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Chicago Academy of Sciences in Danger.

The length to which political officeholders will go to secure an increase of "patronage" is illustrated in the recent action of the Commissioners of Lincoln Park, at Chicago. A prominent citizen, Matthew Laffin, bequeathed \$75,000 to the Academy of Sciences, of which he was a member, for the erection of a building for scientific purposes. The park commissioners, wishing to secure an attractive building in the park, agreed to give \$25,000 toward the building fund if the trustees would erect it in the park, and further agreed to pay \$5,000 a year toward the maintenance of the building in consideration of rental for offices within its walls. Now that the Academy of Sciences is occupying suitable quarters for the first time since the great fire, and its trustees after twenty-five years of effort have placed it upon a footing commensurate with scientific advancement, these political philistines demand that as they pay the bills they should appoint the employees. Their excuse is a charge of extravagance, etc., but it is only an excuse. If it were not their contribution is simply in lieu of office rent, and their investment in the structure ended with its location in the park. More specimens and articles of different kinds have been donated to the academy the past year than ever before, and it would be a pleasing sight to see a stonecutter with a pull in the 'steenth ward appointed professor of geology or a butcher from the stock yards given charge of zoölogy and taxidermy. The position taken by the park commissioners can hardly be tenable, but the controversy will be remembered the next time the commissioners of a public park seek to embellish their grounds by the erection of a scientific or art building. It would be better for the Academy of Sciences to desert their beautiful building and return to their old quarters which they could control than to allow the Lincoln Park Commissioners the appointment of its employees. The next demand of these dependents upon political favor would be to capture the Metropolitan Museum of Art in Central Park and the Field Columbian Museum, and destroy the art centers of the East and West.

Need of Better Methods in Filing Public Documents.

One who has had occasion to use public documents is probably aware of the difficulty of obtaining those that are desired, while perhaps those which one has no use for are thrust upon him. To remedy this, some year or two ago there was a superintendent of documents appointed at the Government building at Washington, and through this officer's efforts matters have been considerably simplified. There has been a monthly catalogue of the monthly government publications published, and it has become easier to know what are published, and also to obtain those that may be desired. We imagine that the establishment of this office was somewhat tentative; at any rate the good that has been effected has stimulated a desire for further improvement, but more authority is necessary to carry it out. A bill has been introduced in Congress "To Reduce the Cost, Increase the Value and Simplify the Methods of Publication of the Public Documents," and in the interest of architects, as well as the public at large, we sincerely hope that the bill may pass.

ARCHITECTS AND TRADES UNIONS.

BY DANKMAR ADLER, ARCHITECT.

TO the best of my knowledge, the various architectural societies now existing in the United States have carefully abstained from embodying in their organizations and policies everything which tends to abridge the rights and privileges of unaffiliated practitioners; nor have they adopted disciplinary measures toward those of their members who rate the value of their services at less than the standard established by the American Institute of Architects.

It is true that they have made spasmodic efforts to bring about legislative enactments which limit the right to use the title "architect" to those who have demonstrated their ability to discharge in proper manner the duties of an architect to the satisfaction of commissions of expert examiners to be appointed by the various state authorities, but such action must be construed as taken in the interests of the public welfare rather than as tending to the establishment of an architectural trades union.

If we are warranted in basing a conclusion upon their public collective acts, it is evident that the general drift of opinion among architects favors the maintenance of the right of the individual to conduct his business and sell his services as he deems best, and opposes the restrictive tendencies of trades unionism.

Still, no matter what opinions architects may hold upon this subject, their enforcement is practicable only in the conduct of their own relations to each other. In their dealings with the outside world, it will soon be found that the trades union exists and so asserts itself that it cannot be ignored. Again, the architect must base his action in all the conditions and emergencies which confront him, not alone upon his own conviction of right and wrong, but also upon the interests and wishes of his client. In fact, the subservience of the architect to the latter generally becomes so dominating as to stop short only at the commission of crime or of professional suicide. Hence, architects cannot agree upon any fixed policy to be pursued by them in their relations to trusts and trades unions. But while there will be a tendency not alone toward individualism in the policy of each architect, and while individual architects may find it necessary to adopt varying policies in the conduct of the affairs of different clients, yet we cannot escape noting an approximation to uniformity of governing conditions, and, therefore, a tendency toward uniformity of practice.

Architects cannot exist without clients and no one becomes the client of an architect except in pursuance of a desire for the erection of a certain building or buildings within a fixed time. The first and most important function of the architect is therefore his agency in bringing about the erection of the proposed building within the time specified by his client.

This condition fixes the attitude toward trades unions of architects in most of the larger American cities. For in these trades unionism is so firmly established and so strongly organized in the building trades that a building cannot be completed within any ordinarily reasonable time limit except by the employment of union labor and consequently under substantial compliance with such conditions as the trades unions see fit to impose. No effort has been made in recent years to erect any important city building entirely with non-union labor, and the instances where contractors or owners have essayed to do part of their work with free labor have been characterized by all the disorder, delay and expense, in the art of creating which the typical trades union leader is past master.

Granting the correctness of the assumption that the first duty of the architect is to build his client's buildings and to complete them within such limitations of time as are dictated by the conditions under which the client has undertaken their erection, it follows that the architect must advise his client to undertake and carry out his work under the conditions and limitations imposed by the ruling trades unions.

This is the duty of architects to each individual client, and the architect who tries to evade it will find himself so seriously handicapped as to be unable to carry out the commissions intrusted to him, and consequently he will ere long be entirely bereft of commissions.

That such a state of affairs exists is humiliating to the individual architect and to the profession as a whole, but now and here, as at all times and in all places, Might makes Right, and architects and their clients are not the only ones who have had to

submit to that Right which is born of the Might of organized and persistent effort.

The architect, as well as everyone else who uses the handicraftsman as the tool with which to achieve important results, has reason for desiring not only constantly increasing proficiency in the use of this tool, but also the same increase in the efficiency of the tool itself. But the tendencies of trades unionism among handicraftsmen is not toward elevation of standard in quality or quantity of production, but toward the establishment of an average attainable by the great majority. As a majority of this majority cannot be composed of the most capable and most enterprising workmen, the standard established under trades unions conditions is one which is below the limits of attainment of the best of the men subject to its rules. Hence these will gradually be forced into pursuits where their ambition and enterprise are unhampered, or their own individual standard will be lowered by habitual conformity to the standard of the unions, and thus the standard of average production must be a constantly falling one and the efficiency of the handicraftsmen controlled by the unions will be in a condition of continual deterioration. It is also well to note that many of the most brainy craftsmen find it more expedient to become leaders of their fellows, not in campaigns for the increase of their usefulness and efficiency and the consequent rise in standard of production and emolument, but in efforts for securing greater pay for a product of constantly lowering quantity and quality. Everything in trades unionism trends away from the desire to produce great and good results for their employers, the owners of buildings, and toward the propagation of the creed, that he who has accomplished the least toward the earning of his daily wage has been the best soldier in the day's fight of labor against capital.

But there is much that is great and noble even in the trades unionism of our day. The spirit of self-sacrifice and self-effacement in the service of what its votaries believe to be a good cause, the discipline and singleness of purpose found within the organization, challenge our admiration and present much that might be copied and emulated by those who believe in the rights of free labor and individualism.

Architects are so much interested in raising the standard of their productions that their interest in the increase of skill and efficiency of all their coworkers and subordinates is truly vital. Finding that at the present day their works must be executed, not by individual and free workmen, but by guilds of firmly united and strictly governed craftsmen, their efforts in dealing with these guilds should be directed toward inducing their leaders to recognize the principle: that to live, a body must increase in its value to its contemporary fellow beings; that the effort to earn higher wages in shorter working hours cannot be permanently successful without encouragement to the free and untrammelled development of the brightest, most industrious and most ambitious handicraftsman, and that the world will not long favor a rule which substitutes for loyalty to one's work and to one's employer, and for the desire to render the best possible recompense for one's wage, the determination to limit as closely as possible the day's work done for a day's wage.

THE TALL OFFICE BUILDING ARTISTICALLY CONSIDERED.*

BY LOUIS H. SULLIVAN, ARCHITECT.

I.

THE architects of this land and generation are now brought face to face with something new under the sun, namely, that evolution and integration of social conditions, that special grouping of them, that results in a demand for the erection of tall office buildings.

It is not my purpose to discuss the social conditions; I accept them as the fact, and say at once that the design of the tall office building must be recognized and confronted at the outset as a problem to be solved—a vital problem, pressing for a true solution.

Let us state the conditions in the plainest manner. Briefly, they are these: Offices are necessary for the transaction of business; the invention and perfection of the high-speed elevator make vertical travel, that was once tedious and painful, now easy and comfortable; development of steel manufactures has shown the way to safe, rigid, economical constructions rising to a great height; continued growth of population in the great cities, consequent congestion of centers and rise in value of ground, stimulate an increase in number of stories; these, successfully piled one

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upon another, react on ground values; and so on, by action and reaction, interaction and inter-reaction. Thus has come about that form of lofty construction called the "modern office building." It has come in answer to a call, for in it a new grouping of social conditions has found a habitation and a name.

Up to this point all in evidence is materialistic, an exhibition of force, of resolution, of brains—in the keen sharp sense of the word. It is the joint product of the speculator, the engineer, the builder.

Problem: How shall we impart to this sterile pile, this crude, harsh, brutal agglomeration, this stark, staring exclamation of eternal strife, the graciousness of those higher forms of sensibility and culture that rest on the lower and fiercer passions? How shall we proclaim from the dizzy height of this strange, weird, modern housetop the peaceful evangel of sentiment, of beauty, the cult of a higher life?

This is the problem; and we must seek the solution of it in a process analogous to its own evolution—indeed, a continuation of it, namely, by proceeding step by step from general to special aspects, from coarser to finer considerations.

It is my belief that it is of the very essence of every problem that it contains and suggests its own solution. This I believe to be natural law. Let us examine, then, carefully, the elements, let us search out this contained suggestion, this essence of the problem.

The practical conditions are, broadly speaking, these:

Wanted—First, A story below ground, containing boilers, engines, of various sorts, etc.—in short, the plant for power, heating, lighting etc. Second, A ground floor, so-called, devoted to stores, banks, or other establishments requiring large area, ample spacing, ample light, and great freedom of access. Third, A second story readily accessible by stairways—this space usually in large subdivisions, with corresponding liberality in structural spacing and in expanse of glass and breadth of external openings. Fourth, Above this an indefinite number of stories of offices piled tier upon tier, one tier just like another tier, one office just like all the other offices—an office being similar to a cell in a honeycomb, merely a compartment, nothing more. Fifth and last, At the top of this pile is placed a space or a story that, as related to the life and usefulness of the structure, is purely physiological in its nature, namely, the attic. In this the circulatory system completes itself and makes its grand turn, ascending and descending. The space is filled with tanks, pipes, valves, sheaves, and mechanical et cetera that supplement and complement the force-originating plant hidden below ground in the cellar. Finally, or at the beginning rather, there must be on the ground floor a main aperture or entrance common to all the occupants or patrons of the building.

This tabulation is, in the main, characteristic of every tall office building in the country. As to the necessary arrangements for light courts, these are not germane to the problem, and, as will become soon evident, I trust, need not be considered here. These things, and such others as the arrangement of elevators, for example, have to do strictly with the economics of the building, and I assume them to have been fully considered and disposed of to the satisfaction of purely utilitarian and pecuniary demands. Only in rare instances does the plan or floor arrangement of the tall office building take on an æsthetic value, and this usually when the lighting court is external or becomes an internal feature of great importance.

As I am here seeking not for an individual or special solution, but for a true normal type, the attention must be confined to those conditions that, in the main, are constant in all tall office buildings, and every mere incidental and accidental variation eliminated from the consideration as harmful to the clearness of the main inquiry.

The practical horizontal and vertical division or office unit is naturally based on a room of comfortable area and height, and the size of this standard office room as naturally predetermines the standard structural unit, and, approximately, the size of window openings. In turn, these purely arbitrary units of structure form in an equally natural way the true basis of the artistic development of the exterior. Of course the structural spacings and openings in the first or mercantile story are required to be the largest of all; those in the second or quasi-mercantile story are of a somewhat similar nature. The spacings and openings in the attic are of no importance whatsoever (the windows have no actual value), for light may be taken from the top, and no recognition of a cellular division is necessary in the structural spacing.

Hence it follows inevitably, and in the simplest possible way, that if we follow our natural instincts without thought of books, rules, precedents, or any such educational impedimenta to a spontaneous and "sensible" result, we will in the following manner design the exterior of our tall office building, to wit:

Beginning with the first story, we give this a main entrance that attracts the eye to its location, and the remainder of the story we treat in a more or less liberal, expansive, sumptuous way—a way based exactly on the practical necessities, but expressed with a sentiment of largeness and freedom. The second story we treat in a similar way, but usually with milder pretensions. Above this, throughout the indefinite number of typical office-tiers, we take our cue from the individual cell, which requires a window with its separating pier, its sill and lintel, and we, without more ado, make them *look* all alike because they *are* all alike. This brings us to the attic, which, having no division into office-cells, and no special requirement for lighting, gives us the power to show by means of its broad expanse of wall, and its dominating

weight and character, that which is the fact—namely, that the series of office-tiers has come definitely to an end.

This may perhaps seem a bald result and a heartless, pessimistic way of stating it, but even so we certainly have advanced a most characteristic stage beyond the imagined sinister building of the speculator-engineer-builder combination. For the hand of the architect is now definitely felt in the decisive position at once taken, and the suggestion of a thoroughly sound, logical, coherent expression of the conditions is becoming apparent.

When I say the hand of the architect, I do not mean necessarily the accomplished and trained architect. I mean only a man with a strong natural liking for buildings, and a disposition to shape them in what seems to his unaffected nature a direct and simple way. He will probably tread an innocent path from his problem to its solution, and therein he will show an enviable gift of logic. If he have some gift for form in detail, some feeling for form purely and simply as form, some love for that, his result, in addition to its simple straightforward naturalness and completeness in general statement, will have something of the charm of sentiment.

However, thus far the results are only partial and tentative at best; relatively true, they are but superficial. We are doubtless right in our instinct, but we must seek a fuller justification, a finer sanction, for it.

II.

I assume now that in the study of our problem we have passed through the various stages of inquiry, as follows: First, the social basis of the demand for tall office buildings; second, its literal material satisfaction; third, elevation of the question from considerations of literal planning, construction, and equipment, to the plane of elementary architecture as a direct outgrowth of sound, sensible building; fourth, the question again elevated from an elementary architecture to the beginnings of true architectural expression, through the addition of a certain quality and quantity of sentiment.

But our building may have all these in a considerable degree and yet be far from that adequate solution of the problem I am attempting to define. We must now heed the imperative voice of emotion.

It demands of us, What is the chief characteristic of the tall office building? And at once we answer, it is lofty. This loftiness is to the artist-nature its thrilling aspect. It is the very open organ-tone in its appeal. It must be in turn the dominant chord in his expression of it, the true excitant of his imagination. It must be tall, every inch of it tall. The force and power of altitude must be in it, the glory and pride of exaltation must be in it. It must be every inch a proud and soaring thing, rising in sheer exultation that from bottom to top it is a unit without a single dissenting line—that it is the new, the unexpected, the eloquent peroration of most bald, most sinister, most forbidding conditions.

The man who designs in this spirit and with this sense of responsibility to the generation he lives in must be no coward, no denier, no bookworm, no dilettante. He must live of his life and for his life in the fullest, most consummate sense. He must realize at once and with the grasp of inspiration that the problem of the tall office building is one of the most stupendous, one of the most magnificent opportunities that the Lord of Nature in his beneficence has ever offered to the proud spirit of man.

That this has not been perceived—indeed, has been flatly denied—is an exhibition of human perversity that must give us pause.

III.

One more consideration. Let us now lift this question into the region of calm, philosophic observation. Let us seek a comprehensive, a final solution: let the problem indeed *dissolve*.

Certain critics, and very thoughtful ones, have advanced the theory that the true prototype of the tall office building is the classical column, consisting of base, shaft, and capital—the molded base of the column typical of the lower stories of our building, the plain or fluted shaft suggesting the monotonous uninterrupted series of office-tiers, and the capital the completing power and luxuriance of the attic.

Other theorists, assuming a mystical symbolism as a guide, quote the many trinities in nature and in art, and the beauty and conclusiveness of such trinity in unity. They aver the beauty of prime numbers, the mysticism of the number three, the beauty of all things that are in three parts—to wit, the day, subdividing into morning, noon, and night; the limbs, the thorax, and the head, constituting the body. So, they say, should the building be in three parts vertically, substantially as before, but for different motives.

Others, of purely intellectual temperament, hold that such a design should be in the nature of a logical statement; it should have a beginning, a middle, and an ending, each clearly defined—therefore again a building, as above, in three parts vertically.

Others, seeking their examples and justification in the vegetable kingdom, urge that such a design shall above all things be organic. They quote the suitable flower with its bunch of leaves at the earth, its long graceful stem, carrying the gorgeous single flower. They point to the pine tree—its massy roots, its lithe, uninterrupted trunk, its tuft of green high in the air. Thus, they say, should be the design of the tall office building: again in three parts vertically.

Others, still, more susceptible to the power of a unit than to the grace of a trinity, say that such a design should be struck out

at a blow, as though by a blacksmith or by mighty Jove, or should be thought-born, as was Minerva, full-grown. They accept the notion of a triple division as permissible and welcome, but non-essential. With them it is a subdivision of their unit: the unit does not come from the alliance of the three; they accept it without murmur, provided the subdivision does not disturb the sense of singleness and repose.

All of these critics and theorists agree, however, positively, unequivocally, in this, that the tall office building should not, must not, be made a field for the display of architectural knowledge in the encyclopædic sense; that too much learning in this instance is fully as dangerous, as obnoxious, as too little learning; that miscellany is abhorrent to their sense; that the sixteen-story building must not consist of sixteen separate, distinct and unrelated buildings piled one upon the other until the top of the pile is reached.

To this latter folly I would not refer were it not the fact that nine out of every ten tall office buildings are designed in precisely this way in effect, not by the ignorant, but by the educated. It would seem, indeed, as though the "trained" architect, when facing this problem, were beset at every story, or, at most, every third or fourth story, by the hysterical dread lest he be in "bad form"; lest he be not bedecking his building with sufficiency of quotation from this, that or the other "correct" building in some other land and some other time; lest he be not copious enough in his display of wares; lest he betray, in short, a lack of resource. To loosen up the touch of this cramped and fidgety hand, to allow the nerves to calm, the brain to cool, to reflect equably, to reason naturally, seems beyond him; he lives, as it were, in a waking nightmare filled with the *disjecta membra* of architecture. The spectacle is not inspiring.

As to the former and serious views held by discerning and thoughtful critics, I shall, with however much of regret, dissent from them for the purposes of this demonstration, for I regard them as secondary only, nonessential, and as touching not at all upon the vital spot, upon the quick of the entire matter, upon the true, the immovable philosophy of the architectural art.

This view let me now state, for it brings to the solution of the problem a final, comprehensive formula:

All things in nature have a shape, that is to say, a form, an outward semblance, that tells us what they are, that distinguishes them from ourselves and from each other.

Unfailingly in nature these shapes express the inner life, the native quality, of the animal, tree, bird, fish, that they present to us; they are so characteristic, so recognizable, that we say, simply, it is "natural" it should be so. Yet the moment we peer beneath this surface of things, the moment we look through the tranquil reflection of ourselves and the clouds above us, down into the clear, fluent, unfathomable depths of nature, how startling is the silence of it, how amazing the flow of life, how absorbing the mystery! Unceasingly the essence of things is taking shape in the matter of things, and this unspeakable process we call birth and growth. Awhile the spirit and the matter fade away together, and it is this that we call decadence, death. These two happenings seem joined and interdependent, blended into one like a bubble and its iridescence, and they seem borne along upon a slowly moving air. This air is wonderful past all understanding.

Yet to the steadfast eye of one standing upon the shore of things, looking chiefly and most lovingly upon that side on which the sun shines and that we feel joyously to be life, the heart is ever gladdened by the beauty, the exquisite spontaneity, with which life seeks and takes on its forms in an accord perfectly responsive to its needs. It seems ever as though the life and the form were absolutely one and inseparable, so adequate is the sense of fulfillment.

Whether it be the sweeping eagle in his flight, or the open apple blossom, the toiling work-horse, the blithe swan, the branching oak, the winding stream at its base, the drifting clouds, over all the coursing sun, *form ever follows function*, and this is the law. Where function does not change, form does not change. The granite rocks, the ever-brooding hills, remain for ages; the lightning lives, comes into shape, and dies, in a twinkling.

It is the pervading law of all things organic and inorganic, of all things physical and metaphysical, of all things human and all things superhuman, of all true manifestations of the head, of the heart, of the soul, that the life is recognizable in its expression, that form ever follows function. *This is the law.*

Shall we, then, daily violate this law in our art? Are we so decadent, so imbecile, so utterly weak of eyesight, that we cannot perceive this truth, so simple, so very simple? Is it indeed a truth so transparent that we see through it, but do not see it? Is it really, then, a very marvelous thing, or is it rather so commonplace, so everyday, so near a thing to us, that we cannot perceive that the shape, form, outward expression, design, or whatever we may choose, of the tall office building should in the very nature of things follow the functions of the building, and that where the function does not change, the form is not to change?

Does not this readily, clearly and conclusively show that the lower one or two stories will take on a special character suited to the special needs, that the tiers of typical offices, having the same unchanging function, shall continue in the same unchanging form, and that as to the attic, specific and conclusive as it is in its very nature, its function shall equally be so in force, in significance, in continuity, in conclusiveness of outward expression? From this results, naturally, spontaneously, unwittingly, a three part division—not from any theory, symbol or fancied logic. And thus the design of the tall office building takes its place with all other

architectural types made when architecture, as has happened once in many years, was a living art. Witness the Greek temple, the Gothic cathedral, the mediæval fortress.

And thus, when native instinct and sensibility shall govern the exercise of our beloved art; when the known law, the respected law, shall be that form ever follows function; when our architects shall cease strutting and prattling handcuffed and vainglorious in the asylum of a foreign school; when it is truly felt, cheerfully accepted, that this law opens up the airy sunshine of green fields, and gives to us a freedom that the very beauty and sumptuousness of the outworking of the law itself as exhibited in nature will deter any sane, any sensitive man from changing into license; when it becomes evident that we are merely speaking a foreign language with a noticeable American accent, whereas each and every architect in the land might, under the benign influence of this law, express in the simplest, most modest, most natural way that which it is in him to say: That he might really and would surely develop his own characteristic individuality, and that the architectural art with him would certainly become a living form of speech, a natural form of utterance, giving surcease to him and adding treasures small and great to the growing art of his land; when we know and feel that Nature is our friend, not our implacable enemy—that an afternoon in the country, an hour by the sea, a full, open view of one single day, through dawn, high noon and twilight, will suggest to us so much that is rhythmical, deep and eternal in the vast art of architecture, something so deep, so true, that all the narrow formalities, hard-and-fast rules, and strangling bonds of the schools cannot stifle it in us—then it may be proclaimed that we are on the high road to a natural and satisfying art, an architecture that will soon become a fine art in the true, the best sense of the word, an art that will live because it will be of the people, for the people, and by the people.

