

This provision, which certainly seems reasonable, is said to be very objectionable to the builders, who have discovered, by a refinement of calculation which does great credit to their reasoning powers, that there is a large amount of land "up-town" which cannot be made sufficiently productive to attract investment with six-story apartment-houses, but which, on the other hand, would not admit of the expense of fireproof construction for higher buildings. It would be interesting to architects to see the details of these computations, but they seem, at least, to have made a considerable impression on the authorities, and a conference was recently held with a view to the preparation of a compromise scheme, for allowing a "semi-fireproof" construction, which might be carried up to seven stories, and would not cost so much as the regular fireproof system.

WE thought that this country, at least, had had enough of "semi-fireproof" construction; and the account which the newspapers give of the scheme proposed for the "compromise" seven-story apartment-houses does not afford much encouragement for the opinion that the problem has been solved. Apparently, the "compromise" reduces itself to a provision that the floor-beams in the proposed buildings shall be of steel, instead of wood, and that elevator shafts, dumb-waiter shafts and staircases shall be of fireproof construction. We are not informed as to what is to be put between the floor-beams, but it may be taken as certain that, if they are to be filled in with woodwork, the construction will be more dangerous, in case of fire, than one with ordinary wooden beams. Wooden timbers will, at least, support the floor over them until they are burned through, and, if spaced at the usual distance, of twelve or sixteen inches from centres, several timbers may be burned through before the floor over them will fall; while a steel beam, loaded, as it usually would be, to the limit of safety, is said to lose one-fifth of its strength at the temperature of boiling water, and, if exposed to fire, collapses altogether long before a wooden beam would be seriously charred; and the steel beams, spaced five or six feet apart, carry so large an area of flooring on each, that the collapse of a single one opens a wide space in the floor, through which fire immediately spreads over the story above.

THE "fireproof construction of elevator and dumb-waiter enclosures, and of staircases" may or may not be of any value whatever. Iron stairs, as frequently built, are notoriously unsafe in case of fire, the stringers bending long before wooden ones would yield; and stone stairs, if fire can reach them, are still worse. Concrete is much better than either stone or iron; but it may be taken as a principle that no stairs are really fireproof unless they are enclosed within fireproof walls. As for the elevator shafts, the fireproof enclosure, as frequently constructed, increases, instead of diminishing, the damage from fire. In a six or seven story building, the draught into an enclosed elevator-shaft from all sides, particularly in the basement, is very strong, so that fire is drawn into it, as into a chimney, from a comparatively long distance. If the fire, so drawn into it, can get out again in the stories above, the enclosed elevator-shaft is one of the most incendiary features that a building can possess; and, in nine cases out of ten, a free exit is provided for it in every story through wooden doors and wire fronts. A very few buildings, only, have the elevator-shafts guarded with iron doors and wire-glass, and, in these, fire is not likely to be communicated by means of them; but, in the great majority of structures with "fireproof" elevator-shafts, the spread of fire by means of them is only prevented by the fact that there is usually nothing to burn about the openings into them. Under the new "semi-fireproof" scheme it appears to be intended to provide plenty of combustible material all around them in each story; and the result, in case of fire, may be expected to be exactly that which would result from making holes, a few feet apart, in a blast-furnace chimney, and piling wood around each hole.

TO our mind, even a six-story non-fireproof apartment-house is too high, and the limit, instead of being extended by means of an illusory "semi-fireproof" construction, should be reduced to four stories. The claim that any considerable area of land in New York is of just such value that it cannot be profitably improved either with seven-story fireproof buildings, or with six-story non-fireproof buildings, is rather ridiculous. There are plenty of architects who can design seven-

story fireproof tenement-houses which can be carried out at a cost not very much greater than that of buildings of the ordinary construction; and the saving in repairs alone, to say nothing of the increased rents which the rooms in them should bring, would pay a fair interest on the extra cost. Meanwhile, if the Tenement-House Commission wishes to make any changes in the legal construction of tenement and apartment houses, it could hardly do anything more advantageous to the poor people whom it protects than to compel the use of metal lath throughout all such buildings, and to require all plastering to be carried to the floor. There are few fires in tenement-houses which could penetrate a wooden floor or partition thoroughly covered with plastering on metal lath; and, although the doors would still be vulnerable, it is well known that fires in dwelling-houses, which can spread only through the doors, are not formidable.

STRIKES of all kinds seem to be rampant just now, the pretexts, in most cases, being even more flimsy than usual. The strike of the structural iron-workers, which has put a stop to the progress of the New York Rapid Transit Subway, and is likely to involve forty-five thousand men, is said to be simply a demonstration of his power on the part of a walking delegate, who was turned out of a building, in accordance with the orders of the owners, for not having provided himself with the pass which the owners required, and which they would cheerfully have given him. Some of the other strikes have a suspicious air of having been concocted for the purpose of putting in circulation the "sympathetic" funds of various unions, which have not been called upon for some time, and have, in many cases, accumulated to very tempting sums. The disbursement of contributions from these funds to strikers, through the medium of the people who get up the strike, is a process which has a good deal of charm for the latter; and the fact that the books of unions are not kept with the precision of those of a bank does not diminish its attractiveness. We are quite willing to concede, if any one wants us to do so, that in all but a very few exceptional and highly reprehensible cases, the hard-earned money of the toilers is collected with minute and conscientious care, and distributed with superhuman honesty; but there are, we fear, some rare and singular cases where the people who delight in setting others by the ears, taking care of their money for them meanwhile, lose track a little, in the excitement of the occasion, of the precise amount which they are expected to account for.

THE question of restrictions in deeds is beginning to occupy an appreciable portion of the time of courts. One of the first cases in which the modern legal view of such restrictions appeared in this country was a controversy in New York, where the owner of an estate on the line of the elevated railway, the deed of which provided that the lot should never be used for mercantile business, built a store on the property. His neighbors, who held their land under similar restrictions, sued him, but failed, the courts holding that the construction of the elevated railway through the street was a contingency which could not have been foreseen when the restriction was placed on the lots, and that, by such construction, the conditions were so changed that a provision intended simply to secure quiet and privacy to the neighborhood was no longer binding. In Massachusetts, a very similar decision has just been given. The Baptist Social Union, of Boston, purchased a lot on Ashburton Place, near the new Court-house, on which was a three-story dwelling, and made preparations to pull down the house, and erect a much higher building in its place. It appeared that, in 1844, the owner of the land had conveyed it, subject to the restriction that no building more than three stories high should be erected on it; and the Trustees of Boston University, who held neighboring property, sued to prevent the violation of the restriction. The Supreme Court, however, held that it was not for the interest of the community that, under the changing conditions of life in great cities, "restrictions put upon land in reference to the quiet of residential streets should continue, when the neighborhood is entirely given up to business, unless they are so expressed as plainly to be binding"; and, in the present case, it decided that the restriction should be held as inoperative. As Boston, particularly, among large American cities, has always been noted for the abundance and diversity of the incumbrances of this kind on various parts of its territory, the new doctrine of the Massachusetts Supreme Court will be of great importance to all persons interested in real estate in the city.

RATES FOR ELECTRICAL ENERGY.

ELECTRIC light and power are subject to wide variations in price, both as to different cities and as to different consumers in the same city. A maximum rate per unit of electrical service is usually made public in a city, but most of the supply is frequently sold below this rate.

One set of discounts made on the electrical rates varies with the amount of service purchased monthly by a single consumer, another relates to the time of day when the service is required, a third set of discounts is based on the possible amount of service that may be demanded at one time, and, finally, certain irregular discounts are made to meet the exigencies of competition with gas. With the better class of electric stations charges are now more generally based on the energy in kilowatt-hours actually consumed, as measured by meters rather than solely on the number or capacity of lamps or motors which a customer has in use. Thus, during the year ending June 30, 1901, the electric companies of Massachusetts supplied energy by meter to the value of \$2,713,502.96 for incandescent-lamps, while the service to lamps of this sort on a contract basis, that is, at so much per lamp installed, was valued at only \$214,271.07.

Rates for energy used in electric-motors are often less than one-half of the rates for service to lamps from the same plant.

In Massachusetts for the year just named, the published maximum rates for energy used in incandescent-lamps ranged from 11 to 50 cents per kilowatt-hour, with fifty-two electric companies. The rate of 11 cents was that made in Lowell. The next lowest rates were 13 cents per kilowatt-hour in Lynn, 15 cents in Fall River, 16.66 cents in Cambridge, and 18 cents in Lawrence. No rate per kilowatt-hour was published by the two large companies engaged in electrical supply at Boston. These maximum rates show no relation whatever to the sizes or types of plants by which they are made, to the populations of the places where the plants are located, or to the annual incomes of the companies. Thus, in the small towns of Blackstone and Great Barrington the maximum published rate was 15 cents per kilowatt-hour, while in many other towns of about the same population the maximum rates ranged between 20 and 25 cents. On the other hand, the maximum rates in fifteen cities of Massachusetts ranged from 20 to 24 cents per kilowatt-hour, though in other cities of no greater population the maximum rates were about one-half of these figures. Massachusetts is the only State where even the maximum rates for electrical energy are generally published, and they are there made public by the annual reports of the electric-light commissioners.

In another New England State a private investigation was recently made to determine the charges made for electrical energy by different plants. Prices obtained in this investigation were given in confidence, so that the locations of the plants cannot be stated.

In those cases where the line of discounts was obtained together with the maximum rate, these discounts have been applied so that the minimum rates can be here stated. No doubt these regular minimum rates are still further reduced in special cases by irregular discounts. In seventeen of the plants covered by this investigation the maximum rates ranged from 10 to 25 cents per kilowatt-hour for service to incandescent-lamps. Five plants reported a rate of 10 cents, one plant 11 cents, two plants 12 cents, five plants 15 cents, three plants 20 cents, and one plant 25 cents per kilowatt-hour. The rate of 10 cents prevailed in the largest city and in three of the small towns. Two of the 20-cent rates were in the cities. Of these seventeen plants only seven reported the minimum rates for lighting, or the discounts by which such rates could be computed.

One of these minimum rates was 15 cents, three were 10 cents, one was 6.75 cents, one was 6 cents, and one was 5 cents per kilowatt-hour. The rate of 6 cents was in the largest city, and the rate of 5 cents in one of the smallest towns. Nine maximum rates for electric power were obtained from an equal number of plants. Three of these rates were 10 cents each, one was 8 cents, one 7.5 cents, one 7 cents, one 6.66 cents, one 6 cents, and one 5 cents per kilowatt-hour. The rate of 6 cents was in the largest city, and the rate of 5 cents in one of the small towns. In four of these seven cases discounts were given by which the minimum rates for service to electric-motors could be obtained. One of these rates was 5.4 cents, two were 5 cents each, and one was 1.75 cents per kilowatt-hour. This lowest rate of 1.75 cents was made in the largest city of the State.

In *Electrical World and Engineer* of September 6, 1902, the results were given of an investigation as to the charges for electric light and power in various cities. Maximum rates with varying discounts were quoted for a number of plants. These discounts have been applied and the resulting minimum rates are here given for the more important cases.

At Van Buren, Ark., the charge for lighting varies simply with the amount of energy consumed per month, and ranges from 5 to 35 cents per kilowatt-hour in the business district, and from 10 to 25 cents for the same unit in residences. At Detroit, Mich., the maximum rate for lighting is 16 cents, and the lowest rate with all possible discounts off is 4 cents per unit, or kilowatt-hour. Discounts vary with the number of hours that lamps are in use per month and also with the total energy consumed. Electric power is sold at 4 to 5 cents per unit. In Cleveland, O., rates for electric-lighting range from 5 to 12.5 cents per unit, depending on the number of hours that lamps are used in each month. The highest rate for lighting at Harrisburg, Pa., is 15 cents and the lowest is 11.25 cents per kilowatt-hour.

Incandescent-lamps are operated in Rochester, N. Y., at a maximum rate of 14 cents per kilowatt-hour in residences, and 10 cents in business houses. A series of discounts is applied to these rates based on the amount of energy used per lamp monthly, and the lowest rate is 3.14 cents per kilowatt-hour. In the same city the highest rate for energy used in electric-motors is 7 cents, and the lowest is 3.78 cents per kilowatt-hour. For service to arc-lamps the maximum rate is 10 cents and the largest discount reduces this to 4.5 cents per unit. The four large cities of Cleveland, Detroit, Rochester and Harrisburg thus show a range for incandescent-lighting from 12.5 to 16 cents in maximum rates, and from 3.14 to 11.25 cents in minimum rates per kilowatt-hour. At New Orleans the highest rate for lighting is 20 cents and the lowest is 8.1 cents per kilowatt-hour. When the energy is used in motors the rates range from 10 to 4.05 cents.

