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The McKaig
 and Chicago
 Post Office
 Bills.

The bill for the authorization of the appointment of a special architect to design a new post office for Chicago and appropriating \$25,000 for this purpose, to be added to the \$30,000 which was appropriated some months ago, and to include superintendence, has passed the house and senate. It was interesting to note that Mr. Crisp, during the discussion, suggested the abolition of the Supervising Architect's office and that government work be done by private practitioners, and that Mr. Atwood, of Massachusetts, stated that being a practical architect he would state that \$55,000 was altogether too small a commission for the designing and erection of a \$4,000,000 building. While it is more than probable that the McKaig bill, governing the erection of public buildings in the United States, will shortly be passed by Congress and become a law, the discussions both in house and senate are frequent and general regarding the advisability of appointing an architect to design a post office building for Chicago. It is understood that this move is in the direction of taking the designing out of the Supervising Architect's office, and seems to meet with general approval among congressmen and senators, the principal opponent being a senator from Arkansas. In a friendly spirit the Chicago *Evening News* reassures that gentleman in a way that is worth quoting, as it so clearly outlines the position of most of the opponents to the McKaig bill, as well as this special measure:

Let Senator Berry be reassured. He was moved to astonishment and indignation yesterday because it was proposed in the upper house to set apart \$25,000 of the Chicago post office appropriation for the purpose of employing a competent architect to "assist" the Treasury Department in preparing plans for the structure.

The evolution of the gentleman from Arkansas is easily analyzed. He thought he saw in this proceeding the thin edge of the wedge which shall destroy that style of public architecture which is enshrined in the hearts of all Arkansians. Senator Berry comes from a town called Bentonville, which has 1,600 inhabitants and is the county seat. His architectural ideal is the Bentonville courthouse. This noble edifice is an exact cube of red brick, two stories high, surmounted by a small round red cupola which has the jaunty effect of a little high cap set on the middle of a large bald head.

Senator Berry's neighbors for three generations have been reared in the reverential belief that civic dignity cannot be expressed architecturally save as their courthouse expresses it. The enormous city hall at Little Rock, sixty feet long and four stories high, with its Greek portico and Arkansas cornice, only confuses and saddens them as a riotous departure from their simple ideal. Senator Berry knows that in the years to come now and then a good man from Bentonville will journey even as far as Chicago. He wishes them to find here something that will remind them of home, something that, amid the turmoil and distractions of a great city, will inspire their simple reverence and patriotism. Hence he wishes to have Mr. Carlisle's men make the plans for the Chicago post office.

But Senator Berry is borrowing trouble. The new post office will not be designed on Bentonville lines, but we have much else that is. Let the senator rest assured that in a great city like Chicago there will always be buildings of such conspicuous ugliness that he and his neighbors can look at them in peace.

When the chief opponent of any measure that is intended to lift this country into a higher plane of art as well as to keep pace with general progress, is from Arkansas or Oklahoma, and it has for its friends and supporters the representatives of advanced thought, the ultimate result can easily be prophesied. That the McKaig bill will be reported favorably upon by the House Committee on Buildings and Grounds, and be passed by house and senate, is practically assured. Although it has been a matter of regret that the close of the last general Congress found the bill still before the senate, necessitating its being again considered by a new committee and entered under new conditions, the general discussion of its provisions have not injured but greatly aided its cause. While the

appointment of a special architect for the new post office at Chicago would be a move in the direction of amending the many evils of the old system, it would only prolong the struggle for a thorough divorce of the designing of public buildings by clerks in the employ of the Treasury Department.

Propositions to Limit the Height of Buildings. That a definite movement in the direction of restricting the height of buildings in the United States has been inaugurated is apparent. Massachusetts and Illinois have already taken action, and New York and St. Louis are preparing state and municipal enactments in the same direction. The more notable of the latter is a bill now before the legislature of the state of New York, the special significance of which is that it was drawn largely by Mr. George B. Post. It is curious to note that in the case of New York the movement is supported by an architect who has designed more of the style of structure which the bill seeks to prohibit than any other architect, while in Chicago the chief supporters of the measure were largely those who had never constructed a structure that had more than six stories. In St. Louis the movement has been taken up by the St. Louis Chapter, the sixteen members of which, present at a recent meeting, discussed the subject for five hours. A draft of ordinance prepared by Professor Halsey C. Ives, with some amendments proposed by the Chapter, will be presented to the city council for passage, with the unanimous support of the Chapter. After defining "a first class building," those over ninety feet high are so designated, and must be fireproofed, the non-inflammable parts being specified. All public buildings ranging from hotels to asylums are also specified as first-class, also all hotels or office buildings of more than three stories. The main departure from the general trend of such measures is in the direction of allowing buildings to be constructed to any height under certain conditions. The plan is similar to that suggested by Architects Adler & Sullivan, some years ago, in a design for an Odd Fellows' building, not erected. This provides that when a height of two and one-quarter times the width of a given street is reached on the building line, a set-off may be made and the structure continued until the angle from the center of the street to the top of the building line corner is reached. This, on a street 60 feet wide on a lot 125 feet deep, would allow for a structure of twenty-five stories. The ordinance also provides that "domes and towers, etc.," shall not be considered in this limitation.

A Better Quality of Fireproofing Necessary. What will be gained by these proposed enactments and how long they will remain active and operative is hard to prophesy. In Chicago, after trying a limit of 130 feet, an amendment has been secured permitting a height of 155 feet, and so it is probable that limitation will prevail only as long as those in favor are in the majority in the government of municipal affairs. The St. Louis plan has some elements of science for its basis. In no other case has the height been limited to conform with scientific or hygienic principles. Even in St. Louis the height is governed by the widest street, the denizens of the narrow cross streets having to take their chances for light and air with those of other cities. We will not attempt to criticise the movement, as its good and bad qualities

seem to be about equally divided, but it is certain that the modern structure is dependent largely upon the method of construction for its stability and fire-resisting qualities. In the latter case, architects and clients have been too thoroughly careless of the public interest and have allowed the close competition between fireproofing companies to force down the price of such work so that thorough work is exceptional. It takes money to build well, and though any standard fireproofing company will do "a good job for the money," they have been required to furnish material and labor at so low a cost as to preclude the improvement in method that was fast becoming perfect several years ago and which of late has turned in the direction of cheap work. If the St. Louis proposition, to make all buildings of over three stories fireproof, becomes a law, and then a standard be set upon which all fireproofing shall be done, the public will receive a real benefit. The fireproofing companies have contended for this for years and have lost money in trying to maintain a standard set by themselves, the pioneer manufacturer being forced out of business largely by refusing to depart from safe and reliable work, and now it is time for architects to come to their aid and insist upon owners paying for the best methods that can be devised to make the fire-resisting qualities of their buildings a fact and not a sham.

Control of Public Work by an Art Commission. The idea that a capable art commission should control the erection of all public buildings is not new or especially to be recommended, though it seems to be the only method by which the usual monstrosity which represents the art of the political architect can be controlled. It is a Boston idea and may become a law in that city. If the ordinary legislator was a man of brains instead of a combination of ignorance and conceit such a measure would hardly be necessary; but, alas! "God made him; let him pass for a man." No sooner does it occur to a municipality that it requires a courthouse than an advertisement is issued telling architects that if they will present plans that they will be looked at, and returned, save two or three to the authors of which a few hundred dollars may be given, "the plans to become the property of the city." No adjudication by experts, no definite surety that they will be judged on their merits, but, to the contrary, every indication that he who lobbies hardest and has the greatest influence with the cities' representatives will be appointed architect. Detroit has such a case in hand today, and almost every city in the country has had its experience in this line. An art commission might do some good; but, after influence and not merit had engaged an architect and the contract was signed, how could a commission perform the miracle of securing a good design if the designer was not capable? It is not possible that any city would give such a commission full authority from the start and allow it to manage the competition and accept its verdict without question; and otherwise it would seem useless to pretend that its power would even cause the draping of the Goddess of Liberty over the judges' seat in the courtroom. It is time, however, that such a control was exercised in relation to all public buildings, because custom has decreed that they should be monumental in character and are supposed to represent the highest architectural art and intelligence of the community or country.

SLOW-BURNING AND FIREPROOF CONSTRUCTION.

BY DANKMAR ADLER, ARCHITECT.

(Concluded.)

IN the first part of this article I have tried to show what owners and occupants of buildings can do toward diminishing the risk of injury or destruction of their buildings by fires in adjacent premises, and how to minimize the possibilities of harm to the buildings themselves from the burning of the contained furnishings and merchandise. It is my purpose now to point out what the architect can do toward protecting the structural parts of these buildings against the dangers of fire without and within their walls.

Burnt clay as well as a few varieties of stone are the only building materials known to the architect which are incombustible and capable of offering effective resistance to the destructive agencies of fire for a long period, but they are so deficient in tensile and transverse strength that a building in which no others are used would necessarily have its pillars and piers so large and set so closely to one another as to prevent its successful commercial utilization under the existing conditions of occupation and use of buildings; and we have no other building materials at our disposal, within the limits of commercial adaptability, which cannot be injured or destroyed by a fire of sufficient intensity and duration.

We have, however, a choice between other structural materials capable of use for large spans between supports; of which timber, if attacked by the flames, will not only lose its power of resisting the stresses imposed upon it by the ordinary loading of the building, but will itself burn and thus add volume, intensity and duration to the flames, while iron and steel are themselves unflammable, although their load-carrying capacity may be impaired or even destroyed by fire. It needs no argument to prove that the latter are preferable to the former as structural materials for all buildings except such as are intended for ephemeral uses and short life.

If a substance, at once incombustible and slow to conduct heat, is interposed between any possible fire and all structural members of buildings which can be injuriously affected by heat, damage or destruction of buildings by fire will be averted to an extent directly proportional to the non-heat-conducting and fire-resisting properties of the inclosing material. This will be as true in the case of wood or other combustible building material as where only iron and steel are used.

Therefore "mill-construction" can be made really "slow-burning," and perhaps as "fireproof" as the ordinary system of "fire-proof" construction, if the fireproofing material is applied as hereinafter described. But the impenetrability to fire, intended to be attained by the processes which I am about to set forth will be accompanied by a corresponding resistance to the passage of ordinary air currents; and the consequent absence of free circulation of air tends to induce dry rot, and thus introduces a menace to the life of the building even greater than that of fire; which is another cogent reason for excluding timber and confining ourselves to brick, fire-resisting stone, concrete, iron and steel in the selection of structural materials for all buildings of any considerable magnitude or importance.

Therefore, after having made a judicious selection of building materials, if the various structural members are to be capable of offering successful resistance to the attacks of fire, their fire-protective coverings must be incombustible, slow to conduct heat, slow to expand and contract when exposed to rapid changes of temperature, such as those due to the alternating action of fire and water, and they should be strong enough themselves and strongly enough put together as to maintain their integrity under the expansive action of heat and when exposed to the stresses due to the falling of burning objects against them or when subjected to the force of an impinging stream of water under high pressure; and if they cannot be made altogether self-supporting their fastenings to the structural parts which they are intended to protect must be themselves guarded against injury by fire.

The fireproofing materials which have come under my observation are: 1, Porous terra cotta; 2, hollow tiles of burnt clay; 3, slabs or hollow tiles of plaster made porous and cellular by combination with reeds; 4, plastering applied on metallic laths; and 5, a cellular or porous concrete.

As far as my observation goes, the behavior under fire of the first is admirable. I have seen it after an exposure of nearly an

hour to very hot fire, and was unable to note any signs of deterioration of the protective covering, nor the effects of any material increase of temperature in the inclosed pillars and beams. On the other hand, the hollow tiles when subjected to the action of fire in the Athletic Clubhouse and in the Schiller building did not fare nearly as well. It is true that the last two fires were of longer duration, but I am sure that they were not of greater intensity, and too great a difference to be accounted for by variation in time of exposure alone was observed between the unscathed tiles and slabs of porous terra cotta noted after the Auditorium and Ryerson building fires, and the cracked and slivered and in some cases utterly destroyed hollow tiles found after the fires in the Athletic Clubhouse and the Schiller building.

I have also had opportunity to observe the effect of fire upon cellular plaster boards. But as these exposures were of short duration and to fires of moderate intensity, I do not feel myself justified in using my own observation as the basis of any positive statements with reference to this material. Others who have observed its behavior under more severe tests report that they have found it satisfactory. I have doubts myself as to whether it will maintain its integrity under the action of a powerful stream of water.

Plastering on metallic laths and porous concrete have been used by others and also by me, but I have had no personal opportunity for noting how they are affected by the action of fire and water. Of the former used alone I have no high opinion, but I consider it a valuable adjunct to other fireproofing materials. Concrete so mixed and applied as to be sufficiently porous seems to me a most efficient and permanent fireproofing material, and if applied in thick enough layers, and perhaps strengthened by metal laths, quite as capable of resisting the effects of both water and fire, as even porous terra cotta.

Before proceeding with the consideration of the details of the protective covering for pillars, girders and beams, it may be well to state that no fault can be found with any of the various systems of hollow tile or concrete floor arch construction. They have all proved themselves capable of doing their work under the most trying conditions, and the adoption of one or the other is only a matter of structural or financial expediency, to be decided in accordance with the conditions presenting themselves in each case. The concrete arches and beams are generally much lighter than the hollow tile arches, but their use will not permit quite as rapid progress of general construction, while in winter they cannot be used at all except in an inclosed and artificially warmed building. The Spanish tile arch is always good, but it is to be regretted that in working out the details of its application, Mr. Guastavino has made no provision for protecting the bottom flanges of the supporting steel beams. Where flat unbroken ceilings are required, the Guastavino arch and the various concrete floor arches require a suspended ceiling construction, which adds somewhat to their expense. Still, if the plastered ceiling applied to the under side of flat hollow tile arches is to be perfect, there should be in this case also a covering of metallic lath fastened and stretched under the hollow arch tiles at a distance of about one-fourth or three-eighths of an inch from the same, and the plastering should be applied to these metallic laths. This process will not only make it easier to secure a smooth surface for the ceiling, but by its use the cracks which ordinarily follow the joint lines of the arches will be prevented. In case of fire this covering will tend toward protecting the bottom webs of the tile arches from injury by excessive heat, which protection is particularly valuable, if not essential, for all hollow arch blocks made of "hard" tile.

But no matter how perfect the system of floor construction between the beams, it will prevent neither destruction nor serious injury to the building if the pillars, beams and girders which form its supports are insufficiently protected, and all fireproofing materials and processes must be judged by the greater or less extent to which they fulfill this all important and vital condition.

In reviewing the various fire-protective covering materials with which I am acquainted, it seems to me, that if porous terra cotta could be applied to pillars and beams in continuous jointless masses, I should consider it unquestionably the best and an almost ideal fireproofing material. But it is vulnerable at its joints, a weakness which it shares with hollow tiles, porous plaster and all other coverings manufactured and put up in sections, blocks or slabs. If capacity for long resistance to the effects of fire and water is to be developed from any of these, it can only be done

by making the coverings of pillars and beams in at least two thicknesses with joints so arranged that each joint of one layer shall be covered by the body of another layer. Metallic lath should then be applied at a distance of about three-eighths of an inch from the outer layer, and this should be plastered with a heavy coat of cement mortar.

In the case of pillars there are no practical difficulties to interfere with carrying out these suggestions, except only a slight increase in the space to be occupied. The treatment of the bottom flanges of girders and beams is not so easily accomplished, but it can be done at the sacrifice of an inch or two of story height where unbroken ceilings are required, and there would be an increase of bulk in the case of all girders and beams projecting below the ceilings.

Neither the increase in bulk of pillars and girders nor the increased expense should stand in the way of the general adoption of these suggestions. Applied in this manner, the fire-protective covering of pillars, girders and beams will resist the action of fire and water for hours. When compared with the enormous sums invested in "fireproof" buildings and their contents, the additional outlay required to make them really and practically fire-resisting, the additional investment of money and space involved seems insignificant, and not at all too high a price to pay for almost absolute protection against impairment of structural integrity from the effects of fire and water.

THE MODERN OFFICE BUILDING.*

BY BARR FERREE.

PART I.

THE largest and most costly structures now being built are the modern office buildings of America.† Some few monumental undertakings of foreign governments may, indeed, exceed them in price, as many a smaller building exceeds them in monumental effect; but in no other group of structures are the expenditures so large, the responsibility of architects so great, or the opportunity of profit to the designer so handsome. For the architect, the labor involved in the erection of an office building is very large. He requires a numerous corps of assistants, whose whole time for many weeks will be needed to prepare the working drawings; he will require an engineer to design the foundations and the frame of steel on which the building is to be carried, who, in his turn, will need his own assistants; he will require careful superintendents, and every step of the work will call for constant watching; he must, moreover, be familiar with many sciences and with much detail that a few years ago had no part in an architect's knowledge. His building must be heated and lighted; it must be supplied with elevators and with elaborate electric and sanitary systems. Every new device must be watched and tested, in order that the latest office building may, with the utmost literalness, be "modern."

But the responsibility of the architect scarcely equals that of the investor who puts his money into these great enterprises. I am speaking of office buildings of the largest size, for many smaller ones are erected, as convenient and as well equipped as the larger, perhaps, but which are not typical examples of this class of buildings. The modern office building is an exceedingly costly structure. The land on which it is erected is, as likely as not, in the center of the city's business district, where rents are high and land invaluable. The method of construction is costly; for while the steel skeleton system of construction, which is now almost universally employed in these buildings, considerably increases the interior areas, owing to the thin walls that can be built in this way, the actual expenditure, save in buildings of great height, is more than under the old system of solid walls, carrying the floor and roof loads in addition to their own weight.

An interesting case in point is the American Surety building, in New York, which occupies a site about eighty-five feet square, that cost in the neighborhood of \$1,500,000, or at the rate of about \$8,000,000 per acre. The building itself cost at least \$1,500,000 more, so that the total investment considerably exceeds \$2,000,000. It has twenty-one stories, and is 300 feet high. Under the old system of solid walls, this structure would not have been a profitable investment, since the thickness of its walls at the ground floor would have been nearly seven feet. As actually built, the thickness of the walls is three feet at the ground, and the internal area 5,000 square feet of floor space on a lot of 7,250 square feet.