THE MODERN OFFICE BUILDING.*

BY HARR FERREE.

PART III.

THE design of the office building falls naturally into two great divisions: the structure and the architectural form. The former belongs to the engineer, the latter to the architect. The engineer has a necessary part in the design of the office building, inasmuch as his services are essential for the making of the foundations and the erection of the steel skeleton. To him belongs, also, the preparation of the frame for the coating of stone, or of brick or terra cotta, and similar mechanical matters. These problems are so complicated and varied as to require the services of a specialist.

But because the engineer is rightly employed for the engineering of the high building, it must not be supposed that the architect may be ignorant of his duties or independent of his work. Every structural detail must be studied and understood by the architect. The relations of the two are coördinate, and each must know the other's province, and keep the other's purpose in view as well as his own.

That this is not always so, the history of modern office buildings often too clearly shows. It is not unusual for an architect to prepare his design on his drawing-board, and then send for an engineer to arrange its construction for him. On the other hand, it would be easy to point out designs apparently made by an engineer, and certainly carried out without the supervision of an educated architect. That there is more or less friction between the architect and the engineer; that the architect looks upon the engineer as too "practical," the engineer upon the architect as too visionary, is a fact not to be denied by those who have watched the development of the two professions. Only by the warmest sympathy and constant coöperation can the design of an office building be carried out in a proper spirit and with satisfactory results.

The exterior of a building is generally the criterion by which its success is measured. It is unreasonable that this should be so, for few structures—and especially few modern structures—are built for external show. But the office buildings have so little to offer within, in the way of ornament or of art, that the general public, and perhaps the architectural public, have fallen into the habit of judging them by their façades. A not unnatural consequence has been that a finely designed office building has now a greater commercial value than one that is badly designed; a good-looking building is thought more of than an ill-looking structure; and so the façade has a monetary value in these buildings which it does not always have in other structures.

From the commercial side of the question, it is quite as necessary to develop the artistic aspects of the high buildings as the structural. And, certainly, it is a monstrous architectural sin to put up buildings whose single merit shall be their size, and whose chief distinction shall be their hideousness. It is true we have many buildings, distributed throughout the cities of our land, of which no more can be said; but, with a wider appreciation of the value of æsthetics in commercial buildings, there must come a change for the better. Those that have been built must needs remain where they are; but those that are to come must, inevitably, show a betterment in design, as they will, unquestionably, show a betterment in construction.

The structure of a building lies at the basis of its design. This is a fundamental fact in architectural æsthetics. Now, in a sense,

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the modern office building does not show its structure, either within or without; the steel columns and girders and beams whereon it is carried are covered up by the exterior surfacing or by the fireproofing or coating within. It is impossible to tell a solid wall from one built on the skeleton principle, and the structure of a hybrid or complex wall is equally invisible. How, then, it may be asked, can we have a successful high design, if, at the outset, a fundamental principle of design is ignored? This question has been asked many times, and architects have learnedly discussed this point without, it must be admitted, throwing much light on it. But the question need not be asked in this way. The structure is, indeed, the basis of the design in the high building, as in the low one; but this does not call for the unveiling of the metal skeleton, nor for a frank display of the material of the structure. The structure may be shown, but the materials are necessarily hidden.

For it is admitted on all hands that steel and iron are impossible materials for high structures unless they be covered with a fireproof material. That, indeed, is one condition of their serviceableness. A naked steel column would be a source of constant danger. It would suffer deterioration from dampness and from contact with the atmosphere, and a fire would be fatal to its stability. A high building of any sort, in which the steel lines of the columns and girders would form a feature of the external design, would be too dangerous to warrant erection. We cannot, then, show the material of our building in the design, though we may, in a sense, show its structure.

Not only are there structural reasons prohibiting the direct employment of the metal frame as a basis in the design of high buildings, but those structures in which the architectural framework has been reduced to the smallest limit, so that the building is little more than a skeleton of brick or terra cotta, show how unsatisfactory such a treatment is aesthetically. The Reliance building, in Chicago, is, perhaps, the most notable attempt yet made to reduce the amount of the inclosing material to a minimum, and the design is scarcely more than a huge house of glass divided by horizontal and vertical lines of white-enameled brick. The Fisher building, in the same city, and the Mabley building, in Detroit, are other examples illustrating the same tendency, though in not quite so pronounced a fashion as in the first instance. It is a good principle in architecture that a building should not only be firm and strong, but that it should seem so. This reasonable requirement is not fulfilled in these designs. A high office building requires an appearance of being built solidly to produce the best effect, or, indeed, to produce an architectural effect. This, however, does not excuse the exaggerated effect of heaviness and stability that may be seen in some designs, and which is quite as bad as extreme tenuity. Perfect naturalness of expression, good taste and an understanding of the structural requirements of the problem are all the architect needs in designing his façades.

A few years ago ten or twelve stories were considered formidable altitudes for office buildings; today seventeen, eighteen, twenty and even more stories are talked of and built as a matter of fact and as scarcely out of the ordinary run. And not only are these buildings high, but they are relatively narrow. This is true more particularly of New York than of Philadelphia or Chicago, in both of which cities, and especially in Chicago, many of the large office buildings are on sites of generous size, to the great dignity of the design, and to the very considerable lessening of the difficulties of the architect. In New York the custom of selling land in lots of 25 by 100 feet has given many of the office buildings an especially unhappy dimension in width, which has rendered a pleasing design a matter of much difficulty for the architect, and which has, in many cases, caused many disastrous results. New York has no such monumental office buildings as the Masonic Temple, the Woman's Temple, the Auditorium, the Schiller Theater, the Monadnock Block, the Marquette and Old Colony buildings, and many others in Chicago.

The height is, therefore, the leading element in the structure of the modern office building. Each additional floor adds to its value, and to its natural upward tendency. The vertical element is thus the leading factor in its design, and the architect who most successfully employs this feature achieves a real success in the handling of this very difficult problem; for it is a difficult problem to solve. The historic styles, save the Gothic, are concerned with low or horizontal designs. History and precedent differ little to the designer of the high building, which is at once the most modern of buildings, and an entirely new thing under the sun in architecture. And although modern architecture offers nothing in sequence with the older architecture, save in point of time, it is a task of no small magnitude to break away wholly from tradition and design in a new way for a new purpose. This, however, is just what the architect of the high building has to do, and the speedier this is admitted, the better it will be for the appearance of our streets and the progress of our architecture.

The first problem the architect has to study in his design is the plan. His site must be advantageously used, and his interior disposed so as to secure the most economical use of space, and thus the utmost financial return to his client. The economizing of space led to the introduction of the skeleton system, and the necessity of keeping this in mind follows the architect at every step of his work. The first requirement is that every office shall be well lighted, and as every office building is of considerable depth, it is necessary to arrange properly disposed courts. An early method was a central court with offices opening into it. This is not unobjectionable where the site is large enough to permit a court of good size, and the building is not of too great

height. These conditions are admirably fulfilled in the Metropolitan building in New York, where a spacious interior court, lined with white enameled brick, affords as much light to the interior offices as the rooms on the street receive on the exterior of the building. The Masonic Temple in Chicago has also a central court, but here it is most unsatisfactory; the building is enormously high, and the court is roofed at the top so that artificial light must be burned in the interior rooms throughout the day.

A more rational plan is an exterior court, which may be made part of the design of the façade, or may open at the back, and be there connected with similar courts in buildings on the adjoining lots. The Union Trust Company's building in St. Louis is a good example of the former, and the Wainwright building, in the same city, and the Stock Exchange and the Marquette buildings in Chicago of the second. It has, indeed, been argued that the courts of a high building should always open to the south; but experience will show that they should open on the largest space, no matter what may be the direction of the sun. When the court is behind the façade the design then becomes the treatment of the inclosing wall, and the front does not differ from that of a building with a central court. When it is on the main street it is the leading feature of the design.

The disposition of the courts settled, the arrangement of the offices, the location of the elevators, the size and position of the windows, as well as the position of the columns of the frame, must all be carefully thought out and placed, before the final architectural expression is begun. The situation of the elevators is usually without any influence upon the architecture of the fronts, save as determining the location of the entrances; but all the other elements have a natural and right part to take in the final task.

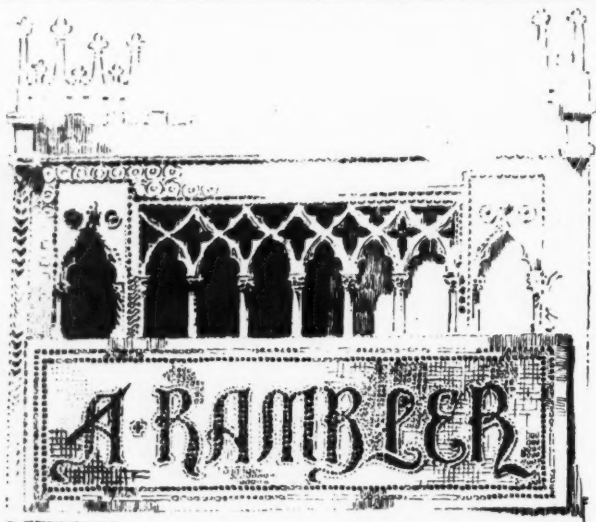
Every architectural design must have a beginning, a middle and an end. It certainly must begin, and the very highest of high buildings as certainly comes to an end; the space between forms the center. Translating these obvious conditions into architectural language, the front naturally falls into base, superstructure and frieze, in which each part has a logical and necessary function—the base as the beginning, the frieze as the ending, and the superstructure as the main portion between the others; for the base and the frieze cannot, either singly or together, form more than a small portion of the whole. A writer who would consume most of his space in beginning his essay, or in composing his peroration, would seem to have very little to say; so an architect who uses up his façade in getting his building started, or in bringing it to a conclusion would, build he ever so high, have, at the end, produced a minimum of building.

In speaking generally it is, of course, impossible to lay down rules to be followed in every case. We cannot say that a base should consume so many stories, the superstructure so many and the frieze the balance. The heights of our buildings are too varied, the nature of architectural work too free, to be limited by such arbitrary regulations. But it should be remarked that the general practice in New York is toward high basements, and in Chicago and the West toward relatively low ones. That the latter are the more logical can scarce be argued; for the base is only the beginning of a building, and its function is only that of supporting the superstructure, which, as logically, must be the main portion of the design. An exaggerated basement is, therefore, something to be avoided as unnecessary and unwise. Nor does the frieze need to be stretched out over the upper part. If practice shows, as it does in many buildings, that the uppermost story is needed for mechanical purposes, and be filled with tanks, piping and apparatus used in heating, lighting and ventilating, this difference of function may naturally be shown in the frieze, whose difference in design not only expresses this fact, but serves, at the same time, as the crown and finish of the building.

We have, therefore, three great divisions in a high design, each having a function of its own to express, and each having a logical meaning. But these three parts must form a unit. An office building is not a collection of various things put together in a single structure—though many of them offer a most singular diversity of parts—but it is a unit. The basement must be related to the superstructure, and the superstructure to the frieze, and each, in turn, to each other part. The high building must, moreover, be stately and dignified—majestic, if it can be, as all great objects are in nature. This effect, which is surely the chief one to be sought in the design of these structures, cannot be obtained through variety, or by cutting up the front into as many parts as possible, only to be arranged and fastened together by means of an internal skeleton of steel. But just as every part of the frame has a meaning, so must every part of the façade. The structure of the office building is an orderly creation, and its architectural or ornamental features must not violate this fundamental law.

Such is the basis on which all good high design must be constructed. Dignity, unity, sobriety, strength, truth; an expression of parts, an indication of function, a simple, straightforward use of materials employed in the telling of a simple story. We cannot, in our façades, show the number of offices housed within, any more than we can show the diversified interests that make the building their home; but we can at least keep within the bounds of reason, and proceed with our architectural part as deliberately, as soberly and as logically as we proceed with the structure of our frame. This, indeed, must be admitted and understood by the architect, or his design will be marred by those misunderstandings that have already fatally injured the beauty of many high office buildings.

(To be continued.)



SINCE my last letter to THE INLAND ARCHITECT I have been rambling in a free and unbridled way around the East, chiefly in Canada. I wrote you then something about the large buildings there and the impressions made upon me by them. I had not seen the residence part of Montreal at that time. There are a few fine, well-designed houses, such as Lord Stevens' and Mr. McIntyre's. Others are as pretentious but not so happy in design, such as the Gault house—a weak imitation on a small scale of the Potter Palmer castellated affair in Chicago. Then there are others, and their number is legion, of the most horrible dreams I have ever seen.

Everything is stone, gray limestone. A man is a nobody unless he has a gray-stone front, and as everybody in Montreal is striving to be a somebody such a thing as a brick or a frame house is comparatively unknown. They will put up with the poorest plumbing or go without any at all, but the gray stone is more essential, aye, than even a foundation.

The Canadians laugh at our Queen Anne cottages, brick and terra cotta fronts, our typical western frame and much be-gabled houses, and pat themselves on their self-righteous backs, saying, "We, at least, O Lord! go in for purity of design and honesty in materials." Yet they stick the most gingerbread porches, bays and other frills upon their veneered stone fronts, all cut out and jigsawed most beautifully, from 2 by 2 stuff; then paint them and sand them to match the stone, fondly hoping that the unwily and ever-moving tenant will really think that a 2 by 2-inch brace 6 feet long, or a 10-foot long 4-inch turned column is stone.

The Canadians are so blessedly conceited about such things; they express the greatest contempt for anything American, and are, as I say, so confoundedly self-righteous that I have not much patience in writing about them. They have gotten into certain ruts in design, construction and everything else. Proofs are abundant to illustrate their shortcomings, but do you suppose they would seize a new idea or adopt a better method? Never! Why, I heard apparently sensible men, at least prominent men,

in Montreal, discussing the advisability of petitioning the city council to forbid the carrying up of the telephone building higher than six stories, because, forsooth, it was built of only a skeleton of steel with thin walls, and they only of pressed brick (alas, no gray stone), therefore must the building be unsafe! If this sort of stuff came only from the layman—but even the architects sing the same song.

Talk about their being insular in their ways, why they have built a Chinese wall around themselves with but one gateway in it and that opens in the direction of "Home." England is "home" to every blessed Canadian, though

he never saw the old sod or even smelt salt water, and as long as a thing is English, just so long is it perfect.

One of the leading members of the "profess" in Montreal was asking me if the World's Fair was really worth seeing. I, of course, began a glowing description of its beauties, expatiated upon its educational effects upon the world and wound up in wondering why he had not visited it. "Oh, well," says he, "I have seen all the London expositions since '54, and the Fair could only be a rehash of those, you know."!!! Another shining light in Toronto to whom I expressed some astonishment at not seeing THE INLAND ARCHITECT or the *American Architect* upon his table, assured me that he had given up all the American journals long ago. "They contained nothing but designs poorly copied from the English papers anyway, so he preferred going to the fountainhead for his suggestions." Ye shades of Richardson and Hunt, and ye who are still in the flesh and imagine you represent

an American school, think well on it, you but poorly copy your designs from the plates of the *British Architect*!

But I am rambling away from the gray stone houses I was describing—those of Montreal. There are isolated cases of narrow fronts on Mackay street, Drummond and a few others that, though a little strained, are fairly good to look upon; but the great majority, particularly the long rows, are simply execrable. I remember one on St. Denis street. It must contain some forty dwellings, and being upon a steep hillside these are stepped up one above another. There is no attempt at continuity of lines, but simply a rude chopping off at every step and beginning anew upon the other. The lower story is rustic, and is coarse and brutal in detail; the next is seemingly an addition made during the iron age, and it is topped out with pediments and impediments in the most Swiss chalet style you ever saw. I wish I had had my kodak along. I could make you a fairly accurate sketch from memory but you would accuse me of exaggeration. And this row is but a fair example of the extraordinary stuff called design that can be seen at every step one takes. It is a bit more noticeable on account of its great length and prominence.

Their churches and religious institutions are happier in design. There are many church spires that are artistic and most graceful, and some convents that, by reason of their picturesque massing and dainty detail, could be called beautiful buildings.

It is often a wonder to me that Montreal and Quebec can be as prosperous as they are, there exists there a hard state of affairs for the much-betaxed citizen by reason of these same beautiful convents and churches. First, they are generally built by subscription and sustained mostly by the same means, then are exempt from taxation. You see block after block, right in the heart of the city, doing duty as yards around these institutions; and worse still, blocks after blocks of stores, residences and other revenue-bearing properties, to their owners—the clergy or nuns—but not of 1 cent's worth of benefit to the city. The cost of policing, fire departments, street maintaining, etc., has to be assessed against the poor devil of a layman next door. One can imagine the burden upon the layman when he considers that nearly one-third of the Island of Montreal is owned by religious institutions.

Another thing in Montreal that impressed me unfavorably, and that was the plumbing in their buildings. The most primitive, unsanitary and unscientific one can possibly remember ever seeing, yet they keep on living and are comparatively healthy in the same unscientifically "plumbed" houses!

In Toronto one would imagine himself in a western American city. The people are quite English, but have unconsciously absorbed by contact a great deal of American push and way of doing things. Some of their larger buildings are conveniently planned and of pleasing exterior; the Board of Trade, McKinnon building, the Bank of Commerce, Canada Life, Confederation Life and Freehold Loan buildings are the principal and most attractive there. Their houses are quite tasty and not monotonous in color. A man can have a brick or even a frame house and yet be an ornament to society, and not be snubbed by the gray-stone fellows.

Ottawa shows some respectable buildings. Of course the Parliament buildings are there, and they give an architectural tone to the whole neighborhood. These same buildings present a strange anomaly in their composition. They are in as slightly a position and as commanding as could have been selected anywhere in the world. You see them for miles before reaching the city. The grounds around them are vast, well kept and artistically laid out; natural and not forced. The buildings, viewed from a distance, are most happily grouped, present a splendid sky line and strong masses. Near by they are pleasing in the selection of their material, a mixture of granite and parti-colored boulders laid up in a sort of rubble-work that harmonizes in color and rusticity most charmingly with the picturesque surroundings; but in design and detail they impress one as being the work of a butcher. Simply vile. One would imagine that a really clever artist had roughly sketched out the group in charcoal, said what material he wanted used, and then turned the job over to the office boy to complete. Quebec is one of the most picturesque places one could wish to visit. You see there some real old Norman buildings, quaint and most interesting. The new hotel, by Bruce Price, is the most prominent and newest building there. It is just the thing for the surroundings and adds to the picture. You see more ancient stuff, architecturally and otherwise, right in Quebec, and run across quainter people than you would in *la vieille Normandie* itself. Splendid place to spend a vacation in.

London and other second-class towns offer nothing for architectural consideration, except Hamilton, and it offers only brilliant examples of what to avoid in architecture. A town of its evident wealth and taste in other directions ought to import one good architect for awhile—I mean a clever one, *good* is not the proper adjective to use in qualifying architects, for are we not all good? The principal work seems to have been designed (?) by one architect who revels, yes, fairly revels, in red-brick and white-stone trimmings and ornaments and things, with galvanized-iron projections and "extinguishers." He dreads a bit of straight wall and abhors such a thing as mass; but he is said to be great on ventilation. It was here I saw the worst piece of pure architectural sacrilege on record. A pure Doric church front and entablature was being "improved" with a hip roof, a galvanized-iron cornice, and, to add to the effect, wooden rosettes were nailed to the stone walls beneath. The architectural sins of some towns in the United States as well as in Canada would lead one to think that this was the real cause of the destruction of Sodom and Gomorrah.

I stated once that there were over 10,000 students, or draftsmen, in these United States of ours. That statement has been contradicted by some friends of mine—very flattering and surprising, for it shows that they read "Ramblings," something I never expected of them—and I hasten to further state that I meant there were, and will be that number again during good times. Not now; though I presume a draftsman is a good deal like a leopard, can't very well change his spots, and "once a draftsman always a draftsman." The wonder is, to me, what does become of them during times of depression such as the present. I can account for some who had to abandon architecture and who are now at work in factories and foundries, laying out work, detailing, etc.; but what becomes of the hundreds not accounted for that way? Take, for instance, some of the large offices in Chicago where twenty and more assistants were employed a couple of years ago. Today where are all these pomp-adoured and haughty young gentlemen? The same offices shelter, perhaps, only half a dozen or less. Do the others go to farming, or what becomes of them?

I heard of one poor fellow the other day—a sad story. He had worked, upon a good salary, in a Western city, until 1894, when, along with many others, he lost his place; no more work to do; since then he, his wife and three children, have been eating up their little savings and what he could get at an odd job now and then. In January last he, in sheer desperation, spent his last cent in getting to Cripple Creek, where, as do thousands of other poor, deluded wretches, he thought he might make a living, or, perhaps, even amass wealth! He was a sober, industrious and really capable man; but every branch, every opportunity there for work has a hundred starving, clamoring applicants for the place. He could find nothing to do, he was without shelter and almost starving. The change, the hardships, the climate affected him so that brain fever set in and he died two weeks ago; his death-chamber a barroom, his coffin a deal box given by his only benefactor, a tender-hearted bartender!

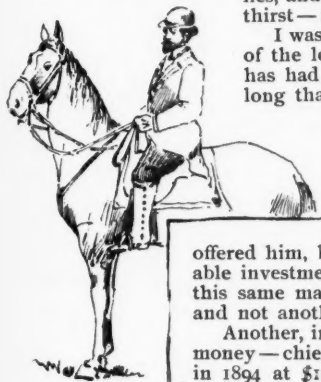
Veracious friends who have visited that region depict it to me as something awful; starvation, women and little children dying by the wayside, a veritable hell upon earth. And yet we read glowing accounts of the rich finds made there and of such and such a company just being formed, with a capital of so many million dollars; that all are welcome, and that there is work for everyone!

