

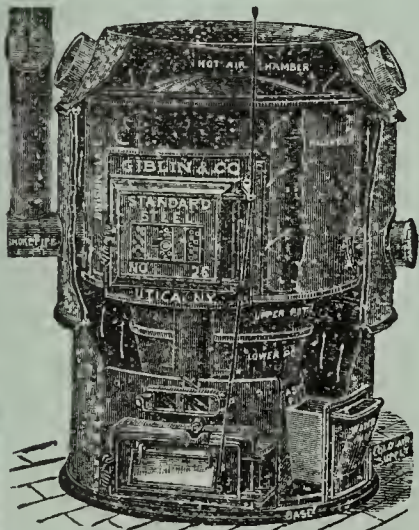
THE WESTERN ARCHITECT

VOL. I. No. 4.

MINNEAPOLIS and ST. PAUL, November, 1902

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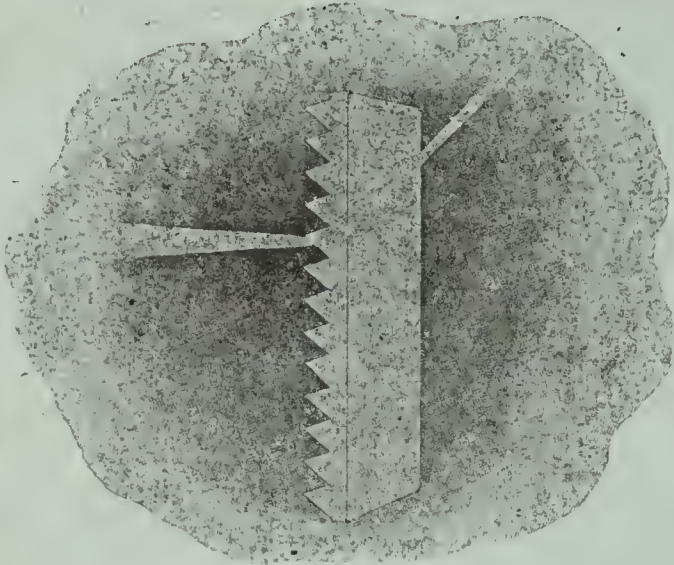
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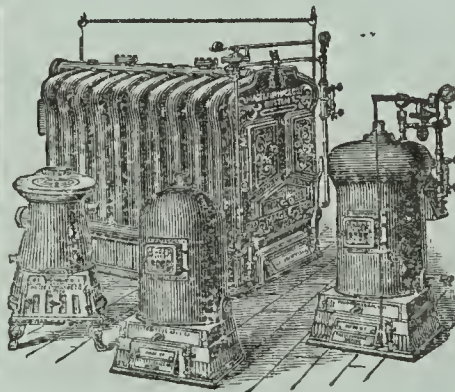
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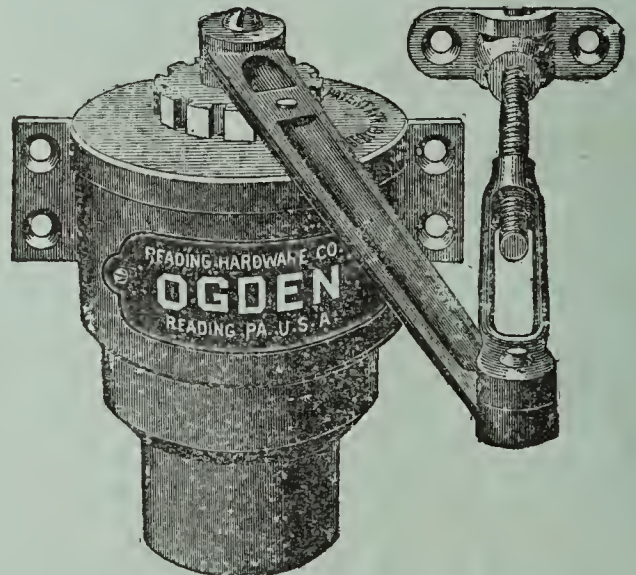
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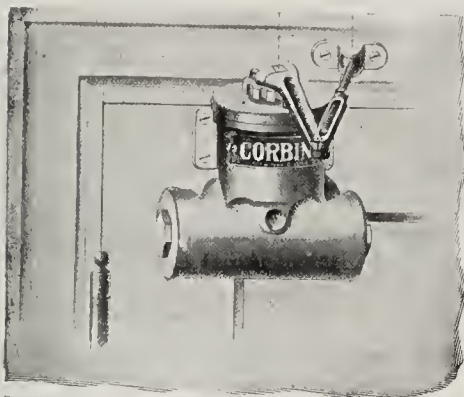
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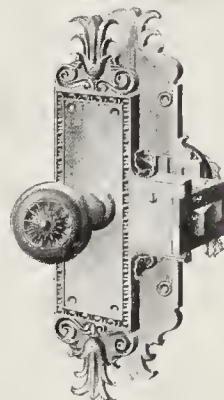
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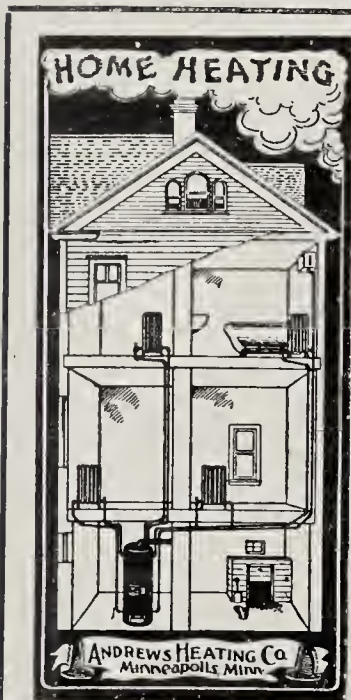
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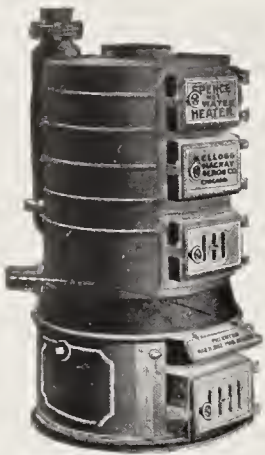
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Cover your pipes with CAREY'S 85 per cent Magnesia, Asbestos Moulded or Wool Felt Perfecto Pipe Coverings, for high or low pressure. Asbestos Block Covering, Sectional Lagging and Asbestos Cement Felting. Retort Cement, Furnace Pipe Covering and Asbestos Paper.

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THE WESTERN ARCHITECT

IS PUBLISHED THE 15th OF EACH MONTH BY

THE WESTERN ARCHITECT PUBLISHING COMPANY

FRED'CK KEES, Minneapolis, Minn., President.

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F. A. GREENLAW, General Manager.

Insurance Exchange Building, MINNEAPOLIS, MINN.
ST. PAUL, Commercial Building.

NOTICE TO ARCHITECTS AND HEATING CONTRACTORS.

It has been stated by certain dealers that the Monarch Sunshine Heater and the Henderson Thermo-Heater are one and the same things. As Northwestern manager for the Prizer-Painter Stove & Heater Company, manufacturers of the Henderson Thermo-Water and Steam Heaters, I desire to state to the architects and trade that we are in no ways connected with the manufacturers of the Sunshine Heaters. A simple denial of this fact is found in the statement that the Thermo is made in 19", 28" and 41" crates, and all heaters are 64" high.

The Sunshine is made in two widths, 25" and 41" and stand 67" high. Furthermore, I would say that a few moments spent in investigation will convince any members of the trade that the Thermo is by far the superior in material, general construction, workmanship and efficiency.

Trusting that this will correct the erroneous impression, I am

Yours truly,

A. W. LUCK.

St. Paul, Minn., Oct. 12th.

A BEAUTIFUL NUMBER.

It is with pleasure that we acknowledge receipt of the "Boiler Magazine," a periodical published by the well-known house of Kellogg-Mackay-Cameron Co., of Chicago, Minneapolis and Kansas City, which is certainly a work of art.

It is handsomely gotten up and is printed on fine book paper. The cover is embellished with a beautiful design, and is printed in several colors. Its contents contain some beautiful half-tone illustrations of their boilers, radiators and heating supplies, and the text matter is complete on everything that pertains to the subject of heating and ventilation.

It is a magazine that of necessity should be kept in the library of everyone engaged in the heating trade, and would be of great interest and value to the lay person. In all respects the goods of the K.-M.-C. Co rank with the best in the world, and this magnificent book is certain to occupy as high a rank with the best publications of the day.

To Make A Fire Proof Building.

A short time ago a safe fell several stories in the new Chamber of Commerce building, narrowly missing and severely injuring several people. The accident was caused by the breaking of the hoisting rope. The rope was only as strong as its weakest part and one weak part made the whole weak.

So is a fire proof wall or partition only as fireproof as its most vulnerable point. A wood door in a fire proof partition makes the whole partition only as fire proof as the wood door. A fire proof door preserves the desired effect and if the door can be made harmonious with the general finish there is no argument against its use and every argument in its favor.

The Ardsley Hall, New York, of which there is a halftone plate in this issue, is equipped with fire proof doors. This is but one of the many buildings throughout the country which have been fitted out with the work of the Fire Proof Door Company, of Minneapolis. The doors are handsome in appearance, durable, never warp or shrink, and may be finished in old copper, brass or grained.

A SATISFACTORY BOILER.

The Keystone Boiler is Above Criticism in Practical Results.

The importance of a good heater in the home is understood by all, but how few there are in use in this climate that are free from criticism. There is made, however, one heating boiler of which we desire to speak. It is known as the Keystone boiler, and is manufactured and sold to the trade by the Utica Heater Company, of Utica, N. Y. This boiler is made (so it is claimed) to combine all the desirable features of the best cast-iron and steel tubular boilers, and with none of their bad points. The first surface is so formed as to utilize in the most economical manner, the intense heat from the products of combustion, and the flues are so arranged that they are easily kept clean. Although these boilers have only recently been introduced in this section of the country, the Dwyer Plumbing & Heating Co., of St. Paul, who are the general agents of the Utica Heater Co. for the Northwest, state that they have already sold and put in ten of the Keystone boilers from specifications of leading architects of the Twin Cities and that in each case they have given the utmost satisfaction.

AWARDED LARGE CONTRACTS.

The Philip Carey Manufacturing Company, Lockland, Ohio, for whom the W. S. Knott Company, of Minneapolis, are the general northwestern agents, have closed a contract that will be of unusual interest to steam users throughout the country. After several months of scientific tests of various materials, they have been awarded the contract to furnish and apply their 85 per cent Carbonate Magnesia Covering at the power station of the Manhattan Railway Company, 74th street and East River, New York City.

The contract amounts to approximately \$25,000, and is one of the largest contracts closed by any pipe-covering manufacturer in recent years, and the selection of their magnesia covering over the products of all the others in their line is a marked victory for this firm.

Some other contracts which this firm have closed recently are twenty-one large cotton mills in the south, the Colorado plant of E. H. Dyre & Co., of Cleveland; eighteen lake vessels built by the American Ship Building Company, of Cleveland, and the Adams, Stokes, Astor and Mason buildings, New York City.

CEMENT AND PLASTER CO.

St. Paul and Minneapolis Business Men Organize New Concern.

The Giant Cement and Plaster Company, of St. Paul, has filed its incorporation papers with the secretary of state and the register of deeds. It has a capital of \$300,000.

The officers of the new concern are Michael P. Ryan, of St. Paul, president; George Williams, of Minneapolis, vice-president; A. Grave, of St. Paul, treasurer; L. P. Van Norman, of Minneapolis, secretary. Other stockholders are William P. Westfall, of St. Paul, H. H. Coleman of Minneapolis, and Bertice H. Scott, of Minneapolis. The new company intends to manufacture hard wall plaster at first and will enter bids at once for contracts in connection with the buildings of the St. Louis exposition. The patents under which it will work are the property of George Williams, of Minneapolis, and have been used heretofore by a Minneapolis corporation which manufactured some cement products in the neighborhood of Minneapolis. Under the new arrangement the old corporation disappears and the state rights in the Williams patents go to the new company.

SEALED PROPOSAL

ADVERTISEMENTS.

Announcements in this department will be inserted at the uniform rate of 25 cents per line, each issue. For three or more consecutive insertions of the same advertisement 20 cents per line for each insertion.

Copy for new advertisements should be sent us by the 25th of each month.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., October 4th, 1902. Sealed proposals will be received at this office until 2 o'clock p. m., on the 10th day of November, 1902, and then opened, for the erection and completion of the U. S. Government Buildings, Louisiana Purchase Exposition, St. Louis, Missouri, in accordance with the had at this office or at the office of the Director of Works, St. Louis, Mo., at the discretion of the Supervising Architect. James Knox Taylor, Supervising Architect. James Knox Taylor, Supervising Architect.

PROPOSALS FOR CONSTRUCTION.—Office of Chief Q. M., St. Paul, Minn., October 31, 1902.—Sealed proposals, in triplicate, will be received at this office until 11 o'clock a. m., December 1, 1902, and opened then for the construction of a hospital at Fort Lincoln, N. D. Plans and specifications may be seen and blank proposals with full instructions, had upon application here, or at the office of the Contracting Quartermaster, Bismarck, N. D. United States reserves the right to accept or reject any or all proposals or any part thereof.—Geo. E. Pond, C. Q. M.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., Oct. 21, 1902.—Sealed Proposals will be received at this office until 2 o'clock p. m., on the 25th day of November, 1902, and then opened for the installation of a conduit and electric wiring system for the U. S. Public Building at Boise, Idaho, in accordance with the drawings and specification, copies of which may be obtained at this office or at the office of the Superintendent of Construction, at the discretion of the Supervising Architect. James Knox Taylor, Supervising Architect.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., Oct. 21, 1902.—Sealed Proposals will be received at this office until 2 o'clock p. m., on the 29th day of November, 1902, and then opened, for furnishing the steam heating and ventilating apparatus complete in place, for the U. S. Public Building at Boise, Idaho, in accordance with drawings and specifications, copies of which may be had at this office or at the office of the Superintendent at Boise, Idaho, at the discretion of the Supervising Architect. James Knox Taylor, Supervising Architect.