Incandescent-lighting in Charleston, S. C., costs 15 cents at the highest and 10.125 cents at the lowest rate kilowatt-hour. The power rate in the same city varies between 5.6 and 7 cents per kilowatt-hour. In each of the cities just named, except Rochester, there is either a small monthly charge for the connection to electric service, independent of the rates for energy, or else each consumer is required to guarantee a certain amount of use per month.

The way in which charges for electric-lighting are varied, according to the number of hours per day that the service is in use, is well illustrated by the rates put in force on September 1, 1902, by the New York Edison Company. These rates are based on the number of hours of daily use for all the arc and incandescent lamps on the premises of a single consumer that are connected to the electric system, and are as follows:—

Average Hours of Daily Use for all Lamps.	Rate per Kilowatt-hour. Cents.	Cost per Lamp-hour, 500 Watt Arc. Cents.	Cost per Lamp-hour of 50 Watt, 16 Candlepower Incandescent. Cents.
1st and 2d	15	7.5	.75
3d and 4th	10	5	.50
5th and 6th	7.5	3.75	.375
Over 6 hours	5	2.5	.25

The average hours of daily use are determined as follows: Assume that a consumer has twenty 16-candlepower lamps each consuming 50 watts wired for connection to the electric system. These lamps have a combined capacity of one kilowatt, and if they are all used exactly one hour per day the charge for the kilowatt-hour of energy consumed is 15 cents. If one of these lamps is used twenty hours per day and the others are not burned at all the charge is again 15 cents, and this charge will hold for any number of these lamps burning any length of time per day so that the total energy used is one kilowatt-hour. For longer hours of daily use the average is computed in the same way.

The company making the rates just quoted for New York has a generating-station on the water-front designed for 130-horsepower capacity and said to be the largest and most complete of any in the world.

Irregular rates made by some electric companies follow no rule whatever, but are simply put low enough to get particular customers or certain lines of business. Thus, in a certain large and prosperous city the electric company makes a uniform rate of 8 cents per kilowatt-hour for lighting in drug-stores, though some other business houses pay much more, and the maximum rate charged in this city is about three times that just named.

ALTON D. ADAMS.

PARIS NOTES.

PASSING through the city en route for the South leaves little time for notes; but two collections have been arranged lately which are well worth a visit, even if a hurried one—the Thom-Ythiery and the Dutuit ones.

The former is a vast collection of very fine specimens of the Barbizon School, but, unfortunately, badly hung, in the upper-story rooms hard by the Musée de Marine, a part of the Louvre which is always terribly stuffy, and on sunny days of a burning heat.

Daubigny's "Etang" is one of those marvellous effects of atmosphere which he obtained with the scant materials available in the neighborhood of Paris. But what matters the subject when the artist sees truly and poetically? The collection contains many works of Corot, Troyon, Dupré, Diaz—notably some of his figure-subjects, so rich in color of the greatest refinement.

Writing, as I am, from the South of France, I may note that the olive woods strike one instantly as the models of Corot's trees; and yet, I believe I am right in saying that there is no evidence of any of his pictures having been painted in the South—his trees are presumably willows, which grow all about the environs of the great city and which, softened by Corot's tender grays, are as poetic as the olives.

The Dutuit Collection is lodged at the Petit Palais and contains a large number of fine specimens of enamel and gold and silver work, as well as Sèvres porcelain and wood-carving.

At the Musée des Religions the curious may now see the mummied, or, rather, dried body of the courtesan Thaïs and her converter, the monk Serapion. Some time ago, Astarte and Bel were on view, but they have gone to their home, wherever it may be. Whether these bodies are really authenticated I cannot say; but perhaps we may live to see Moses's and Abraham's bones placed in a glass case some

day, by the side of *Rameses the Great*, and the builder of the gold-furnaces of *Ophir*. Why not the *Queen of Sheba's*, also?

The *Cercle de l'Union Artistique*, formerly the "*Mirlitoas*," and later the "*Epatants*," does not seem to be equal this year to its wont. The original members are beyond their prime, and the new ones are not equal to their forerunners at their best. But a portrait by *M. Boutet de Monvel* is a marvel. It is mainly white; but its modelling is equal to any work one has ever seen, although, apparently, it is quite flat, *à la Japonais*. How, without shadows, without any strong colorations, does the painter attain this effect? It is what is termed decorative art; but as a portrait "*Madame X.*" has as much character as "*Mdlle. Lucienne Bréval*," which is a strong work by a strong man — *M. Bonnot*.

It is said that the beautiful tiara, so called, of *Saitaphernes*, the Scythian King, given him by the town of *Obbia* some three centuries before the Christian era, and found in the *Crimea* some few years ago, and placed in the *Louvre*, was the work of a modern goldsmith and was made for *M. Spitzer*! Experts and authorities have a knotty point to settle. We all have heard of antique bronzes, of Egyptian pottery found in tombs by the Nile, and of scarabs made in *Birmingham* and other places; but that a golden tiara, Greek in character, but mysteriously beautiful and perfect for so early a work, should have deceived even the elect, is a wonderful piece of deception. But the fact remains that the *Louvre conservateurs* are perplexed, and for the present the tiara is withdrawn.

There was a long account of the tiara in the *Gazette des Beaux-Arts* about three years ago — I think in 1900, as it was first shown, if I mistake not, during the Exhibition, and I reported it to the *American Architect* at the time.

S. BEALE.

THE LEGAL RIGHTS AND LIABILITIES OF ARCHITECTS.¹

THE purpose of the present address must be limited to the consideration of those rights and liabilities on the part of architects and surveyors which arise from the position in which members of those professions are usually found, in relation to their employers and to other persons who may also be employed in the same matter. It may be suggested that the subject for consideration should be the rights and liabilities of architects and surveyors as such, but this limitation would be too severe, for notwithstanding the above title it may with safety be stated that neither architects nor surveyors have any rights or liabilities simply as such. They do not, like members of the legal or medical professions, require any legal qualification to practise. They are not subject to any legal restrictions or regulations as to their professional conduct or remuneration. They are not, in fact, protected or harassed, as the case may appear, by any special legislation or rule of law, and any person, however ill qualified, may set up and practise as an architect or a surveyor, or as both, and if being so ill qualified he can induce the public to employ him, so much the better for him and so much the worse for the public. It is true that as some protection and guaranty for the public, as well as in the interests of the respective professions and for the mutual benefit of their members, societies of architects and surveyors have been formed, and have framed rules as to professional etiquette and remuneration, but these rules only bind the members as a condition of membership. They have no binding legal effect whatever. In this respect the position of architects and surveyors is analogous to that of accountants or engineers, who are alike free from any legislative trammels as to qualification or professional conduct or remuneration.

What, then, are the rights and liabilities proper for our present consideration? for, as already indicated, it is obvious to all familiar with the subject that the position of architect or surveyor does frequently and, indeed, generally give rise to rights and liabilities which may with propriety be described as those of architects and surveyors. They will be found for the most part to depend upon the law of agency, and upon the position in which the architect or surveyor is so frequently placed as the agent of the employer or building-owner in superintending works to be carried out for such employer or building-owner under what is known as a building-contract.

Attention may here be drawn to the fact that a very great part, if not the greater part, of all legal problems and complications in matters and between persons of every kind arise from this law and position of agency. . . . If I employ an architect to prepare me a plan or a surveyor to measure up a piece of land or get out some other quantities, and he performs the work with the skill reasonably to be expected from a person holding himself out to be qualified for such work, he is entitled to be paid the stipulated or reasonable remuneration, and upon his being so paid the transaction is at an end. Such a simple transaction is in all respects similar to a bargain made, for example, with a portrait-painter to paint a portrait. I may not like or use the plan prepared for me; I may not like the portrait, and may prefer to hang it in the back bedroom or with its face to the wall, but if it has been done with such reasonable skill as aforesaid I am bound to pay for it, and there is an end of the matter. If the usual transactions with architects or surveyors were of this simple nature there would hardly be more occasion to consider the rights and liabilities incident to the practice of these

professions than there would be to consider those of portrait-painters, photographers or the like, and the present paper might almost end here as a sufficient survey of such rights and liabilities. Such, however, is very far from being the case. The terms of their employment usually involve not only the designing or suggestion of works, but their supervision of the works designed or suggested while in progress, for the purpose of seeing that they are duly executed in accordance with the plans and specifications. This brings them into relation with other parties, and it is this relationship which gives rise to so many of the rights and liabilities proposed to be considered.

It appears from the foregoing introduction that the particular rights and liabilities so to be considered usually arise under what are known as building-contracts, or contracts of the like nature, and that the chief of them are incident to the position of the architect or surveyor as the agent of the employer. Those familiar with such contracts are aware that in addition to his position as agent, the architect or surveyor is, for the prevention of disputes, invested with certain judicial or arbitral functions which give rise to other rights and liabilities to be considered in their due place. Having thus outlined the scope of the address and the subjects for consideration, I now propose to deal with these subjects in detail, and under the following heads, that is to say:—

1. The proper qualifications of the architect or surveyor.
2. The position of the architect or surveyor under simple contracts of employment not involving or apart from questions of agency.
3. The position of the architect or surveyor as agent of the employer under building-contracts or the like; and
4. The position of the architect or surveyor in his quasi-judicial capacity or as arbitrator under building-contracts or the like.

PROPER QUALIFICATIONS.

I have used the term "proper qualifications" advisedly, for it has already been seen that no qualification is legally necessary. Architects and surveyors, however, are in the position of persons holding themselves out as competent to perform certain work requiring certain skill, and they impliedly guarantee that they have such skill. If, therefore, they do the work so badly or carelessly as to indicate lack of the required skill they will be unable to recover remuneration for it and might be made liable for damages should loss or injury result from negligent or unskilful work. I believe that in France an architect has been held criminally liable for the death of a man killed by the fall of a building owing to its defective design, and though I am not aware of any such case in England, circumstances could be conceived in which under the English criminal law a negligent architect could be so made liable. As regards the matters in which skill or knowledge is required to make a competent architect or surveyor, they may be generally stated as follows, that is to say:—

- (a) Skill in the preparation of plans, drawings or designs suitable for the particular work to be executed, or, in the case of surveyors, skill in the measurement or surveying of land or in suggesting plans or ideas for the development thereof.
- (b) Knowledge of the materials to be used and of the proper application or use of such materials.
- (c) Knowledge of building-acts and the requirements of local authorities and of the law as to light and air, support or other easements.

If through ignorance or neglect of any of these matters on the part of the architect or surveyor the work designed or suggested should prove to be impracticable or fail, that would be evidence of such want of proper skill on the part of the architect or surveyor as to disentitle him to remuneration. But although persons undertaking to do work requiring certain skill impliedly guarantee that they have such skill, yet if an employer deliberately employs for the carrying out of important works requiring high and special skill a person who he knows has not enjoyed a practice likely to give him the requisite experience and knowledge, he would not in the absence of special guaranty or representations of sufficient knowledge and experience be entitled to recover damages from the architect or surveyor in the event of the work proving unsatisfactory. See *Macassey and Strahan on Civil Engineers*, pp. 36 and 37, and the case of *Henry and Belfast Board of Guardians*, cited on p. 39.

As regards (a) and (b), little more need be said. What is expected of architects and surveyors in these respects is pretty generally understood. Of course the amount of skill and knowledge required in each case depends upon the nature and importance of the particular work to be done.

As regards (c), it is obvious that a lack of acquaintance with statutory or local requirements, or with the rights of adjoining or neighboring owners, may render a plan or suggested works, however otherwise excellent, impracticable and useless, and it is therefore of the utmost importance that architects and surveyors should be thoroughly familiar with such requirements and rights. All men are presumed to know the law—ignorance of it excuses no one—and architects and surveyors no less than lawyers must carry on their practice under the burden of this stupendous presumption.

In this connection it may be pointed out how important it is to architects and surveyors, in their own interests, to know what contracts, in order to be binding, require to be in writing under the Statute of Frauds and what require to be under seal. Under

¹ A paper by Mr. H. H. Richardson, solicitor, Clement's Inn prizeman, 1879, Hon. M.S.A., read before the Society of Architects on Thursday, January 22, 1903, and printed in the *Architect*.

the Statute of Frauds contracts relating to land, and also contracts the performance of which must necessarily extend beyond a year, require to be in writing, signed by the party to be charged, and contracts with corporations require generally to be under seal; and architects and surveyors, in dealing with corporations, should therefore be on their guard against relying on memoranda or writings merely signed by an officer of the corporation.

POSITION OF ARCHITECT UNDER CONTRACT.

We may now pass on to the consideration of the position of the architect or surveyor under simple contracts not involving or apart from questions of agency.

In such cases the position in which the architect or surveyor stands towards his employer is that of a skilled servant, and in it he will be expected to possess and properly display such skill and knowledge as has been already indicated, and moreover to perform the duties he undertakes with such care, attention and fidelity as to free him from any charge of negligence. The simplest cases of such position and employment are those where the architect or surveyor is employed to prepare plans or designs, or make suggestions for works without reference to the question by whom such works are to be carried out or superintended, or whether they are to be carried out at all. The simple bargain in such cases is—stipulated work to be done with proper skill on the one part, and the stipulated or a reasonable payment therefor on the other.

