

THE INLAND ARCHITECT AND NEWS RECORD

Vol. XVIII.

NOVEMBER, 1891.

No. 4

THE INLAND ARCHITECT AND NEWS RECORD.

A Monthly Journal (with an Intermediate News Number) Devoted to

**ARCHITECTURE,
CONSTRUCTION, DECORATION AND FURNISHING
IN THE WEST.**

**PUBLISHED BY THE INLAND PUBLISHING CO.,
19 Tribune Building, Chicago, Ill.**

L. MULLER, Jr., Manager. R. C. McLEAN, Managing Editor.
C. E. ILLSLEY, Associate Editor.

SPECIAL CONTRIBUTORS:

D. ADLER,	D. H. BURNHAM,	W. L. B. JENNEY,
HENRY VAN BRUNT,	P. B. WIGHT,	IRVING K. POND,
WM. PAUL GERHARD,	LOUIS H. SULLIVAN,	ALLEN B. POND.

TERMS: Regular number, \$3 a year; Photogravure edition, \$8 a year. Single copies, Regular number, 25c.; Photogravure edition (including 7 photogravures), 75c. Intermediate number, 10c. Advance payment required.

THE INLAND ARCHITECT is in no degree the property nor the organ of any architect or collection of architects. Its columns and illustration pages, therefore, are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

AMERICAN INSTITUTE OF ARCHITECTS.

OFFICERS FOR 1892.

PRESIDENT	EDWARD H. KENDALL, New York, N. Y.
SECRETARY	DANKMAR ADLER, Chicago, Ill.
TREASURER	SAMUEL A. TREAT, Chicago, Ill.

VICE-PRESIDENTS:

FIRST VICE-PRESIDENT	ALFRED STONE, Providence, R. I.
SECOND VICE-PRESIDENT	E. C. CABOT, Boston, Mass.

BOARD OF DIRECTORS:

For three years.

RICHARD M. HUNT, New York, N. Y.	C. F. McKIM, New York, N. Y.
E. M. WHEELRIGHT, Boston, Mass.	WILLIAM WORTH CARLIN, Buffalo, N. Y.
JAMES W. McLAUGHLIN, Cincinnati, Ohio.	S. S. BEMAN, Chicago, Ill.
WILLIAM S. EAMES, St. Louis, Mo.	WILLIAM C. SMITH, Nashville, Tenn.

For two years.

W. M. POINDEXTER, Washington, D. C.	GEORGE B. FERRY, Milwaukee, Wis.
C. J. CLARK, Louisville, Ky.	GEORGE C. MASON, JR., Philadelphia.
LEVI F. SCHOFIELD, Cleveland, Ohio.	E. F. FASSETT, Portland, Me.
M. J. DIMMOCK, Richmond, Va.	A. W. LONGFELLOW, Boston, Mass.

For one year.

CHARLES A. CUMMINGS, Boston, Mass.	HENRY VAN BRUNT, Kansas City, Mo.
JAMES G. CUTLER, Rochester, N. Y.	CHARLES E. ILLSLEY, St. Louis, Mo.
JAMES H. WINDRIM, Philadelphia, Pa.	H. J. HARDENBURGH, New York, N. Y.
WILLIAM LE BARON JENNEY, Chicago, Ill.	CASS GILBERT, St. Paul, Minn.

STANDING COMMITTEES FOR 1892.

Committee on Foreign Correspondence: Richard M. Hunt, chairman, New York, N. Y.; William Le Baron Jenney, Chicago, Ill.; Dankmar Adler, Chicago, Ill.; Charles F. McKim, New York, N. Y.; Henry Van Brunt, Kansas City, Mo.

Committee on Education: Professor Russell Sturges, chairman, New York, N. Y.; Professor William R. Ware, New York, N. Y.; Professor N. Clifford Ricker, Champaign, Ill.; T. M. Clark, Boston, Mass.; Professor C. Francis Osborne, Ithaca, N. Y.

Committee on Code of Professional Ethics: Louis H. Sullivan, chairman, Chicago, Ill.; E. H. Kendall, New York, N. Y.; W. W. Carlin, Buffalo, N. Y.; Henry Van Brunt, Kansas City, Mo.; R. W. Gibson, New York, N. Y.

Committee on Clerk of Works: R. W. Gibson, chairman, New York, N. Y.; D. Adler, Chicago, Ill.; W. G. Preston, Boston, Mass.; J. W. McLaughlin, Cincinnati, Ohio; J. G. Cutler, Rochester, N. Y.

Committee on Uniform Contract: O. P. Hatfield, chairman, New York, N. Y.; D. Adler, Chicago, Ill.; Alfred Stone, Providence, R. I.

Committee upon Conservation of Public Buildings: The presidents of Chapters.
Committee on Competition Code: (To be appointed by the Board of Directors.)

Twenty-fifth
Annual
Convention
A. I. A.

The convention at Boston was the largest in attendance of any in the history of the old Institute, and almost rivaled in numbers the conventions of the Western Association. The election of Edward H. Kendall, of New York, gives the Institute for the coming two years a president who will represent the Institute with grace and dignity. Mr. Dankmar Adler, the secretary, is too well known in association affairs to need extended mention. His work is always thorough, his judgment sound, and he has the confidence of every member. The work done by the convention was not as far reaching as it might have been, owing to the loss of a secretary early in the year, and consequent confusion. The various committees, however, were continued, and as in the future all papers and reports are to be printed and circulated to the members a month in advance of the convention, members will probably come to the next convention with concreted ideas, instead of the vaguest kind of impressions. The president's address was a masterly effort, and gives a fair synopsis of the present architectural status in this country, as well as a sketch of those events leading up to it. Probably the most important committee appointed was that upon World's Fair matters, and as ex-President Hunt is chairman of this committee, and intimately acquainted with many foreign societies, his committee will give valuable aid in securing coöperation of foreign societies in the preparation for a world's congress of architects in 1893, and an architectural exhibit in connection therewith. The place of next meeting was not decided upon, being left to the directors at their January meeting, or a future meeting of the Executive Committee.

The Chicago
Public
Library
Competition.

The city of Chicago is to have a public library to cost a million and a half, to be erected on one of the most prominent lake shore sites in the city, to be a whole block long and half a block wide and to start out with an equipment of five hundred thousand volumes. It is also to be erected of enduring granite, "to withstand the ravages of time," as we are informed by the daily press. Of course there is to be a competition. Five architects are to receive \$1,000 each for some drawings, and every one else who wants to may come in as outside scrambler. But the astute building committee has apparently determined to hold a close rein on the architects, it has invited and limited their capacity for mischief to the more unimportant and chiefly ornamental parts of the building. The architects are not to make the plans nor meddle with them unnecessarily. This has been attended to by the committee itself, which, with the president of the library, has spent six months on the plans, and has had them all drawn out in detail with sections, etc., showing the shapes, sizes, location and arrangement of all the rooms, offices, stairs, etc. As these plans have been published in the daily papers, architects are now afforded a rare opportunity to enlighten themselves as to the correct practical way of designing libraries, and they will, perhaps, appreciate a few "pointers," as business men say. There will be a reading-room on the first floor, 50 by 52 feet in round numbers, to accommodate ninety persons, who will climb the stairs to the delivery counter

on the second floor, twenty-two feet above, every time they want to get a book, return it or change it. This room is doubtless for juveniles, who do not mind stair-climbing, rather like the fun, in fact. Thus their visits to the library will exercise mind and muscle together. On the second floor the general delivery-room and counter occupy nearly as much area as the whole of the four book-rooms, which are to contain the five hundred thousand volumes. This seems to anticipate a lively demand for books and for frequent changes of books. But, after getting the book, there is no visible place where one can sit down to read it, unless he redescends to the 50 by 52 reading-room on the ground floor, twenty-two feet below, or ascends another flight to the third floor and traverses the whole length of the building to the reading-room on the Randolph street end. It is more than likely that the novel idea of locating the reading-rooms so remotely from the delivery desk and on different floors at the opposite extremes of the building would never have occurred to an architect, hence it is especially noteworthy. Of the four book or stack rooms, each about 40 by 50 feet, all but one receive light from one side only, except what may be furnished by skylights. Any one familiar with the close arrangement of books in a "stack" will see how completely this arrangement prevents the fading of the covers and bindings of the books from excessive illumination. Skylights are mentioned, but the section shows two stories of rooms for periodicals over one of the book-rooms, where, therefore, the skylight will hardly avail for the lowest floor. Nothing appears on these plans in the way of a reference library, nor of a reading-room for papers and magazines, nor for conversation-rooms, study-rooms, etc., nor for pictures and bric-a-brac. No elevators are shown, nor dumb waiters, and no toilets. A common failing with architects is to fill up a building, more or less, with "notions" of this kind. There is, at the Randolph street end, a memorial hall and an assembly hall, accessible only by the entrance at that end. This, however, merely balances the fact that the library and its reading-rooms are accessible only by the Washington street end. One end has no advantage over the other in this regard. It should not be forgotten that, so far as known, the building committee, which has worked out these instructive plans, has never accomplished nor attempted the planning of a library before, nor, indeed, of any other public building. In view of their success the query naturally arises, "Why did they not take another six months and design the exterior also, instead of paying five thousand dollars to architects and giving them till January 2, 1892, to do it in?"

**The Lewis
Manual
Training
School.**

Under the terms of the will of the late Allen C. Lewis, of Chicago, that city will soon have a large and completely equipped training school added to its list of educational institutions. Ground half a block in extent on the corner of Morgan and Van Buren streets is donated as a site, and the buildings thereon are being removed preparatory to breaking ground for the proposed structure. Chicago, next to Philadelphia and New York, leads the cities of the country in the matter of training and trade schools. It has introduced manual training departments into its public schools, its citizens have maintained for years a splendid manual training school that has already turned out young men that will do honor to those who placed the means of

obtaining an education for their hands as well as their heads at the disposal of the youth of the city. The bequest of Mr. Lewis goes farther and permanently endows the school which his munificence is building; and the example will lead wealthy men, not only in Chicago but in other cities, to provide less for the wrecks already cast upon the shore of misfortune and more for those about to build the ship that is to carry them, and aid them in building wisely and well, and so train them in its management that a safe voyage will come to every prudent sailor. It is better to prevent than to mend, and in this country, with its population gathered from all countries, and where the success and fame of the country depends upon its productive capacity, there cannot be too many opportunities open for the young to learn trades and see in them a most honorable career.

**The Womans'
Building
at the
World's Fair.**

Among the wonders with which the World's Fair will edify the nations will be the spectacle of a building of large proportions and handsome design, erected and superintended entirely under the direction of a woman architect. While this is not the only instance of the kind in the United States, it will be the first which most of the visitors to our Fair will ever have seen, and it will undoubtedly attract a great deal of attention and will lead to an immediate increase both in the number of lady pupils in architectural schools and the number of schools open to them. Yet it would be premature to anticipate a large and permanent influx of women architects in the profession. The physical difficulties of superintending and of acquiring that practical knowledge of detail which comes only through superintending, must constitute a permanent barrier to success in this line which will always confine the number of women architects, probably, within narrow limits.

**The Field
for
Women
Architects.**

But there need be no lack of employment for all the architectural knowledge and talent women may acquire in the design of artistic furniture, for which the field is unlimited, and in the invention of decorative detail for house interiors such as grilles, mantels and fireplaces, chimney nooks, etc. Those with a talent for color may turn to stained and decorative glass or to mosaic, or to mantel design in marbles and other ornamental stones. There are firms which make a specialty of stair building, and require new designs for newels, balusters, railings, etc., and for new arrangements of stairways. These are a few of the occupations now open to women capable of making working drawings and possessed of architectural taste.

**Building
Theory
and
Practice.**

Architects sometimes have their fun over the mistakes which contractors fall into when they essay anything beyond the line of their experience in architectural matters, and contractors in turn entertain themselves with the odd things dropped by the man more familiar with the T-square than with the mortar shovel. The latest story is on the contractors' side. A number of massive cast-iron "stools" were being placed on footings of iron beams and concrete, to carry a stack of interior columns some twelve stories high. The architect discovered what struck him as a strange omission, and asked the contractor why he had not bedded iron rods into the concrete footings so as to run through the stools and hold them firmly in place. The contractor's reply was, that when the building was finished he would "place a prop on top of it, to hold it down."

Architecture and the Allied Arts.

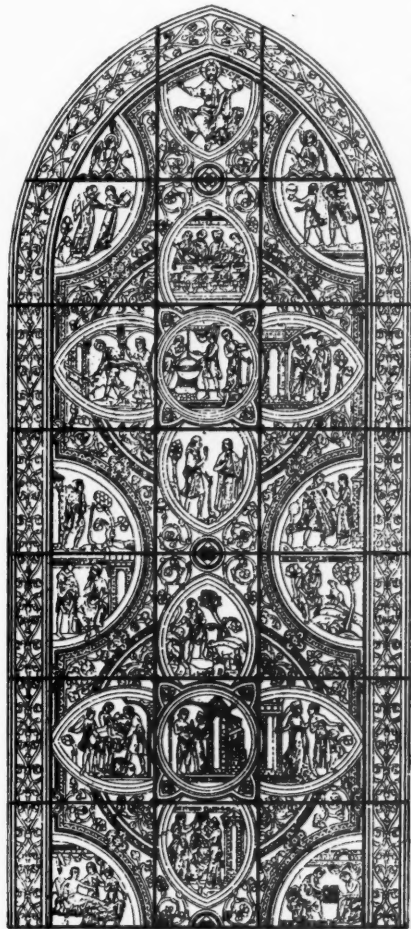
BY BARR FERREE.

PART IV.—Continued.

GOTHIC architecture in Italy may be briefly characterized as one in which the wall, as distinguished from the opening or window, is the chief feature. In the North it is the opening, be it doorway, arch or window, which makes up the chief features of the architecture and defines the ruling lines of the building. In the South a large part of the general result depended on the paintings for which the unbroken walls afforded ample facilities. In the North

the richness of the architectural features rendered another system imperative. Primarily this is dependent on the difference in climate, the warm temperature of the South necessitating small openings, while the cold of the North as naturally suggested large ones, in order to admit as much of the light and heat of the sun as possible. Attention to this simple natural law would never have produced such striking results in the North had it not been for the invention of painting on glass.

Painted glass is, in truth, the art of the middle ages. It is the one feature which had never been used in the other great styles. It is the art which received the most characteristic development from the hands of mediæval artists, supplying



STAINED-GLASS WINDOW FROM CHARTRES CATHEDRAL.

the most striking and brilliant monuments of mediæval art. Almost before its technical processes had been mastered it was eagerly adopted as an effective means of decoration, and in a comparatively short space of time it became the leading element in Gothic architecture. Windows were made as large as possible and were opened close up to the roofs, which were compelled to conform to their shape in order to gain space for this decoration. The brilliancy of Italian wall paintings pales beside the colors that were wrought into the windows of the great northern cathedrals, for no architectural decoration equals the effect of a great clearstory ablaze with the myriad colored lights of the windows. Yet these brilliant results were brought about by the simplest processes. The windows were made up of small pieces of glass of solid color, held in place by a framework of lead. A few dashes of neutral tint applied by the brush gave scarcely more than a suggestion of shading. The effect was obtained by the use of broad pieces of color, and in the earliest and best specimens there is no perspective nor blending of light and shade. This system, and the further fact that the outlines of the figures, being in reality the frame which held the glass in place, were much more pronounced and irregular than they would be in any painting, places an impassable barrier between the art of stained glass and mural decoration.

Mr. Moore, "Development and Character of Gothic Architecture" (p. 69), maintains that the increase in the size of the clear-story windows was independent of the use of stained glass, and was the natural development of Gothic architecture. This is undoubtedly true if the word Gothic is confined to structures which represent the

most complete development of the vault and arch, but it is certainly not unreasonable to conclude that the mediæval builders, who evinced a wonderful degree of sensibility to the requirements of climate and other natural conditions, may have been further influenced by climatic reasons for the persistent forms of openings used in the North and South. The desire for light and a surface for decoration may have suggested the structural evolution that was afterward characteristic of both regions.

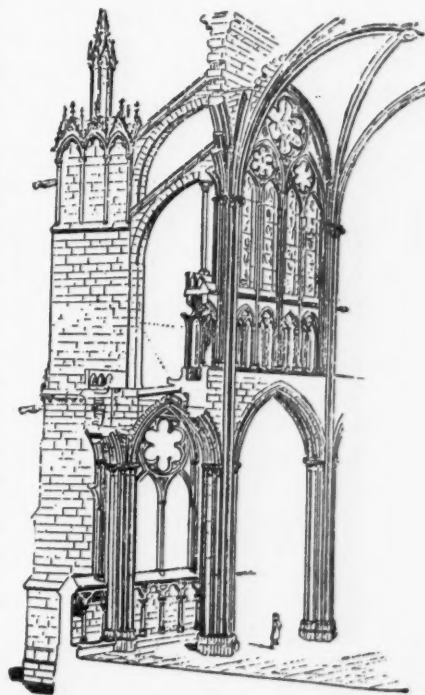
A glance at the structure of a northern cathedral will show how admirably this decoration was suited to the architecture, and, conversely, how admirably the architecture suited it. The typical cathedral had, first of all, a nave, on which opened the aisles, one or two on either side. These aisles were lighted by windows which were made as large as possible, not only that a good light be had to illumine them and the lower part of the nave, but that a large space be secured for painted glass. Above the arches which separated the nave from the aisles was the triforium or gallery, a series of blind arches which opened into the space formed by the roof of the aisles. Sometimes these were closed and ornamented with a painted decoration or left plain, but as a rule they were open. Over these sometimes ran another row of arches forming an arcade, as may be seen in the Cathedral of Laon, and above were the windows of the clear-story. More generally, however, the clearstory windows opened directly above the triforium. These, like the windows of the aisles, were made as large as possible.

In later times, when the details of construction had been mastered, and the architects were no longer put to the necessity of experimenting in statics, the clearstory windows presented an almost unbroken field of glass and offered an unexcelled opportunity for the use of this most effective style of decoration. The whole structure thus consisted of a series of arches. The weight of the building was concentrated on certain points, and the walls, becoming mere curtains that simply filled the space not occupied by the windows and arches, lost their constructive functions. In such a system there was no opportunity for the large wall paintings that formed the chief features of southern buildings, for there was absolutely no space on which they could be exhibited.

Nor was this the only reason for not employing them. The brilliancy of painted glass is of one kind, and that of a wall painting of another. Each has its own field; apart, they shine with undimmed luster, but place them together and the colors of one look tame and insignificant beside the other. Each loses part of its own brilliancy without adding to that of the other. The mediæval architects were too good artists and understood too thoroughly the laws of combination and color to permit such a solecism, and the two forms have not often been placed in conjunction.

It should be remembered that this applies to painted glass containing representations of scenes and incidents. Colored glass was used to a more or less extent in all the churches of Europe, but there was not often a full, free use of it in conjunction with a corresponding development of wall painting or decoration. There were some exceptions, notably the Sainte Chappelle of Paris, in which the lower portions of the walls were filled with a rich colored decoration and the upper part occupied with painted windows.

While painting on glass was the chief dependence of the Gothic architects, it must not be inferred that they neglected other methods or failed to avail themselves of all possible aids. Painting on glass had the great merit of surpassing beauty and remarkable brilliancy, but it also had the disadvantage of perishability. Scarcely one of



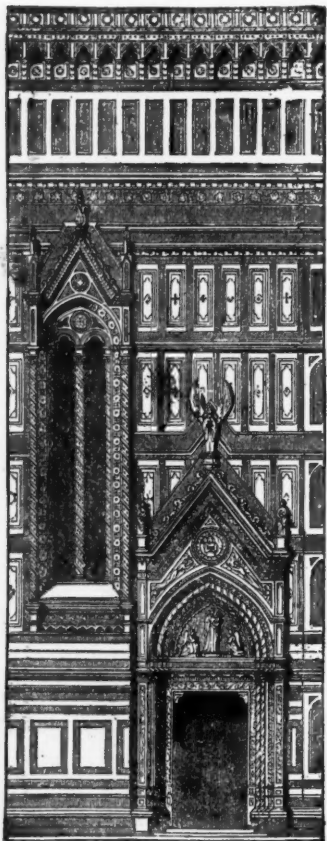
FLYING BUTTRESSES IN NAVE OF ST. DENIS.

the great cathedrals has retained its painted glass complete to the present day. France, where it reached its finest development, has been too frequently plunged in war to retain much of so fragile a substance. Enough has, however, remained to enable us to estimate its glories in the days of its perfection. The Cathedral of Chartres retains nearly all the mediæval glass in its 146 windows, and many lights still remain in the cathedrals of Tours, Troyes, Bourges, and other great churches. In France, no window has received more attention or was more elaborately decorated than the great rose window which was an important feature in the façades of nearly all the cathedrals. On these the builders lavished the utmost resources of their art in sculpture, designing the most fantastic and complicated forms conceivable and filling in the open spaces with brilliant glass. The window on the west front of Chartres Cathedral is a remarkable example; it contains a representation of the Last Judgment. Other splendid specimens are to be found at Reims, Amiens, Evreux, Tours and S. Ouen at Rouen.

In England, time has been scarcely more kind toward painted glass than in France. The most characteristic development is now in the east window over the high altar. In France a cluster of chapels formed the furthest end of the cathedral; in England the west end was square and almost completely filled by a great painted window, which thus became the most conspicuous feature of the interior. These walls of glass—for they were nothing else—are among the most striking features of an English cathedral. It is somewhat remarkable that the French should have made the window over the doorway the most important one in their churches, while the English made that over the high altar, which had frequently a sculptured reredos.

Of the accessory arts, painted glass more nearly approximates mosaic in its general effects. The Romans employed pieces of glass

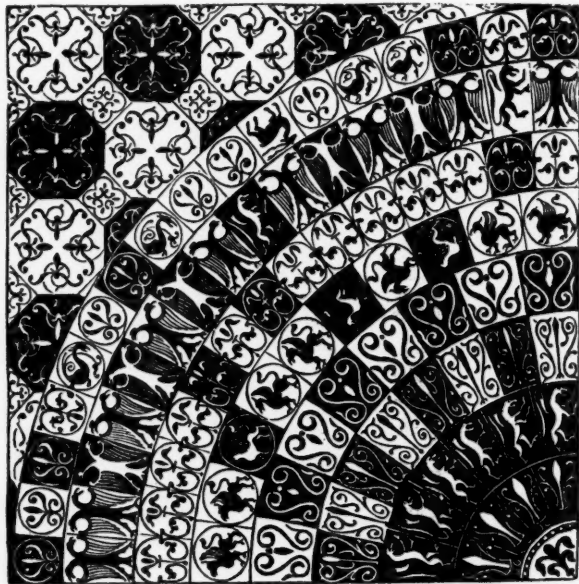
of various hues to eke out the stones of the mosaist. The effect of mosaic is much more brilliant than that of painting, though it never had the intense body of color shown by glass, which may be not inappropriately compared to transparent mosaic. Mosaic, as we have seen, was first used on a large scale as a wall decoration by the Byzantines and those who followed their methods or worked under their influence. Many of the older churches of Italy, of which S. Vitale at Ravenna is a conspicuous example, abound with this work, which was practiced to a relatively late day. Much of the drawing was crude, but the colors were extremely brilliant and rich, while the gold background added to the splendor of the result. It was used both on the outside and inside of buildings, and had an advantage over painting in being able to withstand the ravages of time and climate. Those storehouses of Italian Gothic, the cathedrals of Sienna and Orvieto, are both decorated on the exterior with mosaics, which add very materially to the



EXTERIOR DECORATION OF CATHEDRAL AT FLORENCE.

effect of the façades. These mosaics are pictures, representing scenes from scripture or tradition, but another kind of mosaic, an inlaying of colored stone on the surface of the wall in geometrical designs or arabesques, was exceedingly popular in certain parts of Italy and became a characteristic decoration. The Cathedral of Florence, which ranks among the greatest of mediæval cathedrals, has its sides entirely covered with an inlay of this kind, in which a veneer of costly marble forms a decorated surface. The system was peculiar to Italy, and was doubtless a survival of the Roman system of veneering. The edifice was thus apparently constructed on the

costliest stones. The exterior walls were ornamented, not as in the North by buttresses, flying buttresses and like adjuncts, but by this ornamental design, which offered no relief and whose merit was the beauty derived from the color of the various stones which entered into its composition, not from any structural conditions. It frequently happened that funds gave out before the decoration was completed, as it was very expensive. Parts of churches have remained to the present time in the bare, rough, unfinished state in which their builders were forced to leave them. The Cathedral of Florence itself is a striking example of this, the façade never having been decorated by its builders, but remaining in an uncompleted state to our day, when the enthusiasm of a united Italy produced the funds required for its completion. The system is one that cannot be commended on structural grounds, since there was no integral connection between the mass of the building itself and the decoration. In northern Gothic these two elements were so closely united that even where the building has been partially suspended there is sufficient to excite attention and indicate what the whole was to be. In



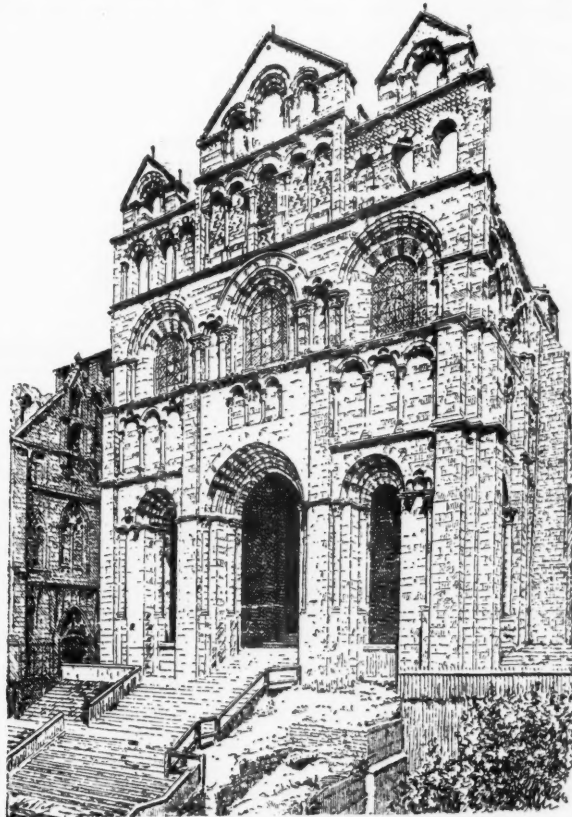
QUARTER SECTION OF PAVEMENT IN CHURCH OF S. PIERRE-SUR-DIVE, CALVADOS.

the South no just conception of the edifice is possible without the external veneer.

Few northern cathedrals exhibit mosaics, either externally or internally. The art reached its fullest development in Italy, and it is probable that a lack of the necessary technical knowledge hindered its wider use in the North. In mediæval times the methods of communication were inconvenient and slow, and the cost of bringing workmen skilled in foreign arts too great to be borne by ordinary builders. There is a large mosaic over the entrance to the south transept of the Cathedral of Prague of the Last Judgment, but it was, probably, judging from its style and the inscription, by artists brought from Italy. In the North, mosaic was sometimes used as pavements, as it frequently was in Italy. One of the most important is in the crypt of S. Gereon at Cologne, by Italian artists. In France similar pavements are sometimes to be found, of which that of the church of Cruas (Ardeche), is an example.

A rich effect was frequently obtained by the use of different colored stone in the structure itself. The most ambitious as well as the most successful work of this kind is to be found in Italy, where an abundance of building stones of various colors afforded ample opportunities for this kind of polychromy. Other examples are found in the volcanic districts of France. Black and white is a favorite combination. The cathedrals and baptisteries of Pisa and Lucca are built of courses of white stone with thin black courses at regular intervals, the construction being visible on both the external and internal face of the structure. Sometimes other colors were used, as in the Palazzo Pubblico of Perugia. The cornices and string courses of this building are carried on corbels, the spaces between which are filled with red marble, which helps to make the shadow deeper and more marked. The shafts of the windows are of red marble, and the tympanums of the doorways are of the same material, with figures in white. In France the church at Vézelay is an example of walls built in black and white alternate courses, both on exterior and interior.

The church of Puy-en-Velay has a façade of white sandstone and black lava arranged in alternate layers. In England there are not many buildings of this kind. The parish church at Ischester in Northamptonshire is built with horizontal courses of dark red and light stone. Flint is sometimes employed, as on the north side of Rochester cathedral, where there is a course of chequer work in flint and stone under



FACADE, CHURCH OF PUY-EN-VELAY, FRANCE.

one string course and two courses of flint separated by one of stone under another. The groining of the vaults in the cloisters of Westminster Abbey are in chalk with occasional lines of a dark red stone.

Besides the forms of mosaic and kindred decoration that have already been noticed, the art of marquetry or inlaying was practiced to a considerable extent in Italy. Three kinds are to be noted, a marquetry of wood, of marble and of enamel, all similar in general style and effect, but differing in material. The inlay of wood is well illustrated in the stalls of the chapel of the town hall of Sienna, and in the stalls of the choir of the cathedral at Pisa. Examples of marble inlay are to be found in the altar and pavement of the baptistery of Pisa, the pavement of the baptistery of Florence, and the pavement of the cathedral of Sienna. The gorgeous silver shrine of S. Giovanni in the cathedral of Florence is a splendid specimen of enamel inlay.

Somewhat allied to the use of colored stones in building is the employment of terra cotta. It was most largely used in Italy where this form of art originated. The brick and terra-cotta architecture of Italy form an interesting and beautiful as well as thoroughly characteristic series of structures. The ease with which this material can be molded into any desired form presented unrivaled opportunities for original and varied work that Italian builders were not slow to take advantage of, and as a matter of fact the terra-cotta buildings offer a more extended variety of moldings and ornament than do the stone ones of the same epoch. The warm red color of the material is generally retained, but sometimes other colors are used. Later, the invention of glazed earthenware gave the Renaissance artists a material closely allied to terra cotta, but they never excelled the early Italians in the originality of their work. The characteristics of Italian terra-cotta architecture are derived almost entirely from the ornamental features which admirably express the material of which they are composed. In many respects these buildings stand quite alone, and it is interesting to notice that their chief claim to consideration as the products of an individual style rest both upon the material and the ornament evolved from it.

(To be continued.)

President Richard M. Hunt's Address*.

GENTLEMEN AND COLLEAGUES, — How appropriate that our annual convention should be held here today — to welcome this Chapter on having attained its majority — it being just twenty-one years since the Boston Society of Architects made application, and was recognized as a Chapter of the American Institute of Architects in December, 1870.

Since then two conventions have been held in this city, the fifth, in November, 1871, and the eleventh, in October, 1877.

In 1871 we had the good fortune to be presided over by the first President of the Institute, Richard Upjohn, who held that office during a period of sixteen years. Thomas U. Walter, the second President of the Institute, and who served this association during twelve years, presided in 1877. Their addresses then, as on all similar occasions, were full of earnest thought, professional pride and good advice, worthy of our most careful consideration; and to them we owe much for the steady progress of the Institute which they served to the very end of their careers.

At the convention held in Cincinnati, 1880, the consolidation of the American Institute of Architects with the Western Association of Architects took place, when it was very wisely decided that no one should hold the office of president for more than two successive years. Having been elected to the presidency on that occasion, I will now proceed to deliver my farewell address.

Since our last convention, we have to mourn the loss by death of six Fellows of the Institute: John W. Root, of Chicago, Ill.; O. P. Hatfield, of New York; E. T. Littell, of New York; John W. Hammond, of Frankfort, Ind.; Herbert C. Burdett, of Buffalo, N. Y.; John Otter, of Chicago, Ill.

In the death of our late secretary, John Wellborn Root, the profession at large has sustained a great loss; while those of us who knew him must ever cherish the memory of one so genial and kind-hearted. He was a man of culture, indomitable energy and great executive ability, as his numerous works testify, many of which show marked originality. A short time before his death he had been appointed Consulting Architect of the Columbian Exposition, an office for which he was admirably well fitted.

O. P. Hatfield, our former treasurer, and Emlen T. Littell, the late president of the New York Chapter, were both men of ability and sterling worth, who during many years gave proof of their devotion to the Institute.

Mr. George C. Nimmons, under Mr. Root's direction, was actively engaged in the publication of our last proceedings at the time of Mr. Root's death. He was therefore appointed secretary *pro tem.* by your Board of Directors in order that he might complete this work so satisfactorily commenced. Later, at the urgent request of your Board, Mr. Dankmar Adler accepted the position of secretary. I am sorry to add that in the transfer of the secretary's documents, several were mislaid or lost; among others, a number of Chapter charters signed by me, and which awaited the signature of the secretary, and of which, I understand, one only was signed by him.

During the past year two new Chapters have been formed, our membership has steadily increased, and I rejoice to add that our financial condition is satisfactory.

In the report of the Board of Directors, which will presently be submitted, your attention will be called, among other matters, to the urgent necessity for some decision on certain points relating to the admission of Fellows and the formation of new Chapters — an important matter discussed at the last convention, but left unsettled.

In view of the fact that I was unable to be present at the last convention, I beg permission now to express my opinion concerning the advisability of requiring all members of the Institute that may hereafter be elected to belong to one of its Chapters. My reason for believing that this should be made compulsory, is that everything possible should be done to strengthen the Chapters; on their vigor the life of the Institute depends; without the Chapters the Institute could accomplish little, if anything. Each Chapter should be in constant touch with its surroundings, and should keep watch of all matters of interest to the profession, and should be ready at all times to give warning or advice, as the case may be. How, otherwise, would it be possible to introduce the many needed improvements pertaining to our calling, the want of which is so sorely felt throughout the country, such as proper building laws, guidance and advice about the location and the designing of public buildings, the laying out of streets, public squares and their protection, etc.? Daily, matters of public interest present themselves about which we should give our professional opinion firmly and fearlessly. If necessary, we should be aggressive, ever ready to expose any scheme, which, if carried out, would prove detrimental to the public good. Such work cannot be done at our annual conventions; it can alone be accomplished by the Chapters, and such work, properly directed, would be beneficial not only to the general public, but to every follower of our profession. I consider it, therefore, the bounden duty of every member of the Institute to aid the Chapters in every possible way. If unable, on account of professional engagements or otherwise, to give one's time to such good work, one should at least bear his share of the expense incurred in its vigorous prosecution.

Marked progress in our art, both in design and construction, is everywhere observable; and, while it would be eminently proper at our conventions for the president to review some of the more prominent examples, it is obviously impossible, in view of the vast extent of our country, to allude to them other than in a general way. The noble edifice so generously offered for our use on this occasion is a notable example; a landmark to which future generations will point

* Delivered at the Twenty-fifth Annual Convention of the American Institute of Architects, at Boston, Massachusetts, October 29, 1891. Revised by the author.

with pride; an enduring proof of the cultivated taste of our time, and a glorious monument to the well-deserved fame of its designers, who, if I mistake not, were appointed by a board of trustees, after an unsuccessful competition. How fortunate that this board should have had the moral courage to express and to stand by its opinion! The thanks of the community are due to all concerned in the erection of such a pile, and their names should be inscribed in some conspicuous place, as a testimonial of the gratitude and esteem of their fellow citizens.

Much has been and yet remains to be said in favor of and against competitions; nevertheless, the fact remains that they are in vogue, and this method of procuring designs will probably obtain. It is only essential for us, therefore, to lay down sound rules and regulations which will insure fair play, and which we should strictly adhere to. The firm and dignified stand taken by many among us in regard to competitions is already producing good results, so that now it is not unusual for individuals and corporations to obtain professional advice as to how they should be conducted, and very generally the awards are now made by one of our own craft. This is as it should be, nor was it altogether unexpected. The public had only to be enlightened on the subject to willingly remunerate the professional man for the time, trouble and expense necessarily incurred. I grieve to add that, in so-called close competitions, designs are sometimes sent in by uninvited parties. I need hardly say that such action is injudicious and undignified, tending as it must to lower the standing of the profession. I am happy to add that this practice is gradually dying out.

An event of considerable interest to the profession has occurred since last we met. I allude to the method of procedure followed in obtaining designs for the principal buildings of the Columbian Exposition. The Chief of Construction and Advisory Board to the Committee on Buildings and Grounds reported several methods, as follows: 1st, The selection of one man for the entire work; 2d, General competition; 3d, Limited competition; 4th, Direct selection for each building.

In an exhaustive review of the different methods handed in by the Advisory Board, *direct selection* was recommended for the principal structures, with the proviso that the architects selected should meet in conference and agree upon a general scheme of procedure, and various other matters that might be submitted to them. This recommendation was adopted by the Committee on Buildings and Grounds, whose action was final, and it is to be hoped that there will be no cause for regret at their decision.

Believing that it may be of interest, I venture to state in a general way how the plan adopted has thus far worked. At the first conference, held in Chicago, of the ten architects selected, together with the Chief of Construction and the Consulting Landscape Architects, the duties and responsibilities of all were definitely defined, and the question of compensation, so far as the architects were concerned, agreed on. This latter question was rather an intricate one, principally on account of the limitation of employment, each architect being only required to furnish a general design, one set of full and complete general working drawings, and full details of all work of an artistic character connected therewith, together with such descriptions and instructions as might be necessary to elucidate fully his views as to construction and treatment. Everything relating to the construction and stability of the work was delegated to the Bureau of Construction.

