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THE building situation in New York does not improve. Notice has been given by the contractors that, after material now on hand is used, no more will be ordered until some satisfactory arrangement has been made with the unions, this meaning, as is well understood, that walking-delegates, or “business agents,” will be no longer recognized as being entitled to speak for the unions. The walking-delegates profess to regard the matter with unconcern, but the “united front” which they proposed to present to the “enemy,” that is, their employers, has already broken into two fronts, which are by no means united; and some of the unions are reported to be considering independently the employers’ proposition, while individual union-men have had the courage to express to the employers their approval of it. Meanwhile, the strike in the building trades at Omaha, which has been carried on for three months, has completely collapsed, presumably in consequence of the concerted action of the employers. In most cases, the unions have voted separately to return to work, usually at their former wages, although the bricklayers have secured a slight advance, and the laborers have had to accept a reduction; but, in each instance, it has been necessary to concede to the employers the right to employ non-union men, without disturbance or molestation. This is really the cardinal point of the whole matter, for both sides. If the greedy and cruel leaders of the unions can prevent any one from earning a living who does not submit to their domination, there is no pitch of tyranny to which they may not ultimately aspire; while the knowledge that a good workman can secure employment, whether he belongs to a union or not, will do more than anything else to purify the unions themselves, and to restore the efficiency and self-respect among workingmen which have done so much for the country.

THE strike at the great Hecla Iron Works, in New York, has been declared off, the men coming back in great numbers to ask for employment. According to the newspapers, the men bitterly denounce their walking-delegate, the notorious Parks, who ordered them on strike, and promised that they should be supplied with money. The managers of the Hecla Company, while disposed to take their men back, say that the new men who were employed to fill their places, and have proved faithful and competent, will be retained; so that some of the strikers will not be again employed. At the cotton-mills at Lowell, Mass., the same fairness prevails, the mill-agents, while taking back such of their hands as they can find room for, having flatly refused the request of the union

leaders to discharge men who stood by them faithfully. Some of these were boys and unskilled men, who, by earnest effort during the strike, have qualified themselves to do skilled work, at greatly increased wages; and the lesson to these, that faithfulness, industry and intelligence bring their reward, will be of value to the whole community of workingmen in Lowell.

THE New York *Evening Post* has a long editorial upon the treachery and extortion of walking-delegates, and upon corruption and blackmailing in general, which is, in the main, highly commendable. It is a little amusing to observe the astonishment which the *Evening Post*, like other newspapers, shows at the “disclosures” of things that have been notorious for years; but, to our mind, it makes a mistake, which is not less serious because it is common, in denouncing the people who pay bribes and blackmail as being as bad as those who extort them. That a man who submits to extortion is imprudent we are quite ready to concede, but that he is as bad as the blackmailer himself is a view which is maintained by none so energetically as by the blackmailers themselves. The reason of this may, perhaps, be made more clear by reference to the bribery statutes. Some years ago, great public indignation was aroused by the exposure of flagrant bribery in the New York Legislature. The members of this body who had not been found out held up their hands in pious horror at the wickedness of their associates, accompanying their lamentations by a burst of indignation at the miscreants who dared to tempt innocent Assemblymen from the paths of righteousness. Denunciation, as politicians well know, always carries the public with it, and, under cover of the popular feeling, the Legislature proceeded to adopt a statute which ought to have been called an “Act for Promoting Bribery, and for Increasing the Size of the Bribes.” Under this law, which is still in force, and has been copied in many other States, as well as by the United States Government, it is made a penal offence to offer money to a public official, whether he takes it or not. At first sight, this looks like a laudable effort to protect the spotless purity of official morality from the assaults of the enemy; but it really is, and was undoubtedly meant to be, a notice to people who wanted anything that a public servant could give them that if they did not offer a sufficiently liberal bribe, the public servant would inform against them; so that, to the price of his services, must be added a consideration for his forbearance in not sending his tempter to jail. No one, probably, pretends that corruption has been diminished by the law, while it has served, as it was presumably intended to serve, not only to render blackmailing, at least by public officials, far more profitable, but to suppress evidence of bribery, by the effectual means of providing a term in prison for any one who should criminate himself by testifying to the offer of a bribe.

BEFORE the corruption which is the reproach of American life, public and private, can be reached in any effectual manner, not only the bribery laws, but the libel laws, must be changed, so that it will be safe for those who know of corrupt dealings to testify, publicly and privately, in regard to them. It is almost comic to see the real or pretended astonishment of the newspapers at every fresh case of corruption that is brought into the courts, when every one, apparently, except the newspaper reporters, knows that the cases which come into court are only a small fraction of those which are the subject of common conversation. Among the latter are, it must be confessed, occasionally some affecting newspapers or newspaper men themselves; and when the Hercules arrives who is to turn the river of publicity through the Augean stable of American corruption, he will do well to see that the river itself is free from microbes.

PEOPLE interested in the Massachusetts Institute of Technology have followed anxiously the course of the proceedings intended to transfer to the Institute the complete ownership of the land which it has occupied for so many years, in order to enable it to sell the property, and use the proceeds for providing more adequate accommodations in a locality where land is less valuable. As the tract occupied by the two

older buildings of the Institute is believed to be worth at least two million dollars, the privilege of selling it constitutes a virtual endowment, which costs no one anything, and will add greatly to the usefulness of the Institute. So far as the city of Boston is concerned, the improvement of the property with mercantile buildings, for which it is likely to be used, will increase materially the taxable value of the land in the neighborhood, as well as of the property itself; so that the passage of the Act has conferred a substantial benefit upon the taxpayers. The only persons who seem to have any pretext whatever for a grievance are the owners of land on Newbury Street, facing the Institute property, and they have certainly not been remiss in urging their claims. Whether these claims are substantial or not will probably have to be decided by the courts; but the foundation for them, as disclosed in the hearings before the Legislature, seems to have been originally somewhat shadowy; and the well-known disfavor with which courts look upon permanent restrictions on real-estate, even where expressed in a definite contract, indicates that they will be thoroughly sifted before they are allowed to prevail. In a recent case in Massachusetts a restriction of the clearest and most positive character was set aside, on the ground that the conditions, owing to the occupancy of neighboring land for business purposes, had so changed that the restrictions made for the benefit of property in a neighborhood devoted to dwelling-houses were no longer applicable; and the same consideration applies to the Institute land. It is pleasant to observe that the Corporation of Trinity Church, which is largely interested, as its Rectory is one of the Newbury Street properties affected, has already announced its intention of waiving any claims that it might have which would tend to hamper the proposed benefit to the Institute; and it may be hoped that other owners will show the same disposition toward an institution which has brought honor to Massachusetts from every civilized country in the world.

ONE of the Boston papers already proposes that the Institute authorities should buy out the claims of the Newbury Street owners, in order to save the "delay and uncertainty" of legal proceedings. We hope that we do not do any one injustice in remarking upon the singular resemblance of this suggestion to those which an attorney, who has doubts of his client's case, makes to the other party. We should be very far from imagining that the Boston *Herald* had been consciously influenced by either side in the controversy; but it is hardly possible that the expense of defending a single lawsuit, involving only one point, the decision in which would settle all the claims, would be greater than that involved in making separate settlements with the eighteen different Newbury Street claimants, to say nothing of those on the other streets in the neighborhood.

THE Massachusetts School of Design, formerly known as the Lowell School of Design, and connected with the Massachusetts Institute of Technology, has been united with the School of Drawing and Painting of the Boston Museum of Fine-Arts. The School of Design, under either name, has been devoted, in accordance with the intentions of its founder, mainly to industrial design, particularly to the designing of textile fabrics; and there can be no doubt that for a quarter of a century it has taken an important part in maintaining the high rank of Massachusetts in textile industries. By the transfer of the school to the Museum of Fine-Arts it will be enabled to take a wider range, using the splendid collections of the Museum as a basis for instruction in metal-work, pottery, and the designing of laces and embroidery, as well as of simpler textiles. Since the retirement of the late Mr. Kastner the School has been, as our readers know, under the charge of Mr. C. Howard Walker, whose architectural training will, we venture to say, do almost as much as his profound knowledge of ornament to fit him for the difficult task which he has undertaken.

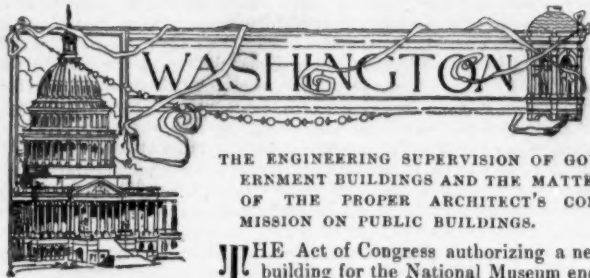
EVERY one will regret to learn that the State College of Forestry, established in connection with Cornell University, in New York, has been abandoned, the office of Director, held by Professor Fernow, having been abolished, and the other two members of the administration, Professors Clark and Gifford, having resigned, as a result, apparently, of the veto, by Governor Odell, of the appropriation for continued support of the School. Undoubtedly, Governor Odell has good

reasons for his action; but the public will lament the extinction of the first School of Forestry in the country, directed by one of the most distinguished living experts, and connected, greatly to its advantage, with one of the best-equipped of all our great institutions of learning.

WE always find a good deal of encouragement, of a sort which is painfully needed just now, in the Reports of the Chief Fire Warden of Minnesota, who is, as our readers know, also the principal official concerned in the conservation of the forests of the State. The experience of the last few weeks has shown that much remains to be done in the way of accomplishing the first and most rudimentary purpose of forest conservation, the protection of timber lands from fire; but much has been done, and, in Minnesota, at least, there is one man who knows what more needs to be done. Every one does not realize that the number of lives lost by forest fires in the United States is counted by thousands, while the number of those reduced to destitution by such fires is far greater. In regard to the latter consideration Mr. Andrews makes the important point that more harm is often done by the running of forest fires among the clearings than by the destruction of trees. In Minnesota, particularly, during the past eight years, the value of hay and fuel wood destroyed by accidental fire has been larger than that of timber; and Mr. Andrews says that there have been many cases where such fires have destroyed all the winter forage of some poor settler, making it necessary for him to sell his only cow. Those who remember Hector Malot's *Roussette* will not need to be told what a cow is to a poor family, and many a half-tragedy is contained in these simple statistics.

THE most exasperating part of the affair is that these distresses are often, perhaps generally, inflicted through the stupid carelessness of people who ought to know better. Mr. Andrews says that many fires are caused by people calling themselves sportsmen, who deliberately set fire to the underbrush in the woods, so as to clear a pasturage for deer the next season. We should say that a hunter capable of such actions ought to have his hunting license revoked at once; but so much of Minnesota is, as yet, sparsely populated that it would probably be difficult to secure evidence against malefactors of the kind; and possibly the best remedy would be to prohibit absolutely the killing of deer, as is done in Massachusetts.

THE people who have been deceived into buying spurious antiquities may take comfort in the reflection that they have had illustrious predecessors. His Majesty Louis the Ninth of France, who was not only a king, but a saint, seems to have had a passion for antiquities, and to have suffered the usual consequences. While he was engaged in the Crusade which he led with so much distinction, the Sultan of the Saracens was so greatly impressed with his valor and virtue that, in the friendly moments which followed the declaration of a truce, he told him that, on the next day, he would show him his treasures, and begged that he would accept as a present whatever article he might like best among them. According to the legend, Saint Louis, who united sanctity with business talent in an uncommon degree, utilized the evening to seek out the Sultan's favorite wife, and ask her, merely as a matter of curiosity, what object among his treasures the Sultan valued most highly. The wife, who seems to have been quite a match for the Saint in business talent, confided to him that her husband regarded as his most priceless possession, far above all the rest in value, a wooden statue of the Holy Virgin, made by the prophet Jeremiah. The miraculous character of this work of art naturally enhanced its attraction in the eyes of the pious King; and the next day, when the Sultan displayed to him the wonders of his treasury, he demanded the statue. The Sultan, according to the legend, wept and lamented, but the King insisted; and the Sultan at last, rather than break his royal promise, turned over the statue to his guest. King Louis took the first opportunity of forwarding it to France, and it was deposited in the Cathedral of Le Puy, where it remained, covered with gold and jewels offered by the faithful, until about a hundred years ago, when it was burned, in a conflagration which nearly destroyed the Cathedral. The fame of this remarkable work was, however, too great to allow the memory of it to be lost, and a copy of it was made, and placed in the Cathedral, where it is to be seen to this day.



THE Act of Congress authorizing a new building for the National Museum ends with this clause:—

"The construction shall be in charge of Bernard R. Green, Superintendent of Buildings and Grounds, Library of Congress, who shall make the contracts herein authorized and disburse all appropriations made for the work, and shall receive as full compensation for his services hereunder the sum of \$2,000 annually, in addition to his present salary, to be paid out of said appropriation."