Draftsmen who have lost good places, who have had to retire into innocuous desuetude, so to speak, on account of the recent and, alas, present depression in business, have the poor consolation of seeing their erstwhile "bosses" traveling upon the same towpath as themselves. For the architects of the country have suffered quite as much as men in other lines and more than men in other professions, particularly in the West, and moreover they cannot, as men in other lines can and do so often, "assign," or make a profitable failure. We seem to be less provident than those other men. Money seems to slip through our fingers as does sand through a No. 4 sieve. We "make" money easily enough and some of us make a good deal of it. Is it that being generally of more or less artistic temperaments we enjoy the good things of life more than others do, and live and have our being more expensively than those others? Or is it that we simply lack the commercial spirit of acquisitiveness and hanger-on-ness? But go it does, and mighty few of us have anything worth while to show for it, that is from a business point of view or something that could be used as collateral. Some have acquired great experience by travel; others have acquired large and expensive families, and still others have acquired only a chronic thirst—for glory and other effervescents.

I was discussing this matter recently with one of the leading men in the profession, a man who has had so great a success and been in vogue so long that one would think that surely he must have laid away something from his commissions upon the millions of dollars' worth of buildings he has erected. He is a man of exemplary habits, reputed to be keen and wide-awake in all business transactions, and is known to have had splendid opportunities

offered him, by his admiring friends, to make profitable investment of what money he could save. Yet this same man confesses to a mortgaged homestead and not another asset to his name.

Another, in the far West, did save and invest some money—chiefly in mines, years ago. He was rated in 1894 at \$160,000, drove a span of blacks, rode a



"chestnut-brown," and was quite a "fellow." Today he is an applicant for a sixty-dollar-a-month government job, is *sans* horses and *sans* being "anybody."

All of us have had to cut down like the deuce, many of us have had to stretch over a drawing board and bring a set of muscles into play that were well nigh moss-grown, and some of us are writing and copying our own letters and making a sweet mess of them, too, instead of majestically dictating them to a pretty stenographer—did you ever notice that architects generally *had* pretty stenographers?

As a result of all these hard lessons, will we be more careful in the future, when times revive again? Will we chase the elusive dollar with greater zest, and having caught him, will we plant him away in some shady corner where he will increase and multiply after the manner of his kind, and be a prop, a wall to lean upon in our old age; a well-filled storeroom in the event of another panic and time of depression, that is bound to occur again, as sure as fate, in a score of years or so? Not a bit of it. We will go right ahead just as if good times were to last forever; we will spend all we get, and if caught again we will growl just as loudly as we do now, and abuse the country, the silver or the gold party, the administration, everything but the rightful cause, our own blessed general and professional improvidence, with a big I.

Did you ever notice what cranks architects are upon inventions? Is there one among us who, some time or another, has not devised some wonderful thing, that, by the way, rarely ever works or brings in a penny? And it is hardly ever in any line that he is expected to know much about. One would naturally expect them to dabble with things structural, electrical devices, window lifts, fireproofing, etc.; but no, it is always in the most foreign branches. I find in the Patent Office in Washington a milking device by an architect. Some clients might say that that was not a foreign matter to architecture, but the one I saw was for milking a cow. Another architect, well-known, too, has patented a ventilated cork sole for a shoe; another, a corkless bottle; another, a baby's bottle; a submarine boat, a flying machine; and so they go. The only one I ever heard of as having been successful was Cutler and his mail chute, and what a bonanza that is! Better than a gold mine. My own hobby has been the reproduction of drawings by a simple mechanical process.

"I GO A-FISHING."

THE spring of 1896 will be long remembered by those who enjoy the country and take note of the changing seasons, as most exceptionally beautiful in the development of the year's verdure. Particularly will this be the case with those who are wont to ply the rod and line and cast the frog among the lily pads. The lakes of Lake County, Illinois, and of Wisconsin, along the line of the Wisconsin Central, seem to have become alive with bass and pickerel, and exceptional catches have already been reported in the early season with exceeding promise for the later fishing, after the spawning season is over. As has always been its wont the Wisconsin Central has inaugurated its summer system of fast and convenient trains and low rates, so that two hours' ride will take the sportsman to the scene of his endeavors, and a \$5 bill give more pleasure and health than any other similar investment. The hills are covered with the most luxuriant grass, the trees in full leaf, and the meadows yellow and white with the embroidery of spring's coronation robes. This year special arrangements have been made to take care of every description of tourist travel, whether it be to the lakes of Wisconsin, the Lake Superior country, or to the great divide over the Northern Pacific. With this latter connection it is one of the greatest systems in this country of great railroads, and throughout its entire length to Portland, Oregon, its course runs like a river through the most picturesque of American scenery, and every sportsman knows its lakes, rivers and game-infested woods to be incomparable in accessibility and plentitude of sport. At this season, as the fisherman who has not seen the outside of an office for six months or more feels the promise of the south wind in his blood, he repeats unconsciously those lines of Stanton's:

"When the hills 'way off are looking green and blue,
It's time to take a day off with the daisies and the dew.
Don't you wish for a fish when the trees are going swish?
When the honeysuckle's clingin' an' the cattle bells a-ringin',
Don't you wish?
"Don't you pine for the shine of the meadows cool and fine?
When you'll hear the cattle lowin' and see the flowers a-blowin',
And the world with beauty glowin',
Don't you pine?"

He at once overhauls his tackle box, and with his friend, his oldest boy or his wife, takes the Wisconsin Central to one of the hundred lakes on its line. Of course he repeats Stanton, and his friend, who has read that bard of the South, too, repeats one of his verses with an inflection in his voice, which seems to give it a personal application when he says:

"The winds are quite invitin'
An' they're gettin' down to play
Where the silver perch are bitin',
In the cool lakes far away.
The violet's peepin' from the sod,
The sweetheart's at the gate—
One liar's got a fishing rod,
T'other's diggin' bait."

But with a string of bass of which he is proud, and a sun-blister on the back of his neck to which he is indifferent, he returns and marks a white day on his calendar and goes again.

OUR ILLUSTRATIONS.

Foreign Sketch.
 A Chicago Residence.
 Foreign Sketch. A. Roulean, del.
 View in Library, a Chicago Residence.
 Rustic Sketches by E. Eldon Deane, New York.
 Washington Park Congregational Church, Chicago. Patton & Fisher, architects
 Courthouse, Monmouth, Warren County, Illinois. Oliver W. Marble, architect, Chicago.
 Hackley Manual Training School, Muskegon, Michigan. Patton & Fisher, architects, Chicago.
 View in Reception Hall, Residence of Charles V. L. Peters, Edgewater, Chicago, Illinois. George W. Maher, architect.
 Northern Illinois State Normal School, De Kalb, Illinois, 400 feet frontage by 300 feet deep. C. E. Brush, architect, Chicago.
 Photogravure Plate: Residence, Evanston, Illinois.

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Issued only with the Photogravure Edition.

The Daily News Building, Chicago. D. H. Burnham & Co., architects.
 Entrance, Marquette Building, Chicago. Holabird & Roche, architects.
 Residence of Arthur T. Aldis, Chicago. Holabird & Roche, architects.
 Entrance, Fort Dearborn Building, Chicago. Jenney & Mundie, architects.
 Residence of Charles V. L. Peters, Edgewater, Chicago, Illinois. George W. Maher, architect.
 Residence of R. D. Sheppard, Evanston, Illinois. H. Edwards-Ficken, architect, New York. Two full-page exterior views are shown.

ASSOCIATION NOTES.

ANNUAL MEETING OF CINCINNATI CHAPTER, A. I. A.

On April 22 the Cincinnati Chapter of the A. I. A. celebrated its twenty-sixth anniversary. This function was appropriately observed at the table at the Gibson. But antedating this came the annual meeting and election of officers.

At 5 o'clock Messrs. George Rapp, Charles Crapsey, Gustav Drach, James W. McLaughlin, John H. Ball, W. A. Taylor, A. O. Elzner, S. O. Des Jardins, Samuel Hannaford and S. S. Godley met, and inside an hour's time had elected officers for the ensuing year and attended to some very important business. The election resulted as follows: President, Charles Crapsey; vice-president, James W. McLaughlin; secretary, Gustav Drach; treasurer, George Rapp. The vice-president and secretary succeed themselves. The executive committee remains the same, except that the vice-president is added.

The business of the meeting included an amendment to change the by-laws so that no officer may serve more than two years consecutively, which prevailed, and a discussion of new and pending state laws. If the report is correct that the bill is now a law, which empowers local councils to pass ordinances for regulating buildings and the appointment of building inspectors, the Chapter will request the corporation counsel to draw up an ordinance to be presented to the B. of L., asking the adoption of the building law as it now stands. They approve of the conditions which removes the power of appointment from the mayor to the B. of L.

Artists Henry Farny, Frank Duveneck, L. H. Meakin and Adolph Vollmer were invited guests at the banquet, which followed at 6 o'clock. There the sentiment was favored of an interchange of memberships, and a greater unanimity of interest in common than now exists.

DETROIT ARCHITECTURAL SKETCH CLUB.

At the last regular meeting of the Detroit Architectural Sketch Club, April 20, Mr. John Robert Dillon, formerly of Chicago, addressed the club, outlining the work accomplished by the Chicago Architectural Club, of which he is a prominent member. At the meeting previous to this, Mr. Zachariah Rice addressed the club, using as his subject "The History of Ornament." The club's directors are now making arrangements for a series of papers to be read at the regular Monday evening meetings, and are corresponding with many well-known architectural authorities for the desired materials. The club, having brought about the Saturday afternoon holiday, will soon inaugurate a series of sketching tours to alternate with the regular Saturday afternoon classes. The regular semi-annual election was also held at the last meeting to fill the offices of secretary and directors. Edward A. Schilling was re-elected secretary, and Alexander Blumberg and M. S. Wilcox, directors.

CHICAGO BUILDING TRADES CLUB.

On April 28, the Building Trades Club, organized several months ago at Chicago, gave its first annual dinner at the club rooms at 118 Monroe street. As this was the formal opening of the club, many guests prominent in the National Association of Builders, as well as civic officers, were present. Among the guests were W. H. Sayward, secretary of the National Association of Builders; Stephen M. Wright, secretary of the New York Building Trades Club; George Beaumont, president of the Illinois Chapter of the American Institute of Architects; George B. Swift, Mayor of Chicago; George Birkhoff, president of the Chicago Real Estate Board; Frank Carreck, secretary of the Chicago

Builders' and Trades' Exchange; Milton Blair, of Cincinnati; Lowell H. Carr, of New York, and C. C. Kohlsaat, George C. Prussing, the Rev. M. J. Dorney, D. F. Crilly and others, numbering about one hundred and fifty guests.

The membership of the club, which was organized largely for social purposes, already includes over one hundred of the leading builders of Chicago, and is rapidly growing. The rooms are handsomely fitted up and in charge of the secretary, Mr. E. E. Scribner, one of the charter members, and a past president of the National Association of Builders. Indeed, it is largely owing to the suggestion and active support of Mr. Scribner that the club owes its existence; and, under the able directorship of its president, Mr. Joseph Downey, its influence upon the building fraternity not only in Chicago but in the West will be far-reaching and important.

One of the pleasant incidents of the banquet was the presentation to the club by D. V. Purington, of Chicago, of a splendidly executed crayon of W. H. Sayward. John Stevens, of Philadelphia, who was unable to be present, had written that at 10 o'clock he should drink to the success of the club, and at that moment the company drank a health to Mr. Stevens, and the chair announced that the handsome picture "The Iron Worker and Solomon" was a present from Mr. Stevens to the club.

ARCHITECTURAL LEAGUE OF NEW YORK.

The Architectural League of New York, at its annual meeting last evening, elected the following officers: George B. Post, president; Frederic Crowninshield and Daniel C. French, vice-presidents; Bruce Price, executive committee, class of 1897, and C. A. Rich, R. W. Gibson and F. C. Jones, executive committee, class of 1899.

PERSONAL.

ARCHITECT THOMAS HAWKES, of Chicago, has removed his office to 76 and 78 Metropolitan Block.

The office of THE INLAND ARCHITECT is now located at 409 and 410 Manhattan building on Dearborn street, between Van Buren and Harrison streets.

MR. C. A. WALLINGFORD, architect, for the last eleven years of St. Paul, Minnesota, has returned to his native city, Indianapolis, with offices in the Coffin Block.

N. S. SPENCER, formerly practicing at Beatrice, Nebraska, and Stanford Hall, formerly practicing at Urbana, Illinois, have formed a copartnership for the practice of architecture, under the firm name of "Spencer & Hall," with headquarters in the Rugg building, Champaign, Illinois.

MR. CHARLES F. WINGATE, a well-known sanitary engineer in New York, lately wrote a letter to the *Sun*, calling attention to a new source of danger in the so-called "sky scrapers," in what he describes as drafts of sewer gas from the escape pipes of overtopping buildings into the windows, chimneys and light-shafts of adjacent houses. In a recent case, according to Mr. Wingate, the entire family of the superintendent of a large office building, occupying spacious rooms on the roof, surrounded by loftier buildings, but with a magnificent outlook over the harbor, have suffered from severe forms of zymotic disease, including repeated attacks of malarial fever, so that the family have been forced to abandon their apparently ideal quarters. Growing plants were destroyed by the virulent odors which penetrated their rooms, so that it was impossible to open windows, or to occupy the apartments for living purposes.

THE consolidation of all the lines of the Grand Trunk and Chicago and Grand Trunk Railways with its Lehigh Valley connection to New York and Vermont Central to Boston into one system was effected April 1. Mr. W. E. Davis, the general passenger agent of the latter road located at Chicago, has been promoted to the post of general passenger agent of the entire system, with offices at Montreal. Mr. Davis has earned a reputation second to none as one of the most progressive and able passenger agents in the country, and his promotion to this important office indicates a policy that will at once add to the effectiveness and the popularity of the Grand Trunk system; it will also insure the public that fast trains and schedule time, with all the comforts known to modern railway management, will be placed at the disposal of travelers over its lines. George B. Reeves is still traffic manager, and E. H. Hughes, the genial city ticket agent at Chicago, has been appointed assistant general passenger agent in charge of the passenger business of the seven lines of the system west of Port Huron.

NEW PUBLICATIONS.

WE have received the number of the *Digest of Physical Tests and Laboratory Practice* for April, 1896. The articles, although valuable, are mostly interesting to the engineer rather than the architect, except one, which is on scientific timber testing, which some architects may take an interest in.

"THE PEOPLE'S BIBLE HISTORY."—This great work which has just been issued by The Henry O. Shepard Company, of Chicago, Illinois, is a division of the Bible into fifteen sections, each section being written of by the most profound scholar in the world whose mental bent and experience has fitted him to its consideration. Not only that, the writing of each of the sections has been done

in harmony with the rest, under the able editorial care of Rev. George C. Lorimer, LL.D., of the Temple, Boston, Massachusetts. Writers of eminence in all the great centers of learning in Europe and America concentrate their Biblical learning in this remarkable book. Of it the president of Boston University, William F. Warren, D.D., says: "I think the general public are to be congratulated when such an international group of scholars unite in an effort to present the sublime story recorded in the Bible. The work is sure to be a treasured possession in thousands of Christian homes."

It has been prepared with all the taste and skill for which the press of The Henry O. Shepard Company has become famous. The illustrations are superb in their beauty of conception and execution. The type is new and beautifully clear, and the binding perfect. The popular edition is procurable in cloth, in half Russia, and in full Russia. Agents are wanted. An edition de luxe has also been brought out, containing 1,283 pages and 200 full-page illustrations and maps.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT,
CHICAGO, MAY 10, 1896.

The four months of 1896 have not shown the character of the year. Hesitancy characterizes trade, industry and commerce. While the production of manufactures and the volume of business is somewhat greater week by week and month by month than last year, the total volume, in view of our enormous producing capacity, is not sufficient to enable producers to maintain more than moderately remunerative rates. Raw material in some directions is relatively higher than the finished product. Productive capacity has been restricted with and without combinations, and in several lines prices have been crowded a notch or two above the point they would reach without associated effort. General conditions are healthful. Our industries though not overcrowded are enjoying reasonable activity. A vast amount of machinery has been put up during the past few months, and makers of machinery, engines, boilers, tools, equipments and appliances are more than usually busy. Yet there is a hesitancy awaiting. Liquidation is going on in some quarters. The railroads have not yet begun to buy heavily. Bankers pursue very conservative policies. There is a multitude of new enterprises waiting for the start. Better conditions are not far in the distance. Agricultural prospects are fair. Unfavorable crops in foreign lands promise to help American cereals. While there is yet no upward trend of prices, there is a solid groundwork that promises firmer prices in midsummer. The earning power of the people is slowly increasing, as is evident in many ways. Building operations during the past month have assumed large proportions. House-building especially is active. There is an important expansion of shop and factory capacity, also quite an increase in office-building in the larger cities. The iron and steel makers look for better markets, coal miners mining more coal than last year, lumber producers are more harmonious than a year ago. Makers of building material have closed season contracts at fractional increases over last year. Regarding labor agitations, the workmen have not agreed upon any aggressive action for shorter hours. They anticipate in some localities an evening-up of conditions. Their organizations are well maintained, and conservative men have been chosen as officials. Rash action is improbable. Reasonable notice of demands will probably be given. The general condition of the wage-workers has materially improved within five years, mainly through decreased cost of living. Disemployment has been the most unfavorable feature of recent years, but the indications now are that capital will open more avenues for employment within the next few months.

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.

Buffalo, N. Y.—Architects Winslow & Wetherell, Boston: For Shearer & Holloway, six-story apartment house; to be built at corner of Seventh and Vermont streets; to be of cream brick, with trimmings of stone; will be finished in hardwood, with sanitary plumbing, bathrooms, gas and electric light fixtures, steam heating, electric bells, etc.; cost, \$150,000.

Architect E. Henri Kelly: For Lakeside Cemetery Association, one-story stone mortuary chapel, 43 by 77 feet; to be built in Lakeside cemetery, eight miles southwest of the city; the walls will be of gray granite, ornamented with stucco and pressed brick, the frame of iron, the roof of tile, the floors of mosaic; there will be 144 catacombs in the mortuary proper, and the interior work will be of white Italian marble, two inches thick; cost, \$50,000.

Architect Frederic C. Brown: For a syndicate of capitalists represented by Dimmick & Newell, twelve four-story brick houses and a five-story brick family hotel; to be built on Elmwood avenue between North and Summer streets; houses will be of Dutch style of architecture; idea is to have a little group of Dutch houses and hotel, to be known as Holland Terrace; houses and hotel will have interior fitted in Dutch style, yet will have all modern improvements; estimated cost of houses, \$25,000 each; hotel, \$50,000.

Architects Porter, Porter & Schueus: For village of Depew, two-and-one-half-story frame engine and hose house, 30 by 60 feet; tower, sixty feet high, to be built on structure; will be fitted with slide-poles for firemen and other conveniences; cost, \$35,000.

Architect E. C. Paul: For Thomas Lovett, two-story brick and frame residence; to be built on Balcom street, near Linwood avenue; first story will be of brick, and second of frame; house will be finished throughout in hardwood, will have oak mantels, fancy fireplaces with tiling, gas fixtures, furnace, sanitary plumbing, bathroom, electric bells, etc.; frame stable will be built in the rear; cost, about \$10,000. For John Selmeusberger, two-story brick and stone store and living apartments; to be built at the southwest corner of High and Mulberry streets; store will have plate-glass fronts and all modern improvements; apartments will be finished in hardwood, with grilles, mantels, hardwood flooring, natural and illuminating gas fixtures, hot and cold water arrangements, sanitary plumbing, bathrooms, furnace, etc.; cost, \$9,000.

Architects Lansing & Beierl: For ex-Street Superintendent John S. O'Shea, one-story brick block of five stores; to be built on Court street near Franklin; stores will have large plate-glass fronts, will be fitted with gas fixtures and heated by steam; cost, \$12,000.

Architect John S. Rowe: For William Willganz, three-story block of stores and apartments; to be built on the northwest corner of Carolina street and Prospect avenue; body of structure will be of Jewettville brick; façade of

Shawmut buff pressed brick, with trimmings of Medina sandstone; terra cotta will be used for decorations, with cornices of galvanized iron; stores will have plate-glass fronts, gas fixtures, furnace, plumbing outfit and other improvements; apartments will be finished in white oak in parlors and vestibules, and in South Carolina pine in natural color in other rooms; will be lighted by gas, heated by natural gas and furnace; will be provided with hot and cold water, bathrooms, electric bells, etc.; estimated cost, \$25,000.

Boston capitalists are said to be negotiating for the erection of a big hotel in the down-town district, and several theater schemes are budding. No local artists are working on plans for hotels or theaters. The projects, it can be safely said, have not yet assumed definite form.

Architect Morris Grant Holmes: For John B. Squire, two-story frame summer cottage; to be built at Lancaster; will be finished in pine, with improvements; cost, \$4,000.

The Board of Public Works will within a few days advertise for competitive plans for a sixteen-room brick school, to cost \$50,000, to be erected on the East Side. Another school of the same size will be begun before the summer is over.

Architect Louis Saenger: For German Deaconesses' Home, three-story brick house; to be built on Kingsley street near Humboldt Parkway; will be finished in pine and be fitted with bathrooms and water-closets, electric bells, natural and artificial gas fixtures, etc.; cost, \$25,000.

Butte, Mont.—Architect H. M. Patterson: A two-story country residence for A. J. Davis, of this city; to be erected near Gaylord, Montana; to cost \$7,500. A residence for C. W. Ellingwood, of Butte; to be erected at the corner of Washington and Silver streets; to cost \$6,000. A one-and-one-half-story cottage on West Broadway, for T. P. Newton; to cost \$5,000. A two-story tenement house on the west side of South Washington street, for A. Wehl; to cost \$8,000. The adding of three stories to the Silver Bow block, on West Granite street; to cost \$30,000. The outlook for the coming season here is good.

Chicago, Ill.—Architects Beers, Clay & Dutton: For M. H. Wilson, a three-story residence, 119 by 89 feet in size; to be erected at the northwest corner of Forest street and Greenleaf avenue, Evanston; it will be of handsome design in the Colonial style of architecture, of stone all round with tile roof, have very fine hardwood interior finish, the best of open plumbing, electric light, steam heating, etc. For Paul Fernald, a two-story residence, 17 by 64 feet in size; to be built at 4203 Vincennes avenue; it will be of stone front, have all improvements, heating, etc.

Architects Tinkle & Niess: For Albert Trostel & Son, at Milwaukee, a five-story warehouse, 200 by 45 feet in size; to be of common brick, mill construction, have the necessary plumbing, elevator, etc.

Architect George Grussing: For A. D. Hildegas, a two-story, basement and attic residence, 52 by 53 feet in size; to be erected at Winnetka; it will be of frame with stone basement, have hardwood interior finish, mantels and sideboards, gas fixtures, the best of modern plumbing, heating, etc. For William Kline, a two-story and basement flat building, 61 by 25 feet in size; to be built at Jackson boulevard and West Forty-first street; to be of stone basement, have all the modern plumbing, gas fixtures, mantels, sideboards, interior to be finished in oak, have electric light, steam heating.