It is obvious that buildings so costly as this can be no ordinary structures. They represent a lavish expenditure, but a lavishness that is expended on business principles and in a business way. The office building is a commercial venture, undertaken, not with the object of beautifying the city, or of satisfying the æsthetic ideas of its owners, but as a commercial investment, in which the rents shall return a net profit that represents the income from the money it has cost. The building may be ornamental; that is to say, its ornamental aspect may be a necessary part of the scheme;

but if so, it is not an æsthetic effect that is sought, but an attractive exterior and a well-planned interior, that will bring tenants and excite favorable comment from the passer-by. The artist would, doubtless, contend that such commercial conditions would mean the extinction of art in buildings of this description, and he would be right, in so far as many commercial buildings are totally without artistic interest, though there has been no limit to the expenditure. But though the modern office building is as yet scarcely more than in its infancy, the commercial value of a really artistic building has already been recognized by investors. And so, though the public at large—and the architects, too—scarcely understand the possibility of artistic expression in these buildings, of any two, one of good design and one of bad, the former will prove the most attractive to the better class of tenants, and, therefore, the more remunerative.

But while this is true, and the artistic side of the office building is receiving an attention not heretofore given to it, it is a purely commercial enterprise, undertaken for profit, without, save in the way that has just been pointed out, any artistic significance. And so, being a commercial building, and this being a commercial age, it is not inappropriate that our cities should be dominated by their commercial edifices, beside which the church towers are insignificant; for the office building is as typical of the life of our age as the sumptuous baths and great palaces were typical of the life of imperial Rome, or the cathedrals of the religious fervor of the Middle Ages. They have, therefore, an economic significance which no other structures of our time possess, which makes them modern in a real sense of the word.

The modern office building, as it is considered in this paper, is a purely American product. It has arisen from the concentration of the business centers of our American cities upon areas of relatively small dimensions. Its greatest development has been in Chicago, where the business center is a very small part of the city's area, and is confined within the limits bounded by Lake Michigan, the Chicago river and the railroads centering in the city. In New York, the business area is spread over a large extent of ground, but the situation of the city on a narrow island, and the concentration of business upon the lowest extremity of this strip of land, has hastened the development of the office building in it as well as in the metropolis of the West, and for very similar reasons.

Obviously, when the pressure of population has used up the ground area, the need for accommodation becomes so great that vertical expansion is forced upon real estate owners, whether they will or no. In foreign lands such vertical expansion is hindered by vested rights, or privileges of light and air, which hem in building operations in England in a way quite unknown in America; or by rigid building laws, which forbid structures of extraordinary height, or any above the average height upon streets of certain width. Building has proceeded upon freer lines in American cities, where it has seemed more suited to their development to induce a free erection of buildings than to hinder municipal growth by introducing elements of restriction. But already a reaction has set in, and many cities, Chicago among the number, have made regulations limiting the heights of buildings, and forbidding more than a certain height upon lots of a given size, or upon streets of a certain width.

How far these restrictions may be needed is problematical. It has been urged that the continued erection of high buildings will make our streets veritable cañons between great walls of offices, which will not only darken them, but render the lower offices unprofitable for want of light. That a very narrow street between very high buildings is a thing to be avoided is unquestionably true; but the objections to these buildings, both on this and other grounds, have been greatly exaggerated. That they are sources of disease in preventing the free circulation of the air is as yet only a matter of opinion, while it is a fact of common observation that the wind never blows so swiftly and so strongly as around high buildings; and it is probably true that their continued multiplication will lessen the renting value of the lower floors. But commercial buildings are commercial enterprises, and the moment they become sources of danger, or any considerable part of them unrentable, at that time will come that natural check to their erection which must follow from the conditions under which they are erected.

The modern office building houses an immense population. Two or three thousand people in a single one is no exaggeration. Were they built without regard to the utmost advance of sanitary and constructive science, there might be just ground for alarm at their increase. But, as a matter of fact, no buildings of our time are erected with greater care, or with a more thoughtful regard for the convenience and safety of the people who pass their working days within them. Every possible improvement is pressed into service, and the latest building, if it has been well done, is a distinct advance on its predecessor. There is still much to be accomplished; the problem of ventilation is not yet solved; perhaps the manner of heating requires further development; but these imperfections are as characteristic of lesser buildings as of the greater; they are a part of the faults of modern architecture as a whole, and are only considered in relation to the office building because of its size and importance.

It is no small achievement to erect a single structure that will contain more people than the population of a good-sized town. Countless contrivances for the safety and convenience of human life must be employed in such buildings before they can properly answer to the needs of modern commercial life. They must be well lighted, conveniently planned, amply equipped with elevators,

* A lecture delivered before the Franklin Institute, November 15, 1895, and printed in the Journal of the Institute.

† Full credit for authorities and explanatory notes, printed in the journal, are omitted from this reprint.—EDITOR.

and with the latest devices in heating, lighting, plumbing and electricity. For their proper working a vast mechanical plant is required, including boilers and steam engines, electric light apparatus, ventilating apparatus, a system of sewage disposal, and often, if the soil is full of water, an elaborate system of pumps whereby the foundations and the cellars may be kept clean and wholesome. For the convenience of the tenants an army of attendants, janitors, elevator boys, firemen, engineers, electric experts and the like, is needed. There must be no break in the intricate system which keeps these buildings alive, night and day, and often without cessation the year round. Many of the factors needed to render them serviceable are invisible to the public, as well as to those who daily use them, but they form an essential part of the building, and help to make them among the most remarkable structures built by human hands, as they are among the most complex.

And not only is there an infinity of necessary devices, but the complete and modern office building includes a host of conveniences that are not, strictly speaking, a part of its architecture. It will contain, in addition to its offices, many comforts and luxuries that make it, in a sense, independent of every other building. It will have boot-blackening stands, a barber shop, baths, restaurants, cafés, cigar stands, news stands, minor shops and booths, and perhaps a club, whose membership will be largely composed of the tenants. When to these are added the very varied businesses that find shelter within it, it is apparent how notable these buildings are in their contents as well as in their size and cost.

Two great factors render the modern office building capable of erection — the elevator and the skeleton system of construction. The utility of the latter in effecting an economy of renting area has already been alluded to, and the details of the system will presently be considered at length. The elevator is, of course, the chief economic device that renders the lofty buildings accessible to the public, as without it the upper floors would be inaccessible. The elevator has made the office building a commercial success, and, conversely, the demand for swift, safe and economical service has had its influence upon the development of that device, and enormously increased the elevator industry. Were any one feature to be singled out as having contributed the most to the development of the office building, that would, without question, be the elevator.

For we can erect office buildings without steel construction, as will be seen in the sequel, though not so economically. But, in a sense, we would build better; for, where five or more feet of the ground floor would be needed for a self-sustaining and supporting wall of masonry construction, there would be an end to the present custom of erecting office buildings upon narrow sites. That the practice of erecting narrow office buildings is much overdone, especially in New York, cannot be questioned, and, in time, that city will certainly show block after block of office buildings whose narrow fronts can never, from their limitations of width, have the artistic value of broad and spacious façades. Nor is the misfortune simply one of æsthetic effect. It costs more to build ten office buildings than one covering the same area, and the total operating expenses of such a series would be considerably in excess of the operating expenses of a single building. Good economy would discourage the increase of small office buildings and offer every inducement to the building of large ones. A case in point is the Monadnock block in Chicago, in which four buildings, owned by different parties, though built in sections of two each, at different times, form one continuous interior under the same management, and practically one vast business building. A similar union of owners in building enterprises would, unquestionably, produce most satisfactory returns on the investment, which could not but be greater than the return from a number of single buildings.

In giving architectural expression to so complicated a structure as the modern office building, the architect needs to keep in view all these conditions and limitations. In a sense, he is not a free agent, in so far as he is unable to arrange his façades in accordance with the dictates of his own taste. He can waste no room in massing his front, in making a recess here, or a projection there, no matter what the artistic effect might be of doing so. On one hand stands the owner, protesting he must have every possible inch of the area for renting purposes; on the other is the municipal building law, which forbids extension beyond the building line. All the architect can do is to keep strictly upon that line, and this, as we shall see, the skeleton system enables him to do economically and well.

Not the least of the economical advantages of the skeleton system is the speed with which it enables buildings to be erected. An office building of the largest size can now be built, with steel, in a space of time that is positively astonishing. Not only is the system a rapid one, but the lower portions of a building can be practically completed, and tenants in possession, before the upper parts are finished. As in each story, in the pure veneer type, the walls are carried on the girders at that point, it is possible to fill in any story without reference to what is above or below, and it has sometimes happened that the first floors of a high building were the last to be given their completed form. The question of speed in erection is a most important consideration in these costly structures, and this system seems to more than satisfy any requirements that may be insisted on in this particular.

(To be continued.)

A YOUNG woman married a man who told her he was an "architect's assistant." She became disconsolate upon discovering next day that he assisted the architect by carrying bricks up a ladder in a hod.

ARCHITECTURE OF NORWAY AND SWEDEN.*

BY GEORGE W. MAHER, ARCHITECT.

THE development of architecture in the buildings of Norway and Sweden, judging from what remains to be seen, did not reach a very high standard of excellence, nor in any way did it compare with the buildings executed at corresponding periods in the other countries of Europe; we must therefore go prepared to admire the modern, rather than the mediæval, making just criticisms* and endeavoring to learn the reason why a people, so interesting and intelligent as they were, succeeded so little in the development of any one great branch of architecture. I therefore approach the subject with a feeling of hesitancy, because of the proneness of architects to reach at once for the origin and centers of all that is rich and beautiful in art, such as the French Gothic at Rouen, the Italian Renaissance at Florence or the classic at Rome and Athens, that when we are obliged to describe less interesting centers we find our enthusiasm lacking. But Norway has had its influence in no uncertain way on the architectural history of other countries, which I shall endeavor to emphasize. But before thus proceeding we must first consider the Scandinavian peninsula itself — its location, its wealth, etc.; for these factors contribute much toward the development of any national art. If a country, like Norway, is isolated and to an extent barren and unproductive, its people are liable to profit little by intercourse with other countries. It offers no inducement for conquest by an intelligent foe. Again, the fine arts do not thrive on poverty, though character may and does grow under adverse circumstances. The Norsemen were no exception to this rule, and became strong and bold under the vigor of harsh environments and launched their ships for conquest in richer and more fertile lands where wealth was to be found. It becomes plain, then, that one of the causes for the dearth of good mediæval architecture in Norway and Sweden was their isolation and their poverty. The development of art in any country results from a source of inspiration diffused generally by intermingling of races, usually in the past by conquest. Wherever the Romans were victorious they carried with them their more advanced ideas of civilization, these new methods acting as the necessary leaven to prompt the conquered to higher ideals. Thus we find that, starting from Rome, all countries that were brought directly under Roman rule profited in that their first importance as civilized communities dates from this conquest. Particularly is this noted in the development of building, to the extent that countries like Gaul and England were indebted to Rome for their first real impulse toward art and architecture. This inspiration is so marked that the farther distant from Rome any country was located, the weaker its art strength. Note as a comparison, France, Germany, Russia, Norway and Sweden. To this day Rome influences modern art. The Ecole des Beaux Arts at Paris, the first art school of its kind in the world, gives the Prix des Rome to the student who passes highest in the final test examination, which entitles him to a four-year sojourn in Rome, with all his expenses paid. Ancient Rome, as we know, incorporated Athenian art, which represented the highest ideals known to man.

Now Norway and Sweden were not even conquered by Caesar; he was either afraid of the bold Norsemen or considered their country too barren for a hazardous expedition, and we therefore find in our travels that the original buildings erected by the Norsemen were devoid of real broad architectural treatment, for the reason that they were in ignorance of how to combine the practical with the beautiful, having no instructors or examples among them. The exception to this may be noted, however, where they borrowed ideas from the countries they visited, or rather looted, bringing back relics which in turn oftentimes were incorporated in their rude log habitations, such as I will explain later. This piecemeal adaptation, however, did not tend to broaden their art; it simply emphasized the longing a people of their intelligence would naturally have for a better knowledge of the beautiful, which was denied them from the facts I have given, and that they were never conquered by a superior people. In order to appreciate, then, these sturdy Norsemen in an art sense, we must of necessity go with them to the countries they conquered, and you will pardon me if I describe their influence in these countries.

In England, for illustration, the Normans, direct descendants from the Norsemen, brought the Norman style of architecture into existence. This Norman style, of course, had its origin from Italy or the Romans, but was developed by the Normans and bears their name. It is a rather rude adaptation of the column and the arch, but very strong and simple, and particularly full of character; so also in Normandy, in the north of France, the buildings of the latest French style keep a certain purity and sobriety which they do not keep elsewhere. At Rouen, the chief city of Normandy, we find a very high development of French Gothic, which Ruskin holds as the highest type, and he never tires of lauding its subtle merits. Rouen Cathedral particularly attracted his attention, and it is a wonderfully beautiful cathedral of the most exquisite workmanship, an example for all time. We must, therefore, give the Norseman credit for the part he played toward erecting these splendid examples of mediæval work. To be sure, it was the intermingling of Norseman with Gaul or of Norseman with English which brought such grand results into existence; but the fact remains that the character of the Norseman is always evident in the work, consequently proving that he had an active part in it. So we must excuse the Norseman of old for not developing in his own land

*Paper read before the Kenilworth (Illinois) Study Club.

instincts which would have revealed in stone his love of character and quaint sobriety. But we must pass from the old to the new in building, to appreciate what they are capable of doing in modern times when principles of art are universal.

We find the Swedes the most progressive today of the two peoples; they are spoken of as quite French in their taste and manners; indeed, they copy largely from the French, their court language being French, consequently this has its influence on the nobility and their customs.

Stockholm represents the best in their architecture. Beautifully situated, the so-called Venice of the North, with its seven islands connected by massive stone bridges; the great royal palace on the central island, with its broad classic outline; the spires and domes of church architecture, all in strong contrast with the primeval appearance of surrounding forests—I am told an impression is formed on the traveler that is not soon forgotten, and a view of Stockholm is remembered as one of the finest sights in Europe.

We find that they are building large and beautiful houses of the most approved styles in the modern French and Italian Renaissance schools; that these houses have every convenience patent to their needs, with the grand salon, art galleries, immense dining hall, or the *salle-à-manger*, etc., all very complete, grand and commodious, pure in style, borrowed, to be sure, yet which would outrank most of the residences built in Chicago, and be on a par, perhaps, with some of the modern palaces built recently in Newport and New York. Chicago can boast of much, but in the realm of high art, such as is going on abroad, she is woefully in the background. I venture to say that none present tonight will ever see built in Chicago or environments a building that would equal for simple architectural grandeur the royal palace of Stockholm. It is designed in the Italian Renaissance style by a French architect, was commenced in 1697, and after only one interruption, finished in 1760. The original designs were carried out in their entirety, no money being spared to perfect this immense building, according to the architect's original conception. Of course, we know that such buildings are not encouraged by a republican form of government. As a rule, our people are not educated up to an appreciation of the use of such a building. They cannot see its influence as an example. They must needs count the dollars and the interest thereof and not bother about costly architectural monuments.

As I have said, the streets of Stockholm are lined with modern buildings, mainly on the French Renaissance style; and the old part, a mixture of German Gothic, plastered and timbered work. The Grand Hotel, for illustration, is similar somewhat to the Tremont House, Chicago, excepting that it is a larger building. This hotel is considered by many to be one of the finest in Europe. Churches and towers are conspicuous. The Church of the Island of the Knights is an interesting edifice, excepting the modern innovation of an iron spire. This should have been of stone.

The criticism we are obliged to make is their lack of a national school of architecture. We see this great race of people borrowing from the Latin, Slavs and Saxons the form and construction which are to be seen in their private and public edifices. For this reason we are disappointed in not finding a gradual development of artistic facts; a relation between the various buildings or that regular graduation which they display everywhere else. The transitions are sudden, or rather there is no transition between the various periods and the different styles. They received the Gothic in its completeness and they applied it without effort or study, without passing through a renaissance; they advanced from Gothic to Rococo. I believe that when France built Versailles, they were prompted to build the royal palace.

They have not originated anything, but have always copied; we are forced to acknowledge, however, that they well know how to choose their models, and that today they are building one of the finest cities in Northern Europe.

The Norwegians are of a different disposition from the Swedes. Not as light-hearted, but rather blunt, stolid and honest. This disposition is sure to affect their art. While leaning to the practical, yet they would be apt to continue in certain lines and hesitate to incorporate new ideas from other countries. However, we find that in the larger cities, Christiania, for instance, that their buildings are taken from good models. The Museum of Art is designed in the Italian Renaissance. The classic style seems to predominate in their new work. No doubt, rare old timbered houses would be plentiful in Christiania if the mediaeval portion Oslo, of which Christiania is the successor, had not been destroyed by fire once by its own inhabitants to prevent falling into the hands of the Swedish besiegers in 1547, and again by fire in 1624. We lose much of the best work of these people by this destructive element. Their houses being of wood mainly, were prey to the enemy or to accidents. This timbered work, akin to all Europe during the Dark Ages, is quite interesting. The characteristics are high gables, oftentimes projecting far beyond the wall below. The walls are plastered between timber work, somewhat like the German building at the World's Fair. The windows are rather small, with leaded glass roundels. The roof is generally of tile, the whole effect being fantastic, almost weird when looking at a street in perspective.

The effect thus produced always attracts the attention of artists. The hard straight lines of classic architecture does not appeal to the spontaneousness of paint and brush, besides there is too much detail to suggest in classic work. On the contrary, this timber work offers rare suggestions of light and shade; the fanciful tracery of the Gothic, the grotesque carvings, the boldness of gable and tower all contribute to a composition and a picture.

