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THE New York Tenement-house Commission has bound up, for the use of the Commission, advance sheets of its report, containing an abstract of the legislation which it suggests for the improvement of tenement-house construction and management. Not being formally published, the regulations mentioned cannot, we suppose, be regarded as final, but, such as they are, they present great interest. In the great majority of cases, they merely repeat, sometimes with a little change of language, to make the meaning clearer, provisions of law already in force; and it is impossible to avoid the conclusion that tenement-houses in New York might be made very tolerable places of habitation, simply by enforcing the present laws in regard to them. Whether the enactment of a mass of additional statutes, to be, like the old ones, used only as a means of extorting money from speculators, will better the condition of the people who live in such houses is very doubtful; and the Commission apparently perceives the difficulty, for it proposes the establishment of a new Department, employing something like five hundred persons, at salaries ranging from one thousand to seventy-five hundred dollars a year, charged with the duty of seeing that the new laws, as well as the old, are carried out. Why the present laws, with certain modifications, would not be practically identical with the new code; or why the people who are paid to enforce the existing laws could not, if they wished, do the same if they were slightly modified; or whether the five hundred people whom the Commission proposes to have employed to enforce the tenement-house laws would be any more faithful and energetic than those already supposed to be engaged in the same duty, are questions which the intelligent citizens of New York can best answer for themselves, and we need only consider a few of the changes in existing regulations which the Commission proposes.

IN general, these changes are very judicious, being neither too radical nor too hesitating. Evidently, the Commission has had good advice, and has acted upon it with great intelligence. We are inclined to think that it has shown too much fear of the conversion of tenements to manufacturing uses, and that the employment of families in small industries, like those carried on in their homes by the Lyons silk-weavers, or the Swiss embroiderers and producers of laces, and the so-called Hamburg edgings, and the Parisian manufacturers of fancy goods, should be encouraged, with, of course, proper precautions against any increased danger from fire; but perhaps New York is not yet ready to adopt the modern views on this subject, and a tenement-house in which jewellers' and goldsmiths' work could be safely carried on, or a power-loom or embroidery-machine installed, would be something so different from the average New York tenement-house of the present day that the change would need to be made gradually, if at all. In respect to the lighting of the public halls of tenements, the Commission has very decided views. The

present law requires gas or electric lights to be maintained in the dark halls common in old houses; but the Commission says that this regulation is practically a dead letter, the lights being extinguished as soon as the inspector's back is turned; and it proposes that translucent glass shall be substituted for the panels in all doors leading from rooms to public halls, or, instead of this, that windows shall be cut from the hall to the outer air. The expense of substituting ground or, much better, ribbed glass for the panels in the doors would be very small, while the advantage would be incalculable. We all know that Satan and his friends love darkness rather than light, and nowhere is this principle better exemplified than in the halls of tenement-houses. Another excellent provision, supposing that it is honestly enforced, is one which proposes that every new or altered tenement-house shall be inspected at completion, and, if found in conformity with the law, shall be so certified by the proper authority; that no such house shall be used or occupied by tenants until the certificate has been issued, and that the exhibition of the certificate shall be an indispensable prerequisite to the issue of a permit for turning on water from the street-main to the house.

ANOTHER particular in which the Commission's regulations improve upon those now existing is in requiring separate water-closets for each family, to be placed within the apartment itself. The present law requires only one water-closet for two families, and permits the closets to be placed in the public hall-way, but the Commission finds that the feeling among poor people in favor of privacy and decency in such matters is so strong that, even now, most new tenement-houses provide private closets for each family, for the sake of securing tenants, and it recommends that this course be made compulsory in all cases. In regard to precautions against fire, the Commission shows conspicuous intelligence and good sense. The present law provides that, in tenement-houses more than three stories high, "the entrance-hall and the entire stair-well and stairs shall be built of slow-burning construction or fire-proof material." Naturally, the Department of Buildings has to decide what is meant by "slow-burning construction," and this expression is, in practice, interpreted to admit ordinary wooden stairs, enclosed in stud partitions, this being the "slow-burning" or "fireproof" construction adopted in about nine-tenths of the tenement-houses built last year. The Commission remedies this convenient vagueness of the law by recommending that, in every non-fireproof tenement-house, the stairs shall have risers, strings and balusters of metal or stone, and treads of stone or metal, or of hard-wood at least two inches thick; that floors of staircase halls shall be constructed of iron or steel beams with fireproof filling, and that all stairs and staircase-halls shall be enclosed on all sides by brick walls. There is, at least, no obscurity or uncertainty about these provisions, and, while we should be glad to see the use of wooden treads forbidden, and that of brick, tile, or artificial stone stairs, which can be built in a brick-enclosed space, like the stairway of a tenement-house, with great advantage, and at a fraction of the cost of iron or natural stone stairs, permitted, the adoption of the principle of the Commission's recommendation would be of immense benefit to the community. In addition to the brick walls and fireproof stairs, the Commission would require "fireproof," meaning presumably tin-covered, doors opening from the staircase halls, glazed with wire-glass and self-closing. The present law requires that, in all tenement-houses more than four stories high, the first floor above the street shall be built with iron beams and fireproof filling; and that, in tenement-houses less than five stories in height, the cellar ceiling shall be plastered on wire or metal lath. The Commission says that it would have liked to require all partitions to be solid, and fireproof, but it did not venture to make such a recommendation at present, on account of the expense which it would involve. We might suggest, as a substitute for this, the requirement that every building to be occupied by more than three families should be plastered throughout on metal lath. No one who has not witnessed actual tests realizes the fire-resisting powers of plastering on metal lath. We have ourselves walked in security upon a floor of planks, protected simply by a good coat of ordinary plastering, on metal lath, under which a fire of cordwood had been raging for two hours; and metal lathing, on ceilings and partitions, carried to the

floor everywhere, and plastered three coats, as is the custom in New York, would be infinitely more useful than solid partitions alone, with only wooden lath on the ceilings; and with stairs of masonry in brick enclosures, and fireproof first floor, would make a destructive fire in such a building impossible. The additional cost would not usually be more than five hundred dollars for a twenty-five-foot tenement-house of five stories, and the owner would actually save money in the end by the transaction, as the plastering would be permanent, while plaster on wooden laths begins, as a rule, to need repairs in ten or fifteen years from the time that it is finished. We knew once in New York a ceiling plastered on wire, in a mercantile building, in the unplastered upper stories of which a fire broke out. The engines came, and deluged the building with water, which ran down until it reached the ceiling plastered on wire. On this it accumulated, until it stood for a time ten inches deep over the plastering. It was then drained off in some way, leaving the ceiling none the worse for its experience except some slight discolorations. No architect needs to be told that a ceiling plastered on wooden laths will often separate suddenly from the laths under the provocation of children running over the floor above it, or in consequence of being dampened by a few quarts of water, and that, in any case, the clinches on wooden lath break off in a few years; so that the metal lath, holding the mortar, as it does, firmly and permanently, covers the woodwork to which it is attached with a protecting coating, the efficiency of which is not, even yet, properly appreciated.

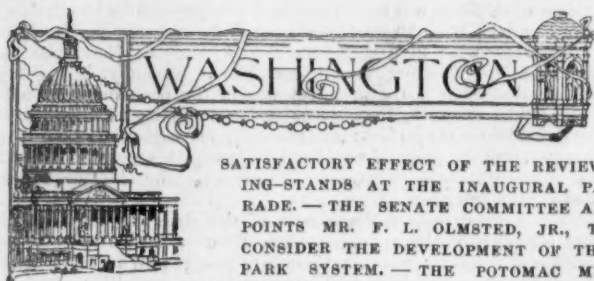
WE take pleasure in calling the attention of the profession to the following alluring proposition: The Trustees of the Georgia State Sanitarium, at Milledgeville, Ga., invite architects to submit "plans, elevations, perspectives, detail-drawings and full specifications, and estimate of cost," for a lunatic asylum to accommodate "not less than one thousand patients, sixty per cent of whom shall be in separate rooms." The plans, specifications, and so on, are to provide for buildings, including heating and ventilating system, laundry machinery and cooking-apparatus, and each competitor, to secure consideration of his design, must send with it a certified check for five thousand dollars, payable to the Board of Trustees, guaranteeing that the establishment can be completed, in all its details, by a contractor acceptable to the Board of Trustees, at a cost not exceeding one hundred and thirty-five thousand dollars. The architect whose design is accepted will be required to furnish ten sets of blue-prints of his plans and detail drawings, and ten sets of specifications, and for all these services, together with his guaranty of cost, he is to be paid the enormous sum of sixteen hundred and eighty-seven dollars and fifty cents!

WE should be sorry to discourage any young architect who feels himself capable of designing a lunatic asylum which can be carried out for about one-fourth the usual cost of such structures, and who is satisfied with the remuneration offered, and likes to entrust a certified check for five thousand dollars to people who spell dormitory with an a, and require a "prospective" of each design, in order to judge whether it will be "acceptable" to them; but it may be well to point out to such architects, if there are any, that the programme has decidedly the air of a device for "getting ideas" from weak-minded young architects, for the benefit of some person already selected to carry the building into execution. To require that the design shall be capable of execution within a certain price by a contractor "acceptable" to the Trustees is a simple method of getting rid, by the agency of a contractor previously instructed, of any troublesome competitor, at the same time retaining his plans, which he will be glad to abandon, in consideration of getting back the whole, or a part, of his five thousand dollars; and this process of elimination, supposing that there are any *bona-fide* competitors, can easily be carried on until only the right one is left. This is the general system which, under more or less artful disguises, is used every day to outwit and defraud confiding young architects; and, while the Trustees of the Georgia Sanitarium may, very possibly, be models of probity and honor, it is none the less true that they have it in their power to cheat in the grossest manner those who trust in them; and no prudent man would put himself into their hands. That the programme is made so absurdly offensive to every architect of standing and responsibility is a familiar indication of intended fraud. The people who manage such competitions do not wish to have anything

to do with architects who have friends and influence, and, presumably, a disposition to resent improper treatment; what they prefer is to deal with young and inexperienced men, who are a little ashamed, in any case, of being concerned in such an affair, and who can be depended upon, when it is over, and they find that they have been deceived, to keep their reflections to themselves.

OUR foreign exchanges give some interesting particulars in regard to the late Professor von Pettenkofer, of Munich, for fifty years the most noted authority in Europe in certain departments of hygiene. Pettenkofer was born in Lichtenheim, on the Danube, in 1818. He studied medicine and natural science in Munich, and afterwards chemistry at Würzburg and Giessen, and, at the age of twenty-nine, was Professor of the Chemistry of Medicine in Munich, and also assistant chemist to the Bavarian mint. He was naturally a man of practical temper, and was quick to turn his science to account. One of his first investigations had for its subject the nature of Portland-cement, and its relations to the German natural hydraulic limes, and he studied also the restoration of the colors of faded oil-paintings, devising a process which is still used in the public galleries of Munich. Hygiene, however, attracted him most, and after an extended and classical series of experiments in heating and ventilation, the cholera epidemic in Munich, in 1854, gave him an opportunity for a series of investigations as important as they were novel. He studied the air, the earth and the water of the city, determined to find the reason of the persistence and severity of the epidemic, and his search was rewarded. The interest which his discoveries aroused throughout the world led to the foundation of a chair of Hygiene in the University of Munich, and Pettenkofer was called to occupy it. It is needless to say that, in the thirty-five years which have passed since that time, he has made not only the Chair of Hygiene, but the University itself, famous. To him have been referred many of the most important questions that have come up in Europe in regard to sanitation, and his opinions, although they have not always been shared by other sanitarians, have commanded the highest respect. Personally, Professor von Pettenkofer was simple and modest, intensely devoted to his work and enthusiastic in the defence of his conclusions. He had many pupils, to whom, as well as to himself, the world owes lasting gratitude.

THE sanitarians of Paris, to say nothing of other people, are studying just now the legal aspects of the drainage question in that municipality. At various times within the last eight years notice has been given that within a certain period after the completion of stated portions of the sewerage system, the owners of houses within the district concerned would be obliged to connect their houses with it; and, in 1897, a list of streets, comprising the greater part of all the streets in Paris, was published, with a formal notice that all buildings abutting on those streets must be connected with the sewers in them before the first day of January, 1901. This order, which gave more than three years for making connection, would hardly seem unreasonable to us, who are accustomed to see one year set as the limit in such matters, but the Parisians did not think it necessary to hurry themselves, and connections have been made only at an average rate of about two thousand a year. Now, the time allowed for making them has expired, and there are still more than twenty thousand buildings in the district without sewer connection. In addition to these, new sewerage districts have been formed, and similar notices issued for them, so that thirty-five thousand additional houses must soon be connected with the new sewers, the limit of time for most of them being January 1, 1904. The Municipal Government, very naturally, does not like to see its ordinances disobeyed, and is considering what steps should be taken in regard to the delinquents, while the latter, who plead as an excuse the difficulty, due to the increased demand, of getting competent workmen to lay house-drains, have formed a "House-owners' Protective Association," to resist as a body, if necessary, attempts to discipline individuals. How the affair will be settled, it is difficult to say. With sixty thousand of the great Parisian tenement-houses to have their plumbing rearranged and connected with the sewer, within the next three or four years, the demand for plumbers, which has hitherto made it difficult to finish two thousand houses a year, is not likely to diminish; and perhaps the suggestion, which is not altogether new, that some good American plumbers might find profitable employment in Paris for a few years, may be of value.



SATISFACTORY EFFECT OF THE REVIEWING-STANDS AT THE INAUGURAL PARADE.—THE SENATE COMMITTEE APPOINTS MR. F. L. OLMSTED, JR., TO CONSIDER THE DEVELOPMENT OF THE PARK SYSTEM.—THE POTOMAC MEMORIAL BRIDGE.—APPROPRIATIONS FOR GOVERNMENT BUILDINGS.—THE WHITE-HOUSE STABLE.—SUGGESTED STATUE OF GENERAL GRANT.

THE Inauguration proceedings, aside from the success of the pageant incidental to the official function, which was in this instance considered to have duly expressed the national greatness, have afforded some lessons of especial value to those engaged in or interested in architecture and the kindred arts. The extensive preparations for the event of this year were completed in a way which must have carried conviction of the good results to be obtained by committing such matters into the hands of men whose training and occupations have specially fitted them to deal intelligently with questions of the sort. And in this connection it is a pleasure to acknowledge the good sense of the business-men who were in charge of this celebration, as shown in their selection of capable assistants, in their appreciation of the excellent suggestions offered by them, and in the practical aid which enabled these last to be carried through successfully.

The choice of artists to do things requiring a certain knowledge of aesthetic principles is not so much a matter of course, perhaps, as it should be, and it was not made in this case without opposition. Fortunately, the result has vindicated the sound judgment used.

So much has already been said in praise of what was done that I shall content myself here with the remark that it has marked a long step forward, and will leave the drawings which I have been able to obtain to speak for themselves. The treatment of the Avenue between Fifteenth and Seventeenth Streets gives the key-note to the whole scheme for street-stands. Elsewhere, all stands put up by private enterprise were obliged to conform to the design adopted for these, with certain variations according to circumstances, and this plan resulted in a uniformity, dignity and congruity of general effect which was admirable. The elements of this design were simple, but charmingly conceived. The recurrence of the motive in each stand along the length of the Avenue gave a delightful consistency to the whole impression. The forms were right for temporary structures in wood, and held to a festive lightness of detail. Color was given by covering the whole structure with unbleached cotton, with some use of white paint on caps and elsewhere, by a tone of deep red (which might have been held lighter with better effect) on the ornamental, far-projecting rafter-ends, by a background of orange-colored bunting behind the rail, the only bunting used, and, finally, with much grace, in a spray of green laid along the eaves.

