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Death of Architect

O. P. Hatfield
of New York.

In announcing the death of Architect Oliver P. Hatfield, of New York, who has been known for so many years previous to the consolidation with the Western Association as the treasurer of the American Institute of Architects, the Institute has lost one of its oldest and most respected members. Mr. Hatfield, though seventy-two years of age, up to a short time before his death was hale and apparently in good health, holding at that time the chairmanship of the joint committee of the Institute and the National Association of Builders upon the uniform contract. His work upon that important committee did much toward the permanent establishment of a standard form. He was looked upon by both his professional brethren and the public as one of the most honored architects in New York. According to the *American Architect*, it must be nearly half a century since he went into business with his brother, the late R. G. Hatfield, under the firm name of R. G. & O. P. Hatfield. At that time, architecture was much less of a fine art than it is now, and the Hatfields found themselves led by inclination to the scientific and practical side of the profession, in which they soon gained a wide reputation. Mr. R. G. Hatfield, early in his career, wrote a book of extraordinary merit for the period at which it was published, containing rules deduced from experiments of his own, as well as those which had been made by Tredgold and Rondelet in England and France, accompanied by an immense amount of practical information. This book, under the name of the "*American House Carpenter*," passed through many editions, and is still popular and useful. Another valuable work of the Hatfields was the invention of what is universally known as the Hatfield Sheave, although the patent expired long ago, and the principle of it is used by a score of manufacturers. In the Hatfield Sheave, which was devised to meet the want of a frictionless roller for sliding-doors, the pin, or axle, of the sheave runs in a slot in the frame, the length of which bears nearly the same proportion to the diameter of the pin that the length of the track bears to the diameter of the sheave. Hence, while the sheave is rolling through a distance of perhaps a yard, the pin rolls an inch and-a-half in its slot, and there is no perceptible friction or wear anywhere, while the whole affair is very cheap. This apparatus was, we believe, patented in the name of R. G. Hatfield, but the thoughtful ingenuity which devised it was shared by both the brothers. Without taking a great part in original building, although New York owes to them some fine structures, the firm became widely known as experts and consulting architects, and were constantly called upon by their fellows in the profession, to whom they gave admirable advice and skillful service. Mr. R. G. Hatfield was almost the first, if not the very first treasurer of the American Institute of Architects, and held that post until his death, when he was succeeded by Mr. O. P. Hatfield, who retained the office, by repeated reflection, until the consolidation of the Institute with the Western Association made it advisable to remove the business offices of the new body to Chicago. Personally, Mr. O. P. Hatfield, like his elder brother, was quiet, thoughtful, of measured speech, and considerate, but precise in action. Although the brilliancy of our modern makers of picturesque architecture has cast a little into the

shade the steady-going old offices which date from before the war, it has not totally obscured them, and some of the same brilliant artists will be the first to acknowledge with gratitude the kindness with which the Hatfields labored for years, by evening lectures and experiments, to instruct the New York students and draftsmen in the rudiments of building construction.

**Columbian
Exposition
Architectural
Exhibit.**

The movement inaugurated by this journal in the direction of an architectural exhibit at the World's Columbian Exposition of 1893, comprising an historical exhibit of American building, an exhibit of drawings and models of existing or historical architecture of the world and as far as possible a historical display of building methods and appliances, has been taken up by the Illinois Chapter of the American Institute of Architects. A committee from the chapter called upon Director-General Davis, and was assured of his coöperation and the establishment of a bureau for the carrying out of these plans, offering to the Chapter the privilege of recommending one of its members for appointment as head of the bureau if the appointee met with his approval. The establishment of this bureau and the work incident to it should receive the most careful consideration, as the result will either be one of the most valuable and instructive of all the exhibition displays, or a costly farce that had much better never have been begun. The main work of organization should not be laid upon the local chapter alone, but should be supplemented by a strong committee of active workers appointed by the American Institute of Architects, and that body should make itself responsible for its success. The chief of the bureau should be selected for his reputation abroad and his popularity at home—we would suggest Prof. W. R. Ware, of Columbia College, if his services could be secured—and his official work supplemented by the enthusiastic support of every member of the Institute, the ethnological and archæological students of America, and through them the foreign societies upon whom much of the work of collection would devolve. Such an organization would mean success, as the time has come in the world's history for its architects to have placed before them not only present forms and methods but those of the past, in one grand and comprehensive display. If properly organized there is little doubt that suitable and ample space or even a separate building will be placed at the disposal of the architects by the exposition directory.

**Reorganization
of Supervising
Architect's
Office Probable.**

There is more than a prospect, almost a surety, that the reorganization of the office of supervising architect of the treasury department will be effected at the next session of congress. Since we first agitated this subject and the form of reorganization proposed by us was incorporated in the Stockslager bill, in November, 1884, many other plans have been introduced from time to time, but with no profit other than the general agitation of the subject. Now the congressmen are "educated" in the matter as never before. They find the present office with about forty buildings under construction, another thirty or forty being planned and the remainder of the two hundred forty odd that appropriations have been made for, set aside because of the inability of the office to handle more work. The new Supervising Architect, Mr. Edbrooke, has opportunities before him in the buildings at Kansas City, Omaha, San Francisco, New York and other places, presented to no other supervising

architect, the immensity of the work placed in his hands in mass and importance being greater than at any former period. It now remains for the American Institute of Architects to appoint a committee upon the reorganization of the supervising architect's office, or to reappoint that of the Western Association which disappeared at the time of consolidation, take up the work so well begun by that committee, and through consultation with the secretary of the treasury, the supervising architect and the congressmen, formulate a practical and comprehensive bill and secure its passage.

**Progress of
Columbian
Exposition
Work.**

Within the past month the work in the office of the chief of construction of the World's Columbian Exposition has been mainly in preparing the plans of the several buildings to receive contracts. Proposals have been called for upon two, and the others will follow in rapid succession, so that by July 1, most of the contracts will have been let. It has been decided to add to those already planned, buildings for a forestry exhibit and also one for dairy products. These will be designed in the office of the chief of construction. The location of state and foreign buildings all in the improved section north of the main exhibition buildings is being fixed, the foreign section occupying a tract of over one hundred acres upon the lake shore, and commanding a view of the harbor, the naval exhibit and the fisheries building. This is the choice section of the entire grounds. The electrical people have made a strong effort to have the electrical building enlarged, but it was not possible, as any change would affect the entire plan.

**Unwarranted
Rise in
Chicago
Rents.**

One phase of the approaching world's fair at Chicago which is already felt by the business interests is the ridiculous rise in rents. With no increase in demand to warrant it, business premises that were renting at \$1,600 per annum are raised to \$3,000, an increase of \$1,400. Residences that were considered well rented at \$60 are now raised to \$125, and a longer lease than one year at this rate is refused. With no increase in population or business to warrant any such advance, the fact that a fair is to be held and that for a few months there will be an increased demand for sleeping quarters by visitors, and perhaps an increase in all lines of retail trade, makes such enormous advances absurd, as it always is to kill the prospects of trade by a prohibitory increase in prices for a common commodity. The result will be the scattering of business quarters and the removal of residences to the suburbs. Speculators will build cheap temporary structures to supply the demands of those who have been crowded out of more desirable localities, and the result will be a general loss of trade to the city. It is not too late to correct this error, which has for its logical result disaster, which, unfortunately for the city, will not only involve the guilty, but bring the entire city into disrepute. It is but just to state that in a majority of the cases investigated the property belongs to capitalists in other cities who have instructed their agents, who are only carrying out the order of their principals. The most enterprising yet conservative and prudent real estate board in the country is located in Chicago, and they owe it to themselves and to the city to move in this matter and see that no fictitious or "boom" values be placed on city property, knowing that the evil results in the future will certainly counterbalance any present profit.

Dwellings of the London Poor.

BY A LONDON ARCHITECT.

LONDON has had the reputation of being the richest city in the world. This might well be imagined by a stranger if his wanderings about the vast city were limited to what is called "the city," and such streets as Regent street, Oxford street, Bond street and the Strand in the West End. But as the knowledge of what the metropolis is beyond these limits is very small, even to the Londoners themselves, it would not be a matter of surprise if a casual visitor to this country, landing in the East End, were to exclaim that in all his journeyings on the face of the earth he had never seen such poverty as that in London.

Vast districts lying east of the city, such as Whitechapel, Bethnal Green, Mile End, Stepney, Poplar, Limehouse, towns in themselves, are inhabited by thousands upon thousands of the poorest and most wretched beings that could possibly congregate together.

As a living example of the degraded and immoral state of these districts, the whole world has been struck with horror again and again by the foul and filthy murders which have, from time to time, been perpetrated in the East End of London. The very appearance of the inhabitants is different from that seen anywhere else in the metropolis; faces pinched with poverty, with a semi-brutish leer, drunkenness and vice depicted in every feature.

The dress is of a very different style to that ever seen elsewhere, for even among this poor class a certain fashion prevails, which leads one to believe that he is in a foreign country, miles away from London town, although all the while he is but a few minutes walk from the seat of wealth and luxury. Why does this state of poverty and vice continue? A difficult question to answer, and one bearing upon a much deeper social problem than I care to enter into here. But what remedy is there being applied to diminish this degradation and want among our fellow creatures? Much is being done, but for all that the question is yet far from solved. Much of the evil instilled into these poor Londoners (and there is no poorer being under the sun) is due to the filthy habitations in which they are forced, through their poverty, to live, and to the overcrowded state of the districts in which they manage to eke out an existence. Whole families are crowded into one small room, often but an underground cellar, in such a ruinous state of repair and filth, that no good man would allow his dog to use it as a kennel. Parents, grown-up sons and daughters and children, live, eat and sleep all in one room, the windows of which are never open. Streets upon streets of small houses exist huddled together almost without light or air, inhabited by hundreds of thousands of these poor people. How they live at all seems a great wonder, as many of these houses are totally unfit for human habitation; windows smashed and papered up, ceilings of nothing but bare laths, rain pouring in from holes in the roofs, darkness and dirt supreme.

In order to deal with this national disgrace, a bill was passed by parliament, known as the "housing of the working classes act, 1890," by which local authorities have power to deal with unhealthy houses either in groups or separately. Part I of the act deals with groups or insanitary areas of sufficient size to constitute metropolitan improvements. Part II refers to unhealthy and obstructive houses; houses under this section which are unfit for habitation, either empty or occupied, may be closed by the local board, and if not rendered habitable, the board may order the houses to be demolished. The local authority may purchase the land and dedicate it as an open space, or sell it for suitable dwellings for the working classes. Part III of the act provides that the local authority may acquire lands for the purposes of building, or letting or leasing for building lodging-houses for the working classes. The London County Council, acting under Part I of the act, have resolved to deal with a large area in Bethnal Green of about seventeen acres, one of the very worst properties in London, by razing the whole of what has been rightly termed "the pestilential district" to the ground. New streets will be formed and new buildings erected, ample and suitable accommodations for healthy dwellings with all the sanitary provisions for light and air, two essentials to health. This improvement is to cost \$2,000,000, but the medical reports show how urgent is the need of the abolition of these hovels.

Dealing with an area already rendered unhealthy by overcrowding, it is a difficult question how to reduce the number of persons upon the site to make things more healthy, and a still greater difficulty how to lodge the inhabitants during the process of demolition and rebuilding. To overcome this to some extent, the London County Council have resolved to deal with such large areas as that at Bethnal Green in sections. A certain proportion of the persons on

the site must be dishoused, and, in order that surrounding districts may not be overcrowded, they must find shelter elsewhere. This will drive numbers into the nearer outlying suburbs, from whence they must reach their work by train. Villages or small townships have already arisen in various outskirts of the metropolis, erected under the supervision of the Artizans' Dwelling Company. Here comfortable and healthy houses can be obtained, in addition to the fresh air of the suburbs, at a low rental.

But it is only the better class of artizan who can afford to live out of town, as, unless the railway companies are subsidized, the fare will prohibit the East Ender from taking advantage of such provision. It is, however, very satisfactory to know that the select committee appointed to inquire into the Central London Railway bill insisted that workmen must be carried the whole journey of six miles for one penny. The company will therefore have to run three trains a day each way, the fare for the whole distance being one penny, and for intermediate distances one-half penny per mile. This will be a great benefit in many ways for the poor, as it will enable many to live in better air.

A conference has lately been held of the medical officers of the various local boards and vestries, under the invitation of the medical officer of the London County Council, at which was discussed the condition or defects which would render a house either permanently or temporarily so dangerous or injurious to health as to render it unfit for human habitation within the meaning of the housing of the working classes act, 1890. The following is an extract from the report made by the conference.

"Whether a house is dangerous to health mainly depends upon:

"(a) Site and surroundings;

"(b) Construction;

"(c) Age and general want of repair;

"(d) Nuisances.

"(a) SITE.—A dwelling-house built in a hollow or in a situation not admitting effectual drainage, or exposed to malarious influences, or built in a manner or on soil which causes or permits the air to be contaminated by injurious gases, might be properly represented under section 30 of the 'housing of the working classes act, 1890.'

"The fact that a dwelling-house is built on a site so surrounded by buildings that access of sufficient light and air is impossible, would in our opinion be a good ground for representation.

"(b) CONSTRUCTION.—Under this head would be classed original defect of plan; for example: a dwelling-house improperly ventilated or lighted, or with closet and dustbin so situated as to cause a nuisance within the house.

"Any condition which results in permanent dampness.

"Such faulty construction of chimney flues as permits products of combustion from adjoining premises to permanently contaminate the air of living rooms.

"(c) AGE AND GENERAL WANT OF REPAIR.—This, when it reaches a degree of dilapidation, is obviously a just cause for representation.

"(d) NUISANCES.—Bad drainage, faulty closets, filth *per se*, etc., are in our opinion grounds for action rather under the 'nuisances removal and sanitary acts'; but when affecting a whole dwelling-house or when combined with faults of site and construction and general want of repair, they justify action also under the 'housing of the working classes act.'

"In all the above cases the question of 'degree' comes in; it is, indeed, this question of degree that renders precise definition impossible; general principles can alone be laid down."

This report will, I think, explain the meaning of the act clearly.

Many other areas much smaller than the Bethnal Green area are being dealt with in the metropolis under part II of the act, where houses from the number of six to sixty are being demolished and replaced by artizans' dwellings. At the end of last year the council invited architects to submit, in competition, plans of a municipal lodging house capable of accommodating 320 men with the usual requirements of a common lodging-house, including a common kitchen and a sitting room, the charge per lodger being four pence per night, for the poor waifs who have no homes, not even an underground cellar to go to. The full schedule of the accommodation required may be of interest, so I venture to give it *in extenso*:

"Sleeping-places for 320 men, containing a minimum space of 350 cubic feet per person.

"Accommodation for two or three wardens or night watchmen.

"Sitting-room adapted for use as reading-room and for entertainments.

"Dining-room with open fireplaces and kitchen with hot plates or other suitable means of cooking food by the lodgers.

- "Scully placed conveniently for serving out cooking utensils.
- "Grocery, bar or shop.
- "Office to have good command of rooms used by day, particularly of entrance, staircase, day-room and dining-room.
- "Lavatory with fixed basins.
- "A place containing say four or five baths for occasional use, and say twelve troughs for feet washing.
- "A place for washing and drying clothes by the lodgers generally, and for drying wet clothes after rain.
- "Water closet and urinal accommodation generally.
- "Water closet and urinal near dormitories for use at night only, two or three in all.
- "Washing-room (for the use of the establishment) with drying closet.
- "Conveniences for washing foul linen.
- "Ironing-room.
- "Store for clean linen.
- "Disinfecting chamber for beds and clothes.
- "Boiler-room.
- "Coal store.
- "Store for utensils.
- "Caretaker's rooms, consisting of kitchen, sitting-room, two bedrooms, pantry and water closet. If in basement the ceiling must be at least twelve feet above street level.
- "Water closets for the men and women servants.
- "A yard at the rear for ventilation and occasional exercise; this must not be less than 450 feet superficial."

To this invitation seventy-five architects answered, and 560 drawings were submitted. The council's architect and the president of the Royal Institute of British Architects were appointed the assessors in the competition, and granted the first prize of £100 to Messrs. Gibson & Russell, of Old Bond street, the other premiated designs being by Messrs. Williams & Hopton (£40), Chorley & Cannon (£30), and Lock & Worthington (£30), all London men.

A short description of how the requirements were carried out in the winning design may not be out of place.

The dining-room is placed at right angles to the street, running from front to back, the kitchen being placed in part of the space behind the dining-room. At the back of the building, in a long range of rooms, are the lavatories, wash-houses, etc. An open yard is provided in the center, affording light to the back portion of the dining-room and cutting off the lavatories from the living rooms. The dormitories consist of two high blocks running from back to front, and are so arranged that galleries are provided instead of floors above the ground-floor level, thus leaving a large open space of air from the ground floor to the roof, and leaving one large hall with galleries in lieu of dividing the space up into several floors; this appears to be a most excellent arrangement. Each gallery is surrounded with small cubicle partitions, which are not carried up to the roof, so that a free current of air is provided to each cubicle. The ground upon which this building is to be erected was cleared of the worst kind of common lodging-houses, so that it appears a wise measure to erect one under municipal supervision in place of the private houses which have been demolished.

The benefits of this act dealing with the dwellings of the London poor go even further, as not only is it a provision for the poor themselves, but a check to the spread of disease and epidemic among the community at large. From overcrowded and unhealthy dwellings originate many a scourge that penetrates into the healthier quarters of a city and is even carried into other countries.

Among other employments a large population at the East End is engaged upon the manufacture of clothing, which forms a ready means of conveying contagion all over the world.

It is to be hoped that the local and other authorities empowered to act will not lapse after the first outburst of enthusiasm into a state of inaction, but will remember that the state of the poorer classes dwelling in hovels in the East End of this wealthy city is a national disgrace which they have the power to remove.

ARCHITECT C. POWELL CARR, of New York, known to the members of the Institute as the gentlemanly representative of *Architecture and Building*, of New York, having resigned his position as associate and art editor, will open an office in the Lincoln building, on West Union Square, where he may be consulted upon all matters pertaining to architectural engineering, particularly in the line of roof trusses and heavy foundations. Mr. Carr having recently been elected a member of the New York Chapter of the Institute, his presence will still add to the enjoyment of Institute meetings and its deliberations will be strengthened by his counsel.

Scenic Art.*

BY ERNEST ALBERT, CHICAGO.

MR. PRESIDENT AND GENTLEMEN OF THE CHICAGO ARCHITECTURAL SKETCH CLUB: Some time ago, when asked to contribute a paper upon scenic art, I avoided assuming the full responsibility of being here by refusing, but Mr. Wagner and later on your president, Mr. Williamson, settled the matter by announcing me for May 4. Therefore, to whatever extent I may fail to make myself understood, or to do a large, full-grown subject justice, must be directly brought to their doors, and I must be forgiven, with perhaps the injunction to go and sin no more.