This style of work yet exists, to an extent, in Norway and Sweden, and we will all enjoy it, even though it is crude and half barbaric. In this connection, I may mention some of the old wood country houses.

They are built in log cabin style, but generally with a pretentious roof and gable; also efforts at dormer windows. The corners of these buildings are sometimes ornamented with huge round carved posts continuing from ground to eaves. The doorways are carved in wood. All of this attempt at ornament can easily be accounted for. The corner ornaments, as an instance, show a similarity to baluster work taken from the Italian buildings, but much enlarged. The doorway carving often bears a resemblance to Byzantine work, showing that from examples seen elsewhere in their ravages they attempted certain ornate effects in their rude work.

Trondhjem Cathedral could not be passed over in an article of this nature, as it is the grandest church in Scandinavia. To be sure, it is not indigenous to the soil, so to speak, but it represents a noble work, and the Norwegians must receive just credit for the part they took in its construction. I am far from being a Romanist, but would not consider a tribute to this old cathedral complete if I did not mention the fact that the Romanists have ever been the promoters of noble art, and that, whatever can be said against them, in the realm of the fine arts they far excel the Protestants. Indeed, the Protestants have no art of their own, and many of the grandest specimens of church work, so far, fall below their appreciation of art, that in their religious fanaticism, which was worse than vandalism, they aimed to destroy in a day that which had taken centuries to erect. This occurred partially with Trondhjem during the Reformation. The style of this cathedral is part Romanesque and part Gothic, and without a doubt was taken or copied from English precedent. It was started, I believe, in the tenth century, and is not yet entirely complete, having gone through the vicissitudes common to work of this high character. The columns supporting the clear story are capped with beautiful foliated work showing an exquisite feeling of imagination entirely out of harmony with the rigidity of this far north country. The grand nave, the chapter house, the choir with its octagonal apse aided by rich materials, all combine to make this most interesting example of grand old cathedral work the first in the north.

It has been mentioned that in the eleventh and twelfth centuries this cathedral was the burial place of the kings, and that by the constitution of Norway of 1814 the kings must be crowned here.

I think that no more beautiful tribute to the love of past art achievement could be paid by any people than to select this far north cathedral as a place in which to crown and bury their illustrious dead. To me it is almost pathetic, since, after all, even this sacred tribute is paid to a building which was not of them—a stranger in a strange land.

THE NEW LIEN LAW OF ILLINOIS.

TWO communications have been received regarding the new lien law, and the strong similarity in the deductions presented seems to point to a general consensus of opinion regarding its operation, when tested by contractors and observed by architects in the regular routine of their practice.

J. R. WILLETT, ARCHITECT.

Architects and contractors are only now beginning to realize that the last legislature of the state of Illinois passed a lien law, and a law far more exacting than any such law previously passed.

Unless the owner wishes to become the surety of the contractor, it makes it the duty of the owner to have written statement, verified by affidavit, giving the names and addresses of all sub-contractors who may have furnished labor or materials, or whom he may intend to have do so; or perhaps, for the law is susceptible of such interpretation, the list of all the sub-contractors out of which he may pick the sub-contractors he intends to employ.

If the contractor fails to comply with the above provisions of the law, it becomes the owner's duty to notify him to do so.

When the contractor has furnished a list of the sub-contractors, it then becomes the duty of the sub-contractor to furnish a list of his sub-contractors, or in other words it is a sub-sub-contractor; and furthermore if these sub-sub-contractors fail to send in notice to the owner of any sub-sub-sub-contractor they may have, then the owner enjoys the privilege, indeed it is made his duty, to call upon them; and this thing has to be continued so that you have to call upon sub-sub-sub-contractors—in fact, there does not appear to be any end to the line. It can best be described by the following lines:

"Big fleas have little fleas to bite them,
And these have other fleas, and so ad infinitum."

There are various provisions; among others, people have five and ten days, and more, to receive notice and to make replies, so that the matter may be strung out an indefinite time. There are also provisions for the payment of the workmen; these are not unreasonable; they give two weeks' time for all such claims to come in. It further states that if the owner has reason to believe that the sworn statement of a contractor does not embrace all the names of his sub-contractors, it is his business to investigate and find out what the facts are, and become responsible therefor. It is true that the law allows the owner to escape all this by taking a bond for the due and proper performance of the work, which is

only another way of saying that he is allowed to pay his money out, and then if there are any claims come up hereafter, he has the inestimable privilege of going to law and thus trying to get his money back again.

When it is considered that on many works, some of the sub-contractors at least, have their offices and factories at a distance, and not infrequently in other states, the trouble it is to reach them and to get their answers (if they choose to give them), and the inevitable delays that must occur in any such proceedings, it may be apparent that the contractor cannot expect to get an estimate until considerable time has elapsed after he has finished the work which entitles him to it. Furthermore, the law says that architects and agents of the owner will be held responsible both by the owner and the contractor for any notices that they may receive, and shall fail to transmit the same to the owner, etc.

The law apparently was got up for the purpose of allowing some material men to furnish goods to the most irresponsible parties, and hold the owners of buildings responsible therefor; in other words, it was got up to allow material men to make other persons responsible for their (the material men's) actions. It will surely fail. The law is unworkable. A contractor to make a true affidavit in most cases would have to be entirely out of debt, which is not the case once in a thousand times among commercial men. Every practical architect knows that most of the affidavits that came in under the old law (which was comparatively mild and inoffensive compared with the present one) were not wholly true; it is probable that under the present law, the affidavits that are not wholly true—that is, are more or less tainted with perjury—will be far greater than before.

With a first-class architect it is common for the owner to turn over all his building business to him, and many of them do not wish to hear any more about it than they are compelled to. Every architect of standing knows that sometimes the owner goes abroad leaving their architects to build buildings costing thousand of dollars, with orders to their agents or bankers to pay the architect's estimates. However pleasing this personal confidence may be to the architect, it puts a great responsibility on him; he practically has to become a business man, and to some extent an attorney for the owner; it behooves him that this trust and confidence is well deserved.

Under the present lien law, in order to guard the owner against attempts at fraud, it appears essential that the architect should pursue a course somewhat as follows:

To deal with contractors who have no sub-contractors. (This in large jobs is practically impossible; it is difficult even with small ones.)

To notify the contractor to send in a list of his sub-contractors as soon as possible; and when this list of sub-contractors is received, to notify said sub-contractors to send in their list of sub-sub-contractors; then having done this, as far as he can find out the names and addresses of sub-contractors, to send a written protest to each of them against supplying any goods whatsoever on account of the owner. The law appears to give them this right.

A large material man, speaking to the writer, said that in his business a contractor who would not be trusted for a suit of clothes, could go out and buy, and get credit for material to the amount of a thousand dollars. This is the result of such laws as this, which simply attempt to make water run up hill, and is, with the exception of the labor clause, an outrage, got up for the purpose of making the careful and prudent responsible for the actions of those who are the reverse. A wag remarks that the law appears to be got up to make the owner responsible for the actions of everybody that comes in sight of his building.

The law, too, will have the effect of promoting litigation; time appears to be considered of no value. There are a great number of notices to serve, and times are given for reception and reply; copies have to be kept of each notice, and everything has to be verified by affidavit, and then if it don't suit, why you can go to law. This will be a delightful prospect for the contractors. If there is one thing more than another that a business man learns by painful experience, it is to avoid lawsuits, and all good lawyers will advise you to avoid a lawsuit if it is at all possible. The loser of a suit is but little worse off than the winner of it, and in any case the delay that occurs will injure, and sometimes ruin, the winner.

The effect of the law must add greatly to delay and render uncertain the times when the contractor may be paid. Furthermore, it will tend to drive the small contractors out of business altogether, or else to put them wholly at the mercy of the material men; indeed, it will put any contractor, large or small, at the mercy of the material men.

It must now be endured until the next legislature meets, and then the best thing that can be done is to repeal it.

THOMAS H. MULLAV, ARCHITECT.

The new lien law is a good one for contractor, sub-contractor, material men and sub-sub-contractors, etc., no matter whether the owner takes precautions and complies with the law or not. If the amount of money in dispute was large enough to warrant the owner going to law, or, rather, carrying it up beyond the justice of the peace's court, it might be different; but at present the contractors are too sensible to allow such a thing to occur, wisely judging the temper and ability of the owner to fight it out in the higher courts. The cases I mention can be verified by more minute facts, names, places and figures.

A carpenter contractor agrees to do some work for an owner for \$1,800. His contract is made and signed to be done at a certain

time under liquidated damages and as per plans and specifications, etc., in the usual form. He gives the architect a list of his sub-contractors and material bids and figures, which shows that a reasonable amount is left for labor and profit to himself. He goes ahead with his work. Men who say they have had work done by him speak fairly of him. He comes in after the first and second certificates and gets his eighty-five per cent, the owner taking the precaution to find out that his subs and material men were not paid, and made out the checks payable to them straight, and the contractor agreeing to have them paid to their account, the owner noticing that there was no money left over for the contractor, who becomes uninterested in the work and delays two or three months, and causes expense and worry and delay to other men on the building who keep continually kicking at the carpenter. He finally, under provisions in the contract, hires a carpenter to complete the work at the first man's expense. Then the contractor leaves him an affidavit that there is more coming to the material men and subs than the balance due, say \$150 to \$200. Under the new law he has to pay these men. They claim extras not ordered in the original bill. The owner has nothing coming to him now for all this delay and trouble and for hiring a man to finish the work, making his real loss for rent and interest on money much greater. All the material men would not swear to their accounts, and investigation reveals the fact that some of the subs had from \$40 to \$60 in each check they received from the owner for the contractor as his "commission." When you accuse them of this they deny it and will make out an itemized bill, marking up items so as to fill up the total. Now, say three or four men would do this on the building, and an owner who expected to have his house cost him only \$5,000 finds that he has to pay \$1,200 to \$1,500 more for it and hasn't the money, and as he had already forwarded some, he must make a second mortgage. Now, just see what a "merry time" he would have suing these different contractors and following them up from court to court and paying attorney's fees, etc.

A plumber takes a contract for a certain sum and has his work very near completion when he asks for a certificate. The architect writes on the back of it, informing the owner to pay certain amounts from this sum to the material men and balance to plumber. He complains to owner about such outrageous treatment at the hands of the architect; that his credit is good, and he always paid his bills, etc., and so the owner gives him a check for the whole amount. A week or so afterward the architect finds out over the telephone that his bills are unpaid and that the material men will not inform him of the amount due them for that particular building, as they have a standing account with the plumber, and don't know just what goods were delivered there, and they then write the architect a note informing him politely that he is acting impertinently in inquiring into his affairs. Later on these same men come in and expect to hold the building for their goods. Why should not the owner pay for them when they went into his building? The case goes to the attorneys, and the justice decides that they were just a few days too late with their notice. But what if they were not? Under this new law he would have to pay.

All old scaffolding used on the building, blocks and tackle, planks, etc., although they were used and paid for on other jobs, must be paid for again on this new work and under this new law. The men who make the sash, doors, etc., in the various mills (workmen), totally unknown to architect or owner, under this new law must be paid. A man who bought a house had paid over to the seller all but a small balance of \$310 or so. The abstract showed all claims against the building paid, no record of any other on the books. Private investigation revealed the fact that a contractor had served notice on the owner and had four months in which to begin suit. Fortunately his claim was for only \$40. But suppose it was \$500 or \$1,500, there is no remedy provided.

A man signed a contract June 15, 1895. The new law goes into effect June 26, 1895. All men send in bills and force their claims under the new and not under the old law under which they signed and began work. The architect could not demand a statement in the first ten days. This little fact caught one owner for \$1,700.

Another contractor gave a bond. The architect issued certificates and complied in every respect with the new law. The bills of the various subs and material men came up to more than the contract price. The architect is morally sure that the builder got his money out of it, and the owner finds that a bond is like a white elephant on his hands. He can be kept from two to three years in court, and the fees, worry, trouble and lost time in suing on that bond would be worth the price of the house. Other contractors and a comparison with other houses shows that the contract price was fair.

A knowledge of this condition of affairs discourages men from building. When they start out there is no telling where you are going to end. The majority of professional men will admit that the contractor should have a lien but no others under him. These builders act as if they were God's chosen people and have laws made for their special benefit. They openly say they paid to get them passed and now it will cost more to get them repealed. Our legislators catch 'em coming and going.

If the material men who sell to every "skate" contractor are afraid of their money, why do they not go to the owner beforehand and get him to guarantee their money? They are afraid of offending this same "skate," and it is unprofessional to do such a thing.

I do wish some lawyer would knock out such class legislation, making the contractor virtually the agent of the owner and starting a class of men who put not one dollar of their own money but the owner's capital into their business.

DIRECTORS' MEETING, A. I. A.

THE first meeting of the Directors of the American Institute of Architects was held at the headquarters of the Institute, 156 Fifth avenue, New York, on Friday, January 10, at 10 A.M., President George B. Post in the chair.

It having been previously arranged that the meeting should be adjourned to the time of the opening of the Architectural League Exhibition, and that business of general interest should not be considered at this meeting, the records of the last meeting, which was held in St. Louis, were not read, and the president announced that he would appoint the members of the several committees, and named them as follows:

Executive Committee.—George B. Post, New York, chairman; Alfred Stone, Providence; S. A. Treat, Chicago; E. H. Kendall, New York; W. S. Eames, St. Louis; Robert D. Andrews, Boston.

Committee on Foreign Correspondence.—W. L. B. Jenney, Chicago, chairman; R. S. Peabody, Boston; Henry Van Brunt, Kansas City; C. F. McKim, New York; Thomas Hastings, New York.

Committee on Education.—Henry Van Brunt, Kansas City, chairman; William R. Ware, New York; T. P. Chandler, Philadelphia; N. C. Ricker, Urbana, Illinois; A. W. Longfellow, Boston.

Committee on Publication and Library.—Frank Miles Day, Philadelphia, chairman; W. L. B. Jenney, Chicago; Cass Gilbert, St. Paul; T. C. Link, St. Louis; W. R. Briggs, Bridgeport, Connecticut.

Committee on Conservation of Public Buildings.—R. M. Upjohn, chairman; the presidents of the several Chapters.

Committee on Building Laws.—T. M. Clark, Boston, chairman; N. Le Brun, New York; Alfred Stone, Providence.

It was voted that when the Board adjourns, it shall adjourn to meet in New York on February 14, at 10 A.M.

The Board then proceeded to open the letter ballots for the amendments to the Constitution and for the election of Fellows to the Institute, and it was found that the following men were elected: Albert W. Hayward, Cincinnati, Ohio; Andrew G. Thomson, New York, N. Y.; Charles C. Taylor, Cincinnati, Ohio; Ennis R. Austin, South Bend, Ind.

It was found that both of the proposed amendments to the Constitution were decided in the negative. The vote on Article IV, by which it was proposed to reduce the number of directors to seven, was: Affirmative, 280; negative, 30; blank, 23.

The vote on Article VI, by which it was proposed that the Constitution could be amended on a two-thirds affirmative vote of the ballots cast, instead of a two-thirds affirmative vote of *all the Fellows* of the Institute, was: Affirmative, 307; negative, 23; blank, 3.

The number of votes necessary to amend the Constitution is 310.

The publishers of the St. Louis Convention Souvenir presented a proposal to print a history of the Institute to be prepared by some prominent member of the same, with

"A photographic collection of all members of the Institute, together with a brief biographical sketch of each, and biographies of the most prominent deceased members, such as Messrs. Root, Richardson, Hunt and others; also a photographic collection and write-up of the most prominent builders, contractors and manufacturers in the building line; the whole to be published in two volumes—Volume I to contain the history of the Institute and portrait gallery of members, with biography of each, portraits of deceased members and biography; Volume II to contain write-ups and photographic collection of contractors, builders and manufacturers in the building trade."

It is proposed by the publishers, I. Haas & Co., if authority is granted them to publish such a work, to do it free of charge to the Institute and send to each Fellow of the Institute a handsomely bound copy free of charge. The matter was laid upon the table until the next meeting of the Board, when a full attendance is expected. Adjourned.

ASSOCIATION NOTES.

OMAHA BUILDERS' AND TRADERS' EXCHANGE.

At the annual election of the Omaha Builders' and Traders' Exchange, held at Omaha, on January 5, 1896, the following officers were elected: President, Walter Phelps; vice-president, W. C. Bullard; treasurer, W. B. Rutherford; secretary, W. L. Wedge; directors, M. B. Copeland, T. H. Haste, Charles Baxter, G. H. Kelly, Thomas Herd, A. D. Merriotte.

A NEW BUILDERS' CLUB AT CHICAGO.

The leading builders of Chicago have formed a Builders' Club like that in New York, and while occupying temporary quarters will immediately erect a building for club uses. Those employers connected with the building industry are eligible to membership. The charter roll includes about seventy-five of the leading builders of the city. The officers are: President, Joseph Downey; vice-president, Robert Vierling; second vice-president, E. Earnshaw; treasurer, Charles W. Gindele; secretary, Edward E. Scribner.

Board of managers—One year: William Grace, Frank S. Wright, William Mavor, Joseph R. Hansell, W. D. Gates. Two years: D. V. Purington, Murdock Campbell, T. A. Dungan, J. G. McCarthy, W. H. Alsip. Three years: S. S. Kimball, L. L. Leach, J. C. McFarland, M. B. Madden, A. Lanquist.

THE ST. LOUIS ARCHITECTURAL CLUB.

The St. Louis Architectural Club held its annual meeting January 10, and elected the following officers: J. W. Ginder, pres-

ident; W. T. Bailey, first vice-president; Francis C. Dwyer, second vice-president; Frank Stiff, secretary; Charles Detering, treasurer; W. B. Ittner, and B. F. Orear, advisory members of the Executive Board. The headquarters of the club are in the Hagan building. It has an organized class in architecture, which meets on Thursday night of each week, with A. Guissart, Oscar Enders and J. W. Ginder, instructors; a modeling class on Tuesday nights, with W. T. Bailey and Frank Seifert, instructors; classes in water colors meeting on Sunday mornings and Tuesday nights, with Francis C. Dwyer and F. Humphrey Woolrych, instructors. Much enthusiasm is being displayed by the members this year.