The plan shows the location of these stands and of the pedestals bearing urns or tripods, of the ranked columns along the curb bearing globes of electric-lights, and of the sweep of similar columns curving up to the portico of the White House. At night the illumination of these was very fine, and the braziers were pouring up heavy clouds of smoke illumined and colored by search-lights operated from within the pedestals. It was not at first the intention to allow these stands to mar the view of the Treasury and War, State and Navy buildings from the street, but the demand for places caused their extension somewhat across the façades of those buildings, particularly of the Treasury.

It was intended to illumine the portico and the cornice-line of the President's House, as constituting the central point of the scheme, the temple to which this propyleum led up, but unfortunately the appropriation did not allow it.

In some minor points, no doubt, more time for study on the details of this "Court of Honor" might have been profitable; but there was no time, and perhaps the realization held, therefore, more of the freshness and force of the first conception. The braziers, or cressets, set upon each of the eight choragic monuments, or "pylons," as they were designated, may have been too low and their form somewhat unsatisfactory. The capitals of the columns engaged upon the angles of these pedestals might have been given more force. Criticism will, no doubt, point out, indeed the designers themselves have already seen, where they could improve upon their work, but the whole effect was really stately. People generally felt it to be so. There was some popular objection to a "lack of patriotism," by which was meant, in effect, that everything was not smothered, as usual for such events with us, under flags. Now, on that point the artists are not entirely in accord with the average public. They would not have the flag everywhere: they would have it displayed in the place of honor, and there alone. To vulgarize the flag by cheap repetition is not, I would respectfully submit, conducive to the right sort of patriotism. Nor is it honoring the flag to make curtains, lambrequins, rosettes, pantalettes, aprons, cravats and what not of it

on festive occasions. Besides which, these forms do not constitute beautiful decoration.

A proper use of flags as decoration was shown on the east front of the Treasury, where a trophy of great flags, on poles outstretched like the wings of a mighty eagle, and something like sixty feet from tip to tip, was built up against the entablature over the centre of the colonnade. There was a noteworthy use of strong color in the adornment of this building, which only needed to have been carried farther to have been something very fine. A frieze of what is called, I believe, Turkey-red, a common oil-print cotton, was hung flat on the wall behind the colonnade, descending to a depth of almost one-third the height of the column. A band of strong green was stretched flat behind the cast-iron rail between the bases of the columns. The red was also applied to the whole ground, or tympanum, of the pediment at either end of the building. The color seemed hardly right in this place, however, unless it were meant merely as a ground for some heavy decorative forms, say in the green again, such as the wreaths with pendants used against the pilasters at the bottom of the red frieze of cloth above described, or, better still, some massive staff ornament of an heraldic sort, and heavily gilded. The small star and shield of electric-lights set in these pediments were not adequate in scale. As to all these matters, however, it should be said that the contingent fund of the Department provides no money for such purposes, and that what was done gave evidence of an original taste, of courage and a sense of the right use of strong color, and of a capacity to accomplish rich results were means supplied.

Of the big stand at the south of the Treasury there is not much to be said except that it was a fine sight when filled with people, and, indeed, all of the others appeared at their best so. The front of this stand showed the white high base and the rail against the orange cloth which gave so much character to the general scheme, and above this rail rose at certain distances turned standards painted green and topped with gilded balls. These served no apparent useful function and were scarcely sufficiently ornamental to suggest that reason for their presence. Perhaps a garland strung upon them would have supplied a graceful *raison d'être*. But about the middle of this great stand, and facing squarely down the Avenue, rose two well-proportioned white columns whose capitals were crowned with a very broadly projecting abacus, or platform, on which stood a fine pair of gilded eagles rampant—if eagles properly ramp— which saved the situation very nobly at this point, their outstretched wings conveying a suggestion of flapping and screaming highly appropriate to the occasion.

There was some mild criticism of the unwonted width of the top of these columns, but they were all right and finely effective. As the eye fell upon them one might recall those two columns standing thus a little apart on the Piazzetta in Venice, near Sansovino's library, bearing one the "Patron," the other the "Lion," of Venice. Those have also broad tops to which the great, disproportioned caps,—among the most beautiful in the world—flare out in a glorious line. These of ours lacked the flaring line which they might have shown, perhaps, had they been less "academic" where those famous ones are inspired.

This stand had no cover, being doubtless too broad to make a roof feasible with a reasonable outlay. There might well have been a tall wind-break along the back of it, say of sailcloth stretched against uprights and stained like the oak-tanned sails of the upper Great Lakes, or uprights along the transverse aisles would have permitted the rigging of a velarium, or colored awning, which must have added greatly to both comfort and effect. The buckler of dripping umbrellas under which the occupants huddled as the procession reached them was a dreary sight. The roofing of stands carried out generally elsewhere was a great improvement and highly necessary in our March climate.

There is much more which might be said about this design for stands, about certain charming variants of it in two-storied stands and in some with three superimposed galleries, in stands of irregular plan to suit different sites, and so on; but I have no space left for it, and, besides, there is a discussion of these matters among the workers, suggested by the Chairman of the Ball-room Decoration Committee, which will, if it be had, bring out many more important points than have occurred to me.

These festive arrangements have furnished an admirable lesson as to what may be done with Pennsylvania Avenue on future occasions of the sort, and may even be said, it seems to me, to have given some pertinent hints as to what a comprehensive study of the street, in relation to its permanent improvement in connection with public buildings, statuary and parks, will bring forth in competent hands. And here I will interpolate a piece of news, which I cannot give yet quite with authority, but which will surely, when verified, be good news to the country as well as to Washington. It is, that the Senate Committee on the District of Columbia, directed, in a resolution which passed the Senate at the end of the late extraordinary session, to consider the subject and report to the Senate plans for the development and improvement of the entire park system of the District, and thereto to secure the services of such experts as may be necessary, has already committed the whole matter of advising them into the excellent hands of Mr. Frederick Law Olmsted, Jr. It is well understood that the scope of the Committee's labors will include the questions of the redemption of the Avenue, the grouping of public buildings and statuary, and the enlargement and consolidation of our already generous park system. The problem is a great one, presenting to the artist possibilities which are superb. The Committee, by

its action, will have defended itself from the baffling assaults of contending interests and have given assurance that we may hope for the best results from the inquiry.

Having wandered into the parks, I shall indulge in further divergence. The bridge lures me—our great Memorial Bridge. Congress leaves it in a deep sleep. There are not wanting those who pray its slumber be not soon disturbed.

There is something wearisome in the idea of this long chord of steel stretching across the river at its widest, and mostly spanning shoals—the “Flats,” as we call them. The bascule-towers of the accepted design—and of nearly all the designs, indeed, except this late one, which Mr. Keller crowds in “a day after the fair”—the bascule-towers help much, but do not quite save the situation, do not cure the bridge of a monotonous overmuchness. Why not go upstream, where the hilly shores approach one another, and where the channel, the bed, is narrowed, and there swing over a double-decked bridge of masonry, with the railways in the lower gallery? Why not, however, before all, make the river what it should be, and then give us one or more bridges where they may be both useful and memorial?

But whatever be the outcome in the case of the selected bridge-design, Mr. Keller's proposed substitute has not commended itself, nor deserves to; while, to say the least, the ethical aspect of his trying to supplant the victor in a strictly proper and official competition seems somewhat dubious.

As to other architectural matters, Congress was liberal. The appropriations for several public buildings have been largely increased. Indianapolis receives about \$300,000 additional, which swells its figure to \$2,200,100. The St. Paul building gets \$100,000 over the original million. Salt Lake jumps from \$300,000 to \$500,000; Seattle from \$300,000 to \$750,000. Tampa will have \$325,000, Wilkesbarre \$150,000, and Columbus, Ga., \$159,000.

The Supervising Architect will presently take up the matter of getting out sketches for fifteen public buildings costing from \$60,000 to \$200,000 each, and there are twenty-five other appropriations for the small buildings included in the “Omnibus Bill.” There is matter for congratulation in the fact that Congress has met nearly all the recommendations of the Supervising Architect, Mr. Taylor, with favorable action.

There is some discussion going on just now over a proposition to remove the “White-house Stables,” an unbeautiful brick structure, put by General Grant in a corner of the park, opposite where the Corcoran Art Gallery now stands, and to erect upon the site a statue of the General himself. Somebody objects to having the statue there, and wants it to invade a corner of Lafayette Square, where there stands at present a beautiful old elm. It is to be sincerely hoped that this counsel will not be considered. The first-named site may not be the best available, but the second involves a greater loss. We cannot afford to lose the old elm. There are few fine ones in Washington. No monument could hope to replace the beauty of a great tree. The place, too, affords but a poor site for a statue, and the idea of forcing this or any more statuary into Lafayette Square has nothing to commend it. We assuredly wish to have a statue of General Grant here, but we want it put where it may be seen. As to the stables, they should go in any event.

AGENT OR ARBITRATOR?



E summarize below the facts and the decision of the Master of the Rolls and Lord Justice Collins and Lord Justice Romer, in two recent appeal cases, bearing upon the question whether the architect is an arbitrator or an agent.

The first case was that of “Chambers vs. Goldthorpe,” an appeal by the defendant against the judgment of the Divisional Court reversing the decision of the Holmfrith County-court judge. The plaintiff, an architect, sued the defendant, a building owner, for his fees, and the building-owner counterclaimed for damages for negligence on the part of the architect in bringing out his final certificate. From the evidence, it appears the plaintiff-architect had been employed to prepare plans for houses which defendant was to have built, and to superintend the work and measure it up when completed. A contract was entered into in the form approved by the National Association of Master Builders. After the houses were completed the architect measured up the work, and gave his final certificate; but the defendant counterclaimed for negligence, and for having measured up incorrectly certain of the work, whereby the certificate was for a larger amount than it ought to have been. The County-court judge gave judgment for the plaintiff for his fees, and for the defendant on the counterclaim. The Divisional Court held that the plaintiff was, under Clause 20, placed in a judicial position between owner and contractor with reference to giving his certificate, and therefore was not liable for negligence. The defendant thereupon appealed. For the defendant it was argued that the plaintiff was not an arbitrator by the contract, and was merely the defendant's agent. It was urged that in the case of “Lloyd vs. Milward” the Court of Appeal, upon a contract in the same form as the present, decided that the moment there was a dispute between building-owner and contractor the architect could not give a certificate, and this decision showed that the architect was not in the position of an arbitrator. The architect could only give a cer-

tificate when there was no dispute, and this question had to be determined under Clause 22 by the referee. The architect could only be an arbitrator when he had to determine a dispute. Reference was also made to “Clemence vs. Clarke,” etc. Secondly, it was contended that even if the architect was in the position of an arbitrator, as he was suing for his fees under an independent contract, the defendant was entitled to counterclaim for negligence under that contract, and the plaintiff could not rely upon his position as arbitrator under another contract. These were the chief arguments used for the defendant.

Taking this case first, the Master of the Rolls said: “The only question raised in the appeal was one which arose on the counterclaim, and was this: whether Chambers was placed in the position of an arbitrator, or whether he was merely in the position of a person acting as agent for the building-owner. If he was an arbitrator, then the building-owner could not sue him for negligence: he could only sue him for fraud or collusion, and there was no suggestion in this case of anything of this kind.” Under many of the clauses of the contract, the architect was only to act as agent for the owner, and his duty was to look after the interests of the owner, he being liable for negligence; “but under Clause 20, which stated that the certificate of the architect or an award of the referee was to be taken as conclusive evidence of the works having been duly completed, the question arose, Did the architect still remain merely the agent of the building-owner, or was he not an arbitrator? The architect undertook the duty of bringing out a final certificate. With respect to that, he owed a duty to the builder as well as the building-owner, his duty being to hold the balance fairly between them.” Referring to the contention that there could be no arbitration unless there was a dispute, his Lordship thought “there might be an arbitration to settle what otherwise might be the matter of a dispute,” and he referred to the cases of “Clemence vs. Clarke,” “Lloyd Brothers vs. Milward,” and “Stevenson vs. Watson,” and pointed out that the architect had not merely to make an arithmetical calculation, but to use professional knowledge and skill. He thought that the case of “Tharsis Sulphur Company vs. Loftus” had even a stronger bearing on the case, and he came to the conclusion that Chambers, the architect, was in the position of an arbitrator. He also thought the counterclaim could not be maintained, and that the appeal must be dismissed. Lord Justice Collins concurred; and he said an architect who was bound to give a final certificate which should be binding on both parties could not be said to be free from duty to the other party, and when a person was bound to exercise judgment between others involving professional skill, he was an arbitrator, or in the position of a quasi-arbitrator.

In the case of “Restell vs. Nye,” a similar question arose. It was an appeal from the judgment of Mr. Justice Mathew in an action by a building-owner against an architect to recover damages for negligence in connection with the building of a bungalow in Sussex. The defendant was to be paid by the plaintiff for “plans, specifications, and supervision of works”—five per cent upon the amount of expenditure, travelling and out-of-pocket expenses to be paid extra. A tender was submitted by a firm of builders at Brighton for the erection of the bungalow for £1,790, and was accepted. The plaintiff paid the contract-price, together with cost of extras on the defendant's certificates. In this action the plaintiff alleged that the defendant had omitted to check the builder's account with due skill, and had passed as extras works included in the contract, and had certified for sums improperly passed. The contract was in substance the same as that in the last-cited case, though the arbitration-clause was different. Judgment was given for the defendant on the ground that he was in the position of an arbitrator, and that no action would lie against him for negligence. The plaintiff appealed; but the Master of the Rolls and Lord Justice Collins thought that the claim could not be maintained, and on similar grounds, the question in both cases being whether the architect was in the position of quasi-arbitrator. The appeal was therefore dismissed.

The opinions thus expressed appear to be borne out by other decisions given in the cases we have mentioned; in fact the architect, in giving certificates, is performing a judicial function which protects him from any liability to the building-owner. For certain purposes, especially giving final certificates, he has judicial functions; both parties agree to his decision, and are prepared to be bound by it as between themselves. The building-owner, therefore, cannot turn round and charge the architect with anything he has done in this capacity as if he were only an agent. There is common sense in such a view of the case. In the case cited, “Pappa vs. Rose,” there was an ordinary contract. A broker was appointed in a contract to settle differences as to quality in some produce. The judge (Kelly) said: “I am clearly of opinion that he did not undertake to bring any degree of skill to the investigation.” The principle is better affirmed in the judgment in the case we first gave, in which the judge said the architect was put into the position of an arbitrator under a contract to act for him, “then in so far as he acted as agent only of the building-owner, he was liable for negligence; in so far as he acted as arbitrator between the owner and the builder, he was not liable for negligence.” We have here a clear statement of principle which it is well for the profession to bear in mind in their contracts.