Scenic Art—what is it and how is it different from any other art? I ask this for the reason that until of late years it has been, by the great public at large, as well as to many of the gentlemen engaged in its execution, an unknown quantity. Time was when, unused to the perfect mountings now given to plays and operas, the public took little or no heed to their scenic environment, other than to perhaps note a tawdry, inartistic something, which for lack of better thought filled the bare necessity of enclosing the actor from the bare and grimy walls. When the play—ah, the play was the thing, and anything beyond the play in the way of artistically housing it, was not only unknown but unnecessary. Those were the palmy days of the drama, when the art of the actor was considered sufficiently strong to render superfluous the aid of the painter—the palmy days, when the villain wore long hair and a velvet coat, and put in his time equally between clutching a dagger and showing his teeth, but to-day how different it all is! That same villain is often the best mannered man in the house, faultlessly dressed, a Chesterfield who, when things fail to altogether go his way, simply smiles, murmurs "My time will come," and bows himself off the left upper entrance. Today the tawdry something that once surrounded the players is modern decoration, if an interior; and an artistically painted scene, full of the atmosphere of nature, if an exterior. Conventionality is no longer our goal. Nature is now the goddess to whom the mirror is held aloft, and the authors, managers, actors and artists that have, through their love of the correct, succeeded in even partially reflecting the glorious glow are the men and women that today stand in the front rank of their several lines of work, and receive the best approval of a cultivated and critical public.

Scenic art is therefore, as known today, different only from other studio art in its breadth—a mere question of scale. The picture painter is no more artistic in his work than is a thoroughly good scenic artist. When one portrays nature truthfully it matters not whether it be on a canvas of eight inches, or of eighty feet. The mistake comes in people walking up too closely to a fragment of scenery, and receiving the impression of breadth; they invariably make some original remark as: "Distance Lends Enchantment." Scene painting is not necessarily a coarse art because you cannot read a square yard of a scene seventy by forty feet at a distance of a few feet. The distance at which to judge a picture is that sufficiently far from it that the eye may take in the entire subject. At that distance scenery must also be judged, and with that test applied a well and carefully painted scene will be found not only as finished as the majority of pictures but even more so. Of the quality of finish nothing need be said, good, bad or indifferent, but this: that when it falls short in finish and detail, it is either owing to a want of knowledge in the painter or lack of time, certainly not in accordance with any principle of stage painting.

Having mentioned a few of the things it is not, I will say a few words in excuse of what it sometimes is. In a comparison between ourselves and the picture painter, I think it must be allowed that we scenic artists are considerably handicapped in our chances of acquiring special excellence in any one direction. It must be remembered that the picture painter in most cases spends a lifetime in studying one class of subject and often but one aspect of that subject. One man gives an almost perfect representation of the mountain peaks, another a charming rendering of the seashore with its sand wet by the incoming surf and reflecting the twilight's glow; still another a hilly slope with its straggling sheep. Many of these men have not, for an hour, turned their attention but in one direction—one thing thoroughly and one only. Ask the marine painter to paint a cathedral, an ancient street, or a modern drawing-room, and in all probability he would tell you he never did architectural work in his life, and knows nothing about it. Ask the architectural man for a drawing of a storm, or a sunset at sea and the offer would be refused. Not so with us. We must do or try to do any commission that is offered us; although not beggars in the nature of things, we cannot be choosers. The play is not suggested by the painter; he receives it from the dramatist. You will therefore readily see the field he must cover, and perhaps admit that to be acceptable in most things and strong only in one or two, entitles him to consideration. Did it not, he would be glad that, with his few merits, his many faults are soon forgotten, for time, repainting or an occasional fire soon obliterates all traces of them. Our knowledge, archaeological, artistic and mechanical has to cover so large an area that our shortcomings sometimes seem really excusable. The concentrated forces of a picture painter's energies and tastes cut by their very concentration a deep channel for themselves and he becomes a recognized interpreter of the subject he has made his specialty. Again, with us a thing is not done when it is finished, but when it is wanted. Time, with the announced production, waits for no scene painter. We cannot alter. We must go on. The mere replacing of a big canvas on a frame perhaps thirty by fifty feet means the expenditure of time, trouble and money. The scene painter is nothing if he is not certain in his execution, and the finest artist, if uncertain and unpunctual in his work would be useless in a theatre.

*Paper read before the Chicago Architectural Sketch Club, May 4, 1891. Revised by the author for publication in THE INLAND ARCHITECT.

But with all these drawbacks, scene painting as a school has proved itself a good one; witness very many good men who leaving it have made as great reputation in picture galleries as in the theater—De Louthembourg, Stanfield, Roberts, Pugin Allen and Leich—and in latter days J. Frances Murphy and Charles Graham.

Stage painting is in no way a false art because it is shown by artificial light. A picture painted for the gallery suffers more from gaslight than our work does from daylight. Indeed, a well painted cloth (a technical term for a scene painted on a single surface) will look better when stretched on a frame and lighted by the brilliant skylight in the big painting rooms than when hung, lighted by the indifferent lights of the stage. We must avoid powerful greens, which become coarse; strong blues, which become black, and exaggerate our yellows, which are robbed of their strength by the gas, and we must paint solidly. Thin distemper, like thin oil color, always looks poor.

In the age of Elizabeth, during the great epoch of dramatic achievement, no attempt was made at scenic illusion. The stage was almost bare; properties and costumes were few and simple; painted scenery was unknown; tapestry-covered screens marked the entrances and exits; locality was indicated by a placard bearing the name Rome, Venice, Genoa, as the case might be; a canopied seat, a bed, a table, with tankards and flagons, were all that was required to represent a throne-room, a chamber, or a tavern; the fixed wall at the back of the stage, a maid-of-all-work accessory, serving any and all occasions, stood for Juliet's balcony, the Bridge of Sighs, or Brabantio's house. The court gallants, the rough sailors and the townsfolk who crowded the cockpit of the Globe did not need the aid of scene painter and costumer to make the creations of their dramatists real and living.

In the sixteenth century daily life had a splendid setting; religious and civic ceremonies, public sports, wars even, were pageants. The citizen was himself an integral part of those splendors; he walked in the procession, knelt in the cathedral and wore a glittering costume to the war. The world was young for the second time, and to these men a few words of description were as fire to tow.

In the past, simplicity was natural to the stage; beauty, pageantry were parts of daily life—the theater needed but to suggest them. Today "No longer able to be an actor, he desires to be a spectator" of the picturesque, for in our time pageantry has been shifted from daily life to the stage. The man of the sixteenth century, having it in his city, his dress, and his home, did not need it at the theater. We have reversed these conditions. With our civilization of mechanics and the exact sciences, life has grown dun, and civil-suited. The Puritans themselves would wonder at the plainness of our daily attire. Processions have all but disappeared; court ceremonial has been simplified; and color abandoned even by the peasant and by the soldier. Taste, beauty, historical accuracy, and general completeness—together with unlimited expenditure in their attainment—seem to be the leading characteristics of stage art today. A realism undreamed of by our fathers, a correctness unthought of by dramatic students and lovers of art, have distinguished the theater of the latter half of the nineteenth century. The productions of ambitious, art-loving managers of the recent past were indeed sometimes "grand" enough to compare, both for elaboration and spectacular effect, with the finer stage pictures of today, but they were fitful in their occurrence, and the theater could in no sense lay claim, either in point of finish or in the exercise of ingenuity, of expenditure, or sustained effort, to the style and conscientiousness that nowadays attend the production of nearly every form of dramatic entertainment. What the result of this combination of play and spectacle has been, or is likely to be, we need not now inquire, but it will be readily conceded that to no man, living or dead, is so much credit due for the consummation of the union as to Mr. Henry Irving. Liberality and taste have invariably lent distinction to his productions, which have usually been placed in expert hands untrammelled with thoughts of cost; while a wise managerial discretion has given unity to the whole. When Mr. Alma-Tadema, Mr. Seymour Lucas, or some other well known artist of antiquarian knowledge and instinct, supplies the designs for the dresses, when the scenery is furnished by Mr. Telbin, Mr. Hawes Craven, or the more eminent of their brother-brushes we may be certain of accuracy and beauty.

The more we have seen on the American stage since the first visit of the Lyceum Company, the more we feel it necessary to insist upon sobriety, sobriety and again sobriety. It was because Mr. Irving's settings were so harmonious, so artistic,—above all, so carefully and faithfully thought and reasoned out,—that they were so good. Occasionally was heard the cry go up that the play was lost in the setting, that the painter had rendered indifferent the playwright. In some cases this may be true, but a fine setting cannot belittle good poetry. It may be too gorgeous; it cannot be too good. It is here that the public are often wrong. They judge correctness by their own surroundings. This makes important the fact that it is the quality of novelty which makes fine setting distracting to many persons. Once thoroughly accustomed to good and correct scenery and costumes, they will cease to be unduly occupied by them. When Garrick and Talma made a few innovations, it is probable that even such simple alteration as discarding the bag wig disturbed old playgoers. Today the public are willing enough that the painted Arden shall be leafy, and beautiful Rosalind is not the less so; they are familiar with the loveliness of a forest. Theodora's surroundings are rich and striking, and they say it is scenic and distracts them from Bernhardt's acting. They are simply unaccustomed to Byzantine architecture and decoration.

The pictorial part of the production of a play may be continued in the painting of the scenery, the construction of the costumes and the properties, and the combination of all into stage pictures. Theatrical settings are to a considerable extent governed by the same

laws which control the execution of easel pictures, harmony of color, agreeable distribution of the masses, groups and lighting, as in a composition upon canvas; recognition of the pictorial principle that simple central objects will bear an elaborate background, and that an intricate foreground needs simplicity behind it. In a few words, the relief which is given to the principal roles, by their inherent importance and the superiority of the actors filling them, may be greatly enhanced by purely pictorial means of color and lighting.

The stage, properly speaking, is that portion of a theater which can be seen from the auditorium, and the space on either side, behind the proscenium. The stage is, widthwise, divided into five parts. The side to the extreme left of the spectator is called the prompt side. The prompter stands there in theaters in which there is no prompter's box. Halfway between the prompt side and the point which marks half the width of the stage is the prompt center. Then there are the center proper, and, corresponding with the prompt center and prompt side, the opposite prompt center and the opposite prompt side, or, as they are always called in theatrical parlance, the "o-p-center" and "o-p-side." The depth of the stage is divided into "entrances" according to the number of wings. Thus the "first prompt entrance" is between the proscenium and the first wing on the prompt side. Corresponding with it on the opposite side is the "first o-p-entrance." All these divisions and their appellations hold good not only of width and depth, but also height. For instance, the prompt center extends from the floor of the stage to the beams far above—a height of sometimes of 100 feet—to which are attached the pulleys and huge leverage wheels for running the ropes that are used to lower and raise the drop scenes.

Everything above the proscenium arch is summed up in the term "flies," a word more frequently misused than any other theatrical term. The uninitiated almost invariably use this term in speaking of the strips of canvas painted to resemble sky, foliage, arches, or the ceilings of interiors suspended across the stage above the wings. These are the "borders" and form but a small portion of the flies, which include the border lights, innumerable ropes, cleats, pulleys, the beams to which these are attached, and the fly galleries on either side, from the lowest of which the drop scenes and borders are worked. These galleries vary in number according to the size of the house. In opera houses of the first rank they are four in number, so that the flies are four stories high. Then, from the prompt side across to the o-p-side, stretch, a story higher, the beams already referred to. These in the aggregate have two names, according to the position of the person speaking of them. Looking upward from the floor of the stage, he would call them the gridiron; standing on them he would speak of them as the rigging-loft. The drops in large houses are about fifty-six feet high, and as they are raised, not rolled up, the space from the top of the borders, on a line with the first fly gallery, to the gridiron is about eighty feet high, giving room for the drop and twenty-four feet of rope. There are five ropes to each drop, the prompt, prompt center, center, o-p-center, and o-p-rope. These run from the gridiron down to the first fly gallery, where they are fastened around cleats and from where they are worked.

While the floor of the stage runs from the footlights to the rear wall of the building, the entire depth is rarely utilized, because a section extending about eight feet forward from the rear wall is reserved for the paint-room. The floor of the paint-room is a platform called the paint-bridge, which extends across the stage. The canvas to be painted having been hung in position so that its top is level with this gallery, the work of painting begins, the frame being raised and lowered as occasion requires. Until within about a fortnight of the production of an opera or play the work of preparation goes on in the building on either side of the stage and flies, and it is not until that seemingly late period transferred to its proper position.

At the production of the work the audience, comfortably seated, watches the performance unfold itself so smoothly that it suggests no idea of preliminary labor. This is as it should be. For as an actor must cause the result of his art to seem nature itself, so the theatrical manager must cause the action and its scenic surroundings to appear the spontaneous product of the time in which the drama or opera plays. We are apt to credit only the actor with the genius of simulating nature. As a matter of fact, the principle upon which he proceeds governs every detail of a theatrical production. What the actor strives for, the manager, stage-manager, scene-painter property-master, gas-engineer, master-machinist, musical conductor and chorus are striving for. Each in his respective department is endeavoring to simulate nature. I emphasize *simulate* because the simulation of nature as distinguished from the actual reproduction of nature is the peculiar province of stage art. It is a fact that a real tree upon the stage looks less like a real tree from the auditorium than a tree painted upon a piece of canvas; and that with a bit of canvas and a little paint the scene-painter can, at the expense of a few dollars, produce a Persian rug looking costlier and more like the real article than would an actual Persian rug costing a thousand dollars. What in real life would be an exaggeration becomes on the stage perfect simulation of nature. The actor's natural bloom would be a ghostly pallor in the glare of the footlights, so that he is obliged to rouge his cheeks in order that their color may look natural. And as in this case the look of nature is produced by exaggeration, so it is with every thing pertaining to stage art—voice, gesture, costume, scenery, "properties," light-effects. They must all, so to speak, be rouged and roughened. A stage production, to be successful, must be prepared with this principle always in view. It can easily be traced through the work going on behind the scenes of an opera house.

When Napoleon III, before declaring war upon Prussia, asked one of his ministers if everything were in readiness for the army to move on Berlin, the latter replied: "To the last button on the last gaiter." Unless everything pertaining to an operatic performance is

in readiness to the last papier-maché shield for the last "super," there will be an operatic Sedan.

The stereopticon plays an important part in modern scenic productions, and many realistic effects are due to its introduction. This is notably the case with lightning, clouds, and the rainbow. Before the use of this apparatus, lightning was produced by simply flashing magnesium powder in a pan. The powder is still flashed, but the image of the lightning is thrown upon the back drop or other portions of the scenery with the stereopticon. The effect is heightened by having various portions of the scenery painted on some transparent substance and flashing a light behind them, so that as the forked lightning plays over the scenery these portions seem luridly illumined by it. Cloud effects are produced in the same manner, the image being usually thrown upon gauze drops.

Lightning implies thunder. The old theatrical device for imitating the artillery of the storm was to shake a sheet of iron. This is now almost obsolete in theatrical establishments of the first rank. The so-called "rabbit-hutch" has been substituted for it. This contrivance while far more complicated is also far more effective than the sheet of iron. On one side against the wall of the third fly gallery, prompt side, stands a cabinet with six slanting shelves closed by doors which open sideways toward the wall. On each of these three shelves are half a dozen cannon balls prevented from rolling out only by the closed doors. From under the cabinet runs a broad zinc-lined trough, which, at a distance of about eighteen feet from the cabinet is led through the flooring and then in two long slants to the floor below. At short intervals in this are little inequalities of surface. A rope places one of the two men who work the apparatus in communication with the stage. Suppose there are to be two long, loud rolls of thunder. The stage manager pulls the rope, the man at its end on the second fly gallery gives the word to the man at the cabinet. He throws open the doors of the lower three shelves. Eighteen cannon balls roll thundering down and through the floor to the end on the floor below. When the second signal is given the balls on the other three shelves are freed with the same effect. If only three or four balls are used, the sound resembles the rumbling of distant thunder, while a short, terrific peal can be produced by freeing the thirty-six balls before they pass through the floor.

The apparatus for producing stage wind is one of the few old-time devices still in use. It consists of a paddle wheel, the paddles scraping against a piece of corded silk tightly drawn over the upper part of the wheel. The imitation of wind thus produced is very natural, the sound increasing in volume as the wheel revolves more rapidly.

The moon effect, if stationary, is of course a circular transparency on the back drop. Starlight is either small jagged holes in the same cloth, illuminated from back, or spangles sewed loosely upon the face of it. As for the ripple upon the water immediately under the moon's rays, that is produced by cutting below the surface of the horizon a series of irregular slits in the cloth, behind which is a continuous towel worked with windlass around rollers, and in which are more of these jagged cuts, a row of light in the middle of the towel making the light effect. This, when properly handled, gives the impression of moonlight on the water as if reflected from above.

The sound of rain is closely caught by a great circular box about five feet in diameter and ten inches thick. This is made of pine and closed entirely from side to side. Through this is then driven many thin strips of oak; about a quart of white beans are put into the wheel, which is then hung up over the fly gallery and can be revolved by the prompter simply pulling a rope. The noise made by these little Boston delights falling through the wooden sticks and rebounding from side to side of the revolving wheel suggests to the audience the urgent necessity for an umbrella, while to the man pulling the rope, it more probably suggests brown bread.

A fine effect in sound is that of the surf rolling up upon the sand and made by a large flat box covered with Manila paper, and in which about a pound of shot is gently tilted from side to side.

From the gallery on which the wind machine stands, one can look down upon the stage and over the footlights and orchestra and into the auditorium. There sits the audience, gazing upon a scene which to them has all the seriousness of reality. And this appearance of reality is produced by the numerous artificial devices of which we who are behind the footlights have knowledge. And yet the next time you sit in the audience, you will be as much absorbed in the action as though you knew nothing of the means employed to dupe you. For scenery, properties, costumes, and lights have been devised with the grand principle in view, the simulation of nature.

And now as to the lighting, the incandescent has done much for the stage. Its full steady glow is, when run at the proper capacity, equal to gas, while its great advantage over the latter is in its safety. With it we are enabled to place lights where formerly we could not, such as close to nets and gauzes and hung around in groups, or running along in pliable and brilliant lines of illuminating force upon the back of tree limbs or perforated set pieces of slender proportion. Great is the incandescent, and already broad is its field. The arc light is not used upon the stage for general illumination on account of its too intense shadows.

While there are in this country perhaps thirty or forty scenic artists of different grades of ability, there are not over ten or twelve who are entitled to hold front rank. The others simply drifted into the business and are the men, who, through their lack of study and indifference to the progress of our time, have done so much to retard the rank of our profession; men whose only claim to artistic capacity comes with no intention or fault of theirs through their having been born, as my friend Burridge would say, with palettes in their mouths.

After getting from the author a description of the play, we make the small models, such as you see here. We then submit them for

approval, often having to alter slightly here and there to make more or less space for action. We then give the small pieces of cardboard to the carpenter who makes the framework as it is marked on back and has it covered. He then puts it on the paint frame, and after an assistant has given it a coat of priming, it is ready for us. To begin on this is done by roughly sketching in charcoal the enlarged form as upon the model. This is carefully gone over with ink and all the details impossible in the model carefully put in. The charcoal is then dusted off and it is ready for the painting. Of course, being in distemper and therefore drying quickly, it is sometimes lively work with the blending of a sky, if it be an exterior, as the laps of color show if partly dry, thus destroying the atmospheric effect. We seldom like interruption when engaged upon this portion of the work, as rapidity and plenty of room is necessary. An artist usually begins the sky looking like a gentleman, and emerges from the fray sometimes triumphant, but often otherwise, looking like a calsmoaner. I am reminded of one of those little stories that follow every profession, always more or less truthfully, but which will demonstrate what I have been saying in reference to skies.

