundred and twenty-five dollars per month.

There shall be appointed by the Board of Health an Assistant Inspector of Plumbing and Drainage, to act under the orders of the Inspector of Plumbing and Drainage, and assist him in the fulfillment of his duties.

'Section 25. It shall not be lawful for any person to carry on business or labor as a master or journeyman plumber, in the City and County of San Francisco, until he shall have obtained from the Board of Health of said city and county a license authorizing him to carry on business or labor as such mechanic. A license to do shall be issued only after a satisfactory examination by the Board of each applicant upon his qualification to conduct such business, or to do labor. All applications for license, and all licenses issued, shall state the name in full, age, nativity, and place of residence of the applicant or person so licensed. It shall be the duty of the Secretary of the Board of Health to keep a record of all such licenses issued, together with an alphabetical index of the same."

Duties of Inspector.

First. He shall be in attendance at the Health Office between the hours of 8.30 and 9.30 A.M. and 4 and 5 P.M., to receive plans of proposed plumbing and drainage, and to make appointments for the inspection of work in the course of construction.

Second. He shall number and file all plans and specifications accepted, and record the names of the owner and architect, and plumber, and location of work.

Third. He shall, upon being notified, examine all plumbing work before the same is covered up and concealed, and, if found to be in accordance with the Rules of the Board of Health, upon presentation of an accurate plan and specification of same by the plumber, shall issue a certificate to that effect. If, on examination of said work, he finds any violation of the rules of the Board of Health, he shall report the same to the Health Officer, with a note explaining the necessary corrections, and have it altered accordingly. Upon completion of any plumbing work he shall examine the same, and, if found to be in accordance with the Rules of the Board of Health, and the plans and specifications filed, he shall issue a final certificate.

Fourth. He must make a monthly report to the Board of Health of the number of plans and specifications received; the number approved and rejected; also stating the number of first and final examinations made, and where and by whom the work have been violated, and such other matter as may be requisite to the Board of Health.

Bound Volumes for 1888.

Owing to the demand for back numbers of this journal, the number of bound volumes we will have for purchasers in December will be very limited. Those desiring the same should engage them in advance. The price will be the same as for preceding years, $2.50 each.

Old Homes Made New... 50
The Suburban Cottage... 1 50
Homes for the People... 2 00
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NOW IS THE TIME TO SUBSCRIBE.

Remaining numbers of this year given free to all new subscribers for 1889.

IN JANUARY, 1889, WE BEGIN THE TENTH VOLUME OF THE California Architect and Building News

TERMS,
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Office: 240 Montgomery Street, San Francisco, Cal
Well up Heavenward.—28 Stories.

CARCELY a day passes that does not bring to light some wonderful or strange proposition or development, and no man knoweth what to morrow may bring forth.

The evolutions in all directions are ceaseless, rapid, and often stupendous and grand. There is to-day before the world of mankind, very many proposed or recently accomplished results which to have been suggested fifty years ago, would have subjected the parties advancing the ideas, to the suspicion of absolute lunacy, or serious mental derangement.

The latest in the building line is a proposition to erect a building in Minneapolis, Minn., twenty-eight stories high—four times the number of stories contained in the Palace Hotel in San Francisco, which, when built, was considered a monster edifice. But with an addition to the Palace of the character suggested by the latest conceit—twenty-eight stories—the building, which when built, was in fact the largest hotel edifice in the world, would appear as but little more than an annex for kitchen purposes, dormitories for servants, chambermaids, porters and hired help.

Without discussing the merits or feasibility of the projected high edifice, it must be admitted that the designer’s notions were very elevated, and that nine-tenths of the people of the United States will at first sight condemn the aspiring latitude of the architect in his attempt to utilize space so high above the level of terra firma. But it is a question whether this latest architectural adventure is any more startling or scare-crowish to the people of the present day than would have been the proposition to erect ten, twelve and thirteen story structures, made to the grandeur of those who have since conceived and completed buildings in New York, Chicago, Boston and others of the older and newer cities now assuming great commercial and business importance in parts of the continent which, but a generation or two ago, was known as the wild West, and the hunting ground for buffaloes and the home of the red man of the forest—buildings quadrupling the limits of height practiced in the earlier years of our nation’s history.

Even the immortal “Father of his country,” if at the time he was quartered at the lower end of Broadway, N. Y., within sight of the Battery, opposite Bowling Green, in a building then of the larger type—where he was near being made a prisoner of war—been told that on that very site, before the year 1885, there would be a building erected twelve stories in height, and conveniently and comfortably occupied in all its stories, he would have laughed to scorn the folly of the presumptuous man who would have dared to predict such a result. Yet it is to-day an accomplished fact, and the “Washington Building” stands just there, as one of the magnificent structures of the commercial metropolis of America. Arguing from these premises, is it not possible that infants, if not well grown lads, or even young men of the present era, may yet see or participate in the erection of buildings even, as high as twenty-eight stories? It is far-reaching toward the clouds, but other things seemingly as unreasonable a quarter of a century ago, are now demonstrated facts, and the sciences of architecture and building may yet achieve results not yet grasped, and the “mad men’s” projects of to-day may be among the recognized utilities of the future.

Newspaper editors and correspondents may dip their pens deep into ink and write up fierce denunciations, nineteen-tenths of business committees resist for the present, all such mad-architectural libertinism, and laws even be passed prohibiting such construction; still the evolutions will roll on, and in time buildings approximating if not exceeding twenty-eight stories may no more be a questionable proposition, than are the numerous ten to thirteen story buildings of to-day, which are to be seen in all the progressive and great cities outside of San Francisco.

A SERIES OF “GEM” COTTAGES.

Next issue we will commence in this journal a series of “Gem” cottages. They will be prepared expressly for us by A. W. Putnam, a draughtsman recognized by all who know him, as possessing rare abilities as an original designer.

Now is the time to subscribe. Remaining numbers of this year given free to all new subscriber. for 1889.
There is no Paper or Journal on the Pacific Coast that pretends to give a Full Report of Building News, except the CALIFORNIA Architect and Building News.

CITY BUILDING NEWS.

Bush, west of Pierce, three story frame building, T. E. Walsh; contractor, G. W. Hanshorough; architect, Wm. H. Whirlow; contractor, E. E. White; amount, $4,574; signed, September 12th; filed, September 17th; limit, 70 days. Payments: framed, $1,400; brown coated, $1,400; white coated, $1,400; completed, $1,431; $1,900, 35 days.

Pine street, N. 230, repairs. Owner, Kong Chow Association; architect, Townsend & Wyken; contractor, Rhody Rigsbee; amount, $8,910; sureties, Wm. P. Doughtery & L. H. Peterson, $5,000; signed, September 12th; filed, September 15th; limit, 35 days. Payments: completed, $2,264; $735, 35 days.

Page, southeast of Webster, two story frame building. Owner, Chas. B. Perkins; architect, R. H. White; contractor, Jas. Geary; amount, $1,450; sureties, C. S. Holme & W. A. Meeker; signed, September 18th; filed, September 22d, limit, 90 days. Payments: framed, $75; brown coated, $700; white coated, $700; completed, $700; $975, 35 days.

Eddy street No. 1, 196, additions, etc. Owner, P. A. Fortier, architect, P. A. Fortier; contractor, Wheeler & Burdick; amount, $3,150; sureties, A. W. Starbird; signed, September 19th, filed, September 22d; limit, 120 days. Payments: studded, $800; brown coated, $800; white coated, $749; $801, 35 days.

Golden Gate Ave. and Polk, tin and galvanized iron work. Owner, H. Kenan; architect, C. J. E. Devlin; contractor, Joe Forderer; amount, $1,340; signed, August 20th; filed, September 21st. 75 per cent as work progresses; balance, 35 days.

Eddy street, between Jones and Leavenworth, alterations. Owner, Annie K. Botsford; architect, T. J. Welsh; contractor, G. W. Hanshorough; amount, $4,125; sureties, John F. Taylor, J. M. Manning; signed, September 12th; filed, September 17th; limit, 120 days. Payments: framed, $2,901; brown coated, $3,150; completed, $5,565; $8,700, 35 days.

Pewell, between Post and Sutter, frame building. Owner, Mrs. A. M. Parrot; architect, Pisalis & Moore; contractor, Wm. Langstaff; amount, $7,950; sureties, E. P. Linton, F. H. Rosenbaum; signed, September 18th; filed, September 19th; limit, 70 days. Payments: brick work of basement up, $1,500; framed, $1,200; brown coated, $1,600 ready to paint, $1,400; completed, $1,850, 35 days.

Eddy street, No. 325, plumbing and con- tractor. Owner, G. W. Hanshorough; architect, T. J. Welsh; contractor, E. Kraus; amount, $1,820; signed, September 20th; filed, September 21st. Plumbing, $455; brown mortar on, $455; tubs and bowls set, $455; completed, $455, 35 days.

Trenty-fifth, between Bryant and York, two story frame building. Owner, F. Doo; architect, M. J. Welch; contractor, R. Doyle & Son; amount, $1,860; sureties, John McGuire, J. Wagner, $1,860; signed, September 18th; filed, September 19th; limit, 65 days. Payments: framed, $500; brown coated, $600; completed, $745; $751, 35 days.

Bush street, No. 220 to 226, alterations. Owner, Estate of C. D. O'Sullivan; architect, C. J. J. Devlin; contractor, C. P. & G. H. Moore; amount, $5,150; sureties, C. S. Holmes, F. Jost, $5,000; signed, September 12th; filed, September 19th; limit, 45 days. Payments: iron girders, $1,000; brown coated, $1,800; completed, $1,144; $1,315, 35 days.

Francisco, west of Stockton, building. Owner, Annie Harre, contractor, R. Doyle & Son; amount, $4,600; sureties, J. B. Coffin, Jno. McCurby; signed, September 11th; filed, September 22d; limit, 70 days. Payments: framed, $465; 1st coat of mor- tar is on, $465; completed, $465; $465, 35 days.

Turk, east of Franklin, frame building. Owner, J. Brown; architect, Salfeld & Kohlberg; contractor, H. Holzing; amount, $6,000; sureties, J. J. McKinnon and F. Jost, $6,050; signed, September 11th; filed, September 15th; limit, 3 months. Payments: framed, $1,550; partitions set, $1,000; brown coated, $1,000; completed, $1,000; $1,500, 35 days or bills paid.

O'Farrell east of Laguna, building December 1st. Owner, Wm. Freid & Margaret Gal- lagher; architect, J. J. Clark; contractor, Jno. G. Adams; amount, $5,000; signed, September 11th; signed, September 10th; limit, 75 per cent as work progresses; balance, 35 days.

Bush street, No. 226, cast iron work. Owner, Estate of C. D. O'Sullivan; architect, C. J. J. Devlin; contractor, J. Hendy Machine Works; amount, $2,650; sureties, A. R. Wells, Jas. Patterson, $2,000; limit, 40 days. Payments: completed, $1,075; $675, 35 days.

Russ street, No. 25, raise and move. Owner, A. and S. Simon; contractor, A. C. Boger; amount, $2,400 signed, August 4th; filed, September 13th. Payments: work as payment progresses.

Howard street and Tenth, wrought-iron work. Owner, Omnium Cable Company; architect, Percy & Hamilton; contractor, C. McGuire & Son; amount, $1,445; sureties, P. Crichton, Wm. Cronan, $1,445; signed, September 13; filed, September 20; limit, 110 days.

75 per cent on 1st Saturday of month as work progresses; balance 35 days.

Howard street and Tenth, cast iron work. Owner, Omnium Cable Company; architect, Percy & Hamilton; contractor, O'Connell & Lewis; amount, $1,445; sureties, R. W. Mitchell, J. Mahony, $4,000; signed, September 13; filed, September 20; limit, 110 days.

75 per cent on 1st Saturday of month as work progresses; balance 35 days.

Howard street and Tenth, artificial stone work. Owner, Omnium Cable Company; architect, Percy & Hamilton; contractor, G. Goodman; amount, $7,000; signed, September 15; filed, September 20; 75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, stone work. Owner, Omnium Cable Company, architect, Percy & Hamilton; contractor, Degan & Orford; amount, $4,575; sureties, L. J. Knowles, Wm. Mathews, $8,000; signed, September 13; filed, September 21; limit, 115 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, brick work. Owner, Omnium Cable Company; architect, Percy & Hamilton; contractor, W. Burden; amount, $5,150; sureties, Robert Mitchell, C. A. Warren, $10,00; signed, September 13; filed, September 20; limit, 140 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, carpenter, plumbing, and painting. Owner, Omnium Cable Company; architect, Percy & Hamilton; contractor, Thomas H. Day; amount, $8,200; sureties, J. F. Kennedy, and B. Jost; $10,00; signed, September 13; filed, September 20; 75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Braman, north west side First, one-story and basement, wine warehouse. Owner, Warehouse Land and Improvement Company; contractor, Richardson & Gale; amount, $85,000; sureties, Schulze & Meeker, E. G. & J. G. Denning, $13,000; signed, September 14; filed, September 21; limit, 120 days.

Pay in lots as area built, $7,500; sidewalk, iron and first joints in $6,000; brick work to under side of ceiling, joins done, $1,850; brick wall, built, red done, $1,850; and skylights, $4,675; completed, $4,675, 35 days.

Kissing, between 11th and 12th streets, frame building. Owner, Owne; architect, M. J. Welsh, contractor, T. Sullivan; amount, $5,427; sureties, W. Thays, B. McManus, $750; signed, September 12th; filed, Septem- ber 18th; limit, 70 days.

Payments: framed, $356.75; brown coated, $367; completed, $367.5; $367.5, 35 days.
The Banks; F. Shea; Valencia, paint, payment, Havens; Stewart, J. (sou, completed, tect. Oct. limit, December amount, C. tember) Payment: McLaughlin; signed, completed, etc. file, Robert September Casper file, September Zwierlein; brown and Nordweli, balance month 2d, $1,085; 22d; signed, September 22d; filed, September 25th; limit, 90 days. filed, September 15th, four months. Payment: four equal payments as work progresses of $1,875: balance, 35 days. Golden Gate Ave. between Hyde and Larkin, two story basement. Owner, Carpenter & Son; architect, Wm. H. Armitage; contractor, Mead & Kennedy; amount, $1,360; signed, J. P. van Ness; file, September 2d; limit, 14 days; signed, September 4th; filed, September 15th; limit, 40 days. Payments: frames in, $500; completed, $457, 35 days. Hampshire, between 24th and 25th, building December 15th, Owner, Anton King; architect, H. Gehius; contractor, J. F. Logan; amount, $3,105; signed, September 15th; filed, September 15th. Payments: framed, $300; partitioned, $500; brown coated, yard in, $90; inside finish, after $50; completed, $500; $293, 35 days. Jackson, east of Pierce, carpenter work. Owner, Robert Bruce; contractor, Wm. F. Kent; amount, $1,250; surety, W. O. Nordwell; signed, July 14; filed, September 12; limit, four months. Payment: four equal payments as work progresses of $1,875: balance, 35 days.

Wallner near Buchanan, two story basement frame building. Owner, Russell Otto and Gottlob A. Maurerhaus; architect—contractor, Jno. Cost, $4,400; signed, Sept. 20, 1888; filed, Sept. 28, 1888; limit, 90 days; sureties, Jno. Coop and F. R. Latson; amount of bond, $4,000. 1st payment, when framed, $800; 2d, when enclosed, $800; 3d, when coated, $800; 4th, when completed, $800; 5th, usual 35 days, $200.

28 Fulton, building. Owner, Margaret McGinney; contractor, Geo. M. Sable; signed, September 21st, 1888; filed, September 25th; limit, December 1st. 1st payment, when framed, $450; 2d, building enclosed, $450; 3d, when brown coated, $450; balance, usual 35 days.

Oak, near Gough, building Owner, Jno. Maddox; architect, R. Warren; contractor, Charles Corey; $1,275; limit, November 20th, 1888; signed, September 18th; filed, September 26th.

210 Fell, in rear, frame shed. Owner, A. Larfarge; architect, B. E. Henrickson; contractor, Moore Bros.; cost, $1,445; limit, October 20th; signed, September 22d; filed, September 26th. 1st payment, when building is completed, $1,085; balance, usual 35 days, $360.

Stewart, between Mission and Howard, one-story brick. Owner, S. Harris; architect, J. Marquis; contractor, R. Parker; cost, $2,700; limit, 63 days; signed, September 25th; filed, September 25th.

1st payment, when walls are up, $1,000; 2d, when completed, $1,000; 3d, and balance, usual 35 days, $700.

Waller, near Webster, one-story frame building. Owner, Jno. Michel; architect, John & Zimmerman; contractor, J. Klein; cost, $2,687; signed, September 25th; filed, September 27th; limit, December 8th. 1st payment, when framed, $600; 2d, when rough coat is on, $800; 3d, when ready to paint, $537; balance, usual 35 days, $650.


Fulton, near Franklin, two-story frame and basement. Owner, T. Kronenberg; architect, John & Zimmerman; contractor, Fuchs & Brother; cost, $6,050; limit, January 2d; signed, September 25th; filed, September 24th; sureties, W. Hume & Kroenecke.

Fuller, near First avenue, frame attic and basement. Owner, Sophie Hinckie; architect, H. T. Bestor; contractor, R. P. Traulor; cost, $2,825; limit, October 25th; signed, September 25th; filed, September 27th; limit, 90 days. 1st payment, when framed, $400; 2d, when rough coat is on, $500; 3d, when windows are in, $550; 4th, when completed, $490; balance, usual 35 days, $920; surety, C. A. Malin; amount of bond, $900.

Castron, between 16th and 17th, building. Owner, Wm. J. McAllup; contractor and builder, J. A. Shepherd; cost, $3,700; signed, Sept. 27, 1888; filed, Sept. 27, 1888; limit, Jan. 1, 1889. 1st payment, when framed, $920; 2d, when brown mortarad, $550; 3d, when completed, $590; 4th and balance, usual 35 days, $550.

Eddy, between Polk and Van Ness avenue, frame building, painting contractor. Owner, Geo. Haas; architect, J. H. Littlefield; contractor, D. J. Lavens; cost, $720; signed, September 26th; filed, September 26th; limit, 16 days. Payment, 75 per cent as work progresses.

Eddy, between Polk and Van Ness avenue, plumbing contractor. Owner, Geo. Haas; architect, J. H. Littlefield; contractor, Sweeney & Kearns; cost, $900; signed, September 26th; filed, September 29th; limit, 12 days. Payments, 75 per cent as work progresses.

Twenty-sixth and Valendia, plumbing. Owner, A. E. Hecht; architect, H. C. Macy; contractors, Duffie Bros.; cost, $1,770; limit, Nov. 10, 1888; signed, Sept. 10, 1888; filed, Sept. 27, 1888. When completed, $1,770.

Church, between 23d and 24th, one-story cottage. Owner, Geo. A. Rice; architect, Schmidt & Shea; contractor, Martin & Maguire; cost, $2,290; limit, 90 days; signed, September 15th; filed, September 25th; surety, F. P. Latson. 1st payment, when building is framed, $400; 2d, when brown coated, $1,000; 3d, when white coated, $1,000; 4th, when completed, $400; 5th, usual 35 days, $650.

Elm Ave., between Van Ness and Franklin, building. Owner, Martin O’Dell; architect, Ohas, J. Havens; contractor, Wm. Plans; cost, $5,570; signed, September 26th; filed, September 28th; limit, 90 days; sureties, F. & B. Joost.

Hartford, near 19th, building. Owner, M. Dolan; architect, J. J. Clark; contractor, R. O. Chandler; cost, $5,110; limit, 90 days; signed, September 23rd; filed, September 28th; sureties, F. Ageltinger and C. A. Bennett.

1st, framed, $750; 2d, brown coated, $750; 3d, inside finish on, $750; 4th, balance, usual 35 days, $850.

Somona, between Utah and Nebraska, one-story car house and stable. Owner, Omnibus Cable Company; contractor, H. A. Conrad; cost, $6,055; limit, 50 days; signed, September 28th; filed, October 1st. Payments, 75 per cent as work progresses.

Green near Lagune, one-story and basement frame building. Owner, Mary Cohlan; architect, John & Zimmerman; contractor, Reichley & Viehrich; cost, $1,900; limit, December 8th; signed, September 24th; filed, September 24th; surety, F. Joost.

1st payment, when up, $500; 2d, when rough coat is on, $425; 3d, inside ready to paint, $500; balance, usual 35 days, $475.

Eddy, between Polk and Van Ness avenue, frame building. Owner, George Haas; architect, J. H. Littlefield; contractor, J. S. Logan; cost, $8,378. Payments at the rate of 75 per cent as work progresses; balance, usual 35 day
The plans of the new Consolidated National bank building are now almost com-
pleted in Constock & Troteche's office. Two stories will be added to the present building, and the whole structure will be remodeled. When completed it will be 50 x 90 feet in size and four stories in height, with a basement. Substantial materials will be used throughout, and in appearance the building will be one of the most elaborate and im-
oposing structures in the city. There will be an elevator and all modern improvements. On the Fifth street front there will be a very elaborate ornamentation of terra cotta tiling and other stone. The main entrance, on G street, will be very wide and imposing in appearance. The change in the arrange-
ment of the banking room is almost com-
pleted. Bids are now being taken for the
excavating and stone and iron work, and
orders are being prepared for such materials as will have to be imported. The work of con-
struction will begin soon.

No bids have been received for the work on the Pauly-Gassen block, to be erected on the corner of Fourth and E streets. The work of preparing bids is necessarily slow because of the immense size of the structure. The bids are expected in a few days, how-
ever, and shortly hereafter the work of con-
struction will begin.

Constock & Troteche have prepared plans for a new two-story, ten room cottage, to be erected on K street, between Twenty-second and Twenty-third. D. W. Strong is the owner.

The United Presbyterians have had plans prepared for a new church building to be erected in Sherman's addition. Mr. Schroeder is the architect. The design is said to be one of the finest in the city, in some respects the very finest. The entire structure will be completed this fall, and at present it is only proposed to build the lecture-room, at a cost of about $2,500. This will be built so that the main building can be added to it later. Its size will be 27 x 50 feet. Rev. R. G. Wallace is pastor of this congregation.

During the last thirty days Building In-
spector Thien has granted permits for the erection of twenty-eight buildings, the cost of which will be $263,000. The following is a complete list of the permits granted:

BÜLDING PERMITS.

E. F. French, two-story frame dwelling, lot K, block 33, Middletown; $2,500.
A. G. Nason, one-story five-room dwell-
ing, Horton's addition; $1,310.
Henry Timken, two-story and basement frame dwelling, Horton's addition; $10,000.
Joseph Horpey, one-story brick store, Horton's addition; $2,500.
Mrs. Emma J. Kochler, one-story five-
room dwelling, Horton's addition; $1,500.
Constock & Troteche, one-story frame
schoolhouse, Mission Valley; $1,300.
F. S. Jennings, two-story frame dwelling, New Roseville; $3,000.
George H. Gripen, two-story frame dwell-
ing, New Roseville; $3,000.
F. E. Johnson, superintendent of the col-
lege of arts of University of Southern Cal-
ifornia on campus on University Heights; $500,000.
H. Barnes, two-story frame dwelling, Horton's addition; $2,500.
H. E. Fellow, two-story frame dwelling, Horton's addition; $3,000.
W. B. Woodward, two-story frame dwell-
ing, New Roseville; $3,000.
Central Market Company, two-story brick
store and offices, 50 x 200 feet, Horton's addi-
tion; $16,000.
John Allin, three-story brick building,
50 x 100 feet, Horton's addition; $12,000.
Rev. R. G. Wallace, farm church, Sher-
man's addition; $2,500.
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

Oct. 15, 1888.