A report on the various matters submitted to the conference was furnished to the Committee on Buildings and Grounds, and was adopted.

The various work was apportioned as follows, namely, Transportation building to Adler & Sullivan, Mines building to S. S. Beman, Horticultural building to W. L. B. Jenney, Fisheries building to Henry Ives Cobb, Entrances to Burling & Whitehouse, all of Chicago; Manufactures and Liberal Arts building to George B. Post, New York; Agricultural building to McKim, Mead & White, of New York; Electricity building to Van Brunt & Howe, Kansas City, Missouri; Machinery building to Peabody & Stearns, Boston, Massachusetts; Administration building to Richard M. Hunt, of New York. Each architect was required to submit his design at a subsequent meeting, with such suggestions as he might deem proper. It was decided that the last five mentioned buildings should be grouped around three sides of the great court or plaza, 800 feet wide, and extending from the lake inland over 2,000 feet, thus forming a court of honor, so to speak, to the Exposition, the two principal entrances to the Exposition, one by land, the other by water, being at either end; a pier, of monumental character, extending about one-quarter of a mile into the lake, furnishing ample accommodation for steamers and every kind of craft.

Just here let me say a few words about the site. You may remember that in the discussions as to the comparative merits of New York, Chicago and Washington for the holding of the Exposition, one of the arguments used was, that while elsewhere a good site for the purpose was not easily to be obtained, square miles were available in the environs of Chicago. It was not a little surprising, therefore, at one's first visit to the selected site, Jackson Park, on the lake shore, several miles south of the city proper, to find no small portion of it under water; the surface of the ground being, in many places, below the level of the lake. To the ordinary mind it was an impossible site; but to the genius of the Consulting Landscape Architects, Messrs. F. L. Olmsted & Co., is due the credit of overcoming the natural difficulties by the introduction of a novel feature, namely, a means of communication between the various buildings by water as well as by land, their general plan showing a great basin of water occupying the middle of a principal court, smaller lakes and ponds being supplied with water through various canals connecting them with this basin; the excavated earth obtained in making these water-ways to be used

for filling-in purposes, to raise the general level of the terraces surrounding the court on three sides, upon which would stand some of the principal buildings of the Exposition. This general scheme was at once approved, and, after various discussions, a revised plan showing the general layout of the ground was agreed on, submitted to the proper authorities and was adopted by them.

The architects in charge of the buildings about this court, after considerable thought and discussion, decided that it would be wiser to treat the façades on the court in a quiet way rather than attempt to vie with each other in the solution of that vexed problem, "Iron Architecture," a problem never yet altogether satisfactorily solved. The last two French expositions showed great merit in the adaptation of iron to architectural effects, but much yet remains to be accomplished before the artistic mind will be satisfied; and certainly, if Paris, with her multitude of artists and artisans of the highest grade, and having plenty of time for the study and execution of this problem, could not satisfactorily solve it, it would have been foolhardiness to attempt it on this occasion, the time being so restricted; besides which it would be well-nigh impossible to secure harmony in the several designs, whose authors were hundreds of miles distant one from the other. Furthermore, in view of the fact that in all probability examples in every style of architecture would be found in the vast number of structures to be erected, it was deemed advisable that the court should be treated in a dignified way, in the classic style — each one to be left free in regard to his façade; the only restriction being that the main cornice be fixed at a height of 60 feet above the terrace level, not including any prominent features, such as towers, etc. It was further deemed advisable, by introducing a dome or otherwise, to give prominence to the Administration building, located at the west end of the court, and at the intersection of the two main axes of the plan, one extending north and south, the other east and west.

Should the general effect of this court prove to be what its designers intended, I can but believe that it will be of benefit to the public and to the profession, a practical illustration of that dignity and repose so characteristic of classic architecture — features too often nowadays lost sight of in the search for originality, not to say eccentricity. It is useless, perhaps, to add that perfect harmony has reigned at all the conferences, which have demonstrated the great benefit resulting from an interesting and earnest discussion of the many important points naturally presenting themselves. These conferences have also accomplished much in strengthening the bonds of fellowship, not only among ourselves, but also with our co-workers, the sculptors and the decorators, on whom so much depends in the execution of our projects. Thus a precedent has been established in the right direction; the high standing of the profession has been fully recognized, and it is to be hoped that this step will inaugurate a new era in the employment of members of our profession.

When we consider how rarely, in this country, any time can be found for the serious consideration of art matters, we cannot fail to give unstinted praise to those who have directed this great undertaking in such a truly national spirit. Allusion is often made to the difficulties of our position, as compared with those of our confrères in Europe, who are surrounded by ancient examples of our art, and by an appreciative public, trained to admire the monumental glories of the past. On the other hand, our opportunities are far greater than theirs, owing to the rapid increase of our population, to the accumulation of large fortunes, to the great variety of building materials, to the excellency of our mechanics, etc.; besides which, the greatest freedom with us is allowed in design, uncontrolled as we are by precedents. Our individual responsibilities are also correspondingly greater, on account of the rapidity with which our work must be carried on, and the many new and complex problems daily presented for solution, such as high buildings, etc.

Just here a word about the extreme height of buildings in our cities. Although the owners of land may claim that they own from China below to the heavens above, yet it cannot be denied that an excessively high building is an injury to surrounding property and detrimental to public health, in the shutting out of the sun, light and air. Legislation will undoubtedly, at no distant day, regulate the height of buildings relatively to the width of the streets, as is the case in most of the European cities.

The difficulties and responsibilities of our profession are great indeed, and ever increasing, but our opportunity is likewise great and ever improving with the growing culture of our people. For centuries no fairer field has been offered for the display of true architectural talent; it only depends on the well-trained student to seize the opportunity. And permit me here to add, for the benefit more especially of the younger members, that eminence in our profession can alone be gained by a thorough study of the works of the past — there is no short road to glory; and I consider it as essential for the architectural student to thoroughly acquaint himself with classic architecture as it is for the literary man to be conversant with the classic authors.

But a short time has elapsed since a man of uncommon genius was taken from us. His vigorous works were universally admired, and he naturally had many followers; a large number but feeble imitators, others well grounded in classic architecture. On the latter alone can we depend for truly good work in the style of Richardson, who, it should be remembered, had a thorough classic training.

In conclusion I regret to state that congress still remains indifferent to the just appeal of Mr. Walter's family. That it has failed to pass the "Bill to establish a National Art Commission," and that in the architectural bureau of the treasury department, in Washington, are still prepared the designs of the public buildings of the nation.

These matters, more fully alluded to in a former address, together with others, such as the advisability of appealing to congress to

resume the tests of building materials, formerly made by the national government; also as to the advisability of some formal action being taken by the Institute in acknowledgment of the great benefits conferred on followers of our craft, such as the establishment of schools, the founding of scholarships and prizes, important donations, etc., deserve our earnest consideration.

It remains only for me to thank you for your patient attention, for your many expressions of kindness and for the earnest support that you have ever shown me. Let us one and all work with ever increasing zeal in behalf of the Institute, and may our efforts be crowned with signal success.

The Chicago Construction, or Tall Buildings on a Compressible Soil.*

BY W. L. B. JENNEY, OF CHICAGO.

DEFINITION.—What is now generally known as the Chicago Construction consists of a fireproofed steel skeleton so arranged that all the load including the walls and partitions are carried story by story on the columns. The foundations as far as practicable are on isolated piers.

History.—Even before the Chicago fire what is known as "foundations by isolated piers" had been accepted by the Chicago architects as the best adapted to their peculiar soil.

Underlying Chicago is a bed of soft compressible clay of great thickness, some sixty to ninety feet. This clay has one redeeming feature, it satisfies Professor Tyndal's definition of a solid, "under a given load it will compress a certain quantity and stop, and the compression will not be renewed without a change in the conditions." Experience teaches that a load of 3,000 pounds per square foot will cause a compression of about 2 inches, and that it is desirable not to materially increase this load or the compressions may not be sufficiently uniform. With 3,000 pounds per square foot, with proper care in the distribution of the loads, a practically uniform settlement can be obtained with reasonable certainty.

As early as 1873 Mr. Fred. Baumann, one of Chicago's oldest architects, had published a little pamphlet on isolated piers and their adaptability to Chicago foundations.

The advantages of a system of isolated piers on a compressible soil is its elasticity, it being impracticable during the construction of a building to keep a uniform load on the foundations, hence the necessity of allowing the parts to settle at different times, counting upon a general uniformity of settlement in the end. A continuous foundation is liable to be broken up and very unequally, therefore even when the pier foundations touch each other they are kept separate by plank or sheet piling, on the line of junction.

In 1883 the writer was requested by orders received from the officers of the Home Insurance Company, of New York, to prepare designs for a ten-story fireproof office building to be erected in Chicago, dimensions 100 by 135 feet, on the corner of La Salle and Adams streets, the principal story to be arranged for two great banks or kindred use, while all the stories above should be divided into small offices, all of which must be well lighted. These requirements, when coupled with the condition of a very compressible soil, carrying only a light load per square foot, necessitated a different method of construction from those in general use. The piers must be narrow in order that proper space might be left for windows, the walls must not be as heavy as the old construction would demand, or there would not be sufficient space on the ground for the foundations. A column in each pier was the natural solution of the problem. Lintels between columns, forming heads of windows, carried the street walls story by story; the brick work was reduced to the thickness necessary to hold the window frames or to fireproof the metal columns and lintels. This method of construction has been improved upon; each architect using it has added something, particularly to the details. The manufacturers of steel, terra cotta and fireproofing have improved their material and adapted it more especially to this style of construction, so that I have selected for my illustration one of the late buildings, a building now under construction known as the Fair, occupying a half block on Dearborn, Adams and State streets, 400 by 160 feet, and seventeen stories, 241 feet high above the sidewalk.

Illustrations.—Photograph and diagrams. (See illustrations.)

The Columns.—Rolled steel columns are in general use for these tall buildings, all connections being made with hot steel rivets, hence more rigidity as against wind pressure and vibrations of moving loads, like running machinery, than can be obtained with the cast columns and screw bolt connections.

Where so much depends upon the columns, every precaution against accidents should be taken. The rolled steel column composed of several parts riveted together, each part inspected separately both for quality of metal and for surface, and then the finished column inspected for workmanship, offers a guarantee against any serious failure far beyond what can be expected from a cast column, as usually manufactured.

In the Fair the Z bar column is used (see illustrations). Notice the connections. The plate and the brackets are riveted to the column at the mill while the columns are riveted together and the beams and girders are riveted to the lower column through the plate and to the top column by an angle.

The wind pressure must be looked after. The floors are by the fireproof arches made sufficiently rigid, but the columns may require bracing, either by knees, as in naval architecture, or by X rods, as in bridge construction.

* Paper read before the Twenty-fifth Annual Convention of the American Institute of Architects, at Boston, Massachusetts, October 29, 1891.

The construction of tall buildings on a compressible soil much resembles, in the generalities, the construction of a railway bridge of the first order. The design must be such that the material is used in the most economical manner; every piece must be calculated. There must be sufficient material and no more, for it is essential, not only from economy but also to reduce the weights on the foundations, that the construction should be as light as possible consistent with stability. To this end the live loads are provided for as nearly as practicable as they will actually occur.

The column loads in the Fair building are figured for the full dead loads plus such a percentage of the live loads as will probably obtain.

Column.	Live load which the beams in the story above the respective column are calculated to carry.	Percentage of the sum of the live loads of all the stories above the respective column. This percentage of live loads, together with all the dead load, is the total load the respective column is calculated to carry.
Attic column.....	40 lbs. per sq. foot.....	100 per cent.
16 story column.....	75 " " " " " " " "	90 " "
15 " " " " " " " "	75 " " " " " " " "	87½ " "
14 " " " " " " " "	75 " " " " " " " "	77½ " "
13 " " " " " " " "	75 " " " " " " " "	75 " "
12 " " " " " " " "	75 " " " " " " " "	72½ " "
11 " " " " " " " "	75 " " " " " " " "	70 " "
10 " " " " " " " "	75 " " " " " " " "	67½ " "
9 " " " " " " " "	75 " " " " " " " "	65 " "
8 " " " " " " " "	75 " " " " " " " "	62½ " "
7 " " " " " " " "	75 " " " " " " " "	60 " "
6 " " " " " " " "	75 " " " " " " " "	57½ " "
5 " " " " " " " "	130 " " " " " " " "	55 " "
4 " " " " " " " "	200 " " " " " " " "	53 " "
3 " " " " " " " "	130 " " " " " " " "	50 " "
2 " " " " " " " "	130 " " " " " " " "	47½ " "
1 " " " " " " " "	130 " " " " " " " "	45 " "
Basement column.....	130 " " " " " " " "	42½ " "

Floor beams are calculated to carry all the dead load, plus the full amount of the live load designated as the maximum load for said story.

The girders are calculated to carry all the dead load plus ninety per cent of the live load designated for said story.

These reductions are made to reduce the metal to the probabilities.

Although a floor beam may be loaded with the full designated amount per square foot of floor carried by said beam, such is not true of the girder, as certain spaces or passages must be left for the service.

It is easy to see that the probable percentage of the total designated live loads on any given column diminishes as the number of stories above said column increases.

Footings must be calculated to carry all the load of the basement column plus the basement floor load that will rest upon them,—often the important item of boilers, engines or dynamos.

The load on the clay is of great importance or the settlement will be unequal. It must be all the dead load plus so much of the live load as will actually come upon it.

The live load on the clay depends upon the use to which the building is to be applied. In a hotel or office building the live load is so small in proportion to the dead load that it may be neglected in calculating the area of the supporting clay, particularly as this weight is not applied until the building has settled, that is, the compression of the clay has taken place.

Experience has shown that after the clay has been compressed by a weight of 3,000 pounds per square foot and allowed a few months of repose, no addition to that compression will obtain without a material addition to the load, so that it is good practice to neglect the live load on the clay in hotels, office buildings and light retail stores; not so, however, in warehouses or other buildings carrying heavy floor loads and particularly where there is running machinery; these moving loads should be counted as double the actual weight, for the continuous jar has the effect of pounding and increases the compression of the clay.

The last addition to the tall buildings was the steel chimney.

At the Fair there was no place for the foundations of a brick chimney stack such as was necessary for the battery of boilers sufficient to heat the buildings and run the elevators, electric light plant, house pumps, etc.

The external steel chimney had long been in use for manufactories—why not an internal steel chimney for an office building? This was found practical and economical.

In these chimneys all the load is carried on the steel shell. Angles are riveted on the interior each 20 feet or so, to carry the firebrick lining and to avoid trouble from unequal expansion.

The exterior is covered by plastered fireproofing resting on the floors. This covering hides the chimney and checks the radiation.

Inspection.—The material used in these tall buildings is calculated so closely that the same rigid inspection is necessary as for a railway bridge. The specifications must be very full and explicit.

In Conclusion.—Tall steel buildings, constructed as described, are very substantial, and even earthquake-proof. The exterior can be almost entirely of glass, the windows separated only by the fire-proof metal. The party walls may be, and usually are, carried story by story on the lintels supporting the floors; the lintels carried on steel columns built in the thickness of the wall or projecting as fireproofed pilasters. This reduces the party wall to a uniform thickness in all stories, say twelve or sixteen inches. Hollow building tile are often used for these walls, reducing the weight by nearly one-half.

Architecture and the United States Government.*

BY JAMES H. WINDRIM, OF PHILADELPHIA.

THE Federal buildings erected by the government should characterize the best types of art in architecture. The public mind today is becoming educated. It is not satisfied with the mediocrity in art; the esthetic taste of our people is becoming more cultivated, the beautiful is more appreciated, and the demand is made for it. Good art is educational, refining, and should be enduring. It is proper that the Federal buildings should be of a high standard of artistic excellence, have the elements of proportion and study in design that will illustrate the strength and development of a successful people, and leave the impress of our advancement in art and culture as a nation.

The United States Government erects buildings for the use of the executive departments of the government; it also erects buildings in which it transacts the public business with the people—the custom-houses, postoffices and court-houses, located in every section of the country as the increase in population and development of business necessitates the government to provide for itself a building to accommodate the public offices, and in which the records of public business may be preserved.

These latter structures are erected when congress, by legislation, directs the Secretary of the Treasury to procure a site, and erect upon it a suitable building to accommodate the government offices for the transaction of public business then expressed, limiting the cost of the site and the building, complete in all its appointments, with approaches, to a fixed sum.

The officer under the Secretary of the Treasury to whom the duty of preparing the plans and specifications necessary to construct such buildings is assigned, is the supervising architect.

This officer is supposed to be the author of the plans and designs for the work thus placed under his care. Twenty-five years ago it was practical for an individual to comply with the duties of the office, but with each succeeding year the rapid increase in public business, with the development of the country, has added considerably to the labor and responsibility of this officer.

At this time there are probably forty odd buildings under construction and completion, and a number in excess of sixty new structures are awaiting to be designed by the supervising architect or his assistants. It is patent that the amount of labor thus involved cannot receive from one head careful consideration in the matters of arrangement of buildings and the details of construction, or receive the study and painstaking in design which should be given to the permanent buildings of the government.

While the routine business of the government is managed with exacting uniformity, and consequently there is uniformity in the requirements for the building, so that there appears to be a limit in the scope of the architect, there is choice in the adaptation of building to site, which invites variety in the form and exterior design of the structure.

The supervising architect's office has some most capable assistants, as much good work in the buildings of the government shows; but there are not enough capable employés for the amount of work devolving upon the office, and, under existing regulations, they are not obtainable.

The supervising architect experienced this fact, and considered it his duty, in the annual report of 1889, to recommend to the Secretary of the Treasury the advisability of securing the plans for the most important buildings for the government through the architects of the country by competition, and suggested a method that appeared practicable, for consideration; also, in his report of 1890, again requested attention to this important subject.

The Honorable Secretary of the Treasury, the late William Windom, became so far convinced of the possible benefit to the public service, if the method proposed was tried, that in his report to congress he indorses the recommendation on this subject, as follows: "The following recommendations of the supervising architect of this department are concurred in: That the system of competitive designs for public buildings be tried."

The supervising architect of the Treasury Department can only be what the designation of the office implies—a supervisor whose time is almost continuously occupied with the business management of the office and the solution of its business problems; he cannot be the architect of the many structures that are assigned to his care, and they are successful structures, as best adapted for the purposes for which they are erected, and have merit as artistic designs, largely dependent upon the skill and talent of his assistants.

The supervising architect, on February 7, 1891, suggested in a bill authorizing the erection of a proposed post-office and sub-treasury building in the city of Chicago a section providing that, at the discretion of the Secretary of the Treasury, the plans for the same be obtained by competition of architects; also, on February 20, 1891, the supervising architect forwarded a memorandum, containing a proposed amendment to the "legislative, executive and judicial appropriation bill," to the committee, as follows:

And the Secretary of the Treasury is hereby further authorized, in his discretion, to obtain plans, drawings and specifications for the erection of public buildings, through competitions, by architects, under such conditions as he may prescribe, and to make payment of the expenses of said architects' services out of the appropriations for the respective buildings.

Action, however, was not taken in either case by the committee of congress.

Such legislation passed would permit the Honorable Secretary of the Treasury to invite competition among architects for the plans and

* Paper read before the Twenty-fifth Annual Convention of the American Institute of Architects, at Boston, Massachusetts, October 28, 1891.

designs for federal buildings, and by the adoption of the method the government would be assured of the personal supervision of the architect, who would have an individual responsibility for the fitness of the building and for its artistic excellence.

How is the public service to be benefited by the United States government engaging an architect for each important federal building? This practical side of the question is that which the business man in congress will ask in answer.

First. By the dispatch of business the practicing architect completes his work as a whole, in the earliest time practicable, and to do this can give undivided attention to the preparation of design and the study of detail. There is a fixed time when his work is finished. Against this is a lamentable fact that public business is conducted with much formality, but not with the directness of private business.

If the buildings erected by the government were conducted on business methods the same as the erection of like structures by individuals, it would be economy to the public service.

Second. The careful and continuous thought of an architect directed to one building must produce better results than the same thought disjointed in the effort to care for many buildings. By the selection of architects for merit in design the buildings erected by the government should represent the best examples of architectural art and the entire country would be benefited.

There is a limit to the amount of work one man can do, be he ever so capable. When the limit of capability is reached all business thereafter is not so well done, and should be deferred to another. The number of buildings which the government is continually erecting suggests the propriety of securing, by division of labor, new thought, energy and ability among the profession of architects. Such action would tend to secure the first—economy to the public service by dispatch of business, and the second—the undivided attention of an architect engaged for a specific duty, which would also result in economy.

The Antecedents of Gothic Architecture.*

BY PROF. CHARLES H. MOORE, OF HARVARD UNIVERSITY.

I SUPPOSE that while we all recognize the fact that architecture is something more than constructive building, we equally maintain that it is always based upon constructive principles, and that these constructive principles are what primarily determine the respective characters of architectural styles.

I conceive that in broadest classification there have existed in the world thus far but three fundamentally differentiated architectural systems—the trabeate, the inert arched, and the balanced. Or, to name them from their leading types, the Greek, the Roman, and the Gothic.

The numberless varieties of styles which have taken shape during the historic progress of the art are but so many modified forms of one or the other of these main groups.

By Gothic architecture I understand then, primarily, an architecture which is distinguished by a balanced system of construction. A system in which the side thrusts of vaults and arches are met by well adjusted props or braces, rather than by inert masonry. And it is clear that an architecture based on such a system admits of, and logically demands, a degree of slenderness in its supporting members which would be insecure in an architecture based on any other system. It follows that among the distinguishing characteristics of Gothic construction are comparative lightness of supports and consequent large extent of openings between them. Therefore, before we can properly call a building Gothic we must find these characteristics either developed or in process of development.

In the forming Gothic style the exigencies of the system were yet incompletely apprehended by the builders, and, consequently, the ultimate principles were not fully carried out. But in all transitional monuments rightly so-called, the animating spirit of the system may be seen to be working, and tending to modify structural forms in the Gothic direction.

The principal incipient forms are those of the vaulting, and it is not until these are considerably developed that the lower supports are wholly transformed and brought into agreement.

The principles which mainly governed the Gothic vault transformation are those of diminution and concentration of pressures. And it is, I think, because the exigencies of this last have not been fully recognized, that so much misunderstanding of Gothic art has prevailed. Our conceptions of Gothic have been so largely influenced by the belief that it is mainly characterized by the use of the pointed arch, that this more essential principle has been largely overlooked. It was this necessity for concentration of thrusts that first led to the use of groin-ribs (for the groins of ordinary cross-vaults do not need supports where their thrusts are amply met by strength of walls, or of massive piers), and it was this necessity which gave to Gothic vaulting that peculiar form which has puzzled so many students of architecture who have not primarily regarded structural principles in their examinations and classifications of styles. I refer to that twisted conformation of the lateral cells of the vault which results from the stiling of the longitudinal rib. It is by means of this elevation of the springing of the end-ribs of these lateral cells that the completest possible concentration of the vault thrusts against the narrow pier is effected, and the full efficiency of the flying buttress is secured. Now, I think I am justified in saying that this is the most fundamental peculiarity of Gothic building, for everything else that distinguishes the system results from it.

This balanced system being, then, what fundamentally distinguishes the Gothic style, let us now consider what were its antecedents

* Paper read before the Twenty-Fifth Annual Convention of the American Institute of Architects, at Boston, Massachusetts, October 29, 1891.

— what class of earlier buildings really contained the germs of Gothic. It is commonly said that the Gothic was developed out of the Romanesque, though this development has been largely regarded as ornamental; the transition has been traced by nearly all writers, from De Caumont to Sharpe, through moldings, pointed arches and other small features; while but a few writers—I believe only Viollet-le-Duc and Quicherat—have recognized that it is essentially structural. It is true that structurally the Gothic is an evolution out of the Romanesque. But the term Romanesque has, perhaps, the widest meaning of any that is used in connection with architecture. In utmost strictness, the Romanesque is not a style. It is an architecture of transition. Quicherat defines it as that which has ceased to be Roman, and has not yet become Gothic. With slight modification, this is a good definition. The modification that I should make would be to insert the word *strictly* before Roman, so that the definition would be: "Romanesque architecture is that which has ceased to be strictly Roman, and has not yet become Gothic." For the Romanesque is structurally Roman except in so far as it exhibits features that are tending toward Gothic.

To comprehensively designate this transitional architecture, the term Romanesque is a good one, for which it would be hard to find a substitute. But in connection with the origin of Gothic we need to discriminate. For when we look for the structural antecedents of Gothic, we find that some great classes of Romanesque buildings exhibit them so slightly and imperfectly that they can hardly be regarded as antecedents at all.

In general, what is known as basilical Romanesque—buildings like the cathedral of Pisa—had almost nothing to do with the structural evolution of the Gothic style. In its most general form the basilica does, of course foreshadow the Gothic. And as regards this general form, it may be considered as a prototype. But in its constructive system the basilica contained almost no element of growth. Its timber roof called for no system of supports such as could in any way suggest the organic Gothic system. It may, indeed, be said that some of the antecedents of Gothic reach back to those few Christian Roman monuments, in some parts of which a rudimentary functional grouping of supports occurs. The first and most important instance of such a grouping that I know of is that which appears in the so-called basilica of Maxentius in the Roman Forum. This building dates from the beginning of the fourth century, and it followed closely after the well-known arcade of the court of the Palace of Diocletian at Spalato. As that is the first known instance of the logical use of the arch in connection with the columns, so, I believe, this basilica of Maxentius exhibits the first instance of a groined vault springing from columns placed in front of the piers, unless the great hall of the Baths of Caracalla may have exhibited a similar arrangement at a preceding date.

It will be remembered that this system presents a pier carrying the main archivolt with a detached column, surmounted by a strip of entablature to carry the vaulting; something remotely foreshadowing the mediæval grouped support is thus to be noted as far back as this. But nothing appears to have grown out of this monument in the way of the development of an organic system of supports for vaulting. It was constructed toward the end of what may be called the period of Imperial Roman art, and the Christian Roman builders, as is well known, employed the timber-roofed basilica with the simplest forms of superposed colonades and arcades, having no organic connection with each other, and in no feature, except perhaps the pier of the eastern arch, which sometimes has a column in front of it, suggesting anything in the least like the Gothic forms. The coupling of shafts, as in some of the Roman circular buildings, like St. Costanza at Rome, has far less to do with the development of Gothic, for such grouping has no structural significance. Its columns have no relation respectively to different parts of the superstructure.

In the Roman buildings of central Syria an arrangement similar to that of the basilica of Maxentius occasionally occurs, though not in connection with vaulting. In the Church of Roueïha, dating from the sixth century, engaged piers, carrying transverse arches, are incorporated with the piers of the great arcade; and the same thing occurs in the piers of the apse of the Church of Tourmin, but the principle is not developed into a system; and it is always confined, as it is also in the basilica of Maxentius, to a single story. A very remote suggestion of a functional grouping of piers, extending over two stories of arcading, occurs in the supports of the central dome of the Church of St. Sophia at Constantinople. And it is not impossible that something like this, which is not uncommon in Byzantine design, may have given the initiative to the early mediæval builders.

The first true instances of grouped supports designed to carry vaulting, and embracing several stories, occur in the eleventh century churches of northern Italy, in the style known as the Lombard Romanesque. In this region the vigorous genius of the Lombard race had stimulated invention, and developed constructive ideas and methods which largely superseded those of former times. The Lombard constructive system, as exhibited in its most important monument, St. Michele of Pavia, was a radical innovation. The vaulting of the nave of this building was originally quadripartite in square compartments—like that of the basilica of Maxentius. It was furnished with heavy transverse ribs of two orders, both of square section, and it presented the first known instance of the use of groin ribs and longitudinal ribs. The sustaining pier is compounded of as many members which rise from the pavement, and are crowned with a compound capital that furnishes a separate member for each vaulting-rib. The vault compartments of the aisles have but half the space of those of the nave, which necessitates the insertion of an intermediate pier. This pier has four engaged shafts, two of which carry the sub-orders of the archivolt (which are in two orders), one to carry the intermediate transverse rib of the aisle vault, and one on

the side of the nave which rises to the triforium string but carries nothing, and is the only member in the system which is not perfectly logical. The double archivolt of the main arcade are supported by square members and engaged shafts in both main and intermediate piers. The church has also a triforium gallery, with double archivolt and functional supports. The building shows a most remarkable advance on anything that we know of that had gone before it. Indeed the Gothic system is here very fully foreshadowed, though radical changes had to take place in the forms of the vaulting before it could be further developed.

This Lombard system was carried over the Alps into Germany and there in the twelfth century, crystallized, so to speak, into the magnificent Rhenish Romanesque, which, by maintaining the square vaulting compartment, precluded any structural growth.

It was the Lombard Romanesque, then, and its derivatives which contained the first distinct germs of the Gothic style. But these germs could not develop without congenial soil. The soil of northern Italy was not congenial. Here by the twelfth century inventive vigor was spent. The Lombard element had been absorbed, and the Italian genius began to reassert itself with all of its conservative tendencies. The Italian constructive traditions were fundamentally Roman, and hence the basilical idea was, in church building, largely reinstated; though some of the Lombard principles were, in some localities, often incorporated with it, though without any inventive results. The soil of Germany proved equally uncongenial. The German builders were slow in invention, and almost as conservative as the Italians of acquirements that suited their needs and tastes. But France was, in the eleventh and twelfth centuries, the region of the most active intellectual life that then existed anywhere in Europe. And it was the Romanesque of France, and of France only, that directly gave rise to the wonderful development known as Gothic architecture.

But the Romanesque in France assumed a variety of forms not all of which were found with the germs of Gothic. The French Romanesque is broadly of two classes which occupy respectively the two principal geographical divisions of the country—the northern and the southern. The Romanesque of southern France is mainly characterized by the use of the barrel vault of either round or pointed section—a form which did not suggest, and was not capable of, any further development. This form of vault was but a survival of the Imperial Roman system in a region which had maintained longer than any other, the ancient civilization and traditions. Buildings like St. Trophime, St. Gilles and Vaison, though magnificent in their way, were, as regards their vaulting, but a final efflorescence of an obsolete system. And although their builders adopted the Lombard grouped pier, variously modified, yet functionally adjusted to the arches and ribs with which their vaults were strengthened, they had not used these borrowed forms inventively; and in this class of monuments could, therefore, contribute nothing toward the development of a new art. Hence no new art arose in this region, or any other, as a result of their influence.

But in the north of France—where ancient monuments had been fewer, ancient traditions less authoritative, and where the fusion of races had been more complete and better balanced—imagination had been highly stimulated, and new constructive forms that were quick with potent energy began early to appear. The use of vaulting did not set in here as early as in the south. The northern Romanesque builders of the eleventh century usually covered their naves with timber roofs. But when repeated disasters from fire had demonstrated the necessity of resort to vaulting, the fecund groined form was invariably adopted, which, over the rectangular compartments that had prevailed in this region, led, in the hands of these energetic and ingenious people, to a series of experimental innovations which followed each other in rapid succession until the Gothic system was reached. There were here several centers of Romanesque inventive activity, each of which seems to have contributed something to the development of the chief school which soon became that of the Ile de France. These were mainly Burgundy on the one side, and Normandy on the other.

The Burgundian Romanesque is fully exemplified in the nave of the Abbey Church of Vezelay (twelfth century). It exhibits a modified application of the Lombard system to a building of narrow bays, giving rectangular instead of square vaulting compartments. This form is generally regarded as derived from the basilical type of buildings, but it seems to me that the intermediate pier of the Lombard type may naturally have suggested it. However that may be, the piers are all alike, and are composed of members having a perfectly functional adjustment to the vaults and arches. Though showing an advance on the vaults of St. Michele in being constructed over oblong compartments, these vaults of Vezelay are less advanced as regards their rib systems, for they are not provided with diagonal ribs. And it is interesting to note that the pier is correspondingly simplified, the member which in St. Michele carries the diagonal rib being omitted. But the system is perfectly logical as far as it goes. The vaults have heavy transverse ribs and wall ribs, the former being of two orders. The first order is carried by a broad pilaster starting from the pavement, while the sub-order rests on an engaged shaft, also rising from the pavement. The wall ribs are supported by short pilasters resting on the triforium ledge. The double archivolt of the lower arcade are sustained, as in St. Michele, on square members and engaged shafts. The triforium space is low, and without openings—a simplification of the Lombard type that is common in the Rhenish as well as in the Burgundian Romanesque churches. This building, though constructed essentially on the Romanesque inert principle, nevertheless contains internally, as we see in rudimentary form, nearly all the constructive features of a Gothic edifice.

Some recent writers have supposed that the Cistercian order of monks were instrumental in developing and extending the early

Gothic system. The learned German writer Dehio, has lately published an essay on the "Beginnings of Gothic," in which he takes the Cistercian churches of Pontigny in Burgundy, and Fossanova in Italy, as types of transitional building, and as important monuments illustrating early Gothic developments. But neither of these buildings show the initial principles of the new style. And if they did it would not show that Cistercian influence had had much to do with the formation of Gothic; for these, as regards their Gothic features, are exceptional buildings, though in essential constructive principle they belong strictly to the Burgundian Romanesque category. The Cistercians had no consistent modes of building. They adopted different forms according to circumstances. In some cases, as at Hontreville, employing the barrel vault; in others, as at Pontigny, imitating the features that had been developed in the Ile de France.

The typical Romanesque of Normandy is earlier than that of Burgundy, the existing Church of St. Stephens at Caen dating its foundations from the year 1066. It is a more direct copy, though much modified and simplified, of St. Michele of Pavia. Whether this building was originally designed for vaulting is not known; but it is certain that it was first completed with a timber roof. Its main piers are, however, compounded of members corresponding to those of the Lombard pier, and they are well adjusted to the vaulting with which the timber roof was replaced early in the twelfth century. This vaulting is of a form that had not before, so far as is known, been constructed. It is primarily a modification of the square groined vault resulting from the insertion of an intermediate transversed rib which subdivides the lateral cells, making the compartment sexpartite. Instead of converting the Lombard intermediate pier of the ground story into a complete pier precisely like the main piers—thus producing narrow, or rectangular vault-compartments, as at Vezelay—the builders of Caen merely prolonged the intermediate vaulting-shaft to support the intermediate rib. In all other respects the system conforms to that of St. Michele except in its proportions, which are much elongated in the manner that subsequently prevailed in the North.

The sexpartite vault system which apparently originated at Caen was immediately taken up and perfected by the early Gothic builders of the Ile de France; but it is not true, as is often affirmed, that it was exclusively used in early Gothic buildings. The vaults of Caen have a full system of ribs with exception of wall-ribs. As yet the Romanesque developments tending toward Gothic were mainly confined to the interior of the structure. But a first step in the direction of a corresponding external system was taken when pilaster-strips began to assume the form of projecting buttresses; and the germ of the true flying-buttress appears, I believe, for the first time in the arches that are thrown against the piers under the roof of the aisles on the sister church to St. Stephens—the Abbaye aux Dames at Caen.

The Romanesque of the Ile de France was almost all destroyed in the twelfth century by the active rebuilding in the new style which then prevailed. A few monuments of moderate dimensions remain, however, from which a general idea of it is obtained—Morienvall and St. Germain des Pres. The square compartment was generally abandoned and the rectangular form substituted. This was, I think, a circumstance of capital importance, giving rise, as it did, to difficulties in vaulting which quickened the inventive genius of the builders.

The Abbey Church of Morienvall is the most important existing monument as regards the direct antecedents of the Gothic style. It is a plain Romanesque building dating from the eleventh century with a reconstructed apse dating apparently from the end of that century. Here we get, on a very small scale, a rudimentary apsidal aisle of four compartments in whose vaults the groin rib occurs in connection with some very curious experiments in the use of the pointed arch. It is, I believe, the earliest monument in existence in which these two features are associated; and it was apparently the starting point of that series of experiments which led to the remarkable vaulting of the apse of St. Denio, and thence, through a most magnificent series of constructive innovations, to that most consummate product of human genius—the Cathedral of Amiens.

Comparative Architecture.*

A CONTRIBUTION TOWARD THE STUDY OF ARCHITECTURE.

BY BARR FERREE.

COMPARATIVE architecture bears the same relation to historical architecture or the history of architecture, as comparative ethnology does to the general ethnology, or comparative anatomy does to general anatomy. Architecture is not a science; its laws cannot be predicated, it has a personal element, the imagination of the artist or of the architect, which is absent in the true sciences. But it is a subject that may be treated both descriptively and historically, and it is, therefore, possible to treat it comparatively. Few methods of study have added so much to human knowledge as the comparative. We live in a comparative age. We have comparative zoölogy, geology, physiology and multitudes of kindred subjects that have opened new fields of culture, broadened knowledge, made us familiar with forms of life and natural laws which otherwise would have been neglected. Some of the most important results of recent learning have been achieved in comparative philology, and in every department that the comparative method has been applied to, fresh and important information and greater interest have been forthcoming.

Architecture is the least imaginative of the arts. It is concerned with practical questions, with materials, environment, climate,

geology, products of the earth, and many other circumstances which make it eminently useful as they take it away from the artistic. But while architecture is limited by these requirements it is impossible to look for a law of architecture whereby results may be predicated.

The possibilities of neither the historical nor the descriptive methods have been exhausted, but the comparative will help to a clearer understanding of our present knowledge and make future work more intelligible.