In the Boston Theater the artist for years has been Mr. William Getz, an old-timer, with all the conventional methods. Messrs. Thompkins & Hill were the managers. They had already postponed the production of a new play for two weeks on account of Mr. Getz not being ready with the scenery, and as the play then running had long since ceased to be a paying investment, they were wild to get it off and the new one on, feeling that in it they had a bonanza. Mr. Thompkins was, therefore, in a wicked state of mind when one morning he went upon the stage to see if they were safe to announce the new play for the coming week, so calling that terror of the masher, his old joblots, the stage doorkeeper, he told him to hie him up the dust laden spiral-formed stairs and ask of Mr. Getz if he would come down and have a little talk with him, the manager. So his old deaflets climbed and climbed away up into the gloom, and after many pauses in which to catch his truant and beer-laden breath, told Mr. Getz what Thompkins had said. Getz, who was wildly juggling a cerulean blue and chrome yellow blend, frantically waved an eight-inch brush at him, and yelled "You tell Mr. Thompkins that I wouldn't come down if my mother was dying! I am laying in a sky." Imagine then the effect upon the already overwrought Thompkins, when his messenger finally returns and says: "Mr. Getz says his mother's dying and he's lying down to cry."

The model of tropical scene here is the work of Richard Marston, of the Union Square theater and Palmer's theater, and was made about eighteen years ago when the play of the "Wicked World" was produced.

The model of the Orchid is by Homer Emmons, of New York, and for the play of "Blue Jeans" now being produced by Mr. Burridge at McVickers. The wood interior is by Mr. Walter Burridge for his beautiful production of the "Rivals" lately done by Mr. Jefferson at McVickers. The flat sketches are some I did for Booth and Barrett. They are what we term front cloths, and are used while the carpenters are changing scenes at the back. The model here, or parts of it, the balance being lost, strayed or stolen, was one of my scenes for the "Merchant of Venice" production for Booth and Barrett. I regret not having saved a model of my transformation scene in the "Babes in the Wood" at the Auditorium, for that, even while roughly put together, was different from these in its being spectacular, and might perhaps have been of interest to you. The flat sketch on the wall is a bit by the late Matt Morgan, one of the greatest painters in distemper we have ever known.

Now, in reference to stage construction; as it is probable that every member of your club will some day, sooner or later, be called upon to construct a theater, I purpose to tell you what architects invariably do and in what they fail. This as the result of twenty years of study and work on the stage.

The architect designs his building with its noble façade, its symmetrical lines, its spaces of repose; he then gets into the interior and by carefully observing the precedents already established, is successful with his sight lines. His balcony curves are beautiful. He takes his chances acoustically and gets down as far as the boxes. These he carefully considers, being particular that they do not mar the graceful lines of the whole. He then binds about his head a towel and retires to think, and from that communion of thought and dampness, that successful combination of brain and water, arises gradually but grandly the proportions and detail of a proscenium arch and sounding board that will be at once a novelty in construction and a decorated dream. So far he is usually a success and it would be presumption on my part to criticize his work. I do not, I cannot. I have only admiration for it. But it is right here upon reaching the proscenium arch that he should go out and see a good old-fashioned game of baseball. That certainly would be beneficial to his health and not detrimental to the theater; but he does not. He wants to, but struggles with himself; he says, "O, no; no baseball, I was almost forgetting the stage! that won't do. I must have a stage." In fact, he cannot recall a single theater that had not a stage, and so, full of hope and the ambition to conquer in new fields, he steps up out of the private box and on to the apron of the stage. He rather likes it and turning for a look at his house he fills up with pardonable pride as he notes balcony after balcony rising in graceful lines to the ceiling, the nice arrangement of aisles, the beauty of the boxes and the proscenium arch, and then turning again, he looks into that great space and with a courage that is sublime and the simplicity of a little child, steps through the arch and over the footlights into an unknown world, and it takes him just fourteen seconds to fall through the vampire trap into the sub-cellar, where he is found some hours later with his clothes torn from his back, badly battered, but evidently still in the ring, for you hear him asking the scrub woman if flies are still used in theaters;

if the Hamlet trap is over the gridiron; or if the left upper entrance is on the fourth floor. Emerging, therefore, from mistake No. 1, he loses no time in looking for mistake No. 2. Says: "why, of course, funny I should not think of that at first; the stage carpenter, he is the party I want. I will put all this stage business in his hands and go and see the ball game." So he calls in some antique with whiskers under his chin, who has been rendered round-shouldered by conventionality, who remembers distinctly the night that Forrest played "Metamora." Ah, that was a night! He was the boss carpenter then as he is now. In fact, he goes with a lease; a man that has not learned, or what is worse, has not unlearned a single thing in all these forty years. The architect gives to his own part of the work the result of his best knowledge, applies to it every modern improvement, does all he possibly can to make that theater stand for all that which is best in construction, seating, lighting and decoration. In a word to make this a house splendidly typifying the progress of his time, and then, ignoring entirely the man to whose poetical brain and practical brush the public must look for the pictorial part of the productions of that stage, he gives the work of constructing it into the hands—I cannot say brains—of a man whose only ambition is to make it as they made them when he was a boy. And he straightway puts up a set of grooves. They have not been used for twenty years, but that does not matter, he gets them up and there they are, a death blow to the painter's picture, a standing, or rather hanging menace to perfect illusion.

There was a fight made against them ten years ago so strong that it called into existence the only improvement made of late years by these gentlemen. They set up a howl against any such desecration of a time-honored, moss-covered custom, saying: "What! do away with grooves! why, how then shall we run flats?" So they finally evolved the idea that they would put flap hinges on the grooves in the middle and fold them up a few feet more out of the way. A flap hinge, there was, although so heavily encrusted with brilliancy as to render calcium unnecessary and so completely ornate as to absolutely compel admiration. A flap hinge. And that gentlemen, represents the sum total of the progress made by these gentlemen in the past ten years. You occasionally see some play in which some clever bit of mechanism is introduced and you read the following morning of the great credit due the stage machinist for his brainy work. I cannot recall in my whole experience, and covering many of these supposed mechanical giants, ever wanting a little trick or movement out of the conventional that I did not have to show them how to work it.

Some time ago Mr. Burrage designed a scene from the "Noble Rogue" calling for the turning of Clark street bridge and allowing a vessel to pass. He schemed it out and then brought forth his model. The claim was immediately made that it would not work. Was not practical. But he made all the detail drawings, and a working model of the swinging bridge. It was built, worked successfully and made a hit, while the press loaded its columns with credit for the stage machinists, who have been walking about ever since covered with sweat and glory. And these are the men into whose hands the architect places without thought the making or marring of so important a feature. And you cannot altogether blame the carpenters. They simply know the past. And upon those lines, let them be ever so conventional, clumsy or obsolete, continue to construct the stages upon which only productions hampered and often ruined by old methods can be produced. They have no poetic ideas to elaborate, no nice sense of the fitness of things. What to them are the softened outlines, the little bits of atmosphere that help so much in the effort to imitate nature? No, put the blame where it primarily belongs, upon the architect. The very character of his profession demands education, demands that he be broad, and eager to grasp any means or method to keep his work from being a laggard in the pageant of civilization. He, then, it is that should first seek some artist of repute, and say to him: "I want to build a stage as well as an audience room. I want to know what your experience has shown to be faulty and unnecessary. I want to know what to avoid doing as much as that which is essential. I want nothing on that stage that will in any way prohibit the successful achievement of a perfect rendering of any of nature's moods."

And if, as the result of my words tonight, there may in the future come to the public one theater built upon such lines, I shall feel that I have not wasted an evening, either for you or myself. For then, and then only, will the stage have the opportunity of offering to men of ability a perfect field in which to work out ideal settings for pure plays, untrammelled by the mistake mediocrity, or hampered by the methods of a by-gone day.

Gentlemen, I thank you for your attention.

Ecole des Beaux Arts.

AN interesting account of the great French school of architecture, the École des Beaux Arts, its recent student exhibits, the way in which students are admitted, the American representation among the aspirants, etc., is sent by Louis H. Gibson, of Indianapolis, as follows:

It is safe to say there are five hundred architectural students in Paris. About three hundred of them are in the École des Beaux Arts. A few days ago I saw two hundred aspirants for admission to that school assembled in one of the courts, awaiting their names to be called to pass into rooms to prepare drawings which were to serve as a part of their entrance examination. From this two hundred about one hundred will be selected to continue in the examinations of general mathematics, drawing, modeling, history, etc., and from this number thirty will be, eventually, selected as members of the school. Of the two hundred mentioned, thirteen were Americans.

Twelve of them passed the examination in architectural drawing and design. It remains to be seen how many will pass the other test examinations; but, judging from their creditable efforts thus far, the outlook is flattering.

This school is unquestionably the best equipped and best managed architectural school in the world. Richard M. Hunt, of New York, is one of the oldest American architects it has produced. H. H. Richardson was also a student of this school. Likewise Mr. L. H. Sullivan, of Chicago, not to name other well-known American architects.

To give an idea of the volume of work turned out under the patronage of the school, I mention several exhibitions of drawings that I have seen within the last six weeks that were recent products and exclusively the work of the students. The first exhibition was by students of both classes. The second or senior class problem was for a country house. The first or junior class problem was a design for the interior of a private billiard room. For the former there were over a hundred sets of drawings exhibited, and for the latter a somewhat smaller number.

The second exhibit, which occurred last week, was made by the second class students alone. It comprised a hundred drawings. The problem was a baptismal font and accessories for a chapel attached to a cathedral. It was a distinctively decorative problem and called for high grade water-color work. It is only necessary to say of this display that the spirit of boldness in the conception and brilliancy of rendering in the drawings could be begotten of nothing outside of personal adaptation, long experience and the ancient artistic heritage attached to the curriculum of this great school. This week there is an exhibition of drawings for a conservatory of music, a casino, and a boat house. For the former there are more than a hundred sets, for the casino about sixty, and about the same number for the boat house. During the latter part of this week there will be an exhibition of drawings for the "American Prize." In addition to the above I may state there has just closed an exhibition of the drawings of the aspirants for admission to the school. This will give an idea of what is being done. I may state while there have been an unusual number within the last week, large exhibitions are of frequent occurrence.

While it is an easy matter to represent by figures the amount of work produced it is not so easy to represent its quality. I may say this: The average age of those entering the school is about twenty, and that for the most part the aspirants have been preparing for a period of from four to five years with a view to be qualified for admission. The men in the first or youngest class frequently stay four or five years and those in the second class remain until they receive their diploma, or having reached the age of thirty leave under the rules of the school which debar them from continuing longer. During all these years they are under the best possible instruction. Certainly no such work can be seen elsewhere in the world. The rendering of drawings surpasses anything with which an American architect unacquainted with the work of this school is familiar. All are rendered in color and by men for the most part who have studied drawing and coloring all their lives.

The Americans who come here are quite well equipped. Frequently they are college graduates of an artistic turn of mind, men who have spent two or more years subsequent to their college work in the Institute of Technology, Columbia College School of Mines, or other similar institutions. In other instances they are the product of the best American offices, capable and serious-minded men who come for the advantage of the schooling.

Of the Americans who were recently examined the largest number were from Massachusetts, three were from New York, one from Philadelphia, one from St. Paul, and the remainder from other eastern states. Some come for special study and do not formally enter the school, but who are nevertheless in one of the ateliers of the school or ateliers preparatory to it. There are, however, objectionable features connected with school atelier work that those who have only one or two years to spend abroad would do well to consider, such as putting down paper, inking-in plans, mounting drawings, running outside errands, etc., all of which the new men, or "Nouveaux," as they are termed, are expected to do much of their time in first year. This, taken in connection with other indignities to which new men have to submit to from the older students, makes the one or two year terms not so profitable as they might otherwise be; though in a five or six years' course such a training is not considered objectionable, as the *Nouveaux* gains a certain amount of experience from working on the drawings of the older men, seeing the why and the wherefore of the results, and thus laying the foundation for future progress in the school. But where this work is the sum and substance of a year's training to an American who must return home at the end of the term, it is not satisfactory. The proposition has been made in times past by the new men to hire a substitute to do the work that is expected of them; but the older students of the ateliers will not submit to having it done by others than the *Nouveaux*, as it would be changing their proper relations to their seniors. They have said: "This *Nouveaux* work is the custom of the school. It has been handed down with other chattels to the present time and must be sustained. We have done *Nouveaux* work and so must you," and so the barbarous custom continues.

There is an outside atelier, that of M. Duray, which is largely patronized by Americans. In it a janitor is employed and a proper and satisfactory condition of things exists.

As a matter of interest to all draftsmen in America, if not their principals, I give a synopsis herewith of the programme given by the School of Fine Arts at the last examination of which I made mention in the early part of this letter. It may not be known to all alike that all work of this school must be designed in the classic styles, either in their original forms or according to the interpretation of the Italian

and French renaissance; hence a knowledge of the orders and their application to general design is highly important to one who desires to enter this school.

PROGRAMME.

A PORTIQUE MUSÉE IN A PARK.

It is supposed that a rich amateur who possesses antique statues desires to erect a suitable edifice to display his precious objects of art.

The edifice is to be placed on a rise of ground, partially surrounded by trees, and to be so arranged as to form one of the principal points of view from the chateau. The structure shall have a sub-basement, grottoes, staircases and landings leading to the building above.

It is to be composed of exedros connected by a portico for promenade. In each of the exedros will be found a statue and seats for repose and conversation. The largest dimension of the portico shall not exceed 20 meters.

A plan, section, elevation and detail of the capital of the order adopted are required.

In a future letter I shall give more fully the general requirements for the aspirants to this school, and I hope drawings of the solutions of some of the problems.

PARIS, March 6, 1891.

LOUIS H. GIBSON.

The Sculptured Stones of Scotland.

THE fifth ordinary meeting for the session of the Dundee Institute of Architecture, Science and Art was held, April 9, in the upper hall of the Young Men's Christian Association. Mr. Alexander Hutcheson, architect, read a paper on "The Sculptured Stones of Scotland," Mr. Charles Ower presided, and there was a large attendance. Among those present were ex-Lord Provost Hunter, ex-Provost Brownlee, ex-Bailie Ogilvie, Mr. G. A. Harris, Mr. Alexander Maxwell, F.S.A., Mr. J. B. Charles, Mr. Leslie Ower, Mr. W. Mackison, Mr. J. J. Henderson and others.

Mr. Hutcheson, who was received with applause, dealt first with cup-marked stones. These, he said, although not belonging to the class of monuments distinctively known as "The Sculptured Stones of Scotland," were yet sculptured stones, and were, in fact, the oldest sculptures in this country, or perhaps in any other. The cups were described as little pits or hollows sunk in the surfaces of undressed boulders and slabs of stone, or on rocks. The cups varied in size from half an inch up to six or seven inches wide, and in depth from just as much as would hold the point of the finger to two or three inches. Occasionally the cups were surrounded by one or more rings arranged concentrically and sunk in the stone. Sometimes a channel or gutter extended from the central cup, cut through and across the inclosing rings, and at times similar channels connected single cups or groups of cups together. The markings were thus of the simplest kind. No marks which could be construed into an inscription had ever been found in the cup-marked stones, the probability therefore being that the race or races who carved the cup marks possessed no written alphabet or language. Stones or rocks inscribed in this manner were found all over Great Britain, and in many continental countries, particularly in the north of Europe and in Asia. The sculptured stones of Scotland, on the other hand, had no analogue in any other country; their art was distinctively Scottish. They were only found in Scotland, and with one or two exceptions, were in the earliest examples confined to the northern district of Scotland, comprehending the area lying to the north of the Forth.

The stones might be divided into three classes. The first class comprehended those stones which bore incised symbols; the second class showed the symbols combined with the figures of men and animals sculptured in relief, and along with them now appeared the figure of the cross. The third class bore sculptures in relief, but no symbols. From a list drawn up by Mr. Romilly Allen, it appeared that upward of three hundred and eighty examples of the sculptured stones have been recorded, of which one hundred and four were of the first or oldest class. Mr. Hutcheson exhibited a table showing the distribution of the stones, from which it appeared that Forfarshire was by far the richest county in point of possession, having no less than seventy-five examples, Perthshire coming next with fifty-three. The symbols consist of certain conventional types of semi-geometrical figures, known as the "crescent," "spectacle" or "double disc," "mirror and comb," and certain animal figures, as the elephant, serpent, etc. The range of the symbols was not wide, and they were of frequent repetition, the poverty of the decoration contrasting strongly with the rich variety of the ornamentation of the subsequent divisions—a poverty which, however, in great measure disappeared when the sculpturings proper to the second great division of the stones made their appearance. It was then seen that the symbols which accompanied the sculptures in relief, although having nothing in their outlines to suggest a difference, were now filled in with elaborate fret and interlaced work.

The figures in relief consisted of men and animals, combined with the Christian symbol of the cross, which was invariably of the Celtic type, known by recesses at the intersection of the arms, and distinguished by being usually filled in within its outlines by that ingenious interlaced work known as Celtic, with which the Iona crosses had made them familiar. In this class was seen to be a tendency to arrange the subjects in panels. That was first manifested in groups of figures rising one above the other; then these were inclosed in borders; and latterly the whole surface of the stone, including even the shaft and arms of the cross, was found to be divided into panels. The men represented occasionally had animals' heads, and were often engaged in combat with each other or with animals. The animals were mostly of nondescript type highly conventionalized, Jonah's whale being always represented with legs and paws and ears like a hare. In the third or latest division of the stones the early symbols had entirely disappeared. The cross, instead of being sculptured in relief on the front of a stone which in its outline bore no resemblance to a cross, now appeared as a cross pure and simple with projecting arms. To this class belonged the Iona crosses and nearly all the

ancient sculptured monuments to be found on the west coast of Scotland and in the southern counties.

The art of the sculptured stones as it appeared in metals was referred to, and, in particular, the celebrated Hunterston brooch—considered by competent judges to be the finest specimen of ancient art ever found in Scotland—was described, and it was mentioned that within the last month this beautiful example of native art had been acquired by the Society of Antiquaries of Scotland.

The light cast on the age of the sculptured stones by the Celtic and Scoto-Irish manuscripts of the gospels, with their inimitable interlaced illuminations, was commented on, from which and from other considerations it appeared that the Scottish sculptured stones were to be attributed to the period ranging from the sixth or seventh to the twelfth century. The scanty examples of inscriptions exhibited by the early sculptured stones were noticed and described. The earliest of these—the Oghams—consisted of a stem line and cross digits, and was peculiar to the Celtic area, only about a dozen of examples being known in Scotland. The key to these, found in the Book of Ballymote, was exhibited and explained. The fragmentary inscription at St. Vigean was the only one in the mainland of Scotland which was expressed in an alphabet bearing a resemblance to the Celtic writing in the ancient Scottish manuscripts. That inscription had been the subject of very varied interpretation, many readings of it having been put forth by skilled authorities without any definite conclusion having been as yet reached. It appeared to contain the names of two or three persons, but their connection with each other or with the stones was not clear. There seemed good reason, however, to conclude that the names were Celtic.

The art of the stones was christian, and was evinced by the presence of the cross; and the figures of men and animals, although sometimes incongruous and apparently out of harmony with present religious ideas, might not have really been so to those who carved them. The Bestiaries of the Middle Ages showed that a *Divine Bestiaries* system of religious teaching, based on the nature and attributes, real or supposed, of certain animals, prevailed in the Church in early times; and the probability was that the art of the Scottish stones had preserved to us the visible forms of this spiritualized natural history teaching as it prevailed among the Celtic population of Scotland a thousand years ago.

