

THE INLAND ARCHITECT AND NEWS RECORD

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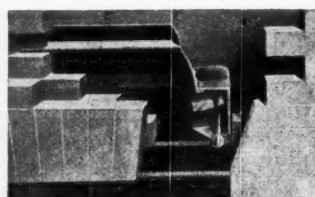
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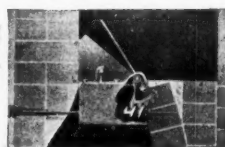
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NEXT CONVENTION AT WASHINGTON, D. C., April 22, 1907.

The National League of Handicraft Societies.

More than passing notice is due to the recent organization of the National League of Handicraft Societies, with headquarters at Boston. In this body it is hoped to include the membership of the forty-five existing local arts and crafts societies of the United States. The movement has interested many architects throughout the country. Architect H. Langford Warren is president of the newly formed national association. A talk was given before that body by Architect Ralph Adams Cram, on the possibilities for craftsmen in church work. Among the objects that the association hopes to accomplish are the establishment of a central clearing house for products and an information bureau; the co-operation with local societies in the holding of frequent exhibitions in important centers; the providing of traveling libraries of helpful books and photographs; the securing on favorable terms of the best lecturers; the holding of annual conventions, etc. Many divisions of the arts and crafts movement have a direct connection with the work directed by architects. Among these may be mentioned: ecclesiastical work, leather work, stained glass and woodworking. These accessories to architecture, carried out in the true spirit of handicraft, afford a pleasant relief from the monotony of the usual machine-made products.

Ideal Conditions for Handicraft.

The co-operation sought to be established between the designer and the workman tends towards extremely favorable conditions for securing superior workmanship, as well as to the elevation of the craftsman to the plane of the artist. The greater advance the craftsman makes in the ability to design the work that he executes the nearer he approaches to ideal conditions for handicraft and the more admirable work will he produce. There is much hope in this movement in the direction of counteracting the baneful influence of the average labor organization upon the quality of workmanship whereby the incentive to excel is largely destroyed. The ultimate aim of the association to surround the people with objects that combine beauty with utility is one that will appeal to all and merit their utmost support. That this object is not visionary is evidenced by the results already obtained in higher standards of design and workmanship. One phase of the movement in Chicago is the establishment of an art-crafts community, located in a large residence which furnishes workshop and home for a number of crafts workers.

A Practical Hint to Draftsmen.

In some offices quite a saving in both time and money (and draftsmen's time means money) could result if the proper distinction between general drawings and details were more intelligently observed, and the practical methods of building better regarded. Some years ago a very conscientious draftsman in the office of — would outline in his quarter-scale plans the smallest details of each opening. He would draw the petty minutiae of window construction, showing their pulley stiles, parting strips, boxes, weights, inside and outside casings, sections of the sash,

etc. He explained that it made the drawings "more complete." This was true, but they were not therefore more correct. The greater completeness added nothing to their serviceableness to anybody and consumed hours of extra time at his employer's expense. A really complete architectural drawing, whether plan, elevation, section or detail, will provide exactly what information is needed by the parties who are to work from that drawing; it should not contain a line nor a figure beyond. Plans and elevations must give the shape and size of each window and locate it, so that the bricklayer can set his stone sills and the builder his frames. For doors the plans must give the centre of opening, the size and kind of door, and, if hinged, the way it should swing. For chimneys they must give the size and centre of each stack, the number and size of the flues, the rooms into which they open and how high, and the center of each fireplace with the width and projection of the breast and whether it is to be "furred" or not. Generally these items are all that are needed, and all to which the builders will pay any attention, however well drawn.

Modern Church Fittings.

Economy is the keynote to most of the churches erected at the present day, and careful consideration should be given to the advantageous use of the available funds in securing the most appropriate and effective treatment at small expense, not alone of the structural parts, but of the interior fittings as well. The building committee should be impressed with the importance of securing in advance expected donations of windows, reredos, etc., that they may have the proper consideration in the architect's plans, besides the benefit of his advice in their selection and execution. That this procedure is very desirable in the interests of economy and harmony of the related parts is evident. Donors usually have the desire to influence the design of their gifts. The instances are not few where they possess photographs of fittings that ornament some large and imposing church, and wish to reproduce these designs in much smaller scale and where they would be entirely out of harmony with their surroundings. If a screen, it probably would be in the original an ornate piece of skillful carving and decorating in full harmony with its grand surroundings. In the reproduction the proportions likely would suffer, the workmanship be inferior, and the style inappropriate to the church for which it is intended. An architect would seek first good proportions, adequate strength of material and the best workmanship, and sacrifice ornamental details if he must. Wrought iron, even though adequate in design and workmanship, would not be used where wood was demanded. Adequate lighting would not be sacrificed to provide a place for a stained glass window executed to please the donor rather than to fit into the lighting plan of the church.

A Novel Plan for the Architect's Compensation.

While it is generally held that the architect receives less for his services than is his due, there is not the same uniformity of opinion concerning the fairness of a commission basis for his remuneration. Some argue that a lump sum would be more equitable. A variation on the lump sum plan has been found to work very satisfactorily in practice, both by the owner and the architect. This provides for the establishment at the start of a fixed price as the cost of the proposed building. The minimum price to be paid the architect is also fixed in advance. This may

be a lump sum determined on a basis a little under the Institute schedule, say of 4 per cent. A further agreement between the owner and the architect provides that the latter is to receive, as additional compensation, a commission of 10 per cent upon what he saves the owner on the cost price as fixed in advance. One architect's returns under such an arrangement equal $7\frac{1}{2}$ per cent of the final cost of the buildings, and the owner is satisfied that he builds at a price appreciably less than would be possible under the usual plan. Probably this arrangement would not be equally satisfactory for all classes of buildings. It has been found to work well with such buildings as factories and warehouses, classes where it is not difficult to fix in advance a fair cost price, nor to readily detect as the work progresses inferior workmanship and materials. An important consideration in such a plan, of course, is that the owner must have absolute confidence in the integrity of his architect, and feel that the effort to save will not be at the expense of good construction.

Buildings and Civic Betterment.

In most cases where civic improvements are planned they are designed primarily as a setting for public buildings. In view of this, it is highly appropriate that the initiative for betterments should come from the architects, either as individuals, or, preferably, with the force and influence of an association movement. Whenever architects present a well matured plan for public approval, sooner or later, it is safe to assert, it will have an influence on the city's improvement. A case in point is that of the project for the improvement of Chicago's Lake Front, illustrated in this number. Architect D. H. Burnham has been studying the problem for many years, and as far back as 1893 had decided upon the main features of the project. This tentative scheme was made public at the time, and the movement for its accomplishment has steadily gained momentum from year to year till now a bill has been presented to the state legislature to enable the municipal bodies concerned to carry out these vast improvements as elaborated by the architect. Favorable legislative action is practically assured. It is the desire of the South Park Board, of the executors of the Field Estate, and with scarcely a doubt of a large majority of the residents of Chicago, that the \$4,000,000 building to house the extensive Field Museum be allowed a site on the reclaimed land beyond the Illinois Central right of way. The building as planned with its terraces and monumental approaches would be an attraction to the Park that would be of the greatest interest and service to the community. There are legal questions that may prevent the location of the building on this site urged chiefly by an individual owner of property along Michigan avenue. Perseverance and the influence of the people may win however in the end. A comprehensive scheme is proposed by a commission of which Architect Cass Gilbert is a member to purchase property at an expense of \$2,000,000 to form an imposing boulevard to serve as an approach to the new State Capitol at St. Paul. This, it is planned, is to run from the center of the city and have side avenues along its length. It is a great project, but we look to see it carried out in some form in the not remote future. The people grow more and more appreciative of the benefit to a community of good architecture with appropriate and attractive surroundings by which one adorns the other, and as time goes on sufficient support is obtained for the great municipal projects to make them realities.

THE GOTHIC ASCENDENCY

By RALPH ADAMS CRAM, Architect



WHAT, in exact terms, do we mean by this phrase, "The Gothic Ascendency"? We realize, of course, that after a certain date a particular form of architectural design came most conspicuously into being, in a few years succeeding the rough, round-arched style that had halted along with rather indeterminate results through several centuries. We know that this new and radical mode of building became popular almost instantly, quickly discredited all that had gone before, was accepted by all the nations of Europe, and for three centuries was the only recognized mode of architectural expression, changing constantly, it is true, developing always, taking on varied qualities and aspects in accordance with the ethnic traditions and racial temper of the several peoples that accepted it, yet remaining always a definite style in spite of its mutations, an easily recognized type, whether it is reflected in the green Venetian lagoons or in the ripples of the English rivers; whether it dominates the level fields of the Ile de France or becomes one with the crags of the Rhine.

Now, what does this signify, this sudden and victorious advent of a style apparently without traceable ancestry? for in its structural methods, its scheme of composition, the development of its detail, the genius of its ornamentation, it is utterly unlike anything that had gone before, confessing in its ancestry far less kinship with the Norman, Romanesque and Lombard it had discomfited and destroyed than was so easily traceable between Greek and Egyptian, Byzantine and Roman, for example.

Hitherto each recognized new style had been but a development, an elaboration of some immediate prototype, tinged by new blood, perhaps, but essentially the same. Even the adoption of the arch by the Romans could not wipe out altogether the memory of Hellenism, nor could Orientalism in its turn wholly emancipate the builders of Byzantium.

Here, however, we are confronted by a new condition, a style that, when it had fully found itself, was utterly without psychological or structural antecedents. Fifty years served to blot out the last trace of Roman memories in what we call Norman work, and from then onward it was like the visualizing of a dream. A new dispensation had dawned on the world.

I repeat, what does this mean? With what are we dealing when we confront the Gothic ascendency? A dialect of an assumed architectural language which is actually an entity? A local patois tinged by some subtle redistribution of blood corpuscles? A merely inevitable development from a new fad in masonry construction? A whim, a fancy, a fluctuant fashion like our own flares for Richardsonian, Queen Anne, Colonial, and the latest gospel according to the Beaux Arts?

Not one of any of these things, I think, though we have the highest scholastic authority for holding that the development of the ribbed and pointed vault was the beginning and the ending of Gothic. Under correction I must maintain that the system of construction is an accessory to the style, and that what we call Gothic architecture could and did exist when the vault was unthought of. Until more convincing arguments are offered I for

one must hold that Gothic architecture, as we call it, is something greater than a structural incident. It is the trumpet blast of an awakening world, a proclamation to the four winds of heaven that man has found himself, that the years of probation are accomplished, the dark ages extinguished by the glory of self-knowledge; in a word, that Christianity has triumphed over Paganism, the Catholic faith over heresy. Man, redeemed, emancipated, assured of salvation, has attained his majority.

These revelations of the supreme dignity of human nature through its contact with conscious Divinity had occurred before in varying degrees, for as St. Thomas Aquinas says: "God has never left himself without a witness." In Egypt, as one realizes at Karnak, in Hellas, as the Acropolis testifies; in Byzantium, as witness St. Sophia, and the Venetian San Marco and the Capella Palatina in Palermo; in China, when Buddhism came to lighten the great world of the far East. To me, one and all, however, they lack the splendid comprehensiveness, the utter emancipation of that immutable and supremely exalted style that marked the majority of Christian Europe, the cathedrals, churches and monasteries, the castles, courts, colleges and dwellings that glorify Europe from Sicily to Scotland, from Finisterre to the frontiers of Muscovy.

"Gothic," as we call this great manifestation, for lack of a better word, is less a method of construction than it is a mental attitude, the visualizing of a spiritual impulse. Masonry vaults explain neither the awful majesty of Chartres nor the fretted towers of Rouen; concentration of loads and the grounding of thrusts never brought into existence the arcades of the Venetian palaces or the glimmering ceilings of Oxford, Westminster, Windsor and Sherborne. Far back of structural expedients lay a determining force, a driving energy, and the embodiment of this, the incarnation, was the so-called Gothic art, or, since for the time building was the chief of the arts, the favored method of artistic expression, Gothic architecture.

In a way we may, if we like, describe Hellenic architecture as a style of building developed from the principle of dead loads. It was this, of course, but I think we shall agree that really it was something beside this. It was far more the ultimate refinement of every line, every proportion, every curve, than it was the apotheosis of trabeate construction. Still more was it the embodiment of supreme calm, self-restraint and immitigable law. Most of all, and this I conceive to be its inmost essence, was it the expression through another of the arts, of exactly the same spiritual quality that voiced itself in the Antigone and the Oedipus of Sophocles, the Victory of Samothrake and the metopes of the Parthenon.

We can no more reduce Gothic architecture to the terms of a structural formula than we can dismiss Greek architecture with a word on trabeate construction; the stone beams and the dead loads are there in the one case, and the pointed vaults with their supporting ribs and resisting buttresses in the other, but these are no more the essence of the two styles than the leit-motifs are all of Wagner, or verbal involutions the basic principles of Browning and George Meredith and Gilbert Chesterton.

Perhaps after all it is the eternal imbroglia of definitions. This very clear and unmistakable style we are con-

sidering is misrepresented by the most undescriptive and misleading epithet imaginable. "Gothic" as a title is perfectly and exquisitely meaningless. The last of the Goths had been in his unquiet grave centuries before the style that bears his name was even thought of. Gothic architecture rose and was developed among peoples dwelling hundreds of miles from the habitat of the Gothic tribes, and in whose veins not a drop of Goth blood ever flowed. It was a style which was not racial in any respect; it had its manifestations in Italy, Spain, France, Germany, the Low Countries and England. It was the manifestation of an epoch, not of blood, of the *zeit geist*, not of a clan.

Pass eastward, over the Empire of Rome, the marches of the barbarian Goths, the dominions of Alexander, the principalities of Hindustan; when you arrive at the farthest East you will find on the shore of the Pacific a style that, though it differs from Gothic in its visible form as the East differs from the West, is yet in its essence one with the so-called Gothic, the wonderful architectural creations of China and Korea and Japan. Each expresses the same things: the triumph of a great religious ideal, the manifestation of fully achieved self-knowledge, the rising of a people out of barbarism, the development of the splendid virtues of heroism, sacrifice, chivalry and worship. The Buddhist temples of Japan are outwardly at the antipodes from Amiens and Gloucester cathedrals, yet both show one thing, perfect freedom from self-expression, and this the best and the highest of the self that demands utterance.

Hence the misnomer "Gothic," first given in scorn by the Pharisees of the so-called Renaissance, is hardly worth fighting for, and yet like so many epithets applied first in contempt, it has gradually become a synonym of honor, and for several generations it has stood for a very definite thing—the whole body of art that was the visible expression of the genius of Christian civilization from the eleventh to the sixteenth centuries. It has stood for life palpitating with action; for emotional richness and complexity, for the ideals of honor, duty, courage, adventure, heroism, chivalry; above all, for a dominating and controlling religious sense and for the supremacy of an undivided Church and all it signified.

Because of this it seems to me most ill-advised to endeavor to restrict the title to one of the component parts of the great mediaeval product, albeit perhaps the greatest single achievement in art of the Gothic epoch. The system of construction evolved during the space of a century in the Ile de France was unquestionably, as Professor Moore has shown, the greatest single achievement in architecture in the history of the world. I believe it was more than this: no less, indeed, than one of the most marvelous products of the mind of man in all times, all countries, all categories. It was absolute architecture raised to the level of a pure science. Egypt, Greece, Rome, the Renaissance, the Ecole des Beaux Arts, never developed anything which in comparison was more than elementary. Byzantium might have done so, as her remains prove, had her day lasted a little longer, but the night came down, and it was many centuries before the North continued the work of the frontiers of the Orient. The monks and masons of France simply harnessed the forces of nature, bound them in subjection to almost superhuman intelligence, formulated therefrom a scientific proposition in absolute law, and then vivified the whole magical fabric with the

breath of supreme beauty and the inspiration of Divine worship.