Lord Justice Romer's dissent from this view is of interest only as it bears on similar cases. In his opinion, “If a person undertook

for reward to value for another work about to be done for his principal by a third person, he did not, so far as his principal was concerned, become in the position of an arbitrator in regard to his valuation merely because he knew that his principal and the third person had by contract between them agreed that, in default of dispute previously arising, his valuation was to be taken as conclusive, and as determining the price to be paid by his principal for the work to be done. In such a case, in giving his valuation he would still be acting for his principal, and so long as he acted without fraud he would be under no liability to the third person. And, acting for his principal, if he was guilty of negligence causing damage, he would be liable to his principal." His Lordship admitted that such a view, which he thought the right one, could not be maintained by the architect in the case under review. We commend to the reader interested in this important question the full decision as printed in *Building News* for March 1. The point which differentiated this from the other view was that the work of valuation was to be done for and paid for by the principal, and it followed that if in doing such work, for which he was paid by his principal, the architect was guilty of negligence from which damage ensued to his principal, he would be liable. He could only escape from liability by showing that by the terms of the contract between principal and contractor he was freed from liability, and he could only do this by showing he was placed in the position of an arbitrator with regard to his certificates. But this the architect could not succeed in showing, "merely by reason of the fact that his principal and the contractor had by the contract agreed that in the case of no prior dispute arising with reference thereto, his certificate should be treated as conclusive between them." His Lordship also referred to the arbitration Clause 22, which provided for the settlement of disputes by an arbitrator who was not the architect, and in which the architect was clearly recognized, as the agent of the building-owner, as one opposed to the contractor. But we have said enough to show the point made in this divergent opinion. We believe the question is still a debatable one with lawyers in spite of the clear decisions that have been given. It is, however, satisfactory to be able to record the opinions of two eminent judicial authorities on the subject, which will go far to strengthen and confirm the previous findings of the Courts. If the architect is to be reduced to a mere agent in matters to which he is specially engaged, and to which he is supposed to bring skill and judgment, it will be impossible for him to exercise any authority in building beyond the most perfunctory duties, and it will, moreover, very seriously restrict his usefulness. — *Building News*.

SIMPLE, COMPOUND OR CONDENSING ENGINES.

OFFICE, mercantile and factory buildings generally require steam-power plants of considerable extent for lighting, elevators, ventilation and manufacturing purposes. In addition to power, every such building requires heating in winter and, in many, artificial cooling in summer is desirable. The aim in every well-designed power and heating plant should be to secure that combination of equipment that will give the highest efficiency of operation, without excessive fixed charges for first-cost. The type of steam-engines selected for the power-plant, whether simple, compound or condensing, will usually have a very important effect on the combined efficiency of the complete equipment as well as on the first-cost. Considered as to power-production alone, the compound condensing-engine is most efficient. The simple-engine operated with a condenser and the compound-engine run non-condensing are about equal in efficiency. Least efficient of all is the simple-engine without a condenser. In the matter of first-cost, the compound-engine is higher than the simple by a large percentage, and the addition of condensing equipment to either engine is a comparatively large item in first-cost. If power was the only service required of steam-plants in buildings, the much greater economy of the compound condensing-engine would make it preferable for almost every case, in spite of its high first-cost. As heating must usually be provided for on an extensive scale, it is frequently the case that condensing equipment for either simple or compound engines would result in a serious loss, even though its first-cost was nothing. The compound and the simple engines are equally available where exhaust-steam is to be used in the heating-system of a building, but such use of the steam may offset any disadvantage of the simple-engine, compared with the compound, as to steam-consumption. Steam-heating in buildings is usually carried out at pressures of one to five pounds above that of the atmosphere. One pound of steam at these low pressures is equally effective for heating-purposes, whether it comes directly from the boiler or from the engine-exhaust. One pound of steam at atmospheric-pressure yields 966 heat-units on condensation, and the latent heat of steam at five pounds above air-pressure is 955 units, so that its heating-power is nearly constant within these limits. If, as is usually the case, it is desired to heat the boiler feed-water with the exhaust-steam, only a small part of the latent heat in one pound of exhaust can be absorbed by a corresponding pound of feed-water. Assuming the average temperature of feed-water on going to the heater to be as low as 40 degrees Fahr., 172 heat-units per pound are required to raise its temperature to 212 degrees. This is as hot as feed-water can be made at atmospheric-pressure. The 172 heat-units absorbed by each pound of boiler feed-water is less than 18 per cent of the 966 units of latent heat in the corresponding pound of exhaust-steam. As much as 82 per cent of the latent heat of ex-

haust-steam, or 794 heat-units per pound, is available for general warming-purposes, with non-condensing-engines, after the feed-water has been heated. Direct-radiating surface at a temperature of 212 degrees gives off about 284 heat-units per square foot per hour in an atmosphere at 70 degrees temperature. The 794 heat-units available from each pound of exhaust-steam are thus sufficient to supply 2.8 square feet of heating-surface during one hour. In different classes of buildings there is great variation as to the heating-surface required per cubic foot of space heated. A fair average allowance for an assumed case is one square foot of heating-surface for each 75 cubic feet of space warmed. On this basis, a simple non-condensing-engine exhausting thirty pounds of steam per horsepower-hour of output, and operating at 100-horsepower would heat 210,000 cubic feet of space. A compound-engine of equally good design might be expected to consume only twenty-four pounds of steam per horsepower-hour of work, when operating at full load. This saving, by the compound of 20 per cent of the steam consumed by the simple engine, amounts, during a working year of 3,000 hours at full capacity, to 1,800,000 pounds of steam. If boilers evaporate eight pounds of water per pound of coal burned, the yearly saving in coal by the use of the compound-engine for the above case is 112 tons. The value of this amount of fuel at \$4 per ton, that is, \$448, is sufficient to cover a large per cent of the difference in first-cost between a simple and compound engine of the capacity named. If this compound-engine is used, however, the space that may be heated, on the same assumptions as before, is only 80 per cent of that which could be warmed with the exhaust from a simple-engine of equal capacity.

For the compound-engine the space that may be heated is thus 168,000 cubic feet. As these calculations have been made for engines working at 100-horsepower, the space heated per horsepower is 2,100 cubic feet for simple and 1,680 cubic feet for compound engines of the efficiencies named. As the saving of fuel by the 100-horsepower compound-engine was found to be \$448 per year, the saving on a single horse-power of output at the same rate is \$4.48 per year. If steam can only be used for power purposes, or if the compound-engine furnishes all of the exhaust that is required for heating, the extra expense for fuel with a simple-engine is evidently a total loss. Should the exhaust from the compound-engine be less than is necessary for heating, and that from a simple-engine not too great, the greater economy in steam of the compound-engine counts for nearly nothing, since the exhaust-steam is nearly as good for heating as though it came directly from the boiler. For some industrial plants, where large amounts of steam are necessary in the processes of manufacture, the exhaust from engines may be used during the entire year. In such cases there is no advantage in compound-engines, as just pointed out. In the great majority of plants, however, large amounts of heating are necessary during not more than six months of each year, and exhaust goes to waste during the remainder of the time. A saving of \$4.48 per horsepower-year of 3,000 working hours was shown above for the compound over the simple engine, in the cost of fuel. If all exhaust-steam is available for heating during one-half of each year, even when a simple-engine is used, the saving in fuel expense by compound-engines is cut in two, and becomes only \$2.24 per horsepower-year of work. Even this increase of fuel economy, to say nothing of the smaller labor item, offers a fair return on the extra investment for compound over simple engines. The price of high-grade engines in moderately large sizes may be fairly taken at \$15 per horsepower capacity for the simple and \$25 per horsepower for the compound, under average conditions. If the advantages of the compound-engine are only available during one-half of each year, because of the use of exhaust for heating, the saving of \$2.24 yearly for each \$10 of increased investment amounts to 22.4 per cent. These figures indicate that in general, unless fuel is very cheap, it pays to use compound-engines where the desired power is nearly constant summer and winter, and is required ten hours per day on an average, even though exhaust from simple-engines could be fully utilized for heating during one-half the year. Where nearly the full capacity of engines is necessary during only a small fraction of each day, the total fuel consumed and any possible saving bear a smaller ratio to the first-cost of engines, and in many such cases the extra fixed charges on compound-engines may more than offset their higher efficiency. A common example of this last case is found in many office and mercantile buildings, where a great part of the power-load is for lighting, and is mostly concentrated in three or four hours of each day. Circulation of exhaust-steam through the heating-system is frequently attained by means of a small back-pressure in the engine-cylinder, and the influence of this pressure on capacity and economy is not the same in simple and compound engines. The reduction of engine capacity and economy produced by back-pressure varies nearly as does the ratio of total back-pressure to the total mean effective pressure. For simple-engines the total pressure in each case is directly proportional to the pressure per square inch. Thus, if the boiler-pressure in a given case is 100 pounds per square inch, the resulting mean effective pressure in the engine-cylinder fifty pounds per square inch and the back-pressure on the exhaust side of the piston five pounds per square inch of piston-area, due to the heating system, the power of a simple-engine is reduced 10 per cent by this back-pressure. This follows because the piston-areas on which steam from the boiler and the exhaust-steam act are equal. In the case of a compound-engine operating on a boiler-pressure of 100 pounds per square inch, the sum of the total pressures on the pistons in the high and low pressure cylinders may well equal the total

pressure that would be produced on the piston in the high-pressure cylinder by fifty pounds per square inch. A back-pressure of five pounds per square inch for the heating-system acts on the piston of the low-pressure cylinder in the compound-engine. A common proportion in compound-engines gives the low-pressure cylinder and piston an area about two-and-three-quarter times as great as the piston-area in the high-pressure cylinder of the same engine. The back-pressure of five pounds per square inch in the low-pressure cylinder is therefore equivalent to one of 13.75 pounds per square inch on the piston in the high-pressure cylinder. The total mean effective pressures in both cylinders of the compound-engine being equal to fifty pounds per square inch in the high-pressure cylinder, the back-pressure reduces the power of the engine 27.50 per cent, instead of only 10 per cent, as in the simple-engine. As a result of this large influence of back-pressure on the output of the compound-engine, it may consume as much steam as a simple-engine would, per horsepower-hour, when delivering its exhaust into a heating-system. Unless the back-pressure of a heating-plant is quite small, the compound offers no higher economy than the simple engine while heating is required. In an increasing number of city buildings, particularly those devoted to amusement purposes, there is a demand for cooling during the hot months. This demand can be met only by the expenditure of energy, either in the form of mechanical work or of heat. Exhaust-steam can be readily utilized to supply this heat in apparatus for cooling by the absorption-system. Such a use of exhaust-steam for cooling, during the time when general heating is not necessary, tends to reduce still farther the disadvantages of simple-engines as to the cost of fuel. There is reason to expect that the demand for cooling during summer months will gradually extend to office, mercantile, hotel and other buildings, so that compound-engines will offer but slight advantages in them.

ALTON D. ADAMS.

SCRAPING THE BAPTISTERY OF FLORENCE.

RECENT visitors to Florence will have noticed with much misgiving the work of "restoration" going on at the famous Baptistery. Signor Ugo Ojetti, writing in the *Corriere della Sera* of Milan, draws attention to the case. The famous Battistero of San Giovanni was (he points out) covered with precious marbles by Arnolfo di Lapo towards the end of the thirteenth century. Exposure to the light and sunshine for centuries had given to these marbles a rich velvety color, and the slight cracks which some of them exhibited constituted no danger to the edifice, as the wall is not built of marble, but merely covered with slabs. A year ago the Cathedral authorities thought that the Battistero looked too old, and ordered it to be cleaned with pumice-stone.

In the green marble slabs placed in position by Arnolfo di Lapo under the eyes of Dante, writes Signor Ojetti, square holes were cut to support the beams which these new barbarians had ready for making the scaffolding. Upon the scaffolding planks were laid, while matting was stretched around, to hide the work of re-embellishment. With acids, pumice-stone and irons all the marbles which looked dirty were cleaned and scraped until they presented an appearance of youthful polish. Wherever the slightest crack was visible, the stone, which had seen the dawns and sunsets of 600 years, was cut away, and for yards and yards the fine old green marble was replaced with a dark marble of a color like wet slate. The vulgar Ravaccione of a dirty blue color was substituted for the cold white alabastrino; the edges were made sharp like razors, and look horribly new. By degrees, as the scaffolding was taken away, the holes made for the cross-beams were filled up with stone of a "howling" hue, and the interstices were filled up with painted cement. This has been done to six sides of the octagonal temple where all Florentines are baptized, and which for centuries was the Cathedral of Florence. The Battistero, the most perfect example of early Tuscan art, now appears as brilliant as though it were new, and when the scaffolding and the planks are completely removed, the doors by Andrea Pisano and Lorenzo Ghiberti, the statues by Danti, Rustici and Sansovino will seem in comparison dusty and lurid until someone takes it into his head to brush, wash, scrape and polish them also.

Not content with these exploits, the Cathedral authorities have asked for £600 in order to "clean" in the same way the basis of the Giotto belfry. Meanwhile, no funds are forthcoming to execute works necessary for the preservation of artistic treasures in the church of San Pancrazio, the Palazzo di Parte Guelfa and the church of San Lorenzo. San Pancrazio has been made into a cigar-factory and divided into two stories. In the Palazzo di Parte Guelfa frescoes by Giotto exist under the stucco in what are now firemen's headquarters, while the hall constructed by Brunellesco has been divided into three stories, its pillars painted, some of its windows half built up, and the whole turned into an elementary school.

Signor Ojetti's protest may (says the Rome correspondent of the *Morning Post*) help to induce the Italian public and the Government to intervene in preventing more vandalism of the kind described. Pressure of foreign public opinion will also be useful in convincing the Italians that masterpieces of art have a commercial value as attractions to sightseers, even if the Italians themselves are incapable of appreciating their beauty.

THE HISTORIC DEVELOPMENT OF THE ART OF MOSAIC.

MR. HAYLER'S instructive paper in the *Journal of the Society of Arts* [reprinted in our own issue for March 2] is most interesting, as at once calling attention to the great part played by the Saracens, or rather the Byzantine and Alexandrian Greek artists who worked for them, in the revival, during the so-called "Dark Ages" of Europe, of the ancient art of mosaic; and as Mr. Hayler has tacitly ignored this influence, I would wish to supplement his most useful paper with a few remarks to emphasize it. . . .

When the Saracens first invaded Palestine, they were greatly struck, according to Eutychius [Patriarch of Alexandria, A. D. 933-40] by the ornamentation of the Church of St. Helena, at Bethlehem, with glass mosaic; while one of the conditions of the peace concluded between the Caliph Walid and the Greek Emperor Justinian II was, according to Ibn Saad [A. D. 844-60], that the latter should furnish the former with a certain quantity of "fsefysa," for the decoration of the mosque he was building at Damascus — i. e., after the manner of the decoration, with colored and gilded glass mosaic, of the Christian Church of St. Sophia, at Constantinople. From Damascus and Cairo, and subsequently from Baghdad, the art spread everywhere with the religion of Islam, — eastward into India, and westward into Spain, where it culminated in unrivalled splendor at Seville, and Cordova, and Granada. Hence it is that the word "Mosaic" [first used by Elius Spartianus A. D. 293, and later by Trebellius Pollio, A. D. 320, and Aurelius Augustus, A. D. 430] has been ignorantly derived from "mosque," an etymology almost as absurd as that which derives the word from Moses! The word is, in fact, a doublet of "Museum" [cf. "Musæa," literally "temples of the Muses," the Roman grottoes, formed of a rude mosaic of pumice-stones, for the purpose of giving them artificially an appearance of natural caverns] and "Music"; while Mosaic itself is what was, in late Latin, called "opus Musivum," or artistic "pavimentum"; and that we use the word, not in its Latin form, but in its late Greek form — that is, *Mousaïkos* [an extension of *Mouseion*, neuter of *Mouseios*, "appertaining to the Muses," "decorative"] — is due to the revival of the art, from the eleventh century in Europe, having been initiated not by the Italians, but by the Byzantine Greeks. As for the word "mosque," it is a comparatively modern corruption, through the Spanish and French, of *masjid*; and undoubtedly the first *masjid* made by human hands for the use of the Arabs was none other than the *sajjadah*, or "prayer carpet"; while before that they found the house of God and gate of Heaven under any green tree in a desert place. Carpets, whether used for covering floors and walls, or as awnings, were also the original inspiration of the chromatic architectural decoration of ceilings, walls and floors¹; and the Art of Mosaic began with the decoration of prepared roads and passages and floors; and hence the earliest designation of it among the Romans was "pavimentum." With them, "pavimentum" [from *pavio*, *pavir*, *pavium*, "to tread down," "beat down," "ram down," and cf.: *sterno*, *stravi*, *stratum*, "to strew," "to level," "to stretch out," and *stratura*, "pavement," as we understand the word] was either of beaten and levelled lime, or similar material, left plain or decorated, or of beaten and levelled stone, brick, potsherd, or similar material, as glass, left plain or decorated. Under the former head they discriminated: (1) "*P. arenatum*," composed of pounded lime and sand; (2) "*p. marmoratum*," composed of lime pounded with marble or calc-spar; (3) "*p. Græcænicum*," composed of lime pounded with ashes and charcoal, to represent black marble; (4) a pavementum, composed as No. 1 or 2, decorated with colored designs applied to it while damp, and fixed by the gradual drying and hardening of its surface, after the manner of what we call *al-fresco* painting; (5) a similar stucco ["*opus albarium*"], to the already dried surface of which the colors are applied with a size, after the manner of what we call *tempera* ["*distemper*"] painting; (6) a similar stucco, on the already hardened surface of which the colors are applied with wax, and then burnt in with "the actual cautery"; (7) a similar stucco, or plaster, levelled in two layers, the lower of some dark color, and the upper white, the decorative design being etched through the white surface to the dark ground, after the manner of the work we call *sgraffito*.