Mr. Hutcheson concluded as follows: "In Dundee we now possess in our museum a representation of the sculptured art of Greece and Rome of which any community might well be proud—a collection of examples invaluable to the student, and likely to be of inestimable service in fostering a high standard of public taste. In my opinion that standard will be defective which does not combine with it the first element of national life, a patriotic reverence for and a knowledge of what is best in the national history. For defect in this the study of classic models can never compensate. These may inform the judgment and purify the taste in matters of art, but they cannot enlist the affections as that art must do which appeals to the heart by association of birth and race; and in Dundee, which lies so near to the very centre of the district of the sculptured stones, we ought to have a corner of our museum devoted to a collection of casts of these national sculptures, so that students may examine them with ease and derive benefit from the study of a style of art which belongs to the most interesting period of our natural history—namely, that period when she awoke from the darkness of paganism to receive the light of the christian dispensation. Such a collection of casts, if made tolerably complete by the best examples, would prove that Dundee was not only progressive but patriotic, and would set an example to others which in time might result in a restoration of that national school of art which these sculptures conclusively show once existed in Scotland." (Applause.)

Mr. W. Mackison, ex-Bailie Ogilvie, and Mr. William Briggs offered a few remarks on the lecture, after which, on the motion of the chairman, a hearty vote of thanks was passed to Mr. Hutcheson for his admirable lecture.

Obituary.

AT a meeting of the architects of Omaha, Nebraska, held in the rooms of the Builders & Traders Exchange of that city, the following resolutions of condolence on the death of architect Herbert Reynolds Best were adopted.

Whereas, Herbert Reynolds Best has been cut down in the noonday of his life, and in the midst of his work:

Resolved, That we, his brother architects of this city, hereby express our profound regrets that the profession has lost in him a talented and rising architect, one thoroughly devoted to his art, and a man of marked ability, strict integrity and high culture;

Resolved, That we offer to his family our heartfelt condolence, and to his partners our most sincere sympathy in the irreparable loss they have sustained;

Resolved, further, That a copy of these resolutions be forwarded the family of the deceased and to his late partners and also that these resolutions be published in THE INLAND ARCHITECT, the AMERICAN ARCHITECT, the Omaha and Boston daily papers.

After the above resolutions were adopted Messrs. Smith, Fisher, Lawrie and Hawkins spoke feelingly of the character and ability of Mr. Best, pointing out the examples and thoughts found in the works of the late architect. Isaac E. Burdick acted as secretary, Harry Lawrie, chairman.

Mr. Best was born in England in 1862, and practiced his profession there after completing a course in the Royal Academy and subsequent employment in the office of Edward Burgess. He came to this country six years ago, and forming a partnership with C. Howard Walker, of Boston, under the style of Walker & Best, the firm name has become known in connection with much good work both in the East and at Omaha, where Mr. Best had a branch office at the time of his death.

Cincinnati Architectural Club.

THE Cincinnati Architectural Club held its third annual meeting May 8. The reports of the president, Mr. Zettel and Mr. Davis, the secretary for the past year, showed the club to be in a flourishing condition and constantly growing in membership, and the club to be one of the foremost sketch clubs in the country, which is not only due to the work of these officers but to the untiring efforts of the executive committee.

After the reading of annual reports and the transaction of other business, the following officers were elected for the ensuing year:

President, G. W. E. Field; vice-president, L. G. Dittoe; secretary, M. Heister; treasurer, A. Stedman. These officers and J. Zettel compose the executive committee.

After the election of officers the meeting adjourned, and upon the invitation of the executive committee the members sat down to a dinner given at a neighboring caterer's where the rooms were decorated to suit the occasion. The menu was excellent and enjoyed, the courses being interspersed by toasts that were sometimes witty, sometimes full of reminiscence, and some full of prophecy for the success of the club. The members retired well pleased with the success that has crowned three years of enterprising effort and unremitting labor.

The club competitions for the coming year are as follows:

June 12, 1891.—Interior sketch, including mantel, clock, table and seat.

July 24, 1891.—Sheet of local colonial work.

September 4, 1891.—Sketch from nature.

October 16, 1891.—Litch gate.

December 4, 1891.—Modeling in clay, subject, an ornamental corbel.

January 15, 1892.—Rendering from description.

February 26, 1892.—Wrought-iron hinge.

April 16, 1892.—Carved stone capital. Italian renaissance.

Notes from our French Exchanges.*

IN connection with some notes recently published relative to admission of pupils at the Ecole des Beaux Arts, the following card from one of the professors published in *L'Architecture* is of interest:

Pupils desiring to present themselves at the examination of the Ecole des Beaux Arts for the section of architecture have found means sadly lacking to prepare themselves for the drawing and modeling so important in their artistic instruction and necessary for their entrance examination.

While instruction was easily obtained in mathematics, descriptive geometry and history, and the elements of architecture could be learned in the various ateliers, up to the present no instruction was easily obtainable for the preliminary studies of drawing and modeling.

The school could, of course, only give instruction to pupils who had been admitted, and preparatory pupils were obliged to learn these branches wherever they could pick them up, in the city schools, or other classes not especially for them, whose aim was different from that of architectural study.

The professors have often regretted this lack of instruction and are pleased to announce that this exists no longer, since the well-known sculptor, M. Raymond Barthelemy, a "grand prix de Rome," who also practises decorative sculpture with equal success as the human figure, has just opened a studio for these preparatory students. All the profession have strongly encouraged this undertaking and, by a fortunate chance, rooms at the very door of the school (No. 16 Rue Bonaparte) have been obtained.

(Signed),

J. GUADET.

CEMENTS MADE FROM METALLIC SLAG.

The industry of manufacturing cement from slag, the use of which is becoming more and more general, was started from the desirability of utilizing the great quantity of residuary products that result from the refining of crude ore. As is well known, the metals in general, such as iron, for example, exist in the ore in more or less simple combinations (oxides, carbonates, etc.), but also mixed in variable proportions with earth or stone, which constitutes what is technically known as gangue. By itself this is infusible at the temperature reached in the treatment of the ore; but in order to get rid of it, it is mixed with certain calcareous substances, when it easily fuses, and this result is the slag.

It is evident that all slags have not the same composition, since the stone and the minerals added to it are not always the same. They may be divided, in fact, into three groups, according to their composition, but in a general way, the only one that can be successfully employed in the making of cement are the double silicates of lime and aluminum. In a recent paper read before the Society of Architects of Berlin, some details of the manufacture and employment of the cements were given by Dr. Pinkinburg.

It appears that Germany possesses a dozen factories where these cements are made, and that they produce about 600,000 barrels per annum: these barrels, weighing about three hundred and twenty pounds, are sold at \$1.25 at Berlin.

The two characteristic properties of the slag cements are: first, its slowness of setting; second, its small specific gravity.

The time required for setting is about fifteen hours, but this slowness has the advantage of allowing the use of slag cement without all the precautions necessary with cement that sets very rapidly. It has, however, one drawback to its employment in countries where the winters are very cold; namely, it must not be frozen before it has set. Experiments made at the government laboratories at Berlin gave unfavorable results in this respect. The samples exposed to a very low temperature during the setting showed (twenty-eight days after) a very inferior strength to those that had set where the temperature was normal.

The small specific gravity is an objection in case where the cement is to be run in a liquid or semi-liquid state into molds, since, being lighter than sand, the various compounds of the cement separate,

more or less, according to their density, and the mass is no longer homogeneous when the setting takes place. Experiments at several pieces of work at Berlin, leave no doubt in this respect.

Beyond the cases mentioned, the slag cement has been extremely satisfactory in all cases where it has been properly used. In fineness of grain, strength, etc., these cements fulfill all the requirements demanded by the government of Portland cement employed on the government work, and they possess the excellent quality of never shrinking in volume. This slag cement has been successfully used in the construction of a sandstone bridge at Berlin; in this case the mortar was composed of fine sand and cement in equal parts.

The chemical reaction which takes place during the hardening is not the same in slag cement as in Portland cement. According to M. Tetmajer, the slag cement requires, more than almost any other cement, the presence of water during the first period of its hardening (hardening not to be confounded with setting). Its hardening differs from that of the cements in which lime and the other constituents are chemically combined during their burning; in this case the action of the lime upon the silicate is effected by the intermediary of water. If, the cement having set, a quantity of water is not furnished sufficient to dissolve the lime, and form hydrosilicate of lime, or if the excess of water in the mortar has been absorbed, the process of hardening is stopped, and the maximum strength of the mortar is that which it acquired in a relatively short time. This is what happens when the mortar is allowed to dry without continuing to wet it down from time to time.

This explanation by the learned professor of Zurich shows the method that should be used in the employment of slag cement. The stone should be wet until saturated, so that the water required for the setting of the mortar will not be absorbed by them. During the setting the wall should be left alone, but as soon as this process has taken place, the work should be regularly and abundantly wet down, so that the ulterior hardening is not stopped.—*La Semaine des Constructeurs*.

Expeditions seem now to be the order of the day most everywhere. We have had occasion already to speak of the exposition at Chicago, which will—at least in the opinion of the Americans—eclipse that of '89 at Paris.

Jealous at seeing the French Americanize themselves to the point of building an iron asparagus 300 meters high, our friends in the United States have decided to do better or at least to do something larger, which is a very natural and legitimate sentiment. Since the Yankees believed themselves up to the present the only ones to measure beauty and grandeur by the yard, they have decided to crush us, morally and in an entirely peaceful struggle, be it understood. They are to construct a terrestrial globe whose diameter shall be the height of our Eiffel tower, advancing thus from plane to solid geometry. This is indeed real progress and a step in advance!! —*La Semaine des Constructeurs*.

Workmen digging a ditch in the suburbs of Aubagne, not far from Marseilles, recently discovered a curious Roman temple, which graceful little edifice was soon completely uncovered from the earth that had concealed it for centuries. The temple is quite well preserved, and measures nearly 19 feet high and 22 feet long. It resembles in a most striking manner the "Maison-Carrée," at Nîmes, that jewel of Roman art for which Alberoni demanded a cup of gold, and which Colbert wished to transport to Paris and there build again, stone by stone.

A beautiful statue of Diana, found in the interior of this temple, leads to the belief that it was dedicated to this goddess. Several fragments of sculpture were found which have been carefully preserved in an adjoining house, awaiting transportation to the museum of Marseilles. One of these fragments bears the following inscription, which seems to have baffled those who have attempted to decipher it:

TRI AE SYLV ERE.

This is the most important archaeological discovery in France since the excavation of the Gallo-Roman city of Sanxay, near Poitiers. The Académie des Inscriptions will send a deputation to examine the new monument.—*La Semaine des Constructeurs*.

RUSSIAN ARCHITECTURAL ART.

Mr. Soultanoff, architect and engineer of St. Petersburg, recently delivered before the National Society of French architects a lecture upon the development of architecture in Russia, to which *La Semaine des Constructeurs* devoted considerable space, considering it a subject of which too little is known by the profession.

It is especially, says Mr. Soultanoff at the beginning of his talk, in the religious monuments that one can follow the development of architecture in Russia, and, moreover, the Muscovite art has always been essentially a religious art. Here are distinctly visible three grand periods: in the first, foreign influences, Roman and Byzantine, are evident; to the second belongs Russian art proper; and lastly, in the third is what may be called the modern period.

From the fourth century the Byzantine style was employed along all the shore of the Black Sea, and then gradually penetrated into the Balkans peninsula, and from there into Slav Russia, where it was maintained in its original form and purity as long as in any other country. At this point the lecturer, interpreting in a novel and ingenious fashion a passage from Vitruvius relative to the construction of dining halls, finds a remarkable analogy between the dispositions there indicated and the constructive methods adopted for the Greek churches. The four Roman columns, forming a square, are the same in the Byzantine plan; the superstructure which surmounts them is replaced by a dome, while the ceilings which cover the surrounding galleries are changed to cylindrical vaults. Leaving to Mr. Soultanoff the responsibility of these deductions, the attention is brought to the church of Saint Sophia (divine wisdom) at Kiev as being one of the most characteristic specimens of Byzantine art in

*Translated and arranged by W. A. Otis for THE INLAND ARCHITECT.

Russia. This monument, which dates from the eleventh century, had its façade modified in the thirteenth century, but the remainder was unchanged, showing the interior, with its decoration of enameled mosaics upon a background of gold, as purely Byzantine.

To the Greek influence was later added that of the Romanesque, from the West, as shown in the remarkable edifice of the Church of the Transfiguration constructed in the fourteenth century at Novgorod in Finland. The plan is Byzantine, while the upper portions, or at least the roofing, are in the true Russian forms, and the ornamentation is Romanesque. Mr. Soultanoff attributes this latter fact to the commercial intercourse between Finland and the Hanseatic cities, owing to which German workmen came to Novgorod to practise their trades.

It was, however, in the twelfth century that the personality of Russian art began to assert itself, and the characteristics of the new style are manifested in the cathedral of Saint Demetrius at Vladimir, in the government of Vladimir. The plan of the building is still Byzantine, but that which is distinctively Russian is the great height which is given to the bays of the façade relative to their width, also the more slender proportions of the dome, and the narrow windows, this last condition probably necessitated by the climate. As a result of the changes, there is an appearance of delicacy which contrasts strongly with the heavier proportions of the Byzantine architecture. It is the predominance of the vertical element over the horizontal. In this same building the sculptured decorations are Lombard and Romanesque, which is accounted for by the presence of western workmen, Italians and others, who assisted at the finishing of the work, as is proven by the Russian records, attesting to the presence of the artificers.

In the fourteenth century a veil of mourning was thrown over Russia: the Tartar invasion covered the land with ruin, and was only stopped in the vicinity of Novgorod by the dense marshy forests which surrounded that city. The next century, however, saw burst forth what might be called a period of renaissance for monumental construction, and it is this period which constitutes in Russia the real national art. The development of this art is manifested, especially at the end of the fifteenth century, by the building, under the direction of the Italian architect Fioravanti, of the Cathedral of the Assumption, upon a model both Byzantine and Russian, and furnished by the buildings of Vladimir. Finally, during the sixteenth and seventeenth centuries, the original Muscovite architecture reached its highest point. In the monuments of this epoch are to be met elements from the Byzantine and the Mohammedan, and especially forms drawn from Slav wooden constructions; among others may be noticed the church of the village of Medwio-Kovo, in the suburb of Moscow, which is of the sixteenth century, as also the cathedral of Holy Basil, at Moscow itself. The predominating form is the pyramid, surmounted and accompanied by bulbous domes.

In the second half of the seventeenth century, the patriarchs, desirous of returning to all purely Byzantine traditions, interdicted the pyramidal form, particularly for the body of the church, so that the plan was generally a square, covered by a ribbed vault or a dome surmounted by five bulbous cupolas, that in the center symbolizing Jesus Christ, and the other smaller ones, the four evangelists. Two chapels opened into this square place, one from the south and one from the north, each crowned with a separate cupola, while three apses and a circumscribing gallery completed the plan, except that at the front, and absolutely distinct from the principal building was a bellfry surmounted by an octagonal pyramid and a bulbous cupola.

Decadence commenced with the end of the seventeenth century and the beginning of the eighteenth, the general forms reproducing in stone or brick those employed in wood, but the ornamentation followed somewhat the styles then prevalent in Poland and central Germany.

From the time of Peter the Great, it is the Western European art that predominates, and there is no more real Russian art. At present, however, there is a new revival of the old Muscovite architecture of the seventeenth century, and one of the principal causes for this renaissance being a law of Czar Nicolas compelling the use of this style for all church buildings. Among the modern buildings belonging to this style, may be mentioned the Historical Museum and the Polytechnic Museum at Moscow; the new City Hall, also at Moscow, but which is not yet entirely completed, is likewise in this style.

Mosaics.

BROUSE & MARTIN, the architectural photographers, of Chicago, have removed to 103 Adams street, next to Kinsley's.

THE Darwinian theory of the survival of the fittest does not always follow in fact, especially in regard to journals, as the following will attest:

The publishers of the *Architectural News* (of San Francisco) regret to announce that the publication of their journal has been indefinitely suspended, and respectfully request that notice to that effect be given through the columns of THE INLAND ARCHITECT.

The *Architectural News*, upon its appearance a few months ago, had a professional appearance and quality which is entirely lacking in some of the journals that have been placed in the hands (and very often in the waste baskets) of architects. It is sincerely hoped that capital and business ability may be added to the undoubted architectural and literary talent of its projectors, and architects and draftsmen may see it again with those charmingly executed drawings that made the former numbers attractive, enclosed in a dress of many advertising pages.

THE Pioneer Fireproof Construction Company have recently applied fireproof material to a new use in the construction of the

Virginia avenue viaduct in Indianapolis. This viaduct is three-quarters of a mile long, and the roadway is entirely of hollow tile construction. This company have recently introduced a very light and greatly improved form of floor arch construction, and within the past ninety days have been awarded contracts for the fireproofing of the Northern Hotel, Masonic building, Woman's Temple, Fair building, Chicago Cold Storage warehouse, the Peter Hand and Independent breweries, and the new Lexington Hotel, all in Chicago; the Equitable building, Atlanta; Pfister hotel, Milwaukee; Bell Telephone building, Toronto, and the Mather building, Cleveland.

Our Illustrations.

Transportation Building, World's Columbian Exposition, east and north elevations and plan of building and annex; Adler & Sullivan, architects, Chicago.

Machinery Hall, World's Columbian Exposition, perspective view of east façade and colonnade entrance to live stock department; Peabody & Stearns, architects, Boston, Massachusetts.

Fisheries Building, World's Columbian Exposition, main elevation, end elevation and plan; Henry Ives Cobb, architect, Chicago. The elevations and plan show the main building only. From this a colonnade extends from either end, each terminating in a circular aquarium.

PHOTOGRAPHURE PLATES.

(Issued only to subscribers for the Photographure edition.)

First Presbyterian church, Lake View, Chicago; Burnham & Root, architects.

Block of four houses, with floor plan, for G. A. Springer, Chicago; Pond & Pond, architects.

Residence of Z. P. Brosseau, Chicago, with floor plan; Burling & Whitehouse, architects.

Residence of W. H. Van Tine, Cleveland, Ohio, with floor plan; Clarence O. Arey, architect.

Main entrance, Pacific Express Office Building, Omaha, Nebraska; Cleves Bros., architects.

Mantel and library, residence of A. W. Chamberlin, Denver, Colorado; Kidder & Humphreys, architects.

House, with floor plan, for A. E. W. Painter, Allegheny, Pennsylvania; Longfellow, Alden & Harlow, architects, Pittsburgh.

Legal Notes.

FORECLOSURE OF MECHANIC'S LIEN.

Under the mechanic's lien law of New York it is not necessary to prove full performance of the contract to enable a material-man to maintain an action to foreclose his lien. *Hollister vs. Mott*, Supreme Court of New York, 10 N. Y. Supp., 409.

PAYMENT UNDER BUILDING CONTRACT.

A contractor built a house under a contract, and brought suit for a balance claimed to be due him. The owner of the house testified that he had paid the amount due. The burden of proof is on the contractor to show that there was something owing him on the contract, failing which he cannot recover. *Hall vs. Abells*, Supreme Court of New York, 10 N. Y. Supp., 581.

ERECTION OF BUILDING — INTENDED BUSINESS.

Where the plans of a contemplated building have been submitted to and approved by the superintendent of buildings of a city, the possibility that the property may be used when the building is completed in a manner detrimental to the rights of an adjoining property owner, is no ground for granting an injunction to restrain its erection. *Depieris vs. Mattern*, Supreme Court of New York, 10 N. Y. Supp., 626.

RIGHT OF LABORERS UNDER MECHANIC'S LIEN.