To suggest a definition, comparative architecture takes the facts of historical and descriptive architecture and describes the comparative progress made by all nations under every condition. It takes the substance of the art, its materials, the climate in which characteristic styles have developed, the national or governmental conditions under which they have flourished; the ethnographic relations of the people, the geological peculiarities of architectural districts, the distinctive social and mental qualities; notes the influence of the allied arts, of religion, temperature, use, civilization, constructive ability and methods, and every cause which in one way or another, to a greater or less extent, has operated in the production and formation of architecture in all times and ages. It is independent of a definition of architecture; it does not matter if climate, country, nationality and other conditions are considered an integral part of the definition of the word or art of architecture. No architecture of any kind is possible without these influences or causes, though their effect may not always be visible or visible to the same degree. It calls for no straining or definitions to make these things subjects of study, and they are, therefore, grouped under what for want of a better name I have called comparative architecture.

In a history of architecture composed on the old historical form, the author would arrange his subject in countries, and under each would, perhaps, note the effect of the various causes that have just been enumerated. The result would be a series of chapters in which the reader would have to begin at the beginning each time and note the influence of, for example, religion, materials, etc., in each country separately, without having a general idea of the actual manner in which materials, construction, religion, etc., have affected architecture as a whole.

In the comparative method, the chapters would not be headed with the names of countries, but with names of influences, as materials, construction, religion, and the effects of each would be noted in their varying degree in each country where architecture had flourished. No general view of the history of individual styles would be obtained by this means, such as the text books now offer us, but comparative architecture is intended to supplement present work and present methods, not to take their place. Architecture is shown as a natural art, evolved under natural conditions; not a succession of historical facts with disquisitions on dates and problematic conjectures, nor a combination of descriptions giving the number of doors, windows, columns and square inches of ornament in every building under the sun. Comparative architecture does not concern itself with the history and description of styles, but with reasons for their existence.

We live in an age of inquiry. It is not sufficient to state facts, it is necessary to give reasons why and reasons that all can understand. Historical students deem nothing too insignificant for the illuminating of the events they describe, and the most microscopic researches have often returned the richest results. Similar researches into the history of architecture cannot have other than beneficial results. Under the treatment here proposed, architecture acquires a new meaning and purpose that it would never have had while viewed solely in the historical and descriptive manner. Styles, methods, results, variations are explained and their relationships. Reasons for the prevalence of certain forms under certain conditions are given, and the art appears no longer as the products of the imagination, the creation of fancy, but the outcome of natural, reasonable, sensible, useful and at the same time beautiful conditions of different natures originating under different conditions.

The more closely the reasons of architecture are examined, the less spontaneous it appears, the closer it approaches the domain of law, though without entering it. Ornament remains outside any such influence, and the personal element thoroughly prevents architecture from being regarded as a product of an evolution in the sense that a plant or an animal may be so regarded. But it is not entirely the result of personal whim, fancy, pleasure or imagination. The Assyrians did not build their immense vaults because they pleased them, but from the nature of their climate and the building materials at their hand. It is impossible to refer the production of a historical style to any one set of phenomena; it is not possible to get further than general groups, but, notwithstanding their uncertainty, they show architecture to be a living, progressive, reasoning art, reflecting the deeds and nature of man with a fidelity surpassed by few records.

The influence the comparative method may have in extending popular interest in architecture is not the least important of its elements. The dull record of historical sequences, the detailed examination of styles and their characteristics, the warfares over nomenclatures, the strict chronological chronicling of buildings in all times and ages, will never give the animation to architectural study it so sadly and obviously needs. There is no greater evil in architectural study than isolation. Architectural students forget the coordinate relations of their art in its beauty and artistic merit. No just estimate of all the works of men can be possible which does not take into account their buildings, even though their esthetic value is neglected. Yet historians of architecture do not hesitate to prepare essays in which the great historical events that have rendered the subjects of their discussions possible are ignored or scarcely referred to. A building is a thought, an idea, an intellectual product, and must be treated as such in every intelligent study. Viewed alone, the greatest

* Abstract of a paper read before the Twenty-fifth Convention of the American Institute of Architects, at Boston, Massachusetts, October 29, 1897.

monuments are deprived of much of their value. The Parthenon, Notre Dame and other great buildings typify ages and intellectual movements, as well as developments in construction and epochs in styles. It is not enough to describe them apart from their environment, nor can the men who built them, and their intellectual and historical positions, be passed over in a few words. It may seem formidable to say that the history of architecture is the history of humanity, and that one cannot be understood without the other; but is it well to continue in present lines if they are not sound, or if they do not rest on firm foundations?

Architecture, both as an art and as the science of construction, suffers from a lack of popular interest. It is not popular as china painting, decorative upholstery and other alleged arts are, and both painting and sculpture surpass it in general estimation and interest. It is not exaggeration to attribute much of this indifference to the dull, prosing way in which writers on architecture have presented their subject. I am not without hope that the comparative method, when properly handled by competent hands, may introduce a change for the better. Clearly, if architecture is to become popular, some new method must be adopted for its general treatment. People take an immense interest in many dull and far-away subjects. Lectures on psychology, political economy, even Hebrew and Assyrian, are crowded with eager and appreciative audiences. Architecture is surely in more intimate touch with the masses than any of these. If the fault is not in the subject, it must be in the methods.

Architecture is now almost the only form of knowledge that is not treated in a scientific manner, and viewed as a reasonable product of reasoning minds. The comparative study of monuments now forms the basis of the best work of the most advanced archaeologists. But their method is, perhaps, better to be called analytical than comparative, but in no case does it go far enough. If important events can be ascertained by the analytical studies of coördinate groups of buildings it should not be less valuable, or productive of less instructive and interesting results, to apply the same method to buildings which are not so intimately related. All buildings are products of a human intellect, and in a certain sense they all have the same end, that of fulfilling some of men's necessities. Architecture is eagerly seized as a subject of study when there is absolutely nothing else to learn of departed races, but when it is one of many forms of remains of past civilization it is viewed as an esthetic art without due appreciation of its proper uses.

Modern architecture, as well as ancient, is a proper subject for comparative treatment. Architecture is limited by circumstances and conditions today as in the past; they are not the same conditions, nor do they have the same results, but they still form legitimate subjects of study in the manner here proposed.

Architectural Education.*

YOUR committee to whom was referred D. Cady Staley's communication of Nov. 24, 1890, soliciting your coöperation in establishing a course of instruction in architecture at the Case School of Applied Science in this city, begs leave to submit its report.

As is already known, the communication with a proposed course of study enclosed was received and informally discussed at our regular December meeting, and then referred to this committee with instructions to compile all the information available, together with the suggestions growing out of the discussion, and report it at this meeting for further discussion.

Pending our previous discussion it was agreed that any endeavor looking toward the establishment of a thorough course in architecture would meet with our hearty coöperation and encouragement. While so much seemed perfectly clear, yet the question of ways, means, methods, responsibility, ultimate success and other details were so complex and infinite that there was much need for reflection, before we as a Chapter could act intelligently upon the recommendation as to the best course of study to pursue.

In looking over the field of the various contemporaneous professions and examining the educational advantages given them before they enter upon their lifework, we are forced to confess that our own profession lacks much to be wished for.

To many who are treading along our path it still may be an open question, whether after all it is not best for a man to ally himself in his youth with a skillful architect, and grow up with the office, rather than to take a preliminary technical course, which, under certain conditions, produces theorists rather than practitioners.

While there are many successful architects who are of office growth, yet it cannot be denied that there are also a goodly number who owe their success to having been able to attend one of the architectural schools, particularly one of those of Continental Europe.

In pointing out a proper course of study for any student, there is no fixing of standards for an exceptional genius, — such a one, even when left to circumstance, through an inborn intuition by self culture will acquire a thorough command of his profession and will succeed when the average man would fail. It is then with the average man that we will have to deal. Starting two such men in life, equally endowed as to their fitness and adaptability, the one who is taught in early life, in a logical, systematic manner, to classify his knowledge, thought and action, with their fullest bearing upon the practical problems he is expected to deal with, will make the most successful man.

To grow up in an office without any previous preliminary training as to the classification of the facts presented in its daily routine, no

doubt, in time, leads to the absorption of much useful knowledge, but when the time comes for independent action or research, too much is left to chance to get out of the responsibilities involved in the best possible manner.

While to grow up in a school, acquiring only speculations and theories without their practical adaptation to the problems of life, equally unfits a man for independent action, such a one often finds his hardest task to learn that life is too short for the application of his hair-splitting theories, and which often are even not wanted.

It is only through the happy medium of both theory and practice, acquired side by side, that the best and most satisfactory results are and can be obtained—cultivated alike of a thinking head and a cunning hand, brings the self-confidence which retains success when once acquired, either spontaneously or by slower growth.

In the training of a student to one of the professions practicing the useful arts, its success does not depend so much upon the student as upon his instructors. Such training should be in the hands of practitioners duly qualified to practice what they preach—men who, if need be, can carry their speculative researches to the utmost limits of the scientific principles involved, and after they have matured their conclusions or designs can instruct the artisan, in an intelligent way, how to construct or produce them to do the duty expected.

In their evolution of knowledge, they should be able to point out to the student the successive steps in a clear, logical manner, with an enthusiasm not fanatical but impressively irresistible—their hearts should be in it and the spirit of truth should always guide them. Their duty should be a pleasure and not a task to be dismissed with an indifference, the sooner gotten rid of and salary drawn the better.

In pointing out life it should be taken as it is, including its shortcomings, errors and faults, and not picture it an Utopia free from sin and guilt.

Under such a system it does not matter what or how much of a profession is taught; the student cannot but help to learn how to think, and to think in the right direction, too; the classification of knowledge will be indelibly impressed and the method of research properly instilled.

Thus prepared the neophyte enters the practice of his profession with his line of duty marked out along the path of inspiration, hope and reward, and not to the doom of disappointment.

Upon a closer examination we find that the elements and principles of any science are few but fundamental, easily acquired if properly instilled. That they should and must be properly acquired at the outset to achieve success, grows from the fact that it is the combination of these elements and principles which go to make up the complexity of the infinite number of problems with which a profession has to deal.

To particularize in regard to our own profession, of all professions the most complex in its demands, what can be done to bring about a course of training which, within a limited space of time, will result in the best fitting of a young man to enter its practice with a reasonable expectation of ultimate success? What shall be taught? What shall not be taught? What are the elements and principles which underlie the conglomerate mass of almost universal information required to be possessed by the successful architect?

First of all, how shall we train the hand that it may find ready expression in that universal language, drawing? In guiding the eye, how shall we stimulate observation so that it may see the minutest detail at a glance? And, along with the cultivation of the mind, how shall we quicken the imagination into inventive activity—blend it with the observations of past experiences, so that new and useful conventionalities may result?

How shall we control crude thought to a proper appreciation of the esthetic, the true, the beautiful and the good, so that the conventionalities of its creation when called into existence by description, art may be consistent in modeling and coloring? How shall we acquire a conduct to be ethical at all times, under all circumstances?

Giving our questions a more practical turn, how well should a student be taught to know the materials he is expected to work into consistent shapes? How much of their chemical and physical properties should be known, inclusive of the laws which govern their existence, durability and their statical relations? Then again, there are certain other laws, such as those of acoustics, light, heat, electricity, ventilation, sanitary science, as well as those of the business of commerce—can they be overlooked?

How much has tradition and history done for him, and what monuments should be studied in detail, as if erected for his special honor? Should any topics of general culture be pursued for the sake of discipline at the sacrifice of more essential professional ones, or should such topics be merely touched upon and then relegated to self-culture at the student's option when better favored with time? What proportion of the allotted time should be spent in the lecture or recitation room, in the drawing room or modeling room or workshop?

These are a few of the questions which confronted your committee at the outset—a veritable chaos! In order to see what was being done to solve them in other quarters, your committee obtained the curriculum of the course of study in architecture from several of the leading institutions in this country.

By inter-comparison among themselves and with those of some of the representative schools of continental Europe, your committee finds that most of the courses of our own technical schools are too much influenced either by the engineering features, or some other special characteristic of the institution, while in the courses of the European schools every essential branch seems to be made subservient to its professional end. There, the instruction is in the hands of a large corps of practicing professional specialists; while in our own schools the number of instructors is generally so small that in trying

*The Cleveland Chapter of the American Institute of Architects presented this paper, which was a report of one of its committees. Read by John Eisenmann, of Cleveland, before the Twenty-fifth Annual Convention of the American Institute of Architects at Boston, October 29, 1891.

to cover the ground their lives are held too close to the pedagogical rack, so that but a very few attain a very high standing in the profession or do justice to themselves as practitioners.

Abroad, the student comes in daily contact with some of the best men who are designing buildings and living in the world, and thus keep pace with the progress of the day. The instruction received is obtained from lectures founded upon the individual experience and practice of a specialist, hence the information received is never obsolete from having been gained from text books, or compiled from the recorded experience of others with an unpracticed hand.

When all information is given or obtained from text books, anyone endowed with the faculty of compilation and of teaching what he has read can be an instructor; but of what value except encyclopedia is such instruction to the student, if its practical application is not thoroughly understood? No wonder so many embryo architects prefer the method of office training instead.

Very few of our institutions lay that stress upon freehand drawing or modeling which is required in the European schools. In a general way, there, at least thirty-three per cent, and in some cases as high as forty per cent of the whole allotted time of the course is taken up with freehand drawing and modeling, the time being nearly equally divided between them. As for the other division of time, from sixty to sixty-five per cent of the remainder is taken up in the architectural drawing room, and the balance devoted to topics of the lecture room, inclusive of incidental field work, shop practice and laboratory work.

Compare the above divisions of time with that of our best standards, and you will find a marked difference, although some more nearly approach it than others.

In most of them, instead of a judicious assignment of the time to essential branches only, much of it is taken up by sandwiching in foreign topics to fill up or pad out the course, so that when the engineering features predominate, architectural superintendents rather than architects is the result; and when they are entirely omitted, draftsmen, not architects, are produced.

There is a happy blending of all the essentials which would produce just as good results as may be conceded to the European schools. The students' minds we have to deal with are just as bright and of as high an order if not broader, as they are there, and that the result of the training is not as satisfactory is the fault of the methods and teaching. Ask any practitioner who has enjoyed the advantages of a foreign architectural school how many of his professors had an almost international reputation in the specialties they taught him, and you will be surprised at the result. Can men of such professional reputation be induced to give part of their time to similar institutions in our own land? Why not? For until it is done such schools will never enjoy the distinctively high grade of an *Ecole des Beaux Arts* of Paris or the *Bau Akademie* of Berlin or the Polytechnicums of Munich, Brunswick, Stuttgart, Carlsruhe or Vienna.

Should the further coöperation of our Chapter be solicited toward the establishment of such a school in our midst, it is the opinion of your committee that we should do so along lines which will result in the best architectural training in its highest sense or not undertake it at all. With this in view your committee respectfully recommends the following, assuming that the training as outlined would extend over a four years' course.

First of all it believes that proper observation as well as self-confidence in the hand can only be obtained by a comprehensive course in freehand drawing from objects, not plates; plates should only be used to show results of methods and technique.

This course should extend over two whole afternoons each week and year of the four years in a progressive series. And for a training toward a further conception and the proportioning of forms, modeling should have at least one whole afternoon each week of the four years. The study of ornament, color and decoration should accompany the aforesaid studies. The purely mechanical architectural drawing required by the study of detail, composition and design should extend through two whole afternoons of each week throughout the course.

A knowledge of the use of instruments and of simple geometrical drawing, along with a manual training, should be among the requirements of admission, assuming graduates of scientific high schools as the established basis of admission.

Should a manual training be lacking in a student his time should be so allotted that he can make it up during his vacation, either at the school or in some workshop.

Descriptive geometry and simple building forms and details should begin at once after entering, and lead step by step through the intricacies of graphical applied mechanics, building construction, framing, and the stability of structures in a progressive series to the end of the third year.

Lectures on art should start in the first year, followed by the laws of art, esthetics, ethics, and the history of architecture and kindred subjects, in a four-year series.

Building materials of all kinds to be taken up in the second year of the course; the working strength, application and chemical and physical characteristics should be given, side by side, in a course of lectures and laboratory practice.

In the purely mathematical branches, none should be taught as exhaustively as for engineering students. Algebra, geometry and trigonometry should be treated as in a review only, and then analytical geometry taken and all completed by the end of the first year. Differential and integral calculus need only be touched upon to acquire the principles, so that with theoretical mechanics all the purely mathematical studies will be completed by the end of the second year.

Chemistry and physics need only be treated elementary, and if laboratory practice is required it should be upon building material exclusively, and both end with the second year. The subjects of

acoustics, heat, light, ventilation and electricity being in a separate course.

Some knowledge of French and German should be required on entering, but during the course of study it is to be left to the student's option as an extra study, but if at all taken up the time should be devoted to the technical literature of the languages.

The entering student should be given a rigid examination in the English language in order that no further time be lost in the study as ordinarily pursued in higher educational institutions, but instead the study of forms and expressions of specifications, contracts and business law, should take its place.

The use of surveying instruments should be compulsory as well as a knowledge of topography, earthwork and road making.

The modern science of sanitary draining, plumbing, steam, water and gas supply, should accompany the study of light, heat and ventilation.

A thorough course of lectures on building machinery should be given, inclusive of those used for transportation, reduction and manufacturing of material, as well as those employed about a building during erection or its finished state. Only the most essential of these need be in detail.

In the development of the study of design a thorough study of details should first be made before the composition of a "castle in the air" is attempted. It should be remembered that in our day the opportunity of designing in a purely monumental sense comes perhaps but once in a lifetime, and then even not without counting the cost or of trying to get the best result in the most economical way. After this study of detail, composition should follow, and the student's imagination and inventiveness allowed the utmost latitude, within the limits of conditions such as actually exist today rather than yesterday. When a design is completed the working drawings, specifications, bill of quantities, and estimates should be made out.

During vacation, time may be advantageously employed in sketching, observation tours, or on work either in the shop, office or scaffold. Such a course as outlined above, if properly instilled or taught, will produce just as good a result as that of any European standard. Although the details are not given it is surprising how much valuable ground may be covered in a four years' course, and yet leave something to work for in the future.

It was the intention of your committee to submit for your consideration the above course as outlined in such detail as would show the number of hours it would recommend to be devoted to each study, but the lack of time precluded its being done. Should this report meet with your approval, and if your committee is continued, it would be pleased to submit such a detailed course properly arranged at some future meeting.

Protection of Residences.*

BY FREDERICK BAUMANN, ARCHITECT.

THE air we breathe and which, for this reason, constitutes part of our body, is never pure. In the midst of cities it is full of dust, smoke and a score of minor impurities. In the open country it generally becomes purer with the distance from densely populated spots, and the purest air is found on the summit of mountains and in remote woodlands.

Pure air, this loose compound of oxygen and hydrogen, is constantly impregnated, not merely with extraneous substances above referred to, but also with traces of all elements and natural compounds in proportion to their relative volatility. Accordingly we find in it carbonic acid in measurable quantities; ammonia, nitrous acid and even some metallic acids in traces. Arsenious acids, for instance, are always present in the vicinity of arsenious products, so that miners and workmen especially are injured by inhaling the air thus contaminated. A similar fate, as we know, is in store for workmen in the quicksilver mines, and in the manufactories of white lead.

Various odors will penetrate the air in immeasurably small quantities. It is altogether impossible to measure the substances, by weight or otherwise, which signify their presence by odors, though ever so penetrating, such as, for instance, asafetida or musk.

With every draft of air, therefore, we not only take in all substances therein suspended which are perceptible to our senses or by our instruments; we also take in immeasurably small quantities of all other elements and compounds in existence. Hence the mysterious compound of our blood, so wonderfully complex.

But the air is not merely a composite of all inorganic substances. The dust therein suspended is full of organic life, life struggling for existence, were it at the expense of the life of higher beings.

The whole philosophy of medical science has of late been subverted through the gradual discovery of the extensive species of minute beings called bacteria, the lowest order of beings known to exist. They were at once believed to be the product of a generatio aequivoca — of spontaneous generation — until it was made evident by Pasteur that they are generated ex ovo — from the egg. Philosophers have, however, then subsequently — not abandoned faith in spontaneous generation from the original elements upward — but have put the bacteria up as a rather composite race of beings, made up from many millions of molecules, and established a belief in a class of organic beings as progenitors, as it were, of the bacteria, which beings are to be many times simpler composed and smaller than are the latter, and so minute in size that they will forever be hidden from human sight.

The microscope, so wonderfully improved in these days, has been instrumental in the discovery of many species of the bacteria family.

*A paper delivered before the American Institute of Architects at Boston, in October, 1891.

to which special names were given, as though they were positively distinct from each other. The latest science, however, seems to discover that the family has but really one or a limited number of species, the members of which are changing from one form into another; an opinion which was early propagated by Professor Naegeli at Munich, but contradicted by other philosophers.

All diseases and ailments of the human system are, according to an overwhelmingly large number of medical philosophers, owing to encroachments thereon by bacteria, as destroyers of blood and tissues. Quite a number of these bacteria have been minutely measured. The modern microscope has given the diameter of a microbe, so called, at one 20,000th of an inch, and its length at ten times that. Accordingly, a cubic inch of space could contain 800,000 millions of them, while the size of the average blood corpuscle, at one 3,500th of an inch in diameter, by twice this for its length, would yield 20,000 millions of them, and that of a grain of sundust of an average diameter of one 1,000th of an inch, 1,000 millions thereof to the cubic inch. Taking this size of the sundust as a unit, the size of a blood corpuscle is to be expressed by one 20th, and that of our microbe at one 800th of such unit. And the microbe assumed is by no means one of the smallest. It is merely one of those which have been measured, while hundreds of them, perhaps ten to fifty times inferior in size, have not been accurately noticed under the spectre of a microscope. No scientist, as yet, has distinctly seen the microbe which is considered to be the cause of the scourge which made its first appearance in 1498 with the French soldiers in Italy. Its original absolute incurability, however, was mitigated in the course of time. Men became gradually inoculated by inheritance with traces of the microbic poison, so as to be in a degree protected, and it is expected by scientists that in time the evil will entirely cease. Interesting it is that this evil has become a factor in the civilization of new countries, inasmuch as it tends to eradicate the original inhabitants, which are not from progeniture inoculated, and not subject, otherwise, to civilization. Added to this comes the inevitable whisky, so that two evils combined are found to be, in a sense, factors, very active factors, of civilization as it proceeds in new countries.

The microbe, or what else it may be called, of the scourge of small-pox has lost its power over man through the timely inoculation of the cow-pox virus into the human blood. It has been made evident by Pasteur that this cow-pox virus is coincident with small-pox virus, merely many a thousandfold attenuated. Hence the consequent efforts of this scientist as to a protection of human blood in a similar manner against the encroachment of microbes which are the cause of a number of infectious diseases.

Some twenty-five years ago Professor Naegeli mentioned some very interesting and, as I believe, important experiments as to the life of the lowest orders of fungi, of which our bacteria are the lowest yet. He prepared a proper neutral nourishing fluid, and put therein the seeds of mold fungi, fermenting fungi and bacteria. The result was that the latter exclusively went on to multiply at the expense of the nourishing fluid, so that not a trace of the other two kinds of fungi could be found. He then added one per cent of tartaric acid to a fresh dish of nourishing fluid. The result now was that the fermenting fungi had the field for themselves exclusively. A third experiment, with five per cent of the acid added to the fluid, gave the field to the mold fungi. Singly each kind of fungi would grow in either kind of nourishing fluid, but in competition with each other the field was conquered by one kind exclusively.

Arguing from this fact, Naegeli justly asserts that the blood corpuscles, as principals within their nourishing fluid, ever prevent the growth therein of other fungi, which are constantly inhaled with the air, thus coming in direct contact with the blood of the lungs. The blood corpuscles ever do this so far as they are in sound condition. But, alas, they are often weak and often subject to debilitating effects, so that the foreign fungi get a chance to grow and multiply, so rapidly indeed — doubling their number within every few minutes — that within a few hours the blood's life, and therewith the life of the being, may be destroyed.

Within the child there flows and grows the blood of its parents, and all the latter's ills and ailments that human flesh is heir of accompany the child. The German student expresses this in the jocular statement that every man "should be most careful in the selection of his parents."

A birth-place of bacteria is below the ground, nearest the level of ground-water. As the water recedes, the fungi get dry, and slowly rise with the ascending air current to the surface and into the atmosphere, there to be, by chance, inhaled.

Assuming a grain of fine sand to be one 200th of an inch in diameter, the number of grains per cubic is 8,000,000; further, assuming the interstices between grains at one-fourth, we may safely count 32,000,000 of interstices as taking up the entire space of a cubic inch. A single interstice may thus contain:

Thirty grains of sundust = 600 blood corpuscles = 24,000 microbes. A single microbe, of medium size, may, therefore, very conveniently ascend within a body of even the finest sand, within the pores of rock, of brick, mortar and concrete. It finds no sort of impediment in any dry substance excepting dense clay, so far as it is not wholly dry.

Such clay protects, as is substantiated by the following account of Doctor Pohl: A country gentleman had on his estate seven one-story houses inhabited by laborers. These houses were dilapidated and dirty. Their floors were a sort of concrete, made of clay. The houses were doomed to be destroyed, to make room for commodious tenements of the better class. At a time when cholera visited the place, five of the houses had been new, with floors raised from the ground, which had been deprived of the layer of clay; two were in previous condition. The disease laid up eighteen of the inmates of the new and improved, ostensibly far more sanitary houses, and none at all of

the two rotten and dirty houses. The result could only be attributed to the fact that the clay floors had effectually prevented any preparatory disease germs to rise within those houses.

I have at last arrived at my task proper. Bacteria are at all hours generated in the soil under our very homes, they rise, and are inhaled by us as the inmates. Among them there may at any time be some of the kind which cause disease, which might or might not grow at the expense of our blood, as circumstances beyond human control would govern.

The upward current, which brings them to us, is augmented in winter, as we well know, by the reverse of temperatures. Where human well-being and life are considered worth anything, there the architect of the present day should, without fail, pay due attention to such construction of a residence building as would fairly warrant a protection against all ascending air currents ever present under its floors and in its walls. The task is neither difficult nor expensive, as we shall see, and no excuse can effectively be offered on this score.

Common materials most likely to be proof against penetration of microbes are: Asphaltum, glass and pitch-tar. The asphaltum to be had in form of pressed plates. All these materials can be most readily had and employed.

Asphaltum or glass, in two layers, on proper mortar, to be put in all walls at the level of lowest floor. Asphaltum also to be put against exterior walls, terminating below lower water-table.

Concrete, with level surface, established on the entire ground, to be covered with a coat of pitch-tar and tarred felting, which may be repeated once or twice, to be lastly covered with a proper layer of finish-concrete. Where wooden floors are required, the finish-concrete may contain the required sleepers.

Where desired, a further protection can be had by spreading a sheet of lead under the furnace-stand prior to making the last concrete. Even the entire surface of basement may thus be advantageously covered, where expense is no objection.

These arrangements, carefully executed, are unquestionably calculated to produce the nearest positive impregnability of floor and walls of a house, though we must conceive it as next to impossible to give absolute evidence as to such effect. We must rest our assurances on the degree of impregnability of the substances employed and on the accurate manner of their employment.

The arrangement excludes the use of iron sewers and requires all water-supply pipes to be suspended from the basement ceiling. Return-pipes of a steam-heater, and cold-air ducts, must likewise be thus suspended. Iron sewer pipes are objectionable for several reasons. Iron is a bad material to be put underground. It decays. The decay is augmented by the acids of the liquids within the pipes, and the flow is impeded by rust. Arrangements for cleansing are, therefore, provided at short intervals. Earthen sewers, on the other hand, if well made, are of the most enduring material within our mechanical province, and should not be rejected because they are generally so bunglingly applied by our mechanics. Good sewerage requires the excavation of all trenches at one time, and a concave concrete foundation on a gradual and even pitch for all sewers. The sections should be laid in mortar of Portland cement, and connected by means of metallic rings, which will insure permanency. The receiving ends should be fully turned up, and have a socket in which is fitted an iron member receiving the soil or the waste-pipe, both being provided with a tight slip-joint. The joints within the socket to be tightened with a mixture of asphaltum and sulphur.

Provisions thus properly made, with due care and foresight, are unquestionably calculated to secure residence buildings in a desirable measure against the encroachment of those invisible beings which are the ever present and most persistent enemies of the human race.

Romanesque Windows.

IN all periods of Romanesque we find occasionally two or more arched openings comprised under one inclosing arch. This arrangement is more frequent in belfry windows and triforium openings than elsewhere, but occurs in ordinary windows, especially in secular buildings. The space intervening between the large arch and the two or more placed below it was, even as early as this, occasionally pierced with circles or other forms of opening. Here, then, we have the elements of the mullioned window before even the introduction of the pointed arch. In the same situations it gradually developed itself, step by step, during the Early Pointed period, so that we have in triforium arcades and in other positions a pretty full development of what is called plate tracery, before its use became frequent for ordinary windows. The case was pretty much the same both in France and England, though, on the whole, the love of placing two openings under one arch was greater in France; thus we see in the aisles at Chartres two plain lights under one arch, with a circular opening, and above, in the clearstory, a very large circle with somewhat complex subordinate piercings. The same is the case at Bourges, where three lights are often comprised under one arch, with a single circle in the head. The next great element which aided in producing tracery windows was the wheel, or other richly-pierced circular window. This, again, originated under the Romanesque style, as we may see at Harfreton and elsewhere. It is, in fact, a very close approach to tracery, and when placed in the space between comprising and comprised arches, it almost completes the change. All that is wanted is the piercing of the intervening spaces in forms whose outlines are parallel to the main piercings, so as to form what Professor Willis calls bar tracery. It is somewhat remarkable, as Mr. Ferree points out, that the French should have made the window over the doorway the most important one in their churches, while the English have made that over the high altar, which had frequently a sculptured reredos.

Proceedings of the Twenty-fifth Annual Convention of the American Institute of Architects.

THE twenty-fifth annual convention of the American Institute of Architects was called to order October 28, 1891, at 10 o'clock A.M., in the new public library building, Boston, Massachusetts, Richard M. Hunt, of New York, president, in the chair; Dankmar Adler, of Chicago, secretary.

On motion, the calling of the roll and reading of the minutes was dispensed with.

The following were in attendance upon the convention. Dankmar Adler, Chicago, Ill.; W. W. Carlin, Buffalo, N. Y.; Frederick H. Gouge, Utica, N. Y.; Levi T. Scofield, Cleveland, Ohio; Otto Block, Rochester, N. Y.; W. M. Poindexter, Washington, D. C.; E. F. Fassett, Portland, Me.; Warren R. Briggs, Bridgeport, Conn.; James F. Alexander, Lafayette, Ind.; Samuel A. Treat, Chicago, Ill.; J. W. Richardson, Cleveland, Ohio; F. A. Coburn, Cleveland, Ohio; James G. Cutler, Rochester, N. Y.; S. V. Shipman, Chicago, Ill.; John H. Coxhead, St. Paul, Minn.; Louis Boucherle, Youngstown, Ohio; Stanford White, New York, N. Y.; James Murphy, Providence, R. I.; Jeremiah O'Rourke, Newark, N. J.; Charles K. Ramsey, St. Louis, Mo.; E. O. Fallis, Toledo, Ohio; J. M. Freese, Columbus, Ohio; John C. Smith, Orange, N. J.; Augustus Eichhorn, Orange, N. J.; George C. Mason, Jr., Philadelphia, Pa.; John Scott, Detroit, Mich.; A. J. Bloor, New York; John Eisenmann, Cleveland, Ohio; George H. Smith, Cleveland, Ohio; C. A. Wallingford, Saint Paul, Minn.; W. L. Plack, Philadelphia, Pa.; C. E. Illsley, St. Louis, Mo.; R. C. McLean, editor INLAND ARCHITECT, Chicago, Ill.; Otis Dockstader, Elmira, N. Y.; Henry C. Meyer, editor *Engineering Record*, New York, N. Y.; P. P. Furbur, St. Louis, Mo.; Theo. C. Link, St. Louis, Mo.; W. L. B. Jenney, Chicago, Ill.; Julian Barnes, Joliet, Ill.; John Calvin Stevens, Portland, Me.; Henry Van Brunt, Kansas City, Mo.; James W. McLaughlin, Cincinnati, Ohio; Adolph Cluss, Washington, D. C.; A. P. Cutting, Worcester, Mass.; E. Boyden, Worcester, Mass.; C. J. Clark, Louisville, Ky.; T. J. Lacey, Binghamton, N. Y.; S. M. Patton, Chattanooga, Tenn.; Joseph Blaby, Palmyra, N. Y.; Glenn Brown, Washington, D. C.; Stephen C. Earle, Worcester, Mass.; Lonsdale Green, Anniston, Ala.; John W. Ball, Cincinnati, Ohio; Franklin J. Sawtelle, Providence, R. I.; E. S. Walter, Scranton, Pa.; H. J. Hardenbergh, New York, N. Y.; Amos J. Boyden, Philadelphia, Pa.; Edwin J. Lewis, Jr., Boston, Mass.; Herbert Jacques, Boston, Mass.; Gustave W. Drach, Cincinnati, Ohio; George W. Kramer, Akron, Ohio; Samuel Hannaford, Cincinnati, Ohio; J. W. Yost, Columbus, Ohio; R. H. Hunt, New York, N. Y.; J. Appleton Wilson, Baltimore, Md.; Thomas J. Small, Providence, R. I.; Arthur G. Everett, Boston, Mass.; F. W. Angell, Providence, R. I.; James H. Windrim, Philadelphia, Pa.; Guy Tilden, Canton, Ohio; George W. Rapp, Cincinnati, Ohio; John A. Fox, Boston, Mass.; H. Langford Warren, Boston, Mass.; Alfred Stone, Providence, R. I.; Edward H. Kendall, New York, N. Y.; George B. Ferry, Milwaukee, Wis.; W. G. Preston, Boston, Mass.; A. W. Longfellow, Boston, Mass.; Richard M. Hunt, New York, N. Y.; Robert S. Peabody, Boston, Mass.; L. W. Robinson, New Haven, Conn.; George W. Cady, Providence, R. I.; John B. Wordsworth, Worcester, Mass.; Henry B. Ingram, representing *Architecture and Building*, New York, N. Y.; F. A. Wright, New York, N. Y.; M. J. Dimmock, Richmond, Va.; William S. Wicks, Buffalo, N. Y.; James T. Kelley, Boston, Mass.; William Cummings Richardson, Boston, Mass.; A. F. Rosenheim, St. Louis, Mo.; William B. Ittner, St. Louis, Mo.; S. C. Bulkley, St. Louis, Mo.; W. H. Foster, St. Louis, Mo.; Jacob Agne, Jr., Utica, N. Y.; H. W. Hartwell, Boston, Mass.; B. T. Lacey, Binghamton, N. Y.; Edward I. Nickerson, Providence, R. I.; W. B. Power, Philadelphia, Pa.; Samuel Ruckel, Jr., Philadelphia, Pa.; Edward Hazelhurst, Philadelphia, Pa.; R. M. Upjohn, New York, N. Y.; J. H. Pierce, Elmira, N. Y.; Frederick Baumann, Chicago, Ill.; F. G. Corser, Minneapolis, Minn.; Edwin C. Cabot, Boston, Mass.; W. P. P. Longfellow, Boston, Mass.; C. F. McKim, New York, N. Y.; C. E. Carpenter, Providence, R. I.; Charles A. Cummings, Boston, Mass.; William Roche Wave, editor *American Architect*, Boston, Mass.

Among the ladies present were Mrs. J. W. McLaughlin, Mrs. John Scott, Mrs. Julian Barnes, Mrs. W. M. Poindexter, Mrs. Warren R. Briggs, Mrs. J. N. Richardson, Mrs. John H. Coxhead, Mrs. Gustave W. Drach, Mrs. G. W. Kramer, Mrs. Samuel Hannaford, Mrs. J. Appleton Wilson, Mrs. S. A. Treat.

President Hunt delivered his address, which was one of the most impressive and comprehensive speeches ever presented in the history of the Institute. It is printed in full on page 39.

The President: Gentlemen, the next thing in order is the report of the Board of Directors. Before the reading of the report, Mr. William H. Sayward, secretary of the National Association of Builders, as well as the Master Builders' Association of Boston, would like to extend an invitation to the members of the Institute.

Mr. Sayward: Mr. President and gentlemen, I will only detain you for two or three minutes to convey a special invitation to you for this evening. I am secretary of the Master Builders' Association of this city, and am here officially to convey to the members of the Institute, as well as to the members of the Boston Society of Architects, an invitation to be present this evening at our building at No. 166 Devonshire street, at a reception. Learning that this Institute was to meet here some weeks ago, our association conveyed to the Boston society, your entertainers, the wish to offer some courtesy, and they kindly have acceded to our request; and it has seemed to us proper and appropriate that some official should be here this morning and urge upon you your attendance. We feel that we have something

to show you, particularly architects from other cities, which you have not at home. That is, a thoroughly equipped builders' exchange in a building of its own, where the builders in all branches meet every day in a rendezvous, for their own convenience and for the convenience of architects who wish to reach them. It has proved to be of immense value to all in our profession and in yours, if I may be permitted to call the builders' trade a profession, and we desire to take this opportunity to show, particularly to you architects from the various cities all over the country, what would be a very desirable thing to have established in your cities, wherever you reside. In a few cities throughout the country there are builders' exchanges. But we feel here in Boston (you know Boston has a habit of believing that we have everything a little better than anybody else)—we believe that we have the best builders' exchange of any city in the country. We certainly know it is one where the practical affairs of business are conducted more completely and thoroughly than in any other of the builders' exchanges, no matter where they may be located; so we urge upon you to come down and visit us tonight.