Such a triumph as this demands a distinct designation, but it seems to me rather curious to adopt as a title for the most delicate, scientific, beautiful, even metaphysical product of the mind of man, the name of a tribe of savages, a name still linked with that of the Vandals as representing the quintessence of raw, sodden barbarism.

On the other hand, we must admit that but for the accident of connotation the term applies quite as ineluctably to the whole world-spirit of mediaeval Christianity of which the consummate structural product of the Ile de France was one manifestation. For my own part, I wish the term "Gothic"—i. e., savage—might be forever discarded, or applied exclusively to the architecture of the nineteenth century, where it belongs, and that we could all agree to call the style we are considering the Christian style, while the mode of building, development and composition perfected in France in the thirteenth century should be known by some title, the discovery of which is beyond my powers, but which would indicate at once that it was the most perfect mode of building ever devised by man.

I put above it, however, the style itself, the Christian style, for it is greater than any of its parts. Those who have studied the French mode of building, the living organism that stands second only to the Divine creation of man, have been so overwhelmed with its delicacy and its majesty that they are inclined to test all things by its standards, rejecting all that falls short. This is hardly surprising, but the fact remains that by so doing they are driven to condemn much that, inadequate to this extent, is yet equally worthy of honor, equally expressive of human genius and aspiration, equally and sometimes more perfectly beautiful and sublime.

The French mode of construction was not at first understood in England, and even at last, in the fourteenth and fifteenth centuries, only partially. In Italy, Spain and Germany it was not understood at all, and yet, in spite of this fact, and while we must award to France the glory of absolute perfection, we must remember that, though it seems a paradox, the passion for perfection that fails is sometimes more noble than the passion for perfection that achieves.

Greece falls in the latter category. She set her footsteps toward a height of architectural attainment and arrived, but it was not upon a dizzy altitude. There was perfection, though on a comparatively low level of achievement. France raised her eyes to the highest peak visible below the clouds—and stood at last on the summit of possible glory. England strove to rise into the very clouds themselves, to leave the earth, with its hindering limitations. She failed, but the splendor of the ambition, the inspiration of her ideals remains vital forever, and in her failure is something of wonder and glory more appealing than the consummate victory of France.

I call it the Christian style of architecture, then, first because it is Christian in its impulse; second because it was the product of Catholic civilization, and of that alone. It was Christian in its impulse because it was freedom itself, liberty subject to law (which is the only liberty); because it was bound by no code of hindering precedents, but gave the fullest scope for personal expression; because it was full of the love of nature.

(To be continued.)

PARISIAN APARTMENT HOUSES

BY T. M. CLARK, ARCHITECT



T would be interesting to consider whether one principal reason for the unrivaled skill of the French architects in planning may not be found in the system of laying out streets favored in all French cities, and particularly in Paris. We are all familiar in this country

with the rectangular style of city platting and appreciate, dimly, the crushing burden of monotony which it imposes upon our city architecture; but only the professional man can fully understand the artistic advantages in the varied play of light and shade, and the infinite interest of the treatment of difficult points, which are afforded by the radiating arrangement of Parisian streets (Fig. 1). It would hardly be too much to say that there are no two neighboring streets in Paris which are exactly parallel, and a right-angled intersection of two streets is almost equally unknown.

Most Americans in studying the map of Paris imagine this want of rectangularity to be the result of accident. Nothing could be further from the truth. The twelve streets which radiate from the Place de l'Etoile are deliberately planned to give as many vistas terminating with the Arc de Triomphe (Fig. 2) as is compatible with the reasonable use of the land between the streets for building purposes; the Trocadero palace and garden form in the same way the focus of eleven streets; the Invalides and the Place de la Republique of ten each, and the Opera of nine. Nothing even remotely resembling this system is found in any American city except Washington; and the attempt to introduce it in other cities would probably be met with cries of protest from builders, alarmed at the supposed difficulty of utilizing the lots; yet lots of

tracts undertake such tasks with pleasure, and carry them out in many cases with a skill which is little short of marvelous.

Before entering, however, into details of actual work it will be well to recall the general conditions governing the planning of the apartment houses in which most Parisians live, and to show how they have been of late years



FIG. 2. ARC DE TRIOMPHE, PARIS.

modified in certain important respects. Every one knows that, although lots in Paris are of almost every conceivable shape, the law strictly represses the eccentricities of construction which might otherwise be suggested by this circumstance. No front wall, for example, of any building, whatever may be the width of the street on which it fronts, can be more than sixty-five feet in height from the sidewalk to the top of the cornice; but it is permitted to put on a mansard roof, provided the profile of the roof is inscribed in a semi-circle, struck from a centre at the level of the top of the cornice, with a radius equal to one-half the depth of the building from front to rear, if that depth is not more than about fifty feet.

It will be seen that under this regulation, while a great deal of sunlight reaches the street over the comparatively low front walls, the total height of the building, from the sidewalk to the top of the roof, may be, in round numbers, ninety feet. This will easily accommodate eight stories of reasonable height; and, as a matter of fact, nearly all modern Parisian apartment houses are eight stories high. The two upper stories must, however, be in the roof, and afford, in consequence, less spacious and comfortable rooms than the stories below; and, as will be seen later, this consideration is of great importance in Parisian planning.

Within a few years the building laws have been modified, with the view of making the first story above the cornice pleasanter and more convenient, and it is now permitted, under certain restrictions, to carry up dormer



FIG. 1. SOME PARISIAN ANGLES.
VIEW IN THE RUE DE LA PAIX, LOOKING TOWARD THE VENDÔME COLUMN.

almost every shape except a rectangle are constantly improved in Paris, with conspicuous success. It is true that it requires good planning to make the most out of a lot that has not a right angle in it; but the French archi-

fronts, bay windows, and even turrets and towers above the cornice, in the same plane with the walls below, so that the first "mansarded" story in the new houses is much more attractive to tenants than the corresponding story in the older buildings, and the modern planning has felt the effect of the change.

Another circumstance which has exercised great influence over the planning, not only of Parisian apartment houses, but of dwelling houses, hotels and other structures is that, under the law, improved land in Paris is not taxable except so far as it is actually covered by the building. The object of this provision, which has been in force for centuries, is evidently to encourage owners to buy large lots and leave liberal open spaces in and around their buildings; and, while it has not diminished by a single penny the public revenue, its effect in promoting the cheerfulness and beauty of the city has been incalculable.

To this law, and to it alone, are due the spacious and beautiful court yards which all apartment houses and hotels of the better class possess, as well as the charming private gardens, with their shaded walks, their flower beds and summer houses, which are found everywhere in the better quarters of the city; and it is much to be wished that in our own country, where civic improvement is beginning to be earnestly studied, this simple means might be adopted for beautifying the new portions of our cities in the most varied and effective manner, without any sacrifice on the part of the taxpayers, and without expense to any one except to the owners of the land, who would here, just as much as in Paris, willingly sacrifice the income on the capital necessary to purchase ground for a courtyard or a garden, if they could be assured that they or their heirs would not be obliged to pay taxes on it until it should be otherwise utilized.

Apart from the effect of statutory provisions, important as that is, Parisian apartment house planning is greatly influenced by traditions of living which hundreds of years of material progress have not changed.

Everyone who has seen anything of life in France knows that the French, above everything else, value their home. Among them the ties between husband and wife, parents and children, brothers and sisters, are usually much more intimate and confidential than they are with us; and even between the servants of the household and their employers, and between the members of the family and their special friends, there is very often an affection and sympathy which have hardly a parallel among the colder-

blooded northern races. It is not surprising that people to whom their family life is so sacred desire, instinctively, to protect it from intrusion, and the French ideal of a house always includes some provision for separation and protection from the world without.

As the Parisian is by nature polite and friendly, he does not wish to shut himself rudely behind a high wall; but, if his house is small, he likes to have a tiny garden in front, with an iron fence and a gate, which will keep out unbidden strangers without hurting their feelings; and, if circumstances oblige him to live in an apartment, he wishes to be sure that promiscuous persons will not find their way, uninvited, into his dwelling during his absence, and that even the people who supply the wants of his family shall be under supervision during their necessary visits. To this end all apartment houses, and most large



FIG. 3. ENTRANCE DOOR OF A PARISIAN APARTMENT HOUSE.

private dwellings, in French cities, are placed under the protection of a concierge, who performs the duties of the usual American janitor, and, in addition, keeps guard over the building and its occupants.

This part of his work is facilitated, as a rule, by arranging only one entrance from the street. In the larger houses this entrance forms a carriage-way into a courtyard. In the smaller houses it is only a foot-way, but it generally leads also into a courtyard, and, in either case,

the concierge's office and living rooms are close by, commanding it day and night. At dark, the great outside door (Fig. 3), whether there is a carriage-way or a foot passage, is always closed, and no one can enter the building without knocking, or, more usually, ringing the bell. At this signal the concierge comes to the inside of the door, where, in many cases, he can examine and question the visitor through a grated loophole, without opening the door itself.

However his inspection is made, if his conclusions are unfavorable he can go back to bed again, leaving the inquirer outside, but, if he is satisfied with the result of his investigation, he unhooks a chain, or withdraws the bolts, and admits the visitor. In the daytime the street doors, in

the larger houses, are generally left open, and the concierge's wife, or child, or other relative, often takes his place on guard; but some sort of surveillance over those who wish to enter is constantly maintained. Of course, each separate apartment in the building is under lock and key; but to French ideas, the concierge is indispensable, not only to exclude the "apartment house burglars" and other intruders so common with us, but to look after the courtyard, take care of the flowers or plants with which it is commonly adorned, and keep it attractive to visitors, as well as to give information to callers, receive cards and letters, and make himself useful in other ways.

(To be continued.)

REINFORCED CONCRETE WORK

BY F. D. WARREN, ARCHITECT

(Continued.)



AN essential feature in the specification is the limit of the stone sizes that may be used in different parts of the work. These sizes should be governed by the mix in each particular part and also upon the size of members. It goes without remark that large stones are out of place in thin slabs and it is also unnecessary to prove how the mix is affected by the stone size. The duty of the inspector lies in demanding that each size of stone is kept within its sphere of usefulness, that all stone shall be washed free from dirt and foreign matter before reaching the mixer, and that the proper proportion of all material composing the concrete is adhered to.

The precautions named in the last issue, and the relation of the inspector to them, apply in general to preliminary work in advance of the actual construction. It remains to enumerate some of the most vital precautions immediately preceding, during and after the actual construction. In these stages the part of the inspector comes best into play.

FORMS.

A very important point in a successful project is the design of the forms. In the past this feature has been one of the leading causes that has tended toward the discredit of the construction, either from excessive cost, thereby restricting its use, or from the failures that have resulted primarily because of improperly designed forms or on account of removing them prematurely. The first cause has resulted through a careless disregard of making the form work conform to systematic units which contain only a sufficient amount of lumber, which may be made with the least expense, and especially which may be erected, removed and re-erected over and over again with the least amount of labor and repair.

It should be remarked that much progress along scientific lines in the immediate past has wrought out systems in the design of forms that have partly overcome some of these obstacles. It remains to perfect these systems before the construction will have attained its worth, or will have demonstrated its true merits. Right here the prediction may properly be made that the form work in the future will be developed by the use of sheet steel or galvanized iron plates reinforced by structural ribs, and so designed as to be collapsible and convertible to suit

floor slabs of different spans. The other excess tending toward ultimate weaknesses or failures is that to which the attention of the supervisor should be inseparable. Among such causes may be named: Weakly designed and poorly constructed forms, which swell or bulge after a portion of the concrete has taken its initial set, thus destroying either the bond or the cohesion or both; faulty designed forms, which do not provide proper fillets and beveled corners to prevent unequal straining when setting and do not allow the forms to be removed without damaging the corners of the concrete or ruining the forms for future use; weak or insufficient shoring supporting the forms, which buckle or sag sufficiently to impair the cohesion and bond while pouring. When any shoring is supported on the ground, due care should be exercised to spread the bearing and carry the same to good soil.

GENERAL PRECAUTIONS.

Before commencing to pour a section of concrete it is extremely necessary for the inspector to see that the following requirements have been carried out, namely, forms of proper size and ample strength; required shape of fillets and corners; finish of stock against the surface of the concrete; specified treatment by oil or other compositions to guarantee a separation between the forms and the finished concrete; ample sizes of shoring and bracing; careful workmanship in placing wedges and installing the supports to prevent any settlement or sudden jar during the setting stage. A positive guarantee that these requirements have been fulfilled will have eliminated a grave cause of future trouble and possible disaster.

The next step in which the inspector should play an important part is to see to it that the form work covering an entire section has been completed in advance of placing the concrete; that the entire section has been swept free from shavings and sawdust and washed clean from all dirt. Serious trouble has resulted from allowing such foreign matter to be mixed with the concrete and the only way it can be prevented is to have all carpenter work completed in advance.

Extremely important is it that a sufficient amount of material is on the job to guarantee concrete enough to complete an entire section before commencing to place the concrete. Relying upon materials to be delivered for any part under way is running a serious risk and should never be

tolerated under any conditions. The inspector should be empowered to enforce this obligation, as its neglect is second to none in leading to poor work. Any part of a section left uncompleted until initial set has taken place causes a plane of separation between itself and any section subsequently added. The more marked the separation the greater detriment to the adhesion between the surfaces and to the ultimate strength of the section. It makes no difference whether this plane is caused by delay in materials or by suspension of work during meal hours and no excuse is sufficient to allow such conditions to result. The only precautions necessary to prevent such occurrences are to have a sufficient amount of materials on hand and to work two gangs of men, one to relieve the other during meal hours and night shifts.

The next warning that should be noted is to guard against injury from the elements of weather. Local weather reports should be received daily and a careful study of these, along with the temperature and barometer changes, should be made in advance of commencing to concrete a section. Starting a section when all conditions point to an immediate storm or drop in temperature should never be allowed; on the other hand, too great discretion in this regard need not be exercised in waiting for ideal conditions to the sacrifice and delay of the work. All provision for the protection of the work from any cause that may develop after beginning to pour a section should be arranged in advance and be so improvised as to be immediately applied. Only by such provisions and the proper care and co-ordination on the part of the superintendent and workmen can due protection be given to the work from such unwarned causes as sudden showers, drop in temperature and the scorching rays of the sun.

It often happens that extreme urgency for the use of a building demands the construction to be carried on under winter conditions, and while such an operation should not be recommended, still such obstacles must be overcome. By using dry and well heated materials for ingredients composing the concrete, and by mixing them with hot water, provided there is a ready and convenient means of handling and distributing the materials and that due caution is exercised in protecting work as soon as placed, concreting may be carried on in freezing weather without serious harm. To protect concrete from freezing when formed under these conditions, the following precautions may not be out of place in passing: First, that some means of heating the underside of forms or the story below must be provided by the use of steam coils or salamanders to eliminate the chill that otherwise would be imparted to the material deposited into the form; second, to retain the heat of the warm mass and to shut out the cold atmosphere, some covering such as salted hay or manure should be applied to a coating of paper applied to the soft mass. It may be seen that in cases where beauty of finish is desired, such a covering cannot be recommended. For such cases, the upper surface as well as the lower must be enclosed and heated as previously noted. To guarantee such precaution, the services of an inspector cannot be omitted.

Should any part by misfortune become frozen, a particular duty devolves upon the inspector to see that the section is kept frozen until such time that it may thaw out and be kept from future freezing. It has been clearly demonstrated that while freezing does not seriously impair the strength, that alternate thawing and freezing does

seriously injure concrete. While such a section is frozen, and up to the time that it thaws out and is thoroughly set up, no part of the framework or supports under the same should be removed, since, immediately after thawing, it attains its former soft and limpid state. If it be planned to allow any part to become frozen, the sooner after placing this can be effected the better. While freezing before the initial set takes place does but slightly affect the strength, that occurring afterward does impair the strength.

CURING.

