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ONE of our school boards out west is accused of asking the public early in November to vote \$200,000.00 in bonds for the building of new school houses, some thousands of children being on half sessions for want of room, and what not. The public neglect or refuse, whereupon our school board, late in the same November, set men in fur coats with caps pulled over ears at using the "surplus" in putting lightning rods on the old buildings. Donnerwetter!

✻ ✻

OLD fogies have of late years been doing a deal of rubbing their eyes over accounts of curious mixtures being put into buildings and masquerading under the name of concrete. Prominent among these has been "cinder concrete,"—a term which seemed to the old fogies to cover a multitude of sins. And now returns are coming in pretty rapidly, and in a way that brings the plain "I-told-you-so" look to the faces of the old fogies. Cinder concrete is even credited with showing one Chicago building inspector his plain duty,—making it so plain to him that he declared he would not allow any more of it to go in.

✻ ✻

MINNESOTA people are taking an attitude of proper pride about their Capitol building,—there can hardly be a doubt of that,—and therefore the movement for securing suitable approaches to the building stands a good chance to take root. Mr. Gilbert has given the movement a timely send-off and the whole profession should help. More's the pity that the State Chapter of the American Institute is dead or hibernating. A live Chapter might add much to the work of individual members in such cases. This subject of suitable approaches to the Capitol might profitably be made use of for instituting an Art Commission in St. Paul.

✻ ✻

THE flax crop of 1902 is reported as exceptionally large. Two reasons are given why the price of linseed oil will not be reduced thereby,—one that a great demand for next year is assured, the other that Standard Oil people largely control the oil mills. The turpentine crop is said to be about 10 per cent short of the normal. Dry white lead and zinc are said to be selling, the former from 10 to 15 per cent and the latter 8 per cent higher than prices of a year ago. Will the makers of mixed paints stand this, or will they mark up prices?

THE Architectural Record has given space in the two last numbers to illustrating "L'Art Nouveau at Turin," with a description by an Italian member of the International Jury of the Exposition. Some of the work certainly has novelty and an amount of moderation and vitality which almost makes one think that the movement has a future. Yet had the collector been more familiar with the art of the Siwash, the Chilcat, and others about Vancouver and above, odds might be offered that a certain collection of vases had not been illustrated. In Italy the new art has evidently less of the more or less conventional sinuosity than we see elsewhere, unless, indeed, we count in the tail-piece of this article—a Medusa-head in stained glass, which looks as if it might be sufficiently horrible in the material, even if so old in thought.



INDIFFERENCE to the future of the forests is so rife in the Northwest that public sentiment does not demand of the legislatures even decent laws against the spread of fires that every now and then cause the destruction of so much life and property in the coniferous forest areas, and nobody ever hears of any enforcement of such provisions against these losses as there may be in the law-books. The Minnesota legislature is perhaps as progressive as that of other states in the same group, yet it was for years making some sort of an effort to secure an insignificant park to include the head-waters of the Mississippi, to be about a township in extent, but the effort was so half-hearted that it is doubtful if more than a small minority of those really wishing well for the future of forestry can tell the present status of this park project, which was soberly spoken of as having for its object the prevention of the extinction of the white pine. The notion that the Minnesota legislature was the last body on earth to whom the white pine might appeal for an extension of its lease of life has a choice flavoring of bouffe; but while the great lumber barons are denuding the great timber areas with one hand, and with the other preventing any action by the authorities compelling them to provide against the fires which their system of lumbering invites, it appears that the legislature is really encouraging forestry in another way, as the following shows:

"State Auditor Dunn will send out this week warrants amounting to \$17,378.74 as bounties for tree planting. This year there are funds enough to pay the full bounty of \$2.50 per acre allowed by law. Tree planting does not seem to be on the increase. The law allows the bounty of \$2.50 per acre for six years after the planting. Trees must be not more than eight feet apart, and kept in a growing condition for the entire period."

Such a bounty ought, it would seem, to induce much more tree-planting than it does. Prairie lands are, as a general thing, so valuable for purposes of agriculture that people do not like to give up much of their holdings to tree-planting, but there are now a good many settlers filling in the burnt-over areas in sections which originally were covered with conifers. These lands are of much less value agriculturally as a whole,

there being much variety and often very good land in these tracts. If the settler could get from the state a bonus of twelve hundred dollars for six years' work in re-foresting the poorer half of his quarter section, it would be quite a help toward a future for him or his children.

In the south little trouble is experienced with forest fires as compared with the North. It is told that in some sections the people have a system of preventing forest fires akin to their way of preventing losses by internal revenue collectors—that they "get" a man who is known to have allowed a fire in the pineries to pass out of his control as freely as in other parts they "get" a man under suspicion of being a revenue agent. Owners of an immense tract of valuable pine lands in Texas are reported to be introducing a system of scientific forestry with a view of preserving the forest with all the care that is used in the most advanced European countries.

In portions of the West where deciduous trees only (or none) are native, people are as yet singularly slow in appreciating the evergreen as an attractive element in the landscape. Park boards as a rule will plant all manner of shrubbery and interminable rows of deciduous shade trees, but never seem to think of the peculiar advantages of clusters of evergreens at slightly points. In older portions of the country may be found districts where it became the fashion among farmers some forty or fifty years ago, to plant a few Norway spruce or other hardy, vigorous sort in the front door yard, and these may now be seen towering above all other trees, and adding greatly to the appearance of the landscape, particularly in winter.



MARCO POLO tells of a province through which he traveled in which the ratio of values of gold and silver was as 5:1 and of another hard by where it was as 6:1, and adds that some found great profit in buying in one and selling in the other. The ratio of 16:1 seems to have passed into history, and silver prices are falling so rapidly of late as to suggest that its use may be revived for builders' hardware; not, indeed in the old way that prevailed before the days of nickel plating, when plain patterns were plated,—the wearing parts in the best work being "fire-plated,"—but as a finish for some of the beautifully modeled patterns of our time. Nor would a revival of the old polished surfaces be desirable,—the harder nickel plating will better take care of work where such surfaces are needed,—but finishes in silver, such as are known in other lines of manufacture under the general name "oxidized," might find a larger place in building hardware without wearing out their welcome. To make such finishes popular, however, it will be well for our makers of hardware to use sufficient silver to do more than last while they are exchanging the goods for the coin of the country, and to remember the fate of the "old copper" goods which were sold so freely a few years ago. Much of these were turned out with a substance

of brass, perhaps, upon which was plated an extremely thin film of copper, which was then oxidized and lacquered. The lacquer and the oxide disappeared with degrees of wear, but the oxidized appearance was renewed with every really lively thunder-storm,—while the copper coating lasted,—which was usually so short a time that the goods were entirely discredited by the early appearance of the brass. Low cost silver would be welcome in many other ways. Many kitchen utensils that now have to be coated with the unsatisfactory enamels, might be durably coated on the inside at least with silver, with gain in economy and sanitary safety.



How an advantage may have its beginning in a disadvantage is well shown by the stone side-walks of the Twin Cities, most of which, as in other western cities, are made of Portland cement stone. St. Paul has many steep grades from which has come the habit of finishing these flags with a roughened surface, probably by what the plasterers know as "floating." This surface wears surprisingly, the appearance is good, and one may walk with comparative comfort in winter on them. In Minneapolis there are but few grades of any account and no one seems to have thought of roughening the surface of these flags, and so people must walk everywhere with caution in frozen weather. Down town a variety of this artificial stone is much used, the surface of which is finished with crushed granite, as a substitute for sand, and this becomes particularly slippery in frozen times. So much trouble is made by these slippery walks that the custom of laying a board walk over the flags has been growing of late. Reference has been made in this department to the great gain in comfort that would follow the use of some non-slipping sandstone like Medina or Kettle River stone for down-town walks, the peculiar grit of which makes them so valuable for out-of-door steps and pavements. The former of these has been largely used for sidewalks within a reasonable radius of the source of supply, but the latter has not for some reason found much of a market for this purpose. Its "grit" is such as to raise the query whether a facing for sidewalk flags made of this stone crushed and used with Portland cement would not be a great advance over the "granolithic" facing. The increasing use of down-town walks and steps must be met with better consideration for the safety and comfort of pedestrians, and while the safety tread devices are meeting the requirements as far as they go, more thought will be required in supplying sidewalk flags.



MANY students of social problems a few years since were finding a solution of the question of relations of employer and employee in the "profit sharing" of which so much was then written, but which seems to be less in vogue at present. Pensioning of workmen who have served for long periods has also been advocated at times, but has not, we believe, made any great headway in this country. Both these methods find opposition to some extent among workmen, some of whom argue that they are in effect a retaining of part of their wages. This line of argument will hardly appeal to

those old employees of Mr. C. J. Swanson who recently participated in the gifts of land made by him on the occasion of his silver wedding. Mr. Swanson began the making of bricks in a small way in Minneapolis some twenty years ago, and has been very successful, particularly in his later venture of making hollow "porous terra cotta" fireproofing; and feeling that his success was in part due to those of his faithful employees who had been with him from the start, he rounded out the festivities by the gift of forty acres of land to each. Those who know Mr. Swanson best will be least surprised at this action; and it is safe to say that workmen who for two decades have found his employment better than they found elsewhere will not look upon these tracts of land as so much retained from their wages during their long periods of service.

Without raising questions of relative generosity or justice, it is interesting to compare such relations between employer and employee with the existing paternalistic system in vogue in the great Krupp works at Essen, described in another column. Here the proprietors map out a great system to which all the needs of workmen and their families are supposed to accommodate themselves. A family may rent a three-room or a four-room apartment during its productive (and reproductive) period, after which the old couple, if a couple remain, are disposed of in an attractive "Altenhof," where their children and grandchildren may visit them after service on Sundays. "Odd halves of scissors," widows and widowers, are provided for in another "hof," the widows each having a bit of a kitchen in addition to her single room. If there are old maids or bachelors in Essen the account makes no mention of them,—possibly they are set apart as the only class capable of looking out for themselves.



QUITE naturally the disaster to the Venetian Campanile has caused other peoples to bestir themselves afresh about their old monuments that have shown signs of weakness, and it is possible that some of them will owe a new lease of life to the misfortune of the Venetians. The British public are disturbed over recent developments at St. Paul's, but rumors about the conditions of the cathedral are more than usually difficult to harmonize with probabilities. One of them has it that tunneling for subways in the neighborhood, by draining the subsoil, has rendered it less competent to support the weight of the building. Safe building in Wren's time is believed to have been largely a matter of experience and inspired guess-work, and Sir Christopher emerged from the trial in pretty good shape; albeit his great dome has not stood the test of time as well as that of Brunellesco in Florence, which is some two centuries older and has the further distinction of being the pioneer of all the great renaissance domes—the prototype to which later builders looked for inspiration. The completer stories of the fate of the Campanile itself read more like tales of a homicide than like the work of honest men and builders. The considerable repairs to the tower made necessary by the lightning stroke of a century and a half ago are said to have been practically intact until in 1898 some worthies began to repair the joining of the roof of the Logetta of Sansovino, which was built up against the side that had been repaired by reason of the old time stroke. To the operations of these repairers the Venetians owe the loss of their monument. That they were men with a "pull" seems certain, for they not only held their job despite the protest of a better man, but they had him removed for his interfering.

MEDIAEVAL

CASTLES OF FRANCE



MEDIAEVAL CASTLES OF FRANCE.

By Geo. E. Bertrand, of Bertrand & Chamberlin,
Architects, Minneapolis, Minn.

In the study of any given period and locality in man's history, there will be found a marked relation or harmony between his works, as manifested in the various fields of his thought and activity.

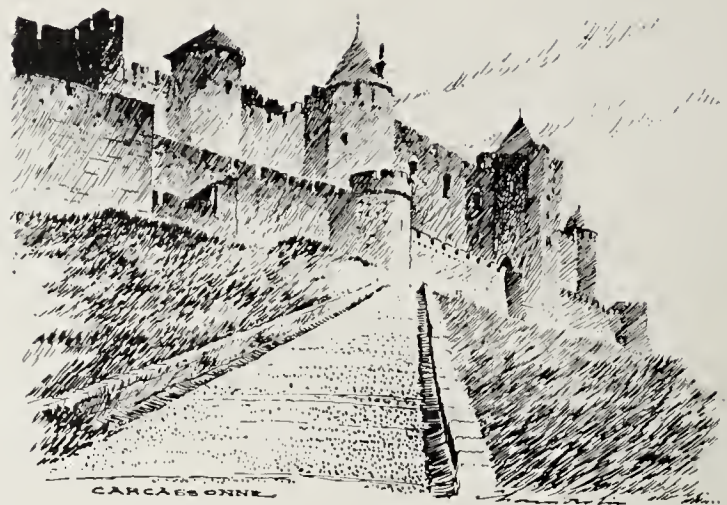
In whatever medium he seeks to express to others his aspirations, whether through the medium of form, color or sound, there will be a keynote, a salient quality, which will pervade all his work, and will fix his rank in the classification of men, when his history is written.

The dominant characteristic of the architecture of France in the middle ages was picturesqueness; and it could not be otherwise, for it was a picturesque epoch. It is only necessary to become familiar with the thoughts, impulses, actions and manners of the times to verify and corroborate the impression made by a mediæval castle.

The castles of Mediæval France are picturesque, as were the songs of the troubadours, the institution of knight errantry, and the heraldic devices of chivalry. All of these were the expression of the same impulses, through different mediums, of a rude, impulsive, uncultivated race; yet not without strong native artistic feeling.

It was a return to nature for a new supply of energy, to found a new order of things, which was to supersede the Roman system, whose traditions of inflexible decorum in law and art were out of harmony with the great religious inspiration which had taken possession of the times.

It was a time of startling contrasts. A time of moral debasement and spiritual exaltation. Men were either abject slaves, haughty rulers, or buried in the religious mysticism of their monasteries. They groveled in submission; they robbed, plundered and murdered with proud justification; or worshipped with the zeal of fanatics amidst the inspiring influence of their lofty pillared and vaulted cathedrals. It was a time when men were swayed to the extremes of passion; and their buildings were constructed for protection against men. The consideration of shelter from the elements, and architectural expression, were subordinated to this imperative necessity. Their castles were rude and mas-



sive fortresses, and even the churches—those of the earlier times—were built for defense. Whatever of Roman architectural tradition still lingered, was followed in the most naive and unsophisticated manner where a more cultivated expression was sought for.

