

# THE INLAND ARCHITECT AND NEWS RECORD

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AUGUST, 1889.

## THE INLAND ARCHITECT AND NEWS RECORD.

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### CONSTRUCTION, DECORATION AND FURNISHING

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#### Fourth Annual Convention of Ohio Architects.

The fourth annual meeting of the Association of Ohio Architects will be held at Dayton, on August 15, and a full attendance of members from all parts of the state is expected. This association, while numerically one of the strongest, represents in its membership more cities than that of any other state. At the initial meeting at Columbus, in January, 1886, thirteen cities were represented, and these did not include Cleveland, and but one architect was present from Cincinnati. Through his energy, however, a large number of Cincinnati architects were enrolled, he being authorized to represent them. At the coming convention it is expected that no member will be absent. The approaching consolidation of the two national bodies will give added interest. The city where the convention is to be held is one of, if not the most, beautiful in the state, and the resident president and secretary have made extraordinary efforts to provide for the entertainment of the visiting members, as well as the ladies who may accompany them. The association doctrine that no client or engagement is more important than a convention is nowhere so closely lived up to as among the members of the profession in Ohio, and this meeting will be long remembered both for its professional and social features.

#### Where the Joint Convention Should be Held.

Every architect in the United States should read carefully the article written by Architect Dankmar Adler, which is printed elsewhere in this issue. It is sufficient evidence of the gravity of the situation when such an exposition of facts and discussion of a subject that should need no discussion seems imperative. But such is the case. The vote in favor of consolidation was almost unanimous in both national associations. The resolution passed by both bodies last fall ordered that the executive officers of each should then meet, choose a place and time, and call a joint convention. This is not being done. Nothing is being done but an exchange of letters between the secretary of the Institute, whose position in regard to this matter is but that of a private member, and the president of the Western Association, who is a member, and the authorized representative of its board of directors. We feel that we are voicing the sentiment of every member of the Institute and of the Western Association when we say that this must continue no longer, and that those who neglect their clear duty to those who placed them in office and trusted in their active efficiency will not neglect to censure those who are obstructing the path that leads to consolidation. It should be distinctly understood that all this does not indicate the existence of a controversy between the two bodies, much as it may seem to. The entire matter rests upon the question of place for holding the joint convention. The secretary of the Institute takes the ground that Washington is the only proper place because it is the only neutral place. Mr. Adler has shown clearly the fallacy of this position, and we are certain that the fair-minded architects of the East will admit that it is just as unjust to ask the architects in St. Paul or Omaha to go to Washington as it would be to ask them to go to those western cities. With all respect to the honored secretary of the Institute, we would suggest that the board of trustees of the Institute look at the matter in its right light and see that their constituents are waiting

for them to carry out the work placed in their hands, consent to a joint meeting of both executive boards and settle the matter without further delay, and escape the well-merited criticism of the profession because of their dilatory action. As we have suggested—a suggestion that first came from the joint committee of conference—Cincinnati is geographically the proper place for holding the convention. From a point of facility of access and of superior interest to the visitor Chicago stands first, and while we have not before advocated that the convention be held in that city, it seems eminently appropriate. If it can be shown that by holding the meeting in New York city the western visitor will receive sufficient instruction and enjoyment to compensate him for the additional time and expense involved, then let it be held in New York, but it would be more than detrimental to all the objects for which the association is striving to order it held in the city of Washington, especially as an extra session of congress is almost a certainty, and the press correspondents are prejudiced through the past action of Washington architects, whose political environment has made them the mark for general criticism and misrepresentation, a share of which a convention held in that city would hardly be likely to escape.

**Disappearance  
of the Art of  
Shipbuilding  
in America.**

If it were not for the native energy and enterprise of the American it is not impossible that the art of shipbuilding would be wholly lost to us. Our architects and engineers are in the advance of the world in meeting the requirements of modern civilization, but for thirty years our once extensive shipyards have been idle, and our commerce is carried on in ships of foreign build. The reasons for this are not apparent, but it is certainly not because we have not the talent. In fact, when the shipbuilders of the United States have met those of other countries upon equal ground they have always been victorious. Since the times of the old merchant clipper ships of Baltimore, the fastest sailing vessels known, we have retained the ability to build superb sailing vessels. The advent of steam led the competition in the direction of steam craft, and our shipbuilders have exercised their talents in the construction of yachts. In this the American's ability to build fast sailers is beyond question. For thirty years the best foreign designers have striven to build a yacht that could carry home the America's cup, and each time they have failed, till this year they dare not compete, though a yacht had been constructed by the best builder in England for the purpose. An American constructed the first semi-submarine gunboat, and, while the genius of the people seems to lie as much in the direction of ship designing as in others, our waters are covered with those of foreign countries. Why is it?

**Resignation  
of Health  
Commissioner  
of Chicago.**

It is absolutely useless to criticise, as it is impossible to understand the action of a municipal body, it being almost invariably made up of ignorant politicians and hampered by political machinery that preclude any action that contains the slightest element of ordinary business sense. In Chicago this is probably no more true than in other large cities, but it is, if anything, more necessary that business prudence should govern, owing to her enormous and rapid growth. At a time when public works of immense importance to the future city were contemplated or under way, the commissioner of public works was allowed to resign because he was deemed worth more to

a private corporation than to the city. This, too, at a time when he represented almost the entire executive knowledge and ability among the city officials. Again, Mr. Cregier was allowed to go when it would have been good business policy to have multiplied the \$8,000 per year that would have kept him, by four or five, and still his services would not have been too dearly bought. A more vital and disastrous blunder than this, and the same amount of salary involved, has just been made in allowing the health commissioner, Dr. DeWolf, to resign. Not only the best posted exponent of state and municipal sanitary science in this country, but, like Mr. Cregier in the public works department, his knowledge of Chicago, from a sanitary standpoint, has been acquired through long years of close investigation and incessant labor. Even if a man equally intelligent and equally fitted for the place is secured, he will be obliged to serve as many years as Dr. DeWolf has done to understand the needs and guard the sanitary interests of the city with like effectiveness. It seems to us almost beyond belief that in the face of the accession of over 200,000 population, with a territory which stretches seventeen miles in one direction, a city should hesitate to pay a proper salary to so valuable a servant, occupying a position in which he is more valuable than he possibly could be to any other corporation. If the death rate, through the inexperience or incapacity of his successor, should be increased by one, the city authorities will be responsible for that one, and they will receive nothing but condemnation for their false economy.

**International  
Congress of  
Architects  
at Paris.**

It is interesting to note that the two most interesting subjects of discussion at the recent International Congress of Architects at Paris were upon the teaching of architecture and a compulsory diploma for architects. In the first, M. de Baudot claimed that the academical teaching was too much in the line of theory and not enough in practice. The artist was trained at the expense of the constructor. He contended that modern architecture had no esthetic character of its own, and that the discovery of a new art in architecture had become necessary on account of the rapid march of modern science, and that a Greek original or an example of the purer architecture of the middle ages no longer sufficed for a model. In fact, the essence of this argument, in which he arraigned the Ecole de Beaux Arts as in need of correction, was that present methods tended to produce, in the second place a scientific work, and in the first place a water color drawing. Of course, this broad, and truly American, one might say, view awakened considerable discussion, and in a reply by M. Guillaume the system in vogue in the Beaux-arts was ably defended. Arguments offered by M. Chevallier in a paper upon a compulsory diploma were very similar to those urged in its favor by architects in this country; one of the strongest arguments advanced being that it would tend to bring architects in closer association with each other. It is noted that each paper read seems to take the form of a resolution and is voted upon, so that the vote of the association and not the paper itself goes out as the sense of the meeting.

THE attention of architects not members of either the American Institute of Architects or the Western Association of Architects is called to the importance of joining before the consolidation takes place. The directors of the W. A. A. meet about September 15 to consider applications.



### Romanesque Architecture.\*

#### CHAPTER XII—Continued.

IN order to counter buttress these great arches, upon which act strong, vertical thrusts, they built against them quarter-spherical or ribbed arches, and the central cupola found itself thus sustained and maintained on all sides. It became the center around which were disposed the half cupolas and ribbed arches necessary to assure the stability of the work; at the same time this arrangement gave to the edifice great spaces which were utilized for the celebration of the ceremonies prescribed by the Christian liturgy.

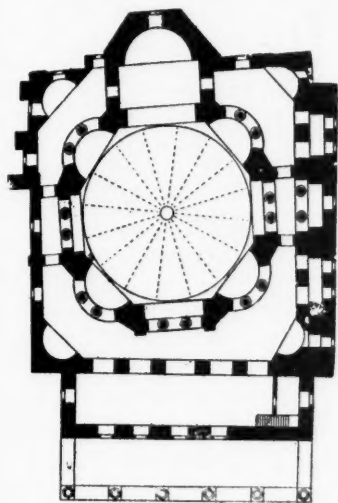


FIG. 64.

From a technical point of view this new mode of building made a great impression on the minds of the architects. It excited their emulation, it provoked them to study this new style from which they could draw such glorious expedients, and they looked into the architectural rules which it was necessary to follow for its application.

From now on the Latin type of basilica became the exception in the East. The cupola was the theme around which were executed numerous variations.

Under Justinian there were erected at Constantinople on different plans a great number of churches with cupolas, presenting a great variety in their arrangement. Notably celebrated in this epoch was the Church of the Holy Apostles described by Procopius.

This Greek historian, so useful to consult by those who are searching for the truth, rather than a more or less exact personal opinion, gives us details of the highest interest, which prove the Oriental origin of the two celebrated monuments erected in the West, reproducing in the eleventh century the arrangement of an edifice built at Constantinople at the time of Justinian.

#### CHAPTER XIII.

THE CHURCH OF STS. SERGIUS AND BACCHUS AT CONSTANTINOPLE—THE CHURCH OF ST. VITALE AT RAVENNA.

The church of Sts. Sergius and Bacchus was erected at Constantinople in the first years of the sixth century, under the reign of Justinian, and is one of the most remarkable of the Byzantine rotundas built in the East.

The octagonal cupola is flanked by four niches, the axes of which are at an angle of forty-five degrees to those of the edifice. The spaces thus produced aid the transition between the central octagon and the square of the exterior inclosure. Niches placed at the corners of these complete this arrangement. (Fig. 64.)

The cupola of a very original type presents, above eight pendentives, sixteen projecting ribs, separating from each other the concave

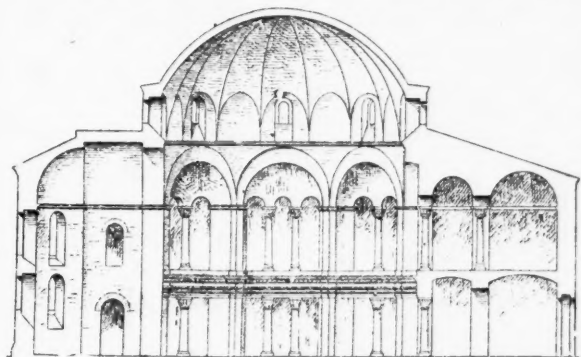


FIG. 63.

vaulting, and forming niches in which little windows alternate, so that they light and decorate the base of the cupola.

\* "L'Architecture Romane," by Edouard Corroyer, Paris. Translated and abridged from the French for THE INLAND ARCHITECT, by W. A. Otis, architect. Commenced Vol. XIII, No. 3.

In spite of the square form of its outside wall, the church of Sts. Sergius and Bacchus might be considered a rotunda, because all its parts are grouped symmetrically around the octagonal base of the cupola.

The problem of suiting the rotunda to the requirements of a Christian church has been skillfully solved. The niches only existing on the diagonal side of the interior octagon, the central space is reduced to a square form and affords a much larger surface, augmented by the galleries surrounding the central octagon. It is a compromise between the rectangle of the Latin churches and the round temples.

The elevation of the bays recalls the Roman arrangement of columns of an inferior order, forming as it were a sub-basement to the general order, relieved by an entablature. The arcades of the upper story form the faces of the octagon, above which rises a pendentive and they are each subdivided by three arcades resting on columns without an architrave.

The church of St. Vitale, at Ravenna, was founded in the year 526 of our era by St. Ecclesius, after a voyage which he made to Constantinople with Pope John I. It appears to have been erected after the plan of the octagonal church built at Antioch by Constantine. The works thus commenced were continued by the orders of Justinian (whose army had just reconquered a part of Italy), under the direction of a person of the name of Julian, who exercised the function of treasurer.

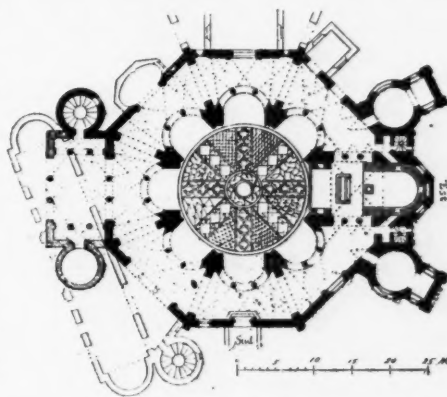


FIG. 65.

The completed edifice, ornamented with superb mosaics, must have been consecrated about 547 by Maximianus, archbishop of Ravenna 546-556, in the presence of the emperor of the East, Justinian and the Empress Theodora. The general arrangement of the

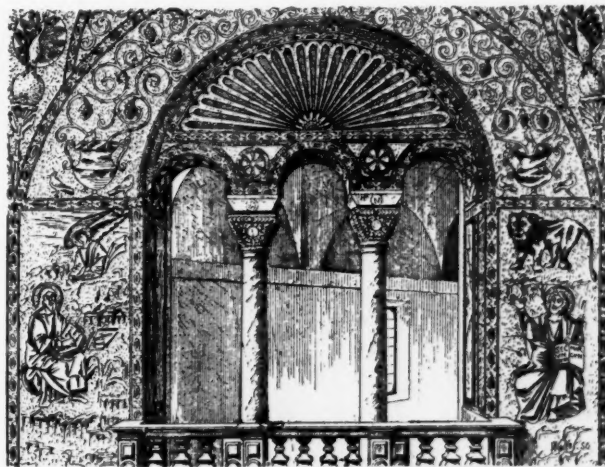


FIG. 67.

church, the details of its interior decoration give to the edifice a peculiarly interesting character, for we find for the first time a purely Byzantine monument constructed in the West at the commencement of the sixth century, bearing the certain marks which characterized the works of the architects of this epoch.

The striking analogies which exist between the plan of St. Vitale and that of the church of Sts. Sergius and Bacchus (called by contemporaries the little St. Sophia, and which really produced the great) led to the reasonable inference that the celebrated monument of Ravenna was constructed by architects from Constantinople.

The plan of the church of St. Vitale is an octagon having an interior diameter of 34 meters, flanked on the exterior by several round towers and terminated at the east by a grand apse. The

church is ornamented according to the rule prescribed by the clergy of the fifth century. The interior nave, 15 meters in diameter, reproduces in its plan the form of the outside wall, but each face is enlarged by an exedra, formed by two columns arranged symmetrically on an arc of the circle, communicating by these intermediate columns with the gallery.

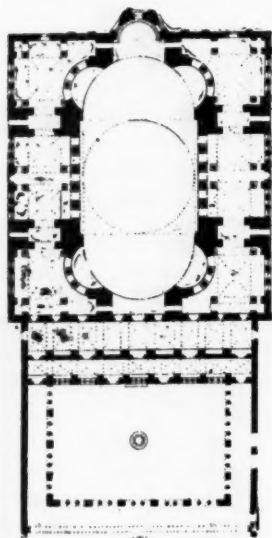


FIG. 70.

The outside galleries, surrounding the interior nave, are two stories, covered by ribbed arches; they establish a connection between the tribune on the west up to the bay of the octagon, containing the sanctuary on the east, on to which open two tribunes in the upper gallery. The choir and the sanctuary are accessible to the lower side galleries by a colonnade, which establishes an easy communication with the sacristy placed in the tower near the apse. The tribunes were, according to custom, reserved for the women.

The modern porch which precedes the edifice has changed the old arrangement. The two-storied warthex or original porch occupied on the eastern face only one side of the octagon; two towers rose at each end of this porch. They contained stairs opening onto the vestibule of the temple and were used for the upper gallery, and were lighted by windows pierced in the exterior wall.

The exterior of St. Vitale no longer offers any great interest, because its original characteristics have been taken away from it by numerous repairs, and by the addition of a modern porch unwisely placed at an angle.

In the interior the principle of a church with a cupola is developed with a power as original in the composition and detail of the architecture as in the sumptuousness of the applied decoration.

Each face of the central octagon, sustained by eight massive pillars, which bear the weight of the cupola, is preceded by a fine arcade. These arcades contain on seven of their faces, niches, which form a quarter of a sphere behind the great arches, and which are lighted by two stories of arches, lighting the upper as well as the lower galleries. The eighth face of the octagon at the east is open the entire height of the arcade so as to allow the apse and altar to be seen.

Above the grand arcades rises the hemispherical cupola, the circular base of which is joined to the octagon by a series of small pendentives. This arrangement recalls the means used in 515 by the builders of St. George of Ezra. At the base of the cupola eight great twin bays, in the Byzantine manner, light the high part of the central nave.

The details of the construction attest the continuance of Roman influence; the cupola is constructed of tile work imbedded in very solid mortar, as in the temple of Minerva Medica and the Circus Maximus. In St. Vitale the base of the cupola is built of tile, having the shape of an antique amphora, fitted in, one above the other, and placed vertically. The cupola itself is made in the same manner, but with smaller amphora, which are cemented by mortar. This tile work forms a continuous spiral, of great lightness and proved solidity.

The details of the architecture and sculpture are equally Roman, but interpreted with great crudity, especially noticeable in the sculpture of the capitals of oriental form supporting the arches of the great niches.

This sculpture is crude and the rudiments of the Roman entablature which surmounts these capitals makes uselessly heavy the springing of the arches.

But what especially distinguishes the church of St. Vitale among Byzantine edifices is the sumptuous decoration of mosaics with which it was enriched in the time of Justinian.

At Ravenna the most beautiful mosaics must be looked for. There is nothing of the kind that equals the decoration of the apse of St. Vitale. On one side, Justinian, surrounded with the dignitaries and guards, on the other, Theodora, followed by the women of her court, offers presents to the church. The empress passes through the

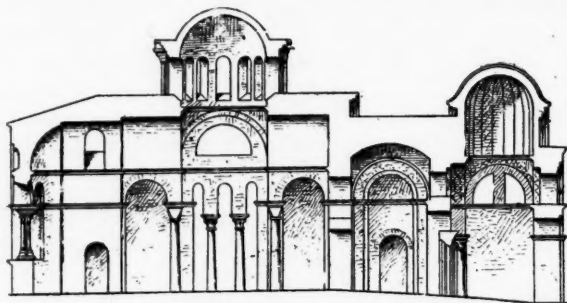


FIG. 73.

atrium, where is the sacred font, while an attendant lifts before her the curtain, suspended at the door of the temple; her costume is splendid; a broad border, which represents the adoration of the magi, ornaments the edge of her robe, jewels cover her bosom, from her hair a fringe of pearls hangs over her shoulders and a high diadem crowns the head, encircled with a nimbus.

#### CHAPTER XIV.

##### CHURCH OF ST. SOPHIA AT CONSTANTINOPLE.

The first temple of Divine Wisdom (St. Sophia) was erected at Constantinople in 325, by Constantine. Constantius, his son, enlarged it in 338. Under the reign of Arcadius, in 404, a fire consumed the edifice, which was reconstructed by Theodosius in 415, and destroyed anew by fire in 532.

Justinian, in the fifth year of his reign, commenced the reconstruction of St. Sophia, giving to the new edifice much vaster proportions and much greater magnificence. The church was rebuilt seven years after, according to the plans of Anthemius of Tralles (who died in 534, before having finished his work) and Isidorus of Miletus, probably his co-worker, but surely his successor, both of them natives of the provinces of Asia, where architecture had developed with the greatest originality from the fourth to the fifth century.