Architects F. & E. S. Bauman: For Messrs. Peterson & Scheeswohl, a two-story store and flat building, 50 feet front and 75 feet deep; to be erected at Evanston and Diversey avenues; it will be of pressed brick front with buff Bedford stone trimmings, have interior finished in oak and have all the modern sanitary improvements, gas and electric fixtures, gas ranges and fireplaces, laundry fixtures, etc.

Architect D. E. Waide: For United Presbyterian congregation, a two-story church and Sunday school, 60 by 90 feet in size; to be erected at the northwest corner of Lincoln avenue and Leland, Ravenswood; it will be of Bedford stone front with slate roof, have oak interior finish, plumbing, gas fixtures, toilet rooms, kitchen, steam heating, etc.

Architects Fowler & Wright: Making plans for a two-story, basement and attic residence, 25 by 45 feet in size; to be erected at West Pullman; it will be of pressed brick front with buff Bedford stone trimmings, have oak interior finish, the modern plumbing, gas fixtures, mantels and sideboards, laundry fixtures, heating, etc.

Architects Wilson & Marshall: For Hannah & Hogg, a four-story, basement and attic apartment building, 118 by 335 feet in size; to be erected at Lake View avenue, overlooking Lincoln Park; it will be of very handsome design in the French Chateau style, have two fronts of buff Bedford stone, Spanish tile roof, all hardwood interior finish, gas and electric fixtures, specially designed mantels, sideboards and consoles, marble entrance, mosaic floors, marble wainscoting, tile bathrooms, elevators, gas ranges and fireplaces, electric light, steam heating, etc.; the cost will be about \$250,000. Also for Hannah & Hogg, a store and apartment building, 119 by 22 feet in size; to be erected at Thirty-first street and Indiana avenue; to cost \$20,000; it will have a front of buff Bedford stone with copper bays and cornice, flat roof, interior to be finished in quarter-sawn oak, have all open modern plumbing, gas and electric fixtures, mantels and sideboards, gas ranges and fireplaces, tile bathrooms, marble entrance, electric light, steam heating, etc. Also for Hannah & Hogg, preparing drawings for buffet room in the Fisher building, corner of Van Buren and Dearborn streets; to be finished in San Domingo mahogany, have mosaic floors, specially designed fixtures, etc.; cost \$25,000. Also for A. W. Hester, a three-story and basement Colonial residence, 30 by 65 feet in size; to be erected at Junior Terrace near the Sheridan Drive; it will be of buff Roman pressed brick trimmed with white terra cotta, have interior finished in mahogany, birch and bird's-eye maple, have all open nickel-plated plumbing, gas and electric fixtures, gas ranges and fireplaces, electric light, steam heating, etc.; cost \$12,000. For B. F. Miller, six three-story residences, semi-detached; to cost about \$100,000; they will be erected on Grand boulevard and Fifty-fifth street and have handsome fronts of Bedford stone and pressed brick, interiors to be all hardwood finish throughout, with special mantels, sideboards and consoles, gas and electric fixtures, the best of plumbing specialties, gas ranges and fireplaces, marble wainscoting, tile bathrooms, mosaic floors, hot-water heating, electric light, etc. Also making drawings for a pretty Colonial residence, to be erected at West Dayton, New York, for H. V. Wilson; it will be two-story, basement and attic, constructed of stone and frame, have hardwood interior finish, hot-water heating, etc.

Architect S. M. Eichberg: For Charles Anning, a two-story and basement flat building, 45 by 70 feet in size; to be erected at 1088 and 1090 Lawndale avenue; to be of buff Bedford stone front, have oak interior finish, mantels and sideboards, gas fixtures, ranges, heating, etc.

Architects Schroeder & Koster: For J. Suter, a two-story and basement flat building, 25 by 70 feet in size; to be erected at 4814 Langley avenue; to be of selected variegated raindrop brownstone front, have all hardwood interior finish, mantels, sideboards, gas fixtures, laundries, etc. For Atkins & Freund, remodeling building, 25 by 117 feet in size, at Forty-seventh street and Ashland avenue; will put on new front, stone, plate glass and iron, plumbing, gas fixtures, electric wiring, etc.

Architect F. B. Abbott: Making plans for two-story, basement and attic residence, 25 by 60 feet in size; to be erected at Woodlawn avenue near Sixty-sixth street; it will be of buff Bedford stone front, all hardwood interior finish, mantels and sideboards, gas fixtures, etc. For Warren Springer, a nine-story factory and office building, to be erected at 171 and 173 South Canal street; it will be of pressed brick with terra cotta trimmings, have mosaic marble and tile work, elevators, electric light, steam heating, etc.

Architects Lapointe & Hickok: For Reverend Labrie, at Mokena, Illinois, a two-story, attic and basement residence, 26 by 40 feet in size; to have a Tiffany pressed brick front with Bedford stone trimmings, oak finish, gas fixtures, mantels, sideboards, heating, etc. For L. W. Beganza, at Austin, a frame house, stone basement, modern plumbing, gas fixtures, furnace, etc. For Louis Roberge, a two-story residence, 25 feet front, at Fillmore street; pressed brick and stone, modern plumbing, gas fixtures, mantels, furnace, etc. Also making plans for two-story frame residence, to be built at Austin; stone basement, hardwood finish, heating, etc.

Architect H. M. Hansen: For M. S. Brady, a two-story, basement and attic residence, 22 by 45 feet in size; to be built at Rogers Park; to be of frame with stone basement, have hardwood finish, mantels, gas fixtures, furnace, etc. For C. A. Zander, a four-story store and flat building, 25 by 85 feet in size; to be erected at 1214 Clark street; to be of Roman pressed brick with Bedford

stone trimmings, gravel roof, have hardwood finish, mantels, gas fixtures, steam heating, etc. For W. F. Lubecke, at Buena Park, a handsome two-story residence, 37 by 54 feet in size; to be of stone and pressed brick all round, have electric light, steam heating, all open plumbing, etc.; cost \$15,000.

Architects McMichael & Morehouse: Made drawings for St. Nicholas Roman Catholic church, to be erected at One Hundred and Thirtieth and State streets; it will be constructed of Milwaukee pressed brick with terra cotta trimmings and slate roof, have interior finish in oak, and pews will be provided for a congregation of 400.

Architects D. H. Burnham & Co.: For Mrs. Phillips, a five-story factory, 48 by 120 feet in size; to be erected at Adams and Jefferson streets, to have a pressed brick and stone front, plumbing, elevators, steam heating, etc.

Architect Thomas H. Mallay: For Dan Delaney, a two-story residence; to be built at East Grove; it will be of frame with stone basement, oak interior finish, gas fixtures, mantels, furnace, etc.

Architect George S. Kingsley: For R. A. Griefenhagen, a six-story apartment house, 50 by 112 feet in size; to be erected at 551 Dearborn avenue; it will be of pressed brick and terra cotta front, have hardwood interior finish, the modern sanitary improvements, gas and electric fixtures, electric light, mantels and sideboards, laundry fixtures, gas ranges and fireplaces, electric bells and speaking tubes, marble wainscoting and mosaic floors, steam heating, etc.

Architect Robert C. Berlin: Made plans for a handsome two-story, basement and attic residence, 33 by 58 feet in size; to be erected at Deming court, for W. A. Wieboldt; it will be of pressed brick and stone front, have hardwood finish, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, electric light, steam heating, etc.

Architects Gatterdam & Krieg: For Electric Park Amusement Association, at Elston, Belmont and California avenues, a pavilion to accommodate ten thousand people; it will be of frame and iron with steel-truss roof; 180 by 230 feet in size, with stage 100 by 30 and dance floor 100 by 120; there will be also bowling alley, billiard hall, restaurant, large kitchen, lavatories, bars, lunch counters, racing track, swimming bath, etc.; boiler house and electric light plant. For Theodor Hildebrand, a two-story and basement store and flat building, 25 by 54 feet in size; to be built at Kedzie avenue and Fifteenth street; it will be of buff Bedford stone front, iron and plate glass, have interior finished in Georgia pine, the modern plumbing, mantels, gas fixtures, heating, etc.

For Charles Reimann, a two-story and basement flat building, 22 by 60 feet in size; to be built at Thirteenth street and Lawndale avenue; it will be of Bedford stone front, composition roof, have sanitary plumbing, mantels gas fixtures, pine finish, electric bells and speaking tubes. For Delos Martyn, a store building, 33 by 70 feet in size; to be built at Freeport, Illinois; to be of brick with stone foundations, have galvanized iron and plate glass, modern plumbing, electric light, steam heating, etc. For Charles Morgan, a frame house, 25 by 43 feet in size; to be erected at Sixtieth and May streets; modern plumbing, gas fixtures, hardwood finish, furnace, etc.

Architect Paul Gerhardt: For A. Lindt, a three-story and basement flat building, 22 by 85 feet in size; to be erected at 349 Dayton street; it will contain front and rear flats and have all the modern conveniences, heating, etc. For M. Freese, at 1244 North Halsted street, a three-story flat building, 34 by 80 feet in size; to be of buff Bedford stone front, have Georgia pine and quartered oak finish, mantels, gas fixtures, etc.

Architects Patton & Fisher: For H. M. Harper, a three-story residence, 25 by 46 feet in size; to be erected at Oakwald avenue near Forty-sixth street; it will be of pressed brick and stone front, have hardwood interior finish, mantels and sideboards, heating, etc. For C. W. Kirk, a two-story residence to be built at Highland Park. It will be of frame construction with stone basement, have oak interior finish, all conveniences and heating. Also closing bids for the Hackley Manual Training School, to be erected at Muskegon.

Architect Julius Speyer: For Peter Fortune, a three-story store and flat building, 50 by 150 feet in size; to be erected at the southeast corner of Van Buren and Francisco streets; pressed brick front with buff Bedford stone trimmings, hardwood interior finish, mantels and sideboards, electric light, all open nickel-plated plumbing, heating, etc.

Architect T. N. Bell: For D. E. Williams, a three-story flat building, 50 by 76 feet in size; to be erected at Sangamon street near Sixty-third street; Bedford stone front, oak and cypress interior finish, mantels, sideboards, gas fixtures and electric, the modern open nickel-plated plumbing, laundry fixtures, electric bells and speaking tubes, gas ranges and fireplaces, heating, etc.

Architects Treat & Foltz: For H. J. Evans, seven two-story and basement houses, 122 feet front and 61 feet deep; to be erected at Warren avenue west of California avenue; they will have blue Bedford stone fronts, interior finished in birch and oak, have the modern sanitary conveniences, mantels, sideboards and consoles, marble wainscoting, gas ranges and fireplaces, electric light, hot-water heating. For E. S. Rice, a four-story and basement apartment house, 48 by 64 feet in size; to be erected at Sixty-sixth street and Wentworth avenue; the basement and first story will be of buff Bedford stone and above of pressed brick and stone, with copper bays and cornice, the interior to be finished in hardwoods and have the best of modern sanitary improvements, gas and electric fixtures, gas ranges and fireplaces, steam heating and electric light. For John Garibaldi, a three-story flat building, 50 by 62 feet in size; to be erected at Illinois street, rear of Nos. 66 and 68; common brick, water-closets and sinks; there will be stable on the first floor and in the basement place for wagons, etc.

Architects Brainerd & Holman: Making plans for Christian church, 80 by 90 feet in size; to be erected at Rock Island; it will be of pressed brick with terra cotta trimmings, have interior finished in oak, have plumbing, gas fixtures, hot-water heating, etc. For Rev. Otis C. Olds and American Board of Foreign Missions, a Congregational Mission church at Parvall, Mexico; it will be 50 by 83 feet in size, of cut stone and brick and iron roof. For William J. McDowney, a two-story and basement store, office and apartment building; to be erected at Chicago Heights; it will be of pressed brick and terra cotta front, gravel roof, have hardwood finish, sanitary plumbing, gas and electric fixtures, heating, etc. For William Ashton, a three-story and basement apartment house, 100 by 60 feet in size; at Forty-first street and Prairie avenue; first story of stone and the rest of pressed brick and stone, with gravel roof, interior to be finished in quarter-sawn oak, have the best of modern plumbing, gas and electric fixtures, mantels and sideboards, laundries, electric bells, speaking tubes, steam heating; the cost will be about \$35,000. For A. L. Kemper, a two-story and basement apartment house, 50 feet front, at 1885 Harrison street; pressed brick and stone front, gas fixtures, mantels, sideboards, heating, etc.

Architects Flanders & Zimmerman: For John O'Malley, a four-story apartment house, 102 by 90 feet in size; to be erected at Thirty-seventh street and Indiana avenue; to have a buff Bedford stone front, hardwood finish, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, laundry driers, electric light, steam heating.

Architects Schlacks & Ottenheimer: Made plans for a three-story and basement school and hall, 57 by 111 feet in size; to be erected at the corner of Noble and Cornelia streets; it will be of stone, pressed brick and terra cotta, have oak interior finish, marble floors, marble wainscoting, modern conveniences, electric light, steam heating, etc.; cost \$40,000. For Dr. J. Frank, a four-story and basement store and apartment building, 42 by 75 feet in size; to be erected at North avenue near Larrabee street; Bedford stone front, hardwood finish, modern sanitary improvements, gas and electric fixtures, electric light, steam heating; cost \$18,000. For S. Wedeles, a three-story and basement residence, 21 by 70 feet in size; to be erected at 3842 Lake avenue; it will have a stone front, hardwood finish, gas and electric fixtures, mantels, sideboards and consoles, gas ranges and fireplaces, laundry fixtures, electric bells and speaking tubes, hot-water heating, electric light; cost \$12,000.

Architect J. T. Fortin: For Mrs. Feiga Goodman, additions and alterations to flat building, 24 by 100 feet in size; corner of Fourteenth street and South Peoria; stone front, pressed brick sides, copper bays and cornice, plumbing, mantels, laundry tubes, etc. For Signor Antonio José Stefani, a two-story and basement flat building, 24 by 56 feet in size, at West Polk street near Douglas Park boulevard; to have a buff Bedford stone front, hardwood finish, mantels, sideboards, heating, etc. For Messrs. Goodman & Geiseroch, a two-story and basement flat, 25 by 57 feet in size, at 2007 Grenshaw street; Bedford stone front, all open plumbing, mantels, gas fixtures, etc. Also at 611 Park avenue, a three-story and basement flat building, 22 by 62 feet in size; to have a Bedford stone front and all improvements. For John Paoli, at

592 Twenty-seventh street, a three-story store and flat building, 22 by 50 feet in size; to have a front of pressed brick and stone, galvanized-iron bay, oak finish, open plumbing. For Charles Zietenfeld, a four-story store and flat building, 22 by 63 feet in size; at 263 Thirteenth place; pressed brick and stone front, hardwood finish, mantels, sideboards, plumbing, etc. For Mrs. Anna Coletti, a two-story flat, 21 by 56 feet in size; at 846 West Huron street; pressed brick front with buff Bedford stone trimmings, mantels, gas fixtures, modern plumbing, furnaces.

Architects D. E. & O. H. Postle: For J. C. Brown, a four-story store and flat building, 50 by 100 feet in size; to be erected at Ogden avenue and Taylor street; pressed brick and stone front, plumbing, etc.

Detroit, Mich.—Architect Edward C. Van Leyen: For Robert M. Zug, two-and-one-half-story brick residence, cut-stone trimmings, slate roof and heated by combination hot water and air; size 30 by 55 feet; cost \$7,000.

Architect William S. Joy: For William A. King, two two-story brick residences; cost \$10,000. For Hiram Adams, Waukesha, Wisconsin, two-and-one-half-story frame residence; cost \$6,000.

Architect Joseph E. Mills: For Anthony Wagner, Dearborn, Michigan, three-story brick hotel; size 90 by 100 feet; cost \$10,000. For August Stork, Marlette, Michigan, three-story brick block; cost \$6,000. For Moses Larges, two-story brick residence; cost \$5,500. For Marlette, Michigan, brick public schoolhouse; cost \$14,000.

Architect F. J. Grenier: For J. T. Hornung, two-story brick residence; cost \$9,000. For W. C. D. Lowrie, three-story brick and stone double residence; cost \$14,000.

Architects E. A. Walshe & Son: For District 1 of Springwells, Michigan, three-story brick public school; size, 120 by 84 feet; cost \$18,000.

Architects A. C. Varney & Co.: For Alfred Goodman, addition to Griswold Hotel, six stories high of brick with stone and pressed-brick trimmings, heated by steam; size, 94 by 72 feet; cost \$30,000. For W. A. Sterns, Birmingham, Michigan, two-story frame residence; size, 54 by 60 feet; cost \$5,000.

Architects Nettleton, Kahn & Trobridge: For Louis C. McBride, four-story pressed-brick apartment building, stone trimmings, tile roof and to be heated with hot water; size, 40 by 90 feet; cost \$20,000. For Edgar S. Dean, three-story frame residence; cost \$5,000. For same, four-story brick and stone apartment; cost \$17,000.

Architects Malcolmson & Higginbotham: For Presbyterian Society, brick church edifice; cost \$15,000.

Architect S. C. Falkenburg: For H. H. Valpey, three-story brick and stone double residence, heated by steam; cost \$16,000.

Architects Baxter & Hill: For Tuller & Van Husan, two-and-one-half-story residence, of pressed brick and Ohio sandstone, slate roof and heated by hot water; cost \$8,500. For Harry F. Hollands, two frame residences, finished in hardwood; cost \$5,000.

Architect Gustav A. Mueller: For Schwarz Brothers, two-story pressed-brick block with stone trimmings, tin roof; size, 40 by 130 feet; cost \$6,000.

Architect John W. Coughlan: For Louis C. Rabant, three-story brick and stone double residence, slate roof; size 44 by 65 feet; cost \$6,000.

Architect D. B. Kressler: For G. A. Savory, two-story brick residence; cost \$10,000.

Architect Richard E. Raseman: For Edward Henkel, three-story brick double store; cost \$8,000.

Architects John Scott & Co.: For Frederick S. Case, two-and-one-half-story brick and stone residence; cost \$6,000. For Wayne county, Michigan, County building with entire fireproof construction; cost \$1,000,000.

Architects Donaldson & Meier: For Frederick Wettlanfer, two story brick block; cost \$5,000.

Architects Mortimer L. Smith & Son: For Furgusson estate, six-story pressed-brick and stone and terra cotta trimmings, steel-frame construction; size 63 by 100 feet; cost \$80,000.

Architect Henry Englebert: For Servite Brotherhood, Chicago, convent and church of stone and brick; size 216 by 132 feet; cost \$120,000.

Architect Harry J. Rill: For A. Becker, two-story brick stores and residence flats; cost \$5,000.

Kansas City, Mo.—There has been no "building boom" in Kansas City the past year; no "rush," so to speak; nothing that it has been thought worth while to exult over, and most people will be surprised to learn that the cost of buildings and improvements in the city for the year ending April, 1896, amounted to \$1,601,800, and exceeded the same cost for the year ending April, 1895, by \$183,105. These are very satisfactory figures—\$1,600,000 put into brick and stone and labor, and an increase of \$183,000 over last year. It is good sign and full of encouragement that building has gone on in all departments, business and residence, public and private. For public uses work has been done on the City Library building and the City Hospital and the new City Workhouse. Among the great works by corporations has been the new Stock Exchange, which cost \$60,000. A great many superior brick business houses have been built in the old heart of the town. A fact of interest is that out of the total of \$1,601,800 expended, the greater proportion, \$913,500, was put in buildings of brick, which means permanency, structures that have "come to stay." The character of the building done, both in the direction of business and residence structures, has been a vast improvement on the work of former years. Everything built now is for all time. Nothing is built with the expectation that it will serve a present purpose and then fall down or burn up, or be torn away to give place for something else.—*Kansas City Star.*

Milwaukee, Wis.—Architect W. A. Holbrook: Remodeling the Pierce block; cost \$20,000.

Architects Perry & Clas: For Gall & Frank Company, business block, 120 by 130 feet in size; seven stories; first two stories stone, above brick and terra cotta; cost \$150,000.

Minneapolis, Minn.—Architect Frank Doe: For T. B. Walker, cold-storage warehouse, 40 by 330 feet in size; four stories and basement; cost \$60,000. Also for same, brick building, 47 by 60 feet in size; three stories; cost \$12,000.

Architect E. P. Overmire: Church, 94 by 124 feet in size; brownstone; cost \$50,000.

Jepson Company, architects: For A. M. Smith, residence of brownstone; cost \$12,000.

Architect Warren H. Hayes: Church at Wausau, Wisconsin, 66 by 110 feet in size; pressed brick and brownstone; cost \$20,000.

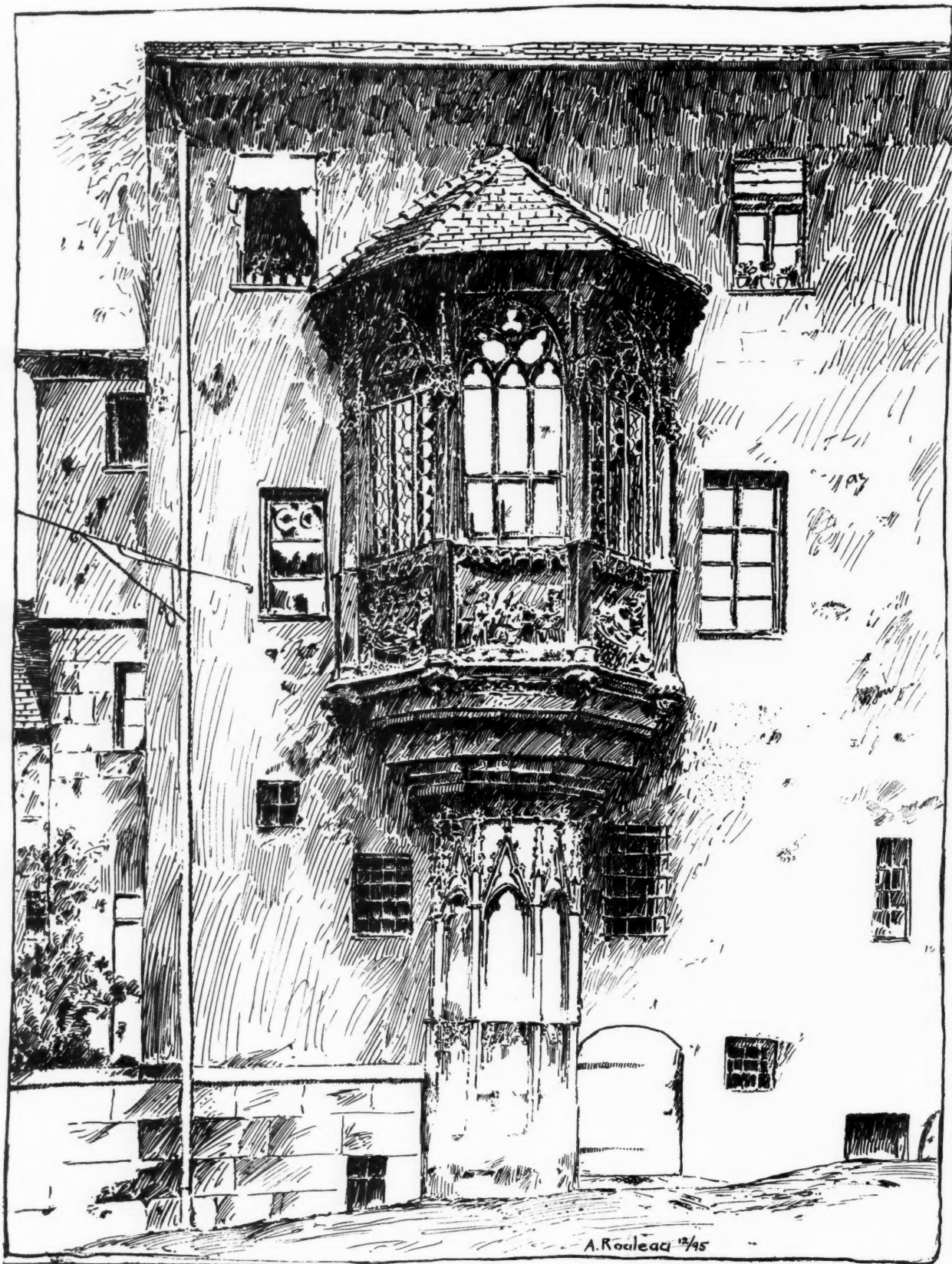
Architects Orff & Joralemon: Courthouse, Waseca, Minnesota; cost \$40,000.