Before its permanent occupation by the Goths and Franks, the Roman province of Gaul had been thoroughly subdued and had adopted the Roman manners and customs.

The military and civil laws of the Romans had become fixed institutions in a large part of the country. The Latin language was the common vernacular of the cultivated classes at least, and the arts and letters of the Roman civilization had obtained a permanent establishment.

The Gauls had their halls of justice, baths, temples, theaters, bridges and aqueducts, all designed and constructed according to the studied laws of balance and symmetry peculiar to classical styles.

They had an honored representation at the court of Rome; operated among themselves the machinery of their local government, and had assimilated to a sufficient degree the Roman ideas of order in all their artistic manifestations of thought, to be fairly termed a classical people.

But the Roman influence of law and order had been gradually superseded by the pressure of the Gothic and Germanic barbarians from the north, who came in ever-increasing numbers, marauding and plundering, singing their war songs and legends, and infusing into the population, as they settled permanently, the element of a bold, full-blooded martial spirit.

From that time to the dawn of the renaissance was the reign of gross ignorance, brutality and violence. Men lived like bandits. The incessant occupation was assault and defense. But underlying this coarse exterior was an intense romantic and devotional sentiment, which found expression in the exaltation and solemn magnificence of Christian worship. There was brutality and chivalry and exalted worship, and it was these strange contrasts in the men of the Middle Ages that made their times picturesque, and produced the architecture of the mediæval castles.

In classical compositions that appeal to the cultivated instincts, in whatever medium of art they may

be expressed, where the effect is obtained through a studied application of the laws of balance and the symmetrical relation of parts, the term *picturesque* is seldom, if ever, applicable.

On the other hand, a work of art is picturesque in proportion as its expression is in reality, or in appearance, the result of accident; or the absence of preconceived arrangement of parts, and the artificial rules of composition.

For instance, the Parthenon, "The Messiah" of Handel, or the "Moses" of Michael Angelo, are not picturesque; but Blarney castle, the ruins of Melrose abbey or the opera of "Carmen" are intensely picturesque. Picturesqueness in art might be defined as harmonious accident.

The feudal castle was usually built on an eminence, thus making it difficult of attack, and giving it a sweeping command of the surrounding country. It was the home of a great noble, who was lord and despot of his domain. It was constructed to withstand and repel sudden attack. The walls were thick and massive, and rude in construction. It was planned and built for purely utilitarian purposes. There were massive towers, round or square, according to the requirements of defense, and the entire composition was usually made to conform to the inequalities of the ground and location.

The very conditions which made it a necessity of the times made it picturesque. There was the long sweep of massive, sloping, rugged walls, the bold accentuation of buttressed towers, the irregularity of sky line, the proud battlements above and the dark dungeons below.

The mediæval castles of France are stories in rough hewn stone of a people who, in their blind zeal, could be swayed by a simple monk to undertake the crusades, and even marshal an army of little children to reclaim the tomb of the Savior from the infidels—a war-like people, who were powerless to rebel the foreign invader, until led to victory by the simple country maid of Domremy.

TEST FOR LINSEED OIL.

An original and extremely simple test for the presence of impurities in linseed oil was shown by Mr. George Whigelt at the eleventh annual convention of the Ohio Association of Master Painters and Decorators, at Toledo. When pure linseed oil is shaken up with an equal quantity of lime water in a bottle, it forms an emulsion resembling beaten eggs in color. No separation of water will occur for at least one or two days. If there is any adulteration present of any kind, a perfect emulsion cannot be formed, and the mixture will have a curdled appearance. The water and the impurities will separate from the oil in a very short time. Comparison should be made with a sample of linseed oil known to be pure. This test will detect the presence of adulterations, but not their nature. Pure boiled linseed oil will show the same results as raw oil, but "bung-hole boiled" oil will not show the test for pure oil.

LOUIS XVI. LADIES' WORK TABLE.

Designed and Executed by William Yungbauer,
St. Paul, Minn.

This table was manufactured for Mrs. Anson McCook Beard, of New York City, by William Yung-



bauer, of St. Paul, Minn., and is made from mahogany with imported French bronze applique and embroidered panel, executed by a prominent St. Paul lady.

USE OF CEMENT IN BUILDINGS.

The increasing use of concrete in the erection of buildings at the present day has worked many radical departures from previous methods of construction, and the end is by no means in sight. Its use is especially desirable, not only in structures where great strength is desired, but the increase in insurance rates, the feeling of insecurity against fires, the high price of lumber, paints and oils, and the repairs continually required to keep the present style of dwelling-houses comfortable and habitable will eventually, and in the near future, lead to a more extended use of cement in building private houses. A steel frame structure with concrete walls, foundations and floors gives us the ideal building in which cleanliness, permanency and safety is desired. A building erected on these lines with a slate roof would need but few repairs and only at long intervals, and would be thoroughly fire, wind and weather proof. Being impervious to atmospheric changes the cement walls and floors would ensure an even temperature against the extremes of heat and cold, giving the much desired result of a house cool and dry in summer, and warm and dry in winter.

The cry that cement manufacturing is over-driven is puerile, for though cement construction is yet in its infancy the demand for the raw material is greater than the supply.

THE FALLEN CAMPANILE.

True, it had its artistic value—the rude, simple shaft in the florid wonder of that Piazza, with the Ducal palace, the marvelous Basilica—“the Christian mosque”—and all the other arched and traceried palaces about it—the loggia of Sansovino, a stone blossoming against a stone, clinging to its base. “It was like the leader of an orchestra,” said one Venetian artist, “evoking by its presence the whole harmony of the Piazza.” A Russian painter characterized more briefly the fluent sweetness of the remaining architecture, lacking that strong element—“Femmina senza maschio,” said he with a shrug of his shoulders—“the woman without the man.”

And yet, when all is said, it was no world-wonder like the palace or the church themselves, nor even like other bell-towers of Italy (that tower of towers, for instance, Giotto's), and not as such as Italy mourned it. It was something more; it was a thousand years history; it was a document, a visible page, as our Faneuil hall is a paragraph in our briefer tale, and as the ruins of our West are passages of the great Western romance. Those only value documents, however, who can read them. Italy is still one of the illiterate countries of the earth, as we count illiteracy; but these characters she early learned to decipher, and from the highest to the lowest, every Italian has felt the full measure of his present loss.

Something else he has felt; next to his sorrow has been his shame and second to neither his bitter indignation. “Are we barbarians?” the Italian papers exclaim. “What are foreigners to think of a people who in these days suffer glorious monuments to perish as in the worst days of barbarism?” “It is a national disgrace,” say all, “for this is a part of our common heritage—the purest part.”

“It is a debt of honor for Italy to rebuild that tower—and quickly!” the young king is said to have exclaimed, with emotion, when the tidings reached him at St. Petersburg. Nor is there much doubt it will be rebuilt, by Italian hands, with Italian money; self-respectingly refusing the honorable offers of outside aid; using as far as possible the identical materials, and exactly reproducing the ancient form—a monument to a monument. Meantime, woe to the army of functionaries whom Italy has paid to neglect their business. The inquest was immediately commenced, the principal officers at once suspended, while the one brave architect who had prophesied the ruin, getting there by his official head promptly removed and himself likewise (to Sardinia), has been recalled, with popular demonstrations. Nay, more; an election being imminent, the Campanile has become a leading political issue, and the rehabilitated architect is being run for office. This, I think, America will understand!

The papers have already chronicled how the shock of the falling tower shook all Italy; how in Venice all business was suspended and the five local papers appeared with mourning borders; how self-contained

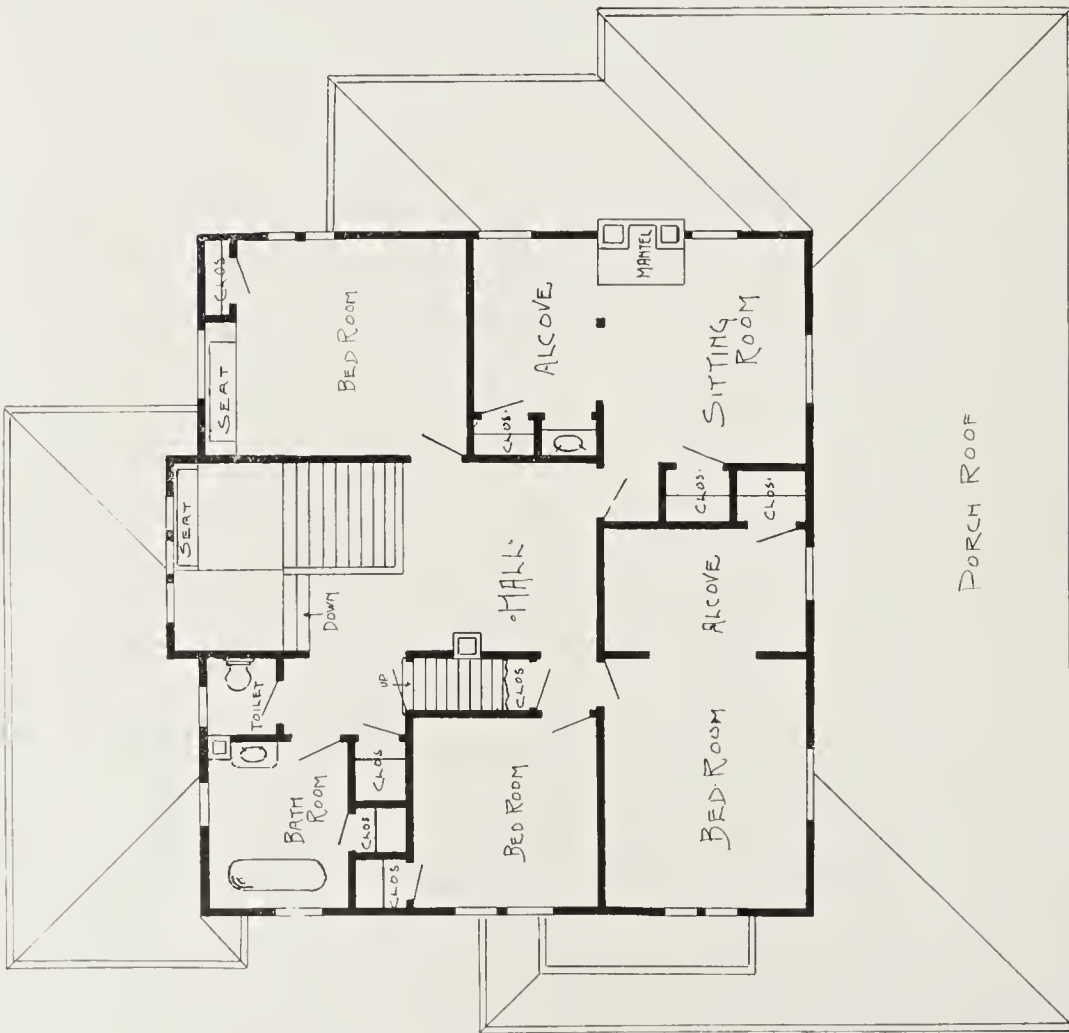
men kissed tearfully the newspaper reproductions of the fallen Campanile as if they were holy images, and gondoliers and popolani (common people) were seen to weep before the ruins. And I have elsewhere written how one of these, seeing that the giant had spared in his fall the Ducal palace and the church, cried aloud: “Even in dying you were a gentleman!” All this has been told and retold, but the lesson is slow to be learned. But when the Venetian bell-tower fell, then Florence, with the Campanile of the world; Pisa, with her famous leaning tower; Bologna, with her two; the other cities with towers all intact—they did not sit closer and hug themselves, blessing heaven that the evil was none of theirs. No! Each and every city of them behaved herself precisely as if her own tower was lost. And first they mourned. And then—they opened a subscription.—Grace Ellery Channing, in *Out West*, for November.

SOMETHING ABOUT GRANITE AND SOME MORE ABOUT PECKSNIFF.

THE tremendous groove in the face of nature made by Hudson's Bay when it used to pour its surplus into the Gulf of Mexico may be awkward for some people who live alongside, but the building fraternity are mighty glad that so many of those granite knobs from Ortonville, along down the Minnesota Valley, were uncovered in the process. I had a notion to stop off at Ortonville to see how the quarrying and the cutting are coming on, now that Baxter has pulled out, for whatever they say about that Baxter quarry, architects know that there is no granite that behaves better when it comes to town than that does. Nothing else keeps cleaner in the sooty air of a town or the moldy and melancholy air of a cemetery than this granite; and they know that they are not likely to want stone that the quarry can't furnish. When Baxter was working at one edge of his quarry getting out stone for the Minneapolis court house, I one day climbed up to the top of it and paced off where at one place it would furnish a stone 30 feet square without a seam. This was on the surface that had been exposed to the suns and frosts of all the years since most of the waters had stopped flowing south and had left it uncovered. Another place would have furnished a well proportioned monolith 125 feet long, and if anybody wants to cut such a one and set it up in Central Park, he will find that it will not have to be coated with paraffine to preserve it from the bad air of Greater Gotham.