In the month of December, 538, they celebrated the completion of the edifice. The eastern part of the grand cupola, shaken by many earthquakes (one in 553, which lasted forty days, and the other in 557, which destroyed part of the city), fell May 7, 558. Justinian had the cupola reconstructed, and gave the work in charge of the nephew of Isidorus of Miletus, who increased the height of the cupola in order to diminish the thrust, and gave at the same time more solidity to the grand arches.

The church was at last finished, sumptuously decorated and dedicated anew on Christmas day of the year 568.

Historians notice once more a partial damage to the dome in 987, an accident which was promptly repaired.

St. Sophia of Constantinople is considered the type par excellence of Byzantine art; it presents the double advantage of marking the advent of a new style, and attains at the same time proportions such as have never been surpassed in the East or West.

Justinian wished the new church should surpass in splendor all that was told of the most celebrated temples of the ancients, and particularly the temple of Solomon. Viewed from the exterior, St. Sophia

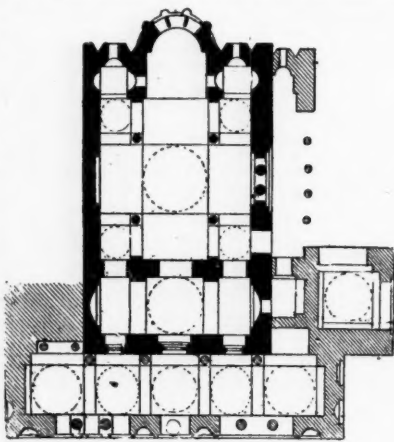


FIG. 72.

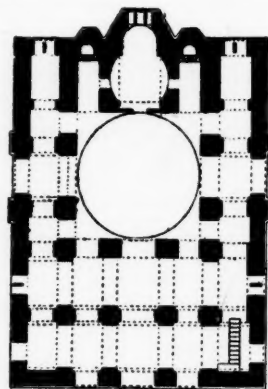


FIG. 77.



produces only a slight impression, and the cupola, even bold as is its construction, appears depressed. It is necessary to enter the interior of the church to understand the originality and splendor.

The plan of St. Sophia seems to have grown out of that of St. Sergius enlarged, and recalls the vast proportions of the grand vaulted rooms of the Roman baths. These two influences are visible, for there can be seen the marked intention of combining the elongated form of the basilica (like that of Constantius, Figs. 16 and 17) with the concentric system of the domed edifices like Sts. Sergius and Bacchus.

The grand hemicycle transforms the central square into an oval, and their secondary niches make this oval a rectangle. The nave is accompanied by narrow side aisles, which have not the characteristic of aisles. Cut by great columns into unequal compartments, and unequally vaulted, they are only appropriate for sacrificial services. Above extend galleries or arcades reserved for the women.

This immense pile, constructed entirely of stone and marble, with the exception of the vaults, which are made of lighter materials (white tiles from Rhodes) is very picturesque, but a little confused because of its dimensions and its very various forms. It extends over a nearly square surface; that of the church alone measures 76 meters long by 68 meters wide.

In front of the temple extends the atrium, and at the side of the church is the double narthex, which communicates with it by nine doors.

The edifice is covered with vaults. A vast cupola, 32 meters in diameter, borne on spherical pendentives, resting its weight on piers, rises in the center.

The principal nave, of a square form, is elongated by two hemicycles, flanked by four grand niches, the quarter-spherical vaults of which counter buttress the base of the cupola on the east and west; the two other sides at the north and south are maintained by powerful buttresses, in the thickness of which are large openings from the gal-

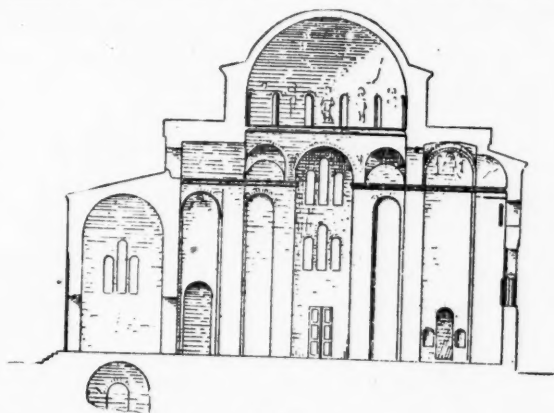


FIG. 80.

leries, which, with the columns, separate the arches from the grand nave. The doors and the apse occupy the back of the hemicycle.

This grand hall is lighted at the side by a network of windows, piercing the walls of the grand arches of the north and south, and in the upper story by forty windows cut at the base of the cupola.

The construction of the St. Sophia is a marvel, for nowhere has been applied with more boldness and freedom the principles of construction of a rational style of architecture.

St. Sophia is a chef d'œuvre of Byzantine art; it has been a model for the entire East. They were forced to imitate it not only in the East, but in all Western Europe, in Italy, in Germany, and especially in France, where antique and Byzantine art sowed the seeds of a style which a few centuries later was to be developed with such splendor.

## CHAPTER XV.

CHURCH OF THEOTOCOS AT CONSTANTINOPLE—CHURCH OF ST. NICODEMUS AT ATHENS—CHURCH OF THE MONASTERY OF DAPHNI NEAR ATHENS.

The church of the Mother of God (Agia Theotocos) a Byzantine edifice, built at Constantinople within the last years of the ninth century, recalls the almost identical arrangement of the prætorium of Mousmieh built by the Romans in Central Syria about the second century of our era. According to the custom adopted by the Greek Christians the church takes the figure of the Greek cross, formed by the crossing of the four arms, above which rises the principal cupola. The principal nave is flanked by the four arms; that of the east is prolonged to contain the choir, and terminates in the principal apse, accompanied at the side by two galleries, which each end in a small

apse; that of the west enlarged or more exactly preceded by a more or less important narthex, communicating with the side galleries. The cross made by the choir and narthex is often crowned by a little cupola. This arrangement (crowned by a central cupola flanked by four smaller cupolas in the angles of the square above which it rises) is very frequently found in Byzantine architecture.

The influence can still be felt of St. Sophia, which the Byzantine architects imitated, while they simplified the construction as a whole

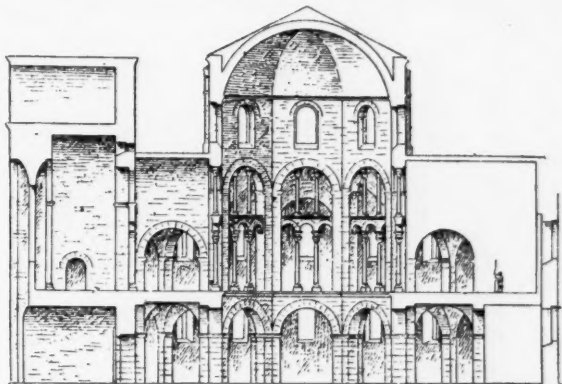


FIG. 84.

and in its details, for good reasons, among which the question of expense must have been one of great importance.

Modifications were made by the builders to insure stability, having for the object the increase of the solidity of the arch forming the square, or the diminishing of it more or less, according to the importance of the cupola. The cupola rises more above the grand arches, and the high windows arranged at the base of this cupola (which seemed there to herald the Romanesque lantern towers) take a much more important place in lighting and decorating the central part of the building.

The cupola of the church of Theotocos presents these characteristics in a most interesting manner. It rests on very marked pendentives, changing the square form, above which a crown of windows, on a circular plan, is finished by a hemispherical roof.

The masonry of this building is most carefully studied. On the exterior the walls are of brick, or oftener in alternate courses of brick and of cut stone. They are even often divided into great horizontal bands, differently colored, that were made the general feature of the building by introducing them into the casings of the windows and the spaces above the arches. In the interior, the mosaics, with a gold background, are replaced by marbles or very simple mosaics, or often by frescoes applied to a glazed surface, prepared with care.

One of the grandest churches in Athens is that of St. Nicodemus, built about the tenth century, according to the principles of Byzantine art modified by Greek construction.

The edifice is crowned in the square central nave by a singular circular cupola, the base of which, decorated by windows, recalls that of Theotocos at Constantinople, but the part used to modify the square plan is different. The architect not daring to construct his cupola on four pendentives, or seeking a new effect, raised it on four large niches, or, more exactly, on four corbels, making it pass from the square to the octagon plan, and from the octagon to the circular by eight winding tympanums raised on the extrados of eight arches. The apse and two small apses open on the east side of the central side. These are surrounded by vaulted lower side aisles, supporting a gallery equally vaulted, destined for the women.

The edifice presents this peculiarity, that it is covered by a terrace, above which rises a cupola, preceded at its base by a crown of windows opening above the roof.

The most curious mosaics for the study of Greek and Christian iconography decorate the walls of the interior.

## CHAPTER XVI.

THE CHAPEL OF THE PALACE OF CHARLEMAGNE AT AIX-LA-CHAPELLE—CHURCH OF GERMINY-DES-PRES (FRANCE)—CHURCH OF LA MARTORANA AT PALERMO (SICILY).

The Palatine chapel of Aix-la-Chapelle was erected by Charlemagne, at the end of the eighth century; a monk, Fontanelles (St. Wandrille), directed the work, and the pope, Leon III, dedicated it on the Day of the Kings of the year 804.

Since the erection of St. Sophia till the ninth century no other Christian edifice was the object of so much solicitation on the part of

the founder as Notre Dame of Aix-la-Chapelle. Imitating Justinian at St. Sophia, Charlemagne had brought from Treves, Rome and Ravenna precious materials destined for his palace and the adjoining chapel. In the church, the doors and balustrades still existing are in bronze; the cupola was covered with mosaics.

The Carolingian rotunda of Aix evidently preceded the Byzantine rotunda of Ravenna. Like that, Notre Dame of Aix-la-Chapelle was

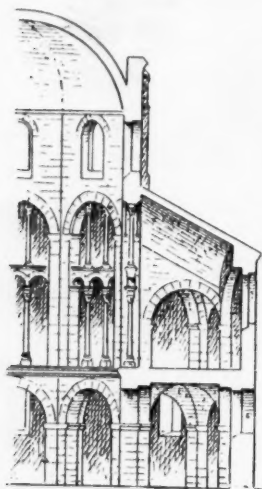


FIG. 85.

composed of a central octagon hall, 14½ meters in diameter, vaulted in a cupola, surrounded by side aisles 6½ meters wide, where galleries two stories high opened into the central nave.

The two-storied porch was like that at Ravenna; two towers placed on each side contained stairs conducting to a tribune, which communicated with two high galleries passing around the nave. The difference in the two rotundas was in the form of the vaulting and the disposition of the vaulting which covered them. At Ravenna the spherical cupola is made to harmonize with the octagonal walls of the drum by a series of pendentives. In the chapel of Aix-la-Chapelle the cupola was octagon like its supports. But the difference of form and construction especially

appears in the galleries which ran around the building, which in the Palatine chapel were better connected with the supports of the cupola, and by themselves better arranged than they are at St. Vitale.

In the Palatine chapel the supports of the cupola were comparatively slight, and the weight of the masonry was carried over to the outer walls. This formed a polygon of sixteen sides, combining with the octagon by a series of vaults alternately square and triangular. Ribbed arches, springing from points built onto the pilasters or the outer walls, formed sixteen flying buttresses, which carried over to the latter the thrust of the cupola. The lower galleries had groined arches, on which was carried the floor for the high galleries; these were covered by light ribbed arches, forming sloping barreled vaults, on which was rested directly the roof composed of slabs of stone or terracotta, or perhaps even plates of lead or bronze.

If monuments of a certain date merit the attention of the archæologist, those which were raised by Charlemagne, or in his time, ought to be particularly studied because of the influence, direct and indirect, which they have had on Romanesque architecture.

We have seen the Palatine chapel, the most important of the edifices built by Charlemagne. We must now mention one built in France at the same period, that is, the first years of the ninth century, the church of St. Germiny-des-Pres. It is most curious because it has all the characteristics of the Byzantine churches built before the ninth century in Constantinople or at the commencement of this century in Athens. It presents, at the same time, a striking analogy to an antique edifice, the prætorium Mousmieh (Figures 6 and 7) in Central Syria, built by the Romans in the second century of our era. According to the writings of the Monk Létolde, who lived in the tenth century, Theodulph, Bishop of Orleans, after having been Abbot of St. Benoit-sur-Loire, had constructed in 806 the church of St. Germiny or St. Germiny-des-Pres.

It is composed, like the edifice we have seen in Central Syria, of a nave of a square plan, crowned by a very high dome, built in rings, sustained by walls raised above to insure its stability and receive the open timber roof. Around the nave, four equal side aisles form a square, flanked by three, sometimes four apses, the principal one on the east, and the two or three secondary ones on the three other points

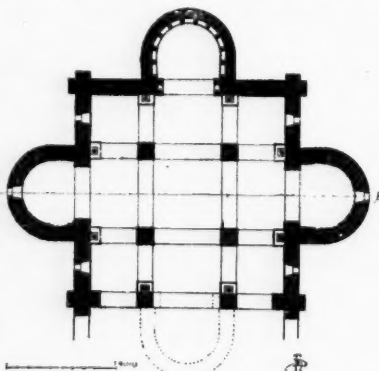
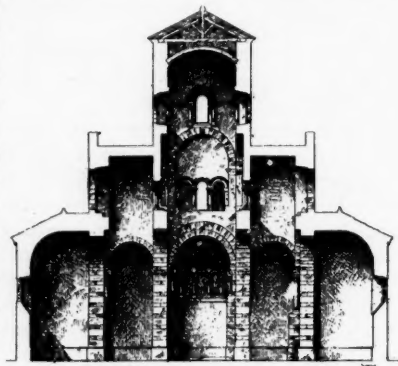


FIG. 86.

of the compass. The side aisles mounting above the apse are covered by vaults, above which still rises the central nave, each of its faces pierced by a little window lighting the upper part which preserves its square form. The

three or four apses have quarter spherical vaults; the principal one at the east is ornamented with arches, and the vault of the hemicycle is decorated with mosaics, with a gold background. The high part of the central nave is covered with stucco, and the entire edifice is built with great care, of small stones. The arrangement of the central nave, rising in different

Coupe sur A-B  
FIG. 87.

stories above the equal side aisles, and the apses, is interesting to study for several reasons. First, because it is an evident reminiscence of Latin, Byzantine or Greek cupolas, like those of the prætorium of Mousmieh and St. George of Ezra, in Central Syria, the baptistery of Novane, of St. Vitale, at Ravenna, the churches of Sts. Sergius and Bacchus, of St. Sophia, of Theotocos, at Constantinople, of St. Nicodemus, and of the church at Aix-la-Chapelle. Then, also, because it is an innovation, and because the mode of rational construction is much more simple and less expensive than that of the cupola; and finally, because it is one of the first applications in France of the lantern tower raised above the principal altar, over the cross formed by the nave, the two arms of the transept and the choir, following a system of construction of which we have established the relationship, and which about the tenth century showed such extraordinary development while being perfected.

### The National Style — A Suggestion.

BY F. E. TOWNSEND.

NOW that the National Association seems to be an assured fact, a few words on a national style would not be inappropriate.

A student of architectural history will see that the existing styles are not so much the product of evolution as the outgrowth of different needs, "Necessity ever being the mother of invention." As the different classes and nations had different wants, so did they design their buildings to suit their various ends. As their needs were similar we can trace it in their architecture. We study the social and religious life of the ancients by the ruins of their buildings.

At one time they all had the same point to start from, namely, the four elementary forms of building—the wall, arch, column and lintel. With these forms, their building materials and a knowledge of their wants, they set to work, and our present styles of architecture are the result.

If we would have a national style, we must go back to this starting point and begin as they did, but with this difference, we will have the benefit of all their experience to help us the better to work out our new style, or a style especially adapted to our needs and uses.

The architectural wants of the American people today are different from those of any other nation, and decidedly different from those of any people that have gone before. This being the case, why not have buildings that are different in that they meet these new demands?

Our architects have shown a realization of this need by trying to distort the existing styles so that they would satisfy our increasing desires. The late Mr. Richardson and others have given us an idea of what might be done in this line, but one must see that by working, as they have, without comprehensive object or definite aim, they have sometimes given us buildings that are almost all that could be desired, and again they are away wide of the mark.

A perfect building, as far as the eye is concerned, should be like a tree: when we first come in sight of it, the general outline, massing and proportion should be pleasing in effect; then, as we come nearer, the various parts in their richness of detail should be even more interesting. How many of our buildings possess this double interest?

One of the fields that is now open (always has been open) for the American architect to work in, in his study for a new style, is adaptation. That is, to make all our buildings show by their outward



appearance as clearly what their use in the world is, as do the different rooms show their use in the building.

Our architects have immeasurably improved upon the models furnished by the Old World as far as plan is concerned, and have also made some advancement in interior decoration; but for the exterior, they are a long distance away from what might be. Every building should say plainly to the observer "I am a bank," or residence, or whatever it may be.

Our churches—a great many of them—are stamped with an individuality that is all their own, and every other class of building should be equally characteristic. Let this be the basis of our national style. As we have already done this in plan, now let us put our experience, skill and ingenuity to the test and see what we can do for an elevation.

In a few scattered examples about the country we have buildings that are admirably adapted to their use, but, perhaps, in the same town will be others similar in appearance and used for totally different purposes. This should not be.

To reach this desired end we must practice our profession more as an art and not grind out drawings at so much per yard.

Romance and ideality must come into the designing room and be honored guests. They can be there and be on good terms with science and practicability, for the better places the two latter occupy and the better they are understood, the more chance the two former will have for a good hearing when they are needed. The painter who best understands the mechanical parts of his profession is the best able to give form and color to his thoughts when placing them upon canvas. So with the sculptor who best knows the composition, grain and texture of the marbles in which he works: he will always choose that which will bring out to best advantage the points of his figure.

The national style here suggested may be reached by two courses. One is to take the various forms of the present styles and treat them like colors in a box; in using them, so tone, harmonize and blend them together as to make one perfect whole, and allow the designer to bring forth pictures that will be something like, yet decidedly different from any now in existence.

Another way, and by far the most American, is to take the fundamental forms, our native materials, and, with a knowledge of our wants, work out new forms, new molds, new ornaments, and altogether make up a combination that will be a new style.

In such a scheme, we can use the old architecture as a formula for working out our problem. We will have to be bold and free, wielding our pencils as the experienced surgeon does his knife. Idealize American life and express it in the face of our buildings. At first it will be like laying down a hard pencil and taking up charcoal; but when we once realize the depth and breadth of expression that is possible, the master hand will give us buildings that will be the wonder and admiration of all.

Above all, make the buildings expressive; make them speak plainly to every passer by; let every façade be a sign that can be read by the most casual observer; in fact, let us have more romance and less "so many dollars per superficial foot." Let the profession, the National Association, take a decided stand on this point and the public will soon come to it. They will not hold up our art unless we do. They are gradually coming more and more to appreciate the profession and its services and to demand better buildings. Use every effort to encourage this feeling, and rise above this dollars and cents line and have more true beauty in the grandest of callings.

As this is the age of breaking away from old notions, foolish theories and foggy prejudices, let us show the benefit of four thousand years of education and have a new order of things—a national style.

MR. W. J. STILLMAN, the art critic, writes to the New York *Evening Post* that M. Hébert, director of the Académie Française at Rome, "one of the most thoughtful of modern French painters, and, perhaps, the best representative still living of the great poetic French school of art," says of Mr. Cole's engravings now appearing in the *Century*, that "he had never seen such work on wood, and did not suppose wood engraving to be capable of it." As was stated in the announcement of this series, the appearance of the engravings is in chronological order. Specimens of the work of such pre-Raphaelites as Cimabue, Giotto, Spinello, and others have already been shown; and while the reproductions of the paintings of these artists are of the highest value to art students, the general public will be more interested in the later work, which is to include admirable specimens of the art of Perugino, Leonardo, Titian, Michael Angelo, Raphael, Paul Veronese, Correggio, Tintoretto, and many other well known names—the masters of the world's art.