CHICAGO ARCHITECTURAL CLUB.

The third annual competition for the gold medal of the Illinois Chapter of the American Institute of Architects, under the auspices of the Chicago Architectural Club, is open to those members of the club who have not practiced as principals more than two years. The award will be made by a committee appointed by the Chapter, which also reserves the right to withhold the medal if in the opinion of the adjudicating committee no design is of high merit. The prize drawing to become the property of the Chapter.

The problem is as follows:

It is proposed to place in the new Lake Front Park a pavilion, which shall be devoted principally to band music. The semi-circular theater, to seat about three thousand, should be roofed over permanently, and so arranged that it can be inclosed in winter. The band-stand should be large enough to contain seventy-five pieces. The covered promenade, or foyer, should connect at the ends with two refreshment rooms, each large enough to seat two hundred people at tables. These tables should be in view of the band, but screened from the theater. There should also be two small serving rooms. The promenade should not be so high from the ground as to cut off the view of the band from the carriages. The competitor should keep in mind the work of the Club on the Lake Front Park, and suit his design to the place assigned for the pavilion.

The drawings required are one plan and one elevation at the scale of one-sixteenth of an inch to one foot, and one perspective at the scale of one-eighth of an inch to one foot, at the nearest point of the building. The plan of elevation to be on one sheet and the perspective on another. Drawings to be rendered at will and mounted on strainers twenty-eight by forty inches, without frames or glass. A sealed envelope containing the name and full address of the author must be securely fastened to each drawing. The drawings and envelopes themselves must not be marked by a device of any kind. Drawings must be delivered to Frank M. Garden, Secretary Chicago Architectural Club, at the Club House, 274 Michigan Ave., Chicago, on or before Tuesday, March 10, 1896, charges to be prepaid. All drawings, excepting those awarded the prize, will be returned at the expense of the contributor.

SOCIETY OF BEAUX ARTS ARCHITECTS.

The Committee on Education of the Society of Beaux Arts Architects for the year 1895-96 proposes as a subject for Competition No. 2 the façade of a small theater. The programme is as follows:

The theater faces on a public square, and is surrounded by streets. The entrance to the main vestibule will be by three openings.

In the second story over the entrance will be a loggia. The Corinthian order must be employed in the decoration of the loggia.

The lot will be rectangular, with a frontage of 80 feet on the public square.

A sketch on tracing paper of the plan of entrance and vestibule and a façade at a scale of 1-16 inch to the foot will be required of all students intending to compete, and should be addressed on or before January 28, to Mr. Albert L. Brockway, chairman, 55 Broadway, New York city.

For the finished drawings there will be required plans of the first and second story, and a section, at a scale of 1/4 inch to the foot, and the façade at 1/4-inch scale to the foot; also an interesting detail of the Corinthian order at one-quarter full size.

These drawings are to be rendered in water color, mounted on stretchers, and forwarded on or before April 1, 1896, to W. S. Budworth & Son, 424 West Fifty-second street, New York city.

New York, January 8, 1896.

(Signed)

ALBERT L. BROCKWAY, Chairman,
JOHN M. CARRERE,
JOHN G. HOWARD,
WHITNEY WARREN,
E. L. MASQUERAY.

Committee on Education.

NOTE.—This competition is open to all students of architecture. Conditions of judgment and jury to be arranged by the committee.

NEW PUBLICATIONS.

WE are glad to receive the first number of "The Digest of Physical Tests and Laboratory Practice." It is published quarterly by Frederick A. Riehle, 1424 North Ninth street, Philadelphia. Terms, \$1 per year. Owing to the great and increasing number of technical schools it is impracticable for a professional man to become acquainted with the proceedings and publications of but few of them, perhaps with none. Such a digest is a boon to the technical business man. The present number is both interesting and instructive. It deserves, and we wish it, success.

AS AN appropriate souvenir of the ninth convention of the National Association of Builders, the Builders' Exchange, of Baltimore, issued a handsome volume of nearly two hundred pages, profusely illustrated, entitled, "Baltimore: The Old Town and the Modern City." A substantial morocco binding adds permanence and beauty to the book. It is printed on the very best quality of

plate paper and is as handsome typographically as it is interesting and valuable historically. A history of the old town, dating from the foundation of Baltimore, is given briefly but completely. Then follows an extended description of Baltimore, the modern city, illustrated with a large number of half-tone engravings taken from actual photographs of prominent buildings. This is the work of Mr. W. H. Love, and is creditably done. The work concludes with an able article on "Architecture in Baltimore," from the pen of Architect J. B. Noel Wyatt. The growth of architecture in the city from the earliest times is sketched in a very entertaining manner. The article is a fitting *finale* to a really excellent volume, which will be cherished by all members of the Association as a most appropriate souvenir of the convention. Incidentally, it may be remarked that the total absence of any advertising matter whatever is a thoroughly commendable feature of the volume.

OUR ILLUSTRATIONS.

Residence of Dr. G. Hunter Bartlett, Buffalo, New York; W. W. Johnson, Architect.

Residence of Herbert C. Chivers, architect, St. Louis, Missouri.

Residence of J. C. Roberts, St. Louis, Missouri; J. B. Legg & Co., architects.

Arcade at Indianapolis, Indiana, for Dickson & Talbott; Vonnegut & Bohn, architects.

Residence of Edwin H. Terrell, San Antonio, Texas; Alfred Giles & Guindon, architects.

Accepted design, Ferry & Clas, architects, Milwaukee; final competition, Library of the University of Wisconsin, Madison.

Second premium design, submitted by Van Brunt & Howe, architects, Kansas City, Mo.; final competition, Library of the University of Wisconsin, Madison.

Photogravure Plate: Residence of J. MacMeans, North Edge-water, Chicago; George W. Maher, architect. Residence of J. C. Scales, Buena Park, Chicago; George W. Maher, architect.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

Residence of B. S. Thompson, Detroit, Michigan; Mason & Rice, architects.

Residence of Mr. Long, Detroit, Michigan; Rogers & McFarlane, architects.

Residence of Frank A. Osburn, Detroit, Michigan; John Scott & Co., architects.

Residence for A. B. Towers, Stratford Place, Chicago; also, detail of same; George W. Maher, architect.

Residence of Emmons Blaine, Chicago; Shepley, Rutan & Coolidge, architects. Front and side views are given.

OBITUARY.

A. PAGE BROWN.

The profession throughout the United States will learn with regret of the death of A. Page Brown, of San Francisco, which occurred at his home at Burlingame, a suburb of San Francisco, on January 20. Mr. Brown left New York and established himself in San Francisco six years ago, and immediately became one of the leading architects on the coast. His first important work was the designing of the Crocker building, and those of the Y. M. C. A. and Trinity Church followed. He designed the California building at the Columbian Exposition and several of the main buildings for the California fair which was held in the winter of 1894. Mr. Brown was thirty-six years of age and in full robust manhood when last October he met with an accident while driving, his horse running away and precipitating him from a bridge into the bed of a creek fifteen feet below. His work for several years has attracted the attention of architects throughout the country and was at once scholarly and definite in its lines, his adaptation of the Spanish mission style being especially admirable. He leaves a widow, a daughter of Judge Pryor, of New York, and three children.

MORTIMER L. SMITH.

Mortimer L. Smith, of the architectural firm of M. L. Smith & Sons, of Detroit, Michigan, died in that city on January 19. Mr. Smith was the son of Sheldon Smith, for many years one of Detroit's leading practitioners, and his sons are also architects. In life he was an enthusiastic practitioner, always striving for the elevation and correct practice of his profession, and the many important buildings which were designed by him evidence the high place he attained in the practice of his art. He was fifty-six years of age at the time of his death, and a member of the American Institute of Architects.

AMOS P. CUTTING.

The death of Amos P. Cutting of Worcester, Mass., which occurred at Los Angeles, Cal., on February 6, removes from the ranks of the profession, and the membership of the American Institute of Architects, another of those spirits in whom the honor and dignity of the profession was a leading motive. Mr. Cutting was born in Lime, New Hampshire, was 55 years of age, and resided in Worcester since 1863. His work was correct and scholarly, and his church designs were particularly notable. As a member of the Institute he was ever on the side of conservative and correct practice, while his genial, kindly nature made him many friends within and without the profession. He leaves a wife and seven children. His remains will be taken to Worcester for burial.

MOSAICS.

AN order was passed by the Boston City Council on January 16, requesting the mayor to petition the general court for an act providing that all plans and designs of public buildings hereafter erected in Boston shall require the approval of the art commission before acceptance.

THE firm of Nettleton, Kohn & Trowbridge, architects, at 38 Campau building, Detroit, is announced, consisting of George W. Nettleton, Albert Kohn and Alex. Buel Trowbridge. The two former gentlemen have been with the firm of Mason & Rice for the past ten years, and the latter has recently returned from pursuing the course of study at the École des Beaux Arts, at Paris.

A SERIES of experiments, having for their object the testing of arches of varying degrees of span, and the strength and elasticity of the materials employed in their construction, has been recently carried out in Vienna under the auspices of the Austrian Society of Engineers and Architects. No less a sum than £3,200 was spent on the operations, the whole of which was borne by the society and a few public-spirited supporters. An exhaustive report on the results of the experiments has been drawn up and published in the *Zeitschrift des Oesterreichischen Ingenieur-und Architekten-Vereines*, 1895, Nos. 20-34, which may be consulted in the library. The report is divided as follows: (1) Tests of seven-ten floor arches with spans of 4.76, 8.86, and 14.76 feet of all kinds of floor construction; (2) tests of two culverts of 32.8 feet span and one-tenth rise; (3) tests of four bridges of 75 feet span, one-fifth rise. Particulars of the foregoing are accompanied with a full record as to the deflection and other details. (4) An exhaustive series of tests to determine the strength and elasticity of all materials used in the arches; (5) a theoretical calculation based on the results obtained; (6) conclusion from the results in respect of theory and construction. Having regard to the importance to the building trade of the conclusions brought out in these experiments, the society are anxious to give the widest publicity to the report, and announce a reprint in a separate form, which may be obtained for 10 shillings from the office of the *Zeitschrift*, Vienna I, Eschenbachgasse 9.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT. }
CHICAGO, Ill., February 10, 1896. }

The conditions in building, commercial, financial and manufacturing circles are somewhat better than they appear to be on the surface. The sudden upheaval of last summer has been followed by its inevitable reaction. The movement of the government to borrow \$100,000,000 created a stringency that led banks to reduce their discounts, and this in turn led to a curtailment of the volume of trade twenty-five per cent as compared to three months ago. All business interests are restless and anxious to rush in and make 1896 a phenomenal year. Prices for the most part are low, but in certain lines an advancing tendency is asserting itself. Traders are effecting organization for their legitimate protection and with a view to the regulation of supply to legitimate demand. This is a good sign. Competition under this management will be less destructive this year than heretofore. Manufacturers recognize past errors, and are aiming to act with greater prudence and foresight. All classes of trade are in healthful condition. There is indebtedness to be reduced, but there is not that towering mountain of urgent obligations which in past experience was generally the precursor of a panic. There are healthier conditions, more self-control, more conservatism, less recklessness. In the building trades great preparations are being made for the coming season. Contracts have, in many cases, been already made for lumber, brick, stone, etc. In a general way, prices are firm. So far as advices warrant the drawing of conclusions, there will be a decided increase in building over last year. Last year's investments were, in the main, profitable; houses rented and sold, manufacturing were built and equipped and operated to advantage, city office buildings climbed skyward and the marts of commerce and the centers of industry gave abundant evidences of an extraordinary activity. These conditions are likely to be repeated in 1896. There is money, energy, necessities, and the work of the year will be early inaugurated. Business men have suffered long and are not yet out of the woods, but they feel encouraged and confident that all will be well. Material men have increased shop, yard and mill equipments. The season is near at hand and the probabilities of stronger prices in the spring are leading many to enter into contracts. Production will probably, however, prevent any serious advances in any direction.

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.

Architects Ostling Brothers: For Mrs. Catherine Benson, a three-story flat building, 50 feet front and 60 feet in depth; to be erected at Chatham court; it will have a front of pressed brick with buff Bedford stone trimmings, hardwood interior finish, mantels, sideboards, gas and electric fixtures, the modern open plumbing, steam heating, etc.

Architect Frederick Ahlschlager: For Christopher Guderjahn, a two-story and basement flat building, 48 by 85 feet in size; to be erected at 936 to 938 West Sixty-third street; it will have a buff Bedford stone basement, and above this will be of pressed brick with stone trimmings, the interior to be finished in oak and Georgia pine, have the modern sanitary improvements, mantels, sideboards, gas fixtures, ranges and fireplaces, electric bells, speaking tubes, steam heating. Also preparing plans for dormitory, 55 by 96 feet in size, three stories and basement, to be erected at Elmhurst, Illinois, for the Evangelical Theological Seminary; it will be of stone and pressed brick, have interior finished in Georgia pine, hard oil finish; will put in the modern sanitary conveniences, gas and electric fixtures, electric bells and speaking tubes, electric

light, steam heating. Also made plans for a three-story and basement flat building, to be erected on Calumet avenue near Fifty-third street; it will have a buff Bedford stone front, hardwood interior finish, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, electric light, speaking tubes, electric bells, steam heating. For Joseph Stein, a three-story and basement apartment building, 50 feet front and 80 feet in depth, to be erected at Fifty-fifth street and Michigan avenue; the front will be of buff Bedford stone, the interior to be finished in quarter-sawn oak, have marble and tile work, gas and electric fixtures, gas ranges and fireplaces, steam heating. Also made plans for addition to German Evangelical Lutheran Orphan Asylum, at Addison, Illinois; it will be two stories and basement, 50 by 80 feet in size; of brick, have all modern improvements, gas fixtures, hardwood finish, steam heating.

Architect D. Mahaffey: For J. Magnaser, at Rogers Park, a two-story, basement and attic residence, 31 by 40 feet in size; to be of frame construction with rock-faced, blue Bedford stone basement and chimney, the interior to be finished in quarter-sawn oak, and have special sideboards and mantels, gas fixtures, all open plumbing, etc.

Architect Robert B. Hotchkiss: For Percy L. Schumann, a two-story, basement and attic residence, 26 by 45 feet in size; to be erected at Evanston; it will be constructed of Brazil (Indiana) tile sides, hollow tiles, for the first story, and the second story will be of shingle tile, and the roof of red tile; the interior will be finished in oak, and have mantels, sideboards, gas fixtures, the best of sanitary improvements, hot-water heating.

Architect A. F. Hussander: For L. Monat, a two-story and basement frame residence, 32 by 48 feet in size; to be erected at Rogers Park; it will have a brick basement, oak interior finish, mantels and sideboards, gas fixtures, heating, etc. Also made plans for a one-story chapel, 56 by 77 feet in size; to be erected at Fullerton and Cleveland avenues; it will be of brick and stone, have oak interior finish, decoration, stained glass, electric light, steam heating, etc.; the seating capacity will be for six hundred persons.

Architect Lonsdale Green: Made plans for the Asylum for the Insane, to be erected at Peoria. It will be three stories and basement, have pressed brick and stone fronts, hardwood interior finish, the modern plumbing and electric fixtures, ventilating system, electric light, electric bells and speaking tubes, laundry fixtures, driers, etc., steam heating.

Architect W. L. Newman: For Mrs. Kate Tingley, a two-story and cellar flat building, 26 by 65 feet in size; to be built at Flournoy street near Kedzie avenue. It will be of stone front, have hardwood finish, mantels and sideboards, the modern plumbing, gas fixtures, etc.

Architect George R. Davis: For D. M. Hayes, a three-story apartment building, to be erected at 5409 to 5411 Calumet avenue. It will have a Bedford stone front, hardwood interior finish, mantels and sideboards, the best of modern sanitary improvements, gas and electric fixtures, heating, etc.

Architect E. C. Jensen: For C. C. Johnson, a three-story apartment house 100 feet front and 65 feet deep, to be erected at 5741 to 5747 Drexel avenue; it will be of pressed brick with buff Bedford stone trimmings, have hardwood interior, all modern open plumbing, mantels, sideboards, gas and electric fixtures, electric bells, speaking tubes, steam heating.

Architects Murphy & Camp: For Charles H. Jones, a three-story and basement apartment house, 35 by 85 feet in size; to be erected at 5006 Michigan avenue; it will have a buff Bedford stone front, oak and Georgia pine interior finish, mantels and sideboards, gas and electric fixtures, steam heating, etc. Also made plans for a two-story, basement and attic residence, 34 by 58 feet in size; to be erected at Ravenswood; it will be of pressed brick and stone front, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, speaking tubes, electric bells, heating, etc. For Andrew O'Donnell, a three-story and basement apartment house, 52 feet front and 60 deep; to be erected at Forty-seventh street and Indiana avenue; it will be of buff Bedford stone front, have interior finished in oak and Georgia pine, mantels, sideboards, the modern open sanitary plumbing, gas and electric fixtures, speaking tubes, laundry fixtures, steam heating.