More or less fuss is still made because this granite is not all just uniform in grain. Some people seem to have come out here with that down-east notion that a granite must be as even in grain as a section of sausage—seem to think it was made in the same way. The same people, if they see a piece of colored marble that is not wildly streaked, will tell you it is only fit for some cheap work like a public toilet room. I would like to leave it to any man of sense that isn't tied to this silly fashion about even-grained granite, to say

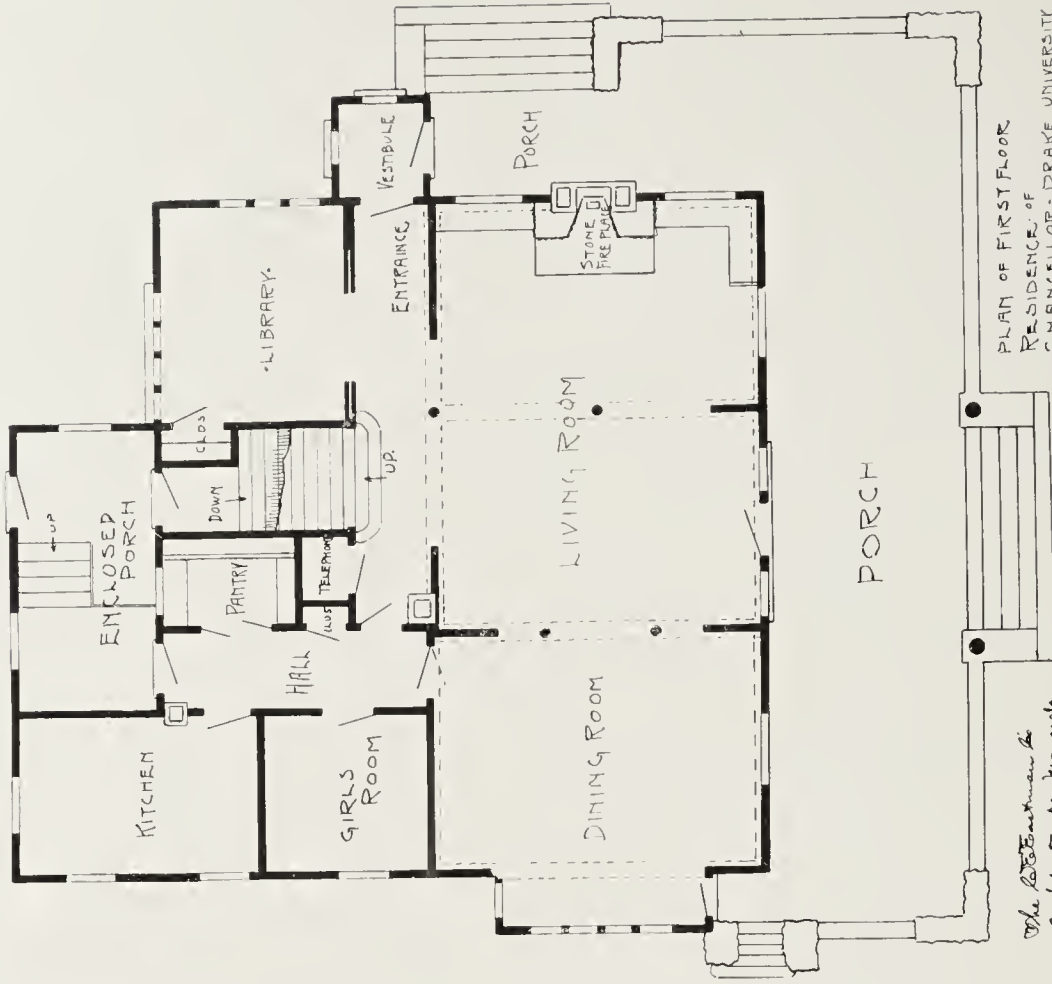
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PLAN OF SECOND FLOOR.

SECOND FLOOR PLAN OF RESIDENCE OF CHANCELLOR,
Drake University, Des Moines, Iowa.

Supplement to
THE WESTERN ARCHITECT.



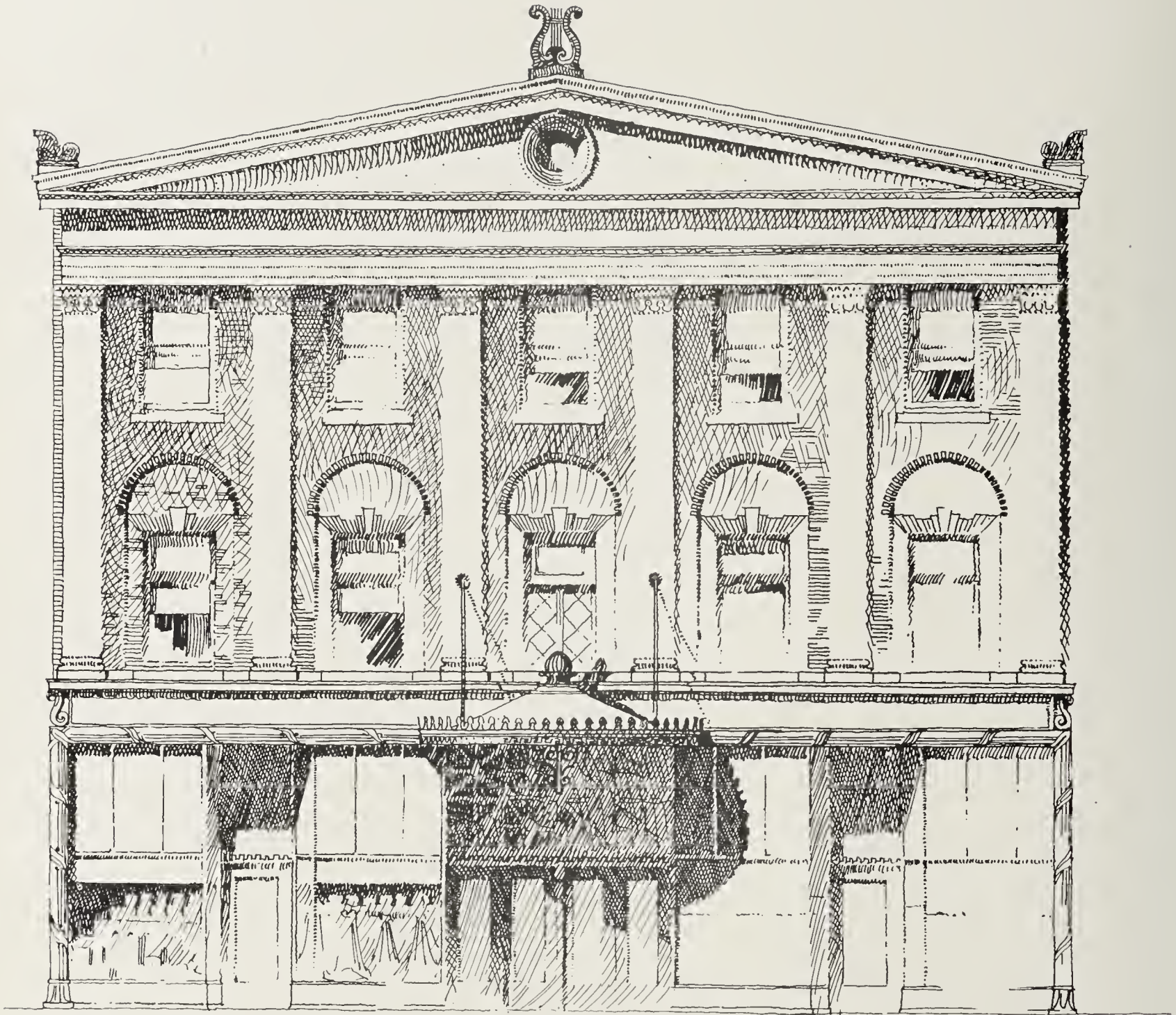
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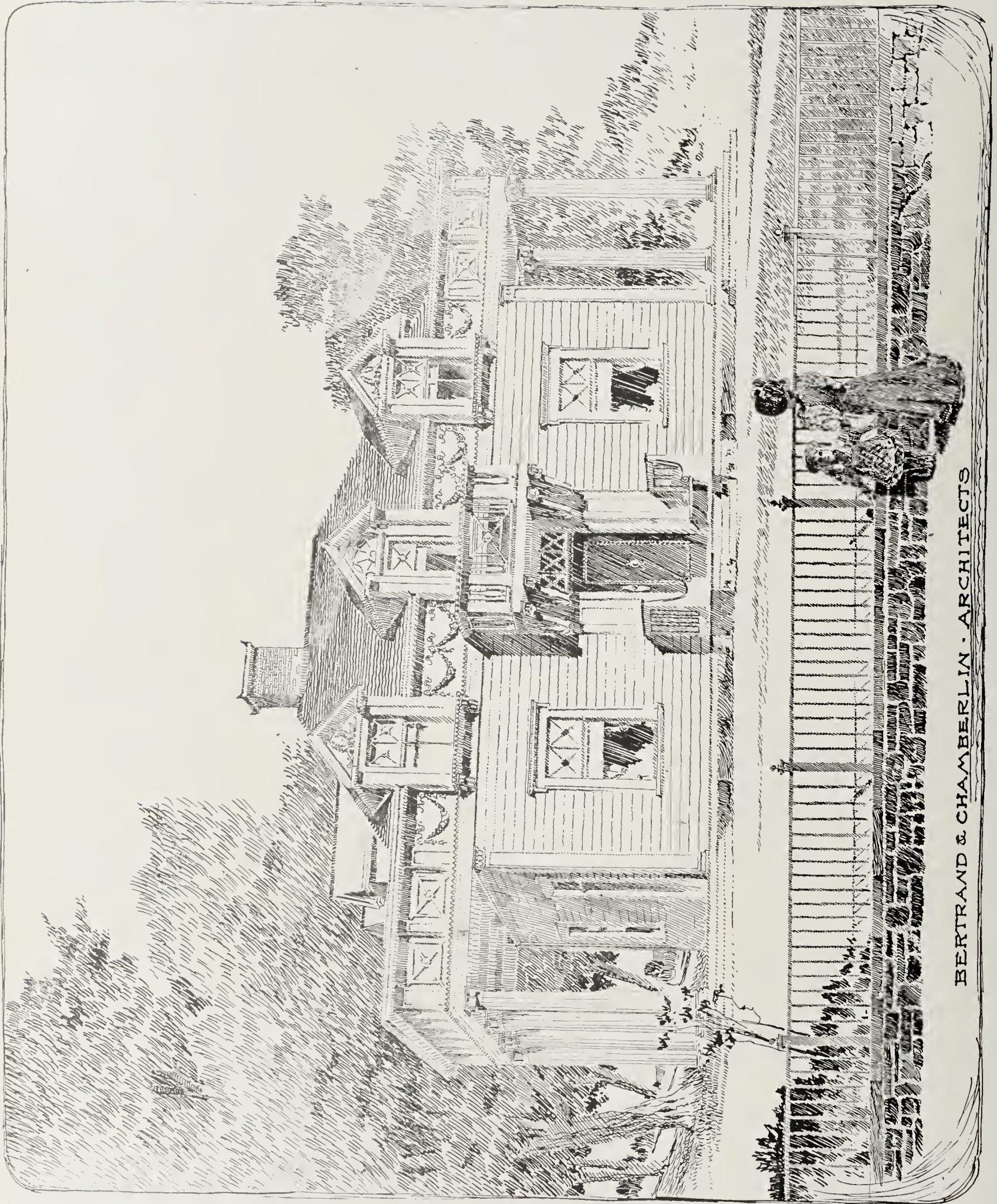
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JOHN SARGENT PILLSBURY.

Erected by the Alumni and Friends of the University of Minnesota in Grateful Recognition of His
Eminent Services as Life Regent and as Governor of the State. September 12, 1900.

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MEMORIAL TO JOHN S. PILLSBURY,
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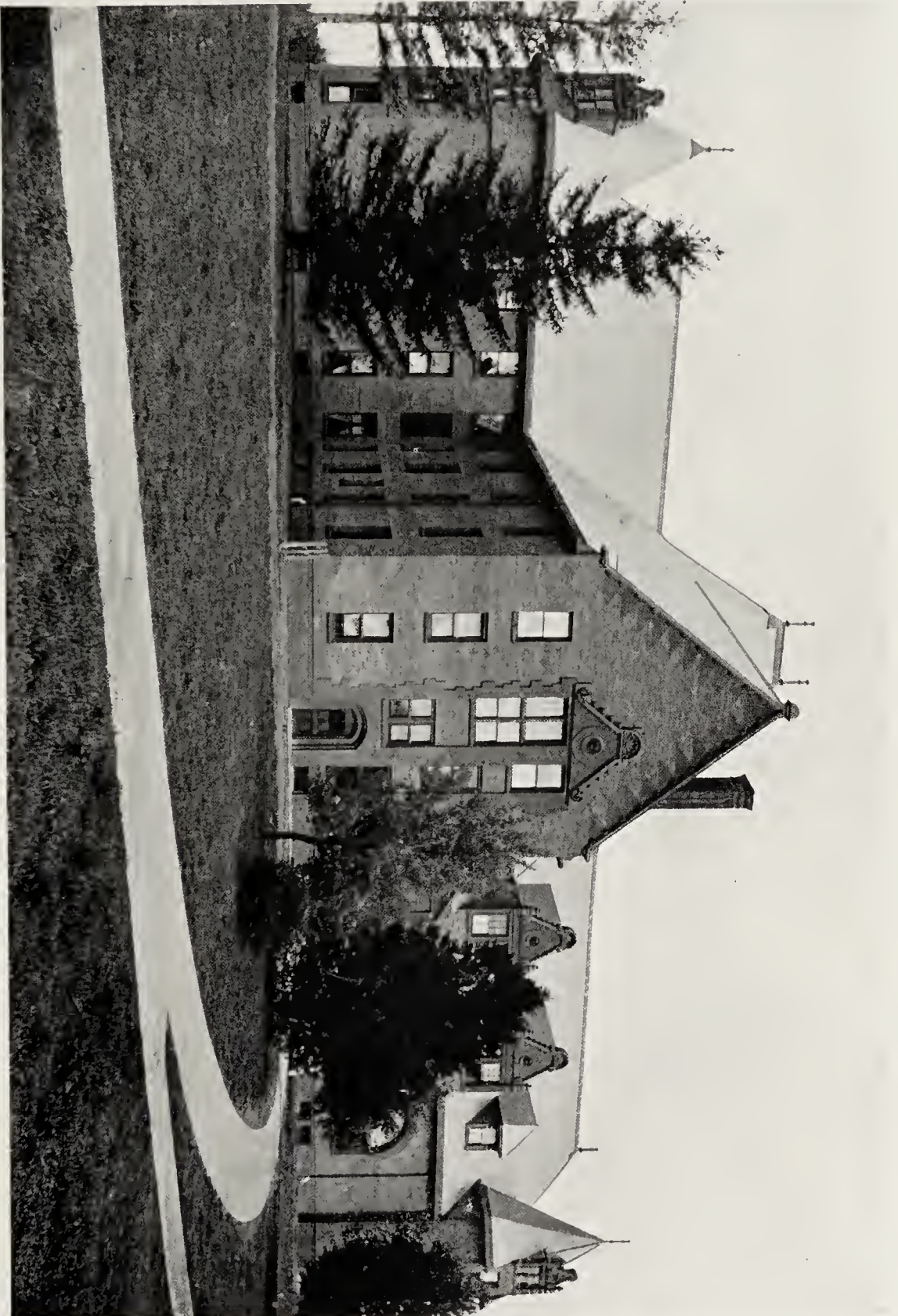


FIRENZE FLATS, ST. PAUL, MINN.
James Allan McLeod, Architect.