One or two points, applicable alike to such simple contracts of employment and to contracts involving agency, may be rapidly noticed. As already stated, the contract may be for a period of employment greater than a year and so may require to be in writing, under the Statute of Frauds, signed by the party to be charged. It may be with a corporation and so require, generally, to be under seal. The plans, designs or suggestions may be ordered for the approval of the employer, and, if this is clear, nothing is payable for them unless they are approved or at any rate used. See *Moffat vs. Dickson*, 22 L. J. C. P. 268.

They may be sent in in response to an invitation to compete, in which case, unless remuneration is offered by the terms of the invitation to unsuccessful competitors, they will not be entitled to any unless their plans or designs are actually made use of. Under this head the question of ownership of plans and designs may be considered. Does the employer, when employing an architect or surveyor in the usual way, purchase the plans, drawings or designs, or only the use of them for the purposes of the designed works? It was formerly considered that by the custom of the profession the latter was the case, and that the drawings remained the property of the architect notwithstanding payment. The contrary, however, appears to be now settled by the case of *Ebby vs. McGowan*—*Times* of July 7, 1870—and whatever may be said with respect to the ownership of plans prepared for the purposes of works to be carried out under the superintendence of the architect, it is impossible to doubt that where an architect is simply employed to prepare a plan or design without more and without definite agreement to the contrary, the plan or design would, upon payment therefor, be as much the property of the employer as a portrait ordered to be painted for him and duly paid for. If the effect of the bargain is to give the property or the plans to the employer, it is clear that he can use them for any purpose he pleases, and need not confine their use to the purpose for which they were originally prepared or intended.

The contract between the employer and an architect or surveyor is a personal one, and the employer is entitled to have the work done or superintended by the architect or the surveyor personally. Consequently, the death of the architect or surveyor terminates the contract, though that of the employer does not necessarily do so, and his executors may under the contract be entitled to have it carried out for the benefit of the employer's estate. Should the architect or surveyor die before the completion of the work, and before any payment has become due for it, he would not in the absence of agreement to the contrary be able to recover any payment, but if his services had been retained at a salary he could recover so much of the salary as had become due at the date of the death. See *Stubbs vs. The Holyhead Railway Company* L. R. 2 Ex. 311.

Apart from the strict practice of their respective professions, architects and surveyors may, like other professional persons, be employed to give evidence before Parliamentary committees, or the like, in support or in opposition to some particular measure, or to give expert evidence in a court of law. In such cases they are, of course, entitled to be paid proper fees, having regard to their standing and reputation. They are also in practice frequently employed as valuers, and although, as before stated, they are not in their ordinary professional capacity hedged about by legislation, yet, if they act as valuers or appraisers, it appears that they should take out qualifying licenses therefor under 46 Geo. III, c. 42, ss. 4 and 7; or 8 and 9 Vict., c. 76, sec. 1.

As regards protection from libel or slander, architects and surveyors have, of course, the like legal rights and remedies as other people. It would be libellous to write and slanderous to say of an architect or surveyor that he was incompetent, or that he had not sufficient skill, knowledge or experience for the carrying out of any work undertaken by him. See *Botterell vs. Whitehead*, 42 L. T., N. S. 588.

LIABILITIES AS AGENTS.

With these summary surveys of the rights of architects and sur-

veyors as skilled servants, we may now proceed to consider the more important and, from a legal point-of-view, more interesting question of their rights and liabilities as agents or otherwise under building-contracts or the like. These come under heads three and four above mentioned. First, then, we deal with head three, that is to say, the position and authority of the architect or surveyor as agent of the employer. In the simple cases dealt with under head two the architect and the employer are the only persons concerned. When the architect is employed not only to design the building, but to superintend its construction, he is brought into relationship with those who are employed to construct it, and it is this relationship and the duties and liabilities arising in connection with it which are now to be considered. The same lack of personal skill or knowledge which usually precludes a building-owner from designing the work he wishes to have done precludes him also from seeing that it is done properly by the person employed to do it. He has, therefore, to employ some one to perform this service also for him, and in building-contracts this person is usually and properly the architect or surveyor who has designed it. The owner, having satisfied himself that a building or work erected or done in accordance with the prepared plans or designs will be what he wants, employs a builder or contractor so to erect or do it, and an architect or surveyor to see that it is so erected or done. He thus constitutes the architect or surveyor his agent for the purpose of seeing the desired work carried out. Now, agency is of two kinds. A man may appoint another to be his agent simply for some particular purpose or purposes—as in the case of an agent or attorney appointed to execute some particular deed or deeds, or to give receipts in some particular matters. In such cases the person to whom the deed is to be executed or the receipts given must see that the agent has that particular power, otherwise he may find that the principal is not bound. He cannot rely upon the mere word of the agent that he has the professed power. On the other hand, he may appoint some one to be his general agent to do all such things as may be necessary or proper for some purpose or undertaking. In such cases the authority given is an authority to act in a certain capacity for all the purposes of the undertaking in question. A person put forward to act as such general agent can bind his principal by all acts within the scope of his employment, although the principal may have privately limited his authority in particular matters. The position of the architect or surveyor under a building-contract is one of general agency, and his position as such general agent appears from the leading case of *Kimberley vs. Dick*, L. R. 13, Eq. 1, where the question of the character in which the architect stood was considered under the terms of a building-contract. "I am of the opinion that I must treat Mr. White (the architect) as the agent of Mr. Dick (the building-owner) generally, for all purposes connected with this building, and that without any limitation as to price or anything else." The decision of the case upon the point is thus summarized by Mr. Roscoe in his useful digest of building-cases: "The architect is the agent of the employer generally for all purposes connected with the erection of the structure of which he has prepared plans, and the erection of which he is to superintend."

The general principle is thus laid down and established. The bearings of it lie, like Captain Bunsby's observations, "in the application of it," that is to say, when any question arises as to the employer's liability for the acts or orders of the architect or surveyor, such question will usually be found to depend upon whether such act or order was, in fact, within the scope of the general authority given.

If an agent falsely represents that he has an authority which he has not, and thereby induces another person to act on the faith of his representation, that is a fraud for which if the person so induced to act is thereby injured he could recover damages. See *Randell vs. Trimen*, 18 C. B. 786. Of course as between himself and his employer simply the position of the architect or surveyor under a building-contract is still that of a skilled servant, and the same skill, knowledge and care requisite in the preparation of the design must continue to be shown in the superintendence of the work, and for any neglect of his duty in this respect the architect or surveyor might be made liable. Questions as to the extent of the architect's or surveyor's authority under a building-contract must frequently arise in respect to the following matters, viz: (a) Alterations and deviations from plans; (b) extra work; (c) authority to employ quantity-surveyors, and (d) certificates.

In properly drawn building-contracts all these matters are carefully provided for, and in so far as they are so the rights and liabilities of the parties will be determined by reference to the particular provisions. In the absence of special provision the authority of the architect as the general agent of the employer does not extend so as to entitle him to permit any alterations or a deviation from the accepted plans, or to order any extra work to be done. If, therefore, he permits or orders any such alterations or extra work he will not thereby bind the employer, and may render himself personally liable to the contractor. Of course, in all these cases the unauthorized order may be accepted and ratified by the employer, but architects and surveyors will be well advised to avoid any risk by keeping well within the bounds of their general authority, as limited or extended by the contract, and in the event of anything appearing desirable to be done, but of doubtful authority, to obtain clear written directions and authority for the execution of any alterations or extra work.

It is usually provided that no extra work should be done without

a written order of the architect, and in such a case a written order is a condition precedent to payment for such work, and its mere inclusion in an interim certificate will not prevent the employer from objecting to payment on final adjustment. See *Tharsis Sulphur, etc., Company, vs. McElroy*, 3 App. Cas., 1040.

In the course of a comparatively short paper like the present, these and similar questions of detail can only be briefly touched upon. It is sufficient to keep in view the position of the architect or surveyor as agents and the main principles of the law of agency, viz, that the agent must not exceed the limits of his authority, otherwise the principal will not be bound, and that persons dealing with the agent must be satisfied that he has the authority he claims, either under the instrument of his appointment or as coming within the scope of authority as general agent for the purpose in hand.

As regards (c), it does not appear to have been anywhere laid down that power to employ a quantity-surveyor comes within the scope of the architect's authority simply as agent of the employer under a building-contract, and his right to do so if it exists appears to depend upon custom. See *Moon vs. Witney Union Guardians*, 3 Bing. N. C. 814.

(d) *Certificates.*—The position of the architect or surveyor with respect to the giving or withholding of certificates is of the highest importance, and may be regarded from the point-of-view of the architect or surveyor—(1) as skilled servant; (2) as agent of the employer; and (3) as arbitrator. As skilled servant he must have and use the skill necessary to show that the work certified for has been properly done, and failure in this respect will amount to negligence for which he will be liable to his employer.

(2) As agent of the employer he must act in his interest without collusion or any surreptitious dealing.

(3) As arbitrator he must honestly and impartially exercise the quasi-judicial functions entrusted to him.

In granting or withholding certificates the architect's conduct (apart from collusion or fraud) cannot be impugned, and his decision is final. But wilfully to certify work to be done when it is not done is a fraud upon the employer, for which he would be liable, and collusively to withhold a certificate properly due would be a fraud upon the contractor. But mere negligence or want of skill in granting or withholding a certificate is not sufficient ground for impeaching the certificate, though as regards the employer whose skilled servant he is, negligence in granting a certificate for work not properly done would render the architect or surveyor liable.

The almost autocratic power put into the hands of the architect under the usual terms of a building contract has often been alleged as a ground of complaint on the part of the builder or contractor. Whether such complaint be just, or what alterations likely to be accepted are proposed, would be fitting and interesting subjects for discussion in a paper on the rights and liabilities of builders and contractors; suffice it to say here that owing to competition the employer is generally in a position to dictate his terms, and that from the point-of-view of the architect or surveyor he very naturally claims, not only as agent of the employer, but in the interests of his own reputation, to be put into a position which will enable him to see that the works designed by his skill are not jeopardized by any want of skill or care or honesty on the part of those employed to carry them out. Even handed justice to the contractor must be what no doubt in the vast majority of cases is found—the fairness, integrity and high-mindedness of those into whose hands these powers are put.

This brings us to the last of our four heads, namely, (4) the position of the architect in his judicial capacity or as arbitrator. This, as has been seen, arises to some extent in connection with the question of certificates, but what is here more specially referred to is the position of the architect or surveyor as dispute preventer. If it is clear from the contract that the parties have agreed that he shall so act they must be taken to have conferred upon him a judicial capacity.

His decision is final unless some appeal is provided, and cannot be impeached for want of proper care or skill or upon any ground but that of fraud. There is no more familiar legal dictum than that fraud vitiates everything, and so it will vitiate the decision of the most fully-empowered judge or arbitrator. Nor must he do or be party to anything which would interfere with the proper impartiality of his position. Upon this point there is an interesting decision—that of *Kemp vs. Rose*, 1 Giff. 258—where an architect having undertaken to his employer that the cost of the proposed work should not exceed a certain sum, it was held that he did not possess a sufficiently unbiased mind to make his decision against the contractor just and conclusive.

The above survey, though necessarily very incomplete and imperfect, having regard to the many points in the position of the architect or surveyor under building-contracts, will, it is hoped, suffice to show the general principles upon which questions relating to such positions must be decided, that is to say, the principles applicable to the relationship of (a) employer and skilled servant; (b) principal and agent and scope of agent's authority; and (c) arbitrator and disputants. Many interesting and subsidiary questions remain to be considered—such, for instance, as the position and right of appointment of clerks-of-the-works, the particular duties of quantity-surveyors, the position of architects or surveyors with respect to questions of light and air, or the like. These, however, do not give rise to any different rights or liabilities, and are sufficient in themselves for independent papers. Nor has any attempt been made to deal

largely with authorities, for a discussion of these to be of any use would leave insufficient time for the setting forth of those general principles upon which all such authorities are based, and which it has been considered (apparently not without reason) would afford sufficient material for the purposes of a single address before this Society.

THE PERMEABILITY OF CONCRETE UNDER HIGH WATER-PRESSURES.