Architect Morrison H. Vail: For Messrs. Clark & Weber, two two-story, basement and attic residences, 40 by 48 feet in size; to be built at the corner of Wilson avenue and Perry street, Ravenswood. They will be of buff pressed brick fronts with Bedford stone trimmings, have interior finish in quarter-sawn oak, all open sanitary plumbing, mantels, sideboards, gas and electric fixtures, furnaces, etc. For Mrs. Wilson, remodeling residence into modern flat building at Paulina street near Berleau; will put in new plumbing, mantels, gas fixtures, furnaces, etc. Also making sketches for a handsome apartment building, to be erected on the South Side; it will be eight stories and basement, 110 by 163 feet in size; the first story and basement to be of buff Bedford rock-faced stone, and above this will be of buff pressed brick with terra cotta trimmings and copper cornice; it will be a strictly fireproof building, have very fine interior finish in quarter-sawn oak, marble wainscoting, tile bathrooms, mosaic floors, specially designed sideboards, consoles and mantels, gas and electric fixtures, gas ranges and fireplaces, elevators, electric light, steam heating and all modern improvements. For Thomas Storr, a two-story, basement and attic frame residence, 24 by 45 feet in size; to be built at Bernice street near Wolcott, Ravenswood; it will have a pressed brick basement, hardwood interior finish and mantels, gas and electric fixtures, the modern sanitary improvements, furnace, etc. For J. P. Winn, also on Bernice street near Wolcott, Ravenswood, a two-story, basement and attic frame house, to have brick basement, oak interior finish and mantels and sideboards, all open sanitary plumbing, gas fixtures.

Architects Jaffray & Smith: For Mrs. Frank Wheeler, a two-story, basement and attic frame residence, 32 by 45 feet in size; to be built at Winnetka; it will have a stone basement, all hardwood finish throughout, the sanitary conveniences, gas fixtures, mantels, furnace, etc.

Architects Huehl & Schmid: For John G. Jones, a four-story store and flat building, 25 by 76 feet in size; to be erected at 442 West Van Buren street; it will be of pressed brick and stone front, have all the modern sanitary improvements, gas and electric fixtures, mantels, steam heating, etc. Also made plans for a three-story and basement flat building, 25 by 66 feet in size; to be erected at Barry avenue near Clark street; it will have a buff Bedford stone front, hardwood finish, mantels and sideboards, gas and electric fixtures, nickel-plated plumbing, steam heating. For H. J. Peel, a two-story and basement store and flat building, 45 by 70 feet in size; to be of buff pressed brick with Bedford stone trimmings, have hardwood interior finish, gas and electric fixtures, mantels, electric light, steam heating, etc.

Architect W. M. Walter: For George R. Peare, a two-story, basement and attic residence, 35 by 60 feet in size; to be built at Edgewater; it will be of frame with stone basement, have hardwood interior finish, mantels, sideboards and consoles, gas and electric fixtures, heating, etc.

Architects Bright & Burfeind: Making plans for a frame church—Evangelical Lutheran, Rev. J. H. Rabe—to be erected at Yorkville, Illinois; it will have a stone foundation, hardwood interior finish pews to seat 240 persons, furnace bell, furniture, etc. Also making plans for a three-story and basement store and flat building, 25 by 65 feet in size; to be erected at Lincoln avenue near Fay street; it will be of pressed brick with buff Bedford stone trimmings, and galvanized iron bays and cornices; have interior finished in Georgia pine, mantels, sideboards, gas and electric fixtures, modern open sanitary plumbing, ornamental ironwork, electric light, steam heating.

Architect H. H. Richards: For F. Miller, four two-story, basement and attic residences, to be erected at Englewood; they will be of buff Bedford stone fronts, have hardwood interior finish, mantels and sideboards, gas fixtures, all the modern sanitary conveniences, heating, etc.

Architects Dinwiddie & Newberry: For Messrs. Raworth & Schodde, a two-story and basement factory, 50 by 100 feet in size; to be erected at Huron street between Wells and Franklin streets; it will be of pressed brick and stone front, have steam heating and power.

Architect Edward W. Curtis, Jr.: For Edward Phillips, a five-story factory, 50 by 100 feet in size; to be erected at 126 and 128 Jefferson street; it will be of pressed

Architect G. L. Harvey: Making plans for the Provident Hospital, to be erected at Thirty-sixth and Dearborn streets; it will be four stories and basement; 20 by 123 feet in size; have pressed brick and stone front, the first story and basement being of stone; the interior to be finished in Georgia pine, have the best of modern plumbing, electric light, etc.

Architect Howard Van Doren Shaw: For N. Corwith, a handsome Colonial two-story, basement and attic residence; 50 by 37 feet in size; to be erected at Highland Park; it will be of frame with stone foundation and basement, have interior finished in oak, mahogany, gold enamel, and Georgia pine and white pine, the best of modern open plumbing, gas and electric fixtures, heating, etc. Also made plans for a three-story and basement flat building; 25 by 96 feet in size; to be erected at Center avenue near Taylor street; it will have a stone front, hardwood finish, mantels, gas fixtures, all open sanitary plumbing, electric bells, speaking tubes, steam heating. For B. C. Work, a handsome old Colonial residence, to be erected at Akron, Ohio; it will be of red brick with white stone trimmings, have hardwood finish, mantels, sideboards, gas fixtures, heating, etc.

Architects J. F. & J. P. Doern: For Hart & Frank, five three-story residences, to be erected at Forty-fourth street and Grand boulevard; they will have stone fronts, hardwood interior finish, mantels and sideboards, gas and electric fixtures, steam heating, etc.

Architect Robert S. Smith: For Mr. Phillips, a three-story flat building; 25 by 70 feet in size; to be erected at Indiana avenue near Fifty-second street; it will have a buff Bedford stone front, hardwood finish, mantels and sideboards, gas fixtures, ranges and fireplaces, steam heating, etc. Also two-story residence, 25 by 60 feet in size; to be built at Douglas boulevard; it will have a stone front, all improvements, heating.

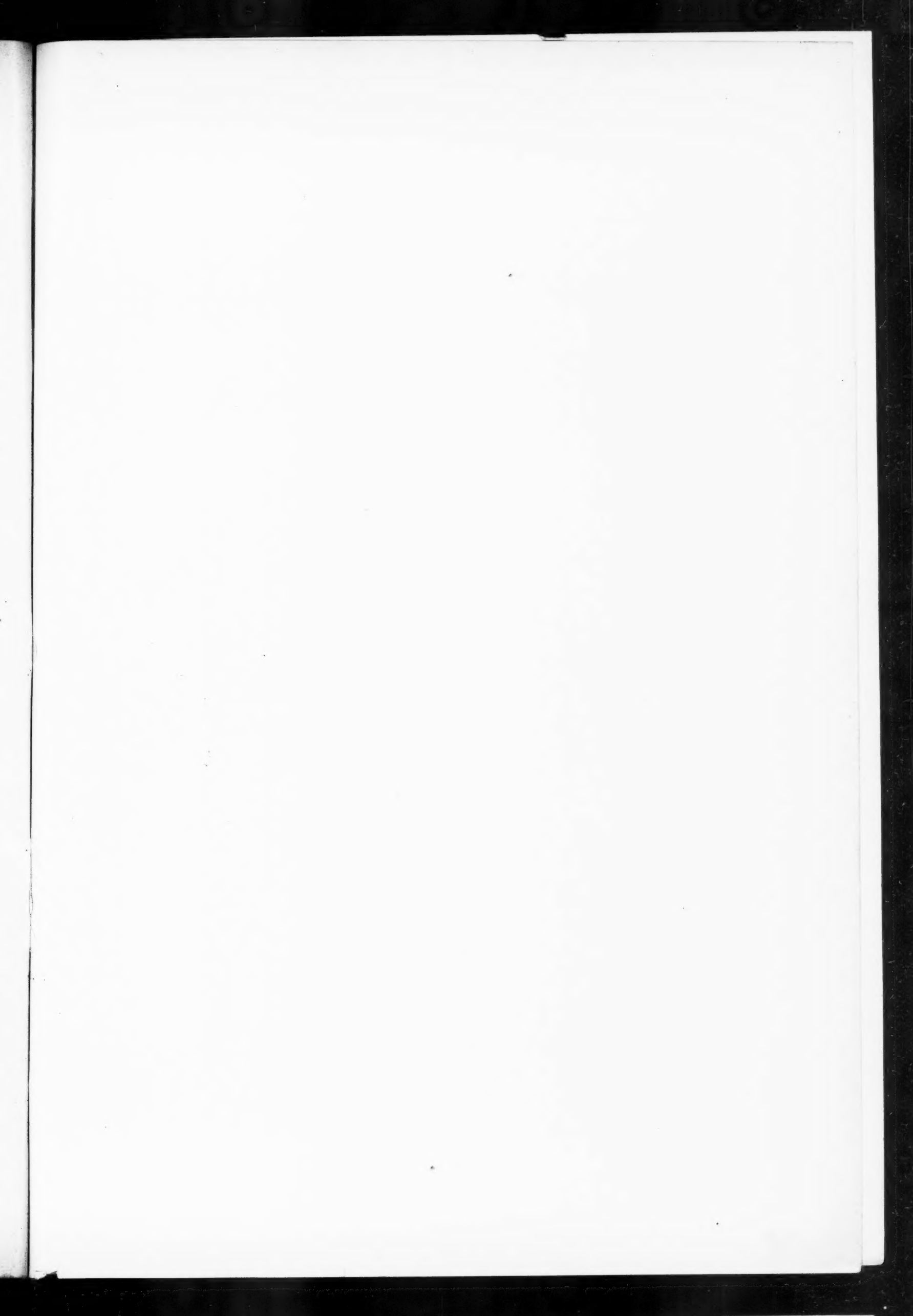
Architect Alfred Smith: For A. C. Perrill, a two-story, basement and attic residence; 25 by 60 feet in size; to be erected at 892 Warren avenue; it will be of cut stone front, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, hot-water heating, etc.

Architects Church & Jobson: For J. W. Helm, a three-story and basement residence; 33 by 54 feet in size; to be erected at Edgewater; it will be of stone and frame, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, steam heating.

Architect W. H. Milner: For W. S. Barbee, a three-story store, flat and hall building; 50 by 175 feet in size; to be erected at Sixty-ninth street and Wentworth avenue; it will be of pressed brick and stone front, have hardwood finish, the sanitary plumbing, gas and electric fixtures, steam heating, etc. For Helena S. Golden, a two-story, basement and attic residence; 26 by 40 feet in size; to be erected at Belvidere; it will have a brick basement, hardwood interior finish, mantels, sideboards, etc. For George C. Moore, a two-story frame cottage; 35 by 40 feet in size; to be erected at Rogers Park; it will have a brick basement, hardwood finish, the best of sanitary plumbing, gas fixtures, etc.

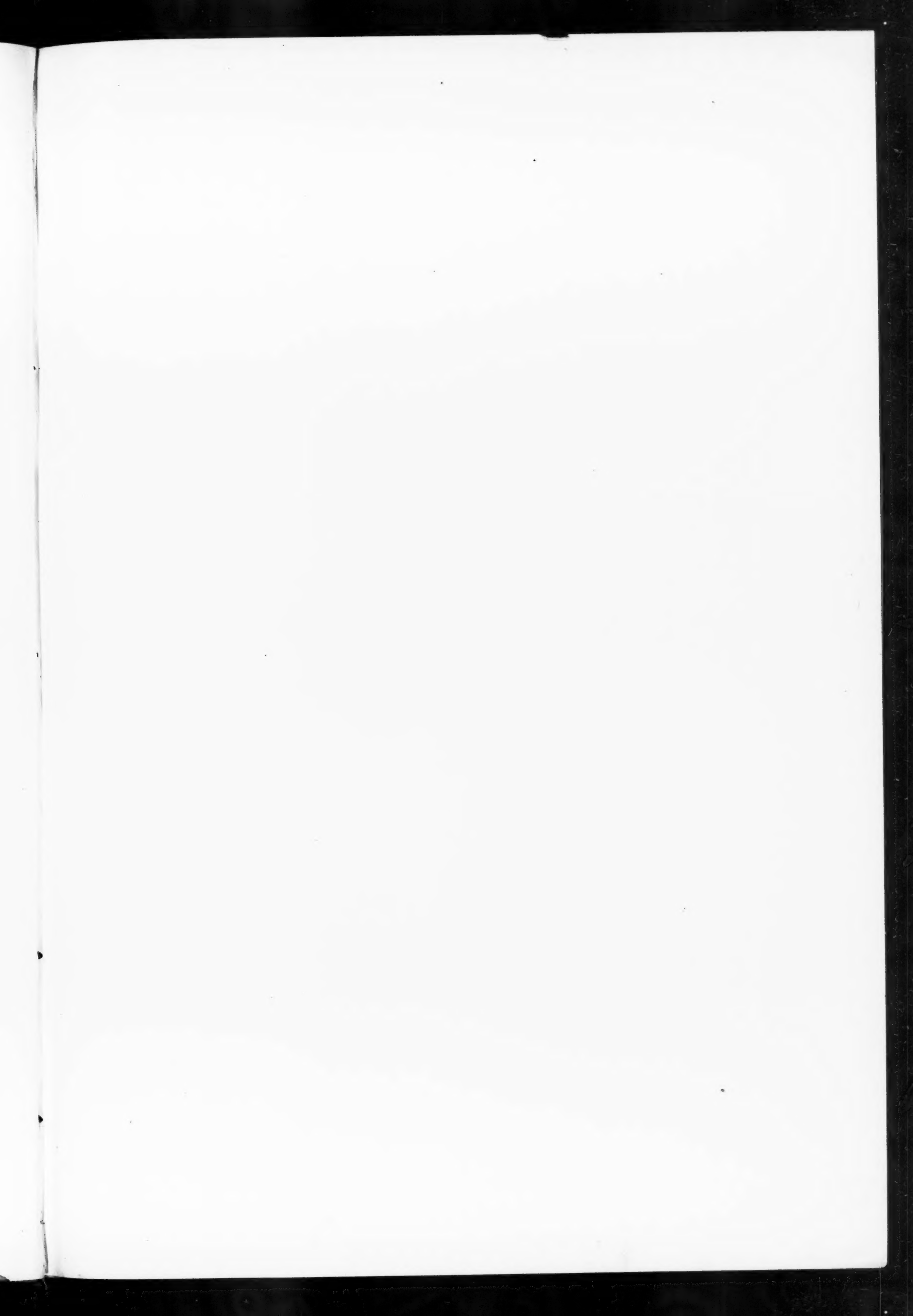
Architect Jules De Horvath: For E. L. Yarlot, a three-story and basement apartment house, 165 by 52 feet in size; to be erected at the corner of Woodlawn avenue and Sixty-sixth street; it will have a pressed brick and stone front, hardwood finish, all the modern sanitary improvements, gas and electric fixtures, steam heating, etc.

Architect Julian Barnes



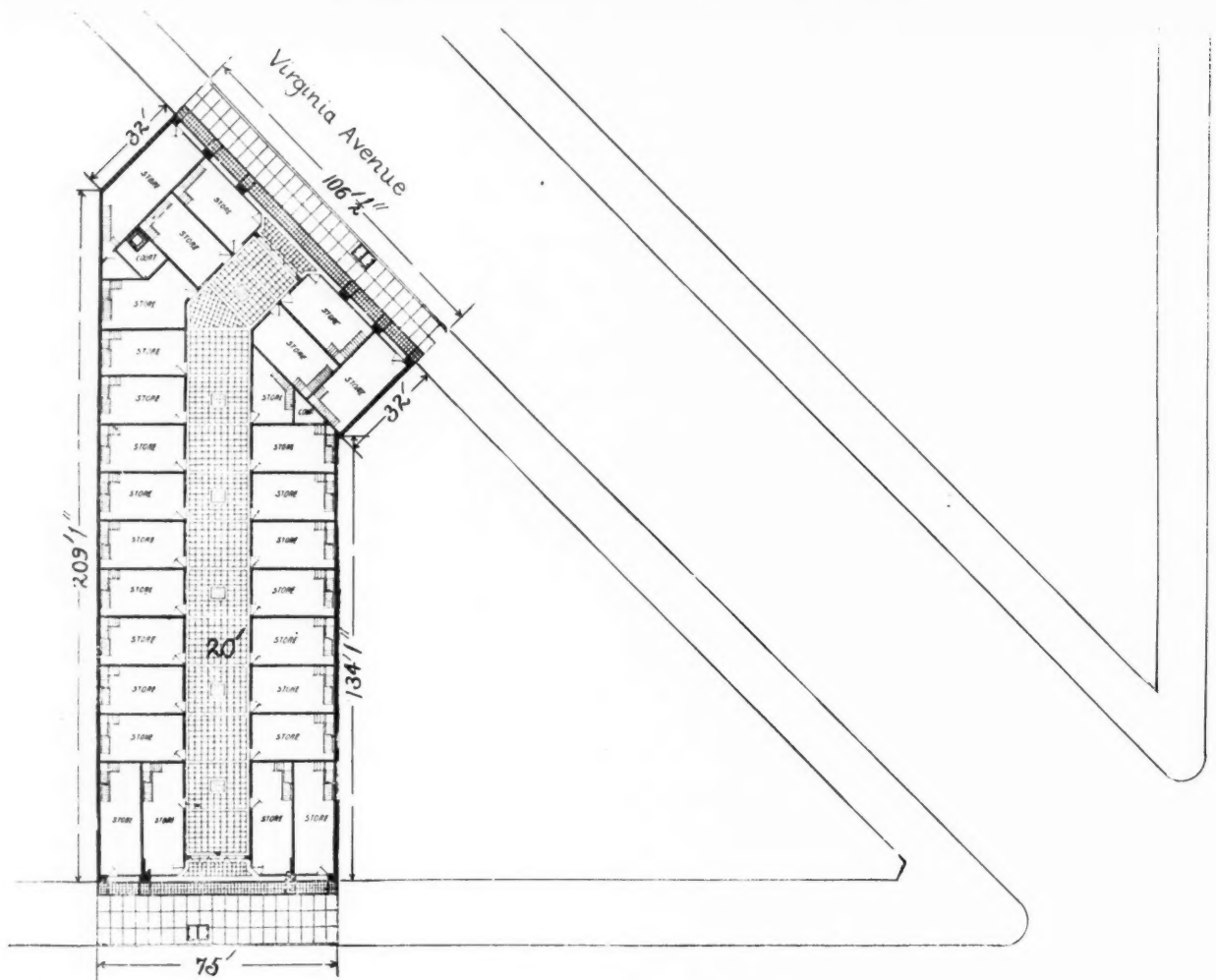


RESIDENCE OF DR. G. HUNTER BARTLETT, BUFFALO, N. Y.
W. W. JOHNSON, ARCHITECT.