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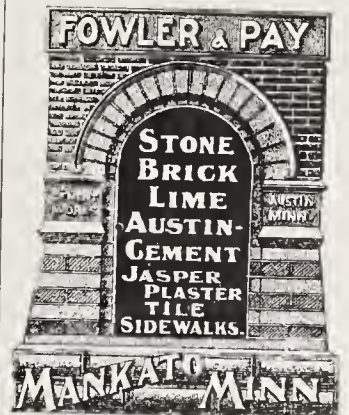
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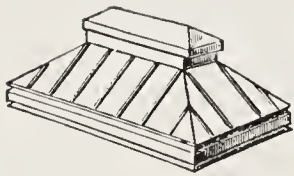
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ALL reports say that Mr. Clergue has been doing things at the "Soo." He has been making the power of thousands of horses to serve, and he has the power of other thousands standing ready to serve as wanted. And how these reports shine out against the mass of business bombast that has burdened the news for the past two or three years. The merging and the Morganizing, the underwriting and the capitalizing, with attendant shutting up of shops and putting up of the price of staples,—up out of reach of would-be enterprises,—has been going on till one is glad to stop and take a long free breath as he reads what Mr. Clergue has done. At the Soo he has harnessed so much horsepower that a city must be built there. This power must find work and big cities have grown up about fewer horse-powers. And to make sure of a city at the Soo, it is where things may be sent to it and brought from it. There will be sure to be a city built at the Soo.



AT ONE competitive trial of the respective wearing qualities of southern hard pine and west coast fir, the odds are markedly in favor of the former. The stable of a fire department building in Minneapolis is floored with three inch planks, the edges being planed so as to leave the joints slightly open, after which they are caulked. The woods were used in "hit or miss" fashion, as our grandmothers would have described a style of home-made carpeting, and the wear of several years has in nearly every case left the southern pine pieces noticeably thicker than the fir. One trial is, of course, not conclusive, as specimens of any variety of wood grown in different localities are apt to show considerable difference in hardness and other qualities, and individual trees also vary widely. It may be noted, however, that the southern pine reaching the markets of the Northwest comes, as a rule, from districts which are not thought to furnish as dense woods as those districts furnishing the Eastern markets.



THE object lesson of deficient water pressure at a recent fire in a Kentucky city not being sufficient to impress the authorities with the need of more frequent hydrants, a test of pressures registered at the nozzles of fire hose of differing lengths was arranged. Two

pressure gauges were tested under various pressures and found to agree, then one was so placed as to register the pressure at the hydrant and the other near the point of the discharge. Pressure at the hydrant was maintained at 100 during the trials, while the other gauge registered 87 at fifty feet, 80 at one hundred feet, a trifle over 61 at three hundred feet, while at five hundred feet it had fallen to exactly one-half of the hydrant pressure. The inch nozzle used in these trials gave somewhat less impressive results than might have been expected had a larger one, such as is more commonly used by firemen at their work, been employed.



THE vitality of the blueprint in the face of all the rapid changes of the past quarter of a century is somewhat remarkable. The blueprint has more permanence than most of its competitors, prominent among which are the multicolor processes, most if not all of which depend upon aniline inks for whatever success they have achieved. It is said that latterly, by reason of improvements in chemicals used in coating the papers, it has been made possible to print quite a bit faster than at first, yet the old method holds its own stubbornly, and the great bulk of blue-printing is done by sun light and takes a lot of it. The Great Northern Railway has recently installed an electrical blue-printing machine in its St. Paul offices, where different divisions of the engineering department of that great system keep a considerable number of young men making plats and plans and recording changes on old drawings to such extent as to overwork the sun in making copies. The eight hundred dollar device installed to assist that luminary consists of a plate glass cylinder eight feet high and some three feet in diameter, around which the tracings and sensitized paper are with some difficulty bound by a canvass girdle, while the printing is done by an arc light moved up and down the axis of the cylinder by clock-work. An expert electrician has thus far been a pretty constant and conspicuous factor in the successful working of the machine, albeit one not mentioned in the patent specification. As to rapidity of work when all things favor, it is said to be able to compete with the sunlight, at, say 3 p. m. of a clear day in March or September, much more work being required to "load" the thing than with the old frames.



DISCUSSION of the corrosion of structural steel still goes on with plenty of testimony, pro and con. M. Breuillie, a French investigator, is reported as having discovered by careful tests that the contact of steel and cement is attended by the formation of a compound which is soluble in water, and that the adhesion of the steel and cement disappears in time if water is supplied, the compound being carried off in solution. The abstract of the report does not give the chemical nature of the cement used, which may make all the

difference in the world. There are occasionally cements to be found which have a slow decomposing action on sands, or at least which set and acquire a reasonable consistency after a few weeks, and then deteriorate forever afterward. If there are any cements in use in this country which attack steel as described by M. Breuillie, the facts cannot be known too soon. Many of our latter-day concrete-steel-engineers are accustomed to look upon Portland cement as such a saving element in building that one would think it made no difference what was mixed with it for floor filling; and untold acres of floors are being put into factories for all sorts of work, wet as well as dry, of the re-enforced concrete make. Now if this re-enforcing metal is to be gradually turned into something else, it ought to be known about right away. With the beams it will be bad enough, although their time would naturally be greatly postponed, but the small sectional areas of the metallic strands of reinforced concrete are not calculated to stand much in the way of corrosion and continue to reinforce.

Perhaps no investigation to show the corrosion of steel in concrete would be complete without a parallel series of tests showing the effect of the same concretes on wrought iron. It would seem absurd perhaps to suggest that the slight difference in composition between what passes for structural steel and wrought iron could be sufficient to effect the results of tests like those by M. Breuillie, but there are many practical observers who believe that steel sheets used for water service, either in pipes or other forms, have far less durability than wrought iron,—many would place it as little as half as much. This is suggestive as effecting a selection of the two for other uses.



THE strangest thing yet in the way of railway ties is the invention of Mr. Dunnell, a yankee, who proposes to make them from the refuse leather from shoe and harness factories, old shoes serving also. The leather is to be treated chemically and formed under pressure,—six ties at a drop of a hydraulic press. Among the claims for the leather tie are that it will hold a spike better, that neither rail nor fish-plate will cut into it, that all ties will be uniform in size, and that none of them will have decayed places, knots and the like, that they will be as noiseless as possible, and will outwear six or eight times as many wooden ties. One thing that makes the account appear somewhat stretched is the great amount of material said to be available. Some of these leather ties are said to have been in use in a freight-yard in Springfield, Mass., at a place selected because of the great wear received, and are claimed to have made a much better showing than wooden ties laid alongside.

Railway officials are said to be looking forward with some misgivings to the tie question; in fact, that it is becoming somewhat acute in localities already,—roads being obliged to accept much poorer grades than for-

merly. The consumption of ties by the roads is said to have been a potent factor in the depletion of the timber supply for many years past, a serious phase being the sizes required,—just the sizes needed to keep the forests renewed profitably under a business-like system of forest-culture. We hear even less than formerly of steel ties, and creosoting wooden ties seems to be making but slow headway. Therefore, if our Yankee friends can work old shoes up into such good railway ties they ought to be cheered by plentiful orders. Building interests will soon be glad of all the trees these leather tie-makers can save.

Another very hopeful device for doing away with wooden ties is unfortunately furnishing some disappointment. A few years since some progressive street railway companies undertook to give their tracks the utmost permanence by laying deep T-rails on concrete foundations with only sufficient wooden ties to keep them in place during the laying of the concrete. The ends of the rails were ingeniously soldered together with cast-iron from a perambulating foundry, after which the paving materials were put in. Now, although all this was done with conscience and intelligence, it is found that where paved with asphalt, at any rate, something gives way; and, of course, when once loosened the trouble rapidly increases. Efforts to mend these failing ways by removing a strip of the pavement alongside the rails, wedging up the rails with steel plates, filling in with concrete again and finishing with a new form of granite blocks between rail and asphalt does not seem to promise any great permanence, because this has to be done while the tracks are in use, and it is difficult to see how any sort of a set can be secured for the cement.

REFERENCE was made in a former issue to the act of the Minnesota Legislature permitting the establishment of Art Commissions in cities of the state, and to the fact that Minneapolis had taken advantage of the act. Her commission finds its first task no very agreeable one, and has vetoed the proposal to erect in Minnehaha Park a bronze copy of the design by the late Jacob Fjelde illustrating Longfellow's couplet—

“Over wide and rushing rivers
In his arms he bore the maiden.”

The plaster cast was first placed at the entrance of the Minnesota building at the Chicago World's Fair in '93, and since then has found a place in the Minneapolis Public Library Building. The verdict of the Commission is contained in the following:

“It is not a gracious task to discourage a public movement such as this, springing as it does from the generous and public-spirited impulses of the citizens of the city and of the state; but the members of the commission are of the unanimous opinion that the present proposed statue, in dignity of conception as well as in technical treatment, is lacking in that high

excellence which should be possessed by any monument destined to occupy so conspicuous and so enduring a place.”

The original work was, as we remember, paid for by contributions by school children, and about one thousand dollars more has been contributed by them toward casting the group in bronze, which facts called for a measure of nerve, vulgarly speaking, on the part of the Commission in acting up to their belief. A photographic reproduction of the plaster model is shown in this issue with other work by Mr. Fjelde.

The group has always been subject to more or less adverse comment, which, curiously enough, the sculptor has always had to bear alone, and from which Longfellow escaped entirely. Just how unjust this is, few seem disposed to admit. If the members of the Commission had themselves been subjected to a latter-day high school training,—something like three “semesters” of Longfellow with the merciless “feet” of Hiawatha to torment their study hours except as driven away by thoughts of foot-ball,—they might be less sure of what Longfellow Indians ought to be. Yet it may be that the members had suffered, and thinking they saw signs of the passing of Longfellow, determined to earn the goodwill of future public-school-boyhood by throwing their weight on the side that would help.

The spandril figures shown in the plate are taken from a series of twenty-four made by Fjelde for the decoration of a little covered court in the Library of the University of Minnesota. The circumstances of his employment on this were anything but inspiring, yet he gave of his skill without stinting. So little of his previous work had been of a decorative nature that this series of sketches,—they were little more,—were of peculiar interest to his friends.



The following is part of an irreverent London letter to that staid down-east newspaper, the Springfield Republican:

Down on the Thames embankment, where the 'Arries and 'Arriets wander neck and arm together, gazing philosophically at the turgid Thames, they have planted an Egyptian pillar with a past. A gaunt person named Pharaoh carved it out of a southern hill to set up in a city named Heliopolis; a while afterward a thin man called Caesar had it forwarded to another town named Alexandria, and but a little time ago, while a fat woman named Victoria was on the throne, they brought it here to London. The thing seems to have a genius for getting into leading towns—to be a kind of heathen fetish of supremacy. You wonder a little as you look at it where the blind gods are getting ready to ship it next. Is this great haphazard monster of a city always going to be up to the work of the leading center of the civilization of the planet? There are those who think she begins to show some signs of flabbiness and decay. This fear of the loss of the sea trade, this shifting elsewhere of the manufacturing centers of the world; this pauperizing of the population, this beer-baron ennobling, this huge traffic in womankind—are these the signs of a growing, healthy civilization? Who knows what will come? Some day, perhaps, that Colossus of America, that bugbear the British matron terrifies her children with, that J. Pierpont Morgan fellow, will come steaming up into New York harbor with this London obelisk tucked under his left arm.



By GEORGE EMIL BERTRAND
of Bertrand & Chamberlain, Architects, Minneapolis.

One of the important elements in the attainment of sublimity in an architectural object is that of stability, not merely strength sufficient to insure the permanence of the structure, or to resist the various stresses to which it may be subjected, but an excess of strength to immediately satisfy the mind. No building can be monumental in character and give the impression of being able to resist all destructive influences whether of time, man or the elements, without having this characteristic.

It is certain that no people as well understood this truth and applied it so successfully as did the ancient Egyptians in their tombs and temples. They built neither for beauty nor utility, but for eternity. The strength of their buildings was many times in excess of the structural requirements. They used the most durable material, granite, and of enormous sizes, each column or pier being a monolith and a monument in itself.

It does not seem possible to form any adequate conception of the character of the ancient Egyptian civilization, the overpowering influence of their religion, or even a superficial idea of their customs of living, habits of thought, or motives in life, without perusing their story as told by themselves in the ruins of the gigantic tombs and temples strewn along the banks of the Nile.

In studying the monuments of ancient Egypt one is impressed with the bold individuality which must have been a marked characteristic of the Egyptians as a people. There is a sublime independence and disregard for external influences in marked contrast, for instance, with the custom among the Romans of appropriating bodily the architectural forms of their conquered subjects and applying them to their own uses. One is impressed with the feeling that their love of country, their social cohesion, which took the form of a deep, sustained and unquestioning religious fanaticism, was an all-sufficient law unto each individual. And while their religion was of a less humane character than that which impelled the building of the great cathedrals of the Middle Ages in Europe, yet it was no less intense in character, and far more prolific in its results, viewed from an architectural standpoint.

At no other time in all history and among no other people has a dominant impulse seized upon a nation with such sustained power, and compelled the exertion of such immense physical energy as is exemplified

in the buildings built during the flourishing period of Egyptian glory.

It is a remarkable fact that while among the civilizations of remote antiquity the Egyptian is the most ancient, yet its history is the best known today. One is brought in contact with the most intimate circumstances of their every-day lives by the sculptured stories that literally cover the surfaces of their monuments. There is a native simplicity in the execution of their picture writing which is in strange contrast with the boldness and grandeur of their architectural conceptions.

They gave expression to their thought by the most simple and direct means. They seem not to have been diverted from the sublimity of their theme by the belittling thoughts of mere ornamentation, but to have conceived their architectural compositions like giants, in massive monoliths, knowing that mass and size of material were the actual, as well as the apparent, conditions of impressiveness and durability.

There is no doubt that the conformation of the country in which they lived had much to do with the unique character of the Egyptians, as a people. The country was a narrow strip of land extending north and south, bounded on either side by uninhabitable deserts, and through the center of which flowed the mysterious Nile, which was the great spinal nerve of the nation. And, in that age, when intercommunication between countries was extremely limited, these conditions made them still more isolated, and it would be inevitable that a people naturally of an imaginative temperament, and for ages undisturbed by external influences, would develop into an intensely artistic and homogeneous civilization. After ages of intermixture of blood, the varying particles would have conglomerated into a mass of even color and texture, and each individual would be composite of all the others.

Derived from the same ancestry, subjected for untold generations to the same social conditions, the same climatic influences, the same sky, the same drouths, the same inundations of the one great river, whose periodical rise and fall was the important event that influenced the welfare of all the people alike, it could not be otherwise than that the moral and intellectual impulses of the people, whatever they might be, would tend all in one direction.

Their religious traditions would attain an immense antiquity, and with an imaginative people, in awe of the mysteries of nature and the eternity of matter it would not be strange if their dominant impulse was the perpetuation of their identical bodies into the mystery of the future.

To do this they would employ the most effective means known to them. They would embalm their bodies and protect their burial places with the most enduring material, and if it was the tomb of a king, the grandeur of the monument would be in accordance with the majesty of the man.