Mr. Green is a civil engineer eminently well known through his long connection with the conduct of public works, and latterly with the construction of public buildings. As superintendent of construction of the Library of Congress, at first under the late General Casey, and afterward as principal, discharging in that case such functions as are defined in the enactment above quoted, Mr. Green completed his responsible duties to the very great satisfaction of Congress and earned the general respect he enjoys. Mr. Green's fine abilities and his unusual experience ensure for the new museum building a supervision which, joined to that of the architects of the building, Messrs. Hornblower & Marshall, could not be bettered.

That the continued supervision of the architect is indispensable to the proper carrying out of his design seems too obvious to need argument, but it is, unhappily, evident that the principle is not yet generally accepted. Some of our representatives in Congress seem inclined to deny it. The tendency of our people is still to be a bit shy of ideas not entirely utilitarian, in the restricted sense of that word. The opinion of these gentlemen would seem to be that under the administration of an engineer, of, say, Mr. Green's knowledge and experience, the architect is adequately represented by his drawings, and the Government may as well save the considerable cost of his supervision of the building. This might be all right but for one thing, that apart from the constructive integrity of a building which can be derived from scientific knowledge, capacity for organization of labor, executive ability and business sense, there is an aesthetic quality which in large part goes into the building as it grows under the eye and hand of its designer, which drawings can but dryly suggest, which is often the inspiration of a moment, but which makes it a work of art.

This quality is the individuality of the architect, his mind's impress. Practically it is what determines one's choice of an architect, and is the thing most wanted in a building which is meant to be also a work of art. It is not readily, or ever fully, conveyed at second hand, nor at all so conveyed except through a medium in perfect sympathy with and entirely obedient to the architect's idea. It is the intangible something which makes a masterwork,—the great essential, and it is priceless.

It is to be hoped that in enactments for public buildings Congress will ever so regard it, and adopt no system which may threaten a loss of this more purely æsthetic and, in the art sense, educational value of such buildings as public monuments.

And, while these considerations, surely to be recognized as of first importance, may be safe in the hands of a civil engineer whose experience with architectural works has taught him their value, we can scarcely expect them to appeal convincingly to the military engineer, whose training has been, in the nature of things, to ignore them, whose work, presumably, will not have brought him in contact with such ideas, whose intelligence will have been schooled from quite a different standpoint.

It may happen that the military officer assigned to this unaccustomed duty will be disinclined to consultation with the architect, will be unwilling to share his authority.

The drawings and specification of the architect and the intention of his work will of course be ascertained and followed in the main, but in practice there are changes to be made, here and there in the course of construction, and questions to be determined, which may make or mar the artistic result. These things call for the exercise of the architect's judgment, and his constant care.

The apparent economy of doing without the architect's supervision and letting that duty devolve upon the engineer who properly represents the Government has commended the idea to some legislators. The architect's compensation for supervision at the rate of one and one-half per cent would amount, in a building costing \$1,000,000, to \$15,000. The pay of the army engineer goes on in any case, and by assigning him to this duty for a few years, you effect what seems a clear saving of just so much. But the engineer's pay for the several years the building is in construction amounts to something, and he has a superintendent, a clerk or two, an office somewhere. To get fairly at the actual cost of supervision these matters must be taken into account, and when they are, your apparent economy dwindles. A pertinent question, perhaps, might be put as to what becomes of the army engineer's proper duties meanwhile. The important phase

of the matter, however, is the incontestable fact that the architect must be consulted from time to time, must actually keep his hand on the work until its final completion. That being the case, is he not entitled to compensation for such service?

All of which is in substance not only granted by such men as Mr. Bernard R. Green, Civil Engineer, and Captain John Stephen Sewell, Corps of Engineers, United States Army, who have distinguished themselves in connection with the erection of public buildings here, but consistently maintained by them. The latter read, at the last Convention of the Institute, a paper on "The Relation of the Architect and Engineer to the Design and Erection of Government Buildings," printed in the *American Architect* of January 3, 1903, in which he set forth admirable views on this question and contributed suggestions of great importance as to the desirability of a general system for the Government's building transactions.

Architects should read the paper, if they have not already done so. Captain Sewell's plan to organize a corps of building constructors employed by the Government is noteworthy, and is something on the lines of Mr. Taylor's idea of the probable future function of the office of the Supervising Architect of the Treasury Department.

Captain Sewell had charge of building the Public Printing Office, recently finished at a cost of \$2,400,000. This is practically what is known as a factory building. There was occasion in it for the minimum of architectural effort. The Secretary of War was authorized to build it. Captain Sewell was assigned to that duty, prepared the floor-plans, determined by need of the office and structural requirements, and employed an architect, Mr. James G. Hill, of this city, to do what could be done for the building, within the restrictions imposed, at a compensation based upon the full Institute rates. Captain Sewell is now supervising the construction of the War College and School of Engineers here, and will also represent the Government in the erection of the new building for the Department of Agriculture.

Messrs. McKim, Mead & White are the architects of the War College, and will receive full compensation according to Institute rates, for drawings, specification and details, with travel expenses and a per diem for necessary supervision. The same procedure, likely to be followed in the case of the Department of Agriculture, has been agreed upon also with the representatives of Cope & Stewardson, who are the architects of the new Municipal Building for Washington, and will be also, practically, the arrangement under which Messrs. Hornblower & Marshall and Mr. Bernard R. Green will carry out the erection of the new Museum Building.

It is probable that this or a similar arrangement will go into effect for all public buildings erected in Washington, and Congress may make a rule upon it. The fact that the architect must be consulted from time to time, must actually keep the work in hand until its final completion, will doubtless be recognized, and the question of compensation both for this and for furnishing drawings and specification definitely determined.

Since the adjournment one hears much talk of an idea gaining some ground, among certain members of Congress who are brought into contact with such questions, that the payment of commissions to the architects of large public buildings on the Institute basis is excessive. The subject has been, is being, and will be further much debated. And it is likely that Congress will thresh the whole matter out next year in an investigation which will determine the facts and effect a final decision of the question, for the immediate future at least. It is maintained against the architects that their profits on buildings costing a million and upwards are too great and out of all proportion to services rendered. I have heard it stated that in such cases the architect's net earnings, his clear profit, will amount to two and one-half per cent, or, to put it otherwise, that office and other expenses will not amount to more than the half of a five per cent commission on large public buildings.

On the other hand it is said that the preparation of drawings will consume from one-half to seven-tenths of the whole commission, and incidentals so much more that the architect is lucky if he clear one per cent on the total cost of his great effort.

In one of the large New York offices, I am authoritatively informed, the books show an expense of fifty-five per cent of the whole commission, and, therefore, a profit of forty-five per cent of the commission on buildings of over a million dollars; in another the expenses are reported at three and one-fourth per cent, and the profits at one and three-fourths per cent. Commissions, of course, in both cases, being at Institute rates.

In another case there was clear profit of one-third of a large commission, which emolument, however, considered in view of the length of time given to the work and the eminence of the architect concerned, dwindled into comparative insignificance.

In an official inquiry into the question, the results reached in the Office of the Supervising Architect of the Treasury will, no doubt, have great determining weight. This is the largest architectural office in the country, as it is also one of the best, and Mr. Taylor is certain to have much of interest to tell us on this matter. I do not need to add that it does more business than most offices; they have \$13,000,000 for public buildings in the latest appropriations, and in all, I believe, in upwards of 200 unexpended appropriations, something in the neighborhood of \$40,000,000 for public buildings.

The office is also a bureau of a department of Government, and it will be hard to winnow out certain extraneous matters from a comparative statement of its expenditure in getting out plans, but my information warrants the statement that this item will not foot up

less than two and one-half per cent of the cost of buildings, and will generally be about the same as in the large private offices on buildings of like cost.

It is reasonable to suppose that the result differs somewhat as architects and offices differ in personal quality and in methods. But, however these things may be, the compensation of private architects engaged upon Government work should certainly be large enough to allow the man who would study his problem with absolute thoroughness, and whose ambition is to make his building a beautiful monument, to achieve these aims not only without risk of loss but with a certainty of generous material reward, and at least should be no less than the business world, which is given to taking excellent care of its own interests, is willing to pay.

And no one, of course, expects that the matter will be otherwise determined. Meanwhile the architects should be prepared to present their case convincingly when they shall be called upon.

LIMITS OF HIGH BUILDING.

IT is satisfactory for the rest of the world that New York should proceed as fast as it can to the logical extreme in high building. What the rest of the world wants to know is: What will it come to? What is the limit, and what are going to be the consequences of building up to the limit?

The limit in height is practically in sight, says Mr. W. A. Langton in the *Canadian Architect*. Passenger-elevators, which were the generating factor in these buildings, are also fixing their limitations. Accessibility to the street-level is what is required for an office; and, when buildings are so high that time is wasted in going and coming in the elevator, the offices in the highest floors will not rent sufficiently well. The device of express-elevators gets over the difficulty to some extent, but in the first place there is a limit to the percentage of floor-space that can be given up to the elevator-shafts if the building is to pay, and in the second place there is a speed limit in elevators. What is known as a "nausea limit" is recognized; anything above this rate of speed is found to be uncomfortable, at least for landmen. For men this rate is said to be 720 feet a minute; for women not more than 600 feet, and the descent must be much less rapid than this. Anything faster than 400 feet a minute going down is distressing; so that about 600 feet per minute up and 400 feet per minute down is the maximum for an express-elevator. The floor-to-floor elevator is still further reduced in speed to enable the operator to make a prompt stop. If with higher speed he bobs up and down at every floor, a consequence partly of human weakness and partly of the elasticity of steel rope, there is no ultimate gain in speed and considerable waste of power. Limiting calculations are often upset by new inventions; but where the human body is the measure there is a standard which may be relied on not to change. It is difficult to conceive of more rapid motion up or down for human beings than the present nausea limit, or of more abrupt stops at this rate of speed without great discomfort to the occupants of the car; and we may therefore accept as a scientific datum the present opinion of engineers in New York that the limit of business buildings due to the limited speed of elevators is between twenty-five and thirty stories.

This may be the limit of height, but how to fix the limit of continuity? A skyscraper at intervals is a gain in every way; it gives well-lighted, airy and quiet offices, and it makes the street picturesque. A row of skyscrapers converts the street into a box canyon of unwholesome gloom; but it is not to be compared to the gloom and unwholesomeness within the buildings themselves. This condition of affairs is rapidly approaching in New York. There is what almost amounts to a skyscraper war going on. The early tall buildings in which, with more confidence than judgment, the party-walls were filled with windows, are now in an awkward position. Skyscrapers are rising beside skyscrapers and blocking up whole walls of windows. Rooms which, when the buildings were erected, had the winter sun and the summer breeze, are now sealed up in darkness forever, and the sanitary consequences are beginning to cause alarm. In the lower rooms, in a street of continuous skyscrapers, there is no light anyway, and if darkness is to invade the upper stories too the unwholesomeness of the overcrowding in these expensive offices is going to be as bad as that in the poor tenements, which so much effort has been made to stop. At a recent meeting of the Municipal Art Society a prominent speaker said:—

"I read in my newspaper to-day of the benevolent project to build a great hospital for consumptives, the victims of tuberculosis, where they may have air and sunlight. And in the same paper I read of plans for a thirty-story building. What are we trying to do? What do we mean by putting up these horrible structures, to the lower floors of which no light can ever penetrate? . . . We build hospitals for the poor consumptive, and then we turn around and erect skyscraping structures where consumption may breed, so that we shall not lack for patients."

It is not merely the darkness, but the crowding of the streets and buildings which is a menace to health and safety. This same speaker calculates that "when Broadway is lined with these structures there won't be room for the tenants, unless they are packed horizontally 30 feet thick." It is not hard to believe that this calculation, if checked, will be found to be not far from the truth. It was calculated at the beginning of the year that the buildings of nine stories or more in the lower part of Manhattan Island, below Leonard

Street, that is to say, only in the tall-building district proper, have added in the floor-area above their fifth stories 180 acres of area to the island. The estimated cost of these buildings was \$33,000,000. There is said to be \$10,000,000 worth of buildings of the same sort in process of erection now, so that, as area may be presumed to compare consistently with price, when these are completed, which will not be long at the rate these buildings go up now, there will be added to this small district 240 acres of standing room above the streets; but there will be only the same old streets to walk in, and these more than ever filled with vehicles from other parts. The Broad Exchange Building has a floor-area of 12½ acres and a normal population of 4,000 persons. Apply this rate of population to the 60 acres or so of floor-area (above the fifth story) which are now being constructed, and it will appear that this portion of New York is about to receive an increase in daily population of at least 20,000 souls. If they only were souls, if "in going from place to place" they need not "pass through the intermediate space," it would be all right; but 20,000 hustling bodies in streets where one has already, in going to keep an appointment, to allow time for hindered progress—it is nearing the limit.