Of these "pavimenta," Nos. 1, 2 and 3 are commonly prepared in India to this day; No. 4, or, perhaps, 5, is illustrated by the pavement of the Megaron of Tiryns, dating from before "the Trojan War," and decorated after the manner of the blue-and-white cross-striped cotton carpets [*dari*] of India; and No. 5 is certainly illustrated by the mural paintings of Pompeii. Of No. 6 there are no ancient examples extant, but it is beautifully illustrated by the "*pavimentum encausticum*" so widely used in Europe during the Middle Ages for architectural decoration: while the process followed in the preparation of these "encaustic tiles" was closely allied to the engobe [literally, "stuffing"] process followed in the ornamentation of both ancient [Greek *lecythi*] and modern pottery, in which the colors are worked into a "slip," or "slop," of fine clay, and fixed at low temperatures. Both processes gradually pass into the process for the decoration of pottery by glazing, glassing, or enamelling, i. e., by mixing such substances as tin or lead with such substances as salt or flint, and developing and fixing the colors determined on by fusion and vitrification at high temperatures.

¹ The Greek for floor is *dapedon*, and this word is formed from *dapis*, *tapis* or *tapēs*, "a carpet."

and this last process connects earthen and porcelain wares with mosaics-proper. Of course none of the numbers from 1 to 5, inclusive, can be classed as mosaics—which are inlaid, and artistic "pavimenta." The "pavimenta" of rammed, or otherwise inlaid, stone or brick, or other similar materials known to the Romans, were as follows:

(1) "*P. testaceum*," composed of rammed potsherds; (2) "*p. lithostrotum*" [i. e. "stone-stratum," "road," or "street"] laid with polygonal flags of silicious lava; (3) "*p. opustrotum*" [i. e. "baked stratum"], laid with bricks, often set in imitation of the arrangement of the seed-like "grains" on an ear of wheat [*opus spicatum* "tr"], or, as we say, "herring-bone" wise; (4) "*p. subegulaneum*" [i. e. "under the roof"], the paved floor of a room, or indoor passage; (5) "*p. subdialium*," an open-air pavement, particularly on the flat roofs of houses, on garden-terraces; (6) "*p. sectile*" [i. e. "cut"] composed of different-colored marbles cut into regular forms—*favus*, or "honeycomb"; *trigonum*, or "triangular"; *scutula*, or "lozenge"; and *tessera*, with its diminutive *tessella*, or "cube"; and of *abaculi*, small tiles, or dice [*tesserae*] of glass stained of various colors, in imitation of precious stones; (7) "*p. tessellatum*," or "*tesseris stratum*," a sectile pavement of large *tesserae*; (8) "*p. vermiculatum*" a sectile pavement of smaller *tesserae*, arranged not in diapers, of geometrical figures, but so as to represent natural objects—the "*opus majus*," being composed of larger *tesserae*, the "*opus medium*" of smaller, and the "*opus minus*" of very minute and delicate *tesserae*, like the *spiculae* used in the "Roman" and "Venetian" Mosaics of the present day; (9) "*p. sculpturatum*," in which the marble was cut out in the shape of the figure intended to be represented, as in the "Florentine" [*lavori di comesso*] and Agra mosaics of to-day; and sometimes was further engraved after the manner of the Triquetri marbles in the Albert Memorial Chapel, at Windsor; and (9) "*p. Alexandrinum*," "*Alexandrinum opus*," a variety of sectile pavement, of red-and-black marble inlaid in white marble, in elaborate geometrical figures. Gradually the term "*lithostrotum*" came to signify among the Romans exclusively what they later understood by "*opus Musivum*," or mosaic-proper; thus Pliny xxxvi, 60 (25):—"Pavimenta originem apud Græcos habent elaborate arte, pictura ratione, donec lithostrota [i. e., Mosaics] expulere eam" [A: xxxvi, 42 (21), and xxxv, 1 (1)]. Of course, as Mr. Hayler points out, "*Pavimentum*" in all its varieties was known long before the times of the Greeks and Romans. Beside the ancient Egyptian examples of it cited by Mr. Hayler, there is the example provided by the processional pavement of the god Marduck, recently discovered in Babylon by D. Koldey, composed of large flags of limestone intersected by small quarrels of red breccia, each bearing the name of Nebuchadnezzar. In the palaces of Nineveh we find floors of beaten earth, and of lime plaster, as in India, and of brick, and also of limestone flags, varied on the thresholds by door-sills of alabaster, carved with designs identical with those still to be seen on Indian carpets; and the jambs and lintels of the doors decorated with cones of terra-cotta, glazed in various colors on the flat ends, and fixed by the pointed ends in plaster, in such a manner as to produce a great variety of gay and geometrical patterns. In the Bible, in the account [Esther i, 6] of the six months' feasting given by Ahasuerus [Xerxes], to arrange for the third invasion of Greece, we are told that the gold and silver beds in the palace of Sushan were stood upon a pavement of red [? porphyry] and blue [? lapis lazuli] and white [? alabaster] and black marble. The "*Alexandrinum opus*" of the third and fourth centuries, A. D., was the direct forerunner of the characteristic so-called "Arabesque work" of the Saracens. They had, indeed, from the first used glazed tiles for the decoration of the exteriors and interiors of their houses; and the art of these tiles had come down to them in an unbroken tradition from ancient Egypt, Babylonia, Assyria and Persia. But the manufacture of glazed tiles had fallen into comparative neglect throughout Anterior Asia for some time before the rise of the Saracen power, and it was the conquests of Chingiz Khan, A. D. 1218-26, which would appear to have revived it throughout all the countries of Islam,³ this revival originating probably in China, which, with Southern India, continues to the present day to be a rich reserve of the decorative arts of Chaldæa and Babylonia.

That the art of true mosaic work was derived by the Saracens directly from the Greeks of Alexandria and Constantinople is proved by the Caliph Walid applying to it the term *sfejysa*.⁴ This is the

Greek *psephosis* [from *psephos*, "a pebble," and compare *psephotes*, inlaid with *tesserae*, and *psephotetes*, "a worker in mosaic"]; and that the *sfejysa* of Walid was glass mosaic may be inferred absolutely from the decoration of the contemporary Greek churches of St. Sophia, at Constantinople and Salonica, and the round temples at Salonica and Ravenna. The revival of mosaic work in India, under the Mo(u)gul Emperors, was due, partly, to still surviving Saracenic influences, but chiefly to the influence of the Italian artists who, during their magnificent reigns, were attracted to India. The Italians of the Renaissance developed two forms of mosaic, the mosaic of the modern Romans, the "*opus minus vermiculatum*" of the ancient Romans, and the mosaic of the modern Florentines, the "*pavimentum sculpturatum*" of the ancient Romans. It was the latter mosaic, in *pietra dura*, that the Italians used in the decoration of the Taj, at Agra, and which has ever since survived there as a local art, with a character of its own, at once racy of the soil, and of high artistic merit. About sixty years ago the manufacture of it was greatly stimulated by the exertions of Dr. T. Murray, Inspector-General of Hospitals, Bengal. When I wrote my "*Handbook to the British Indian Section of the Paris Exhibition of 1878*," the leading Musivarii [not Tessellarii] at Agra, were two Hindus, named Natu and Parusram. — George Birdwood in the *Journal of the Society of Arts*.



[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

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GRANT FOR EXCAVATIONS IN ÆGINA.—The Bavarian Government has granted a large sum to Professor Furtwängler, Director of the Glyptothek, for excavations in the Island of Ægina, the Greek Government having given permission for the work. — *Exchange*.

nobled variety of Tarsia, in which ivory is inlaid in solid wood—cypress, or walnut, or ebony. In the Tarsia, which takes the name of Reissner, exquisite wreaths of flowers are set on plain surfaces of wood, or within panels bounded by diapers, or lines, of quiet colors. In the costly Tarsia named after Boule, thin brass, or sometimes ivory and enamelled metals, is inlaid in tortoise-shell. Parquetry is Tarsia used for flooring; and Marquetry, literally "marked," "diversified," "variegated," work, is synonymous with Tarsia, in the original sense of that term, and includes all varieties and applications of wood-inlay. When Tarsia or Marquetry is combined with Mosaic work, as in the Florentine furniture ornamented with the so-called "Mosaic in high relief"—which is really minor sculpture—it becomes difficult to define between them; but the limits of mosaic-proper are sufficiently indicated by its earlier Græco-Latin name, "*lithostrotum*," and earlier Greek name, "*psephosis*." Mosaic is "artistic" "stone [and glass] inlay," and all wood-inlay is Tarsia, or Marquetry. The Greeks and Romans practised the art of wood-inlay at least in the form of simple veneers; but they had apparently no name for either marquetry or veneering. [Compare Pliny xvi. 83, 84 (43).]

³ Some of the forms of Roman "*pavimenta*" are difficult to distinguish from masonry. In the nomenclature of the latter art, "*opus incertum*" was built up of rough stones; "*opus reticulatum*" [dictyothecion of the Greeks] of diamond-shaped stones; and "*opus spicatum*" of bricks arranged "herring-bone" wise, as seen in the walls of Pevensey Castle.

⁴ To this day the "Arabesque" embroidery of Cairo is all done by Greeks.

⁵ Compare the footnote, Vol. I., pp. 287-8, of Sir Walter Armstrong's translation of Perrot and Chipiez's "*History of Art in Chaldæa and Assyria*," Chapman and Hall, 1884.

⁶ The ordinary present names in Persia, Syria and Egypt of mosaic work are *mosai* and *mosai*, and also *khatmi* ["ring work," "seal work"] and *Torai*. But the last term is strictly applicable only to inlays of wood. It means the work, or style, "of Tarsia," and is the Tarsia, or Tarsia, of the Italians, who, during the fourteenth and fifteenth centuries, through the Venetians, derived this beautiful art of surface-decoration for furniture from Persia. Originally Tarsia was of ebony, ivory (sometimes stained green) and brass, or p-wire, inlaid in wood, in geometrical patterns only, as in the "*Shirazi boxes*" and the "*Bombay boxes*" of the present day. [See my Memo. "Bombay Branch Royal Asiatic Society," Vol. vii, 1861-3.] But in Europe Tarsia now includes inlays of all sorts of stained woods, representing buildings, figures, landscapes, sometimes enclosed within a geometrically designed bordering, as on the covers of "Sorrento boxes." Certosina, so named after the celebrated Carthusian monastery between "Milan the Grand" and "learned Livia," where it was first employed in the decoration of the choir, is an en-

NOTES & CLIPPINGS

RESTORING ST. MARK'S.—I think no better proof of the progress Italy has made during the last twenty years in true artistic taste and sentiment is needed than the fact that, whereas not so very long ago Ruskin appealed to England for a fund to enable copies to be made of the invaluable mosaics and carvings in St. Mark's Church, Venice, before they fell into complete ruin, it is now the Italian Government itself that has taken in hand their saving and their restoration, and England has now only to look on with approval. Ruskin, in his later days, was apt to imagine that he had preached in the desert, but were he alive now he would see that here in Venice his teaching has not been thrown away. The Ministry of Public Works has realized that to restore means to restore, and that to destroy an ancient thing and to replace it by a modern one is not to restore it. Before the new order of things, when anything was considered unsightly it was pulled down, often thrown away, and common work of the period set up in its stead, with the result that the thing "restored" was not ancient, nor valuable, nor beautiful, nor durable—not even a good copy, since the workers then had neither artistic eye nor taste. Now, however, this is all changed, and the Government, by the appointment of the right men for the work, has insured that St. Mark's should be preserved and restored as nearly perfectly as is humanly possible. Any one who sees St. Mark's after an absence of a few months will at once be struck by the manner in which the old "Opus Alexandrinum" mosaic work, with which the church was originally paved, and of which so little remained, has spread itself out over the flooring. All round the great white slabs under the central dome, in the two transepts, and down the right aisle, all is rich in subdued color. The disfigurements of the last two centuries have disappeared. The hundreds of bits of common, rubbishy Verona, Brescia and Carrara, with which the original valuable *tesserae* had been replaced, have been emptied into the yard behind the church, and the lovely *tesserae* of porphyry and verd antique, jasper and malachite, once more occupy their rightful place—priceless material lately excavated from the ruins at Aquileia, Concordia and Cyrao. It is not so much, however, the beauty of the material that is so striking as the masterly manner in which the work is done. It is really hard to believe that the inequalities of the pavement and the worn appearance of the *tesserae* is not the work of time and of the treadings of many feet, instead of being the result of ingenious and anxious study. I learn that the architect, before undoing any part of the pavement, takes a plaster cast of it, numbering the position of each of the ancient *tesserae* and from this he forms his restoration, having each separate bit hand-cut and ground to the exact size and shape of the one it is to replace. Where a pattern is half old and half new it is impossible to tell where the one begins and the other ends. It is really what some one has called "The Philosophy of Restoration." If any one wishes to see in what a disgraceful condition the whole pavement was in up to very lately he has only to look at any portion not yet restored, such as the left aisle, which was cobbled by a local factory in the ignoble days of thirty years ago, or in front of the Altar of the Virgin, where one sees a few bits of antique marbles lost in a wide stretch of common Verona and Carrara *tesserae*, a crooked square stone filling one blank, and great blotches of plaster the others, making the whole look for all the world like a beggar's coat. Forming a striking contrast to this particular blot upon the harmony of the church is one of the finest bits of restoration that have been done. It is a huge rose of geometrical pattern, formed of the richest porphyries and verd antique, radiating from a centre; and this centre, an offering, I believe, of the architect himself, is a thick slice of an exquisite amethyst, over three inches in diameter. If the unrestored part I spoke of above is like a beggar's coat, this one can only be likened to a king's robe of state. Other improvements are giving back its richness to the church. A splendid slab of verd antique, found in the rubbishy heaps with which the various recesses of the church were found to be filled, has been sliced in two, and now one-half forms the front of the Altar of St. Peter, and the other the centre of a panel in the Zeno Chapel. The passages leading to the sacristy and to other chambers have all been lined either with marble or with gold mosaic. The great cupolas have now been given back to their original splendor, the decayed and blackened plaster, in which their mosaics were imbedded, and which had dimmed their lustre, has been scraped away, and each *tessera* secured by good cement, so that now the old colors shine out once more to full advantage. Much other work has been done, but I have said enough, I think, to show that Government and architect are doing credit to themselves and to St. Mark's Church. — *Venice Correspondence of the London Globe.*