THERE has been very little information published upon the degree of permeability of concrete when subjected to high pressures, says a correspondent in *La Revue des Industries du Batiment*, and that which has appeared in the greater part of the technical papers contains much that is uncertain on account of the lack of admitted methods. Just recently, however, some experiments have been carried out at the Thayer Institute, United States Civil Engineering Department, which contain much that is of interest and of value. Two brands of cement, described in the specification as Nos. 1 and 2, were used in the experiments, No. 1 being a Portland-cement and No. 2 a brand very highly lauded by its manufacturers, on account of its impermeability. The test-cylinders were manufactured so as to contain thirty, thirty-five, forty, or forty-five per cent of mortar, this last having a composition which varied according to the proportion of sand contained in it, namely, one, two or three volumes of sand. Each cylinder was prepared in duplicate, and in addition to these cylinders of No. 1 brand were prepared with the proportions 1:2:4; 1:2.5:4, and 1:2.5:5. In all, fifty-six cylinders were tested. The gravel and sand were of the best quality obtainable in the neighborhood. The sand was passed through a riddle and gave thirty-six per cent void. The gravel contained thirty-three per cent void, and the largest stones had a diameter of a little over 25 millimetres (about 1 inch). The size of the test-cylinders was: height, 229 millimetres (9½ inches nearly), and with a diameter of 254 millimetres (10½ inches nearly). The end of a pipe 19 millimetres long (¾ inch), placed vertically upon the axis of the cylinder, had its extremity embedded at a depth of 102 millimetres (4 inches), thus leaving around the end of the pipe 127 millimetres (about 5½ inches) of concrete. A rundle screwed into the bottom of the pipe prevented the water from rising the entire length of this latter. The greatest care was exercised in the manufacture of the cylinders. After having been moulded, they were allowed to remain under a damp cover for twenty-four hours, then they were taken from the moulds and placed in water for a month before being subjected to the tests proper. The cylinders were withdrawn from the water twenty-four hours before being tested, so that they might drain and dry thoroughly. By using the town water-supply, pressures of 1 kilogramme .406; 2 kilogrammes .812; and 5 kilogrammes .624 per square centimetre (19.3 pounds, 38.6 pounds and 77.3 pounds per square inch) were obtained. The test lasted for two hours. All the cylinders were weighed before and after testing in a vacuum balance, in order to prove the quantity of water absorbed or infiltrated. It was proved in the tests that certain mixtures were impermeable under certain pressures, namely, 1.406 kilogrammes to 5.624 kilogrammes per square centimetre, and also that all the cylinders in which the mortar was composed of one volume of cement to one of sand, the proportion of the mortar in the mixture being thirty, thirty-five, forty and forty-five per cent of the whole, were impermeable, while even a certain number of the cylinders containing mortar composed of one volume cement and two of sand, in the proportion of from forty to forty-five per cent of the mixture, gave similar results. Finally, the cylinders made up in the proportions of 1:2:4 and 1:2.5:4 resisted all infiltration. As a pressure of 5.624 kilogrammes per square centimetre corresponds to a load of water having an area of 56.24 metres (61¼ yards nearly), and the thickness of the concrete offering the resistance to the infiltration was only 127 millimetres (5½ inches,) one may conclude that this test is sufficient to prove that all concrete having a similar composition will offer the required resistance to filtration in practice.—*Stone Trades Journal*.

BOOKS AND PAPERS

IT is not easy to steer an even path between the abstruse technical treatment, which seems to appeal most strongly to an engineer, and the more straightforward and easier understood descriptive method which is within the grasp of the layman and the architect, but Mr. Meyer, in his recent book on steamwork,¹ seems to have struck the happy medium. His book was written with the idea of being of special value to those who are called upon to design or purchase a steam-power plant or parts of it, whose knowledge of such machinery is more or less limited. And in its course of one hundred and sixty pages all of the leading points which have to be considered in steamwork are set forth in such a clear, practical manner that the book cannot fail to be of great value to those who have occasion for such information. Part of the text has appeared in articles in the *Engineering Record*, which certainly does not detract in any wise from its value, and the work bears the impress of a mind which

¹ "Steam-power Plants, their Design and Construction." By Henry C. Meyer, Jr., M. E. New York: McGraw Publishing Co. 1903.

has sought for data in actual work rather than in ideal theories. Indeed, where the author indulges in pure theory, the work is of least value and it is the practical illustrations and the analysis of the same which are of most value. Though nominally written for laymen, the subject-matter is treated from the standpoint of the engineer in a perfectly logical manner and the author shows in several places that he has thought far more of what he had to say than how he should say it. The scheme of the book is comprehensive, the illustrations adequate and clearly drawn, and we know of no one work on the subject which combines so many good points. We would not agree with some of his practical conclusions, as, for instance, when we are left to infer in chimney-design that if the joints on the windward side under extreme stress do not open more than half their width the chimney is perfectly safe; nor when the statement is made that too slow combustion results in the partial burning of the gases, thereby causing a loss. Such statements are slips which can be easily pardoned when the intent is so manifest, and they will undoubtedly disappear in the future editions which it is hoped may be issued.

ENGINEERS and others concerned with public work who can read German will find a little pamphlet,¹ reprinted from the *Austrian Weekly Journal of Public Works*, on the Requirements of Street Traffic, by R. Iszkowski, Director of the Department of Roads and Bridges of the Austrian Ministry of the Interior, interesting and valuable. The author, with characteristic German thoroughness, having been commissioned three years ago, as representative of the Public Highway Bureau, to study roads in Austria and the neighboring countries, travelled eleven thousand kilometres, or about seven thousand miles, through Austria, Germany, France, Switzerland and upper Italy, on a bicycle, this vehicle, as he modestly informs us, being obviously best suited to the judging of highways, partly because it brings the rider into intimate relation with any unevennesses, or other faults, and partly because the investigator is compelled to examine constantly the road over which he travels, with a care which becomes more minute as the condition of the highway becomes worse.

After paying a high compliment to the condition of the roads of France and Germany, which he attributes to the ease with which good material can be procured in those countries, he makes some general observations on the proper method of building and paving streets and highways, followed by details of construction, and statistics of materials required, which should be of great use to city engineers and others who are obliged to accomplish the best work possible with the greatest economy of time and money. Into these details we will not follow him; but the emphasis with which he insists upon the thorough compression of all soils before laying pavements on them, in order to prevent uneven settlements, which not only lead to the speedy ruin of the pavement, but increase the cost of transportation over them, and the wear and tear of vehicles, shows that he is thoroughly imbued with modern ideas on the subject.



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

SEWARD PARK PAVILION, NEW YORK, N. Y. MR. ARNOLD W. BRUNNER, ARCHITECT, NEW YORK, N. Y.

DETAIL FROM A MODEL OF THE FIFTH-AVENUE FRONT OF THE NEW YORK LIBRARY, NEW YORK, N. Y. MESSRS. CARRÈRE & HASTINGS, ARCHITECTS, NEW YORK, N. Y.

DESIGN FOR A TOWN CHURCH. MR. E. P. REYNOLDS, ARCHITECT.

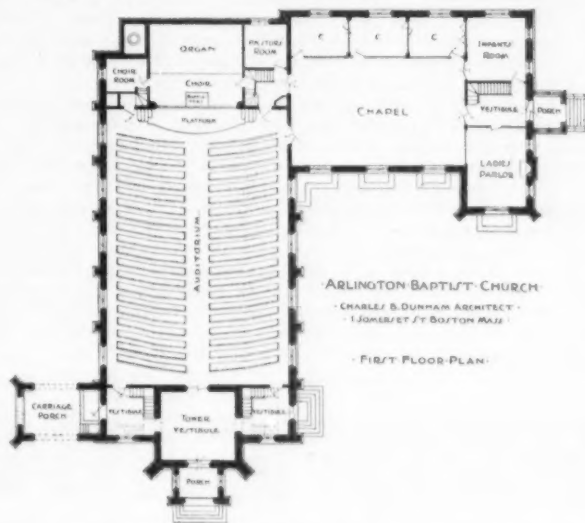
This plate is copied from the *Builder*.

Additional Illustrations in the International Edition.

FIRST BAPTIST CHURCH, ARLINGTON, MASS. MR. CHARLES B. DUNHAM, ARCHITECT, BOSTON, MASS.

THE exterior walls of the building are of Quincy seam-face granite. The trimmings are of Nova Scotia sandstone, of a soft gray tone, which gently contrasts and blends with the richly colored granite. The roofs are covered with a gray-green slate, thus supplying the necessary foil for the warm coloring of the walls and adding the final note to the exterior color-scheme. The prominent feature of the exterior is a tower, of which the base is 24 feet square, not including buttresses, which rises to the height of 80 feet. The great window and the smaller ones above aid in giving accentuation, lightness and delicacy to the design. The sides of the church are broken by buttresses, and large windows with their interlacing tracery. At the base of the tower, in the centre of the front, is a covered entrance-

porch, extending towards the street, while at the left side of the tower is a covered carriage-porch spanning the driveway to the church-yard, where sheds are provided for hitching. In the wing at the right, connecting with the auditorium at the rear, is the chapel with a special outside entrance from Willow Place. This wing also contains the church parlor, infant class-room, and three other class-rooms, besides the gallery, all of which are arranged to open into the chapel by means of doors and sliding-sashes, so that the entire



floor-space can be thrown together when occasion requires. The chapel and class-rooms are finished in ash of a rich antique brown color, and the walls are tinted a warm gray-green, producing a quiet, restful effect. The ceiling is finished directly on the roof, with exposed wooden trusses. The aggregate seating capacity of the chapel and class-rooms is three hundred and fifty. In the basement, under the chapel, is the dining-hall, capable of seating two hundred and fifty. The auditorium is finished in quartered oak and has a seating capacity of five hundred on the floor and fifty-six in the gallery. The wooden ceiling is supported by massive hammer-beam trusses, wrought in an ornamental design of tracery and finished in a rich antique color. Behind the minister's platform is a large arch supported by clusters of quartered-oak columns, dividing the choir gallery from the auditorium. This gallery contains the organ which was built by James Cole, of Boston, and is one of the finest and most complete, as far as modern methods of construction and treatment permit, embodying not only the most recent tone productions, but every necessary facility for its manipulation. It is one of the tubular pneumatic type with three manuals and the "Willis" pedal board, power being furnished by a large water-motor. The length of the church from the tower to the end of the chancel is 136 feet and the width 55 feet. The chapel is 70 feet long, the width in the narrowest part 44 feet and in the widest 56 feet.

AUDITORIUM OF THE FIRST BAPTIST CHURCH, ARLINGTON, MASS. MR. CHARLES B. DUNHAM, ARCHITECT, BOSTON, MASS.

NEW LECTURE HALL FOR HARVARD UNIVERSITY, KIRKLAND AND OXFORD STS., CAMBRIDGE, MASS. MR. GUY LOWELL, ARCHITECT, BOSTON, MASS.

THE PORTA DEL POPOLO, ROME, ITALY. GIACOMO BAROZZI DA VIGNOLA, ARCHITECT.

DETAIL OF THE NEW YORK PUBLIC LIBRARY, NEW YORK, N. Y. [EXECUTED FULL-SIZE IN STAFF.] MESSRS. CARRÈRE & HASTINGS, ARCHITECTS, NEW YORK, N. Y.



[The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.]

HONESTY OF DESIGN AS TO COST.

NEW YORK, N. Y., December, 1902.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs, — A recent competition for a Memorial Church in the Bronx, New York City, has many points of interest to the architectural profession.

First. — The invitation to compete for a church, the building itself

¹"Die Anforderungen des Strassenverkehrs," von R. Iszkowski. Vienna: R. von Waldheim. 1902.

to cost about eighty thousand dollars, was accompanied by a reservation for the executors of the estate that they were privileged to reject any and all designs, a safety clause that was in some aspects necessary to their side, but when it was followed by the literal dismissal of every design out of a large number presented, architects, who paid out in that competition probably an aggregate sum of not less than three thousand dollars, a total loss, for which the other side paid not one cent, cannot but feel their treatment was thankless and harsh and that the reservation of the trustees was pressed to an unlooked for and unreasonable extreme. The comment of one of the Church Committee, "not good enough," and the result of a new competition are the things of public interest, for the prize of success then went to a design that far overshot the mark as to cost.

What shall we do with that oft recurring problem of our competitions that makes honesty of design as to cost fatal to success and, to quote your own comment in an editorial some years ago in a similar case, gives the reward to "a successful fraud"? Does not this question also become all the more puzzling to answer when we consider that in this second competition for the Memorial there was appointed a professional referee whose decision resulted in the selection of the design and appointment of a firm of architects whose bids when opened disclose a cost of more than double the eighty thousand dollars, and contracts are placed for the construction of one-half of the structure, all that the appropriation permits? Will not architects who know of this case feel that the professional referee is not the help and safeguard for them that he is supposed to be?

Yours truly, COMPETING ARCHITECT.