A contractor was, by the terms of his contract, to receive only eighty per cent of the contract price until three months after the completion of the work. He abandoned the contract before its completion, having received the eighty per cent due him. An employé had no lien on the remaining twenty per cent, because no part of it ever became due to the contractor, though the work was completed by his sureties. *Weisman vs. City of Buffalo*, Supreme Court of New York, 10 N. Y. Supp., 569.

MECHANIC'S LIEN DOES NOT ATTACH TO SCHOOLHOUSE.

Mechanic's lien laws do not in the absence of express provisions apply to public buildings erected by states, counties and towns for public uses, and schoolhouses erected for the use of public schools come within the above exemption. Such buildings are exempt from attachment, and from sale upon execution, and for the same reason are exempt from liens which might result in an adverse sale. *Hovey vs. Town of East Providence*, Supreme Court of Rhode Island, 20 At. Rep., 205.

COURT HOUSE CONSTRUCTION IN INDIANA.

The statutes of Indiana vest in the county commissioners entire discretion as to the necessity which may arise for the construction of court houses and their decision that a new court house is necessary is not subject to revision or appeal, unless there is evidence of palpable fraud. The provision of the statute that commissioners shall not make any contract for the construction of any court house until plans and specifications have been adopted does not prevent the incorporation in the adopted specification of a provision that commissioners may alter the details of the work, with corresponding changes in the contract price. *Mitchell vs. Board of Commissioners of the County of Union*, Supreme Court of Indiana, 24 N. E. Rep., 366.

Association Notes.

CHICAGO ARCHITECTURAL SKETCH CLUB.

The meeting of the club, May 4, was well attended and gave a most enthusiastic reception to Mr. Ernest Albert, the scenic artist, who read a paper upon scenic art, treating from the scenic artist's standpoint, scenic effects and stage construction, where and how architects fail in stage construction, stage settings, tricks of the stage, etc., in a masterly manner. The paper was illustrated by models of stage settings made by the lecturer and others for celebrated plays, and added much to the lucid and practical descriptions. At the close of the lecture, Mr. Albert was treated to an ovation such has rarely been accorded a lecturer before the club. It was announced that the Art Institute required the rooms now occupied by the club, for class purposes, and that the lease could not be renewed, and new and commodious quarters had been secured in the Athenæum building, which adjoins the Art Institute building, where an entertainment by club members will be given May 18, open to members only. The report of the adjudicating committee upon the water-color from photograph competition, gave first place to "Van," Arthur Heun; second place to "Cousin Pons," F. L. Linden; third place to "Splash," O. G. Brown; and fourth place to "Sap Green," R. E. Schmidt. In this competition the drawing of Thomas Millay was received too late for adjudication, but might well have taken a high place, if not first, in the list of competitors. The report of the committee upon bridge and tollgate competition was postponed.

The subject for the next competition was announced. It will be a design to a given line and close June 1.

PHILADELPHIA T-SQUARE CLUB.

At the last meeting of the Philadelphia T-Square Club, held April 13, it was decided, in recognition of the valuable work that is being done in architectural education by the Department of Architecture of the University of Pennsylvania, to establish prize memberships in the T-Square Club for students of the school. These memberships are to be awarded to the students whose work in design shall be found best by the club's committee of judges. The work to be considered is that done by the students in their regular monthly problems in design.

Two of these prize memberships will be awarded each year, one in January and the other in June. They will admit the winner to the full privilege of an active membership, but will exempt him from all dues and expenses. He will retain the membership during the period of his studentship in the school of architecture. Much interest has been created among the students by this decision, and it is expected that the drawings submitted in competition for the first studentship, which will be awarded next June, will give evidence of the excellence of the work that is being done at the University.

At the meeting drawings submitted by members of the club for a bank institution in the classical style were exhibited and criticised, the first mention being given to Mr. John J. Bissenger.

Personal.

A COPARTNERSHIP has been formed by architects Alfred H. Thorp and Wilbur S. Knowles under that style, with offices in their new office building at 21 West Twenty-fourth street, New York city, and at Orange, New Jersey.

J. P. GRAHAM has been appointed assistant chief of construction of the World's Columbian Exposition. Mr. Graham is a young man of wide experience, energetic habits, and will give valuable assistance to the chief of that department of World's Fair work.

A COMBINATION of architectural and engineering talent that will have a marked effect, is announced between Henry Ives Cobb, architect, and William Sooy Smith, of Chicago. Both gentlemen have won reputations in their professions that are national. Each will act in a consulting capacity to the other.

WILLIAM COSPER & CO. have inaugurated an industry that has some new and valuable features in the line of typewriting, adding to the work of specification writing, that of manuscript writing, proof-reading and the writing of personal letter advertising circulars. The firm is located over the Remington office, 196 La Salle street, Chicago.

Building Outlook.

OFFICE OF THE INLAND ARCHITECT,
CHICAGO, ILL., May 15, 1891.

For six months or more, commercial and manufacturing enterprise has been held in check through the operation of causes that have not been clearly comprehended. How much longer these causes will continue to operate, it is difficult even now to say; they came unannounced and they may depart without demonstrative leave-taking. Those who pretend to speak for the business interests of the country are shouting, "have faith, large crops are in sight." Much is said as to the coming heavy export trade and of the revival in general demand which cannot be far off. It is not difficult to see that the restriction that has been forced upon the country, has, with all its disadvantages, been productive of some good results. An undue impetus has at times been imparted to business. Railroad building was for a time overdone. Speculation has frequently overreached itself. Manufacturers have at times overstocked the markets. Undue trade expansions have precipitated commercial crises. From some of these evils we are now comparatively free. Trade and manufacturing interests have been organized. The markets of the country are not being over-supplied. Thousands of business men are impatient of the restraint they are under because of the stringent monetary conditions. Withal a good and solid foundation is being laid for the future. Already there are faint glimmerings that the causes which produced the existing depression have almost exhausted themselves. The threatened

labor upheaval of May 1, had its effect also. The legislation of the last congress was looked at suspiciously by many. After all, not one-half of the threatened evils have happened. The railroads are carrying more freight than last year. Engineers and architects do not talk as though they looked for much less business than last year. The industries are almost as active. More coal has been mined than for same time last year, by some millions of tons. Lumber interests count on a good year. Throughout the west a hopeful feeling exists, commercial failures are not above the average, new enterprises continue to multiply and there seems to be sufficient capital for all. Prices for material and commodities are low. Abundant opportunities seem to be opening up. The country is growing in wealth; of course the complaint is deep of the scarcity of money, and agitations have been started which will not be repressed until the question is pretty well understood. New faces and influences are entering the political field. The people are thinking for themselves. There are a few weak spots in business, but nothing to call for apprehension. The very difficulties encountered create greater capacity and help to dig out new channels. It is probable that the volume of business will increase from this out. The extraordinary productive capacity of the country will protect all interests against any serious or speculative advances.

Synopsis of Building News.

Buffalo, N. Y.—Architects M. E. Beebe & Son: For the Austin Estate, a two-story brick business block, all modern improvements; cost \$60,000.

Chicago, Ill.—Architect Clinton J. Warren has just completed plans for the Unity building, to be erected on Dearborn street, near Randolph. It will be sixteen stories, covering a ground space 80 by 120 feet in size; and the height of the structure to top of cornice will be 210 feet; the front will be constructed of buff pressed brick, with terra cotta of the same color. The design shows a handsome and imposing building, with three bay windows extending up to the eleventh story, above this being a plain front. The interior will be elaborately finished in oak, marble wainscoting, mosaic floors, and have steam heat, electric light, seven elevators and the best of modern arrangements. It will contain 600 offices, besides the first and second floors, which will be divided off into large offices for banks. The main entrance leading to the elevators will be 16 feet wide and 24 feet high, with walls and ceilings in fine marble and mosaics. The cost will be \$800,000. Architect Warren is also working on drawings for a fourteen-story hotel to be erected in this city. It is intended to make it the finest hotel in Chicago and will be fitted up regardless of expense. The cost will be considerably over a million dollars.

Architect Thomas Hawkes: For Dr. Price, on the northeast corner of Dearborn avenue and Division street, a ten-story apartment house, 120 by 131 feet in size; to cost \$500,000. It will have two fronts of a very handsome design and a novel feature will be balconies running from bay to bay of each story, thus forming a fire escape, and on the corner will be a tower 162 feet high. It will contain apartments from three rooms to ten, all being lighted from the open air; there will also be a reading-room, ladies' parlors, smoking-room and ballroom. At the top of the house will be located the kitchen, from which can be supplied, by dumb waiters, choice viands to all the apartments. On the roof will be a garden with propagating house and pavilion. The finest kind of interior finish will be put in, marble wainscoting, mosaic floors, three elevators, electric light, etc.

Architect William Griesser is preparing plans for a brewery plant of a capacity of 100,000 barrels, to be erected at Pittsburgh, Pa. He is also making plans for a brewery for George Walther, to be erected at Appleton, Wisconsin.

Architects Jaffray & Ohrenstein have made plans for a five-story store and flat building, 175 feet front by 84 feet deep, to be erected on Cottage Grove avenue near Thirty-ninth street. The front will be of Indiana pressed brick and Connecticut brownstone, it will cost about \$75,000.

Architect M. H. Church: For A. MacLachlan, at Oak Park, a two-story stone-front residence, to have hardwood finish, slate roof, furnace and all the improvements.

Architects Swen, Linderoth & Co.: For B. F. Cronkite & Co., five two-story and basement residences of handsome design, to be of frame with stone basements, hardwood interior finish, electric light, gas and the best of sanitary improvements. They will cost \$30,000. For John M. Carlson & Co., two frame residences, with stone basements, hardwood finish, furnaces, etc.; to cost \$11,000; to be erected at Rogers Park. They have also sent out plans for a Swedish Baptist Church, to be built at Morris, Illinois. It will be of frame with stone-basement, have hardwood interior, stained glass windows, furnace, etc. They are also making plans for a Swedish Baptist Church to be erected at Muskegon, Michigan.

Architects Kley & Lang: For Charles F. Thomas, a four-story and basement flat building, 50 by 72 feet in size; to be erected at 374 and 376 Huron street. The first-story and basement will be of buff Bedford stone, and above of St. Louis pressed brick and stone, with galvanized iron bay windows; the cost will be \$16,000. For M. Cohn, on Calumet avenue at No. 3325, a three-story and basement residence, 21 by 72 feet in size; to cost \$15,000. The front will be of Bedford stone, interior to be finished in hardwoods, have all the improvements, and hot-water heating. For Miss Lizzie Justi, on Leavitt street, near North avenue, a three-story and basement flat building, of the St. Louis pressed brick. For Albert Keefer, a three-story and basement flat building, 25 by 56 feet in size; to cost \$6,200; on Sheffield avenue between Centre street and Garfield avenue. The front will be of Connecticut brownstone and St. Louis pressed brick. For Julius Wolf, on Larrabee street, near Clybourn avenue, a two-story and basement store and flat building, of St. Louis pressed brick and stone front, with galvanized iron bay windows.

Architect William Ohlhaber: For John Mullen, a three-story and basement store and flat building, 50 by 75 feet in size; to cost \$12,000; to be built on Lake street and Ashland avenue. The front will be of St. Louis pressed brick and Bedford stone, with galvanized iron bay windows. For John Gleason, on Seymour street, near Division, a two-story and basement flat building, of St. Louis pressed brick and Bedford stone. For Fred Niles, at 305 Armitage road, a two-story store and flat building, of St. Louis pressed brick and Bedford stone front. For John Lemster, a three-story and basement flat building, on Lincoln street near Division street, of St. Louis pressed brick and Raindrop brownstone front. For the Furniture Specialty Company, on West Superior street, a two-story factory, 50 by 75 feet. For John C. Quelke, at 1097 Milwaukee avenue, a four-story and basement store and flat building, of St. Louis pressed brick and stone; to cost \$12,000. For Otto Bausedow, on Humboldt boulevard, a two-story residence, of buff Bedford stone front, steam heat and all improvements. For John Schwerin, on Ashland avenue and Superior street, a two-story and basement residence, 32 by 48 feet in size; to cost \$7,000. The front will be of blue Bedford stone, the interior finished in hardwood, and all the improvements and steam heat will be put in. For John Courtney, a handsome cottage, 21 by 56 feet and two-story barn, 30 by 50 feet; to be built on Robey street near Thomas, steam heat, St. Louis pressed brick and terra cotta; cost \$5,000. For Conrad Dalbke, on Lincoln street near Thomas, a three-story and basement flat building; to cost \$6,000. St. Louis pressed brick and Connecticut brownstone. For John Wagner, on Fullerton avenue, near Milwaukee avenue, a three-story and basement store and flat building, of St. Louis pressed brick and stone; to cost \$5,000. For himself on North avenue and Wood street, a four-story and basement store and flat building, 80 by 80 feet; to cost \$20,000; St. Louis pressed brick and Bedford stone front and all improvements.

Architect H. B. Wheelock: For Vickery Bros., at 1200 Wabash avenue, a six-story apartment house, 25 by 140 feet; to cost \$45,000; pressed brick and stone front, hardwood finish, steam heat, passenger and freight elevators, electric light, etc. For Robert A. Gordon, on Forty-fifth street and Grand boulevard, a three-story and basement residence; to cost \$15,000. Bedford stone front, hardwood finish, gravel roof, furnace and all improvements.

Architect A. Druiding: For Rev. Charles Hoogstedt, at Tomahawk, Wisconsin, a Catholic church, 50 by 100 feet in size, with tower 120 feet high, to be of

brick veneer, hardwood interior finish, slate roof, hot-water heating, etc.; cost \$20,000. For Rev. Buchman, at Tonowanda, New York, a two-story residence to cost \$7,500. Also just sent out plans to Burkhart, Monroe County, Ohio, for a Catholic church, 50 by 100 feet in size, with tower 125 feet high, to have hardwood finish, furnace, etc., and cost \$21,000. For Rev. P. Augustine, at Moorhead, Minnesota, a Catholic church, to cost \$12,000; also finished plans, for Bohemian church, to be erected near Douglas Park. It will be a two-story building to be used as a church and school rooms; to be of brick and stone with gravel roof, have hardwood finish, furnace, etc. Architect Druiding also prepared plans for a handsome Catholic church, to be erected at Oshkosh, Wisconsin, to be called St. Mary's. It will be in the Gothic style of architecture, with two towers 180 feet high, and cost \$65,000.

Architects Bell & Swift will make plans for the Reformed Episcopal church to be erected at Englewood. It will be in the perpendicular Gothic, of stone front, with slate roof and handsome square tower, oak finish, pews to seat 450 persons, stained glass windows, furnace, etc., size 46 by 100 feet.

Architects J. M. Van Osdel & Co.: For Mrs. Bertha Marsh, on South Park avenue and Thirtieth street, a three-story and basement apartment building, to cost \$30,000. It will have a Portage stone front, steam heat, and all improvements.

Architect J. E. O. Pridmore: For E. L. Gould, et al., a four-story store, office, hall and apartment building, 67 by 120 feet in size, to be erected corner of Forty-third street and Vincennes avenue. The front will be of Tiffany pressed brick and buff Bedford stone, with copper bay windows. The interior will be finished in hardwoods and have steam heat, elevators, electric light, marble and tile work, frescoing, and all the improvements. The cost will be \$50,000.

Architects Jennie & Mundie: For L. Z. Leiter, preparing plans for new building, on Wabash avenue, across the alley from the present large building on State, Van Buren and Congress streets. It will be eventually a twelve-story building, 50 by 170 feet in size, of substantial fire-proof construction, and will contain stores and offices. These architects have moved from the Lakeside building into a very handsome suite of offices in the Home Insurance building.

Architect F. B. Abbott: For R. P. Probasco, a four-story apartment house, to cost \$50,000, on the northwest corner of Stanton avenue and Oxford Court.

Architect H. D. Deam: For O. C. Wolcott, on Forty-fifth street and Lake avenue, a four-story flat building of buff Bedford stone front, hardwood interior, hot-water heating, etc.; to cost \$13,000.

Architect H. M. Hansen: For F. D. Turner, on Wrightwood avenue and Clark street, a block of four-story stores and flats of 130 feet frontage; to cost \$60,000; St. Louis pressed brick and Bayfield brown stone, steam heat, etc.

Architect E. H. Turnock prepared plans for a six-story apartment house, 100 by 130 feet in size, to be erected on Indiana avenue, near Twenty-eighth street, steam heat, elevators, etc.; cost \$125,000.

Cincinnati, Ohio.—Reported by Lawrence Mendenhall:

The welcome springtime has come and its warming sunshine is certainly affecting business in the shape of good contracts; reasonable amount of work, and in the completion of structures commenced last season, or rather towards the end. The tormenting weak-backed stovepipe has been removed, and the sound of cuss words is heard no longer in the land. I suppose, however, that furnace men will still continue to hunt for contracts just as though summer was not coming. At the present writing there are no indications of strikes.

Architect H. E. Siter reports: For the Chapel of the Nativity, Rev. A. B. Howard, rector, a church edifice; materials: stone, slate roof, hardwood, stained glass, gas, plumbing, church furniture, etc.; cost \$12,000.

Architect G. W. Drach has prepared plans for a row of five houses, for Robert J. Morgan, Cincinnati; materials: stock brick, tin roof, mantels, pine finish, grates, gas, plumbing, furnaces, plate glass, etc.; cost \$40,000. For Mrs. H. Dahm, two houses; one to be built of stone and plaster; the other of brick and plaster, and each to have slate roof, furnaces, stained glass, hardwood finish, gas, plumbing, mantels, grates, etc.; cost for both \$20,000.

Architect L. F. Plympton has drawn plans for the Maysville Fair Company for a grand stand; cost \$10,000.

Architects Crapsey & Brown have prepared plans for additions to the Waynesville, Ohio, schoolhouse; material: brick, slate roof, school furniture, furnaces, etc.; cost \$10,000. For Mrs. E. M. Jordan, an office and store building, at Mount Sterling, Kentucky; materials: pressed brick, stone, tin roof, galvanized cornices, iron, etc.; cost \$10,000.

Architects Aiken & Ketchum have prepared plans for a residence for Mr. E. B. Sargent, city; materials: frame, slate roof, blinds, mantels, grates, furnaces, stained glass, hardwood finish, laundry, etc.; cost \$10,000.

Architect A. O. Elzner, city, has prepared the following plans: for the Winchester Opera House, Winchester, Kentucky; materials: pressed brick, asphalt roof, opera chairs, blinds, scenery, etc.; cost \$30,000. Warehouse, for Mrs. L. B. Gibson, Mount Auburn, Cincinnati; materials: stone, iron, hydraulic elevators, asphalt roof, etc.; cost \$20,000. For Mr. J. A. Gray, Covington, Kentucky, a store and flat building; materials: brick, stone, plate glass, furnace, mantels, grates, plumbing, gas, etc.; cost \$7,000.

Architect Louis Pickett has drawn plans for a house for John A. Ward, Madisonville, Ohio; materials: frame, slate roof, hardwood finish, plumbing, gas, blinds, etc.; cost \$5,000.

Architects S. Hannaford & Sons have prepared plans for an addition to building for Russell, Morgan & Co., Cincinnati, size 60 by 150 feet, three-stories high; materials: brick, tin roof, steam elevator, plumbing, gas, machinery for printing, etc. For E. R. Stillwell, Dayton, Ohio, a residence; materials: pressed brick, stone, slate roof, hardwood finish, mantels, grates, plumbing, furnaces, etc. For F. H. Simpson, College Hill, Ohio, a residence; materials: frame, slate roof, furnace, gas, plumbing, fine finish, laundry fixtures, mantels, etc. For Allen Andrews, Hamilton, Ohio, a residence; materials: pressed brick, stone, slate roof, fine finish, mantels, grates, gas, plumbing, stained glass, etc.