With an artistic people, as were the Egyptians, the sublimity of the monument would interpret the sublimity of the thought, and more, that this would assume in some degree the character of the environing country. The great flood of the Nile without need of tributaries, the vast expanse of trackless desert on either hand, the intense blue of a cloudless sky; these would have their influence on the character of their monuments, for they were the sources of the inspiration which created them.

SOUNDPROOF PARTITIONS.

Our October issue mentioned the testing of different constructions for their soundproof qualities under directions of Prof. C. S. Norton, of the Massachusetts Institution of Technology. The tests were made for Mr. E. T. Barker, architect of the dormitory for the New England Conservatory of Music, in a large upper story of a Boston warehouse having concrete floors and ceilings. The rooms tested were each seven feet square with two thicknesses of seven-eighths wood floor, between which and the concrete floor were two thicknesses of Cabot's "quilt," the concrete ceiling of the large room forming ceilings of the rooms tested.

On the front side of each room was a glass-paneled door, the jambs of which were faced with soft felt, and bottom fitted with a "weather strip."

Room A had walls of terra-cotta blocks, front and back four inches thick, one side two inches, the other three inches thick. These were plastered with two coats, inside and out.

Room B was walled with "Keystone" material, of the nature of plaster-of-paris with a fibrous bond; its front four inches thick, and each of the two sides two inches thick. All was plastered two coats inside and out, except outside of the front, which was not plastered.

Room C was walled with "Sackett board," wired on both sides of three-inch steel channels, this board being of alternate layers of plaster and paper, until one-fourth inch thick. On the back and right sides of the room the steel channels were wrapped with one-eighth-inch felt. The room was plastered inside and out, but with somewhat less thickness.

Room D is thus described in the report: The left side was a solid partition of metallic lath and plaster. The seven-eighths-inch steel ties were spaced sixteen inches on centers, metal lath was applied to only one side of the ties, and then plastered to a thickness of two inches. The rear wall was built upon two rows of seven-eighths-inch studs staggered. Between them were placed one thickness of water-proof paper, about 1-32 inch thick, and metal lath was wired to both sides of the row of studs and given two coats of plaster. The right side was of the same construction, with a layer of one-eighth-inch felt between the two thicknesses of water-proof paper. The front wall was of metal lath

on two rows of staggered studs, with Cabot's seaweed quilt between the rows of studs.

Room E was submitted by Mr. Samuel Cabot, and was wholly of metal lath and plaster double partitions, with the space between the lath filled with Cabot's sheathing quilt. The front and left sides contained three thicknesses of quilt, and the right side and rear two thicknesses. The quilt was placed between the studs and the metal lath, and where three thicknesses were used, one was between the row of studs as well.

The rooms were not wholly nor equally dry which might have affected the results somewhat. The following is from Prof. Norton's report:

The preliminary trials showed so great a range of efficiency of the several constructions that the microphonic apparatus, which was designed to make rapid comparisons of sound-intensity possible, could not be used. Reliance had to be placed wholly on listening with or without a felt-mouthed stethoscope at the outside of the partition to sounds of various quality and intensity from within. The notes of the piano, violin, cornet and the human voice were carefully tried throughout wide ranges of pitch and intensity. The performers and instruments were interchanged; every possible chance of unfairness, due to the variations of intensity in the sounds used, was eliminated. The insulating property of some of the partitions was so good that not even the blare of a cornet or the overpowering tones of an Italian tenor, drawn from the ranks of the laborers on the building, could be heard through the partitions, except by careful listening within a few inches of the wall.

After much consideration, the writer has given the following ratings to the different partitions. The order of their standing upon the list indicates their efficiency as compared with those above and below them.

Approximate efficiency on arbitrary scale of 100.				
No. Room.	Side.	Scale.	Composition.	
1	E	Left	100	Cabot's Quilt, 3 thick + metal lath.
2	E	Right	95	Cabot's Quilt, 2 thick + metal lath.
3	E	Rear	95	Cabot's Quilt, 2 thick + metal lath.
4	C	Rear	85	Sackett Board, 2 felt on [s.
5	C	Left	85	Sackett Board, 2 felt on [s.
6	C	Right	80	Sackett Board, 2 felt.
7	D	Rear	75	Metal lath + paper.
8	D	Right	75	Metal lath, paper + felt.
9	B	Right	60	Two 2" Keystone Block with 2" air space.
10	A	Rear	50	4" National Terra Cotta Blocks.
11	B	Rear	50	3" Keystone Blocks.
12	A	Right	45	2" National Terra Cotta Blocks.
13	B	Left	40	2" Keystone Blocks.
14	A	Left	40	2" National Terra Cotta Blocks.
15	D	Left	30	2" Metal lath, solid plaster.

Modern architecture is made up of so many trifles that it is not safe to regard anything legitimately connected with it as a trifle, but each item should be given the full consideration that belongs to it in order to attain as near perfection as may be.

THE HOME GROUNDS.

BY FRANK H. NUTTER, Landscape Architect.

One of the results of the growing interest in out-door life in America is the increased attention paid to the development of the surroundings of our homes, be they cottages or palaces, and whether the area treated be measured by the foot or by the acre. The landscape beauties of the Columbia Fair at Chicago proved to be seed sown on good ground, and that year may be said to mark the birth of a widespread enthusiasm with our people for out-door art; and while this enthusiasm may at times have been shown in rather grotesque and bizarre fashion, still a very great and commendable advance has been made.

The inquiries that are made of those who follow the profession of landscape architects prove that many, although desirous of improving their surroundings, have very vague ideas as to the results to be obtained and the methods of obtaining them.

It has at last become an admitted fact that to build even a small house satisfactorily, the assistance of a professional architect must be secured, and while the owner may and should work his personality and individual ideas into the structure, it can only be safely accomplished under proper guidance.

The same rule holds good in regard to the environments of the building and not only should the builder consult both architect and landscape expert, but these two should work in harmony if perfect success is to be obtained, and this co-operation should date from the very inception of the work. It is not difficult to find instances where the architect's designs have been sadly marred by inharmonious treatment of the grounds and, again, a carefully designed arrangement of the grounds has been brought to naught by building thereon a house of different plan from what was first intended.

That there seems frequently to be a slight jealousy on the part of the building architect towards the one who may have charge of the grounds, cannot be denied, and perhaps the feeling may at times be mutual; but as the architect in these times of specialization does not hesitate to call to his aid the constructing engineer, the heating engineer and the sanitary expert, so in the good time coming, to which we all look forward, he will gladly consent to have added to this staff of workers the landscape engineer, and so far as it may concern the immediate surroundings of the building, see that the outside work shall properly harmonize with and bring out the design of the structure.

One of the results of the present "fad," if such a sensible movement deserves such a slighting appellation, for the so-called colonial style of houses, in its various phases, is the erection of many particularly homelike houses, and, with these, a revival of the old-style gardens, as contrasted with the open and fenceless lawns which have been so zealously commended in the past.

It is to be hoped that the old-world fashion of high walls and impenetrable hedges, which shut the traveler in to a view of the weary road ahead to be traversed, only relieved by a retrospect of what has already been overpassed, will not become popular with us; but still the peculiarly American style of living in the public gaze is becoming objectionable to many and they are demanding an opportunity to enjoy themselves out of doors under condition of more privacy, and turning from the open lawn in front they seek their pleasure in some more secluded spot.

By the co-operation of the designers of the house and the designer of the grounds this want can be most satisfactorily and artistically met, and by placing the living rooms so that they may connect at side or rear with an enclosed or sunken garden or lawn the problem is solved.

Where possible, this garden should be connected with the house by verandas and terraces so that it may be in reality but an outside room of the house, and, artistically at least, an extension of the outside arrangements. If this is not feasible it may be so located as to be looked into or drawn upon from the windows of the living rooms, and so sheltered from the gaze of the passers-by that the family may enjoy themselves within its precincts with all the privacy that would be theirs in parlor or library.

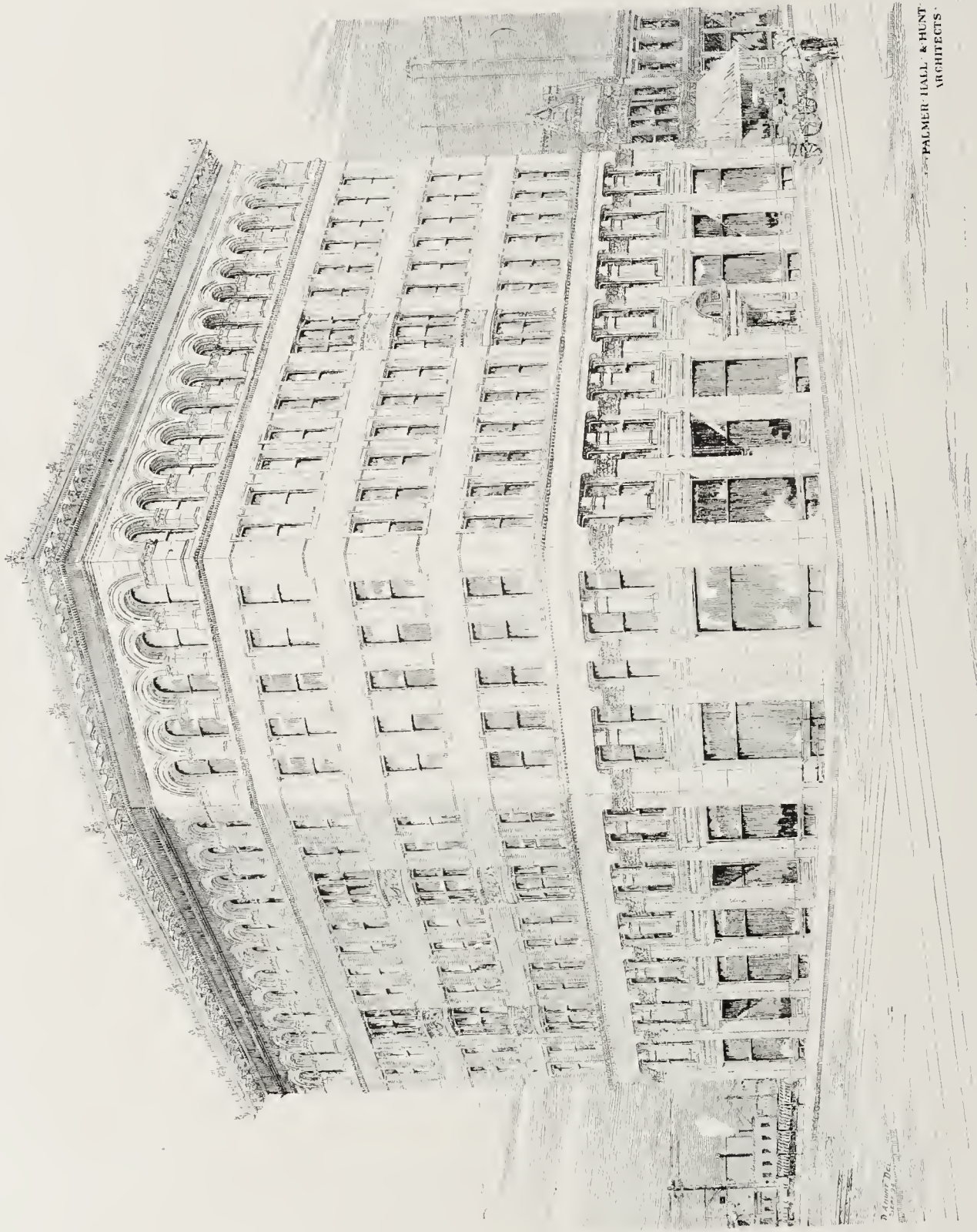


Garden of F. F. Fletcher, Linden Hills.

The little garden shown in our illustration is an example that fulfills the latter conditions.

It is on the home grounds of Mr. F. F. Fletcher, at Linden Hills, Minneapolis, and although the photographs were taken but about five months after the work of grading was begun, it shows that much may be accomplished in a very short space of time, even when the gardening proper, as in this case, is done by the owner in his leisure hours; though it must be admitted that boundless enthusiasm and much hard labor was required to bring even so much about.

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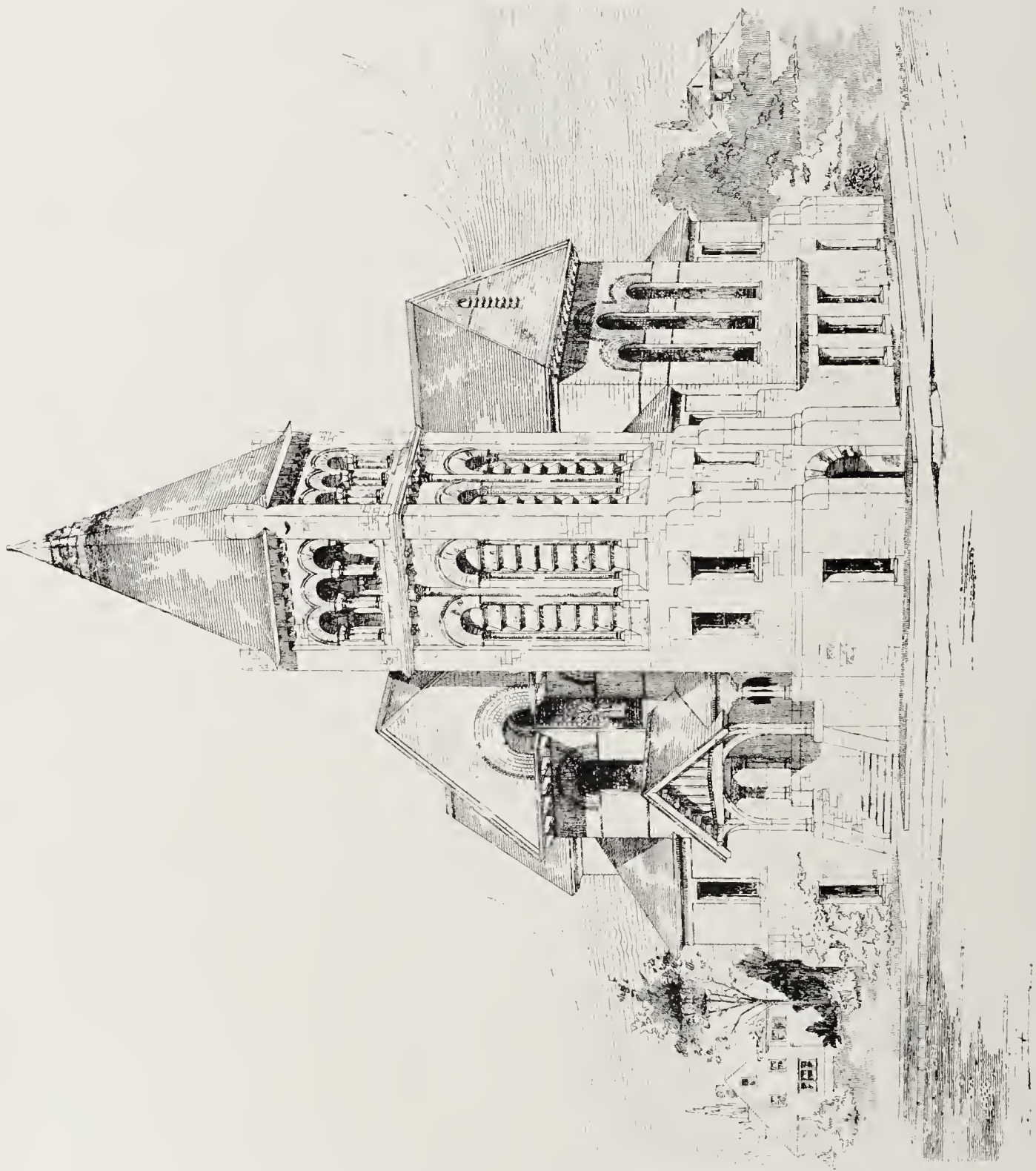


November, 1902

OFFICE BUILDING, Corner Superior St. and Lake Avenue, Duluth, Minn.
Palmer, Hall & Hunt, Architects, Duluth.