SUPPLEMENT TO
THE WESTERN ARCHITECT, Dec. 1902
Negatives by Western Architect Staff.

Geo. J. Grant, Contractor.
Wm. Ulmer Stone Contractor.
Ludowici Roofing Tiles.
Terra Cotta—Winkie T. C. Co.

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GIRLS DORMITORY,

Iowa State College of Agriculture and Mechanical Arts, Ames, Iowa.
Geo. E. Hallett, Architect, Des Moines, Iowa.

Material—Des Moines Paving Brick,
trimmed with Moulded Orna-
mental Brick and Terra Cotta.

SUPPLEMENT TO
THE WESTERN ARCHITECT.
December 1902.

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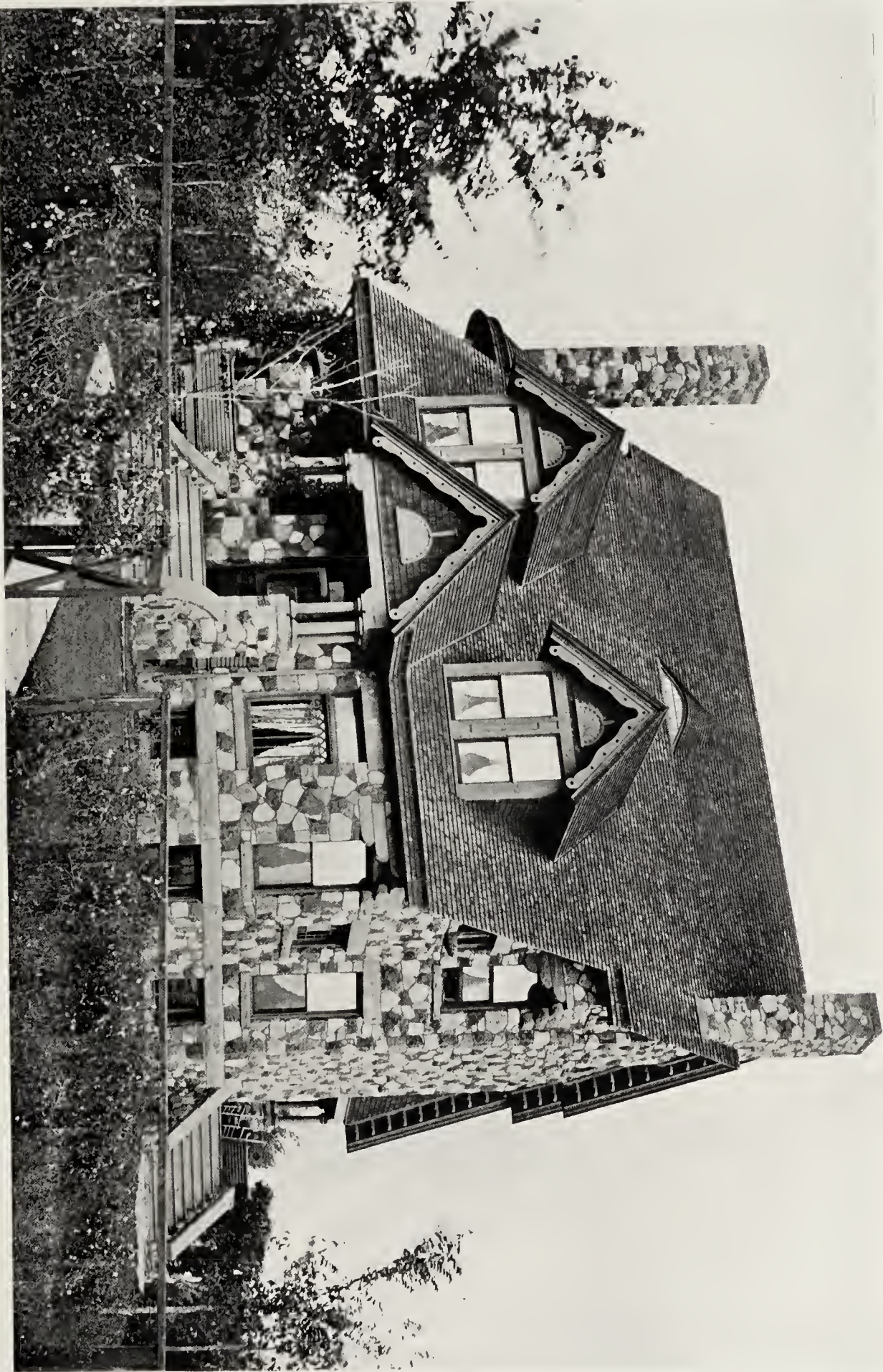


RESIDENCE OF MR. J. B. WEAVER, DES MOINES, IOWA.
Liebbe, Nourse & Rasmussen Architects, Des Moines, Iowa.

SUPPLEMENT TO
THE WESTERN ARCHITECT.
December 1902.

Contractor—R. H. Bolfrick.
Brick—Iowa Brick Co.

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SUPPLEMENT TO
THE WESTERN ARCHITECT.

RESIDENCE OF MR. JAMES HUNTER, DULUTH, MINN.
Charles McMillan, Architect.

December 1902

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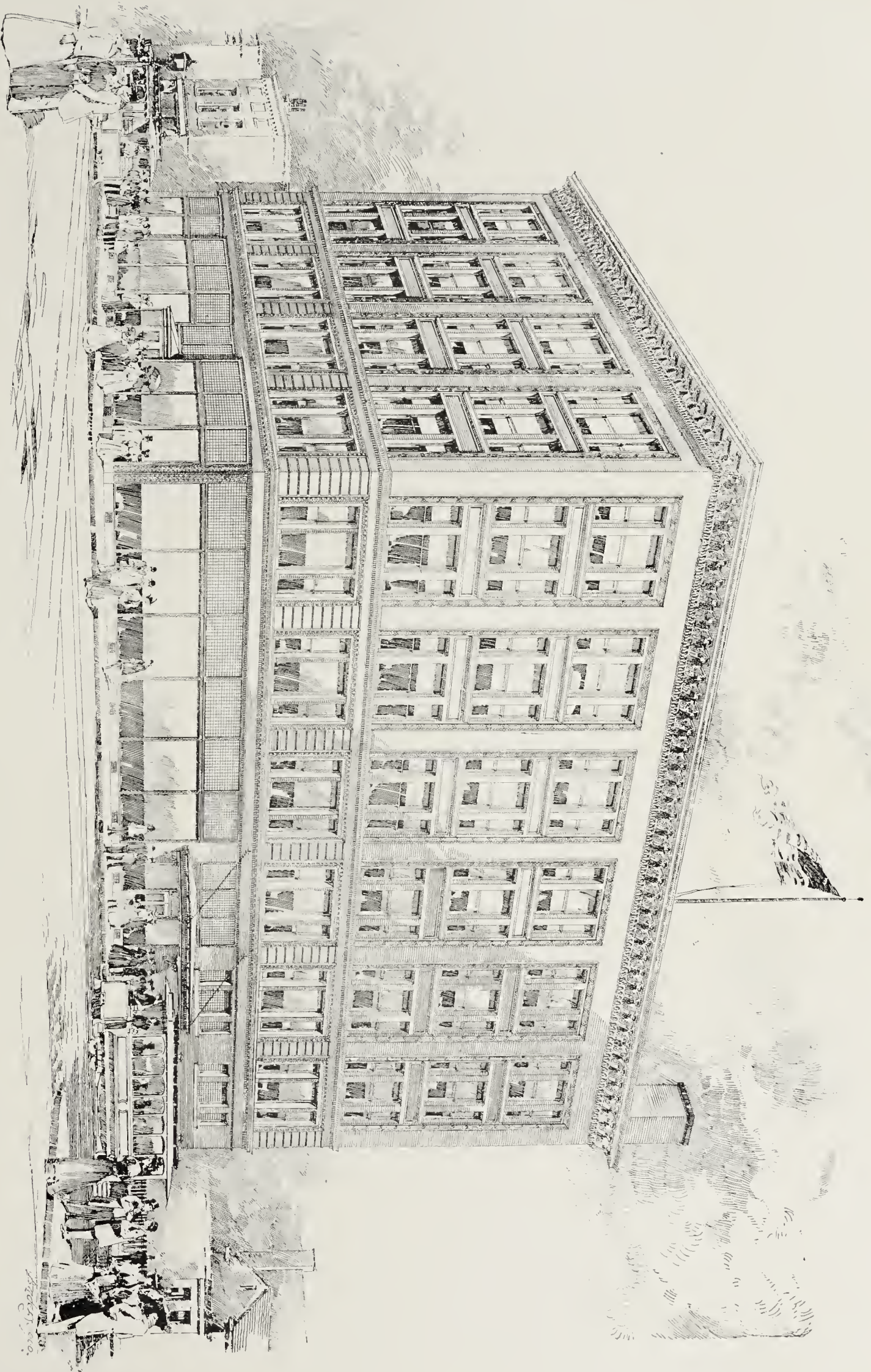


CHANCELLOR'S RESIDENCE, DRAKE UNIVERSITY, DES MOINES, IOWA—See Floor Plans.
The C. E. Eastman Co., Architects, Des Moines.



ENTRANCE TO MR. J. B. WEAVER'S RESIDENCE, DES MOINES, IOWA.
Liebbe, Nourse & Rasmussen, Architects, Des Moines.

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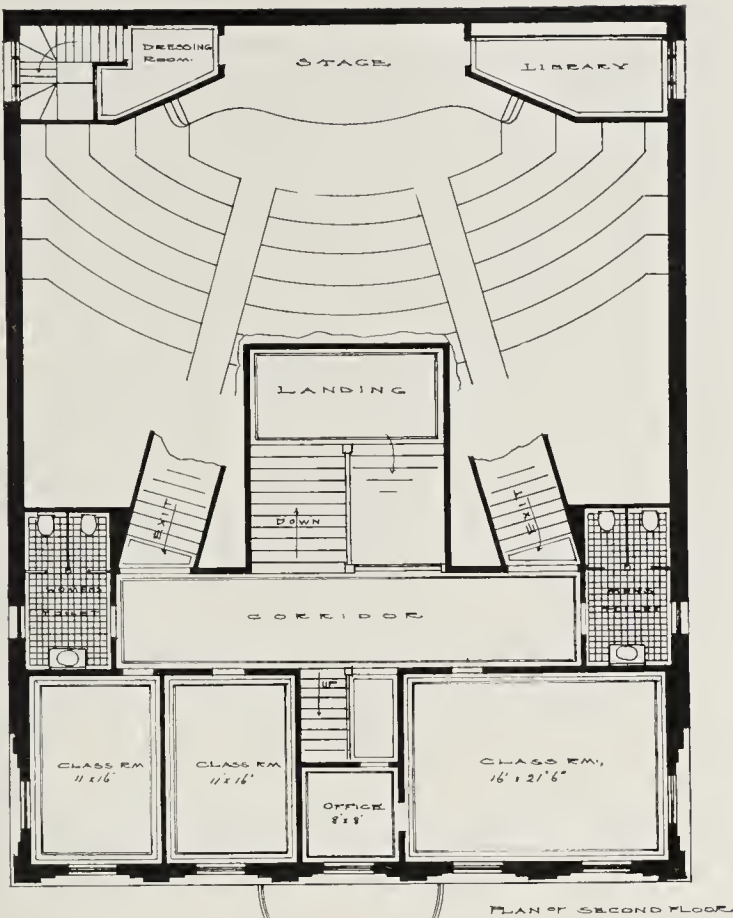


Supplement to
THE WESTERN ARCHITECT.

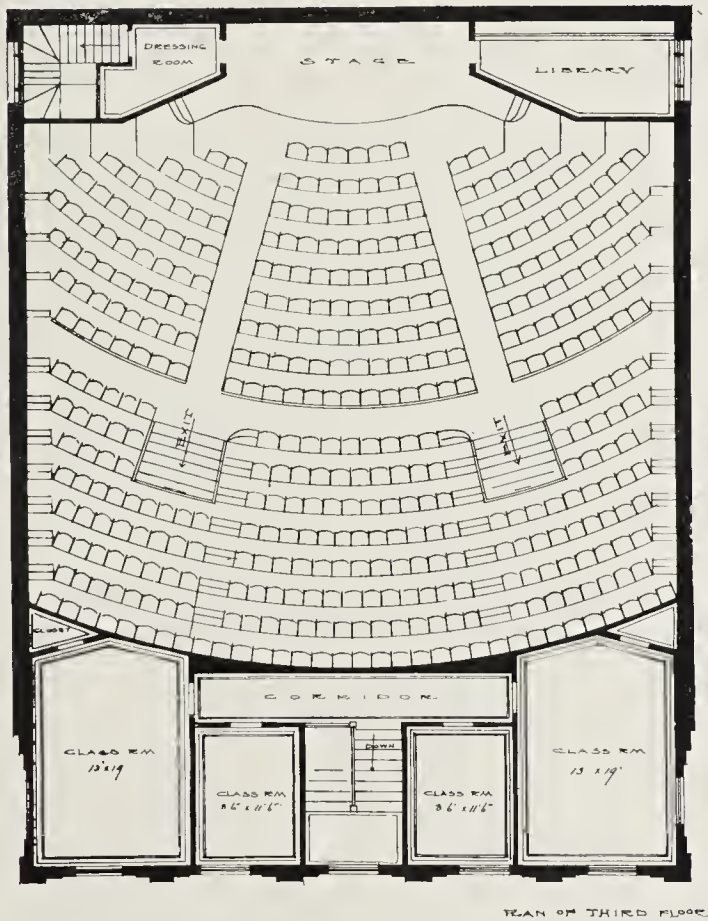
THE HARRIS-EMERCY DEPARTMENT STORE BUILDING, DES MOINES, IOWA.
Liebke, Nource & Rasnussen, Architects, Des Moines.