After a given section has been completed and the required finish given to the floor surface, the next treatment that needs the attention of the inspector is the curing process. In brief, this process should exclude the action of the sun's rays and that of a hot, dry wind, from the sections just placed. This may best be accomplished by spraying very fine particles of water over the surface until the said surface has hardened sufficiently to allow a canvass or tarpaulin covering to be spread over it. This latter should also be kept wet, or at any rate moist, by frequent spraying with water. After the surface has set sufficiently to allow walking upon it, the temporary covering may be removed, and a permanent coating of sawdust applied. This final coating should be kept well soaked with water just as long as practicable.

All parts protected by the forms need little if any covering unless the conditions be extreme, but as soon as any part of the forms is removed, such as the side forms of beams, girders or walls, these latter need the diligent attention of the man assigned to the spraying, urged on by the inspector in charge.

To obtain the full efficiency of the design, no part should set in advance of a contiguous part, for by unequal setting, internal strains are produced, as in castings, much to the detriment of the mass. The only practical way yet employed to overcome this tendency is to supply the exposed surfaces of all parts with water to compensate for that evaporated, and so tend to keep all parts of the mass in a like state of set.

It may be well to add that concrete blocks should never be used that have not already been cured for at least two to four weeks after forming; even then it is wise to keep them stored in a damp place and, if placed in an exposed surface, to spray them occasionally.

STRIKING CENTERS.

Since this proceeding, when done prematurely, only leads to trouble and disaster, and since it has been the prevailing cause assigned to disaster in the past, whether justly or otherwise, safety demands that the contractor give it consideration before attempting it. So many conditions enter the case to upset any hard and fast rules as to the time required for different classes and masses of concrete to set up, that this solution seems to be out of the question if rigidly held to. The most satisfactory way out of the matter, in the writer's opinion, is for the inspector to keep a careful log, such as previously referred to, noting all the variables from day to day, and anything that would tend to retard hard set. A study of this log, along with the experience gained in handling the particular ingredients and a like mixture under similar conditions of mixing and application, will give the most intelligent and scientific means of meeting this problem.

Forms are now being designed more in accordance with safety during the striking process than in the past.

ARCHITECTURAL AND STRUCTURAL ENGINEERING

BY MAURICE M. SLOAN, ARCHITECTURAL ENGINEER



HERE is no question in the design of steel framed buildings upon which there is such a diversity of opinion among engineers and architects as the problems with reference to the resistance of wind pressure; and this variability is reflected by the building laws of the several cities. As is well known by the architectural profession, researches that have been made in this country and abroad have fairly well established the fact that a wind pressure of forty pounds to the square foot will frequently be obtained on a flat surface normal to the direction of the wind, and during violent storms and hurricanes it has been found from surveys of the havoc wrought that a pressure of as much as ninety or more pounds to the square foot has been realized.

The conservative practice seems to be to design tall buildings to resist a wind pressure of about thirty pounds to the square foot, as it is self-evident that it would be manifestly impractical to design structures to resist the force of cyclonic storms. To consider such storms in the problem of wind bracing would produce results that would exceed all economical limitation, and even then it would be probable that the structure so unfortunate as to be in the path of such a storm would be partially destroyed on account of the peculiar rotary actions of the wind. In large cities, where high structures are most frequently erected, they must ordinarily be designed to meet the requirements of the building department. It is found in consequence that the architect or the engineer is not free to use his best judgment in meeting the requirements of the particular building upon which he is engaged, but must design the structure to meet the requirements of thirty, forty, or even fifty pounds to the square foot on the entire area or surface at right angles with the direction of the wind. It is entirely improbable that this pressure will ever be realized upon the large surface offered by the sides of a tall building. Ordinarily the five or six lower stories are protected by adjacent structures; besides, the force of the wind near the ground is not usually as intense as at higher levels; and, again, the chance of maximum unit pressure existing upon the entire surface is remote, as the wind is usually more or less intermittent and variable.

In several cities the building laws consider these conditions and make reductions for the area below a certain height, and increase the unit pressure for areas above another fixed height. For instance, one building law stipulates that where the buildings are erected in built-up sections or districts of the city the wind pressure need not be figured for more than twenty-five pounds at the tenth story, and may be reduced two and one-half pounds on each succeeding lower story, and increased two and one-half pounds on each upper story until a maximum of thirty-five pounds is reached. It is very doubtful whether the wind pressure on the side of a building is ever greater than ten or fifteen pounds, and in designing a bracing for the steel frame the fact is sometimes lost sight of that the great mass of steel and masonry has a certain inertia which is unlikely to be disturbed by the intermittent ef-

fort of the wind, and in the poorest of junctions and joint connections there is bound to be great resistance because of their multiplicity alone.

It is sometimes the practice in the design of very tall and narrow buildings to consider their overturning moment and to equate this moment with the moment of their weight acting about the foot of the leeward columns as a center. Such calculations as these usually reveal the fact that the moment of the weight of the building is in excess of the wind moment, and that the overturning of the building is highly improbable. It would seem, then, the most important influence exerted by the wind pressure is to increase the stresses in the leeward columns. Here, again, an investigation would show that this increase of stress would be very slight when the entire area of the column is considered. It is, therefore, entirely within good engineering judgment to neglect such increased stresses, for the full live load on these columns is never realized, and the increased stress only reaches an appreciable amount once or twice in the life of the structure, and then of only momentary duration, so that a reduction in the factor of safety would be more than ample to provide for the additional resistance. It is, however, especially important to consider this element of design in the construction of towers, spires, and tank supports, as many failures of small structures have been traceable to a neglect in this respect, and the failure of these has frequently precipitated the partial destruction of the main structure.

In the design of important buildings subject to wind pressure the strength of local parts of the construction is frequently neglected, and it is not unusual to have high parapet walls, which have been run up for an architectural effect, to blow down from lack of proper designing or adequate bracing at the back, and care should be taken in the design of large tracery windows in churches to observe that the frames are constructed so as to furnish adequate resistance against blowing in. It is also found that in city buildings large plate glass windows are placed in such exposed locations as to require their reglazing after every extraordinary wind storm, at a great expense to the owners.

The force of the wind on surfaces at right angles to its direction has been well established by scientific investigation, and practice has proven that Hutton's formula for determining the wind pressure normal to sloping surfaces gives results satisfactory with regard to economy and strength, while in the design of stacks with cylindrical surfaces it is generally conceded that effective pressure upon the curved surface is usually about one-half as much as it would be upon the projected flat surface. The greatest error in the design of the supporting members of roofs with great spans to resist the wind pressure seems to be in analyzing the wind stress diagrams in conjunction with the snow load. It is not unusual to find designers considering snow loads and wind loads as applied upon the same side of the roof, whereas it is impossible to keep snow on a roof when the maximum wind pressure is exerted.

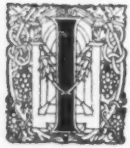
(To be continued.)

MUNICIPAL IMPROVEMENT—HIGHWAYS

BY ALBERT KELSEY, ARCHITECT

CHAIRMAN OF THE MUNICIPAL IMPROVEMENT COMMITTEE, A. I. A.

PART XVII.



IN discussing this subject M. Eugene Henard says: "A modern city is, then, a mass of buildings in which the density and importance increases toward the center from the outer boundary. For this reason the highways of circulation and exchange should not be uniform in dimension. Their direction should tend toward the center of affairs, and their area should become greater as they approach it, similar to the circulation of a living organism in which the veins and arteries increase in both importance and size as they approach the heart."

This appears to be entirely at variance with preceding statements. And it is, though the two points of view may be somewhat reconciled, as follows: My illustration was intended to cover old communities where the only way to increase the area of thoroughfares at the center is to add additional stories, but increase them you must. On the other hand, M. Henard refers, doubtless, only to the actual needs of circulation between curbs without reference to parking, while the parking and widening of walks and the adding of additional spaces for recreation, where possible, is made much of by me, though the most logical type of parking, viz., the subdivision of the roadway itself, separating through traffic from vehicles calling from house to house, is a principle his people were the first to discover and adopt.

Likewise the advantages of additional walks with the shade trees on these strips separating the roadways are great. In the first place, they separate the pedestrians who are out for recreation from those who are hurrying from shop to shop, or from house to house, just as the roadways separate and simplify street traffic. They provide places for tree planting where the trees are far enough away from the wall line to insure fresh air and a view from all windows on the one hand and an unobstructed view of all signs from the street on the other, which, in commercial districts, is a consideration of importance. Then, too, the trees themselves enjoy abundant sunshine, good ventilation and their roots are less likely to be subjected to poisonous gases or other dangers resulting from unavoidable leaks in sewers, gas pipes and electric conduits.

M. Henard's next point is one of very great importance. "But it would be imprudent," he goes on to say, "to make all highways tend toward the same point or the same place; as this would cause at this spot an inextricable congestion and confusion. Streets leading to the center should be connected by a large circular or polygonal highway (collector) passing through the middle distance of the business buildings or central area. Such a highway we may call the circle or boundary of reason."

Thus, and on a purely traffic basis alone, we have his authority to break the continuity of trunk thoroughfare. Aesthetic considerations authorize it also, as will presently be seen.

"The circle or boundary of reason" should be wider than any street leading to it, and need not necessarily block the course of a trunk thoroughfare; it should, however, to be a good collector, be the turning point for most of its traffic. And if it does not terminate the trunk thorough-

fare it should at least be embellished to divert attention strongly to the right or left.

There is no art in indefinitely projecting a street along a straight line, though the topography may be uniform and the objective point straight ahead to justify and apparently to demand it. Dismal, endless vistas are depressing. Their indistinguishable sameness alone warrants something better and in seeking it at least at intervals of half a mile they may be carried around a monument site, or a foundation, without really changing their stern course and without greatly disturbing the structure of the city plan. For example, badly neglected and overgrown as are the original and best portions of the plans of Washington, Buffalo and Detroit, yet shining through them the principle of having the main streets lead to something gives them rare distinction. Indeed, the spot crowned by the National Capitol, but for the intrusion of the Congressional Library across one of the vistas leading to it, would be a perfect focal point. As it is, all of those streets but one, by their destination, prove that no street need be dull and pleasureless. And one at least will exemplify the grandest and most profoundly impressive type of thoroughfare. When completely redeemed The Mall will rank with the monumental avenues where the greatest pageants of history have passed in review.

Such avenues first are noteworthy for their splendid proportions, and, secondly, for their adornment. In them municipal art manifests itself in statuary, in architectural accessories, in water and verdure, to say nothing of backgrounds of noble buildings and unusual electric lighting fixtures and other furnishings. And all these furnishings and decorations are, or should be, mediums for the expression of certain ideas leading one by one up to a grand climax where all that went before is reviewed or epitomized. Thus the artist may weave into its very core and fabric traditional and historical associations or such local and national characteristics as are calculated to arouse and delight the imagination.

The southern city full of mystery and poetry, like the northern city teeming with life and prosperity, each in its own way has a story to tell, which if told with some of the grace of life will be a joy forever.

Just as the Champs Elysee, the Prodo Unter den Linden, etc., are the streets par excellence of the cities they adorn, the streets where all go to see and to be seen, where all go for recreation and enjoyment, because they offer them the most agreeable setting and because everything that meets the eye is calculated to raise their spirits and to direct their minds to the realm of cultivated enjoyment, so will we soon crave and then demand in our own cities one central street always in holiday attire, always displaying all the other luxuries which we are forever going abroad to see and to enjoy.

The Champs Elysee alone among those just cited makes a strong and purposeful appeal, and one that rises far above the incidental allurements of its bowered restaurants and gay amusement places, but there are others like the Paseo de la Reforma in the City of Mexico, and

the Lieges alle in Berlin, which are so pronounced in their literary aims as to deserve description.

The Paseo, for example, to this day remains and will remain as long as there is a city there, the most permanent memorial of Maximilian and the Empress Carlotta, and notwithstanding a change of government it goes on increasing in beauty and interest as generation succeeds generation.

The scheme is simple and well developed. It connects the City of Mexico with the heights of Chapultepec, the president's summer home. On either side of a broad central avenue, upon isolated shaded promenades separated by green alleys from the wide walks and in front of the villas are rows of pedestals at regular intervals.

(To be continued.)

OUR ILLUSTRATIONS.

Residence of Mr. Sharpe, Pasadena, Cal. J. J. Blick, architect.

Central portion, the Blow School, St. Louis, Mo. William B. Ittner, architect.

Entrance detail, the Langham apartment building, New York. Clinton & Russell, architects.

Entrance, No. 1 Wall street, New York. Barnett, Haynes & Barnett, architects, St. Louis.

Shelby County Court House, Memphis, Tenn. Hale & Rogers, architects, New York. Exterior views and plans are shown.

Residence for Julius Walsh, Jr. Barnett, Haynes & Barnett, architects, St. Louis. Garden front and main entrance are shown.

Church of the Epiphany (R. C.), Philadelphia, Pa. Watson & Huckel, architects. Exterior and interior views and plans are shown.

Office building for the Pennsylvania Railroad, Baltimore, Md. Worthington & Ahrens and Parker & Thomas, associated architects.

Residence and grounds of George D. Barron, Rye, N. Y., Geo. A. Freeman, architect, New York. Landscape work and outbuildings by Charles W. Leavitt, Jr.

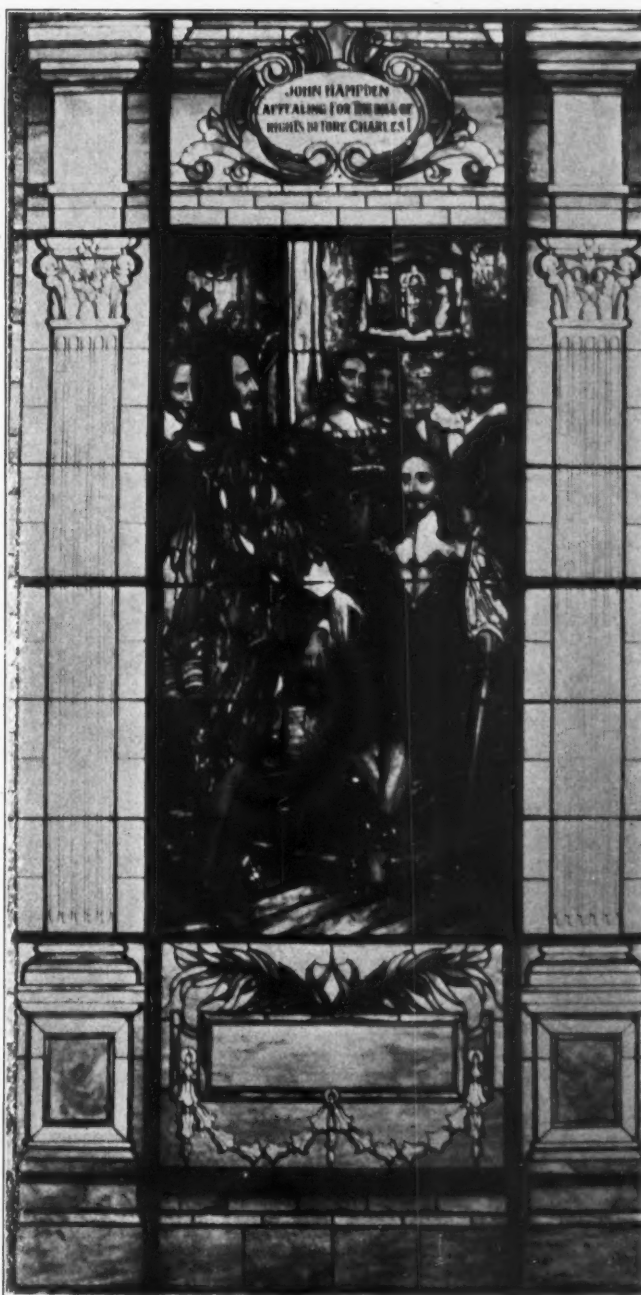
Residence of Charles H. Lindenberg, Columbus, Ohio; Frank L. Packard, architect. The following views are shown: Exterior, stairway hall, dining room, reception room and plan.