Supplement to
THE WESTERN ARCHITECT

OF THE
UNIVERSITY OF ALBANY



DESIGN FOR A CHURCH,
By Palmer, Hall & Hunt, Architects,
Duluth, Minn.



Supplement to
THE WESTERN ARCHITECT

ARDSLEY HALL, NEW YORK CITY, N. Y.
Geo. Keister, Architect, New York.

November, 1902

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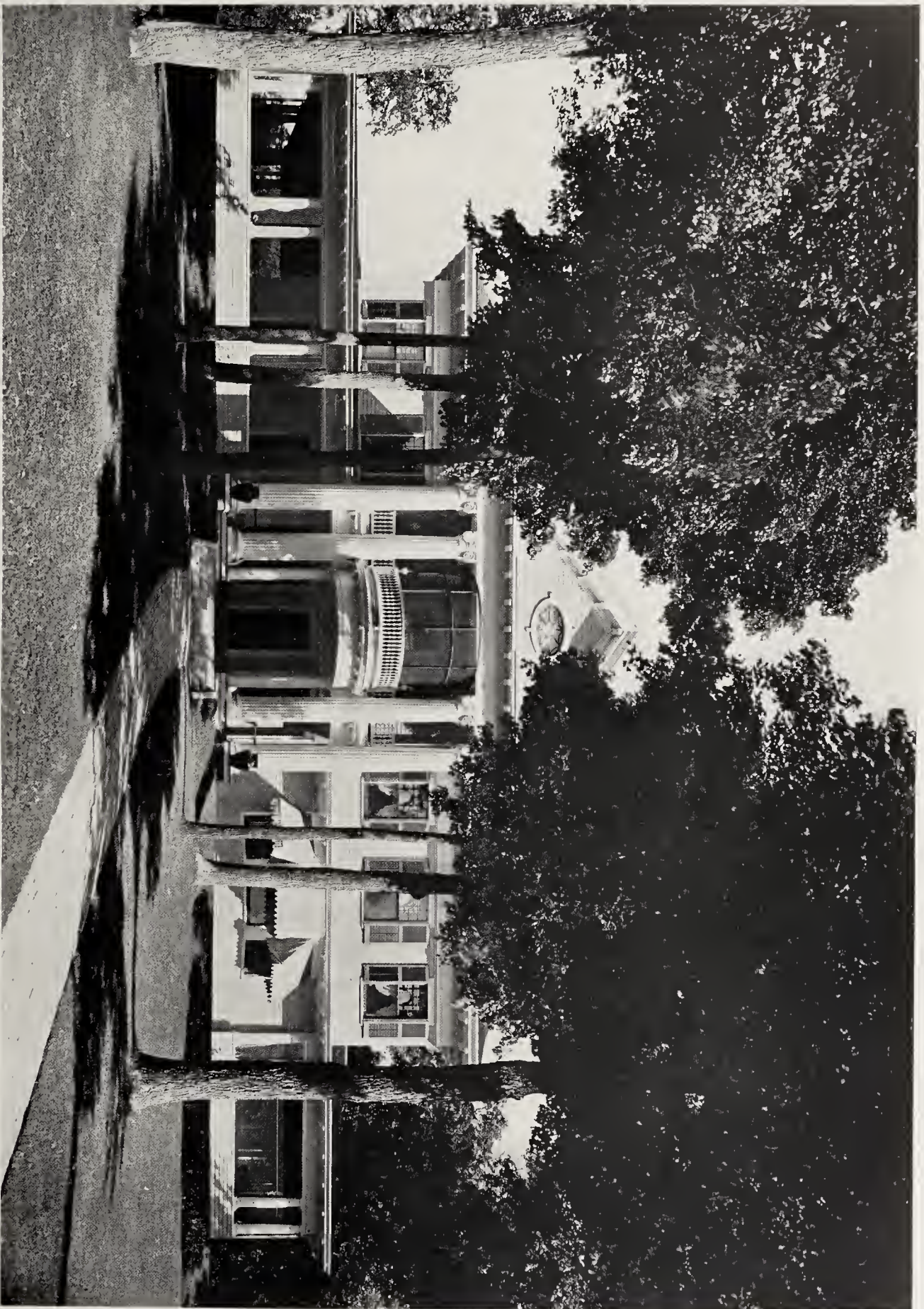


Supplement to
THE WESTERN ARCHITECT

SOME OF THE WORK OF THE LATE JACOB FIELDE, Sculptor.
See Editorial Note.

November, 1902

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RESIDENCE FOR R. M. BENNETT, Lake Minnetonka, Minn. (Lake Front View)
Wm. Channing Whitney, Architect, Minneapolis.

November, 1902

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Supplement to
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RESIDENCE OF R. M. BENNETT. (Carriage Entrance)
Wm. Channing Whitney, Architect, Minneapolis.

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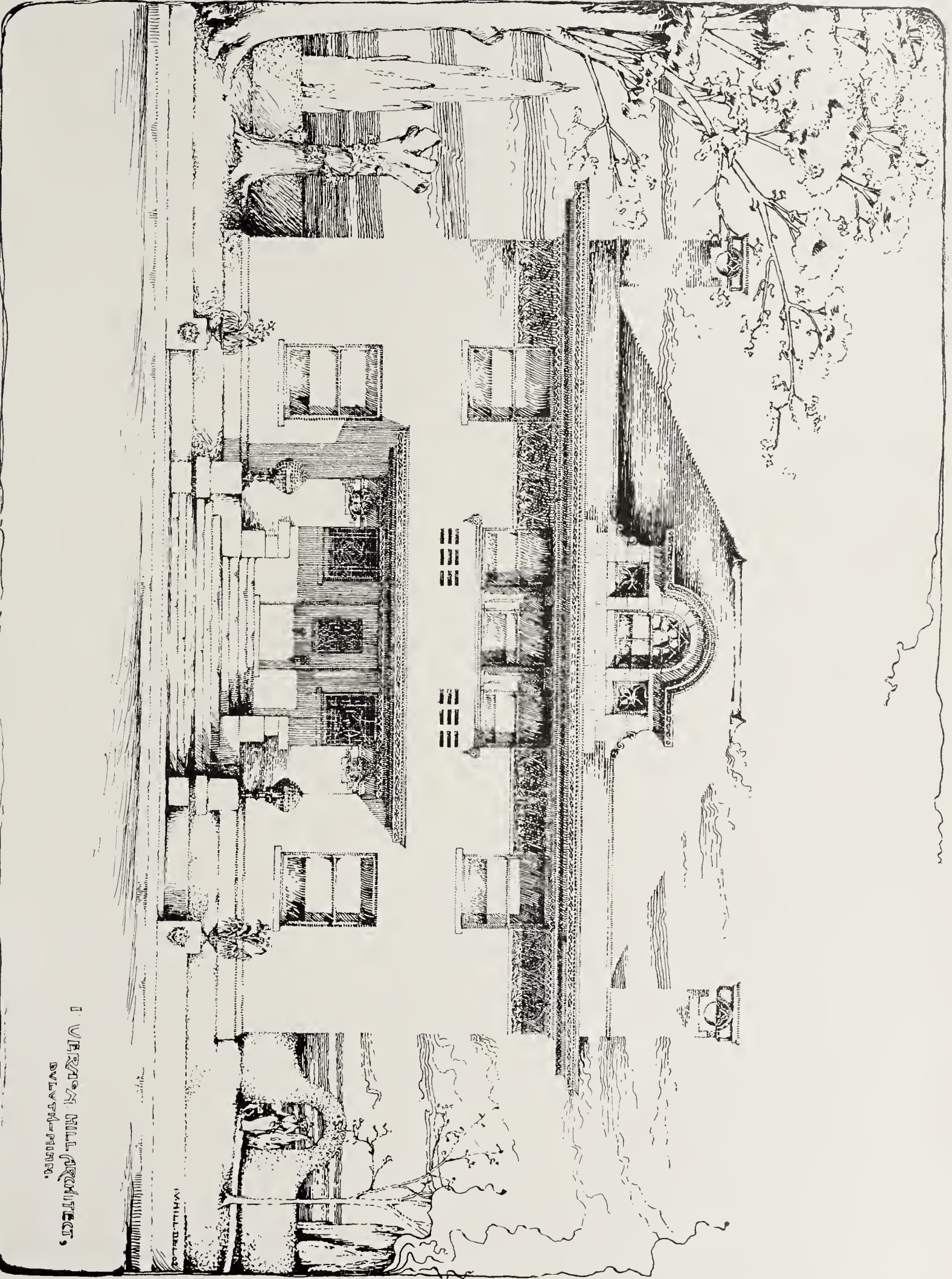
JEFFERSON
PUBLIC
SCHOOL
DULUTH, MINN.
RADCLIFFE
& WILLOUGHBY
Architects
Duluth, Minn.

Supplement to
THE WESTERN ARCHITECT

JEFFERSON PUBLIC SCHOOL BUILDING, Duluth, Minnesota,
Radcliffe & Willoughby, Architects, Duluth.

November, 1902

LIP BY
OF THE
UNIVERSITY OF CALIFORNIA



I. VERNON HILL ARCHITECT,
DULUTH, MINN.

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Shrubs and plants at the top of the terrace and by the house foundation hardly show in the picture, and a photograph a couple of years hence will doubtless show much better results. This garden, entered at the corners by a flight of cobble-stone steps, is divided into beds bordered with ornamental brick; and from the adjoining corner another path leads to a wild garden, in a natural grove, to be stocked with the spoils of the owner's wanderings in the woods and swamps.

On the other side towards the street a terrace-bank, topped with shrubberies, affords a sufficient screen, which is continued around the other two sides by a low hedge of buck-thorn.



Curbed Pool on F. F. Fletcher's Grounds, Linden Hills.

The curbed pool is emphasized in effect by some clipped laurels in tubs, and a papyrus, a lotus, and some tropical water-lilies grace the surface of the water in summer, but will retire to the cellar and furnace-room on the approach of winter.

For the first season the beds are filled mostly with annuals or tender plants, which were started in an outside hot bed while the work of grading was in progress.

A MILLION DOLLARS FOR PIERS.

The government will spend a million dollars in making protective piers for the harbor entrance at Superior, Wis. In the office of the government engineers at Duluth, Minn., specifications are now being made out. Bids will be received during the winter. These will be the largest monolithic concrete piers ever built in the United States. They will be solid concrete from the foundation, twenty-five feet below water level, to the top, ten feet above water, and they will be 3,200 feet long. Several hundred thousand barrels of Portland cement will be required. Piers have just been completed at Duluth harbor entrance, six miles away, but these are with timber foundations and are 1,700 feet long. They were among the largest ever built and cost \$600,000.

TURN THEM DOWN.

That bright, crisp and wideawake building journal of Atlanta, Ga., known as the Southern Architect and Building News, has the following to say regarding the architectural portfolios and other advertising schemes with which some of the so-called architects are flooding the country. As the sentiments expressed are in line with our own thoughts on the matter, we take great pleasure in printing it in this issue of the Western Architect:

"A pamphlet entitled 'Building News,' printed somewhere in Indiana, with the name of a Memphis architect at the bottom, and containing matter and illustrations selected at random (mostly from Indiana), has been forwarded to us for comment. Mr. Weathers has put his name to an innumerable series of documents, but this latest scheme is about the worst. Luckily the manufacturers of building materials have been held up until they are forced to call a halt, and so-called architects who attempt to issue a book with pictures of their buildings, for which the manufacturers are asked to pay, find their requests turned down gracefully but forcibly.

"This is the season when the largest manufacturers, dealers and agents of building materials, supplies and furnishings make their appropriation for the coming year and we wish to repeat our former assertion that the remedy for the plan factory "books," architectural "brochures" and club catalogues, etc., etc., is a decisive No! by the manufacturer when asked to contribute advertisements. The Chicago Architectural Club issues the best catalogue of all and contains no advertisements, the different firms, including the architects, contractors and others contributing towards the expense of the printing, cuts, etc., without the necessity of furnishing useless advertising copy and increasing the cost of the book or catalogue. The circulation of these catalogues is too limited to be of any value as an advertising medium, and the same amount placed in one of the weekly or monthly architectural journals would bring returns on the investment. If there is anything in persistency, cleanliness, circulation and all the other good qualities of an advertising medium why not get in line and make possible the existence of better, thoroughly established and duly recognized architectural journals, rather than encourage the blackmail schemes that constantly clamor for your recognition?"

A celebrated sculptor once told a would-be critic that trifles made perfection and that perfection was no trifle, and this trite saying applies with peculiar force to architecture.

Contractors and dealers are getting uneasy about the price of Portland cement. A rise of 50 per cent in a few months time has a suspicious look. Is there an unseen "merger" or "gentlemen's agreement" afoot?

Mr. Pecksniff and the Boys Think.

Some people have been making comments because Mr. Pecksniff is not as well known as his father was, but one of the fellows in the office who is reckoned to be pretty shrewd, says: "Just let 'em wait a while. Pecksniff has something on his mind, that's sure. He'll be heard from yet, and some of 'em may hear too much from him. If things go off according to Pecksniff's idea, he won't need any Mr. Boz to make him known."

He sent for a new book not long ago with the title, "Proportion in Designing." The book lays down the rules for successful conduct of many kinds of business. It tells how many sewing machines and girls are needed to one cutter in the most successful sweat shops, and coming to architects' offices, says a proper proportion for starting a successful business is one designer, two blue printers in summer, three in winter, and three stenographers, two of which will be needed in the advertising and correspondence department.