The cure is exhibited in a trio of buildings on Broadway, a two-story bank between two skyscrapers. This is, at any rate, the solution of the light-and-air problem. It would also solve the problem in design. The two stories of the bank run with the two stories which constitute the base of the tall building; the bank's cornice with the top member of this base; their columns and arcades are fairly comparable. Here is dignity without monotony, picturesqueness without extravagance, height without gloom; every gain without any loss except loss of space, and loss of space is gain in this case.

What other cities have to learn from New York is to put the limit out of the question by taking precautions in time. The limit is not practical. It is not worth while to shut numbers of people in darkness for the sake of getting them all together, only to find that it would be better if there were not quite so many together. The limit of elevators and the limit of traffic and transit in the streets seem to point to the same moderation in close building which is indicated by the requirements of planning for light. It is no extreme to advocate the attainment of this moderation by municipal regulation requiring that every tall building shall be isolated above such height as usually forms the base stories of a skyscraper. This allows for such an arrangement as is suggested by the bank on Broadway between two such buildings. It would make a satisfactory street effect if the cornice at this height were continuous and the sky-line above broken at intervals, more or less regular, by buildings more or less tall.

A way to bring this about would be to require every high builder to isolate his upper stories by the purchase of land sufficient for the purpose. This would not be tyrannical legislation. If any criticism is to be made of it, it might be called grandmotherly legislation, for it is looking after the interests of the high builder himself to compel him to guard the value of his building in this way. It is not, however, entirely grandmotherly, for the interests of the public are also guarded in matters for which it is certainly within the province of the City Fathers to care, viz, light and air and reasonable density of population. There is also plenty of precedent in cities which owe part of their success to regulations of this kind for requiring that the low part of the building shall have, for aesthetic considerations, a cornice-line of a fixed height. — *The Architect*.

THE PRESERVATION OF MATERIALS OF CONSTRUCTION.

AS we have more than once avowed our belief in the value and interest of the *viva voce* discussions that follow the reading of a paper of worth before some technical society, we feel that no apology is needed for laying before our readers the following discussion, partly written, partly oral, of a paper on the ever interesting matter of the permanence of building-materials, read some time since before the American Society of Civil Engineers:—

JAMES FORGIE, M. INST. C. E. (by letter). — Quite recently, and incidentally, the writer mentioned to Mr. Noble that he had a piece of iron, about 200 years old, in the form of a masonry cramp or bonding iron, approximately 3" x 3" x 6½", with the addition of the ends turned down, and which he thought might be worthy of testing, both physically and chemically.

Mr. C. L. Harrison has suggested that, in view of the discussion on "The Preservation of Materials of Construction," a note of the history of this piece of iron might be presented, and, probably, in view of the gigantic iron-framed buildings, where the iron is largely inaccessible for painting, it may be of all the more interest to American engineers.

In 1899, while acting for Sir Benjamin Baker and Messrs. Hay and Mott as Chief Assistant Engineer on the City and South London Deep Underground Railways, the writer found this piece of iron within the sandstone masonry of one of four piers forming the pedestals of four triple sets of stone Corinthian columns which were being underpinned to steel girders, in the process of forming a railroad depot in the crypt or vaults of St. Mary Woolnoth Church, at the junction of Lombard and King William streets, facing the Bank of England, in London, England.

From this pier also radiated the vaulting or arch groining forming

the floor of the church and the roof of the crypt, where, also, several human bodies were found encased in complete lead-shell coffins embedded in the foundations.

This church was built on the site of a church destroyed previously by the great fire of London, in 1666, and was designed by Nicholas Hawksmoor, a pupil, and eventually a contemporary, of Sir Christopher Wren.

The iron cramp or bond was wholly embedded in a horizontal sandstone masonry-joint made of lime (an hydraulic and not a pure lime).

It may be observed that practically no oxidation can be discerned by the microscope. Attention is also drawn to the pieces of lime still clinging to the iron.

It may be that the lime has acted as a preservative, and, *à propos* of this, the writer may be permitted to observe that in 1895 a piece, about 12 inches square, of the cast-iron shell of the Tower Subway under the Thames, built in 1869-70, was cut out for the inspection of the arbitrator in the City of London *versus* the Subway Company. The writer saw this piece immediately after it was cut out, and, on removing the shell of lias (hydraulic) lime grout from the iron the thin coating of coal-tar which still remained on the iron smelt perfectly fresh, and the iron was in perfect condition. Within the past six or seven years the writer has removed several hundred feet of other cast-iron tunnels in the process of enlarging the Subway. These have been in place from ten to twelve years, and the iron was also found to be in a perfect state of preservation. The soil in which these tunnels are built is a stiff moist blue clay.

On account of the strong belief in hydraulic lime and Portland-cement as a preservative of iron, all the 400 to 500 tons of steel columns and girders which now carry the afore-mentioned church, over the railway depot, were covered with expanded-metal and then wholly encased in neat Portland-cement.

WILLIAM R. WEBSTER, M. AM. SOC. C. E. (by letter).—The small iron cramp referred to by Mr. Forgie, which was subsequently sent to the writer for test, seems to have been originally $\frac{3}{4}$ " x $\frac{1}{4}$ ", one end thickened in bending and the other end considerably wasted away.

Before testing the cramp the ends were sawed off, leaving them in their original condition. The material was very hard in spots, and three hack-saws were dulled in cutting off the ends. The body of the cramp was cleaned of all scale and mortar by light blows of a hammer. It was rusted badly in some places under the adhering mortar. In order to grip it in the testing-machine it had to be reduced in thickness, and on pulling developed a bad seam, otherwise the ultimate strength would, no doubt, have been somewhat higher. The following are the results obtained:—

Area.	Ultimate Strength.	Percentage of Elongation in 2 inches.	Percentage of Reduction.
.104 inch.	51,226 pounds.	18	35.3

Analysis.—Carbon, .008 per cent; sulphur, .027 per cent; phosphorus, .060 per cent.

The writer is indebted to Mr. R. Job, Chemist of the Philadelphia and Reading Railroad Company, for the chemical determinations.

THEODORE BELZNER, JUN. AM. SOC. C. E. (by letter).—Regarding the steel beams taken out of the sidewalk vault, mentioned by Mr. William Barclay Parsons,¹ the writer would like to know whether, from Mr. Parsons's observations, these beams had received a shop-coat of oil.

Steel, embedded in concrete, such as grillage-beams, etc., should be cleaned thoroughly. The writer does not think it necessary to have them painted; but, of course, this does not apply to steel which is partially embedded in concrete, such as the side-columns, roof-beams and girders having exposed surfaces, now being used in the construction of the New York Rapid Transit Subway. Steel which is partially embedded in concrete should be cleaned thoroughly, either by the sand-blast process or by brush and scraper, and then given a good priming coat of red-lead, to be followed by a protective coat of some standard carbon paint.

HORACE J. HOWE, M. AM. SOC. C. E. (by letter).—Reference might profitably be made, it seems to the writer, to the remains of the habitations of the ancient lake-dwellers of Switzerland, as furnishing the best authentic instances of the preservation of wood and other substances under the most favorable conditions, from pre-historic times (in fact, from the New Stone and Copper ages) up to the present time.

The building up of the habits and customs of that period, by means of somewhat advanced Sherlock Holmes methods, is very interesting, but hardly calls for more than a mention here.

In the winter of 1853-54, the waters of Lake Zurich fell to a remarkably low level, thereby revealing certain piles in the bottom, at no great distance off shore. These piles proved to be from 15 to 30 feet in length and from 3 to 9 inches in diameter. They were in rows, sometimes parallel to the shore, sometimes at right angles to it, and were either firmly embedded in the mud or supported by heaps

of stones at the base. Sometimes they were driven through boards which rested on the bottom.

The piles were braced together by means of transverse beams with wooden-pin connections, and planked over so as to form a platform on which the huts were built.

There was also a drawbridge connection with the shore.

Few piles now project 2 feet from the bottom. They are saturated so thoroughly with water that they are quite soft. Some of them appear like needles, which elsewhere have disappeared and left only a black disc. This is true, however, principally of the oldest, those of the Neolithic Age.

The point which entered into the mud still bears the marks of the fire and of the stone hatchets, or, later on, of the metal hatchets. The manner of driving to so great a depth into the ground is difficult to imagine.

As to the various objects which give the key to the doings of this people, Sir John Lubbock says:²

"Lying among the piles are fragments of bone, horn, pottery and sometimes objects of bronze. Most of them are embedded in the mud or hidden under the stones, but others lie on the bottom, yet uninjured; so that when, for the first time, I saw them through the transparent water, a momentary feeling of doubt as to their age rose in my mind. . . . The upper parts of the objects also, which are bathed by the water, are generally covered by a layer of carbonate of lime, while the lower part, which has sunk into the mud, is quite unaltered."

In many other Swiss lakes, habitations are indicated in like manner, and it is understood that the Swiss archaeologists have made the most of a golden opportunity. The Antiquarian Society of Zurich, Keller and others, was one of the first to do so; and it is quite possible that an official correspondence with that Society would be productive of results as to the present status of the entire subject.

WILLIAM W. CREHORE, M. AM. C. E. (by letter).—In the previous discussion of this subject one point concerning the protection of metals by paint seems to have been entirely lost sight of. When the first coat of paint is applied to the bare metal, the action is somewhat analogous to that which accompanies the application of the priming coat to a piece of soft pine; the oil soaks into the "pores" of the metal and carries the pigment with it. In cast-iron the action is discernible to the naked eye, but it takes place also in steel, although to a less extent, on account of the greater density and, consequently, the less porosity of the latter.

Obviously, the oil in a paint is the conveyer, or the medium by which the pigment is brought in contact with the metal. The oil is, also, to a certain extent, a protector of the metal when it is itself protected by the pigment. Pure oil, by itself, unmixed with a pigment, will protect the metal as long as it lasts, but it very soon evaporates and is gone. In the mixture the oil which is outside, next the air, soon evaporates and leaves the pigment, while the oil which is inside, next the metal, remains there permanently because of the protection afforded by the outside pigment. In order to protect the coating next the metal more thoroughly, therefore, a second coat of paint should be applied as soon as possible after the first one is dry.

In view of this combined action of the oil and the pigment it follows that the further the pigment can be injected or carried into the pores of the metal, the better is the bond between the paint and the metal; and if the pigment itself is a good protector its efficiency is certainly increased rather than diminished by being well bonded. Owing to the great density of steel or iron, this action is very slight, in comparison with the absorptive power of wood, and its amount depends upon the fineness of the pigment, as well as upon the density of the metal. This is one reason why paints differ in efficiency as protectors of metal. The more finely-ground pigment makes the better metal paint, other things being equal, and such a pigment is conveyed better by a thin oil than by any other. Then, too, the quantity of oil in the mixture is an important point, as well as the degree of completeness with which the oil and the pigment have been mixed together. The requirements, therefore, for a good metal paint are somewhat analogous to those for a good concrete. As for the latter, there should be just enough cement to fill the interstices between and to cover completely each particle of sand, and just enough of the mixture to fill the interstices in the stone; so, for the former, the pigment should be ground fine enough to enter the pores of the metal, the oil should be of correct quantity, so that it is thoroughly filled or loaded with the pigment, and thin enough so that it will carry the pigment into the pores of the metal. It seems, then, that to produce the ideal metal paint requires: (1) That the pigment should be a good protector; (2) that the pigment should be very finely ground; (3) that the oil should be pure and very thin; (4) that there should be just enough and not too much oil in the mixture; (5) that the two should be completely mixed together.

Furthermore, to obtain the best results, such a paint must be applied next the bare metal itself, without any intermediate coating of oil or scale of rust, either of which obstructions will prevent the pigment from reaching the pores of the metal. The writer contends that the metal should be absolutely bright and clean before being painted. The fact, referred to by Mr. Seaman, that the first coat of paint will adhere better to metal with a dull surface than to metal with a bright surface is because the dull surface possesses the greater

¹ Proceedings, Am. Soc. C. E., for March, 1903, p. 307.

² "Pre-historic Times."

porosity of the two and consequently affords a better opportunity for bonding the paint. Experience, however, shows that to check rust which has once begun is impossible, but that it keeps on increasing even though covered with a good paint. In view of this fact it is best to have the metal cleaned by sand-blast, before being painted, in order to ensure the best results with any paint.

The action of the cement in a concrete covering for metalwork is practically the same as that of a good paint. The cement will adhere better to the metal if there be nothing between it and the bare surface of the metal; and the concrete forms fully as good protection, under ordinary conditions, as would a good paint. If, however, the metal is located where there is occasional moisture, ordinary concrete is not a sufficient protection, and in such a case the metal should be painted before being set. On the other hand, if the concrete and the steel are expected to act together to resist stress in combination, a coat of paint prevents bonding between the metal and the concrete, and then it should not be used.