The report of the Board of Directors was read by the secretary, Mr. Adler, as follows:

REPORT OF THE BOARD OF DIRECTORS.

To the Fellows of the American Institute of Architects:

Your Board of Directors and your Executive Committee have each held two meetings during the past year. It is significant of the good will and harmony existing within the Institute, and of the general satisfaction of its members with the present condition of its affairs, that during the entire year your officers have not been called upon to adjudicate a dispute, or to take part in any dissensions or differences of opinion between members or Chapters. Besides the discharge of ordinary routine, the meetings of your Board of Directors and of your Executive Committee have been chiefly taken up with action upon applications for Fellowship. Of these there have been thirty-eight, of which thirty eventuated in the election of the candidates, three have resulted in election conditional upon fulfillment of certain requirements of your By-Laws, one in rejection, while four are still pending and awaiting final action.

There have been during the year two resignations from membership. Death has taken from among us during the year just past seven members, of whom three were members of this Board. Two of them, Messrs. O. P. Hatfield and E. T. Littell, had been among the founders of the Institute, and had for many years been among those who guided and shaped its policy. Their absence is mourned not only by those of us who have so long been wont to seek their wise and conservative counsel in the administration of affairs of the Institute, but by the younger ones, who respected their constant, unswerving devotion to duty and their honesty and uprightness of purpose. But while these departed ones had lived their lives up to the climax of the development of their powers, the life of our late lamented secretary was cut off in the midst of a most promising career of usefulness. But few are permitted to make as notable and as extensive a record of powerful work so early in life as it was the good fortune of John Well-born Root to leave behind him.

We rejoice that it was our good fortune to have had in our midst, even for a few brief years, a man of such brilliant mind and of so genial a spirit, but we mourn that he is with us no more, that our meetings will not again be enlivened by his humor and wit, and that our councils will miss his incisive and trenchant remarks replete with good judgment and sound common sense.

The others whom death has taken from us, Fellows John Otter, G. H. Metzel, J. W. Hammond and Herbert C. Burdett, were known and highly respected in their own communities as efficient, capable and upright men whose death leaves a void not easily filled. The sympathies and condolence of your Board are extended to their mourning relatives and friends.

As the secretary of a body like ours carries upon his shoulders almost the entire burden of the details of administration, it can readily be conceived that the death of our late secretary had a most detrimental effect upon the work of the Institute. While his assistant and clerk, Mr. Nimmons, kindly endeavored to carry on the interrupted work of his chief, he could only be expected to carry on the letter of the same and not its spirit; and despite the intelligence and industry of Mr. Nimmons, the soul and the essence of many movements which his master had intended to inaugurate, were lost to us. And when your executive committee elected the present incumbent to fill the vacancy created by the death of Mr. Root, months elapsed before it became possible for him to obtain a firm grasp upon the executive work of the Institute. We therefore crave your indulgence for such sins of omission as may be traceable to this sad and unlooked-for event.

Your Board of Directors begs leave to report with regard to the subject of regulations for the employment of clerks of the works, that they have given the same the thought and consideration due to a matter consigned to their care by a vote of the Institute at its last convention. A statement expressive, in the opinion of your board, of the intentions and position of the Institute, is printed on page 19 of our Constitution and By-Laws and the Report of the Committee on Clerk of the Works, and the entire discussion thereon of the convention of 1890 have been printed on pages 18 to 22 and pages 41 to 60 of the published proceedings of that convention, and are therefore sufficiently before you to take further action should you deem it necessary. Your Board of Directors would, however, remind you that with this, as regards other details of practice, the Institute can only recommend but cannot force upon its individual members or their clients its ideas of what constitutes good professional practice.

Your Board of Directors has also given study and consideration to the mutual relations of Chapters and Institute, and in obedience to the mandate of the convention of 1890 it has endeavored to formulate "a plan for establishing such practical conditions of membership as will be most beneficial to the Institute and its Chapters." The result of these endeavors is the recommendation to leave unchanged our By-Laws making membership of a Chapter and recommendation by the officers thereof an essential preliminary condition for every candidate for Fellowship in the Institute, and to maintain the By-Law giving the Board of Directors full power and free scope in forming and admitting new Chapters.

Our honored president has, in his address, stated forcibly and tersely the conviction of your Board, that the strength of the Institute lies in its Chapters, and that to increase their number and to augment their power should ever be our aim and purpose, and the recommendation to maintain the present status of our laws and regulations upon this subject is made with the desire and for the purpose of furthering the fulfillment of these ends.

Your Board of Directors begs leave to return to two subjects touched upon in the discussion of the report of the Committee on Clerk of the Works of the convention of 1890. The first relates to the adjustment of the mutual relations and responsibilities of architect and client. It has been assumed by too many of us that these relations are of so confidential a character that they should not be desecrated by an alleged note of mutual distrust as implied by the making of a written contract. This seems to us a fallacy. In the absence of an accurately defined statement of the extent and the limitation of their responsibilities the one side is apt to assume that they comprise too much, the other that they comprise too little. Everything that can be done to remove the possibility of misunderstanding between architect and client makes the positions of both stronger and their relations more agreeable. We therefore recommend the adoption in general practice of a form of contract similar to that recommended by your committee and printed on pages 20 and 21 of the Proceedings of the Convention of 1890.

In the same proceedings on pages 47 and 48 will be found an extract from a committee report to a former convention upon some of the evils incident to the system of architectural competitions as now in vogue. Your Board of Directors recommends that the members of the Institute do all in their power by precept and example to discourage the practice of submitting sketches gratuitously or for remuneration inadequate to the work in hand; that they do all in their power to prevent participation in competitions the terms of which are not clearly and

definitely stated and in which satisfactory assurances of intelligence and justice of award are not positively and unequivocally given.

While many of your board are of the opinion that the so-called competition is in itself, even when best conducted, harmful to our profession as well as to the public, they are well aware that this opinion is not shared by a majority of our Fellows. But certainly there can be no doubt but that if competitions must be, it is our duty to minimize their attendant evils.

Upon the subjects of education, the code of professional ethics, the uniform contract, the conservation of public architecture and the action of the National Board of Fire Engineers, the respective committees in whose care the various subjects have been placed will make their own reports.

The Committees on the Architecture of National Buildings and on enactment of laws for controlling the practice of architecture have been discontinued because of the deplorable but quite apparent want of interest of the public and our profession in these matters of such great importance to both.

Your board recommends, to facilitate the work of future conventions, that this convention direct that hereafter all papers to be read at conventions be submitted to the Board of Directors at least four weeks before such conventions, and that these papers be printed and transmitted to the members by the secretary.

On motion, the report of the Board of Directors was adopted and laid on the table for future consideration.

The report of the Treasurer was read by Mr. Samuel A. Treat, as follows:

TREASURER'S REPORT.

RECEIPTS.

Treasurer S. A. Treat, in Account with the American Institute of Architects, from October, 1890, to October 24, 1891:

By dues received.....	\$4,012.50
Initiation fees.....	160.00
Royalty on sale of uniform contract.....	42.68
Interest on delinquent dues.....	4.00
Balance in Treasury, 1890.....	1,605.04

\$5,824.22

DISBURSEMENTS.

To expenses Annual Convention, including proceedings.....	\$1,386.75
Salary of secretary and expenses.....	1,486.82
Treasurer's expense.....	53.65
Traveling expenses, members Executive Committee.....	312.90
Rent New York offices and taxes.....	214.97
Sundries.....	154.06

\$3,609.15

Balance in treasury..... 2,215.07

\$5,824.22

The President: The report is referred to an auditing committee, consisting of J. F. Alexander, F. A. Coburn and A. J. Bloor.

The President: The next thing in order is the reports of committees. First, the Committee on Education. Mr. Russell Sturgis, the chairman of that committee, is not present to give his report. Next will be the report of the Committee on a Code of Professional Ethics.

The Secretary: The chairman of the committee on the formulation of a Code of Professional Ethics is not here, but he has begged me to state on his behalf, that as he has not been able as yet to note a sufficient crystallization of modes of practice in the relation of architects and the general building public to warrant him in the effort at giving expression to the ideas of the profession upon this all-important subject, and he has not thought it best to submit a report at this convention.

The President: The next will be the report from the Committee on Clerk of Works.

The Secretary: Mr. Gibson is chairman of that committee, and I have a letter from him, in which he states that it is his opinion that the committee had for the present exhausted the subject in the report submitted at the last annual convention, to which reference has been made in the report of the board of directors.

The President: The next in order is the report of the Committee on Uniform Contract.

The Secretary: Mr. Hatfield, the chairman of that committee, died during the year. I am also of that committee. I will report on behalf of the committee that it has been observing carefully the working of the form of contract which was adopted two years ago and noting its defects. While some have been discovered, it was the opinion of the committee that it was not best, after this form of contract had been adopted, to make changes hastily; but notes are being taken so that probably by the next convention there will be such alterations and modifications of the form of contract as will remove many objections that have appeared to its use. It is but just to add here that the Committee on Uniform Contracts of the Institute has found its joint committee from the National Association of Builders eager to co-operate in every respect with it in endeavoring to find how the form of contract adopted two years ago can be improved and advantageously modified, and there is no doubt but that in the course of the coming year some modifications will be reported.

The President: The next report in order is that of the Committee on the Conservation of Public Architecture.

The Secretary: Mr. Upjohn is chairman of that.

The President: He does not seem to be here. Next in order is the report of the Committee on Conference with the National Board of Fire Engineers.

Mr. Alfred Stone: Mr. Le Brun of New York is chairman of that committee, but I would state that the committee that was appointed for the purpose met in New York with the committee of the Board of Underwriters and also with a committee from the Firemen's Association, and I think that the action of the members from this body was wise in not promulgating a set of minute detailed conditions for building, which would, I think, have been very unfortunate; and the work done was simply to advise certain general principles which covered building laws. It was the desire of those present that the committee should be continued and that the meeting should be held in Cleveland in February, when the National Builders' Association meet there, and that there should be a continued conference in regard to this matter. Therefore, if it is the wish of the American Institute to have a hand in the matter of regulating the construction of buildings or in the

framing of laws to that effect, it would be well to continue this committee or appoint another so as to coöperate with the association, and that committee will be called on to meet with them in Cleveland in February next.

The President: There is a proposed amendment to Section 3 of Article I of the By-Laws. It was proposed at the last convention, and read thus:

All architects who shall have been actively engaged in the honorable practice of their profession for ten years or more, and shall then have retired from active practice, and who shall not have engaged in any business or trade, may retain the rights and obligations of fellowship.

The proposed amendment is now open to discussion. Are there any remarks to be made on the subject?

The amendment to the By-Laws was adopted.

The President: It has been suggested that we might proceed now to have one of our papers read.

Mr. Windrim read his paper on Architecture and the United States Government. (Printed on page 42.)

Mr. Yost moved a vote of thanks for the paper which had just been read, and it was unanimously passed.

Mr. Stone: While upon this subject, I would like to ask the secretary to state, if he can, just the position of this question before the Institute as to a committee or anything of that kind, so that we will know something about it. That is, I think some action has been taken before. Just the history of it; where it stands.

The Secretary: Mr. Chairman and Gentlemen: The subject of Mr. Windrim's paper has been before the Institute at several conventions, as also before the Western Association of Architects. Both bodies maintained for a number of years a committee that was charged with the duty of endeavoring to secure congressional legislation upon the lines indicated by Mr. Windrim. For several years I was chairman of a committee of the Western Association. In that capacity, in conjunction with Mr. Bloor and the late Mr. Littell, we made a number of efforts to secure a hearing before the committee on buildings and grounds of the house of representatives. There were during that time several bills bearing upon the subject introduced into the house; one by Mr. Stockslager, which we thought was very good; another by Mr. Hubbell. These bills always, however, died before the termination of the session of congress, before any definite action had been taken upon them, as far as we were able to observe. There was, until the time of Mr. Windrim, an opposition to any action of the kind desired by us from the then incumbents of the position of supervising architect. It has been, perhaps, the misfortune of the government that it imposes great responsibilities upon its officers and places but small remuneration, and it has, therefore, been difficult generally to secure men of large caliber. It was our misfortune when in Washington to come across small men in large places (laughter), who liked very much to retain their positions. It was not until Mr. Windrim's day that we met with any support, and what Mr. Windrim has read to you shows the extent to which he worked, and the lines upon which we stand. But even in Mr. Windrim's day we found opposition from the many hangers-on of that office, and these kitchen, backdoor influences are very strong in Washington. If we wish to attain anything, we have got to do something more than go to Washington and lobby and orate before a committee of congress. It will do us no good. There is but one way by which the congressman can be influenced, but one way by which he can be reached, and that is by home influences. If we each of us will succeed in convincing our friends, our clients at home, that this reform is a reform, that it is something to the general interest of the community, that it is something in which everyone throughout the United States is interested,—if we will do that, then we will bring to bear indirectly upon each of our congressmen an influence which he will find it difficult to resist; which will be stronger than these backdoor influences at Washington. Again, the press, not the professional press—its power to reach the general public is small,—but the great daily press is all-powerful in this matter. But, on the other hand, the daily press, while to a certain extent it leads public opinion, yet also follows. That is, it rarely happens that the daily press is prepared to take up a subject and advocate it strongly unless it finds that there is a strong public opinion behind it. So that it is our duty as individuals to labor with our home acquaintances and with the home press, and to see to it that before the assembling of the next congress there is something that approaches a general consensus of public opinion making itself known. If we will do that, then a committee appointed by this body can approach the committees of both houses of congress and will have a constituency behind it. After all, the five hundred or so members of this Institute are to the population of the United States but a small fraction. We must have something behind us, something more than the resolution of the Institute. Whenever we have that, then it will be time for the Institute to appoint a committee to resume the work of the one which has been discontinued by the present Board of Directors.

Mr. Bloor: Mr. Adler's recollection agrees entirely with my own, and also the measure that he would adopt for carrying out the principles of the Institute. But I would like to say that William A. Potter, when he was supervising architect of the Treasury, in one of his reports advocated the changes which Mr. Windrim now advocates.

Mr. Van Brunt: I would like to ask, in view of the recommendation which has been made by the secretary, that each one of us individually bring such influence as he can to bear upon the local representatives and the local press, that his hands should be strengthened by a more formal statement of our requirements and of the duties of the profession in respect to public buildings than seems to be yet in existence. Mr. Windrim's paper would of course be of great value; but it seems to me that something more than

that paper should be in the hands of every individual present, in the form of a draft for a bill. If it would be possible to formulate from the numerous bills which have been before congress on this subject a brief and definite and imposing statement of the attitude of architects and the efforts and the means by which their wishes can be carried out, it would greatly facilitate the objects of our present discussion.

Mr. Carlin moved the following resolution, which was passed:

Resolved, That the subject of the reform of the methods of preparing designs for national buildings be referred to a committee to be appointed by the president, and that this committee be instructed to make a preliminary report at tomorrow's session of this convention.

The President: The secretary will now read the paper of Mr. Baumann.

The Secretary: I must apologize in advance for the reading of this paper of Mr. Baumann's. Mr. Baumann's personality, and the remarks and illustrations with which the papers read by him before conventions are accompanied are perhaps of even greater interest than the papers themselves, and on Mr. Baumann's behalf I ask you to excuse their absence.

The secretary read the paper of Mr. Baumann upon the Sanitary Protection of Residences (printed on page 46).

On motion, a vote of thanks was unanimously voted to the author of the paper, and it was also voted that it be printed with the proceedings.

The morning session was then adjourned.

FIRST DAY—AFTERNOON SESSION.

The convention was called to order at 2:30 P.M., President Hunt in the chair.

The President: Gentlemen, it has been the custom for the president to nominate two committees on nominations, and unless you otherwise order it I will nominate those committees at present, so that they may have time to properly organize and discuss the merits of candidates to be put up for nomination and election. For the first committee I will nominate Messrs. R. S. Peabody of Boston, A. J. Bloor of New York, E. F. Fassett of Portland, S. V. Shipman of Chicago, and George W. Rapp of Cincinnati. For the second committee I will nominate J. F. Alexander of La Fayette, George B. Ferry of Milwaukee, J. W. Yost of Columbus, W. G. Preston of Boston, and A. P. Cutting of Worcester.

A Member: It seems to me that a member of the Board of Directors cannot serve on the nominating committee, if I remember rightly.

The Secretary: There is nothing prohibiting either an officer or a member of the Board of Directors from serving in that capacity.

Mr. Van Brunt: In view of the recommendations or suggestions of the president in his address regarding the appointment of honorary members of the Institute, and in pursuance of action of the Board of Directors, the following names have been suggested as worthy of consideration and of election to the position of honorary member. These names are the names of gentlemen who are connected with professional schools in this country and elsewhere, and whose work lies at the root, of course, of all the future architecture of the country and of the world. These names you will all recognize as those of men of force and character.

HONORARY MEMBERS.

J. Hurbury Hunt, president of the Society of Architects, New South Wales; Prof. Warren F. Laird, of the University of Pennsylvania; Prof. William R. Ware, of Columbia College; Prof. N. Clifford Ricker, of the University of Illinois; Mr. and Mrs. S. P. Avery, R. T. Auchmuty, Henry G. Marquand, C. F. McKim, A. F. Schemerhorn, Anthony Drexel, John Baird.

The motion was put and the list of persons as given unanimously elected to honorary membership.

Mr. Yost presented a resolution, as follows, which was adopted:

Resolved, That the Board of Directors is hereby requested that in making preparations for future conventions of the Institute it will cause to be printed its own report, also all reports of standing and special committees, as well as all papers intended to be read before the convention, and to submit all of them to the Fellows of the Institute at least two weeks before each convention.

The President: The next thing in order is a paper which was called for this morning, but which needed certain illustrations. That is the paper on the Construction of High Buildings, by Mr. W. L. B. Jenney, of Chicago. Mr. Jenney, I believe, now has his illustrations with him.

Mr. Jenney then read his paper upon the Construction of High Buildings. (Printed on page 41.)

On motion, a vote of thanks was extended to Mr. Jenney by the convention, and it was voted that the paper with illustrations be printed in the proceedings.

Mr. Stone: The Board of Directors thought it would be well to enter upon the minutes a record in regard to the death of directors who have died during the year, and this report is a report from the committee, which I will now present:

RESOLUTIONS UPON THE DEATH OF THREE MEMBERS OF THE BOARD OF DIRECTORS.

Since the last annual meeting the American Institute of Architects has been called upon to mourn the loss of three valued members of the Board of Directors, and it is eminently fitting that we take this occasion to publicly recognize our loss and to cause to be spread upon our records a tribute of respect to their memory.

John Wellborn Root, the first secretary of the consolidated Institute, in pursuance of the duties of his office, attended a meeting of the Board of Directors in New York within two weeks of his sudden and unlooked-for decease, and left that meeting to attend to professional engagements at Atlanta and Chicago, reaching home to meet for the first time the architects who had been selected to design the buildings for the approaching World's Columbian Exposition, and it

is not too much to say that his individual influence and advice were very largely instrumental in shaping the course which has inaugurated the work that is now so successfully progressing.

The profession of architecture has lost in the early death of Mr. Root a member who, by his originality in design, his ready conception of large problems, his facility of expression with the pencil, the pen and the voice, together with his large executive ability, gave promise of a brilliant future.

The work which he has left, as monuments with which his name will be honorably associated, and the promise of still higher achievements, would, had he lived, given him a rank among the really great architects of the age.

Mr. O. P. Hatfield, one of the original members of the Institute, always one of its active members, and for many years its faithful and model treasurer, died honored of all who knew him as a trusted, faithful, painstaking and honest man who never spared himself or neglected his clients' interests, and was gathered to his fathers full of honors and of years, and to whom can without reservation be applied the words, "Well done, good and faithful servant."

E. T. Littell, for many years a consistent member of the Institute, and for much of the time a member of its various boards of government, brought to every subject which came under his especial charge, original and wise consideration; and his influence and aid were always given to that which tended to elevate the position of the Institute, and to raise the tone of the profession. He was an active agent in the work of consolidation, and he took a hopeful and generous view of the future of the profession in this country, and believed that the true and hearty cooperation of the best men would establish a high standard of professional conduct, and secure a respected position for those who pursued it.

On motion, the report was unanimously adopted and ordered spread upon the records.

A resolution regarding certificates of membership was presented by George C. Mason, Jr., was discussed, and upon vote was lost.

Mr. W. W. Carlin: Some members have been talking about the idea of this Institute taking some action in relation to the duties which are imposed on architectural photographs and other things which are imported for architects' use. Whether or not we will be able to accomplish anything is a problem. But ought we not to take the stand of protesting against an unjust tax laid upon photographs of foreign objects which are of interest to the profession? It does not come in competition with any of the photographers of this country, because it is impossible to take these photographs in this country. There does not seem to be any good reason for laying that additional tax on the profession. (Applause.) I do not make that as a motion; I offer it as a suggestion.

Mr. Yost: I have a resolution to offer:

WHEREAS, it is important that the profession, especially the members of this Institute, should perfect such organization as will most effectually combine the influence of its members in every work of importance to the profession, and

WHEREAS, the legislation by the several states sought by the profession can be more easily effected through state organizations and their representatives than through local organizations or no organization, and

WHEREAS, there are many other advantages which may accrue and will accrue from state organizations; therefore,

Resolved, that the Board of Directors be requested to suggest to the several local chapters such form of state organization as can best unite and uphold the interests of the profession and its members in the several states; and

Resolved, that membership in such state organization shall rest upon the same qualifications as in local Chapters, as laid down by this Institute, and that membership in such state organization shall be accepted as the requisite to membership in this Institute now required in local Chapters.

The Constitution provides that the Board of Directors have control of this matter, and this is a resolution requesting them to take such action as in their wisdom they think best.

The resolution as offered was seconded and was referred to the Board of Directors.

Mr. Carlin offered a resolution, as follows:

Resolved, That the American Institute of Architects most emphatically protests against the unnecessary tax laid upon us as architects, by reason of the duty imposed upon photographs of foreign subjects and similar art works; and that this convention appoint a standing committee to consider the subject, and to take such action as may be found practicable.

The resolution was seconded and adopted.

Mr. Stone: There is one thing I would like to ask. Mr. Carlin, the president of the Western New York State Association, has been a very active member of a committee that was appointed for the purpose of having a law passed in New York State to give a legal status to architects, and I should like very much if he could give us some report of the condition of that matter in the State of New York. I think it is a matter of vital importance, and I think those of us who live in smaller states are looking to the result of the effort which is made in New York to accomplish that purpose, in order that we may, if anything is accomplished, use that as a basis for action in other states. It seems to me it is a matter of very great importance, and I trust that, if they have not succeeded, that they are going to press on till they do succeed, and that we in other states will do the same, so that the architect can have a legal position, as a lawyer or physician or clergyman has.

The President: I think that is an excellent suggestion. Will Mr. Carlin favor us with a few remarks on that subject?

Mr. Carlin: I had not made any preparation or given the subject any thought with the idea of presenting it to this convention, and, consequently, cannot give you a well digested idea of the subject, but I will briefly attempt to tell you what we have attempted to accomplish. We have made three attempts to get a bill through the state legislature, and have had a committee at work on it for three years. We took as a basis, in the first place, the bill presented to the Western Association by a committee appointed for that purpose, and revised it to fit the local needs as near as possible. We referred it to a member of a committee which has been appointed by the governor of New York State to codify all of the laws of the state, to cut out the useless language and the illegal and conflicting terms, and got his draft with our suggestions of such a bill as we thought we could get passed. We did not expect to incorporate in that bill all we would like to have, or to throw around the practice of the profession all the legal restrictions that we thought should be, but merely such salient points as we thought we could get passed. The bill provided that a state board of architects should be created, appointed by the state board of regents, without any other restrictions, appointed at will. This board to hold office—to have a portion of its members pass out of existence each year. They were to meet at least once a year in each

of the judicial departments of the state, except the eighth, which is in Brooklyn, contiguous to New York, to hold an examination of such candidates as should present themselves for license; that each person proposing to obtain a license should make his application to this board in writing, and pay a fee of \$5; that this was to be retained by the board; that he was to be examined for his proficiency and knowledge and right to be allowed to practice; that if the license was issued to him he was to pay an additional fee of \$15; that any person who was not at the time of the passage of this act engaged in the practice of the profession, and who should make oath to the fact that he was, at the time of this passage, engaged in the practice, and send this oath to the board—that they should be thereafter debarred from practicing architecture in the state unless in possession of a license. Those who were practicing had only to make oath to the fact to obtain a license, without examination. It was decided by the best authority we could get that we could not get a law passed which would be retroactive in its action. But it was also provided that a person could be tried on charges, by this board, and by the bill which we introduced this board, sitting in the county of the residence of the practitioner against whom charges were preferred, was given the full powers of a county court, with all the powers which they have to compel the attendance of witnesses, produce books and records and testimony, the same as a court of record sitting in that county; that all infractions against the regulations of the board should be tried by this board; and that a unanimous vote of the board was necessary to revoke a license. The only restriction placed on the practice of the profession was that no man should be allowed to designate himself as an architect, or to put out any sign, card or advertisement calling himself an architect, unless he was in possession of a license from this board; recognizing the fact that it is impossible to compel every man to employ an architect to design a building, that he could design it for himself or employ any person whom he saw fit to design it for him, if he did so with the full knowledge that the person so employed did not claim or profess to be a regular recognized practicing architect. We find the same thing in the practice of medicine. We can all of us go to any irresponsible party and get a prescription and follow it if we see fit; and we cannot attempt to legislate the rights which are inherent in every citizen of the state, and the bill did not attempt to do that. The bill was introduced in the early part of the session by a member of one of the districts in Buffalo, and was referred to the committee on laws and legislation. They gave us a hearing and we went—four of us, I think—before the committee, and we succeeded in getting, an almost unheard-of thing, in getting the bill reported favorably out of the committee on the first session. The committee at the session at which we had the hearing reported the bill favorably, and there is an unexplained reason why that bill never turned up. It was finally called out and a vote taken, but the ayes and nays were never called on it, and it was killed in the assembly, apparently through a lack of interest, or for some reason. There was an effort made, which, I am sorry to say, failed, to get the National Association of Builders, in session in New York in February, to formally endorse the bill and pray the legislature of the state for its passage. But the builders took a very conservative view of it, and said that the architects never did anything for them, and they didn't feel like doing anything to help them out; and the resolution which was offered endorsing the bill and asking the legislature to assist in its passage was lost. We covered that fact up as far as possible; did not make any great parade of it. Still, I do not think it had any adverse effect on the passage of the bill. I have a few copies of the bill left, and if there is any member in any other state who would like to profit by the three years' work of the committee, I should be pleased to furnish them with a copy from home.

Mr. Henry C. Meyer: Will you allow me to make a suggestion, though not a member of the Association, but still interested in its work? Some ten or twelve years ago, I had more or less to do with securing legislation which controlled the erection of tenement houses in New York, and subsequently in regard to the passage of the plumbing laws. We found that in trying to get legislation which seemed to restrict the work to certain classes, that it was very necessary, in order that the legislation should stand the test of the courts, that it should be shown that the public safety required that work should be confined to certain classes. It was on that ground that we got the legislation, and on that ground those acts have been sustained in the litigation that ensued. I think the gentlemen active in promoting this measure can show that the public safety could be promoted by restricting the practice to qualified practitioners, and I think if you ignore that fact you may run across a snag when it comes before the governor for signature, and afterward, when somebody contests the constitutional validity of an act that keeps him from making a living in any calling that he wishes to follow.

SECOND DAY—MORNING SESSION.

The convention was called to order at 11 o'clock A.M., President Hunt in the chair.

The President: The first thing in order this morning is unfinished business. There were several committees appointed yesterday. I understand the committee appointed to consider an improved method of obtaining the designs for national buildings is ready to report.

Mr. Van Brunt: The committee appointed to consider an improved method of obtaining designs for the national buildings make a report in the form of a preamble and resolutions, as follows:

WHEREAS, The position of a country in respect to the higher qualities of civilization is, to a large extent, indicated by the condition of its national architecture, as exhibited in its public buildings; and

WHEREAS, Under the present arrangement, whereby all the national architecture is produced in the office of the supervising architect of the Treasury Department, it is physically impossible for that official to give to the numerous

important works of design and construction, referred to his department, that personal care and attention, that special thought and study, through which alone the highest artistic and structurally most economical results may be reached; and

WHEREAS, The best architectural thought of this nation is, for this reason, not to be found in the national buildings, as it is found in the national buildings of every other civilized nation, but rather in the works of private enterprise; and

WHEREAS, The supervising architect of the Treasury Department has recognized frequently in his official reports this serious and mortifying embarrassment in the conduct of his affairs (see, among others, the report of William A. Potter in 1875, and of J. H. Windrim in his reports of 1889, page 6, and of 1890, page 5); and

WHEREAS, It is a reproach to this great country that the Federal buildings should not represent the best and most deliberate efforts of its most accomplished architects; and

WHEREAS, The present method of obtaining architectural designs for government work not only fails to secure the same grade and promptness of professional service which is at the command of private enterprise throughout the country, but entails an unnecessary extravagance in expenditure in time and money; therefore,

Resolved, That the American Institute of Architects, in this, its twenty-fifth annual convention, urgently appeals to all its Chapters organized in the principal cities of the Union, and to all other architects, as soon as possible to lay before each and every member of congress within reach, a copy of this resolution, together with a copy of the paper on this subject read by Mr. J. H. Windrim at this convention, and to personally engage his intelligent interest in favor of any practicable bill or measure which may be presented to congress, with the object of securing that hereafter the plans and specifications of all public buildings to be erected throughout the country shall be obtained by selection or by competitions among architects, so devised as not only to promote the best interests of the country and of the profession, but to give emphatic encouragement to art, and enable our country at last to take its due place in this respect among the most enlightened nations of the world. It is further

Resolved, That a committee of this Institute be appointed to prepare a bill for submission to congress authorizing the secretary of the treasury in his discretion to obtain plans, drawings and specifications for the erection of public buildings through competition by architects, under such conditions as he may prescribe, and to make payment of the expenses for said architects' services out of the appropriation for the respective buildings.

(Signed) HENRY VAN BRUNT, Chairman.
JAMES H. WINDRIM.
A. J. BLOOR.
ALFRED STONE.

The President: You have heard the report. Are there any observations to be made, or any remarks?

Mr. Cutler: I move the committee's report be accepted, and the resolutions adopted.

Mr. Bloor: I second that motion.

Mr. Carlin: Would it not be well to hedge a little more carefully the manner in which the report treats the subject of competition? As I understand it, this report will go to the representatives, in connection with the rest of the papers, and to some people the idea of a competition is not just what is meant here.

The President: Perhaps it might be well to introduce the words "either by selection or by competition." That would cover the point, for we certainly have taken a certain point against competition. Would that be satisfactory both to the movers of the resolution and to the gentlemen?

Mr. Van Brunt: The committee would accept any such suggestion as that.

The resolution as read and amended was adopted.

Mr. Van Brunt: It was embodied in our report that a committee should be appointed to consider a form of bill.

Mr. Jenney: I move that the same committee should be appointed.

The motion of Mr. Jenney was put and carried.

Mr. Treat: I would like to offer a resolution:

Resolved, That to all students of architecture, and to the wives of Fellows of this Institute who have accompanied them to this convention, as also to the properly accredited representatives of technical journals, all the privileges of this convention, except that of voting, are hereby extended.

The resolution was adopted.

The President: We will proceed to the reading of the papers. The first is a paper on "Comparative Architecture," by Prof. Barr Ferree, of the University of Pennsylvania.

In the absence of Mr. Ferree the secretary read the paper. (Printed in abstract, at the request of Mr. Ferree, on page 44.)

Mr. Van Brunt: It seems to me a reproach that this interesting and instructive and thoughtful paper should be presented to this convention of architects under such conditions that it is practically impossible for us to discuss it. I take it that we are called together to consider the questions which are raised so profusely by this paper; and I venture, in rising to propose a vote of cordial thanks for it, to draw attention to the fact that it constitutes an admirable object lesson to prove how important our action of yesterday was in requiring that all these papers to be read before the Institute in its future conventions shall be printed several weeks in advance and laid before the association, so that they may be properly discussed, and thereby this convention may perform one of its most important functions in an intelligent way. I propose, Mr. Chairman, a vote of thanks to Mr. Barr Ferree.

Mr. Stone: I second that motion. Allow me also to add a word to that, that it not only be referred to the Board of Directors for printing with the proceedings, but I wish that it might be printed under a separate cover, when it is once set up, in order that it might be more generally circulated than it can be in our proceedings. It seems to me to mark an important era in the discussion of this question, and is so important a paper that it ought not to be left between the covers of our proceedings, but it should have a more widespread circulation. I will move that as an amendment.

The resolution as amended was adopted.

The President: The next paper is a paper on the "Antecedents of Gothic Architecture," by Prof. Charles H. Moore, of Harvard University. Mr. Moore is the author of a most scholarly work on Gothic architecture.

Prof. Moore read his paper. (Printed on page 42.)

Mr. Longfellow: The remarks which Mr. Van Brunt made about the paper which preceded this seem to me to be quite applicable to

Mr. Moore's. It is a paper that it is worth our while to look over again and to consider deliberately. Therefore I think that it would be well to do as Mr. Stone proposed to have done with its predecessor. The two papers class naturally together. One is an advocacy of the comparative method of study. The other is in itself an excellent exemplification of the comparative method. Therefore while I move a vote of thanks to Mr. Moore for the paper, I move also that it be printed in the same form and under the same covers with M. Barr Ferree's.

Mr. Upjohn: I second the motion; and I think that the way in which that has been laid down, so analytically, shows that in continuing the architecture of today we ought to continue it from its highest standard and not from the Romanesque. Now the designs for a building have been made in New York lately, and nearly all—I refer to the Cathedral—nearly all the adopted plans or those which were selected were in the Romanesque period instead of being in the Gothic, which I think they should have been.

Mr. Rapp: I would like to suggest that if it is possible that this paper be illustrated, and the illustrations be printed with the paper.

The President: In that case it would be proper, I think, for the author of the paper to select the illustrations.

Mr. Rapp: Yes, sir; and the Institute, of course, to pay the expense. I think it would be a very interesting paper in that way.

The President: It has been suggested, very properly, that we ask Mr. Moore if he has any objection to this paper being published in our proceedings.

Mr. Moore: I had no thought of its being published. It is very incomplete. I have no objection to its going as it is, though I consider it very incomplete.

The President: Are there any further remarks to be made?

Mr. Warren: I suppose it is in order to discuss the paper before the vote is passed. It is with a great deal of diffidence that I venture to speak of the paper that has been so carefully considered by a man whom we all know has given so much study to the subject as has Professor Moore. At the same time, it seems to me that there was one point in it, which ran through the whole paper, which seemed to give a somewhat incomplete view of the subject, and I think the paper itself will bear that out. The paper started out with a definition of Romanesque architecture. Mr. Moore admitted, what we must all admit, that it is exceedingly difficult to make a definition which shall really embrace all the various developments of a style so varied as the Romanesque; and it seems to me that in regarding the Romanesque merely as a transitional style between the Roman and the Gothic it gives an incomplete view of what the Romanesque style really is. As the paper later on pointed out, there are styles, there are developments of the Romanesque, which are not so transitional; and Mr. Moore pointed out that the Romanesque, the Auvergne and the Provence, were not steps toward the Gothic. They had adopted such a system of vaulting, such a system of construction, as would lead to no further development. They were therefore not on the way to the Gothic. They could not be spoken of as buildings that are not yet become Gothic, and they certainly are not strictly Roman. Therefore they would not come under the definition. And the same thing would be true, it seems to me, with regard to the Rhenish buildings, the splendid cathedrals on the German Rhine. The definition of Mr. Moore, as it seems to me, would rule out the Rhenish buildings, the buildings of Auvergne and Provence, entirely from the Romanesque; and it seems to me the consideration of the paper as a whole referred rather to those Romanesque buildings like the style of Normandy and Isle of France, which were transitional to the Gothic. Now Professor Freeman has pointed out, and I think very appropriately, that the Roman style itself ought really to be regarded as a transitional style. It is constructionally a style of the round arch and the solid vault, utterly different in principle from that of the Greeks; but in its ornamentation it entirely follows Greek methods. Now I think the Roman style is transitional to the Romanesque; and rude as are the buildings of the Rhine and Auvergne and Provence, I think we must regard them as in a sense a complete style, a complete Romanesque; and it seems to me that they are really the Romanesque style, while the so-called Romanesque of the Isle of France and Normandy must be regarded as a transitional style leading to Gothic.

The President: While your remarks are very appropriate, at the same time, as I understand it, Professor Moore did not give any definition to Romanesque architecture. He did not wish to harrow the feelings of any man who may be devoted to considering that the highest style of art. But it was natural and absolutely essential to trace through the various stages, as he starts from St. Sophia, going through Lombardy and the Rhine and through into France, to allude to these different steps that were made really in the Romanesque style. He gives no definition of the Romanesque style, but to arrive at the Gothic.