RIVERSIDE.

The contract for building the residence of F. T. Field has been let to L. C. Waldman for $1,219. Work will be commenced at once.

SAN BERNARDINO.

Judge Rolfe will build an $8,000 house. Goff & Levy will prepare plans.

SACRAMENTO.

E. A. Boyer has the contract to erect State Printing office warehouses, $8,464.

TACOMA, W. T.

Architect C. N. Daniels has charge of A. Parker's brick building, W. M. Master- ton is the contractor. Cost $11,000.

DISINCORPORATING.

The Pine Manufacturing Company has applied to the Superior Court to be judicially disincorporated. The company dates as a corporation from May 31, 1883. It started with a capital stock of $200,000, in 2,000 shares, of which 1,755 shares have been issued. At a recent meeting of the stockholders, it was resolved by a vote of 1,000 shares to disincorporate. The petition sets forth that all liabilities have been satisfied. The present Directors are: E. B. Dunn, W. J. Adams, W. G. Watson, A. D. Moore, C. S. Holmes, E. W. Bushnell, F. M. Har- rick, Benjamin Pendleton, J. Knowland, A. A. Jackson and W. H. Talbot.

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Beaten Bros., Binet, J. L., 1138 Wall.
Baker, J., 1123 Shewell.
Bray, Henry T., 2206 Howard.
Brown, R., 111 Devindor.
Buckley, Frank, 636 29th, East Oakland.
Burrell, A., 226 Pine.
Chisholm, Chas., 110 Chancos.
Christian, C. J., 283 C.
Classen, J. C., 22 Francisco.
Commend, Wm. T., 905 California.
Conrad, H. A., 1210 Pierc.
Chandler, R. O., 2910 Howard.
Day, J. O., 44 Collingwood.
Day, Thos. H., 111 Devindor.
Dowie, R. and Son, 905 Union.
Dyer, Bernard, 836 Valencia.
Dunn, J. J., 111 Devindor.
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Eckman, Edwards, E. W., 585 Union.
Elnam, Thomas, 905 San Pablo.
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Fletcher, W. M., 1303 Decatur.
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Gillespie, G. O., 257 Octavia.
Gonvan, J. W., 34 Hawthorne.
Grant, John T., 34 Hawthorne.
Gray & Stover, 1316 21st.
Greene, E. R., 34 Hawthorne.
Greene, S. K., 34 Hawthorne.
Griffin, F., 20 Russ.
Hoffmann, Victor Jr., 905 14th.
Hollister, J., 200 California.
Hatch, H. E., 1717 Chaste, Oakland.
Hurtur, R. E., 115 California.
Irwin, James, 909 14th.
Ingersoll & Gore, 971 Broadway, Oakland.
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Keenan, Hugh, 219 Scott.
Kelly, W. F., 711 Lavenworth.
Kerr, F. W., 115 Fair Oaks.
Kingsland & Thompson, 427 Nevada.
Klaw, A., 219 Scott.
Klug, F., 530 Seventeenth.
Kocher, W. A., 550 Spring.
Kleen, Jacob 24
Kline, Wm., 524 Preston.
Lang, Geo. R., 514 22nd St. & 14th Ave., Oakland.
Lynch, M. C., 28 Stanley Place.
Malony, C., 207 Van Ness.
Maher, J. W., 505 Pacifica.
MacDonald, Allen, 1300 Buchanan.
Martin & Maguire, 139 Gough.
McCain, Richard, 217 Wailer.
McIlvenney, James, 377 Jessie.
McKay, J. H., 377 Jessie.
McNitt, Wm., 501 California.
McKee, J., 3109 Sacramento.
Moore, B., 123 Oak.
Morgan, E., 1740 California.
Morton, B., 1807 California.
Napier, J., 567 Green.
Plants, Wm., 106 Twelfth.
Plants, R., 106 Twelfth.
Robinson, T., 106 Twelfth.
Rollin, Henry, 1915 Oak.
Rowan, J. W., 605 Capp.
Sanches, R. P., 423 Idaho.
Simpson, R. F., 336 Telegraph Ave., Oakland.
Succitt, Richard, 1232 Scott.
Treadwell, W. E., 454 Natoma.
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Carpenters of the Bible.

Though the trade is not definitely mentioned in Scripture prior to the time of Noah, yet it is clear that the carpentering work of Noah has been effected centuries before. Noah could not have constructed the ark of gopher wood and made it so correct as to dimensions; he could not have joined the pieces together; he could not have windowed and planked such as would open and close, without some knowledge of carpentering and some acquaintance with the tools of a carpenter. Moreover the tools must have been in existence, and in use prior to this time, which of course suggests that carpentering must have been practiced in the patriarchal times. Amid all the changes which occur in the world, it is interesting to find that the same trade implements as are used to-day were in full use in the childhood of the world. The carpenter about to begin work selects a piece of timber which he calls a plank, and, when he finds the plank or board, the carpenter uses a saw; and such a tool was known to and employed by the workers in the early times, for we read of the lewd stones" being sawn with sails for the foundation of Solomon's temple. To fashion the wood according to the needed purpose, the carpenter must have at hand his rule, his line, his plane and his compass. And so Isaiah the prophet says: "The car- penters stretches out his rule; he fitteth straight and he marketh it out with a line; he fitteth it with planes and he marketh it out with a compass." Very often the carpenter has to join various pieces of wood, by which he terms a mortise and tenon, that is to say, the mortise is a hollow place or socket in one piece of timber, into which the tenon or projecting piece, cut to exact measurements, in the other piece, is fitted, is fitted. But those are God-used terms. The Almighty, in giving the Israelites full directions for the construction of the Tabernacle, said: "Two tenons shall there be in one board, in order one against another; thus thou shalt make for all the boards of the Tabernacle. And thou shalt make forty sockets of silver under the twenty boards, two sockets under one board for its two tenons and two sockets under another board for its two tenons." —Wood Worker.

INDUSTRY.

John Richards has started a new journal devoted to science, mechanic art and the industrial interests of the Pacific Coast. Its pages are well illustrated with all the various patterns of machinery, and in this branch it is the only journal published on the coast. All the illustrations are made by an improved process and show very distinctly all the various details. Editorialy, it excels in its particular line, any of our contempor- ary being on the other side of Chicago. It is issued at the low price of $1.50 per annum. Ad- dress Industrial Publishing Co., 40 California street.

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Vol. X, No. 2.

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Office, 408 California St., San Francisco.
(Next to the Bank of California.)

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SAN FRANCISCO, FEBRUARY 15, 1889.

CALIFORNIA ARCHITECT PUBLISHING COMPANY
NOW HAS CONTROL OF THIS JOURNAL.

Articles of Incorporation of the above named Company have been received from the Secretary of State, and as soon as the By-Laws are prepared permanent officers will be elected.

Following are the Trustees named in the Incorporation papers to hold office for the first year:

ALBERT PISSES, W. P. MOORE, H. T. BOSTOR, W. G. MATTHEWS, OLIVER EVERETT, R. H. WHITE, W. J. CUTHBERTSON.

Mr. Seth Babson has been intrusted with the duty of preparing the By-Laws. Permanent rooms have been engaged at No. 408 California street, next to the Bank of California. Direct all communications in future to the above address, as all business connected with the journal will be there transacted.

Secretary’s office hours, 9 A. M. to 4 P. M.

NEW HEADQUARTERS.

Meeting of the San Francisco Chapter of Architects.

For the first time in the history of the State, those representing the Architectural Profession can lay the claim of possessing one of the neatest meeting rooms in the country. On the evening of February 1st the initial gathering was held. Many of those present were in the rooms for the first time, and uttered words of praise at the taste displayed in the selection of the carpets, chandeliers, chairs, etc. The main office is 10x35 feet in size, amply provided with light, and being on the sunny side of the street is warm enough without the necessity of keeping up a fire all day. In the rear of the main office are two large rooms, having conveniences of sun, light and water. A better location could not have been selected.

All Architects are invited to call and examine our rooms. Those from the country are cordially welcome.

S. F. CHAPMAN, A. I. A.


Report was received from the Committee appointed to confer with a like Committee from the Builders’ Association, to prepare a proper form for a Memorandum of Contract to be filed in Recorder’s office.

Chairman, Seth Babson, presented proof copies of the form as prepared, to each member of the Chapter. Following is the document in full:

Memorandum of a Contract.

Made in writing, and executed and subscribed by the parties, at the City and County of San Francisco, the day of 18

First.—The names of all the parties to said contract are who is designated therein as the Owner, and who is designated therein as the Contractor.

Second.—The property to be affected by said contract is situated in the City and County of San Francisco, State of California and is particularly described as follows, to wit: Commencing at a point on the line of street, distant feet, from the line of street, thence to the point of commencement.

Third.—The general character of the work to be done under said contract is as follows, to wit: The said as Owner, to furnish the necessary labor and materials, including tools, implements and appliances required in the execution of in a workmanlike manner, in conformity with the plans, drawings and specifications for the same, made by the authorized architect employed by the owner, and which are signed by the parties hereto, and are to be kept and remain in the office of said architect, subject to the inspection of the parties hereto and others concerned in said execution.

Fourth.—The total amount to be paid under said contract is the sum of Dollars, in U. S. gold Coin, which sum is to be paid to the said contractor by the said owner in partial payments.

Fifth.—The amounts of all partial payments, together with the times when such payments shall be due and payable, are as follows, to wit:

After a discussion indulged in by all present, the form was unanimously endorsed by the Chapter. A Committee of two—Wright and Daley—were appointed by the Chapter, to confer with the California Architectural Publishing Co. for the purpose of engaging the offices under control of the latter as a permanent meeting room for the Chapter.
A Supreme Court Decision of Great Interest to Contractors.

RONTON, HOLMES & CO. vs. NO. 13,344.

IN BANK.
[Filed December 8, 1888.]

GEORGE MONNIER.

The record is to the effect that on the 14th day of April 1882, the defendant entered into a written contract with one Valentine H. Harding, to construct for him a building on Howard street, in the city of San Francisco, for the sum of $1,647, as the work progressed, and the first payment of $1,000 to be made when the work was completed, and the second payment of $647, to be completed upon payment to the second story. The work was completed upon payment to the second story, and the sale was made to the defendant, and he should have been held liable for the assignment to plaintiffs before or at the time he paid the $1,000 to Harding; then the verdict should be in their favor, and that a verbal notice of the assignment would not, in the nature of things, be of any avail, and that the introduction as follows was given for defendant: "The defendant in this action is not liable, for an error in writing, whether the assignment was given in, or given in effect to be true, and were sufficient, precise, and complete enough to put the defendant fully on his guard as to the fact of the assignment, and he should have been held liable for the assignment to plaintiffs before or at the time he paid the $1,000 to Harding.

It is added for appellants that the last part of this instruction was misleading and erroneous, because it, in effect, told the jury to write the assignment, that a verbal notice of the assignment was sufficient, if written, and that the introduction as follows was given for defendant: "The defendant in this action is not liable, for an error in writing, whether the assignment was given in, or given in effect to be true, and were sufficient, precise, and complete enough to put the defendant fully on his guard as to the fact of the assignment, and he should have been held liable for the assignment to plaintiffs before or at the time he paid the $1,000 to Harding.

The real question for the jury to consider was such as this: Did the defendant understand the notice of the assignment, and did it state correct propositions of law.

The court instructed the jury that if the notice should not absolutely state the defendant understood and spoke the English language, would the parties be held liable for the assignment.

We concur.}

POOLE, C.

LAFAYE, C.

BY THE COURT.

For the reasons given in the foregoing opinion the judgment and order denying a new trial are affirmed.

BELCHER, C. C.
ranged. The kitchen is a desirable room with door at rear leading to back yard. The sink will rest on turned legs, leaving the space beneath open, which will allow the same to be kept clean and wholesome, rather than being cased up as usual, affording a receptacle for filth as is too often the case.

The pantry should be provided with not less than five rows of shelves, under which can be arranged floor chests, cupboards for kitchen utensils, etc. In the matter of construction the building should rest on brick piers extending into the ground below frost. The floors should be doubled, the first being of surfaced material over which lay one of matched soft pine, blind nailed, excepting in kitchen which should be of thoroughly seasoned Oregon pine, dressed smooth after laying and kept well oiled.

In a cold climate to assure warmth, would suggest a layer of asbestos paper between the floors; however, in no case the common building paper, as the leaking of water through the cracks produces a continuous damp floor and soon mould and rot away.

The kitchen should be wainscotted three feet high and over sink five feet to protect the plaster. It should start thirty inches bearing furnished by the brick work for kitchen chimney below ceiling line, resting on a solid uprights forming the side of cupboard. The brick work for mantel should start at a point below frost, resting on a footing of ample size, as suggested by the nature of the soil, and terminate four feet above floor line, the breast being formed by four rings with studding to ceiling, care being taken to allow a space of at least two inches between the wood work and brick to guard against the possibility of fire. The interior should be finished in some of the modern styles of pilaster finish with a neat pattern of corner and pilaster blocks. Transoms should be provided over all chamber, hall and outside doors to insure good ventilation, excepting however, the small sliding door into the bath room. Willer's sliding blinds are a good substitute for the common inside blind and much to be preferred; however, the English Venetian blind in the writer's opinion is still better.

The exterior, including roof, should be painted with at least two coats best lead and oil in two colors using only first-class material, as it is by far the cheapest. In reference to the interior would recommend a natural wood finish in hard oil, as it is the most durable, easily cleaned and no more expensive than a good job of painting. The cottage can be completed in a modern manner, using only the best materials and workmanship, at present prices in San Francisco, for a sum not to exceed $1800.

A. W. Putnam.

**Draughtsmen and Students**

Should bear in mind that we will shortly issue an edition solely in their interests. Inform us at once if it is your intention to contribute either an article or a sketch.
The inadequacy of Architects Compensation.

The inadequacy of the compensation received by architects for making plans, specifications, etc., for dwelling houses, and supervising the work, furnishes a fruitful theme for consideration. People do not, as a general thing, appreciate the amount of labor required in the preparation and completion of a set of plans, specifications, details, etc., for an ordinary dwelling house. The reason of this is found in the fact that most people have little or no means of knowing the inside history of the preliminary work which has to be done and the time which has to be spent before the real work of preparing plans can be fairly begun. Even those who build are usually so absorbed in the interest and pleasure of building that they do not stop to consider how much they are receiving for the small sum usually charged for the architect's services.

Perhaps, therefore, a simple outline sketch, showing the manner in which a dwelling house, costing anywhere from five to ten thousand dollars, is generally evolved, from the first step to its completion and acceptance by the owner, may assist the layman to understand what it actually cost the architect in time and labor to prepare and supervise such a set of plans, specifications, etc.

This picture will be drawn from the architect's point of view, and will therefore present a side little known to the public.

The client enters the office of the architect, fully to overflows of that all-absorbing topic—housebuilding, and, after the brief civilities of the day are over, informs him that he contemplates building a house for himself and family, and would like to talk about plans. He then usually produces a diagram showing the number and approximate arrangement of the rooms he would like, and proceeds to inform the architect what he wants, what he don't want, and how he wants it done. As soon as the client pauses for a moment, to catch his breath, the architect asks the question which has been trembling on his lips for the last half hour—"how much money are you willing to put into your house?" Almost invariably the client's reply to this simple question demonstrates the fact that what he wants and what he is willing to pay for do not agree, and the architect's first duty is to convince him of the fact. After an hour or two the question terminates with a promise by the architect to make preliminary sketches and to guarantee satisfaction to the client. This latter promise is not always easily fulfilled, for sometimes a client proves difficult to please, but usually he is reasonable, and the architect succeeds, in time, in designing something which suits his client exactly. But he has merely found out what he really wants, and must now proceed to embody the same in the plans and specifications. Much time has already been spent in this preliminary work; perhaps half a dozen different sketches have been made, the client has visited the architect ten or a dozen times, sometimes bringing his wife and several other members of his family, and occasionally monopolizing a whole morning of the architect's valuable time, while important letters lay piled upon his desk requiring his personal attention, and requesting an immediate response, and several builders and contractors waited impatiently in another room for an interview regarding work already under contract or about to be let. By the time the house is completed some forty or more detail drawings may have been made, besides fifteen or twenty scale drawings and about forty visits made to the premises to see that the work was being executed according to the plans and specifications.

But this is not all; every office should have duplicate drawings for the purpose of reference. It is remembered that the furnishing man must have duplicates of such portions of the plans as relate to their respective departments, and if the work is let out in several separate contracts each contractor requires a duplicate for his own personal information. The architect is the first one to do any work on the house and the last one with whom the owner settles. The house may be six months or a year in building. In the meantime there are running expenses of the office to be paid, such as rent, draughtsmen's salaries, drawing materials, etc., by saying nothing of incidentals.

Thus it will be seen that taking a five-thousand dollar dwelling house at the schedule price of five per cent, the architect is very inadequately paid for his services. In fact no architect can pay expenses on dwelling house work alone even at five per cent, but when he is compelled to take such work at three per cent, as many are, he finds to his sorrow that it is a losing business. But as the grocer keeps sugar to accommodate his customers, even though he sometimes loses money on it, so the architect must do dwelling house work, even though he does it as a loss, depending on the client he may have the chance to get to help balance his exchequer.—Architectural Era.

The foregoing remarks from the Architectural Era represent fairly the circumstances under which architects prepare plans, and the manner in which they are remunerated. Many architects in this city do not receive the true value of their services owing to the limit of professional charges being placed at five per cent. Take, for instance, the case of an owner who is erecting a fine dwelling with all modern conveniences, at the extreme westerly limit of the Pacific Heights. The cost thereof may be in the neighborhood of $8000. The architect's commission is $400. Compare the work outlined in the article above with the amount noted. Add the forty or more trips to the locality mentioned, and what profit does the architect have for this time and talent? The hints given he may be carefully noted by owners, and they should take pride in seeing that those who studied long and earnestly to make plans for a comfortable home, should be remunerated in a manner befitting their professional calling.

Pay Day and Welcome

Subscribers to this Journal should bear in mind that the annual pay time of a large number of subscriptions has rolled around, and is now due and payable. All are earnestly remonstrated to call at once and settle arrears, and renew for 1889, and thus express such

A HEARTY WELCOME

To the new management as will assure it of undivided support from the members of the architectural profession, and every contractor, builder, material man, and of all classes and callings, engaged in works connected with building construction. Owners of property, those engaged in house furnishing, furniture, carpeting of any way identified or interested in housework should give both advertising and subscription support, as more than ever, this journal will become the great channel through which all important reliable business information and facts will flow.

Under a New Management.

This journal is now under the control of the "Architect Publishing Company." All accounts due are payable to the company, at their new offices, 408 California street, rooms 14, 15, 16 and 17.

All who intend to build a home for themselves should fully realize the importance of first knowing just what can be done with a given amount of money, in the building, furnishing and beautifying their buildings and grounds, so that when the whole is finished, they can truly say it is simply complete.

It has been found that steel mixed with twenty-four per cent of manganese becomes non-magnetic.

"Soaking" in the fire causes steel to become "dry" and brittle, and does it very great injury.
CHEAP LUMBER AND BUILDING.

We took occasion, in a late issue, to allude to the rivalry that is being waged between our manufacturers of lumber and the damaging effect it is having on that interest, depreciating the same as tending to a useless waste of our own timber resources, besides being otherwise looking in business aspect. From the consequent cheapness of lumber there is resulting, however, some benefits to the community at large, albeit at the expense of the lumbermen themselves. The cheapness of this article has greatly stimulated building and other improvements involving a large use of lumber.

There is said to be in this city a greater number of dwelling-houses in course of erection at this time than ever before, the same being true of many other towns in the State, both interior and coastwise, except, perhaps, in the southern tier of counties, where a "dry season" has some effect.

Aside from the houses being built, an unusually large number of contracts have been entered into for the erection of others to be put up during the coming spring and summer. Many business places, some of them large and costly structures, are also being built, so that the erection being promptly, in part at least, by the same consideration. Cheap lumber is not therefore, one of those ill winds that blows nobody any good.

It may in the end work to the advantage of the lumbermen themselves, the impetus so given to building creating such a demand for their product as will, through the depletion of stocks, force up the price of that commodity.

It is surprising the effect that a drop of a few dollars per thousand in the cost of lumber has on the owners of real estate, causing them everywhere to be seized with a desire for improving their property. The cost of labor and other materials may remain as high as ever, and even be advanced, yet this is all lost sight of in view of the lessened cost of this one article.

While the lumber question is one of moment with all real estate owners, it undoubtedly weighs most with small holders, the city's poor and on three levels, or perhaps merely a homestead, on which they make haste to build when the cost of this one item drops a little below the ordinary standard. That this view of the situation is correct is obvious from the improvements going on in the outskirts of the city of San Francisco. Visiting that quarter of the city we see hundreds of small houses being built, the most of them evidently intended for occupancy by the owners. But beside this class of tenements, which are apt to be widely scattered, there are others put up in long rows designed for the possession of larger rents by a proprietor.

One going into the Western Addition, and seeing there so many houses being built, gets the impression that this suburb is forging ahead at a specially rapid rate. If he visit the southern part of the town, he is in like manner led away with the idea that this section is meeting with an abnormal growth. Out along the old Mission and the old San Bruno roads building enterprise is undergoing a wonderful expansion, as well as along both sides of the Potrero, lying off in that direction. Even up the sides and over the tops of the high hills occupying the southwestern part of the city improvements are creeping, showing that those less desirable localities are already in request, with the prospect of becoming densely populated in the near future.

By reason of this large consumption of lumber, it is to be hoped that the manufacturers of that article will, through improved prices, and some compensation for the meagre returns they are now realizing from the products of their business.

The above from Wood and Iron, of this city, expresses the true state of the lumber market. We take pleasure in printing the article, as it coincides with many of the ideas advanced by the CALIFORNIA ARCHITECT. "It is surprising the effect that a drop of a few dollars per thousand in the cost of lumber has upon the owners of real estate." Friend Everett, we cordially agree with you and beg to welcome you to our fold. Time over and again have we advanced the same proposition, and the same number of times have we been combated. Friend Everett, take our stand that a few dollars per thousand, more or less, did not or would not affect the price of building. It is not only the price of the rough lumber used, but the mill men make a vast difference in their bills of large to the house owner of fine lumber. This journal has always taken the stand that $22.00 was too high for lumber, while $12 or $13 per M, was a ruinously low figure. We believe that $15 is a fair price to consumers and manufacturers, and an earnest endeavor should be made to maintain the price of lumber at that figure.

The years since 1880 have been periods of gratifying and increasing prosperity in California, in all departments of building, commercial and business enterprises. The building market is at present at a low time by an occasional "dry season"—some portions of the State "booming." to the utmost extent of possibilities, stimulated by every art and device known to those handling and manipulating property interests, while San Francisco and other cities, towns and sections have glided along in the even tenor of their ways, stimulated, growing and prospering alone upon the solid merits of the realities within their respective boundaries.