The office expenses should be per week: Designer, \$12 to \$15, according to the season; blue printers, \$12 to \$16; stenographers, \$15; advertising experts, \$50; rents, lighting and heating, \$30; materials, \$15; advertising, \$100. Rents will be a somewhat smaller proportion as the business grows, but the proportion should be maintained as to other items.

Pecksniff is studying this new book so hard that he pays less attention than ever to the office, and when a client wants anything fresh the fellows have to work it out for him. So when the other day the doctor and his wife came in and said they wanted a fence and one that was different, we had to study it out without anything more from Pecksniff than his approval.

The doctor's wife wouldn't take any open pickety fence that anybody could peek through, nor any tight board fence, nor anything that didn't bid fair to stay. We ciphered on stone walls and on concrete walls and on hard brick walls in cement, but they all required continuous footings and copings and took a lot of money and too much land.

Then we ciphered on metal lath and cement plaster and we found it would go. We told the doctor to hustle for this and that for posts, and he found in the junk the steel trust had from dismantling Columbia Heights rolling mills, some small T-rails that were just right. We had holes bored in the ground every 7½ feet and filled with concrete in which these T-rail posts were stuck, and to make things still stiffer we wired a triangle of the steel lath to the lower part of the post, setting the bottom of it in the concrete. Then we had them take 2x4x16s and bore holes half way through and put them over tops of posts to stiffen things, and we had three holes through the 2x4s for each 7½ feet span and we struck the small channel-iron studs through these holes and into the ground.

Then we found that we could get "Herring bone" lath to advantage and that it was as good as any, and so we had it wired on.

We had it woven in basket fashion, but that didn't amount to much. Then one of the men told us one of the things he knew about farming was "pig-rings," and they helped us out a lot—there were many places where they beat wiring.



Photo of the New Fence.

Then we set Steve plastering. He was bound to put on the first coat on one side of lime and hair and we let him do it, well gauged with Portland cement. He was all right, but he should have put more cement in. It is a hard job to start a coat of cement plastering on the bare laths, but when the first coat is on and set, you can put what you please on it. Steve stuck on the hard stuff first on one side then on the other till he got 2½ or 3 inches, then he knocked off the 2x4s and finished the whole with "roughcast," and if the boys vault that fence they have different hands from what the boys had in our time. Nobody that hasn't tried it will believe how stiff it is, and the doctor's wife won't have any trouble training her ampelopsis and things in it. A grape vine can find plenty to hold on to there.

MR. PINCH, JR.

THE GOSPEL OF GOOD PAINT.

In house building as in the clothing trade, good goods advertise themselves and increase the trade. Farmer Bloom builds a very attractive house out on the Cedarburg road. Farmer Heinze, a mite further down the same road, is provoked to good works thereby, and builds next season, one a little better. In town this rivalry works more quickly and generally because of the closer neighborhood of the rivals.

Now, who is provoked to such good works by an unpainted house, or a weather beaten barn? You wouldn't be. Neither would the other man, for he is just about like you. The unpainted house has an air of regret about it. It seems to say: "I strained the back of the man who raised me. He is a cripple for life. Beware the horrible example!"

Get a good line of paint, then study the art of putting it on so that the paint not only preserves the building but makes it look attractive. Teach the householder that twenty dollars in good paint well put on is worth a hundred dollars to his real estate.

ANCIENT GERASSA AS IT APPEARS TODAY.

By GEORGE C. DOOLITTLE.

The ruins of ancient Gerassa, another city of stone, grand enough in its day, are to be found far off on the edge of the desert. The way to this interesting ruin is in no sense easy, but once reached, the traveler is well repaid by the sights that greet him. Here a colonnaded avenue stretches into the distance, there a ruined triumphal arch arrests attention. Yonder was a theater and still beyond much of a beautiful temple remains. One wonders to see standing in good condition nearly all the columns of the front of a fine temple

from which pediments and roof have entirely disappeared.

Gerassa existed at the beginning of the Christian era, but reached its greatest magnificence in the second and third centuries, when its monumental structures had spread over not less than one hundred and seventy acres. Over three hundred columns still stand, and they are but a fraction of the whole. There seem to be a forest of standing columns, as if some giant had passed that way and sown broadcast the seeds, which had sprung up into a plentiful harvest of columns.



From Ruins of Gerassa (Jerash)

HOW WAGES HAVE ADVANCED.

The New York Record and Guide prints the following table showing how wages have advanced in the building trades since 1860:

Variation in prices per hour of labor from 1860 to 1902:

	1860.	*1869.	1879.	1902.	†In-crease
Bricklayers	\$0.22	\$0.34	\$0.30	\$0.60	76
Carpenters .....	.22	.34	.20	.50	47
Gas fitters .....	.27	.25	.30	.50	100
Hod carriers and other laborers .....	.17	.21	.17	.33	57
Marble cutters .....	.28	.32	.25	.55	71
Marble polishers .....	.15	.20	.17	.44	120
Masons .....	.18	.34	.30	.55	61
Painters .....	.22	.27	.25	.44	63
Plasterers .....	.22	.39	.30	.62	59
Plumbers .....	.22	.27	.30	.50	85
Roofers .....	.20	.32	.25	.50	56
Stone cutters .....	.28	.34	.30	.54	59
Average per cent of increase.....					71

*Wages reduced to gold basis.

†Per cent of increase from 1860 to 1902.

To this great increase in wages amounting in some trades to more than 100 per cent, must be added a reduction of 20 per cent in the working day. It is estimated that labor represents about 40 per cent of the present cost of building, and yet we have strikes in all the trades for higher pay. The result must be to restrict building enterprise.

The grandest of all the ruins are upon the site of a majestic temple of the sun. The cella is still largely intact, seventy-five feet long by sixty-five feet wide, and many columns still stand before it.

Near by is a theater, all of stone, with a semi-circle of stone benches in sixteen tiers round about the open arena. Sockets in the stones still exist, where poles were probably placed to uphold a light awning over the spectators. The tiers of benches are broken by a narrow aisle part way up, which runs about the semi-circle, and is connected by five arched exits with the inner vaulted passage built beneath the upper tiers of seats, serving the purpose of the modern foyer.

Near this theater begins the grand boulevard, which sweeps southward through the center of the city. It is flanked on either side by mighty columns joined one to another by beautifully carved architraves fifteen feet long. Variations in the elevation are accommodated by carving consoles on some of the column shafts, upon which the connecting block rests. At one point this street widens, so as to form the entrance to some building. The columns have given place to a bit of wall most profusely and beautifully decorated, with shell-shaped lintel above, hooded by a broken pediment all exquisitely carved. (See loose plate.)



Section of Theater at Gerassa.

The colonnaded avenue ends in a grand circle of columns, a sort of forum. Beside many other buildings of note, much remains of a noble triumphal arch outside the city walls.

Standing on the highest tier of seats of the great

CONCRETE BUILDINGS.

The Ingalls building, which is to be put up in Pittsburg, is to be 15 stories high, with retaining walls less than a foot in thickness with imbedded steel rods. A mass of concrete columns will support the floors, which will be of solid slabs of concrete, six inches thick. A saving of one foot to the floor will thus be made, which will amount to 15 feet in this building. The difficulty of securing structural steel on time has long disturbed and delayed building here and elsewhere. This condition caused architects all over the country to cast about for a material that would make buildings absolutely fireproof and at the same time avoid that phase of construction which, in case of fire, caused a warping of the structural skeleton-work. That concrete has been used in many instances in low buildings with marked satisfaction has long been a matter of history, but whether concrete would stand the strain incident to tall buildings was a matter of speculation until a practical demonstration was made in many cities of Europe. It is asserted on the highest authority that by degrees steel work is being eliminated from European

southern theater one has before him the whole panorama of ruins. Curiously spared by vandal hands by reason of difficulty of access, and freedom from the visits of travelers.

buildings. The architects say that the structure, when completed, will be the handsomest in the city, as the concrete walls will be faced externally with beautifully colored and enameled brick. The interior walls will, as soon as completed, be ready for the plaster. They claim that if the building is filled with inflammable matter and a fire ensues, burning will occasion but little loss to the structure proper. They predict that this style of construction must of necessity supersede all other kinds of fireproof construction.—Construction News.

TALK HARDWOOD FLOORS.

These are days when the retailer can preach hardwood floors to his customers to the edifying of his clientage and the profit of his pocket. Not more than half the farmer and country town folks know the real luxury and solid enjoyment of a hardwood floor as compared with an ordinary floor. They have been getting along with a soft wood floor plain sawed and not too smooth. Their neighbors have the same floors, and so they do not think of the possibilities of great

enjoyment in a good hardwood floor. Perhaps they have maple floors in the kitchen, but a kitchen floor never suggests the beauty and satisfaction that can be got out of hardwood, properly laid, finished and cared for.

There are good fetching things in handsome hardwood floors these days—a hundred strong talking points. It costs money, but not as much as carpets. A few rugs with good hardwood flooring can compete with the old pine-and-carpet floor in price and it is far away more handsome, more wholesome and less work for the housekeeper who cares to keep a clean house.

Then there is flooring that can be laid over an old floor and give the perfection of satisfaction. Here you have the entry into the old houses. You need not wait for the new ones. Go after the flooring!

THE SEPARATE HEATING OF OFFICES.

By Geo. C. Andrews, M. E., Manager of the Andrews Heating Co.

Up-to-date methods require that a business office shall be made as comfortable and convenient as possible, so that all there employed may work with the greatest efficiency. It has been the general rule in the past to warm by steam from the central power-boiler or heating system of the main works; but experience has proven that there are many objections to this method. It is often necessary that some work shall be done on Sunday when the central plant is shut down

for business reasons, or to clean or repair the power-boilers. It is also the practice to close down the works once a year for general repairs and inventory, at which time there is the greatest amount of office work to do.

For these reasons, it has often been the practice in the past to resort to stoves or hot-air furnaces, the first occupying a great deal of room and being dirty and unsightly, while the hot-air furnaces are unsanitary and not usually efficient.

The most satisfactory practice is to install a small hot-water boiler, connecting it by a simple system of piping in the basement to radiators so placed as to distribute evenly the heat in the separate rooms and without interfering with the complete utilization of all the floor and window space. This heater can readily be placed in the basement, or, if necessary, on the same level with the radiators, where it can be easily cared for by the janitor without causing annoyance.

Hot water always produces a uniform and healthful heat in all parts of the office, and generally with a saving of fuel, as against using stoves, or steam from the power-boiler, for there is no loss from transmission, as in the latter case.

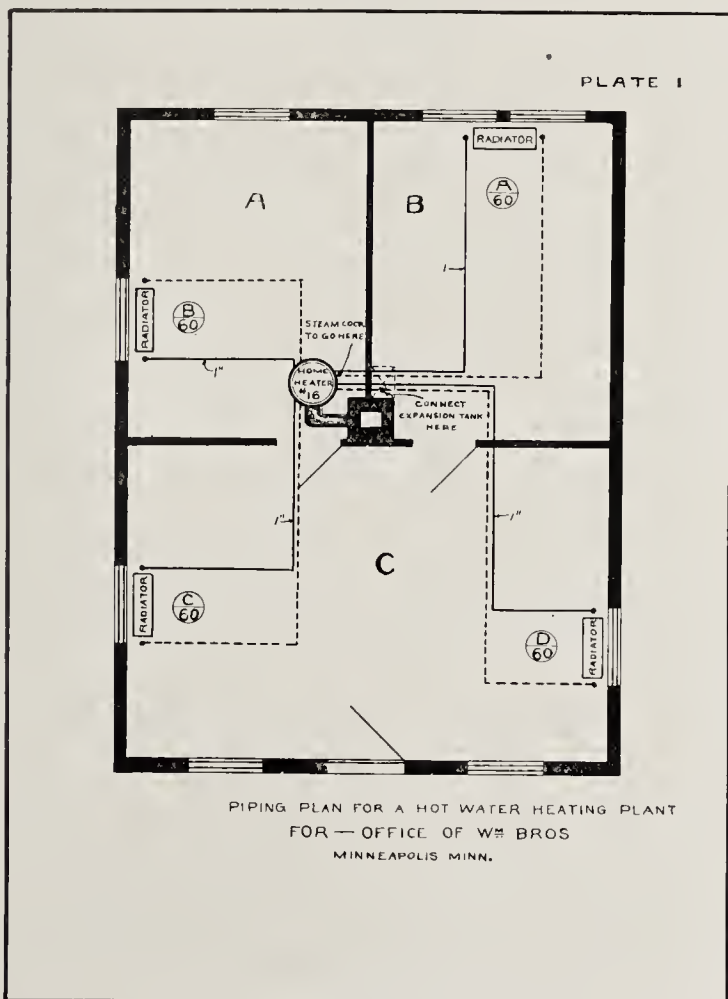
The radiators should be ornamental in design, and are best when finished with an aluminum bronze, which is both handsome and durable.

Plate (1) illustrates a small separate plant recently installed by the Andrews Heating Co. in the office of Wm. Bros, of Minneapolis, a manufacturer of boilers, tanks, and architectural iron-work. This plant was supplied with a separate heater for the reasons mentioned above, although there was a large heating boiler in the shop adjacent.

The office is in three parts: A is the private office for Mr. Bros, B for the bookkeeper, and C for the order clerk and superintendent. This is a very pleasant and convenient office, as it is located on the banks of the Mississippi river, overlooking the celebrated Falls of St. Anthony and the many flour mills of the city. The interior of the office is finished in natural wood, making a very pleasing and business-like appearance.

The heater and piping are located in the basement below, as shown in the first floor plan, and the radiators as indicated, all being drawn to the same scale. The radiators used were of the Triton pattern.

The system of circulation is known as the low-pressure, closed system, with open expansion-tank, using the Andrews Regurgitating Safety-Valve, which makes it possible to obtain a higher temperature with much smaller radiators than can usually be obtained. The heater used is especially adapted to this work, as it is very simple and durable, being made of steel; and it is very economical in the use of fuel, as it contains a large amount of heating surface, and is very easily cleaned. It occupies but very little space in the basement. The expansion-tank, a small affair 10x14x24, sets in room B, close to the chimney, where the water evaporated can be easily replenished with a pail, no city water being required.



Paints in Architecture.

How many architects have ever been struck by this fact: The painter's profit lies in using perishable paint, while that of the architect lies in durable paint? I have known an old painter to say: "I don't want paint that lasts too long; there is no profit in it for me." Probably this attitude is exceptional, but at the same time the fact that paints based on zinc white are more durable than other paints may explain, to some extent, the conservative attitude of painters in regard to the question; they would not use or recommend paint that they believe to be inferior, but they are not over curious regarding later innovations, which may be superior.

At any rate, when all the rest of the paint world are agreed that combinations based on zinc white are more economical and more satisfactory in every way than the old "straight lead and oil," the painters, as a class, still cling to the old (and profitable) tradition.