NOTES AND CLIPPINGS

BELGIAN CARILLONS.—In Belgium day and night are set to music—music on a scale more colossal than that of the largest orchestra ever yet heard; music more penetrating than the loudest trumpet or organ blast. For however large the chorus and orchestra, it would scarcely be possible in the East End of London to hear a concert at Westminster, yet on still nights with a gentle wind blowing at that distance Big Ben has been distinctly heard. In Belgium every seven minutes there is bell-music, not only for the whole town, but for the country miles round. Those carillons, playing the same cheerful air every hour throughout the year, at least acquire a strange fascination over one who lives within sight and hearing of some such gray old church as St. Rombaud, at Mechlin. There is no greater mistake than to suppose that bell-music every seven minutes is an unpleasant disturbance or interruption; its very frequency enables it to become completely assimilated to our everyday life. Are we not surrounded by natural changes and effects quite as marked in their way as bell-music, and yet which have no tendency to unsettle, distract or weary us? How loud at times does the wind blow; how suddenly on a dark day will the sun burst into our room; how shrill is the voice of our canary, which at last we hardly heed at all; how often does a rumbling vehicle pass along in the streets, and yet we cease neither reading nor writing for any of these. The bells musically arranged never irritate or annoy one in Belgium. Instead of time floating by in blank and melancholy silence, or being marked by harsh and brazen clashes, time floats on there upon the pulses of sweet and solemn music. To Belgium belongs the honor of having first understood and felt bells as musical notes, and devised that serial and colossal musical instrument known as the carillon. In the sixteenth century the use of several bells in connection with town-clocks was common enough. Even little tunes were played at the quarters and half-hours. The addition of a second octave was clearly only a matter of time. In the seventeenth century carillons were found in all the principal towns of Belgium; and between the seventeenth and eighteenth centuries all the finest carillons now in use, including those of Malines, Antwerp, Bruges, Ghent and Louvain were set up. There seems to have been no limit to the number of bells, except the space and strength of the belfry. Antwerp Cathedral has sixty-five bells; St. Rombaud, Mechlin, forty-four bells; Bruges, forty bells and one bourdon, or heavy bass bell; Ghent, thirty-nine; Tournay, forty; Ste. Gertrude, at Louvain, forty. The great passion and genius for bells which called these noble carillons into existence can no longer be said to be at its height. All bell machinery can be infinitely better made now than ever; but notwithstanding the love of the Belgians for their chimes and carillons, and the many modern improvements that have been recently made, we cannot help feeling that the great bell period ended in 1785 with the death of the greatest organist and carillonneur Belgium has ever produced, Matthias Van den Gheyn. — *The Architect*.

A HERO OF THE SHIPYARDS.—Recently a big boiler, weighing sixty-four tons, was about to be lowered into the hold of a steamship at the New York shipyards. The hundred-ton crane, so-called because it will lift a weight of one hundred tons as easily as a college-girl lifts a wooden dumbbell, was swinging its great arms towards the monster boiler, 18 feet in circumference. Perched on the top of it was a workman—a poor Norwegian who scarcely speaks English. His back was towards the crane, and he never saw it, nor did any one else until it was within 2 feet of him. If the arm of the giant crane struck him it would crush him as it would an egg-shell. Twenty feet below was the ground strewn with jagged pieces of iron, to fall on which was instant death. The workmen below saw his danger and shouted to him. The man turned half-way round and felt the crane coming. It was

death either way, and, paralyzed with fear, he collapsed. At this critical moment, when everyone else had lost his head, one man was there who knew what to do, and did it. Twenty feet away, when the impending doom over the man was first seen, in less than two seconds he cleared the space and stood among the jagged iron. "Jump for your life! It's your only chance!" he cried, and braced himself to catch the falling man, while the crowd held its breath. The two men came together with an impact so great that both were picked up senseless. It was a case of clear grit, cool judgment and prompt action. — *Philadelphia Evening Telegraph*.

AN ECHO FROM THE BROOKLYN DRY-DOCK DISASTER.—A jury in the United States Circuit Court in March, after a trial lasting more than four weeks, returned a verdict in favor of the defendant in an action brought by the United States against Augustine Walsh to recover the sum of \$173,000. The defendant was the constructor of a dry-dock at the Brooklyn Navy Yard, for which he received the contract price of \$380,000. Subsequently it was discovered, so the Government declared, that the construction of the dry-dock had been faulty and that the contractor had failed properly to comply with the plans and specifications furnished him, and that, as a result of this, repairs were found necessary to place the dry-dock in good condition. These cost the Government an additional \$173,000. It was to recover this sum, with interest, that the Government sued. — *Exchange*.

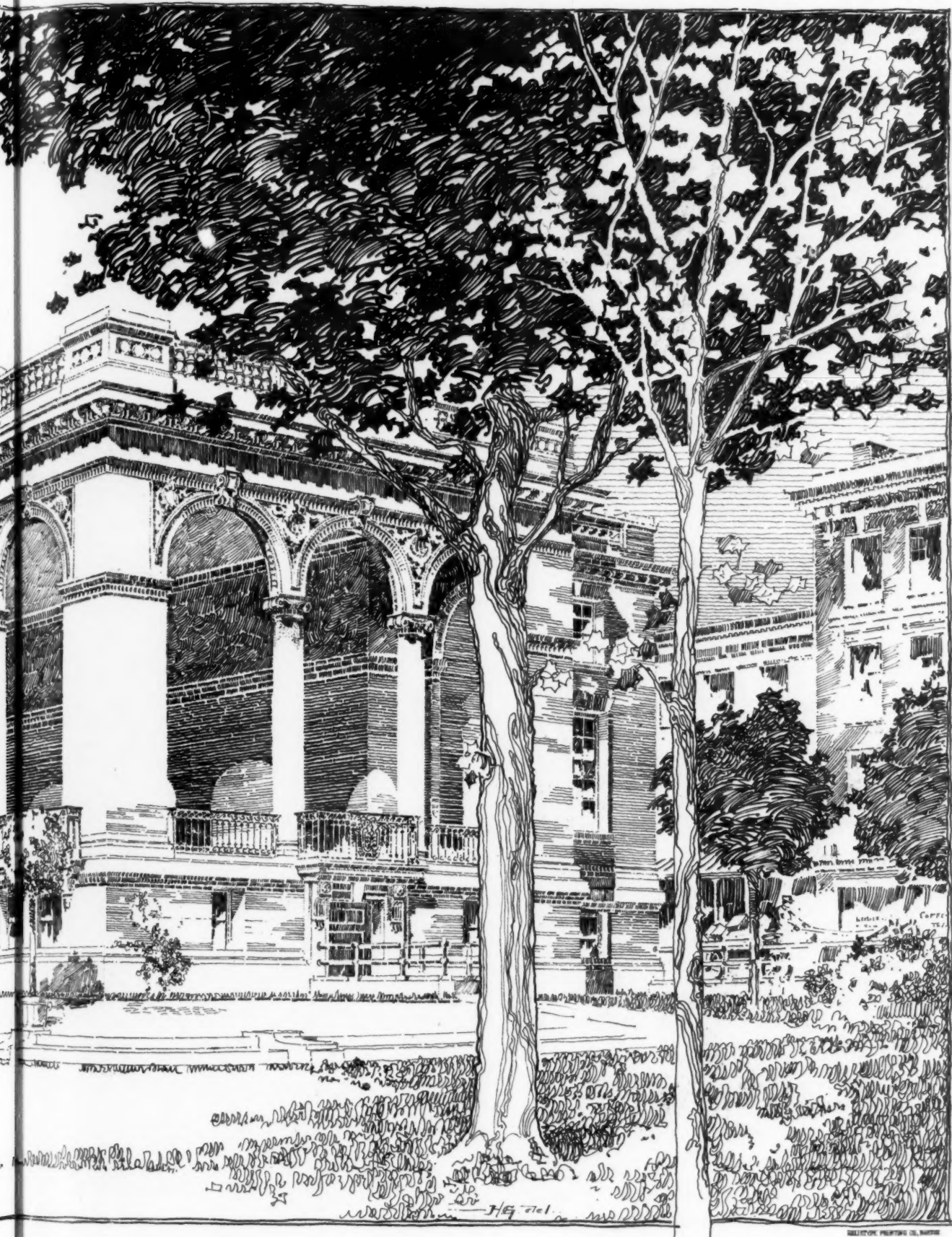
HOW TO DEAL WITH NITRIC-ACID FUMES.—The fumes of nitric acid proved fatal to Chief Foley and his brother firemen at Milwaukee because neither he nor apparently the firm of die-sinkers, on whose premises the sad accident occurred, were acquainted with the chemical properties of the acid, or knew how to deal with the fumes it threw off. Nitric-acid is a powerful oxidizing agent, which, on coming in contact with any animal matter, at once eats it away. On metals it has the same effect, but not on vegetable matter, except in the case of wood, especially such as holds any turpentine in combination. On coming in contact with pine or fir wood, if allowed to soak into it, the acid in time raises its temperature by oxidation to such a degree as to cause it to burst forth into flame, but not till after the wood has been for some time exposed to its action. If, however, in the event of its being spilled, or (as at Milwaukee) nozing out on the floor in considerable quantity, and (again as at Milwaukee) it is sopped up by sawdust, which from its finer texture is more easily acted upon by the acid, then the action is all the more rapid, and the fumes thrown off are the denser, because of the combination between the constituent parts of the turpentine and the nitric-acid. If, also, as would certainly be the case in a seal and die stamping shop, steel, or iron, or brass filings were present on the floor, another element of danger is added to the fumes, in the shape of those thrown off from the metallic substances, and the fumes are rendered even more deadly, and assume a dark-yellow or reddish tinge. Those emitted by nitric-acid are white, and send out a disagreeable acrid smell. Hence, in sprinkling sawdust over the acid that was spilled on the floor in the Milwaukee shop, a mistake was made by Chief Foley, and, in allowing or advising it to be done, unpardonable ignorance was shown by the proprietors, who, if any, should have been sufficiently acquainted with the nature of the acid to prevent such an error being made. Another error, equally unpardonable, was theirs, in arguing that, because the workers in that establishment, who, of course, are seasoned vessels, are able to withstand the fumes of the acid, not when spilled on the floor in large quantities, but when used in small amounts to eat away the surface of seals or dies they manufacture, therefore it would be equally possible for the firemen, who are not exposed day by day and hour by hour to the inhalation of such noxious vapors, to escape from the evil consequences of such exposure. To permit them to enter the store under such conditions, and not warn them against the certain danger of serious illness, at least, if not death itself, was in itself culpable, if not criminal. They admitted, if report speaks the truth, that their own workpeople suffer when they first enter their employ, but that they soon became used to the fumes of the acid. But that is not expected of the firemen, who are not supposed to be accustomed to such conditions, and certainly should not be called upon to face them without receiving due warning. The symptoms arising from the inhalation of these acid-fumes do not make themselves evident at once, but gradually. The pulse is small and depressed; sickness at the stomach ensues; the surface of the body and the extremities become very cold; great anxiety is present; the heart's action becomes weak, and the breath labored; the bronchials are choked with mucus; the trouble spreads to the lungs, and, finally, the patient dies from pneumonia, unless cupping or blistering, to promote counter-irritation, relieves the congestion, and the exhibition of such antidotes as alkaline solutions, soap, magnesia, chalk, or some such remedy, affords ease—which is very seldom the case, if the patient has been exposed to the influence of the fumes for any lengthened period. To counteract such fumes, some other chemical agent must be employed, which forms a combination with and neutralizes them. Plaster-of-Paris, chalk, or common whitewash, if thrown in considerable quantities on the floor, has that effect, as has also ammonia, if not in too great quantities, all of which by combination destroy the evil effects of the fumes. The reason is that the fumes of nitric-acid are so dense (the specific-gravity of the acid is 1.414) that they do not rise quickly, and are, therefore, soon neutralized. Especially is this the case with ammonia, whose specific-gravity is .59 (that of ammonia-water—the ammonia of commerce—is .960 at fifty-nine degrees Fahr.) and is so light that its fumes at once rise above those of the nitric-acid, and render the surrounding atmosphere safe for those who stand upright and are not obliged to work with their faces towards, or just above, the floor. The trouble is that these simple methods of dealing with poisoning by nitric-acid fumes are not generally known. — *Fire and Water Engineering*.