Such has been the state of facts particularly in the building interests. The building statistics from time to time appearing in this journal show the approximate, but not the ultimate, amount of investments, as often as the sum of contracts decided upon the commencement of operations, and upon which such statistics are based, are considerably increased before completion, by extras which in some cases amount to a considerable percentage on the sum of original contracts.

But viewing prospective results for current year from present data the generally expressed prediction is that 1889 will be one of the exceptionally good years in this State. Everybody who can control their finances to that end, expresses the determination to build, and ere the summer months roll around, every building operative from architect to sewer-layer will have ample employment, with the very certain probability that the supply of labor in many of the departments, especially skilled mechanics, will be short of the demand. Hence, advance in the rates of wages in some lines of the demand may reasonably be anticipated, and those who commence later in the season may expect to pay higher prices than those who at the present time have their plans prepared and in the market for bids. Notwithstanding the large number of tenement houses erected each succeeding year, there are few desirable habitations to rent, and as fast as new ones are completed tenants are found to occupy them, thus evidencing the fact that those who have property to improve, and money to invest, run no risk in planning their surplus or available coin in building improvements, particularly at the present low price of lumber material.

PLATE GLASS MAKING.—This is now an extensive industry in this country. The principal works are at New Albany, Indiana, where 1,500,000 square feet is made annually. Nearly as much is made at St. Louis, Mo., and a works at Detroit, Pa., turns out 360,000 square feet each year. The total is 3,000,000 square feet, or 563 acres of plate glass ground true and polished. No enormous plates, such as were exhibited at the Centennial Exposition by French makers have been produced and are not required. Plate glass of unusual dimensions is a luxury, and possess no merit or advantage corresponding to its great cost. The value increases as the square of the area.

The manufacturers of perforated seats have combined. Their object can be seen through.

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AN INSOLVENT CARPENTER.

John Varness, a carpenter and builder, who has been engaged in business in this city since 1873, has applied to the Superior Court to be adjudged an insolvent debtor. His liabilities amount to $5,908 due on promissory notes and open book accounts. His assets consist of tools of trade, wearing apparel and furniture, valued at $235, which are exempt from execution under the law.

NEW PUBLIC BUILDING AT STOCKTON.

The Supervisors lately adopted a resolution to build a County Jail, and appointed a committee to advertise for plans. There is a fund of $50,000, available for the purpose, and the site was purchased two years ago. The Courthouse now being constructed at a cost of $250,000, will be finished this year. The granite for the third story is now being set. The jail will be one block distant from the Courthouse.

ESPERANZA.

Architect W. H. Carson, of Woodland, is preparing plans for a brick hotel, to be erected in Esperanza.

LIVERMORE.

N. D. DuCher will erect a frame building.

SANTA ROSA.

G. A. Tupper will build a three-story brick hotel on Fourth street, for hotel purposes. Work will be commenced in a few months. The hotel will be greatly enlarged. The Lodge block will undergo considerable alterations.

SAN PEDRO'S NEW SCHOOLHOUSE.

The citizens at San Pedro have raised $12,000 for the purpose of erecting an eight-room schoolhouse. Seventeen architects, sent in plans, some from San Diego and Pasadena, but the successful competitor was George F. Costerian, of Los Angeles. The building will be commenced very soon.

ALAMEDA IMPROVEMENTS.

The building trade starts out well for the first month of the year, and the outlook for an active season was never more encouraging. Houses are now going up in all parts of the city, and if only half of the number projected are built this year, the record will be a large one. Plans have been prepared for some magnificent dwellings, to be erected in the neighborhoods of Peru and Sherman streets, and San Antonio avenue.

Alexander Johnson has built many houses in Alameda. He has a large cottage in course of construction on the south side of Buena Vista, west of Willow street. It is a one story in height and will contain nine rooms altogether. Cost, about $2,000. It is Mr. John son's intention to build two smaller cottages to the adjoining lots to the west. He is also finishing two cottages on Blanding avenue between Broadway and Everett street.

John Conrad is building a handsome seven-room cottage on the north side of Pacific avenue, east of Chestnut street. It will cost about $2,000.

William Hamunoni is having a number of alterations made on his cottage on the south side of Buena Vista avenue, west of Willow street. The improvements will cost about $1,800.

Thomas J. Pyne has commenced work upon a large cottage on the north side of San Jose avenue, between Oak and Walnut streets. This will be the eighth dwelling that Mr. Pyne has erected in Alameda.

PLEASANTON.

The contract for the Pleasanton school building was not let last Saturday, as all of the five bids were in excess of the $10,000 limit made by the trustees. The lowest bid was about $13,500, and the highest about $15,000. All were made by Oakland and San Francisco contractors. All were rejected, and the architects instructed to change the plans as to bring the cost of the completed building within the limit. This done, new bids will be asked for.

OAKLAND.

Mr. Fian is having a dwelling built on Eleventh street, near Powell.

RIVERSIDE.

A caravansar is being erected for the use of the Christian Church society.

Bakewell & Sons are erecting a business building in Case Blanca.

H. A. Westbrook secured the contract for alterations to the Boyd building. C. I. Rice obtained the Postoffice building. Architect Willard has charge in both cases.

FORESTVILLE.

Virgil Moore has let the contract to Mr. Cole for a $20,000 hotel. Work will be commenced in the early spring.

ONTARIO.

N. G. Knott has signed a contract to erect a dwelling for Dr. Scott.

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ADVERTISING RATES FURNISHED ON APPLICATION.

SAN FRANCISCO, SEPTEMBER 15, 1889.

The regular monthly meeting of the San Francisco Chapter A. I. A. was held on Friday evening, September 6th. In the neighborhood of a dozen members were present. Messrs. Franklin Williams and D. L. Williams of Portland were elected fellow members. The amendment to the by-laws, changing the evening for the regular meeting from the first to the second Fri-

day in the month, was carried. The election of officers was postponed for two weeks, to which time the meeting adjourned in the hopes of having a more numerous attendance.

The trustees of the Lick fund advertised about two years ago for competitive designs for the stately memorial provided for in Mr. Lick's bequests, to be erected in this city, to com-
moratize the early epochs in the history of the State. The proposed monument was to be well worth $100,000, and the premiums offered by the trustees were the execution of the work to the first competitor, $500 to the second, and $300 to the third.

Some twenty-five designs were submitted, but after many months delay the trustees have finally decided that none of the projects were appropriate for the purpose, and have now institute.

d a second competition, selecting the names of four firms and individuals, who are to submit designs and models of the same, for which the trustees agree to pay each competitor the sum of $750.

We are glad to see that the Lick trustees have learned through the failure of their first competition, that to secure a design on which sufficient time and study have been bestowed to obtain a satisfactory result, it is necessary to assure the designer adequate compensation for that time and study.

It is very evident that a premium not commensurate with the importance of the project will tend to attract designs, whose ar-
tistic merit correspond rather to the amount of the premiums offered than to the importance of the proposed work, for no ar-

tist or architect of standing is desirous of risking his time, which is money, on such an uncertain proposition as the ordinary com-

petition.

It goes without argument, however, that where designs are called for, and the results do not come up to expectations, it is not right to refuse to pay the proffered prizes to those whose trust in the faith of the management was sufficient to lead them to enter the race.

In this connection we deem it appropriate, and of interest to our readers, to publish the following schedule of terms adopted

by the American Institute of Architects nearly twenty years ago,

and we desire to urge the necessity of the principles involved upon the consideration of public and private societies, and individuals who may in the future invite our brethren to enter into honorable competition.

Schedule of terms regulating open and close competitions for architectural works, adopted by the American Institute of Archi-

tects in convention assembled, November 8th and 9th, 1876, and

recommended to all architects building committees and propri-

eurs throughout the country.

1. The instructions must not require more drawings or esti-

mates than are necessary in order clearly to explain the design, and should require that all the designs submitted be drawn to a uniform scale, which must be clearly defined, and that all per-

spectives required to be drawn to the same scale as the geometri-

cal drawings, and on a scale at the corner of the building near-

est the point of sight; a deviation from which will cause their rejec-

tion.

2. In case the amount to be expended is limited, the instruc-

tions must state that an excess of ten per cent on the expense of executing any design, over and above the sum mentioned, will

exclude it from competition, the amount of expense to be deter-

mined by the professional experts in the jury; and in case the

amount to be expended is not fixed, then the competitor may use his own discretion as to the costliness of the design which he

makes.
3. A design will be excluded from the competition, if sent in after the stated period, and if it contains deviations from the instructions. If, from any of the above reasons, all submitted designs are rejected, then the jury is bound to publish the reason which led to its verdict.

4. The period given for preparing the design must be long enough, not only for perfecting it and preparing the necessary drawings, but must make some allowance for the ordinary occupance of the competitors. An explicit statement must be given as to the time when the decision on the merits of the designs is to be rendered, and that all designs shall be returned to their authors. An architect's drawings are his own private property, unless paid for, in which case they are for the sole use and benefit of his client; but the usual drawings still belong to the architect who made them.

5. The designs should be submitted to a jury of experts, whose decision is to be final. One half of the jury should be architects, and in the case of an open competition for a public building, it should be selected by the building committee; and the jury must be named in the instructions which the committee shall have sanctioned before publication. No person can be competent to serve as juror who submits a design, or is in any way interested in the design submitted, or who has not renounced all intention of participating in the execution of the work.

6. All designs submitted, in open competition for public buildings, should be publicly exhibited two weeks before the decision is made.

7. In the case of open competitions the first premium must not be less than the amount which the architect would have received had there been no competition, and at least an equal amount should be divided among the other competitors, according to the merits of the designs submitted.

8. It is provided that, in close competitions, wherein the number of competitors is limited, a sum equal to the full value of one design be divided equally among the authors of all except the premised design, which shall be compensated for as provided in the last preceding rule.

9. The authors must state that in case the building is erected after any of the designs submitted in competition, it must be given in charge of the author of the first premised design, who is to be employed at the usual compensation; and if any of these parts of the designs, are used, it can be done only with the consent of the authors; and they must be compensated for the full value of the designs or parts of designs used, irrespective of the premiums that may have been awarded.

10. The premiums must be awarded, under all circumstances, for the designs which may have been admitted in competition.

11. It is recommended that, in the schemes of competition, it shall be provided that the names of the competitors shall not be known to the jury.

Academy of Sciences.

The engraving of the new building for the California Academy of Sciences which appears in this issue of the Architect was to have been printed with the August number, but by the carelessness of a workman the cut was destroyed, and the view which is now inserted has been made the second time. This view represents the front of the new California Academy of Sciences Building now in course of construction on Market Street, between Fourth and Fifth. It has been prepared with great care from drawings made by Messrs. Percy and Hamilton, constructing architects.

The structure to which this front belongs, will be one of the finest and most substantial in the city. It nearly covers the whole of a block, the two parallel sides of which measure respectively 275 and 195 feet; the side at right angles which fronts on Market street, being 80 feet. It will cost over $300,000 and it will be built of the best stone, brick, iron and other materials on a scale never before attempted in this city.

The building is divided into two different structures; one facing on Market Street, covering an area of about 80x26 feet, being a commercial block; the other is devoted to the rooms of the Academy. The former is seven stories high, the Academy six. Between the two structures there is a court 80x27 feet.

The California Academy of Sciences was organized on April 4, 1853. None of the charter members are now alive. It had a very precarious existence for a great many years; and had not the late philanthropist James Lick so munificently endowed it, first with the lot on Market street, valued at over $300,000 and afterwards with one half of the residue of his valuable estate, which will nearly reach half a million dollars, it is doubtful if the Academy of Sciences could have for many years moved from the dilapidated building where it is now located, where a gradual deterioration is going on in everything combined, the building thoroughly saturated with water as that building is, where dampness constantly sweats from its walls, where moisture constantly lowers the atmosphere and where mossa and mould and mildew destroy every crack and corner of the building attacking and damaging every perishable thing therein contained. The occupation of the building by those whose business constantly calls them there is only rendered tolerable by constant fires in the stove all the year round.

Fortunately due to the generosity of Mr. Lick and the energy of the present Board of Trustees, in the course of the next year the quarters of the Academy will be in one of the best buildings erected for that purpose in America.

The former Board of Trustees were adverse to incurring a large debt in order to improve the valuable lot owned by the Academy on Market Street, but the present Board considers it poor policy to allow the collections to go to ruin for lack of proper rooms and to deprive the members of the Academy of suitable lecture rooms, library, museum and other departments of such an institution. The handsome revenue derived from the rental of the commercial block so advantageously situated as the one owned by the society.

At the beginning of last year the President of the Board of Trustees and the presidential committee reported to the Academy the intention of the Board of Trustees to improve the property on Market Street. The Council of the Academy and the Academy in one of its meetings passed resolutions indorsing the resolution of the Board of Trustees. Satisfactory arrangements having been made by which the Lick State Trustees would advance to the Academy of Sciences all the necessary funds to erect the contemplated building, steps were taken at once to carry out the project.

In May of last year a circular was sent to many architects inviting them to present plans and specifications conforming to certain specified requirements. The firms of J. M. Curtis, W. F. Smith, Percy & Hamilton, Safielfd & Kohlberg and J. J. & T. D. Newsom responded to the invitation and offered plans which were opened on June 18, 1888. It was found that all the plans, though meritorious and conscientiously executed did not answer the requirements of the Academy and it was resolved by the Board of Trustees to accept them all but adopt none.

The order in which the plans were accepted was: first, those of J. M. Curtis; second, W. F. Smith's; third, Percy & Hamilton's; fourth, Safielfd & Kohlberg's; and fifth, J. J. & T. D. Newsom's.

A committee composed of Messrs. Davis and Molera of the Board of Trustees and Mr. Harkness, president of the Academy, was appointed to take from the plans submitted those features best adopted to the needs of the Academy and supplement them with those they themselves might suggest. Also to recommend who among the competing architects should be appointed supervising architects.

After many consultations the Committee prepared the general plans. Mr. Davis made the plans for the Commercial building, Dr. Harkness the distribution of rooms for the Academy, and Mr. Molera the fronts of the building and the general plans. These plans were agreed to and submitted by all the members of the Committee. They differed, however, in the appointment of the supervising architect. Mr. Davis recommending Mr. Curtis while Messrs. Harkness and Molera recommended the firm of Percy and Hamilton.

The Board of Trustees adopted the recommendation of the majority and Messrs. Percy & Hamilton were appointed the architects "to prepare the necessary drawings and specifications to erect the Academy's building and take the general plans presented by the Committee on the basis agreed upon by Messrs. Molera, Davis and Harkness as the basis of their operations."

The general plans have been changed in many particulars, especially the front of the building. The late Mr. Lick in his deed of the Market street property, and subsequently on the deed of trust, expressed his desire that the Academy's building should be of a classical design. In deference to that wish and according to their own ideas the committee designed the front of the Academy with classical elements. The architects have changed it for a front on the so-called Romanesque style, the reasons for the changes are that it is difficult to design buildings of more than two
or three stories high with classical lines. For an Academy of Sciences, it would have been better to adopt a classical front than the modern style, but at any rate it is a good building, and its novelty will make it interesting. Buildings with classical orders and several stories high can be built with handsome fronts and numerously exemplified both in Europe and in this country, and copies have been made of the recent public buildings in New York, ten stories high, which is one of the grandest and handsomest buildings in America. However, the Academy of Sciences front is a fine one and in combination with the splendid materials used in its construction, will do credit both to the Association and the architects.

E N. SHAW, in an article published in the Architect (a London periodical) says the contents of a building have undoubtedly much to do with its safety or danger, but in estimating the whole risk, the materials of which the building is constructed must never be put out of consideration. Every building cannot be erected with brick column and groinched arches, but there is a vast range between these and the miserly expenditure of materials too commonly to be seen, many of which have been put in without having been tested even at the ordinary temperature of the atmosphere, much less that of a fire. The following illustration may be given of a fact well known to all firemen of experience, but seldom proved by demonstration, or specially interested.

A fire occurred in a warehouse of enormous proportions and raged with great fury for five hours, at the end of which time it was extinguished, and a very large proportion of the building and its contents saved. The warehouse was constructed of brick walls, it had wooden floors supported on wooden beams, which in their turn were carried on wooden story posts about 12 inches thick, and, although serious damage was done, not one portion of the heavy wood-work was destroyed. After the fire, the proprietors allowed the chief of the fire brigade to remove one of the story posts with a section of the beams and other parts surrounding it above and below.

This post had been subjected to the full action of the fire during the whole of its duration, as already mentioned, or, making full allowance for everything, including the delay of the fire attacking the particular spot on which it stood, and the time at which the cooling process commenced, certainly not less than four and a half hours. As large quantities of water had been used, and it was probable that every thing had been saturated, the wood was perfectly dried before a strong fire until not a trace of moisture remained in it. It was then set on fire in the yard, exactly as it had stood in the warehouse, with the pedestal underneath, the cap above, and the beam across the cap, more than a ton of shavings, light wood and heavy wood were placed around it, and after the whole had been saturated with petroleum, a light was applied to it, and after this, large quantities of petroleum and turpentine were pumped on it. At the end of two and a half hours the post, beam and other parts were withdrawn from the fire, and within a few minutes from the time they were withdrawn they ceased to burn. A few feet were then sawn off horizontally, at that part which had suffered most from the flames, and afterward the same piece was split longitudinally with steel wedges, in order to examine its condition.

The post was of pitch pine, about the most inflammable wood known, and yet after exposure for seven hours to fire, the fury of which could not be exceeded except in blast furnaces, it contained within a quantity of perfectly uninjured and apparently fresh wood, probably capable of supporting the whole original post was designed to carry. Immediately after the saw cut, and again after the cleating with steel wedges, the centre was carefully examined, and found to be just perceptibly warm to the touch, but nothing more, thus proving that the fibre, in which the strength lay, was quite uninjured.

A new work has been laid on our table entitled: A Manual of Machine Construction for Engineers, Draftsmen and Mechanic... by John Richards Esq. The summary of contents are: Machine Design, The Transmission of Power, Steam Machinery, Hydraulics, Process and Properties, Tables and Memoranda. It is well illustrated with clean cut drawings of machinery on a large scale, and contains drawings and formula seldom found in technical works, the use of which will greatly lighten the labor of the engineer. It is bound in strong, flexible covers and so arranged that it can be used with one hand while working with the other. Publisher's price, $8.00.

The recent meeting of the National Electric Light Association at Niagara Falls, considerable time was taken up by the reading of papers and the discussions of the requirements for buildings intended for this purpose. Mr. M. D. Law read a paper, giving his view of certain necessary departures from the usual building, which should be made in brick, and one of the smaller and less ambitious buildings in America. However, the Academy of Sciences front is a fine one and in combination with the splendid materials used in its construction, will do credit both to the Association and the architects.

In new apartments. The Technical Society and the Astronomical Society of the Pacific Coast have rented the large rooms adjoining the offices of this Journal. These spacious rooms are light, airy and convenient, and will be open at all times of the day to the membership of these societies. We congratulate them on their new departure and welcome them to all their benefits.

Magnitude in Architecture.

Magnitude is the great object and result of design, and this quality is only to be attained by the wise adjustment of relative proportions in magnitude and order. Architecture (says Aristotle) consists in magnitude and order. The works of man, compared with those of Nature, display our insufficiency. The Pyramids, seen in the clear sky of Egypt, or St. Peter's at Rome, are proverbially disappointing to the first gaze of the beholder; it is only after he has instituted comparisons and measurements, that he becomes sensible of the greatness of these human efforts—and his memory will supply him with many instances in which objects of inferior dimensions have surpassed them in impression of magnitude upon his mind. It is plain, therefore, that art alone can produce the full effect of magnitude, and to this the architect should direct all his skill; the ancients would be found consummate masters this as well as in every other department of our art. It is, indeed, a fine art which enables the accomplished artist to raise ideas of magnitude and grandeur of composition on a piece of paper no bigger than your hand; while a less able one will cover a vast canvas without executing any comparable notions. Worthy of all inquiry and solicitude is such an art, for is the whole art of design and proportion. Pliny cites a statue of Hercules, so small that it might be lifted by the hand, which, however, conveyed more grandeur, magnitude and strength to the mind of the observer than a Colossus would have done. How great must have been the science of the master! And if, with such small means, he could effect the mind with those impressions, how great the economy of cost and material to the employer!—C. R. Cockerel, in The Architect.
Treatment of Ceilings.

The ceiling is perhaps the part of an apartment that calls most loudly for decoration, and no architectural feature is more susceptible of it, where it might be introduced to more effect or give more pleasure to the inmate; yet it is often the most neglected. We naturally look up for beauty; however lovely the earth the sky both night and day presents us with greater charms; we are cheered in our outdoor hours by its ever changing picture, for which a flat white plane is a miserable substitute in our indoor life. To houses of the very highest class these remarks will apply, for it is a feature which has not had its due proportion of attention in point of decoration in any class of buildings, from the cottage to the palace. There certainly can be no more fitting place for decoration in the habitation of a being created upright. Can buoyancy be more extreme than that presented by thousands of apartments where a rich, elaborately decorated carpet is under the feet, and a plain, dead, flat ceiling above? In the interior of Arabian and Eastern buildings the ornaments almost invariably become richer, more delicate and minute, as their height from the floor increases, and the most exquisite productions of the artist are lavished on the ceiling. With respect to the form the curve is at all times preferable to the flat, though the latter by various means is capable of producing beauty also. No great additional height is required in order to have a curved ceiling, as it is covered or segmental the rise need not be very great. For rooms of great pretension there is no form more noble and natural than the vault and dome, particularly the latter, whether hemispherical or domical, as it suits the plan or can be imitated by pendentives or otherwise. It is the best substitute for the blue vault of the sky, the starry concave of the heavens. It was a fine idea of the builders of the mosque of St. Sophia, Constantinople, a conception in advance of ours—to make the curve of its dome so flat that it should seem to correspond with that of the sky, and be a portion of it. We want an enlarged, improved, enriched, and at the same time inexpensive system of interior decoration, for domestic, ecclesiastical, and public buildings, in our Anglo-Classic styles. For churches, collegiate and other buildings in the Painted style, we have examples in our cathedrals and other buildings, which prove that the genius of interior decoration was once among us, as well as the taste to employ it. At Henry the Seventh and King's College Chapels; the oratory at Beauchamp Chapel; the Temple Church; Welsey's Hall, Hampton Court; Christ Church Hall, Oxford; Westminster Hall, and others, we have ceilings and roofs that might vie with any that Europe could show. In commerce in a general way the Moorish or Morisco-Spanish architecture suggests to us a richness might be produced by very simple means; their icicles, pendants, inlays and casings, and purely geometrical and imaginative ornaments, are very effective, and with them they often produced greater results than we, with all nature to imitate, have attained to. But the art of interior decoration was better understood and more successfully practiced in the great age of modern art in Italy, and indeed throughout the Middle Ages, than at present in any country. We never had any decoration to be compared with the mural and fresco paintings of the Italians, and there is probability in the supposition that their system was obtained from remains of the ancients, which time or violence has not spared to us. Beside the curved and richly emblazoned ceilings produced by the Italians, and the pictorial embellishment of their walls, ours might symbolize poverty itself. The ceilings of the principal apartments of a Roman, Genoese, Venetian or Florentine palace were considered as most important features; in their designs and executions the highest talent was employed. In the most beautiful of the ecclesiastical buildings the contrast will be still greater. Whilst the interior of the churches of Italy glow with every rich hue of the marble quarry, and are virtually galleries of art, what is the aspect of ours—London Architect.