Quadriga Group of Sculpture for Minnesota State Capitol, St. Paul, Daniel Chester French and E. C. Potter, sculptors, New York; Cass Gilbert, architect. The group is about twenty feet across, and the figures eight feet in height. The principal figure represents Progress. It is executed in copper and is to be gilded.

New Hall of Records, New York. Horgan & Slattery, architects. Original design by the late John R. Thomas. The design is in the style of the French renaissance. The material is finished granite. The heroic figures along the cornice represent successive mayors of the city and governors of the state. They were from the studies of Philip Martini. The foyer is in Siena marble of a light yellow tone, elaborately carved. In the north court room are attractive panels in relief, representing Wisdom, Truth, Civilization and Degradation. Here also are carved chimney pieces of light green Easton marble, trimmed with bronze. A specimen panel and two mantels are shown in our illustration pages, as well as a representative piece of the statuary.

Memorial window for Plymouth Church, Brooklyn, N. Y., designed by Frederick Stymetz Lamb. The subject is, "The plea of John Hampden Before Charles I for the Bill of Rights," or, as it might be termed, "The Dawn of Political Liberty." It is a good example in conception, color and execution of the American school of art glass work. All of the auditorium windows of the church are to be devoted to the portrayal of notable historical events. The Plymouth being a Congregational church,

there was at first a strong protest against the embellishment, but the suggestion of the historic series of windows met with the approval of everyone. The other subjects selected are, "John Milton's Plea for the Liberty of the Printing Press," "Oliver Cromwell Announcing to George Fox Freedom of Worship," "Robinson on the 'Speedwell' at Delfthaven," "The Signing of the Compact on the Mayflower," "The Landing of the Pilgrims," "John Eliot Preaching to the Indians," and "The Founding of Harvard College."



MEMORIAL WINDOW, BY F. S. LAMB.

D. H. Burnham, architect, has prepared preliminary plans for the improvement of the lake front of Chicago. Reproductions of the architect's drawings appear in this number. These embrace a birdseye view from a colored drawing by Jules Guerin, a perspective and maps. The proposed improvements consist of two principal problems, the building in the lake of an outer roadway, extending from Park avenue south to Jackson Park, which is to run between parkways and to be bordered on the inside with a lagoon, spanned at intervals with ornamental bridges. This outer driveway is planned to connect with Michigan avenue, the second problem in the scheme. This avenue is to form a connecting link with the north side boulevard system.

The plan includes the widening of Michigan avenue. At a point on the south side of the river, about Washington street, elevation will begin and rise gradually until Randolph street is passed. All the traffic on Randolph street east at this point

will pass under the elevation as well as that of the other streets between Randolph and the river.

At Randolph the plans call for a subway under the boulevard. The river is to be crossed by a double-deck bridge. The lower roadway will be at the present street level and will be used for heavy traffic, much of which will be diverted from the now congested Rush street bridge. The upper roadway will be the boulevard and on it only light traffic and automobiles will be permitted. On each side of the wide double-decked bridge planned to cross the river a wide plaza is designed to be utilized as recreation spots where a view may be had of the city.

At a point north of the bridge the elevation will begin to decline gradually, reaching its end at Indiana street. The "link" is completed when Lincoln Park boulevard is reached, by way of Pine street.

Mr. Burnham and his assistant, Edward Bennett, as well as all who have examined the plans, are enthusiastic over the possibilities for beauty in the proposed treatment of Chicago's water front.

ASSOCIATION NOTES.

NATIONAL SCULPTURE SOCIETY.

At a sculptors' meeting of the society, attention was called by J. J. Boyle, member of the Fine Arts' Commission of the City of New York, to the demand for artistic drinking fountains for many localities in the city. The subject as presented by Mr. Boyle led to the appointment of a committee. This committee advises sculptors to prepare sketches and designs for drinking fountains for man and beast and to bring these designs to public exhibition, most suitably perhaps in connection with the proposed exhibition this coming autumn. On the basis of information in the hands of the committee a certain number of sites are specified from which sculptors may choose. These sites were selected by parties who desire to erect fountains if a suitable design should be presented. It appears therefore very probable to the committee that sculptors exhibiting able and appropriate designs may not look in vain for clients. The committee also wishes to state that a familiar field may be found for fountains for human beings only.

CHICAGO ARCHITECTS' BUSINESS ASSOCIATION.

The feature of the regular meeting held February 26 at the Art Institute was the discussion as to the extent to which the club could wisely give its aid to such municipal questions as smoke prevention and the settlement of the traction problem. It was voted to appoint committees to further both projects. The main discussion was on the traction question. It was feared that action might have the appearance of the association's entering into politics. It was clearly explained, however, that the appointment of the committee was requested by the real estate board and an influential club, both non-partisan. The members of this committee are Peter B. Wright and George Beaumont. The gratifying report was made that twenty-five new members had joined the association. The question of office hours, holidays and vacations in architects' offices has been the subject of discussion and inquiry by a committee of the association. It finds that the consensus of opinion of the majority of the architects of Chicago favors the following rules: 1. Working days to consist of eight hours, except Saturdays. 2. Offices close on Saturdays at 1 p. m. during the entire year. 3. The observance of six legal holidays, namely, New Year's Day, February 22, May 30, July 4, Thanksgiving and Christmas. 4. The allowance to all permanent employees who have done services for one year or more, of two weeks' holiday each year without deduction of salary. A resolution recommending the above was introduced and carried by the association. A lecture is to be delivered by Mr. T. L. Condon, member American Society of Civil Engineers, which will be given at Fullerton hall, Art Institute, on March 26, 8:30 p. m. Subject, "Reinforced Concrete."

ILLINOIS CHAPTER, A. I. A.

The regular monthly meeting and dinner were held March 11 at the Art Institute. Twenty-three were present. President Woltersdorf presided. Secretary Wight read the amendments passed at the previous meeting, as follows: Amendments to the constitution and by-laws provide that those members who were formerly known as "Regular Members" are now called *Institute Members*, all of them now being members (either Fel-

lows or Associates) of the A. I. A.; and those who were formerly called "Junior Members" are now called *Chapter Members*.

Whenever "Chapter Members" are elected into the A. I. A. they become by that fact *Institute Members*.

The dues of Institute Members whose places of business are more than thirty miles from the Cook County Courthouse were reduced to \$5 per annum from March 1, 1907. Chapter Members continue to pay \$5 per annum.

Letters were read favoring Chicago for the next A. I. A. convention from the Southern California Chapter, A. I. A.; the secretary of the Iowa Chapter, A. I. A.; the Washington State Chapter, A. I. A., and the Cincinnati Chapter, A. I. A. A communication was received from President Keller of the Connecticut Chapter, A. I. A., the subject of which was "Competitions." The Chicago Building Commissioner, Peter Bartz, advised the chapter that the city council had passed an ordinance placing alcove rooms under the same restrictions as to light and ventilation that apply to other rooms. Alcoves must now have windows open to light. The Chicago architects have been urging this ordinance for some time. The special subject for the evening was "The Recent Design and Planning of Apartment Houses," which was presented in an able paper by Architect Samuel N. Crown.

NEW PUBLICATIONS.

PRINCIPLES AND PRACTICE OF PLUMBING. By J. J. Cosgrove, Published by Standard Sanitary Manufacturing Company, Pittsburg.

The chief contents of this work appeared in serial form in *Modern Sanitation*, issued by the same publishers. The interest attracted by the articles in their original form led the author to prepare this work. The advance subscription has been very large, and is the best evidence of the appreciation by architects, plumbers and sanitary experts of the value of this treatise on the best modern plumbing practice. The subjects indexed number over 1,200, from which it may be inferred that every phase of plumbing has been included. The subjects are treated under the general heads of Drainage Systems, Water Supply Systems, Hot Water Supply, Plumbing Fixtures and Tests. Every important step is fully illustrated by cuts, the quality of which is a delight to one informed on the art of engraving. A vast amount of research, care and intelligence is evidenced in the preparation of numerous tables, original with the author. Notwithstanding the wide scope of the work, all has been kept by judicious treatment within the bounds of reasonable size. The book is destined to meet wide sale, and rank as a standard authority.

CONCRETE AND REINFORCED CONCRETE CONSTRUCTION. By Homer A. Reid. Price, \$5.00. Myron Clark, publishers, New York City.

The prevailing opinion among architects generally is that cement and concrete construction have come to stay and that this material will figure very prominently in the future building history of the country. In fact, the marvelous growth of the cement industry during the past several years has led to the use of the term "cement age" as a result of the fact that cement and concrete are used in such abundant quantities where heretofore other materials have been used. This fact has naturally created a great demand for concise and reliable information among users of concrete. "Concrete and Reinforced Concrete Construction" fills a long-felt want for information on this subject. This book is not only interesting as a reference work for architects and engineers, but it is believed the treatment is sufficiently simple for the engineering student and general reader. As far as is possible a very logical development of the subject has been followed. It has been the author's aim in the preparation of this book to make it within reasonable limits a complete treatise upon the properties and uses of all kinds of concrete construction. Clearness in development and a continuity of treatment of the subject matter has been attempted, perhaps at the risk of some repetition. While, perhaps, a knowledge of how cement is manufactured is not necessary to doing good work in concrete, it certainly can do no harm and it is true that the more a concrete user knows about the material with which he is working, the less danger there is of his abusing it. This book contains over 850 pages and thirty-four chapters, all profusely illustrated.

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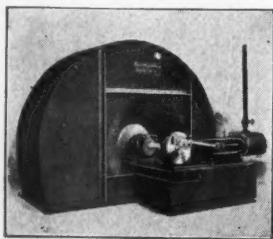
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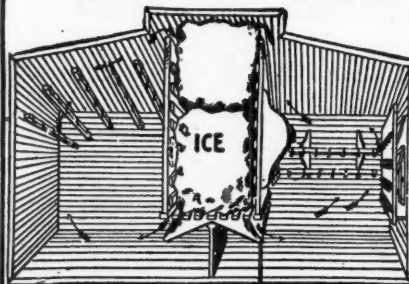
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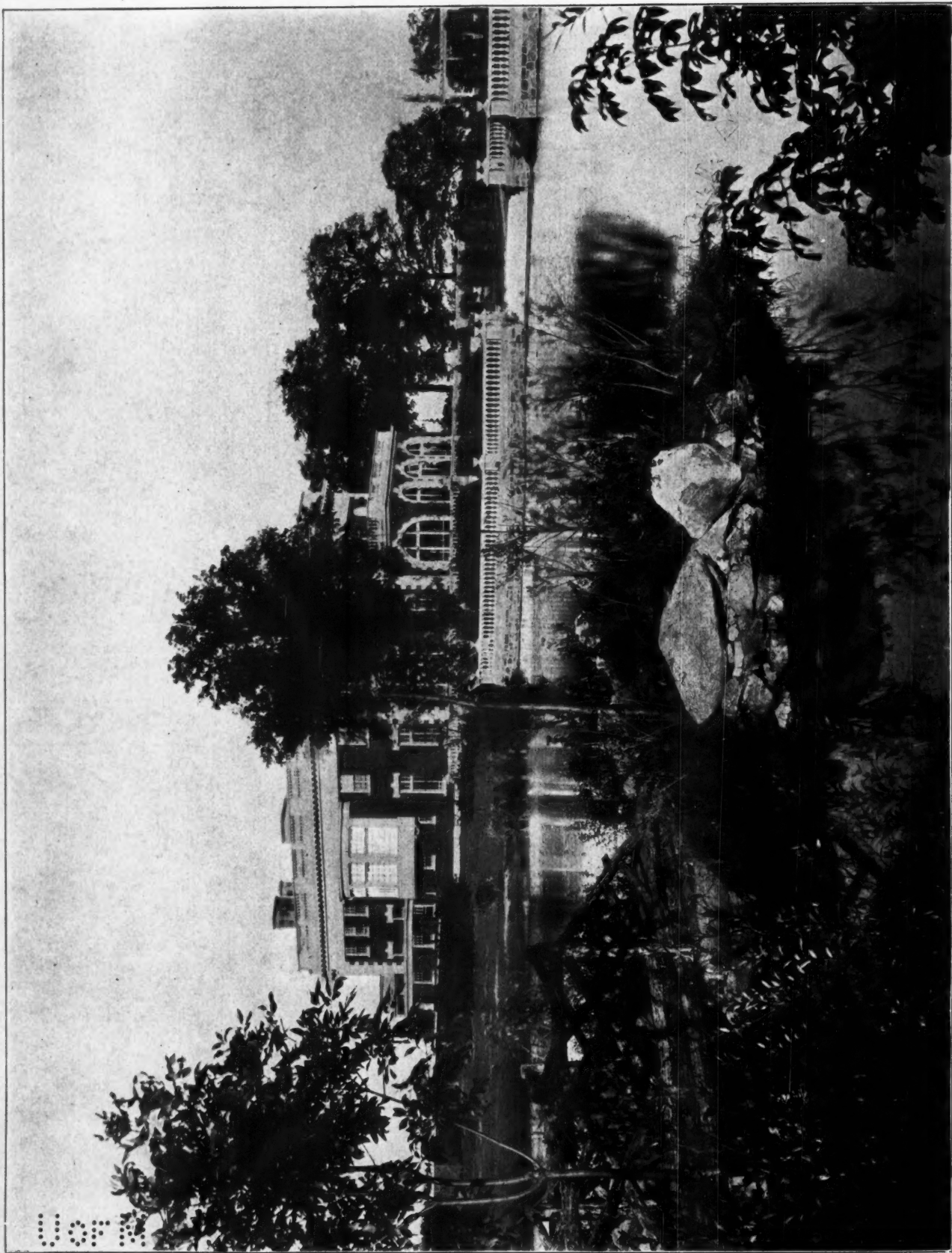
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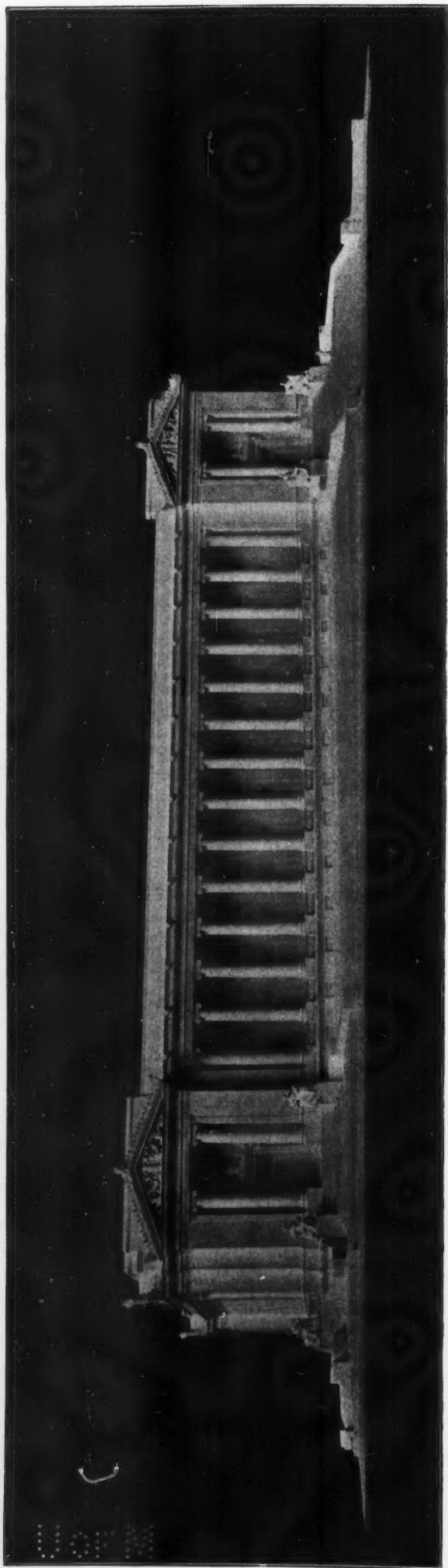
1870