## Where Should the Joint Convention Meet.

BY DANKMAR ADLER.

TO determine which is the best place for holding the initial convention of the re-organized American Institute of Architects is a problem requiring most careful consideration at the hands of those in whose charge the joint resolutions of the American Institute of Architects and the Western Association of Architects have placed it. To me the essence and value of architectural associations are in their conventions. I know that in this respect there is a divergence of opinion. Most of the members of the Western Association of Architects, together with many of the younger fellows and associates of the American Institute of Architects, are of my way of thinking; while the older members and the trustees of the institute hold to the belief that the interests of the corporate body and of the profession must be carefully preserved and guarded by the trustees of the Institute; all action, whether that of initiating or consummating a movement, must emanate from the trustees, who, to all intents and purposes, represent the rank and file exactly as a board of directors in a railroad company represent the stockholders.

As between these two points of view, argument is supererogatory. It will ever be natural for the "Wild Westerner" and for many a young Easterner to believe that in matters of this kind the main creating body is the superior to the minor one created by its action, and that the duties of this minor body or board are but to carry out the instructions of the body at large, and to take such initiative action in the intervals between conventions only where immediate action is necessary and cannot be deferred until the body at large can be heard from. On the other hand, there is no argument that will convince those whose judgment and experience have guided the institute these many years that they are in error when they assume that an associated body of architects must be kept in leading strings; that its work must be done by a board of trustees; that the action of a convention is inherently hasty and ill-considered, that of a board of trustees necessarily wise and judicious, and that, therefore, a convention attended by but a few select and choice spirits is much to be preferred to one largely attended by the rank and file.

I will, therefore, confine myself to the consideration of my subject from my own point of view; believing that if the reorganized institute is to live and accomplish beneficial results it must do so through its conventions, and that these conventions must have a large attendance of representative architects from all parts of the country; that the good of these conventions is less in the resolutions passed, in the committees appointed, in the officers elected, than in the spirit of cordiality and mutual goodwill among members of our profession fostered at these gatherings. I must confess that there is no line of experience of my later years which has been of greater personal value to me than my attendance at meetings and conventions of architectural associations. I believe that I have become, by the intimacy of association with my fellow architects as fostered by these conventions, better and abler as a man and as an architect. I cannot but believe that the experiences of others must be analogous to mine, and that the status of our profession at large has risen with the rise of its component members. We all remember the time when all architects lived, as regards each other, lives of cats and dogs; when the client, taking advantage of the absence of morale and *esprit du corps* in our profession, invariably made detraction of other practitioners, and statements as to how eager they were to do his work for a nominal consideration—a part of his financial argument with us; and we, not knowing personally our fellow architects, were ready to believe these statements and to shape our course accordingly. Again, it is but a short time since each of us guarded his personal knowledge and experience as his own private and individual property, as something the like of which was possessed by no one else, careful to impart no information to his confreres, thereby isolating himself from their experiences, and losing far more information and knowledge than would have been the value of that he might have been able to impart.

How great the change wrought in our relations and condition within the last few years. While indications of the old evil spirit are still remaining, they cannot help but melt away in the genial warmth of personal intercourse fostered by our conventions; and the beneficent influence of these conventions upon those who attend them, and the reflex action of this upon the entire profession, will increase from year to year.

I deem it, therefore, of the highest importance that general attractiveness and accessibility to the greatest number be deemed the prime desideratum of the place fixed for holding our initial convention. It is in this respect only that geographical and sectional con-

siderations should present themselves. We are neither Eastern, nor Western, nor Northern, nor Southern, but American architects, and by our recent action members of the *American Institute of Architects*. And when we meet it should make no difference to us where we meet so long as the place selected for our meeting is one so situated as to attract the largest possible number of our fellows.

Mere convenience of access is, of course, not all that is wanted. There should be, in the city selected for our convention, a sufficient amount of interesting architectural work that its study may in itself form an inducement to those living at a distance to devote time and money required for the journey. There should be resident in it a large number of practitioners, members of our body, to form a nucleus to the members of the convention, and to provide within reasonable bounds for the instruction and entertainment of the visiting fellows during the time when they are not occupied in the convention. Among the resident practitioners should be a number of men of such distinction and eminence as to awaken a desire on the part of all to meet them and fraternize with them in convention.

It is necessary that our next convention be characterized by the largest possible representation of every section of the country; that when the reorganized and rejuvenated *American Institute of Architects* enters upon its career, it shall do so under the most favorable auspices, and that as many as possible of its members from the East and West, from the North and South, shall meet and learn to know and esteem each other.

It has been said that the coming convention must be held in a neutral city. Why in a neutral city? A condition of neutrality implies the existence of warfare. But that there is no warfare among us, that we are united, is shown by the vote upon consolidation of our respective organizations. We are united, we are not at warfare with each other, there are no hostile bickerings among us; and the assumption that these exist and the consequent deduction that we can meet only on neutral ground, is high treason to our cause.

I therefore repeat, that general attractiveness and accessibility must be the controlling factors in the selection of the convention city, and that the term neutrality must be barred. Geographically, Cincinnati is the central city of our new organization; it is easy of access, it contains many buildings interesting to the profession, and many architects of exceptionally good standing whose acquaintance we should all like to make and cultivate.

Yet, although Cincinnati is centrally situated, Chicago is the most easy of access of all cities in our country. It is in this respect like Rome, and in general architectural interest it ranks immediately after New York and Boston. I therefore consider Chicago the ideal city for our coming convention, and it would be particularly appropriate if the work so auspiciously begun there with the paper upon consolidation of architectural societies, read by Mr. Burnham before the institute convention of 1887, could find its consummation in the convention of 1889, held in the same place, perhaps in the same hall. I look with much favor, as a convention city, also, upon New York, which is easy of access and than which there is certainly no city in the country which, architecturally, is more interesting, and among whose resident practitioners are so many men of national reputation, whom all of us would like to meet and know, and to sit with whom in convention would be deemed an honor by every architect in the country.

In one of these three, it appears to me, we should hold the coming convention. Washington, which has been mentioned so much as a neutral city, has nothing in its favor except its neutrality, and the fact that it is the National capitol. But if we examine the records of the many, many conventions held in this country by associations similar to our own, we shall find but very few who have found Washington a suitable place for their meetings. And if, as is quite probable, congress is in extra session at the time of our convention, and Washington is overflowing with office-seeking politicians, etc., then it would certainly be a good place to stay away from.

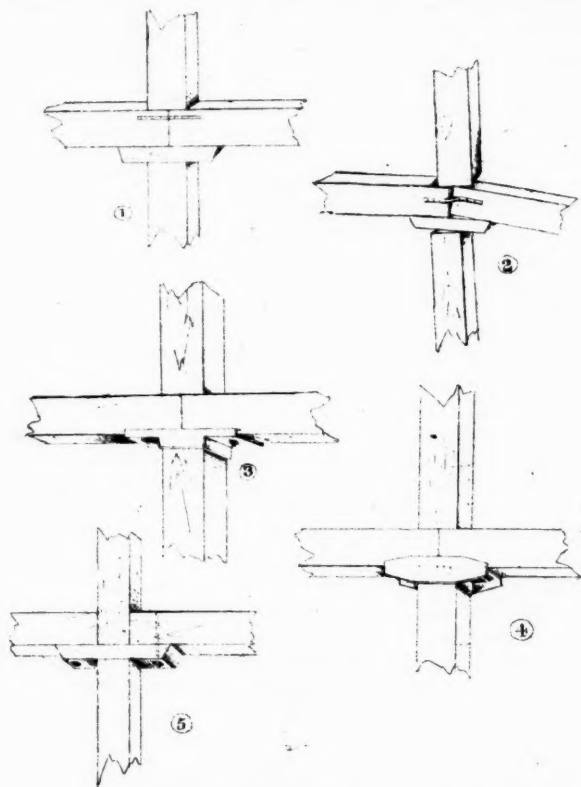
By virtue of the resolutions adopted by the *American Institute of Architects* and *Western Association of Architects*, the selection of a convention city rests jointly with the board of trustees of the one and the board of directors of the other. These bodies have as yet had no joint meeting; let us hope that, when they meet, their eyes will be opened to the fact that we are at peace, and that they will be unfaithful to their trust if they indirectly announce the existence of war in our midst by issuing a proclamation of neutrality. Let them consider that what the institute wants is a gathering of the greatest possible number of its members, so that the action of its first convention may be as nearly as possible the action of a majority of the

institute, and that they, therefore, locate the convention in the city most likely to attract the greatest number of participants. This will certainly not be Washington, but it may be New York, it may be Cincinnati, it certainly is Chicago.

I take it for granted, however, that it is impossible to induce our ultra-conservative friends of the East to consent to a convention held at the West, and should this opinion be verified by the action of the joint meeting of the two boards, I trust our western representatives will yield readily to the selection of New York as a convention city. For our convention and its utterances must be something more than a repetition of a certain one held once upon a time in Tooley street. Nor should it be a repetition of the snug and cozy so-called conventions of the institute as held at Nashville, Albany, Newport, etc. It must be a *mass meeting* of architects from every part of our country—and we'll get that at New York almost as easily as at Chicago or at Cincinnati.

### Methods of Anchoring and Safe Construction.

ACCORDING to the Chronicle Fire Tables the loss from fire by exposure, i.e. where fire originated on adjacent property, was \$32,000,000, in the year 1888. The exposure hazard is now attracting considerable attention, and the underwriters have about accepted it as a well settled fact, that the average fire will damage not only the property in which it originates, but seven-tenths of an adjacent risk. The work of fire extinguishment is being improved every day, and is usually well done, but the firemen seem unable to confine fires to the point of ignition. The conclusion, therefore, seems plain that we must look for causes, somewhere, in our present methods of construction. We assert that the walls of a building should not only serve as an inclosure and support, but, as far as possible, should, by remaining erect during a fire, serve as an impenetrable barrier to prevent the extension of the conflagration. Could the walls have retained their vertical position during the great fires of



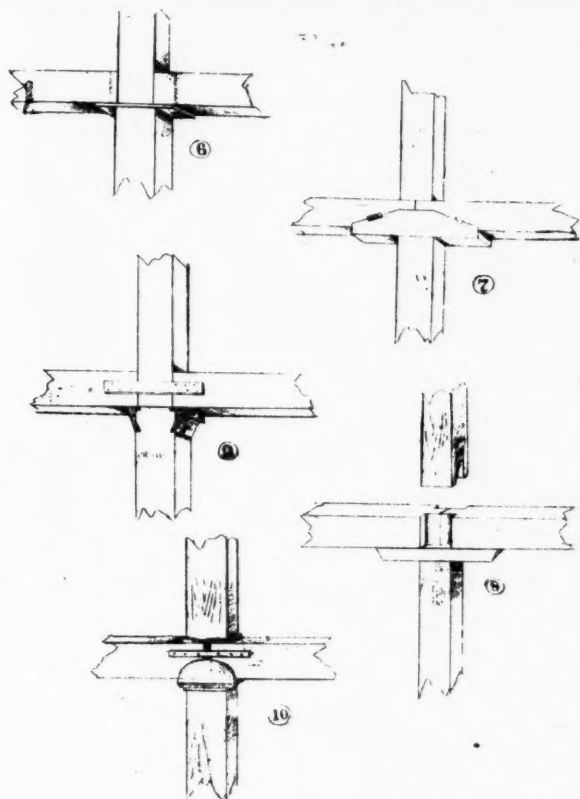
Chicago, Boston, New York, Buffalo, Atlanta, it is evident that the fire in certain directions would have been stayed and the damage been much less. By examining into the main cause of falling walls, we will find that the joists usually have with the outer wall some fixed connection; during a severe fire the joists quickly burn through, and in falling this fixed connection causes the wall to buckle and fall out or in. At present the architects and builders are using many methods of anchoring, few seeming to have any choice or standard. We here illustrate the leading types, one of them being of wood. In each the sole aim is to more or less securely fasten joists and wall together. All are also inconsistent, the joints being cut on a splay to allow them to fall out, and also being fastened so they cannot fall out (see Figs. 12 and 13). Methods of anchoring should, therefore, be adopted so that falling joists should free their anchorage and leave the wall standing. The Goetz-Mitchell method consists of a cast-iron box of exterior dovetail shape, whereby it is adapted to interlock with a wall into which it may be built, and an upwardly projecting lug at the bottom in combination with a notch in the beam



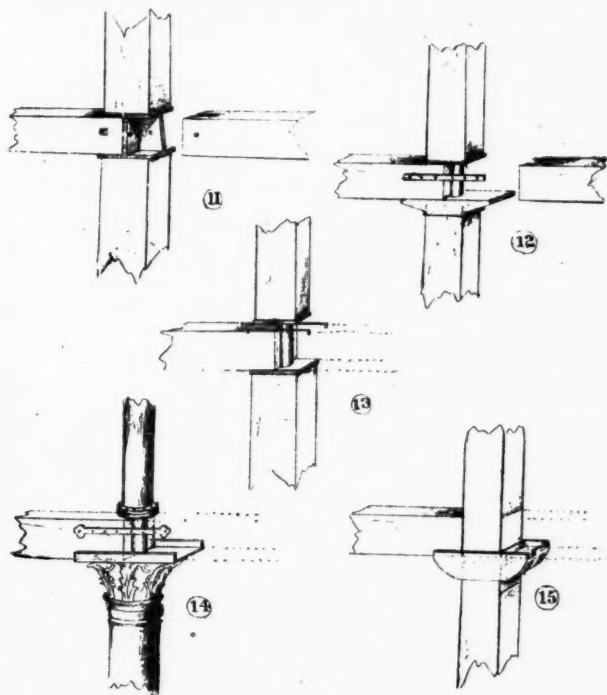
that fits over the lug, thereby forming a tie between the opposite walls (Figs. 14 and 15). In damp situations, and where timber is subject to dry rot, there can be ventilation provided by having air-space side guides as shown (Fig. 14).

With this method of anchoring a greater weight increases the bondage, no joist can enter a smoke flue, nor is there any danger from fire in being built in close proximity to smoke or heat flues. In case of fire, the joists in falling free the anchorage and leave the wall

damage than any fire possibly could do in the building itself. This is especially the case where two parties use the same wall, it being sufficiently strong for a sustaining wall, but in case of fire the same is thrown down and thereby exposes to destruction two or more parties. During the erection of a building the possible loss by fire from exterior causes is overlooked, therefore the building laws should be so

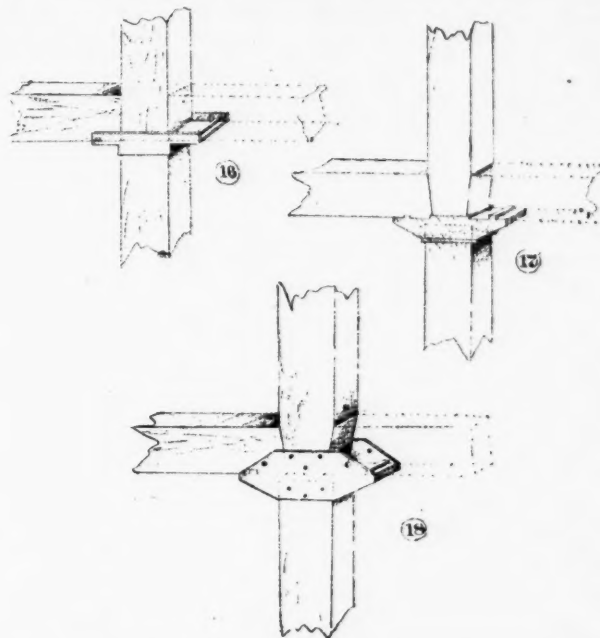


standing, the walls are not weakened by any breach or break, the box remains in the wall and forms a space for the easy replacement of joist. If used in a party wall, the joists upon either side can fall out while every joist upon the other side is holding the wall in position. Insurance companies look with great favor upon this method, and several are making preparations to adopt this as their standard; this,

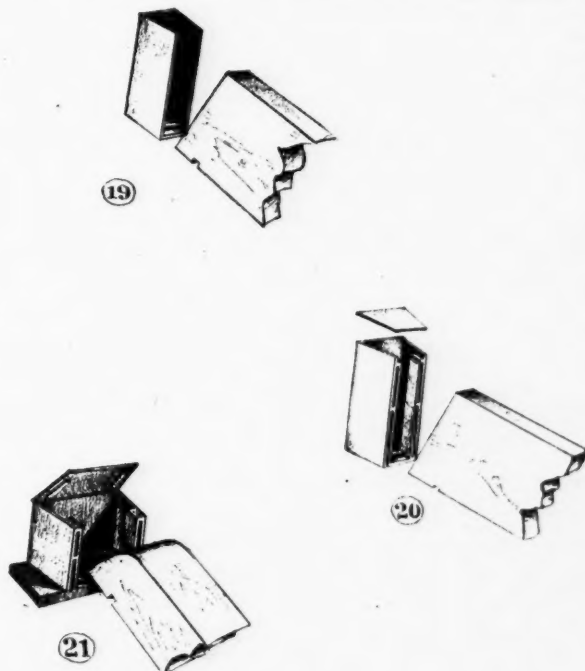


of course, will result in lowest rates to all buildings in which it is used.

An honest man doing a profitable business cannot afford to have a fire. His insurance will not compensate him for the interruption to his business. It sometimes happens that no matter how expensive and safe a building is put up, a fire next door will, perhaps, do more



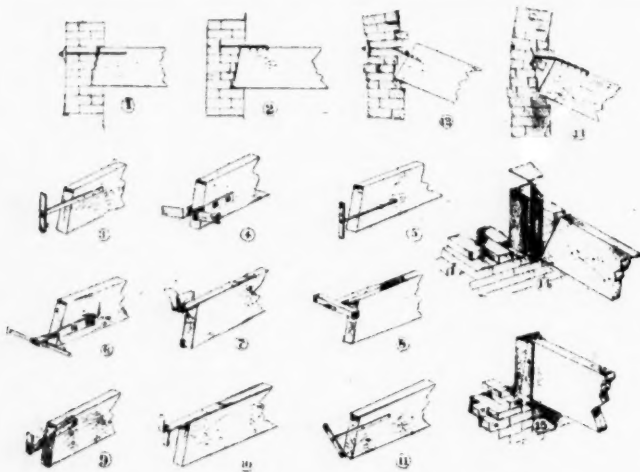
framed as to compel everyone to put up a building so that in case of fire it would destroy itself alone and leave the adjacent property intact. This can in a great measure be accomplished if some method of anchoring be adopted, so that falling of joists and beams shall free their anchorage and leave the walls or balance of the structure standing. According to carefully prepared insurance statistics, the loss by fire from exposure (where the fire originated on adjacent property) is nearly as great as all interior causes combined. This fact conclusively shows that we do not pay enough



attention to construction from a "fire loss" point of view, and the many different methods of fastening the heavy timbers in warehouse and mill construction show that there is no general or standard method in use, each party using whatever device has come to his notice.

Figure 1 shows a method of which a prominent Factory Mutual authority says, that such crude and poor adjustment of material should not be permitted. Unfortunately no general attention is being paid to safe construction, and to this day there are structures going up in which this faulty method is being used. Figure 2 shows result likely to happen in case of fire. Eighteen methods are illustrated, each having some points of advantage or fault, numbered in regular order, and each being an improvement over the preceding

ones from a "fire loss" or "insurance" point of view. Figure 18 is the very best, being in fact a combination of all the good points contained in the rest. The advantages are, no crushing of timber and consequent displacement of parts; a falling horizontal beam cannot displace any vertical column; all parts are firmly held and bolted together; the vertical columns, when bolted together as shown, form a continuous column to the roof; a severe fire can throw down only such parts as are burned entirely through; no tendency whatever to pull other parts down. The shearing strain of the notched beam presents more resistance than bolts and nails, and finally an increased load upon the structure makes the bondage greater, while in many of the others an extra load has a tendency to force the parts apart. Figure 18 is the invention of Henry A. Goetz, of New Albany, Ind., who has also, in conjunction with Mancell Mitchell, invented the wall-anchor referred to by the use of which the falling of joist frees the anchorage and leaves the wall standing. It will be quite a convenience for



architects to get these castings already made in regular sizes; therefore foundry agencies are being established as fast as possible to supply those who desire to use this device, which contains many points of excellence.