Mr. Warren: I think the definition was given that the Romanesque style is a style not strictly Roman which has not yet become Gothic. It was to that definition that I referred, and I had no idea of upholding the Romanesque as a perfect style; I was merely discussing the question as a historical question.

The President: Gentlemen, all these remarks are very interesting. Has any other member any remarks to make on this subject? Otherwise the resolution as read and as amended, concerning the vote of thanks to the professor, and that this paper shall be not only published and thanks be given to the author, but that the paper shall be printed in our proceedings, and also separately, and that it shall be printed with illustrations, which illustrations the professor will have the kindness to select, at the expense of the Institute, of course. I think that covers the ground of the whole resolution.

The resolution as stated was put and carried.

The President: Gentlemen, the next paper in order is a paper on "Architectural Education," submitted by the Cleveland Chapter of the American Institute of Architects.

Mr. John Eisenmann read the paper. (Printed on page 45.)

Mr. Stone: I move that a vote of thanks be tendered and that the paper be referred to the Board of Directors for publication with the proceedings.

The motion was seconded and carried.

Mr. Van Brunt: The committee continued to prepare the form of a bill to be forwarded to congress, representing the request of this convention that the national government should more directly than at present control the character of the federal buildings hereafter to be constructed, and with a view to making it possible to obtain such advantages as may result from the selection by competition or otherwise of architects for the future federal buildings, herewith respectfully submit a form of bill and recommend its adoption by the Institute.

A Bill to authorize the Secretary of the Treasury at his discretion to obtain the Plans for the Public Buildings erected by direction of Congress under the Treasury Department.

The secretary of the Treasury is hereby authorized in his discretion to obtain plans, drawings and specifications for the erection of public buildings, by direct selection or competition of architects, under such conditions as he may prescribe, and to make payment of the expenses of said architects' services out of the appropriations for the respective buildings. Provided, the general direction of the work shall continue under the office of the supervising architect of the Treasury Department, the supervising architect to be the representative of the government in all matters connected with the erection and completion of such buildings, the receipts of proposals, the award of contracts therefor and the accounts and disbursements of moneys thereunder, and perform all the duties that now appertain to his office, except the preparation of drawings and specifications for such buildings; the said drawings and specifications, however, to be subject at all times to modifications and changes in arrangement of building and the selection of materials therefor as the secretary of the Treasury may direct.

The President: Is this in the form of a resolution, Mr. Van Brunt?

Mr. Van Brunt: This is in the form of a bill to call it to the attention of the meeting and to accompany the paper.

Mr. Windrim: Mr. President, I would like to request the attention of the Fellows of the Institute to the necessity of their giving immediate and very earnest attention to this bill. I would like that they should feel sufficient interest to call upon their congressmen, and have their coöperation, if possible, when it is presented to the body.

Adjourned to Friday, October 30, at 9 o'clock A.M.

THIRD DAY—MORNING SESSION.

The convention was called to order at 9:30 A.M., President Hunt in the chair. Following are the printed ballots as presented by the committees:

BALLOT.

Submitted by the following Committee:		Submitted by the following Committee:
J. F. ALEXANDER, Chairman, G. B. FERRY, J. W. YOST, A. P. CUTTING, W. G. PRESTON.	NOMINATIONS.	R. S. PEABODY, Chairman, G. W. RAPP, S. V. SHIPMAN, R. M. UPJOHN, E. S. FASSETT.
D. ADLER, Chicago.....	PRESIDENT.....	E. H. KENDALL, New York.
J. G. CUTLER, Rochester.....	SECRETARY.....	D. ADLER, Chicago.
S. A. TREAT, Chicago.....	TREASURER.....	S. A. TREAT, Chicago.
ALFRED STONE, Providence.....	1ST VICE-PRESIDENT.....	G. B. POST, New York.
E. H. KENDALL, New York.....	2ND VICE-PRESIDENT.....	E. C. CABOT, Boston.
W. L. B. JENNEY, Chicago.....	DIRECTOR For three years.	R. M. HUNT, New York.
R. M. UPJOHN, New York.....		C. F. MCKIM, New York...
P. P. FURBER, St. Louis.....		E. M. WHEELWRIGHT, Bosin.
F. BAUMANN, Chicago.....		W. W. CARLIN, Buffalo.
W. G. PRESTON, Boston.....		J. W. McLAUGHLIN, Cincin.
S. HANNAFORD, Cincinnati.....		S. S. BEMAN, Chicago.
A. W. LONGFELLOW, Boston.....	DIRECTORS For one year in place of Messrs. Littell and Adler	W. S. EAMES, St. Louis.
CASS GILBERT, St. Paul.....		W. C. SMITH, Nashville.
T. A. MORGAN, Atlanta.....	PLACE OF MEETING.....	H. J. HARDENBURGH, N. Y.
G. A. FREDERICK, Baltimore.....		W. L. B. JENNEY, Chicago.
ST. PAUL.....		PITTSBURGH.....
1. Recommend an earlier date for meeting.		

Secretary Adler: Gentlemen, I see that my name is put in nomination for president of the Institute. While I am fully conscious of the honor conferred upon me, still I feel that I cannot accept the nomination, and beg leave to withdraw.

The President: You have heard the remarks of our modest secretary. You can decide whether you will listen to them or not.

The President: Gentlemen, are you ready that the election should now take place? Unless there be some objection I will now nominate the tellers. I will nominate as tellers Mr. W. L. B. Jenney and Mr. H. Langford Warren.

Messrs. Baumann, Nickerson, Briggs and Longfellow were appointed to assist the tellers.

The tellers collected the ballots, and retired to sort and count them.

The Secretary: I have the honor to propose, on behalf of the Board of Directors, the following additions to the nominations for honorary membership: they are, Mr. Francis W. Chandler, Professor of Architecture, Massachusetts Institute of Technology; Eugene Letang, for many years an instructor in the Massachusetts Institute of Technology.

The motion was put, and the gentlemen named unanimously elected to honorary membership.

The Secretary: The committee appointed to audit the accounts of the treasurer makes the report that it has examined the books and

vouchers, and has found them correct. The report was signed by J. F. Alexander, A. J. Bloor, F. A. Coburn.

On motion of Mr. Briggs, the report was accepted and placed on file.

The Secretary: I have received the report of the committee to whom the Board of Directors referred the reports of the Chapters. On motion, the report was accepted and placed on file.

Mr. Stone: I will move that the documents adopted at this convention shall be referred to the Board of Directors with the power of publishing such as in their judgment it may seem best in the proceedings.

The motion was seconded and carried.

Mr. Shipman: If it is in order I desire to offer a resolution. It is as follows:

Resolved, That the American Institute of Architects indorses heartily the initiatory steps taken by its Illinois Chapter with reference to the establishment of an architectural department of exhibits in connection with the coming World's Columbian Exposition, and authorizes the said Illinois Chapter to represent the Institute in all further steps necessary for establishing the same and insuring its success.

The resolution was seconded.

The President: You have heard this resolution, which I consider to be a very important matter. What will you do with it?

The Secretary: Probably many members of the Institute do not know that the Illinois Chapter has been in communication with the authorities of the Exposition with a view of securing space for an exhibit of matters and things interesting to us as a profession, and with a view of making such minor changes and adaptations in the classification that has been adopted by the authorities of the Fair as will make it possible to bring such exhibits as relate to architecture within easy reach of each other, that they may not be scattered through many buildings, or in many places in the same building; but to bring them together for purposes of comparison. Thus far the Illinois Chapter has received nothing but promises of consideration, but no actual measures have been taken. One of the difficulties has been that, owing to peculiarities of classification, the matter was in the hands of departments, whom it was never possible to find together at the same time in Chicago thus far. But I presume the matter will be adjusted. It may interest you also to know, and it is something that will be of value in connection with this particular matter, that the French government has offered to reproduce the entire collection of architectural subjects in the Museum of the Trocadero, to bring them to Chicago, to leave them there after the Fair, for the people of the United States or the authorities of the World's Fair, the French government proposing to pay the entire cost of transportation and of setting up the exhibits, only asking us to pay one-half the cost of reproduction. (Applause.) I will say further that the Illinois Chapter has appointed as its representative with reference to all steps to be taken in connection with this proposed exhibit, Mr. Henry Lord Gay, who has been for many years a Fellow of the Institute, and that it is intended that he shall take charge of all matters of correspondence, etc., relating to this matter. I tell you this that you may know all that has been done.

On motion of Mr. Briggs the resolution was adopted.

Mr. Shipman: Mr. President, I desire to call the attention of the members of the Institute to the fact that the subject of holding a World's Convention of Architects in Chicago in 1893 has been talked of and canvassed in the Illinois Chapter. I would like to have an expression of the Institute in regard to that. If it is determined to extend such invitation to foreign architectural societies it will be necessary to revive the committee on foreign correspondence of this Institute, which lapsed some years ago, but which, I think, may very properly be restored and renewed. It will be a large undertaking, perhaps, too, for the Illinois Chapter to provide for and take care of all foreign delegates who might attend such a convention; but I think the unanimous opinion is in the Illinois Chapter that they would be rather desirous of undertaking such a duty. But it would devolve, in my opinion, upon the American Institute of Architects to take the initiatory step, and grant authority to open correspondence with foreign societies on the subject. I merely throw this out as a suggestion. My own idea is that the architects of this country might accomplish something for themselves and their country by such a convention.

Mr. Cutler: I think the matter spoken of by Mr. Shipman is a very important and interesting one. No doubt, very much might be done by the Illinois Chapter. It occurs to me that the Institute should now arrange for a special committee, with a view of making such arrangements for a convention of architects representing the entire world, as might be easily done if we start in now. I therefore move that a committee of five be constituted on such a convention, who shall also be a special committee on foreign correspondence, of which Mr. Richard M. Hunt, of New York, shall be chairman, the balance of the committee to be selected by the next president.

The President: Will you please put that resolution in writing. I would like to make the remark, as this is going to come up in the form of a resolution, that it strikes me that it might have the objection of giving the affair two heads; that all this matter of the World's Fair exhibit, of the architectural exhibits there, will be in the hands of a committee in Chicago; and it strikes me that those men would be the appropriate persons also to attend to all matters of a congress of architects to be held at the same time. I think some committee should have the whole matter in hand, of the exhibits and the congress and everything else. I say this with no desire to shirk any responsibility, but I am afraid that there might be a little friction.

Mr. Shipman: In reply to the remark made by the president, I desire to say that, first of all, we desire to divest this of all appearance of localism, and I regard it as of the utmost importance that we should have the sanction and coöperation—that any committee must have the sanction of the Institute and the cordial coöperation of its

members all over the country. I think that a local committee in Chicago would hardly accomplish the object that we have in view. The Committee on Foreign Correspondence of the Institute would have vastly more influence with foreign bodies than any local committee.

Mr. Cutler: I will now read the resolution:

Resolved, That it is the sense of this meeting that a convention or congress of architects should be arranged for, to take place in Chicago during the World's Fair, and that the arrangements for such a meeting shall be made by a committee on foreign correspondence of this Institute, consisting of five members, as follows: Richard M. Hunt, W. L. B. Jenney, D. Adler, C. F. McKim, Henry Van Brunt.

I move the adoption of that resolution.

The motion was seconded, and the resolution as read was adopted.

Mr. Stone: Mr. Chairman, I wish to offer a resolution:

Resolved, That the thanks of the American Institute of Architects be extended to the trustees of the Boston Public Library for the generous use of the new public library building for its meetings, and to the City of Boston for its hospitality in providing the pleasant Harbor excursion and to the following societies for courtesies extended: The Boston Society of Architects, the Boston Architectural Club, the Master Builders' Association of Boston, the Trustees of the Museum of Fine Arts, the Massachusetts Institute of Technology, the St. Botolph Club, and also to the press of the city of Boston.

The motion was seconded, and the resolution as read was adopted.

A recess was taken, pending the counting of the ballots, after which the tellers reported as follows:

Mr. Jenney: Gentlemen, there were 89 ballots cast. The result of the ballot is as follows:

For president—D. Adler, 14; E. H. Kendall, 73.

For secretary—J. G. Cutler, 14; D. Adler, 72.

For treasurer—S. A. Treat, 87.

For first vice-president—G. B. Post, 42; Alfred Stone, 47.

For second vice-president—E. H. Kendall, 15; E. C. Cabot, 62.

For directors for three years—W. L. B. Jenney, 16; R. M. Upjohn, 29; P. P. Furber, 30; F. Baumann, 18; W. G. Preston, 29; S. Hannaford, 24; A. W. Longfellow, 40; Cass Gilbert, 37; R. M. Hunt, 77; C. F. McKim, 62; E. M. Wheelwright, 64; W. W. Carlin, 59; J. W. McLaughlin, 51; S. S. Beman, 55; W. S. Eames, 52; W. C. Smith, 41.

For directors for one year—T. A. Morgan, 17; G. A. Frederick, 30; H. J. Hardenburgh, 60; W. L. B. Jenney, 58.

For place of meeting—St. Paul, 24; Pittsburgh, 37.

For an earlier date for meeting, 16.

On motion of Mr. Cutler the election was made unanimous.

The officers for the ensuing year are as follows:

OFFICERS:

President—Edward H. Kendall, New York, N. Y.

First Vice-president—Alfred Stone, Providence, R. I.

Second Vice-president—E. C. Cabot, Boston, Mass.

Secretary—Dankmar Adler, Chicago, Ill.

Treasurer—Samuel A. Treat, Chicago, Ill.

Directors for three years—Richard M. Hunt, New York, N. Y.; C. F. McKim, New York, N. Y.; E. M. Wheelwright, Boston, Mass.; William Worth Carlin, Buffalo, N. Y.; James W. McLaughlin, Cincinnati, Ohio; S. S. Beman, Chicago, Ill.; William S. Eames, St. Louis, Mo.; William C. Smith, Nashville, Tenn.

Directors for two years—W. M. Poindexter, Washington, D. C.; George B. Ferry, Milwaukee, Wis.; C. J. Clark, Louisville, Ky.; George C. Mason, Jr., Philadelphia; Levi T. Schofield, Cleveland, Ohio; E. F. Fassett, Portland, Me.; M. J. Dimmock, Richmond, Va.; A. W. Longfellow, Boston, Mass.

Directors for one year—Charles A. Cummings, Boston, Mass.; Henry Van Brunt, Kansas City, Mo.; James G. Cutler, Rochester, N. Y.; Charles E. Illsley, St. Louis, Mo.; James H. Windrim, Philadelphia, Pa.; H. J. Hardenburgh, New York, N. Y.; William Le Baron Jenney, Chicago, Ill.; Cass Gilbert, St. Paul, Minn.

STANDING COMMITTEES:

Committee on Foreign Correspondence—Richard M. Hunt, chairman, New York, N. Y.; William Le Baron Jenney, Chicago, Ill.; Dankmar Adler, Chicago, Ill.; Charles F. McKim, New York, N. Y.; Henry Van Brunt, Kansas City, Mo.

Committee on Education—Professor Russell Sturges, chairman, New York, N. Y.; Professor William R. Ware, New York, N. Y.; Professor N. Clifford Ricker, Champaign, Ill.; T. M. Clark, Boston, Mass.; Professor C. Francis Osborne, Ithaca, N. Y.

Committee on Code of Professional Ethics—Louis H. Sullivan, chairman, Chicago, Ill.; E. H. Kendall, New York, N. Y.; W. W. Carlin, Buffalo, N. Y.; Henry Van Brunt, Kansas City, Mo.; R. W. Gibson, New York, N. Y.

Committee on Clerk of Works—R. W. Gibson, chairman, New York, N. Y.; D. Adler, Chicago, Ill.; W. G. Preston, Boston, Mass.; J. W. McLaughlin, Cincinnati, Ohio; J. G. Cutler, Rochester, N. Y.

Committee on Uniform Contract—O. P. Hatfield, chairman, New York, N. Y.; D. Adler, Chicago, Ill.; Alfred Stone, Providence, R. I.

Committee upon Conservation of Public Buildings—The presidents of Chapters.

Committee on Competition Code—(To be appointed by the Board of Directors).

Mr. Stone: In view of the small vote for the choice of a place for the next meeting, I move that this vote be simply considered as an indication of the wishes of the convention, but that the Board of Directors have power to appoint the next annual meeting at such place and time as in their wisdom they may think best.

The motion was seconded and carried.

Mr. Kendall: I wish to say a few words upon the result of this election. (Applause.) I have to offer the convention my very sincere thanks for this great honor. My nomination was absolutely

unexpected, and it is exceedingly grateful to find myself elected, but it is with two reservations. I am one of those who has from the beginning been opposed to change in office in this Institute. I had hoped to see, Mr. President, you mount this platform while physical ability remained, and when that should have failed I hoped to be one who should help to place you there and hold up your hands in our continued service. (Applause.) The other reservation is, that, since rotation must be, I am exceedingly sorry that Mr. Adler has found it necessary, desirable, to decline, from the fact that I think the sphere of our chief usefulness in the next two or three years will be in the West, pending and during the Columbian Exhibition now close at hand. Mr. Adler is a man of great experience in the management of both eastern and western interests; he is familiar with them both; and I think he would have done us great service in the place. However, I trust that another year he will withdraw his objection and serve us during the continuance of the Columbian Exhibition. You, sir, Mr. President, do not know the obstacles (fortunately the convention does), that you have thrown in the way of any successor. We have been governed here at high pressure; 150—200 pounds to the square inch. (Applause.) Now, gentlemen, we shall have to come down to low pressure. If I can give you two or three pounds to the square inch I shall be very happy; but still, if at any time this low dynamic value should be attained I hope you will help me to put on steam. (Applause.)

The President: It is very touching to me, gentlemen, to hear these remarks, but it is decidedly in the interests of this Institute that rotation in office, of the president especially, should be made, in order to keep up a live interest in the Institute. We have had for our two former presidents men who very worthily held that position, and at the same time, in their old age (they both held it till they died), there was a feeling that they could not on account of their age take that active interest which they should take. The very idea of rotation in office makes us all take an active interest; and it would be one of the most detrimental things, in my opinion, if you should ever break this rule, which has been established, of not allowing any officer to hold office more than two successive years, as president, I mean. I thank you for all the hearty support which you have given me. (Applause.)

Mr. Fassett: The election of Mr. Kendall as president, and Mr. Stone as vice-president, leaves two vacancies again in the Board of Directors. Would it not be necessary to fill those vacancies?

The Secretary: I move that Mr. A. W. Longfellow, of Boston, and Mr. Cass Gilbert, of St. Paul, the two candidates for directorship who have received the highest number of votes next to those already elected, be declared, by the unanimous vote of this convention (that is the only way in which they can be elected), directors in place of the two who have been raised to other positions.

The motion was seconded and unanimously carried.

Mr. Illsley: I beg leave to offer a resolution:

Resolved, That a committee of three be appointed by the chair to prepare for issue in pamphlet form such suggestions to the promoters of architectural competitions as the directors may approve, and that the directors be authorized to print the same, when approved, for free distribution to such members as may apply for the same, and one sample copy to be sent to every member as soon as issued.

On motion of Mr. Carlin, the resolution was adopted.

[The chair did not appoint the committee as called for in the resolution of Mr. Illsley.—Ed.]

On motion of Mr. Cutler, the convention was adjourned.

THE CONVENTION VISITOR.

There were two programmes prepared by the committee of the Boston Society of Architects. A business programme, of the carrying out of which a full report has been given, and the entertainment programme, of which space will allow but passing mention and deserved praise.

At the close of the first session of the convention, the Boston Society of Architects gave a lunch at the Copley Square hotel, which was the headquarters of the Institute during the convention.

By the courtesy of the Board of Public Institutions, a city steamer, the J. Putnam Bradlee, was placed at the disposal of the visitors, and a round of the harbor and a visit to the several institutions was made.

In the evening of the second day of the convention a banquet was given, but because the place of giving it was unavoidably changed at the last moment it was not a complete success except from a culinary standpoint. It was not known to the newspaper representatives who presided as toastmaster, who the speakers were or what they said, the tables being scattered through several rooms and halls in a large hotel.

To the western visitor who saw Boston for the first time the experience was novel and full of the realization and comparison of impressions. With an odor that told him that the sea was near, mingled with other odors that told of man's encroachment upon its borders, he first sets his feet upon the streets of this old city. Old buildings and new, mixed together like the odors, telling of a past and a present, the crooked streets telling of an older time, like the paths of forest and prairie familiar to his boyhood, gave a sense of bewilderment that could not be dissipated until he saw the sign, common on the vacant premises along Tremont street, "To be let," then he knew he was in Boston, the city of precise expression, and was reminded of the story of the Boston gentleman who was dying. The doctor asked him if he wished to leave a message for an absent son to whom he had referred. The old Bostonian, with his last breath, said, "I did not refer to him, I only alluded to him." This correction of the crude, ungrammatical "To let," of New York or Chicago, like the crooked

streets, reminded him of the days when he learned to conjugate the verb to be, a lesson that is never learned, but enters into the life of man, and is called hope. Perhaps that is the charm of Boston. One is always anticipating what may come in view at the next turn.

The exhibition of drawings, which will be referred to in a later number, occupied the main hall of the new public library adjoining the room in which the convention was held.

A reception was given by the Boston Master Builders' Exchange in their new building on Devonshire street, which was instructive as it was enjoyable. The entire six stories were opened to the visitors, an elaborate lunch was served in the main hall, every builder in the offices above had his latch string out, Secretary Sayward was there, and besides the means of enjoyment that knew no limit each architect saw the advantage to the profession an exchange building in his own city would be, and many went home with the resolve that the architects should do all in their power to induce builders to imitate their Boston friends.

The museum of fine arts, the architectural department of the Institute of Technology, the Walter Crane exhibit and many other interesting places were thrown open by the hosts, the Boston Chapter, for the entertainment of the members of the Institute, and the following list of architectural work was carefully prepared and placed upon the programme. It is here printed that it may be preserved by those who may at any time visit Boston:

Portsmouth, New Hampshire, Old Colonial Houses (Governor Wentworth House). *Salem, Massachusetts*, Old Colonial Houses. *Marblehead, Massachusetts*, Old Colonial Houses—Boston & Maine Railroad, Eastern Division; station on Causeway street. Time 50 minutes. *Newport, Rhode Island*. *North Easton, Massachusetts*, group of buildings by H. H. Richardson—Old Colony Railroad; Station on Kneeland street. Time 1 hour, 2 minutes. *Cambridge, Massachusetts*, buildings of Harvard University, High School, Library, City Hall, Old Colonial Houses. In *Boston*, Old Buildings—Old State House (head of State street), State House (on Beacon Hill), King's Chapel (corner of Tremont and School streets), Old South Church (Washington street), Faneuil Hall, Quincy Market, Old North Church (Salem street), Park Street Church, Copp's Hill Burial Ground (near Old North Church), Old Houses, Salem street. Recent Buildings—New Boston Public Library, Trinity Church, Exchange Building (State street), Fiske Building (State street), Ames Building (Washington street), Bell Telephone Building (Milk street), Shreve, Crump & Low Building (Tremont street), Youth's Companion Building, Pope Building (Huntington avenue), Commercial and Warehouse Buildings on Lincoln and Bedford streets, City Dwellings on Commonwealth avenue, etc.

The architects were generally entertained at the Copley Square hotel, at which headquarters were located, and at the Huntington, both of which hotels gave the greatest satisfaction in catering to the comfort of guests. It added to the impression received, the indefatigable labors of the Boston Committee, that that city is one in which the visitor is always welcome and always finds the time of his stay much too short.

The most beautiful time of year in the latitude traversed by those attending the convention and the superb accommodations now common to all railroads made the going and coming seem the best part of the convention. Those who went from Chicago over the Grand Trunk route by way of Montreal found the scenery along the great lakes, the St. Lawrence and through the New England hills gorgeous in autumn tints, and though one of the longest of the routes to Boston it was declared the most delightful by those who appreciated the scenery and comfortable traveling.

A drive, in which six or eight tallyho coaches lead the procession through the city and suburbs, was given the visitors directly after the last session. The new Franklin Park, Jamaica Plains, Brookline and other points of interest were visited, and as man has constructed splendid drives and nature gave one of her best Indian summer days, the drive increased the fascination Boston had for the visitors.

Mosaics.

THE annual Tuesday Afternoon Lecture Course of the Art Institute of Chicago for members and students opened Tuesday, November 3, with a lecture by Mrs. Maud Howe Elliott; subject—"Foreign Art in the United States"; to be followed by: November 17, Rev. Jenkin Lloyd Jones—"Not the Arts but Art"; December 1, Frederick Keppel—"Personal Sketches of Some Famous Etchers"; December 15, Mr. Walter Cranston Larned—"Barye and his Works"; December 29, Mr. Walter Crane (of London)—"Design in Relation to Use and Material"; January 12, Mr. Edgar Cameron—"Observations upon Color"; January 26, Mr. W. M. R. French—"The Innocency of Vision"; February 9, Rev. F. M. Bristol—Subject not yet announced. The remainder of the course will be announced later.

THE Yale & Towne Manufacturing Company of Stamford, Connecticut, has a world-wide fame for its manifold products from metals, but it would be a difficult thing to decide whether that fame has arisen from the utility and accuracy, or from the beauty and gracefulness of the forms given to the various articles that are stamped with the company's legend. Each are unparalleled examples of the large possibilities of expert mechanism. The sense that perfection and beauty are handmaidens that should never be separated seems to be the pervading and prevailing thought that directs and governs everything which this great manufacturing company essays to do. Therefore the mail brought no surprise in the quaintly conceived and handsomely illustrated, printed and bound little book the company has just issued to emphasize the high grade builders' hardware it is producing in such almost infinite variety. While much care and attention has been given to the engraving and printing in its production, and it is a gem in that respect, it is evident fully as much consideration has been given to the letter-press matter, the nature of which can be inferred from its alliterative title: "Artists and Artisan."

Our Illustrations.

View in residence of Thomas H. Williams, Jersey City, New Jersey.

Residence of Marshall S. Mahurin, Fort Wayne, Indiana; Wing & Mahurin, architects.

Residence for Charles H. Kellogg, Avondale, Ohio; A. O. Elzner, architect, Cincinnati, Ohio.

The Dooley Block and Hotel Ontario, Salt Lake City, Utah; Adler & Sullivan, architects, Chicago.

Interior view Administration building World's Columbian Exposition, Chicago; Richard M. Hunt, architect, New York City.

Drawings awarded first place in the Clark Medal Competition of 1891. Subject: The Acropolis. Drawings by George G. Will, Omaha, Nebraska.

Views of Construction of The Fair building, Chicago; Jenney & Mundie, architects. The views illustrate the lecture of W. L. B. Jenney at the Boston convention of the American Institute of Architects.

Clifton M. E. Church, near Cincinnati, Ohio; Crapsey & Brown, architects, Cincinnati. This church is about to be erected in one of the suburbs of Cincinnati. The walls will be of local hill stone trimmed with Buena Vista freestone. Interior finish, quartered oak; vestibule, mosaic tile. Partition between Sunday school and main auditorium is made of iron and cathedral glass, is hung on weights similar to ordinary window sash, and slides up into the roof chamber. Size of entire building, 60 by 84 feet; audience room, 35 by 57 feet and will seat three hundred; Sunday school will also seat three hundred; cost, complete, \$25,000.

PHOTOGRAPHURE PLATES.

(Issued only to subscribers for the Photographure edition.)

Residence of W. C. Goudy, Chicago; Treat & Foltz, architects.

Residence of W. J. Goudy, Chicago; Burnham & Root, architects.

Residence for W. H. Bartlett, Evanston, Illinois; J. L. Silsbee, architect, Chicago.

Oak Park Cycling Club House, Oak Park, Illinois; S. S. Beman, architect, Chicago.

Hotel Building for W. A. Giles, Austin, Illinois; Beers, Clay & Dutton, architects, Chicago.

"The Bordeaux" Apartment building, Chicago; Frederick Baumann and J. K. Cady, architects.

Congregational Church (completed part), Ridgeland, Illinois; Patton & Fisher, architects, Chicago.

Building Outlook.

OFFICE OF THE INLAND ARCHITECT, {
CHICAGO, November 5, 1891. }

Architects, builders, engineers and manufacturers of building material, and promoters of new enterprises are all anxiously studying the situation, and the probabilities for the next six or twelve months. Great anxiety exists for a revival of activity upon a large scale. Confidence is quite general in an improving tendency; it is based upon several conditions, chief of which is the large crops of the present year. There is also another basis of faith, namely, the slowing-up process under which the country has been recuperating in a certain sense for the past year or two. A general liquidation of values has been in quiet and successful progress. The country is not overloaded with debt, nor are enormous stocks of goods or merchandise awaiting distribution, nor are business men generally in stress or trouble, but in a general way the business of the country is in a healthy condition; production is under good control, trade is expanding, building operations are enlarging considering the season of the year, and prices on the whole are running as near to cost basis as it is well they should. All these are favorable indications. Were it necessary to point out weak and dangerous spots, it would not be an easy matter to do so. One possible danger is that of financial depression, growing out of either a too rapid expansion of business, or a too limited supply of money. Our financial affairs seem to be pretty well managed, notwithstanding the just complaints that are being made of a too moderate supply. It is quite probable that the country demands and needs more currency than is available in the ordinary channels of trade and business. Manufacturing activity is reported from all sections of the country; much new building is contemplated for the winter; railroad building has been prosecuted on a very moderate scale, but there are indications that next year will mark an improvement sufficient to impart some vitality to the iron and steel industries. Manufacturers of building material are preparing to be able to supply a heavier demand next year than this. The lumber manufacturers have had a fairly good season. Manufacturers of finishing material for interiors of buildings, stove manufacturers and the manufacturers of small machinery for shop, farm and mine, have all had a fairly satisfactory season, and look forward with much confidence to a better season in 1892.

Synopsis of Building News.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than \$5,000 are not published.

Baltimore, Md.—Architect A. Mason has prepared plans for a \$12,000 public school, one story; size, 68 by 103 feet, brick and stone.

Architect B. B. Owens: For the Harlem Park M. E. Church, a two-story church; size 60 by 100 feet; brick and stone; cost \$35,000.

The Hanover Street Synagogue congregation are considering building a new building, at a cost of \$150,000.

Chicago, Ill.—Architects Beers, Clay & Dutton: For Mrs. Mary R. Nelson, at 557 to 561 Madison avenue, three three-story and basement residences; of pressed brick and stone, furnaces, etc.

Architects Patton & Fisher: For the State Savings, Loan and Trust Company, at Quincy, Illinois, a three-story bank building, 30 by 125 feet, to cost \$30,000; cut stone front, granite tile roof, hardwood interior, marble and tile work, electric light, hot-water heating; making drawings. For the McCormick Harvesting

Machine Company, at East St. Louis, a three-story and basement warehouse, size 110 by 140 feet, to cost \$25,000; common brick, gravel roof, steam heat, electric light, elevators; making plans. Also making plans for three-story and basement High School, to accommodate five hundred pupils, to be erected at Muskegon, Michigan; pressed brick, stone and terra cotta front, hardwood finish, steam heat, slate roof; cost \$50,000. Also just let contracts for the Buena Vista college, two-story, basement and attic, 80 by 75 feet; to be of pressed brick and stone and cost \$22,000. For S. H. Little, at Birchwood Beach, a two-story, basement and attic frame residence; stone basement, steam heat, etc. For F. D. Rood, at Normal Park, a three-story flat building, 66 by 59 feet; to cost \$15,000; pressed brick and stone front.

Architect Thomas Wing: For George V. Hankins, on the southwest corner of Indiana avenue and Twenty-sixth street, a four-story and basement apartment house, 100 feet on the avenue and 130 on Twenty-sixth street; pressed brick, stone and terra cotta front, marble floors and wainscoting, steam heat, etc.; cost \$75,000.

Architect J. L. Silsbee: For W. A. Hammond, at Evanston, a two-story residence, 45 by 80 feet; to cost \$30,000; pressed brick and stone, slate roof, hot-water heating, electric light; just begun work. For the State of West Virginia, a two-story frame building, 128 by 80 feet in size, to cost \$25,000; to be erected at the World's Fair; finishing plans. For H. N. May, at 117 Astor street, a two-story, basement and attic residence, to be of granite front, have hot-water heating, and cost \$30,000; the foundation is being put in.

Architects Freijis & Bartlett: For Mrs. E. S. Davis, on Oglesby avenue, Woodlawn, a two-story and basement store and flat building, of pressed brick and stone; cost \$10,000.

Architects Faber & Pagels: For W. S. Forrest, on Lake avenue near Thirty-ninth street, a three-story residence, to cost \$30,000, and a two-story barn, to cost \$7,000; mansard roof of slate, copper dormers, steam heat, electric light; making plans.

Architects Lamson & Newman: For C. E. Anthony, on Seminary avenue, a two-story residence; to have a stone front, gravel roof, hardwood interior, stained and plate glass, furnace, etc. For Graves & Carr, on Jackson boulevard and Homer street, a two-story, stone front flat building; to have hardwood finish, electric light, stained and plate glass, steam heat; cost \$13,000. For Doctor Palmer, on Washington boulevard, two three-story residences of Wyoming red-stone fronts, slate roof, copper cornices, hardwood finish, steam heat; cost \$20,000. For A. Metz, on Root street, town of Lake, a three-story sale stable, 50 by 125 feet, of pressed brick and stone, electric light, steam heat, etc.; cost \$14,000.

Architects Edbrooke & Burnham: For Jason H. Shepard, a handsome three-story residence in the French Renaissance; to have a front and side of Berlin granite, with roof of Spanish tile, the interior to be all finished in hardwoods, marble and tile work, hot-water heating, etc.; cost \$75,000.

Architect M. H. Church: For J. A. Edwards, corner of Forty-eighth street and Michigan avenue, a two-story residence of Bedford stone front, hardwood interior, furnace, etc.; cost \$20,000. For R. M. Jaffray, in Lake View, a two-story residence, of pressed brick and stone, furnace, etc.

Architects Flanders & Zimmerman: For Mrs. F. Winslow, on Lincoln Place, a three-story residence, size 30 by 73 feet; to cost \$15,000; it will be of green brick for the basement, and above of brown brick; have hardwood interior, hot-water heating and electric light. For Mrs. E. K. Boyd, at Fifty-seventh street, corner of Monroe street, a six-story apartment house, of pressed brick and stone front, hardwood finish, steam heat, elevator, electric light, marble, mosaic and tile work; cost \$50,000. For Van Craenenboeck, on Monroe avenue, near Fifty-fifth street, a three-story flat building, 40 by 80 feet in size; to cost \$16,000; pressed brick and stone, and copper bays, gravel roof, electric light, steam heat, etc.

Architect Oscar Cobb: Making plans for three-story building, 76 by 164 feet in size; to cost \$75,000; to be erected at New Orleans; it will contain a theater to accommodate 25,000 people; electric light, steam heat, tin roof, etc.

Architect Perley Hale: For C. M. Hamilton, on Champlain avenue near Forty-eighth street, a two-story and attic residence, of rock-faced brownstone front, with copper bay and cornice, gravel roof, stained, plate and beveled glass, furnace, etc.

Architects Dahlgren & Lievendahl: For Mr. Van Housen, at Wrightwood avenue near Clark street, a three-story flat building, of pressed brick and brownstone front, gravel roof, stained, plate and beveled glass, furnaces, etc.

Architect F. Foehringer: For M. Brennan, corner of Garfield avenue and Dayton street, a three-story and basement flat building, of St. Louis pressed brick and Portage variegated brownstone, with galvanized iron bays and cornices, stained and plate glass. Also making plans for three-story and basement flat building, to be erected on Belden avenue near Sheffield avenue; Bedford and brownstone front, gravel roof, stained, plate and beveled glass, heating apparatus, etc.

Architect August Bessler: For M. Offen, on Fairfield avenue near Twelfth street; a three-story flat building of St. Louis pressed brick and Bedford stone front. For A. Barry, twenty frame cottages, to be erected at Evanston. For John Grabow, on Thirteenth street near Wood, a three-story flat building of pressed brick and stone front.

Architect L. G. Hallberg: For O. M. Carson, on Deming court near Clark street, five three-story residences 100 feet frontage by 63 feet deep; stone fronts, gravel roofs, plate and beveled glass, furnaces; cost \$30,000. For himself, on Clark street near School street, four three-story store and flats of pressed brick and stone; to cost \$20,000.

Architect George H. Borst: For M. L. Wheeler, on Woodlawn avenue between Forty-sixth and Forty-seventh streets, a three-story and basement residence; 35 by 61 feet in size; to cost \$20,000; stone front, pressed brick side and rear, steam heat, etc.

Architect Fred Ahlschlager: For Chris Guderyahn, a four-story and basement store and flat building, of St. Louis pressed brick and buff Bedford stone; cost \$12,000; corner of Sixty-third and Green streets. For James C. Daly, at 4506 State street, a three-story store and flat building, of stone front; to cost \$15,000.

Architect Francis J. Norton: For M. Reich, of Englewood, a block of stores and flats, 125 by 65 feet; to cost \$58,000. On Fifty-ninth street and Tracy avenue, pressed brick and Bedford stone, copper bays, plate and beveled glass, marble work, etc.

Architect W. D. Cowles: For E. D. Murray, on Cottage Grove avenue and Seventy-first street, remodeling flat building into a three-story hotel; pressed brick and shingles, steam heat; cost \$25,000; making plans.