December 1902

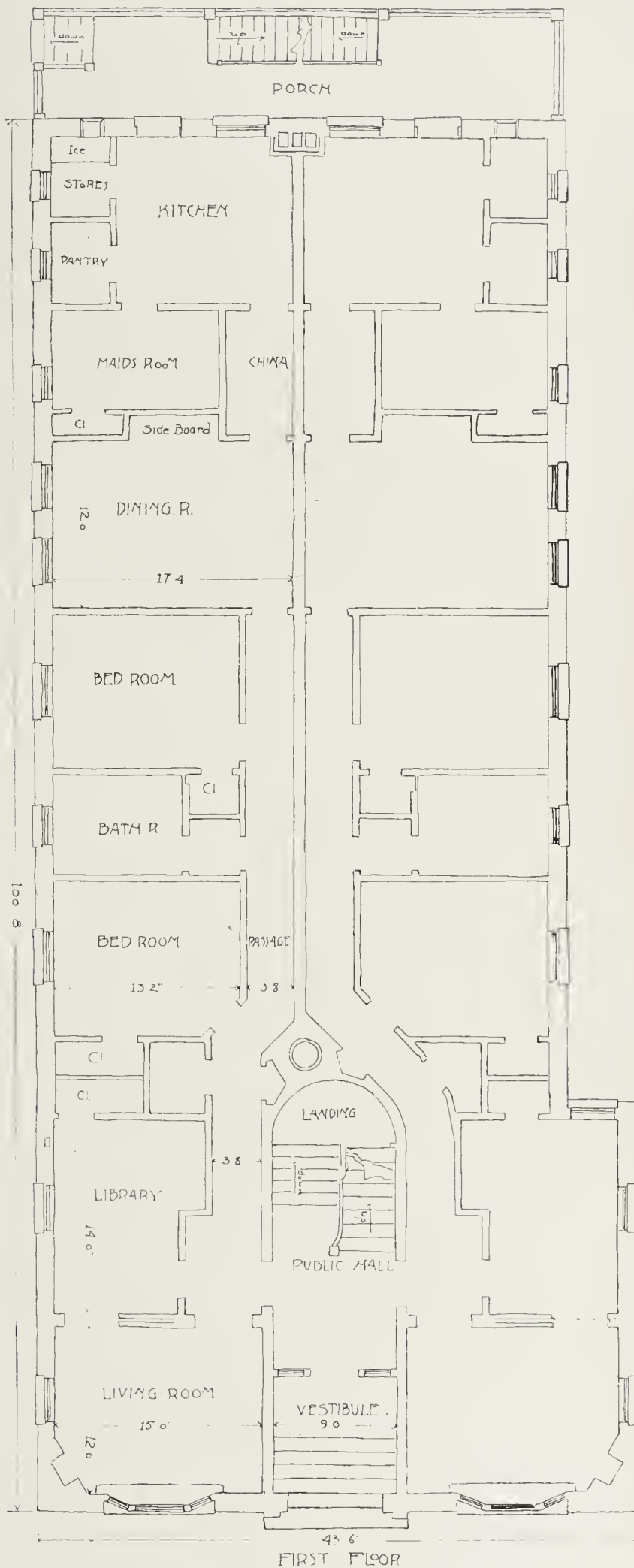
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PLAN OF SECOND FLOOR FOR A SCHOOL OF MUSIC.
Bertrand & Chamberlin, Architects, Minneapolis.

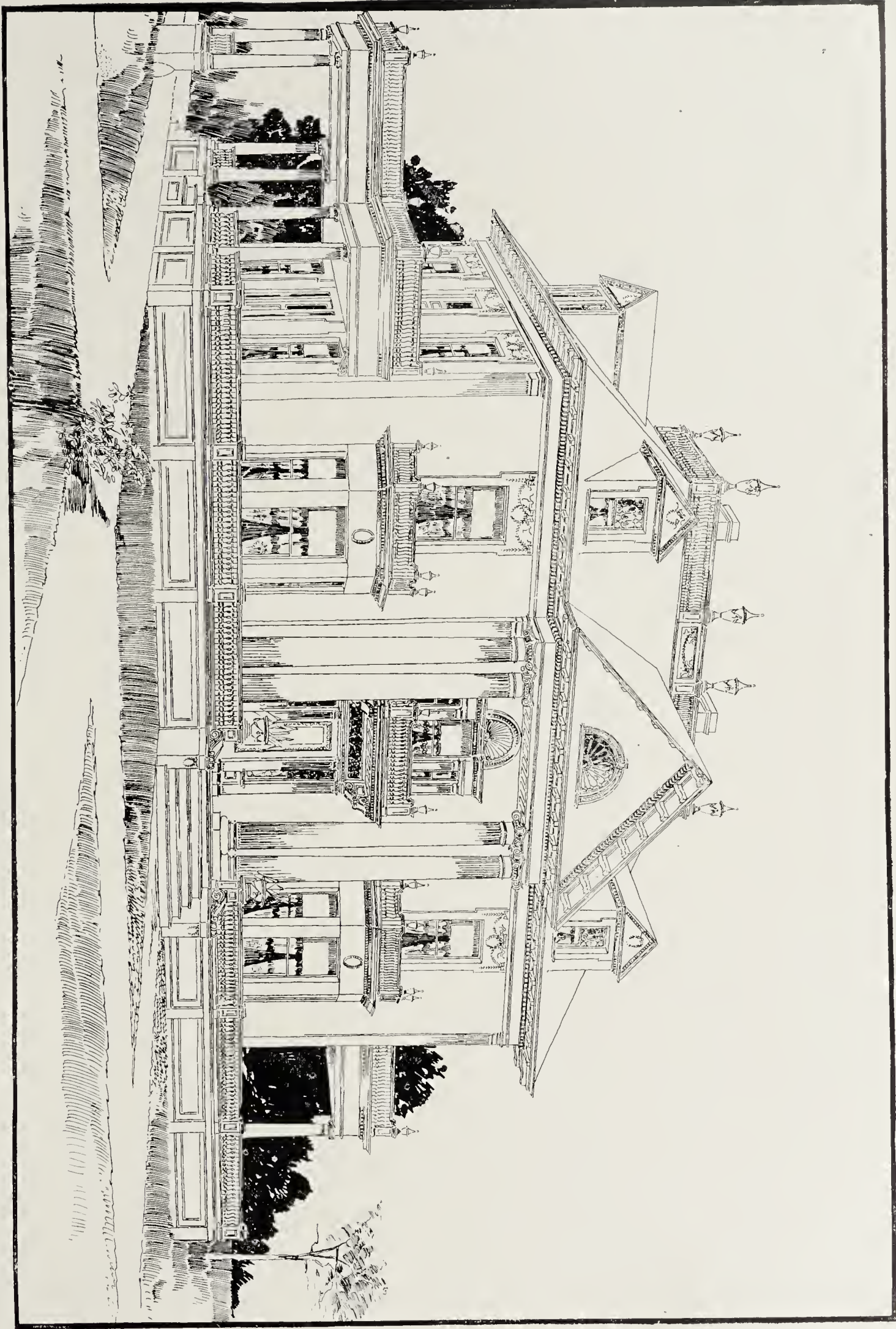


THIRD FLOOR PLAN FOR A SCHOOL OF MUSIC.
Bertrand & Chamberlin, Architects, Minneapolis.



FIRST FLOOR PLAN FIRENZE FLATS, ST. PAUL.
J. A. McLeod, Architect.

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Supplement to
THE WESTERN ARCHITECT.

SKETCH FOR RESIDENCE FOR MR. N. E. COFFIN, DES MOINES, IA.
Smith & Gage, Architects, Des Moines.

December 1862

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whether he is pleased or not with the variety that nature has thrown into this granite. Nor do I know any granite where they have less trouble with the big, black, soft mica spots.

As it turned out, though, I didn't stop off, for I learned not only that the Baxter quarry had fallen into the hands of people that mean to push things, but that other quarries were being opened at Ortonville by men of experience who were out after contracts; not only after cut stone contracts, but that there will be pushing for quarry-faced ashlar work, and that the Twin Cities would be able to get such prices for granite facing of this class—spalled or hammered beds—as they had never had before. I heard that a steam cruncher, or whatever it is called, will be put in also.

When I reached the office the fellows told me that Pecksniff was now dividing his time between that book on "Proportion in Designing" and some verses he had found.

It seems that in the stuff left by old man Pecksniff was a page from an old copy of Puck, dating away back to the time when Bunner was living and it was a comic paper. But the fellows say that neither Mr. Pecksniff nor the old man would know that. It must have come, they think, from what John Westlock left when he went away.

It runs this way, and here are some of the pictures: This is the tale of the man who got
A suburban Lot.

* * * * *

The man and his wife at once began
To examine every conceivable plan.
They took a journal called "Hints for the Home,"
All full of pictures of turrets and some
"Ingle-nooks" and "corners" and halls and stairs,
"Artistic Bits" and settles and chairs.

* * * * *

The man then went to an architect
And said, "Dear Sir, if you don't object
I would like to give you a hint or two
About the house I expect from you.

Ah—h'm.

The front hall isn't a very large place
But I want to get the effect of space—
You understand, as an architect,
I don't want space, but a spacious effect.
The drawing room should be large and bright
With three bay windows and a lot of light:
I would say the same of the dining room
Where I'd suggest, if I don't presume—
A row of pillars all down one side
With benches and corners and nooks supplied
Where after dinner a fellow can smoke,
And I'd finish it all in quartered oak.
Of course I'll want a libraree,
I have indicated it here as you see.
No, sir; that mark don't mean a bed,
It shows there's a skylight over head.

* * * * *

The tower contains, as you'll perceive—
But all my notes in your hands I leave,
By a brief inspection you'll clearly see,
What sort of a house will satisfy me."

* * * * *

"I think I see," said the architect,
"And just what you want I've got, I suspect."
He called his clerk and said, "Hi, Jim,



Get six-thirty-seven and show to him."
And hereabouts ends the tale of the man.
He bought that plan
And this is the sort of a house he got.

* * * * *

—Mr. Pinch, Jr.

CINDER CONCRETE CANNOT BE USED HERE-AFTER.

Cinder cement, said to have been used in the construction work of the Paddington apartment building, 1632 Graceland avenue, Chicago, where two floors collapsed, resulting in the death of Edward Asher and the injury of several other workmen, was shown to Deputy Building Commissioner O'Shea by Chief Inspector Barry. Mr. O'Shea crushed the substance with his hand, and declared that he would investigate the affair thoroughly. In speaking of the matter the deputy commissioner said:

"A cement floor should contain in proportion one part of Portland cement, three parts of torpedo sand, and six parts of fine broken stone. The men on this building say the concrete used on the floors was one part cement and six parts cinders. Hereafter cinder concrete will not be accepted by this department as floor material."

SYRIAN CORRESPONDENCE III.

By Geo. C. Doolittle.

A country whose history has involved so much of strife as has the history of the Holy Land, and whose wars have been so largely wars of races and religions, would naturally be expected to furnish the archæologist with much of interest. And while among all the people who have possessed and in turn been dispossessed of the land, no other have left monuments of anything like the splendor of imperial Rome, yet one may find many a monument worth his trouble outside of Palmyra or Baalbek or Jerash.

The Romans themselves left good work outside these wonderful cities. Here and there one will find one of their bridges in service to this day. But a few miles out of Beirut, spanning a limpid stream which provides that sea-port with water, is a charming specimen of their work, a bridge of stone that may have been doing duty for a trifle of fifteen or eighteen hundred years.



Old Roman Bridge Near Beirut.

One wonders if the thoughts and ambitions of the old builder who threw these three unequal spans across this stream were not somewhere entirely outside the range of the modern builder's imagination. How many who build bridges for us expect them to be in service a hundred years hence?

"Little of all we value here,
Wakes on the morn of its hundredth year."

It might be profitable to ask how many moderns could duplicate the skill of these old bridge builders. Nor is this bridge the only one of its kind, for others as old or older, with their long approaches may still be found in distant parts of the land.

In the wild, desolate regions east of the upper Jordan are collections of queer surface burial-places, called in the Arabic, "tombs of the children of Israel." Upon a raised circular platform huge slabs are placed to form an enclosure, and upon them a great cover is laid. These graves have an east and west trend, and can be counted by scores in some districts. At Sidon, amongst the catacombs called the tombs of the kings are sarcophagi in situ. Sidon, too, has furnished the most magnificent sarcophagi ever discovered. These were found nearly twenty years ago, and (of course) sent to the museum at Constantinople. The most beautiful is supposed to have been made for Alexander the Great.

The region of Jerusalem is rich in archæological remains. Between the Holy City and the Mount of Olives, in the valley of Kidron, is the monument called "The Tomb of Absalom."



Tombs of Absalom.

This structure, an object of hatred alike to Jew and Moslem, is probably not earlier than the Christian era. Its base is cut out of the rock, with half-columns, and square pillars at the corners, and an architrave and frieze.

The crusaders in the eleventh and twelfth centuries were giants among the builders, their rugged castles occupying every commanding site. The Holy Land was surrounded by a chain of fortifications, the gleam of whose mighty signal fires flashed from north to south. The ruins of these vast piles are romantic memorials of the deadly struggle between Crusader and Saracen. One of these, Rubud Castle, overlooking the Jordan River from a high summit of the east, is superbly situated for the purpose of defense. It is seldom visited by travelers, because of the difficulties of approach. It is surrounded by a deep, wide moat, cut from the living rock. The one-time drawbridge, by which the great doorway of the castle was once approached, is no longer in existence, though there are marks to show its mode of operation. Grooved stones beside the portal were manifestly for the portcullis. This is not merely a single castle, but a series of castles within castles.

The Saracens in their turn transformed churches into mosques, and seized upon the Christians' holy places. They repaired the walls of Jerusalem and built up its shattered gates. On the north side Damascus gate stands now as a witness of Saracenic control in the Holy City.