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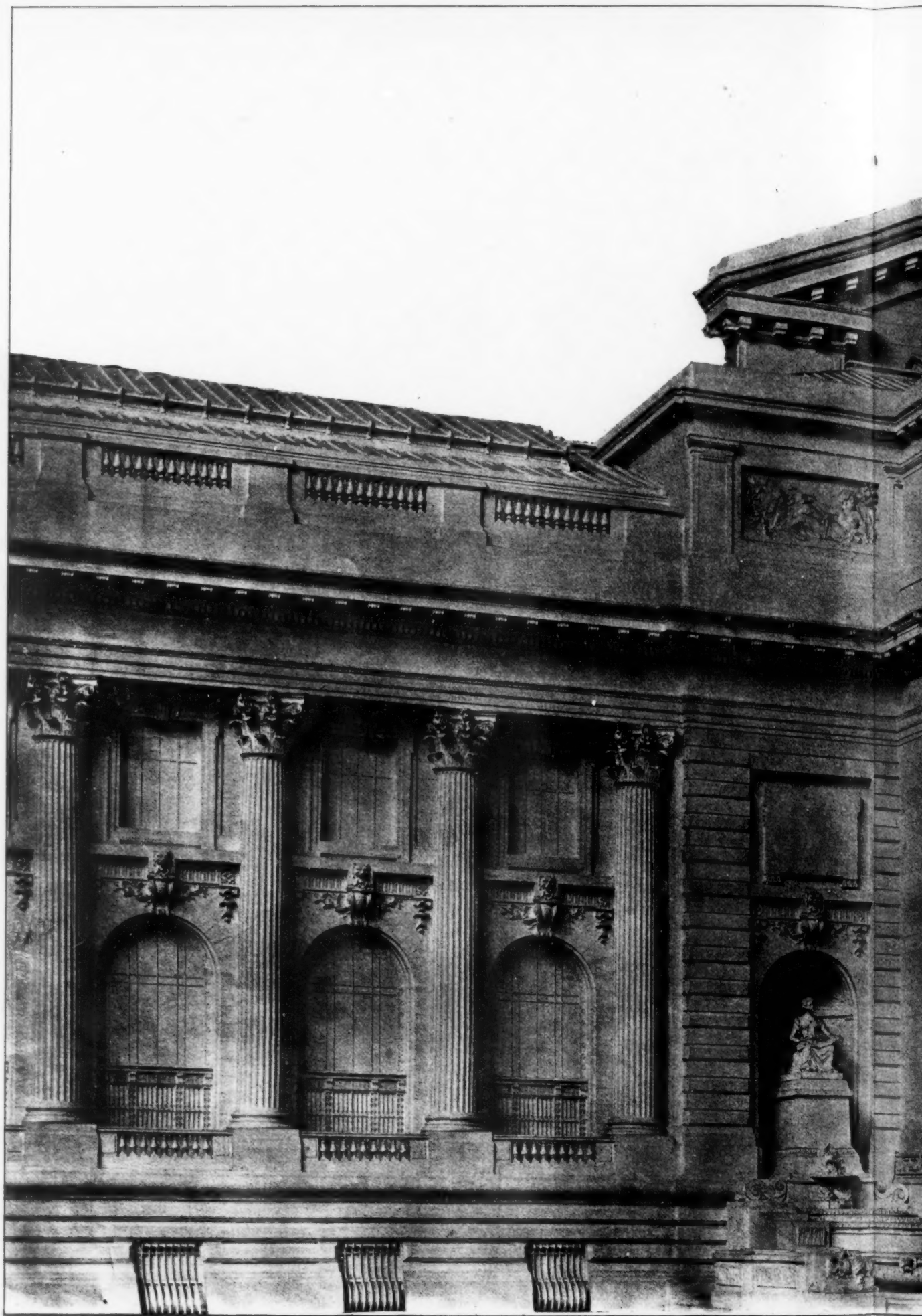
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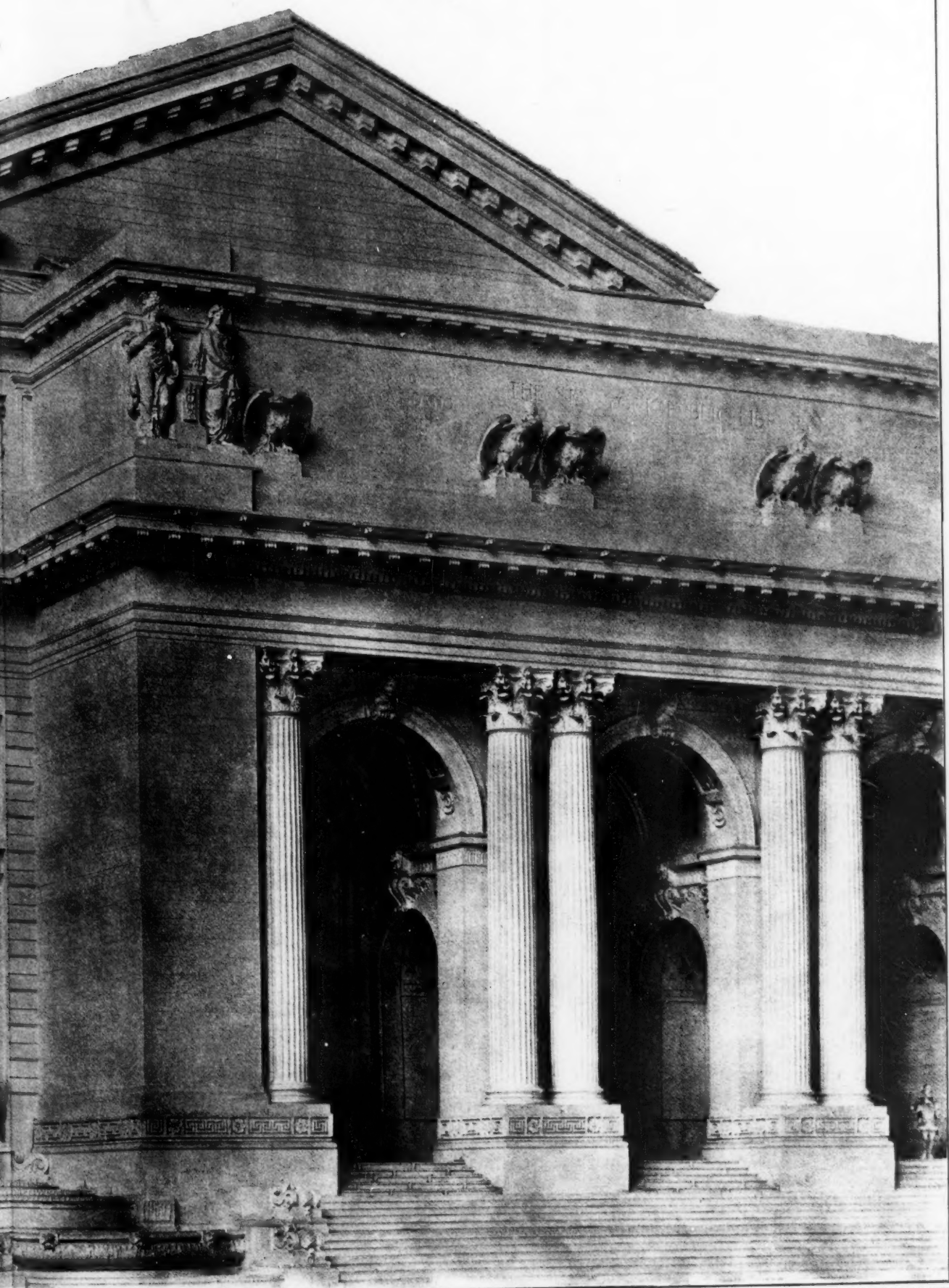
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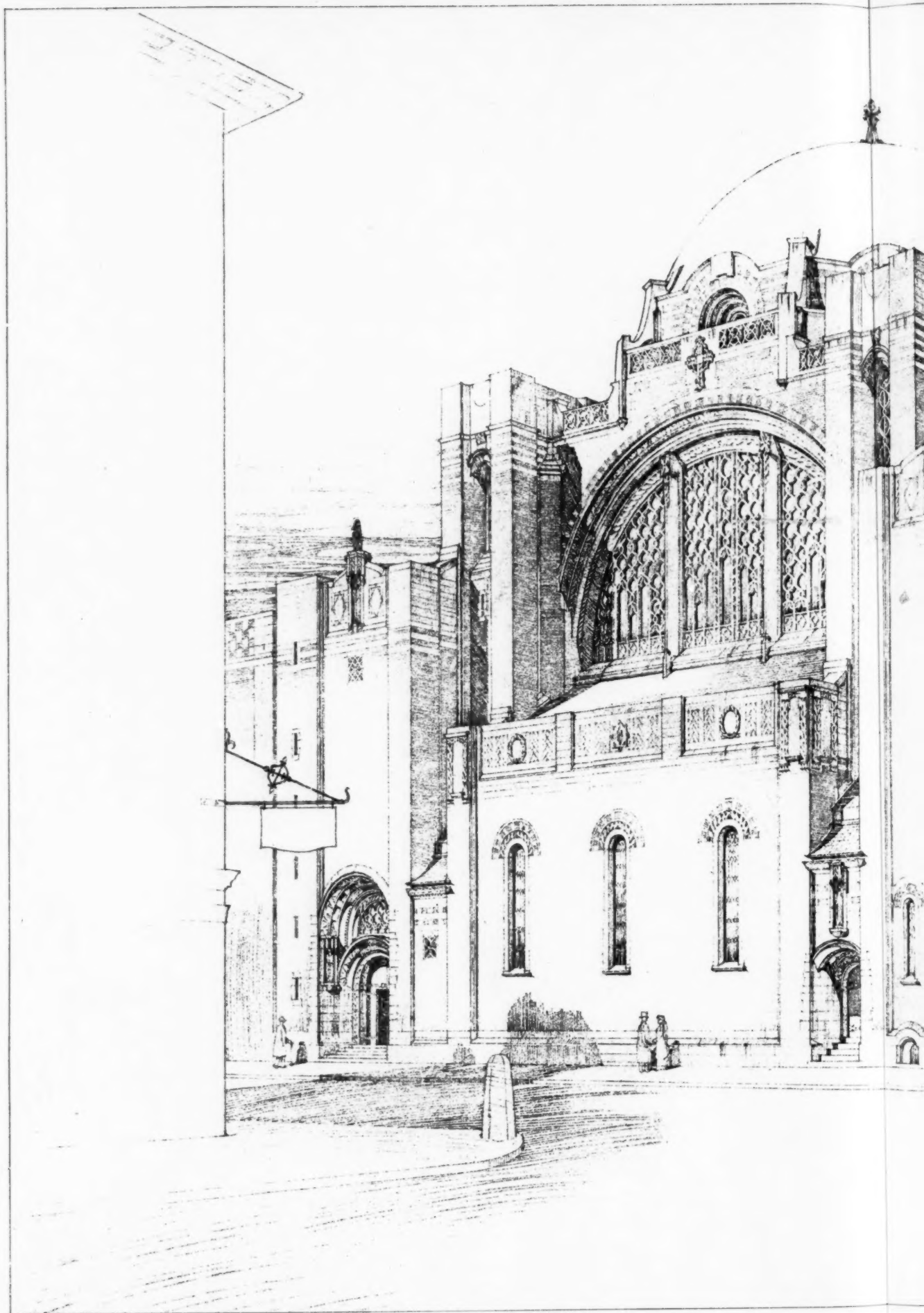


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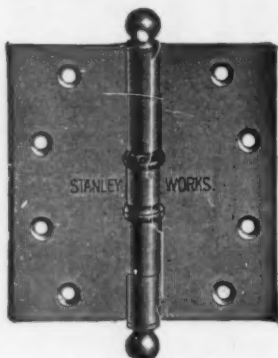
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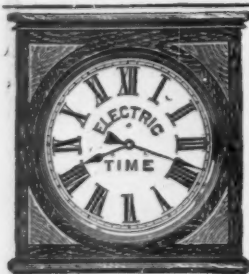


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A principal contractor is under no obligation to use a bid which he has not solicited, accepted, or received, but if he does not wish to use the estimate of a sub-bidder he should decline it, if proffered personally, or should return it unopened if sent to him by mail or otherwise. The retention of a bid should be construed as a receipt of the same.

A principal contractor, when making up his estimate, is not entitled to receive bids from sub-contractors if he is at the same time making himself their competitor by figuring their portion of the contemplated work. It is legitimate for a principal contractor to figure all portions of work, depending upon no one for what are usually known as sub-estimates, but it is not legitimate for him to receive bids from others for sub-work if he is himself figuring those portions independently.

ARTICLE II.

Award of Sub-Contracts.

The principal contractor having been awarded a general contract should immediately award the sub-contracts to the lowest bidder in each branch.

ARTICLE III.

Penalty for not Awarding Contract to Lowest Sub-Bidder.

A principal contractor failing to award a sub-contract to the lowest sub-bidder to whom he is under obligation as previously provided should be liable to pay damages to the said lowest bidder, in amount not less than ten per cent of the amount of the estimate.

Payment of such damages will not relieve the principal contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

ARTICLE V.

Payments to Sub-Contractors.

Unless the contracts made with sub-contractors otherwise provide, payments during the progress of the work should be made by the principal contractor to the sub-contractors upon the same basis of payment, in relation to amount of work performed, as is prescribed in the contract made by the principal contractor with the owner.

Final payment to a sub-contractor should be considered as due at the expiration of thirty days after the completion of his work and its approval by the architect or owner, unless otherwise provided by the sub-contract or agreement.

ARTICLE VII.

Obligation of Sub-Contractor to Principal Contractor.