Architects Small & Bishop: For John Byrne, on Dickey street, between Sixty-third and Sixty-fourth streets, a three-story and basement flat building; size 50 by 80 feet; of pressed brick and stone, gravel roof, steam heat, etc.

Architects Ostling Brothers: For C. F. Johnson, on Park avenue, north of Diversey, five three-story residences of rock-faced stone fronts, red oak finish, slate mansard, furnaces, etc.; cost \$35,000. For E. T. Benson and Axel Back, two two-story flats of rock-faced stone fronts; cost \$12,000; on Ashland and Perry avenues. For Charles T. Messenger, on Belleplaine avenue, near Perry street, two two-story residences; to have stone fronts, hardwood finish, furnaces; cost \$10,000.

Architect J. C. Brompton: For Frank J. Gallagher, at Sheridan Park, Ravenswood, a two-story basement and attic frame residence; stone basement, hardwood interior, steam heat, plate and beveled glass; cost \$8,000. For Mrs. G. Hipple, at Sheridan Park, a two-story frame residence; stone basement, steam heat, etc.; cost \$6,000. For a syndicate, twenty frame houses; cost \$1,200 to \$1,500 each; to be built at West Ravenswood.

Architect Anton Charvat: For Ignatz Lohree, on Twenty-second street near Albany avenue, a three-story and basement store and flat building, 50 by 80 feet, of Bedford stone front, gravel roof, steam heat, electric light, etc.; to cost \$16,000; making plans.

Architects Hetherington & Warner: For E. Horan, a three-story and basement residence, 27 by 60 feet; to have a Bedford stone front, slate and gravel roof, hot-water heating; cost \$10,000; to be erected on Washington boulevard near Garfield Park. For E. H. Fleming, on Ashland avenue and Taylor street, a three-story and basement flat building; to have a Bedford stone front, and cost \$8,000.

Architect Robert Rae: For J. C. Cairnduff & Co., at Winnetka, five two-story frame residences, steam heat, stained, plate and beveled glass, hardwood finish, sanitary plumbing; cost \$8,000 each. For C. M. Bennett, at Fairbury, Illinois, a two-story frame residence; to have steam heat and all improvements and cost \$10,000. For J. P. Mallette & Co., at Eggleston, a two-story double flat

building, stone front and pressed brick on the side, hardwood finish, furnaces, etc.; cost \$15,000. For F. B. Clark, at Forty-second street near Drexel boulevard, a three-story residence, 26 by 68 feet; to have a cut stone front, copper bays, steam heat, and cost \$15,000. For C. H. Caldwell, at Winnetka, a two-story residence; to have a stone basement, hardwood finish, stained, plate and beveled glass, steam heat; cost \$10,000.

Architects Adler & Sullivan: For J. W. Oakley, corner of La Salle avenue and Michigan street, a seven-story warehouse, 101 by 114 feet; of pressed brick and stone, steam heat, elevators, electric light.

Architect Gottfried Thiel: For Casper & Molter, a three-story and basement store and flat building, 40 by 80 feet; of St. Louis pressed brick and Bedford stone; cost \$15,000; to be erected at 1584 Milwaukee avenue. For Messrs. Klage & Ludwig, on Fullerton avenue, two two-story store and flat buildings. For J. C. Burgwardt, a four-story and basement store and factory, 48 by 80 feet; of pressed brick and stone front; to cost \$12,000. For Theo. Gribi, at Elgin, a two-story flat building, 115 feet front by 60 feet deep; pressed brick and stone; cost \$24,000; now taking estimates.

Architects J. M. Van Osdel & Co.: For J. W. Ellsworth, a fourteen-story office building, size 75 by 68 feet; to have a front of pressed brick, stone and terra cotta, electric light, steam heat, marble and tile work; cost \$250,000.

Architect F. B. Abbott: For A. S. Hall, on Washington avenue, between Fifty-fifth and Fifty-sixth streets, a two-story and basement stone and frame residence, to have hot-water heating, electric light; cost \$10,000.

Architect W. J. Van Keulen: For S. A. Rothermel, at Oak Park, six two-story residences; to have pressed brick and stone fronts, gravel roofs, stained, plate and beveled glass, electric light, furnaces, etc.

Architect John Duncan: A six-story and basement apartment house, 38 by 150 feet, to be erected on Drexel boulevard and Forty-first street; Bedford stone front, steam heat, elevator, electric light, marble and tile work, hardwood finish throughout; cost \$90,000.

Architect Hugh Copeland: For S. N. Peterson, on Union street near Milwaukee avenue, a five-story factory, 55 by 125 feet, of pressed brick; gravel roof, steam heat, electric light, elevator; cost \$20,000.

Architect J. E. O. Pridmore: For Mr. Tabor, a three-story and basement flat building of rock-faced Kasota pinkstone front, gravel roof, plate and stained glass, hardwood finish, steam heat, electric wiring; to be erected on Evans avenue between Forty-eighth and Forty-ninth streets. Also making plans for a two-story basement and attic residence, of frame, with stone basement, hardwood interior, furnace, etc., to be erected at Morgan Park.

Architect W. R. Gibb: For Fitts & Gerber, a three-story store and flat building, 50 by 71 feet, to be of buff pressed brick and stone; cost \$14,000; to be erected at 1745 West Twelfth street.

Architect J. V. Benes: For David Payne, at Austin, a two-story, basement and attic frame residence; stone basement, first story of buff Bedford stone, stained, plate and beveled glass, hot-water heating, etc.; cost \$20,000.

Architects W. W. Boyington & Co.: For C. E. Manierre, a three-story residence, 24 by 65 feet, of stone and Roman tile, steam heat, etc.; cost \$11,000. For Mrs. Edith Mitchell, on Oakwald avenue near Forty-third street, two three-story and basement residences of pressed brick and terra cotta fronts, hardwood finish, furnaces, etc.; cost \$13,000. Also letting contracts for the Gray electric building, 60 by 140 feet, three stories, to be erected at Highland Park.

Architect W. S. Burrows: For Charles Sigler, at Cedar Lake, Indiana, a three-story frame hotel; to cost \$25,000; making plans. For W. Goodwin, on Stony Island avenue and Sixty-seventh street, three two-story frame residences; to cost \$12,000.

Architect Frank Randak: For D. Davis, on Halsted near Twelfth, a four-story store and flat building, of stone front front; cost \$14,000.

Architect J. M. Emmons: For Mrs. Laura A. Brown, at Woodlawn and Myrtle avenues, a three-story flat building of Bedford stone front, steam heat, gas ranges, etc.; cost \$20,000.

Architect L. B. Dixon: For George Sunderland, on Forest avenue near Thirty-seventh street, five three-story residences; to have buff Bedford stone fronts, stained, plate and beveled glass, furnaces; cost \$30,000.

Architects Blitz & Marshall: A three-story flat building on University Place and Cottage Grove avenue, pressed brick and granite, copper cornice, hot-water heating; cost \$16,000.

Architect Oliver W. Marble: For himself, on Drexel boulevard near Forty-second street, a three-story residence of stone front, tile roof, hot-water heating, electric light, gas ranges, etc.; cost \$20,000.

Architects Wilson & Marble: For A. W. Hester, at Roslyn Place, two three-story residences, of Bedford stone front, hardwood finish, furnaces; cost \$20,000. For W. H. Pruyn, on Ellis avenue near Forty-sixth street, four three-story residences, to have stone fronts; cost \$60,000; making plans.

Architects Beman & Parmentier: For J. T. Fish, at Downers Grove, a three-story frame residence; hot-water heating, etc.; cost \$10,000. For W. I. Beman, on Fiftieth street and Washington avenue, three residences; cost \$15,000. For Barker & Wyman, at Waukegan, twelve two-story frame houses; cost \$20,000.

Architect Jules De Howarth: For August Van Buren, at 344 Madison street, a four-story store and flat building; stone front; cost \$16,000. For Williams & Co., corner of Aberdeen and Taylor streets, a four-story flat building of pressed brick and stone; cost \$35,000. For W. H. Dawn, near Sheridan Drive, two residences; to have steam or hot-water heating; cost \$30,000.

Architects Park & Purcell: For C. H. Weller, on Vernon avenue, between Thirty-seventh and Thirty-eighth streets, three-story store and flats; of Bedford stone front, stained, plate and beveled glass; cost \$18,000.

Architects J. E. & J. P. Doerr: For W. J. Doerr, on Dearborn street, near Twenty-fourth street, a four-story flat building; of Bedford stone front; cost \$15,000. For M. Kohn, on Thirty-fifth street, near Stanton avenue, a three-story store and flat building; of pressed brick and stone; cost \$10,000. For John O'Hare, on Twenty-eighth and Butler streets, a three-story store and flat building; cost \$14,000.

Architect Thomas Hawkes: A four-story addition and remodeling building, at 1519 and 1521 Wabash avenue; pressed brick and stone, gas ranges and fireplaces, steam heat, etc.; cost \$25,000.

Cincinnati, Ohio.—Reported by Lawrence Mendenhall.—Architect James W. McLaughlin reports plans for the Deutsches Altenheim, Gustave Tafel, president. It is to be a well-arranged building, built of brick and three

stories high; materials: pressed brick, stone, slate roof, blinds, gas, plumbing, steam heat, etc.; cost \$60,000.

Architects Crapsey & Brown have drawn plans for a chapel for Center College, Danville, Kentucky; size 60 by 130, three stories high; materials: pressed brick, stone trimmings, slate roof, blinds, gas, plumbing, seats, hardwood finish, etc.; cost \$23,000. They have also prepared plans for a schoolhouse at Danville, Kentucky; materials: brick, stone, tin roof, school fixtures, gas, furnace and plumbing; cost \$15,000.

Architects Nash & Plympton have prepared plans for a residence for Mrs. J. S. Cook, Cincinnati; materials: pressed brick, hardwood finish, gas, plumbing, mantels, stained glass, furnace, laundry fixtures, slate roof, etc.; cost \$10,000.

Architect J. H. Boll reports for Mrs. Rose Bussing, Walnut Hill, Cincinnati, a residence; materials: pressed brick, stone, slate roof, mantels, grates, plumbing, gas, stained glass, etc.; cost \$4,500.

Architect W. S. Robinson reports for Mr. F. B. Drexilius, Cincinnati, a residence; materials: frame, slate roof, pine finish, mantels, grates, furnace, stained glass, gas, plumbing, etc.; cost \$4,500.

Architects Aiken & Ketchum report for Mr. O. E. Peters, a residence; materials: pressed brick, stone trimmings, slate roof, blinds, grates, furnace, mantels, gas, plumbing, stained glass, etc.; cost \$10,000.

Architect W. W. Franklin has drawn plans for four double houses, for Mr. Henry Pogue, Cincinnati; materials: pressed brick, stone trimmings, slate roof, blinds, mantels, furnace, stained glass, gas, plumbing, etc.; cost \$40,000. Also, for Mr. H. D. Rossiter, a residence; materials: frame, slate roof, blinds, furnace, gas, plumbing, stained glass, etc.; cost \$3,500. Also for Walter S. Fisher, Gano and Walnut streets; materials: pressed brick, slate roof, hardwood, blinds, gas, plumbing, stained glass, etc.; cost \$8,000.

Architects De Jardins & Hayward have prepared plans for a residence for Mr. A. L. Stix; materials: frame, slate roof, blinds, gas, stained glass, plumbing, hardwood mantels, furnace, etc.; cost \$10,000.

Architect J. J. Rueckert has prepared plans for Benj. B. Dale; materials: frame, slate roof, hardwood finish, stained glass, plumbing, gas, mantels, etc.; cost \$6,000.

Architect G. W. Drach has prepared plans for a residence for Simeon Johnston; materials: frame, slate roof, blinds, gas, plumbing, stained glass, mantels, furnace, etc.; cost \$6,000.

Architect E. Anderson has prepared plans for a residence for G. W. Trowbridge, Maplewood, Ohio; materials: frame, slate roof, blinds, mantels, grates, stained glass, furnace, plumbing, etc.; cost \$5,000.

Architect H. E. Siter reports for the village of Avondale a schoolhouse; materials: brick and stone, slate roof, hardwood, gas, plumbing, seats, blackboards, and furnaces. This will be a most complete building; cost \$30,000.

Little Rock, Ark.—Architects Rickon & Thompson: An eight-room, two-story schoolhouse, brick, on Twenty-first and Collins streets; cost \$20,000; W. D. Holtzman, contractor. For Hot Springs County, a two-story brick jail at Malver, Arkansas; cost \$10,000.

Milwaukee, Wis.—Architect H. C. Koch, for J. E. Patton & Co., a six-story block; stone, with terra cotta trimmings; size 132 by 219 feet; to cost about \$100,000.

Pittsburgh, Pa.—Architect F. J. Osterling: For P. Eichenlaub, a two-story residence; size 38 by 64 feet; brick, slate roof; cost \$6,200.

Architects Bickel, Thomas Boyd, F. J. Osterling and W. S. Fraser, from this city, have submitted plans for the Carnegie library competition.

The Liquid Carbolic Acid Company will erect a two-story frame factory, 30 by 70 feet; cost \$10,000. W. F. Gardner will build a two-story dwelling, brick and slate roof; 30 by 46 feet; cost \$6,500. W. M. Laird, a two-story brick residence, 80 by 46 feet; cost \$7,500. The Rev. T. H. Chapman will build a two-story dwelling, size 29 by 33 feet; brick, with slate roof; cost \$5,000.

Rochester, N. Y.—Architects Jay Fay and O. W. Dryer have prepared plans for block at Seneca Falls, New York; to be 100 feet front by 50 feet deep, and to contain five stories with flats above; materials, brick, with stone trimmings, tin roof; cost \$13,000. Also for Mr. E. Warren, Medina, New York, a residence; to be of brick; cost \$5,000. Also plans for the Memorial Presbyterian Church, to be built in this city; materials, brick and stone, with slate roof; size 80 by 100 feet, with a total seating capacity of 1,700, Sunday school 900, auditorium 800; stained glass; for ventilation, exhaust fan; heating and lighting systems undecided; probably pipe organ; cost \$25,000. Also designs for an Epworth League Hall for the Methodist Assembly, at Silver Lake, New York; Saracenic designs, copied from Great Mosque at Ispahan; size 60 by 140 feet, two stories, frame and cement. Also for "Children's Temple" for the Methodist Assembly at Silver Lake, New York; designed after the Pantheon at Rome; main building 66 feet in diameter, porch in proportion; seating 900; frame and cement. For Mrs. Perry, double house; cost \$3,500. For Mr. Ebenezer Grimbale, a brick factory building; two stories, 26 by 78 feet; cost \$5,000. For Mr. Rawley Farron, repairs on two blocks; making one into public hall; tin roof, slate gables; the other, new fronts and top story; tin roof, slate mansard; cost \$3,000.

Architect George W. Hutchinson has made plans for residence for Mr. William T. Homaday, Buffalo, New York; first story, brick and Medina stone; second story frame, hardwood finish, two bathrooms; cost \$7,000.

St. Louis, Mo.—The J. B. Legg Architectural Company have prepared plans for George Diehl, Waco, Texas, a two-story residence, size 40 by 60 feet; frame, stone foundations; cost \$6,000. Also for Mrs. A. L. Swart, a two-story brick residence, size 30 by 55 feet; cost \$10,000. Also a two-story school building, to be erected at St. Genevieve, Missouri, size 65 by 68 feet; to cost \$20,000.

A \$2,000,000 hotel is now proposed in St. Louis, the site having been purchased by a syndicate of capitalists at a cost of \$750,000. It is to be on the site of Pope's Theater, Ninth and Olive streets. The syndicate have not, as yet, decided on dimensions, architectural details, etc.

Architect G. B. Reid: For W. J. Doyle, a two-story pressed brick dwelling; size 50 by 47 feet; cost \$6,500.

Architect Henry E. Roach: For M. Forestel, a three-story store and flat building; size 104 by 66 feet; brick, stone foundation; cost \$20,000.

Architects James Stewart & Co.: For Charles B. Adams, a three-story residence, frame, stone foundations, shingle roof; size 40 by 42 feet; cost \$6,000.

SIMPSON BROTHERS, ASPHALT PAVERS.

NEUCHATEL AND SEYSSSEL ROCK ASPHALT

—FOR—

Stables, Stores, Basements, Laundries, Breweries,
Mills, Fireproof Roofs, etc.

Callender's Pure Bitumen Damp Course
FOR FOUNDATION WALLS.

704 Chamber of Commerce Building, CHICAGO, ILL.

—TELEPHONE 883.—

Elevator Supply and Repair Co.

MANUFACTURERS OF THE ONLY
SATISFACTORY

GUIDE LUBRICATORS

AND OF

HEERMAN'S FLOOR INDICATOR.

Endorsed by the leading Elevator Manufacturers.

DEALERS IN ELEVATOR PACKINGS AND SUPPLIES.

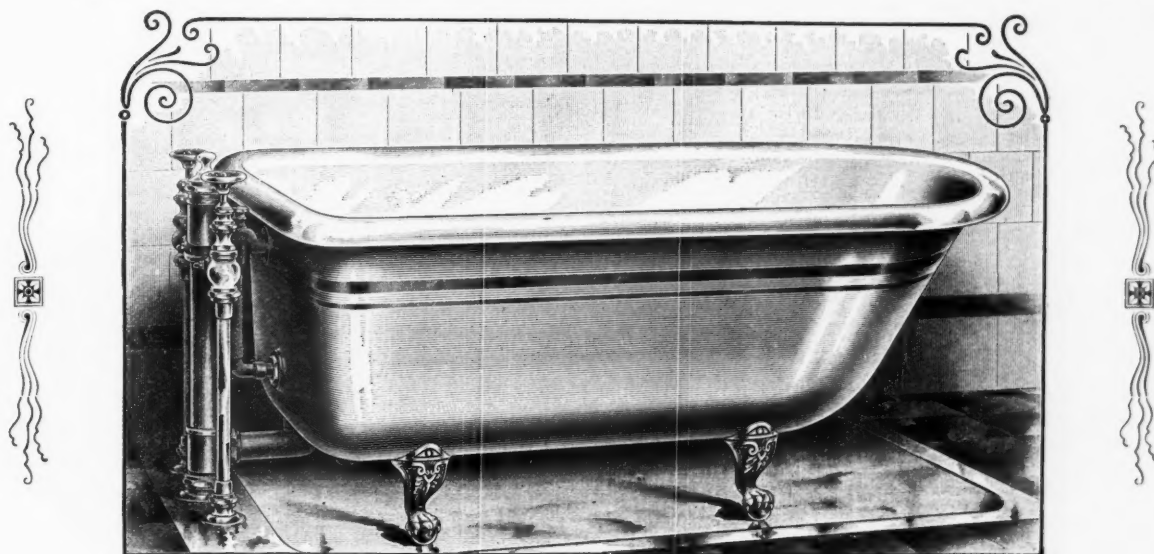
No. 115 Monroe Street, CHICAGO.

NEW YORK.

ESTABLISHED 1828.

CHICAGO.

THE J. L. MOTT IRON WORKS,



(MOTT'S "VICTORIAN" ENAMELED ROLL RIM BATH. Copyright 1891, by The J. L. Mott Iron Works.)

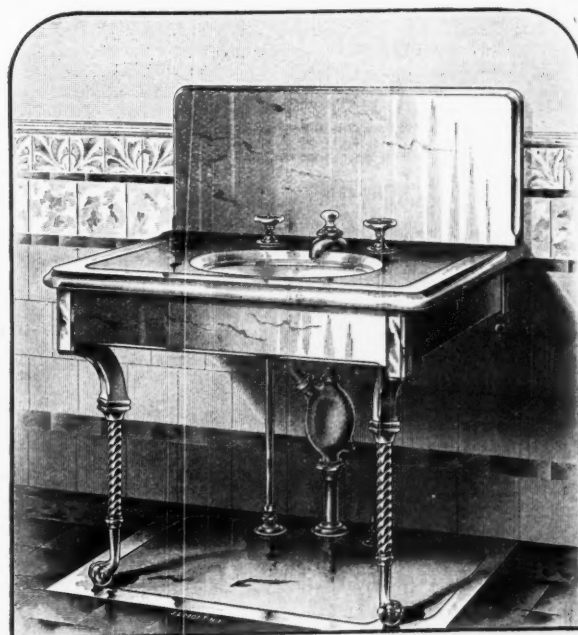
MANUFACTURERS AND IMPORTERS

IMPROVED PLUMBING APPLIANCES

FOR ALL CLASSES OF BUILDINGS.



TURKISH AND RUSSIAN
BATH OUTFITS.
ORNAMENTAL TILES
FOR WAINSCOTINGS AND
FLOORS.
STABLE and BARN FITTINGS
IN GREAT VARIETY.



(MOTT'S PATENT OPEN LAVATORY. Copyright 1891, by The J. L. Mott Iron Works.)



HOT-AIR FURNACES.
MOTT'S PATENT COMBINA-
TION HOT-AIR AND
HOT-WATER HEATER for
PRIVATE RESIDENCES,
CHURCHES, Etc.



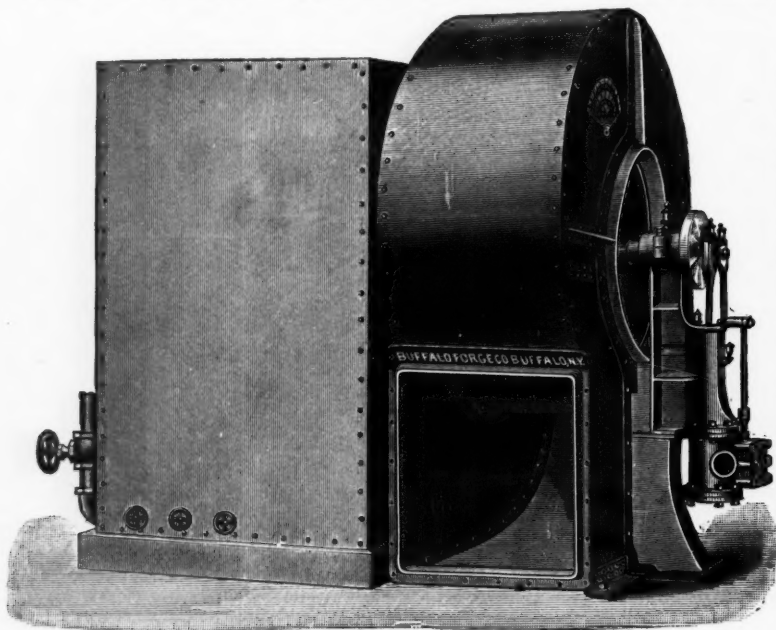
Fountains, Drinking Fountains, Ornamental Iron, Brass and Bronze Work
OF EVERY DESCRIPTION.

MOTT'S PATENT "PRIMO" SYPHON JET WATER CLOSET.

CATALOGUES ON APPLICATION.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

BUFFALO HOT BLAST APPARATUS.



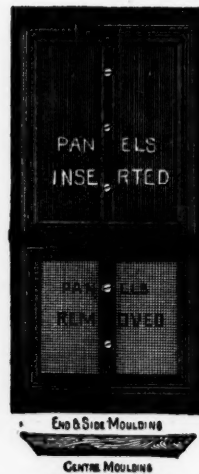
For Heating, Drying, Ventilating and Cooling.
Steam Fans, Ventilating Fans, Exhaust Fans, Steel Plate Fans,
Blowers of all Descriptions.
SPECIAL CATALOGUE AND FULL INFORMATION ON APPLICATION.

BUFFALO FORGE CO., BUFFALO, N. Y.
Chicago Office, Room 1306 Auditorium Tower, CHICAGO, ILL.

JUST THE THING FOR EVERY DOOR

NO OTHER DOOR REQUIRED IN MILD CLIMATE.

Remove center moulding and draw Panel out to form screen door.



W. R. LYLE'S
IMPROVED
SCREEN DOOR

U. S. PATENTS:
PAT. APRIL 6, 1886.
PAT. JULY 12, 1887.
PAT. DEC. 23, 1890.

The device is cheap, simple and effective, easily put up and easily removed. Any screen door is quickly made into a perfect storm door at little expense by inserting the panels and all trouble of taking down the screen door, or damage to same while stored is avoided. Lyle's screen door, ready for storm panels, costs but little more than old style door, and will pay for itself in one winter if you put in panels. Buy no other.

No Territory Sold.

Agents wanted in every town to change over old-style doors and manufacture Lyle's Improved Screen Door. Patented in the United States, Canada, England and France. Address
W. R. LYLE, Patentee and Wholesale Dealer,
RIPON, WIS.

DE GOLYER'S ROCK FINISH,



FOR FINISHING AND PRESERVING NATURAL WOOD.

Presenting a very hard surface of **PERMANENT ELASTICITY**, impervious to moisture or Alkali. The **ONLY** material suitable for varnishing hardwood floors.

No. 1 EXTERIOR. For Outside Doors, Vestibules and Store Fronts, in rubbed or polished finish.

No. 1 INTERIOR. For Finest Cabinet Finishing, Hardwood Floors and Bathrooms.

No. 2. Standard Medium-Priced Grade for all interior rubbed or polished work.

MANUFACTURED ONLY BY

THE WATTS De GOLYER COMPANY, CHICAGO.

The Gardner Steel Ribbon Pulleys and Attachments

FOR SASH HANGING.

NOTE.—Aluminum-Bronze Ribbon furnished if desired.

ABSOLUTELY THE BEST AND MOST ECONOMICAL METHOD IN HANGING WINDOW SASH IN THE MARKET.

GARDNER PATENTS.

The Steel Ribbon used is expressly manufactured for Hanging Window Sash, and is especially prepared to prevent rust.

It is attached to the Sash and Weights the same as a Cord or Chain.

It cannot get out of order or wear out, and being a perfect balance, heavy windows can be raised or lowered with the greatest ease.

It presents a neat appearance and can be painted same color as woodwork of the window.

With it any window or door weighing from 5 to 5,000 lbs. can be hung in the most perfect manner.

IN USE IN THE FOLLOWING BUILDINGS IN NEW YORK, CHICAGO, ST. LOUIS AND BOSTON:

New New York Edison Building, J. L. Mott Iron Works, New York Evening Mail and Express, New York Public Schools, New Astor Hotel, Harlem, New York; New Municipal Buildings. First National Bank, Chicago; Adams Express Building, American Express Building, Rialto Building, C. B. & Q. Railroad Office Building, J. V. Farwell's Buildings, New Depot Wisconsin Central, Illinois Steel Co's, Leiter Building, and a large number of others.

THE GARDNER SASH BALANCE CO., 311 First National Bank Building:

GENTLEMEN,—After a careful study of the qualities of your Sash Pulley and Steel Ribbon, and comparing the same with other methods of hanging sash, preference was given to your pulley and ribbon for the sash of the Leiter Building, State, Van Buren and Congress Streets. This building is over 400 feet long, eight stories high, and being designed for a retail store or stores, the windows are exceedingly large, mostly from 6 to 8 feet wide, and those of the second story some 12 feet high. The sash for such openings require the very best cord and pulleys. Good pulleys can be obtained by paying for them, but I was unable to find as good a pulley as yours at the price you charged us. The question of cord, chain or ribbon is a serious one where windows are as heavy as those in the Leiter Building, and it was only after the most thorough examination, with the assistance of an expert to visit the place where the ribbon was in use, that the question was decided and the contract was awarded to you.

Very respectfully,

W. L. B. JENNEY, Architect, Home Insurance Building, Chicago.

SAMPLES SENT ON APPLICATION.

GARDNER SASH BALANCE COMPANY, . . . 311 First National Bank Building, CHICAGO, ILL.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

THE INLAND ARCHITECT AND NEWS RECORD.

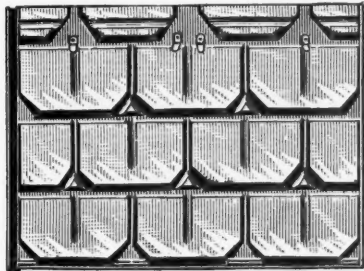
Vol. XVIII.

ADVERTISERS' TRADE DEPARTMENT.

No. 4

The "Eastlake" Metal Shingles.

The "Eastlake" metal shingle, on its merits is rapidly gaining friends among property owners, architects and roofers. Only good quality of sheet metal can be used in its manufacture, but the demand is principally for tin on account of its light weight, low cost and fireproof qualities, and because it has, when properly put on, great durability. The quality of plate has much to do with its durability, but the manner of applying is of far greater importance. No matter what kind of material is used, unless contraction and expansion of metal be provided for, results will be unsatisfactory. The "Eastlake" metal shingles, adapted to all roofs with a fall of four inches to the foot or over, successfully overcomes the difficulty. The vertical joints are telescopic, and provided with a safeguard of a concealed gutter making them absolutely storm-proof with ample play for contraction and expansion of the metal. The horizontal joint is an overlay of three inches, nesting together the figures embossed in the plates. They are secured to the sheathing by nails along the top, the lower edge being held down by strong cleats securely riveted on, at intervals of six inches, as shown in cut No. 2, riveting being



No. 2.

done at the factory before shipping. When laid all nail heads are covered from the weather in the overlap. Cut No. 2 shows the appearance of each shingle, each being 17½ by 26 inches, covering solid surface of about 3 4-5 square feet without joint, although when laid it has the appearance of slate exposed

4½ by 6 inches to the weather, each sheet showing nine perfectly constructed shingles or tiles. The shingles are fastened on the side by lock (as shown in cut No. 3), which provides for contraction and expansion, and at the same time forms a perfect gutter, which absolutely prevents all leakage at these joints. Cut No. 4 shows regular stock ridging made from heavy galvanized iron, which makes a perfect finish on the ridge; also adds to the ornamentation of the roof, which can be furnished as well in ornamental work. Cut No. 5 shows special valley to be used with the "Eastlake" shingles. This valley is made so that the slates or shingles will lock over the folds (as shown in cut) and being made 14 to 20 inches wide, gives ample protection. The valley also allows for contraction and expansion. The valley, like all of their goods, is painted both sides before leaving the factory, which is an important point. Cut No. 6 shows lock-shingle gutter, which they advise the use of in all cases where "Eastlake" shingles are used, as there can be no leakage with the use of this gutter, on account of the construction and lock formed on upper edge,

No. 3.

done at the factory before shipping.

When laid all nail heads are covered from the weather in the overlap.

Cut No. 2 shows the appearance of each shingle, each being 17½ by 26 inches, covering solid surface of about 3 4-5 square feet without joint, although when laid it has the appearance of slate exposed

4½ by 6 inches to the weather, each sheet showing nine perfectly constructed shingles or tiles. The shingles are fastened on the side by lock (as shown in cut No. 3), which provides for contraction and expansion, and at the same time forms a perfect gutter, which absolutely prevents all leakage at these joints. Cut No. 4 shows regular stock ridging made from heavy galvanized iron, which makes a perfect finish on the ridge; also adds to the ornamentation of the roof, which can be furnished as well in ornamental work. Cut No. 5 shows special valley to be used with the "Eastlake" shingles. This valley is made so that the slates or shingles will lock over the folds (as shown in cut) and being made 14 to 20 inches wide, gives ample protection. The valley also allows for contraction and expansion. The valley, like all of their goods, is painted both sides before leaving the factory, which is an important point. Cut No. 6 shows lock-shingle gutter, which they advise the use of in all cases where "Eastlake" shingles are used, as there can be no leakage with the use of this gutter, on account of the construction and lock formed on upper edge,

which also allows for contraction and expansion. This gutter is manufactured from galvanized iron and guaranteed brands of tin, but the use of galvanized iron is recommended. There

present something more than deviations from common practice and usage, and have a special merit and excellence to commend them, is beyond questioning. This is not said in fulsome-ness, but in good faith. In instance: Take his patent sewer-flushing fittings. Here is a device, and it is used in many notable modern buildings, whereby the owner can inspect at any time the condition of his sewers without tearing up his premises and, when flushing becomes necessary, a hose can be attached and the cleansing done in the easiest way possible; or they may be attached direct with the main water supply. They can be used with either iron or clay piping, and are so constructed that a back-water gate can be attached to prevent the flooding of cellars. They are an infallible protection, too, against sewer gas. The same characteristics attend the other "Wade" plumbing specialties, namely, the "purity bowls," "trap," etc., listed in the above mentioned catalogue. All that the firm asks of the public is to make a critical investigation of these several devices and they are willing to accept the results.

By addressing the manufacturers, W. J. Burton & Co., Detroit, Michigan, any further information desired can be obtained.

Make the First Purely American Terne Plates.

The Cincinnati Corrugating Company of Piqua, Ohio, have been considering the manufacture of terne plates, or tinned roofing plates, as an adjunct to their present large line of painted roofing sheets. In order to satisfy themselves of the adaptability of the steel sheets supplied them by their allied company, the Piqua Rolling Mill Company, they have recently made a quantity of 14 by 20 terne roofing plates with great success.

This experience demonstrates fully that the quality of the steel plates used for coating meets the highest requirements.

The terne coating, composed of tin and lead, resulted beautifully, equaling, in the opinion of experts, in appearance and all other respects, the "Old Style," hand made ternes hitherto imported from Wales.

These are the first terne plates in Ohio, and, so far as we are advised, the first purely American terne plates have been made at Piqua, Ohio. For in their composition not an ounce of foreign material enters—California furnished the pig tin, Missouri the pig lead, and the Bessemer steel used was made at Middleport, Ohio, and rolled by the Piqua Rolling Mill Company.

The Cincinnati Corrugating Company claims no other merit in this than that they give to all the results of their experience—that all that is necessary to test the practicability of making American tin or terne plate is to make them. Having satisfied themselves on the point of practicability, the next steps will be pursued, as in any other branch of manufacture—to obtain the best facilities for economic manufacture for the regular production of American terne or tinned roofing plates.—The Daily Call, Piqua, Ohio, September 16, 1891.

Scientific Sanitary Appliances.

J. J. WADE & SON have favored us with a copy of their illustrated catalogue of patent sanitary appliances. They are the invention of the senior of the firm and the fruitage of years of experience and study. It is doubtful whether any other person connected with house sanitary matters has given the subject more thoughtful attention than he, and his several treatises and essays on the subject have been received with marked consideration at home and abroad, so that his name has become almost a household word with his confrères, and is held in respect by the fraternity of the National Plumbers' Association. That anything receiving the stamp of his approbation is worthy of public attention is a natural sequence; therefore, that such sanitary devices as are the result of his genius and invention

present something more than deviations from common practice and usage, and have a special merit and excellence to commend them, is beyond questioning. This is not said in fulsome-ness, but in good faith. In instance: Take his patent sewer-flushing fittings. Here is a device, and it is used in many notable modern buildings, whereby the owner can inspect at any time the condition of his sewers without tearing up his premises and, when flushing becomes necessary, a hose can be attached and the cleansing done in the easiest way possible; or they may be attached direct with the main water supply. They can be used with either iron or clay piping, and are so constructed that a back-water gate can be attached to prevent the flooding of cellars. They are an infallible protection, too, against sewer gas. The same characteristics attend the other "Wade" plumbing specialties, namely, the "purity bowls," "trap," etc., listed in the above mentioned catalogue. All that the firm asks of the public is to make a critical investigation of these several devices and they are willing to accept the results.

By addressing the manufacturers, W. J. Burton & Co., Detroit, Michigan, any further information desired can be obtained.

Make the First Purely American Terne Plates.

The Cincinnati Corrugating Company of Piqua, Ohio, have been considering the manufacture of terne plates, or tinned roofing plates, as an adjunct to their present large line of painted roofing sheets. In order to satisfy themselves of the adaptability of the steel sheets supplied them by their allied company, the Piqua Rolling Mill Company, they have recently made a quantity of 14 by 20 terne roofing plates with great success.

This experience demonstrates fully that the quality of the steel plates used for coating meets the highest requirements.

The terne coating, composed of tin and lead, resulted beautifully, equaling, in the opinion of experts, in appearance and all other respects, the "Old Style," hand made ternes hitherto imported from Wales.

These are the first terne plates in Ohio, and, so far as we are advised, the first purely American terne plates have been made at Piqua, Ohio. For in their composition not an ounce of foreign material enters—California furnished the pig tin, Missouri the pig lead, and the Bessemer steel used was made at Middleport, Ohio, and rolled by the Piqua Rolling Mill Company.

The Cincinnati Corrugating Company claims no other merit in this than that they give to all the results of their experience—that all that is necessary to test the practicability of making American tin or terne plate is to make them. Having satisfied themselves on the point of practicability, the next steps will be pursued, as in any other branch of manufacture—to obtain the best facilities for economic manufacture for the regular production of American terne or tinned roofing plates.—The Daily Call, Piqua, Ohio, September 16, 1891.

Scientific Sanitary Appliances.