The Goetz-Mitchell method of anchoring, as shown above and in the accompanying cuts, consists of a dovetail-formed box or receptacle, whereby it is adapted to interlock with a wall; upon the bottom of the box there is an upwardly projecting lug; a notch on bottom edge of joist or beam fits over the lug, thereby forming a secure bondage between opposite walls (see Fig. 19). In Fig. 20, an air space on each side prevents dry rot. Figure 21 shows anchor for heavy timbers, the bottom of box being extended outwardly, forming a secure bed-plate. A falling beam does not weaken the wall, because the protector remains. A falling beam frees the anchorage, with no tendency toward pulling the wall along. No dampness from wall can affect the beam; dry rot is prevented. No fire can pass through the wall in either direction. No danger from fire in being built in close proximity to smoke flues. No two beams can ever meet, nor can they be built so far in as to break the wall in falling out. The socket forms a receptacle for the easy replacement of beams that were burnt out. The mason need not wait for the carpenter but can keep on without delay.

### Association Notes.

#### THE KEARNEY, NEBRASKA, SKETCH CLUB.

A sketch club was formed in Kearney, Neb., on July 20, to be known as the Kearney Sketch Club. The following were elected officers: President, M. G. Farmer; treasurer, E. R. Will, and secretary, W. Pell Pulis.

#### DENVER SOCIETY OF CIVIL ENGINEERS AND ARCHITECTS.

The regular meeting of the society, which was held July 9, 1889, was called to order at 8:15, President Nettleton in the chair. Thomas Withers was elected a member, and applications for membership were received from John W. Nesmith, president and principal owner of the Colorado Iron Works, and from John Philips Maxwell, state engineer, of Boulder, Colorado. Mr. Angell and Mr. Campbell were appointed to arrange specimens of sandstone given to the society by the State Board of Capitol Commissioners. Mr. Edmund P. Martin illustrated and gave a description of the Fourteenth street viaduct of Denver. The viaduct will extend from Holliday street along the south bank of Cherry creek over the Platte river to Platte street in North Denver, a total length of 3,500 feet. It will cross over most of the railroads coming into the city, and will have a roadway of 40 feet between sidewalks, which are 8 feet wide. It will be built of iron and earth embankment, and will cost, complete, \$107,000. It will be graded on west approach 3 degrees; east approach 2½ degrees. The embankments are built by an endless chain dredger, taking sand and gravel from the bed of Cherry creek, and will be protected by smelter slag for 8 feet in height. The cost of the embankment will be about \$20 per lineal foot. The cost of 750 feet of ironwork, so far, \$44,000. The girders and posts cost about \$40 per foot. On the discussion about dams, Mr. E. S. Nettleton, supervising engineer of the United States Geological Survey, gave a description of the proposed new dam at El Paso, Texas, over the Rio Grande river. This dam, if built, will make the largest freshwater reservoir in the world, and is to be built by the United States and the Republic of Mexico. There are three proposed sites for dams, all 60 feet high, and varying in length on top from 450 to 700 feet long. The lake will average three and a half miles wide and fifteen miles long; to be used for manufacturing and irrigating. It will have gates to control floods, a silt reservoir, flusher, etc. The members discussed the Conemaugh and Quaker dams and adjourned at 10:30 P.M.

### Our Illustrations.

With this number we issue the following supplemental sheets:

Library at Morgan Park; Charles H. Frost, architect.

Foreign towers at Mackleberg, Hanover and Brandenburg.

Accepted design for the Centennial Baptist Church, Chicago, page 14.

Residence for James Taussig, St. Louis, Mo.; Albert E. Swasey, architect.

Residence for J. Morton, Chicago; Flanders & Zimmerman, architects.

Store building for T. P. Randall, Chicago; Burnham & Root, architects.

Residence for A. W. Chamberlain, Denver, Colo.; Kidder & Humphreys, architects.

Dining-room interior of residence for James McMullen; Irving K. Pond and Allen B. Pond, architects, Chicago.

Two houses for Dr. C. P. Caldwell, Chicago; Burling & Whitehouse, architects; 25 by 45 feet each; cost \$25,000.

Church of St. Joseph, Milwaukee, Wis.; H. P. Schnetzsky, architect. The old church before renovated was 130 feet long by 64 feet wide. It is situated on corner of Cherry and Eleventh streets, and is known to be one of the oldest churches in the city. The renovation was begun in July last year and completed in April of this year. Only the side and rear walls and the roof remained. The entire front wall, including center tower, and the entire auditory and sanctuary ceiling were torn down. A new addition of 20 feet by 77 feet was built in front, consisting of two towers, two stair halls and a center vestibule; both towers are used for side vestibules, with the stair halls between center vestibule and towers. The low shape of the center gable between the two towers was guided by the low pitch of the old roof. The height of the main tower is 160 feet and of the small tower 100 feet. The materials used for the outside of the building were Milwaukee cream-color pressed brick and Ohio buff sandstone. The steeples of towers are slated. The ceiling in sanctuary, vestibule and auditory is arched in Roman arches and elegantly frescoed. The church windows are glazed with lead-mounted Venetian glass. The church and schoolhouse, which stands next to same, are heated by steam, the boiler being situated in the basement of the schoolhouse. The seating capacity of the church is 900. The entire cost of remodeling was about \$50,000.

#### PHOTOGRAVURE PLATES.

(Issued only to subscribers for the Photogravure edition.)

Residence at Rochester, N. Y.; H. H. Richardson, architect.

Library in residence; J. Foster Warren, architect, Rochester, N. Y.

Interior library in residence of J. V. Farwell, Chicago; Burnham & Root, architects.

Choir screen in the cathedral at Seville. This screen, a view of a portion of which we give, is the largest piece of ornamental iron work in Spain. Wrought iron and bronze enter into the construction, and the delicacy and charm of the work can only be appreciated as one comes to recognize the excellency of the portraits which are wrought in these lasting metals. The strength of the design in the upper portions is quite as noticeable as is the beauty of the modeling.

Grand Canal, Venice. We present, with this issue, a photogravure of the Grand Canal, Venice, taken at a point just above the Cavilli palace, and looking toward the church of Santa Maria della Salute. The view gives a fair idea of the stateliness of the architecture along this most important of Venetian highways, and at the same time shows the picturesqueness which so continually presents itself in the disposition of even the most important buildings. The brilliant colors, which are lost in the photograph, do much to heighten the picturesque charm.

Houses on Pine street, Philadelphia, for Mr. Alan H. Reed; Brown & Day, architects. These two houses were built during the season of 1888, on a lot 48 feet front. The stone is Indiana limestone. Bricks in first story are Sayer & Fisher's old gold bricks, from Sayerville, New Jersey; the remainder of the front being dark-red Philadelphia "stretcher" brick, a rough hand-made brick. All are laid up in Flemish band. The cornice and bay are of copper. The woodwork, except the oak front doors, is painted in buff and cream white, and the leaded glass set in heavy lead lines, with cast rosettes, painted white on the outside. The interior, with the exception of the halls, which are in oak, is finished in china gloss paint in delicate tints; the parlors being in white and gold. A novelty, so far as Philadelphia is concerned, is the scheme of placing the front steps inside the vestibule. The total cost for the two houses was \$30,000.

Commercial building for L. Z. Leiter, Chicago; W. B. Jenney, architect. The building will be located on the east side of State street, and will extend from Van Buren to Congress street, a distance



of 402 feet. In depth it will extend to the alley 144 feet. It will be six stories or 101 feet above sidewalk in height, and the three street fronts, State, Van Buren and Congress, will be of light-gray New England granite, dressed surface, with carved capitals. It will be thoroughly fireproof; the construction a steel skeleton, the masonry protecting the external columns. This is the system of construction first used in this extensive way by Mr. Jenney in the Home Insurance building in this city, and which has since become so popular for commercial and office buildings, permitting the piers to be cut away to the last limit, namely, an iron column and its fireproofing. On Van Buren street, on the east side of the alley, will be erected another building, 45 feet by 80 feet, in the basement of which will be located the boilers, engines, electric light plant, fuel-rooms, etc., entirely under the direction of the engineer of the building. To secure the full height required in the basement of main building, the drainage will be conducted to a dry well in the basement of the rear building, and will thence be forced into the sewer by automatic ejectors, worked by compressed air. It is intended that the entire building should be one great retail store, as complete and perfect in all its appointments as the resources of modern science and art can make it. Nothing will be omitted that will contribute either to the convenience, the attractiveness, or the substantial character of the building and its appointments. Should the building not be required for a single store, it is arranged so as to be readily subdivided by fireproof partitions into nine or any less number, all supplied from the central plant east of the alley with steam heat, electric lights and elevator service, relieving the tenants entirely from trouble and annoyance, and furnishing this service more satisfactorily and at less cost than could be done from several small plants.

### Mosaics.

ARCHITECT WILLIAM PRETYMAN, of Chicago, has removed his office to the Honore Block on Dearborn street.

MERCHANT & CO., the well-known tinplate importers, have presented the architects of the country with a set of Eiffel tower photographs, consisting of two views of the tower and a sectional diagram.

THE marble that beautifies the entrance to the Chicago Auditorium building is from the quarries of the Blue Ridge Marble Company in Georgia. The company have an office in the Auditorium building, C. N. Martins, agent.

J. E. O. PRIMMORE, of Chicago, has established himself in the practice of architecture at Forty-third street and Cottage Grove Avenue. Mr. Primmore has been a leading draftsman in Chicago and elsewhere for a number of years.

ARCHITECT R. G. PENTECOST, who commenced suit against Charles P. Packer, president of the Park National Bank, for \$200 for preliminary sketches for a residence he is now erecting on the northeast corner of Grand boulevard and Forty-fifth street, recovered judgment for the full amount in Justice Smith's court, July 15.

IRON lath is used quite extensively in the large cities, and is growing in favor in many of the smaller ones. Quite recently a western architect stated he had introduced it into his practice with much satisfaction, using the Cincinnati Corrugating Company's lath, which, he said, he found was adapted to any kind of furring. This lath, which is a corrugated lath with openings between for "catching" the plaster, can be supplied in lengths from ninety-eight inches up to ten feet, so the company advertises.

THE secretary of the Cincinnati Corrugating Company writes some further particulars in regard to the recent purchase by his company of the machinery, good will, books, etc., of the iron roofing firm of Caldwell & Co. They were engaged principally in the manufacture and sale of the Outcalt patent elastic-joint iron roofing. One of the strong points of this style of roofing is that there are no nails exposed to the weather. The Corrugating Company are now better prepared than ever to turn out this, as well as other improved forms of plain and corrugated roofing, siding, etc., with the greatest promptness, and in the highest state of perfection.

THERE is no better proof needed of the rapid progress of industrial interests in the South than is shown in the growth of the *Southern Lumberman*, published in Nashville, Tenn. From a 16-page edition, about ten years ago, it has constantly grown in size until at present it is the leading and only paper published in the hardwood, cedar and pine section, where the future supply of lumber must largely come from. The current number, dated June 15, contains 64 pages of most interesting matter. Among its contents are descriptions and illustrations of two new inventions in wood-working machinery that will, from their originality and merit, revolutionize, to a great extent, the present methods. One is a process and machine for carving the invention of Dr. C. L. Goehring, which has already been described in these columns. A handsome portrait engraving of the inventor of this wonderful wood-working machine adorns the front page. The other new machine alluded to is one for cutting boards without steaming or other process, directly from the log. It is made by the United States Lumber Cutting Machine Company, Geneva, N. Y. Besides these features, the *Southern Lumberman* contains a large amount of pertinent and valuable editorial matter, reliable market reports from every important lumber market, and has an able and trained corps of correspondents in every locality. In view of the fact that it is the exponent of a vast section of timbered area, it is not surprising to find that almost every reputable manufacturer of wood-working machinery in the United States is represented in its advertising columns. It is published twice a month at Nashville, Tenn.

### New Publications.

NONPAREIL SYSTEM OF HAND-RAILING. By JOHN V. H. SECOR. 5½ by 8½ inches, 78 pages, 157 line engravings. Bound in cloth. Published by The Office Publishing Company. The trade supplied by David Williams, 66 and 68 Duane street, New York. Price, postpaid, \$2.

Mr. Secor is a practical stair-builder of many years' experience, and has put into the little book on hand-railing which he has just issued, an exposition of those principles which he has long employed in his own work. The learner is led step by step from the simplest problems encountered in stair-building to those of the most complex character. The work is preceded by a glossary and is supplemented by a very complete index. A leading feature of the book is the method of ascertaining the length of the mold. The system of bevells presented is also simple and of universal application. The book is adapted to the needs of anyone in the line of joinery who desires molds for any kind of stairs that may have been constructed. The cuts and text are placed side by side, and in all respects the book is arranged in a way to be attractive to the reader and useful to the student.

NOTES ON THE ART OF HOUSE-PLANNING. By C. FRANCIS OSBORNE: W. T. Comstock, New York.

Professor Osborne states in his preface that he embodies a portion of the notes used in his lectures to students in Cornell University, and that his aim has been to set forth only the simplest general principles that govern good planning. In pursuance of this idea, the author analyzes a dwelling house, seeks out and classifies its elements, and enters into a somewhat detailed examination of certain parts. The text contains a discussion of the aspect, the thoroughfares, the dining room, the drawing room, the library, the kitchen, the billiard room, the entrance, and the bedroom floor. What the beginner learns from these chapters will be a part of his alphabet, to be used in the planning of almost every building that he undertakes. With most of the conclusions reached there will be no dispute, and once learned they will not need to be unlearned.

The book is, however, but a fragment, and the topics which the author has arbitrarily chosen to omit are equally essential with those that he has selected for discussion. We are not able to conceive in what way the book would be more confusing or less intelligible to a beginner by the presence of a chapter on the stair hall and staircase, or the conservatory or the laundry; and even after these and other important topics had been dealt with the learner is only brought to the point where he is able to criticize certain sorts of details in a plan set before him ready made; and is not prepared to devise by himself a plan in which these details shall be properly handled, and in devising which he shall look to the house as a whole and shall set about its planning with a view to the limitations imposed by space and position and by the fact that a modern house is built one story upon another, and that economy of construction demands that the stories shall be designed as a unit and not singly nor in pieces. The learner who buys this book for an aid in learning to plan must forthwith buy another before he can use what is here taught. In fine, what the book contains is well enough as a part of a course of lectures or as a fragment of a book; but it has no such value taken alone as to afford a sufficient reason for its publication in its present shape. To have made the volume more nearly complete would not have hindered the learner, and would have given to the entire work a value that by no means attaches in like proportion to this fragment.

### Building Outlook.

OFFICE OF THE INLAND ARCHITECT,  
CHICAGO, August 10, 1889.

The general tenor of advices from all manufacturing and commercial centers is indicative of an advancing tendency in prices, an increasing demand, and greater purchasing power upon the part of the public. Builders, and manufacturers of building material, are crowded with work in all sections of the Union. In the South there is no cessation of the projection of new enterprises, or prosecution of work. A great many new factories are being built there, called for by the demand for factory products. New furnaces are being built, iron mills are being talked of, and factory and shop capacity of a hundred different kinds are to be rushed to completion as fast as possible. Almost as much activity is in progress in the North; but the bulk of the work throughout the northern states is in the way of extensions to already existing plants. This year has been a phenomenal one for building. All of our larger cities show an increase over last year. The croaking element is expressing the opinion that this thing is being overdone; that enterprise is overdoing itself in this direction; and this may be true; but enterprise has not yet sounded the alarm.

Lumber is in abundant supply everywhere, and at prices which do not check demand. Iron and steel products are slightly higher, but not sufficiently so to interfere with builders' calculations. Railroad construction is not exceeding that of last year. The general distribution of products is stated to be twelve per cent ahead of the same time last year, and the weekly and monthly reports show that this estimate is not far from correct. The mining interests are prosperous, but wages are low, and competition resulting from the development of new deposits is very sharp.

Financial centers show both an upward and downward tendency; but there is nothing to alarm the conservative element. Trusts and syndicates are furnishing the daily newspaper press with materials for stirring and alarming editorials; but the conservative sentiment of the country is not disturbed at the possibility of harm that may grow out of these combinations and the application of foreign capital to the development of manufacturing interests in America.

Labor is not disposed to enter into any further contests this year. Whatever conflicts are brewing will not take shape until next spring. Capital has carefully studied the future of the labor question with special interest, and the wiser heads are inclined to the belief that the labor organizations, or the leaders, have become too intelligent to precipitate a national contest where the chances of success are so scant.

## Synopsis of Building News.

**Aurora, Ill.**—Architect J. E. Minot: For Henry Ryan, residence; cost \$8,000. For Geo. E. Sutphan, residence; cost \$5,000. For C. F. Hageman, residence; cost \$7,000. Schoolhouse; cost \$5,000.

**Chicago, Ill.**—Architects Greisser & Martzen have prepared plans for a brewing plant for the American Brewing Company, comprising a brew, malt and wash house, boiler room, ice house, shipping house, etc., covering an area 961 by 162 by 44 feet, with barn 75 by 44 by 82 by 78 feet, three stories in height; brick, stone and iron will be used in the construction; estimated cost with necessary machinery \$250,000.

Architect Titus Diethelm (South Chicago): For Pitacle Brothers, two-story and basement building, 50 by 80 feet, with two-story barn; brick; cost \$15,000. For Nelson, Morris & Co., three-story and basement building, store and flats; cost \$15,000. For Henry Schrayner, Whiting, Ind., two-story store building, 22 by 60 feet; frame; cost \$1,800. For R. Davis, three-story and basement hotel building, 25 by 100 feet; cost \$12,000. Alterations in Bowen School building; cost \$2,000.

Architect C. L. Stiles have prepared plans for a two-story six-room schoolhouse, to be built at River Forest; pressed brick with stone and terra-cotta trimmings; cost \$18,000.

Architect A. L. Schellenger: For W. H. Krauskopf, two-story and basement residence, 37 by 38 feet; Bedford stone, hardwood finish, steam heat and modern appliances; \$10,000.

Architects Geyer & Randak have prepared plans for a seven-story and basement office building, 50 by 90 feet, to be erected on Dearborn, between Harrison and Polk streets; estimated cost \$55,000.

Architect I. Zarbell has prepared plans and taken figures on a three-story and basement apartment building, 42 by 72 feet, to be built by J. T. Robinson, on Winchester avenue; cost \$14,000.

Architect J. H. Wagner: For Houghteling & Caruthers, two two-story and basement flat buildings, 62 by 100 feet, and 25 by 100 feet; St. Louis pressed brick with terra-cotta trimmings, steel beams and girders will be used in the construction; the foundations will be made sufficiently strong that five additional stories can be added when the demand calls for them; cost \$35,000.

Architect C. O. Hansen: Vault and chapel to be built at Mount Olivet cemetery; rock-faced stone; chapel 25 by 25 feet; vault 24 by 76 feet. For A. Wiegeland, three-story and basement flat building, 25 by 56 feet, brick and stone; mantels, hardwood finish, electric work, ornamented glass, etc.; cost \$7,000.

Architect W. Ohlhofer: For M. Friend, three-story and basement store and flat building; cost \$20,000.

Architect J. A. Thain: For E. Uling, Hyde Park, three-story residence, 37 by 85 feet; brick and stone, slate roof, stained glass, mantels, hardwood finish, steam heat, electric work, etc.; cost \$25,000.