The architect's interest lies, however, in subserving the best interests of his clients. The better paint looks, the longer it lasts, the less it costs, and the longer it preserves its freshness, the better it sustains his reputation. The painter will get the job of repainting, but when the house is completed the architect's direct interest in it ceases. The appearance and wear of the building, however, tell for or against him. In this final summing up the paint is the most conspicuous factor. It is seen of all the world, and is an advertisement or the reverse, according as it retains or loses its beauty.

In a question of such importance it is perhaps not always the part of wisdom to leave the selection of material to "the judgment of the painter."

Patents Issued in the Building Line.

Patents issued Nov. 11, 1902. Reported specially for The Western Architect by R. W. Bishop, patent attorney, Washington, D. C.

713,050. Automatic fire-alarm. Frank Bernardin, Antwerp, Ohio, assignor of three-fourths to F. J. Macklin, Garrett Fox and W. H. Murphy, Columbus, Ohio.

713,061. Roof bracket. I. E. Clum, Lima, Ohio.

713,131. Lathing-tool. W. S. Moore, Indianapolis, Ind., assignor of one-half to J. E. Sullivan, same place.

713,132. Sheet-metal studding. W. S. Moore, Indianapolis, Ind.

713,161. Flushing device. William Scott, Medford, Mass.

713,164. Method of placing tiles. Charles SooySmith, New York, N. Y.

713,165. Tunnel construction. Charles SooySmith, New York, N. Y.

713,173. Mold for concrete walls. H. A. Taylor, Jackson, Mich., assignor of one-half to G. M. Stanley, same place.

713,182. Prismatic fire proof structure. F. L. O. Wadsworth, Allegheny, Pa., assignor to Pressed Prism Plate Glass Company, Chicago, Ill.

713,204. Hod-elevator. Conrad Carlson, Brooklyn, N. Y.

713,210. Hot-air furnace. John Evans, Philadelphia, Pa.

713,225. Safety doorway for elevator hatchways. J. H. Johnson, Newark, N. J., assignor to Johnson Elevator and Safety Company, of New Jersey.

713,238. Smoke consumer. C. E. Padgett, A. M. Cowham and W. H. Allen, Chicago, Ill.; said Cowham and Allen assignors to said Padgett.

713,308. Scaffold support. Edward Jolliffe, Chicago, Ill., assignor to Safety Stage Support Company, same place.

713,358. Scaffold. A. L. and E. D. Stiles, Postville, Iowa.

713,409. Chimney top. R. C. Dugan, Irvington, Iowa.

713,414. Window. O. A. Essig, Canton, Ohio.

713,504. Water heating and distributing system. G. C. Savage, Nashville, Tenn.

713,508. Window frame and sash. George Schwing, Newark, N. J., assignor to Newark Cornice and Skylight Works, of New Jersey.

713,519, 713,520 and 713,521. Tunnel construction. Charles SooySmith, New York, N. Y.

713,577. Roof-board joint. W. S. Wickham, Salamance, N. Y., assignor to James Wickham, same place.

711,960. Valve for fire extinguisher systems. Frank Gray, Chicago, Ill.

711,969. Heating drum. Edward Hinderer, St. Paul, Minn.

712,022. Water closet. G. E. Underhill, Bridgeport, Conn., assignor to Sanitary Coupling Company, same place.

712,075. Machine for laying bricks. J. H. Knight, Barfield, England.

712,093. Shingle. Frank Randel, Cleveland, Ohio.

712,135. Greenhouse. Carl Ickes, Chicago, Ill.

712,168. Tiling. Charles Worth, Newark, N. J.

712,193. Roof. F. L. Kane, New York, N. Y.

712,207. Ventilating attachment for water closets. C. W. Schultz, Detroit, Mich., assignor of two-thirds to J. C. Kenney, same place, and R. E. Schultz, Windsor, Canada.

712,271. Furnace. W. H. Drake, Hackettstown, N. J.

712,278. Floor. F. L. Ellingwood, New York, N. Y.

712,299. Column capital and attachment. C. H. Howland-Sherman, Washington, D. C., assignor to Howland-Sherman Mfg. Co., Wilmington, Del., and Baltimore, Md.

712,308. Roof. F. L. Kane, New York, N. Y.

712,403. Window frame. F. G. Oldenburg, Altoona, Germany.

712,449. Door. J. L. Young, New York, N. Y.

712,467. Smokeless combustion furnace. Carl Wegener, Berlin, Germany.

711,457. Vault cover. James Armstrong, Kansas City, Mo.

711,497. Cowl. C. O. Hine, Battersea, and F. G. Waters, Kensington, England.

711,524. Concrete mixer. H. J. Phillips and M. F. Quiney, Washington, D. C.

711,526. Sheet metal window. C. D. Pruden, St. Paul, Minn.

711,527. Self-closing sash for fire proof windows. C. D. Pruden, St. Paul, Minn.

711,541. Building material. Albert Standau, Terre Haute, Ind.

711,571. Hot water heater. J. A. Jacobson, Evanston, Ill.

711,633. Window frame. Konradus Jorgensen, Bergen, Norway.

711,661. Inlaid tile floor. E. M. Henderson, New York, N. Y.

711,726. Elevator. C. W. Kirsch, Chicago, Ill., assignor to Elevator Safety Device Co., same place.

711,769. Steam heater. B. K. Hussey, Indianapolis, Ind.

711,785. Swinging window hinge. G. H. Parker, New York, N. Y., assignor to G. E. Walter, Brooklyn, N. Y.

711,803. Revolving door structure. Theophilus Van Kannel, New York, N. Y., assignor to Van Kannel Revolving Door Co., same place.

711,850. Awning. C. S. Hamilton, Salem, Ore.

711,853. Hot air heater. W. P. Hartford, Cassville, Wis.

710,934. Driving chain for continuous elevators. W. H. Aston, London, England.

710,994. Radiator. C. H. Palmer and C. A. Carlson, Barberton, Ohio, assignors to the Diamond Match Co., Chicago, Ill.

710,995. Machine for molding artificial stone. N. F. Palmer, Brooklyn, N. Y.

711,082. Window. J. L. Steiglitz, Louisville, Ky.

711,127. Device for securing seats and lids of closet basins. Nathan Rubenstein, New York, N. Y.

711,135. Water closet. James Stewart, Los Angeles, Cal.

711,179. Window. E. A. Sanders, Saginaw, Mich.

711,232. Flushing apparatus. C. H. Rollins, Watertown, Mass., assignor of one-half to E. W. Anthony, Brookline, Mass.

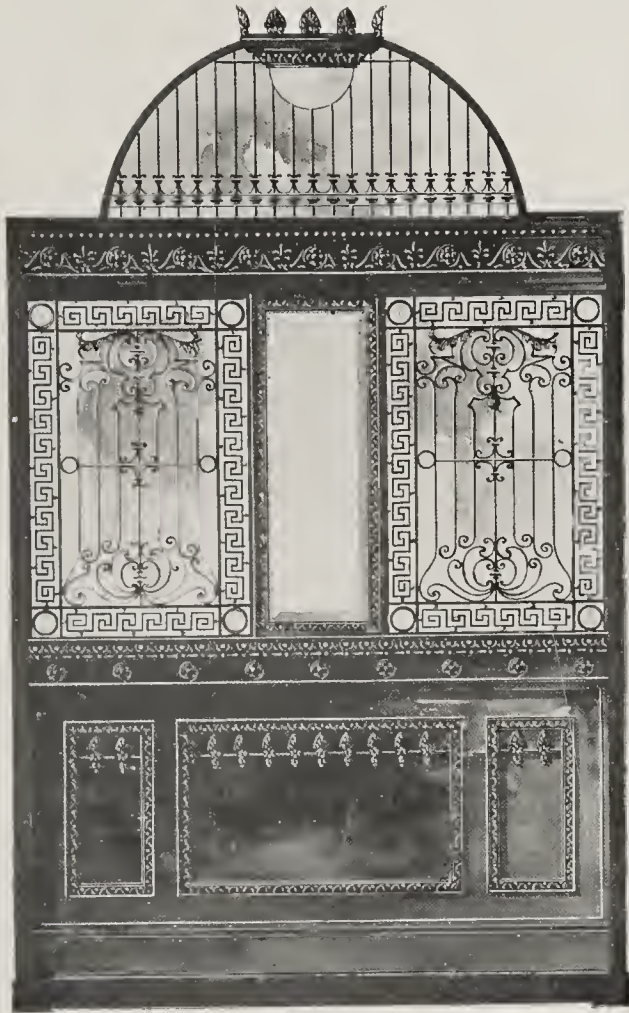
711,238. Washbasin. James Totham, New Haven, Conn., assignor to the Peck Bros. & Co., same place.

711,255. Smoke consuming furnace. J. A. McAllister, Indianapolis, Ind.

711,257. Subway. N. F. Palmer, Brooklyn, N. Y.

711,361. Theatrical lighting. G. E. Stephenson, Chicago, Ill., assignor to Jacob Litt, New York, N. Y.

711,384. Scaffold. E. A. Carman, Georgetown, Ill., assignor of one-half to M. W. Baughman, same place.



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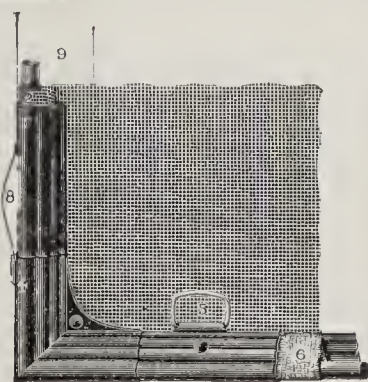
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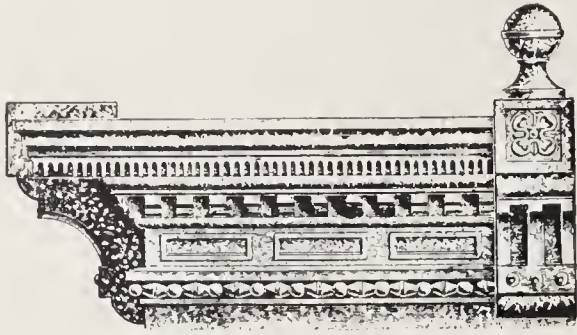
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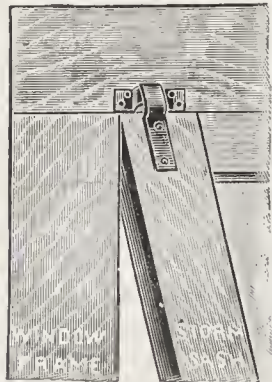
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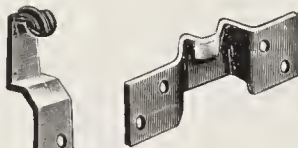
They are made of malleable iron which insures the greatest strength Their peculiar construction forms an absolute safety lock hat p prevents the window from being blown off the hooks in the most severe weather. They can be hung or taken off from the inside of he house at pleasure.

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RAILROAD NOTICES

Change in Train Time.

The Northern Pacific railway's Pacific express will leave Minneapolis at 10:45 p. m. on and after Sunday, Nov. 2. The "North Coast Limited" will leave, as at present, at 10:02 a. m. The Fargo local will leave at 9:10 a. m. There is no change in the leaving time of the Dakota and Manitoba express at 8:35 p. m. All the above trains leave from the Union station.

The Peer of All—The North Star Limited.

The above is the name selected for the Minneapolis & St. Louis new passenger train to and from Chicago. This handsome train is said to be the peer of all trains running between the Twin Cities and Chicago. As the time on this line to and from Chicago is about the same as that made by other roads it is an easy matter to predict that the Minneapolis & St. Louis will always get its full quota of the passenger traffic of the Northwest, and it is quite proper that it should, for it is more nearly related to the people of Minneapolis than any other of the Chicago, St. Louis, Omaha and Twin City lines. A. B. Cutts is the general passenger and ticket agent, Guaranty Building, Minneapolis.

Another Line to Chicago.

The Chicago, Rock Island & Pacific railway is now running regular passenger trains between Chicago and the Twin Cities.

It leaves Minneapolis at 9:05 a. m., and 7:35 p. m. and arrives at 8:40 a. m. and 4:55 p. m. daily.

Heretofore the company's terminals have been at Albert Lea, where its passengers for the Twin Cities had to be transferred to the Minneapolis & St. Louis road. Hereafter the road will operate a through train service from the Twin Cities to Chicago and St. Louis, the morning train going to St. Louis and the evening train to Chicago.

The train consists of six cars—two sleepers, two high-back seat coaches, a smoker and a baggage car. The roadbed is to be one of the smoothest and easiest riding in the entire west.

One of the advantages of traveling over this line is that it lands one right into the very heart of Chicago, so that the hiring of a cab or other vehicle to reach the leading hotels can be readily dispensed with.

MAMMOTH RAILROAD BUILDING.

The railroads of Chicago have in contemplation the erection of a mammoth building, centrally located, to furnish all the roads centering there with conveniently arranged space under one roof for their general offices. In the opinion of the originators of the idea, an entire block would be necessary to meet the requirements of the case. The office force of the twenty-three roads centering here are not fewer than 6,000 men, and to furnish working room for all would require a mammoth building.

NEW "Q" TRAIN FROM ST. LOUIS.

The Burlington has inaugurated a new passenger train service between Minneapolis and St. Paul and St. Louis, Mo., to offset that recently announced by the Wabash railway, in connection with the Iowa Central and the M. & St. L.

The Burlington's new train leaves St. Louis at 8 o'clock each night and runs through to St. Paul and Minneapolis without change, arriving here the following day about noon. The train is a handsome one, elegantly appointed and fitted with buffet and dining car service. It does not interfere with the present Burlington train which leaves St. Louis at 2:15 p. m. daily.

The new train of the Wabash and Minneapolis & St. Louis comes by way of Albia and Mason City. It leaves St. Louis at 2 p. m. daily, arriving here at 8 a. m. the following morning.

The passenger travel between the Twin Cities and St. Louis is rapidly growing. The Northern Pacific delivers a big share of southwestern travel to the Burlington at Billings, and that which calls for two additional trains on two different roads represents travel between the northwest and the southwest.

The Chicago, Milwaukee & St. Paul has recently changed the time of the leaving of their trains from the Twin Cities on their Hastings and Dakota division, the evening train leaves for Granite Falls, Appleton, Montevideo, Ortonville, Fargo, Milbank and Aberdeen at 7:00 p. m. instead of 7:35 p. m.

Through Pullman Tourist sleepers to California via the Sunshine Route (Chicago, Milwaukee & St. Paul and Santa Fe lines), every Tuesday, commencing October 14th. Berth rate, \$6. Ticket rate, \$32.90 during October. Ticket office, 328 Nicollet avenue, or address W. B. Dixon.