That we have not sufficient data to establish indisputably the superiority of those paints which approach more nearly than others to the conditions above mentioned is chiefly because this subject has never been handled scientifically. Most of our observations are general, or are made under different conditions, and nearly all the available data have been compiled by men who were biased or prejudiced by a personal interest in one or another party to the competition. Comparisons to determine the relative efficiencies of different paints should be made by an absolutely disinterested commission, and under sufficiently varied conditions to establish superiority in one or another of the points now in dispute; such points, for instance, as whether the pigment or the oil is the more important element in the durability and efficiency of paint; what substances make good pigments and what substances are absolutely without merits as pigments; what the comparative effect would be of deleterious chemical fumes on the pigments of different paints; whether a given paint is less efficient when put on with a spray than when rubbed in with a brush, etc. The report of such a commission need not favor any one paint exclusively, but it should define thoroughly the principles on which the composition of a good paint is based, and it could divide all who entered the competition into classes or groups graded according to relative merit in certain important features of the examination.

The writer believes that several of the manufacturers of paint would not only enter their products for comparative examination and exhaustive tests, but also would be glad to share the necessary expense of such work, provided they were assured of the absolute fairness and impartiality of the tribunal and its ability to handle the subject in a spirit of practical and scientific research. A special committee appointed by this Society ought to carry the weight necessary to make its results of great value, and to induce those manufacturers who have any confidence in their products to enter the race voluntarily. Most engineers are in great need of some authoritative information on this subject, aside from the variety of conflicting data and theories gratuitously furnished by paint manufacturers, and cannot afford either the time or expense to investigate it individually.

DISCOVERIES AT BENI HASAN.

EXCAVATIONS have been made during the past season in the hillside at Beni Hasan, a site already famous for its painted tombs and early architectural features. Below the gallery along which these lie there has now been found an extensive necropolis, remarkable both for the preservation of the furniture in its tombs and for the wealth of material which these supplied for illustrating the burial customs of the Middle Empire at a time when pure Egyptian culture was nearing its culmination.

Though the rock-hewn tombs for which the site has become known are themselves of the eleventh and twelfth dynasties, it has been supposed, from the composition of place-names mentioned on the walls and from other reasons, that the district was already of importance at an earlier period, dating back possibly as far as the Old Empire. It is now seen that a gallery of smaller rock tombs, at a lower level, was hewn probably in the sixth dynasty. These tombs are eight or ten in number, two of them being inscribed in the style and with the names characteristic of the period. One of them, the tomb of a courtier named Apa (Her-ab-a), a chief man of his town, is also decorated in bas-relief and with paintings illustrating agricultural and other conventional scenes. The tomb had been reused later in the Middle Empire for burial of other persons, and had been subsequently broken into and plundered. But the thieves had failed in three instances to observe the original burials at a lower depth, leaving them entire with their original deposits of alabaster vases and other tomb furniture undisturbed. This tomb (temporarily numbered 481) will eventually be made accessible to visitors, being the earliest yet found in the vicinity.

The other tombs were all of the early Middle Empire, the eleventh and early twelfth dynasties. Four hundred and ninety-two of them were opened and examined. These, too, were hewn in the rock, but were of the more familiar character known as pit tombs, in which a vertical shaft gives access to a small burial chamber (or chambers) at the bottom. More than one hundred of them had never been previously entered, and their doors were now opened for the first time since they had been closed 4,000 years ago at the time of the interment. In some cases the whole contents, being as

it proved largely of wood, had been destroyed by worms, but a sufficient number of cases remained to render a unique series of observations possible.

In the tomb of one Nefer-y, a chief physician, it was seen upon opening the door which closed the burial chamber that upon the painted coffin and at its side were a number of wooden models of objects and scenes familiar from the wall-paintings of the larger tombs. Nearest to the door, upon the coffin, was a great rowing boat, the twenty oarsmen standing and swinging back in time to the beat of two figures seated on a raised platform in the centre. Beyond this was the model of a granary, with six compartments in rows of three on either side of the courtyard between them. Men are standing knee deep in real grain filling baskets, while a scribe seated on the roof, pen in hand, keeps the count. A flight of steps leads up to the roof, which is pierced with holes through which the grain is poured into the chambers below, the doors being closed and sealed. The principle is natural, as it would be impossible to fill the chamber through the open door. The method is still employed by the richer cultivators of the country, even by the head man of the village nearest to this site (El Kram). Behind the granary in the tomb were representations of various occupations, also in models of wood. A man carries a large offering jar, a girl supports with one hand a basket poised on her head, and in the other holds the wings of two geese. In a group, women are engaged in making and baking bread: one grinds, another kneads, a third is raking the fire in which are small charred embers of wood. Another well-executed group represents the making of beer from fermentation of bread, by a process similar to that employed in the native industry to-day. One man is seen inside a tub, pressing with his feet. Two others are bearing water in pitchers suspended from yokes upon their shoulders. Others are working at strainers placed loose upon the casks, while in front a number of casks lie naturally in a row. By the side of the coffin was a sailing boat, the numerous sailors assuming the attitudes necessary for hoisting the large square sail, of which the yards and rigging were preserved. Two men in characteristic postures are using poles vigorously over the sides. The steering is done, in all cases, by a large oar attached at the end of the shaft to a post fixed in the boat. A short stick then fixed into the shaft served the helmsman for a tiller by which to turn the blade as required. Finally, the coffins themselves were found to be inscribed on the insides with new "Pyramid texts" of the time of Unas.

The furniture of this tomb is characteristic, and explains some of those in which the objects were found disturbed or less preserved. Occasionally rarer features are illustrated. In the tomb of one Mehtiem-hat were a number of warships. In the bow of one, by the side of the look-out, stands a negro soldier, bow and arrows in hand. Six sailors are rowing, others are hoisting the sail, which is preserved. Nearer the stern, and partly under the shade of a canopy which is protected seemingly by studded leather and by shields placed upon it, are seated two men playing a game of chess upon a table between them. A sheaf of spears is at hand, suspended from below the canopy.

In the tomb of Antef, a courtier, the boats had double-steering oars. There was also the model of a white-spotted ox led by a man, and in the tomb of one Khety there was further shown the actual sacrifice of an ox of this kind.

Objects of other significance were also found in the tombs. Musical instruments, a lyre, two flutes, and a drum with barrel body of wood and parchment ends, bound in the usual network fashion with thongs of leather. Basket and wicker work was plentiful, much of it well preserved, and some examples curiously analogous to the work done in the oases and in higher Egypt of to-day. An object of special interest architecturally is a wooden capital in the form of a lily. Vases of stone of ornamental forms, beads of amethyst, carnelian and other stones, as well as glazed scarabs of the early kind, and some quantity of jewelry were also found.

It seems clear from the titles recorded on the inscriptions and from the tomb furniture itself that this necropolis represents the middle classes, the minor officials and distinguished women of the locality, during the early Middle Empire. Many of the new tombs are those of personages whose names and portraits appear in the tombs of the princes and notables forming the gallery above.

The opening of each tomb was recorded by photography as the excavation proceeded step by step. As a result some 450 negatives, illustrating these observations and the funeral deposits, have been secured for the expedition, and will be published, it may be hoped, as soon as possible.

The objects themselves, it is pleasing to know, will enrich the museums of our universities, Oxford, Cambridge and Liverpool being represented among the patrons, as well as some of the best known private collections of Egyptian antiquities in England. Previous to distribution, by arrangement of the Director of the Society of Antiquaries (honorary treasurer of the Excavations Committee), it is hoped to hold an exhibition of these antiquities at Burlington House during part of July in the present year. — *John Garstang, in London Times.*

LOUVRE TIARA NOT GENUINE.—The report of Clermont Ganeau, the archaeologist who was chosen to determine the authenticity of the tiara of Saitapharnes, the supposedly precious relic of the Louvre collection, sets forth that the tiara is not authentic, and that it was executed at the instance of an unknown party by the Russian artist Roukhomsky. The French Government paid \$40,000 for the tiara. — *Exchange.*

BOOKS AND PAPERS

OF making many books on electricity¹ there seems to be no end. That the literature on this subject is far from complete is admitted without a question, but even under such conditions the constant grinding over of the same old material does seem unnecessary, and it certainly does not add to the value of the book to serve up the material which has already been done to repletion in past years. In the preface to the volume at present under consideration, an apology is considered necessary for the attempt to compress into the space of some 270 pages a mass of information covering the whole subject of electric-lighting, and it is stated that the aim of the writer was to put together "a connected, complete and scientific account of the whole subject in such a manner as it is hoped may be useful, especially to the architects, civil and mechanical engineers and scientific workers." We are glad to know that such was the object, for surely no one would ever suspect it by reading the volume. In the old days students in elocution were told that the proper way to prepare for an extemporaneous address was to get completely full of the subject, and then let go. The present author is evidently full of his subject, but he absolutely could not let go or be clear, and after reading the whole volume the wonder is why the book was ever written at all. It is too abstractly technical to be practical, on the one hand, while scientifically it is too superficial to answer the purpose of an academic treatise, and the absence of real, practical illustrations is a serious defect. Electricity to-day is no longer so unknown a quantity that it cannot be discussed in clear, unequivocal language which can be made perfectly comprehensible to the class to whom this book is nominally addressed. As an evidence of this we need only to cite the text-books on the subject which have been put out by the International Correspondence Schools at Scranton, which are models of perspicacity and availability. Professor Cooke understands his subject thoroughly, but his book utterly fails, in our judgment, to present it in a serviceable light. Why should a writer appealing to an English-speaking audience feel called upon to use the centigrade thermometric system, or to express his distances in yards and decimals of a yard? Or what possible advantage is there in measuring the sizes of wire by inches or centimetres instead of by gauge dimensions, or by circular mills? The book is published by an American house and yet the nomenclature is such as would sound strange to American practitioners. Where we would speak of a drop in voltage the writer calls it a fall. He refers to the Edison Electric-light Company as if there were only one such corporation in the world, when as a matter of fact there is probably a company of that name in nearly every large city. What we call a "ground" is an "earth" to him, and describing what he calls the iron-tube systems he tells us they are paper-lined and made in lengths of 10 feet. It is so long since paper-lined conduit has been used in this country that we have forgotten to speak of it. And to tell an American audience that the three-wire system of electric distribution was invented by Dr. John Hopkinson comes as a shock to our national belief that, somehow, a man named Edison had a great deal to do with it. His presentation of the theory of electricity and magnetism and of lines of force, the very departments in which he ought to be most lucid and free from mere hypothesis, is unscientific and unsatisfactory, confused in theory, and unreliable as relates to practice. In several places throughout the book the writer regrets the limited space at his command and alleges it as a reason for not going more into detail. What would the book have been had his space been unlimited?

ILLUSTRATIONS

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

ACCEPTED DESIGN FOR THE COLORADO STATE BUILDING: LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, MO. MR. T. MACLAREN, ARCHITECT, COLORADO SPRINGS, COLO.

THE conditions of competition were arranged in conference with the Colorado Chapter of the American Institute of Architects. Isaac S. Taylor was appointed referee in the competition, and placed this design first. The building will probably cost \$30,000 and will be executed in cement plaster and stucco.

A COMPETITIVE DESIGN FOR THE COLORADO STATE BUILDING: LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, MO. MESSRS. ACKERMAN & PARTRIDGE, ARCHITECTS, NEW YORK, N. Y.

This design was placed second by the referee.

THE BOYLSTON CHAMBERS, BOYLSTON ST., BOSTON, MASS. MR. CLINTON J. WARREN, ARCHITECT, BOSTON, MASS.

¹"Chemical Technology." Vol. IV. Electric Lighting. By A. G. Cooke, M. A., A. M. I. E. E. Philadelphia: P. Blakiston's Son & Co. Price \$3.50.

TABLET IN STA MARIA DELLA PACE, ROME, ITALY. MEASURED AND DRAWN BY MR. WM. L. WILTON, LATE HOLDER OF THE ROTCH TRAVELLING SCHOLARSHIP.

Additional Illustrations in the International Edition.

INTERIOR OF THE CHURCH OF THE IMMACULATE CONCEPTION, BOSTON, MASS. MR. F. C. KEELEY, ARCHITECT.

MONUMENT TO JOHN ERICSSON, STOCKHOLM, SWEDEN.

This plate is copied from *Teknisk Tidskrift*.

THE FONTANA MONUMENT, CHUR, SWITZERLAND. HERR RICHARD KISSLING, SCULPTOR, ZURICH.

This plate is copied from *Schweizerische Bauzeitung*.

WAREHOUSE NO. 321 FRIEDRICHSTRASSE, BERLIN, PRUSSIA. HERR PAUL JATZOW, ARCHITECT.

This plate is copied from *Architektonische Rundschau*.

"COMMERCIAL ART": A COMPOSITION BY MR. H. W. BREWER.

This plate is copied from the *Builder*.

COMMUNICATIONS

[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.]

THE DESIGNER OF THE NEW YORK CITY-HALL.

STONINGTON, CONN., June 16, 1903.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Owing to change of residence for the summer season, your issue of June 6, originally addressed to me at New York, did not reach me, after being twice readdressed, till a day or two ago. On reading it now, I note (page 80) a statement you quote from an exchange, in reference to the New York City-hall, which, according to my information, conveys a mistake.