Architectural and Mechanical Works.

In our list below will be found the names of books on architectural and mechanical subjects, the prices of which have been greatly reduced if taken in connection with the California Architect. Old subscribers will be given the books at less than a discount, so that they may feel no favoritism is shown. It will be noticed that some of the books are given free to new subscribers.

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High Houses in London.

A proposal to restrict the height of houses in London has been brought before Parliament by Mr. Whitmore, M.P. The scheme makes a distinction between streets less than sixty feet in width and those of greater width. In the former streets buildings are allowed to be erected up to sixty feet in height, but no more, exceeding what is the width of the street or place. If, however, the consent of the county council be obtained, this height may be exceeded.

And, without such consent, the height of any building so erected may not be at any time subsequently increased so as to exceed the width of the street. It is made the duty of the district surveyor of the county council to inform the Home Secretary of any building intended to be erected contravening the provisions of the bill. The main object of the bill is to give to the county council powers to restrict the excessive height of buildings in existing streets in London. The county council has such powers in the case of new streets; but in the case of existing streets it is said that neither the county council nor any government department has any power to restrict the height of buildings. —London Times.

We notice an article on slow burning construction in the September number of the Overland Monthly by M. J. Bugbee of this city, which advocates an entirely new change in the building of houses. Mr. Bugbee contends that a radical improvement can be made by architects and builders in the erection of buildings which will make them almost fireproof, while the cost of the method will be increased not more than 8 per cent above the present rates.

The September number of the "House Painting and Decorating," a monthly publication comes to us in a wonderfully improved appearance. We recommend all our patrons to subscribe at 81 00 a year. Address 1136, 35th street, Philadelphia.
CABOT'S CREOSOTE SHINGLE STAINS ON REDWOOD.

"The use of Cabot's Creosote Shingle Stains on California is on the increase. We note that they have been recently used on the hotel Vendome at San Jose, and on Judge Vermees residence at Los Gatos. In both of these cases they were used on redwood and the architects, Jacob Lenson & Son, San Jose, and the painters J. P. Jarman & Co. of the same city, write that they give perfect satisfaction, and that they cheerfully recommend them for similar work."

At the time the consolidation of the American Institute of Architects and the Western Association was decided on, the baritone officers of the two bodies were instructed to meet, choose the time and place and a joint convention shall be held. But this has been great delay in the matter, from the fact that differences of opinion exist as to the best place for the convention to meet. The secretary of the Institute advocates Washington, for the reason that it is neutral ground, while the president of the Western Association favors it as being at the center of the great business and commercial interests.

STRAIGHTENING WALLS OF BUILDINGS.

"The weight of the roof of the large gallery of the Conservatoire de Arts et Metiers pressed the sides outward so as to endanger the building, and it was requisite to find means by which the roof should be propped so as to sustain the weight of the roof. M. Molard contrived the following ingenious plan for that purpose: A series of strong iron bars were carried across the building from wall to wall, passing through holes in the walls, and were secured by nails on the outside. In this state they would have been sufficient to have prevented the further separation of the walls by the weight of the roof, but it was desirable to restore the walls to their original state by drawing them together. This was affected in the following manner: Alternate bars were held by lamps and nails through them. They expanded, and consequently the nuts, which were formerly in contact with the walls, were no longer so. These nuts were then screwed up so as to be in close contact with the walls. The lamps were withdrawn and the bars allowed to cool. In cooling they gradually contracted and resumed their former dimensions, consequently the nuts, pressing against the walls, came together through a space a equal to that through which they had been screwed up. Meanwhile the intermediate bars were heated and expanded and the nuts screwed up as before. The lamps being again withdrawn, they contracted in cooling and the walls were further drawn together. This process was continually repeated, until at length the walls were restored to their perpendicular position. The gallery may still be seen with the bars extending across it and binding together its walls."

CHURCH AND TWENTY-SEVEN.

ARCHITECT.
John Veeson, Temescal, cottage on Claymont avenue.

McGolay, cottage, Grove street, cost $1,200.

M. C. Freezy, two story frame, College street, Berkeley.

Congregational Church room to be erected at Mission, San Jose, cost $1,500.

H. Westdrop, cottage, East Sixteenth street, cost $1,500.

A. C. Powell, cottage, East Sixteenth street, cost $1,800.

Geo. W. Watson, cottage, Eighth avenue, near Nineteenth street, cost $2,600.

Frank Loveland, cottage, Twenty-third avenue and Twenty-first street, cost $1,400.

Warren Olney, cottage, Twenty-second avenue and Fifteenth street, cost $8,500.

Thomas Toole, two story frame, Thirteenth avenue and Fifteenth street, cost $5,500.

Mrs. Enlich, cottage, Fourteenth avenue, near Fourteenth street, cost $1,500.

John Sheehan, cottage, Ninth avenue, near Fourteenth street, cost $1,500.

A. W. Buffalo is building a $1,400 cottage on Fortieth street, near Grove.

B. S. Jameson, eight room cottage, Nineteenth street near Adeline, cost $3,700.

Rev. Dr. Merrill, five room cottage on Twenty-third street near Adeline, cost $1,800.

J. N. Dunster, cottage, 835 Perilou street, cost $1,400.

B. Diabilla, cottage, Forty-fifth street.

John Cudlighan, cottage, Eighth avenue, cost $1,410.

F. Bohmer, soon to be erected, three story brick building, Park street, Alameda.

Edward Clark, Niles, cottage, architect, W. H. Weiby, cost $3,000.

Contractor Adams, six room cottage, Magnolia above Fifteenth street.

Howard, cottage, Temescal, cost $1,250.

Welsh Tract, San Leandro, Owner, Manuel T. Souza; architect, F. J. Williams; contractor, F. J. Williams; cost: $1,425; filed; Aug. 5; Pay $250, 60 days; cottage, $859.25; framed, $856.25; brown mortared, $736.25; $936.25, 35 days.

W. Pack Tract, San Leandro, Owner, Andrew T. Christy; architect, F. J. Williams; contractor, F. J. Williams; cost: $1,425; filed; Aug. 5; Pay $250, 60 days; cottage, $859.25; framed, $856.25; brown mortared, $736.25; completed, $356.25, 35 days.

Institution for Deaf, Dumb and Blind at Berkeley. Owner, J. H. McKay; architect, Wright & Sanders; contractor, Dennis Jordan; cost: $2,300; filed, Aug. 23; Payments 100 days; stone, granite and brick work; 75 per cent of amount at time said Mackay receives his payment from the State. Note—This contract is assigned.

Koehl Ave., near Post St., Alameda. Owner, John J. Boyle; architect, Wright & Sanders; contractor, Julius A. Remmel; cost: $1,207; filed; Aug. 8; Payments the contractor herein, Dennis ordan, to J. F. Kennedy.

Morton and San Antonio Avenue, Alameda. Owner, Louis F. Gjelsdier; architect, A. W. Pati- tani; contractor, A. W. Pattiani & Co; cost, $5,594; filed; August 16; Payments cottage; $400 brown mortar on; $400 completed; $407, 35 days.

Eighth avenue, between E. 14th and E. 15th streets, East Oakland. Owner, Mrs. S. H. Hoyer; architect, R. Gray Price; contractor, William Jess; cost, $2,926; filed, Aug. 5; Payments Nov. 1, 1889; two story frame; $731 25 enclosed; $731 25 floor laid; $731 25 window frames in. $731 25, 35 days.

Eucalip Ave and Post Street, Alameda. Owner, F. Marcom; architect, A. Steubing; contractor, J. J. Young, cost, 2,900; filed; Aug. 5; Payments October 3, 1889; $600 framed; $500 chimneys built; $300 brown mortared; $600, 35 days.

Willow, near R. R. avenue, Alameda. Owner, Wm. Muller; architect, Fred. P. Fischer; contractor, D. Staub & Son; cost, $2,409; filed August 6; Payments, 60 days; $922 50 framed; $358 50 plastered; $316 completed.

Willow, near R. R. avenue, Alameda. Owner, E. Clark; architect, W. H. Weiby; contractor, C. F. Demott; cost, $2,175; filed; August 8; Payments, November 15, 1889; one story frame; $543 75 framed; $543 75 enclosed; $543 75 completed; $543 75, 35 days.

23d avenue and E. 15th street, East Oakland. Owner, Emile Kissling; architect, J. C. Mat- hews & Son; contractor, H. A. Johnson; cost, $3,175; filed; August 9; Payments, cottage, $500 framed; $500 window frames in; $500 onsite painted; $103, completed.

25th avenue, between 18th and 17th streets, East Oakland. Owner, Geo. W. Watson; architect, J. T. & D. T. Newsom; contractor, J. A. Eastman; cost: $2,000; filed, August 12; signed, August 10.


Alameda avenue and Willow street, Alameda. Owner, Emile K. Reed and Franklin Head; contractor, A. W. Pattiani & Co; cost, $3,274; filed, Aug. 14; signed, August 5.

John H. Wise, President.
R. T. Scott, Vice President.
Chas. H. Front, General Manager.
C. S. Frebel, Secretary.

Plain, Moulded and Ornamental Pressed Brick, Architectural Terra Cotta, Fire-proofing, Paving Tile. Also Red, Brown and Black Mortar.

SEND FOR CATALOGUE.
Bancroft Way and Dana street, Berkeley. Owner, G. W. Pattiani & Co.; contractor, John J. Boyle; cost, $1,200; filed, August 13; signed, August 14.

Adeline Tract, Oakland. Tp. Owner, Mathew Lee; architect, A. W. Pattiani & Co.; contractor, W. H. Fenton; cost, $1,000; filed, August 12; signed, August 14.

Hirsfeld Tract, Alameda. Owner, H. Forsyth and W. G. Forsyth; architect, A. W. Pattiani & Co.; contractor, John J. Boyle; cost, $1,200; filed, August 16; signed, August 14.

San Jose avenue and Chestnut street, Alameda. Owner, Fannie R. Mortorn; architect, A. W. Pattiani & Co.; contractor, A. W. Pattiani & Co.; cost, $2,976; filed, August 16; signed, August 14.

Dunbar avenue and Dana street, Berkeley. Owner, Chas. D. Allen; architect, A. W. Pattiani & Co.; contractor, A. W. Pattiani & Co.; cost, $3,533; filed, August 16; signed, August 16.

SAN JOSE AND VICINITY.

Residence for Mr. Tilton, at Berryessa; $4,000.

Residence for Joseph Holland, at Evergreen; W. J. Welf contractor; $5,000.

Residence for James Farney, on Ninth street; P. R. Wells, contractor; Garden City Mill Work; $5,000.

Mrs. Knox Goodrich, building on First street; R. Summers, contractor for wood work; and W. J. Wolfeett for brick work; $10,000.

Dr. Urquhart, residence; C. R. Summerton, contractor; $4,500.

Contractor Hazzard is erecting a five room cottage on Vine street for A. Perry, at a cost of $1,000; also a five room house for Mr. Wright on Minor avenues.

A cottage of five rooms for Frank Lyth; cost $1,500; Ira G. Hazzard contractor.

A six room dwelling for Edward B. Lewis; cost $1,800; Hazzard contractor.

H. H. Parrish is erecting a five room cottage at a cost of $1,200.

J. Starbore has finished a cottage which cost $1,000.

A house of four rooms is being erected by T. S. Lane at a cost of $900.

A cottage to cost $1,000 is being built for O. F. Cash by Ira G. Hazzard the contractor.

A cottage of four rooms is being built by Mr. Churchill; cost $1,100; Hazzard contractor.

Robert Pigott has contracted to build for William Matthews a one-story frame building on the northwest corner of the Alameda and Autumn street for $8,180.

Residence for James Wyatt, South Seventh street; J. Lenzen & Son, architects; A. Keiley, contractor; $4,000.

Cottage for Mr. Groves on Hamilton avenue; Frank Davis, contractor; mill plans; $1,800.

Cottage for Mr. Miller on Delmas avenue; Frank Davis, contractor; $1,000.

Cottage for Mrs. Lowe on Little Market street; Frank Davis, contractor; $1,500.

Residence for Frank Davin, North Third street; day work, mill plans; $2,500.

Improvements on First Methodist Church; J. Lenzen & Son, architects; Mr. Phillips, contractor; $6,000.

Residence for C. F. Pauley on the corner of Empire and Tenth; day work, mill plans; $1,500.

Improvements on residence of Mrs. Murphy; Columbar on Fourth street; J. Lenzen & Son architects; day work done by A. C. Bates; $1,000.

Residence for J. Columbar on Fifth street; $3,000.

The Hayes residence at Edenvilla, G. W. Page architect, to be built by day work at an estimated cost of $75,000.

Cottage for J. Jacks on Tenth street, from plans made in the mill; J. J. Hill contractor; $2,000.

Two cottages for J. R. Johnson, from plans; day work; $2,000 each.

A cottage on North Fourth street near Empire; J. N. Stevenson, contractor and architect; $2,000.

A winery for Mr. Blencoe on the Stevens creek road, by day; $3,000.

Cottage for J. K. Smith, on Marion street; Mr. Hazzard contractor; $1,200.

Cottage for C. Ballinghall, on Willow street; day work; $1,000.

Residence for Tom Hughes, on Thirteenth street; day work; $1,000.

Residence on San Fernando street near the bridge; J. A. Crawford builder; $1,000.

Residence on Villa avenue, D. D. Briggs contractor; $1,500.

Cottage for M. A. Brown; cost $1,200; Hazzard contractor.

Cottage of four rooms for Dr. Rappe; $1,500.

J. B. Capp is having a ten room house placed on his lots at a cost of $5,000; Hazzard contractor.

A $3,000 cottage for Benjamin Bordeau is to be erected by Mr. Hazzard.

W. E. Woods is having built a five room cottage; cost $1,200; Hazzard contractor.

An eight room house is being built for M. A. Wischhaar at a cost of about $2,500.

O. O. Nolles is having a six room cottage built at a cost of $1,200; Hazzard contractor.

C. A. Blevitt is having a five room cottage built at a cost of about $1,100; Hazzard contractor.

Contractor Hazzard also began yesterday on a handsome six room cottage corner of First and Floyd street, which is to cost $2,500.

Harry Keist is having a five room house built at a cost of $1,000.

Mr. Sanders, the owner of the Water Works, is also building a cottage to cost about $1,000.

SANTA ROSA.

Contractor J. R. Melon commenced the erection of a dwelling for D. Hodgson at Slater street.

T. J. Ludwig has commenced the completion of the brick block on Fourth street.

GRASS VALLEY.

S. T. Best's new dwelling house on Race street, near Auburn, is approaching completion. It will be next architecturally as well as conveniently arranged.

Lumber for a residence for John Polkington was hauled to-day to the Conaway tract on Race street.

Bennetts is building an addition to his dwelling corner School and Walsh streets.

Contractor I. T. Walker is making rapid progress with the large building he is putting up at the corner of Mill and Neal streets.

REYNOLDS & ADAMS,

547 Brannan Street,
Hardwood Flooring,
Parquetry Floors,
Wood Carpets,

AND

ENGLISH TILE FLOORS.

— Designs and Estimates furnished on application.
Percy and Hamilton.

G. W. Percy was born at Bath, Maine, July 9th, 1847. Having completed his education, in 1865 he entered the office of F. A. Passet, architect, at Portland, Maine, and after the great fire which had destroyed that city. Remaining there three years he removed to California in September, 1850, and located at Stockton where he practiced his profession until April, 1872, when he went to Chicago and entered into the employ of J. M. Van Osdel & Co., architects, of that city. He served with them during the busy years of rebuilding Chicago's burnt district until May, 1873, when he went to Boston, serving as Superintendent of Construction for Bradlee & Winslow.

In September, 1875, he returned to California and opened an office in this city, doing Stockton architecture. In 1876, when he entered into partnership with F. F. Hamilton under the present firm name.

F. F. Hamilton was born in Addison, Maine, in 1851. He studied his profession under Professor A. H. Burnham at the Massachusetts Institute of Technology, and, later, under J. B. Sanders, and F. F. Hamilton. They were the architects for several prominent buildings and erected numerous churches in Boston and vicinity. In September, 1875, he joined Mr. Percy in California, and, in this city, he was employed upon the new City Hall for three years. In 1878 he took a trip East, returning here again in 1879, and in 1880 formed the present partnership.

Among the prominent buildings erected by this firm are the State Insane Asylum Buildings at Stockton, Masonic Hall, Sperry Flouring Mill, Crown Flour Mills, all at Stockton; and the Academy of Sciences (illustrated in this number), the Children's Play House at Golden Gate Park, new First Unitarian Church, corner of Franklin and Geary, Hayward's Apartment House at Larkin and Union Streets, the Chinese Temple Hall, Hayward's Hotel on Sutter above Kearny, the Omnibus Cable Co.'s new car house corner tenth and Howard, the engine house of the same company on Oak and Broadway, the largest of its character in the city, the buildings of the California Electric Light Company on Townsend and Clarence place and on Stevenson street; the Cunningham Building corner of Second and Stevenson, A. Hayward's magnificent residence at San Mateo, and numerous others in this city and different parts of the State.

Wm. Mooser.

The subject of this article is one of the oldest and best known architects in San Francisco.

He is a native of Switzerland, but came to California at the age of twenty years, arriving here in 1854. One of his first ventures in this country was his employment at the Navy Yard, in designing naval structures, and he has ever since been connected with the building interests of this city, Sacramento and Virginia City, at which latter city he erected the first brick buildings of any importance, such as the M. E. Church, Medinac's Block, Wood & Wilson's and Wells, Fargo & Co., buildings.

From Virginia City, Mr. Mooser came back to San Francisco where he has been established ever since and in which place he has erected a large number of private and public buildings. In 1881, he, with several other architects, formed the San Francisco Architectural Society, and he is to day with the exception of one, the only charter member still actively engaged in the profession. Some of the most important buildings erected under his supervision are as follows: The Metropolitan Temple, illustrated in this number, K. of P. and Pioneer buildings and Veranda Block, now in course of construction.

At the Rutherford station, Mr. Mooser displayed his ability in constructing the famous cellars for the "Inglewood" Vineyard, for G. Niebaum, they being the first of their kind on the Pacific coast constructed almost entirely of concrete.

A. J. Barnett

Was born in St. Louis, Missouri, in 1853, and learned his profession with his father, G. R. Barnett, a prominent architect of St. Louis. He first came to this city in 1874, practiced here awhile, and then went to Chicago, being there associated with A. H. Figueard, returning to his native city in 1882. He entered into partnership with his father, the firm becoming Barnett & Son, and while there he was the architect of the Howard buildings. Finding the western country a better field for his talents he left for Portland, Oregon, and finally came to this city in 1883, since which time he has practiced here.

Among the many buildings built by him we mention the following: Oriel block, corner Market and Franklin; Green Valley Stables on Mission and Fifth, the largest livery stable in the city; the residences of Frank P. Dow, Laguna and California; F. T. Black, corner Page and Webster; E. W. Joy, Van Ness Avenue; E. Goggin, Van Ness and Jackson; Simmons, Jacobs & Co.'s Corner of Mission and California; M. D. M. & W. D. Parkhurst; the Van Winkle lodging house, corner Turk and Jones; two residences for James F. Dunn at Leavenworth and Jackson; and the Oriel row of thirteen houses on Hyde street, designed by George Buchanan, of which we give an illustration. This row of houses has the distinctive architectural feature of each house differing from the other in design, no two being alike, the whole still harmonizing, and differ from most houses in not having the long flight of stairs so prevalent here. Each is an e. e. room house, and so arranged as to admit the sun in all the principal rooms.

The row is a very handsome one, and reflects great credit on Mr. Barnett's abilities as an architect.

John M. Curtis,

The well-known architect, was born in 1852 at Warsaw, Illinois. At an early age he was left an orphan and thrown upon his own resources. He owned no education, but by natural genius and entered into service with Bent & Garrity, builders and contractors, of St. Louis, Mo. After serving with them he entered the office of Mitchell & Brady, architects, of St. Louis, and studied the profes-
tion of architecture, remaining there until 1874, when he came to California and located in this city where he has remained in active practice ever since.

While he has been here, he has been closely identified as superintendent, builder, and assistant or chief architect of a great number of our largest and finest buildings.

He was assistant architect of the Baldwin Hotel and Theatre; supervising architect of the new City Hall and architect of the Santa Rosa, Sonoma county, Court House; the Mutual Building of Petaluma; Santa Cruz county buildings and jail; Wells & Fargo's new building on Folsom near Second street; the handsome new windowed by Boyd & Davis, to be occupied by Kohler & Froehling (illustrated in this number) and many other prominent buildings and residences of this city and surrounding points.

He is a member of the San Francisco Chapter American Institute of Architects, Treasurer of the Pacific Coast Chapter of American Institute, member of the Technical Society of the Pacific Coast, and has gained a high reputation in his chosen profession.

Salfeld & Kohlb erg.

David Salfeld was born at Keeyaboy, Illinois, in 1861. When but six years of age he removed with his parents to Germany and received his education in that country. He studied his profession in the various architectural schools of Germany, and in 1850 came to California locating in San Francisco. He served as draughtsman for four years with several architects of this city and then formed a partnership with Emil John, the firm becoming Salfeld & John which lasted one year. He then practiced alone a year when the present partnership was formed.

Herman Kohler was born at Beverungen, Westphalia, Germany, in 1855. After graduating at the High School of Lippsstadt, Westphalia, he attended the Polytechnical High school of Brussels, near Hanover, taking a three years course. He practiced his profession for several years in southern Germany until 1882 in which year he came to the United States. He served in New York city for one year and then came to this city in 1883.

For two years he held business connections with several architects of this city and in 1885 formed the present partnership with D. Salfeld. The firm are the architects for quite a number of fine buildings, notable among which are the following: Rosenthal building, of which an illustration is given in this number, the Rosenbaum building, corner of California and Front streets, Hackmeier's hotel, J. Carstensen's building, 29th and Dolores, Simon Siegel's row of dwellings, five residences for James B. D. Salfeld, engineer building for Dr. Weorz on Geyery street, business houses for A. Marx, Klose & Hillenbrand's hotel, on Valencia street, B. Miller's flats on Post near Larkin, Victor R. Ulman's residence on California and house and flats for Dr. Abrams on Hayes street and others in various parts of the city. They received the premium for the design of the Court House at Stockton and are the architects for the jail in that city.

Charles L. Hawes

Charles L. Hawes was born on Long Island, N. Y., in 1849, and came to California in 1856, locating in San Francisco. He entered the office of S. C. Pugh in 1864 and learned the profession of architecture, serving as draughtsman with them for five years. After that he was connected with John P. Gaynor for two years and with P. R. Schmidt for nine years more, entering into partnership with him in 1868, the firm becoming Schmidt & Hawes, which continued for five years. During this time they erected numerous prominent buildings in this city and different portions of the State, among which were The Fulton, corner of Fulton and Larkin streets, The Longworth on Geary, the Haines residence at San Mateo, the De Lavaca residence, Geary street, D. N. Walters' residence, corner Sacramento street and Van Ness avenue, and others.