\$25 Via Soo-Pacific Line to Kootenay and North Pacific Coast points. The True Scenic Line Route. Every day. Get particulars at the Ticket Office, 119 South Third Street.

The Burlington Route runs compartment sleeping cars on their limited train, which leaves Minneapolis at 7:50 p. m., and arrives in Chicago at 9:20 the next morning.

These cars are 70 feet in length and contain seven state rooms and two drawing rooms. Each is a separate room in itself, complete with all toilet facilities, and furnished and decorated in the highest style of art. Upholstery and carpet materials are of different pattern for each.

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The Minneapolis & St. Louis Railroad runs elegant upholstered tourist cars to California points without change, leaving St. Paul 8:00 p. m., Minneapolis 8:35 p. m., every Thursday, via Omaha, Denver and Salt Lake—the Scenic Line.

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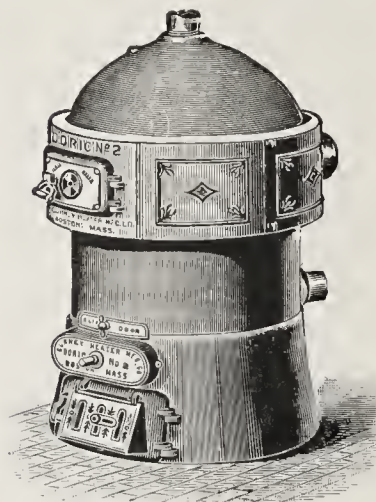
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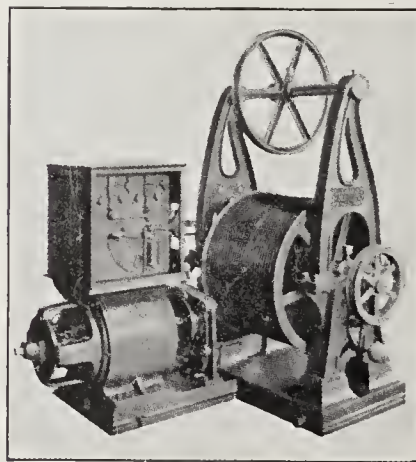


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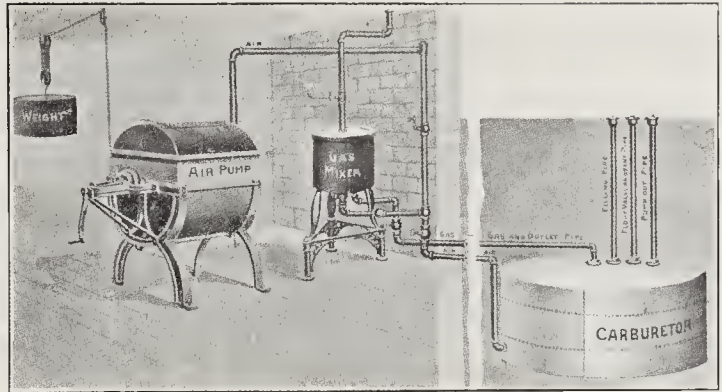
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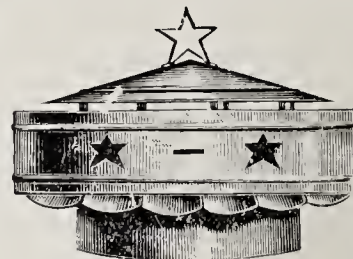
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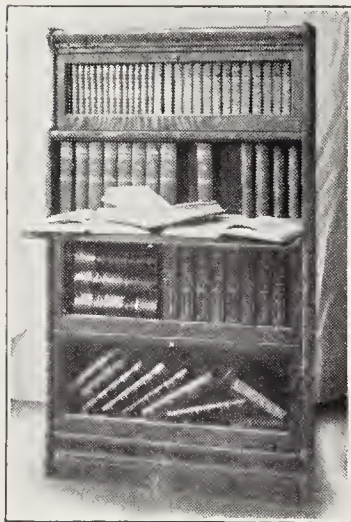


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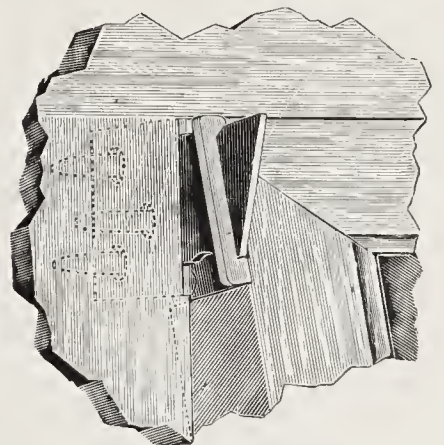
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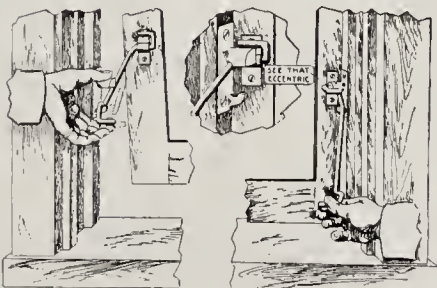
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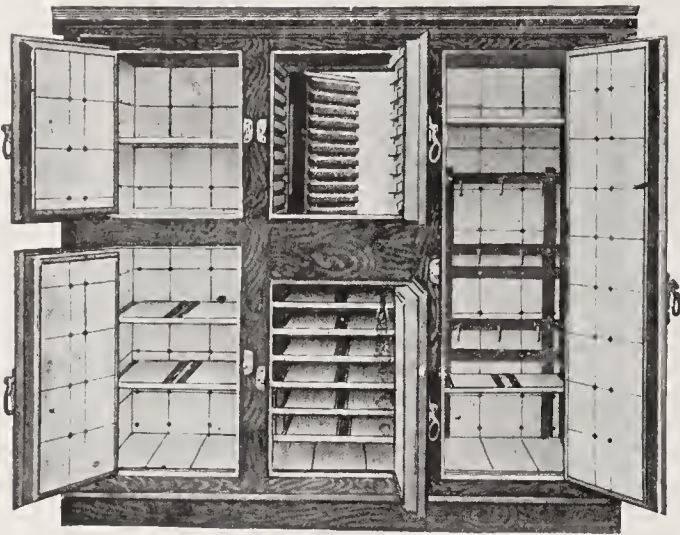
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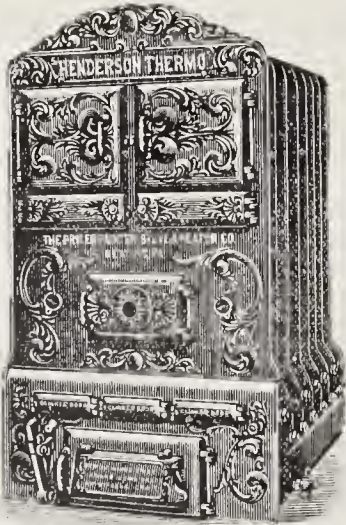
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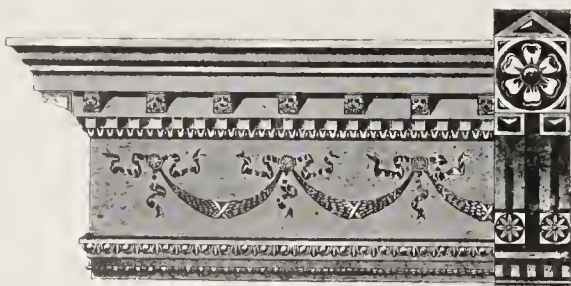
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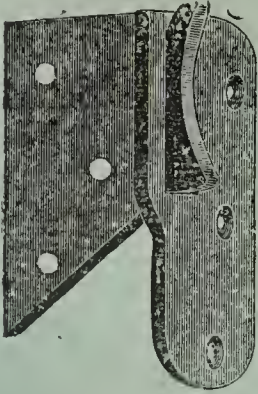
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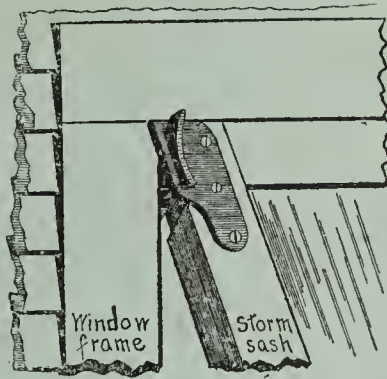
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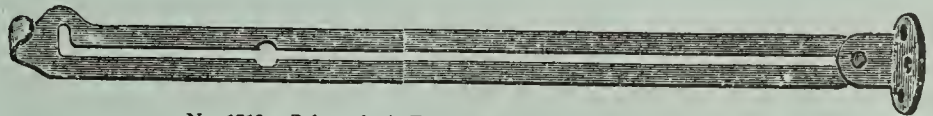
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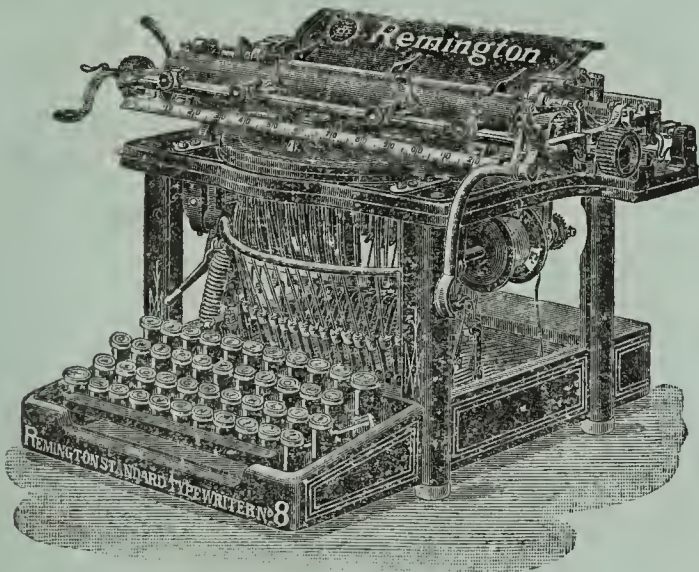
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


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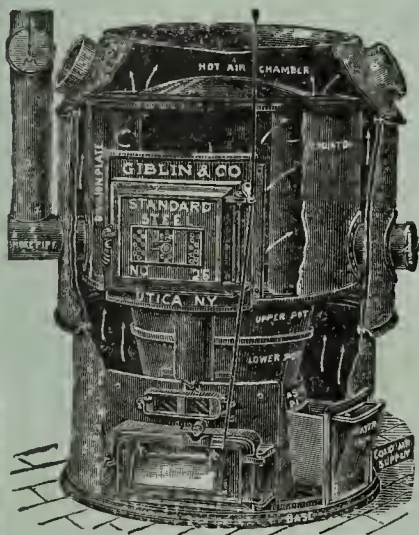
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VOL. I. No. 5.

MINNEAPOLIS and ST. PAUL, December, 1902

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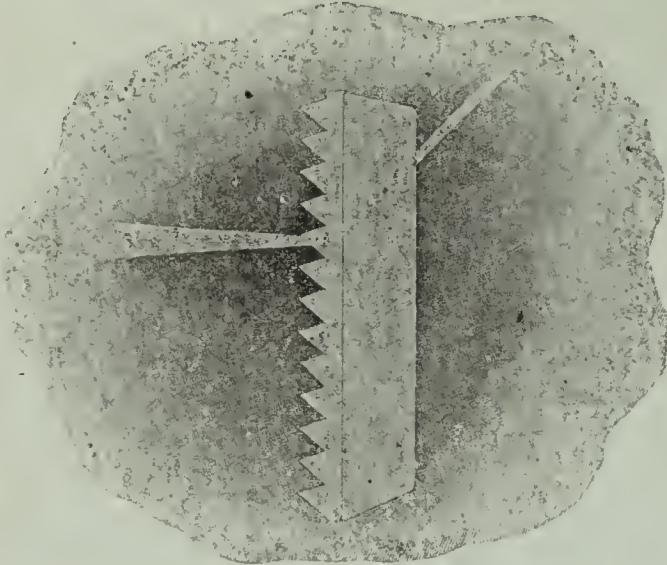
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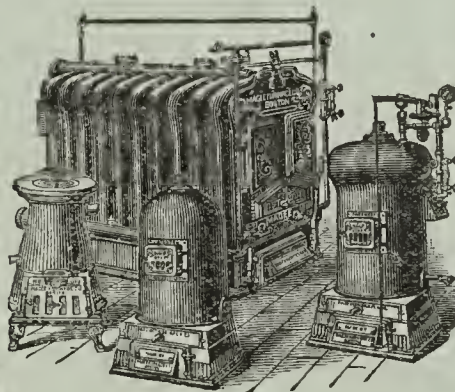
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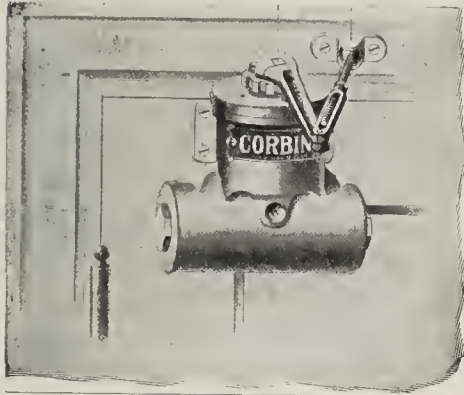
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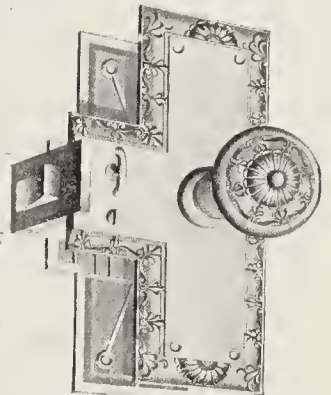
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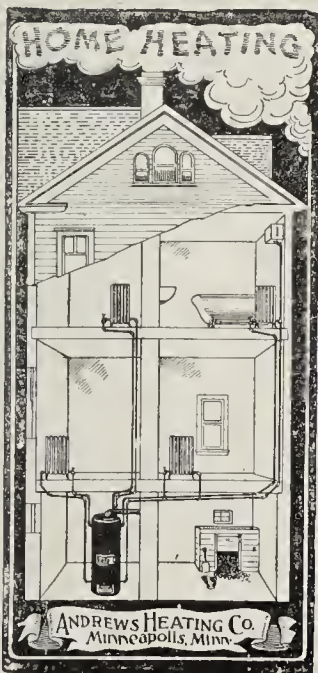


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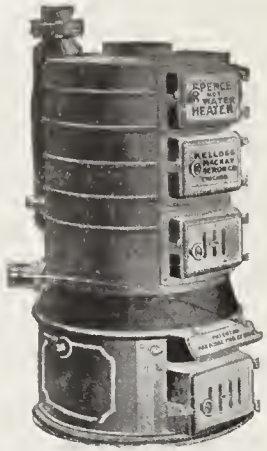
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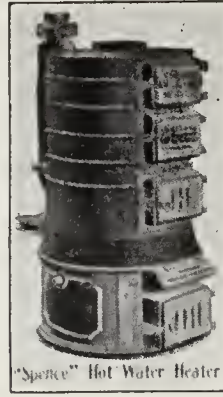
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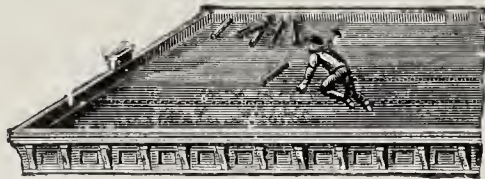
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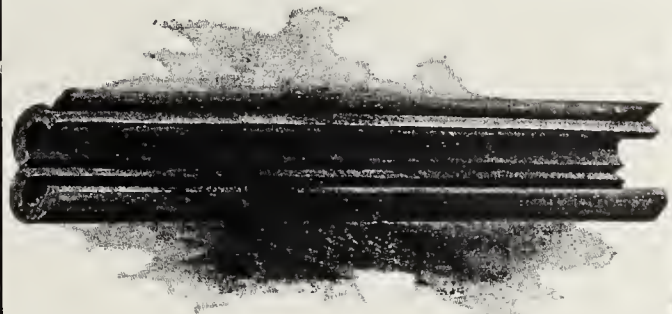
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THE WESTERN ARCHITECT

IS PUBLISHED THE 15th OF EACH MONTH BY

THE WESTERN ARCHITECT PUBLISHING COMPANY.