Ogden, Utah.—Architect W. W. Fife: Store building, 53 by 120 in size; two story and basement; cost \$15,000. Also remodeling the Old Tabernacle, built in 1856; cost of repairs, \$10,000.

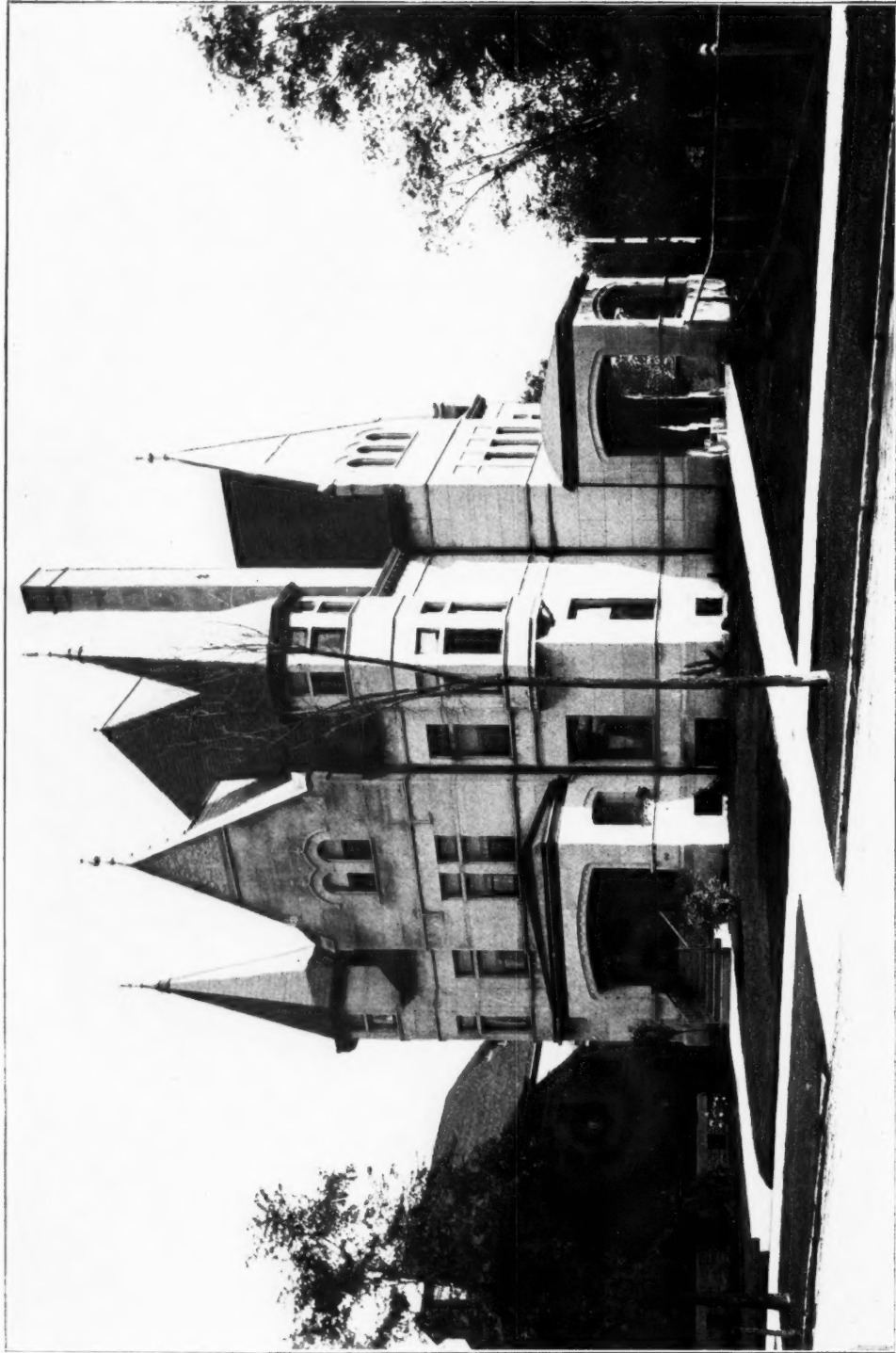
Omaha, Neb.—The first four months of this year show a marked improvement over last year, with just the month of March excepted. In that month of last year was built the Creighton Theater at a cost of over \$100,000. This amount could not be overcome in March, but outside of that permit there has been a gain on each month, and this April has more than doubled on last year's April permits. There are several large buildings in contemplation, which will most likely be completed during the summer months. Among the most prominent contracts now let and approaching completion are the following: The Davidge Flats, corner Eighteenth and Farnam streets, \$25,000. Omaha & Grant Smelting Works, \$5,000. The Franciscan Fathers have decided to build a monastery and church, the monastery to be 48 by 85 feet in size, three stories, of brick and stone, and church 66 by 137 feet in size. It is proposed to build a three-story monastery at an outlay of \$18,000. The church will not be completed this summer, but will cost some \$30,000. McCord, Brady & Co., wholesale grocers, are putting in an improved coffee-roasting machine, at a cost of near \$3,000. Booth Packing Company are adding a cold-storage plant, costing over \$5,000. W. H. Green is building a \$5,000 residence, and N. B. Rairdon a \$4,000 residence. There are over fifty dwellings being built, costing from \$1,000 to \$5,000 each. This, together with numerous repairs going on, shows a marked increase over last year's permits.

St. Paul, Minn.—Architect J. W. Stevens: Alterations Buckingham apartment building; cost \$20,000.

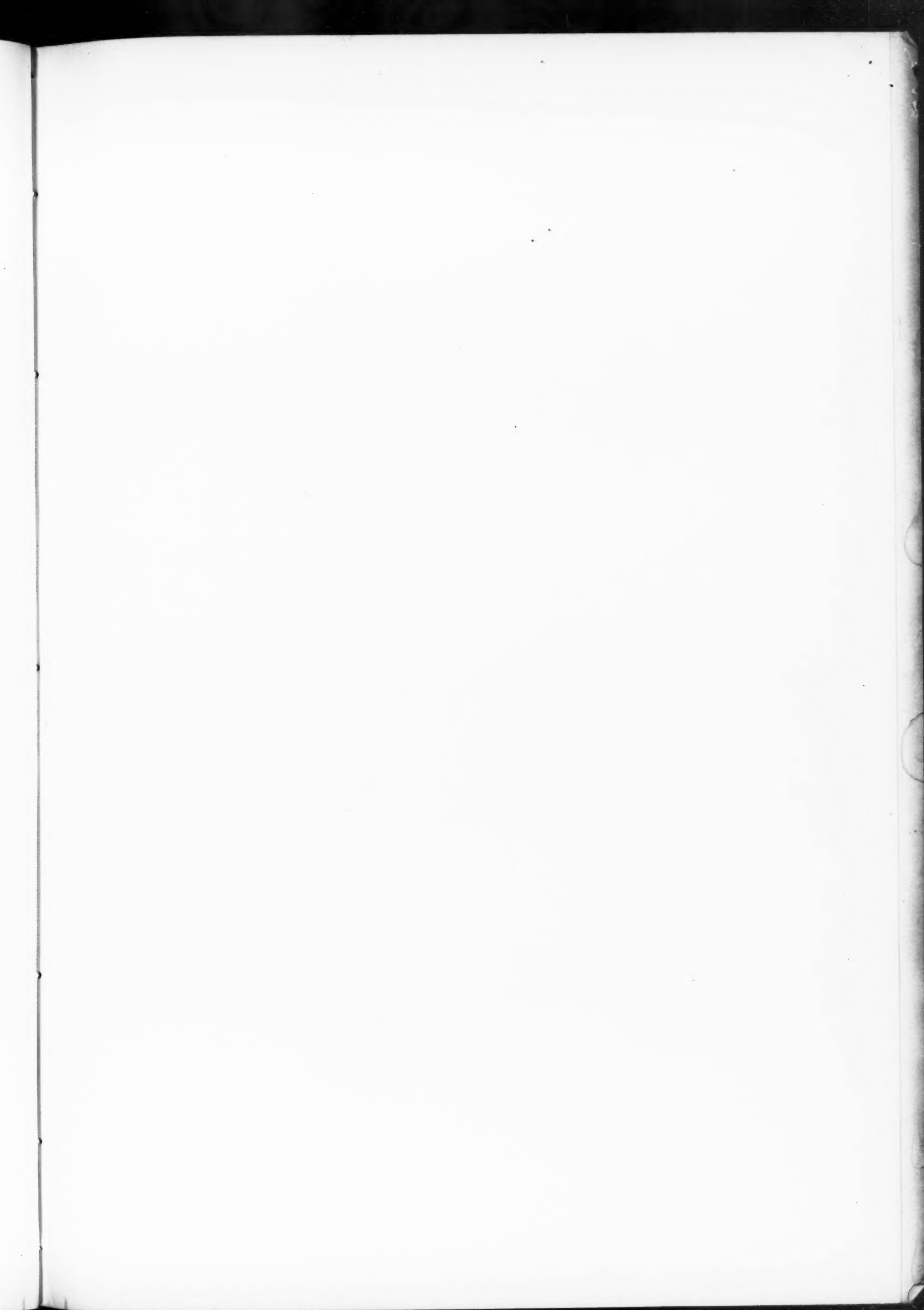
Architects Herman Kretz & Co.: Hotel, 50 by 95 feet in size; three stories, pressed brick, stone trimmings; cost \$30,000.







A CHICAGO RESIDENCE.



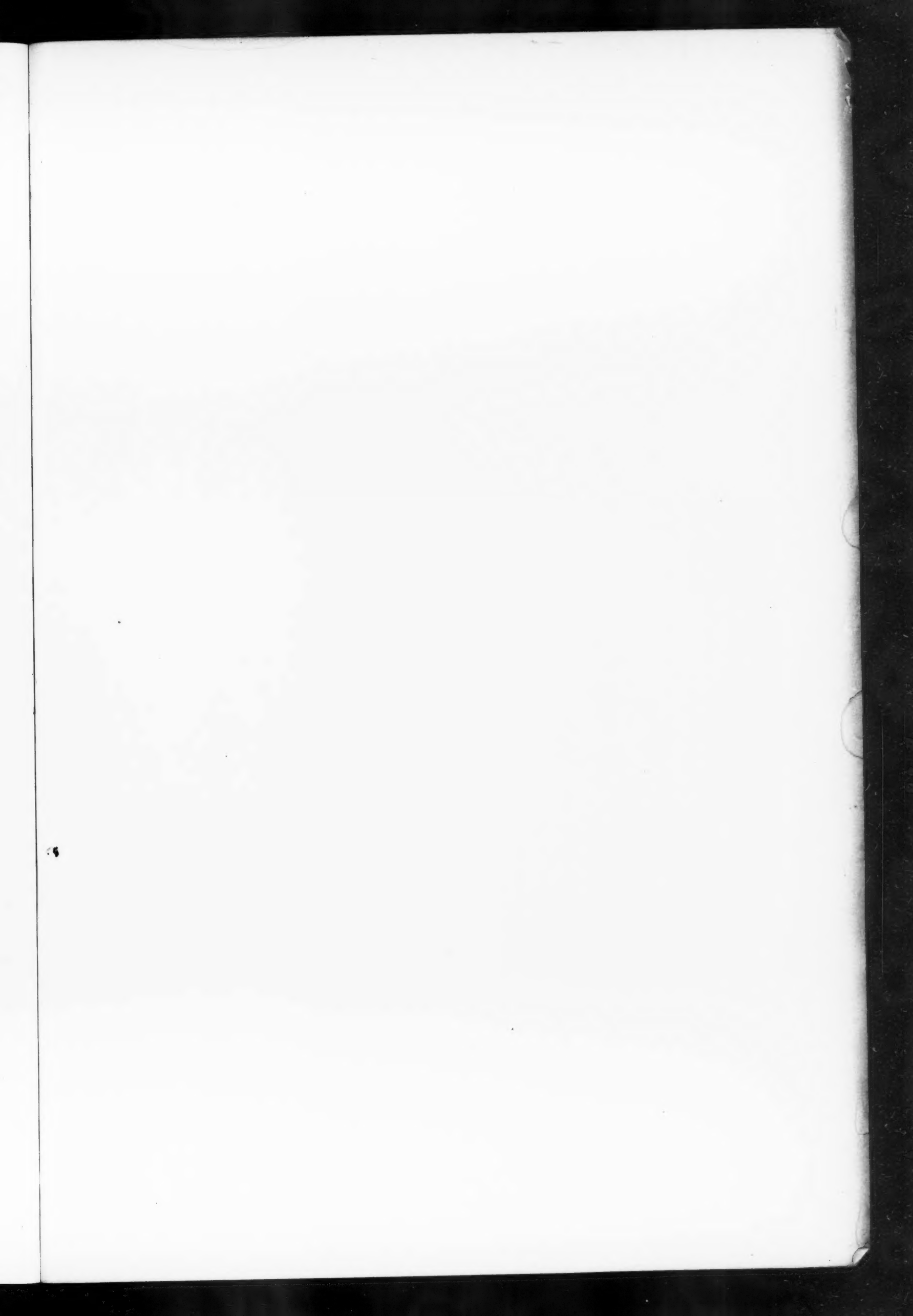
DESIGN FOR THE
WASHINGTON PARK
CONGREGATIONAL
CHURCH, CHICAGO.

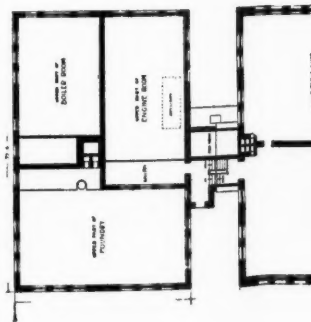
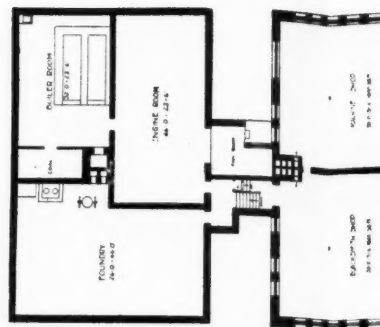
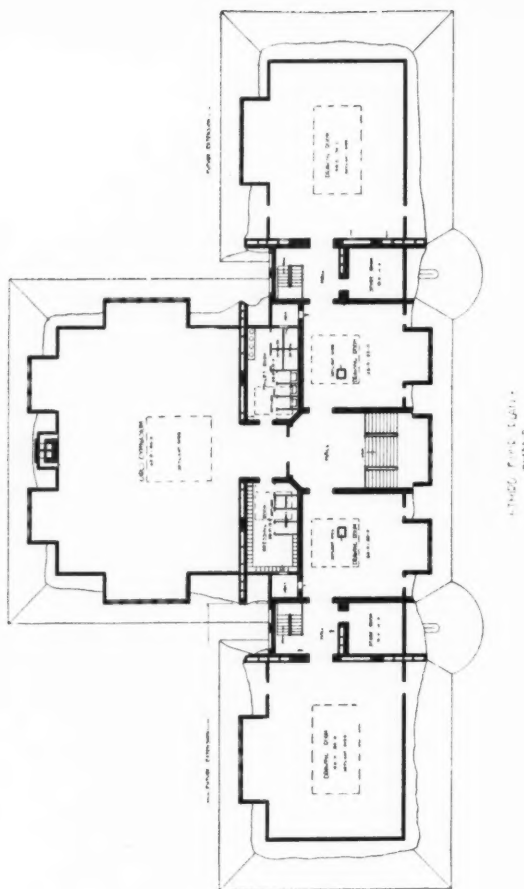
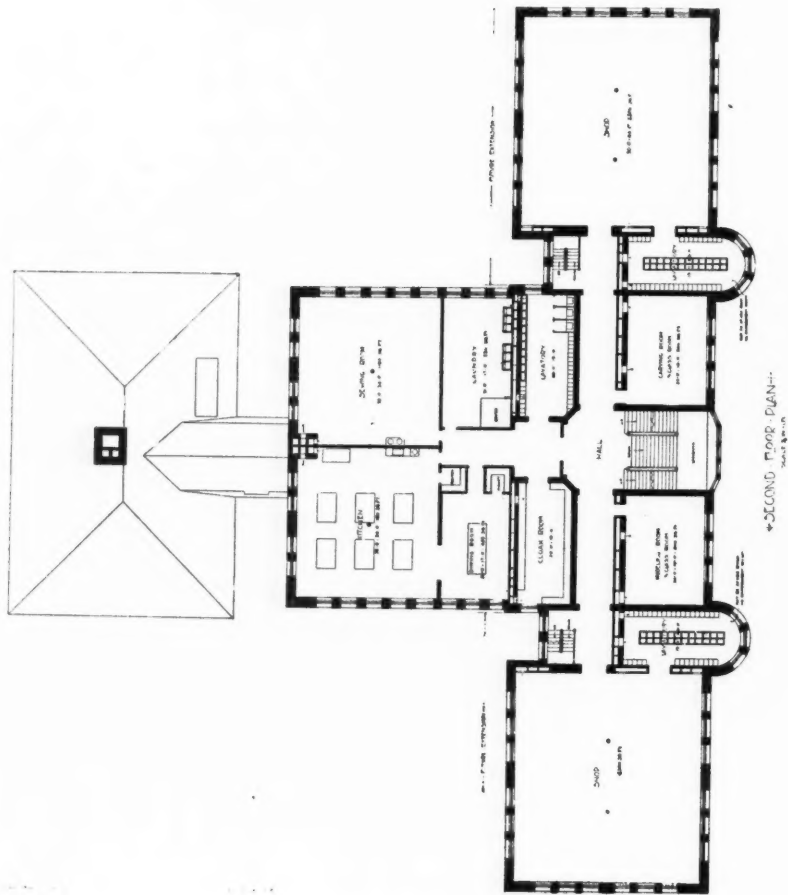




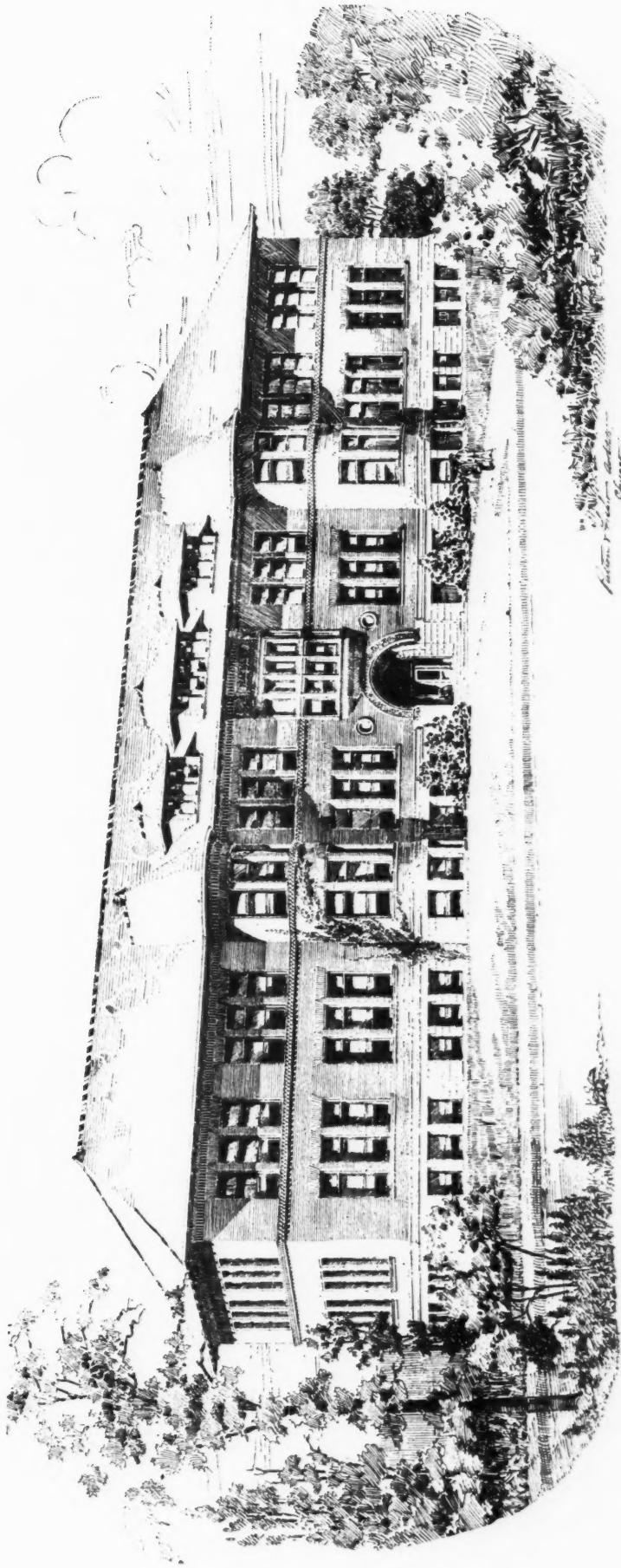
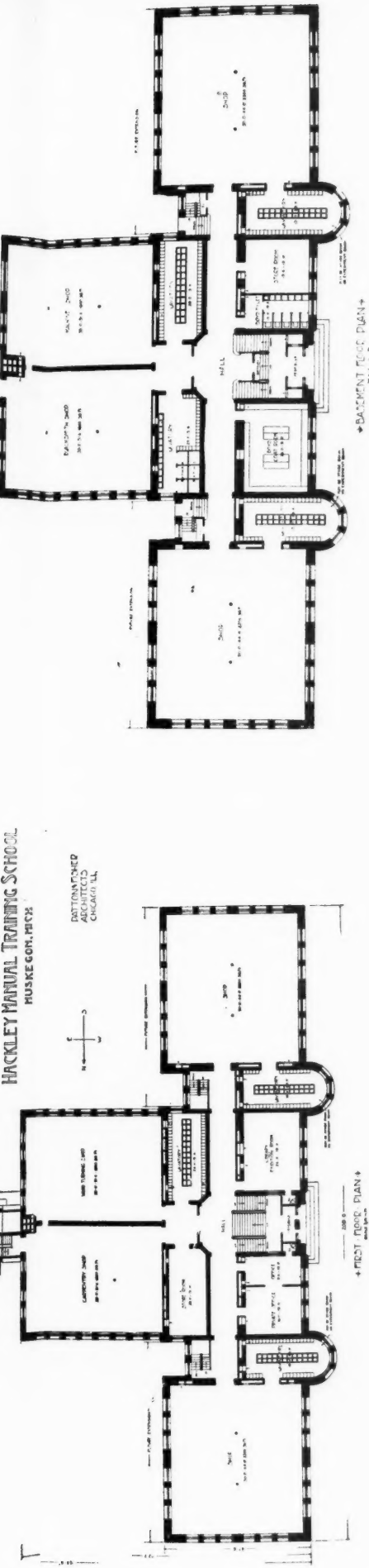


A LIBRARY INTERIOR, CHICAGO.