BARTHOLDI AND THE PALAIS LONGCHAMPS, MARSEILLES.—Some months ago we announced that an action was about to be taken by M. Bartholdi, the sculptor, whose figure of "Liberty" dominates the harbor of New York, against the Municipality of Marseilles, to compel them to inscribe his name on the commemorative tablet of the Palais Longchamps as the designer of that remarkable structure. In guide-books and in architectural treatises when the group is mentioned the credit is given to the late M. Esperandieu, and his family employed counsel to sustain his rights to the authorship. The hearing of the action began the second last week of February. The history, as told by the advocate, went back to 1858, when the Municipal Council decided to erect an immense fountain as a memorial of the completion of a canal. M. Bartholdi was at that time a young sculptor who had already obtained the first prize for a fountain at Bordeaux. He was invited to supply a design for the fountain at Marseilles. Instead of a fountain or cascade M. Bartholdi proposed that the fountain, a museum and a picture-gallery should be constructed in such a way by the introduction of a colonnade and gardens as to form one composition. It was admitted by the then Mayor that M. Bartholdi's designs formed the

original conception of the work as it now stands, and that M. Esperandieu was called in to prepare the working-drawings which were necessary for the realization of the project. But in the course of the arrangements M. Bartholdi's share in the work was ignored. In 1861 he brought an action against the Municipality for usurpation of his artistic rights, and for having carried out his scheme and applied an architect's name to it. His claim of \$400 for damages was, however, rejected by the Court. The sculptor was then a young man, and as the art he followed is not always profitable he was unable to continue his case by bringing it before a Court of Appeal. After nearly forty years he has placed his claim on different grounds. He does not ask for damages and he makes no charges against M. Esperandieu. All he seeks is that the inscription which has been placed under the frieze of the central part of the structure should be corrected by the addition of the name of M. Bartholdi alongside the architect's. It is remarkable that although the courts in 1863 declined to award the sculptor any damages, ten years afterwards the Conseil d'Etat declared that M. Bartholdi was the author and proprietor of the original plan, and awarded him 5,000 francs as compensation. In 1897 the committee of the Society of French Artists considered the claim, and two architects, M. Girard and M. Loviot, were sent to Marseilles to investigate the circumstances. They ascertained that M. Bartholdi's plans were imposed on M. Esperandieu by the Council, whose instructions were to have them carried out, as they expressed the intentions of the Municipality. The architect admitted that he had seen one of the designs, but he knew nothing about the remaining plans, and that one marked No. 4, on which M. Bartholdi relied as proof of a resemblance, he had never seen. The advocate, on behalf of the family of the architect, begged the tribunal to refuse permission to M. Bartholdi to inscribe his name on the structure. The advocate for the city based his argument on the former rejection of the claim. But while admitting the value of the services rendered by M. Bartholdi, he suggested that a compromise should be adopted. He said that a model of M. Bartholdi's design on a small scale might be placed in the museum, and that it should bear the date on which the design was sent in. Such a concession on the part of the defendants revealed that the Municipality think their case is not a strong one. After hearing the addresses during three days the Courts reserved judgment. M. Bartholdi will no doubt have to pay heavily for the privilege of having his name in an inscription, but he will have the satisfaction of knowing that he gained a moral victory. — *The Architect.*

DAM-BUILDING ON THE NILE.—The announcement by Sir John Aird that the last Assuan channel has been closed, and that the Nile can be traversed on foot, shows the rapidity with which the work of making the new reservoir is being pushed forward. In February, 1898, the contract was let by the Khedive in Council, and the conditions were that a dam should be constructed at Assuan, and another at Assiut within five years from the following July, the cost to be met by annual instalments of £160,000, beginning on the completion of the dams and extending over thirty years, or about £4,800,000 in deferred payments. The Assuan dam is built on the granite reefs of the cataract, and consists of granite ashlar; it is 76 feet above the river-bed, and the head of water being about 46 feet, the Philæ Temple is preserved. The approximate length is 6,000 feet, and the amount of water to be stored is estimated at 1,065,000,000 cubic metres. The Assiut dam is intended to raise the level of the river during the summer for the benefit of Middle Egypt and the Fayum. Both dams will be provided with navigation-locks, and the regulation of the supply will be by means of sluices. Sir Benjamin Baker is the chief engineer of the scheme, and operations were begun immediately upon the signing of the contract. — *N. Y. Evening Post.*

PRINCE CHIGI'S FINE REDUCED.—The appeal of Prince Chigi against the decision of the lower court sentencing him to pay a fine of \$63,000 for selling outside of the country Botticelli's famous painting of "The Virgin and Child," in violation of the law against selling valued works-of-art to foreigners, has resulted in a very material reduction of the fine. The Court holds that the fine should not have exceeded \$400, and this, through the operation of the amnesty granted upon the accession of King Victor Emmanuel, now amounts to only \$40. — *Exchange.*

PROTECTION FOR GERMAN SCULPTORS.—Thirty Dresden sculptors have entered protest against the policy of spending most of the 20,000 marks assigned by the city for the annual purchase of statuary on the works of foreigners. — *N. Y. Evening Post.*

STATUE OF ROCHAMBEAU FOR WASHINGTON.—Representative McCleary, of Minnesota, Chairman of the House Committee on Library, has introduced a bill to appropriate \$7,500 for the purchase of a replica of the bronze statue by Ferdinand Hamar lately erected at Vendôme, France, of Count Rochambeau, who commanded the French forces sent to the assistance of this country in the War of Independence. The Chairman of the Joint Committee on Library and the Superintendent of Public Buildings and Grounds are authorized to select a site for the statue and pedestal. — *Exchange.*

THE PASSING OF THE PERAMBULATING BATH.—The last of the private-bath proprietors of Vienna has just announced his intention of giving up business. He says the constantly growing number of dwelling-houses provided with bath-rooms is responsible for the dying-out of his particular industry. The huge wagons of the private-bath proprietors were once a familiar sight in the streets of Vienna. They contained tanks of steaming hot water, tanks of cold water, and coarse wooden bathing-tubs, which were delivered at the different private houses and called for after the customers had indulged in their ablutions. The price of one bath delivered at home, c. o. d., ranged from twelve cents to forty cents, according to the quantity of water used and the time absorbed in using the tubs. — *Boston Herald.*

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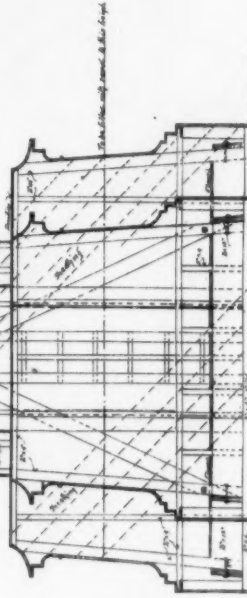
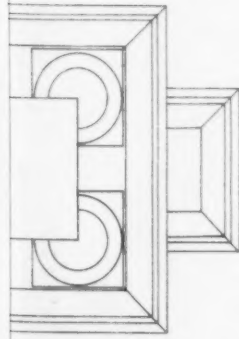
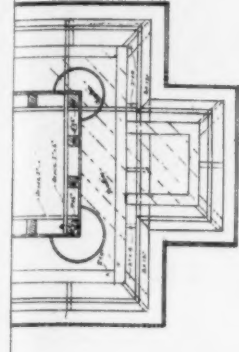
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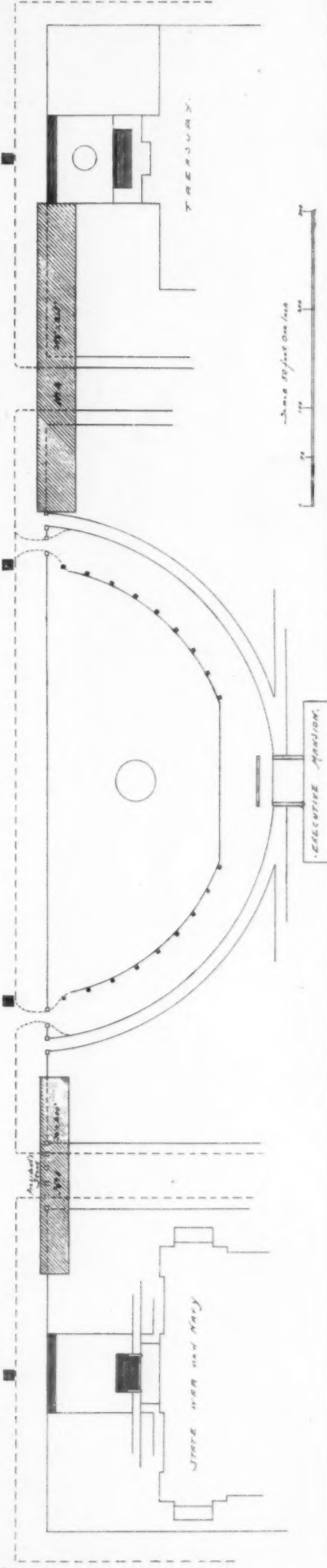
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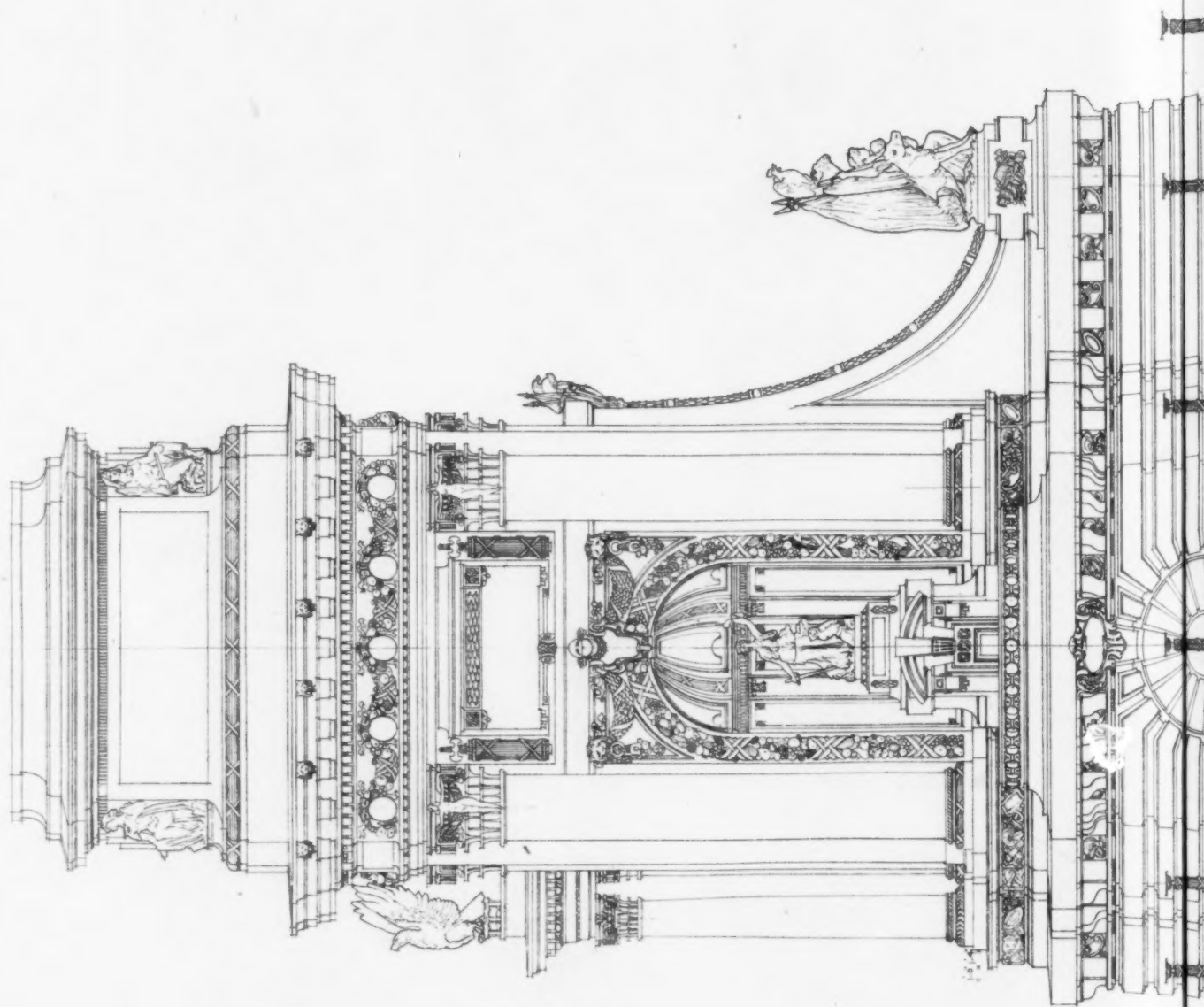
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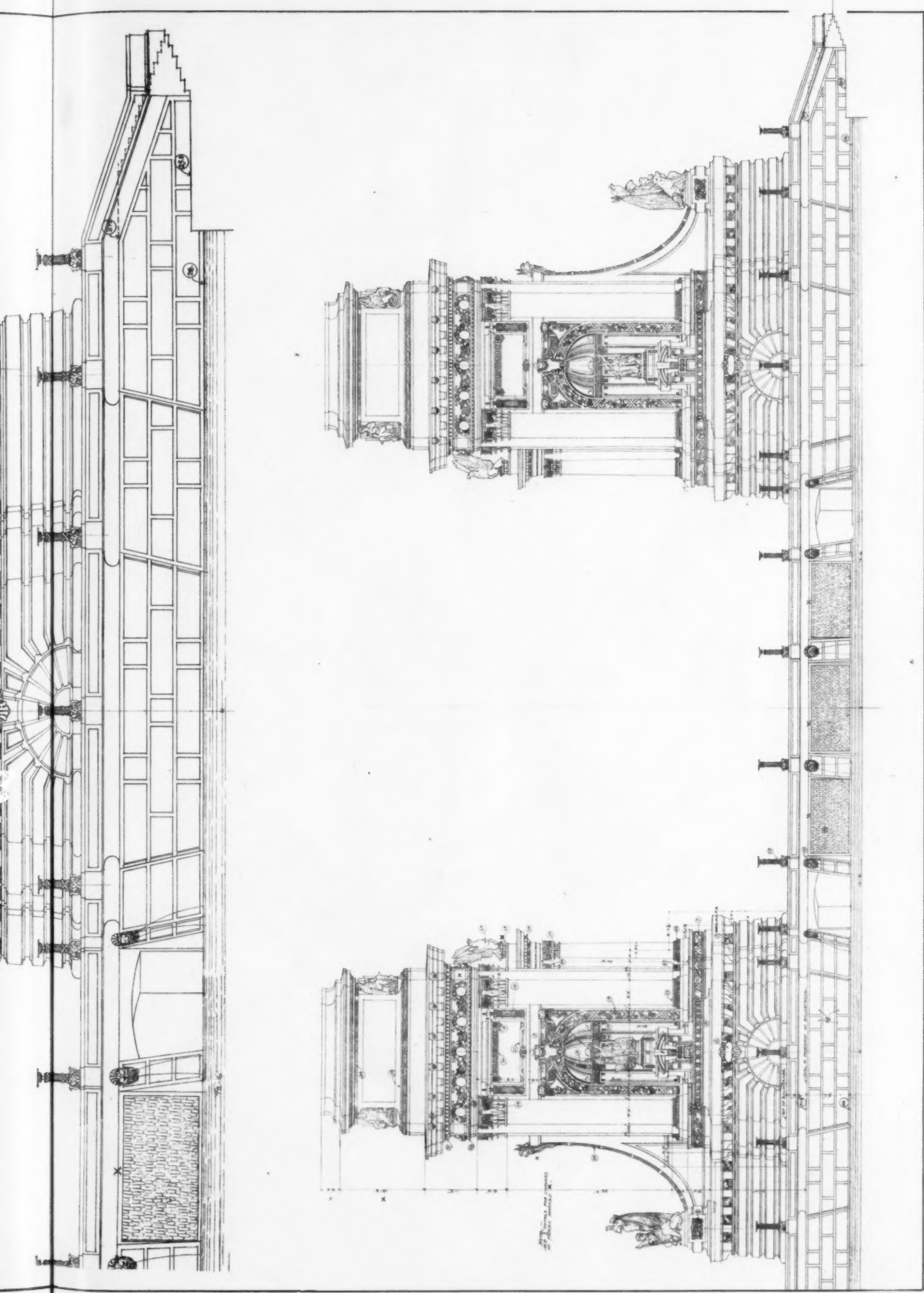
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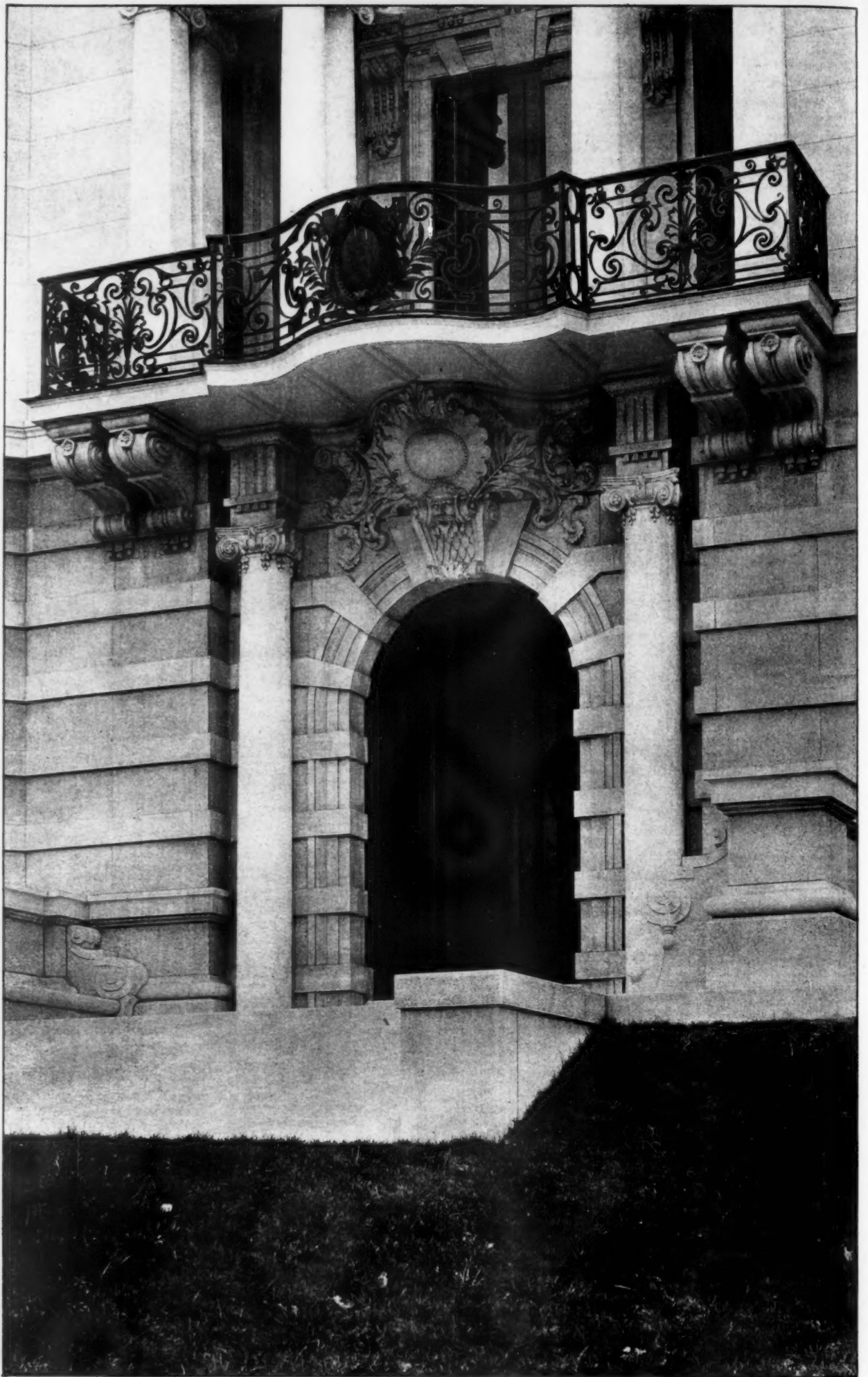
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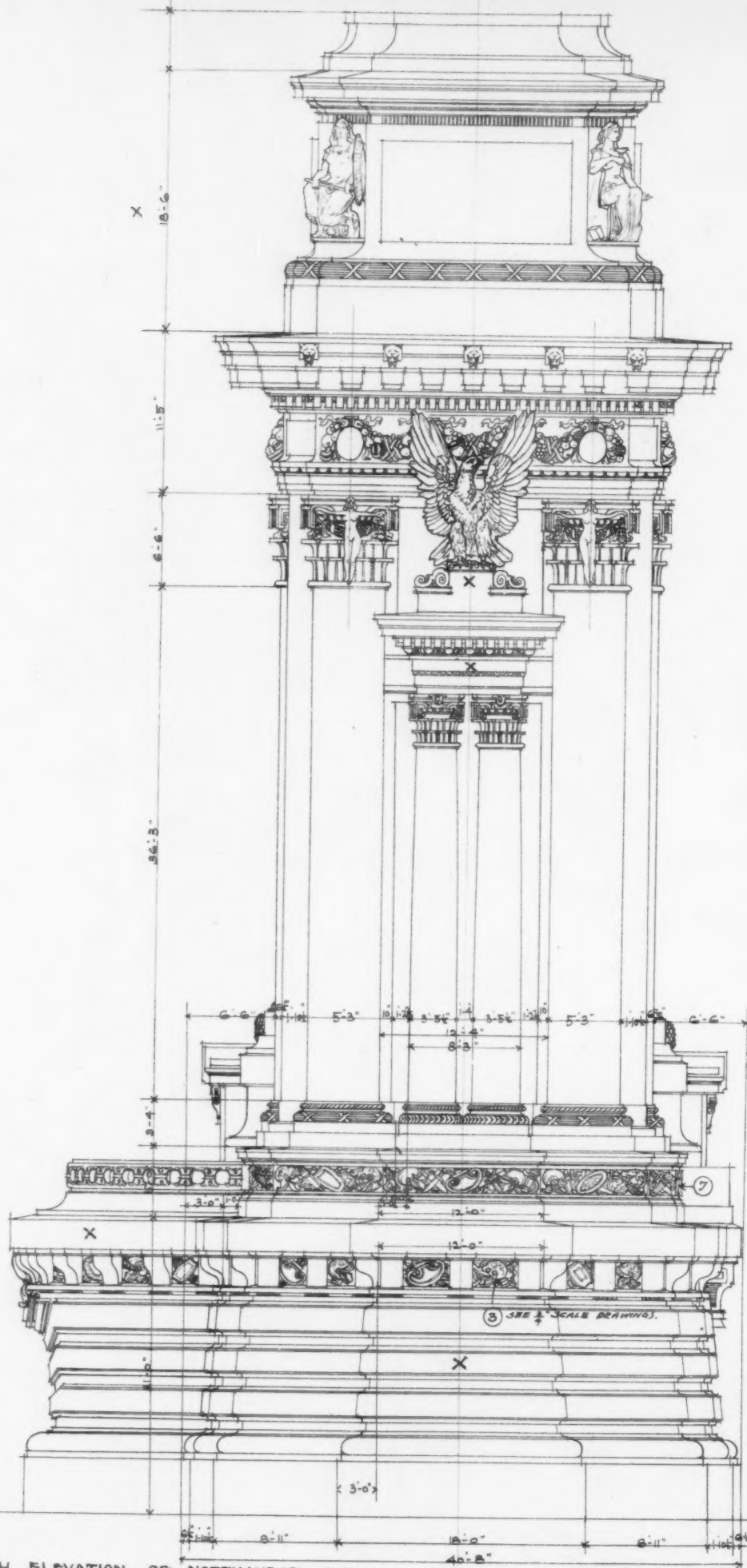