Architect Geo. W. Rapp reports: For Mr. F. Eckstein, a store and flat building, eight stories high; materials: pressed brick, stone and terra cotta, hydraulic elevators, iron fronts, gas, plumbing; cost \$90,000.

Architect Geo. W. Vogel reports: For Ripley, Ohio, an opera house; materials: brick, tin roof, steam heat, scenery, stained glass, blinds, etc.; \$15,000. For Cincinnati Incline Plane Company, a power house; materials: frame, gas, plumbing, steam, electric power machinery; cost \$18,000.

Architect Jas. W. McLaughlin reports: For Gen. A. F. Goshorn, Cincinnati, a residence; materials: stone, slate roof, hardwood finish, stained glass, mantels, furnaces, laundry fixtures, tiling, etc.; cost \$30,000.

Architect S. S. Godley has the plans for a residence for Mrs. J. E. Rumbaugh, Asheville, North Carolina; materials: pressed brick, stone, slate roof, hardwood finish, mantels, plumbing, cement walks, etc.; cost \$25,000.

Architect John H. Boll has drawn plans for P. D. Cottle, for residence; materials: frame, slate roof, blinds, pine finish, mantels, plumbing, stained glass, etc.; cost \$4,500. For Jacob Koummel, Esq., attorney at law, a house of similar construction, costing \$4,000.

Architect M. Rumbaugh has prepared plans for an eight-story office building, for Mrs. Mary Perin; materials: pressed brick, tin roof, iron front, elevators, gratings, store fixtures, etc.; cost \$10,000.

Detroit, Mich.—Architects Donaldson & Meier: For the St. Elizabeth Roman Catholic Church, a new church, to be situated on McDougall, near Willis avenue; pressed brick, trimmed with buff stone; cost \$30,000.

Architects Gearing & Stratton: For F. E. & E. J. Smith, enlarging and remodeling four residences on Laurel street; cost \$5,000.

Architect A. E. French: For S. W. Hood, two two-story residences on Alexandrine and Eighth streets; brick, with stone trimmings; cost \$6,000.

Architect J. G. McLaren: For the Sandwich & Windsor Railway Company, of Windsor, Ontario, a two-story car barn; size 142 by 50 feet; brick, with galvanized corrugated iron; cost \$8,000.

Architects A. C. Varney & Co.: For Eberts Bros., a two-story double residence on Rowena street, near Woodward avenue; brick, to cost \$9,000. For Frank E. Robson, a two-story brick residence on Forest avenue, near Second street; cost \$5,000. For R. W. Allen, additions and remodeling stores on Michigan avenue; pressed brick front and stone trimmings; cost \$5,000. For John Grindley, a two-story brick residence on north side of Forest avenue and Third street; cost \$5,500. For John Alley, a two-story brick residence; pressed brick, with stone trimmings, slate roof, on Alexandrine and Woodward avenues; cost \$5,500. For

Judge Philip T. Van Zile, a two-story brick residence on Forest avenue and Third street; cut-stone trimmings and slate roof, cost \$5,000. For William A. Butler, a two-story residence on Forest near Third avenue; brick, with brownstone trimmings, slate roof; cost \$6,500.

Architects Malcomson & Higginbotham: For the Disciples of Christ Church Society, a frame church building on Fourth and Plum streets; size 52 by 92 feet. For the Cass Avenue M. E. Church Society, a new stone church; size 68 by 100 feet; cost \$25,000. For the First Congregational Society, Owosso, Michigan, a stone church, with slate roof, to cost \$25,000. For William A. Pungs, a two-story residence on Ferry and Woodward avenues; stone, with slate roof; cost \$12,000.

Architect John Schuman: For Anthony Kaiser, a two-story residence with barn on Fort street and Dearborn Road; pressed brick, stone trimmings and slate roof; cost \$12,000.

Architect Henry Engelbert: For John Schmidt, a two-story store and flat building on Michigan and Humbolt avenues; pressed brick, to cost \$12,000.

Architects Hess & Raseman: For Joseph Perrien, a three-story store and flat building, to cost \$12,000.

Architect E. E. Meyers: For the Rev. D. M. Cooper, remodeling business building on Jefferson avenue, near Shelby street, at a cost of \$7,000.

Architect Harry J. Rill: For Thomas Armstrong, a three-story double residence, to cost \$11,000.

Architect George A. Depew: For William Gray, a two-story brick residence; stone trimmings, to cost \$5,000.

Architect George W. Meyers: For Casper Schutte, a three-story brick residence; stone trimmings; on Macomb, near Hastings street, to cost \$5,000.

Fort Worth, Texas.—Architects Sanguinet & Messer: For Mrs. E. A. Hendricks, a six-story office building, pressed brick and stone trimmings; to cost \$150,000.

Harrison, Tenn.—Architect J. A. Thorne is preparing plans for the new Episcopal Church.

Kansas City, Mo.—Architect William Nier: For the First Presbyterian Church, at Moberly, Mo., a new brick church, size 66 by 70 feet; cost \$20,000; also a two-story brick school house, size 62 by 57 feet; cost \$10,000. For the Dewitt school board, a brick school house, size 49 by 52 feet; cost \$7,000.

Architects Vrydagh & Shephard are preparing plans for a new brick theatre, to be situated on Walnut and Eighth street, size 100 by 120 feet; cost \$100,000.

Architects James & James: For St. George's Parish, a chapel to the Cathedral, size 50 by 80 feet, brick and frame; cost \$4,000.

Architect L. Kline will build a two-story brick residence, size 37 by 52 feet, on Eleventh street and Polk avenue; to cost \$10,000.

Architect R. P. Simms: For Ernest Hoening, a two-story brick business block, size 20 by 45 feet; cost \$3,000.

Little Rock, Ark.—Architects Rickon and Thompson: For the Deaf-mute Institute, additions to cost \$10,000. For the City Electric Street Railway, a power house; to cost \$35,000. For F. M. Fletcher, a residence, one and one-half stories, frame; to cost \$3,000. For Geo. W. Martin, a two-story residence, frame; to cost \$4,500.

Architect Thomas Harding has plans for Wolf Brothers, for three-story brick stores; to cost \$13,000.

Louisville, Ky.—Architects Drach & Thomas: For Mr. John Doerhoefer, remodeling residence on Jefferson and Nineteenth streets; cost \$4,000; to have slate roof. For A. H. Slaughter, residence; cost \$11,400; location St. James Court; brick and stone trimmings, slate roof. For Ernest Morawek, residence; cost \$6,500; location St. James Court; brick and stone trimmings, slate roof. For A. Keanshaar, frame residence, location Sixth and Hill streets; cost \$3,500; shingle roof. For National Building and Loan Association, five buildings, location Second and St. Catherine streets; to cost \$27,400; to be of brick and slate roofs.

Architects Clark & Loomis: For P. Galt Miller, college between Brook and Flood streets, residence, to cost \$6,600; to be of brick, stone and terra cotta, three-stories, metal roof, stone foundation, size 27 by 53 feet. Contractors Lortz & Frey. For J. H. Lindenberger, tenement house, second and Ormsby streets, two stories, brick and Rea stone trim, size 41 by 58 feet, metal roof, stone foundation. J. P. Savage & Bros. contractors. For S. S. Waters, a brick residence, with stone foundation, metal roof, two and one-half stories, size 40 by 45 feet. Location Third, between B and Lee streets. J. P. Savage, contractor.

Architect W. Q. Wilson reports: Four-story iron front wholesale grocery house, for Mess. Onerback & Gilmore, 43 by 180 feet; cost \$25,000. Country residence for Mrs. Steve Maxwell, frame cottage; \$4,000. City residence, Frankfort, Kentucky, for Mr. Harry O. Donnell, \$3,850 frame cottage. Block of five city residences, Louisville. Two-story and attic, six rooms, brick and stone trimmed. Lots 135 by 85 feet; cost \$20,000. For Sam Weiss, alterations of store for dry goods, \$7,000. For Brennan & Co., Southwestern Agricultural Works, three-story warehouse, size 102 by 32 feet; cost \$6,000. Additions for the Northern Lake Ice Co., cold storage and ice plant, \$85,000. For J. H. Rogers, Charleston, West Virginia, a ten-roomed dwelling, brick and stone trimmed, slate roof; cost \$10,500. For C. C. Mengle, Jr., eight two-story brick houses of six rooms each. For Mrs. Geo. Long, alterations on small European hotel; cost \$6,000.

Milwaukee, Wis.—Architects H. C. Koch & Co.: For the Hotel Pfister Company, a \$360,000 hotel.

Architect W. A. Holbrook: For E. D. Holton, a two-story store building; to cost \$25,000.

Minneapolis, Minn.—Architect Harry W. Jones: For Edmond Palmer, a four-story flat building, size 100 by 140 feet, brownstone; cost \$50,000. For C. H. House, a row of seven houses, brick, size 150 by 80 feet; cost \$30,000. For W. S. Mills, a four-story flat building; size 50 by 100 feet; cost \$25,000. For the Homeopathic Hospital Committee, a four-story brick hospital, size 60 by 40 feet; cost \$7,000. For Northern Car Company, a brick factory, size 350 by 500 feet; cost \$60,000. For the commissioners at Gaylord, Minnesota, a city hall, size 40 by 80 feet; cost \$10,000. For the Bank of Litchfield, Minnesota, a 25 by 100 feet bank building; cost \$6,000. For R. C. Hayward, a lake cottage, 75 by 100 feet; cost \$5,000. For the Minnesota Land Company, five workmen's houses at a cost of \$6,000.

Architect A. L. Dorr: For J. H. James, a two-story brick flat building; cost \$25,000.

Architects Orff Bros.: For Louis Moses, a two-story double brick dwelling, size 40 by 65 feet; cost \$10,000.

Pittsburgh, Pa.—Architect F. C. Sauer: For John P. Schaffer, a two-story residence, brick, with all modern improvements; cost \$6,000.

Richmond, Va.—The Building Committee of the Chamber of Commerce by resolution have appointed Captain M. J. Dimmock architect of the building, provided he will make certain alterations, etc., in his original plans which are thought desirable by the committee. The award was made some time since to Mr. Read and Messrs. Rogers and Higham provided they would modify and arrange the interior of one plan to the exterior of the other. These architects did not succeed in this undertaking, and it was then that the committee decided to call in an expert architect, Mr. McDonald, of Louisville, Kentucky, and submit to him without intimation of any previous award the five original plans and elevations. After spending about a week in the examination of these drawings, the expert reported that the plans and elevations submitted by "Utile Dulci" (Captain Dimmock) came nearest to the wants and requirements of a Chamber of Commerce building, and advised that the award be made to him. Captain Dimmock will go to work on his modified plans at once.

St. Louis, Mo.—Architect E. L. Janssen: For Mrs. Kraune, a two and one-half story residence, size 34 by 55 feet, brick, with stone trimmings; cost \$20,000. The J. B. Legg Architectural Company: For E. L. Beeding, a three-story residence, size 60 by 60 feet; cost \$8,000. Architect A. M. Baker: For J. W. O. Connell, a two-story flat building, size 40 by 50 feet; cost \$12,000.

Architects Beinke & Wees: For William Goldstein, a two-story brick residence, size 30 by 44 feet; cost \$6,500. For George Sauerbrunn, a two-story flat building, brick and stone, size 37 by 65 feet, cost \$7,000.

Messrs. H. Pauk & Sons will erect a four-story brick factory; cost \$9,000.

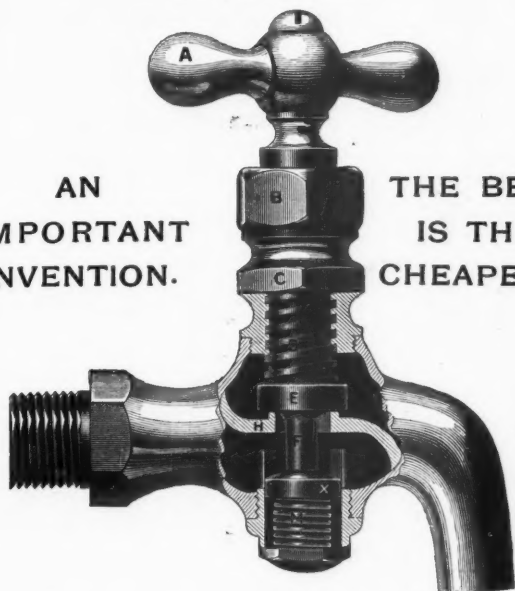
Toledo, Ohio.—Architects Tallis & Co.: For the Put-in Bay Hotel Company, a \$150,000 hotel, size to be 600 by 300 feet.

Architects Bacon & Huber are preparing plans for an office building for the Toledo Bee Company.

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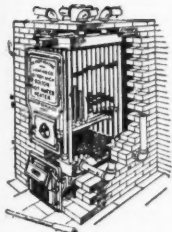
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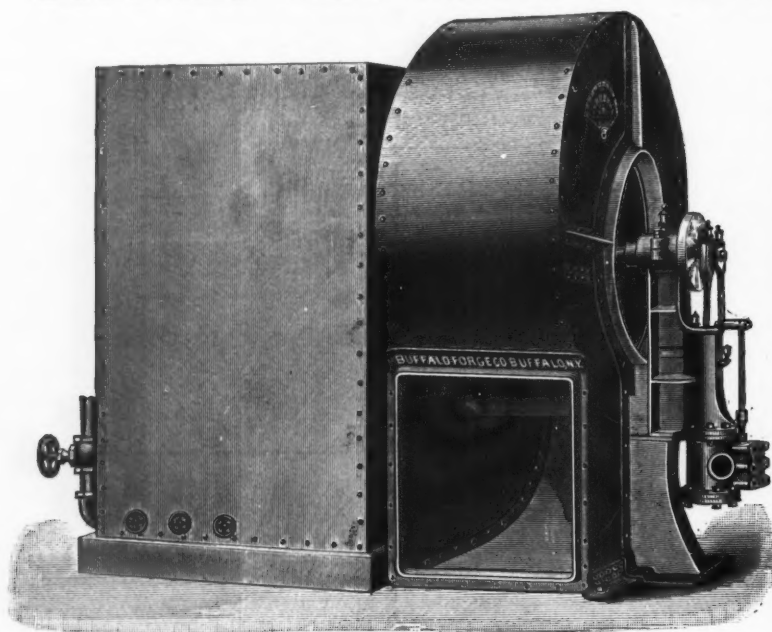
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With it any window or door weighing from 5 to 5,000 lbs. can be hung in the most perfect manner.

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

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

CHICAGO, ILL., Aug. 19, 1890.

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

Very respectfully,

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

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Perfection Furnace Pipe.

The Perfection Furnace Pipe Company, corner of Broadway and Logan street, Toledo, Ohio, have placed upon the market a hot-air

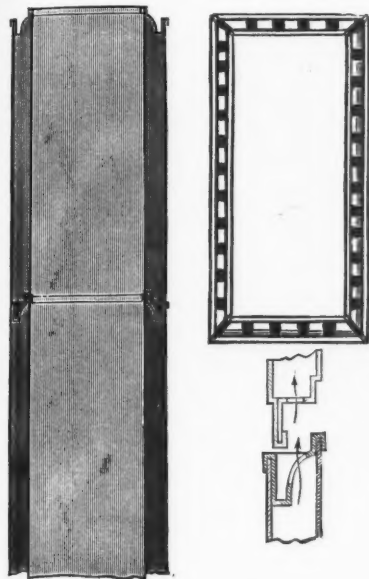


FIG. 1.—SECTIONAL VIEWS, SHOWING CONSTRUCTION OF PIPE AND JOINTS.

pipe, some idea of the construction of which may be gathered from an inspection of the illustration presented in connection herewith. This pipe, the manufacturers state, is made of the best quality bright tin plate, and in lengths ranging from 5 to 19 inches, exclusive of laps, and in seven sizes: $3\frac{3}{8}$ by $9\frac{1}{4}$, $3\frac{3}{8}$ by $12\frac{3}{8}$, 5 by $9\frac{1}{4}$, $3\frac{3}{8}$ by $14\frac{3}{8}$, 5 by $12\frac{3}{8}$, 5 by $14\frac{3}{8}$ and $12\frac{3}{8}$ by $12\frac{3}{8}$ inches, which permits of the construction of any length of pipe without

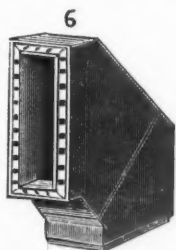


FIG. 2.—ONE FORM OF ELBOW.

cutting. Each section is made double and fitted with a slip and socket joint, thus insuring, the manufacturers state, safety in all cases. No rivets or solder are employed in its construction, it being manufactured by machinery specially designed for the purpose.

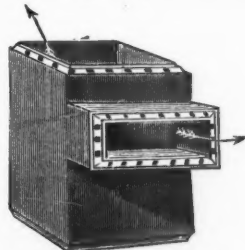


FIG. 3.—AN ANGLE JOINT.

Between the two parts of which the pipe is composed are air passages running the entire length, which prevents the heat from coming in contact with the woodwork. Reference is made to the safety of this pipe, and to the fact that the construction is such as to do away with the use of iron lath or wire netting. Fig. 1 of the illustrations shows a cross section of the pipe, a vertical section through one of the air passages, and a general view of the

manner in which two sections of pipe are joined together. Each length or section of pipe is double seamed in a durable manner, and by the use of tees, elbows, angles, etc., the pipe may be run in any direction, and may be put together without the necessity of engaging the services of an experienced furnaceman or tinner. Fig. 2 of the illustrations shows one form of elbow which is made by the company, while Fig. 3 illustrates an angle joint. See advertisement on page ix.

Trade Notes.

It will be a matter of interest to the readers of THE INLAND ARCHITECT to note that David Reed, the well known quarry owner and wholesale dealer in block and sawed Bedford Oolitic limestone, for many years located at 344 Wabash avenue, has moved into handsome offices, 909 Chamber of Commerce building, corner Washington and La Salle streets.

We learn from the N. & G. Taylor Manufacturing Company that while the McKinley tariff bill does not go into effect until July 1, they are fully prepared today to make American tin and terne plates at their works in Philadelphia, but will not start to supply the trade in general with the home product for a few weeks yet. They claim the honor of being the first importers to make their own fine grades of goods, which applies more especially, they state, to the genuine old style brand of roofing tin, on which their guarantee will now have an additional value.

It may be news and interesting to contractors and house builders to learn that that sterling corporation, the Employers' Liability Assurance, of London, England, an institution that has the credit of originating all the forms of liability insurance of the present day, has just issued a new policy that is certain to meet with a flattering reception by its many patrons. The new form is intended to protect the property-owner against claims for damages arising from the public who may be injured while in the buildings, on the sidewalks or adjacent premises, on account of all alleged defect in construction or appliances. The numerous suits in the daily courts would indicate the desirability of this kind of insurance.