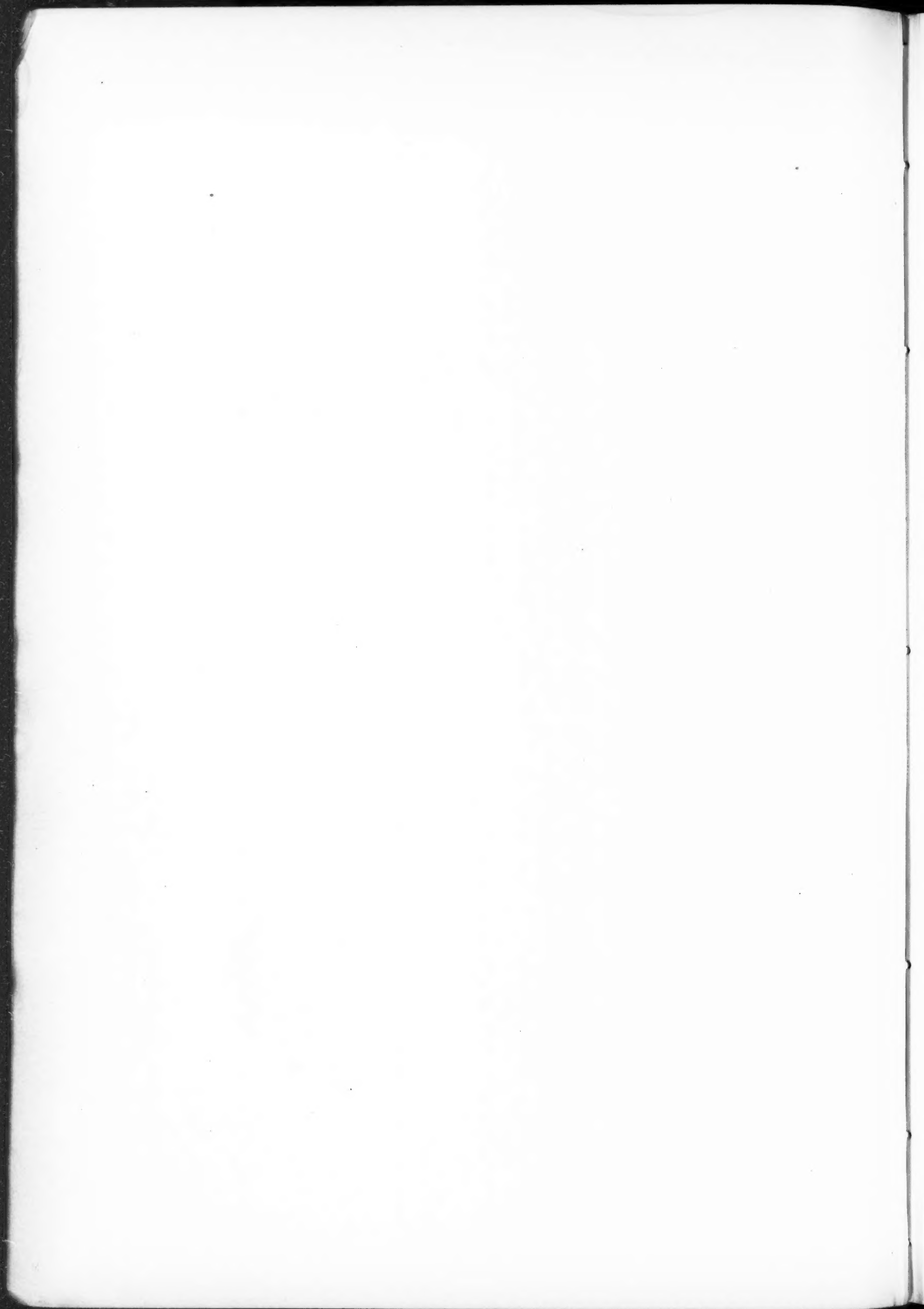


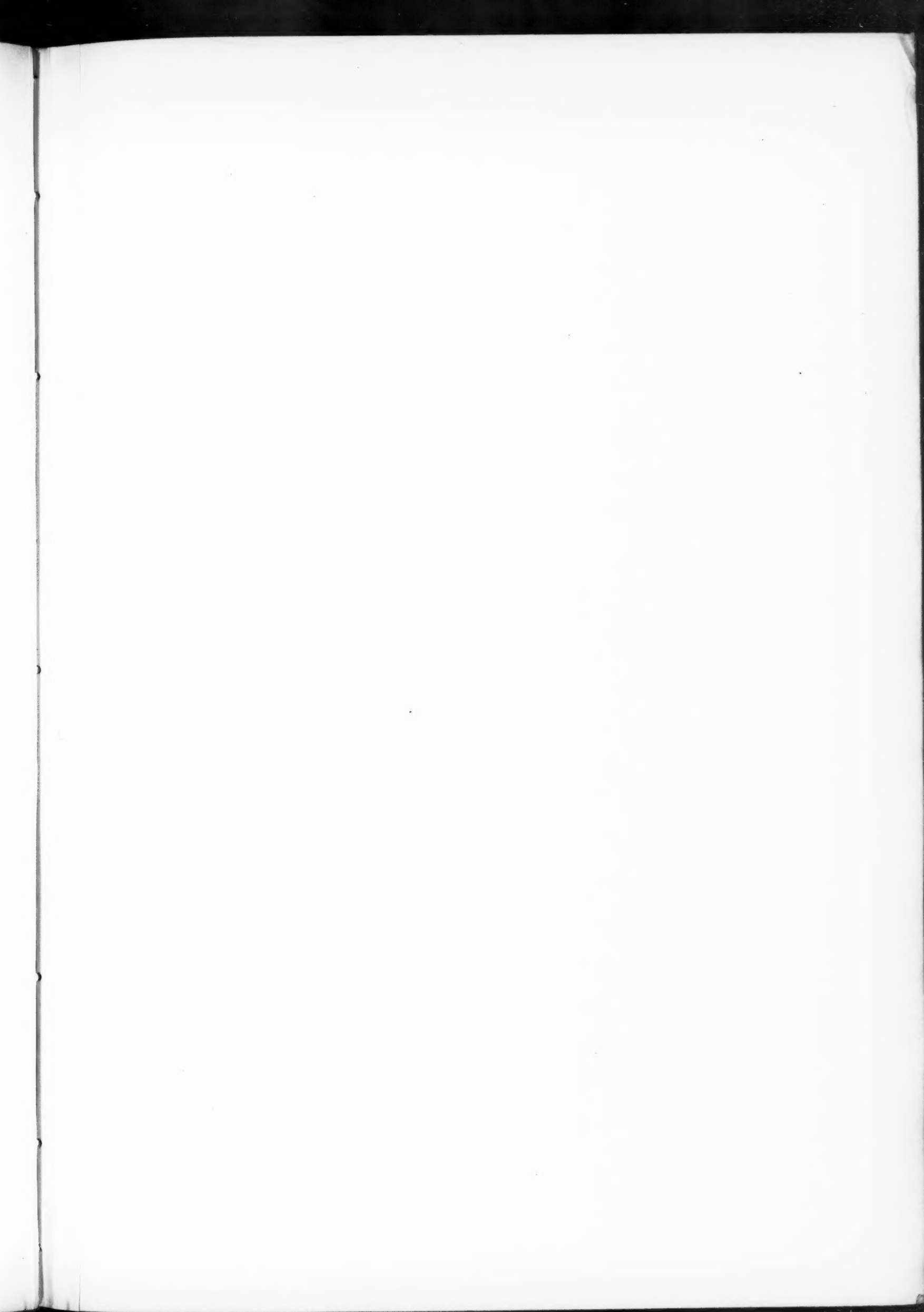


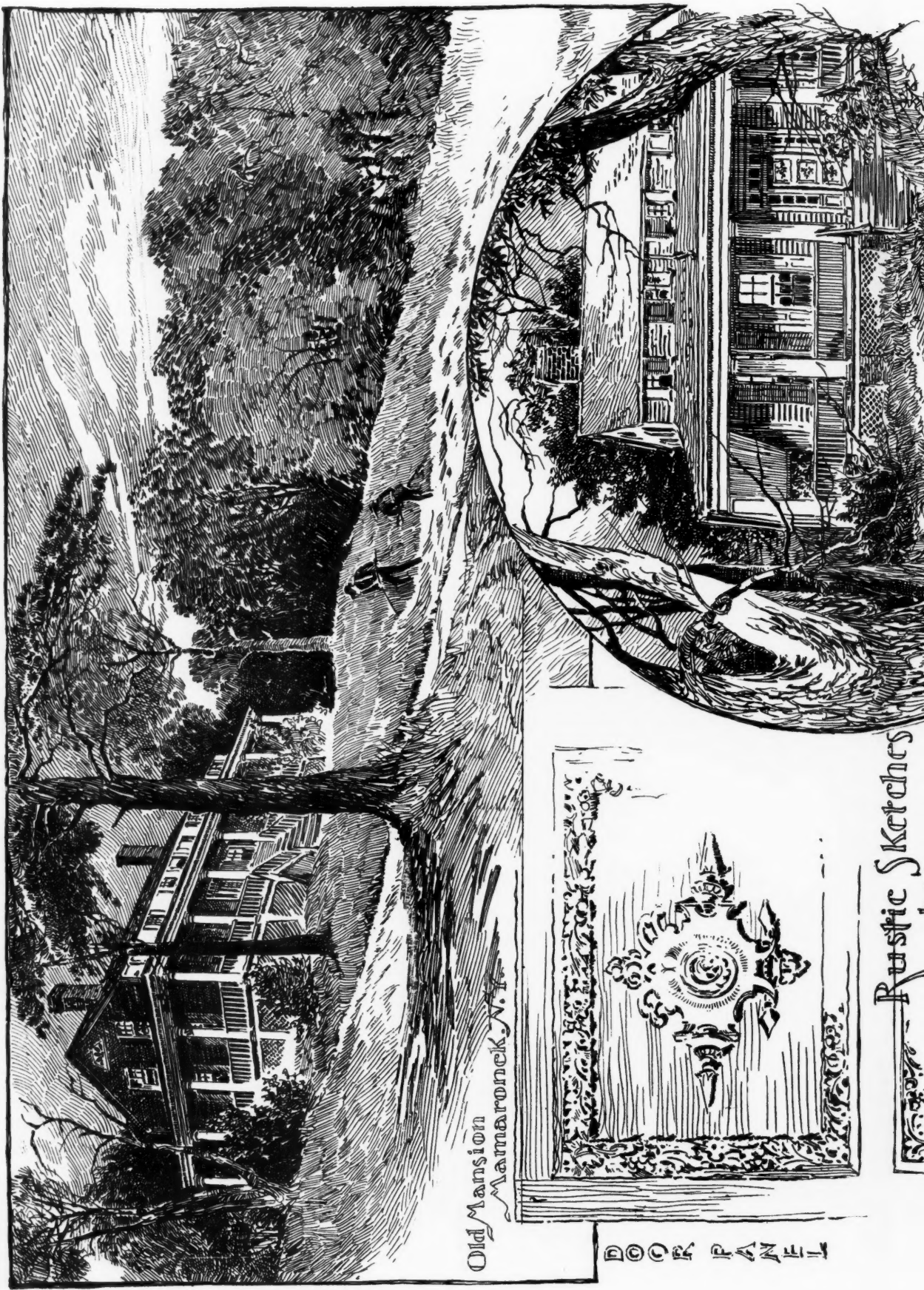
SKETCHES FOR THE
HACKLEY MANUAL TRAINING SCHOOL
MUSKOGEE, MISS.



HACKLEY MANUAL TRAINING SCHOOL, MUSKEGON, MICHIGAN.
PATTON & FISHER, ARCHITECTS, CHICAGO.







Old Mansion
Mamaroneck, N.Y.

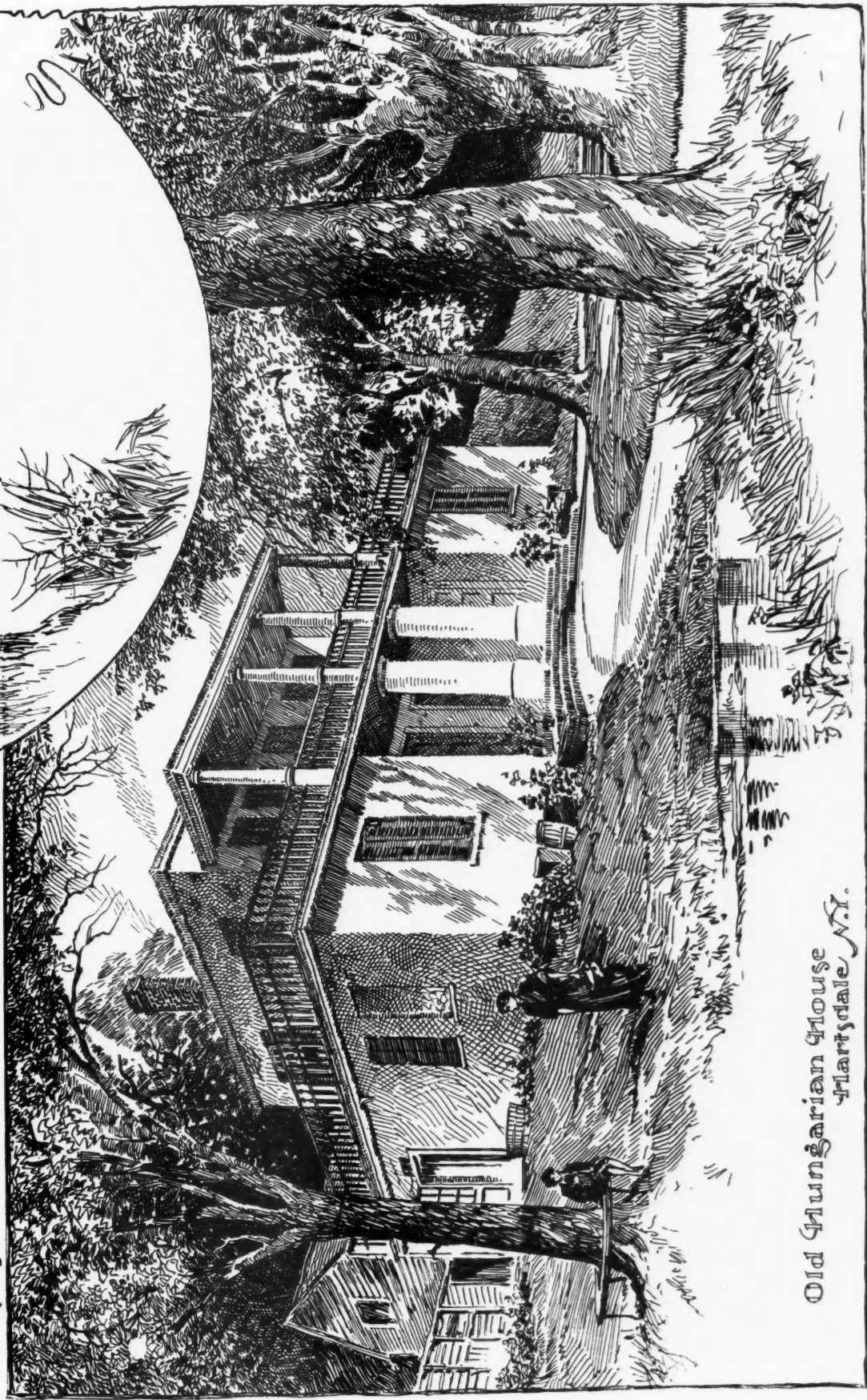
DOOR PANEL

Rustic Sketches

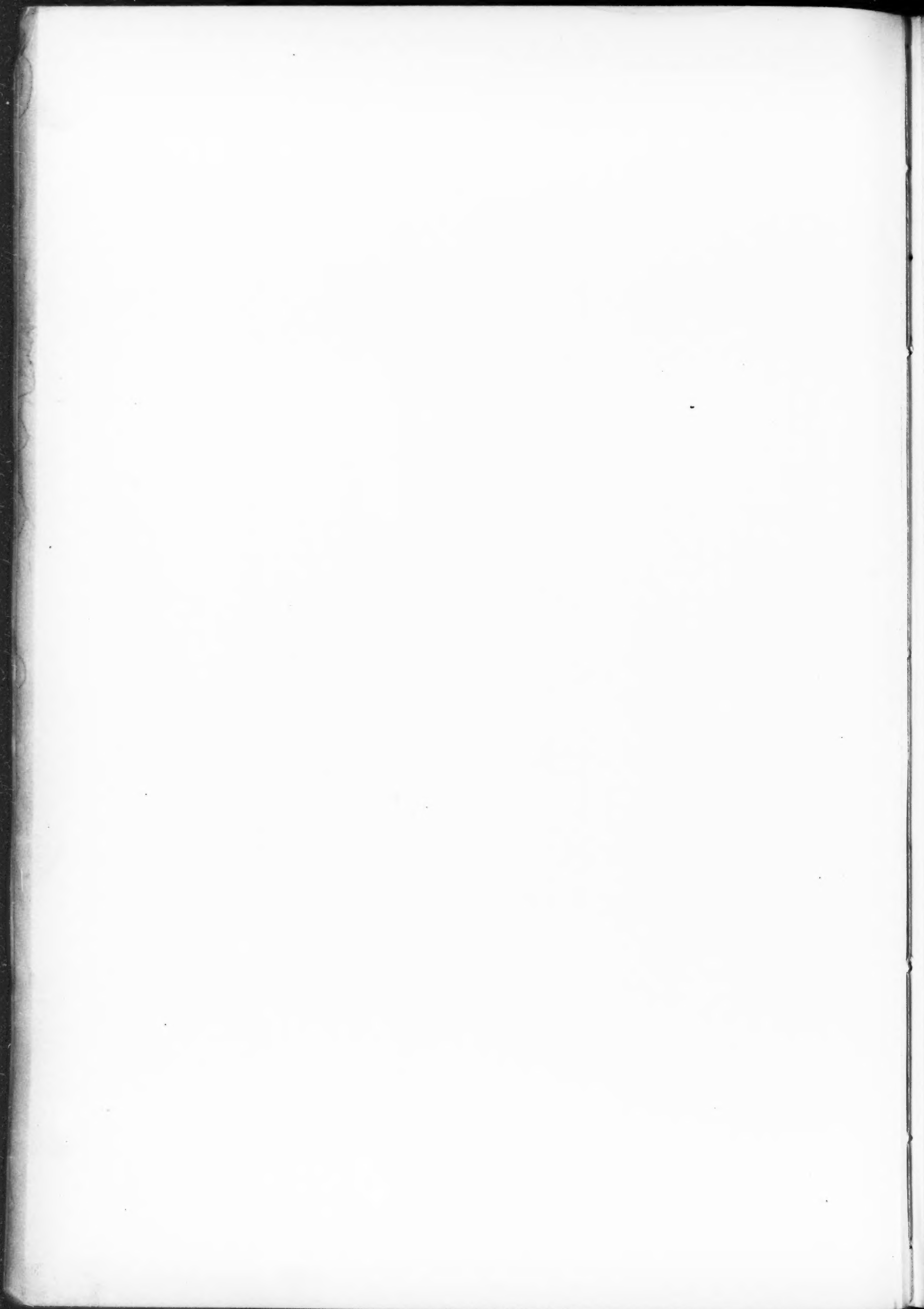
Rustic Sketches
by

E. Eldon Deane.

July, 1895.



Old Hungarian House
Hartdale, N.Y.