J. J. WADE & SON have favored us with a copy of their illustrated catalogue of patent sanitary appliances. They are the invention of the senior of the firm and the fruitage of years of experience and study. It is doubtful whether any other person connected with house sanitary matters has given the subject more thoughtful attention than he, and his several treatises and essays on the subject have been received with marked consideration at home and abroad, so that his name has become almost a household word with his confrères, and is held in respect by the fraternity of the National Plumbers' Association. That anything receiving the stamp of his approbation is worthy of public attention is a natural sequence; therefore, that such sanitary devices as are the result of his genius and invention

present something more than deviations from common practice and usage, and have a special merit and excellence to commend them, is beyond questioning. This is not said in fulsome-ness, but in good faith. In instance: Take his patent sewer-flushing fittings. Here is a device, and it is used in many notable modern buildings, whereby the owner can inspect at any time the condition of his sewers without tearing up his premises and, when flushing becomes necessary, a hose can be attached and the cleansing done in the easiest way possible; or they may be attached direct with the main water supply. They can be used with either iron or clay piping, and are so constructed that a back-water gate can be attached to prevent the flooding of cellars. They are an infallible protection, too, against sewer gas. The same characteristics attend the other "Wade" plumbing specialties, namely, the "purity bowls," "trap," etc., listed in the above mentioned catalogue. All that the firm asks of the public is to make a critical investigation of these several devices and they are willing to accept the results.

By addressing the manufacturers, W. J. Burton & Co., Detroit, Michigan, any further information desired can be obtained.

Make the First Purely American Terne Plates.

The Cincinnati Corrugating Company of Piqua, Ohio, have been considering the manufacture of terne plates, or tinned roofing plates, as an adjunct to their present large line of painted roofing sheets. In order to satisfy themselves of the adaptability of the steel sheets supplied them by their allied company, the Piqua Rolling Mill Company, they have recently made a quantity of 14 by 20 terne roofing plates with great success.

This experience demonstrates fully that the quality of the steel plates used for coating meets the highest requirements.

The terne coating, composed of tin and lead, resulted beautifully, equaling, in the opinion of experts, in appearance and all other respects, the "Old Style," hand made ternes hitherto imported from Wales.

These are the first terne plates in Ohio, and, so far as we are advised, the first purely American terne plates have been made at Piqua, Ohio. For in their composition not an ounce of foreign material enters—California furnished the pig tin, Missouri the pig lead, and the Bessemer steel used was made at Middleport, Ohio, and rolled by the Piqua Rolling Mill Company.

The Cincinnati Corrugating Company claims no other merit in this than that they give to all the results of their experience—that all that is necessary to test the practicability of making American tin or terne plate is to make them. Having satisfied themselves on the point of practicability, the next steps will be pursued, as in any other branch of manufacture—to obtain the best facilities for economic manufacture for the regular production of American terne or tinned roofing plates.—The Daily Call, Piqua, Ohio, September 16, 1891.

Scientific Sanitary Appliances.

J. J. WADE & SON have favored us with a copy of their illustrated catalogue of patent sanitary appliances. They are the invention of the senior of the firm and the fruitage of years of experience and study. It is doubtful whether any other person connected with house sanitary matters has given the subject more thoughtful attention than he, and his several treatises and essays on the subject have been received with marked consideration at home and abroad, so that his name has become almost a household word with his confrères, and is held in respect by the fraternity of the National Plumbers' Association. That anything receiving the stamp of his approbation is worthy of public attention is a natural sequence; therefore, that such sanitary devices as are the result of his genius and invention

present something more than deviations from common practice and usage, and have a special merit and excellence to commend them, is beyond questioning. This is not said in fulsome-ness, but in good faith. In instance: Take his patent sewer-flushing fittings. Here is a device, and it is used in many notable modern buildings, whereby the owner can inspect at any time the condition of his sewers without tearing up his premises and, when flushing becomes necessary, a hose can be attached and the cleansing done in the easiest way possible; or they may be attached direct with the main water supply. They can be used with either iron or clay piping, and are so constructed that a back-water gate can be attached to prevent the flooding of cellars. They are an infallible protection, too, against sewer gas. The same characteristics attend the other "Wade" plumbing specialties, namely, the "purity bowls," "trap," etc., listed in the above mentioned catalogue. All that the firm asks of the public is to make a critical investigation of these several devices and they are willing to accept the results.

By addressing the manufacturers, W. J. Burton & Co., Detroit, Michigan, any further information desired can be obtained.

Make the First Purely American Terne Plates.

The Cincinnati Corrugating Company of Piqua, Ohio, have been considering the manufacture of terne plates, or tinned roofing plates, as an adjunct to their present large line of painted roofing sheets. In order to satisfy themselves of the adaptability of the steel sheets supplied them by their allied company, the Piqua Rolling Mill Company, they have recently made a quantity of 14 by 20 terne roofing plates with great success.

This experience demonstrates fully that the quality of the steel plates used for coating meets the highest requirements.

The terne coating, composed of tin and lead, resulted beautifully, equaling, in the opinion of experts, in appearance and all other respects, the "Old Style," hand made ternes hitherto imported from Wales.

These are the first terne plates in Ohio, and, so far as we are advised, the first purely American terne plates have been made at Piqua, Ohio. For in their composition not an ounce of foreign material enters—California furnished the pig tin, Missouri the pig lead, and the Bessemer steel used was made at Middleport, Ohio, and rolled by the Piqua Rolling Mill Company.

The Cincinnati Corrugating Company claims no other merit in this than that they give to all the results of their experience—that all that is necessary to test the practicability of making American tin or terne plate is to make them. Having satisfied themselves on the point of practicability, the next steps will be pursued, as in any other branch of manufacture—to obtain the best facilities for economic manufacture for the regular production of American terne or tinned roofing plates.—The Daily Call, Piqua, Ohio, September 16, 1891.

Scientific Sanitary Appliances.

J. J. WADE & SON have favored us with a copy of their illustrated catalogue of patent sanitary appliances. They are the invention of the senior of the firm and the fruitage of years of experience and study. It is doubtful whether any other person connected with house sanitary matters has given the subject more thoughtful attention than he, and his several treatises and essays on the subject have been received with marked consideration at home and abroad, so that his name has become almost a household word with his confrères, and is held in respect by the fraternity of the National Plumbers' Association. That anything receiving the stamp of his approbation is worthy of public attention is a natural sequence; therefore, that such sanitary devices as are the result of his genius and invention

which also allows for contraction and expansion. This gutter is manufactured from galvanized iron and guaranteed brands of tin, but the use of galvanized iron is recommended. There



No. 6.

are now over ten million feet of "Eastlake" metal shingles in actual use, and the first complaint of leakage or roof being blown off has yet to be received.

This shingle, by its embossing, presents an ornamental appearance, as shown in the above cuts; is also prevented from rattling, as large dead-air spaces are formed between the metal and the sheathing (the best non-conductor known), this making it a perfect roofing, protecting from heat and cold as well as storms. Its construction is such that any mechanic can put it on.

By addressing the manufacturers, W. J. Burton & Co., Detroit, Michigan, any further information desired can be obtained.

Make the First Purely American Terne Plates.

The Cincinnati Corrugating Company of Piqua, Ohio, have been considering the manufacture of terne plates, or tinned roofing plates, as an adjunct to their present large line of painted roofing sheets. In order to satisfy themselves of the adaptability of the steel sheets supplied them by their allied company, the Piqua Rolling Mill Company, they have recently made a quantity of 14 by 20 terne roofing plates with great success.

This experience demonstrates fully that the quality of the steel plates used for coating meets the highest requirements.

The terne coating, composed of tin and lead, resulted beautifully, equaling, in the opinion of experts, in appearance and all other respects, the "Old Style," hand made ternes hitherto imported from Wales.

These are the first terne plates in Ohio, and, so far as we are advised, the first purely American terne plates have been made at Piqua, Ohio. For in their composition not an ounce of foreign material enters—California furnished the pig tin, Missouri the pig lead, and the Bessemer steel used was made at Middleport, Ohio, and rolled by the Piqua Rolling Mill Company.

The Cincinnati Corrugating Company claims no other merit in this than that they give to all the results of their experience—that all that is necessary to test the practicability of making American tin or terne plate is to make them. Having satisfied themselves on the point of practicability, the next steps will be pursued, as in any other branch of manufacture—to obtain the best facilities for economic manufacture for the regular production of American terne or tinned roofing plates.—The Daily Call, Piqua, Ohio, September 16, 1891.

Scientific Sanitary Appliances.

J. J. WADE & SON have favored us with a copy of their illustrated catalogue of patent sanitary appliances. They are the invention of the senior of the firm and the fruitage of years of experience and study. It is doubtful whether any other person connected with house sanitary matters has given the subject more thoughtful attention than he, and his several treatises and essays on the subject have been received with marked consideration at home and abroad, so that his name has become almost a household word with his confrères, and is held in respect by the fraternity of the National Plumbers' Association. That anything receiving the stamp of his approbation is worthy of public attention is a natural sequence; therefore, that such sanitary devices as are the result of his genius and invention

present something more than deviations from common practice and usage, and have a special merit and excellence to commend them, is beyond questioning. This is not said in fulsome-ness, but in good faith. In instance: Take his patent sewer-flushing fittings. Here is a device, and it is used in many notable modern buildings, whereby the owner can inspect at any time the condition of his sewers without tearing up his premises and, when flushing becomes necessary, a hose can be attached and the cleansing done in the easiest way possible; or they may be attached direct with the main water supply. They can be used with either iron or clay piping, and are so constructed that a back-water gate can be attached to prevent the flooding of cellars. They are an infallible protection, too, against sewer gas. The same characteristics attend the other "Wade" plumbing specialties, namely, the "purity bowls," "trap," etc., listed in the above mentioned catalogue. All that the firm asks of the public is to make a critical investigation of these several devices and they are willing to accept the results.

King's Windsor Cement.

"Plastering," said the writer of a few years ago, "consists of applying different compositions, resembling mortar, to walls and ceilings in their layers, so as to form smooth surfaces for the sake of appearance and cleanliness." The plasterers' art of today, however, demands much more than this. Owners and architects are no longer content with the old plaster of lime, sand and hair, which for so many years was the only thing obtainable. This branch of the building always was its poorest part. Walls were easily broken, and patching and repairing were the rule. Ceilings frequently came down with attending dangers. The unsightly cracks in walls and ceilings could not be avoided.

The authorities in many of our cities, recognizing the danger from the old-fashioned plastering, have prohibited its use in school-houses, courthouses and other public buildings. But the alternative was wood or heavy metal ceilings. Within recent years, however, Messrs. J. B. King & Co., of New York, produced in King's Windsor Cement a plaster which, while it has all the advantages of the lime and hair plaster, has none of its disadvantages. Its reputation is steadily growing; some sixty different selling agents supply it to consumers in all parts of the world, and the makers inform us that though they have several times doubled their capacity they yet are crowded to their utmost to meet the demand.

One reason for this may be found in the great care exercised in its manufacture. As Messrs. J. B. King & Co. say:

"In the manufacture of our 'King's Windsor Cement,' we use but the purest of selected Nova Scotia Gypsum for a base, mined on our own property, and asbestos for a fiber, thus rendering it absolutely fireproof; entirely free from acids or any of the deleterious ingredients found in the many compounds that are today put upon the market as 'patent plasters,' and which discolor and rust, making unsightly and valueless walls and ceilings."

"King's Windsor Cement" is endorsed by architects, builders and plasterers alike. We would recommend anyone wishing further details about this plaster to send for one of the neat and practical new catalogues to J. B. King & Co., 24 State street, New York, or to Dickinson Bros. & King, 198-210 Market street, Chicago.

Trade Notes.

THE Samson Cordage Works, of Boston, have nearly completed a further improvement in their carding department, whereby they expect to increase their product and improve the quality of their yarn still more. They have been somewhat delayed in filling orders on their "Samson" cord of late, as only first quality stock is used, and the product has been limited also by not having a sufficient number

ADVERTISERS' TRADE DEPARTMENT—Continued.

of the special machines which make this unique braid to keep up with the demand. The improvements which are now under way on the braiding department will also increase the product so that they hope to be able by spring to keep up with their orders.

THE negatives taken in Chicago and vicinity for reproduction in the photogravure edition of THE INLAND ARCHITECT are made by H. W. Kennicott, 70 State street, Chicago.

THIS is the time of the year when people are removing their screen doors and putting up in their places storm doors, except those who have had the good sense to invest their money in the combination screen and storm door known as the "Lyle patent." This happy invention does away with two sets of doors, and the hanging and rehanging of them, since all that it requires to change a screen door into a storm door is to insert the panels that accompany and form a part of them. The manufacturers are advertisers in this journal and give in an engraving a good idea of the device which is a practical accomplishment and one that gives universal satisfaction wherever it has been put to the proof of a trial.

MR. THOMAS L. JOHNSON, who, through his former business connections, has become well and favorably known to the architectural profession, has recently entered the service of the H. W. Johns Manufacturing Company, and undoubtedly will renew his acquaintance with them in the interest of the company's asbestos liquid paints, roofing, sheathing, boiler and pipe coverings, etc. We hardly know which to congratulate most, Mr. Johnson or the company. Certain it is that the company has secured the services of an estimable gentleman and one who has the happy faculty of ingratiating himself on the sunny side of people, and leaving behind him a pleasant memory, both of himself and the business he represents,

and that Mr. Johnson has the good fortune to be the ambassador of a house that for upright and honorable dealing and superior wares is not surpassed by any compeer. It is perfectly safe to congratulate both, as each have done a good thing in the way of mutual interest.

THE German correspondents of Schleicher, Schumm & Co., engineers and builders of the "Otto" Gas Engine, Philadelphia, inform them that at the Strasburg Industrial Exposition, where an unusually large number of gas engines of all makes and description were exhibited, they alone were awarded for their "Otto Gas, Gasoline and Petroleum Engines" the highest diploma and gold medal for superior design and workmanship. Second prizes were given to Adam, Benz, Buss-Sombart & Co., Hille, the Kobsers Iron Works, Escher-Wyss & Co. Third prizes to Grob & Co. (Capitaine Petroleum Motor), Korting, and Bitschweiler (Petroleum Motor). Abroad, as well as here, the Otto keeps the lead.

IT is beyond a peradventure that the Gardner Ribbon Sash-balance has come to stay, as it is daily gaining ground with the architects who name it in their specifications. A large proportion of architects of prominence have tested its claims, and are convinced of its great durability and the smoothness and noiselessness of its running. A proof of its merit is in the fact that it has been infringed upon and counterfeited—a matter it will be well to bear in mind, as some might be led to experiment with the spurious articles, and thereby come to condemn the genuine. Not only has this metallic ribbon balance been placed in new structures, but since its superiority became known, many house owners who have been annoyed with broken cords and like discomforts, attendants of old-time window hangers, have had them substituted with this one. The appearances are that in the near future the Gardner sash ribbon and fixtures will be in

very general use. At any rate, the growth of its use has been unprecedented, and the manufacturers are kept very busy to meet the demand. Such as have not yet seen one of these ribbon balances or a sample, can get a good idea from the cut in the company's advertisement in this journal, and any other particulars may be had by addressing the Gardner Sash Balance Company, Chicago, Illinois.

THE Troy Laundry Machinery Company favors THE INLAND ARCHITECT with a copy of its new (eighth edition) catalogue of laundry machinery and laundry supplies. It comprises 108 pages with engraved illustrations of the same, together with useful and necessary information relating thereto. Although the subject matter of this handsomely-printed catalogue does not have a very general architectural bearing, yet it does, now and then, come within the province of the architect to plan a first-class laundry establishment, wherein all the latest and best apparatus is to form a part, and this is where this catalogue becomes of interest to architects and contractors, too. The Troy Laundry Company is, perhaps, the most extensive manufacturer of its kind in the world—certainly it is not surpassed in magnitude by any other establishment, and the celebrity for its output is coextensive with modern civilization. This output embraces everything that the laundry business requires, from a common sadiron up through all the grades of machinery and even includes delivery wagons of artistic design and finish. The company is a progressive one—not satisfied to rest on laurels already won, but on the alert for greater victories in the production of laundry specialties. The area of the company's trade may be inferred from its numerous headquarters, namely, at Troy, New York; New York City; Chicago, Illinois; San Francisco, California; London, England; Berlin, Germany.

The "Automatic" Compression Faucet

(PATENTS PENDING.)

Washers and Packings may be Replaced and Repairs Made without Shutting Off the Water. The Best Improvement ever put on Faucets.



SEND FOR CIRCULAR AND PRICE LIST.

MANUFACTURED ONLY BY

H. A. WILLIAMS MANUFACTURING CO.

Main Office, 22 Milk Street, Boston, Mass.

Works, Boston, Mass.

Branch Office, 55 Fulton Street, New York, N. Y.

THE ARCHITECT



WHO recommends such sanitary and durable Fixtures as Porcelain-lined Baths, Laundry Tubs, Soil Pipe, etc., earns the good will and praise of his client, and makes a lasting advertisement.

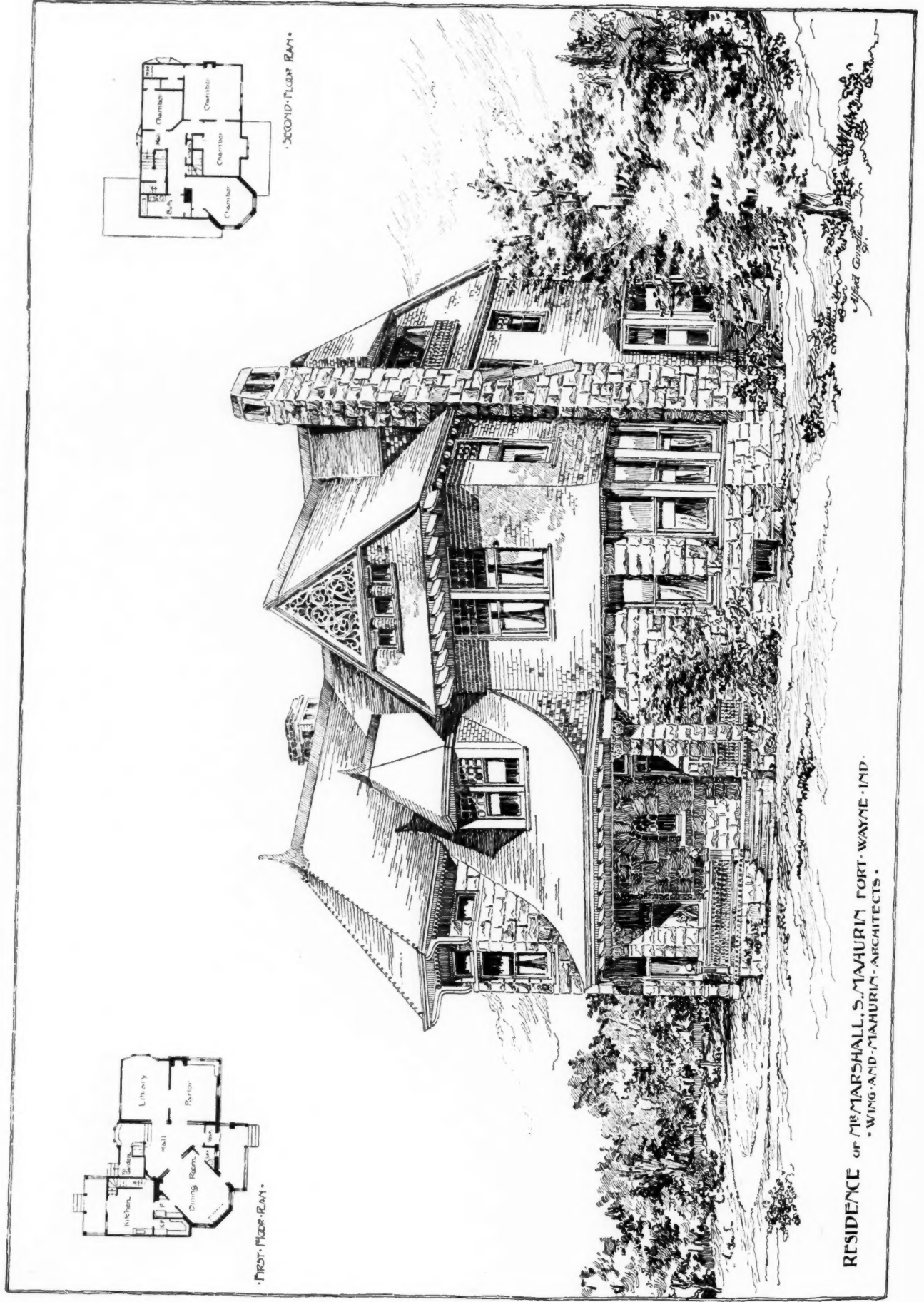
Our goods are acknowledged to be the best and are guaranteed.

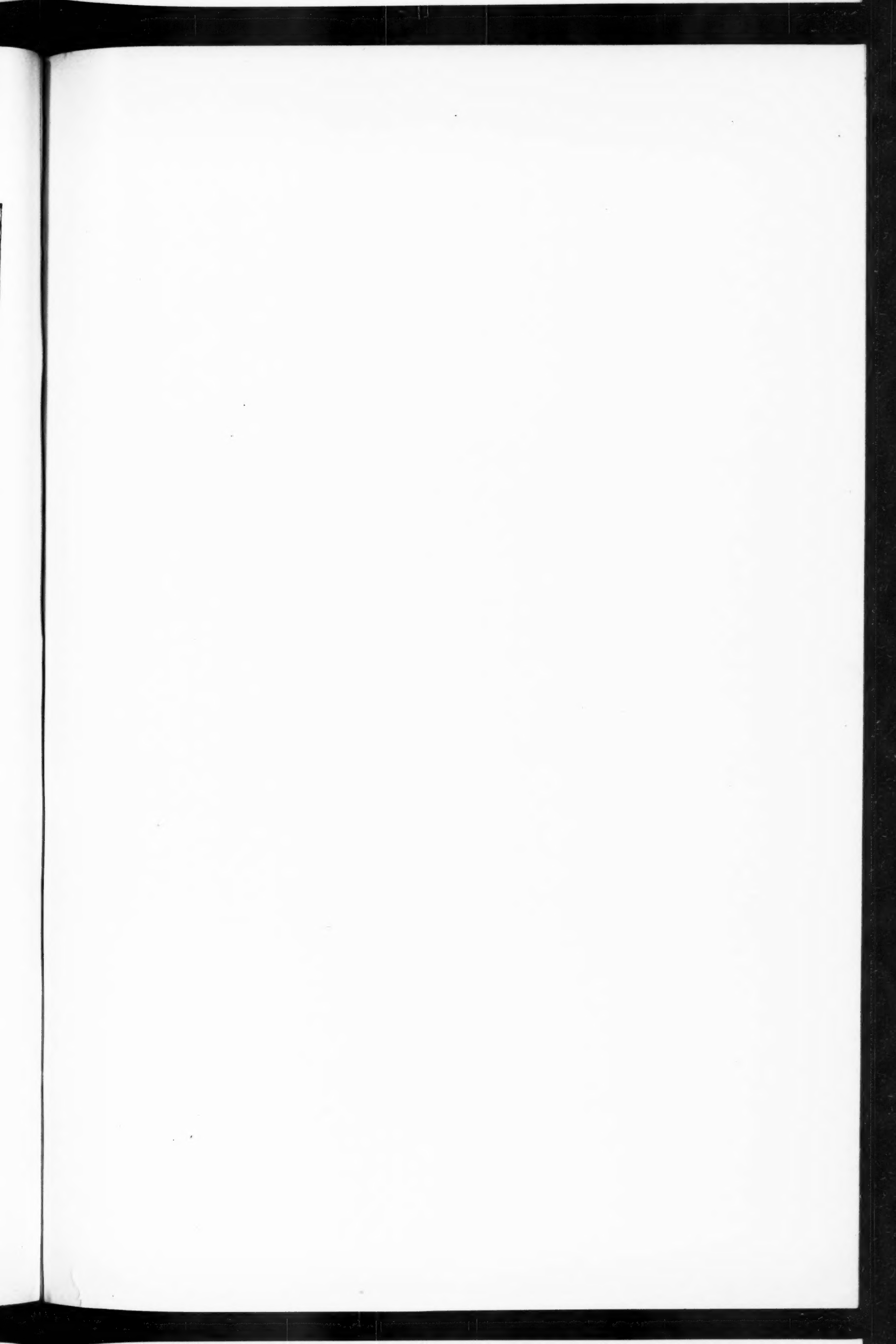
Send your address and get our new Catalogue of Baths.

STANDARD MANUFACTURING CO.,

Box 628 H., PITTSBURGH, PA.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.





1

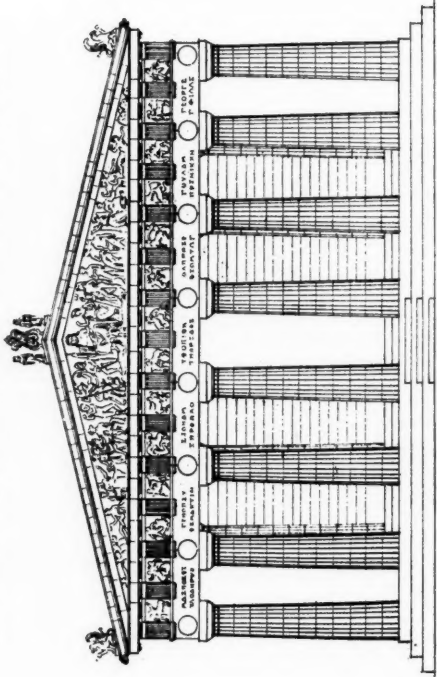
CLARK MEDAL COMPETITION MDCCCXCI • THE PARTHENON
SUBMITTED BY "FAIR GREECE! SAD RELIC OF DEPARTED WORTH!"

SCALES { PLAN AND LONGITUDINAL SECTION 50 FT TO 1 INCH
ELEVATION AND TRANSVERSE SECTION 15 FT TO 1 INCH



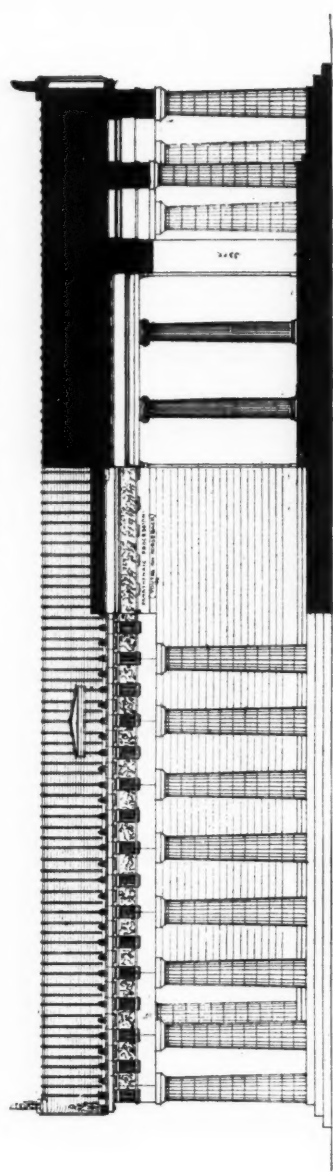
TRANSVERSE SECTION 'A.A.'

THIS SECTION IS CONSTRUCTED IN HARMONY WITH PERGUSION'S THEORY OF LIGHTING. CEILING AND BRANCHED TRUSSIES AS BEING MOST CONSISTANT WITH THE GENERAL AND INDEPENDENT OF THE PLAN, UTILITY, ARCHITECTURAL EFFECT AND GREEKIAN INDEPENDENT. ALL PURELY CONJECTURAL PARTS ARE INDICATED BY DOTTED LINES AND NOTED BY "CONJECTURE". THEY ARE PURELY CONJECTURAL, HENCE NEITHER RAILING, STAIR NOR GALLIES ARE SHOWN NOR ANY ATTEMPT MADE TO SHOW THE DESIGN OF THE THIRD STORY. MINOR DETAILS, HOWEVER, HAVE EITHER A PLAT CEILING OR AN OPEN TRUSS. ROOF AS SUGGESTED BY PERGUSION, EITHER WOULD AFFORD SUFFICIENT FLOORING FOR THE PEAS AND COULD BE MADE TO HAVE ALONG ARCHITECTURAL EFFECT. THE COLLARS ARE SHOWN THE HEIGHT FIGURED AS BEING IN PROPORTION WITH THE EXTERIOR. THAT THE LOWER TIER AT LEAST WERE OF THE DORIC ORDER IS CONSIDERED AS SETTLED BY THE DISCOVERY BY A. FAGARD OF TRACES OF THE PLUTINGS ON THE SLABS ON WHICH THEY RESTED. MINERVA IS AFTER THE RESTORATION OF QUATREME DE QUINCY

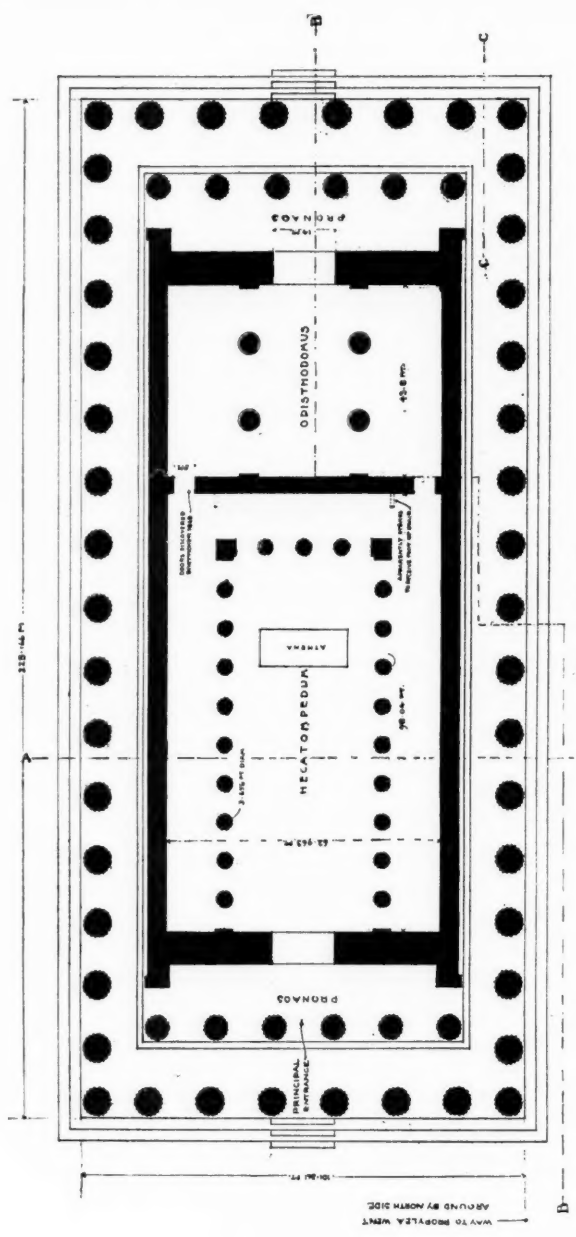


EAST ELEVATION

THE ARRANGEMENT OF SHIELDS ON THIS ELEVATION MAY BE IN A SLIGHT DEGREE ARBITRARY. THEY ARE ACCORDING TO SHIELD WHO SHOWS HOLES IN THE ARCHITRAVE WHICH JUDGING FROM THE CIRCULAR ENTITIES OF LANT CORNICES, FABLED, AND THEN WITH SOME SHIELD PURPOSE. THERE ARE TRACES OF A CORRESPONDING DECORATION ON THE OTHER FRONT AND SIDE.



LONGITUDINAL SECTION 'B.B.'

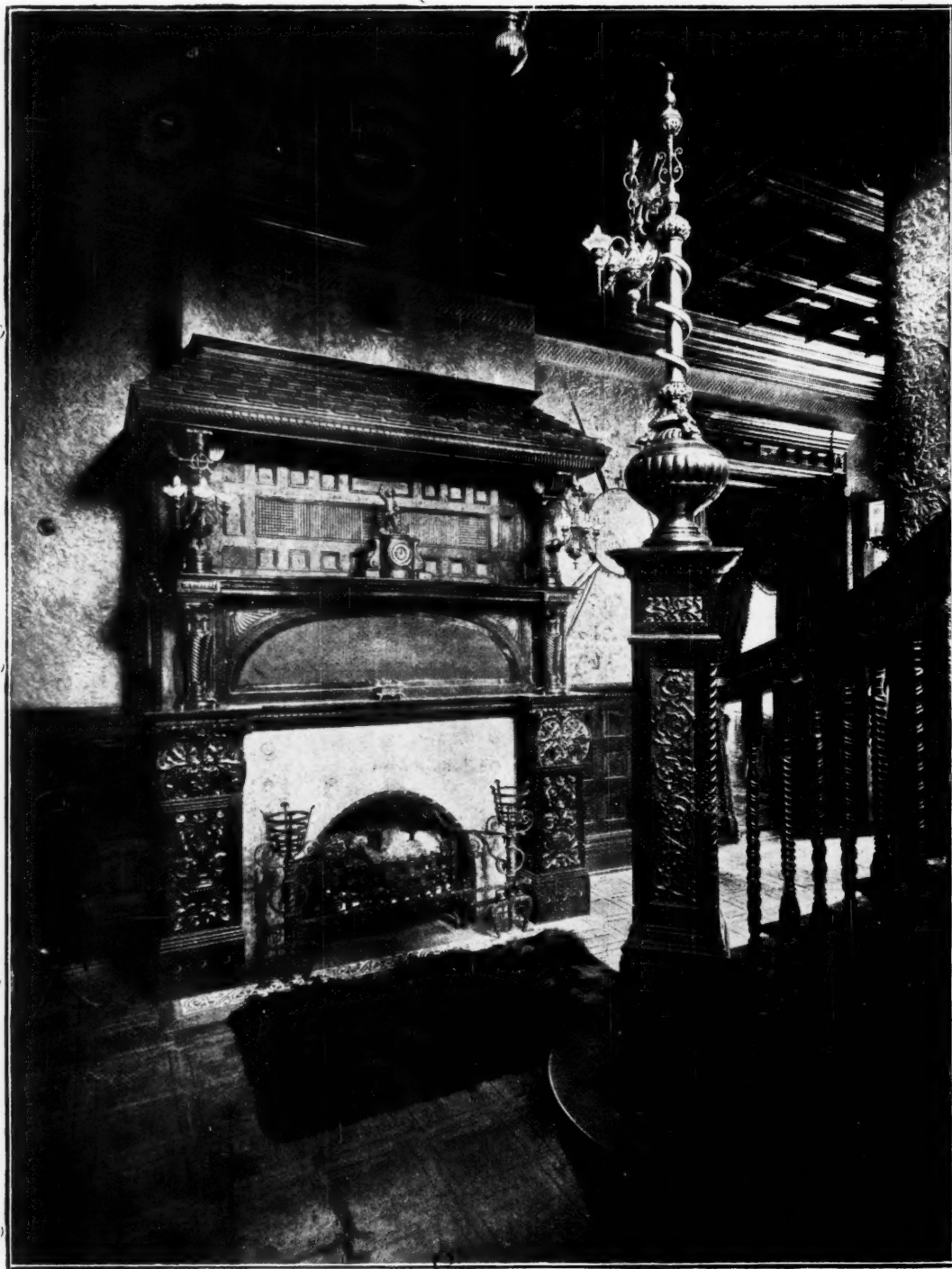


PLAN

THE PARTHENON (ERECTED B.C. 454) STOOD ON THE SOUTH SIDE OF THE ACROPOLIS A LITTLE TO THE EAST OF THE CENTER ON THE SITE OF THE HEADQUARTERS DESTROYED BY ARMS B.C. 480. IT EXTENDED 100 FT. BEYOND THE OLD TEMPLE TO THE WEST AND THE WIDTH WAS ALSO QUATREME. THE PRINCIPAL ENTRANCE WAS TOWARDS THE EAST, I.E. THE END FURTHEST FROM THE PROPYLEA. THE ENTRANCE TO THE ACROPOLIS

THE OLD TENSEL TO THE WEST AND THE NEW TENSEL TO THE EAST. THE PRINCIPAL ENTRANCE WAS TOWARDS THE EAST. THE EAST IS THE END FURTHER FROM THE PROPER. THE ENTRANCE TO THE ACROPOLIS

THESE ARE TRACES OF A CORRESPONDING DECORATION ON THE OTHER FRONT AND SIDE

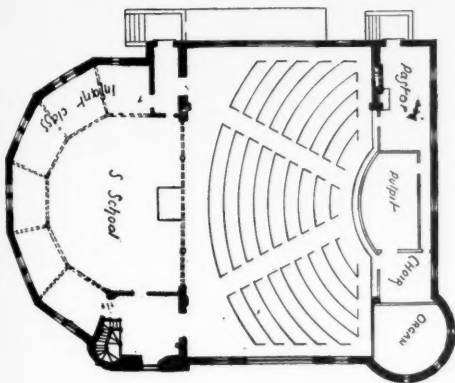


VIEW IN RESIDENCE OF THOS. H. WILLIAMS, JERSEY CITY, N. J.



METHODIST EPISCOPAL CHURCH, CLIFTON, OHIO.