Architect Perley Hale: For L. A. McDonald, four-story flat building, 55 by 100 feet; first two stories brownstone, remaining stories pressed brick; cost \$50,000. For I. I. Phillips, three-story and basement flat building, 44 by 46 feet; brownstone and pressed brick; cost \$18,000.

Architect W. W. Boyington: For N. D. Mooney, two-story store and flat building, 65 by 75 feet; pressed brick and stone; cost \$18,000. For S. H. Gardner, three-story flat building, 25 by 62 feet; stone front, furnace heat; cost \$10,000.

Architect F. B. Townsend: Making sketches for three-story and basement store and flat building, 18 by 99 feet; brick and stone; cost about \$10,000.

Architect H. B. Wheelock: Planned Congregational Church building for Decatur, Ill.; brick and field stone, slate roof, stained glass, etc.; cost \$25,000. Also plans on the boards for an elegant residence to be erected in Bloomington. It will be two stories, attic and basement high. The outer walls will be of stone and brick with slate roof; will be warmed by steam and hot water; cost \$32,000. Also planning a three-story apartment house, 80 by 100 feet, to be built on the South Side; pressed brick and stone; cost \$32,000.

Architects Edbrooke & Burnham: For O. A. Hoppe, Riverside, two-story residence, 32 by 38 feet; basement stone, balance frame; mantels, bathroom, stained glass, hot-water heat; cost \$5,000. For F. W. Green, Woodlawn, two-story building, 31 by 50 feet; frame; mantels, bath, stained glass, furnace heat; cost \$5,000.

Architect J. H. Huber: For Charles Stembreicher, eight three-story flats; pressed brick, stone, terra-cotta; cost \$50,000.

Architect F. Fochringer: For Henry Dirke, four-story and basement store and flat building, 124 by 60 feet; St. Louis pressed brick, with Portage brownstone trimmings, copper bays and cornice, wood mantels, hardwood finish, etc.; cost \$35,000.

Architect C. J. Warren: For J. F. Runey, two-story basement and attic residence, 40 by 100 feet; St. Lawrence granite front and side, mosaic floors, marble work, antique oak finish, steam heat, electric lighting; cost \$50,000. For same party, two six-story and basement flat buildings, 50 by 125 feet each; Anderson pressed brick and stone, hardwood finish, bathrooms, mantels, elevators, steam heat and all modern conveniences; cost \$150,000. Plans for a two-story summer residence in the old colonial style; cost \$10,000.

Architect T. Lewandowski: For National Brewing Co., brewing plant, comprising brew, boiler and malt house; brick, stone and iron; cost, with machinery, \$45,000.

Architect A. Druiding: Two-story Bohemian R. C. church and school building, 35 by 65 feet; common brick; cost \$10,000.

Architect T. M. McCarthy: For O. M. Power, seven-story office and college building, 38 by 171 feet; pressed brick, stone and terra-cotta, elevators, steam heat, electric lighting, etc.; cost \$200,000.

Architects Flanders & Zimmerman: For C. E. Pope, nine-story warehouse, 76 by 180 feet; granite and pressed brick, hardwood finish, iron shutters and stairs, vaults, fire escapes, elevators, etc.; cost \$300,000. For B. F. Fessenden, seven-story business building, 51 by 76 feet; pressed brick and terra-cotta, elevators, steam heat, etc.; cost \$75,000. For A. Dickinson, two-story flat building; pressed brick and stone; cost \$7,000.

Architect H. B. Seeley is making plans for a three-story and basement store and flat building, 100 by 80 feet, Col. L. A. Pierce, owner; stone and brick exterior, gravel roof, mantels, dumb waiters, plate, ornamental and beveled glass, skylights, hardwood finish, etc.; cost about \$60,000. For Dr. A. P. Gilmore, six-story flat building, 130 by 175 feet; pressed brick, with stone trimmings, mantels, dumb waiters, electric bells, steam heat, hardwood finish; cost \$60,000.

Architect W. H. Drake: Four-story and basement flat building at 336 Indiana street, 25 by 83 feet; pressed brick and stone; cost \$10,000.

Architect L. B. Dixon: For E. S. Lloyd, three-story residence, 25 by 80 feet; brick and stone, hardwood finish, electric work, tile floors, hot-water heat, plate glass, mantels, etc.; cost \$15,000. For W. D. Bishop, flat building; cost \$25,000.

Architects Chapie & Fry: For G. H. Teed, nine cottages; Anderson pressed brick, stained glass, etc.; bathrooms, etc.

Architects Ostling Bros.: For Joseph Hock, two-story, basement and attic flat building, 24 by 70 feet; pressed brick and stone, mantels, baths, etc.; cost \$6,000.

Architect H. Raeder: For C. P. Mitchell, at Evanston, two-story and attic residence, 40 by 54 feet, with barn; artesian stone front; wide ornamental plaster frieze, hardwood and pine finish, mantels, plate and ornamental glass set in lead, hot water, etc.; cost \$150,000. For S. L. Williams, three-story and basement residence; first floor front, brownstone; rest, Roman tile with brownstone trimmings; Spanish tile roof, hardwood finish, plate glass, mantels, etc., furnace heat; cost \$8,000.

Architects Marble & Lambson have planned a seven-story sub-basement and basement manufacturing building, to be erected on Jackson and Canal streets, 140 by 160 feet; brick and stone; slow burning construction; cost \$175,000.

Architect Jul de Horvath (Englewood): For self, at Auburn Park, two-story residence, 37 by 52 feet; frame, basement Indiana cutstone, slate roof, plate glass, hardwood finish, old copper hardware, sanitary plumbing, steam heat, etc.; cost \$15,000. For W. C. Wright, Auburn Park, two-story and basement frame residence, 24 by 42 feet; cost \$3,500. For T. C. Wayman, Auburn Park, two-story and basement frame residence, 24 by 36 feet; cost \$3,000. For G. I. Andrews, Auburn Park, two-story and basement frame residence, 24 by 45 feet; cost \$4,000. For W. L. Bender, Spencer, Ill., two-story frame residence, 24 by 45 feet; cost \$4,000. For H. L. Starke, Auburn Park, three-story store and flat building, 50 by 64 feet; stone, with galvanized iron trimmings, plate-glass fronts; cost \$13,000. For T.

Ryan, same place, store and flat building, 25 by 68 feet; pressed brick and stone, plate-glass fronts; cost \$6,000. For W. H. Reed, same place, two-story and basement frame residence, 24 by 36 feet; cost \$3,000. For Geo. Jennings, same place, two-story and basement frame residence; basement stone, roof slate, plate glass, hardwood finish; cost \$5,000. For School District No. 4, same place, on Wright street, two-story and basement eight-room schoolhouse, 70 by 85 feet; Rutland heating, hardwood finish; cost \$25,000. For same district, on Harvard street, two-story and basement schoolhouse, 65 by 65 feet; brick, with stone trimmings, stone basement, Rutland heating, hardwood finish; cost \$15,000. For same district, on Emerald avenue, two-story and basement schoolhouse, 65 by 65 feet; brick, with stone trimmings, stone basement; cost \$15,000. For T. L. Talbot, same place, two-story and basement frame residence, 24 by 43 feet; stone basement; cost \$3,500. For T. M. Norris, same place, two-story and basement frame residence, 27 by 53 feet; stone basement, hot-water heat, hardwood finish; cost \$7,000. For C. N. Norris, same place, two-story and basement frame residence, 24 by 50 feet; stone basement, hardwood finish on first floor; cost \$4,500.

Architects Cole & Dahlgren: For George Gunther, two-story store and flat building, 24 by 80 feet; pressed brick, with stone trimmings; plate glass, and modern fittings; cost \$4,000.

Architect J. A. Bongard: For J. Ludwic, two-story and basement residence, 29 by 54 feet; St. Louis pressed brick and buff Bedford stone, plate and stained glass, oak finish, furnace heat; cost \$6,000.

Architect F. H. Starbuck: For H. A. Chapin & Son, three-story and basement block of stores and flats; Anderson pressed brick and blue Bedford stone, steam heat, elevators, etc. Also Universalist Church building for Waterloo, Iowa, 30 by 45 feet; veneered brick, stained glass, etc.; cost \$5,000.

Architect M. E. Bell: For I. P. Smith, residence; pressed brick and stone, marble wainscoting, steam heat, etc.; cost \$15,000.

Architect J. F. Warner: For E. Ellis, three-story flat building; St. Louis pressed brick and Bedford stone; cost \$8,000.

Architect E. E. Snyder: For H. C. Smith, Woodlawn, two-story, basement and attic dwelling, 32 by 35 feet; frame; basement stone, bath, stained glass, furnace, etc.; cost \$5,000.

Architect W. J. Van Kernen: For Dr. H. S. Brown, two-story, basement and attic residence, 40 by 62 feet; Berlin granite front and sides, stained and beveled glass, mantels, variety hardwood finish, electric lighting and all modern improvements; cost \$50,000.

Architects Charnley & Evans: To be erected at Longwood: For E. S. Pike, two-story store and flat building. For L. Heuhn, two-story and basement building. For Mrs. I. H. Clark, dwelling. For Dr. W. W. Curtis, to be built on Washington Boulevard, residence. For P. Fox, on State street, store and flat building. For E. P. Hillard, two dwellings; cost \$10,000. For Mrs. Baker, two-story and basement residence.

Architect S. V. Shipman: For T. J. and J. J. Emery, four-story store and flat building, 25 by 85 feet; pressed brick and stone; cost \$15,000.

Architect W. Thomas: For M. F. Ervin, two-story flat building; brownstone front, hardwood interior, furnace heat, etc.; cost \$10,000.

Architect J. W. Ackermann: For Charles Elliott, four-story store and flat building, 50 by 65 feet; pressed brick and stone; cost \$15,000.

Architect W. G. Barfield: For Dr. D. W. Taylor, residence, stone exterior, modern improvements; cost \$10,000.

Architects Fromman & Jebson: For G. L. Peterson, five-story and basement factory building, 80 by 102 feet; common brick with pressed brick trimmings, elevators, steam heat, electric lighting, etc.; cost \$25,000.

Architect W. L. Carroll: For Alice M. Kirby, four-story store and flat building, 40 by 97 feet; buff Bedford stone; cost \$18,000.

Architects Bell & Swift: On the boards for estate of Cyrus H. McCormick, at Indianapolis, four-story warehouse and office building, 50 by 107 feet; pressed brick, stone and terra-cotta, iron beams and columns, steam heat, electric lighting, elevators, plate glass; cost \$20,000. For P. Owsley, three-story residence, exterior solid red brownstone, pressed and molded brick; interior finish, oak. For J. G. Owsley, two-story flat building.

Architect E. Stuede: For Ald. Sanders, three-story and basement store and flat building, 20 by 130 feet; pressed brick and stone; cost \$10,000. For Mr. Naden, block of two-story and basement stores and flats, 80 by 86 feet; pressed brick and stone; cost \$15,000.

Architects I. K. and A. B. Pond, two-story residence, at Riverside, for Frank F. Reed; first story, stone; above, frame; furnace heat and modern conveniences; cost \$6,000.

Architect J. E. Scheller: Store and office building, at 176 West Madison street, four stories and basement, 21 by 100 feet; pressed brick and Portage stone; cost \$23,000.

Architects J. M. Van Osdel & Son: For C. C. Heisen, twelve-story office building; first three stories, buff Bedford stone; above, gray Anderson brick with Bedford stone trimmings; steam heat, electric lighting, elevators, fireproofing, etc.

Architects Theil & Lang: For W. Runde, four-story store and flat building, 50 by 84 feet; St. Louis pressed brick with Euclid stone trimmings; wood mantels, hand elevators, bathroom, hardwood finish, etc.; cost \$15,000. For Edward Stopp, two-story and basement flat building, 50 by 65 feet; pressed brick and stone; cost \$7,000.

Architect A. Boos: For Lake View R. C. St. A'phonso Society, church edifice, brick and stone; stained glass, etc.; cost \$30,000.

Architect H. B. Wheelock: For Congregational Society, Decatur, Ill., church building, 72 by 172 feet; Old English style, pressed brick and fieldstone, slate roof; seating capacity, 450; Sunday-school room and pastor's study at the rear; cost \$25,000. For W. D. Mooney, three-story store and flat building, 25 by 55 feet; pressed brick and stone.

Architect M. L. Beers has plans underway for four school buildings to be built at Memphis, Tenn., at a cost of about \$100,000. Also alterations in the school building at Blue Island, to cost \$10,000. Has made plans for Mrs. T. A. Banning for a two-story and attic residence; stone front, hardwood interior, hot-water heat, etc.; cost \$12,000. For H. Harwood, three-story basement and attic residence; first story stone, balance frame. For F. E. Lindsy, Waukegan, Ill., residence.

## Cincinnati, Ohio.—Reported by Lawrence Mendenhall.

In casting my reportorial telescopic sight over the mercantile landscape, I can see but very little change in the position of affairs. It is therefore safest not to try to spin a yarn unless you have material with which to do it.

The town of Addyston, the Pullman of Cincinnati, with its immense iron and pipe foundry, is quite active in the building line; over forty buildings (houses) have been erected there this season. There is now in process of erection a fine station, hotel and store. The hotel and store, as well as the large works, were erected from designs and under the superintendence of Mr. John H. Boll, who succeeded to Mr. Geo. W. Rapp's architectural business.

Our sketch club is progressing in a highly creditable manner, reflecting credit upon its officers, as well as members. The latest project is to hold a national club exhibition, in which, it is hoped, will be found contributions from not only every club, but from the celebrated older architects.

The art museum has thrown open its doors, and over appropriately, too, for architecture is a full sister of art, and therefore entitled to as good quarters.

If properly managed this exhibition can produce great good, and stimulate healthy rivalry between the different clubs. Mr. G. W. E. Field will give all desired information.

Adam J. Bast has his hands full; reports for Miss Belle Higgins a two-and-a-half story frame house of ten rooms, pine finish, plumbing, blinds, tin and slate roof; cost \$3,000. For David Lakamp, city, a two-and-a-half story frame residence; pine finish, grates, wood mantels, plumbing, tin roof, etc.; cost \$4,000.

Samuel Hannaford & Sons report their time well employed; and among others have drawn the following plans for the parties named: For Wm. C. Lawson, Esq., a brick and timber residence, two and a half stories; twelve rooms, hardwood, plumbing, heat undecided, stained glass, electric bells, slate roof. For W. H. Soole, Esq., Terre Haute, Ind., a pressed-brick residence, ten rooms, hardwood, plumbing, furnace heat, stained glass, electric bells, slate roof. For Mrs. Eliza Fasse, a row of stores and flats, four stories; pressed brick, pine finish, grates and stoves, also steam, slate and tin roof. For Alms & Doope Co., an extensive addition to store, 75 by 102; five stories, brick, hydraulic elevators, steam heat, electric work, slate roof. Wyoming high school, Wyoming, Ohio; a brick building, 84 by 40, three stories high, tin roof, hot-air heat; furniture needed, desks. This firm has also prepared plans for a new water tower and



pumping works for the city water works. Full particulars obtained from the architects and board of public affairs. They will be quite extensive buildings. Gustave W. Drach, architect, has prepared a very pretty plan for a residence for Mrs. Wm. Stichtenoth; brick, two and a half stories, pine finish, twelve rooms, furnace, mantels, stained glass, laundry and plumbing fixtures, slate roof, etc.; cost \$5,000. Mr. Drach does good work.

John H. Boll has the plans for a residence for W. W. Cunningham, to be of brick, pine finish, hot-air heat, plate and stained glass, wood mantels, slate roof, etc.; cost \$8,500.

G. & A. Brink report, among other plans, one for the Carrollton Furniture Co., Carrollton, Ky., for a warehouse, 60 by 120 feet; two stories, tin roof, pine finish, steam heat, etc.; cost about \$5,500. For Wm. Schneider, Esq., a pressed-brick residence; twelve rooms, pine finish, iron mantels, stained glass, tin roof, etc.; cost \$4,500.

Architect Louis Picket has drawn plans for a house for Mrs. Margaret Remke; brick, two and a half stories, pine finish, stained glass, wood mantels, plumbing, slate roof; cost \$4,000. Also for St. Bernard, Ohio, a town hall and engine house; three stories high, size 58 by 88, brick, furnace heat, hardwood, electric bells, tile floors, mantels, plumbing, tin roof, stable fittings, etc.; cost \$12,500.

J. W. McLaughlin has started on the plans for the Y. M. C. A. building to be erected here; size 75 by 90 feet, five stories high, of brick and stone, furnaces, office fixtures, plate and stained glass, electric work, hardwood finish, etc. Besides this there will be a fully-equipped gymnasium, bath and reading rooms, as well as a large association hall. The secretary will give full information. Probable cost \$100,000. When completed it will be a most valuable architectural addition to our city, and be equal to any in the United States. For Cincinnati Electric Light Co., care Andrew Hickenlooper, president, a complete plant, 77 by 75 feet; three stories high, of brick; in this building will be needed asphalt, dynamos, boilers, iron vaults, etc.; cost about \$30,000.

Architect H. E. Siter has prepared plans for a row of four houses for C. H. Glandorf, on Price Hill; brick (pressed, probably), two and a half stories high, pine finish, slate roof, blinds, mantels and grates. It will make a very picturesque row when built, and add to the architect's reputation.

**Cleveland, Ohio.**—Architect T. C. Bates: For Charlotte Evans, two-story store and flat building, 38 by 49 feet; frame, composition roof, bathrooms, gas fixtures, common and plate glass, hot water heat, hard and softwood finish; cost \$4,000.

Architects Cudell & Richardson: For the Cleveland Varnish Company, two-story factory works, 30 by 111 feet, common brick and stone, elevators, etc.; cost \$18,000.

Architect L. P. Eldridge: For the Bethel Union, three-story office, factory and lodging building, 50 by 140 feet; pressed brick, gravel roof, steam heat, gas fixtures, softwood finish; cost \$10,000.

Architect H. G. Slatmeyer: Power house for Street R. W. Company, 49 by 46 feet; common brick; cost \$5,000.

**Findlay, Ohio.**—Architect C. E. Buhl: Two-story residence, 30 by 44 feet; frame, shingle roof, wood cornice, mantels and grates, common and stained glass, bath room, plumbing, oak and pine finish; cost \$3,000.

Architect E. J. Rambo & Co.: For Perkins, Campbell & Co., seven-story factory building, 29 by 87 feet; brick with stone trimmings, iron columns and beams, fireproofing, elevators, steam heat, etc.

Architect C. A. Bassett: Two-story residence, 30 by 40 feet; frame, slate roof, wood cornice, natural gas grates, gas fixtures, wood mantels, plumbing, oak, ash and pine finish; cost \$3,000.

The Harper Bottle Company will erect an \$8,000 factory, to be of common brick, have galvanized iron roof and cornice and iron stairs and shutters. The Findlay Church Furniture Company will build an \$8,000 addition to their works.

**Freeport, Pa.**—Guckenheimer & Bros., distillers, intend rebuilding their distillery, recently burned. The new building will be 50 by 100 feet, five stories high and built of brick.

**Kansas City, Mo.**—The aggregate amount of estimated cost for permits taken out during the month of July is \$1,075,556, plainly showing the activity in building circles this season. On the last day of the month the city voted to issue bonds to the amount of \$500,000 to build a new city hall and public sewer.

Architects Van Brunt & Howe have the plans for a \$60,000 theater and office building, to be built on Walnut and Seventh streets, by D. T. Keller; it

will have a ground area of 46 by 102 feet; common and pressed brick will be used in exterior construction.

Architect D. Underwood has made plans for a \$12,000 amphitheater, to be built by the Kansas City Driving Park Association; it will have a seating capacity for 20,000 people.

Architect I. H. Hill has designed plans for M. H. Hudson for a four-story warehouse, 64 by 120 feet; brick, granite and stone will be used in construction; the cost will be about \$18,000.

**Lawrence, Kan.**—Architect J. G. Haskell has made the plans for church building for the M. E. Society. It will be one story, 95 by 117 feet; stone construction, slate roof; cost about \$30,000.