On January 1st, 1886, he commenced business for himself, since which time he has been practicing alone.

He has been the architect of some of our largest and most prominent buildings, notable among which are the following: The Carroll block, on Turk and Laguna, costing $45,000; the E. B. W. Jackson residence, corner of Baker and Hayes streets, $25,000; the Guahala Mill Co. building on Stuart street, running through to East street, south of Market, $15,000; H. C. Talbot's residence at San Leandro, $30,000; the Golden Gate Livery Stable, on Golden Gate avenue (illustrated in this number), $80,000; J. J. Wells' residence, corner of Pacific and Steiner streets; Palmer block, on Steiner street between Eleventh and Twelfth streets, $25,000; and numerous others of like character.

He is a member of the San Francisco Chapter, American Institute of Architects, and ranks among the highest in the profession.

Henry Grifflins

Henry Grifflins was born in Thuringia, Germany, in 1850, and studied his profession in Erfurt, Weimar and Berlin in the different architectural schools of those cities. While in Berlin and Schlesing he practiced his profession principally under railroad officials in constructing bridges and heavy masonry, thus seeing considerable work and thoroughly preparing him for his future career. In 1876 he left his native country, arriving in this city in the same year, where he has been in active practice ever since, working as draughtsman the first two years. Since he has been in business for himself he has been the architect for some of the best buildings erected here.

Among the most prominent are the following: Kohler & Van Bergen's Winery on 3d street between Brannan and Townsend, the W. M. L. institute; the Corner Brewery; the Zwerg residence, corner of Howard and 29th streets; Vanlag residence on Howard, between 16th and 17th; W. Westerfelt residence, Fulton and Scott streets; John Guss' Howard, between 20th and 21st; Sam. Steiner's residence on Eddy, between Franklin and Gough; the three-story brick building for stores and lodgings for John Van Bergen, corner 3d and Harrison street, which we illustrate, and many others.

Reid Bros.

Have been located in this city but a short time and consequently have not been identified with its architectural development. They have an enviable reputation in Chicago, Evansville and San Diego, where they have erected numerous buildings which reflect great credit upon their ability as architects.

The Coronado Hotel at Coronado Beach, which is illustrated in this number, is a monument to their architectural ability and is acknowledged as one of the finest hotels in the country.

The material to be used for the roofs of buildings is an important item in their construction, as regards durability and resistance to fire.

Slate is gradually and deservedly taking precedence over all other materials for roofing purposes, as it will generally outlast the life of any building; it never requires painting, is a perfect resistance to fire, is stormproof, and imparts much warmth to any building.

The first cost is only nominally greater than shingles or other destructible material used, and it will outlast any other material fifty to our hundred years, being almost indestructible.

Another advantage of slate roofing is its handsome appearance, as noticed on the fine buildings in eastern cities, where it is almost universally used, besides requiring no painting or repairs, as a roof constructed of slate lasts for years, and therefore is far more economical in the end than the use of material formerly in vogue here.

The California Slate Company, whose offices are located at No. 9 Mission street, are prepared to furnish a superior quality of slate for roofing purposes in any quantities to suit.

Their quarries are located in El Dorado county, and expert architects pronounce the quality second to none, and generally better than any produced in the eastern states or Europe.

They are enabled to furnish any sizes that may be required of a average thickness of three-eighths of an inch. The color is a rich blue black, of fine grain and unusually smooth surface, which imparts to any building a graceful and handsome appearance.

Besides roofing this slate can be used for mansards, sidewalk tiles and general building purposes, and can be quarried large and thick enough for billiard table tops. It admits of a fine polish, and is withal a valuable addition to our building material.

Samples of this company's product can be seen at the Mechanics' Institute Fair, and the architect and every one contemplating building will do well to inspect this material, as they will be convinced of its superiority for roofing purposes.

The photo-engravings used in illustrating this number were made by the Globe Photo-Engraving Co., 419 Sacramento street.

This is a new concern and is doing some excellent work.
Furniture, Carpets and Upholstery.

The question how to furnish a house after it leaves the architect's or builder's hands is an important one. What kind of carpets and upholstery are suitable for this room, and the proper color or pattern for that; what style of furniture for the parlor, bedroom, library, dining room, etc.; and the kind of draperies, decorations, etc., suitable for each separate room.

The furniture and carpets of to-day differ very materially from the kind in use here in our early history. Then the plain sanded oak was the only materials we had for the furniture of the very cheapest kind. With the advance of civilization and the rapid growth of this city in wealth and refinement came the desire for the luxuries of eastern cities, and we find to-day as elegantly furnished mansions, supplied by the merchant firms in our midst, as in any city in the country. It is no longer necessary to turn the pages of the trade papers for the latest designs in carpets, furniture or upholsteries, for our own dealers in these lines carry as large and complete stocks of such goods as any similar houses in the east.

In furniture change with every year, each era having some particular fancy, thus the designs are continuously changing from the heavy massive pieces of former years to the elaborately carved, and then again to the delicately fashioned style of a century or so ago.

The furniture of to-day is of a severe and austere pattern, differing entirely from the ornate and elaborate designs which are now in vogue, making quite a radical change and withal has an elegant, substantial and luxuriant appearance.

As in design so does the style in the most fashionable and latest to-day is furniture of oak or antique oak, although the rich mahogany cherry and walnut are still called for. So in carpets, window shades, draperies and other decorations, there are new and different designs, and richer material requiring the ingenuity and experienced taste of the artist to decide which is the most suitable for the eastern rooms. In the several eastern cities the furnishing of a modern residence is given into the hands of some well-known furnishers, who have carte blanche to use his skill and artistic taste in the complete furnishing of the parlor, library, bedroom, dining rooms, etc., with some passing suggestions from the owner, and invariably when complete the house is better furnished, every thing harmonizing more than it the different furnishings and decorations were supplied by so many different firms.

Such a firm carrying a stock of goods to furnish a house complete is the well known firm of W. J. Slone & Co., 641 to 647 Market street. The structure occupied by them is one of our modern business buildings, equipped with every convenience and arranged so as to display their elegant stock to the best advantage.

The stock of furniture in parlor, bedroom, library and dining-room sets is varied and handsome, every factory in the country being placed under requisition and their choicest productions chosen. The firm aims always to have the very latest and what are the latest designs in the market, and are giving our residents here the most modern goods as soon as produced in eastern points. They also manufacture furniture to order and furnish original designs.

In carpets their stock is also most complete, embracing English and American Wiltons, Axminster and other kinds of all grades, from the cheapest to the most expensive. W. J. Slone & Co. are sole agents for Alex. Smith & Son, manufacturers of American Moquettes. These carpets, for beauty of design and durability cannot be excelled by any fabric, and are superior to many imported articles of a similar kind. In window draperies and upholsteries the goods the house has a most elegant selection of every shade and design; and all departments in charge of experienced artists. These firms are furnished many of our leading residences and hotels, among which are:

- The Palace Hotel furnished by them when opened with carpets throughout, the Baldwin Hotel and Theatre, the new California Theatre, the Hotel Del Monte with carpets and upholsteries, and all the carpets for the Hotel Rafael, and the Stanford house at Palo Alto.

- The firm always give’s its patrons the very best and latest things in the market, and have won an enviable reputation in their particular line.

The attention of the public is called to the fine exhibit of the firm at the Mechanics’ fair, where three interiors of parlor, dining-room and chamber are shown.

Lumber and Building Materials.

The resources of the Pacific Coast in lumber are almost inexhaustible, for nearly all the varieties of wood grow throughout the different sections of the country, so that taken as a whole this quarter of the United States is the true and perfect home of trees. The large forests on the west coast of the United States extend from the coast to the very heart of the country, and are a great source of wealth to the State.

The curly redwood is obtained when milling, from the stump or first log in the tree, and runs from three to fifteen feet in diameter, and is a very beautiful material, curly as the name indicates, showing the trace of fern leaves and heads of animals. This wood is being extensively used for interior finish, for paneling in small rooms, counter tops, table tops, and all kinds of bedroom and parlor furniture.

Burlh redwood comes in round or oval pieces, from two to three feet in diameter, and is also a valuable addition to our fancy high grade lines.

A firm making a specialty of this kind of lumber is Starbird & Goldstone, located on the corner of Market and Spear streets. This company was established in 1872 and has been prominently identified with the lumber and building interests of our city ever since. They are wholesale and retail dealers in all kinds of lumber and building materials, making a specialty of sugar pine and Spanish cypress for Eastern shipment. Besides these they carry a full and complete stock of building material, such as lath, shingles, etc., and dry dungage for ships.

They solicit the trade of the builders of the city and the coast, and ship largely to Eastern and foreign points.

They have supplied a large number of houses with their lumber and have lately shipped 75,000 feet to Liverpool and 50,000 feet to London of Curly redwood and Burlh, which are prized very highly there and are rapidly supereeding other fancy woods.

In this city these woods have been used quite frequently in some of our prominent residences, notably in W. T. Coleman’s, corner of Fillmore and Pacific streets, for paneling in the hall and library.

Owners and contractors would do well to make a more liberal use of these handsome native woods in the finish of their own buildings than they have heretofore—th ereby encouraging our home industry in this branch of industry as well as in others.

Hoop Clamps for Large Tanks.

The invention of Mr. Asa R. Wells, which is illustrated in this number, supplies a great want, particularly in dry and hot climates; where shrinking of lumber is considerable.

No device heretofore in use for tight-fitting hoops has been satisfactory, for the reason that the draft was not straight and therefore not direct on the hoops.

The advantage of a clamp hoop over a riveted hoop, particularly in heavy bands for large tank work, must be apparent to all.

To tighten a riveted hoop requires tools, scaffolding and capable men. It also mars the paint and injures the iron. Bullets with a clamp, working freely, requires simply a ladder and a wrench in the hands of any one.

Mechanically considered, the device may be described as a vise, which is tightened by a screw, acting on ball and socket joints. It therefore works equally free, powerfully and effectually on long or short draft and on large or small circles. Practically considered, this device is an improvement.

By its use Wells, Russell & Co. have set up some tanks as large as 36 feet in diameter, which are perfectly water-tight.
SOUVENIR EDITION.

JOHN VAN BERGEN'S Block—Third & Harrison.

H. GEILFUSS, Architect.
Wire and Iron Fencing and Ornamental Work.

Wire and iron are rapidly superseding wood in most cases where used for ornamental purposes, such as fencing, railing, roof cresting, etc. The uses wire and iron can be put to are innumerable, and from being the more durable admits of more ornamentation than wood for the purposes used. Wire and iron are used for fencing, for houses, stair railings, divisions, floor rails, desk and counter railings, panels of elevators, elevator guards, skylight guards, for protection against fire and breakage of glass, for the covering of basement windows, gallery fencing, stores and other numerous uses.

Wire fencing and especially iron fencing is rapidly taking the place of the old wooden fencing formerly used, and is a vast improvement. It is highly ornamental and durable, being almost indestructible and the more economical.

In iron fencing there are constantly new designs being manufactured, the variety being without limit, as the wire can be twisted up by the new machinery in use in any shape or design imaginable.

The wire works of D. W. Wass, 141 and 143 First street, are the largest in this line on the coast and were established in 1884. The works have been enlarged to accommodate Mr. Wass’ increased business and are thoroughly equipped with all modern appliances and machinery for the manufacture of his various specialties and products, besides constantly supplied with new machinery as the occasion demands. He gives employment to a large force of hands and is prepared to manufacture on short notice all kinds of wrought iron and wire fencing, roof crestings and finials, wire window guards, gates, skylight guard work, desk, counter, bank, and ornamental iron, for general work, gas-pipe rail, show window fixtures, coal and sand screens, founders’ riddles, spark guards and fenders, and also light ornamental wrought iron work.

He also makes a specialty of all kinds of artistic brass and nickel-plated work in the shape of gates and wickets. Mr. Wass has filled a large number of contracts and furnished the wire and ornamental iron work on a great number of buildings in this city and in various parts of the State. He has just finished all the wire work on the new cruiser’ Charleston’, consisting of some 300 mess and clothes lockers, wired the same ves sel for an electric bell system, furnished the wire work for the bank of Hanford, Calif., consisting of all kinds of railing wickets, partition work, doors, etc., also the elevator work in the Walters’ building, Sullivan estate building on Bush street, Huntington & Hopkins building, Golden Rule Bazar, and has the contract for furnishing the new Asylum building at Agnew’s with wire window guards, besides other numerous and extensive contracts.

The old idea that we need no artificial heat in our houses in California has long since been exploded, and it is no longer a question of shall we heat, but now shall we heat our houses. The open grate or fireplace, the store and hot air furnace systems have long been used. But the facts are, clearly the steam and hot water systems have been conspicuously brought forward and are becoming more popular and general in their uses. For private residences the hot water is the best, giving a mild equable temperature superior to the stove hot air furnace or the steam systems; and where it has been properly constructed, for comfort, economy and healthfulness, it has no equal. Two things are requisite herein to its success: First—The apparatus must be adapted to the wants of the coast, 3rd herein the fuel, the water and climate must be considered.

Second—The system requires more care, judgment and skill, and the steam fitter, the plumber, nor the hot air furnace men have any practical experience adapting them for this work. It is a trade by itself, and the plumber or hot air furnace agent concerned with the job must put up a hot water apparatus generally experimented at the expense of the owner of the building.

The hot water system was introduced on this coast eleven years ago by C. D. Harvey, who brought from the eastern states the latest and most desirable appliances then in use for the hot water warming of houses.

It soon became apparent that the different parts of the Pacific Coast required different fuel and the different surroundings required a different form from those used in the eastern states, where continuous and strong fires are maintained from early full until the early spring.

The hard coal burners were ill adapted to the soft bituminous coal used here, and the impure water of San Francisco and Oakland required a different construction of heater. Eleven years of practical labor and observation in this work has enabled the industrious inventor to detect and obviate many of the objectionable features of the eastern apparatus for our California trade, and in the face of strong competition to establish another local industry on our coast.

The reputation of the Harney hot water heater has been so strongly established that the eastern houses flooded the market with their same discarded goods, operating through local agents who have recently, and with little or no experience in this system extended through the entire country. The general plumbing trade, become the advocates of the hot water system.

The first heater introduced by Mr. Harney was formed by a series of flat cast iron plates, or water chambers, placed horizontally over the fire-box in stacks, around and through which the fire passed in its course to the chimney.
This was economical in fuel, quick to heat and satisfactory for the first few months. Soon however the sediment from the water was deposited within these sections, making the fire less effective and the deposit increasing. The lower section nearest the fire cracked or burned out after three or four years' service, so their removal became a necessity.

Next the form of the casing from a flat to a curved surface was adopted, using return flues and providing for the deposit of sediment below the direct fire surface. This form lasted longer, but the same results followed though less frequent. It was therefore apparent that the cast iron surfaces could not be relied upon, where the heating and cooling of the surfaces followed in such frequent succession as in our climate. The iron becoming crystalized was bound sooner or later to crack.

Next the tubular heater, constructed of two-inch wrought iron pipe, containing a smaller pipe inside to secure a circulation, was used. By this heater the tendency to crack was obviated, but the deposit of sediment and the increased friction retarding the circulation between the two pipes, after a short trial, stamped this as only a partial success.

Three years of experience and study have demonstrated that the successful hot water heater for the Pacific Coast must be accessible in all its parts, within the water chambers as well as upon the few surfaces outside. The removal of the sediment inside the heater is quite as important as the cleaning of the soot from the outside surface. While both are non-conductors of heat and cause a needless waste of fuel, the sediment will cause the cast iron to crack and the wrought iron to burn out and will also retard the circulation by causing unnecessary friction within the pipes and chambers.

All the different forms of heater above described, or heaters constructed upon similar plans, are extensively advertised on this coast by Eastern houses through local agents with no practical experience with these goods.

The flat cast iron sections or stacks over the fire-box, as well as the telescoped pipe heaters in their various forms, will all repeat the same results over again and the purchasers will pay for the experiment while the agents, unconcerned and unconscious of the inevitable results, continue to advocate, advertise and sell the same.

"Where ignorance is bliss 'tis folly to be wise," especially if the purchaser pays the price and the agent pockets the profit.

The hot water system is undoubtedly superior to any other if properly constructed, and no greater mistake can be made than to suppose that a plumber or other pipe fitter can satisfactorily plan and construct this work, relying upon Eastern appliances and Eastern plans where practical experience is lacking.

Mr. Harvey has invented and manufactures a wrought iron tubular heater so constructed that every part inside and outside can be reached and cleaned, and any tube can be removed and replaced with a new one without disconnecting the heater or disturbing the brick work or sending to the factory for a duplicate section in case of a crack or defect, as would be necessary with an Eastern heater. Mr. Harvey has also the exclusive agency for the celebrated Bundy Hot Water and Steam Radiator, including the New Elite, which he uses in his local business or furnishes to the trade. This radiator is used more extensively than any other, over 11,000,000 square feet now being in use, and are made in a greater variety of forms than any other manufactured.

Mr. Harvey is doing exclusively a hot water and steam heater business, using the best material, the latest devises and doing only first class work which his eleven years experience will corroborate. His connection with the Griffling Iron Co., the largest manufacturing firm of hot water and steam heating radiators in the United States, ensuring him the latest, best and most improved appliances from the East in connection with his own inventions here.
Elevators.

The building of elevators has shown as much progress and improvement as any other of the conveniences of the modern building of to-day, and a building without a first-class elevator is as much a novelty as one in former years was with one. The old rope hand hoist first in use, gave way to the friction clutch hand hoist, which is still in use in some buildings for freight purposes, but is being replaced by the more modern elevators now being almost universally erected in all first-class buildings.

In passenger elevators, the old style horizontal cylinder hoist has many disadvantages and is a very dangerous machine. It has a large and small drum and a cab continually revolving around two small drums, causing it to crack and break, and of necessity the cage must fall, depending entirely upon what precaution is taken to prevent or stop the fall.

Another disadvantage in these elevators has been to use only one main rope for the cage and two or more drum ropes. This machine, which is called a pull machine, is so constructed that the water enters on the rod side of the piston, which makes it very dangerous, for should the piston rod corrode from the action of the water, or become fractured by use, which often happens, the cage drops and endangers life and limb. There can be no question, that as compared with other large cities in this country, we are behind the times in making compulsory provisions for the safety of our citizens, and steps should be taken to compel the use of the best and most improved appliances in elevators that insure absolute safety to our citizens.

Undoubtedly the safest protection against accident is the Safety Air Cushion, and Air Brake attachment supplied by the Ellithorpe Air Brake Company, of which the firm of Wm. H. Birch & Co., 119 Beale street, of this city are the sole agents and manufacturers on this coast.

This air cushion, which can be built in any elevator now in use, is simplicity itself; there is absolutely nothing to get out of order or to cause death or accident brake in its operation. When the cable breaks, or the cab starts on its fearful fall, it is allowed to go, but as it approaches the bottom it is gradually and safely brought to a halt by a scientific application of its own weight. It is not necessary to this without jar or commotion of any kind.

The two safety devices known as the Ellithorpe Air Brake and the Ellithorpe Air Cushion have stood the tests of hundreds of the most severe and protracted trials, and in no single instance have they failed to operate successfully. The air brake is simple and easily applied. It operates upon a different principle from the air cushion. The air brake while operated by means of compressed air prevents the cab from falling more than a few feet, stopping it gradually without the slightest concussion, the effect produced being precisely the same as applying the Westinghouse brake to a train of cars while under a high rate of speed.

There can no longer be any excuse for loss of life from the falling of elevator cars, for it has been clearly and practically demonstrated that either the air cushion or air brake will effectually remedy this great danger.

Wm. H. Birch & Co., 119 Beale street, the agents for this important invention, have placed them in the following buildings: The Pacific Union Club, the Hillside House on Sixth and Jessie, two in the Rosenthal Building on Market street, the Marshall Neil House corner Ellis and Jones, First National Bank building, New City Hall, this city, and the Fresno Savings and Loan Society building, Fresno, all of which have been placed since November last and successfully dropped the cab in a great extent the security of the building from fire and withal the comfort of the tenant.

Great improvements have been made in the building of chimneys. The old brick ones which were brought up from the basement to the roof have been supplanted by the introduction of the patent modern ones which are now used almost exclusively in all modern structures.

J. Brownell, No. 727 Montgomery street, is the owner and patentee of Brownell's Patent Chimneys, which have been endorsed by the Board of Supervisors and approved and recommended by the Fire Wardens, Insurance Companies and leading architects throughout the state generally.

This chimney is constructed on the inside of terra cotta of the very finest fire clay, and has an outside lining of galvanized iron with an air space from the bottom to the top above the roof, while most other patent chimneys are perforated with holes, thereby sending all the hot air through the building, having no escape above the roof, thus making them a veritable hot air bed and consequently very dangerous.

In former years the pipe manufactured was of inferior quality, but now through years of experiments and experience, this inferiority has overcome. The pipe used by Mr. Brownell in the construction of his patent chimneys is made of the very best terra cotta and is as pure in every respect both as regards to safety from fire and to strength and lightness.

His chimney can be placed in any part of the house or attached to the outside of any building, being fastened to the building by means of iron rods or straps making them perfectly straight. The bands which are put around the meeting ends of the sections of pipe are carefully filled with cement on other fireproof substances, thereby making the chimney absolutely safe and there has never been an instance of fire through means of defective flues where his chimneys have been in use. These chimneys are also constructed in such a manner, that they can be readily used as heaters and ventilators and are unquestionably superior to anything of the kind invented in the United States. They are the only chimneys in which bands and fillings can be used to make a smoke and air tight joint, and in which iron rods or straps can be used for fastening the chimney to a building, all others being infringements.

Mr. Brownell is the patentee of five patents covering every improvement that can be made and the chimneys he is now using upon the various buildings in this city and vicinity are as near perfect as can be made. They can be shipped to any part of the country and put into position by any mechanical. Owners of buildings should see to it that the specifications of buildings, Brownell's chimneys are specified and used.

In many instances where the Brownell chimney is called for in the specifications, a cheaper and inferior chimney is often substituted and architects or owners should investigate more closely into such matters and see that the Brownell chimneys are used in every instance. It would also be to the interest of the insurance companies to pay some attention to the kind of chimneys used on buildings upon which risks are taken. While probably more expensive than other chimneys they are much cheaper in the long run and save considerable future repairs and trouble.

These chimneys are in use upon the principal buildings of this city and vicinity, prominent among which are the residences of M. Hopkins, Senator Stanford, W. H. Crocker, the London and Paris Bank buildings, the Harbor Commissioners offices on the wharves, and are now being used upon the building erected by Henry Matthews, on Ellis, between Paul and Mason streets.

Artificial Stone Pavements.

In keeping with the general advance and progress of architecture has been the improvements of our streets and sidewalks.

From the time of unven, unsightly decayed planks, with projecting nails, to the era of brick pavements covered with soft composition of almost as uneven and unsightly appearance as the former, to the handsome, hard and durable artificial stone pavements of the present day, our city has shown a gradual and steady advance.

A handsome modern sidewalk in front of a structure is as necessary to its general appearance as its interior finish, and owners of buildings, in order to add to the value of the same, have no means of doing it in a more permanent feature than any other which goes towards adding to the comfort of its tenants.