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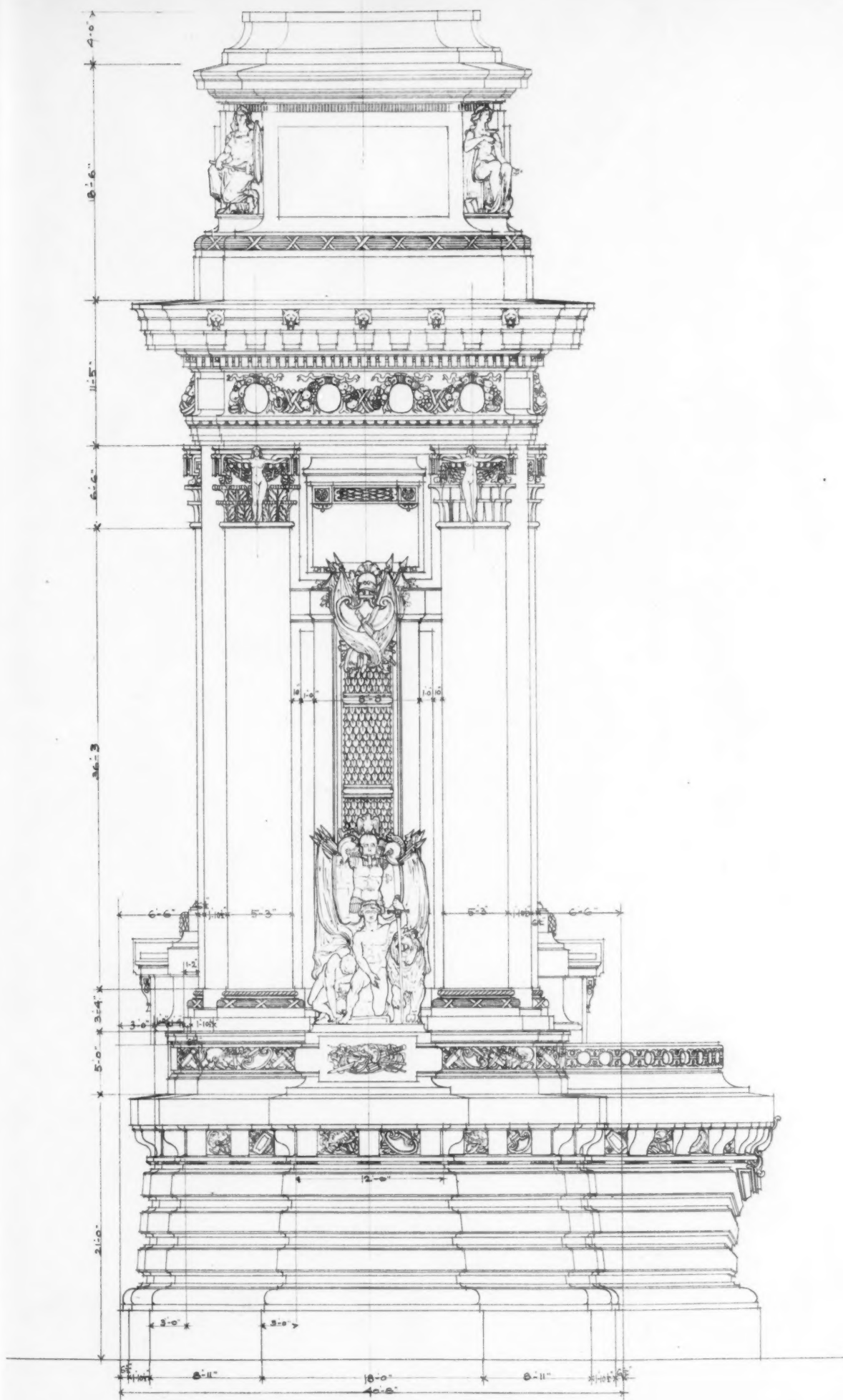
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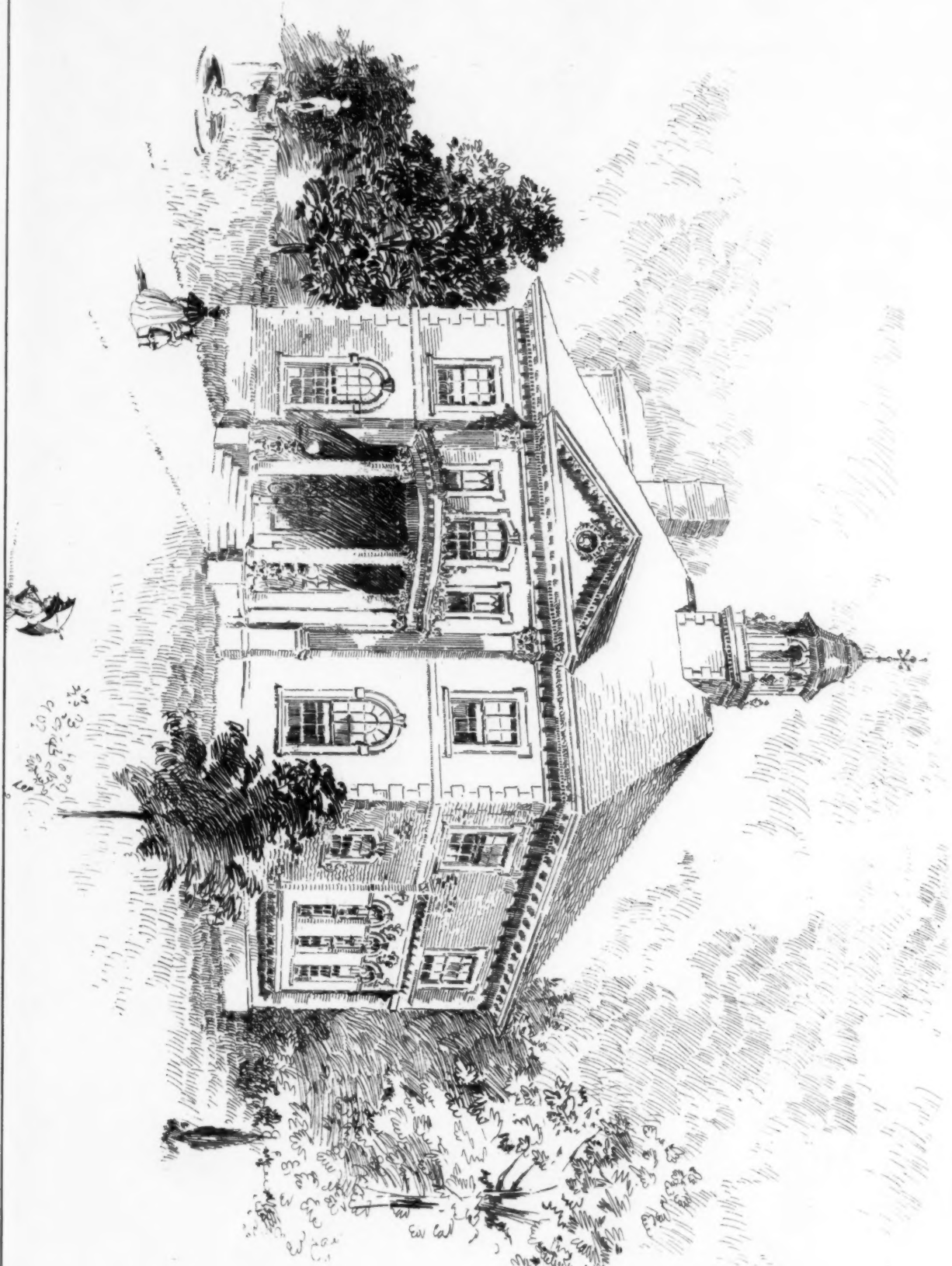
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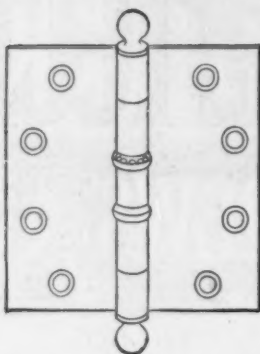
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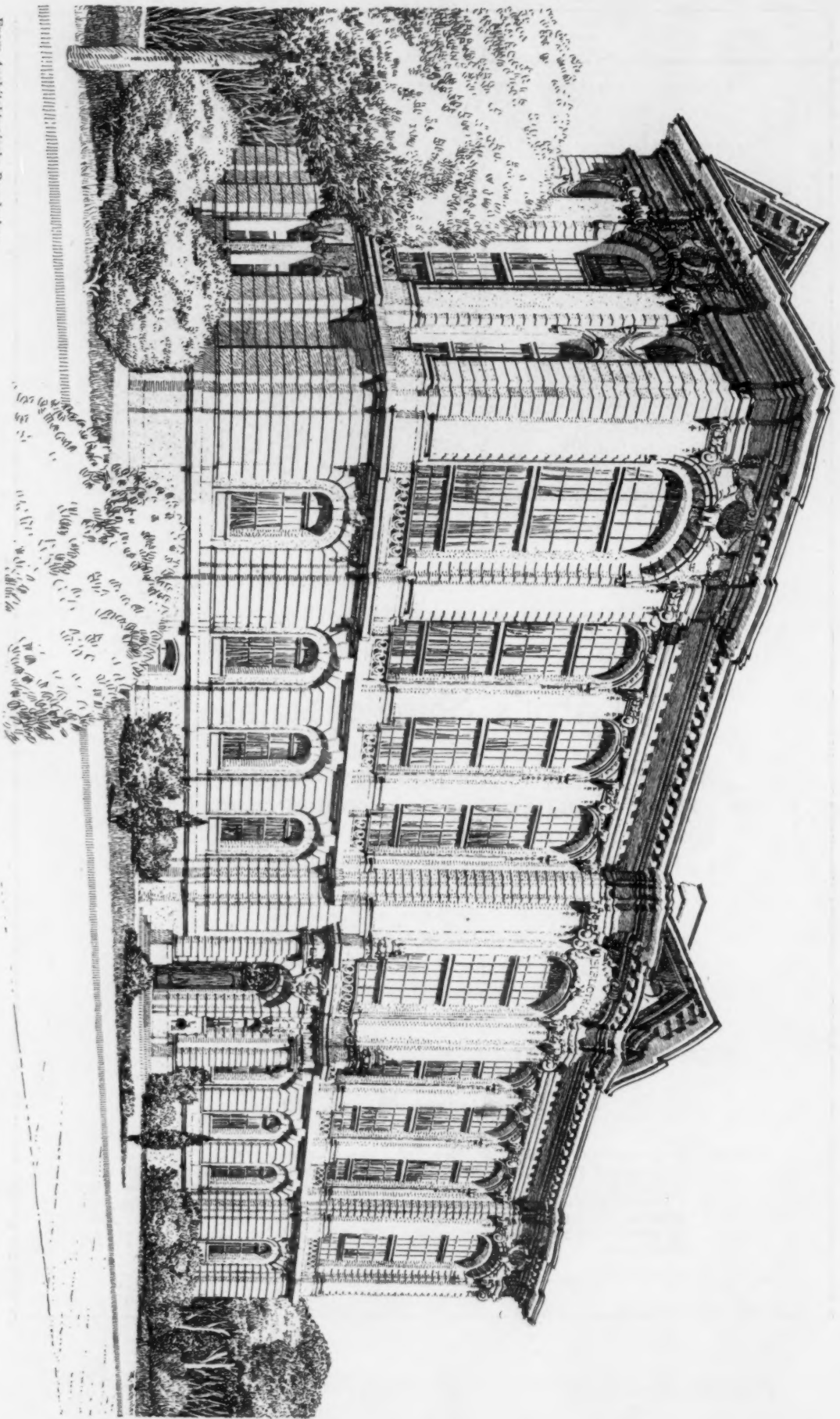
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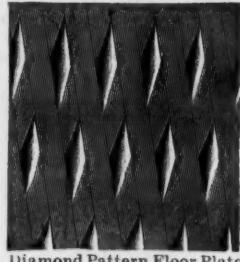
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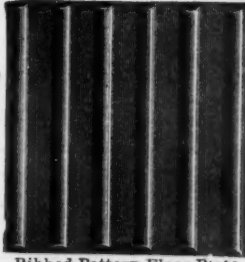
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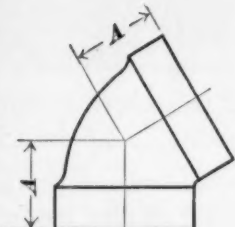
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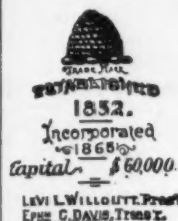
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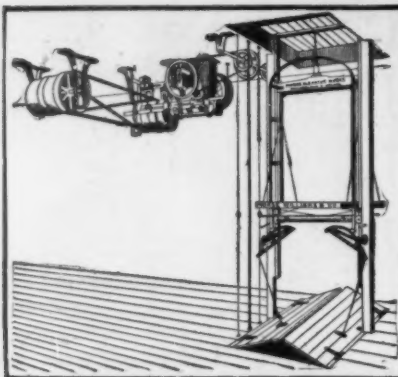
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CINCINNATI, OHIO