**Marquette, Mich.**—Architects Scott & Charlton: For A. Mathews, two-story and basement residence; first story cutstone, second story redwood shingles, slate roof, steam heat, etc.; cost \$14,000. For Waynette school board, two-story and basement school building; cutstone, zinc and slate roof, furnace heat; cost \$18,000. Projected: For state board prison commissioners, barn, ice house and walls for house of correction.

**Meridian, Miss.**—Architect A. W. Maas: For A. Rosenbaum, three-story store building, 24 by 75 feet; pressed brick, shingle roof; galvanized iron cornice, iron columns, plate glass, electric lighting, etc.; cost \$10,000.

**Muncie, Ind.**—Architects La Belle & König report five business blocks for Mr. Jas. Boyce. For C. E. Adamson, fourteen-room residence. For T. Neily, eight-room residence. For C. Busch, seven-room residence. For J. K. Ritter, six-room residence. For J. O. Lewellen, eight-room residence. For J. O'Mara, six-room residence. All the above residences frame.

**McKeesport, Pa.**—The directors of the Bank of McKeesport awarded to Daniel Stratton the contract for the construction of their new five-story building, to cost over \$75,000. The school board has decided upon the erection of another school building of two stories and thirteen or fourteen rooms. The cost will exceed \$30,000.

**Palmyra, Mo.**—Architect E. Eake: For D. O. Lane, residence, 32 by 45 feet; frame, shingle roof, outside blinds, wood cornice, iron crestings, mantels and grates, common and stained glass, plumbing, etc. Planning warehouse 40 by 80 feet, to be covered with corrugated iron.

**Pittsburgh, Pa.**—Architect C. W. Hogdon has prepared plans for two handsome frame residences, to be erected on Evaline street by G. H. & W. Radcliffe; also for a residence at Jeanette for Wm. Elkin.

Architect F. C. Sauer has finished plans for a fine brick, stone-trimmed residence, to be erected on Linden avenue by Dr. F. L. Slocum; also for a frame dwelling for Mary Gollinger.

Architect S. T. McClarren has made plans for a frame dwelling for W. R. Armstrong, at Shadyside; for a brick dwelling on Baum street for E. M. Myers; for a handsome frame residence for E. E. Dearborn, at McKeesport; for a frame residence for Dr. S. P. Wangman, at McKeesport; for a new M. E. church in Beulah Park, McKeesport; for a frame dwelling for William M. Bell, at Shadyside; for twenty frame houses for Charles E. Cornelius, to be erected on the Morningside road.

There was a total of 327 permits taken out during the month of July at an aggregate estimated cost of \$1,008,495. Of the number 171 were for brick, 150 frame, 2 stone and 4 iron structures.

The record for the first seven months of the year, give a total of 750 brick, 924 frame, 12 stone and 14 iron structures, at an aggregate cost of \$3,489,978.

**Rockford, Ill.**—Architects G. Bradley & Son: For E. G. Nelson, one and a half story residence, 28 by 46 feet; frame, shingle roof, bathroom, furnace heat, softwood finish; cost \$1,800. For C. E. Herrick, two-story residence, 30 by 52 feet, frame, shingle roof, wood mantels, bath, common and plate glass, softwood finish; cost \$4,500. For A. Cass, Rochelle, Ill., two-story residence; frame, shingle roof, bathroom, laundry, wood mantels, common, plate and stained glass, gas fixtures and machine; steam heat, hard and softwood finish; cost \$7,500. For M. S. Parmlee, two-story residence, 34 by 49 feet; frame, shingle roof, mantels, bath, gas fixtures, common and plate glass, softwood finish; cost \$3,500. For W. Kimball, two-story residence, 34 by 49 feet. For B. F. Davis, Fernwood, Ill., three cottages; cost \$4,500.

## Trade Notes.

THE Western Mineral Wool Company has removed its headquarters in this city to No. 121 Lake street. The interested, as Captain Cuttle would say, should "make a note on't."

THE New Jersey Wire Cloth Company, of Trenton, N. J., has just issued a "fold circular" with the following title, "Practical Tests of the Patent Stiffened Fireproof Wire Lathing." It contains several public test reports of the fireproof qualities of this special lathing material which is of interest to such architects, builders and owners as are unacquainted with its merits, and would be pleased to adopt in their practice, construction and use, a cheap general safeguard against fire. This lathing is well established in the market, and is in daily use, east, west, north and south.

THE following circular from Zimdars & Hunt, New York, is so clearly descriptive of Zimdars' patent air bells that it is published in full for the benefit of our readers: "The very idea of being able to ring a bell, say 250 feet away, by air only, seems almost impossible unless associated with large tubes and a cumbersome pumping machine. Nevertheless, it is an accomplished fact; our patent pneumatic or air bells are now fitted up in some of the finest apartment houses, with nothing but a small push button and an elegant bell and annunciator case visible. The push button contains a small rubber ball or air holder, and is connected with the bell or annunciator by means of a lead tube so small as to resemble an electric-light wire, and which can be bent around corners or pushed through small holes in floors or walls as easily as an ordinary bell wire, the number of bends or turns making no difference whatever to the ringing of the bell. On pressing the button the air is conveyed through the small tube to the bell and annunciator, and never fails to ring and indicate the name or

number of room from which a call is made. The advantage of this system over the old methods will at once be seen. The pneumatic bell is easily fixed by any person of ordinary intelligence. It cannot get out of order, as there are no wires to stretch, no cranks to get loose, no batteries to maintain. For elevators our patent flexible cable is used, thus insuring a thoroughly reliable system of communication between the different floors and the elevator car while in motion. These bells are now used on the finest ocean steamships, and are being recommended and adopted by the leading architects and builders for hotels and private residences."

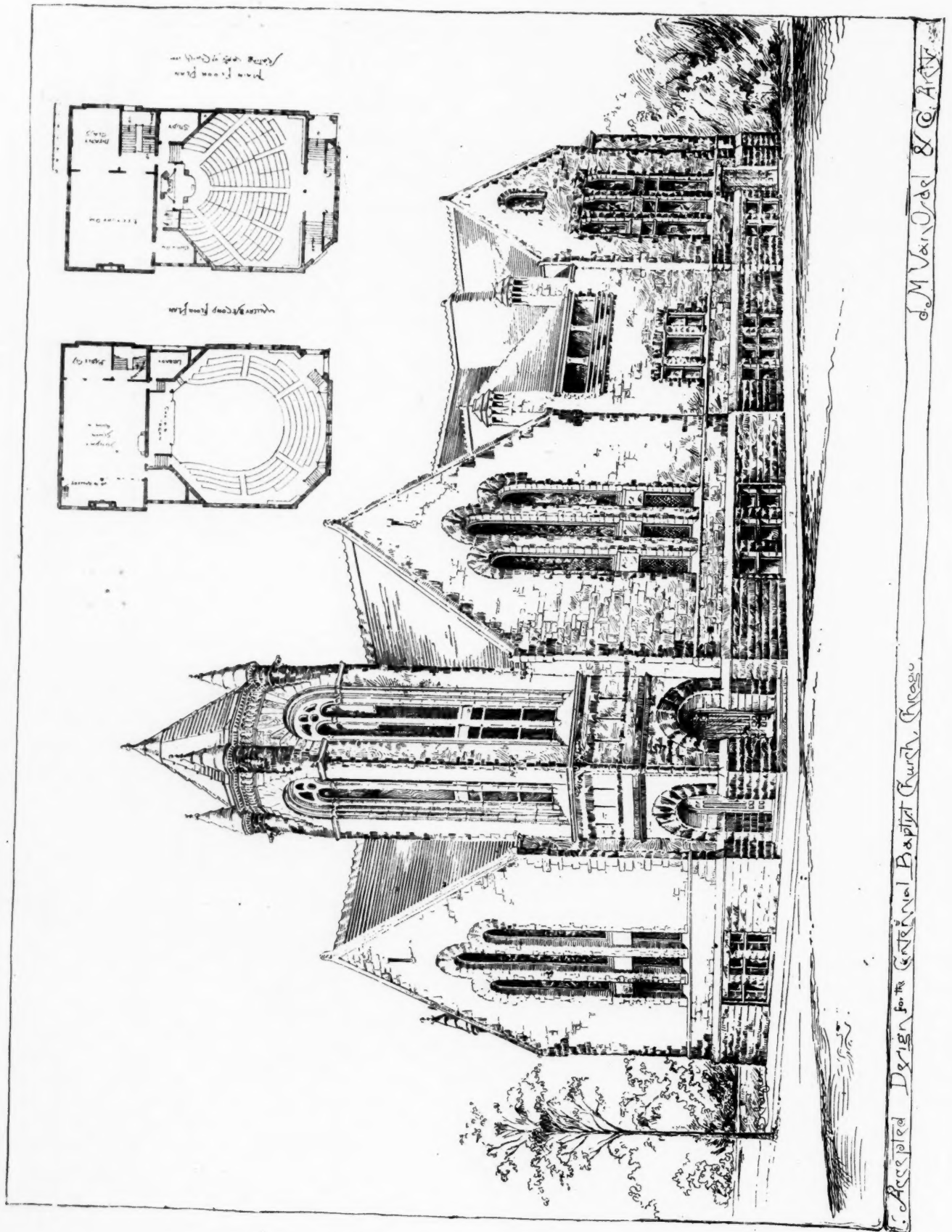
THE Thorn Shingle and Ornamental Co., of Philadelphia, have issued their illustrated catalogue for 1889. It is known to the great majority of architects and builders, perhaps, that the specialties of the company are the "Thorn metallic roofing tiles, hip rolls, ridgings, crestings, finials, etc.," and that they have won a deserved popularity. To those who are unacquainted with their manufactures, and who would like to find an economical and durable roofing material, lighter than slate or tile, they will find in the Thorn metallic tile and shingles the very thing they are searching for, and a most excellent substitute for either slate or tile. Address the company for particulars.

THE matter of steam heat is one that enters into the details of a large number of buildings, both public and private, in these latter times, and the indications point to a still larger application of steam in this direction in the future. A steam generator, therefore, is of no small consequence and should be thought of as requiring three essentials, viz: Compass, safety and economy. The Harrison Safety Boiler, manufactured at Germantown, Pa., possesses these requisites, according to the testimonials of experts and users, in an eminent degree, and it would not be amiss for architects to

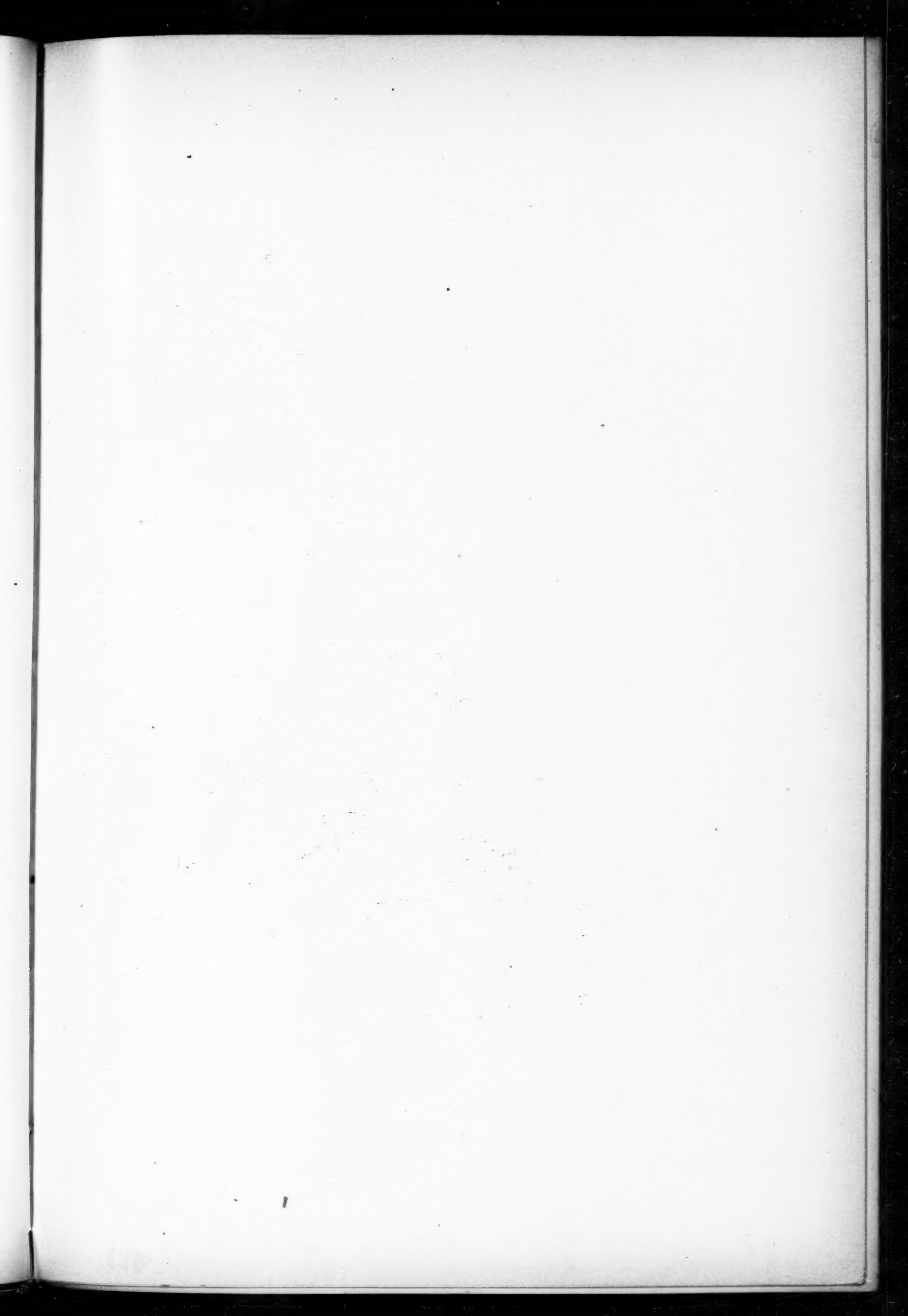
investigate these claims and to remember them in times of need, should the enviable reputation of this steam generator be sustained by the investigation.

THE convenience of a dumb waiter in a large residence, to say nothing of restaurants, is an admitted fact, but until recently no improvement over the old-time, immemorial style of a box, a rope and a weight, was thought of. But times change and improvements have come with the change, even to the dumb waiter. One of the most conspicuous is the "Wheeler improved dumb-waiter," which is being introduced into all well-planned dwellings. The same principle is also extended to a hand elevator for carrying persons—carrying up to three persons, something to be considered when an elevator is desired and the more expensive power elevators call a halt on account of price. Particulars of the "Wheeler" devices can be learned by addressing H. H. & C. L. Munger, 142 Lake street, Chicago.

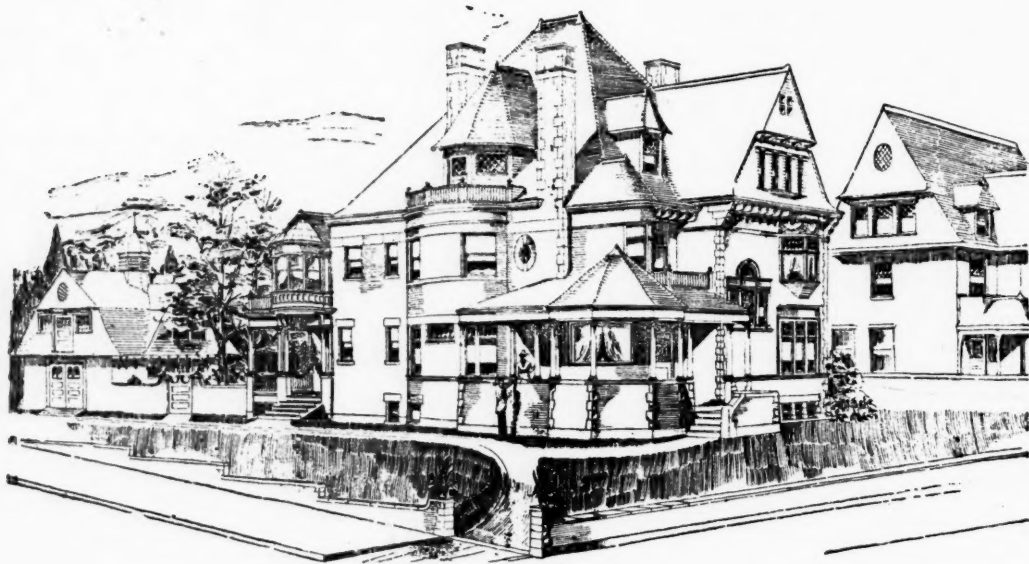
"INGENIOUS" plumbers' supplies do not always have staying qualities, however appearances may be to the contrary, as those who have tested new-fangled apparatus can testify to; but there are others that more than fulfill their promises. There are two being introduced on the market by Mr. Clarence M. Kemp, of Baltimore, Maryland, that, unless testimonials of those who have tested them are untrustworthy, come within the latter class. One, the "Climax Soilpipe Plug," so simple that an inexperienced lad may apply it in a few minutes, and adapted to any character of pipe, and the other the "Climax Sewer-gas and Back-water Trap," a simple device, and one that cannot fail to be effective. It is easily accessible, but is so designed that filth or sediment cannot find lodgment. These are but two among other equally meritorious supplies Mr. Kemp manufactures, which his circulars disclose, and to which the interested are directed.







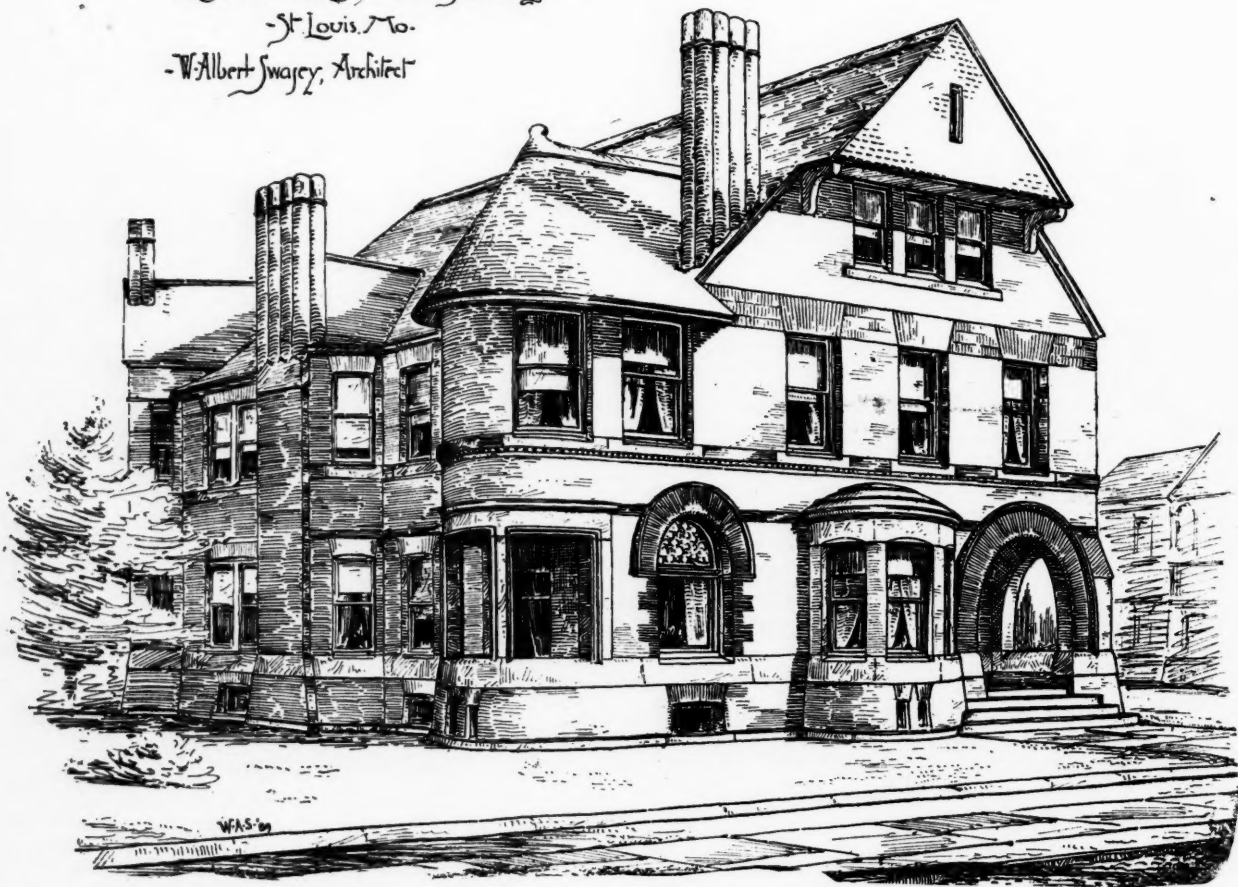
Residence for A. W. Chamberlin Esq.  
Denver, Colo.