No material for sidewalks is equal to first-class artificial stone. It is hard, clean, hard and durable and the cheapest and most economical in the end, for when laid by honest and experienced contractors it will last a lifetime.

Low prices mean the use of poor materials, not only in pavements, but in everything else.
Golden Gate Avenue Block. CHARLES I. HAVENS, ARCHITECT.
When the Schillenger patent expired several years ago numerous parties rushed in with little or no knowledge of the business and took contracts to lay artificial stone pavements at almost any price they could get. The natural consequence was that numerous property owners jumped at the chance of saving a few dollars and accepted their bids. The result is that these sidewalks are crumbling to pieces, many of which have been laid less than a year, while those laid by first class firms have stood the test of over ten years, the walls being as good as when first laid.

If property owners would consider that there is at the utmost but $20 difference between a first class job and a ten cent sidewalk, one lasting an ordinary lifetime and the other but a few years, surely there should be no hesitancy in choosing the better. It is wise to learn from others' mistakes, and the teachings from this experience is that a first class artificial stone sidewalk is undoubtedly the best and cheapest in the end, and the employment of only skilled and responsible contractors, whose work has shown its merit, should be given the contracts for laying the same. Let owners give the laying of sidewalks to responsible parties only and they will never regret the difference in cost.

Among the first class concerns engaged in this interest is the Gray Bros. Artificial Stone Paving Co., established in 1881 and incorporated in 1887, with offices at Montgomery street, this city, and branch offices at No. 1 South Fort street, Los Angeles, and 1506 Park street, Alameda. They have laid some of the best and handsomest sidewalks in the city and besides take contracts for concrete foundation work of all descriptions. They use none but the very best material, employing none but skilled and experienced workmen, of whom they have a goodly list.

They import the very best cement direct from England and Germany and own their own vessels which transports the immense amounts of gravel used from the various buildings. Their work is guaranteed for ten years and they do nothing but first class, honest and durable work. Among the numerous pavements laid by them are the walks of the Grand Hotel, those corner of California and Kearney streets, Bush and Montgomery, five blocks on Van Ness avenue, between Golden Gate and Vallejo, the Nightingale Block on Haight street, around the residences of P. B. Oglesby, A. D. Moore, E. A. French, and numerous others in this city. Among their large contracts was $187,000 worth of work in Santa Monica, Colton and Riverside and five miles of walks in Alameda and San Rafael.

A building has just been completed in Columbus, Ohio, in which a novel and beautiful feature in architecture has been introduced. The front of the building has a medallion formed of pressed brick, the face chipped off, giving a surface that resembles rough-faced red sandstone. The brick, while equal in appearance to stone, will retain its beauty longer, and the cost of the manufacture of such material is cheaper. Many architects and builders who have visited the building, express great admiration of the effect,

**Presssed Brick and Terra Cotta.**

While buildings have progressed rapidly on this coast during the last twenty years, it has been with reference more to the immediate than future service.

The necessity of providing for a rapidly increasing population too often results in the construction of buildings at a cost that is possible, with an appearance of solidity which is merely a veneer of zinc and paint. But with an increase of wealth and in emulation of older cities, the more thoughtful and the responsible parties are impressed with the more enduring qualities of architectural construction. The architecture of a city usually corresponds with the character of its inhabitants.

There must necessarily be progression and decay and there is as much progression in the art of making bricks and terra cotta and in the style of them for building purposes as in anything else.

The sundried adobe have given way to the common burned brick and they still are the cheapest and most durable building material.

But the finish of the common brick is not as acceptable to the artistic sense as it might be and to cover its defects this city has covered the fronts of its buildings with mud in the vain attempt to make them resemble stone.

There has been some good excuse for this as the fine finished brick, such as Philadelphia, Baltimore and St. Louis produces have been too expensive in amount of the freight, etc., and the material produced on this coast, heretofore, has been of a much inferior grade.

Matters are changing how now, new manufacturers new in operations and builders need no longer send east for their fine pressed brick and terra cotta as these articles can now be obtained in better quality and at much cheaper rates at their doors.

The Union Pressed Brick & Terra Cotta Co., have just completed large and extensive works at Vallejo, with their general offices located in the Flood Building, room 31, in this city, and among the results of some of the finest work ever produced in America.

This material must be seen to be appreciated as nothing approaching it has been used in this city. The brick is being used in the construction and is called for in the specifications of other buildings in the course of construction.

The machinery adopted by this company is one of the latest improved patterns, which facilitates the making of brick and terra cotta of the finest quality at the lowest cost.

The material used in the manufacture is free from alkali in any form and produces an article, which for color, uniformity of size, texture and strength is not excelled, if indeed equaled, in the world. The brick is of a deep rich red color, with smooth, almost most polished surface, firmer than granite, so homogenous that it is cut, and so hard that it withstands a pressure of 16,000 pounds to the square inch. The terra cotta is of the same shade as the brick, and when struck with a hammer rings like steel. The building, which is done by one of the foremost artists in America, is beautiful in design and magnificent in execution. The excellence of the production of this company is so great that, and will be the pride of the builders of this coast to be congratulated upon being able to procure such beautiful and durable material.

**Fire Protection.**

Protection against fire is and should be the first consideration of every owner and tenant of a building, and every precaution should be taken to use such contrivances as will extinguish fire in its incipient stages.

A piece of fire apparatus should be perfect in all its parts and if any part be defective the whole is defective. It should be simple in construction without any parts to order, hose reel, hose, etc., etc., to take care of a fire before it get out of hand.

Piece such apparatus meeting all these requirements is the "Paragon Hose Reel," of which W. T. Y. Schenck, 222 and 224 Market St., is the inventor and manufacturer.

This reel is designed for use in warehouses, public buildings, mills, manufactories, hotels, etc., especially in buildings where the fires are times when only a watchman or a few persons are about. Quick and sure work is an absolute and fully recognized necessity for all inside fire protection, and by actual and repeated experiments by both public and private agencies, with this reel and hose, water has been turned on, 100 feet of hose pulled off, and a stream of water put on a fire in thirty seconds. It is permanently fastened to the wall, out of the way of handiwork and connected directly with the supply pipe through a hollow journal and packed joint, which allows the water to pass freely into the hose being connected, the hollow journal inside the reel and reeled up.

Upon the discovery of a fire the party present quickly turns on the water by the valve attached to the reel, takes the hose pipe and runs off towards the fire, the hose running off the reel freely, without a twist or kink, and the water following immediately, thus saving the very valuable time usually lost in straightening out the kinks and twists in the hose and in going back and turning the water on. This reel and hose are acknowledged by the Insurance Union to be the most perfect inside fire protection it has ever seen, and it is possible to procure any and those taking them into consideration in fixing insurance rates.

The Paragon Hose reel is equipped with the Eureka Mill cotton hose, which does not kink, does not run, nor is there any kinks, does not burst and is always reliable. It does not burn or melt when in close proximity to a flame or heat, nor break up in extreme cold weather as does rubber hose, but stands an immense pressure and any climate.

It is also fitted with the "Ne-Plus" full water couplings, which give full water way, are easily opened and do not leak. The value of this coupling will be seen when we remember that the ordinary coupling goes only two thirds of the capacity of the hose so that the hose used is equal, almost to a size larger hose than ordinarily fitted.

The Pfaff hose reel is made by the firm of Preussen that has been in many instances and saved hundreds of thousands of dollars in many buildings where in use. A partial list of buildings, hotels, mills, factories, residences, etc., where its most efficient apparatus is in use is appended: Firemen's Fund Insurance Co., Union Iron Works, Risdon Iron & Locomotive Works, H. S. Crocker & Co., American Security Co., Rix & Firth, Phoenix Iron Works, Wells, Fargo Building, Market St. Cable R. B. Co., California Electric Light Co., S. P.
The California Architect and Building News.

Co’s General Offices, S. P. Co’s Passenger Depot and Freight Sheds, The Oriel, The Pleasure, The California Theatre, vest-pocket Laundry, 85, in the Hotel Coronado, Los Angeles in Byron & Bonebrake block, Los Angeles Theatre, Kerekoff, Guznar M. & L. Co, at Fresno, Hughes Hotel and Prescott, 14 in the San Joaquin Asylum at Stockton, 44 at the Hotel Del Monte, Monterey, 12 at the Hotel El Carmelo, Pacific Grove, in the State Capitol Building at Sacramento, at the Soldiers’ Home, Santa Monica, besides numerous buildings in Nevada, Washington, Arizona, Idaho, British Columbia, Alaska, Hawaiian Islands and Central America, where they have been of good service and received high testimonials.

Hardwood Lumber.

The interior finish of buildings is today one of the first items to be considered by those who undertake building first-class, and office buildings, offices or houses for themselves. There are many things to consider in interior decorations and finish of buildings. In banks, theaters, hotels and other public buildings it is certainly to the interest of owners to use such finish as will attract the attention of tenants or visitors, thereby enhancing the value from various standpoints.

In residences it is highly important that the surroundings should be pleasing, which cannot be realized unless there is harmony in those things which the eye must see—and the interior finish should be suitable for the respective rooms.

Nothing admits of a handsomer finish in buildings than the use of hardwoods, be they either mahogany, oak, ash, black walnut, cherry or maple, according to the taste of the owner, each of which admit of a high finish or elaborate carving. Besides the fine finish and elegant appearance the use of hardwood lumber in the interior decoration of a building, is the solidity of appearance, elegance and durability that make it the most economical and cheapest in the end.

Formerly hardwoods were used only for floors, but of late interest is entering largely into the interior finish of our best buildings and residences and is rapidly gaining favor and should be more universally used for this purpose.

Among the prominent firms identified with this interest is that of John Wigmore & Son, whose yards are located at 129 to 147 Spear street and 26 to 28 Howard street, with a branch establishment at Los Angeles. They are wholesale and retail dealers in hardwood lumber and timber, Mahogany, Black Walnut, Quartered Oak, Plain Oaks, both red and white, Ash, Cherry, Spanish Cedar, Beech, Linden, Poplar, Fringe, Hickory, newel posts, balusters and rail stock and all kinds of plain and fancy veneers and fancy woods.

All buildings recently erected for which they have furnished hardwood lumber are the following: Mrs. Porter Ashe’s residence on Van Ness avenue; W. H. Crocker’s residence, A. D. Moore’s, the Flood mansion, The California Theatre, vest-pockets, the new Chronicle building, and many others of the principal residences and business blocks in this city and vicinity.

Messrs Wigmore keep in stock both at their yard in this city and at their branch in Los Angeles a full and complete stock of hardwoods and are prepared to furnish any quantity desired to builders or the trade.

Cooking Ranges.

An important adjunct and convenience to the modern residence and an important feature in the equipment of a hotel or restaurant is a first-class and reliable cooking range.

As great an improvement and ingenuity in this particular industry has been shown by manufacturers as in any other of the interests identified with buildings of the present age.

The French range of former years was more of an experiment and to-day has reached a degree of perfection equalled by few of our modern conveniences and is vastly superior to the old style range and common cooking stove. No really first-class residence, restaurant or hotel is complete without a range, and owners of buildings, or architects, who design structures of a range in connection with the other conveniences of the building to be erected.

The superiority of a range over a stove is its cleanliness, firstly, in regard to cooking utensils and secondly in the saving of labor in polishing the range, it being built entirely of brick, the top being the only part to be polished.

The John G. Ilis & Co., French cooking range, now on the market and manufactured by them exclusively, is the very latest and most improved range and is the result of their experience of over thirty years in this particular line of business.

Their range is built on a brick foundation, on the floor of the kitchen or cuisine, the iron front frame and oven being filled and built in with the brick work, which is built around it forming the flues, the top of the range is then placed upon the frame, the entire range complete, forming a stationary fixture. The castings of their ranges are made of a superior iron imported for their especial purpose and cast in their own foundry under the personal supervision of Mr. John G. Ilis. Their ranges are erected with the greatest care in order to insure the greatest wear and tear, and obviate the necessity of numerous repairs so prevalent with most ranges and stoves.

Besides the conveniences of these ranges for baking and cooking is the saving of fuel, for being set and built in their brick, the fire once started, the heat is retained for hours.

These ranges are so constructed that the hot water back for the heating of water can be arranged so as to heat any amount desired for the largest dwelling, and they also retain the heat longer than the ordinary range. They are built in various sizes to suit, from 3½ foot oven range to a 13 foot foot oven range, operated by one fire place.

In eastern cities the range is always specified in the building of houses and buildings and ranges should ensure that their ranges are properly constructed.

The firm of John G. Ilis & Co., was originally established in 1850 by John G. Ilis, and conducted by him until March 1889, when upon his death he was succeeded by his son, the present proprietor.

The warerooms and factory, 814 and 816 Kearny street, have recently been enlarged to meet the requirements of their increasing business to almost double their former size, where a full and complete stock of all the necessary parts for all kinds of brick set furnaces and bake ovens is carried, besides stoves, tinware and kitchen utensils.

They are also proprietors of the Jackson Foundry located in the rear of their warerooms, where they make fine castings of all kinds.

Among the numerous hotels, restaurants and residences supplied with the John G. Ilis & Co., French cooking ranges the following are mentioned:

Baldwin, Occidental, Lick, Russ, Pleasanton and Silver State, the Merchant’s Club, Pacific, Union Club, Bohemian Club, The Maison Riche, Marchand’s, Vienna Model and all the Southern Pacific Railroad eating houses and principal hotels on the Pacific coast, also in the Christian Brothers, New St. Mary’s College, Protestant Orphan Asylum, Old Ladies’ Home and all the city, county and state institutions.

Some of the residences where the superior cooking range are Charles Crocker, Senator Stanford’s, Hopkins, Flood Mau- nes, Pearson, Peluche, Daniel Meyer, Lili- breau, John and Walter, Sacramento, Capt. C. J. Harrison, Saucelito, and many others.

The Dyckerhoff Portland Cement.

When the Dyckerhoff Portland Cement Works were established at Amoumbou, near Biebrick and Mains, on the Rhein, Germany, twenty-five years ago, it was then (as it always will be) the highest pitch of Messrs. Dyckerhoff & Sons to produce a Portland Cement superior to any other, one of never failing quality, which will always permit its excellent properties to be utilized to the fullest extent with the utmost confidence in always producing the same results when employed under the same conditions.

Aided by the natural advantages of excellence mineral clay, at hand, the adoption of a scientific and mechanical invention and improvements, and with the constant and ever watchful supervision of all the skill of manufacture, they have accomplished their work.

The high opinion in which their Cement is held everywhere, and the steady growth of its works to a present annual capacity of about 700,000 barrels, are eloquent testimonials of the extraordinary merits of this Cement.

Though the seller of any brand of Portland Cement, as well as of any other merchandise, may claim his brand to be the best (without which claim he would very likely not succeed at all), it is of the utmost importance that architects and engineers, as well as masons and other consumers, should not permit this great ciment to be used unless they are fully satisfied that its quality is perfectly reliable and that its reputation for strength and uniformity is well established.

No Portland Cement should be considered good enough, or answer the purposes, unless it is the very best obtainable. In the absence of a simple and practical system of testing careful inquiry should be made as to which brand enjoys the highest reputation for excellence of strength and uniformity, and only such should be specified or employed.

The quality of the Dyckerhoff Portland Cement is unrivaled by any other. It is of
Metropolitan Temple.

WM. MOOSER, Architect.
correct chemical composition, perfectly well burnt and very finely ground, and as the system of appliances of every stage of its manufacture is so complete, its strength, fineness and other properties are invariably the same.

The extraordinary fineness of the Dyckerhoff & Portland Cement is a very important advantage. Cement serves the purpose of covering and binding together grains of sand, etc. The finer the powder the larger will be the quantity of sand which a given quantity of cement can cover and intimately bind together. This explains the fact that the extraordinary and uniform fineness of the Dyckerhoff Portland Cement was long ago discovered that they can add enough more sand to do with, 400 barrels of Dyckerhoff the same volume of work for which 500 barrels of an inferior Portland Cement would be required, and besides it is much cheaper in cost they have the satisfaction of knowing, may the guaran-
tee of producing good and durable work, which with an irregular and inferior cement is always questionable.

The employment of low-priced Portland Cements to secure cheap work often results in serious defects of the work after a short time, with consequent loss to the consumer and contractors. Many times the work must be done over again with the inferior cement, at first rejected, thereby doubling the expense of the job. By resisting the temptation of low-priced cements such losses can easily be avoided.

The objects for which Portland Cement may be used are many, and constantly new applications are given to it; where formerly other materials were employed, Portland Cement Material development and strides in masonry above and underground, for plas-
ter fronts and brick houses, cellar walls, cisterns, for laying tiles, etc.

Portland Cement Concrete, composed of Portland Cement, is employed for foundations and the construction of walls, foundations for heavy machinery, for foundations of asphalt and tile pavements, for abutments and roadways of bridges, in the construction of fortifications, piers, docks and river embankments, cable roads, gas tanks, tanks, water reservoirs, sewers, cisterns, etc.; in the manufacture of pipes, piers, mental staves, sanitary, marbled mantels and building stone.

Artificial Stone made from Portland Ce-

\[\text{Artificial Stone made from Portland Cement, is employed for paving sidewalks, garage walks, play grounds of school houses, corridors in hotels and theaters, railway sta-
tions and railway platforms, for fire and waterproof flooring in factories and found-
dries, breweries, malthouses, refineries, stables, engine houses, cellars, etc., is much super-
ior to natural stone. Being applied in plastic state, any shape, the largest slabs, smoothest surfaces and closest joints can be produced.}

Recently in a number of warehouses, breweries, etc., floors have been constructed of concrete arches resting on iron beams, with a smooth surface for the floor of the upper story, which proved stronger, more serviceable and cheaper than floors con-

\[\text{Directions for the employment of Port-
land Cement for artificial stone pavement}

Inasmuch, however, as the consumer gets full weight and the extraordinary quality of the Dyckerhoff brand permits an unusually large amount of cements every 100 pounds (20 to 25 per cent more than other brands), it is not only the best and most reliable, but also the cheapest brand in the market.

The theory of some contractors, that for work of a low figure to use a low-priced cement is most erroneous. On the contrary, they ought to use the very best cement, without regards to its being a little higher in price. Careful consumers have long ago discovered that they can add enough more sand to do with, 400 barrels of Dyckerhoff the same volume of work for which 500 barrels of an inferior Portland Cement would be required, and besides it is much cheaper in cost they have the satisfaction of knowing, may the guaran-
tee of producing good and durable work, which with an irregular and inferior cement is always questionable.

The employment of low-priced Portland Cements to secure cheap work often results in serious defects of the work after a short time, with consequent loss to the consumer and contractors. Many times the work must be done over again with the inferior cement, at first rejected, thereby doubling the expense of the job. By resisting the temptation of low-priced cements such losses can easily be avoided.

The objects for which Portland Cement may be used are many, and constantly new applications are given to it; where formerly other materials were employed, Portland Cement Material development and strides in masonry above and underground, for plas-
ter fronts and brick houses, cellar walls, cisterns, for laying tiles, etc.

Portland Cement Concrete, composed of Portland Cement, is employed for foundations and the construction of walls, foundations for heavy machinery, for foundations of asphalt and tile pavements, for abutments and roadways of bridges, in the construction of fortifications, piers, docks and river embankments, cable roads, gas tanks, tanks, water reservoirs, sewers, cisterns, etc.; in the manufacture of pipes, piers, mental staves, sanitary, marbled mantels and building stone.

Artificial Stone made from Portland Ce-
mortar, of Portland Cement concrete and artificial stone pavements for walks and floors are contained in our special pam-
phlet.

Numerous testimonial from architects, engineers, contractors and builders residing in the principal cities of the United States are also contained in our pamphlet and will be submitted to interested parties on request.

The principal architects and builders in this city who have employed and used the Dyckerhoff Portland Cement in the erection of buildings here are:

Messrs. Pisias & Moore, architects for the Hibernia Bank Building.
J. K. Littlefield, Esq., architect for the Concordia Club Building.
Henry Geiffuss, Esq., architect for floors and the erection of several brewery build-
ings and many private buildings.
Messrs. Wright & Jinkins, architects for the State Asylum Buildings at Berkeley.
George Stetschneider, Engineer Spring Valley Water Works.
N. v. Kolloth, architect.
George Gordon, Artificial Stone Manu-
facturer.
Schulze & Meeker, architects.
Chatbin & Gillette, Artificial Stone, Mo-
nsie and Concrete.
Ransome & Cushing, Concrete and Arti-
Steen.
P. H. Jackson Co., Manufacturers of Artificial Stone, Iron Vault Lights, etc.
Marshall, engineer.
Marsden Manson, C. E., Chief Engineer State Harbor Commissioners, and many others.

For any other reliable information regarding the Dyckerhoff Portland Cement, cards and pamphlets, can be procured the agents in this city, 314 Sacramento street, where sam-
ple of the cement made here and in Eu-
rope, together with some of the different finishes are to be seen and examined.

Messrs. C. E. Dyckerhoff & Co., San Francisco, 314 Sacramento street, below Battery, are the sole agents for the Pacific Coast.

**Patent Water Closers.**

If there is any one thing above another which should attract the close scrutiny and attention of the owner or builder it is the sanitary arrangements and appliances used in the building.

Nothing has a greater influence upon the health and comfort of the tenant than the sanitary arrangement, and more particularly upon the kind of water closet used.

The most natural and safest way to dispose of soil matter is to pour it out. The most simple, effective and common sense closet should be used, one with no complicat-
ed parts to get out of order, no noisy or unsanitary action, no bad smell; the simplest receptacle for the accumulation of filth and the generation of deadly gasses and disease germs. Diptheria, typhoid, scarlet fever and numerous kindred diseases are in most cases traceable to defective water closets, and it is certainly to the interests of owners to use such closets as will prevent these gases escap-
ing throughout the house endangering life and health and making the house lived in an insanitary serviceable breeding machine.

Among the various water closets in use here in this city and on the coast, none stand higher than the Golden Gate Flap Closet, invented and manufactured by Joseph Biddle, No. 43 Fremont street.

This closet is the very best of the kind so far constructed, and has the following advantages:

1. It has a simple, strong valve, suita-
be for any pressure.

2. It has a real sanitary overhaul, a copper float attached to a bell of the same metal resting on the face of the brass over-
lay and operated by the rising of the water in the closet above its level, thus ab-
solutely preventing any escape of sewer gas,
The Oriel Row, on Haight Street.

even the closets being without water. No house supplied with these closets is troubled with sewer gas or other gaseous smells, and it is certainly the cheapest and best in the end to place such a closet in the building than to use inferior or poorer ones.

The establishment of Mr. Budde's is the largest of the kind on the coast, his closets being shipped throughout this entire section. He has every facility for filling all orders and contracts on the very shortest notice, his works being equipped with all modern machinery necessary for the conduct of his business. He has received several medals from the California State Agricultural Society, for the Golden Gate Plug Water Closet, it having been pronounced the best by competent judges and is in use in the buildings of the Sharon estate, in Ranieroff's History building, 19 closets, Baldwin's building, occupied by Kessee Bros. and Pinkert, Market St., 10 closets, Owns. M. Plume & Co., Market St., 8 closets, Panorama building, 8 closets, New and Old City Hall, 14 closets, Lieses Bros. & Co., 4 closets, Grand Hotel, Lick House, Windsor Hotel, Nucleus, Hackmeier and other hotels, James C. Flood building, Abner Doble, Hinkle Houses, 30 closets, Hbrew Church, corner California and Stockton streets, Brooklyn Presbyterian Church, East Oakland and many others.