It was, as I remember, the late Mr. James Renwick, architect of the Roman Catholic Cathedral in New York, and of a number of municipal buildings in that city, who, on learning that I was preparing a paper, afterwards published by the American Institute of Architects, which would include a summary of the architecture evolved by the United States during the first hundred years of its existence, told me that a Frenchman, Mangin by name, designed the City-hall, than which it would be hard to point to a worthier example "in our midst" of the Renaissance, and indeed a comparison seems to indicate that its designer must have received his inspiration for its southern façade from one of the fronts, a garden front, if I remember rightly, of the Palace of Fontainebleau. Mr. Renwick's statement was afterwards confirmed by my friend, the late Mr. R. M. Upjohn, architect of the Connecticut Capitol at Hartford, of Dr. Parkhurst's church in Madison Avenue, etc., who told me (and I had the fact published), that at the time of the destruction of the cupola and part of the roof of the City-hall by fire (about 1858, I think) he had himself seen an inscription on a tablet ("plate" was the term he used) that had been uncovered for the necessary repairs, in which inscription Mangin was named as architect.

It does not follow, however, that collaborators with him in the work of raising the City-hall were not also named, though I don't recollect Mr. Upjohn saying anything about that. Mr. John McComb, Jr., may very well have been appointed Supervising or Superintending or even Acting Architect, whether simultaneously with, or subsequently to Mangin's appointment, if, as is likely enough, the latter proposed to, and finally did, return to France after elaborating his design and completing the various drawings and documents necessary for carrying it into execution, though this latter function he may have left in whole or part to McComb. I have taken a part quite too active and prolonged in establishing, since the American architect's "day of small things," fees for architectural practice somewhat commensurate with the demands made on it, not to "hæc ma doots" as to whether the doubtless worthy but probably not over æsthetical city fathers of the beginning of last century offered the designer of the City-hall such pecuniary consideration as would tempt him to abide with them for long. Up to this day it is not seldom harder to extract from the pocket of a paymaster of philistinistic training the five per cent to meet a competent all-round architect's fee, than it is to get the like percentage duplicated for the fee of a supererogatory and sometimes meddlesome, because wholly self-seeking, builder or *soi-disant* professional architect set over him as safeguard. Moreover, the general atmosphere of New York City, as of others, till quite long after a hundred years ago, was not so thoroughly

charged with artistic vitality, though there have always been select circles where it has found a home, as to make it a paradisaical residence, *en permanence*, for a creator of the high-art elements in an edifice of superior rank, who was also a stranger.

If Mr. McComb had been recognized as the *designer* of the structure, the original architect, his name would probably have preceded instead of following that of the sculptor, for the same reason that the sculptor's name is given rank before that of the architect who merely supervises static processes. By the way, if Building Committees a hundred years ago, were content, as the list indicates, to have their names come last, they were less self-complacent than some of the like bodies succeeding them. Might not a closer inspection of "memorial tablets so weather-beaten that the inscriptions on them are very faint" reveal Mangin's name at the head of the list as the architect, *eo nomine*, the designer, the creative artist, of the City-hall, McComb being none the less entitled to the credit, as overseeing and administrative architect, of successfully, and with artistic appreciation, carrying out its construction? Or, if an assiduous hunt were made, might not still another tablet, heretofore overlooked or mislaid, be found giving Mangin his due credit?

Several experiences encountered in my own practice, prior to virtually confining myself to secretarial work exclusively, in behalf of the architectural professions in America, confirm my belief that the information I received from Messrs. Kenwick and Upjohn was correct, and also add other instances to the multitudes evincing the truth that official formulas and records are by no means always exhaustive of underlying facts. For a number of years, the name of a distinguished litterateur and publicist, Fred Law Olmsted, appeared on the roster of the Central Park as its "Architect-in-Chief." Yet, as he used freely to admit among his intimates, he knew at the time absolutely nothing of the technique of architecture; though he subsequently tried, in the midst of engrossing professional engagements, to give it some study. Even of its theory he knew no more than any one of moderate cultivation picks up in desultory reading. It is true that he and his partner Calvert Vaux, who had been trained by A. J. Downing in the application of fine-art to topographical, arboral and other natural conditions, virtually created in America, and greatly adorned in their practice, the profession they christened landscape architecture, a profession constituting a vast and wholesome outdoor addition to the agencies of art-expression, and a most important factor toward demiurgical achievement and cosmopolitan civilization. But, though the external lines of isolated structures and the decoration of the grounds belonging to them should, for the best results, be carefully studied with relation to each other, such external building lines in such relation do not necessarily involve expert knowledge of the interior construction and decoration of the structure.

It was, however, through no desire of his own that Mr. Olmsted was posed before the public as Architect-in-Chief of the Central Park, while its outcome of architecture in material of stone, wood, metal or what not was really designed by Mr. Vaux, as so-styled consulting-architect, with the late Wrey Mould and myself as assistants; a staff of draughtsmen and superintendents, with building-contractors and their men, carrying out, after the preliminary work of the surveying and engineering corps, our designs as furnished to them in the shape of the successive working-drawings and specifications. Such instances arising from the operation of the real or supposed exigencies of the current politics and the municipal administration of the day are not uncommon. Somewhat similar ones, though naturally on a smaller scale, have occurred in my own early private practice. From the design of a talented English practitioner, Mr. Wills, the architect of the fine Gothic "Martyr's Monument" in Trinity churchyard, New York, the funds for which were in reality furnished by private persons with some regard for religious tradition and solely with the intention, which was realized, of blocking a money-making scheme, involving the opening of a street through the ancient burial ground from Broadway westward to the North River, — from the design of this clever artist I supervised the erection, for the late Mr. and Mrs. John Bard, on their estate near Barrytown on the Hudson River, of a stone church which, by the way, was burnt down just after completion and immediately built up again by these zealous church people, who also, not long after, built on another piece of their land the neighboring St. Stephen's College, and donated it to the church, for use as an Episcopal Seminary. Though at every suitable opportunity, I took pains to make it known that I had no hand in designing any portion of this church, it was natural and I suppose unavoidable that, as I handed in the successive working-drawings for the structure, the contractors and workmen should regard me as "the architect," for I really was the only architect in the case having relations with them and, in any event, their class is not of the sort to draw, with any precision, the distinction between a designer and a director of construction from another party's designs. Later on in my practice, being a resident of New York, I was asked by friends of mine, practitioners resident in Boston, to act as Supervising Architect of a house of their design to be built (and still standing, a monument to their good taste) in East Thirty-eighth Street, alongside a church on the southeast corner of that street and Madison Avenue. These architects constituted the firm of Ware & Van Brunt, the first named being the Professor Wm. R. Ware who has

built up the two oldest architectural schools in the United States, that of the Institute of Technology in Boston and the other of Columbia University in New York, and who has, in addition to this initiatory and much-needed work in behalf of students, done much for American practitioners through his frequent contributions to the literature of architecture. In every drawing or other document handed me by this exemplary firm, for use in the construction of the house mentioned, my name had been conspicuously set forth by them as that of "Superintending Architect"; but it has never once occurred to me to refer to myself as its "Architect"; though the owner of the house and all the contractors and workmen engaged on it always addressed me as such, and though, to suit differences in the building conditions and customs of New York and Boston, I had occasionally to use my own judgment as to slight deviations from what the designers of the structure had set down in black and white.

I sympathize heartily with the feeling that prompts descendants to cherish a justifiable pride in the creditable achievements of their forebears; and I have no doubt that those of the gentlemen who with such obvious success, carried out Mons. Mangin's design for New York's beautiful City-hall are entirely sincere in the claim they make for John McComb. But, however fine drawn the difference may seem to the layman, the liberally-trained architect most properly makes a hard and fast distinction between the designer of an edifice and the director of the constructional processes which give it material existence and shape. "Let each have his own due" is an old Latin axiom which cannot, with any degree of justice, be abrogated in any community that acknowledges the golden rule.

Yours truly,

A. J. BLOOR.

NOTES & CLIPPINGS

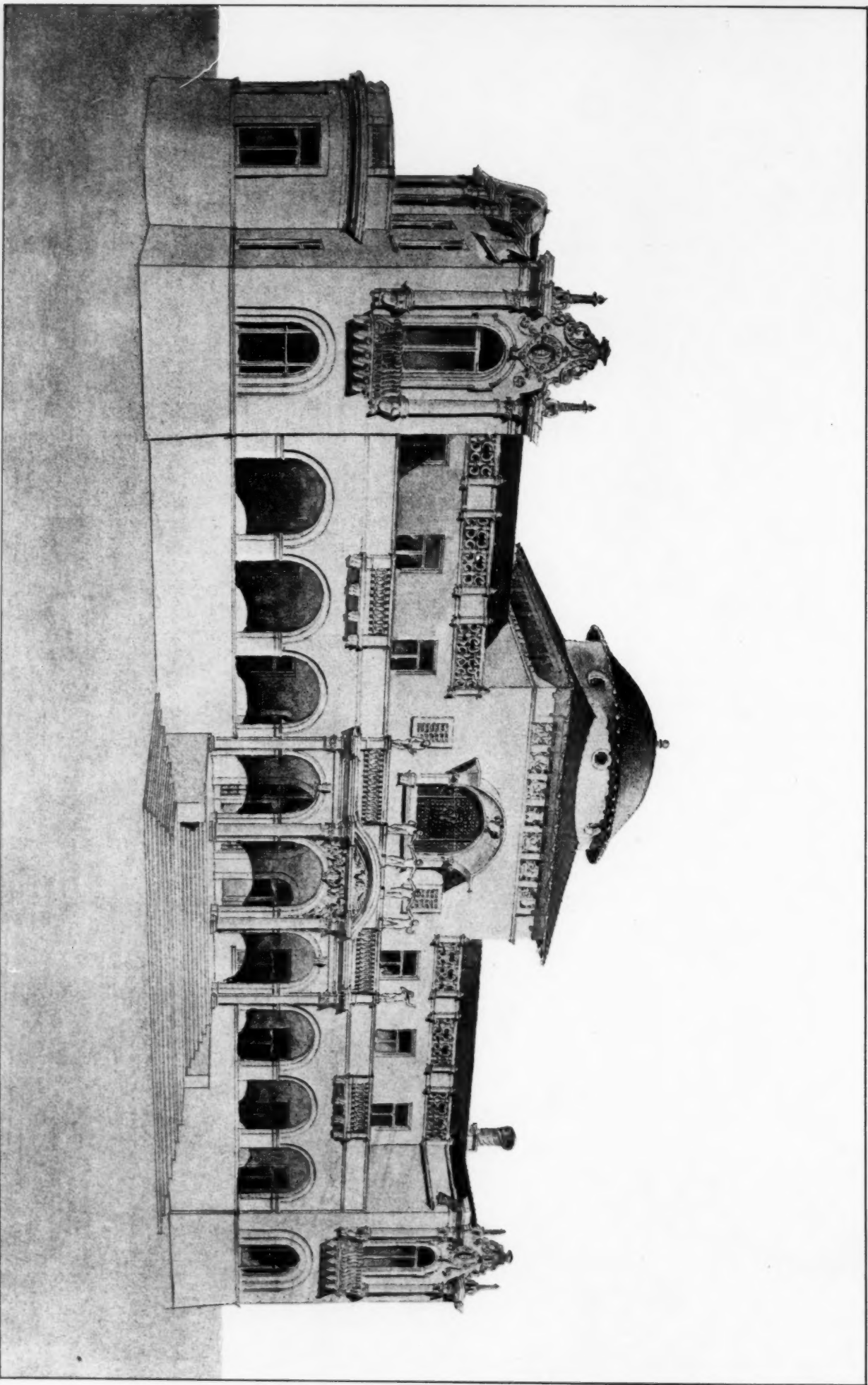
RUINS OF AN ANCIENT MEXICAN CITY.—The ruins of a large city have been discovered in a remote part of the State of Puebla by Francisco Rodriguez, an archaeologist, who has just made a report of his find to the Government authorities. The city contains large pyramids and extensive fortifications. It is situated in the midst of a dense forest, and a large amount of excavation will be necessary to learn its true extent and importance. A commission will be appointed by the Government to explore the ruins. — *Boston Transcript*.

DECREASE IN BERLIN TYPHOID MORTALITY.—Since 1891, when a sand filter had been installed, and all the old wells banished in Berlin, its death-rate from typhoid has dropped to one in every 50,000. In 1853 the death-rate was one in 900. — *N. Y. Evening Post*.