RESIDENCE FOR A. W. CHAMBERLIN, DENVER, COLORADO.

KIDDER & HUMPHREYS, ARCHITECTS.

Residence design for James Taussig Esq.  
St. Louis, Mo.  
W. Albert Swasey, Architect

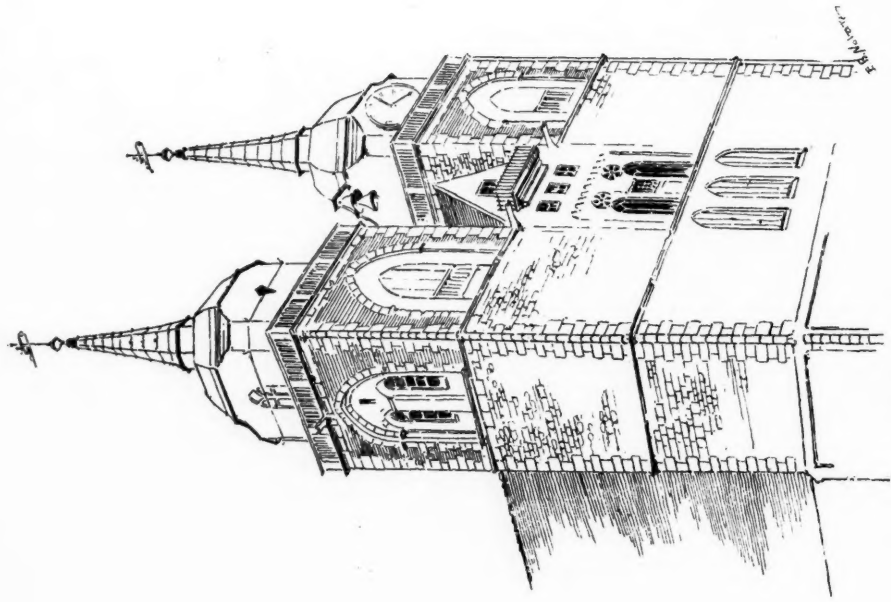


RESIDENCE DESIGN FOR JAMES TAUSSIG, ST. LOUIS, MISSOURI.

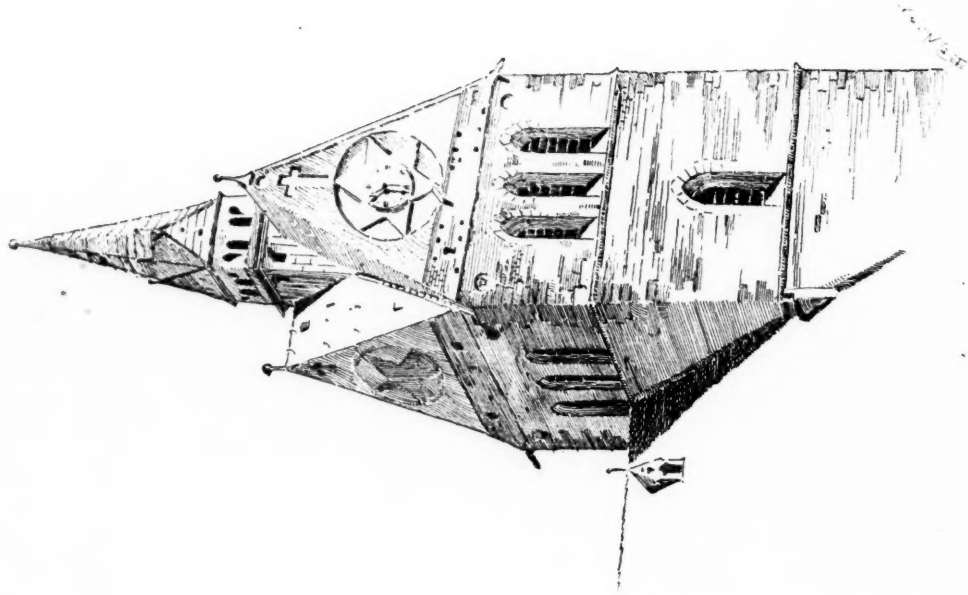
W. ALBERT SWASEY, ARCHITECT.



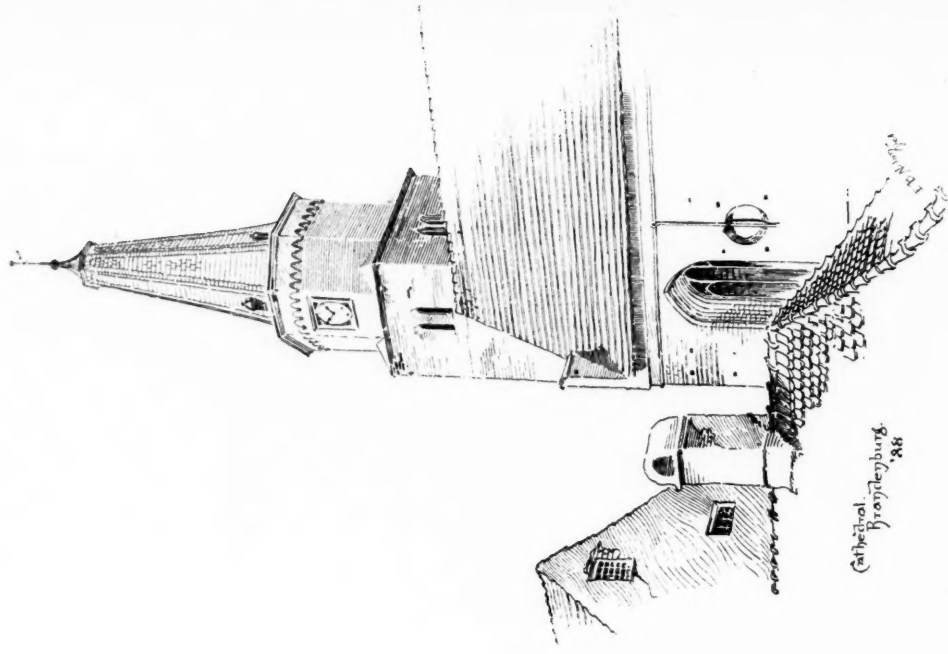




Johanniskirche.  
Magdeburg.  
88.



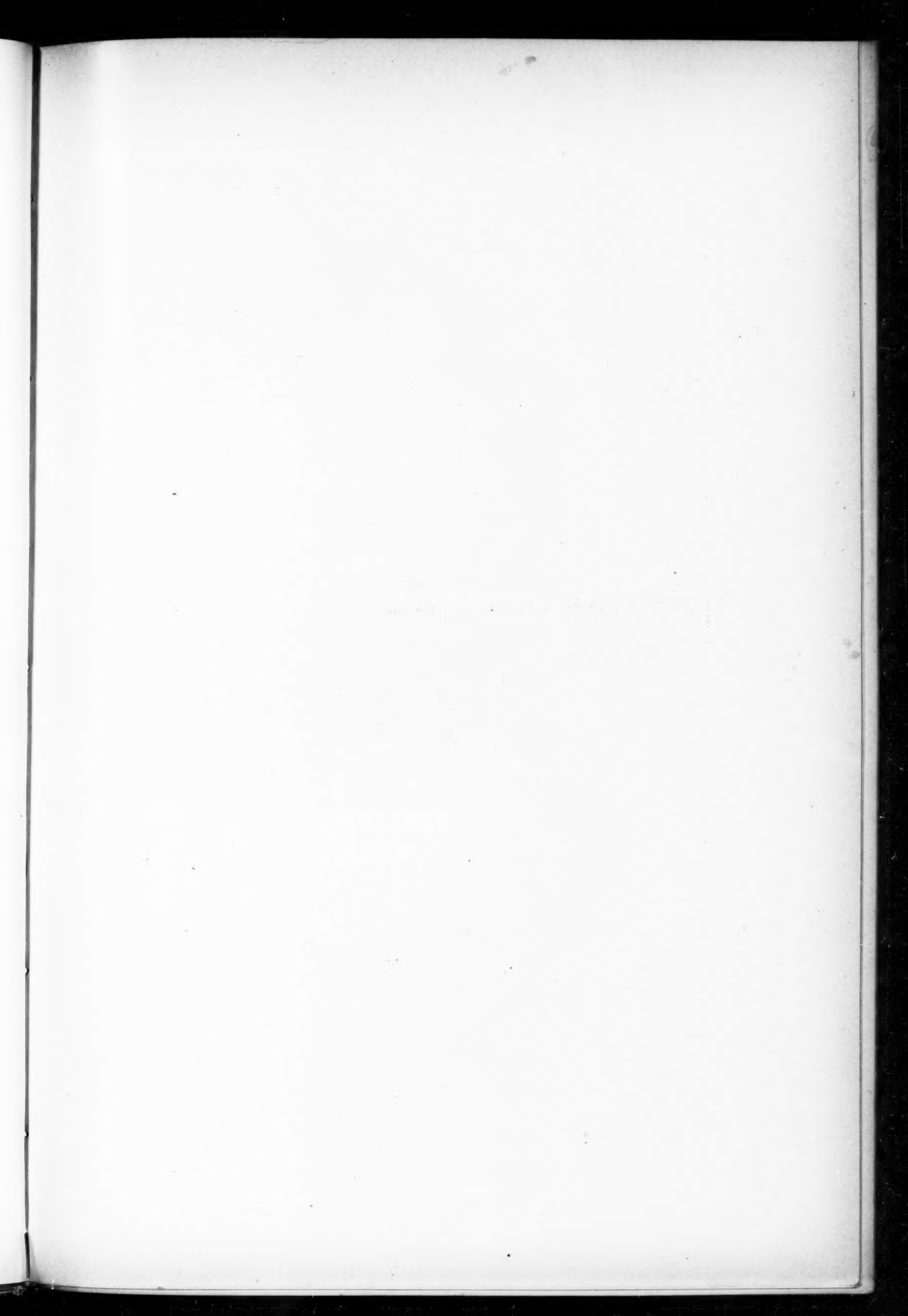
Marktkirche.  
Hanover.  
88.

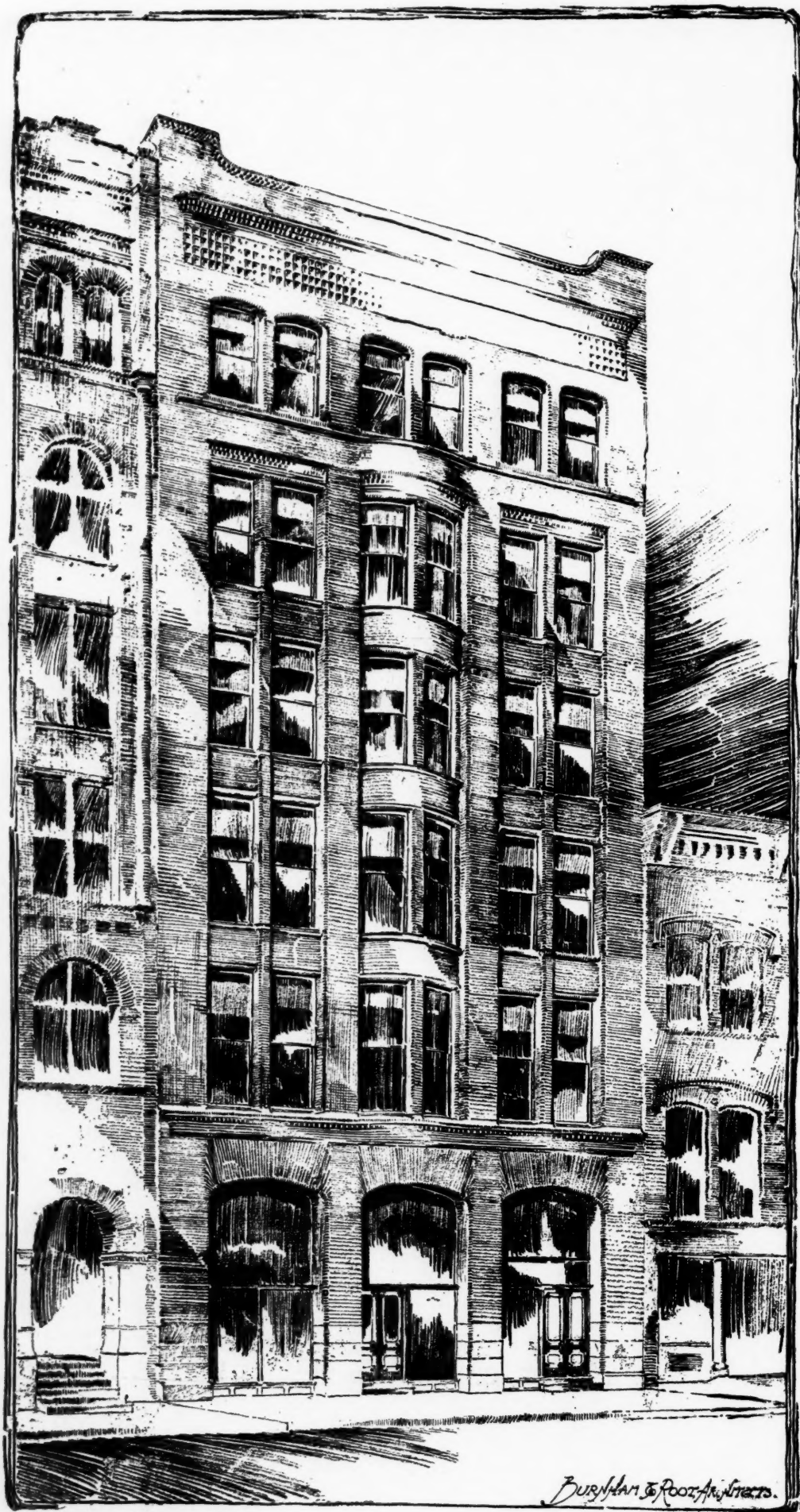


Cathedral.  
Braunschweig.  
88.

SOME FOREIGN TOWERS.







STORE BUILDING FOR T. P. RANDALL, CHICAGO.

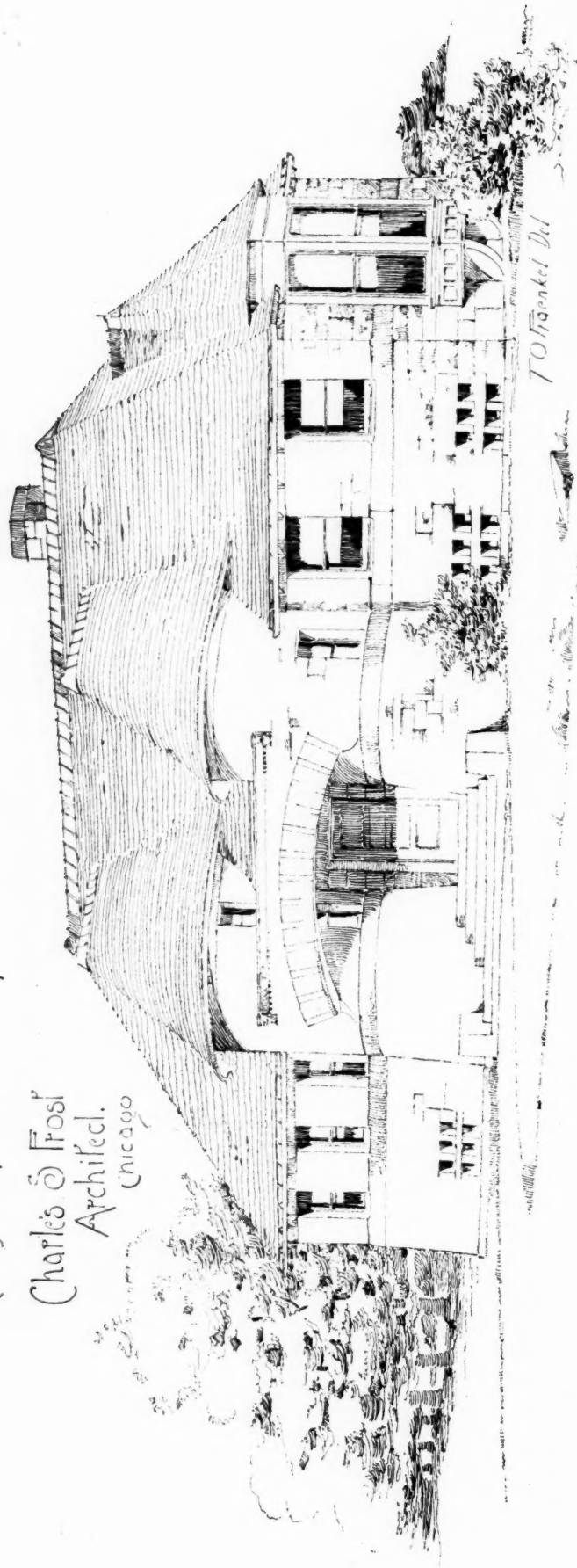
BURNHAM & ROOT, ARCHITECTS.