FRED'CK KEES, Minneapolis, Minn., President.

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Manager Western Architect, Minneapolis, Minn.

Dear Sir:—A wonderful feature of our heating is the "Water Battery." This is an invaluable invention. It is a practical solution of providing the necessary moisture for the air of our houses. Scientists tell us that air heated from zero to 70 degrees has increased its capacity for holding moisture about eight times, which gives you an air dryer than the most arid and uninhabitable regions of the earth. All common systems of heating fail to provide this necessary moisture, and therefore give bad heating—unhealthful and injurious to skin, lungs, hair, nostrils, bronchial tubes, and the general system, and causing ruin to the piano, and damage to the woodwork, furniture, picture frames, books, etc.

You ask us—"Is this matter of moistening the air really important?" You say "Common Furnaces, Hot Water, and Steam Heaters pay no attention to this moistening of the air." Hear what W. M. Wilson, of the United States Weather Bureau, says in a paper read before the Convention of the Weather Bureau Officers in 1898: "The average relative humidity in dwellings and offices (during winter) is dryer than the driest climate known—dryer than the air of the Sahara." He speaks of the evil effects of the drying air on the mucous membrane of nose and throat and lungs, and hopes that at no distant day some system will be devised for furnishing the necessary moisture to the air of our houses.

In 1883, and since then, the Campbell Heating Company have been using, practically and successfully, their invention, which is a perfect appliance for meeting this need. It does it cheaply, simply, automatically, and in a way that leaves nothing more to be desired. We get rid of the extreme dryness of the common furnace. Steam and Hot Water, by the use of our Water Battery, securing abundant evaporation, so that plants grow all over the house as in Summer time; the woodwork and furniture and piano are not ruined. The air is delightful, the skin and lungs are not irritated by the dryness. The air is soft and balmy like the air of a June day. We have the only practical and successful method, for using the water for softening the air, ever devised, a result which has not been obtained by any other system of heating, either Steam, Hot Water or Hot Air. We use with every furnace from 50 gallons to 150 gallons as a permanent water supply, and evaporate into the house from four to eight gallons a day, according to size of the house. This feature alone places our heater in advance of all other methods of heating dwellings, churches, etc. A good piano will be ruined in two or three years by dry heating, and the effect of the extreme dry air is exciting, and in many cases, causes nervousness and irritability.

Prof. Williston, of the State University of Kansas, in whose home we have placed one of our heaters, writes us: "I congratulate you on having solved the problem of Sanitary Heating in a most satisfactory way." He is Medical Examiner of the State Board of Health.

Dr. Kennedy, of the State Board of Health of Iowa, has used our heater nine years, and writes us: "In the nine years we have used your furnace it has never given us an hour's discomfort.

Physicians are our most frequent patrons.

Dr. W. L. Miller, of Des Moines, says: "Too much cannot be said in favor of your Water Battery. It places your heater far in advance of all other methods of heating."

Dr. Priestly, of Des Moines, places us in the front of all heaters. We heat the houses of most of the leading physicians of Des Moines.

We are appreciated by musicians. W. H. Lehman, Music Dealer in Des Moines, says: "No one having a fine piano can afford to use any other method of heating that we know anything of." We have two in private houses belonging to him, and one in his music store.

This Water Battery feature caused William Beaton, of Grinnell, Iowa, a well known piano tuner, to buy the Campbell Furnace. He appreciates its value to the piano.

Mr. Rehmann, who is a teacher of piano and theory in Des Moines, says: "This Water Battery is so necessary to healthful and comfortable conditions in your house in winter that one had better pay the reasonable price asked for the Campbell Heater than to take any common heater (steam, hot water or furnace), as a gift."

These are important truths, truths of such value that you cannot afford to ignore them. They bring to you, for your own use, knowledge of great value. The common heating gives you exactly the same air that is used to dry apples, codfish, and lumber in—keeping you in a dry-house all winter. Plants will not thrive in the air you stay in six months in the year. They die. You are injuring yourself seriously by living in such an air. You are destroying your own comfort far more than you understand. This is one of the main reasons why office work, and all indoor life, is so injurious to health. Our handsome young school teachers in a few years are desiccated, their skin is parched, they lose the bloom of youth, like a flower that droops for lack of water.

Our Water Battery alone makes the Campbell Heater worth more than it will cost you.

Yours truly,

CAMPBELL HEATING CO.

St. Paul, Minn., March 3, 1902.

Campbell Furnace Co., Des Moines, Iowa.

Gentlemen: I want you to know that I am pleased with your heater, and will say that it is the best and most economical heater I have seen. The amount of fuel we have used to heat an eight-room house would surprise you. We have used two tons of stove (hard) coal, and three tons of coke, making a total amount of \$33.25, since you completed the work in the fore part of December, 1901, and I will say that at no time during December, January, February and March have the eight rooms been below 70 degrees and 75 degrees, even at from 28 to 34 degrees below zero, and the wind blowing at from 10 to 15 miles an hour. Now, if a letter from me will do you any good, write one out, as above stated, and make it as strong as you can, and I will sign it.

Yours truly,

A. J. HOBAN.

AUXILIARY INDUSTRIES.

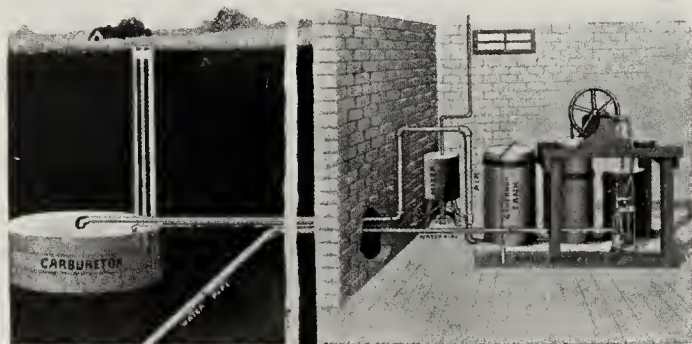
Few persons have a just conception of the extent and importance of that class of industries which are sometimes termed auxiliary, for the reason that they are based on the production of some particular class of goods adapted to the needs and requirements of other branches of manufacture. As a matter of fact many of these industries are conducted on a large scale by concerns whose operations constitute a leading feature in the communities in which they are located.

A case to the very point, by way of illustration, is offered by an industry known as the Anchor Stone Laundry Tray Co., of which Adolph Johnson is the efficient manager. This concern is located at No. 510 10½ avenue North, Minneapolis, and though young, has already taken rank as a prominent manufacturing company in one of the auxiliary trades of the building line.

These Laundry Trays are manufactured of the very best imported Portland Cement and crushed granite, with Siamese brass plug and coupling. They are made in one piece with round corners, and consequently there are no joints or seams in which dirt and vermin can find lodgment; they are thus, sanitary in the highest degree, and there is no possibility of their leaking, and neither steam, or hot or cold water can cause any injury to them. They are made with and without metal rim. Prices and catalogue may be obtained by writing to the above number.

THE VAIL GASOLINE GAS MACHINE COMPANY,

of Marshalltown, Iowa, are making a gas machine that makes the very best gas from gasoline, for cooking and lighting purposes.



They make two kinds of motors, one is run by a winding power and the other by a water motor, and both are automatic in their work. The carbureter's capacity is large and is placed under ground some ten to thirty feet from the building to be lighted, and the air is forced through the gasoline by a new and ingenious process, which creates more evaporation than any other in the market. Also the pressure on the gas burners is nearly double that of any other machine, hence any degree of brilliancy of light can be made and easily controlled by using the proper burners. However, we can use old gas fixtures and burners, but the result is better obtained by using the proper ones. We can produce a better light on old gas fixtures than can be produced by coal gas. The cost of the same degree of light as coal gas makes, is compared about as follows: Gasoline gas one-half that of coal gas, and one-fourth that of electricity. Write for a cut of our machine and references and such other information as you desire.

The Vail Gasoline Gas Machine Company is a new company, but the machine has been used in different degrees of perfection for a number of years, though it is only during the last year that the present degree of perfected light has been obtained by this company. Write them for information.

The World's Fair edition of The Builder of St. Louis has been received and is a beauty. The cover is printed from special design, which is extremely appropriate, and the press work being done in several colors. It is printed on good paper, and its pages are illustrated with half-tone plates from the architects' color drawings of all the World's Fair buildings, together with portraits and sketches of some of St. Louis' foremost architects who have designed and are superintending the beautiful and colossal buildings for the most wonderful exposition the world will have ever seen. The description of the buildings and grounds, with the record of the work, from its inception to date, make a complete and valuable history that will be appreciated by all who are interested in this gigantic show. The pages of this number of the Builder are filled with a choice line of advertising from the leading and best concerns of the southwest, and, taking all in all, the edition reflects great credit on its publishers and the coming "only show on earth."

BUILDERS' EXCHANGE RE-ELECTS OFFICERS.

The Builders' & Traders' Exchange held its annual meeting in its rooms in the Kasota building Tuesday, December 9th, and re-elected all the officers, except the secretary, J. N. Norris. The election of a secretary was postponed for a few weeks.

The other officers are: President, H. N. Leighton; first vice-president, D. W. Smith; second vice-president, G. W. Higgins; treasurer, Harry B. Cramer. Reports read indicate a prosperous condition of the organization.

A DISCUSSION OF COMPOSITION AS APPLIED TO ART.

By Prof. John V. Van Pelt, of Cornell University. The Macmillan Company. 12mo. 275 pages, indexed. \$2.00 net.

This is surely a book produced by a professor, but it aims to be and is valuable to others than students. It has much in it that is mighty refreshing to the architect whose student impressions have been pushed aside by years of tussling with problems of inclosing many cubic feet with few dollars.

Careful study of it will repay the office man in the pleasure he will get from it as well as in saving him from many mistakes. The last 40 pages are devoted to planning and are well worth the price of the work.

A BIG ORNAMENTAL IRON CONTRACT.

The Flour City Ornamental Iron Works has captured another big prize a long way from home. They have the contract to furnish the ornamental iron for the United States mint at Denver, amounting to some \$31,000. The company is now comfortably settled in its new quarters and is in the best possible shape to take care of contracts of that sort or any sort.

Notice.—The firm of Pass & Schippel, architects, of Mankato, Minn., will be dissolved January 1st, 1903. Mr. Pass will remain at the old location, and Mr. Schippel will locate his new office in rooms 16 and 17, National Citizens Bank building, Mankato, where he will be pleased to receive manufacturers' catalogues and trade samples.

Wanted.—A young man with a little experience as a draughtsman, wants a position where he will be taught more thoroughly in different lines of work. Am able to do good tracing now. Address The Western Architect.

Wanted.—A first-class draughtsman in one of the leading architect's office in St. Paul. Highest salary paid to a good man. Apply, or write to The Western Architect.

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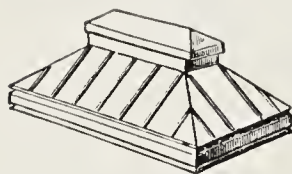
Furnish 30 per cent. better insulation and deadening than Hair Felt, besides being entirely antiseptic and odorless. The same material, only thinner, is called

"Kelly's Flax Fibre Building Felt"

Used for building warm houses. It is cheaper than heating cold ones. The extra cost will be saved many times over in coal and doctor bills. Avoid the danger, discomfort and expense of a cold, draughty house by lining yours with this material, as it is absolutely the warmest sheathing made, ten times warmer than building papers.

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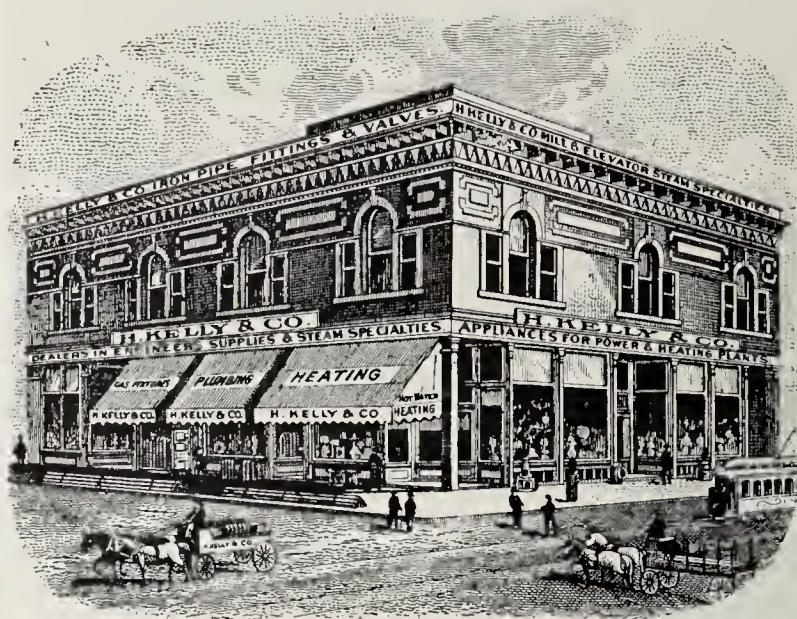
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