THE OREGON JUNIPERS OLDER THAN THE REDWOODS.—W. P. Keady of Portland thinks that perhaps the redwoods of California are not the oldest of all trees. He suggests that the honor may belong to the junipers of Oregon. He says: "If the concentric rings correctly indicate the successive annual growth of trees, and I believe this to be an established scientific fact, then the juniper is the oldest living thing upon the earth. Its annual rings are almost as compact as the leaves of a book; the assistance of a magnifying glass is necessary to count them correctly. This tree thrives best where soil and moisture are scant and apparently draws nutrition chiefly from the atmosphere. It belongs to the cedar family, is short in stature, pyramidal, seldom exceeding 60 feet in height, but is often from 5 to 6 feet in diameter at the base. The wood is reddish in color. I recall one particular juniper in the John Day Valley, which stands upon the very rim of a perpendicular basalt wall 800 feet high. Its holding is in the lava fissures with scarcely soil sufficient to sustain a thrifty rosebush. It is 16 feet in circumference 2 feet above ground, is about 50 feet in height and was laden with a great profusion of berries. This tree must be at least 10,000 years old, judging by the concentric rings of lesser trees of the same variety. The greatest age accorded the gigantic redwood of California is forty centuries. In a growth of these the juniper would be a venerable patriarch surrounded by lusty youth." — *Exchange*.

PRIZES FOR ST. PETERSBURG FACADES.—The St. Petersburg City Council has devised a plan to encourage property owners to consider the demands of beauty as well as of utility. It is proposed to grant temporary exemption from taxes to persons who construct artistic houses, to confer gold medals on the architects for each praiseworthy effort, and to place a marble tablet on the best façades. If the buildings so distinguished should be spoiled afterwards by reconstruction or ugly advertising, the tablets will be removed. — *N. Y. Evening Post*.

EXCAVATIONS AT KNOSSOS.—After putting back the history of the alphabet and the genesis of fine-art for a thousand years and more, Dr. Arthur Evans has started work again at Knossos, in Crete, after an appeal for funds. Not only so, but he is making such rapid progress and expects so many developments in the course of his spade work that he has requested the Council of University College to allow him to postpone the delivery of the Yates lectures on Cretan archaeology until the autumn. It is satisfactory to believe that Dr. Evans seems likely to keep ahead in his friendly race with Professor Furtwängler, who is hard on his brother archaeologist's heels in Boeotia. As to tight-lacing and cosmetics already known to date from at least 1800 B. C. (some centuries before the birth of Moses), no one knows whether they may not ultimately be traced to Babylonian times — or a period earlier still. — *London Chronicle*.



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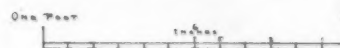
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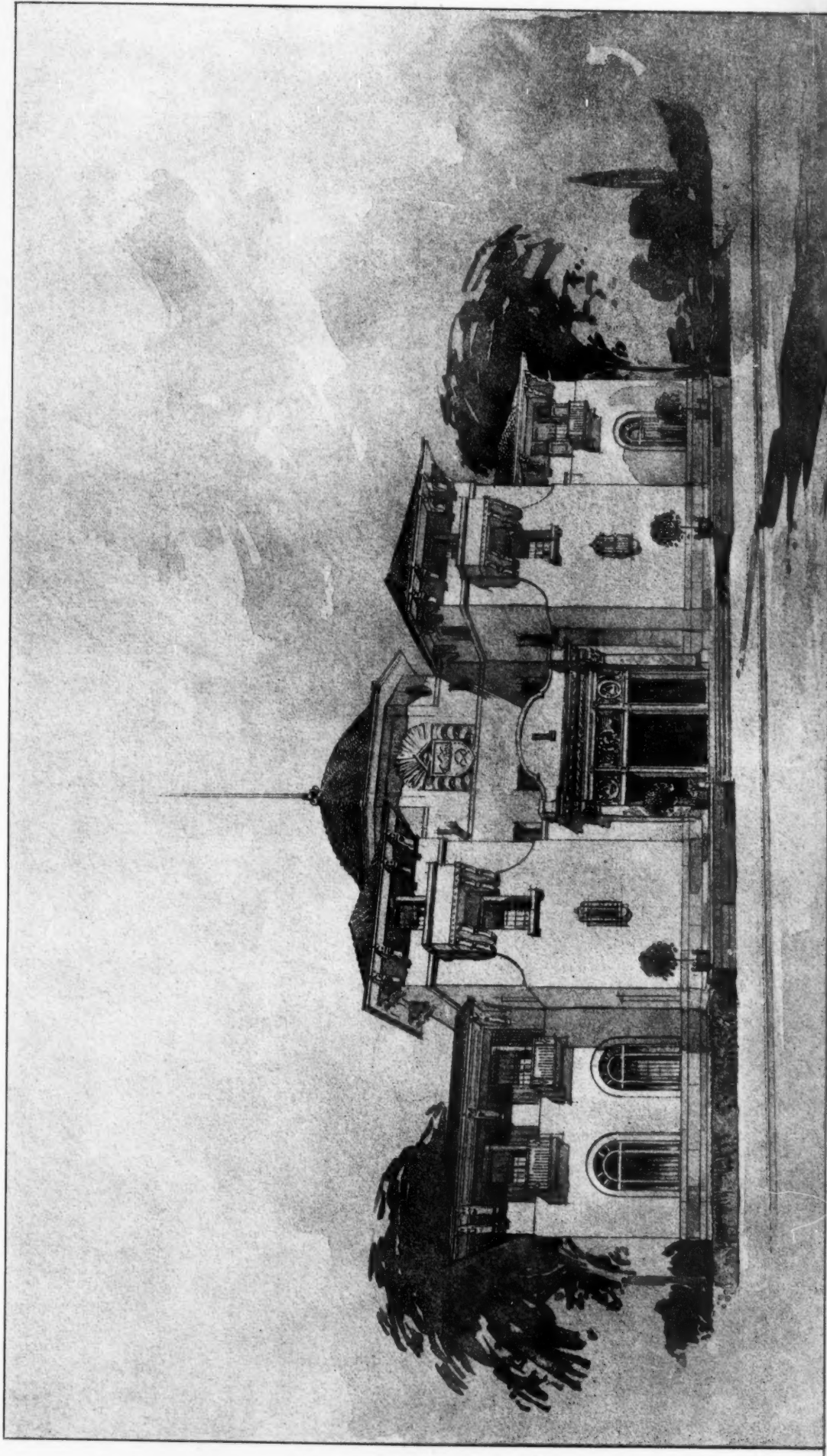
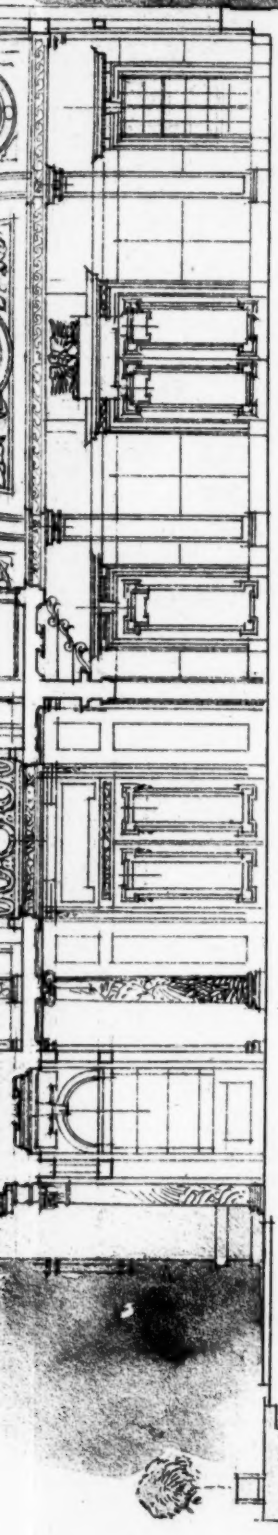
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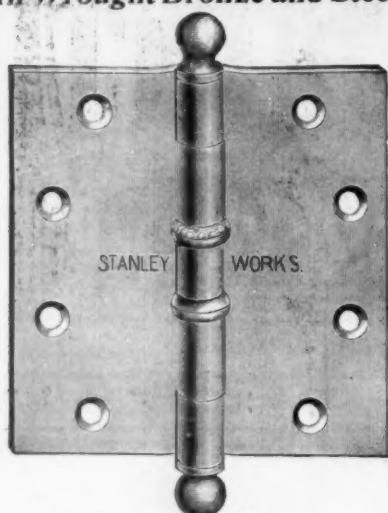
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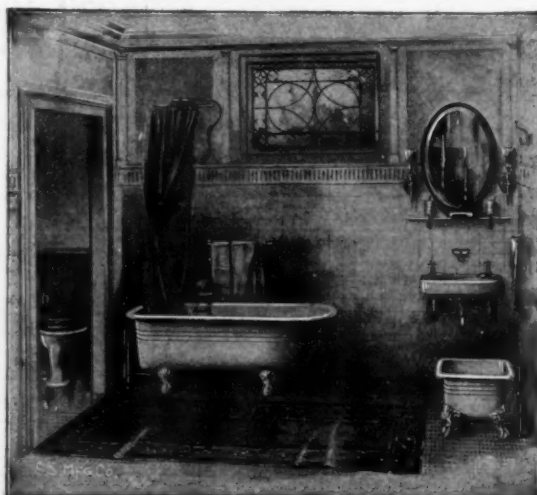
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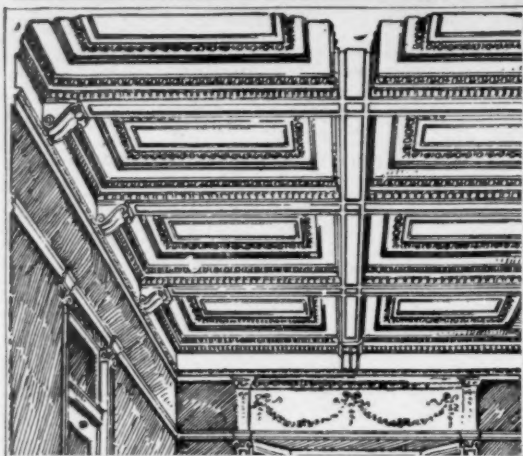
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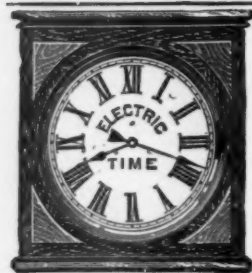


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CODE OF PRACTICE FOR SUB-ESTIMATING AND SUB- CONTRACTING

Adopted by the Master Builders' Association of the City of Boston, Aug. 2, 1894.

ARTICLE I.

Obligation of Principal Contractor to Sub-Contractor.

A principal contractor is under obligation to treat upon an equal basis all estimates which he "receives" prior to putting in his own bid. Estimates must be considered as "received" when they come into a principal contractor's possession, either by his direct solicitation or by being accepted by him. The opening of a bid, knowing it to be such, constitutes receipt of the same.

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 an opportunity 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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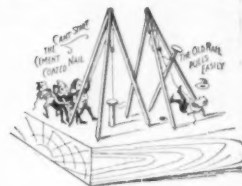
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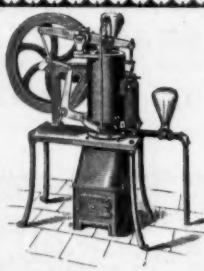
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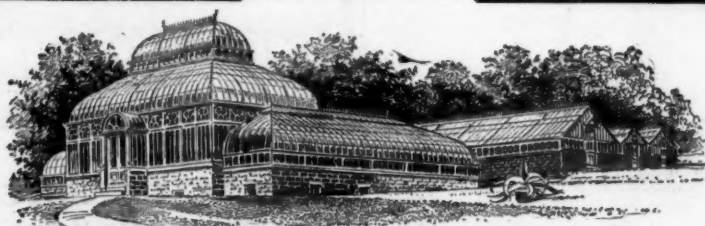
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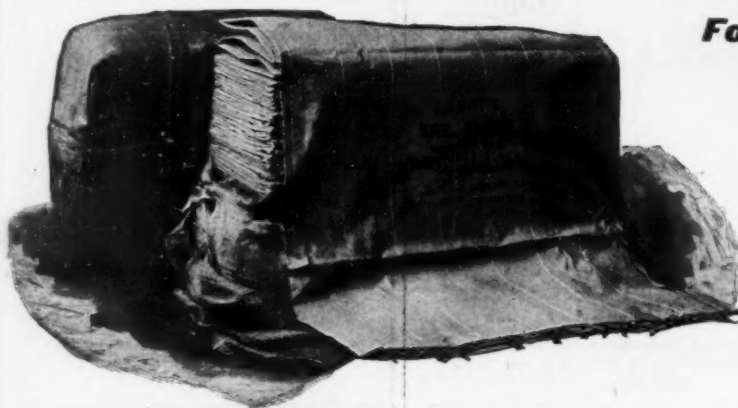


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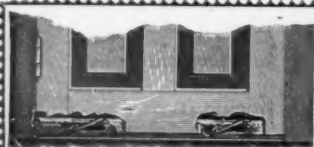
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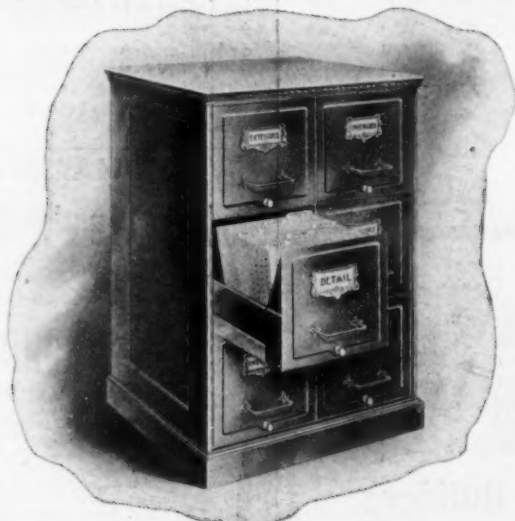
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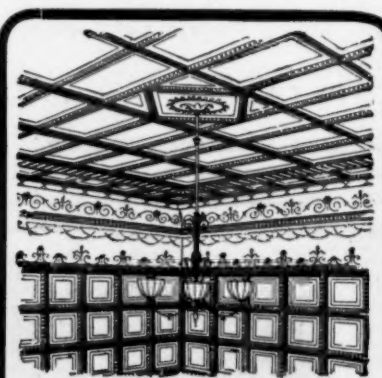


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THE KEASBEY & MATTISON CO., the owners of the patents for magnesia covering, have commenced a suit in the United States Circuit Court for the Southern District of New York against the Philip Carey Mfg. Co., George D. Crabbs, J. E. Breese, Schoellkopf, Hartford & Hanna Co., J. F. Schoellkopf, Jr., James Hartford, W. W. Hanna, C. P. Hugo Schoellkopf and Jesse W. Starr, to restrain the defendants from making and selling magnesia covering for boilers and steam pipes containing more than 50 per cent of magnesia, and especially coverings containing 85 per cent magnesia.