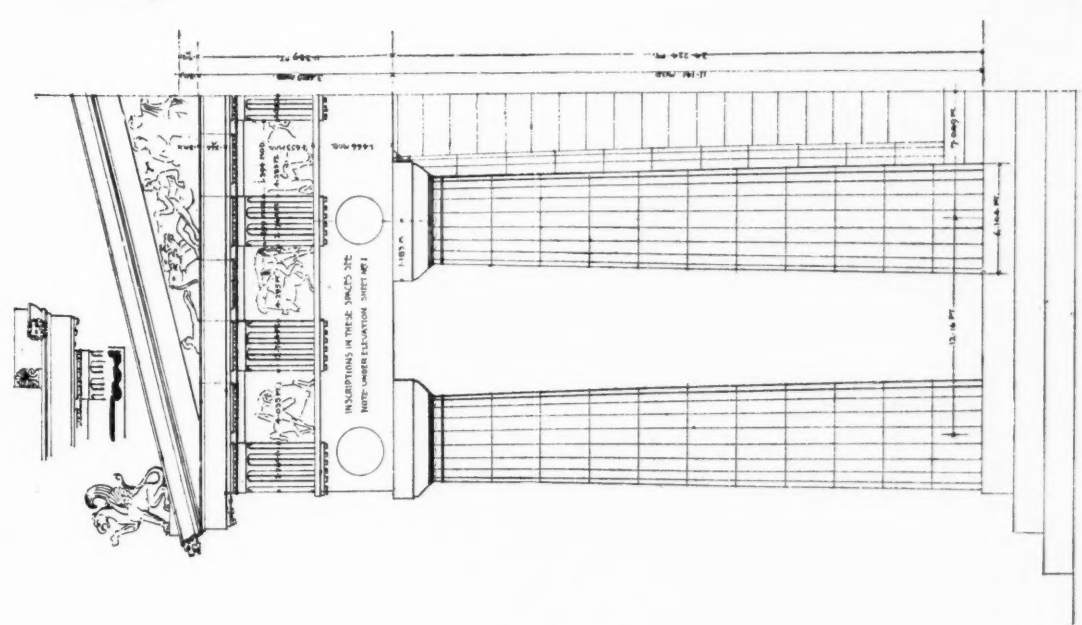
CRAPSEY & BROWN, ARCHITECTS, CINCINNATI, OHIO.



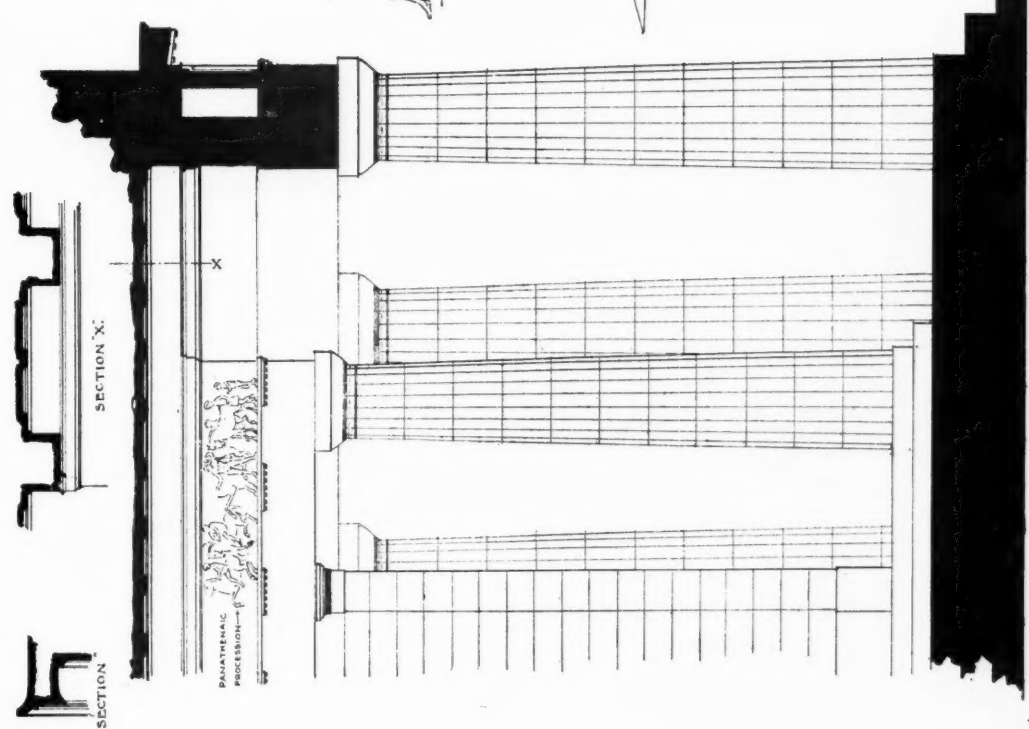
CLARK MEDAL COMPETITION MDCCCXCI - THE PARTHENON
SUBMITTED BY FAIR GREECE! SAD RELIC OF DEPARTED WORTH!

2

SCALE 5 FT. TO 1 INCH
SCULPTURE BELOW IS NOT DRAWN TO SCALE



CORNER OF EAST ELEVATION
FIGURES ARE IN FEET AND DECIMALS
THE MINUTIA IS NOT PRETENDED TO BE FIGURED



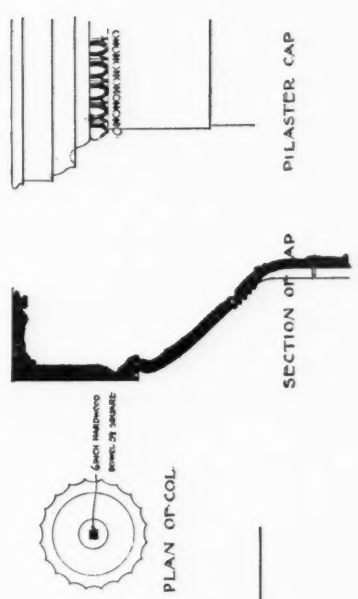
METOPES FROM ELGIN COLLECTION IN BRITISH MUSEUM
THERE ARE IN THIS COLLECTION TAKEN FROM THE SOUTH SIDE - THEY ARE THE
BEST PRESERVED AND ILLUSTRATE THE FIGHT BETWEEN THE LADY AND CENTAURS
AT THE MARRIAGE FEAST OF PERITHOOS (HIGH RELIEF)



CENTRAL PORTION OF FRIEZE IN EAST ELEVATION
THIS FRIEZE ILLUSTRATES THE PANATHENAIAC FESTIVAL PROCESSION IN HONOR
OF ATHENA - THERE IS ABOUT 400 FT. IN THE ELGIN ROOM (LOW RELIEF)

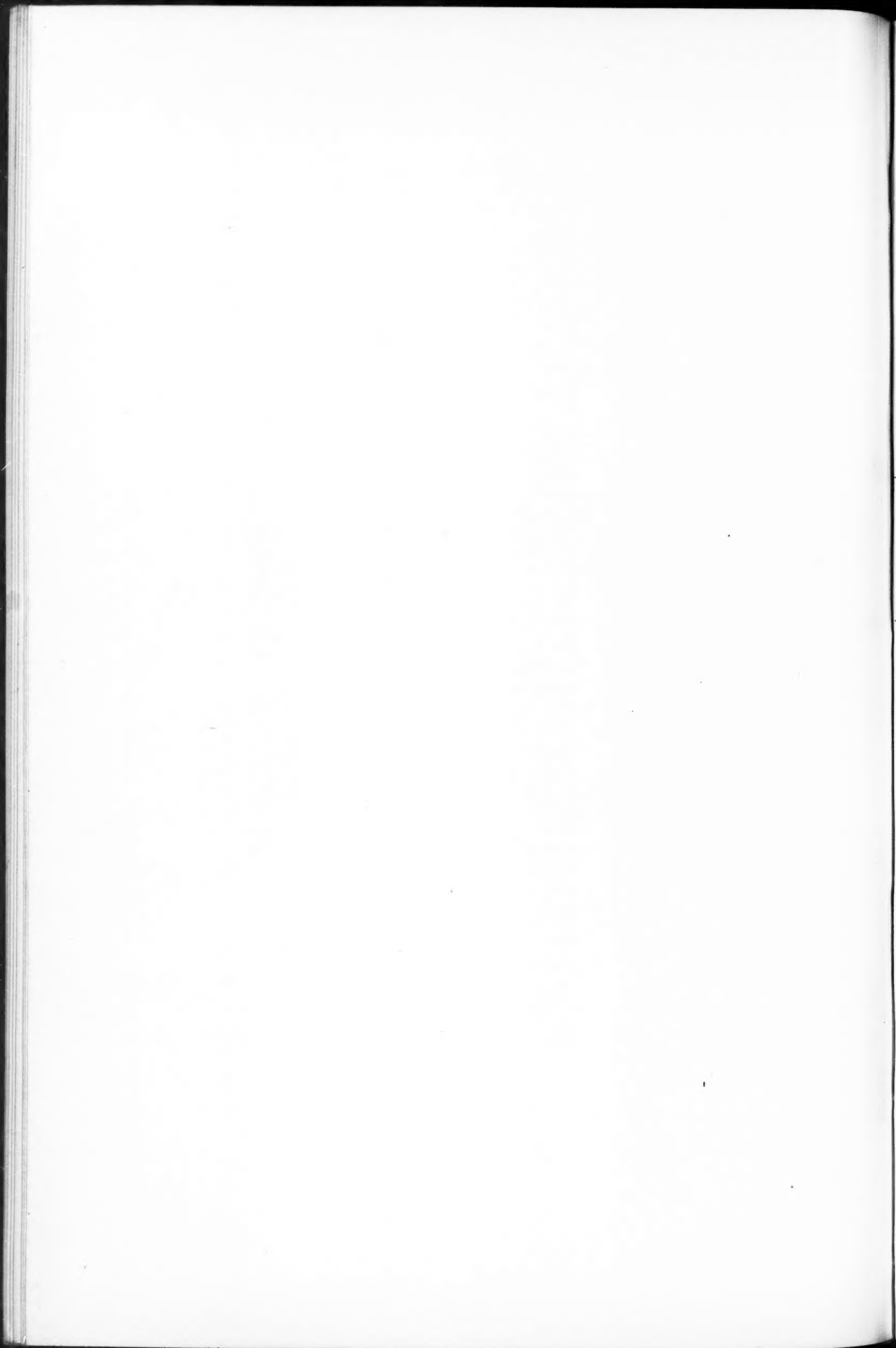


WESTERN PEDIMENT
THE EASTERN PEDIMENT ILLUSTRATES THE BIRTH OF ATHENA - THE WESTERN
HER SUCCESSFUL CONTEST WITH POSEIDON FOR THE POSSESSION OF ATTICA

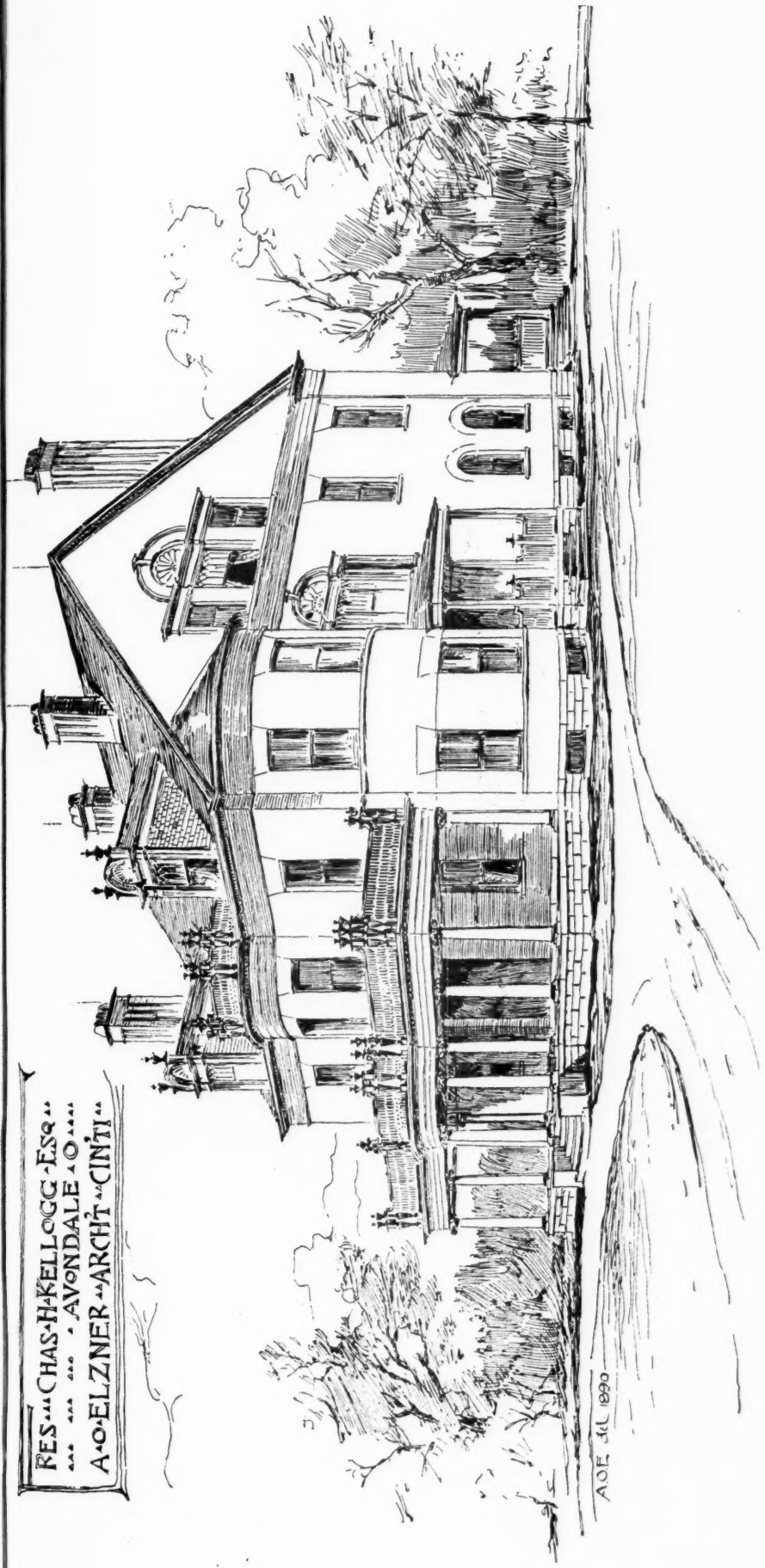


SECTION C.C. SHEET No 1
ENTASIS AND CURVES IN GENERAL ILLUSTRATED BY PENROSE
"PRINCIPLES OF ATHENIAN ARCHITECTURE"

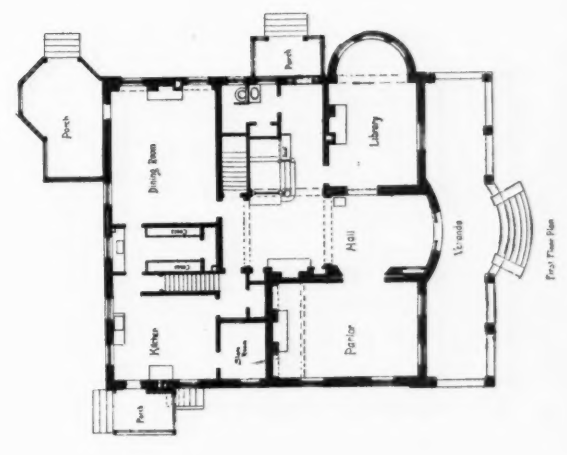
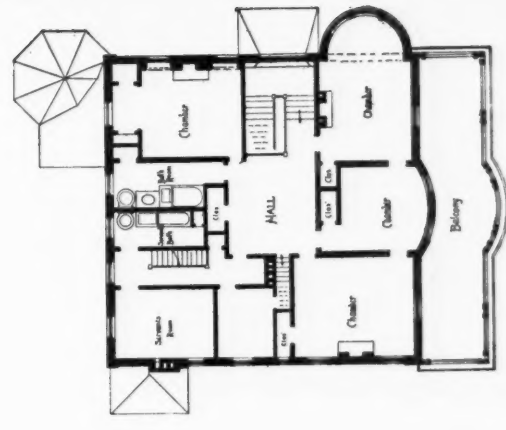
CLARK MEDAL COMPETITION FOR 1891.
DRAWING BY GEORGE G. WILL, OMAHA, NEB., AWARDED FIRST PLACE.



RES. CHAS. H. KELLOGG, ESQ.
 ... AVONDALE, O.
 A. O. ELZNER, ARCHT., CINTI.

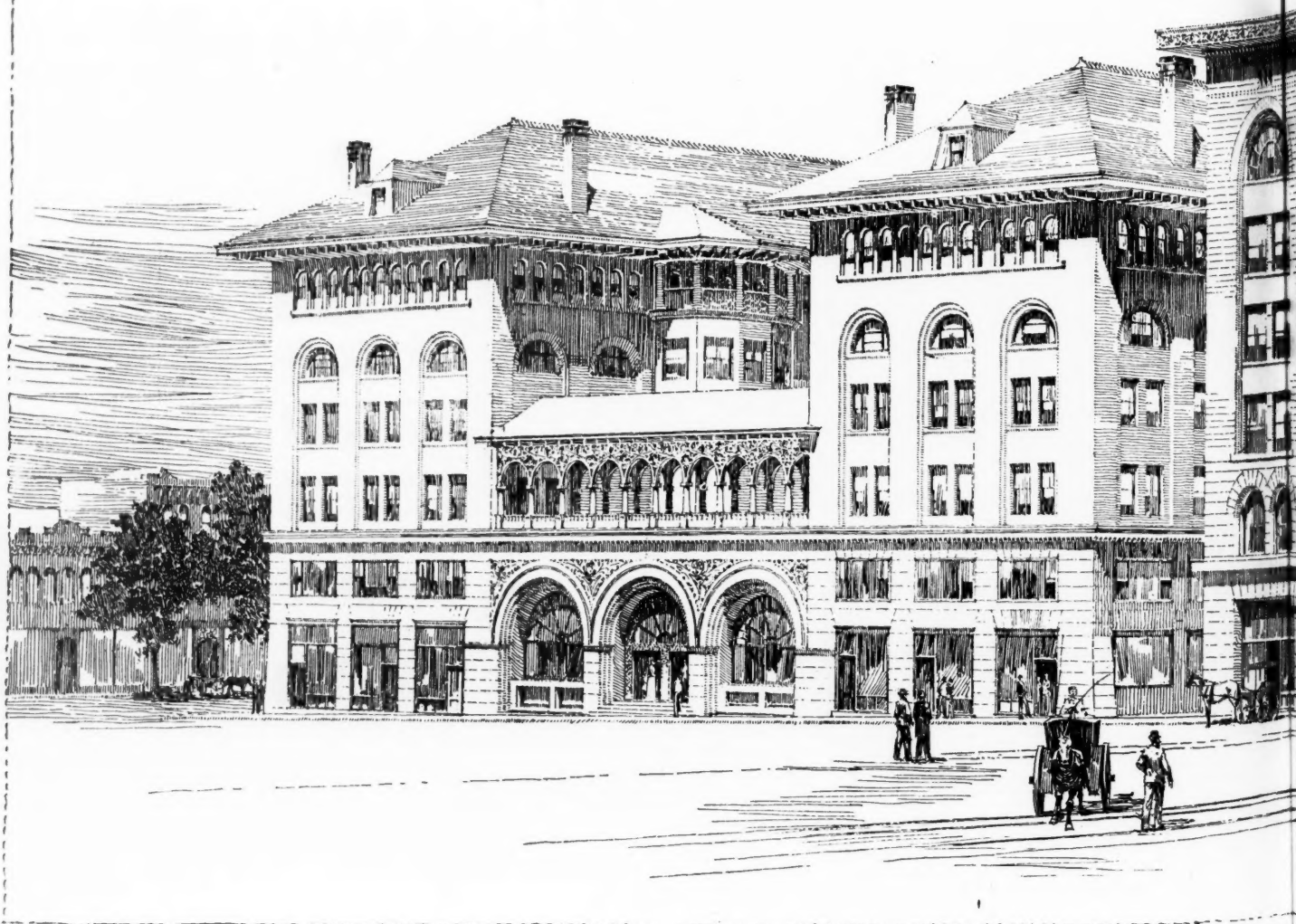


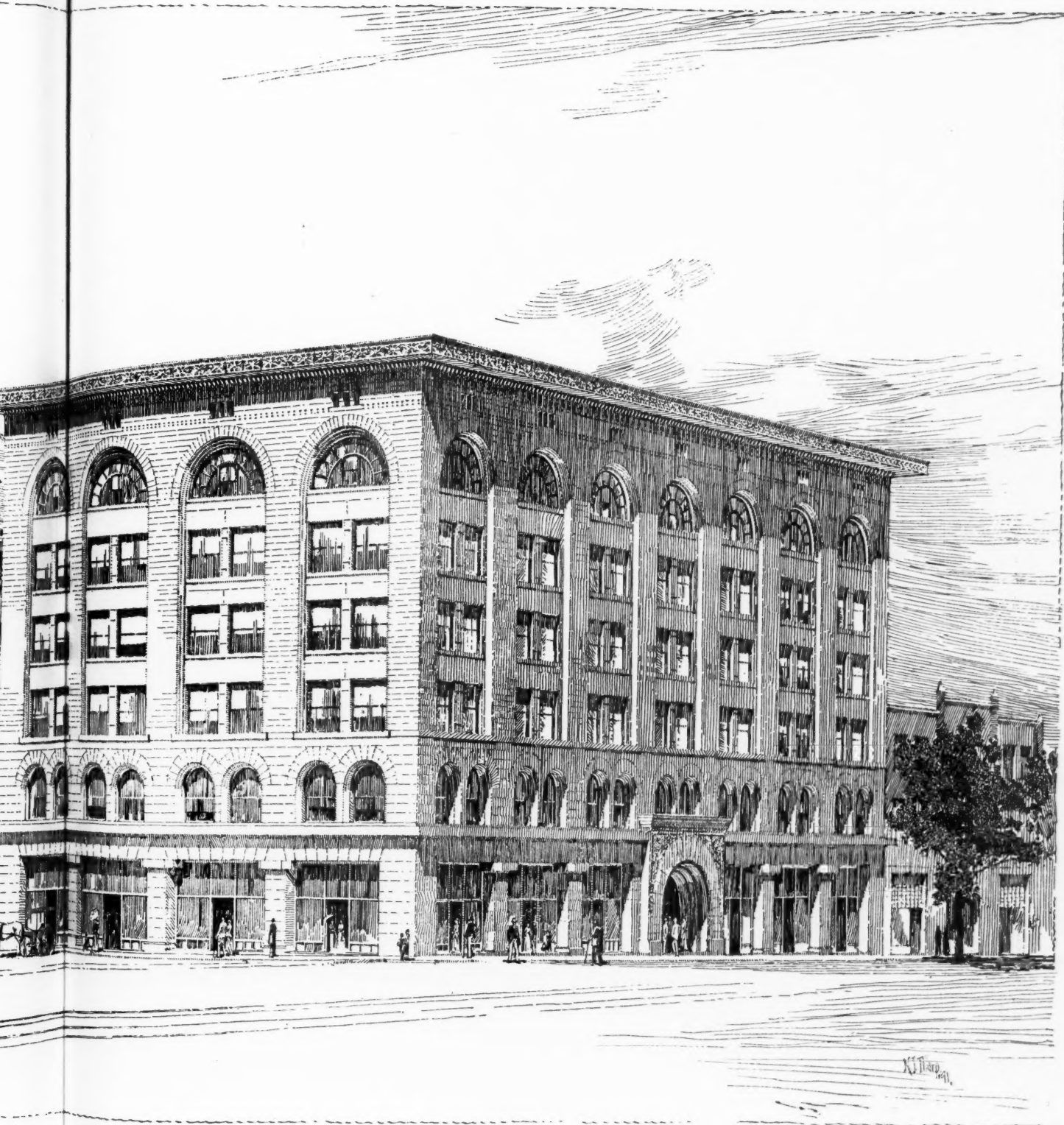
NOV 14 1890

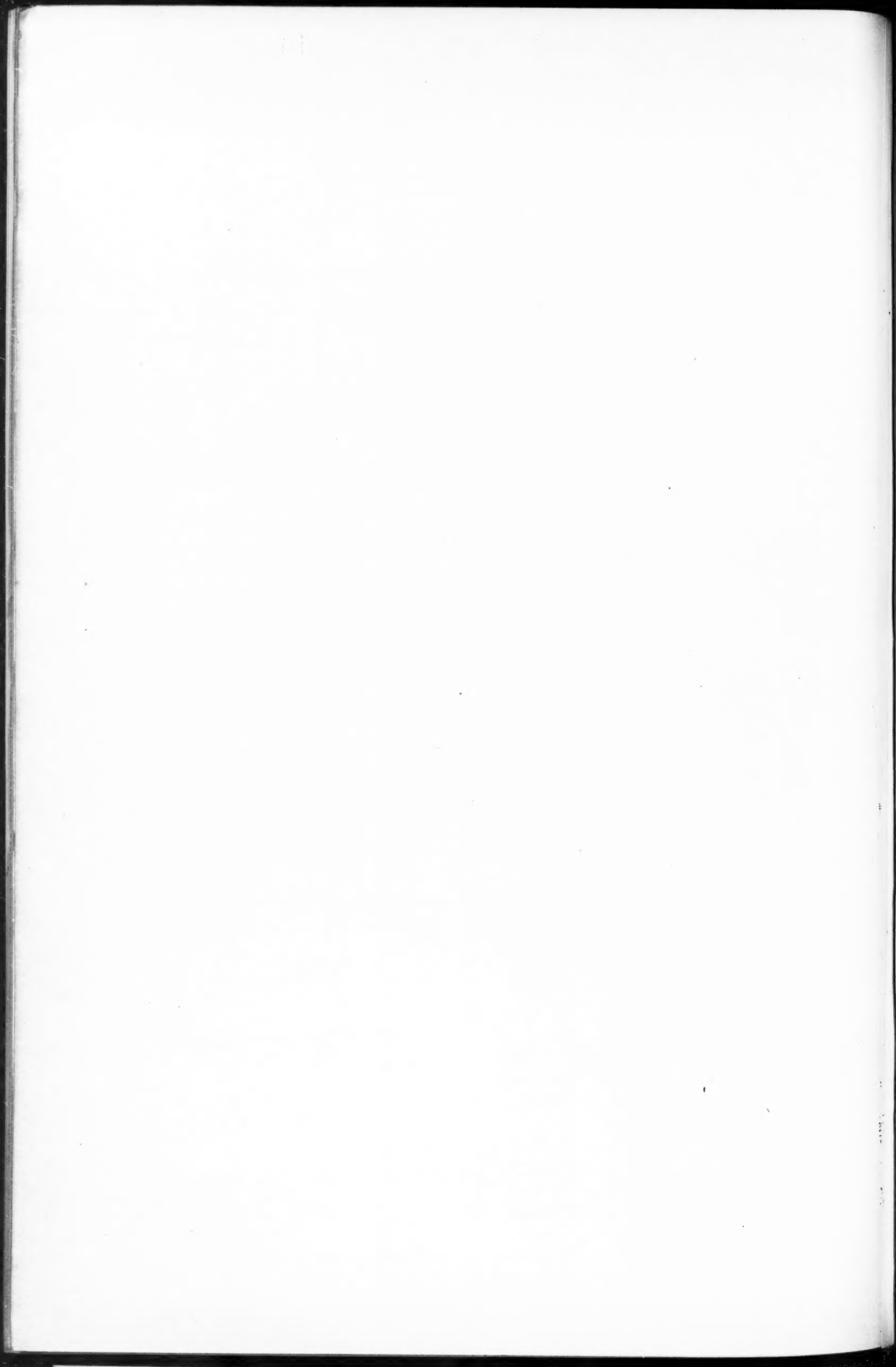


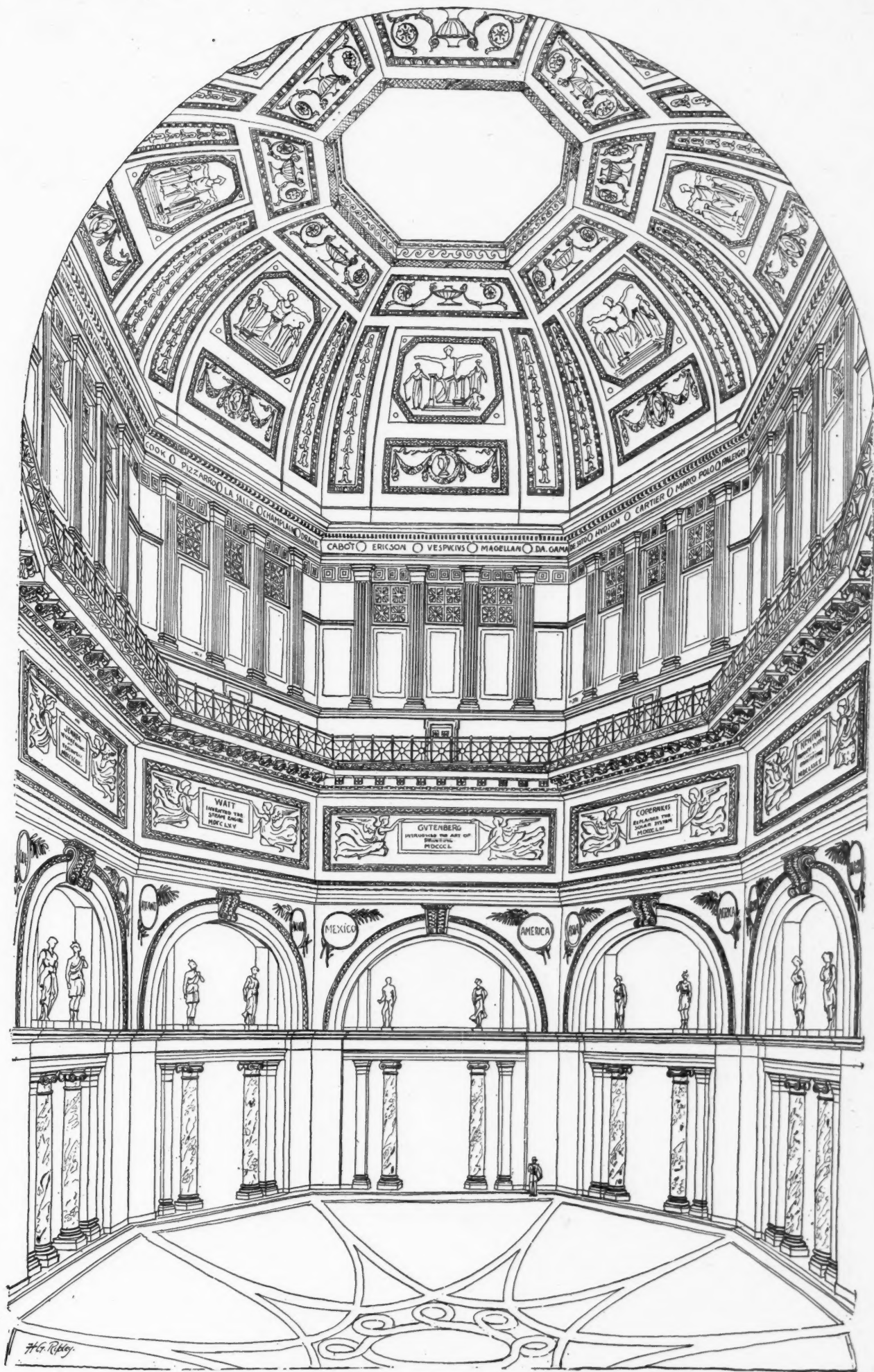
THE DOOLY BLOCK AND HOTEL ONTARIO.
SALT LAKE CITY, UTAH.

ADLER AND SULLIVAN
ARCHITECTS. CHICAGO, ILL.



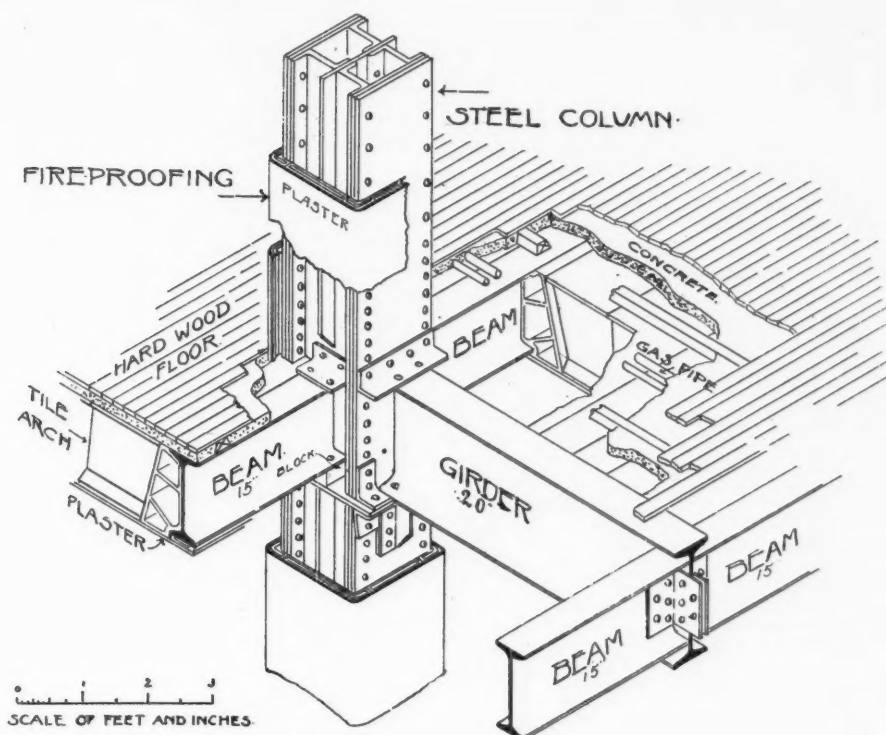




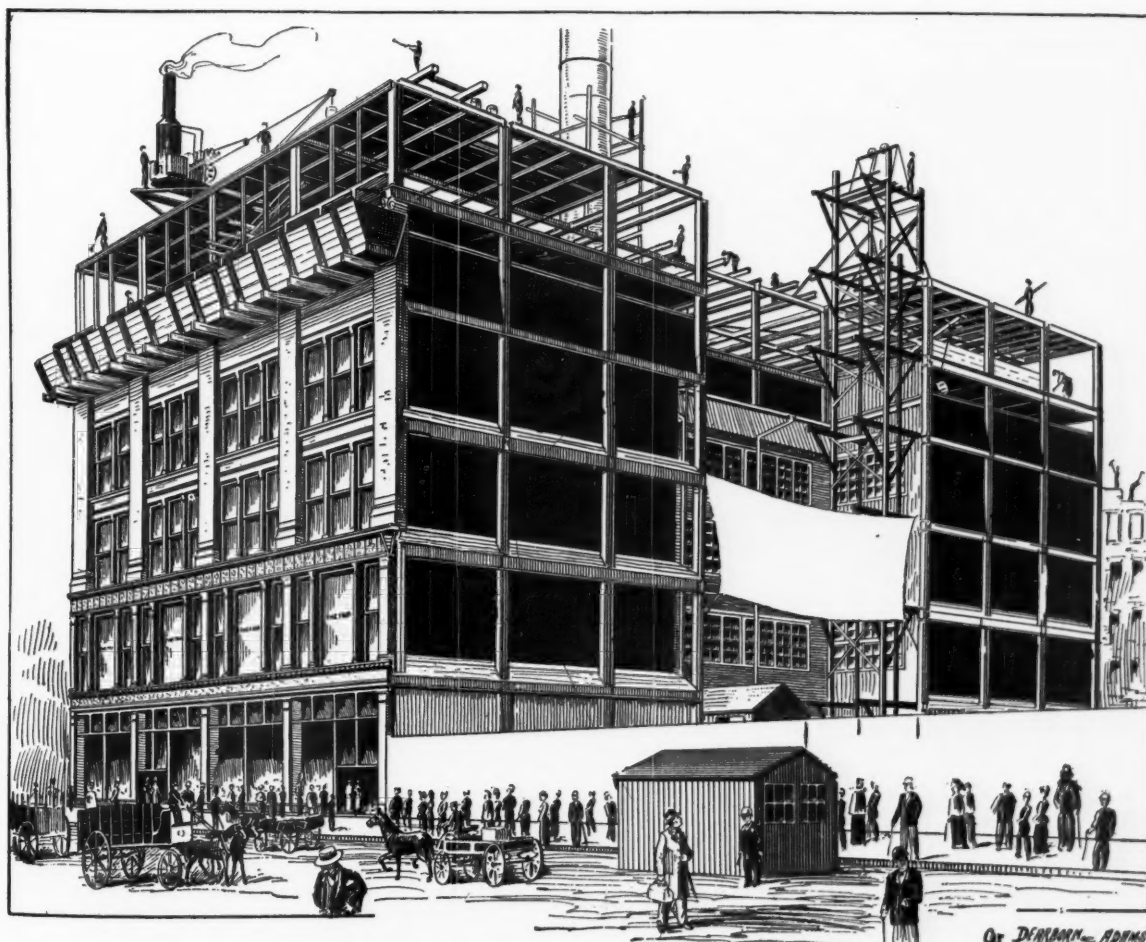


VIEW IN INTERIOR OF ADMINISTRATION BUILDING, WORLD'S COLUMBIAN EXPOSITION, CHICAGO,
DEPARTMENT OF CONSTRUCTION, NOVEMBER, 1891.

R. M. HUNT, ARCHITECT, NEW YORK.



ISOMETRIC VIEW
OF AN
INTERIOR COLUMN
THE FAIR
DEARBORN, ADAMS AND STATE STREETS
CHICAGO.



VIEW OF CONSTRUCTION OF "THE FAIR" BUILDING, CHICAGO.

Illustrating Paper by W. L. B. JENNEY, Architect, published in this number.