THE INLAND ARCHITECT hereby acknowledges the receipt of an illustrated catalogue and price list from the Stan-Alumin Metal Company, of Canton, Ohio. The title of the company suggests in unmistakable terms the nature of its products, that is to say, of the character of the metal it employs in the manufacture of its wares. Since the simplification of processes whereby the unique metal aluminum has been, through the consequent larger production, lifted out of the category of rare metals into the common or practical class, men have sought to utilize it in the arts wherever the market price has warranted its use. With a specific gravity but little more than cork, a tensile strength rivaling the best steel, and the quality to retain its silvery luster in spite of all King Oxygen and his atmospheric host may do, it is no wonder men, in the light of modern achievements, talk of a day coming when it will substitute all iron and steel building construction. Whether such a day will ever dawn or not, there is nothing to prevent the reaping of advantages that are within the scope of its present supply now, since it combines perfectly with other metals, adding to them, especially iron and steel, its strengthening and non-corroding characteristics. It is upon the knowledge of this fact that the Stan-Alumin Company appears as a competitor of building supplies, and is putting on the market metal shingles, gutters, roofing, ridgings, crestings, finials and kindred wares, all made of aluminous steel and iron, in such combination that they are non-corrosive and hold their finish luster, sans paints or lacquers. From letters and testimonials forming the closing pages of the catalogue and price list it is quite plain that many prominent architects are specifying in their practice the company's

goods which, judging from the figures given, are but little in excess, if any, of first-class similar products not reinforced by aluminum.

THE Yale & Towne Manufacturing Company, having increased their facilities nearly one hundred per cent, are now able to fill all orders for locks and art hardware promptly as placed, and the delays which have heretofore occurred from the great demand for these goods will in no case be repeated. Subjects from special designs will be executed in as short time as the character of the work will permit.

THE below are specimens of letters recently received by the Buffalo Forge Company:

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DEAR SIRS,—Replying to yours of the 1st instant, will say we are thoroughly pleased with the No. 9 pressure blower and countershaft ordered from you some time since. We find it reliable at all times and highly efficient in its work, and will say that it affords us pleasure to testify to its merits.

Sincerely yours, JOY STEEL RANGE COMPANY,
Per F. R. MADEIRA, Secretary.

KNOXVILLE, Tenn.

Buffalo Forge Company, Buffalo, N. Y.:

GENTLEMEN,—We take pleasure in stating that the No. 12 steel pressure blower purchased from you in September, 1887, has been doing duty every day in our wheel foundry, and is giving perfect satisfaction.

Yours truly, CHAS. H. BROWN, President,
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Railroad Notes.

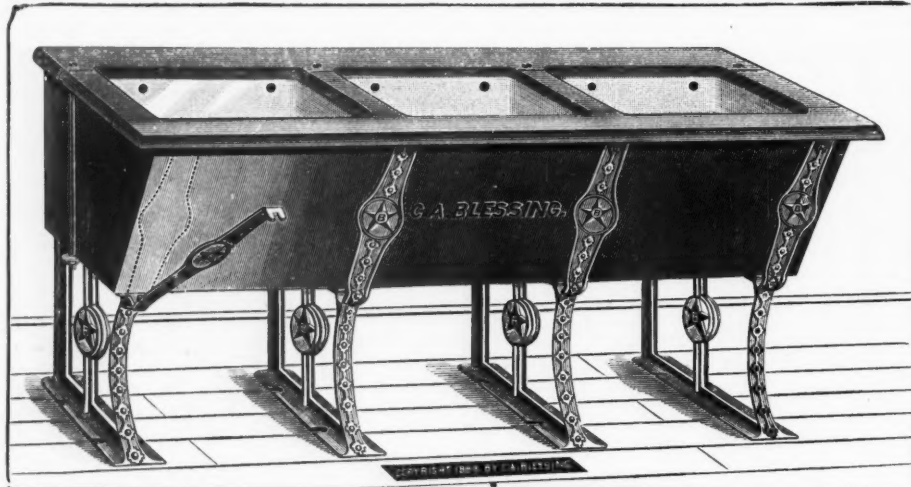
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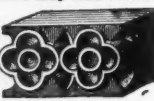
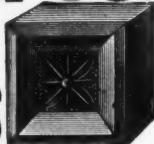
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WASHINGTON, D. C., May 4, 1891.

SEALED PROPOSALS WILL BE RECEIVED AT the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P.M. on the 20th day of May, 1891, for all labor and material required for certain alterations, repairs to plumbing and vault work for United States Court House and Postoffice building at Knoxville, Tenn., in accordance with the drawings and specifications, copies of which may be had on application to this office or to the Custodian of the above-named building. Each bid must be accompanied with a certified check for one hundred dollars (\$100), made payable to the order of the Treasurer of the United States. The Department will reject all bids received after the time herein stated for opening the same; also bids which do not comply strictly with all the requirements of this invitation. Proposal must be inclosed in an envelope, sealed and marked "Proposal for Alterations and Repairs to the United States Court House and Postoffice building at Knoxville, Tenn.," and addressed to

W. J. EDBROOKE,

Supervising Architect.

SUPERVISING ARCHITECT'S OFFICE.

WASHINGTON, D. C., April 27, 1891.

SEALED PROPOSALS WILL BE RECEIVED AT the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P.M., on the 25th day of May, 1891, for all the labor and materials required for the approaches to the United States Custom House, Postoffice, etc., building at Galveston, Texas, in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the superintendent at Galveston, Texas. Each bid must be accompanied by a certified check for \$200. The department will reject all bids received after the time herein stated for opening the same; also, bids which do not comply strictly with all the requirements of this invitation. Proposals must be inclosed in envelopes, sealed and marked, "Proposal for the Approaches to the United States Custom House, Postoffice, etc., at Galveston, Texas," and addressed to

W. J. EDBROOKE,

Supervising Architect.

SUPERVISING ARCHITECT'S OFFICE.

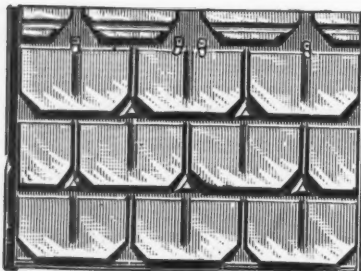
WASHINGTON, D. C., April 24, 1891.

SEALED PROPOSALS WILL BE RECEIVED AT the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P.M., on the 18th day of May, 1891, for all the labor and materials required for decorative painting, etc., to the United States Court House and Postoffice building at Covington, Ky., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Custodian. Each bid must be accompanied by a certified check for \$100. The department will reject all bids received after the time herein stated for opening the same; also, bids which do not comply strictly with all the requirements of this invitation. Proposals must be inclosed in envelopes, sealed and marked, "Proposal for the Decorative Painting, etc., to the United States Court House and Postoffice building at Covington, Ky.," and addressed to

W. J. EDBROOKE,

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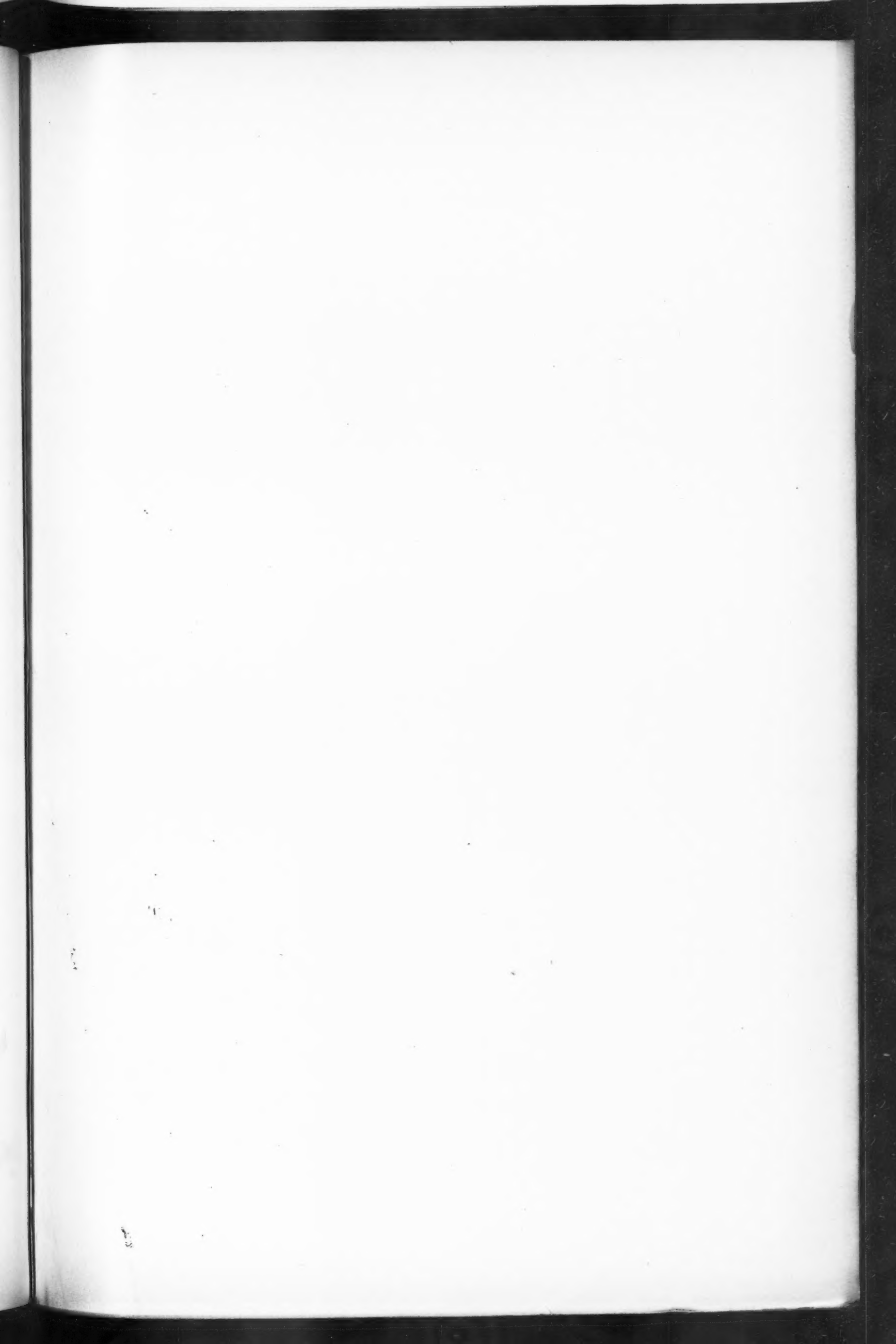
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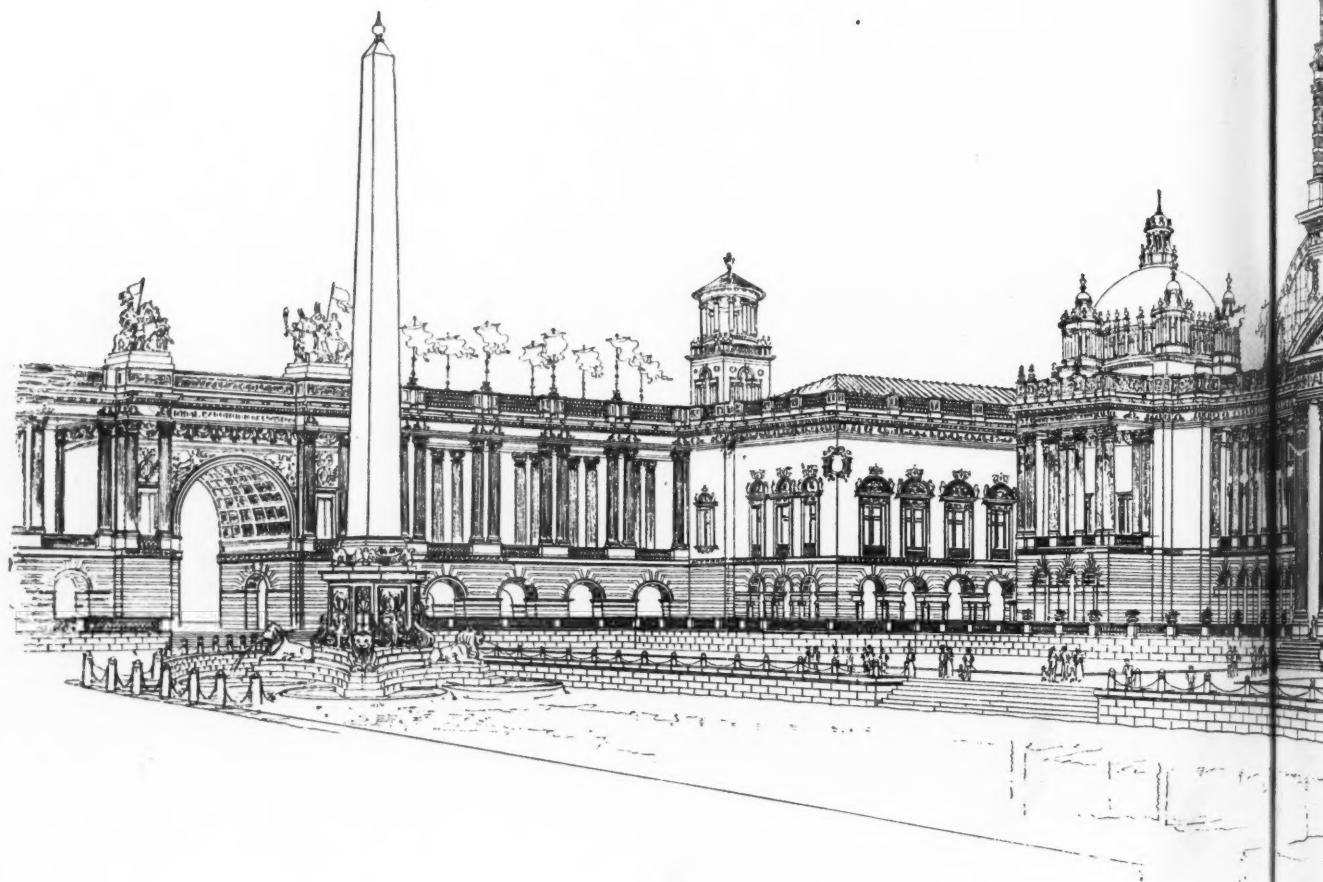
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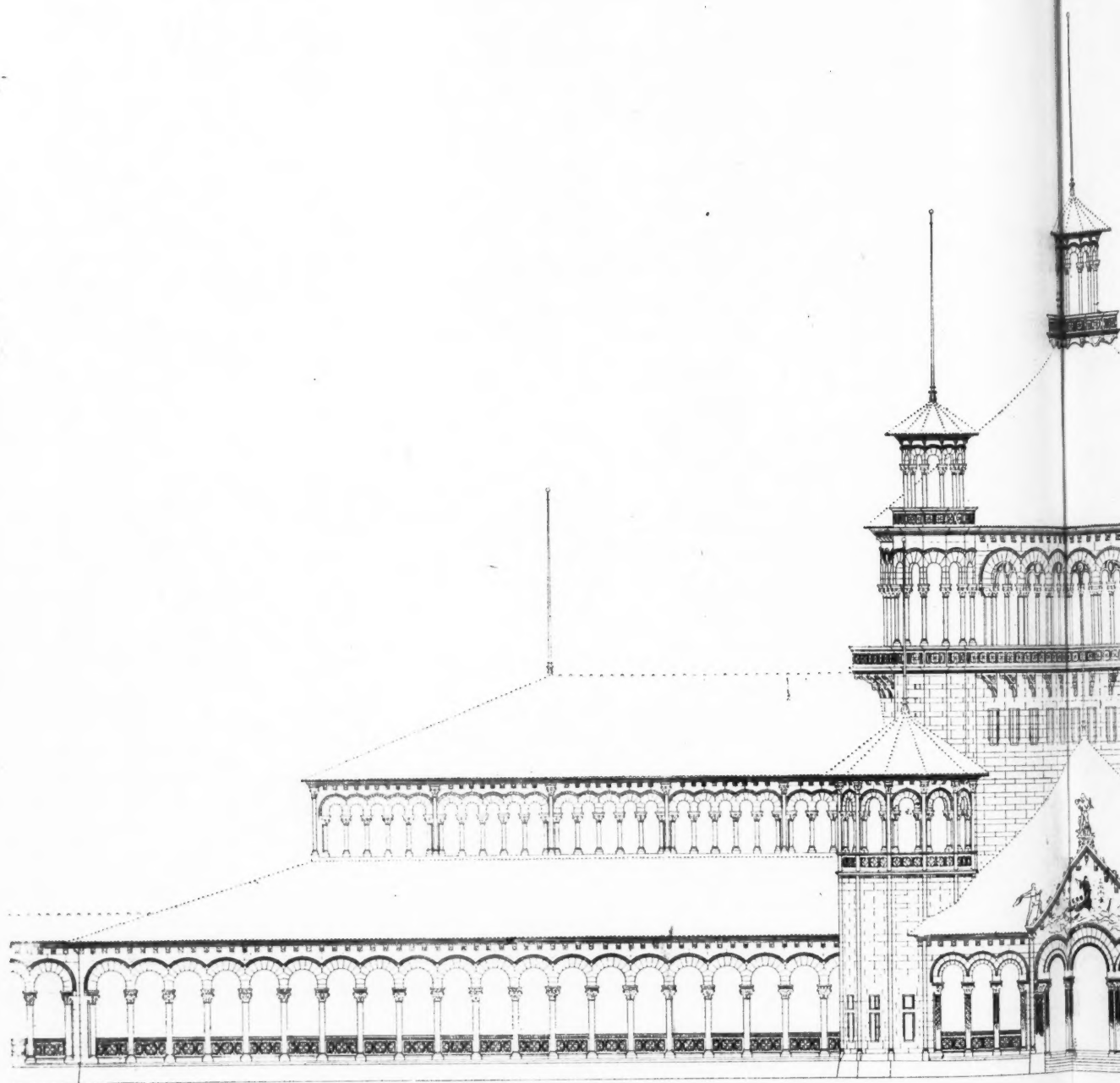
PERSPECTIVE VIEW OF EAST FRONT OF MACHINERY HALL, WORLD'S COLUMBIAN

PEABODY & STEARNS, ARCHITECT.