Should a sub-contractor refuse to contract at the amount of the estimate he has given to a principal contractor who has used the said estimate in good faith, he then should be liable to the said principal contractor for damages in amount not less than the difference between the amount of the estimate which was submitted by him and the amount at which the principal contractor may be obliged to contract the work.

Payment of such damages will not relieve the sub-contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

ARTICLE X.

Bids to Architects or Owners.

When bids for separate departments of work on a building are solicited by the architect or the owner, they should be submitted with the understanding that they are direct estimates, for which direct contracts are to be made by the owner with the lowest bidder, and no other disposition of such bids should be permitted without consent of the bidder submitting the same.

Sub-bids should be given only to the principal contractors who are estimating the work in question, and should not be left with architects or owners for the inspection and information of principal contractors. Sub-contractors must understand that bids thus left with architects or owners are in great danger of losing their confidential character, and that if they so leave them they cannot claim protection or redress under the first article of this Code.

SUGGESTIONS.

Members of this Association having sub-contracts to let, or material to buy, should, as far as may be consistent with business principles, deal only with members of the Association, or at all events give their fellow-members the preference, to compete, and then give them the preference, other things being equal.

All bidders should take cognizance of the danger they may be subjected to through the practice, so prevalent in some architects' offices, of making change in plans or specifications, or in both, during the progress of estimating. Correction of this pernicious practice can only be obtained through refusal by contractors to estimate under such conditions.

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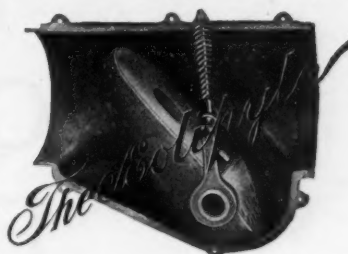
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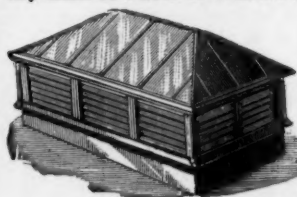
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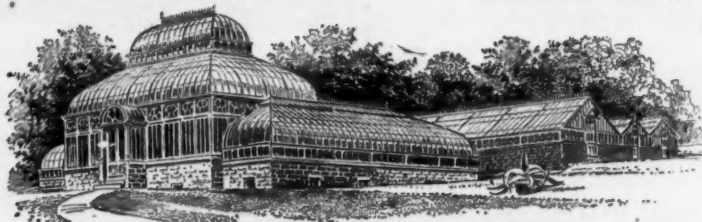
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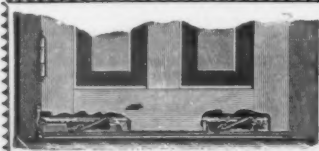
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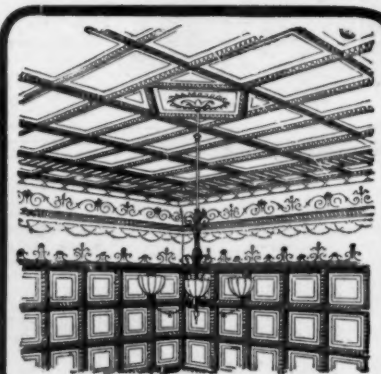
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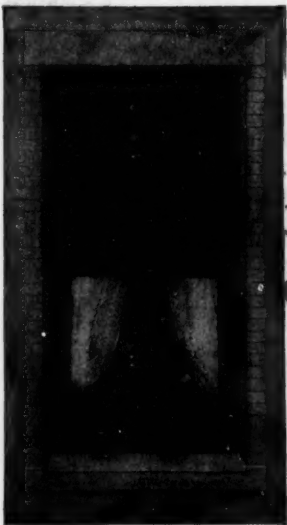
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to a joint committee of the boards of selectmen, school committee, park commission and public library, which will give hearings on the location and erection of a new public library.

Cambridge, Mass.—An anonymous gift of \$50,000 has been made to Harvard for a new hall of Philosophy, to be called Emerson Hall, and to cost about \$150,000. Of this amount \$65,000 has already been raised, and a further sum of \$10,000 promised on the condition that the money be raised by May 24, Emerson's birthday.

Chester, Pa.—Plans have been completed for the Pennsylvania R. R. depot; probable cost, \$100,000.

Chicago, Ill.—A factory will be erected on Town-

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

send St., near North Ave., for C. F. Baum at a cost of \$80,000. Paul Gerhard, 109 Randolph St., is the architect. Plans provide for a six-story structure, 75' x 200', of brick, stone and iron.

Columbus, O.—Hugh E. Smith & Bros. have accepted the plans of Wilbur T. Mills, 73 Wesley Block, for the market-house to be erected at High St. and 1st Ave., at a cost of \$150,000.

Cudahy, Wis.—The Milwaukee Rubber Works Co. has been incorporated by Patrick Cudahy, John F. Burke and G. Stanley Mitchell, all of Milwaukee, with \$200,000 capital. Buildings will be erected on a five-acre site purchased by the company at this place. There is to be a two-story main building.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

40' x 200', and three wings, each of one story and 45' x 150'.

Des Moines, Ia.—H. S. Butler will build a business block of brick on the corner of 7th and Mulberry Sts. It will be three-story, of a style uniform with that of the *Daily News* building, which will be built on the north and east of it. Cost, about \$75,000.

General Drake has signed the contract for the erection of the new music school building for Drake University. The building will cost \$15,600.

A \$15,000 Jewish temple will be erected by the congregation of Tifereth and Israel at the southwest corner of 3d and Crocker Sts.

East Boston, Mass.—The Bingham & Whiting Co., 110 State St., Boston, contemplates building a brick machine shop here, to cost \$200,000.

Edmond, Ind. Ter.—It is reported that the Governor has signed the bill providing for an appropriation of \$40,000, for a Normal School to be erected here.

Elwood City, Pa.—The Baltimore & Ohio R. R. and Pittsburgh & Lake Erie R. R. are preparing to erect a \$50,000 union depot here.

Fall River, Mass.—W. J. Dunn, Central St., has had plans drawn for a factory building. It will be brick, four stories, 50' x 140'. L. G. Destrempts, 50 N. Main St., architect.

Grand Haven, Mich.—Plans have been drawn by W. A. Chapel, of Grand Rapids, for an opera-house and armory, to cost \$20,000. It will be of brick and stone, 66' x 132'. Address Capt. S. S. Dickenson.

Grand Rapids, Mich.—The Lake Side Club will erect a \$50,000 building at Reed's Lake.

Greenfield, Mass.—R. E. Pray & Co. are stated to have received the contract for erecting the high school, for \$35,618.

Greenville, Ala.—Dobson & Bynum, of Birmingham, have been awarded the contract for erecting the Butler County Court-house, for \$36,000.

Holyoke, Mass.—A new club-house will be erected

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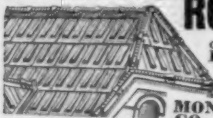
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this spring at Smith's Ferry for the Holyoke Canoe Club. The building will be 98 by 61 feet in general dimensions.

Iola, Kan.—A \$50,000 court-house will be erected in Allen Co. A. W. Howland, Chmn. Bd. Co. Comrs.

Jefferson City, Mo.—The Senate has passed a bill providing for an appropriation of \$150,000 for the erection of the Missouri School for the Blind.

Jersey City, N. J.—Walter Hankin is drawing plans for an eight-story brick hotel to be erected at Harrison and Bergen Aves., for J. C. Appleby. Cost, \$175,000.

Lewiston, Idaho.—J. K. Dow, of Spokane, Wash., has prepared plans for a \$50,000 opera-house.

Lexington, Ky.—The plans of H. L. Rowe, Northern Bank Block, have been accepted by the Bd. of Educ. for a school for white children; cost, \$27,000.

Libertyville, Ill.—Plans have been drawn by Wm. G. Kreig, of Chicago, for a two-story bank building to be erected here, at a cost of \$35,000.

Long Island City, N. Y.—A large factory will be erected here for the Central Felt & Paper Co., offices 108 Fulton St., New York. Plans by Architect F. H. Bent, 95 Liberty St., New York, provide for a brick building, to have the latest approved equipment. Approximate cost, \$30,000.

Marlboro, Mass.—Peabody & Stearns, 53 State St., Boston, have prepared plans for the Carnegie Library to be erected here, at a cost of \$35,000.

Medical Lake, Wash.—The Hotel & Sanitarium Co. has plans for a new three-story sanitarium, 80' x 156', of brick and granite. Cost, \$50,000. Foundation work will be begun at once.

Memphis, Tenn.—The Memphis Trust Co. has purchased property fronting on Main St. for \$93,000 and intends building one of the most magnificent office-buildings in the South.

Middleboro, Mass.—The foundations are nearly completed on the new brick and stone library building for this place, to cost \$50,000 when completed. F. R. Reed, New York, architect. Wheelwright & Haven, Boston, consulting and supervising archts.

New York, N. Y.—William Crittenden Adams has taken title to 34 and 36 W. 31st St., and will erect there a twelve and a half story modern fireproof hotel. A lease of the hotel has been secured for a long term of years by W. G. Leland, who will run it in connection with the Grand Hotel, adjoining.

Horace S. Ely & Co. has sold for the estate of Thomas S. Shortland, 13 S. William St., running through to 57 Stone St. The buyer will make extensive alterations to the building.

The old St. Stephen's Church property, Nos. 57 and 59 W. 46th St., 55' x 109', has been sold by Jackson & Stern. It is said that the buyer is a big construction company, which will erect a twelve-story hotel on the premises.

Ottumwa, Ia.—The First Baptist Church has had plans prepared by Ernst Koch for a new church to cost \$30,000. Address Dr. Edgerly.

Philadelphia, Pa.—John W. De Long will erect a four-story brick building at 8th St. and German-town Ave., costing \$25,000.

Portland, Ind.—The Knights of Pythias have decided to erect a four-story structure to cost \$20,000.

Portsmouth, Mass.—A storehouse is to be erected at the Portsmouth Navy Yard to cost the United States Government \$150,000. It will be 80' x 200' in size, three stories high, and will be built of brick and stone.

Providence, R. I.—Mrs. John Nicholas Brown, widow of the donor to Brown University of the John Carter Brown Library of Americana, has offered to give to the university a memorial gate in memory of her husband. The gate will stand on George St., where Brown St. enters the campus. It will be of Indiana limestone, brick and wrought-iron, somewhat similar in design to the other gates



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

that are soon to be erected. The plans for the gate were drawn by Shepley, Rutan & Coolidge, of Boston.

Rock Island, Ill.—Plans for the new store-house to take the place of the burned structure at the Arsenal are being prepared. It will be of brick and steel.

San Antonio, Tex.—The International & Great Northern R. R. Co. is reported to be considering the erection of a \$100,000 depot here.

San Francisco, Cal.—T. P. Ross, Mutual Life Building, has completed plans for an edifice for the West Side Christian Society; estimated cost, \$37,000.

St. Paul, Minn.—Harry G. Carter, architect, Minneapolis, has begun work on plans for an opera-house to be erected here. It will be of pressed brick and cut stone, with seatings for about 1,500. All details are not decided on as yet, but it is understood it will cost \$40,000.

Tacoma, Wash.—The F. H. Goss Construction Co. has the contract for the Snell Block, at \$50,000. Will be 100' x 120', three-story.

The Puget Sound University will erect a new three-story building, to cost \$25,000.

Toledo, O.—A two-story stone and brick school-building will be erected for St. Hedwig's Catholic Church, plans for which are being prepared. It will have steam heat. Cost, \$50,000. Address Rev. Francis Doppke, pastor, corner Lagrange and Thompson Sts.

A \$32,000 two-story building will be erected by the Broadway Savings Bank Co., in accordance with plans by Architect George Mills, Gardner Building.

Toronto, Ont.—Of the \$50,000 required for a new convocation hall at Toronto University, \$35,000 has been subscribed. Graduates have contributed \$15,000, members of the faculty \$7,000, undergraduates \$5,000, and outside friends \$8,000.

Walla Walla, Wash.—A site has been selected for the erection of a \$50,000 high school.

Washington, D. C.—Among the new buildings to be constructed here are a national museum, to cost \$3,500,000; a new municipal building to cost \$1,500,000; an office-building for the use of the members of the house of representatives, to cover an entire square, and to cost \$3,000,000; an addition to the department of agriculture, to cost \$1,500,000, with

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

probably several millions more to be expended later; a hall of records, to cost \$2,000,000, and a number of minor structures, such as the new Freedman's Hospital and additions to Providence, Garfield and the Homeopathic hospitals, costing in the aggregate about \$1,000,000.

Washita, Ia.—James S. Cox, of Estherville, has drawn plans for a bank building for the Citizens' Bank. Cost, \$30,000.