The lower part is immensely thick, with a double corner to turn in passing through it. Above this the walls are thinner, with the inevitable slots for archers and gunners. Through this gate passes a motley traffic, caravans of camels, mules and donkeys, Bedouin Arabs, beggars and priests, foreign tourists and Russian pilgrims.

After the Saracens came (and unluckily stayed) the Turks, whose rough vandal hands have spared little.

Finding a great temple, they would look upon it as so much already done toward a fortress and turn to and add such towers and ramparts as they thought needed to complete the fortification.



The Damascus Gate, Jerusalem.

Modern architecture under their rule is largely a study in poverty. The snap-shot is all too nearly typical of the wall and the people. House walls like this wayside wall are often laid up without mortar, the mason joining the stones as nicely as is done here.

A modern village may be very picturesque in its way, as the view of a small place not long since famous as the home of cattle stealing and other kindred industries will show. The homes of these people face south,



The Wayside Wall.

the roof of one being the dooryard of the neighbor next up-hill. The more pretentious homes with their gracefully arcaded recessed fronts, which serve as porches or covered balconies, usually point out the residences of the head men of the village. Some of these houses are



View of the Village of Mejdal.

In the larger places graceful minarets often attract one's attention, helping to bring forgetfulness of the general poverty of domestic building where one would expect the contrast to emphasize it.

fairly well built and roofed, but the villager must, as a rule, content himself with a clay roof, which he rolls at the approach of a storm to close the cracks baked in it by an interval of sunshine.

HEATING BY THE VACUUM SYSTEM.

By A. W. Luck, St. Paul.

To answer the question what method is best adapted to the heating of our buildings in this cold climate would not be possible in such a general way as to include all buildings, because the needs of different buildings are so various that a system best adapted for one might be the last to select for some other. However, I will try and make clear some of the merits and demerits of the systems most in use.

First, let us consider the hot-water system, which for some buildings is undoubtedly the best known. Water is one of the best heat absorbers. The greater the difference between the heat absorbing surfaces and the heated gases given off in the process of combustion, the more rapidly is the heat taken up by the absorbing surface surrounding the fire; for which reason the percentage of heat lost in a well constructed water-heater is less than in any other, and this means larger results in proportion to the fuel consumed, less fuel, less clinker and less attention. This statement might be perhaps modified in comparison with the vacuum steam heating system, which will be considered later.

The water circulating through the pipes and radiators of a hot-water system should rarely exceed 180 degrees Fahrenheit in severe weather. It is very essential that sufficient radiation be placed in the several rooms to be heated, for otherwise the result will be large consumption of fuel and a high temperature in the water. Unlike steam, water cannot be forced, and for that reason it is necessary to have ample radiation in rooms to be heated with a moderate temperature of water. This mild method is accountable for the delightful atmosphere found in a house heated with hot water. The entire absence of noise is another feature, making this system desirable not only for heating homes, but for hospitals, schools, etc.

In economy of fuel, my experience indicates that a well proportioned hot-water plant will require to heat a building for which it is adapted, 20 per cent less fuel than steam (vacuum system excepted). The conditions are rarely such that we may make a just comparison between heating by the hot-water system and by warm-air furnace, but I have often noticed a difference in fuel consumption of 30 per cent or more in favor of the hot water.

The life of a hot-water apparatus (using a sectional heater with all metal connections and with cast-iron radiation) should be double that of a steam plant, and the heater will outwear several hot-air furnaces. This is easily explained; the entire apparatus is filled with water, which means the entire absence of air, and consequently we do not count on the internal corrosion causing the materials to give out.

Let us then consider the external corrosion; if your basement is dry and well ventilated, you need have no fear of your pipes rusting out, but the heater may be still liable to suffer, and, strange to say, it is the most neglected part of the entire apparatus. Within the

heater during the summer you have cool water, and the heater is connected with the flue, and it is a well known fact that the draft in the flue is reversed during warm weather. The basement is cool, the warm air from outside passes down the flue and, coming into contact with the cold surface of iron, water is condensed thereon, forming a sort of dew, which in its turn corrodes the flue surface of the heater, so that every season you can scrape off a coating of rust formed by this means. This condition may be avoided and the life of the heater prolonged by a little care. First, clean the surfaces after the fire has gone out in the spring, and then oil in a thorough manner, then if you turn the damper in the smoke pipe, or otherwise prevent this down draft of warm, moist air passing through the heater, there will be no corrosion.

One other commendable feature in a hot-water system is that the furniture and decorations are not injured by excessive heat, neither will you find a wall blackened behind and above the radiator, as is the case when steam or warm air is used.

In heating with steam by the low-pressure gravity system, the water must be heated to 212 degrees Fahr., or higher, before heat will circulate through pipes and radiators; and when the temperature at the boiler falls below that point very little heat passes off. This is apt to cause too much heat in mild weather unless the steam is allowed to go down; and in any case such intermittent heating is an annoyance, as well as wasteful. To understand this thoroughly, we must keep in mind that water under normal atmospheric pressure requires 212 degrees of heat before it will boil. If, however, by some means a complete or partial vacuum is produced, the water will boil at a much lower temperature, or at about 100 degrees in a thoroughly complete vacuum. By this it will be seen that if we produce a vacuum in these pipes and radiators, steam heat can be circulated at a much lower temperature than 212 degrees, and it will occur to any one who gives the subject thought, that steam will circulate much more readily and completely through a vacuum system than if the same were under atmospheric pressure. A little further thought will make it apparent that a vacuum system is much better adapted to mild weather, because the temperature of the steam in the pipes and radiators can be reduced by something more than 100 degrees.

Now, let us suppose that we need a temperature of 70 degrees in the rooms when the outside temperature is but moderate. As we can circulate steam in the vacuum at even less than 100 degrees, the radiation is only about 30 degrees warmer than the air of the room, whereas, without the vacuum system, if heated at all, it would have to be 142 degrees higher.

This vacuum system, it will be seen, has the same advantage of moderation which we find in a hot-water system. I find also that the vacuum system is from 20 to 25 per cent more efficient than the gravity system with the same amount of radiation. This is mainly

because in the latter system steam is much more apt to drop below the pressure necessary to circulate heat, in which case the radiators cool off, whereas with the vacuum system the steam circulates as long as the water is above 100 degrees. With the vacuum system it is also possible to circulate heat through the entire system much quicker than with the gravity system, and there is no necessity for forcing the air of pipes and radiators into the rooms, and thus an offensive smell is avoided.

One great drawback to a more general introduction of a vacuum system is the general belief that it is very expensive by reason of royalties on patents covering its use, but it is not true that any patents exist which gives the monopoly of this idea to its owner. The inventive genius of prominent engineers who objected to the payment of high royalties, have given to the trade a perfect vacuum system, which can be placed on any low-pressure steam apparatus at low cost, returning full value in appliance for every dollar expended.

Heating by hot air is more circumscribed by conditions existing in buildings than in any other system. Small buildings may be heated with fair degree of success in this way, provided they are well arranged for the purpose. Larger buildings generally need the aid of power fans to assist the circulation of the warm air. It has come to be the custom in dwellings where this system is mainly used, to overcome the difficulty of heating distant and badly situated rooms by what is known as a combination hot-water and warm-air plant. This works very nicely if everything is properly adjusted, but it requires a skillful contractor or heating engineer to proportion the water circulation, so that it will not be too hot in mild weather or boil in extreme weather. One reason why this hot-air system has proven so wasteful in a large percentage of buildings, is that those who have installed the system have never been able to learn how to place the pipes properly so as to heat a given room. To give instructions in details of this sort, is, of course, not within the scope of this article. Another reason for many failures is the smallness of the heater selected.

Warm-air furnaces are comparatively short-lived at best, but when one so small as to need forcing in extreme weather is placed in a building, it can not be expected to last any great length of time. One economy that is practiced in heating houses with warm air, consists in taking the air supply from a house itself rather than from an out-door source. Of course when this is done, the argument of better ventilation, which is commonly claimed for this system, must be given up. It is by no means necessary at all times to go out of doors for the fresh-air supply, but every such system should at least be so arranged that this may be done as an alternative.

After making all allowances for the services of photography in modern illustration, it is hard to see how it is possible for the publishers of the Architectural Review to "throw in" with a regular subscription such a magnificent piece of work as their late special number devoted to Stables. It is sold singly at \$2.00, and is plenty cheap at that.

ZINC OXIDE VS. WHITE LEAD.

The white pigments are of value for their purity of color and for covering capacity. White lead has a greater body than zinc oxide in so far as opacity is concerned, but a given weight of zinc oxide will cover one quarter more surface than the same weight of lead mixed with the same amount of oil. The white lead, however, has a better texture than the zinc oxide and works more smoothly under the brush, and for this reason it is used in almost every successful paint. The best liquid paints contain both white lead and zinc oxide.

Zinc oxide has an additional value over white lead as its permanence is greater. The zinc never changes color from the time it is put on with the exception of an increase in its whiteness, but white lead turns darker from the time it is applied, especially in cities and towns where coal is burned, as all coal contains a small amount of sulphur and this sulphur in the coal gas at once begins to change the lead from hydrocarbonate, which is white, to lead sulphide, which is black. Zinc is not affected in this way, as the sulphide of zinc is just as white as the oxide.

Be careful not to use boiled linseed oil in a paint which you expect to wear well. Unless you buy pure kettle-boiled linseed oil under the guarantee of some reputable manufacturer you are almost sure to be deceived in its quality.

A large proportion of oil sold under the title of boiled linseed oil never saw the fire; it was made by removing the bung and pouring into the barrel a certain quantity of manganese or other strong dryers, and for this reason has obtained the nick-name of "Bung-hole Boiled Linseed Oil," which is no longer a raw oil, and is not a good boiled oil. It will dry in the same time as kettle-boiled oil, but at the expense of its wearing qualities.—Patton's Monthly.

PUMICE.

During the summer of 1897 several extensive deposits of pumice were discovered in Nebraska, the most extensive being in Sioux, Dawes, Scott's Bluff, Banner and Cheyenne counties. Another deposit was discovered in South Dakota, about three miles east of Pine Ridge Agency. The volcanic ash of which these deposits were composed was probably brought by the winds from volcanoes in Colorado and New Mexico, and deposited in the lakes and other water courses which at that time covered this region. A deposit of lump pumice stone has been found in Millard county, Utah, and is the only known deposit of lump pumice stone in the United States. A large deposit of pumice is reported as occurring in Sonoma county, California. On account of the distance of these deposits from the railroad and from the large markets, they have not been able to compete with the pumice imported from Lipari, Sicily, which is shipped as ballast and sells in New York, after being ground and bolted, at from 2 to 2½ cents per pound. No record of the pumice imported into the United States is kept, but it is estimated as being between \$45,000 and \$65,000 a year.

THE HOUSING OF THE KRUPP EMPLOYEES.

Elizabeth Weber Carden has given in the Buffalo News her notions of the two Krupps, father and son, in their relation to their operatives, of whom there are over 40,000 men, making with their families a population of perhaps 150,000 deriving their living from the great steel works. The pioneer steelmaker, Alfred Krupp, founded in his day workmen's colonies which attracted attention for other reasons than their size, but the son, the late Frederick Alfred Krupp, who succeeded his father in 1877, had decidedly different notions.

Two quite external features clearly characterize the difference between Krupp, the father, and Krupp, the son. Go into the works, in spite of all the vast extensions of the last fifteen years—purchase of coal mines, purchase of the Grusenwerk, acquisition of the Germania yards at Kiel and the new field of ship-building—the management of the work-shop in all their parts shows practically the same stamp, that which the old master pressed on it.

Having realized this, go and see the workmen's colonies; streets of moderate width, straight crossings at right angles at equal distances; houses one like the other, two stories high, all with the same kind of gable, the same windows, the same entrance door, the same soot-blackened facade; at the edge of the sidewalks, trees, all of the same height, each equally exact on its spot. The intention of the houses was practical, but without ornament; the apartments had two rooms and a kitchen, as any employer in the interests of his workmen would think desirable for the comfort of the employee. Outside the village, every family had a little garden plot, with a garden house of the same size for everybody. Go and see another colony. The houses there you will find exactly the same as in the first. This is the kind of colonies which Alfred Krupp in the seventies built for his people.

But there is no comparison between their colonies and what has been done under the new regime. What Krupp, the father, a well-wishing but absolutely sober nature, has done in a social way, has been a pioneer's great work, especially in Germany, but it was without beauty of form, born solely from ideas of utility in his colonies. At Cronenberg as well as at Schederhof, at Westend as well as at Nordhof, you will miss variety, a desire of experimenting,—a lack of any warmer sentiment. You will miss this only the more when you reach the colonies the son has built. What has sprung up around Essen in more recent times is the crystallization of the favorite idea and eager thinking of a very wealthy man who is fond of beauty and who can afford to put into execution what seems desirable to him. He had seen by his will, day after day, thousands of tons of steel and iron take shape; why, then, should he not wield for their mutual benefit, according to his humane design, that still more resistant quality, the domestic conditions of his workmen?

The workmen's colonies built by the younger Krupp are planned most perfectly as to their practical necessities, but at the same time they satisfy the eye accustomed to the beautiful, not only as among foreigners and visitors walking through the streets, but also the inhabitants themselves. You will see gay-colored groups of cottages, surrounded by gayer-colored flower gardens, intersected by green alleys and pleasant squares. You will not breathe an air of poverty and narrow conditions, but one fragrant with flowers, with health and with contentedness. * * * Here, at these later Krupp colonies—Baumhof, Alfredshof

and Altenhof—art has created not only pleasant workmen's homes, but a lovely landscape as well.