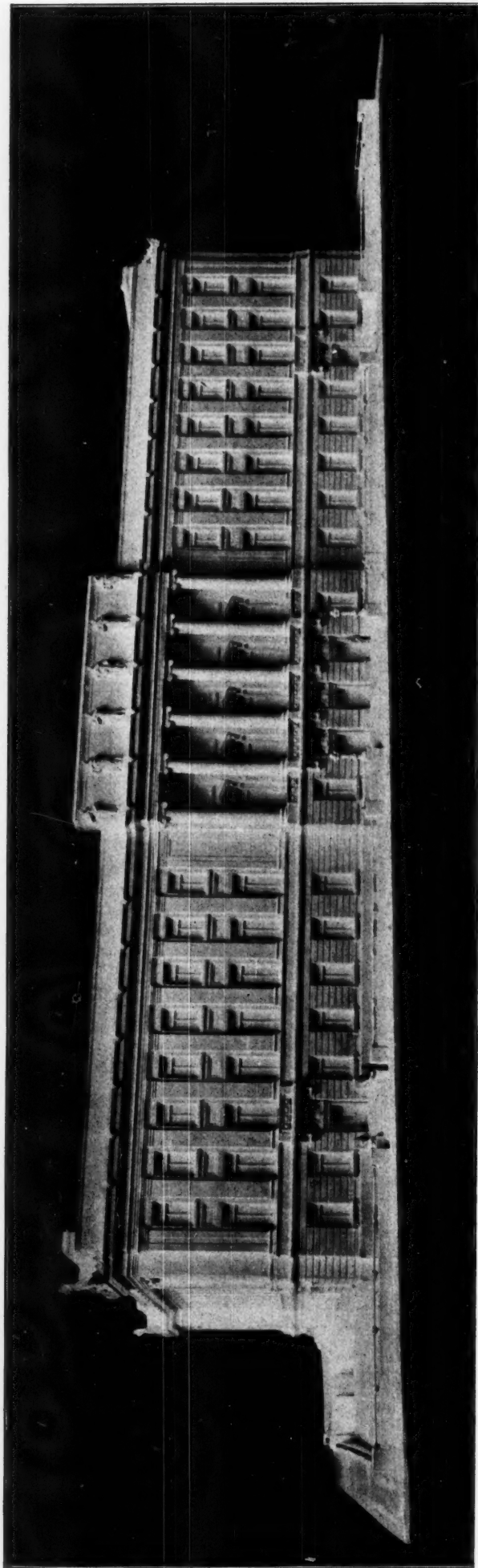
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South Front



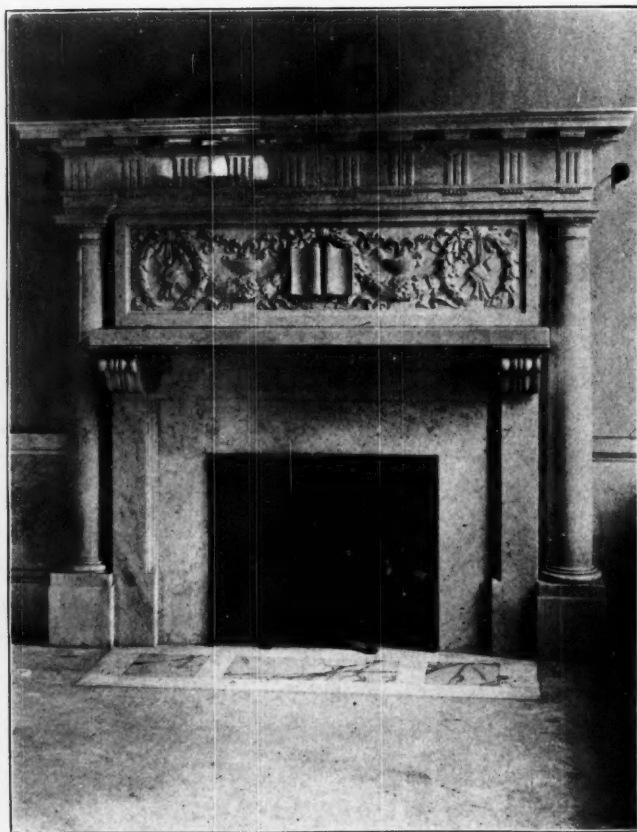
North Front

VIEWS OF MODEL, SHELBY COUNTY COURT HOUSE, MEMPHIS, TENN.

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TYPICAL DETAILS, NEW HALL OF RECORDS, NEW YORK
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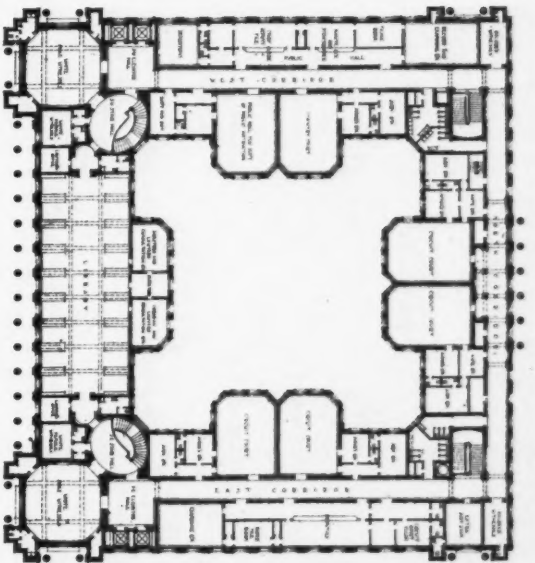


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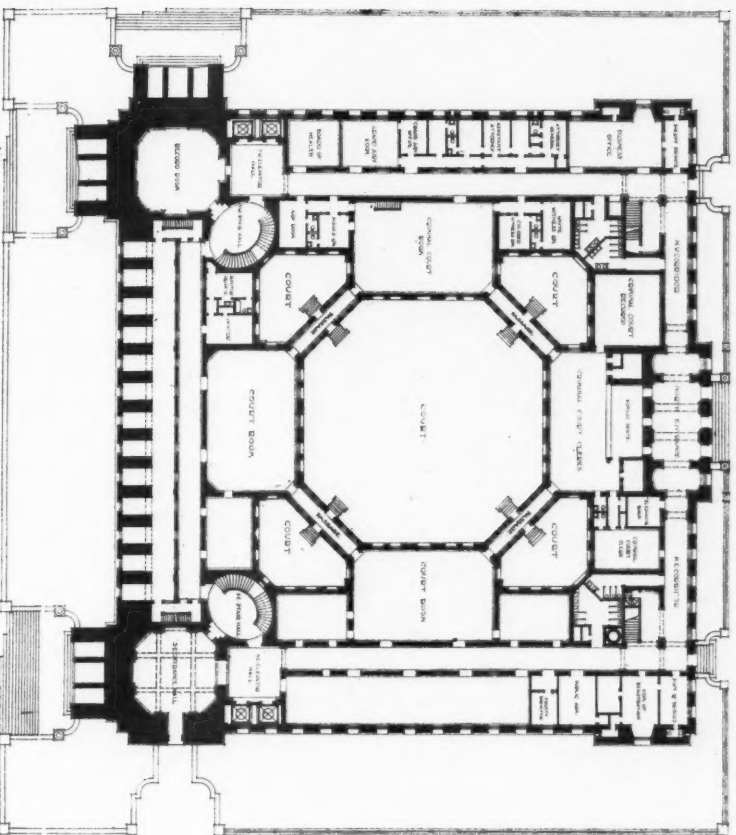
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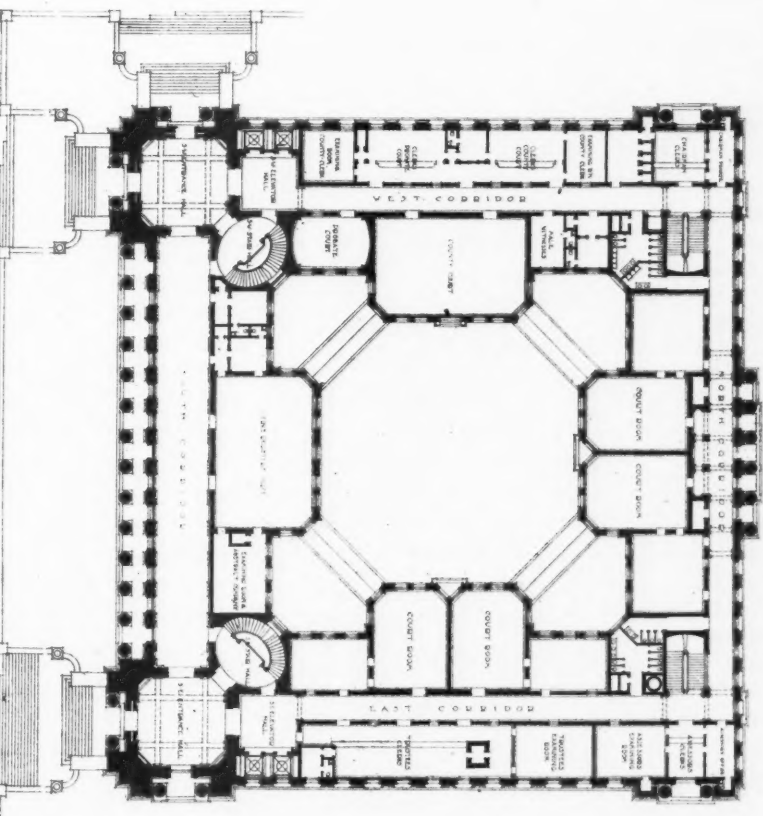
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Third Floor Plan