The Bill prays for a preliminary writ of injunction, to be continued during the pendency of the suit, and upon the final determination thereof to be made perpetual, and also demands an accounting and damages.

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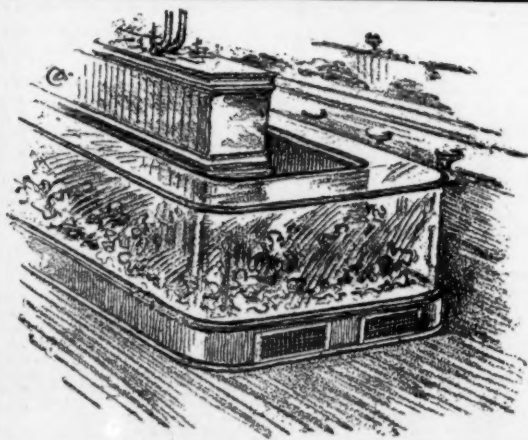
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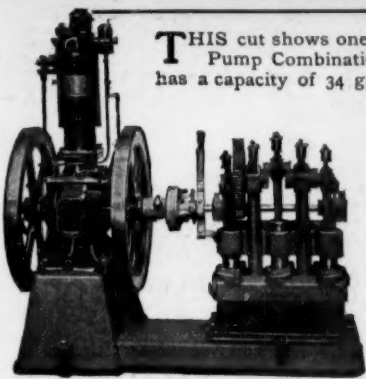


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(Advance Rumors Continued.)

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Chillicothe, O.—It is stated that Andrew Carnegie's offer of \$30,000 for a new library building has been accepted by the Board of Education.

Cleveland, O.—A site has been secured by the Bankers' Federal Union at the corner of Superior and Bank Sts., for their ten-story temple and office-building. Plans by Meade & Garfield, 1002 Garfield Building. Cost, \$400,000.

Clinton, Ia.—The Methodist Society will erect a new \$30,000 church.

Clinton, Ill.—Dewitt County has decided to construct a new \$22,000 jail building.

Columbus, O.—Smith & Eastman Co., of St. Louis, Mo., have been awarded the contract for erecting the Ohio Building at the La. Purchase Expos., for \$32,000.

Crowley, La.—Plans have been prepared by Louis Wilson, Beaumont, Tex., for the erection of a new \$65,000 hotel.

Danbury, Conn.—The Senate has passed a bill providing for an appropriation of \$100,000 for a State Normal School at this place.

Decatur, Ill.—A \$30,000 school-building will be erected in this city.

Denver, Col.—A site has been purchased by P. J. Gallagher for the erection of an auditorium which is estimated will cost \$100,000.

Des Moines, Ia.—W. L. Bush, of Chicago, expects to erect a music temple here to cost \$50,000 to \$75,000.

Detroit, Mich.—It is stated that Maj. W. H. Bixby, Engr. U. S. A., is completing plans for the construction of a ship canal for St. Clair flats; \$300,000 is available for the work.

Eugene, Ore.—Plans have been prepared for a \$25,000 high school to be erected at Williamette and 11th Sts.

Fort Wayne, Ind.—The Loftus Realty Co. will erect a six-story apartment-house at Berry and Webster Sts., to cost \$200,000.

Grand Forks, N. D.—It is stated that a \$40,000 addition will be built to the Belmont School.

Grand Haven, Mich.—W. H. Dupree, of Chicago, Ill., will erect a \$50,000 residence on Spring Lake.

Grand Rapids, Mich.—The First Church of Christ will erect a \$23,000 edifice.

Harrisburg, Pa.—The plans of Philip H. Johnston, of Philadelphia, are stated to have been approved for the Pennsylvania Building for the La. Purchase Expos. Cost, \$75,000.

Indianapolis, Ind.—It is stated that the Knights and Ladies of Honor will erect an office-building to cost \$100,000.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Kewanee, Ill.—It is stated that a \$35,000 hospital will be erected at Elliott and Prospect Sts.

Lawrence, Mass.—The plans for a new school-house at the corner of Park and Bruce Sts. have been accepted.

Lockhaven, Pa.—J. A. Dempwolf, York, has drawn plans for the erection of a \$25,000 Catholic church to be built here. Address Rev. John N. Corradi, pastor.

Ludlow, Ky.—Plans have been approved for the St. James Catholic Church to be erected at Oak and Davis Sts. Cost, \$25,000.

Minneapolis, Minn.—Ernest Kennedy has drawn plans for a building to be erected on the corner of 2d Ave. and 6th St. for William Deering. It will be 82' x 105', three stories and basement, of pressed brick, composition roof and steam heating. Cost, \$40,000.

Montreal, Que.—Martineau & Prenoveau have received the contract for erecting the addition to the Court-house for \$160,000.

New Castle, Pa.—A new high school to cost \$100,000 will be erected here and a site will be selected at once by the Board of School Controllers.

New York, N. Y.—The N. Y. Central has abandoned the scheme for a station to include a hotel and department-store. The building will be about 16 stories high, with offices to rent for business purposes.

Peoria, Ill.—The Barrett Mfg. Co., of Chicago, intend to erect a factory and office-building here to cost \$125,000.

Philadelphia, Pa.—A new home for aged veterans and their wives will be built at 65th and Vine Sts. after plans by Architects Charles W. Bolton & Co., Witherspoon Building. It will have cement floors, slate and tin roofing, steam heat, mantels, etc.

Pittsburgh, Pa.—Plans have been prepared by Rieger & Currier, Smith Building, for a new building for the Washington National Bank, to be erected on 5th Ave. and Washington St. Cost, \$100,000.

Rio, Wis.—Plans are being prepared by Architect C. C. Menes, of Lodi, for a \$40,000 edifice for the Lutheran congregation at this place.

Rochester, N. Y.—Foote & Headley, Cutler Building, have prepared plans for a new building for the Almshouse Hospital; estimated cost, \$78,000.

Rock Island, Ill.—Reidy Brothers and M. I. Morris, of this city, will construct new shops and foundry, to be occupied by Morris & Lewis' brake shoe factory, Chicago. Cost, \$60,000.

Saginaw, Mich.—The House has passed a bill providing for the erection of a Manual Training School for the Blind, to cost \$110,000.

Seattle, Wash.—Architects Procter & Farrell have nearly completed plans for a new county hospital building to cost \$30,000.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Plans have been prepared by Architects Elliott & West for a four-story brick hotel building for G. W. Young to be built at a cost of \$30,000.

St. John, N. B.—The contract for the erection of the public library has been awarded to Jas. Myles for \$44,500.

Tippecanoe City, O.—The planing mill of the Tipp Building & Manufacturing Co., recently destroyed by fire, will be rebuilt at once. H. J. Ritter, Secretary and Treasurer.

Toledo, O.—Harry Wachter, Nasby Building, has revised plans for the new Masonic Temple and will receive bids until July 1. Cost, \$200,000.

The erection of a three-story warehouse to cost \$30,000 is proposed by the Hickox Mill & Hill Co.

Toronto, Ont.—The University of Toronto is considering erecting a Convocation Hall; probable cost, \$50,000.

Warren, O.—Plans have been prepared by Architect W. J. Shaw, Smith Building, Pittsburgh, for a two-story brick hall and laundry for the State Hospital for the Insane to be erected at North Warren. Cost, \$50,000.

Washington, D. C.—The contract for erecting the Dominican Building for the College of the Immaculate Conception has been awarded to the Brennan Constr. Co., Loan & Trust Building; estimated cost, \$250,000.

ALTERATIONS AND ADDITIONS.

Chicago, Ill.—*Walnut St.*, Nos. 109-113, three-sty' bk. side addition to private barn, 75' x 120'; \$25,000; o., Case & Martin, Wood & Walnut Sts.; a., A. W. Buckley, 26 Van Buren St.; b., Leafgren Brothers, 813 Chamber of Commerce.

W. Taylor St., Nos. 1-75, three & two-sty' bk. addition, 70' x 80'; \$15,000; o., Glucose Sugar Refining Co., Rookery Building; a., Ritter & Mott, 204 Dearborn St.; b., E. M. Bent & Co., 172 E. Washington St.

New York, N. Y.—*W. Fifty-sixth St.*, No. 17, alteration to residence, 25' x 100'; \$20,000; o., Mrs. John A. Logan, Jr.; a., Augustus N. Allen, 571 Fifth Ave.

E. Sixty-fourth St., No. 100, four-sty' front extension, 5' x 20', new furnace & new staircases in four-sty' bk. dwell.; \$25,000; o., Mrs. Elizabeth K. S. Lorillard, Westchester; a., Foster, Gate & Graham, 281 Fourth Ave.

W. Thirty-first St., No. 32, six-sty' front extension, 7' x 25', to five-sty' studios & stores; \$20,000; o., Isaac Walker, London, Eng.; a., G. F. Pelham, 503 Fifth Ave.

Park Ave., cor. 36th St., two stories added to 2-sty' rear extension, new elevator, etc., in four-sty' & base. bk. dwell.; \$20,000; o., Warren Delano, Jr., Barrytown; a., Percy Griffin, 244 Fifth Ave.

Fifth Ave., No. 40, four-sty' rear extension, 11' x 18' 7", to three-sty' & base. dwell.; \$20,000; o., Louise K. Boulton, 30 E. 34th St.; a., Percy Griffin, 244 Fifth Ave.

E. Sixty-first St., No. 130, two-sty' rear extension, 15' x 33', to four-sty' & base. dwells.; \$20,000; o., J. Amory Haskell, 24 E. 60th St.; a., York & Sawyer, 156 Fifth Ave.

W. Thirty-seventh St., No. 10, one & three-sty' rear extension, 16' x 19' 5", to four-sty' & base. bk. dwell.; \$16,000; o., Mrs. Julia Seymour Stebbins, on premises; a., Little & Brown, 70 Kelly St., Boston, Mass.

APARTMENT-HOUSES.

Chicago, Ill.—*Roscoe St. and Elane Pl.*, 3 three-sty' bk. apart., 49' x 62', 47' x 50' & 34' x 54'; \$40,000; o., C. A. Lundelius; a., J. F. & J. P. Doerr.

Leland Ave., Nos. 1422-24, three-sty' bk. apart., 38' x 100'; \$25,000; o. & b., Fritz Nelson, 765 N. Harding Ave.; a., W. M. Walter, 90 La Salle St.

Madison Ave., Nos. 5716-18, three-sty' bk. apart., 50' x 78'; \$25,000; o., George Low; a., Thos. McCall, 167 Dearborn St.; b., Harper Bros., 92 La Salle St.

Addison and Rokeby Sts., three-sty' bk. apart., 56' x 125', gravel roof; \$35,000; o. & b., John Hansen, 40 Fulton St.; a., F. O. Demoney, 141 S. Water St.

S. Halsted St., No. 344, three-sty' bk. store & flats, 24' x 37'; \$20,000; o., M. Kanter, 328 S. Halsted St.; a., Alex. Levy, 112 Clark St.; b., E. Gomoll, 3116 Lowe Ave.

New York, N. Y.—*Avenue B.*, cor. 13th St., six-sty' bk. flat & stores, 50' 6" x 62' 8"; \$60,000; o., Julius Weinstein, 190 Bowery; a., Bernstein & Bernstein, 72 Trinity Pl.

CHURCHES.