RESIDENCE OF HERBERT C. CHIVERS, ARCHITECT, ST. LOUIS, MISSOURI.



Washington Street.

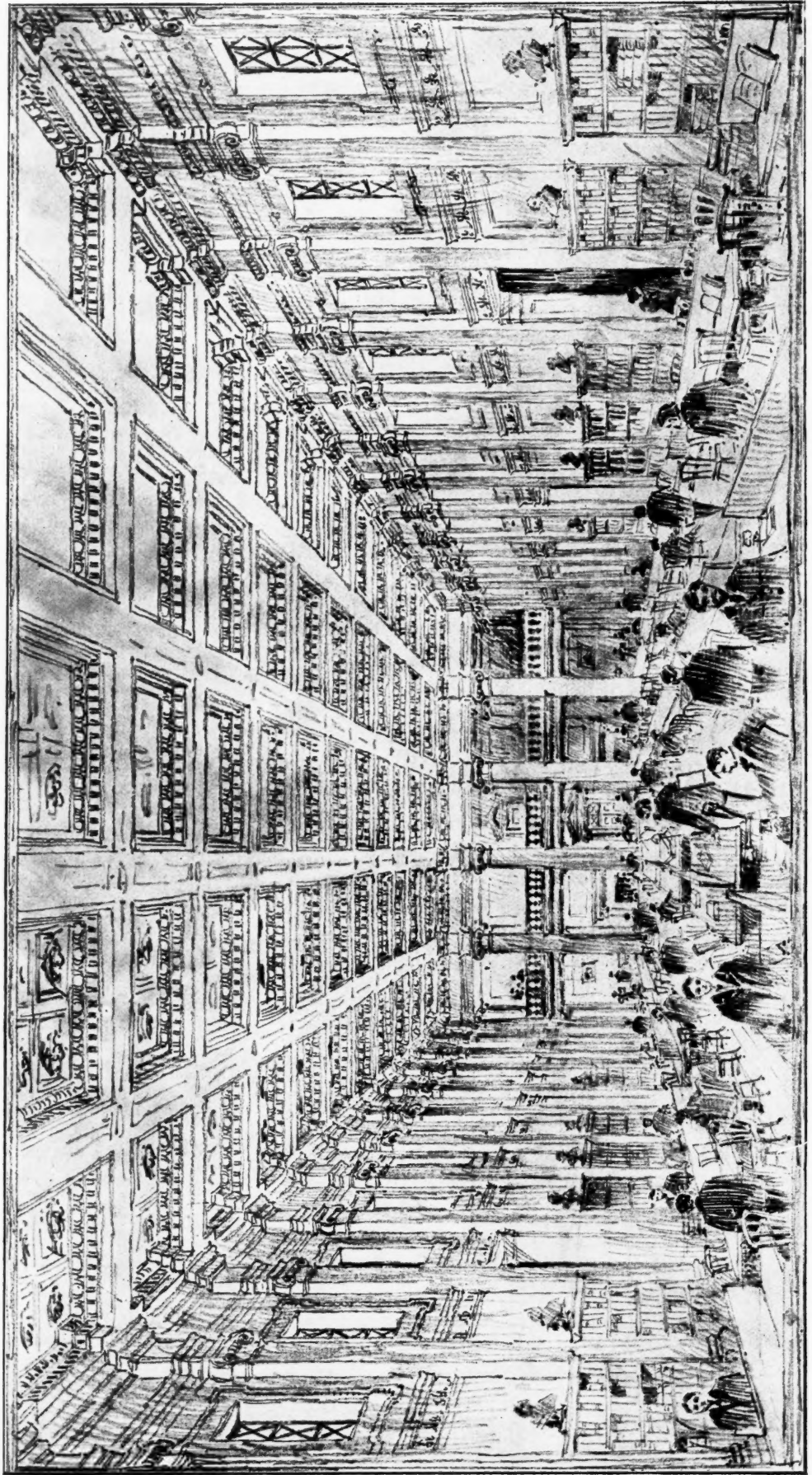
PLAN.



INTERIOR.

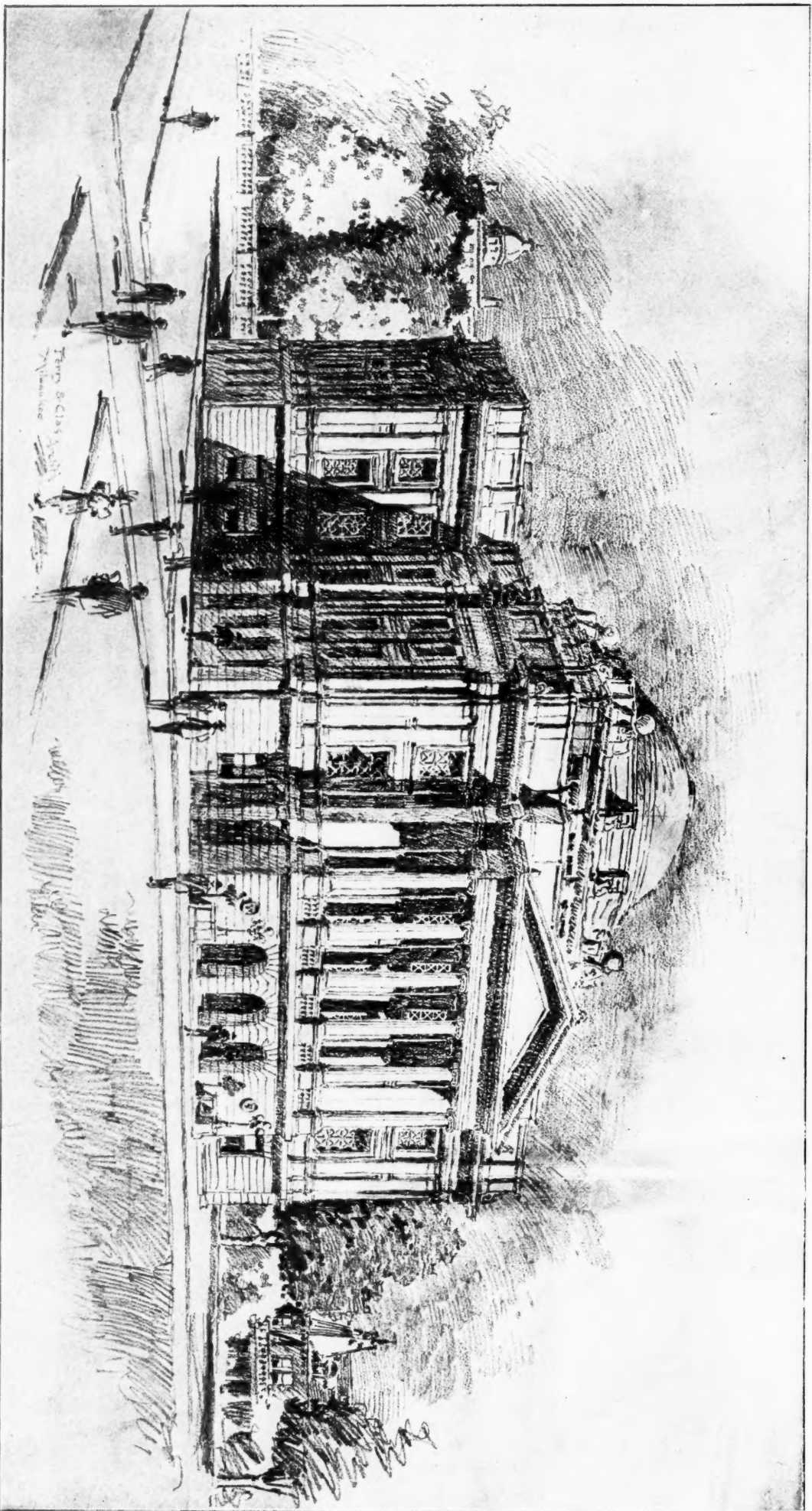
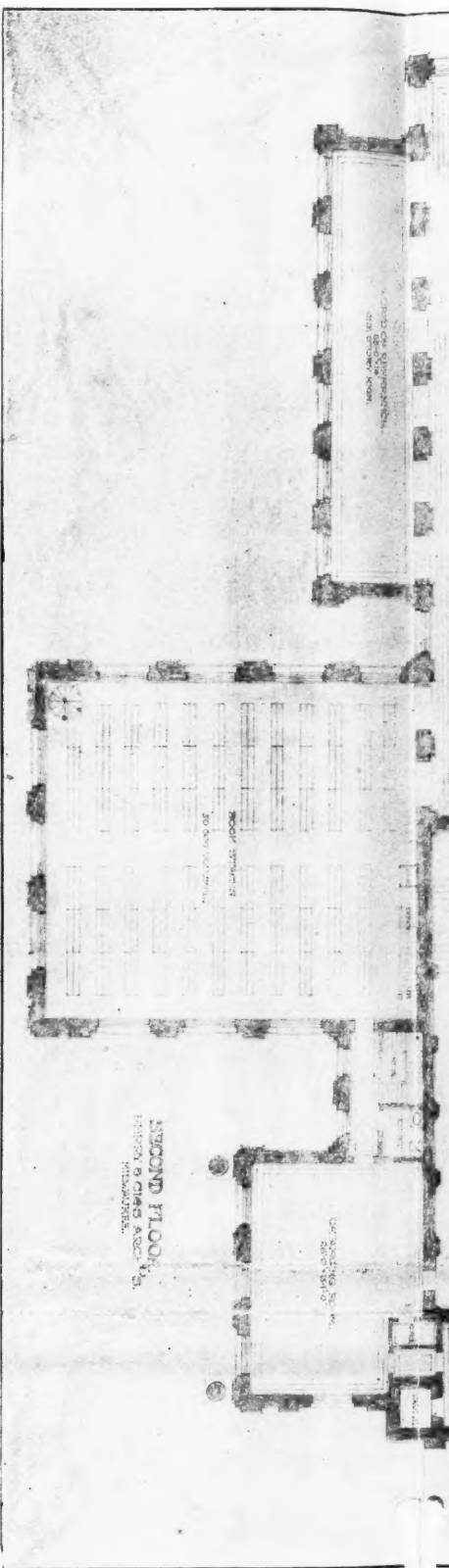
ARCADE BUILDING, INDIANAPOLIS, INDIANA.

VONNEGUT & BOHN, ARCHITECTS.

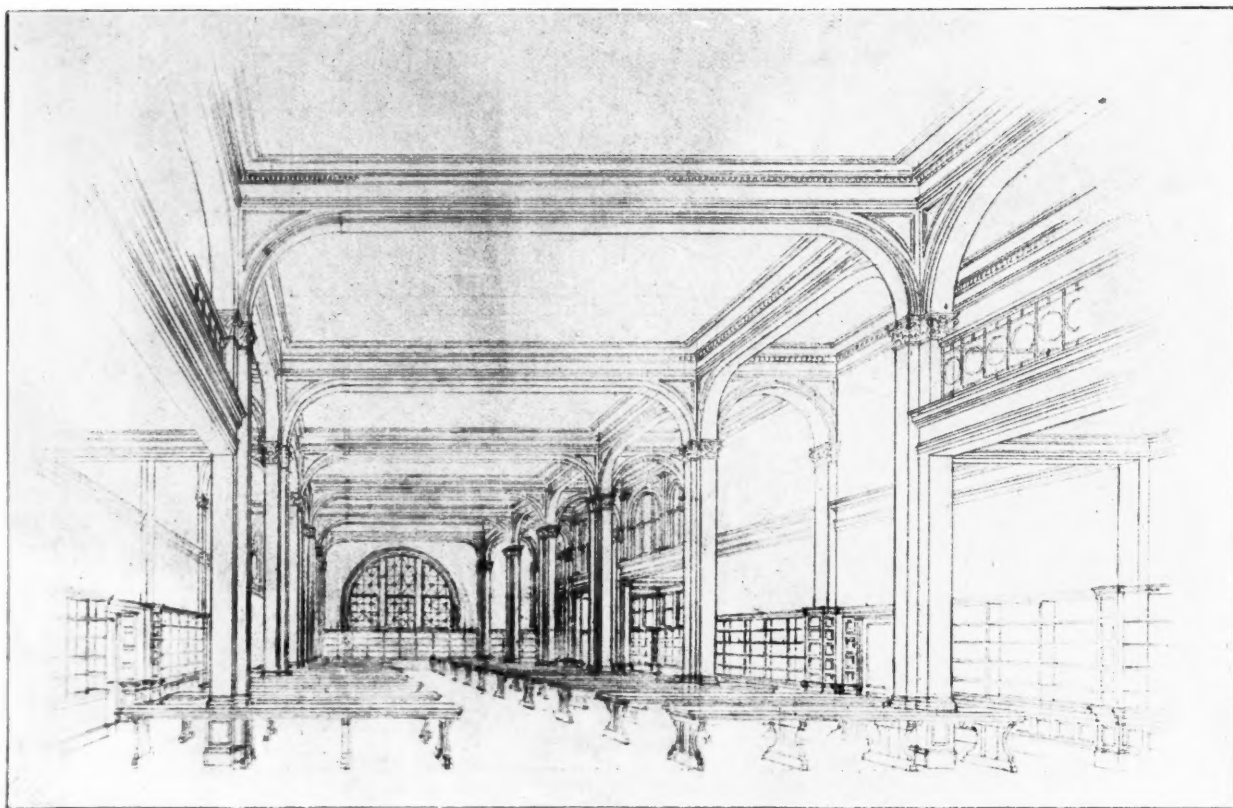


VIEW IN READING ROOM, ACCEPTED DESIGN, FINAL COMPETITION, LIBRARY OF THE UNIVERSITY OF WISCONSIN, MADISON, WISCONSIN.

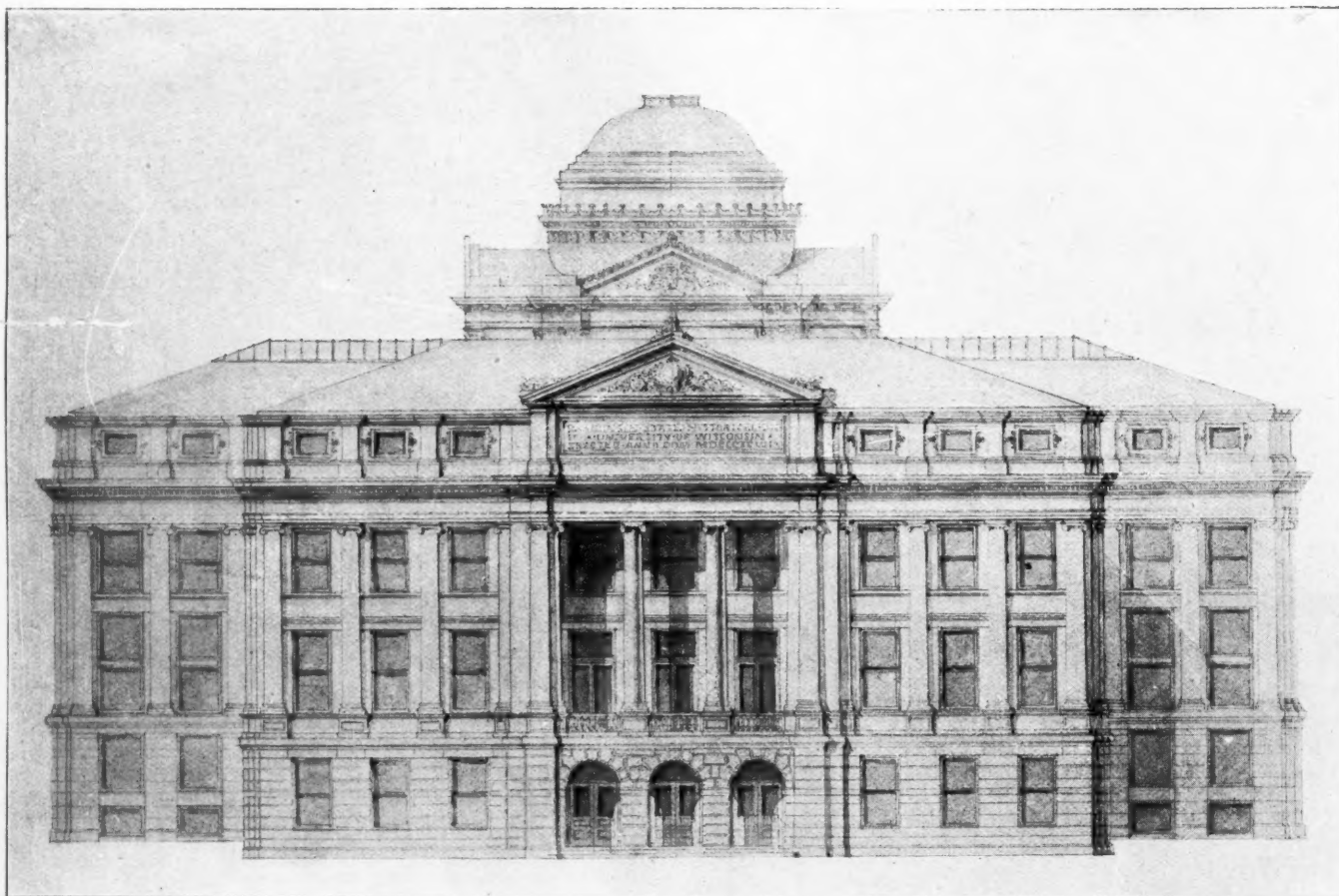
FERRY & CLAS, ARCHITECTS, MILWAUKEE, WISCONSIN.



ACCEPTED DESIGN, FINAL COMPETITION, LIBRARY OF THE UNIVERSITY OF WISCONSIN, MADISON, WISCONSIN.
 FERRY & CLAS, ARCHITECTS, MILWAUKEE, WISCONSIN.