First Floor Plan

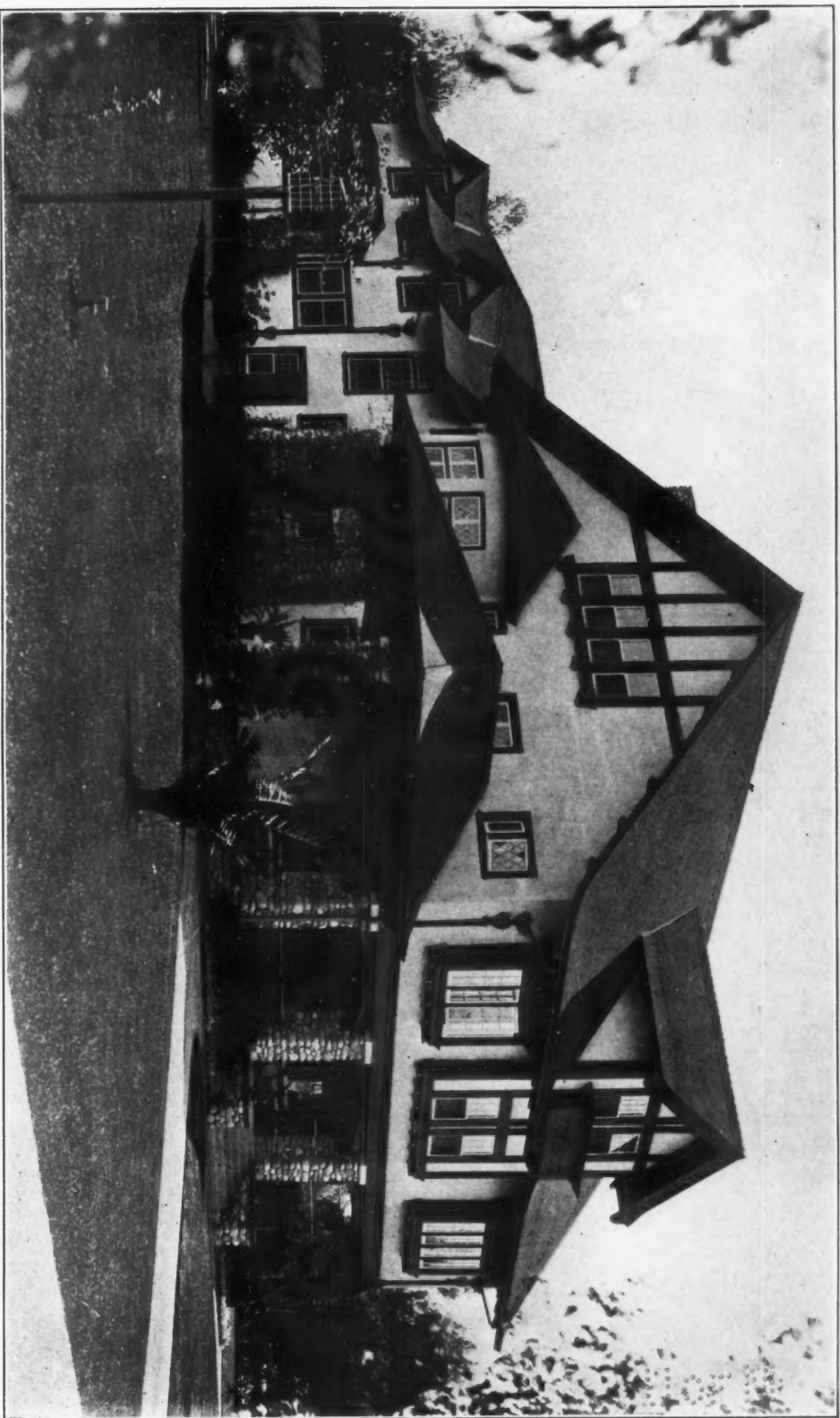


Second Floor Plan

FLOOR PLANS, SHELBY COUNTY COURT HOUSE, MEMPHIS, TENN.
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1900

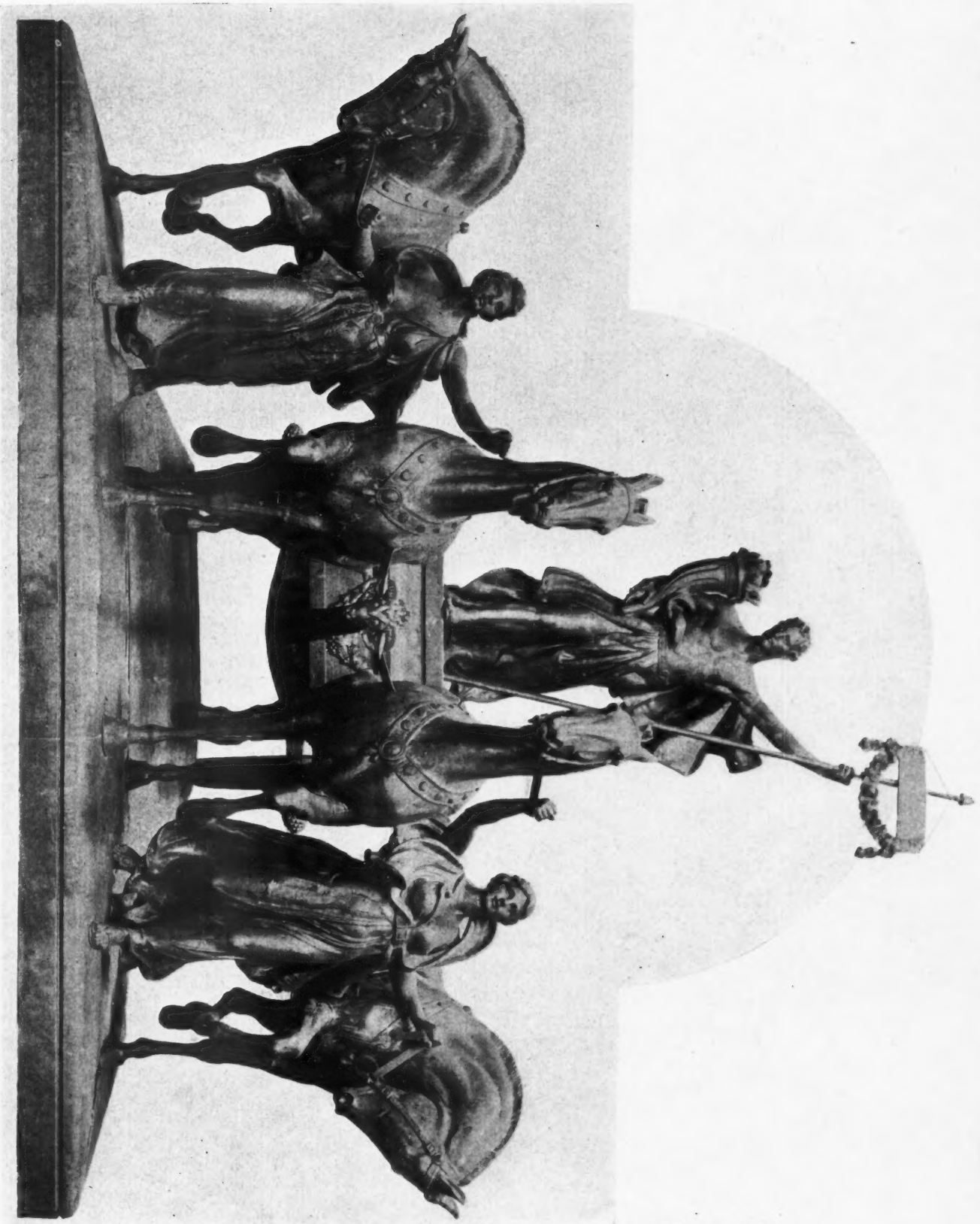


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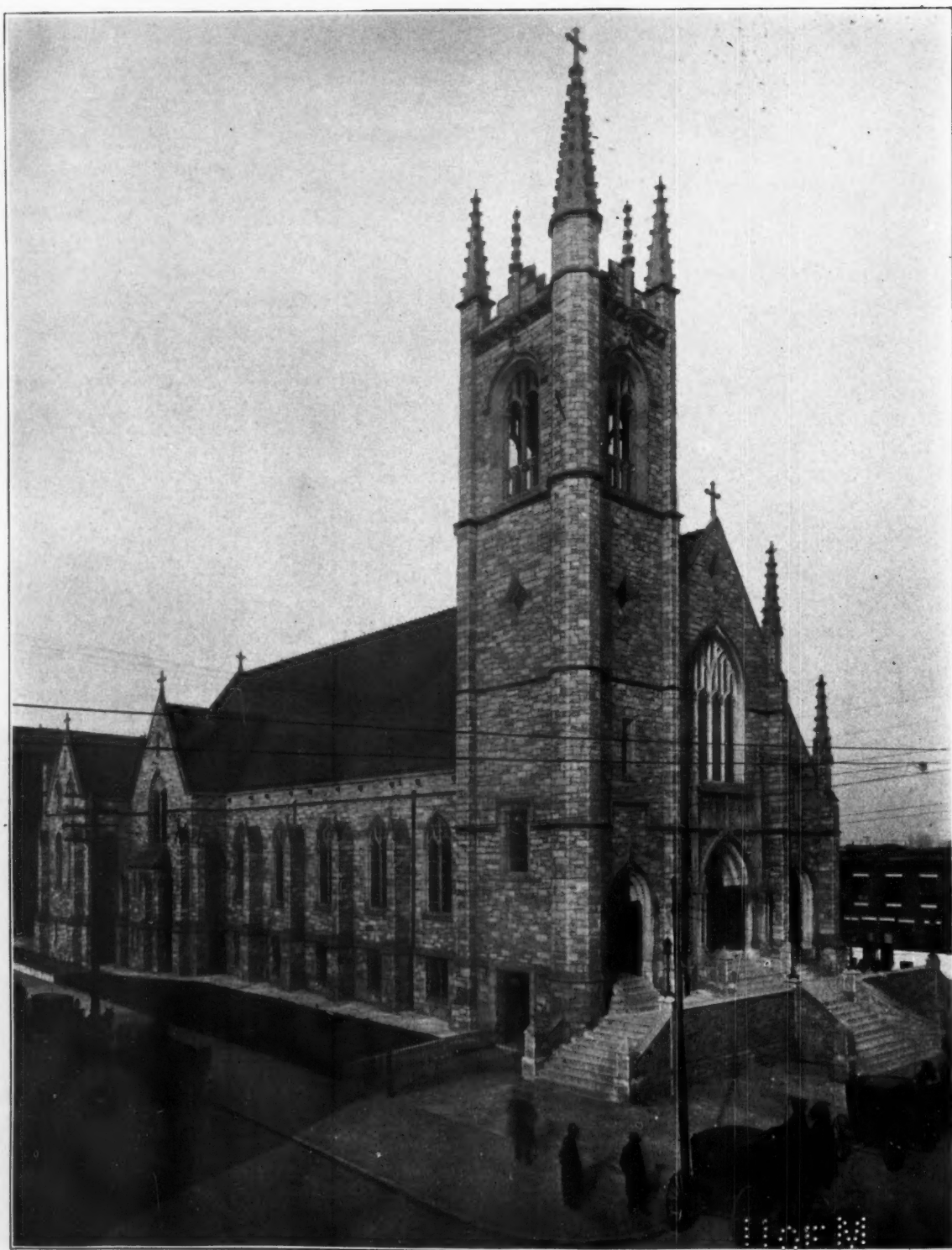
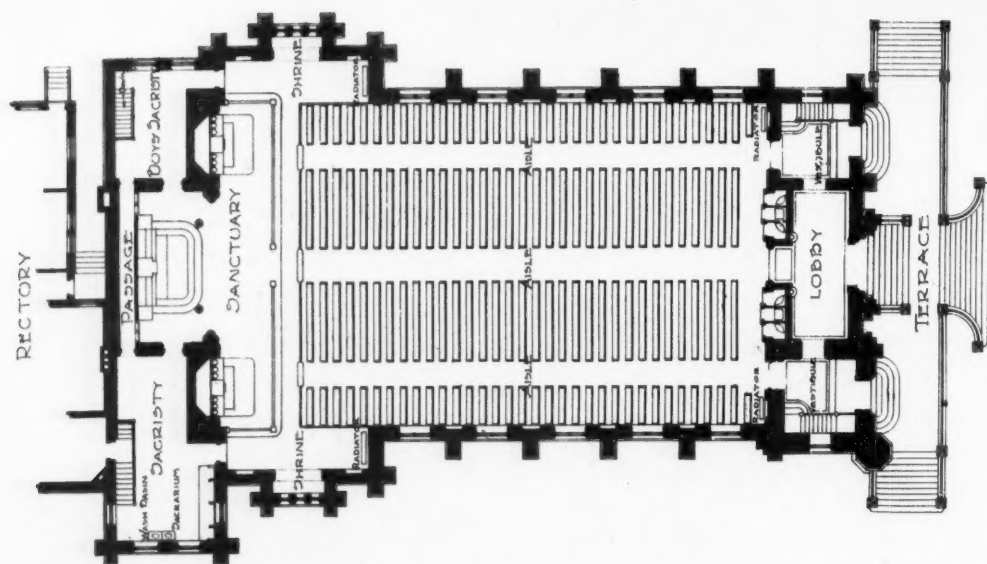


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Daniel Chester French and E. C. Potter, Sculptors
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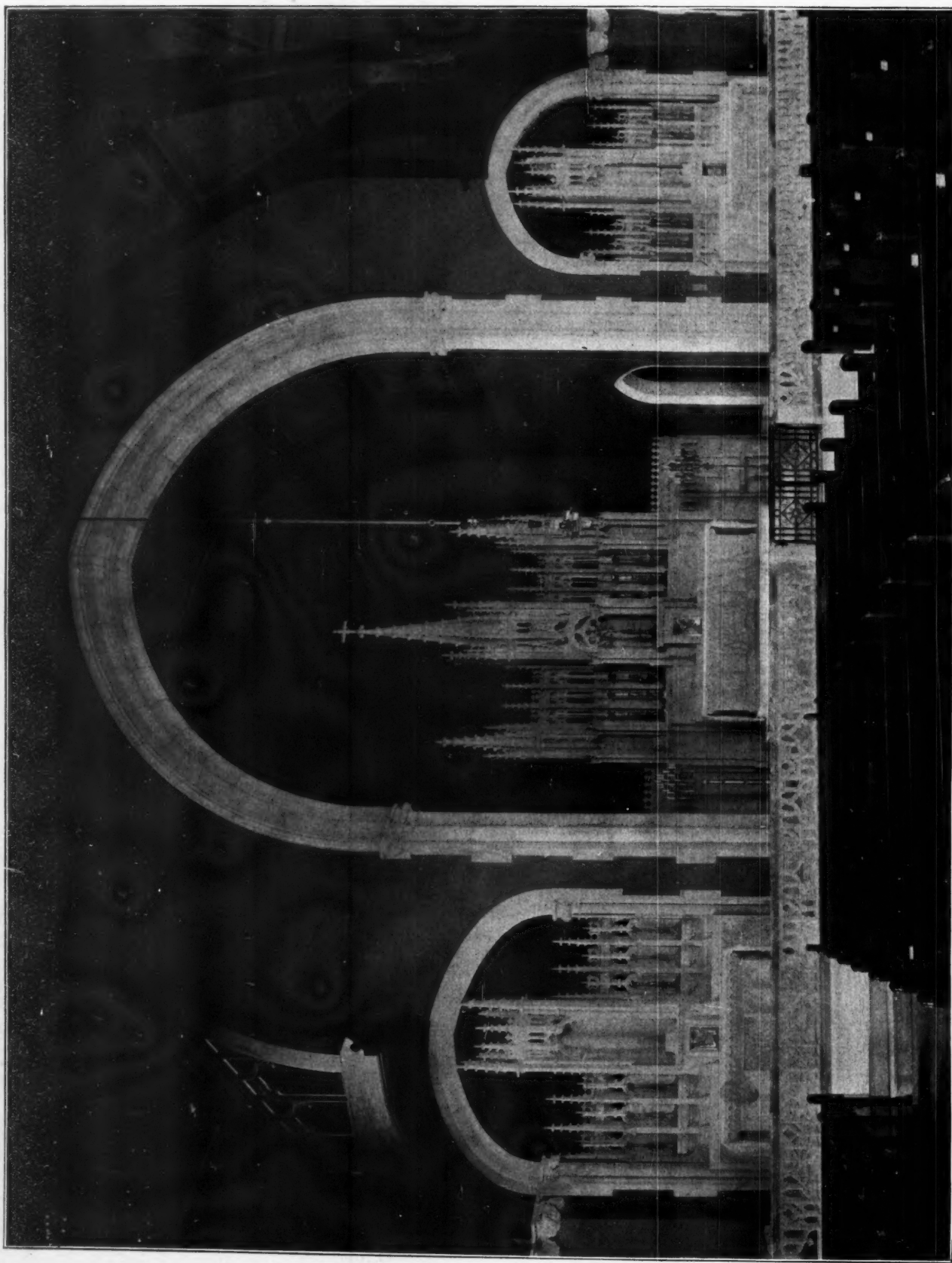
1801



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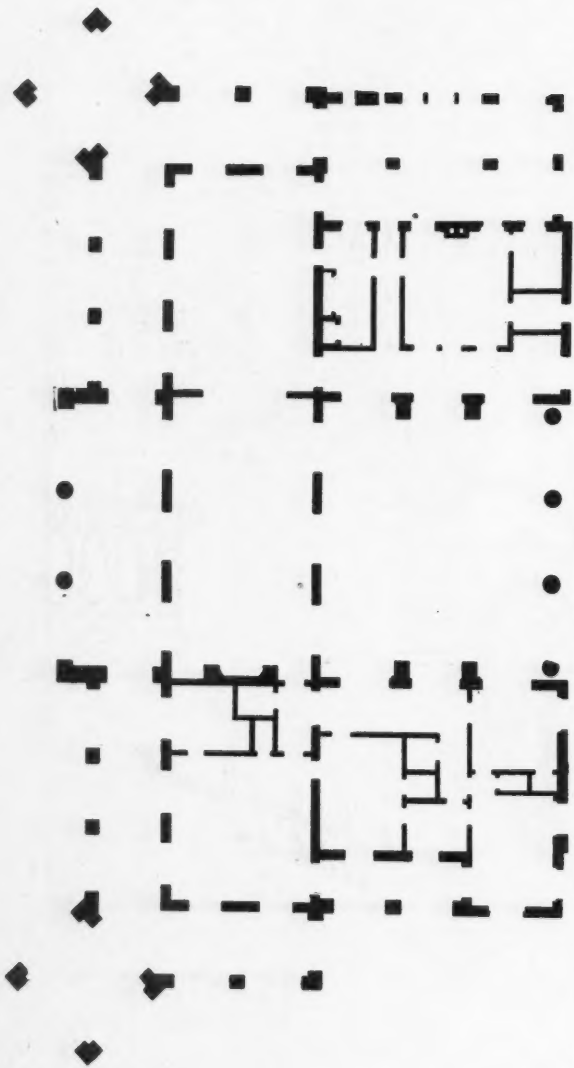


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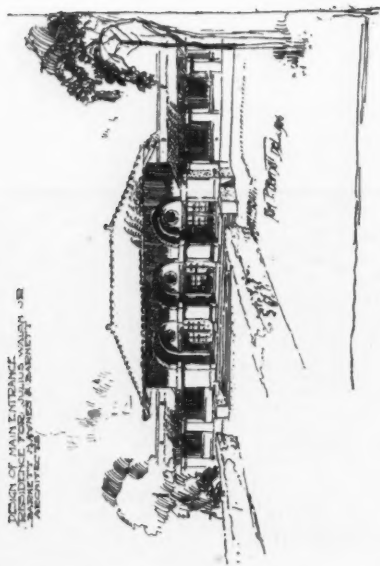
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M. 700