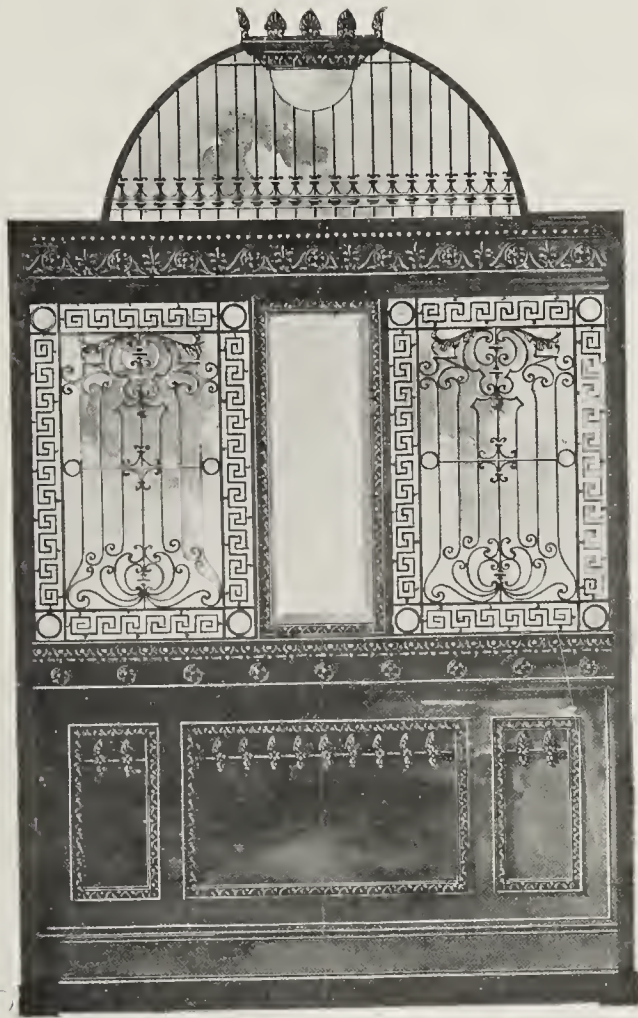
Among the experiments, the most interesting perhaps, is an attempt to idealize the old tenement building, and that attempt has been crowned with success, so much so that the dwellings at Friederichshof are the most sought after of all. Friederichshof is a complex group of buildings, built after a uniform rectangular plan, with an artistic medieval facade. Two hundred families live in these apartments of four rooms each. The main building has four stories, the great courtyard, which it embraces, is divided by two cross wings into three large sections, which serve as a garden to all and a playground for the children. Each apartment has a loggia, from which as the mother attends to the plants in which it is embowered, she catches glimpses of her children at play. Of these lovely surroundings, the people of Friederichshof are justly proud and a bit exclusive—the children not allowing other children to play in their yard.

There are altogether about 42,000 apartments, new and old, small and large, all leased to employees, who have been with the firm ten years or more. A disposition to quarrel is sufficient cause for notice to vacate. The older employees have the choice of these houses. "Altenhof" is the home of the retired workmen—the old people's home, and by far the loveliest of the colonies. You ought to see it on a summer Sunday afternoon when the younger generations come to call on grandfather and grandmother. But not all of the old couples are thus favored to end their lives in unison. Widows and widowers have to be provided for. It would not have been practical to give each of them a separate household, so the single (old) boys and maidens have been given a common house each, and each has his or her separate room. Each old lady has a little kitchen, for the Germans believe in the three k's for women—as patly phrased by their emperor—kuche, kinder, kirche (kitchen, children, church). To these buildings is a common garden, and on each of the two floors a common meeting room.

The letter describes the rentals, the insurance system, the savings institutions, the churches and other things that go to make up the greatest experiment in "benevolent feudalism" in modern times. It aims to picture a happy and contented population as well, but nowhere hints that the people have in any way had a voice in the disposition made of them. It is possible that in the vast ebb and flow of human affairs this paternalistic scheme is just now acceptable to these Germans, even that the greater world-tide is turning toward an era of benevolent feudalism and assimilation,—or it may be just such attempts that will excite a world-wide demand for larger voice on the part of the worker in the disposition to be made of him.

BEETHOVEN UNDRAPED.

"There is something peculiarly absurd," declares the London Truth, "in the idea just carried out at Leipsic of an undraped statue of Beethoven. If nude figures of distinguished men are to be encouraged in public thoroughfares, it will add a new terror to eminence. The human mind almost reels at the thought of statues in Parliament Square of Lord Salisbury as Apollo, of Mr. Chamberlain as Hercules, of any distinguished prima donna as Venus, and, let us say, of Lord Rosebery as Cupid."



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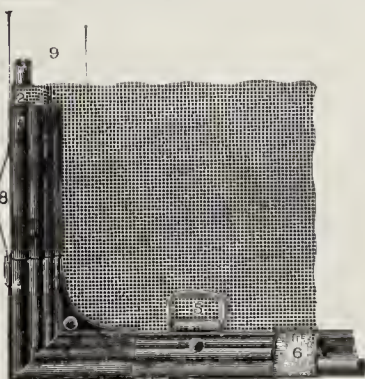
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The "Higgin" Metal Frame Window Screen



Does not shrink, swell, warp or come to pieces in the corners. Is neat, light, ornamental and durable. Is easily removed from window and replaced. Allows for either top or bottom ventilation. Just the thing for your new home. Send for Catalogue. Estimates Free.



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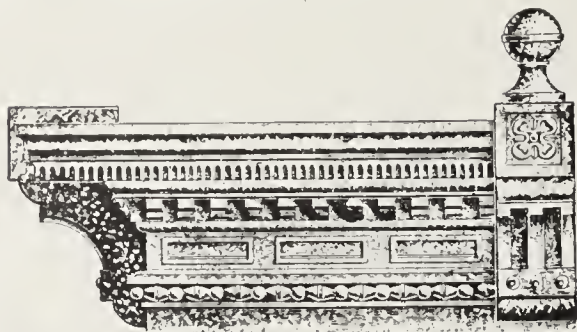
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ROOFING in Asphalt, Pitch and Gravel, Iron, Tin and Slate

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Go and examine the **Minneapolis Journal Building** as it now stands remodeled. We placed **Mason Safety Tread** on the entrance steps three years ago and they were so well pleased with it that they had it placed on the main stairway when remodeling the building. We courteously invite inspection, by Architects, both in and out of Minneapolis.

You can't afford to be without our catalogue.

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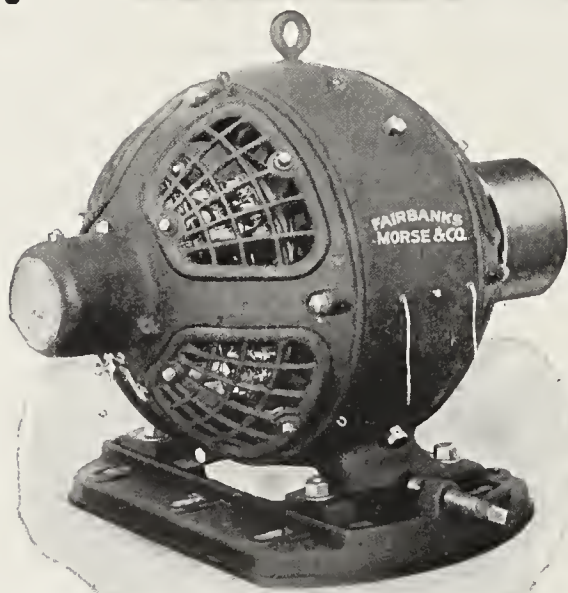
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INSTRUMENTS
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RAILROAD NOTICES

A MODEL RAILROAD.

Almost a quarter of a century ago the Chicago, Milwaukee & St. Paul Railway, the most progressive railroad in this wonderful progressive period, began lighting its train by electricity, and at the present time it has the most perfectly lighted trains in the world. The above is certainly a strong statement to make, but its accurateness can be vouched for by all of the noted travelers of all countries, as well as by the general traveling public of this country.

There are three trains daily from the Twin Cities, which are installed with complete electric plants, that not only furnish electric lights for reading purposes, but also furnish power to run the electric fans for the sleeping, dining and parlor cars, which are so thoroughly appreciated on a hot day, or sultry night.

For scenery, nothing better can be had anywhere in the country than the view of over one hundred and fifty miles along the bluffs and banks of that majestic old stream and "Father of Waters"—the Mississippi river. Besides passing by such entrancing sights, after crossing the river at La-Crosse, this superb and luxurious train goes through such beautiful and well-known summer resorts as Sparta, Kilbourn, magnificent Oconomowoc, Nashotah, Hartland and Pewaukee, Wisconsin, when it reaches Milwaukee, "the town that made ——— brewery famous," and reaches Chicago at 9:25.

For the business men of the Northwest, there is a train which leaves Minneapolis & St. Paul early in the evening and arrives in Chicago at seven o'clock next morning. This train offers all that could be asked for in the way of comfort and rest, and one may go to sleep in St. Paul at night, and wake up in Chicago invigorated and refreshed ready for a good day's business when the train arrives in Chicago early the next morning.

The world's famous train, the Pioneer Limited, leaves the Twin Cities later in the evening and arrives in Chicago at 9:30 a. m. The equipment of this magnificent train excels anything on wheels, either in this country or abroad.

TROUBLE FINALLY AVOIDED.

The superlative adjectives employed by railroad advertising men are going to hold a meeting to consider their grievances. It is claimed that Adjectives Best, Most Sumptuous, Luxurious, Beautiful and others are being worked overtime. An official of the Chicago Great Western Railway stated that it was a difficult matter to aptly describe the new "Great Western Limited" without the use of these words; but that for the present they would merely urge travelers between Chicago, St. Paul, Minneapolis, Des Moines, St. Joseph and Kansas City to try this train and compare it with any other.

HOLIDAY RATES TO CANADIAN POINTS.

December 17th to 20th the Wisconsin Central Railway will sell round-trip tickets to Canadian points good to return January 12th, at one fare for the round trip. For further information call on or address V. C. Russell, C. P. & T. A., 230 Nicollet avenue, Minneapolis, Minn. Telephone Main 356.

TO OMAHA AND THE WEST.

Take the road which will get you there most quickly. Buffet Library Cars, Dining Cars, Parlor Cars, and Sleepers, over the Minneapolis & St. Louis Railroad. W. L. Hathaway, city ticket agent, No. 1 Washington avenue South. Telephone Main 225.

The Chicago Great Western Railway is now running a through Pullman sleeper on its Kansas City train, leaving Minneapolis at 10 a. m., arriving at Kansas City the next morning at 6:50. For further information inquire of L. C. Rains, agent, corner Nicollet avenue and Fifth street, Minneapolis, Minn.

THE GREATEST LINE OF RAILWAY

in the United States is the famous North-Western System, comprising the Chicago & North-Western Railway, the Chicago, St. Paul, Minneapolis & Omaha Railway, and the Fremont, Elkhorn & Missouri Valley Railroad, owning and operating a total of 9,024 miles of the finest and most thoroughly equipped road in the world.

This immense mileage (over two and a half times the distance from New York to San Francisco, or over one-third the distance around the earth) traverses nine states, Illinois, Wisconsin, Minnesota, Michigan, Iowa, Nebraska, North Dakota, South Dakota and Wyoming, whose manufacturing industries, natural resources and favorable climate give to them an enviable standing among the country's most productive regions.

Along this great line of modern railway are located over 1,700 stations, with a contiguous population of 7,562,059 people. This means an average of a town every 5.2 miles, and of a population of about 1,000 to every mile of road.

In keeping with the marvelous growth and development of the territory tributary to this great system, The North-Western has ever been a leader in introducing improvements in the equipment and service of its trains, in adopting new methods to insure the safety of its patrons and in insisting on the utmost courtesy on the part of all employees.

North and northwest of Chicago the North-Western Line is the pioneer and was also the first to operate a train having the appointments and luxuries of the present-day "Limited." The North-Western also put in service the first Pullman Sleepers between the Twin Cities and Chicago, the first Compartment Cars, the first Parlor Cars, the first Dining Cars, the first Observation Cafe Cars and the first Reclining-chair Cars.

It is needless to add that not only were they the first to operate these innovations, but they have also added improvements as they suggested themselves until today these trains are famous the world over as the acme of perfection of the car-builders' art.

SOO LINE CHRISTMAS OFFERS.

Boston, Mass., and return	\$40.00
Buffalo, N. Y., and return	35.00
Montreal, Quebec, and return	35.00
Portland, Me., and return	40.00
Quebec, Que., and return	40.00
Toronto, Ontario, and return	30.00
and other points in proportion. Tickets on sale December 12th to 22nd. Ask for new Christmas booklets, etc., at the Ticket office, 119 South Third street.	

MILWAUKEE'S NEW TRAIN.

It has been announced by the Milwaukee road that beginning the first week of 1903 a new train will be added to the present service given by the company between Chicago and Omaha, and at the same time the through car service between Chicago and California by way of the Union Pacific and Southern Pacific will be established.

CHEAP EXCURSION RATES EAST.

Four exclusive reasons for taking the "North Star Limited":

1. It is newest and best.
2. You avoid a bus transfer in Chicago.
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4. You avoid the vibration of the electric dynamo.

Buffet Library and Chair cars, Compartment Sleepers and Dining cars. Call at No. 1 Washington Avenue South, Minneapolis, Minn.—Minneapolis & St. Louis Railroad.

VISIT CONGRESS.

The Baltimore & Ohio Railroad is the Popular route between Chicago, Pittsburg, Washington, Baltimore, Philadelphia and New York. Daily Vestibuled Pullman trains. Unexcelled Dining Car Service. Stop-over allowed at Washington, Baltimore and Philadelphia on through first-class tickets. B. N. Austin, General Passenger Agent, Chicago, or R. C. Haase, N. W. T. P. A., St. Paul, Minn.

FOR TEACHERS AND STUDENTS

the Soo Line offers a rate of fare and one-third for the round trip between all local points. Tickets on sale December 13th to 24th with return limit January 8th, 1903. Get new Christmas booklets at the ticket office, 119 South Third street.

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Heating, Ventilating,
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**Farrell & Turnbull,
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ROOFING

IN TIN, IRON, SLATE, PITCH and GRAVEL and ASPHALT
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GLASS. Wholesale BRICK.

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L. D. Phone 566.

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ESTIMATES FURNISHED

STEAM AND
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MACHINE WORK OF ALL DESCRIPTIONS.