Waterloo, Ia.—The Litchfield Manufacturing Co., of Webster City, will remove its plant to this city as soon as possible. Buildings will be erected at a cost of \$40,000.

Waukesha, Wis.—F. H. Putney will erect a \$20,000 residence; S. A. Fox a \$6,000 residence; J. R. Buchanan one to cost \$6,000; Chas. E. Nelson four small houses at \$1,000 each.

West Medford, Mass.—The Harvard Avenue Congregational Society has voted to build a new edifice in place of the one recently burned. The new church will be on the lot at High and Allston Sts. given by Dea. Henry L. Barnes three years ago.

Whitewater, Wis.—Miss Sylvia White, of Minneapolis, has given \$12,000 for the erection of a library.

Winnipeg, Man.—The Augustine congregation of Fort Rouge will erect a church, of stone, 72' x 97'; cost, \$40,000. Architect Russell has the plans.

Winona, Ind.—Ground has been broken for the Gov. Mount memorial, the main college building of the Winona Agricultural and Technical Institute. The building will cost \$60,000.

Winthrop, Mass.—Plans for a hotel building to be erected at the corner of Crest and Ocean Aves., have been prepared by Henry F. Briscoe. The building will be 37' x 97', and five stories high, constructed of wood. Its cost above the land is estimated at \$25,000.

Yankton, S. D.—The Congregational Society will erect a \$25,000 church. It will be of brick and stone.

The County Board has adopted plans by W. R. Parsons & Son Co., architects, of Des Moines, Ia., for a \$60,000 court-house.

HOUSES.

Minneapolis, Minn.—Grand Ave., No. 2551, two-story fr. dwell., 27' x 44', steam; \$5,500; o., Chas. Wilkins; a., Henry Parsons.

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COMPETITIONS.

Boston Society of Architects.

ROTC TRAVELLING-SCHOLARSHIP.
Twentieth Annual Competition.

The examination for the Rotch Travelling-Scholarship will be held at the Boston Architectural Club, 14 Somerset Street, Boston, on Monday and Tuesday, April 20th and 21st, at nine o'clock A. M.

Candidates must be under thirty years of age, must have worked during two years in Massachusetts in the employ of an architect resident in Massachusetts, and will be required to pass preliminary examinations upon the following subjects:—

I. Construction, Theory and Practice. (Written examination.)

II. An Elementary Knowledge of the French Language. (Written examination.)

III. History of Architecture. (Written examination.)

IV. Freehand Drawing from the Cast.

Candidates who pass in these preliminary examinations will be asked to present themselves on the Saturday following, for the competition in Design.

Candidates who have passed in the preliminary examinations since 1897 are eligible for admission to the competition in Design without re-examination.

The successful candidate in each yearly examination receives from the Trustees of the Scholarship annually, for two years, \$1,000, to be expended in foreign travel and study; provided always that the beneficiary shows such fitness and diligence as may be required of him.

The Boston Society of Architects has offered the sum of \$75 as a second prize.

Candidates are required to register their names with the Secretary of the Committee three days before the opening of the examinations.

Any further information concerning the Scholarship can be obtained upon application to

C. H. BLACKALL, Secretary,
1 Somerset St., Boston, Mass.

1425

PROPOSALS.

GRADING.

[At Fort McKinley, Me.]

Office Constructing Quartermaster, 185 Middle St., Portland, Me. Sealed proposals for grading road, sidewalk and path construction, etc., at Fort McKinley, Me., will be received at this office until April 20th. Information, specifications, plan and blanks on application. CAPTAIN A. W. YATES, Quartermaster, U. S. A. 1424

BUILDING.

[At Fort Fremont, S. C.]

Bids are wanted April 23 for constructing administration building at this post. Address QUARTERMASTER. 1424

JAIL AND JAILER'S RESIDENCE.

[At Texarkana, Ark.]

Bids are wanted April 23 for erecting a jail and jailer's residence. Sidney Stewart, architect, Texarkana. 1424

SCHOOLS.

[At Schenectady, N. Y.]

Bids will be received April 20 by the Bd. of Educ. for erecting 2 grade schools. 1424

HEATING PLANTS.

[At Fort Miles and Fort Baker, Cal.]

Bids are wanted April 24 for installing hot-water heating plants in quarters at Fort Miles and Fort Baker. C. P. MILLER, Ch. Q. M. 1424

STEAM-HEATING PLANT.

[At Mansfield, O.]

Bids will be received April 23 by H. E. Cave, Ch. of Bd. Educ. for furnishing material and installing a mechanical steam-heating plant in the new addition to the present high school. 1424

HIGH SCHOOL.

[At Olivia, Minn.]

Bids are wanted April 27 for erecting a high school. Address J. M. PECKINPAUGH, Ch. 1425

STEAM-HEATING PLANT.

[At Sarnia, Ont.]

Bids, including plans and specifications, will be received April 25 for a low-pressure steam-heating plant for a 6-room school on Devine St. J. W. SMITH, Chmn. Management Com. Bd. Educ. 1425

HEADSTONES.

[At Boston, Mass.]

Depot Quartermaster's Office, 170 Summer St., Boston, Mass. Sealed proposals will be received here until April 30, 1903, for supplying 10,000 (subject to an increase or decrease of from 5 to 50 per cent) American white marble headstones, or slabs. Information furnished on application. CAPT. A. M. PALMER, Depot Q. M., Boston, Mass. 1425

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PROPOSALS.

ROAD-CONSTRUCTION, CEMENT, SAND, ETC.

[At Washington Barracks, D. C.]

U. S. Engineer Office, Washington Barracks, D. C. Sealed proposals for Portland and natural cement, sand, gravel, construction of roads and sidewalks, including grading and retaining walls, sewers, drains, and water-supply system at Washington Barracks, D. C., will be received at this office until April 30, 1903. Information furnished on application. JOHN STEPHEN SEWELL, Captain, Engineers, Acting Q. M., U. S. A. 1425

BUILDING.

[At Fort Lincoln, N. D.]

Geo. E. Pond, chief quartermaster, will receive bids until April 30 for the construction of an administration building and power magazine at Fort Lincoln, N. D. 1125

PORTLAND CEMENT.

[At Catlettsburg, Ky.]

U. S. Engineer Office, Custom-house, Cincinnati, O. Sealed proposals for furnishing about 5,000 barrels American Portland cement at Catlettsburg, Ky., for use at Dam No. 1, Big Sandy River, will be received here until noon, standard time, May 4, 1903. Information furnished by MAJOR ERNEST H. RUFFNER, Engrs. 1426

BUILDING MATERIALS, HARDWARE, ETC.

[At West Point, N. Y.]

Sealed proposals will be received here until May 1, 1903, for building materials, plumbing materials, hardware, tools, paints, glass, furnace and range parts, and other miscellaneous stores specified on schedules to be had upon application here. Q. M., U. S. M. A. 1426

ADDITION TO DORMITORY.

[At Springfield, S. D.]

The Indian department, Washington, D. C., will receive bids until April 21 for addition to dormitory, construction of laundry, water and sewer systems, moving and re-erecting buildings at the Indian School at Springfield, S. D. 1424

CHURCH.

[At Lesterville, S. D.]

J. J. Wagner, chairman, has plans and will receive bids until April 25 for the erection of a church for the Catholic Society. Bids are asked for the material and labor, finishing and painting; also for all labor, constructing, finishing and painting. 1424

WHARF.

[At Fort Dade, Fla.]

Sealed proposals will be received until April 21, 1903, for constructing wharf here. Information furnished on application. ROBT S. WELSH, Q. M. 1424

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PROPOSALS.

SCHOOL.

[At Chokio, Minn.]

The undersigned hereby gives notice that sealed proposals for the erection of a school-building, including the heating and ventilation, will be received by J. C. Blaisdell, clerk School Board, Chokio, Minn., until the 28th day of April, 1903. All bids must be in strict accordance with the plans and specifications, prepared by Fremont D. Orff, architect, of Minneapolis, Minn., which may be seen at the office of the clerk of the School Board on and after April 14, 1903, and may also be seen on application to the architect, 615 Lumber Exchange, Minneapolis, the Builders' Exchange, Minneapolis, and the Builders' Exchange, St. Paul. J. C. BLAISDELL, Clerk. 1424

JAIL AND SHERIFF'S RESIDENCE.

[At Great Bend, Kan.]

The commissioners of Barton County will receive bids until April 21 for the construction of a jail building and sheriff's residence after plans by J. G. Holland & Squires, Topeka, Kan. F. M. LUTSCHG, county clerk. 1424

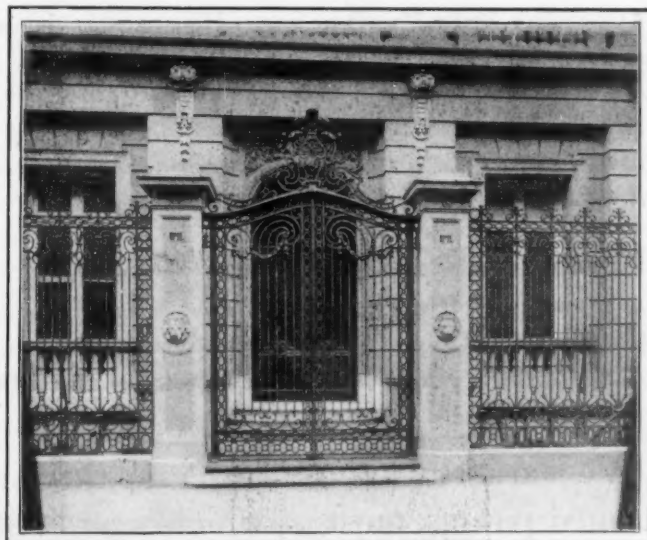
PORTLAND CEMENT, ETC.

[At Boston, Mass.]

U. S. Engineer Office, Winthrop Building, Boston, Mass. Sealed proposals for furnishing Portland cement, sand and broken stone will be received here until April 25, 1903. Information furnished on application. HARRY TAYLOR, Capt., Engrs. 1424

Treasury Department, Office of the Supervising Architect, Washington, D. C., March 28, 1903. Sealed proposals will be received at this office until 3 o'clock P. M. on the 5th day of May, 1903, and then opened, for the construction (except heating apparatus) of the extension to the U. S. Court-house, Post-office, etc., at Greensboro, North Carolina, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Custodian at Greensboro, North Carolina, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1424

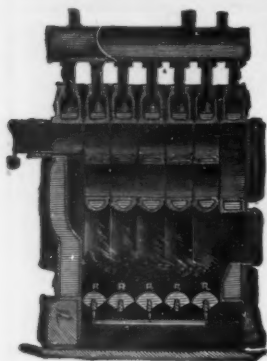
Treasury Department, Office of the Supervising Architect, Washington, D. C., March 31, 1903. Sealed proposals will be received at this office until 3 o'clock P. M. on the 6th day of May, 1903, and then opened, for the construction (except heating apparatus and electric wiring and conduits) of the U. S. Post-office at Norwich, Connecticut, in accordance with the drawings and specification, copies of which may be had at this office, or the office of the Postmaster at Norwich, Conn., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1424



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ADOPTED BY THE SOCIETY, FEBRUARY 1.

. . . 1895. . .

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SECTION 2. A Member having any ownership in any building material, device or invention, proposed to be used on work for which he is architect, should inform his employer of the fact of such ownership.

SECTION 3. No Member should be a party to a building contract except as "owner."

SECTION 4. No Member should guarantee an estimate or contract by personal bond.

SECTION 5. It is unprofessional to offer drawings or other services "on approval" and without adequate pecuniary compensation.

SECTION 6. It is unprofessional to advertise in any other way than by a notice giving name, address, profession, and office hours, and special branch (if such) of practice.

SECTION 7. It is unprofessional to make alterations of a building designed by another architect, within ten years of its completion, without ascertaining that the owner refuses to employ the original designer, or, in event of the property having changed hands, without due notice to the said designer.

SECTION 8. It is unprofessional to attempt to supplant an architect after definite steps have been taken toward his employment.

SECTION 9. It is unprofessional for a Member to criticise in the public prints the professional conduct or work of another architect except over his own name or under the authority of a professional journal.

SECTION 10. It is unprofessional to furnish designs in competition for private work or for public work, unless for proper compensation, and unless a competent professional adviser is employed to draw up the "conditions" and assist in the award.

SECTION 11. No Member should submit drawings except as an original contributor in any duly instituted competition, or attempt to secure any work for which such a competition remains undecided.

SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot give proper personal attention.

SECTION 13. No Member shall compete in amount of commission, or offer to work for less than another, in order to secure the work.

SECTION 14. It is unprofessional to enter into competition with or to consult with an architect who has been dishonorably expelled from the "Institute" or "Society."

SECTION 15. The assumption of the title of "Architect" should be held to mean that the bearer has the professional knowledge and natural ability needed for the proper invention, illustration and supervision of all building operations which he may undertake.

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