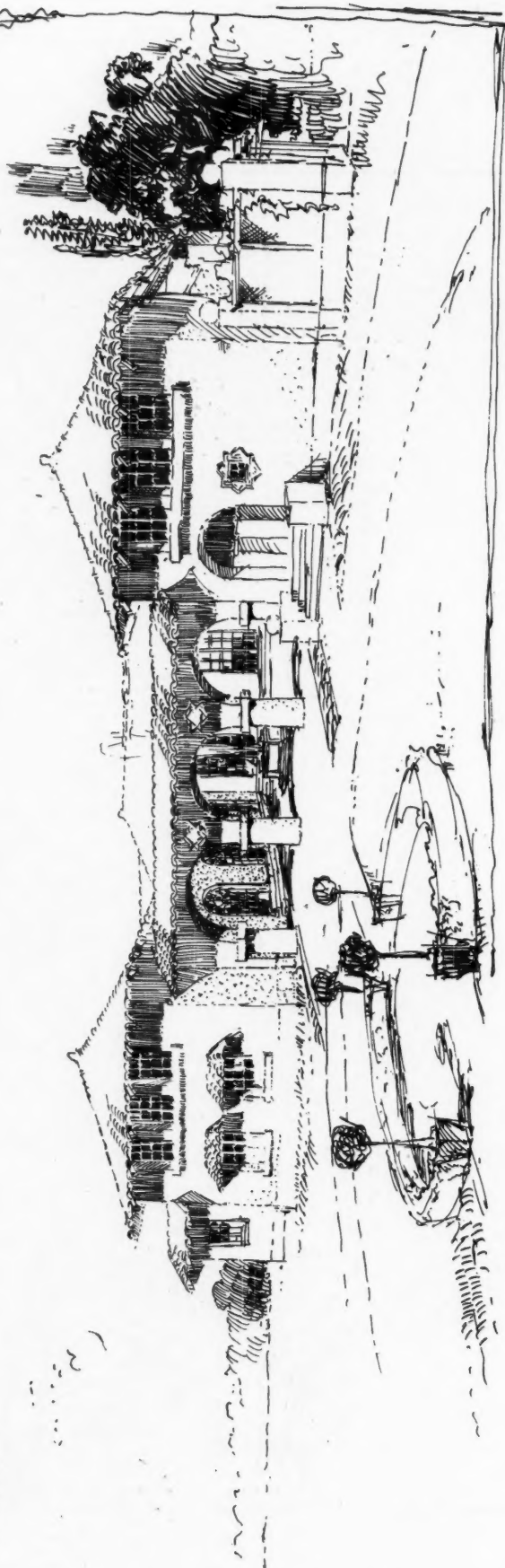


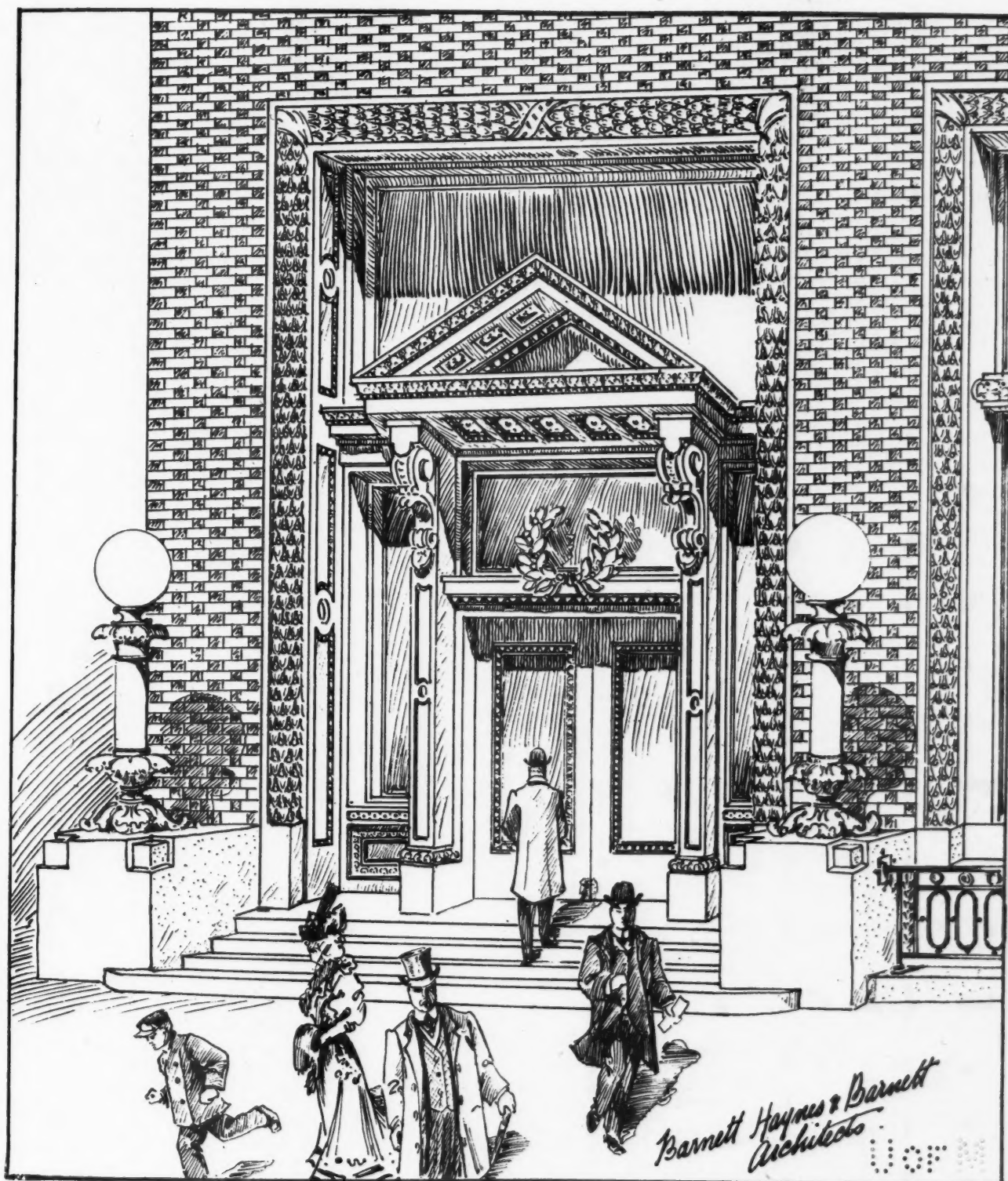
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DESIGN OF GARDEN FRONT
RESIDENCE FOR JULIUS WALSH JR.
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ARCHITECTS

U O F M



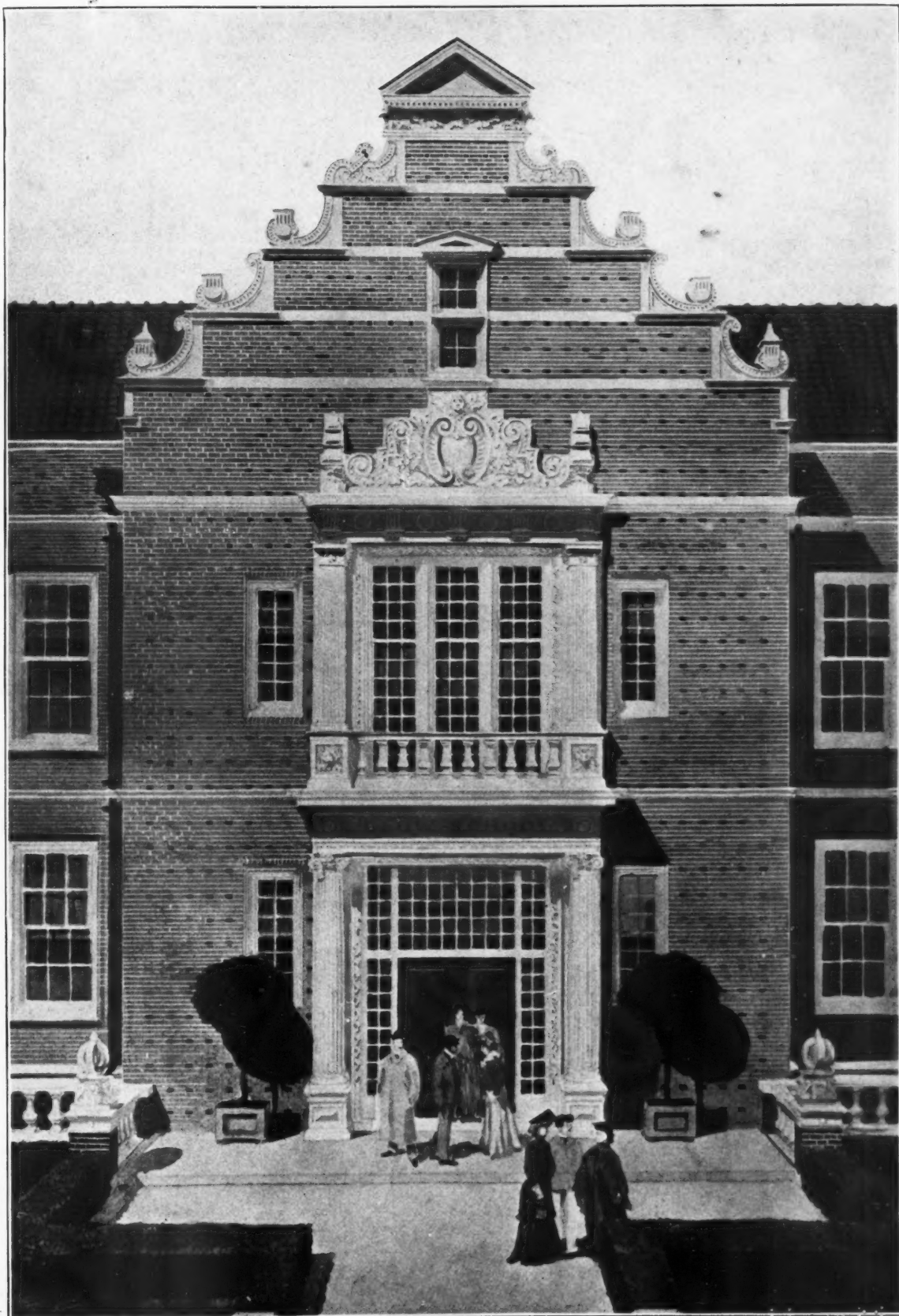


ENTRANCE DETAIL, No. 1 WALL STREET, NEW YORK

Barnett, Haynes & Barnett, Architects, St. Louis

THE INLAND ARCHITECT
AND NEWS RECORD
MARCH, 1907

1701

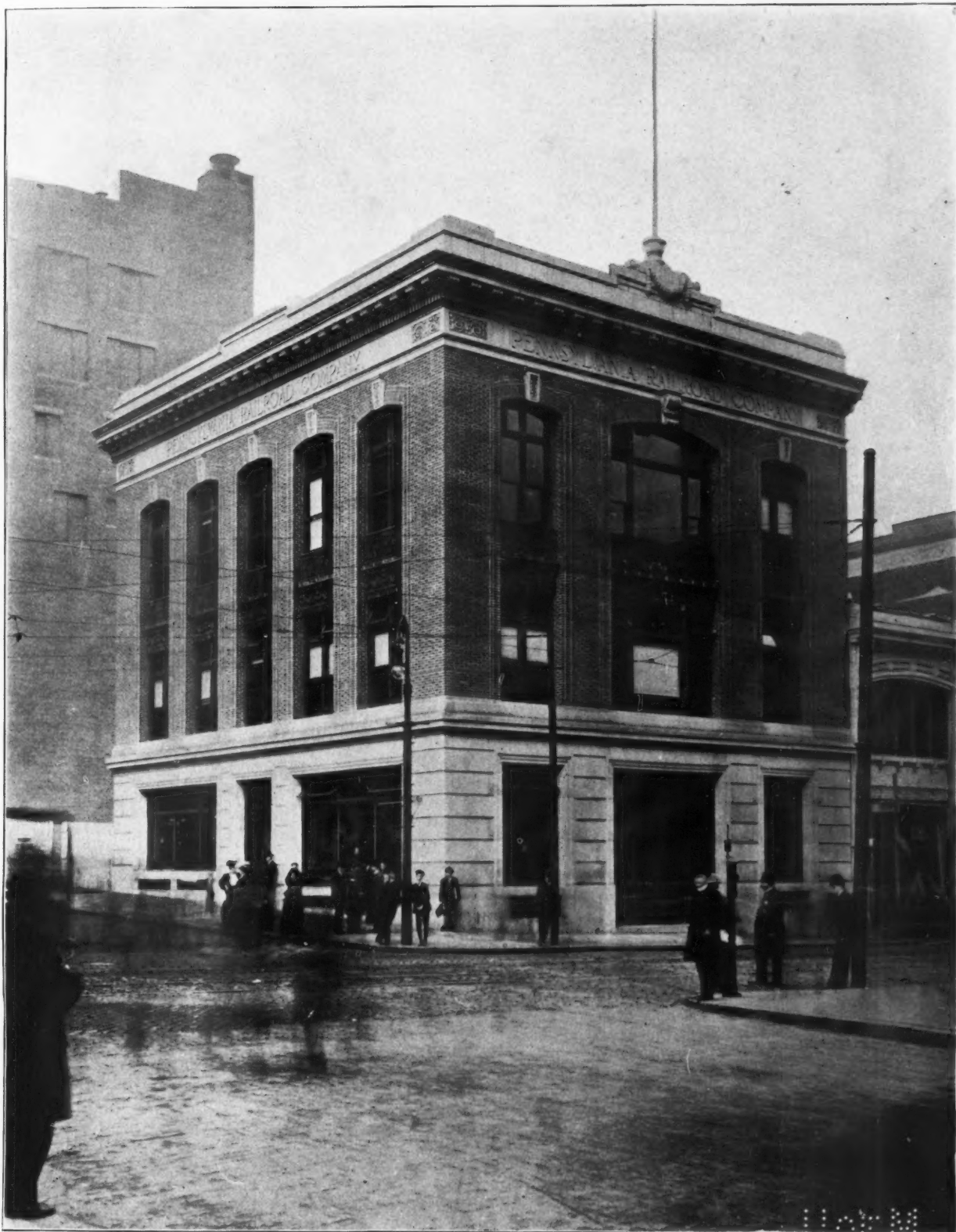


CENTRAL PORTION. THE BLOW SCHOOL, ST. LOUIS

William B. Ittner, Architect

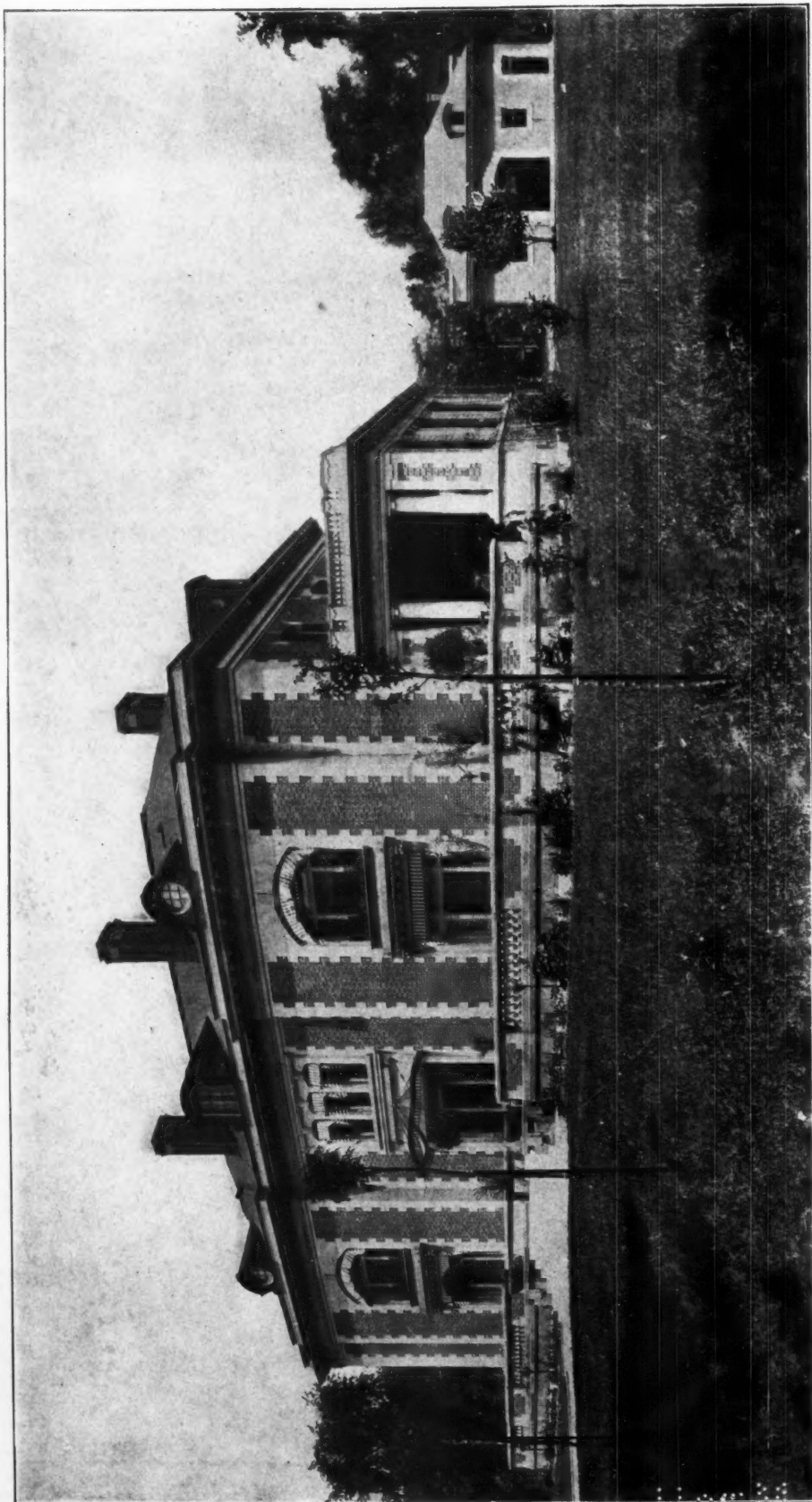
THE INLAND ARCHITECT
AND NEWS RECORD
MARCH, 1907

1040



PENNSYLVANIA RAILROAD CO. BUILDING, BALTIMORE, MD.
 Worthington & Ahrens and Parker & Thomas, Associated Architects.