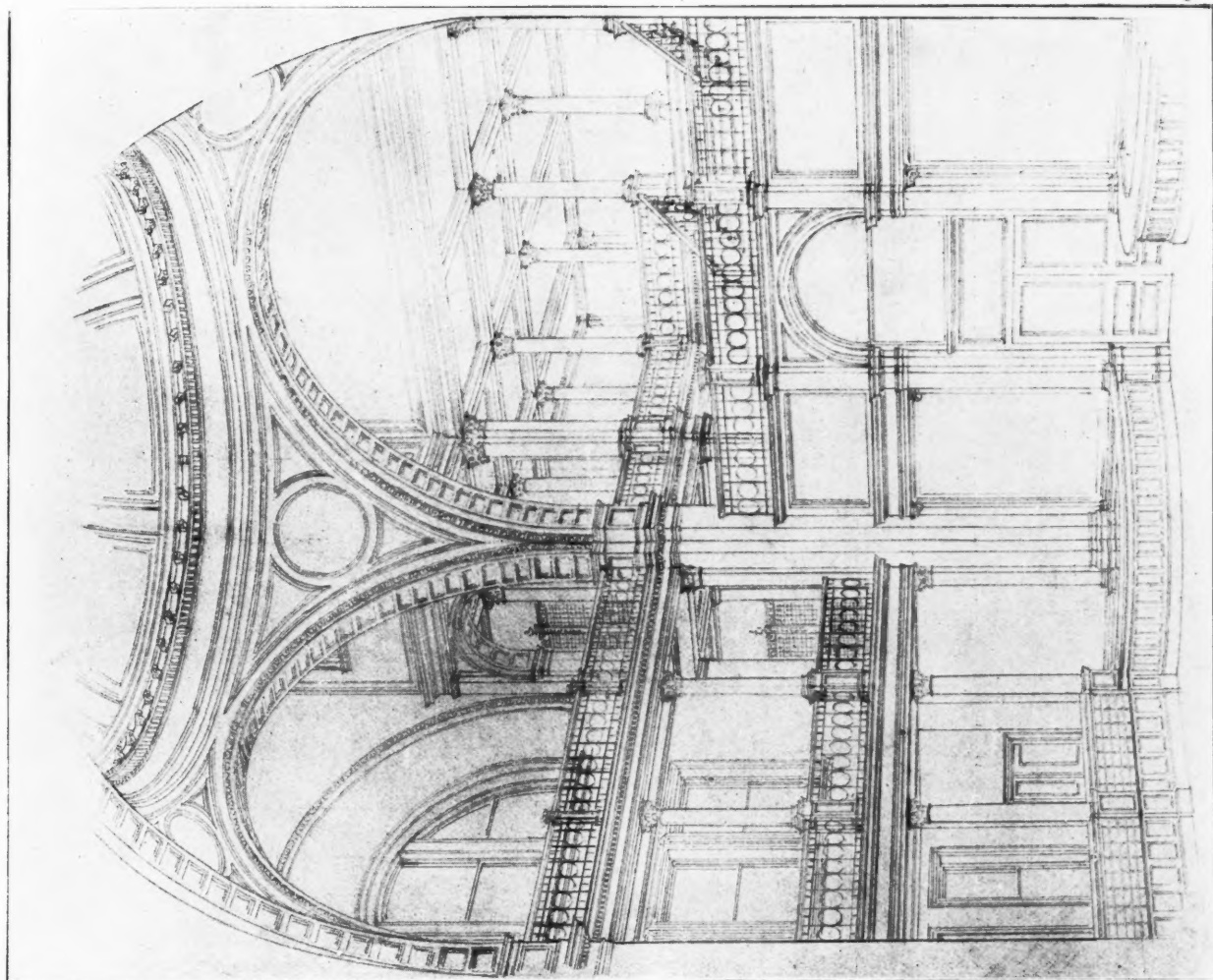
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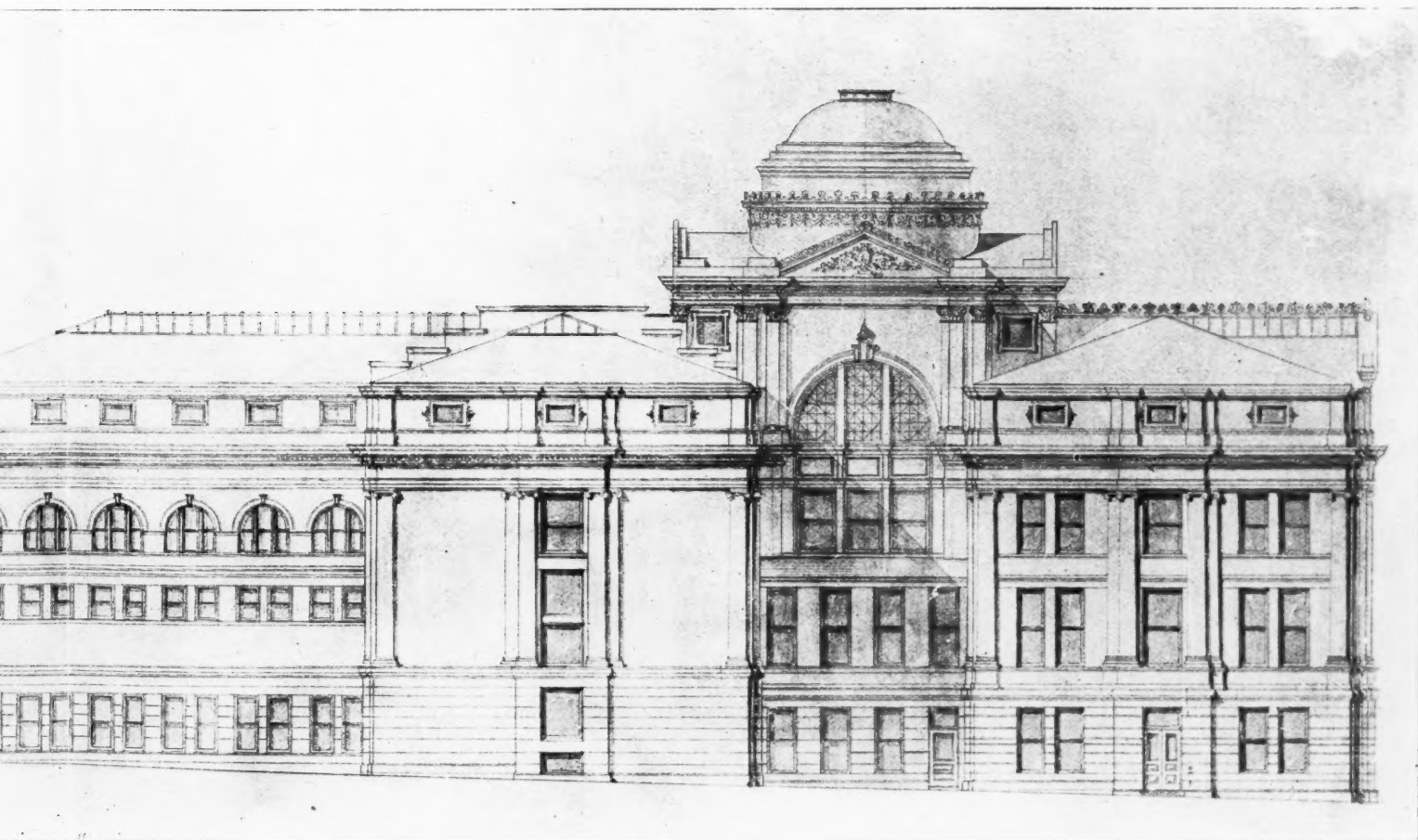
FRONT ELEVATION.

SECOND PREMIUM DESIGN, FINAL COMPETITION FOR LIBRARY OF

SUBMITTED BY VAN BRUNT & HOWE, ARCHITECTS



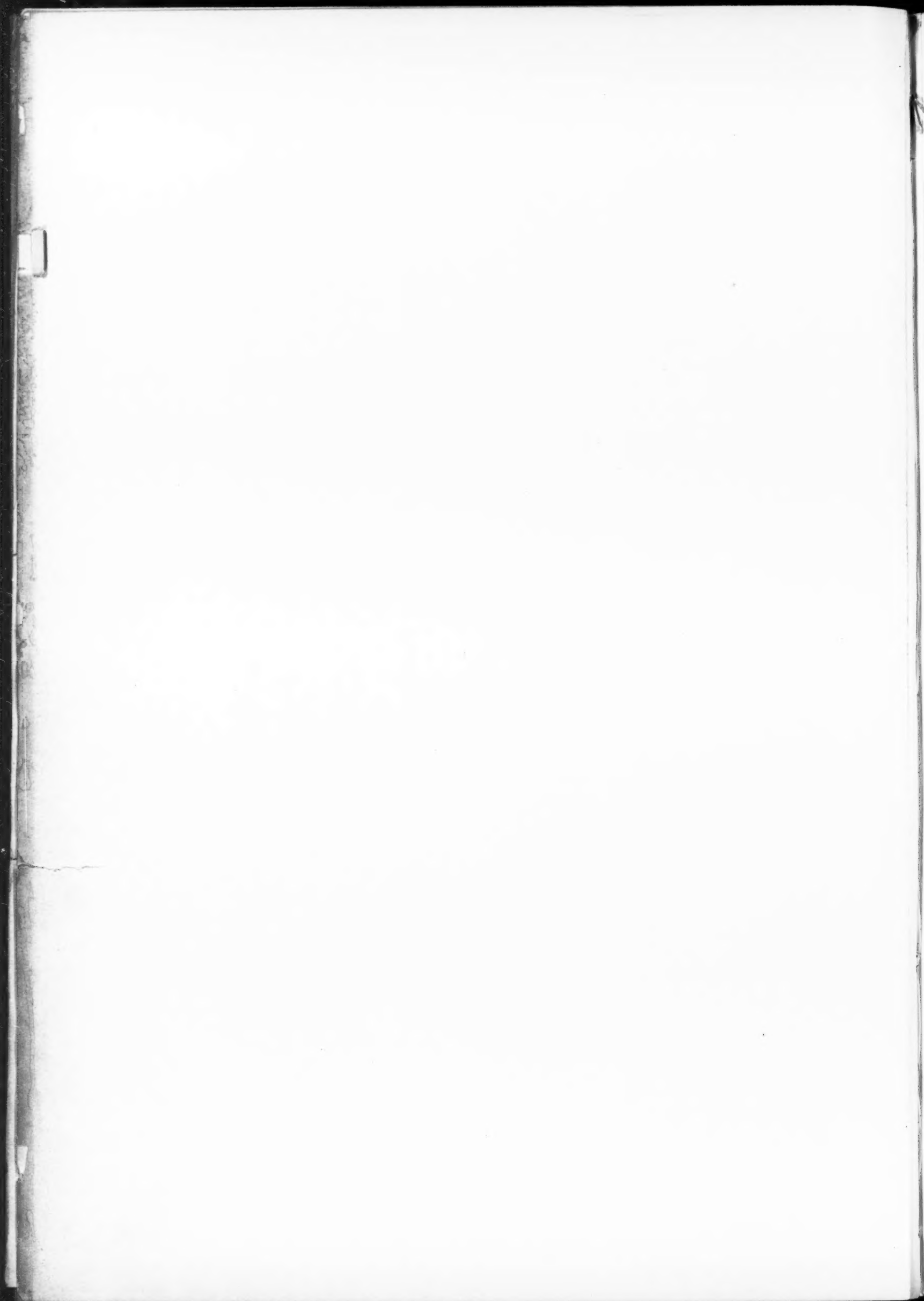
VIEW IN ROTUNDA.



SIDE ELEVATION.

Y OF THE UNIVERSITY OF WISCONSIN, MADISON, WISCONSIN.

ARCHITECTS, KANSAS CITY, MISSOURI.



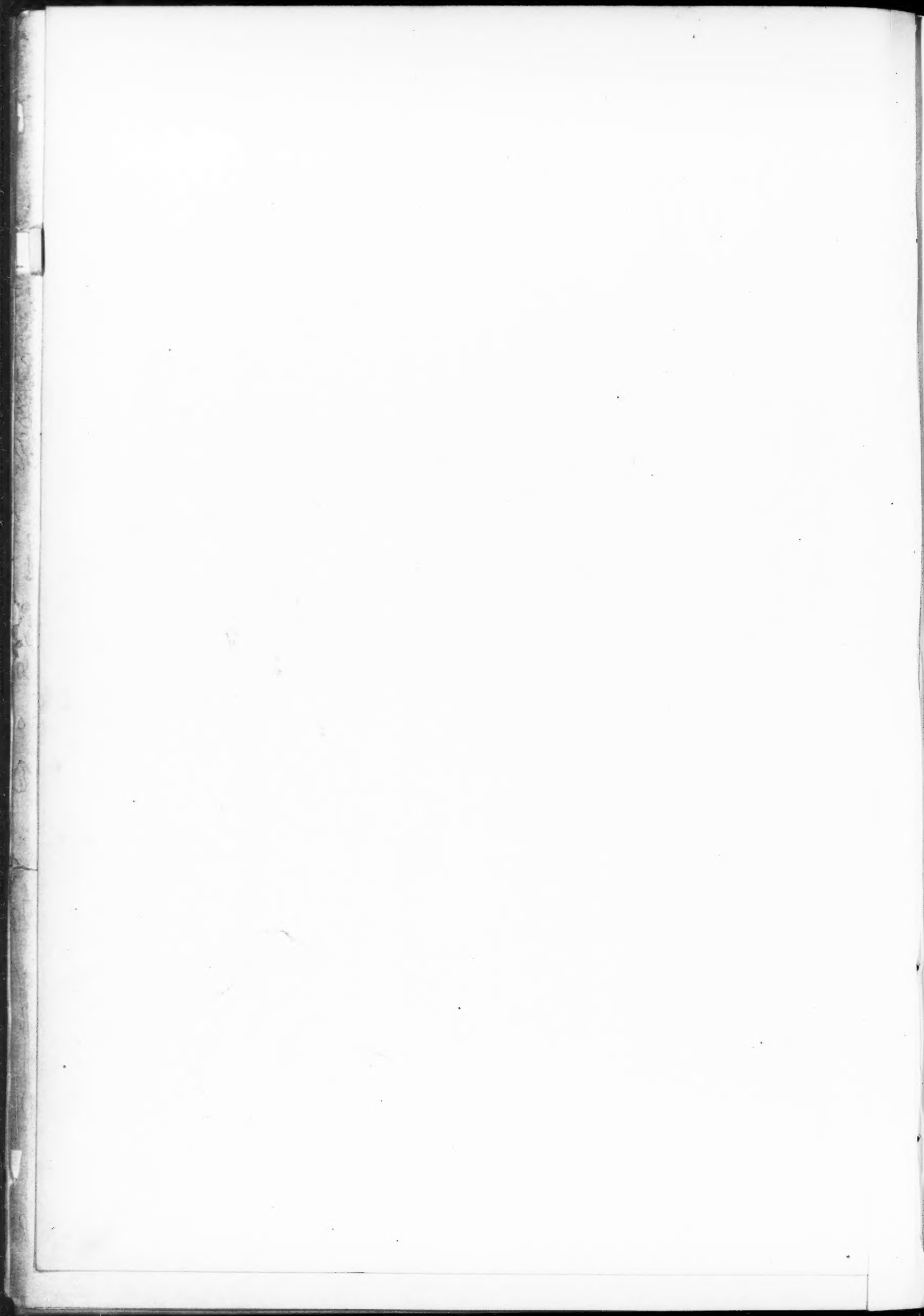


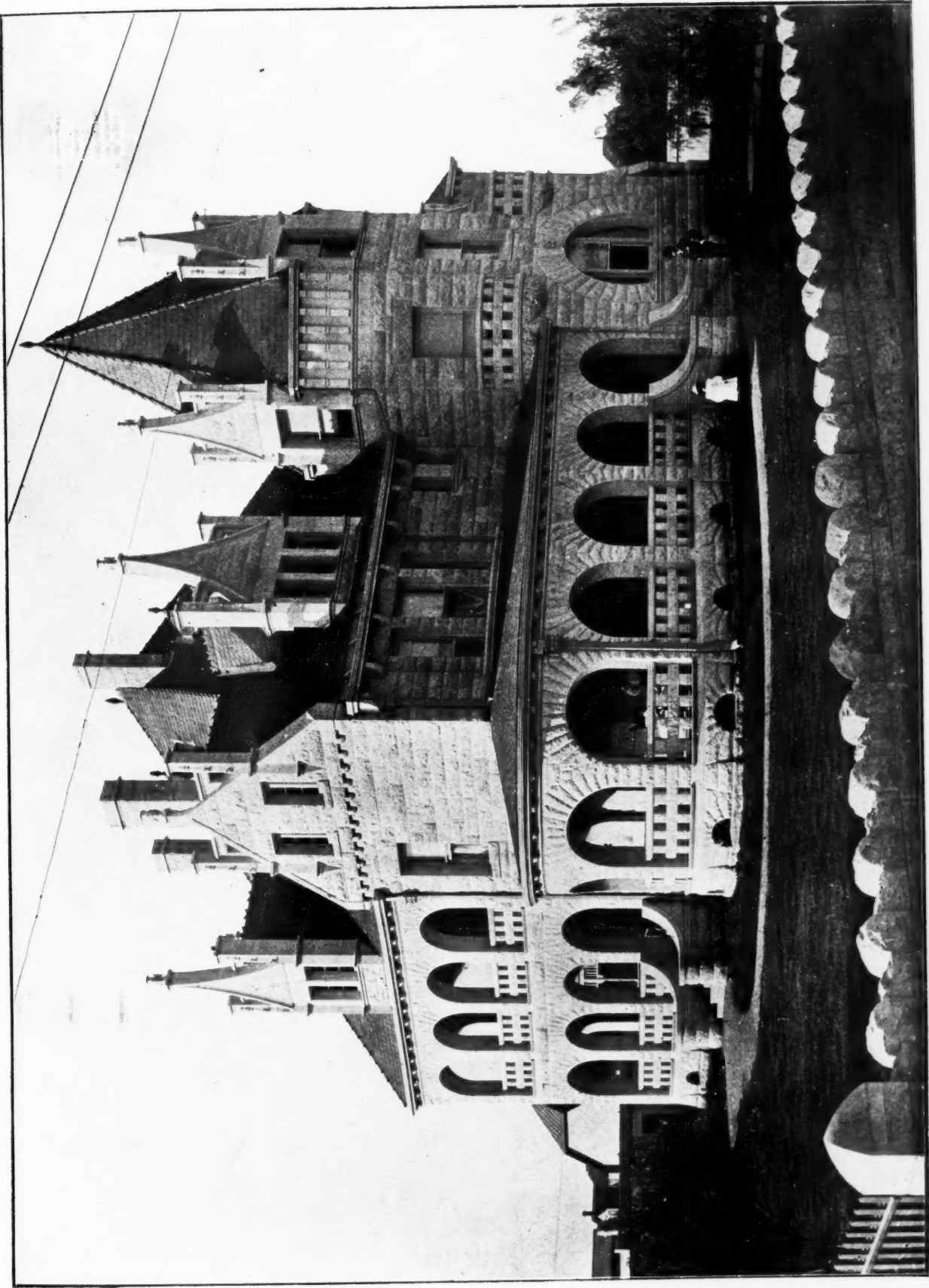
RESIDENCE OF J. MACMEANS, NORTH EDGEWATER, CHICAGO.
GEO. W. MAHER, ARCHITECT.