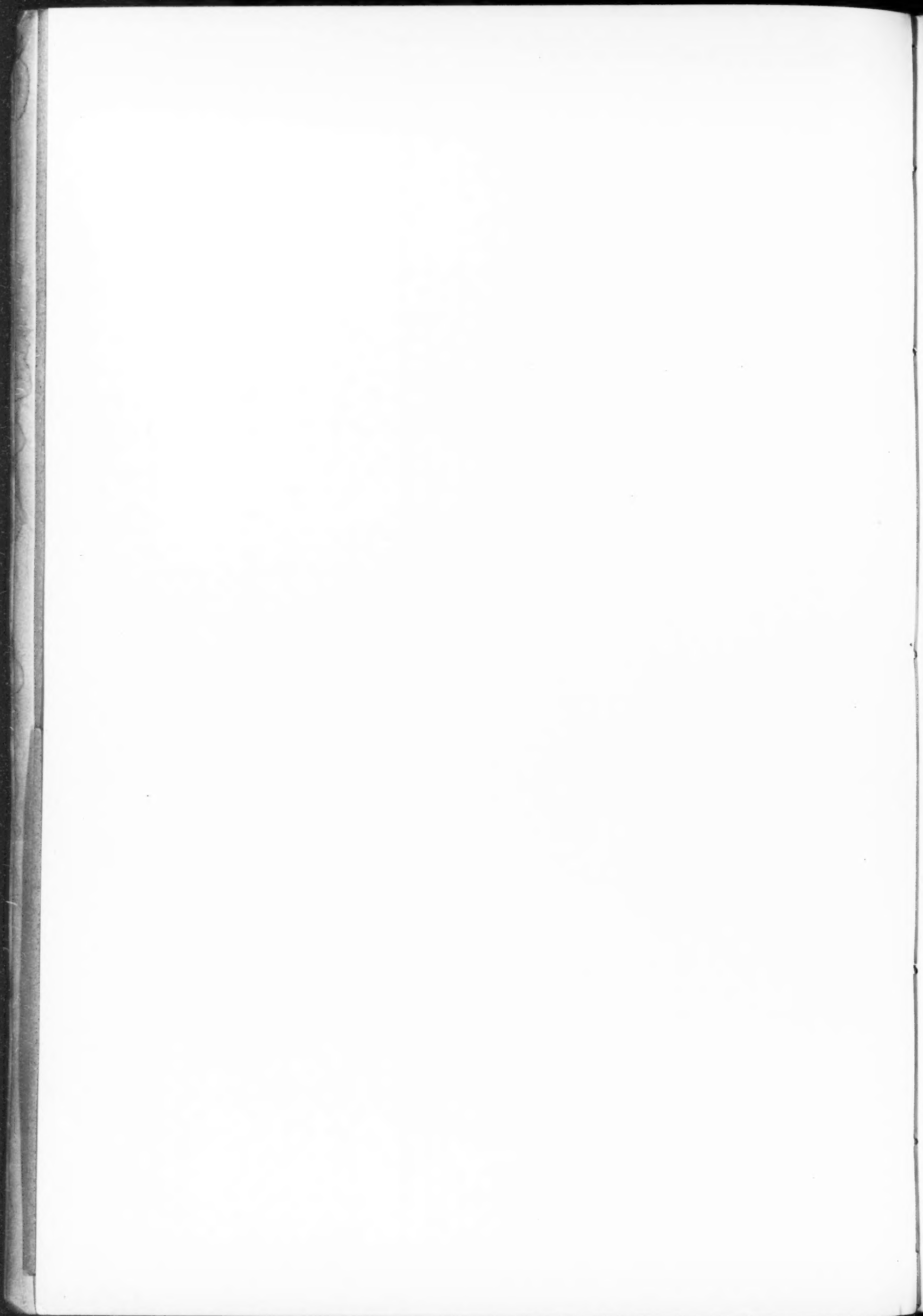
Negative by H. E. Torgersen, Chicago.

RESIDENCE, EVANSTON, ILLINOIS.





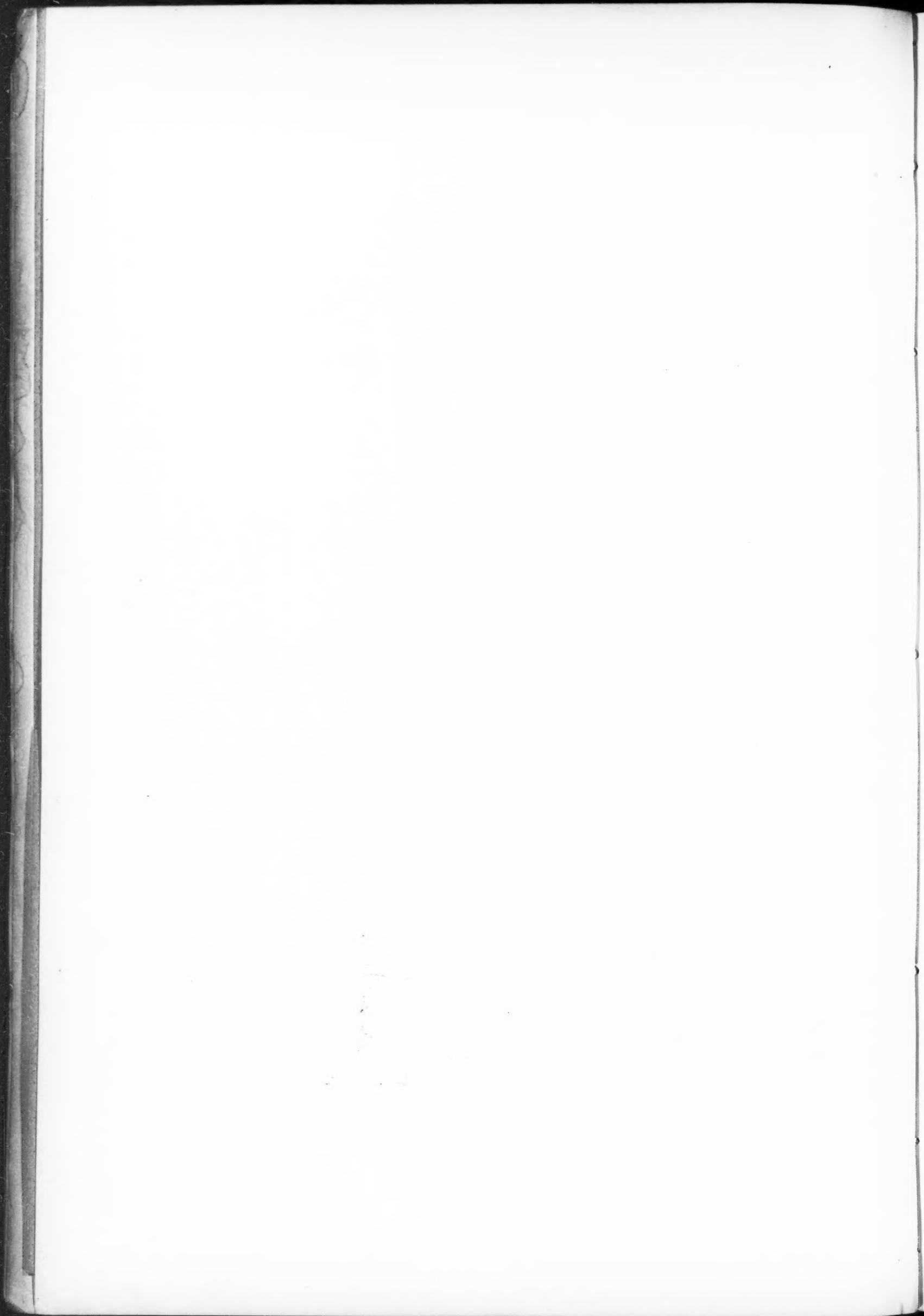
VIEW IN HALL, RESIDENCE OF CHARLES V. L. PETERS, EDGEWATER.
GEO. W. MAHER, ARCHITECT, CHICAGO.

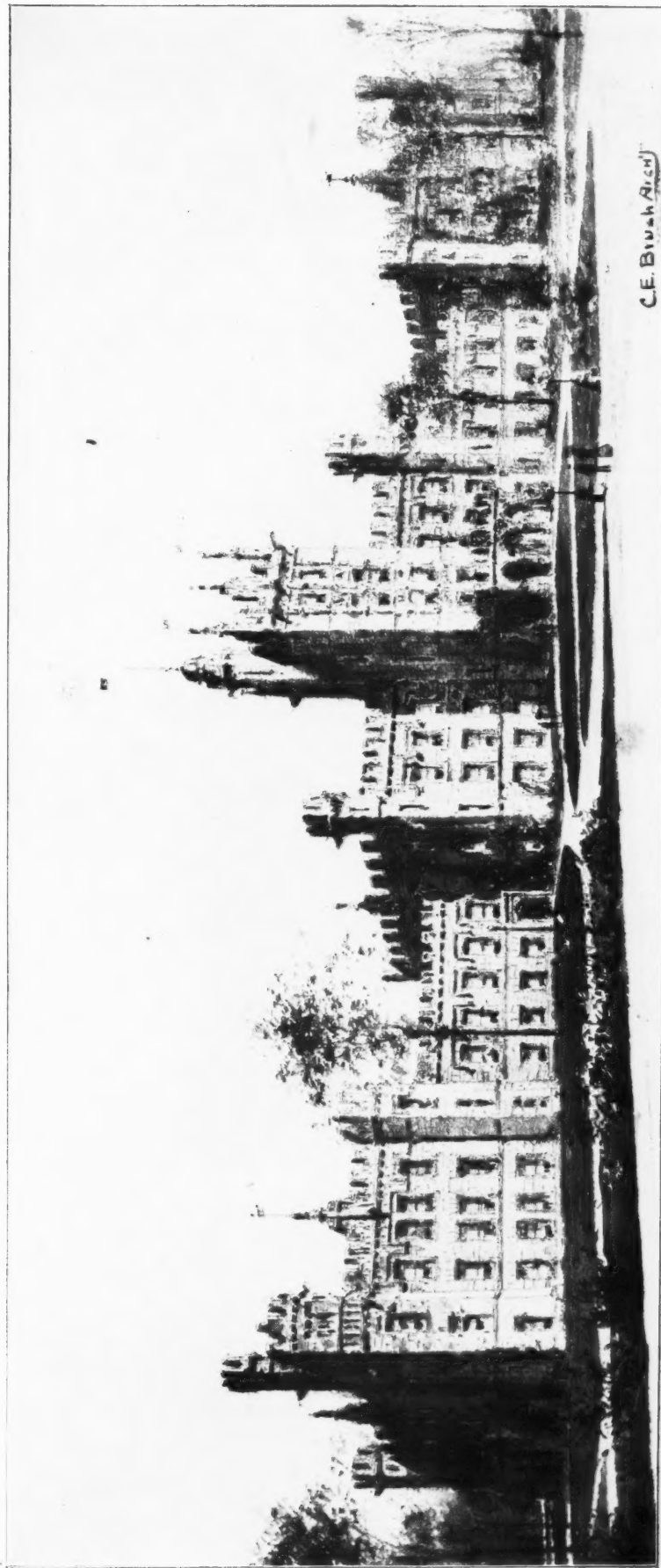




COURTHOUSE, MONMOUTH, WARREN COUNTY, ILLINOIS.

OLIVER W. MARBLE, ARCHITECT, CHICAGO.



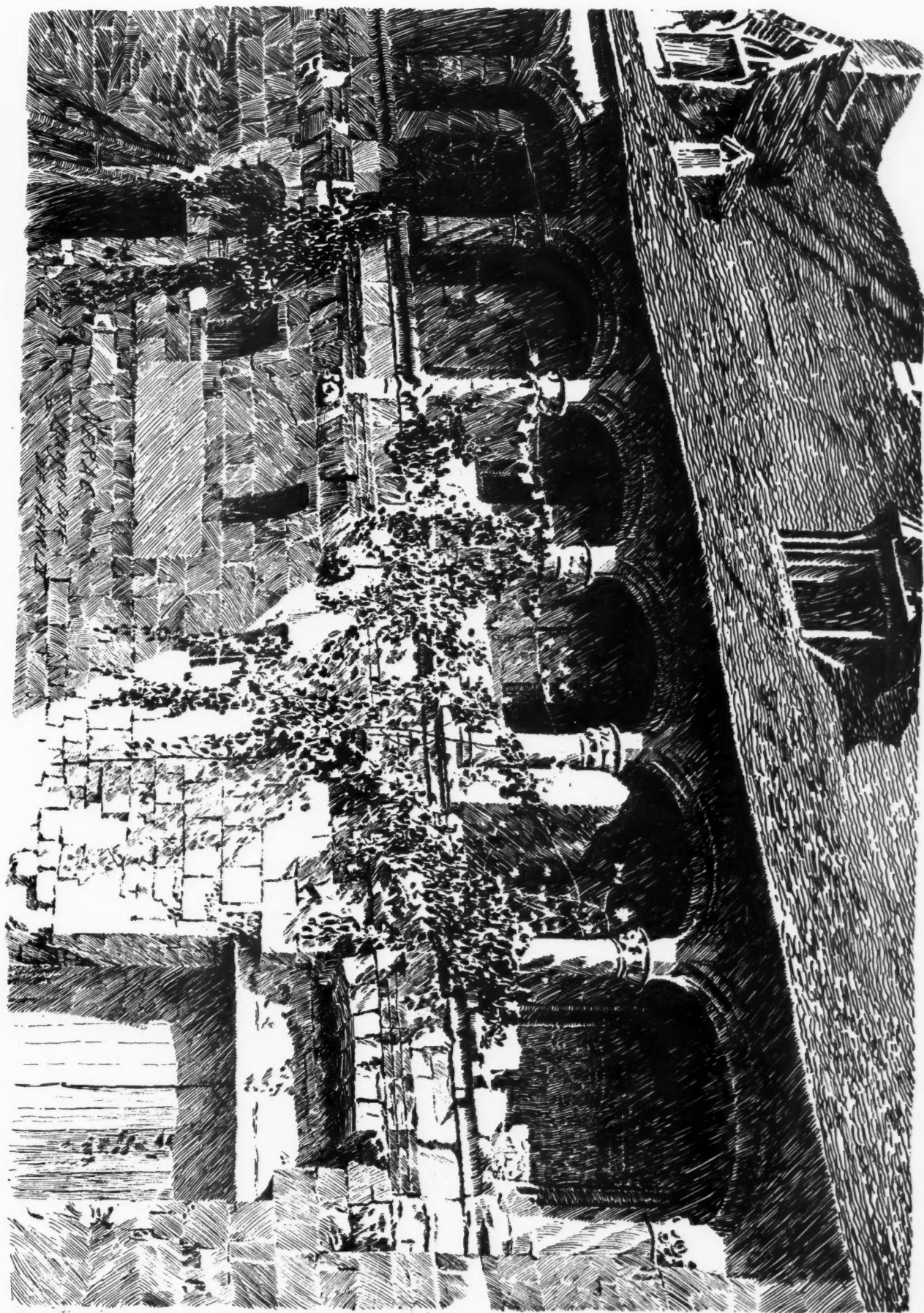


C. E. BRUSH ARCHT.

NORTHERN ILLINOIS STATE NORMAL SCHOOL, DEKALB, ILLINOIS.

C. E. BRUSH, ARCHITECT, CHICAGO.

RECEIVED
OFFICE OF
THE ARCHITECT



SPECIAL SUPPLEMENT.



VOL. XXVII.

MAY, 1896.

No. 4

TECHNICAL REVIEW, THE FISHER BUILDING.

THE FISHER BUILDING, CHICAGO—A BUILDING WITHOUT WALLS.

IN the evolution of the modern office building there is nothing more wonderful than that the fact should have been accomplished of erecting a building literally without walls. Steel and concrete foundations and steel frames, supplanting, for the same purpose, the old timber frames of our forefathers, have long



VAN BUREN ST. ENTRANCE

since, by a mere change of material, enabled us to build houses of enormous size with safety and economy, while other no less important inventions have enabled us to make them resist the demon of fire, which was the only terror of our ancestors, and make us believe almost that they will last forever. But such structures have always combined in their anatomy some features of contemporaneous buildings. If they have dispensed with front walls, they have retained often rear walls and those adjacent to other property. They have had division walls or stacks of vaults rising like towers within, and even in the fronts have had encasements of heavy bricks, outside of the frames, and stone basements set as if for ballast at the lower stories. But here, for what we believe to be the first time in human experience, one of the highest commercial buildings in the world has been erected almost without any bricks. It fronts on three streets, and on the remaining side adjoins other property. The fronts are covered with cellular terra cotta on the outside, not in imitation of a wall, but following upward the steel supporting members, and closing in the transoms between the windows, leaving two-thirds of the exterior to be inclosed with glass. On the inside the outlines of the rooms are defined by hard-burned hollow building tile. On the other side the steel skeleton is covered on the exterior by a skin of hollow building tiles to the top of the tenth story and thence to the top with cellular terra cotta, the only suggestion of a wall in the build-

ing; but not a wall, for it is supported independently at every floor. On the interior it is inclosed in a skin of hollow building tile from the bottom to the top. The total number of bricks used in the whole was 225,000, and these were employed in backing up and strengthening parts of the terra cotta of the fronts. *Only two bricklayers were employed at any time in this part of the work.*

The Fisher is located on the shallow block between Dearborn street and Plymouth place, fronting on both of those streets and having its south front on Van Buren street. The front on Van Buren street is 70 feet 6 inches, and the fronts on Dearborn street and Plymouth place are 100 feet each. The height is 235 feet from the sidewalk to the top of the cornice. Within these dimensions it contains 18 stories and an attic, while the basement, which extends out to the curb wall on three sides, is 3 feet below the sewer level of the adjoining streets. In addition to these dimensions, the north end is carried up one story higher to make room for the elevators, one of which carries loads from the basement to the attic, and its annunciator has twenty numbers. Its cubic area is 1,960,000 feet from the bottom of foundations, and it cost about \$575,000, or very nearly 30 cents per cubic foot.

The design in every detail of construction and ornamentation was by D. H. Burnham & Co., under whose supervision it was constructed. Situated as it is in the very midst of the business district of Chicago, it is surrounded by many of the most important business buildings of the city, and is conspicuous in that it overshadows all of its tall and stately neighbors. This admirable site has been employed to such advantage that all of the rooms and corridors throughout the building receive direct and uninterrupted light. The shape and size of the property are such that the corridors are short and T-shape in plan, with the result of great economy in office space. All offices have exterior light, and it was not necessary to vary the exterior outline except in the construction of bay windows above the second story, which may be found in every room from the third to the seventeenth story, inclusive. These facts at once render apparent the easy accessibility and cheerfulness of all parts of the building.

The ground floor is subdivided for shops. From each of the three surrounding streets a broad corridor, richly decorated in mosaic, leads to the elevators. The second floor is devoted to a spacious banking room, while the floors above are conveniently subdivided for all classes of desirable tenants. Six swift-running hydraulic passenger elevators of the most modern type, connect the eighteen stories in the shortest possible time.

It goes without saying that such a building is fireproof; that all constructive steel work, on which its whole strength depends, is protected with hollow fireclay tile; that the floors are of a similar material, being flat arches, on the latest and strongest end pressure system, and that the partitions are also of hard hollow fireclay tile of the lightest pattern. These, with the sanitary electric and heating appliances, which will be described more in detail later on, are all of the latest and most approved patterns. The

floors of the halls are of marble mosaic, and those of the rooms are of white maple, and whatever of inside finish in wood became necessary to use is of polished mahogany. All the halls are wainscoted seven feet high with veined Italian marble, but the remainder of the marble work will require a more detailed description under a proper heading.

A description of such a building cannot be complete without some allusion to the architecture. It would be an injustice to the progressive originality of a designer to attempt to show that a building filling all the modern demands for utility is subservient to any of the historical styles. Style cannot dominate the design of any such structure, and the most that an architect can do is to consistently follow a style of decoration most in harmony with the general arrangement of the exterior which the construction itself has dominated. In such a building proportions of doors and windows cannot be considered, any more than the proportions of the whole. The task is therefore the more difficult to combine the necessity for covering the structural parts with some form of artistic expression. This is seen in the details of the exterior terra cotta work, the entrances and the corridors of the first and second stories, where motives taken from the fifteenth century Gothic of Rouen and Bruges have been used with good results. All the minuter details of the interior in the ornamental iron, mosaics, hardware and gas fixtures have been similarly carried out. The terra cotta of the fronts tells what it is and does not presume to imitate stone. It is of a pale salmon color and has a spattered surface which adds much to its effect.

The contract for this building in every detail, even down to the door mats, has been executed by the Guaranty Construction Company of Chicago. The officers of this company are George M. Moulton, president; Theodore Starrett, vice-president, and W. D. Richardson, general manager. Its owner is Lucius G. Fisher, of Chicago. The illustrations, which we are now enabled to make complete, tell more than words what it is, and how it was built. Some of these photographs are part of its history which otherwise might pass into oblivion; they are dated and the reader is asked to note these dates. The interest in them grows with the knowledge that these contractors have accomplished some things that have not before been done. To make this clear a sort of time-table is necessary, which we will preface with the statement that from the day that the contract was signed, June 27, 1895, to the day the first tenants moved in, April 23, 1896, was nearly ten months—but the actual working time from the day the superstructure was started until the final completion of the building, was only a trifle over six months and a half. This time-table is as follows:

1895.

June 27.—Contract signed.

July 3.—Ground broken.

August —.—Commenced driving piles and commenced steel foundations over piles and concrete.

September —.—Piling, concrete and steel foundation completed.

October 3.—First piece of vertical steel skeleton started.

October 12.—First floor beams all set.

November 12.—Highest piece of steel on building set.

November 25.—Roof set and under waterproof cover.

December 10.—All hollow tile floor arches set.

December 12.—Contract let for interior marble work.

December 25.—Contract let for glass mosaic ceilings.

1896.

January 2.—Complete detail drawings for interior marble work received.

April 23.—First tenant moved in.

May 1.—Marble and mosaic contracts completed and building ready for all tenants.

An examination of the above will show that even in this ten-month building there were delays. The first was due to the failure to receive structural steel, in September, 1895. But it also shows that the whole steel skeleton above the first floor was set between October 12 and November 12. October has thirty-one days. In this time five days were entirely lost by bad weather, when men could not work in the open air. So nineteen stories, including the attic, were set in twenty-six days. But during that time there was a period when thirteen stories were set in fourteen days. During the whole time of building no overtime or night work was done, the same being specified in the contract, thus reduc-

ing the cost to the owner. The principal work was done during a fall and winter which were exceptionally severe, while the early spring was of little assistance to the contractors, because then the work was nearly all inside. If it is asked, "How could this be done?" we can only say that careful attention to details and intelligent division of labor have led to the result. There could be no mistakes under such a system. But there was a second cause of delay, and that was due to the fact that changes made in the first-story corridors by the owner led to the redesigning of the whole of that part of the work, and all of the materials had to be got out after January 1.

But while the main part of the work and the responsibility for the whole rested with the Guaranty Construction Company, they could not have accomplished this result without the hearty coöperation and prompt work, not admitting the possibility of any mistakes or the rejection of any imperfect materials or workmanship, on the part of their many sub-contractors.

A full description of the work must necessarily include these—without which any description of the building would be incomplete.

First in importance was the steel skeleton and beam work. The entire structure is supported on skeleton steel columns, which are riveted together so as to be continuous from the bottom to the top. These came together, just as they were fitted in the shop, in such a perfect way as to contribute more than anything else to the rapidity of the construction. After the first story was set, the material was delivered as fast as the contractors could handle it. As it is the intention of Mr. Shankland, one of Mr. Burnham's partners, to publish a description of the constructive steel work, and how it was handled, it will not be necessary here to go into the details of this part of the contract. It is only necessary now to say that within a week of this writing the strength of the isolated Fisher building has withstood a very severe test in a sixty-three-mile gale.