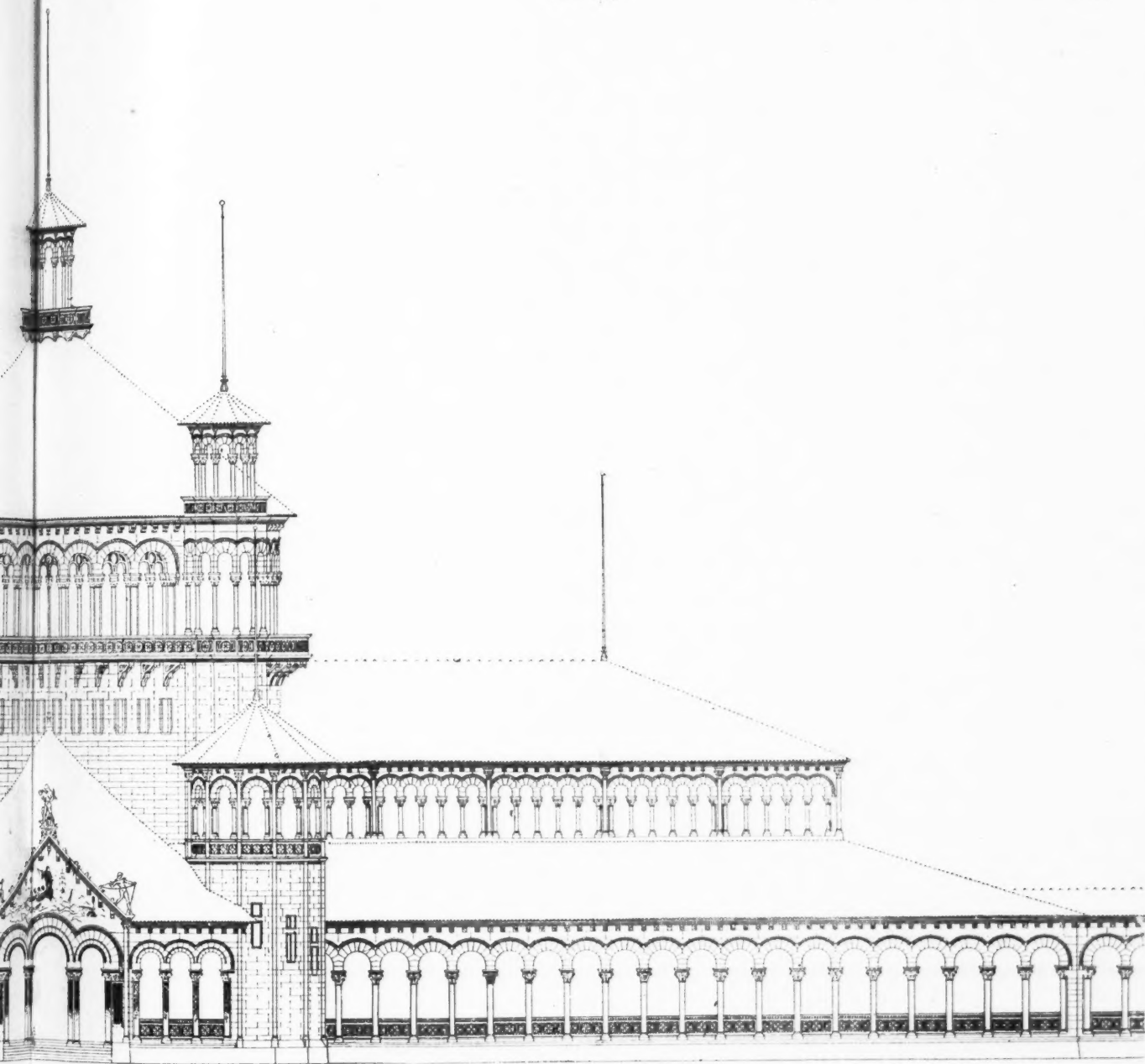
S COLUMBIAN EXPOSITION, CHICAGO. DEPARTMENT OF CONSTRUCTION, MAY, 1891.

EARNST, ARCHITECTS, BOSTON, MASS.



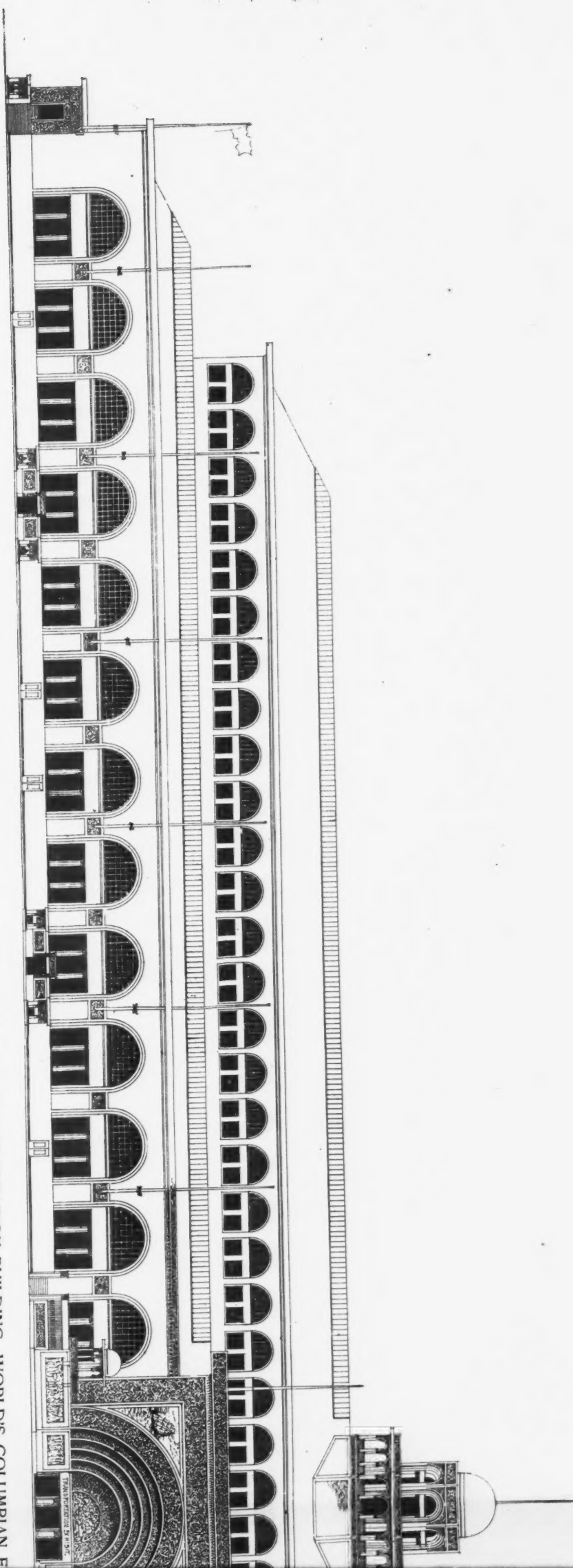
FRONT ELEVATION OF MAIN SECTION OF FISHERIES BUILDING, WORLD'S COLUMBIAN

HENRY IVES COBB, ARCHT



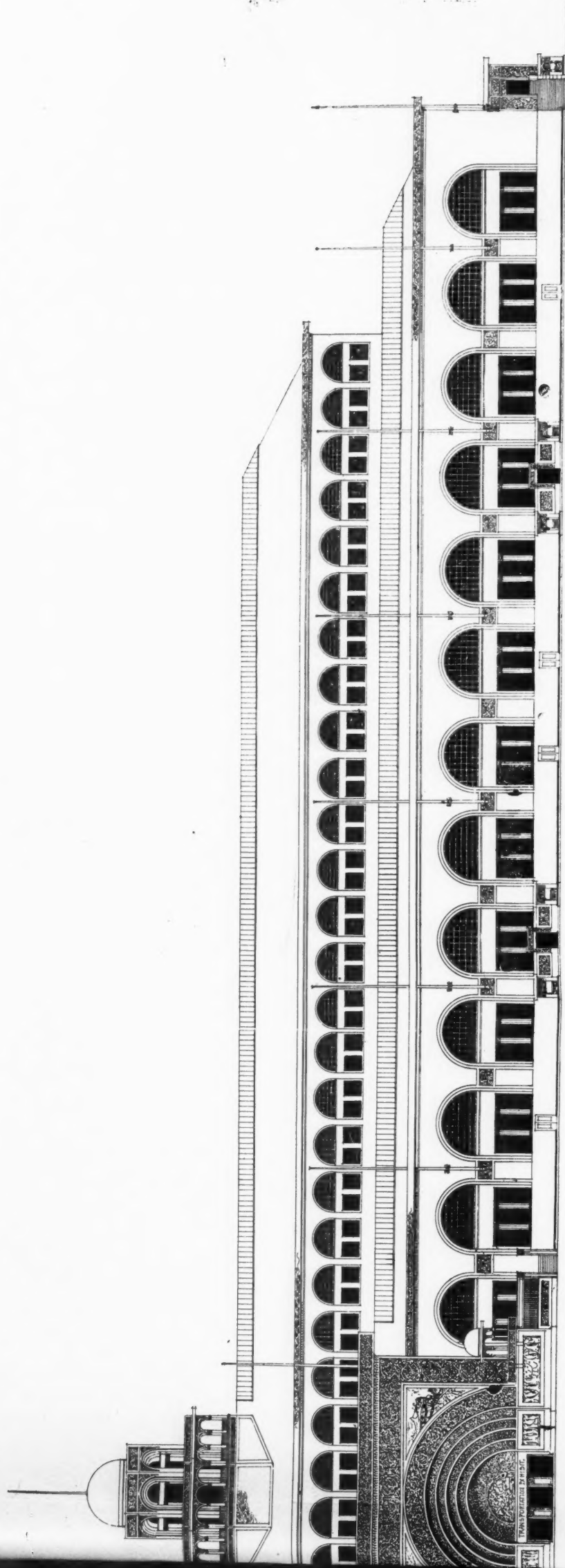
DEPARTMENT OF CONSTRUCTION, CHICAGO. DEPARTMENT OF CONSTRUCTION, MAY, 1891.

JOHN C. COBB, ARCHITECT, CHICAGO.



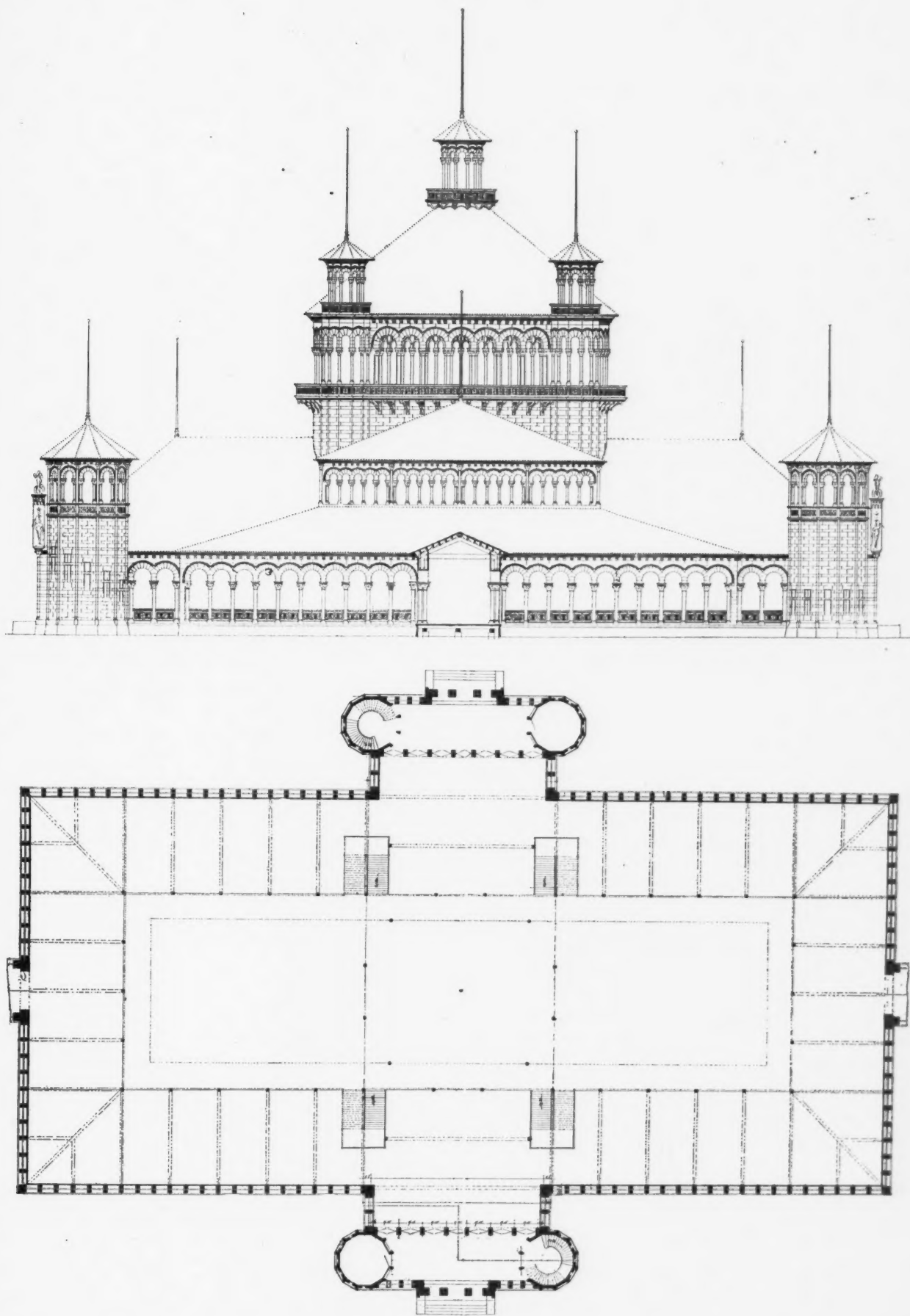
EAST ELEVATION, TRANSPORTATION BUILDING, WORLD'S COLUMBIAN EXPOSITION

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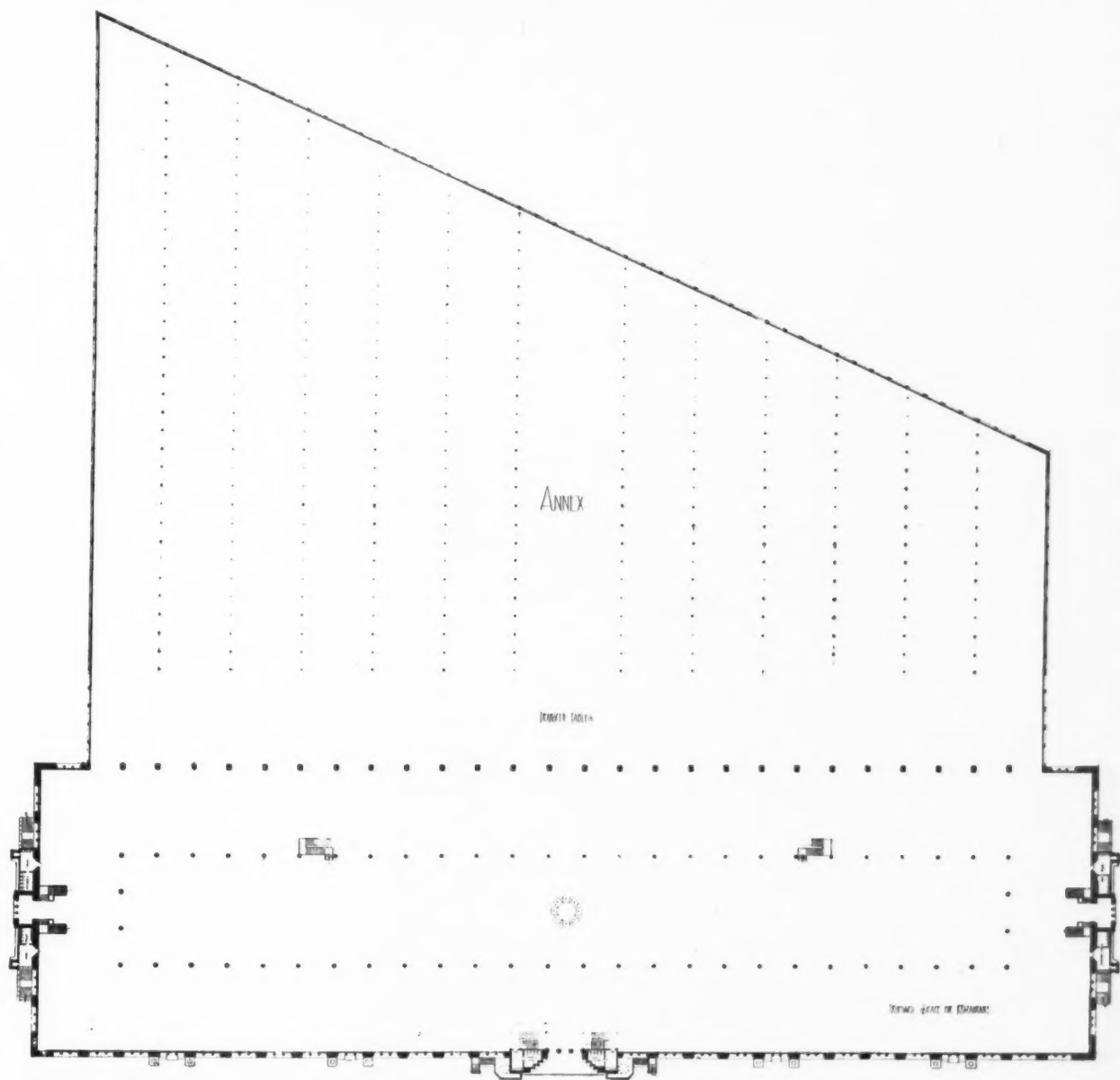
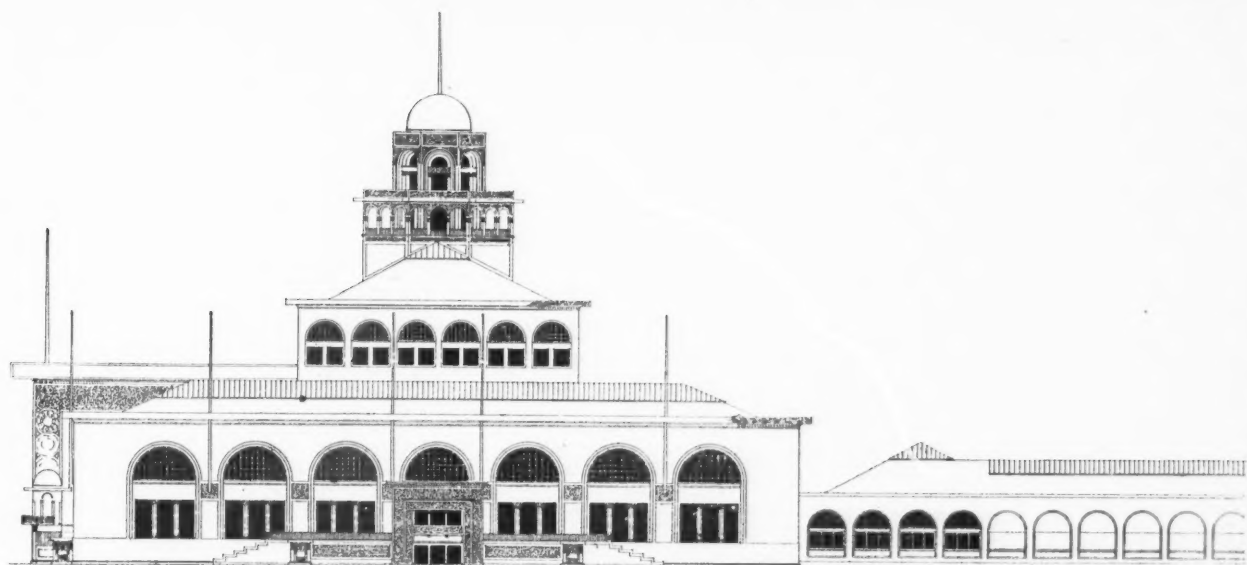
COLUMBIAN EXPOSITION. DEPARTMENT OF CONSTRUCTION, MAY, 1891.

IVAN, ARCHITECTS, CHICAGO.



END ELEVATION AND GROUND PLAN OF MAIN SECTION OF FISHERIES BUILDING, WORLD'S COLUMBIAN EXPOSITION, CHICAGO. DEPARTMENT OF CONSTRUCTION, MAY, 1891.

HENRY IVES COBB, ARCHITECT, CHICAGO.



NORTH ELEVATION AND GROUND PLAN OF TRANSPORTATION BUILDING AND ANNEX, WORLD'S COLUMBIAN EXPOSITION, CHICAGO. DEPARTMENT OF CONSTRUCTION, MAY, 1891.

ADLER & SULLIVAN, ARCHITECTS, CHICAGO.