INLAND ARCHITECT PRESS.

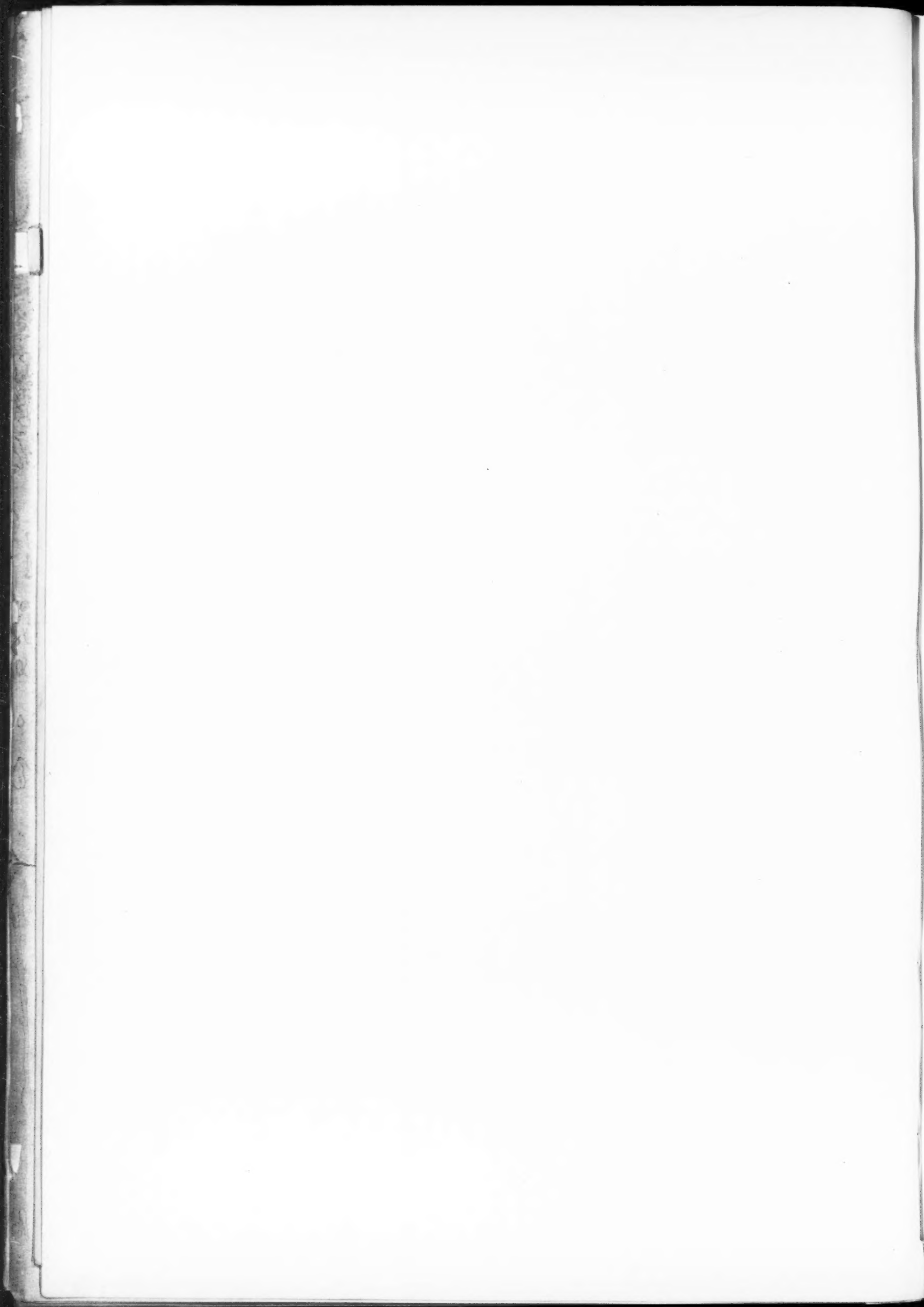
RESIDENCE OF J. C. SCALES, BUENA PARK, CHICAGO.
GEO. W. MAHER, ARCHITECT.

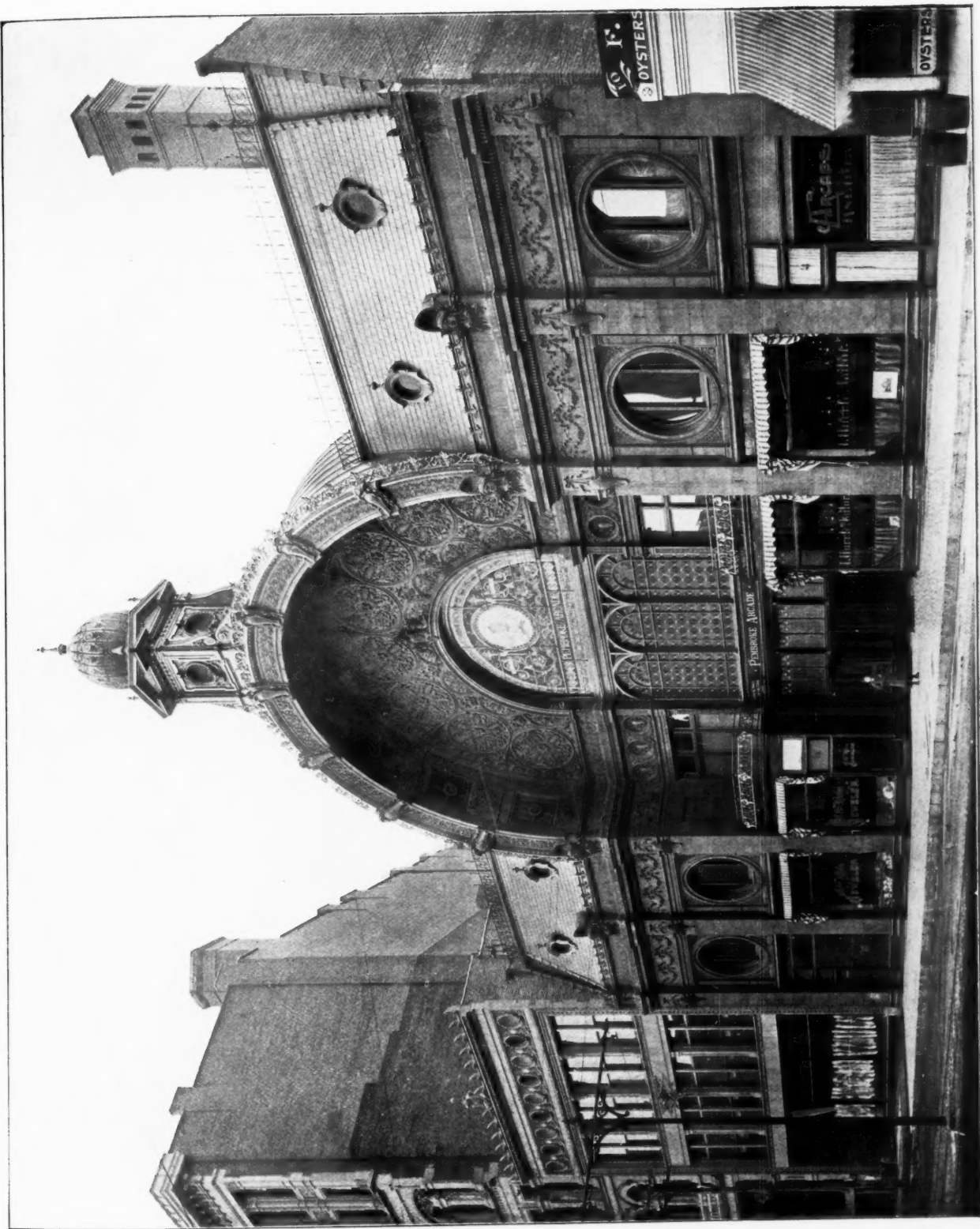




RESIDENCE OF EDWIN H. TERRELL, SAN ANTONIO, TEXAS.

ALFRED GILES & GUINDON, ARCHITECTS.





ARCADE BUILDING FOR DICKSON & TALBOTT, INDIANAPOLIS, INDIANA.

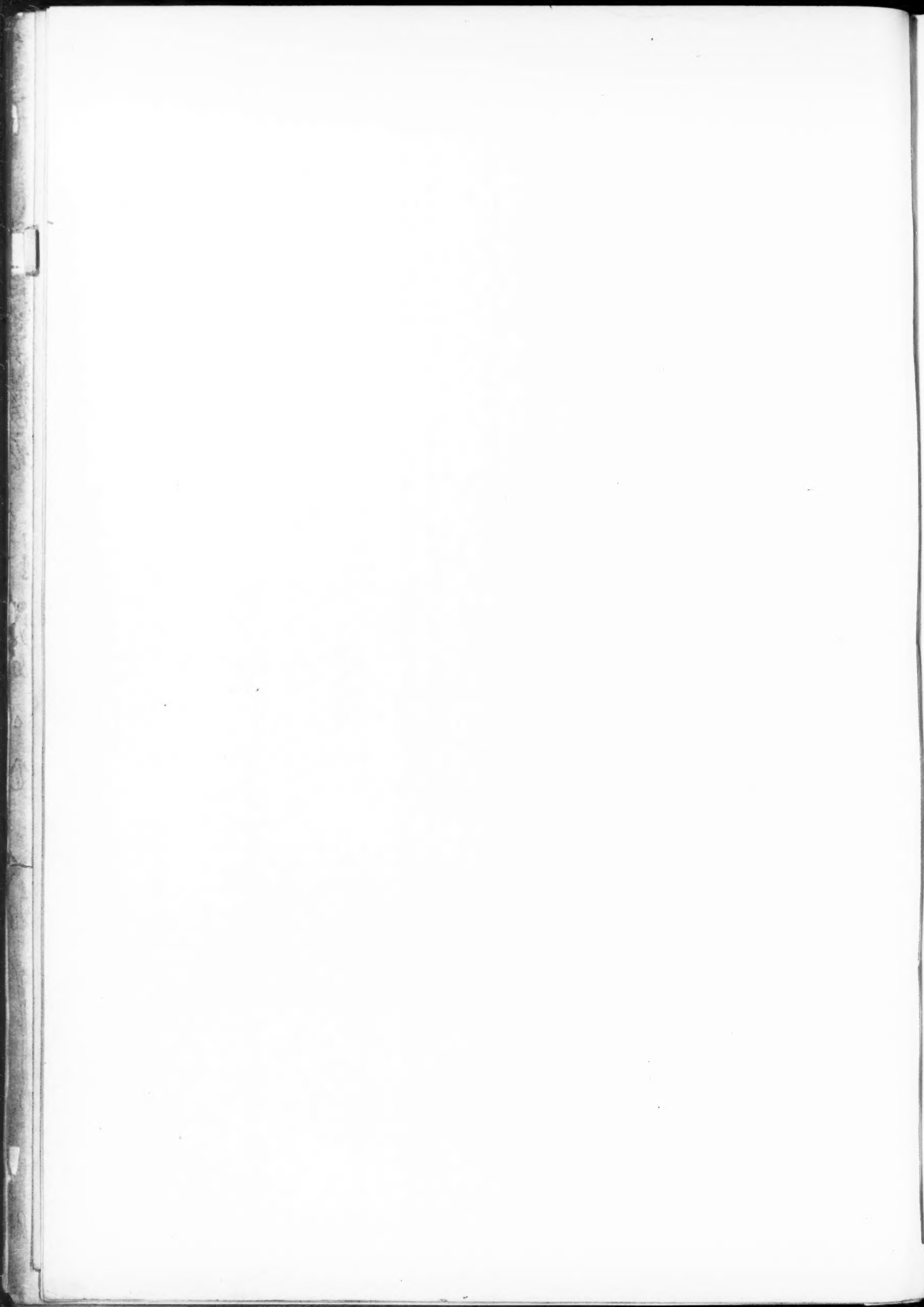
VONNEGUT & BOHN, ARCHITECTS.

GENERAL LIBRARY
UNIVERSITY OF MICH.
18 FEB 1896

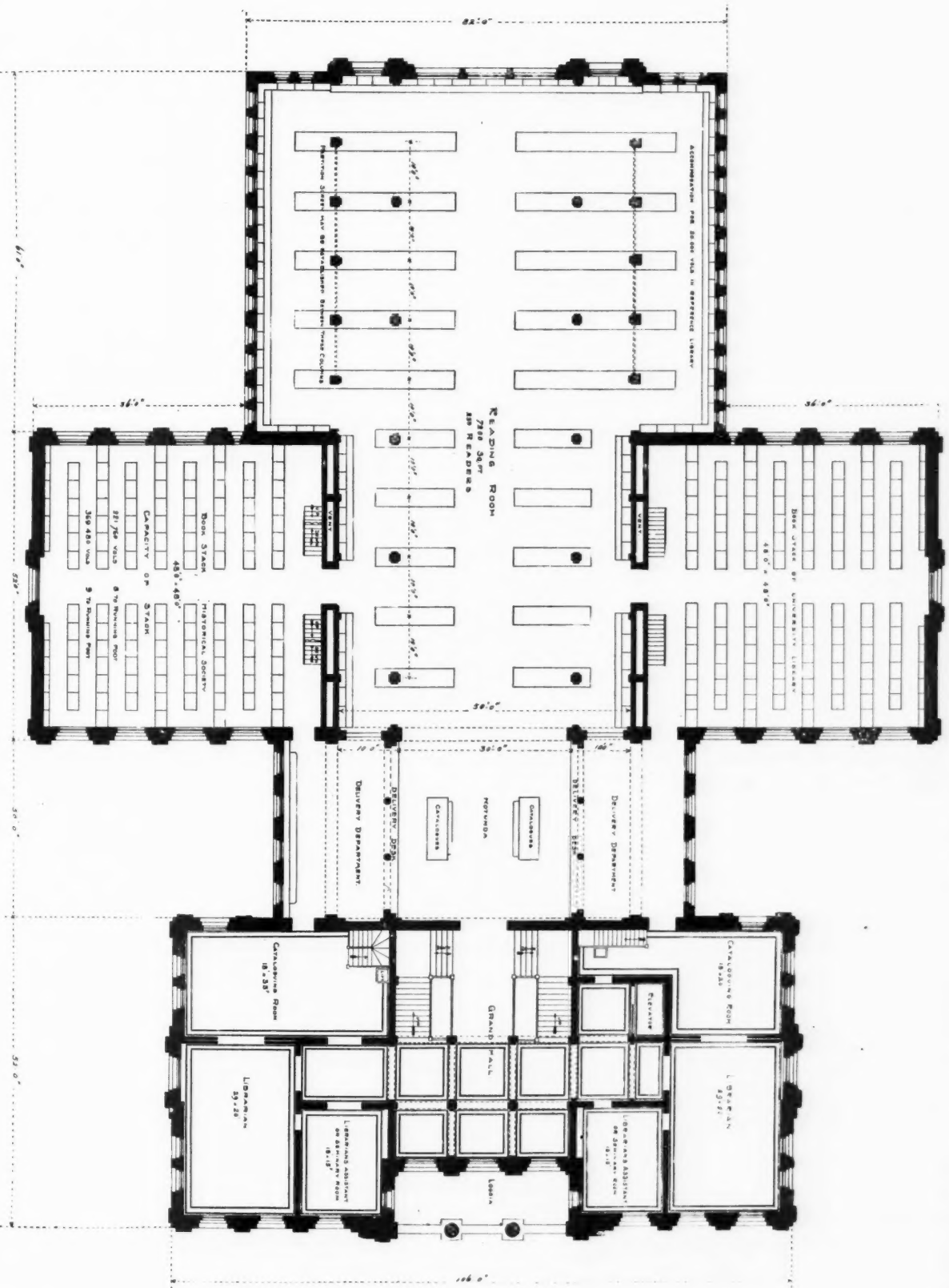


RESIDENCE OF J. C. ROBERTS, ST. LOUIS, MISSOURI.

J. B. LEGG & Co., ARCHITECTS.



UNIVERSITY OF WISCONSIN
LIBRARY
18 FEB 1890



FIRST FLOOR PLAN
SECOND PREMIUM DESIGN, FINAL COMPETITION, LIBRARY OF THE UNIVERSITY OF WISCONSIN, MADISON, WISCONSIN.
VAN BRUNT & HOWE, ARCHITECTS, KANSAS CITY, MISSOURI.