Next in importance is the fireproof work, all of which was done by the Pioneer Fireproof Construction Company. In the midst of many of the new and untried systems of so-called fireproofing, which seek adoption more by reason of their pretended cheapness than any other, the old methods of the Pioneer Company, which have been used in the best fireproof buildings that have been erected within the last fifteen years, have been used. The floors are of their latest patterns of end pressure flat arches, the lightest they have yet made, and the material is the same throughout, being the hard-burned fire-clay tile from their own clay beds at Ottawa. This tile gives reliable fireproofing not only through the nature of the material used, but the multiplicity of hollow spaces, and it has been demonstrated repeatedly that this is the most important measure of fire-protection. The worst that can happen to a hollow tile is the chipping off of the first face exposed to fire, which only results in the revelation of another web to offer new resistance, while the loss of the first does not destroy the stability of the work. It is interesting to note here that upon inquiry we have found that the material of this kind used in the Fisher building aggregates 206 carloads, weighing 3,620 tons—and it is the largest quantity of any one material used in its construction.

The entire exterior was built by the Northwestern Terra Cotta Company of Chicago, excepting ten stories of the north wall, which are of hollow building tile. But above this point they built the inclosure on the outside. There is little to add to our description above of the architecture of the building, which refers mainly to the terra cotta work. The precision and accuracy of the turning and fitting, as well as the uniformity of color, are things which we naturally expect to find. But in the carving of the enrichments of the large core moldings and finials we again see the spirit of the fourteenth century artists of France, not imitated, but reproduced with even greater effect (due to the use of plastic material used) than in the old stone carvings. But without the craftsman's art it would be valueless in any material. The new process of finely spattering the terra cotta before burning in has been used throughout.

The floors of all the offices contain 120,000 feet of thoroughly kiln-dried polished maple flooring. They are made of two-inch face strips, and if laid end to end would make a strip one hundred and forty miles long. They were furnished by the Rittenhouse & Embree Company, who claim to have the second largest plant in the West for the manufacture of hardwood flooring. Their dry-kiln capacity is 320,000 feet of lumber per week.

The adaptability of marbles to office buildings has been so universally conceded that, in order to supply the increasing demand, mills are equipped at the present day to furnish large quantities on very short notice. This was particularly illustrated in the finishing of the Fisher building, where forty thousand square feet of marble were supplied in sixty days after the building was ready.

The corridors and halls of the Fisher building are wainscoted with veined Italian marble, seven feet high. This marble is quarried at Carrara, Italy, and its beauty and utility have caused its importation in large quantities.

In preparing this material the slabs sawed from the same block were opened up like the leaves of a book, so that the veinings form repeating patterns that are as varying as the material from which they are made.

The marble used for the first floor of this building is Italian Pavonazzo, a kind very hard to obtain. The treatment here is different from that of the upper floors, the panels being surrounded by metal ribs, which gives to the first floor a solidity seldom found, and binding together the entire decorations with strong constructional lines that carry out the unity of the whole. Upon entering the first floor of this building one is immediately impressed with its completeness.

Pavonazzo marble has been used very sparingly in Chicago office buildings owing to its scarcity and the uncertainty of procuring it in a specified time. The veinings are dark and distinct upon a light creamy ground, which gives it a translucent effect and depth of color rarely found in any material.

This marble work was carried out by The Evans Marble Company.

Mosaics have been the practical pavement of all times. Many ruins have been found where, the buildings themselves having crumbled to dust, the mosaics alone remain.

The employment of mosaics, which have always possessed a certain value as well from their imperishable nature as from their intrinsic merit as works of art, originated probably among those Eastern nations by whom so many of the arts have been transmitted to Europe.

The Romans acquired the knowledge of the process from the Greeks, who had borrowed it from the Asiatics. By all of them it was originally used as pavements.

Although one of the most mechanical of the fine arts, it is entitled to rank as a style of decorating from the fact that it requires the preparation of a carbon or colored design, as in the case of a fresco or an oil picture, and no inconsiderable knowledge of form, color and composition.

The design of the first and second floors of the Fisher building is in Gothic ornamentation, with various symbols and ornaments. The general tone being a yellow, which is susceptible of heavy wearing without loss of color effect, and which easily carries the eye up to the yellow tone of the Pavonazzo marble.

Above the second floor the pavements are simply broad treatment, the entire effect depending upon the tessellation. These floors are composed of $\frac{3}{4}$ -inch cubes with dark Tennessee border and white Italian field, relieved only by two lines of red.

The following may give some idea of the mechanical process employed: Over the entire floor area is laid a bed of cement into which is placed the marble cubes of the required sizes and colors to form the design. Over this area is then passed a heavy roller, which presses the tesserae into the mastic, causing it to ooze up from below and thoroughly bedding them in place. When the cement has hardened, the surface is rubbed down and polished with sandstone.

The mosaic work in this building was designed and furnished by Frank L. Davis.

The ornamental iron, consisting of the elevator inclosures, the stairways, the special cornice and molding work in connection with the first story, and the entrance hallways and vestibules, was executed from special designs in harmony with the general style of the building. Great care and consideration were given to this feature of the interior finish, as will be readily appreciated on examination of the superb tracery and ornate detail composing the ironwork of the first story. The electrolier at the foot of the stairway is a gem of chaste conception and artistic interpretation.

All of this ironwork is treated with the genuine Bower-Barff process, which gives an enameled coating of magnetic oxide, rendering the metal rustless, and at the same time imparting a permanent and lustrous blue-black finish. The general effect is extremely rich and dignified, and harmonizes perfectly in combi-

nation with the Pavonazzo marbles and the glass mosaic ceilings, an ensemble of effects rarely, if ever, attempted before.

The hammered leafwork in connection with the electroliers surmounting the newels, and that also over the elevator inclosures, is deserving of close study, being entirely hand-forged from wrought iron.

This work was executed by the architectural iron, brass and bronze establishment of The Winslow Brothers Company.

The following is a brief description of the steam-heating work in the Fisher building, executed by the L. H. Prentice Company, of Chicago:

The steam is generated in three water-tube boilers of the Heine pattern, having an aggregate capacity of 450 horse-power. Live steam from these boilers is collected into the main header, which in turn distributes the steam for power and heating purposes. While the system of elevator pumps is running, the exhaust steam coming from their exhaust pipes is sufficient to do the heating work in the building. The exhaust steam is first conveyed into a device called an expansion tank, where the separation of grease and other impurities from the exhaust steam takes place. From this point the steam is carried away for several purposes—in winter time to the heating apparatus and the device for heating the supply for the hot-water pipes leading to the different washbowls and other fixtures throughout the building; and in the summer it is conveyed to an Excelsior feed-water heater for heating the water, or to the atmosphere—or to both—as may be desirable. The heating system is supplied by one immense rising pipe which ascends direct from this expansion tank to the attic. In the attic a system of distributing pipes conveys the steam to the several descending lines to which the radiators are connected by a single pipe and valve as the several floors are successively passed, there being not less than thirty-six radiators off of one single riser. In the basement these descending lines are connected in a system of return pipes, conveying the water of condensation back to the combined feed-water heater and receiver, and from the pumps back to the boilers to be regenerated into steam. The pumps used for this purpose, and also for the purpose of elevating water to the house tank in the attic, are of the Laidlaw-Dunn make, and are located in the basement near the boilers.

In addition to the foregoing, there is a separate and distinct system for the removal of air from the pipes and radiators. This is one of the latest improvements in steam-heating apparatus of recent times. In this system, which is known as the "Paul System," originated by the Western Paul Steam System Company for the removal of air, each radiator is supplied with a good automatic air valve, designed to close when the heat expands the metal mechanism within same, and to this air valve is attached a water suction pipe, which pipe joins to a neighboring pipe from the radiators, and these pipes are all joined together in one line terminating in the basement, where the air is exhausted by a clever but simple machine controlled by the engineer. This apparatus is so constructed that the enormous quantity of radiators and pipes in the system can be filled with steam at atmospheric pressure, or even below same, doing away with all hammering or pounding due to the expansion in ordinary apparatus, and proving a great source of economy by the removal of back pressure on engines and pumps from which the exhaust steam is utilized.

To give the reader in general an idea of the magnitude of the steam plant installed in this building, we would mention that all the pipes connecting radiators together and then connecting with the boilers would measure $3\frac{1}{2}$ miles. If the loops of the radiators were laid on the ground with their ends butting against each other, they would measure about three miles in length.

The system of heat regulation of the Johnson Temperature Controlling Company has been introduced with success in connection with all the radiators.

No branch of construction in the erection of modern fireproof buildings shows, over the methods in vogue a few years since, greater improvements than that which provides for the installation of systems of wires for conducting electric light and power, and each new building affords the opportunity of exploiting some new and progressive ideas.

The most thoroughly distinctive feature of the wiring in this building is that a sufficient space for electric mains, risers, feeders and cut-out centers is afforded upon the various floors. This building is provided with a separate accessive shaft extending from the bottom to the top of building, with commodious cabinets on each floor adjoining this shaft for meters and cut-outs.

From these cabinets on the various floors iron-armored conduits of an approved type extend through the tile partitions, or are imbedded in concrete floors, to outlets for the connection of fixtures or switches in the different offices.

The general method of construction throughout the building is as follows: Heavy main risers extend in the main shaft from the basement to the top floor of the building, being divided into three sections by two heavy centers of drawn copper feeder, mounted upon slate bases and provided with fuse blocks containing fusible strips, at which point the riser may be cut into three parts in case of trouble. These cut-outs or centers are located upon the fifth and twelfth floors. From each of these centers heavy feeders extend to the basement in main shaft, and from the foot of this shaft directly to the east curb wall of the building, where they connect with the underground service of the Chicago Edison Company through large service switches of knife pattern, which combine the functions of service cut-outs and firemen's switches, and make it possible to cut off the electric current from the entire building instantaneously. This practically covers the heavy conductors in the building, which are of such size and so arranged that either a two or three wire system of distributing current may be used.

Returning to the distributing system, at each floor short sub-mains extend from the main riser in the shaft to tap line cut-outs in the adjoining cut-out and meter cabinet. Here a separate cut-out and meter are placed for each office or suite of offices, it being possible with very small expenditure of labor to place a single meter so as to indicate the entire consumption for any combination of offices which the pleasure of the tenants may dictate. From these cut-outs the tap line wires pass through the conduit directly to the fixture outlet. They are of duplex wire; that is, two conductors insulated from each other but contained within the same outer insulation and can be readily withdrawn and replaced with new conductors, in case of any trouble, without any cutting of plastering.

All tap line wire was manufactured by the Grimshaw Company and mains by the General Electric Company. All switches used throughout the building are of the flush pattern, those in the hallways and public places being provided with detachable keys. The system is complete from the underground service to the fixture outlets, fixtures having been provided by another contractor. The building, like most of the large office buildings in Chicago, will be supplied with current from mains of the Chicago Edison Company.

One of the many ornamentations worthy of special notice is the new pattern of door knobs and door trimmings, executed in cast iron, finished by the Bower-Barff process, with the monogram of the owner, and worked out and furnished by P. & F. Corbin, who furnished the hardware for the building.

It required many other adjuncts to make this building complete, and nothing was omitted.

Glass mosaic ceilings and side walls are the finish above the marble wainscoting of the first story corridors.

The whole of the tinting and house painting was done by Alfred Barker, of West Madison street, Chicago.

The inside finish above referred is all done in mahogany. The door panels are covered with quartering veneers which are matched so as to form patterns; the whole is stained and polished to resemble San Domingo mahogany.

The large toilet room and barber shop on the eighth floor is an interesting place to visit.

Each floor has a slop sink in a closet.

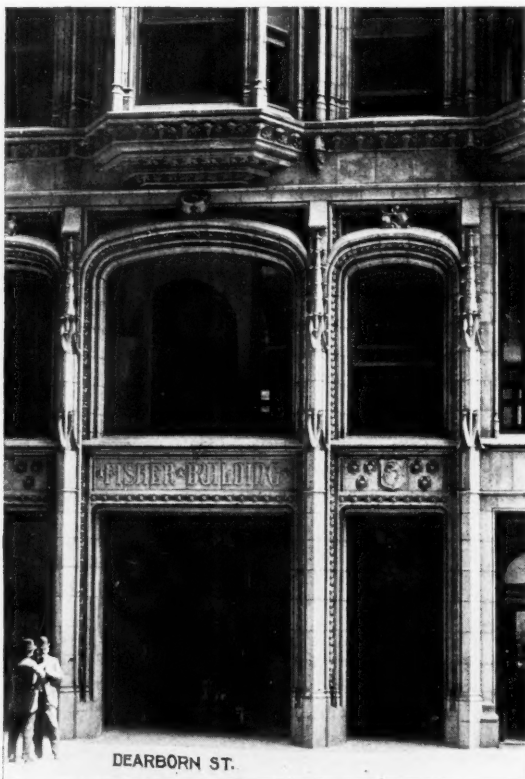
The ventilation, where necessary, is forced by electric rotary fans.

There are six latest improved passenger elevators, the doors of which are supplied with a system of opening and closing.

The mechanism is operated by compressed air. All the doors are double, opening in the center. The operator opens the doors by touching a button in the floor of the cab, and he is obliged to release it, thereby closing them as the cab moves away.



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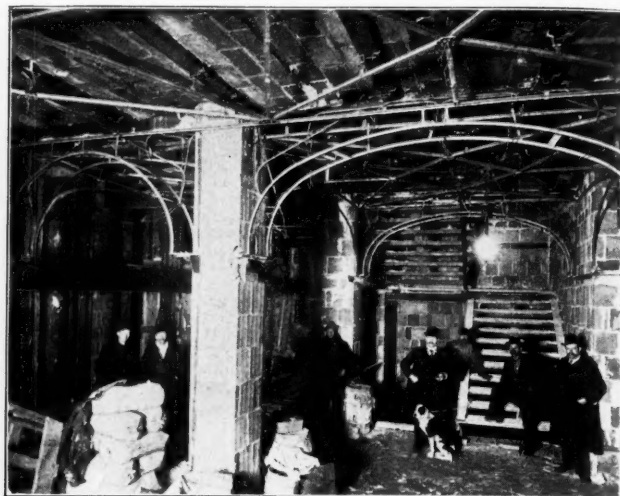
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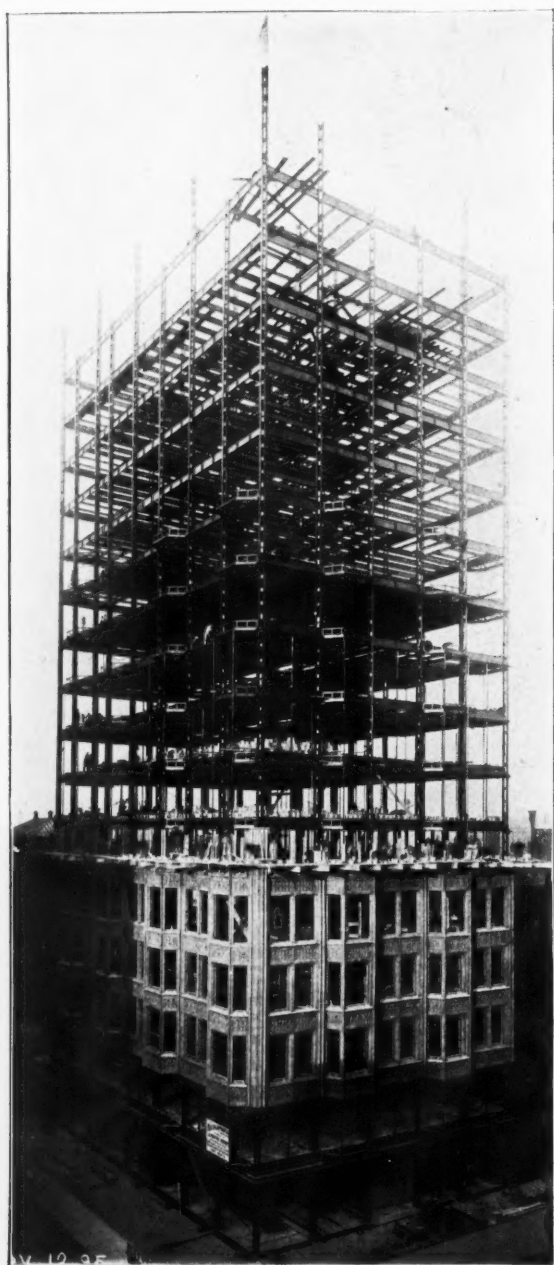
THE FINISHED BUILDING—TAKEN APRIL 29, 1896.



THE FIRST FLOOR ON — PHOTOGRAPH TAKEN OCT. 12, 1895.



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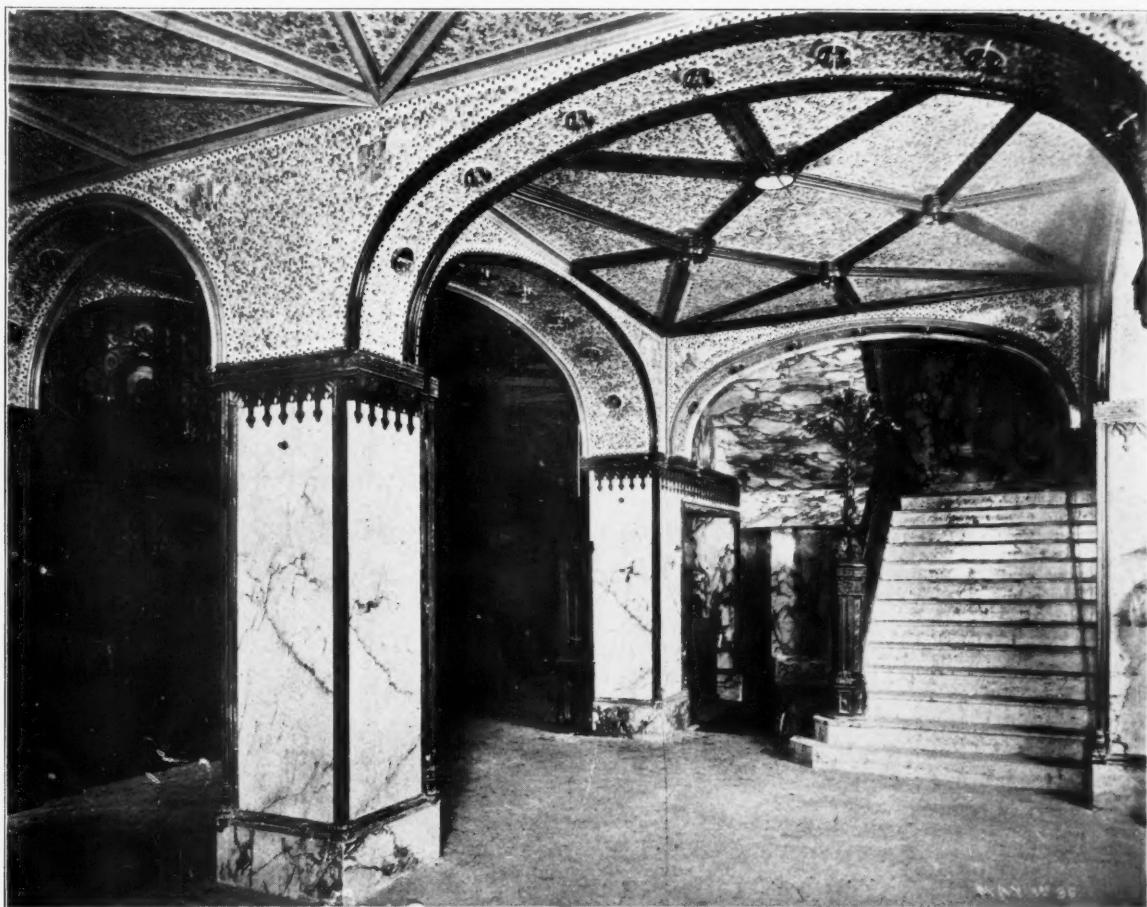
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VIEW OF THE BUILDING TAKEN DEC. 12, 1895.



LOOKING DOWN CORRIDOR FROM VAN BUREN STREET ENTRANCE.



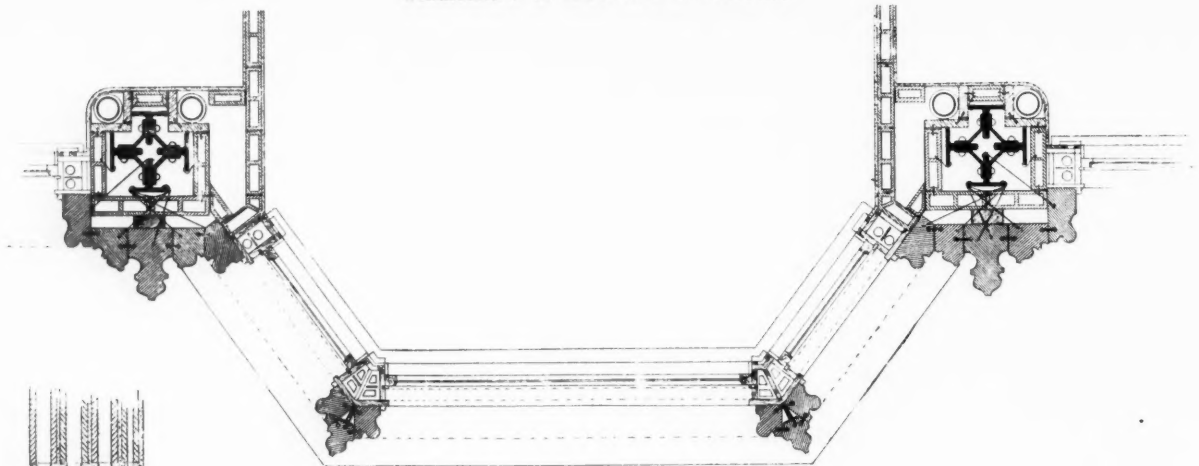
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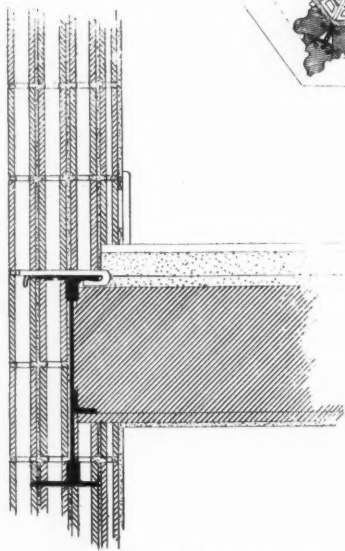
Cab Open.

TREATMENT OF ELEVATOR ENCLOSURES.

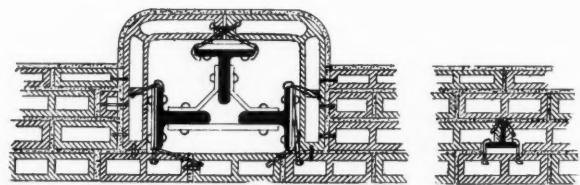
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Typical Plan of Bay Window



Typical Section of North Wall



Typical Plan of North Wall

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