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101 to 150  

151 to 200  

201 to 300  

301 to 500  

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$6.00  

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$10.00  

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$15.00  

$20.00  

$25.00

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Clear V. G. No. 1 flooring, when ordered extra.

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" 2  

" 3  

" 4

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" 161 to 200  

" 201 to 300  

" 301 to 500  

" 501 to 800  

" 801 to 1,000  

36.00  

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50.00  

65.00  

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Ship Timber & Pile, rough selected, "select'd grade, 1 sq.

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25  

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11  

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114.

115 to 160  

161 to 200  

201 to 300  

301 to 500  

501 to 800  

801 to 1,000  

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Prices are 55c., 75c. and 90c., According to Color,—F. O. B. San Francisco
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Mr. George H. Wolfe, having no further connection with this journal, correspondents will in future please address their communications to the California Architect and Building News, 408 California street, San Francisco, Cal.

The Consolidated Convention, which is to meet in Cincinnati on November 20th, will be of very considerable interest to architects. Of course we on the Pacific coast do not care much as to where the home office shall be. If they adopt the itinerant plan of changing it every year it may be our pleasure to see the headquarters in San Francisco for one year at least. We will pass that subject and only refer to the work which has been mapped out for it in advance. We understand that the following matters will come before the Convention: How shall the new institution be governed? Shall the profession be legalized, and applicants be examined for admission? Then there is the important matter of competition for public work. The Convention can do no better work than by formulating some plan by which competitions in future for government building and any public work shall not be open to persons whose qualifications to compete have not been passed upon, or whose greatest genius may be in their power to influence committees.

It is not to be dreamed that this convention will set all things at rest for all time, but we desire to see a code of laws established that will place the architects on a higher plane with the people than heretofore occupied by them. We expect eventually that architects will have the same legal standing that physicians and lawyers have.

The adjourned meeting of the San Francisco Chapter, A. I. A., was held Friday evening, September 20th. The business before the meeting was the election of officers for the coming year, and the ballot results in the choice of the following: President, Seth Balson; Vice-President, W. P. Moore; Secretary, Oliver Everett; Treasurer, John M. Curtis. After business had been disposed of, matters of current interest to the profession were brought up and discussed at length.

ELECTING the site for the Custom House and Appraisers' stores at Bowing Green is the most interesting event of the week architecturally. Government buildings in general are not matters of any special importance to architects, as they have heretofore been simply ground out of the Treasury. But under so capable a Supervising Architect as Mr. Windrim, we shall hope for better things. Recognizing the utter impossibility under the restrictions imposed by his position of his personally designing such a structure, we should be glad to see him inaugurate a change in the conduct of this important Government building by obtaining from Congress the authorization to offer to American architects a model competition. His experience in the practice of his profession would enable him to block out a competition that would attract the best talent. Then the site offers the opportunity of the generation for an imposing structure, whether viewed by sea or land, one that would impress every stranger on his first sight of our city.

The above editorial taken from Building advocates a change in the method of obtaining designs for government buildings, and the proposed change is one that we would most heartily endorse, and that would meet with the unqualified approval of the profession in general.

While undoubtedly many very meritorious buildings now are designed in the office of the Supervising Architect of the Treasury, it is sincerely hoped that Mr. Windrim whose abilities as an architect and whose interest in the welfare of the profession are well known, will consider the matter seriously enough to give it a trial.

Is it not reasonable to suppose that local architects familiar with the methods of construction most in vogue by the builders of their locality, more acquainted with the requirements necessary to make the structure harmonize with its surroundings, more interested in the erection of a striking monument, and ambitious to gain the distinction that comes from success in a public competition, should design a more noble structure than an architect (no matter how capable he may be) employed at a salary by the government, and who has no greater personal interest in his work than the reward of an approving conscience?

Owing to the changing methods of construction, and the enlarged number and variety of materials at the disposal of the designer of to-day, architecture is now passing through a period of evolution, that presents infinite and unparalleled opportunities for the display of originality in design, and the adaption of material to circumstances; and it seems to us but fit that our public buildings should be the medium of record of the best ideas of our foremost architects.

Our country is certainly rich enough not to look at the cost of obtaining the best possible designs and should follow the lead of the most advanced of European nations (notably France) among them by giving substantial encouragement and aid to the progress of the arts of civilization, and what art among them all is more worthy the aid and support of an enlightened government than the art of architecture?
The question is one of special interest to us at the present time, as our new post office building has become such an absolute necessity that some definite action cannot long be deferred, and what could be more appropriate than that it should embody the conceptions of some of our architects, of whom there are many worthy and capable of erecting a structure at once an ornament to the city and a credit to themselves.

Undoubtedly the change from the present method of proceeding would occasion difficulties at first and disarrangement to a certain extent the present method, but the advantages to be gained would, we think, amply compensate for any trouble it would cause.

As an exemplification of the present method, take the Appraiser's building in this city. The structure is substantial, and no doubt well adapted for the purpose, yet who will claim for it the least pretension to architectural beauty.

It is not necessary that the external finish of a building should be elaborate to produce an imposing effect, for skillful massing will produce almost as striking effects without as with the aid of ornamentation, and we venture to assert that a much more attractive building could in this instance have been produced at a very little greater expense, a building that would have been emblematic of the aims and purposes it serves, and typical of the people in whose midst and for whose use and convenience it was constructed.

W. VON SCHMIDT has made a proposition on behalf of himself and partners, known as the Lake Tahoe and San Francisco Water Works, to furnish San Francisco with water from Lake Tahoe, to the extent of thirty to sixty million gallons of water daily. The proposition is a good one, as the people are longing for the fulfillment of a dream which has haunted their waking hours for years; but will any sane man think it will be realized just now? We think not. Mr. Von Schmidt says it will cost $15,000,000, and that the city should pay for it and become the owner. That is another good idea, but our "lawmakers," who never get up to the top story of a reasonable thought, will not permit Spring Valley to be flooded out with 60,000,000 gallons daily of pure crystal water from the mountains. You will never drink of Tahoe as long as there is any Spring Valley or Alameda County pasture drainage to give. Von Schmidt says Tahoe can supply 135,000,000 gallons daily, and not be lowered a foot in a year. Just think of it—and keep on in your reverie. You will have Tahoe nightmare and Spring Valley jimbaws a great many times before your disgusted stomach is soothed and cooled by the transparent liquid from the Sierra mountain-sides. We wish Mr. Von Schmidt God speed in his undertaking, but the side doors and open hatchways of law and politics are so numerous that his scheme will probably be lost sight of, though the thought will still be sweet in the memory of his friends.

We again invite all architects or persons interested in architecture to visit our rooms and take advantage of the numerous publications on our tables.

TO THE fraternity of architects in California, Oregon, Washington and elsewhere on the Pacific Coast, we send this greeting: This journal being owned and published by many architects, there is no longer any personality about it—it is of all and for all. We have fitted up the apartments at 408 California street, San Francisco, in such a manner that we are not ashamed to invite you to visit us. We extend to you all a cordial invitation to call at our rooms and partake of the benefits. Should any of you desire to make our rooms a place of appointment to meet business men, do so; that is what they are for. Here you will find all the current literature of our profession, and we will always be cheerful in rendering you any assistance. If there is any information we can furnish you by letter, do not fail to write us, for we shall be pleased to serve you.

TO OUR SUBSCRIBERS we wish to say this: We desire to present you a journal of which you may be pleased to speak in complimentary terms, and as you pay your $2 each your consider that you have received more than your money's worth. That is our ambition and our purpose. To do this will take time, and your further assistance during the coming year. We shall furnish you with more and better representations of buildings and other architecture of importance, but do not expect to get fairly into line until our January, 1890, number. To this end we ask your encouragement by continuing your own subscriptions and getting your neighbors to do likewise.

ONE word to our advertising friends who have patronized this journal so faithfully in the past—Remember that it is under the direct control of architects, and is to be sustained by them. It is subscribed for by architects, contractors and builders, and will be distributed to and among that profession and calling throughout this Coast. We do not ask you to advertise unless you think it may benefit you—do not do so for "sweet charity's sake," but send us your advertisement in a business like manner, expecting to be pecuniarily rewarded through the circulation of the journal. Keep your wares directly before the people who use them and you will sell them.

CLASS journals are a necessity. In these days of rush and push it becomes important to have some method, or confusion, waste of time and energy will follow. Merchants locate their stores among others of the same class, professional men congregate in nearly the same locality, while bankers and insurance men select another spot, leaving the lumber and machine interests to go off by themselves. It is thus with newspapers and journals—the field is divided, each plowing in his own quarter and each reaping his own harvest. We were prompted to this thought by looking over our city files and seeing Industry, conducted by John Richards, a man not unknown to the scientific world; Wood and Iron, under the able management of Samuel Everett; Pacific Lumberman, Contractor and Electrician, guided by the skillful hands of W. I. and H. D. Peet; the patriarch of all, Dewey's Mining and Scientific Press, and our youngest contemporary, Smith & Young's Building Advertiser. Each has his work to do, and each is doing it well.

A few days ago a mass of brick work over the entrance of a Court room in the Old City Hall, was precipitated to the floor, owing to the breaking of the rotten wooden lintel that supported it. Fortunately nobody was injured.
Residence on Scott Street

San Francisco, California

Architect: Fred E. Wilcox
Use of Salt Water in Cities and Towns.

An enormous saving in water would be effected if sea water were used in all cases where fresh water is not absolutely indispensable, and especially for such purposes as the flushing of streets or the extinguishing of street fires. Fresh water is still used in some of our seaports, and even in the great cities of the coast. But, in general, sea water is either not used, or at best is employed only for the most pressing cases. This is because sea water is not supplied in any systematic manner, and because it is considered unsuitable for domestic purposes. However, there are several advantages to be derived from sea water for such municipal purposes as the above have frequently struck engineers, and are set forth in a paper read by Mr. S. H. Terry before the Civil and Mechanical Engineers' Society. They have not been widely schemes for employing sea water even to inland towns, but hitherto it has been objected that sea water, though so abundant, was an expensive commodity to supply to towns, and it has even been asserted that the effect of sea water, on pavements, for instance, was anything but beneficial.近日，一项新的研究发现，盐水如果用于城市供水，可以显著降低水处理成本。

The total expenses, including interest and capital, repayment of loan in twenty years, depreciation of wages, gas, oil, etc., are under £500 per annum. For this amount some 30,000,000 gallons are used at a cost of 4d. per gallon. Of this volume about 5,000,000 gallons are used for street-watering, and 25,000,000 gallons for sewer flushing. Before these works were constructed, the cost of water for street-watering alone was £404 on an average of each seven years, ending 1883. In 1884 it was as high as £700. To-day, however, the price has been reduced to the size mentioned properly going the cost would have been £700 per annum. The charge for water at Yarmouth at that time was one shilling per 1,000 gallons. The cost of water for street-watering and sewer flushing, including all matters mentioned above, is less than three pence per head per annum, and sometimes under one penny in the pound. At Gosport a similar experiment has been made, with highly satisfactory results. The facts speak eloquently for themselves, and require no further comment. In the case of seawater, the cost of materials is a very considerable cost, but the expenses of transportation and delivery are relatively small. The seawater is delivered to the town by the water-MAIN, and the cost of transportation is included in the price of the water. The cost of transportation is relatively small, but the expenses of storage and delivery are considerable.

The discussion which followed Mr. Terry's paper was nearly all in favor of sea water. Its employment for the watering of streets, at any rate, is a perfectly practicable idea, and one that can be adopted with economy and success. The increasing size of our towns makes adequate supply of water annually a question of greater and greater difficulty, especially when we remember that with the spread of the scientific spirit of the age cleanliness may be said to be advancing at quite an alarming rate, and that the demand made on our water-supply for municipal purposes is growing almost daily. In London this is felt very appreciably, and it would be interesting to see an experiment tried on a large scale of flushing our enormous sewers, and watering our interminable streets with sea water. For this purpose London is more favorably situated than any other capital in Europe almost, Constantinople and Lisbon perhaps alone excepted. At any rate, there's a strong feeling that something must be done, and that speedily, and Mr. Terry's paper may, therefore, be received as containing what, at least, appears to be a very practical suggestion, and possessing, moreover, the merit of being, as far as we know, the first attempt to bring together in an accessible form all the pros and cons, and experience and practice connected with the subject. The moderate cost of the pipes necessary for supplying even a large town places the proposal very easily within the reach of realization.—Engineering.
The regular monthly meeting of the San Francisco Chapter, A. I. A., was held Friday evening by the Board of Directors. The meeting was held at the office of Messrs. Saunders, Babson, Pissis, Peray, J. E. Wolfe, Curtis, Gash, G. H. Wolfe, Restor and Everett. The principal business of the evening was the installation of the officers elected at the previous meeting. The retiring officers were tendered a vote of thanks for their past services and the incoming officers duly installed. J. B. Whittemore was elected an honorary member.

The speeches of the retiring and incoming presidents were ordered printed in full in the official organ of the Chapter.

Owing to lack of space in this issue they will appear in our next number.

HEADQUARTERS CINCINNATI ARCHITECTURAL CLUB, CINCINNATI, October 7, 1889.

Editor California Architect and Building News—Dear Sir: I herewith send you copies of circulars, etc., issued in connection with the National Exhibition of Architectural Drawings and Sketches to be held in this city in November next and contemporaneously with the Joint Convention of the American Institute and Western Association of Architects. The distance that is between us makes it somewhat difficult to create an interest in an undertaking of this kind among our local architects and designers. However, if such a thing were possible it must come through the efforts of the architectural press and so to you we would infract the task of wakening up your professional men to the attempt at collecting an exhibition and exhibit it on an occasion, by you will see by our circular, we have tried to reduce the trouble and expense to our contributors to a minimum. We have arranged to bear some cost of transportation both ways, to insure drawings, etc., while in our possession, and to take every care of contributions while in our charge; all this only leaves to shippers the trouble of packing and delivering into the charge of an express company.

I would like very much to write directly to some of your prominent architects and draughtsmen, and so if you would kindly send me a few such names I would take much pleasure in sending the circular and invitations to contribute. I hope you may be able to do something for us. We are receiving notifications from almost every other part of the country and so we are naturally anxious to complete the representation by having something sent us from California. Our eastern cities will be well represented, and so far we have received assurances from Chicago, Minneapolis, St. Paul and Denver.

Yours very truly,

G. W. E. Field.

This exhibition will embrace the work of all Sketch Clubs and prominent draughtsmen in America and Canada. The following statement is made:

Works Exhibited.—Water color studies, India ink, pen and ink sketches, perspectives.

When to Send.—All works must be in Cincinnati by not later than Nov. 10th.

How to Send.—All sketches must be properly packed, and sent by express.


Jury.—Three prominent architects will act in this capacity.

Time and Place.—The exhibition opens Nov. 10th, continuing one week, and will be held in Pike's Opera House.

Further information will be cheerfully given, and all letters of inquiry are to be addressed to John Zettie, Secretary, Room 81, 222 Market Street. The above communication was received at the last minute before going to press. Though the time is short, we hope the architects of this coast will not neglect this opportunity to contribute and make a creditable display at the exhibition. —[Editor.]

North-Western Lumberman—The mammoth Pacific Coast edition of this Journal, for Sept., covering one hundred and forty pages of rich reading matter and advertising has been laid on our table. It is full of lumber matters foreign and local, and under the management of that worthy journalist J. B. Judson, of Chicago may be pronounced a success. Terms, $4.00 yearly.

The new management of this journal desires to extend a cordial invitation to all architects on this coast and elsewhere to contribute designs for publication. Drawings should be made with perfectly black lines on a smooth white surface. The merits of all drawings submitted will be decided on by the three of Directors, and those chosen will be published in the journal without charge. All drawings will be returned to their authors, who must bear express charges both ways.


Page 130—Residence erected on Scott street San Francisco, and designed by Wilcox, architect.

The plan and elevation of the Hibernia Savings and Loan Society's new bank building, now in course of construction on the northwest corner of McAllister and Jones street, Messrs. Pissis and Moore, architects.

The building will be entirely detached, and will be constructed of granite, gray for the portion below the waterfront, and white Rocklin granite for the superstructure.

On the corner facing Market street will be the domed rotunda leading to the banking rooms situated on Jones street, and the rooms of the officers of the bank in the first story, and to the attorney's office on the second story of the McAllister street front.

The banking room will be 68 feet square and the full height of the building. The ceiling will be paneled and the center portion will have a domed ceiling light. The banking room will have in addition to the main entrance the rotonda, a separate entrance with lobby on the upper end of the Jones street front. At rear of banking room will be the vaults, one burglar proof and two fire proof, each to be 8x23 feet. There will be a basement under the whole structure 12 feet high.

There will be completely fire proof. The total cost including vaults and fixtures will be about $800,000.

PERSONALS.

Charles D. Austin, "resident" architect of the Leland Stanford, Jr., University, visited the apartments of this journal a few days since.

Hans L. Schultz, civil engineer and naval architect of Philadelphia, who has concluded to make San Francisco his home, paid us a visit.

We have been pleased to find several situations for draughtsmen this month.

The burglars attempted to effect an entrance to the residence of Mr. B. F. Henrikson, one evening when he and his wife were attending the fair. The burglars were captured while trying to escape.

The new Chronicle building has now reached its full height. Mochales are at work on the main cornices and tower.

K. Shimoda, a young Japanese architect from Tokio with the intention of learning American style of building in is town and visited our sanctum and desires a position in some local office.

Mr. E. J. Weston, the well-known architect of this city has gone to Puget Sound on business relating to the profession. He may decide to locate there permanently.

Those of our subscribers desiring the books mentioned in this journal, or any other architectural work, can have the same supplied through this office. Please make a note of this.

There is nothing like holding up your assertions with "facts." When a man or a firm can do that, all controversy as to his or their position must end. We are led up to this thought by the evidence placed before us in a new book just published by N. G. Taylor & Co., Philadelphia, as to the standing of their "Old Style" tin plate. They prove that they have laid the "Old Style" tin on 5,000 buildings, and that 50,000,000 square feet have been used without a single complaint. Such "positive proof" as they present will not go unheeded. "Facts" are stubborn things.

We solicit from architects throughout the Coast items of interest to the profession or the public. Our columns are open to the profession and if there is anything that can help them, or add to our usefulness, shall be duly pleased. Remember that this is an architect's journal, and if you want to know what is going on here give us a chance to tell what is being done where you are.
Put the Wires Underground.

The National Association of Fire Engineers at Kansas city adopted resolutions concerning electric wires: We quote in part the conclusion.

Resolved,—That we earnestly call upon all municipal and legislative bodies, and urge the necessity of suitable legislation etc.

Resolved,—That we emphatically assert that the only safe method for currents is underground, and place our unequivocal condemnation on all overhead or suspended wires, etc.

There is 3,200 arc lights and every inch of the wire connecting these lights is underground. The potentiality of the current is 3,500 volts, and they work all right. It may cost more, but it is safe.

Validity of Contracts.

In the suit of Thomas Richardson vs. The College of Notre Dame, the annexed opinion was recently filed by Judge Spencer. This is an action by the assigns of one Binet to recover the unpaid balance of the contract price for the erection of certain buildings for the defendant and for the value of extra work.

It is alleged in the complaint that on the 6th day of April, 1888, said Binet entered into a written contract with the defendant for the construction of certain buildings for the latter on its lands at Santa Clara, California.

That said contract was fully performed, the structure therein provided to be erected was completed by said Binet and accepted by defendant on the 29th of November, 1888.

That there is yet an unpaid balance of the contract price of $4,300.

That said written contract nor any memorandum thereof was ever recorded in the office of the Recorder of the county where said premises are situated.

That no mechanics' or contractors' lien upon the property upon which said buildings were erected has ever been filed and the time for the filing of said lien has expired.

It is further averred that the contractor, Binet, did certain extra work on said buildings, at the instance of defendant, of the value of $1,170, which remains unpaid, and that no lien has ever been filed in relation thereto.

The prayer is for a money judgment for the sum due on the contract and the value of the extra work.

The complaint is demurred to on the ground that it does not state facts sufficient to constitute a cause of action, and the specific point urged in support of the demurrer is that by the Act of March 19, 1870, ch. 1, the contract sued on is void, and that no action can be maintained thereon.

The provision referred to in the cited section is as follows: "That no contract shall be considered as void, and such contract shall operate as a lien in favor of all persons except the contractor to the extent of the whole contract price, and after all such liens are satisfied, then as a lien for any balance of the contract price in favor of the contractor. All such contracts shall be in writing when the amount agreed to be paid thereunder exceeds $1,000, and shall be subscribed by the parties thereto, and the said contract, or a memorandum thereof. * * * shall, before the work is commenced, be filed in the office of the County Recorder of the county or city and county, where the property is situated, * * * otherwise they shall be wholly void, and no recovery shall be had thereon by either party thereto.

If our attention be exclusively confined to the provisions cited, and no regard paid to the context or subject matter of the legislation therein dealt with, the question presented would be of easy solution in favor of the demurrer. But in the same chapter a subsequent section is found, which provides that "nothing contained in this chapter shall be construed to impair or affect the right of any person to whom any debt may be due for work done or materials furnished to maintain a personal action to recover said debt against the person liable therefor." Section 1182.

This section has remained substantially the same since the adoption of the codes, with the exception that the original section in addition authorized the issuance of an attachment, notwithstanding the existing lien and without impairing it.

It is insisted on behalf of the defendant that the provisions of the two sections are inconsistent with each other, and so wholly inconceivable that they cannot stand together and both be given effect, and that section 1183, as amended, being the later enactment (the first amendment containing the nullifying provision was passed March 18, 1885), repeals by implication the original Section 1197 and its amendment of March 24, 1874.

On the other hand the plaintiff contends that Section 1197, being the higher number, must prevail over the lower numbered Section 1183, in conformity with the rule prescribed in Section 4184 of the Political Code, and Section 1197, being the entire Chapter 2 of Title IV, in which the several provisions under consideration are found, deals exclusively with the subject of mechanics' liens, and that the proper construction to be given to the language found in Section 1183 is that the contract "shall be wholly void," as the basis of a lien "and no recovery shall be had thereon" in an action to enforce a lien.

In support of this contention he calls attention to the headnotes to the chapter in question and insists that the entire scope of the chapter is in relation to liens, and cites decisions by the Supreme Courts of this and other States to the effect that the title of an act, although no part of the body, may be referred to as tending to explain the intention when the language is doubtful, and that the headnotes to subdivisions of an act indicating the particular subjects treated of in the several chapters are entitled to even more consideration for that purpose. (Barnes vs. Jones, 51 Cal. 300; ex-parte Kaiser, 60 Cal. 154.)

The headnotes of this chapter indicate that it is devoted to "Liens of Mechanics and Others Upon Real Property," and the whole scheme and spirit of the entire chapter is manifestly devoted to that subject, but a careful perusal of the act clearly demonstrates that the Legislature was specially solicits, in the first instance to protect sub-subcontractors, laborers and material men who might be employed by or furnish materials at the instance of the original contractor, and as one of the means for furthering them protection against the fraud or negligent conduct of both the contractor and the owner, provision was made for giving at least constructive notice of the terms of the contract by requiring it to be in writing and placed of record.