THE INLAND ARCHITECT
 AND NEWS RECORD
 MARCH, 1907



RESIDENCE OF CHARLES H. LINDENBERG, COLUMBUS, O.

Frank L. Packard, Architect

THE INLAND ARCHITECT
AND NEWS RECORD
MARCH, 1907

10-10

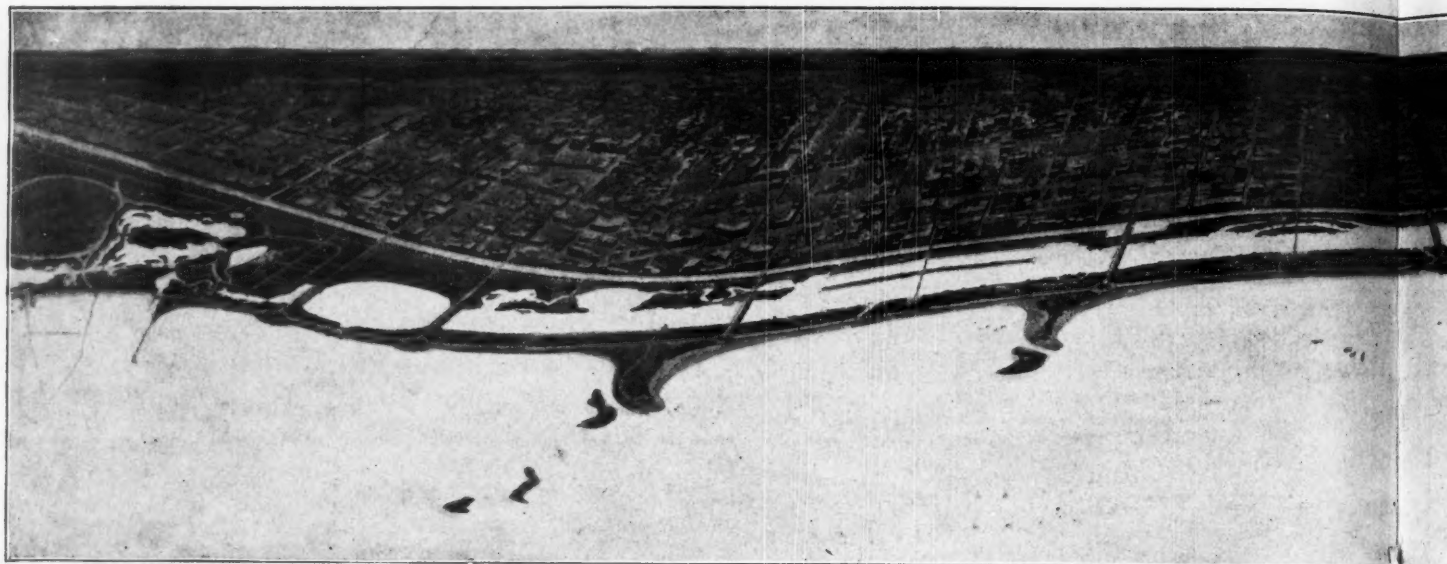


VIEW IN RECEPTION ROOM. RESIDENCE OF CHARLES H. LINDENBERG. COLUMBUS, O.

Frank L. Packard, Architect

THE INLAND ARCHITECT
AND NEWS RECORD
MARCH, 1907

U96M



Jackson Park

BIRD'S-EYE VIEW

BOULEVARD
OVER RIVER
FROM
NORTH TO SOUTH

RUNNING FROM
WASHINGTON ST. TO
INDIANA ST. OVER
MICHIGAN AVENUE
AND PINE STREET.

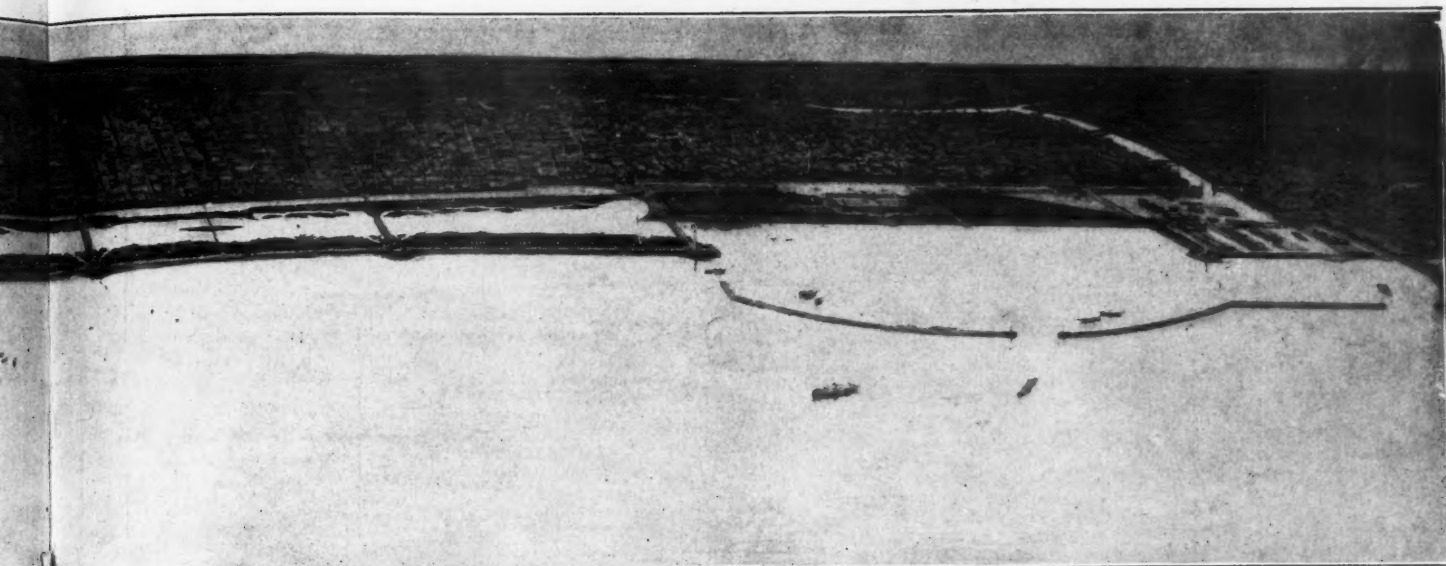
—VIEW TO NORTH—



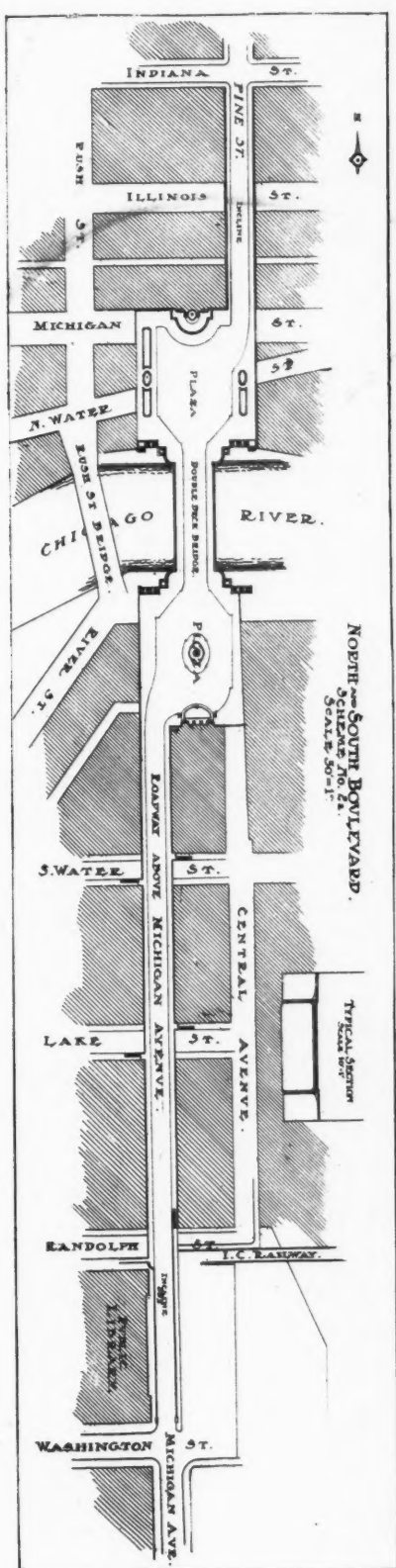
PLANS FOR THE IMPROVEMENT OF THE LAKE FRONT, CHICAGO

Daniel H. Burnham, Architect

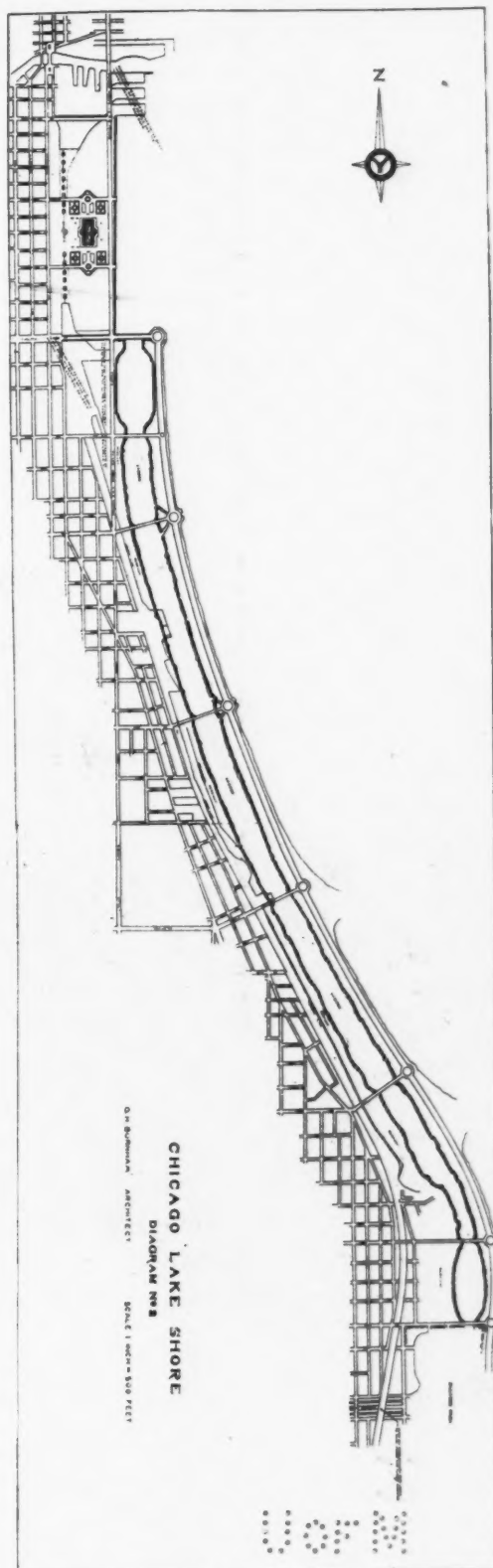
THE INLAND ARCHITECT
AND NEWS RECORD
MARCH, 1907



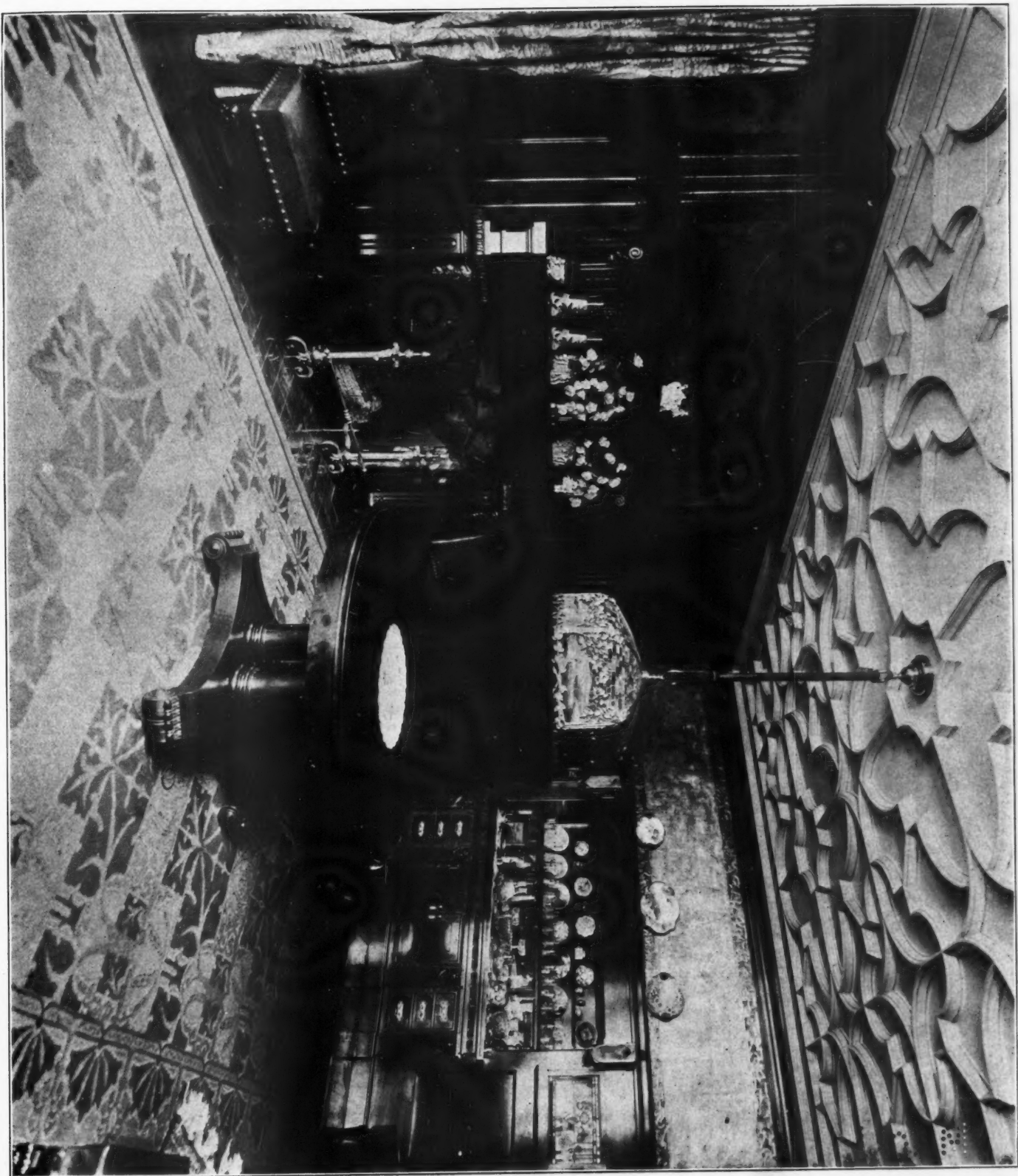
VIEW



Proposed Field Museum



1000



VIEW IN DINING ROOM, RESIDENCE OF CHARLES H. LINDENBERG, COLUMBUS, O.
 Frank L. Packard, Architect

THE INLAND ARCHITECT
 AND NEWS RECORD
 MARCH, 1907

1900



STAIRWAY HALL, RESIDENCE OF CHARLES H. LINDENBERG, COLUMBUS, O.
Frank L. Packard, Architect.

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AND NEWS RECORD
MARCH, 1907