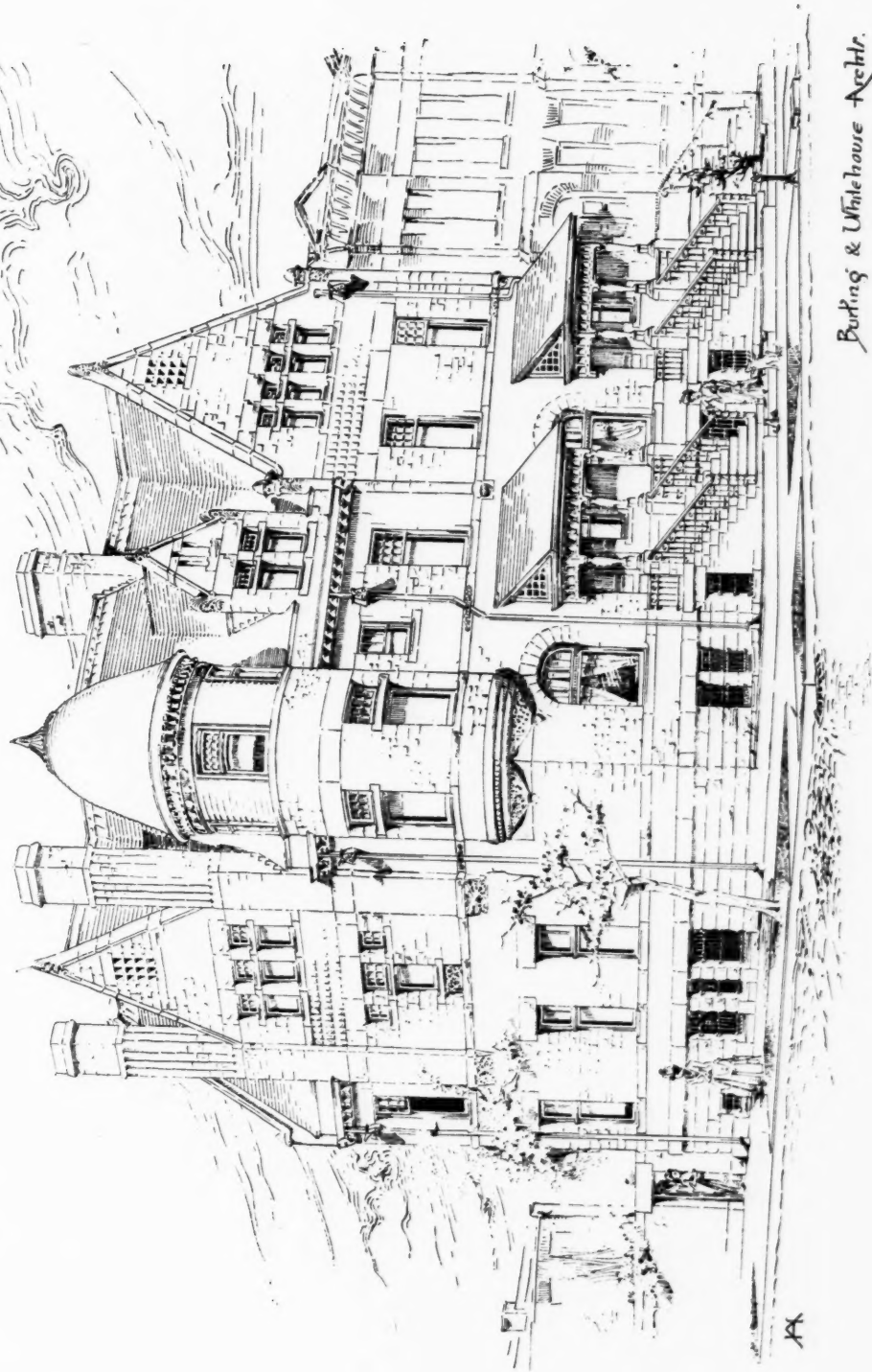
Morgan Park Library

Charles S. Fost  
Architect.  
Chicago



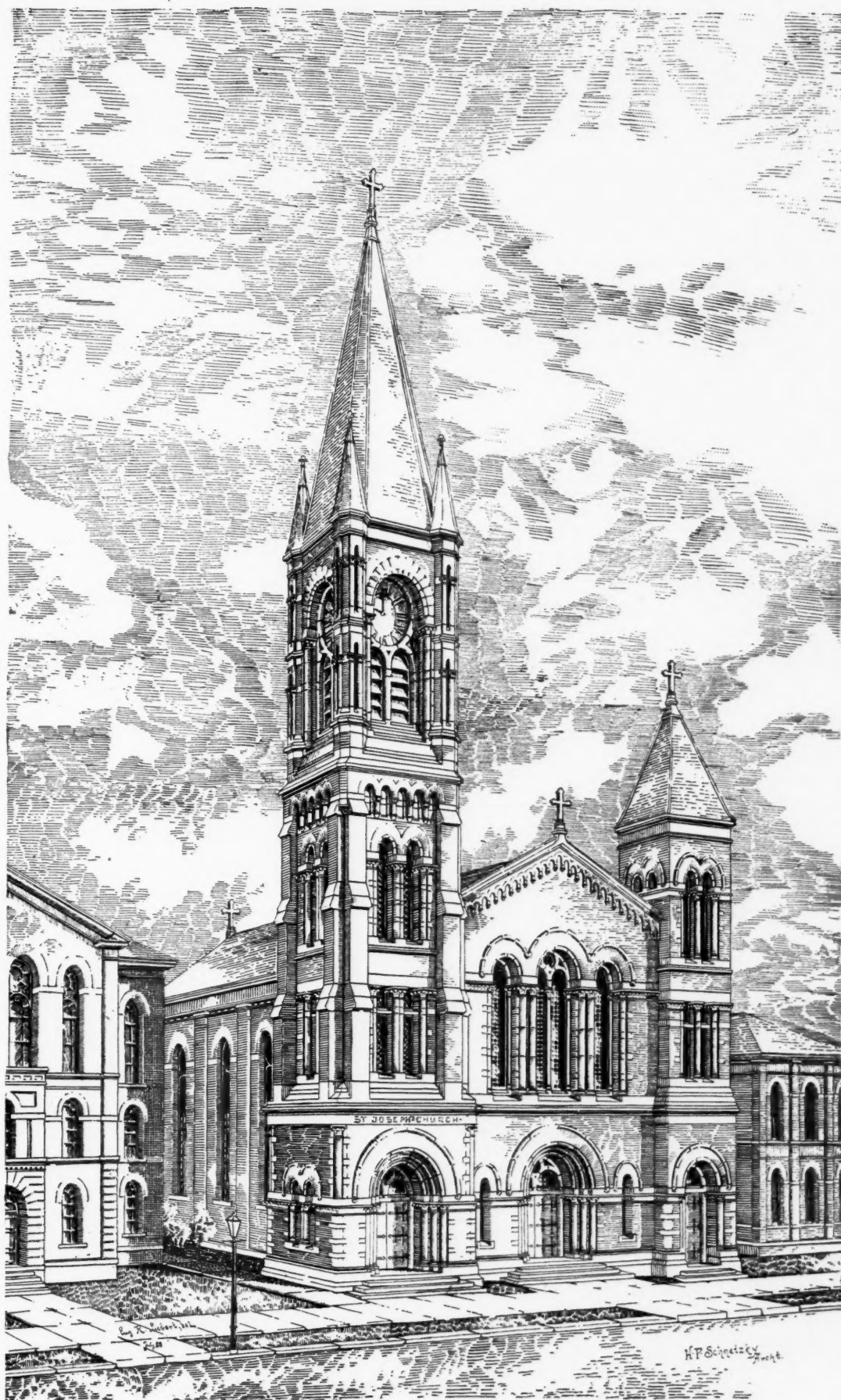


Property of  
*D. E. P. Caldwell*  
ON WABASH AVE & 33<sup>RD</sup> STR  
CHICAGO ILL.



Burling & Whitehouse Archts.



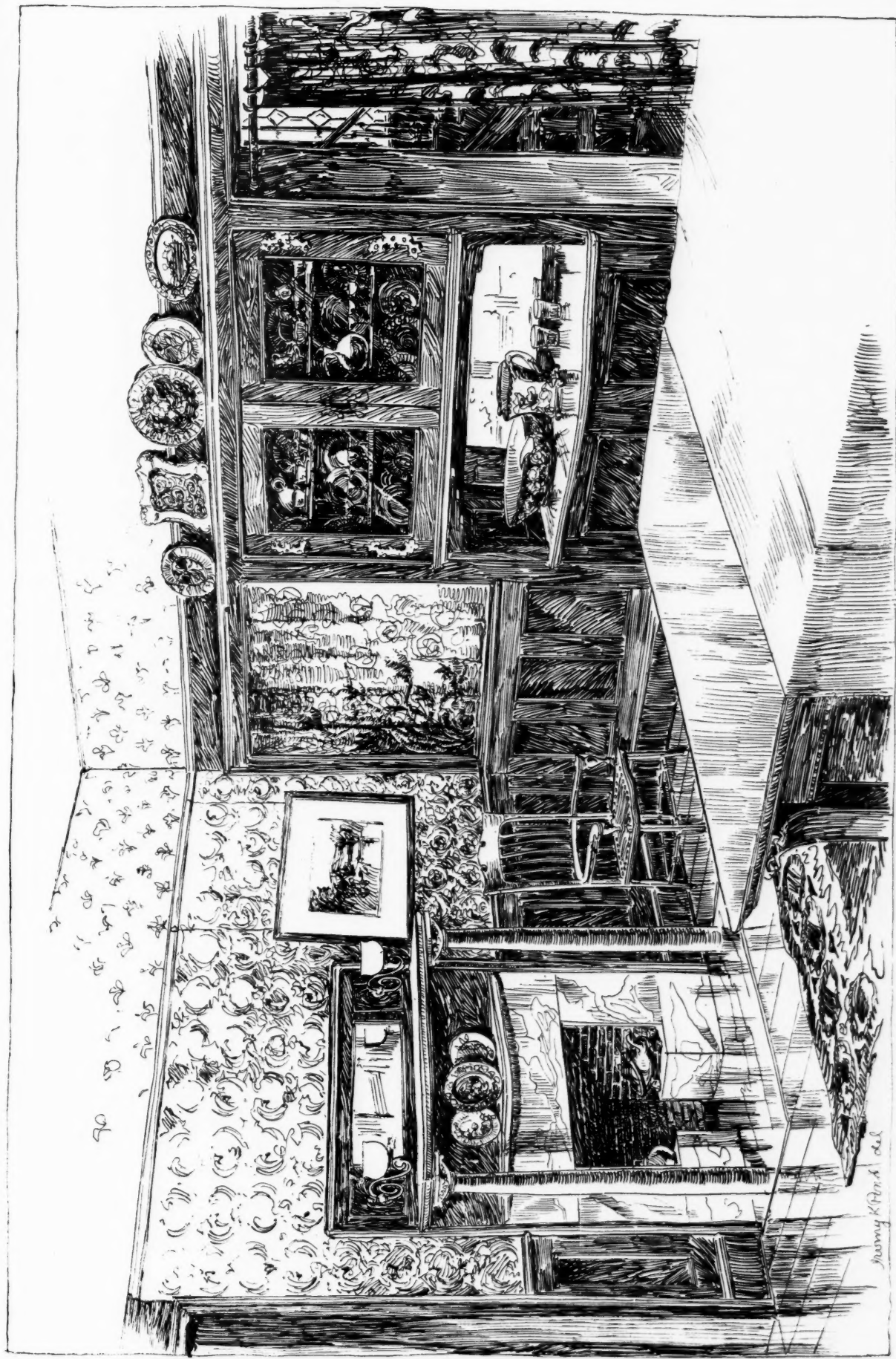


ST. JOSEPH'S CHURCH, MILWAUKEE, WISCONSIN.

H. P. SCHNETZKY, ARCHITECT.







DINING-ROOM INTERIOR, RESIDENCE OF JAMES MULLEN, CHICAGO.

IRVING K. POND AND ALLEN B. POND, ARCHITECTS.

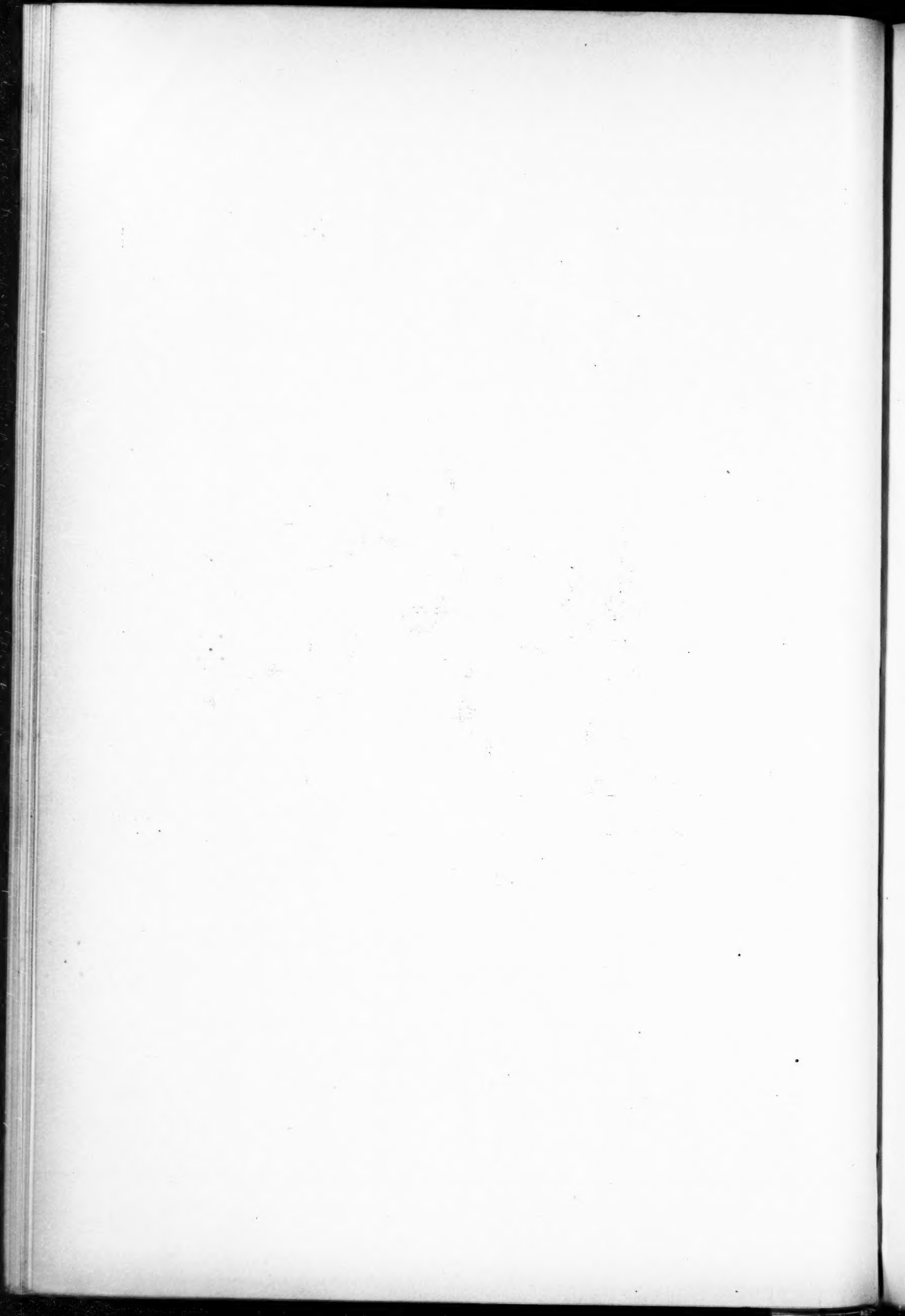






STUDY OF RESIDENCE FOR J. MORTON, CHICAGO.

FLANDERS & ZIMMERMAN, ARCHITECTS, CHICAGO.

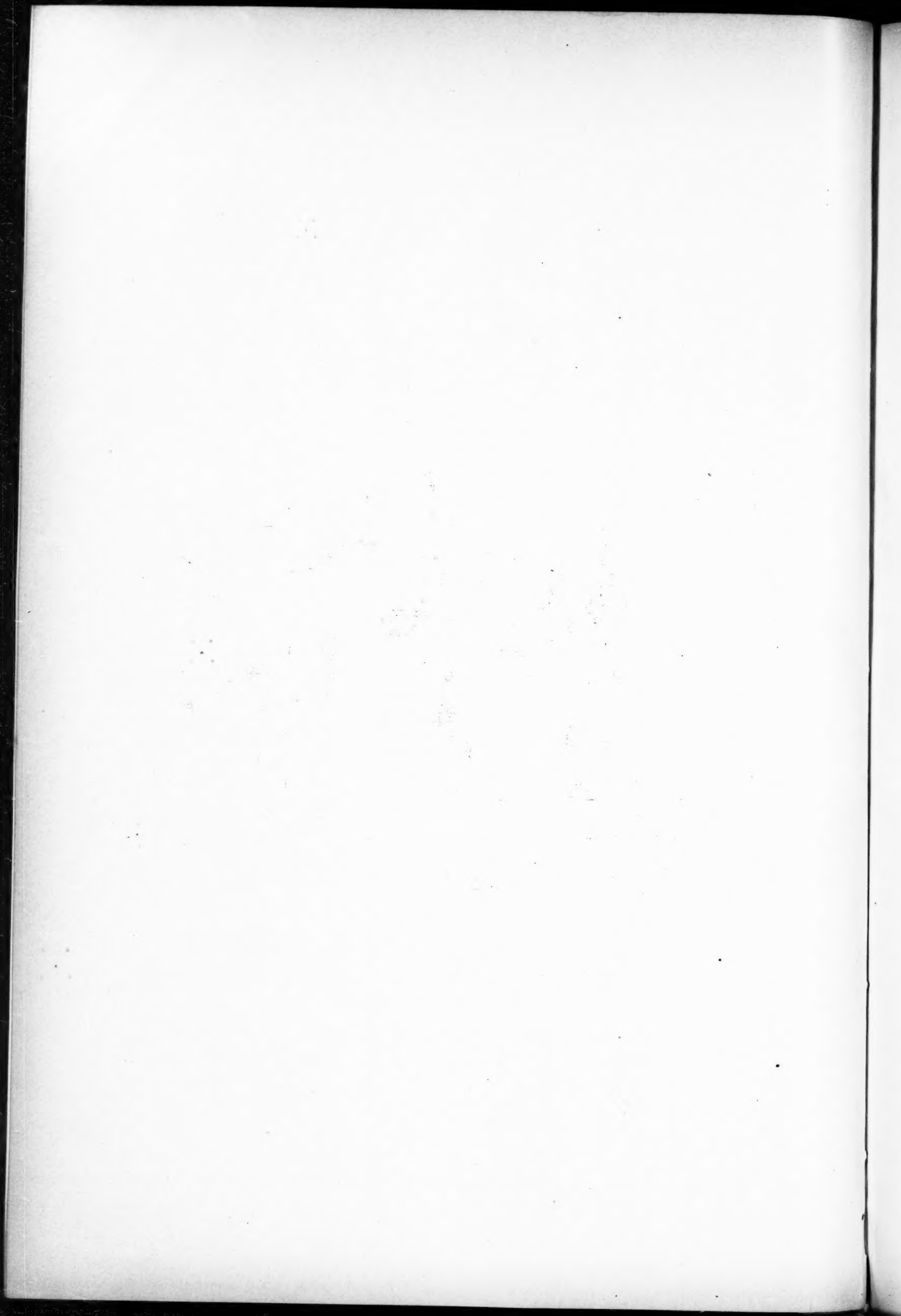


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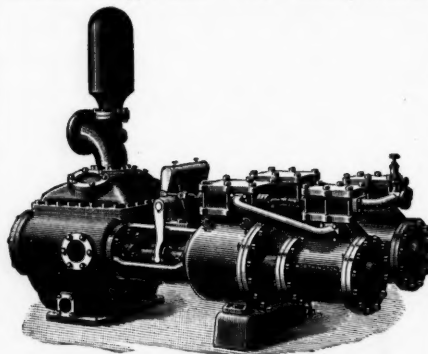
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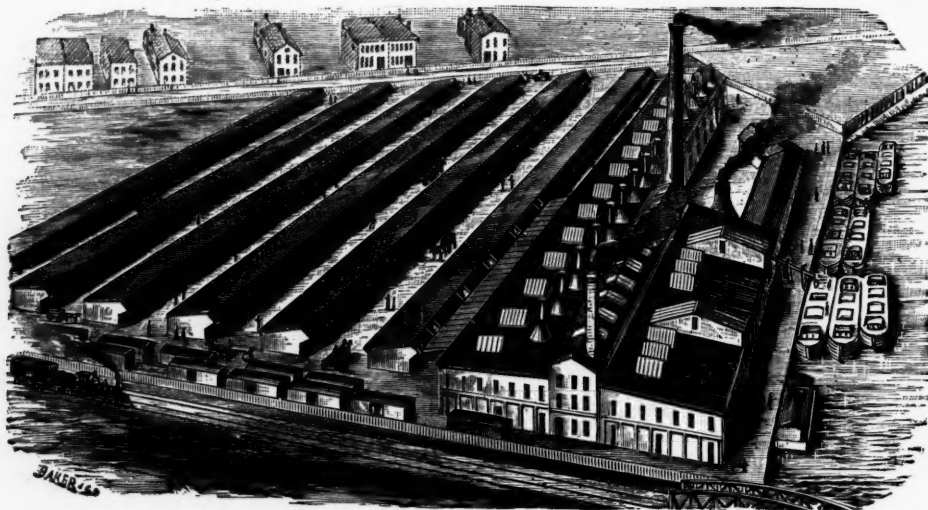
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