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Des Moines, Ia.—It is said that \$50,000 will be spent in enlarging the Wellington Hotel at 5th and Grand Ave. H. Hansen, of Hansen Improvement Co., owner.

Detroit, Mich.—The Detroit City Gas Co. will build a new plant at the foot of 22d St. at an estimated cost of \$150,000. H. D. Walbridge, general manager, 230 Woodward Ave.

Dubuque, Ia.—The Library Board has selected John Spencer as architect for the proposed \$50,000 library.

Escanaba, Mich.—A \$25,000 three-story brick and stone hotel will be erected for John Christy, according to plans by Charlton, Gilbert & Demar, 82 Wisconsin St., Milwaukee.

Fort Dodge, Ia.—Report states that the plans of H. J. Koch & Co., 136 Mason St., Milwaukee, Wis., have been accepted for the Carnegie Library, to cost about \$40,000.

Gloversville, N. Y.—Andrew Carnegie has offered to give to the city \$25,000 to erect a building to contain the library that is already owned by the city on condition that \$2,500 be raised each year to maintain it.

Grand Rapids, Mich.—Martin A. Ryerson, of Chicago, Ill., has offered this city \$150,000 for a public library.

Green Bay, Wis.—It is stated that the Polish Franciscan Society of Sobieski has decided to erect a church and monastery in this city, to cost about \$30,000.

Greenville, Ga.—It is stated that the Commissioners of Meriwether County have voted to erect a court-house, cost not to exceed \$25,000.

Hempstead, L. I.—Andrew Carnegie has offered to give the town \$25,000 to establish a library, provided a satisfactory amount is guaranteed for its maintenance. Mrs. O. H. P. Belmont, August Belmont, William C. Whitney and a number of others have signified their intention to assist in providing this support.

Hoboken, N. J.—The House has passed a bill authorizing this city to expend \$100,000 for a new school.

Huntsville, Ala.—The First Presbyterian Society is negotiating for a site to erect a \$50,000 academy for girls.

Indianapolis, Ind.—Renwick, Aspinwall & Owen, 367 Fifth Ave., New York, N. Y., have drawn plans for a \$175,000 Cathedral, to be built on Meridian St., for St. Peter and Paul's congregation. It will have a seating capacity of 2,000 persons.

Ithaca, N. Y.—Hiram Sibley, Jr., of Rochester, has given to Cornell University \$85,000 for a new building in connection with the Sibley College of Mechanical Engineering.

Jackson, Mich.—The old Hibbard House will be razed and a \$100,000 five-story brick, stone and marble structure built on the site.

Jackson, Tenn.—Reports state that the Elks Association has decided to erect a \$35,000 opera-house.

Kankakee, Ill.—The plant of the Archer Starch Co. was destroyed by fire on March 12 with a loss of \$300,000. The insurance was \$200,000, and it is said that the plant will be rebuilt at once.

La Crosse, Wis.—The plans of E. R. Liebert, 107 Wisconsin St., Milwaukee, have been accepted for a \$25,000 chapel to be erected on 9th and Winnebago Sts. for the convent of the Franciscan Sisters.

Lexington, Ky.—The commissioners of the Eastern Kentucky Asylum for the Insane will ask the Legislature to appropriate \$100,000 for new buildings.

Los Angeles, Cal.—Weymouth Crowell, of Pasadena, has received the contract for erecting a hotel at 4th and Spring Sts. at \$120,266; owner, J. W. Hunter, of Plainfield, N. J.

Louisville, Ky.—Dodd & Cobb, 4th and Jefferson Sts., have been chosen architects for the proposed \$100,000 Masonic Temple and auditorium. Two new school-buildings are to be erected in this city. One will cost about \$60,000, the other \$20,000. Plans by D. N. Murphy.

Meadville, Pa.—Plans will soon be drawn up for a \$30,000 library for Allegheny College.

Miami, Fla.—The plans of Wilson & Edwards, of Columbia, S. C., have been accepted for the Dade County court-house, to cost about \$40,000.

Minneapolis, Minn.—C. S. Sedgwick is making plans for a \$50,000 three-story office-building, 100' x 175', to be erected at 3d St. and 2d Ave. N., for J. E. Bell.

Mobile, Ala.—The Athlestone Club will build a \$30,000 club-house on St. Francis St. The Gulf Coast Shipbuilding and Dry Dock Co. will establish a plant in this city. Capital \$3,500,000.

Montgomery, Ala.—The congregation of the First Baptist Church will erect a new church building on Perry St.; cost, \$75,000.

Newburyport, Mass.—It is stated that the trustees of the Anna Jaques Hospital will erect a \$50,000 hospital building.

New Haven, Conn.—Brown & Van Beren, Exchange Building, have prepared plans for an eight-story store and office building, steel construction, to be erected at 902 Chapel St., for Edward Malley; cost, \$135,000.

New Orleans, La.—It is reported that Thos. Sully will prepare plans for an eight-story building to be erected on the Morris estate at Common and Carondelet Sts.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

New York, N. Y.—Through the generosity of John Stewart Kennedy, president of the managers of the Presbyterian Hospital, the nurses of that institution will have a handsome new home, equipped with a roof-garden and gymnasium. The structure will cost about \$300,000.

Report states that the trustees of the N. Y. Medical College and Hospital for Women, 19 W. 101st St., have accepted plans for a new building which will adjoin the present building and cost about \$40,000. Wm. B. Tuthill, archt., 287 Fourth Ave.

Plans have been made by J. B. Baker, 156 Fifth Ave., for a \$250,000 eight-story brick and stone addition to the Grand Union Hotel.

Niagara Falls, N. Y.—The plans of Orchard & Joralemon, Gluck Building, have been accepted for an eleven-room brick school to be erected on Ferry Ave.

Norfolk, Va.—The Business Men's Association will erect a new \$100,000 building on Plume St.

Ottawa, Ont.—Andrew Carnegie, as the result of a request from the Mayor, has given to the city \$100,000 for a public library building.

Peoria, Ill.—Reeves & Baillie, Y. M. C. A. building, have prepared plans for a \$30,000 three-story red stone newspaper building, for the Peoria Evening Star.

Philadelphia, Pa.—The permit to build the new \$500,000 banking and office building for the Commercial Trust Co., at 15th and Market Sts., will be taken out in a few days.

Port Jervis, N. Y.—Andrew Carnegie recently offered Port Jervis \$20,000 for a library building on the usual conditions. Mrs. Alice Van Ness, wife of Cornelius H. Van Ness, the octogenarian millionaire, has offered the town two valuable lots in Ferguson Ave. for the site for the building.

Princeton, N. J.—Henry Stafford Little, of Trenton, has offered to give \$100,000 to the University for the erection of a dormitory to be joined to Stafford Little Hall. Mr. Little is the giver of Stafford Little Hall and the lectureship bearing his name.

Richmond, Va.—M. J. Dimmock, 1111 E. Main St., has prepared plans for a \$50,000 office-building, to be erected on 12th St., near Main St., for the Virginia-Carolina Chemical Co.

Roanoke, Va.—The rebuilding of the Virginia College will cost \$30,000.

Saginaw, Mich.—Clarence Cowles, 116 N. Washington Ave., is preparing plans for a \$10,000 church for St. Mark's Society.

St. Louis, Mo.—Andrew Carnegie has announced that he will give, conditionally, \$1,000,000 for the erection of a public library building in this city. The city must provide a library site and \$150,000 for maintenance. A new \$100,000 building will be erected for the Mary Institute.

Topeka, Kan.—H. M. Hadley, Columbia Bldg., has prepared plans for a \$30,000 pressed-brick school, to be built on 4th and Western Aves.

Waco, Tex.—A new Methodist Church is to be erected costing \$30,000.

Waltham, Mass.—An eight-room school-house will be erected on Chestnut St., costing in the neighborhood of \$40,000.

Wheeling, W. Va.—Plans are being prepared by Edward B. Franzheim for the five-story stone, brick and steel theatre and office building to be erected at 12th and Chapline Sts. for the Board of Trade Building Co.; cost, \$150,000.

APARTMENT-HOUSES.

Chicago, Ill.—Indiana Ave., Nos. 4540-42, three-story bk. apart., 44' x 70'; \$25,000; o., H. C. Miller; a., A. G. Lund.

Hazel Ave., cor. Leland Ave., three-story bk. apart., 64' x 124'; \$50,000; o., W. H. Madden; a., W. L. Klawer.

Sheridan Road, cor. Edgemoor Pl., four-story apart., 65' x 145'; \$75,000; a., H. L. Newhouse.

Detroit, Mich.—Four-story bk. apart., 43' x 90', gravel roof, steam; \$25,000; a., Joy & Bancroft.

Cass Ave., cor. Sprout St., three-story st. apart., 60' x 100', gravel roof, steam; \$30,000; o., Dr. J. D. Kennedy; a., Louis Kamper.

Grand Rapids, Mich.—Three-story & base. bk. & st. apart., 90' x 100'; \$40,000; o., Chas. W. Gindele; a., Frost & Granger.

New York, N. Y.—Broadway, cor. 87th St., seven-story bk. flat & stores, 85' x 100'; \$195,000; o., Alex. Walker, 414 Riverside Drive; a., Geo. F. Pelham, 503 Fifth Ave.

Ninety-fifth St., nr. Riverside Drive, seven-story bk. & st. flat, 90' x 100'; \$160,000; o., Lorenz Weiher, 81 E. 125th St.; a., Schneider & Hertz, 46 Bible House.

Eleventh St., Nos. 281-283, 2 five-story bk. & st. flats, 25' x 83' 6"; \$40,000; o., Daniel Rosenbaum, 153 E. 80th St.; a., Chas. Rentz, 153 Fourth Ave.

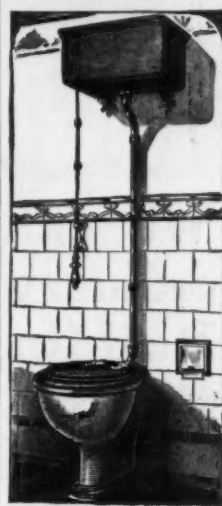
One Hundred and Fifth St., nr. Amsterdam Ave., seven-story bk. flat, 49' x 90'; \$100,000; o., John Paternos Sons, 507 W. 112th St.; a., M. V. B. Ferdon, 243 W. 57th St.