Iron Columns ✂ **Steel Beams.**

Sidewalk Lights, Heavy Forgings, Roof Trusses
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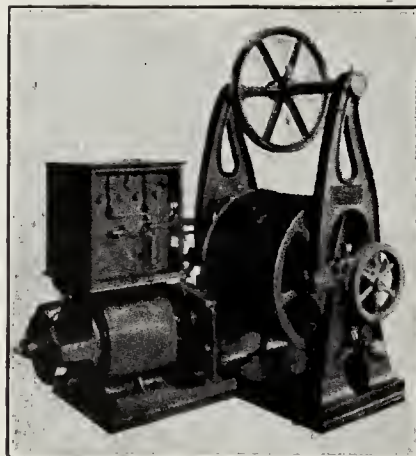


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221 So. Third St., Minneapolis, Minn

Hot Air Furnaces and Com-
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ventilating apparatus. Sani-
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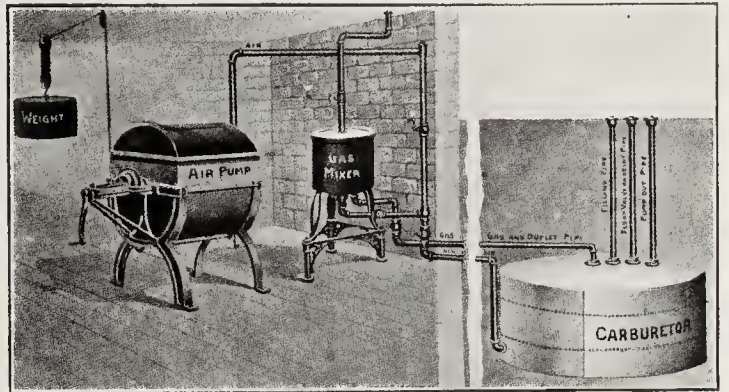
Manufacturers of HOLLOW BUILDING BLOCKS MASON CITY, IOWA.

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Dealers in Gas Fixtures and Supplies, Mantels, Globes, Etc. Plumbing a Specialty.
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Are Noiseless, Frictionless and Satisfactory

Light Weight
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Investigate and Verify Adopt and You will Satisfy

They will cost only two or three cents per frame over ordinary axle pulleys in quantities, and are easily set in any machine cutting a smooth 5/8 mortise.

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Ornamental Terra Cotta. Tile Floors.
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Cheerfully Furnished. 806 LOCUST STREET, DES MOINES, IA.



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These Tiles and Shingles are the most ornamental roofing material made in metal — are endorsed by leading Architects and Engineers for first-class buildings — are thoroughly storm-proof and easily applied. Illustrated Booklet showing buildings covered will be sent to those interested, free.

Merchant's High Grade Roofing Plates

Coated by Palm Oil Process. Sheets Resquared.

Send for Booklet Telling "How Roofing Tin (Good and Bad) are made."

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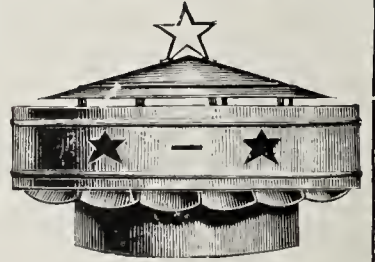
Storm-Proof—Effective

—AND—

The Combination Skylight

"STAR" VENTILATOR

Light and Ventilation combined and the Best of both. Our booklet will be mailed upon application.



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A New and Perfect Combination Camera using with equal facility Glass Plates and Cartridge Roll Film. Weight, 17 ozs. Small enough for the pocket. Fitted with Rectilinear Lens, Automatic Shutter, Adjustable Front, Rack and Pinion, Focusing Screen, and other "Century" features. Price, \$12.50. Ask your dealer for Petite Booklet or write us—it's free.

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"Century" Cameras

Temperature Extremes

Temperature is Brought Under Automatic Control and Held at 70 or any Other Desired Degree by

The Johnson System

The Standard Temperature Controlling System of the World. Thousands of Public and Private Buildings are Equipped with it.

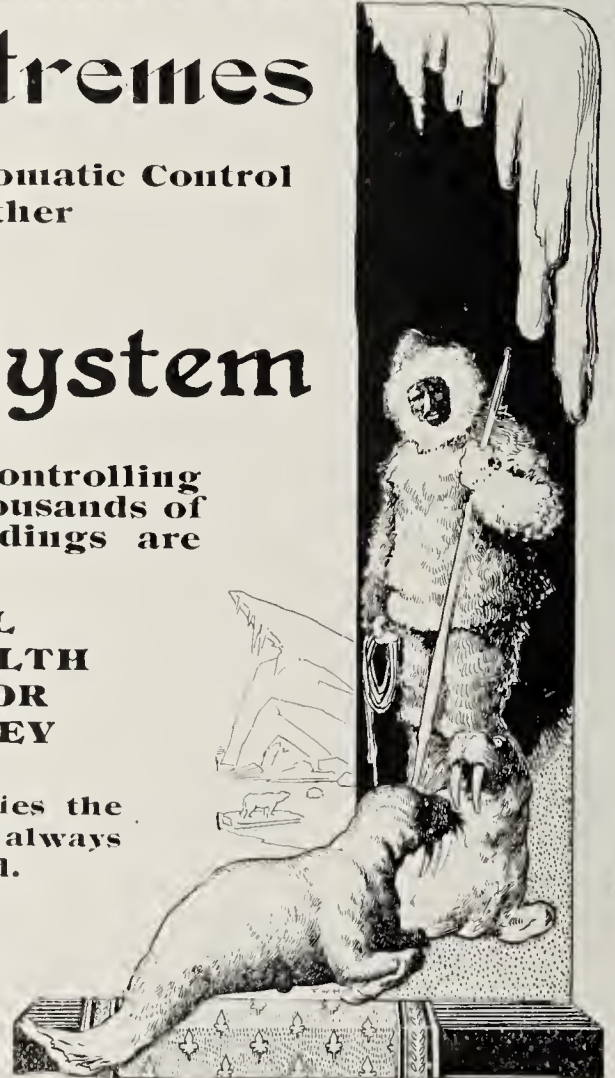
Why? Because it Saves

**FUEL
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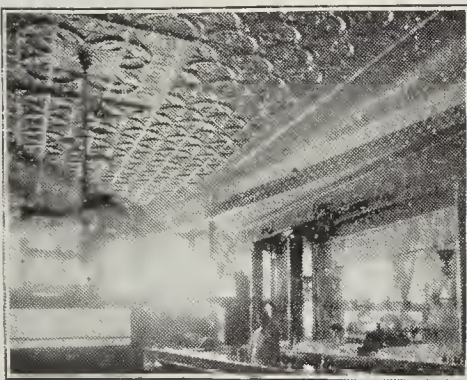
Architectural Sheet Metal Work, Iron Doors and Shutters, Skylights, Ventilators, Corrugated Iron. ❀❀❀❀

ASPHALT, PITCH, GRAVEL **ROOFING** IRON, TIN AND SLATE.

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Steel Ceilings are very beautiful, durable and not expensive.

SPECIALLY VALUABLE IN

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WE MANUFACTURE MANY HANDSOME PATTERNS

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Are You Looking for a Safe and **Profitable Investment?**

THEN INVEST YOUR MONEY in the Capital Stock of the **Hunter Creek Mining and Milling Co.**, of Stevens County, Washington. **1000** Tons of High Grade Ore in the Bins. Hundreds of tons of low grade ore on the dump. A smelter of 75 tons per day per capacity ordered and on the way from the Allis-Chalmers Co., of Chicago. Ore assays by Prof. C. W. Drew of Minneapolis, from **\$150 to \$200 per ton.** Select Samples assay as high as **\$18.13 per ton.** This Company owns their property of 500 acres—No Bond or Lease.

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Orderless Wood and Tile Lined BUILT TO ORDER. Also a full line of stock sizes ready for immediate shipment for Residences, Hotels, Clubs, Restaurants, Groceries, Meat Markets, Hospitals, Public Institutions, etc.

The McCray System insures perfect circulation of pure cold air; absolutely dry; never sweats; therefore is Perfectly Hygienic. For economical use of ice it has no equal. Physicians, prominent men, hospitals and sanitariums endorse the McCRAY REFRIGERATORS.

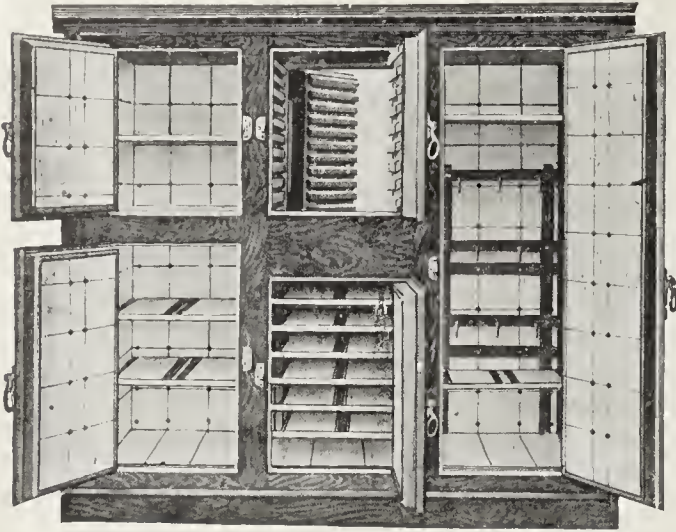
McCRAY REFRIGERATORS speak for themselves. Catalogues and estimates furnished free upon application. Catalogues: No. 36 for Residences; No. 45 for Public Institutions, Hotels and Cold Storage Houses; No. 55 for Groceries and Meat Markets.

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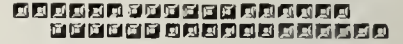
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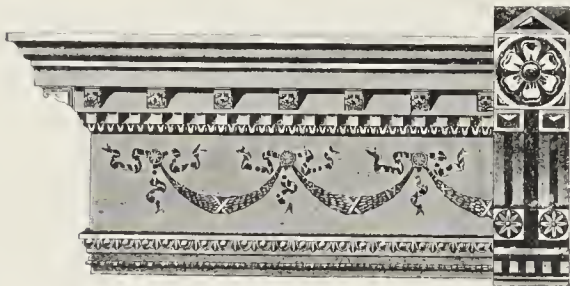
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Radiators and Supplies.

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The Economy and Benefits of Using

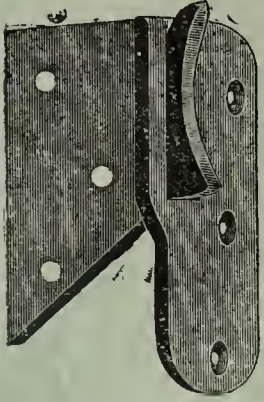
The Paul Heating System

of Circulating Steam without Back Pressure

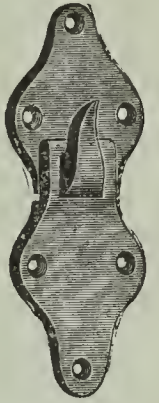
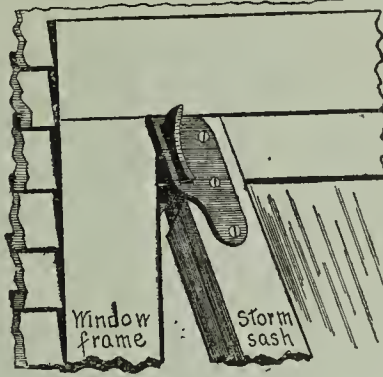
If Not Address or Call on

The Automatic Heating Co.,

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No. 1716
Visible Hanger



No. 1718
Visible Hanger

Schroeder's Patent Hangers and Fasteners for Storm, Sash and Window Screens.

With these hangers storm sash can be easily and quickly put up or taken down without the aid of ladder, nails screws or tools. The fasteners permits the sash to be swung out for ventilation or cleaning. A perfect device for hanging storm sash or screens. Recommended by leading **Architects, Contractors and Builders.**

Sold by all **HARDWARE DEALERS** and **SASH MANUFACTURERS.**

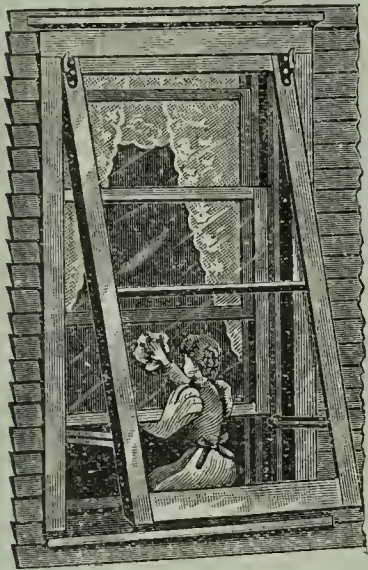
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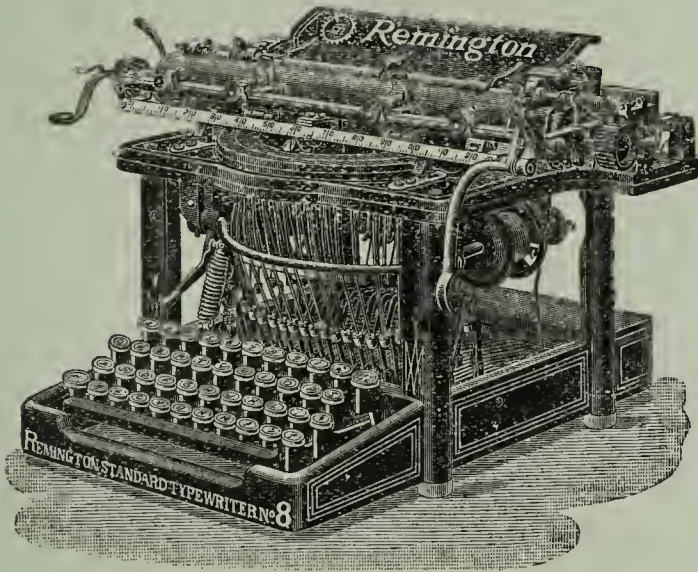
Ball Bearing Butts and Builders Hardware.



No. 1718. Schroeder's Patent Fastener. 10 1/2 inches long.

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THE PERFECTION OF

Wall Plaster

—Manufactured by—

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MINNEAPOLIS, MINN.,

—ALSO—

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Engineers

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Columns and Buildings.

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