This requirement is reasonable in order to make such provision effective: it is competent for the Legislature to provide such penalty for its non-observance as it may deem proper, including that of declaring the contract void and prohibiting any recovery upon it.

It further occurs to me that construction contended for by the plaintiff is insufficient to satisfy all of the conditions in which the parties would be placed thereby.

If the provision was that the contract should not be enforced against the owner, it might possibly be harmonized with the contract structure covered by the plaintiff, but the declaration is that "No recovery shall be had thereon by either party thereto." That is, not only the contractor shall not recover the contract price but the owner shall not be allowed to recover the contract price for any reason, but a default may be sustained by reason of a breach on the part of the contractor.

It will be further observed that, pursuing the controlling idea, the Code provides that notwithstanding the fact that the contract was made void for failure to record it, the subcontractors, material men, etc., are protected by allowing them to treat the default owner as their employer in place of the contractor who may have in fact employed them, and then give them a lien upon the property for the work performed by them.

The right to thus hold and enforce liens by material men against the premises was recognized in the case of the Giant Powder Co. vs. San Diego Plume Co., 20 Pacific Reporter, 420, a and it may not be improper to advert to the fact that Justice Thornton in delivering the opinion of the court in that case, in speaking of the effect of the failure to record the contract, says: "The section of the Statutes which declares such contracts wholly void, declares how far it is void" citing Section 1183. "The statute only declares the contract void as between the parties to the same." Although the rights of the contractor and owner as between themselves were not the subject of direct inquiry in that case, yet the validity of the contract was collaterally in question and a necessary subject for consideration, for if the contract had been held void and unenforceable no question could arise as to the right of the material men thereunder in their dealings with the contractor.

I do not deem it necessary to consider the question whether or not Section 1197 supersedes Section 1183, for the reason that
I am of the opinion that the two sections can be harmonized and stand together.

As I have already indicated, Section 1183 should be construed as declaring that the unrecorded contract is absolutely void. Being void, it creates no liability, no debt or other obligation, it is nuda pactum.

Section 1197 speaks of a debt due for work done or material furnished and declares that "Nothing contained in this chapter shall be construed to impair or affect the right to maintain an action to recover such debt.

But it is obvious that if the contract and its performance does not create a debt, we must look elsewhere for the subject of the action preserved by the last cited section.

This, I think, is readily found in the implied agreement arising from the performance of the labor by the builder or so-called contractor, and the acceptance of such labor by the owner.

I think it is reasonable and just to hold that the contract being void and not enforceable by either party, that there should be no obstacle to the operation of the implied contract to pay; not a specific sum for a specified labor, but to pay the reasonable value of the services rendered by one party and accepted and enjoyed by the other.

I am therefore of the opinion that the second count which sets forth a claim for extra work, outside the written contract, and seeks to recover the reasonable value thereof, states a good cause of action, and that the demurrer thereto should be overruled.

For the reasons already indicated, I think the demurrer to the first count should be sustained, and it is so ordered, with leave to plaintiff to amend his complaint and count on a quantum meruit for the labor performed in the erection of the buildings if he shall so elect.

The Annual Meeting of the Stockholders of the California Architectural Publishing Company will be held in the rooms of the company at No. 408 California street on Tuesday, November 8th, 1889, at 10 a. m., to hear the report of officers, elect directors for the ensuing year and transact such other business as may properly come before the meeting.

W. P. Moore, President.
Oliver Everett, Secretary.
San Francisco, Cal., Oct. 12, 1889.

WASHINGTON ITEMS.

On account of the heavy rain on the latter days of September, the brickyards of Washington Territory are quite all shut down and the making of bricks cannot be commenced until near May 1st, 1890. The price offered now for bricks, is now about $14, and a manufacturer near Seattle refused $14 for 200,000 although he had 2,500,000 on hand but he needed those for contracts made in Seattle at less prices.

Already 1,000,000 bricks have been used on the new Denny hotel in the basement, and 2,000,000 more will be required.

The basement walls of this hotel, if placed in a straight line, it is said, would reach nearly a mile in length.

The Rainer hotel at Seattle is nearly roofed in, and Diller's hotel is up to the first story.

At Ellensburgh, eighty-four new brick stores are going up and a stone banking house.

Speaking of brick, we understand several of the manufacturers will put in dry kilns before the next season commences so that nature may not compel them to stop on October 1st, of every year.

The Builders Material Company, is putting up a new pressed brick machine on Vashon Island, which will turn out 29,000 bricks a day and they have a plain brick machine already in operation.

Building in Seattle and Spokane is going on at a lively rate, some 600 to 800 dwellings being in construction at the present time at Seattle. These houses will cost all the way from $1,000 to $2,000, and seldom over $1,000.

We would infer from the newspapers of Seattle that the architects who competed for the plans of a new courthouse for King county were not fully alive to the peculiar necessities of such an institution, and that a Board of Commissioners had been found up there who knew just what King county wanted. Seventeen plans were submitted in competition with estimated cost running from $175,000 to $290,000, and all were rejected—rejected because the plans were not suitable for King county. The motion to reject was certainly not very complimentary to the architects engaged, but then, the Board may have desired to show what they knew about architecture.

Query: Is it possible that sixteen different architects, or firms, were each and all so deficient in the knowledge of what was required of them that it takes the plans of the sixteen to make an acceptable design.

We think this emphasizes what we have sometimes said, that it would be far better to place on the architectural profession, designs for public work in the hands of a competent committee of duly qualified architects. When this shall be the rule there will be a great advance in these buildings.

As a result, architect W. A. Ritchie is set to work making plans from the rejected "Greek" plans, changing it from a two-story and basement to a three-story and basement building. The appearance of the new courthouse will suggest the Ionic style as intended. The basement will be of cut stone and the first and second stories of brick with stone trimmings. Seattle is looking forward to an imposing structure, that will be known the moment you look at it, and be taken for a real genuine courthouse as well as one that will not blur up on the slightest provocation.

REVIEWS

We have received from Wm. T. Comstock, Part IX of his architectural studies, (city houses). This number illustrates the house designs submitted in a competition given by Building, for the planning of a home for a professional litterateur, and contains several excellent solutions of the problem. Price, one dollar, postage paid.

The Brickmaker a semi-monthly publication at Chicago. Price, 51 per year. As the name indicates, its columns will be entirely in the interest of the brickmaker and his bricks. In this connection we notice one very sensible article on the "Nomenclature of Bricks" and the suggestion that the matter be settled at the convention to be held in Philadelphia next December.

The Canadian Architect and Builder publishes a very caustic criticism on the "abuse" of the inverted arch. The criticism, though written in an "inverted" style of composition, is nevertheless effective in pointing out the possible failure of such an arch when not constructed on scientific principles, and the supervising architect is not fully alive to the importance of its use.

Preliminary Notice.

The joint Convention of the American Institute of Architects will be held in Cincinnati, opening on Wednesday, 20th of November next, at 10 a. m. The annual reports to and of each organization shall be read, and the Constitution and by-laws recommended for the reorganized Institute by the joint Committee on Consolidation, appointed by the two bodies, will be submitted for the final action necessary to consummate unification.

This will be followed by the reading and discussion of professional papers.

An exhibition of architectural illustrations, under the direction of the Cincinnati Architectural Club, will occur simultaneously with the Convention, viz: Tuesday, November 19th, to which all the members of both existing organizations are cordially invited.

Before the close of the convention, opportunities will be afforded for the inspection of the prominent and interesting structures of the city, finished or in process of erection.

Members of either existing organization, having communications or papers of interest to the profession, which they propose to submit to the joint Convention, should forward them to the appropriate Secretary between the 1st November ensuing.

Full particulars will be forwarded, in due course, to the members, alike of the existing Western Association of Architects and American Institute of Architects.

Hibernia Bank

VATION ON JONES STREET

Pissis and Moore, Architects

San Francisco, Cal.
October 15, 1889.

THE CALIFORNIA ARCHITECTURE

Hibernia Bank
Elevation on McAllister Street
Pissis and Moore, Architects.
San Francisco, Cal.
THE NEW BUILDING FOR THE CALIFORNIA ACADEMY OF SCIENCES, SAN FRANCISCO, CAL.
Percy & Hamilton, Architects.
Flightschotl street, as an Oliver Ave Owner; Johnathan Fischet, contractor, J. C. Brown; signed; Sept. 7; filed, Sept. 7 cost, $10,400; plan filed; all frame work milled out; $219 white paint coat; $240 completely.

18th and Townsend street, as an Oliver Ave Owner; Edward T. Williams; architect; M. C. Lynch; signed; Sept. 8; filed, Sept. 8; cost, $682; 3 white paint coat; $665 completed.

35th and Townsend street, as an Oliver Ave Owner; Michael J. Webb; architect; M. C. Lynch; signed; Sept. 9; filed, Sept. 9; cost, $682; 3 white paint coat; $665 completed.

8th and Coleman street, as an Oliver Ave Owner; Johnathan Fischet, contractor, J. C. Brown; signed; Sept. 7; filed, Sept. 7 cost, $10,400; plan filed; all frame work milled out; $219 white paint coat; $240 completely.

Howard, bet. 5d and 6th. Owner, Mary J. Morrow; architect, W. H. Arlinsgton; contractor, Jas. R. White, signed; Sept. 15; cost, $1,040; 2 white paint coat; $1,040 completed.

16th and Townsend street, as an Oliver Ave Owner; Henry M. Kamerling; architect; C. D. Lynch; signed; Sept. 8; filed, Sept. 8; cost, $682; 3 white paint coat; $665 completed.

8th and Coleman street, as an Oliver Ave Owner; Johnathan Fischet, contractor, J. C. Brown; signed; Sept. 7; filed, Sept. 7 cost, $10,400; plan filed; all frame work milled out; $219 white paint coat; $240 completely.

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OAKLAND AND VICINITY.

Country Building News.

(Copied to this Journal)

Lot 4. Levy W. Brk, Tr. Owner, Minnus Kirkball, architect, contract 35,000; architect, N. R. Turner; sureties, Wood and M. L. Broadwell; $1,250; signed, September 30th; filed September 26th; 2-story frame; payments, 75 per cent. as work progresses every two weeks; running 25 per cent. 32 days after completion.

Pacific avenue, between Oak and Walnut street, Alameda. Owner, Mrs. Henrietta Brand; architect, S. H. Bunch and J. C. Diamond; sureties, Huber Cowen, J. R. Blythe and J. H. Cory; $5,000; signed October 5th; filed, September 30th; 2-story frame; $1,275, roof on; $1,275, painted; $1,700, 35 days.

Owner, William H. McDonal; contractor, E. H. Biecher; signed, September 1st; filed September 5th; cost, $3,900; November I, 800; frozen and thawed and water tank; $4,000; $1,500, 35 days.

Lot 10, Block I, 50 Associates Tract, East Oakland; owner, Samuel Rawson; architect, A. R. Denker; contractor, J. H. Styles; signed, September 7th; filed, September 21st; 2-story frame; $1,317, 80; painted, $600; roof on bedroom on; $600, completed, $600, 35 days.

Southwest corner of第十 and Chestnut streets, Oakland; owner, C. R. Townophil; architect, H. H. Adams; contractor, H. H. Adams; signed, September 18th; filed, September 26th; 2-story frame; $2,900; December 18th, 82; towatry framing; $500, roof on; $500, brown mortar on; $500, 80 days.

Park street, Alameda, owner, George I. Lewis; architect, A. R. Denker; contractor, J. H. Young; signed, September 21st; filed, September 24th; 2-story frame; $1,000; $500, framed; $400, shingled; roof on; 2 plates of mortar on; $500, finished, $575, 35 days.

Lot 5, Penalas Park, Oakland, Township, owner, Miss Anna Follin; architect, Fred E. Wilcox; contractor, J. T. Halley & Boyleton; signed, September 17th; filed, September 21st; cost, 3,000; towawry framing; $500, first coat of mortar on; $875, 455, 35 days.

Lot 6, Block B, 50 Awa, East Oakland; owner, Emery Nelson; architect, F. E. Wilcox; contractor, J. A. Eastman; signed, September 18th; filed, September 22nd; 2-story frame; 85, 3,000; 2-story frame; $435, roof on; $435, white coat on; $435, white coat on; $435, 35 days.

Railroad avenue, Alameda; owner, Mrs. Mary White; architect, A. E. Beamsam; contractor, J. A. Eastman; signed, September 18th; filed, September 21st; 2-story frame; 1,750; 3,000; 2-story frame; $1,000, roof on; $400, 35 days.

 lots 8, 9, 10, Block M, Kenonely, W. Knowles and Potier Subdivision; owner, Mrs. Jane and Fred E. Wilcox; architect, J. A. Eastman; signed, September 31st; 2,900; 3-story frame; $1,400, roof on; $500, painted; $350, 30 days.

Twenty-third avenue, between East Fithmont and Sixth street, East Oakland; owner, Alexander Mclain; architect, A. E. Beamsam; contractor, J. A. Eastman; signed, September 23rd; cost, $2,050; November 13th, 89; payments, $1,000, 815, 35 days.

Clinton avenue, near Graln street, Alameda; owner, Mr. D. H. Cooper; architect, C. R. Pattiani & Co.; contractor, A. W. Pattiani & Co; signed, September 17th; filed, September 27th; 2-story frame; $515, 457; 3-story frame; $500, roof on; $500, painted, $500, 815, 35 days.

Bancroft way, near Anderson street, Berkeley; owner, M. E. Richards; architect, A. W. Pattiani & Co.; contractor, A. W. Pattiani & Co; signed, September 21st; filed, September 23rd; cost, $4,000; chimney built; $900, 35 days; $900, 35 days.
Railroad avenue, between Walnut and Willow; owner, Chas. L. Lauenheimer; architect, Fred P. Fischer; contractors, D. Stratton & Son; cost, $1,375; signed, September 30th; filed, September 10th; payments—$900, frame up; $900, brown mortar on; $980, plastered; $930, completed.

Berkley: owners, J. P. and C. M. Lottrell; architect, Geo. P. O'Shea; contractors, Ladd & Elyson; cost, $2,000; signed, August 28th; filed, September 25th; December 1, 1889; payments—$520; frame up; $750, brown mortar on; $900, completed.

Butler avenue, Klinkenveil Tract; owner, C. A. Klinkenveil; architects, John J. & Thomas D. Newcomb; contractors, H. L. Bullard & Son; cost, $2,070; signed, September 5th; filed, September 10th; payments—$500, frame up; $500, framed; $500, completed; $670, 35 days.

Dublin; owner, John Green; architect, John J. Clark; contractor, Wm. Dabie; sureties, N. McCaughey; $4,000; cost, $4,314; signed, September 5th; filed, September 10th; six months payments—$1,975, inclined; $1,975, brown mortar on; $1,975, completed; $1,116, 35 days.

Hirschfeld Tract; owner, J. A. Rommel; architect, John J. Boyle; contractor, John J. Boyle; sureties, H. M. Ward and Alex. Johnson; $1,000; cost, $1,525; signed, August 13th; filed, September 12th; January 1, 1890; payments—$50, brown cost; $50, completed; $50, 35 days.

Block "B", Mastick Prop.; owner, Mrs. Dieder- lich; architect, Ewen & Traylor; contractor, H. M. Allen; cost, $1,500; signed, September 12th; filed, September 12th; 100 days; payments—$500; building in progress; $1,000 on March 1, 1890.

Bancroft Way, near Aububon B.; owner, Edward J. Wickers; architect, Schulze & Mesker; contractor, Robert Smith; sureties, Alex. Campbell & H. McRae; $1,800; cost, $2,500; signed, September 6th; filed, September 14th; December 31, 1889; payments—$300; frame up; $1,175, ready for plastering; $1,171, cost of mortar on; $1,171, completed; $1,385, 35 days.

Fourth avenue, near Eleventh street; owner, Leon N. Cochabk; architects, John J. and T. D. Newcomb; contractor, W. N. Concanon; cost, $1,805; signed, August 14th; filed, August 14th; October 29, 1890; one story frame; payments—$462.50, frame up; $462.50, brown mortar on; $462.50, completed; $462.50, 35 days.

Ward avenue, San Leandro; owner, A. D. Oley; architect, Chas. Main; contractor, Myron H. Hack- ett; cost, $3,100; signed; August 20th; filed, August 20th; November 25, 1889; payments; $779.50, material furnished and $4 work done; $779.50, material furnished and $4 work done; $779.50, 30 days after completion.

King's avenue, Alameda; owner, James R. Lynch; architect, George A. Bodwell; contractor, W. G. Rose; cost, $2,785; signed, August 27th; filed, August 28th; October 29, 1890; one story frame; payments—$507, plaster on; $507, finished; $507, 35 days.

Block A, Adeline tract, O. Tp; owner, W. J. Goddard; architect and contractor, W. R. Intinti; cost, $1,900; signed August 27; filed August 27; one story cottage; payments—$400 completed; $400, 35 days.

East Twenty-first street and Twelfth avenue; owner, S. H. Nourse; architect, J. J. and T. D. Newcomb; contractor, Thos. H. Hass; surety, M. L. Broadwell; $1500; cost, $350; signed August 27; filed August 30; December 1, 1889; payments; $500 frame up; $500 chimney built; $500 plumbing done; $500 plastering done; $524 completed; $576, 35 days.

Block "C", Patterson Hill, Berkeley Tract; owner, W. C. Thompson and W. S. Thompson; architect, J. D. Sprague; contractor, J. D. Sprague; cost, $3,500; signed, August 27; filed August 27; two dwelling houses; payments, 1-3, ready for plastering, 1-3, plastering completed, 1-3, completed and accepted.

LOS GATOS.

Queen Anne residence for C. A. Bransfield of Los Gatos. C. F. Scannan is the contractor and the cost will be about $2,000.

LOS ANGELES.

Residence. E. F. C. Klokke, owner, architect, J. G. Newton; cost, $8,000.

Brick building. C. Raphael; owner, architect, R. B. Young; cost, $18,000.

Residences. N. & C. Jacoby; owner, A. M. Edelman, architect, $8,500 each.

Three-story brick. Owner, E. McLaughlin; architect, F. J. Capitan.

Brick building. Owner, Martin Anderson, architect, $12,500.

Residence. Owner, L. J. Rose; architect, Carleton Eileen & Carletonson; cost, $80,000.

Lodge house. A. M. Howgh; owner, architects, Doane & Scoen; cost, $17,000.

Zahn Block. Plans by W. O. Merithow; probable cost, $150,000.

Brick building. Owner, Martin Anderson; architect, J. Lyfert, cost, $90,000.

Residence. J. Schlesinger; owner, A. M. Edelman, architect; cost, $4,000.

Residence. C. H. Seals, owner, architect, J. C. Newton; cost, $8,000.

Residence. M. Hughes, owner, Carleton Eileen & Carletonson; architect, cost, $8,000.

Residence. W. H. Oxley, owner, Doane & Scoen, architect; cost, $8,000.

Residence. Owner, F. Bates; architects, Doane & Scoen. Also warehouse; Baker & Myers; cost, $8,000.
SANTA CLARA.

John Dibble has secured the contract for putting the roof on the large winery at Lawrence. It will require sixty-three sheets of tin, being 10'1" x 63'2".

SAN JOSE.

Two cottages on Fox avenue for Mrs. R. G. Woods; architect, J. O. McKee; cost, $1200.

Two-story residence on Second Second street; architect, J. O. McKee; contractors, Irish & West; cost, $4000.

Modern cottage for Mrs. Correll on Durango avenue; contractor, Ed. Eassee; architect, J. O. McKee; cost, $1400.

Two-story residence on Seventh street for S. N. Johnston; architect, J. O. McKee; cost, $3000.

Two-story residence for Professor Allen near Wrights station; day's work; architect, J. O. McKee; cost, $500.

Cottage for X. E. Burns on San Francisco avenue; architect, J. O. McKee; cost, $2000.

Cottage on Ninth and Sun Carlos streets for James Farney; contractor, P. E. Wells; architect, G. W. Page; cost, $800.

Cottage, corner of Sixteenth and St. John streets, for H. D. Pease; W. S. Haylon; contractor; J. O. McKee; architect; cost, $3,500.

Livery stable for M. M. Tinkham on Bassett street; J. O. McKee; architect; Mr. Keloway, contractor; cost, $4,000.

Emanuel Baptist Church, corner of East and Crawford streets; H. T. Lite, architect and contractor; cost, $7,700.

Cottage for E. B. Saunders on Cottage Grove Tract; cost, $1,200.

Cottage for S. L. Nugent on Cottage Grove Tract; cost, $1,000.

Fifty modern cottages on Cottage Grove Tract; I. G. Hazzard contractor and architect; average cost, $1,500.

Cottage for Jay K. Smith on Peavest street; I. G. Hazzard architect and contractor; cost, $1,300.

Two-story cottage on the Ravens' Creek road for S. A. Mattion; J. O. McKee; architect; H. H. Hazzard contractor; cost, $3000.

Two-story residence for Ed Younger on North First street; B. H. Vincent architect and contractor; cost, $3500.

The Archer building on Second, near Santa Clara street; R. M. Summers contractor; Jacob Lezen & Son architects; cost, $35,000.

The New Franklin Engine House; Theodore Lezen architects; Mabury & Phillips contractors; cost, $7000.

Two-story residence for W. G. Collins on Second street; J. M. Ward architect and contractor; cost, $3700.

Modern cottage on William, west of Market street; J. S. Wheeler architect and contractor; cost, $1600.

Cottage on South Eleventh street, near San Carlos street; J. H. Lezen & Sons architects; J. E. Forgraves contractor; cost, $1800.

Ryland building on South First street; J. Lezen & Son architects; R. Summers contractor; cost, $40,000.

Bank of Hollister building, in Hollister; J. Lezen & Son architects; Jacob Dorne contractor; cost, $50,000.

Cottage for Mr. Neal on South Tenth street; Frank Davis contractor; mill plans, cost, $200.

Cottage on Chan Chan on San Fernando near River street; A. C. Bates contractor; mill plans, cost, $1500.

Cottage on South Second street, for Pratt; Irish & West contractors; J. O. McKee architect; cost, $1000.

Cottage for J. Colombe on Sixth street near St. John; contractors, Talbot & Schrack; architect, J. O. McKee; cost, $800.

Brick building for G. S. Kellby on Fountain alley; H. Clliton contractor; J. O. McKee architect; cost, $500.

Cottage on Second street, near Homey avenue for W. Judah; day's work; J. O. McKee, architect; cost, $2000.
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<td>M. H. MULLINS</td>
<td>J. W. MULLINS</td>
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<td>MULLINS BROS.</td>
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<td>CARPENTERS and BUILDERS</td>
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<td>1138 Seventeenth St. S. F.</td>
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<td>JOHN BLAKE</td>
<td>CARPENTER AND BUILDER,</td>
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<td>1141 Waller Street, Near Scott, SAN FRANCISCO.</td>
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<td>All Jobbing Promptly attended to.</td>
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<td>N. P. LANGLAND</td>
<td>STAIR BUILDER AND WOOD TURNER, 407 Mission St., San Francisco.</td>
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<td>Mechanics 2nd Floor.</td>
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