Monroe St., Nos. 129-133, 3 six-story & base. bk. flats with stores, 25' x 85'; \$80,000; o., Lippman & Gold, 58 Rutgers St.; a., Horenberger & Straub, 122 Bowery.

Allen St., Nos. 125-127, 2 six-story & base. bk. flats, 25' x 75'; \$100,000; o., Jacob Fischel, 197 Henry St.; a., M. Bernstein, 245 Broadway.

Jefferson St., cor. Henry St., seven-story bk. apart., 60' x 60' & 74'; \$85,000; o., P. & M. Horowitz, 51 Greene St.; a., M. Bernstein, 245 Broadway.

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BUILDING INTELLIGENCE.

(Apartment-Houses Continued.)

One Hundred and Twelfth St., nr. Lenox Ave., seven-story bk. flat, 75' x 75'; \$140,000; o., L. A. Liebeskind, 36 W. 115th St.; a., G. F. Pelham, 503 Fifth Ave.

Morningside Ave., from 122d to 123d Sts., 2 seven-story bk. & st. flats, 94' x 100'; \$600,000; o., Geo. L. Felt, 60 St. Nicholas Ave. or 246 W. 106th St.; a., Fred'k C. Browne, 143 W. 125th St.; b., Henry L. Felt, 534 W. 124th St.

Broome St., cor. Essex St., seven-story bk. flat, 25' x 70'; \$35,000; o., Binder & Baum, 167 Rivington St.; a., M. Bernstein, 245 Broadway.

HOSPITALS.

Aberdeen, S. D.—Three-story & base. bk. hospital, 32' x 63', hot water; \$20,000; o., Sisters of the Presentation; a., E. J. Donohue, 58 Gilligan Block.

HOUSES.

Boston, Mass.—Whitby Terrace, No. 11, Ward 25, 2½-story fr. dwell., 30' x 48', furnace; \$5,000; o., Chas. A. Woodsum; a., S. B. Etter.

Beach St., Nos. 903-11, Ward 11, 5 three-story bk. dwell., 30' x 45', hot air; \$50,000; o., Marshall Wentworth; b., L. L. Sellow; a., W. L. Morrison.

Lexington St., nr. Putnam St., Ward 1, 3 three-story fr. dwell., 21' x 64', hot water; \$15,000; o. & b., L. A. Ginsburg; a., A. M. Rogers.

Newbury St., nr. Charlesgate, Ward 11, two-story bk. dwell., 60' x 92', steam; \$10,000; o., A. L. K. Volkman; a., M. W. Lewis.

Marion St., Nos. 228-33, Ward 1, 5 three-story fr. dwell., 22' x 47', stoves; \$20,000; o. & b., J. Goldinger; a., J. S. Eastman.

Cambridge, Mass.—Antrim St., No. 113, three-story fr. dwell., 28' x 54', furnace; \$6,300; o., Antonio Cuneo; a., C. H. Bartlett.

Dana St., cor. Chatham St., two-story fr. dwell., 32' x 51', hot air; \$7,000; o., Dora H. Little, 9 Greenough Ave.; b., Leml. S. Ross & Co., 36 Fairmont St.

Newton, Mass.—Furber Pl., Ward 6, two-story fr. dwell., 34' x 36', furnace; \$5,000; o., Ethel F. Wales; a., S. J. Brown.

Quincy, Mass.—2½-story fr. dwell., 24' x 50', hot air; \$6,000; o., Episcopal Society; a., T. M. Clark, 22 Congress St., Boston.

Somerville, Mass.—Cedar St., cor. Elm St., two-story fr. dwell., 40' x 43', shingle roof, furnaces; \$5,000; o., Chas. S. Gove; b., Rob't Bennett, 9 Bennett St., Medford.

Sycamore St., cor. Richdale Ave., two-story fr. dwell., 28' x 47', pitch roof, furnace; \$5,200; o., a. & b., Geo. E. Hutchison, 202 School St.

COMPETITIONS.

COURT-HOUSE.

[At Rolling Fork, Miss.]

Local press reports state plans and specifications will be received by the County Board of Supervisors until April 1 for a court-house, to cost not more than \$25,000. 1317

LIBRARY.

[At Louisville, Ky.]

Specifications, plans and estimates are asked by the Polytechnic Society of Kentucky until April 10 for a five-story fireproof library and store building. THOS. B. CRUTCHER, secy. 1317

LIBRARY.

[At Houston, Tex.]

Designs will be received by the Trustees of the Houston Lyceum and Carnegie Library Association of Houston, Texas, until 12 o'clock, noon, of the 1st day of May, 1901, for the Carnegie Library Building, to cost not to exceed \$45,000. For prospectus, address H. H. DICKSON, Chairman Building Committee, Houston, Texas. 1321

SCHOOL.

[At Cedar Springs, S. C.]

Competitive plans will be received until March 30, for a school at the institution for the Deaf and Blind. N. F. WALKER, supt. 1317

PROPOSALS.

BUILDING.

[At New Orleans, La.]

Sealed bids will be received until April 1, 1901, for the erection of a building for female trained nurses on the grounds of the Charity Hospital. EDWIN MARKS, secretary board of administrators. 1317

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PROPOSALS.

CONSTRUCTION OF SEWERS.

[At Dedham, Mass.]
Sealed proposals will be received by the Sewer Commissioners of Dedham, Mass., for the construction of about 1 1/4 miles of pipe sewers in five sections. Forms of specifications, proposals and contracts can be had at the office of the Sewer Commissioners, at Dedham, Mass., and all plans can be seen at such office. E. WORTHINGTON, engineer. 1318

GATES.

[At Louisville, Ky.]
U. S. Engineer Office, Louisville, Ky. Sealed proposals for furnishing steel lock gates, etc., will be received here until April 2, 1901. Information furnished on application to WM. L. SIBERT, capt. engrs. 1317

IRONWORK.

[At Little Rock, Ark.]
U. S. Engineer Office, Little Rock, Ark. Sealed proposals for furnishing ironwork for lock and dam, Upper White River, Ark., will be received here until April 11, 1901. Information furnished on application. ROBERT MCGREGOR, capt. engrs. 1318

Treasury Department, Office Supervising Architect, Washington, D. C., March 14, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 5th day of April, 1901, and then opened, for the new high pressure boiler plant and the necessary rearrangement of the piping in the sub-basement of the U. S. Post-office and Court-house at Baltimore, Md., in accordance with drawings and specification, copies of which may be obtained at this office or at the office of the Custodian of the building in Baltimore, Md., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1319

Treasury Department, Office Supervising Architect, Washington, D. C., March 7th, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 17th day of April, 1901, and then opened, for furnishing the heating and ventilating apparatus complete in place for the U. S. Post-office at New Brighton, Pa., in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at New Brighton, Pa., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1317

PROPOSALS.

Treasury Department, Office Supervising Architect, Washington, D. C., March 9, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 30th day of April, 1901, and then opened, for the superstructure, interior finish, plumbing, approaches, etc., for the U. S. Public Building at Cheyenne, Wyoming, in accordance with the drawings and specification, copies of which may be had at this office, or the office of the Postmaster at Cheyenne, Wyoming, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1317

SEWERAGE SYSTEM.

[At Wakefield, Mass.]
Sealed bids for building sections 1, 2, 3, 4 and 6 of the Sewerage System will be received by the Board of Sewer Commissioners at its office in the town-hall at Wakefield, Mass., until March 27, 1901. 1317

MATERIALS.

[At Wakefield, Mass.]
Sealed proposals for furnishing sewer-pipe, cast-iron, cement and brick for the Sewerage System will be received by the Board of Sewer Commissioners at their office in the town-hall until March 27, 1901. 1317

JAIL.

[At Covington, Ga.]
Bids are wanted April 10 for a jail. W. S. RAMSEY, chmn. commrs. of roads and avenues. 1317

ADDITION TO COURT-HOUSE.

[At Westington Springs, S. D.]
Bids are wanted until April 2 for an addition to the court-house. WM. ZINK, eo. aud. 1317

LIBRARY BUILDING.

[At New York, N. Y.]
Sealed bids will be received by the Park Board, at its offices, Arsenal Building, 64th St. and 5th Ave., Central Park, New York City, until April 11th, 1901. For contract No. 3 for the New York Public Library, Astor, Lenox and Tilden foundations, at 5th Ave., 40th and 42d Sts., in the Borough of Manhattan, City of New York, for the complete erection of the building, as described in the specifications and shown on the plans embraced in contract No. 3. Specifications and plans can be seen at the office of the Department Arsenal, Central Park. 1318

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PROPOSALS.

ADDITION TO HOSPITAL.

[At Newport, R. I.]
Sealed proposals will be received at the Bureau of Medicine and Surgery, Navy Department, till April 2, 1901, for the erection and completion of an addition to the United States Naval Hospital, Newport, R. I. W. K. VAN REYPEN, surgeon general, U. S. N. 1317

CEMENT AND STONE.

[At Ft. Wadsworth, N. Y.]
U. S. Engineer Office, Army Building, New York. Sealed proposals for furnishing cement and broken stone at Fort Wadsworth, N. Y., will be received here until March 30, 1901. W. L. MARSHALL, major, engineers. 1317

COURT-HOUSE.

[At Starkville, Miss.]
Bids are wanted April 1 for a court-house. W. W. EDWARDS, chancery clk. 1317

STORAGE PLANT.

[At Boston, Mass.]
Sealed proposals will be received at the Bureau of yards and docks, Navy Department, Washington, until March 30, 1901, for constructing a torpedo-boat storage plant, including a basin equipped with a 450-ton hydraulic lift, power plant, transfer table tracks, boat cradles, etc., at the Navy Yard, Boston, Mass. MORDECAI T. ENDICOTT, chief of bureau. 1317

BARRACK.

[At Fort Strong, Mass.]
Depot Quartermaster's Office, 170 Summer St., Boston, Mass. Sealed proposals will be received at this office until April 8, 1901, for constructing at Fort Strong, Long Island, Mass., one barrack. W. H. MILLER, depot quartermaster, Boston, Mass. 1318

"The Georgian Period"

THIS publication, which now consists of seven Parts, contains more than a hundred pages of text, illustrated by some two hundred and fifty text-cuts, and two hundred and forty-nine full-page plates, of which fifty-five are gelatine or half-tone prints. It is in truth a work of superior excellence and great usefulness.

The matter already illustrated may in small part be classified thus:

PUBLIC BUILDINGS

City Hall, New York, N. Y.	.	.	.	.	.	.	.	.	.	Date 1803-12
Old State House, Boston, Mass.	.	.	.	.	.	.	.	.	.	" 1748
Pennsylvania Hospital, Philadelphia, Pa.	.	.	.	.	.	.	.	.	.	" 1755
Carpenters' Hall, Philadelphia, Pa.	.	.	.	.	.	.	.	.	.	" 1770
Independence Hall, Philadelphia, Pa.	.	.	.	.	.	.	.	.	.	" 1729
Faneuil Hall, Boston, Mass.	.	.	.	.	.	.	.	.	.	" 1741
and others.										

CHURCHES

King's Chapel, Boston, Mass.	.	.	.	.	.	.	.	.	.	Date 1749
Seventh-day Baptist Church, Newport, R. I.	.	.	.	.	.	.	.	.	.	" 1729
Christ Church, Alexandria, Va.	.	.	.	.	.	.	.	.	.	" 1767
Christ Church, Philadelphia, Pa.	.	.	.	.	.	.	.	.	.	" 1727
St. Paul's Chapel, New York, N. Y.	.	.	.	.	.	.	.	.	.	" 1764
Old South Church, Boston, Mass.	.	.	.	.	.	.	.	.	.	" 1729
First Church, Hingham, Mass.	.	.	.	.	.	.	.	.	.	" 1681
St. John's Chapel, New York, N. Y.	.	.	.	.	.	.	.	.	.	" 1803
First Congregational Church, Canandaigua, N. Y.	.	.	.	.	.	.	.	.	.	" 1812
St. Peter's P. E. Church, Philadelphia, Pa.	.	.	.	.	.	.	.	.	.	" 1758
Gloria Dei Church, Philadelphia, Pa.	.	.	.	.	.	.	.	.	.	" 1700
and others.										

IMPORTANT HOUSES

Fairbanks House, Dedham, Mass.	.	.	.	.	.	.	.	.	.	Date 1636
Royall Mansion, Dedham, Mass.	.	.	.	.	.	.	.	.	.	" 1737
Philipse Manor House, Yonkers, N. Y.	.	.	.	.	.	.	.	.	.	" 1745
Tudor Place, Georgetown, D. C.	.	.	.	.	.	.	.	.	.	" 179-
Mappa House, Trenton, N. Y.	.	.	.	.	.	.	.	.	.	" 1809
Woodlawn, Va.	.	.	.	.	.	.	.	.	.	" 1799
Mount Vernon, Va.	.	.	.	.	.	.	.	.	.	" 1743
and others.										

Incidentally there are shown special measured drawings or large views of the following features and details:

Porches and Doorways	.	.	.	.	.	.	.	.	.	54 Subjects
Staircases	.	.	.	.	.	.	.	.	.	18 "
Mantelpieces	.	.	.	.	.	.	.	.	.	76 "
Pulpits	.	.	.	.	.	.	.	.	.	6 "
Fanlights	.	.	.	.	.	.	.	.	.	60 "

In addition to the subjects enumerated above there is a large quantity of measured and detailed drawings of Cornices, Ironwork, Gateposts, Windows, Interior Finish, Ceiling Decoration, Capitals, etc., together with elevational and sectional views of entire buildings.

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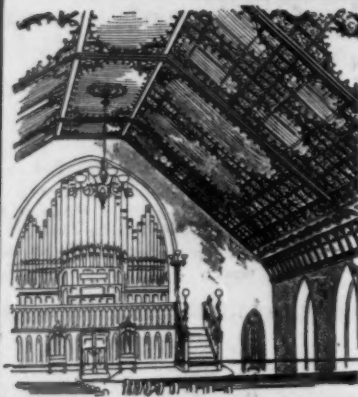
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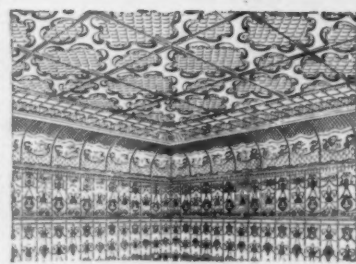
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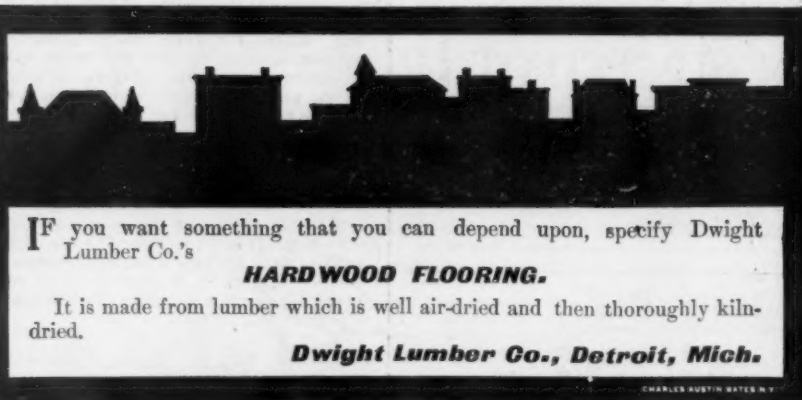
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