New York, N. Y.—*Forty-fourth St.*, nr. 9th Ave., three-sty' bk. & st. church & dwell., 40' x 100'; \$25,000; o., St. Matthew's German Lutheran Church, Broome & Elizabeth Sts.; a., John Boese, 280 Broadway.

EDUCATIONAL.

New York, N. Y.—*Ninety-fifth and Ninety-sixth Sts.*, nr. 1st Ave., four-sty' bk. & st. school, 156' x 200'; \$250,000; o., City of New York; a., C. B. J. Snyder, 300 Park Ave.

FACTORIES.

New York, N. Y.—*Christopher St.*, Nos. 10-12, seven-sty' bk. factory, 82' x 140' 3"; \$48,000; o., Wm. V. Lawrence, 969 Fifth Ave.; a., Jardine, Kent & Jardine, 1262 Broadway.

HOUSES.

Brooklyn, N. Y.—*Waverly Ave.*, nr. Myrtle Ave., 2 two-sty' & cellar stables & dwells., 50' 4" x 75', steam; \$25,000; o., Morris Building Co., 26 Broadway, N. Y.; a., W. B. Tubby, 81 Fulton St., N. Y.

E. Fourteenth St., nr. Church Ave., two-sty' & attic fr. dwell., 24' x 42', shingle roof; \$5,000; o., Oscar Mordorf, 195 Clermont Ave.; a., B. Driesler, 13 Willoughby St.

Glenmore Ave., cor. Wyona St., three-sty' fr. office & dwell., 25' x 52'; \$4,500; o., J. Laube, 454 Glenmore Ave.; a., C. Infanger, 2500 Atlantic Ave.

Fourteenth Ave., nr. 49th St., two-sty' & attic fr. dwell., 22' 2" x 40' 2", shingle roof; \$4,000; o., Sadie Ludwig, 55th St., nr. 13th Ave.; a., A. Olsen, 1523 Fifty-ninth St.

Flatbush Ave., nr. Avenue F, three-sty' bk. store & dwell., 20' x 55'; \$8,000; o., E. K. Strong, E. 28th St. & Flatbush Ave.; a., B. Driesler, 13 Willoughby St.

Broadway, nr. Myrtle Ave., 6 three-sty' bk. stores & dwells., 25' x 60'; \$36,000; o., S. Eisenbach, 772 Broadway; a., W. Debus, 808 Broadway.

Flatbush Ave., nr. Avenue F, 7 three-sty' bk. stores & dwells., 20' x 55', gravel roofs; \$42,000; o.

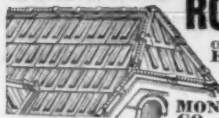
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(Houses Continued.)

W. Guildersleeve, 1440 Flatbush Ave.; a., A. W. Pierce, 1127 Flatbush Ave.

Elizabethtown, N. Y.—2½-st'y st. & half-timber dwell., 50' x 120', with 30' x 70' wing; \$40,000; o., Mrs. Marks; a., Augustus N. Allen, 571 Fifth Ave.

New York, N. Y.—Monroe Ave., cor. 175th St., three-st'y bk. store & dwell., 38' x 45'; \$10,000; o., Wenzel C. and Isabella Urban, 1757 Monroe Ave.; a., W. C. Dickerson, 149th St. & 3d Ave.

One Hundred and Thirty-fourth St., nr. Willow Ave., front, two-st'y bk. dwell., 25' x 50'; \$5,000; o., Mary A. McBride, 469 E. 150th St.; a., Anthony F. A. Schmitt, 604 Courtlandt Ave.

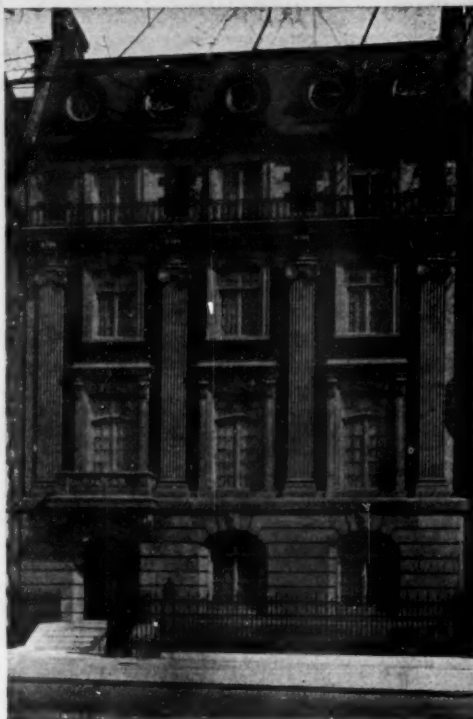
LIBRARIES.

Brooklyn, N. Y.—Norman Ave., cor. Leonard St., one & two-st'y bk. library, 73' 4" x 74' 2", gravel roof, steam; \$75,000; o., T. P. Hill, 26 Brevoort Pl.; a., R. L. Daus, 130 Fulton St.

COMPETITIONS.

SOLDIERS' MONUMENT.

[At Pittsburgh Landing, Tenn.] To artists, designers and workers in granite: The Commissioners having in charge the erection of a monument to the memory of Wisconsin soldiers on the Shiloh Battlefield, at Pittsburgh Landing, Tenn., offer a premium of \$225 for the best, and \$75 for the second best design for such monument, submitted on or before the first day of August, 1903. The cost of the monument not to exceed \$13,000. For full particulars, address D. LLOYD JONES, Secretary, Room 434, Post-office Building, Milwaukee, Wis. F. H. MAGDEBURG, President; D. LLOYD JONES, Secretary, Wisconsin Shiloh Monument Commission. 1435



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COMPETITIONS.

ENGINE HOUSE.

[At Houston, Tex.] Plans will be received by D. D. Bryan, city secretary of the city of Houston, until July 6, for the construction of a two-story brick fire-engine house. Cost, \$30,000. O. T. HOLT, Mayor. 1435

PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 22, 1903. Sealed proposals will be received at this office until 3 o'clock P. M. on the 27th day of July, 1903, and then opened for the construction (including heating apparatus, and electric wiring and conduits) of the U. S. Post-office at Centerville, Iowa, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Centerville, Iowa, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1436

ELECTRIC WORK.

[At Dorchester, Mass.] The Insane Hospital Trustees of Boston invite proposals for doing electric work at Insane Hospital, Dorchester. Only proposals obtained at the office of Benj. B. Hatch, Electrical Engineer, 11 Wareham St., signed by bidder and left before July 1, 1903, at Room 3 of said trustees, 64 Pemberton Sq., Boston, with a certified check for \$1,000, payable to and to be the property of the City if the proposal is not carried out, will then and there be publicly opened and read. 1435

BUILDING.

[At Little Rock, Ark.] Bids will be received until July 8 for two annexes to the Arkansas State Lunatic Asylum, John H. Page, Secretary Board of Trustees of State Charitable Institutions. Cost, \$140,000. Plans by Architect F. W. Gibb, Little Rock. 1435

SCHOOL.

[At Center Point, Ia.] Bids will be received by F. Stauffer, President of the Board of Education, until July 7, for the erection of a brick school-building. Plans on file at the office of the architect, W. A. Fulkerson, Cedar Rapids, Ia. 1435

PROPOSALS.

HOSPITAL COTTAGES.

[At Monson, Mass.] Sealed proposals will be received at the office of Kendall, Taylor & Stevens, 93 Federal St., Boston, by the Trustees of the Mass. Hospital for Epileptics, until July 1, 1903, for all labor and materials required for the erection and completion of two hospital cottages at Monson, Mass., in accordance with plans and specifications, copies of which may be seen at the office of the architects on and after June 17, 1903. WM. N. BULLARD, Chairman. 1435

BUILDING.

[At Farmington, Mo.] The Board of Managers of the State Hospital No. 4, Farmington, will receive bids until July 6 for the erection of an administration building. H. H. Hoensch, Rolla, Mo., architect. M. P. GAYCE, Secretary. 1435

BRIDGE SUPERSTRUCTURE.

[At Boston, Mass.] The city engineer of Boston invites proposals for steel superstructure of Atlantic Ave. Bridge. Only proposals obtained at his office, City-hall, signed by the bidder and there left before July 2, 1903, with a certified check for \$1,000, payable to and to be the property of the city if the proposal is not carried out, will then and there be publicly opened and read. WILLIAM JACKSON, City Engineer. 1435

HEATING AND VENTILATING.

[At Boston, Mass.] The School-house Commissioners of Boston invite proposals for heating and ventilating system in the Girls' High School, West Newton and Pembroke Sts., Boston, Mass. Only proposals obtained at the office of the Commissioners, 120 Boylston St., signed by the bidder and left before June 30, 1903, at said office with a certified check for \$1,000, payable to the city if the proposal is not carried out, will then and there be publicly opened and read. R. CLIPSTON STURGIS, FREDERIC O. NORTH, JOSEPH J. CORBETT, Commissioners. 1435

SCHOOL.

[At Cleveland, O.] Bids will be received at the office of the clerk of the Board of Education, Rose Building, until July 13 for the construction of what will be known as the South High School. Plans on file at the office of the superintendent of buildings, Rose Building. STARR CALDWALLADER, School Director. 1436

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PROPOSALS.

HEATING, VENTILATING, ETC.

[At Rochester, N. Y.]
Sealed proposals for boiler plant and conduit piping, heating and ventilating infirmary, reception, kitchen and chronic buildings, with connecting corridors, at the Rochester State Hospital, Rochester, N. Y., may be sent by mail or delivered in person until the 1st day of July, 1903, to the State Commission in Lunacy at the Capitol, Albany, N. Y. Drawings and specifications may be consulted and blank forms of proposal obtained at the hospital, Rochester, N. Y., or by application to G. L. Heise, State Architect, in the Capitol at Albany, N. Y. E. H. HOWARD, Superintendent. 1435

CONSTRUCTION.

[At Fort Des Moines, Ia.]
Bids will be received until July 15 by Major R. B. Turner, quartermaster, Des Moines, Ia., for construction, plumbing, heating, gaspiping and electric wiring at Fort Des Moines. 1436

PUBLIC BUILDINGS.

[At Portland, Me.]
Office Constructing Quartermaster, U. S. A., 185 Middle St., Portland, Me. Sealed proposals will be received at this office until July 20, 1903, for the construction of two barrack buildings, five sets officers' quarters, and two sets N. C. O. quarters and one quartermaster's storehouse at Fort McKinley, Great Diamond Island, Portland Harbor, Me. Information, specifications and blanks on application. CAPT. A. W. YATES, Quartermaster, U. S. A. 1437

FIRE HYDRANTS.

[At Washington, D. C.]
Office of the Commissioners, D. C., Washington. Sealed proposals will be received at this office until August 8, 1903, for furnishing three hundred (300) high pressure fire hydrants. Award to be made after comparative tests of sample hydrants submitted. Specifications, blank forms of proposal and all necessary information may be obtained at this office. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D. C. 1437

BANK BUILDING.

[At Hazleton, Ind.]
Bids for the \$35,000 two-story brick building for the Citizens' State Bank will be received until July 20. W. F. CASSIDY, Chairman Building Committee. 1437

DRY DOCK.

[At Norfolk, Va.]
Sealed proposals will be received at the Bureau of Yards and Docks, Navy Department, Washington, until July 25, 1903, for constructing a concrete and granite dry dock, exclusive of pumping plant and caisson at the Navy Yard, Norfolk, Va. Limit of cost of entire work \$1,200,000. Plans and specifications can be seen at the navy yard named, or will be furnished by the Bureau upon deposit of \$100 to secure their return. MORDECAI T. ENDICOTT, chief of bureau. 1438

TUNNEL CONSTRUCTION.

[At Boston, Mass.]
City of Boston. Boston Transit Commission. Sealed bids for constructing Section F of the East Boston Tunnel, from the westerly end of the Old State-house across Washington St. and along Court St. to near Tremont St., including a station in Court St. and underpinning the Sears Building, etc., will be received by the Commission at its office, 20 Beacon St., Boston, Mass., until July 7, 1903. Plans can be seen and specifications and forms of contract can be obtained at 20 Beacon St., fifth floor. George G. Crocker, Chairman. Charles H. Dalton, Thomas J. Gargan, George F. Swain, Horace G. Allen, Boston Transit Commission. Howard A. Cason, Chief Engineer. B. LEIGHTON BEAL, Secretary. 1435

PROPOSALS.

PUBLIC BUILDING.

[At Dedham, Mass.]
Sealed proposals for the construction at Dedham, in the County of Norfolk and the Commonwealth of Massachusetts, of a building for the Registries of Deeds and of Probate and for the Probate Court for said County will be received by the County Commissioners of said County at the County Court-house in said Dedham, until the 7th day of July, 1903. All bids must be made upon blank forms, copies of which may be obtained upon application to the architects. The copies of the contract, plans and specifications may be seen by prospective bidders at the office of the County Commissioners of said County in the County Court-house in said Dedham on any week day, except Saturday, between the hours of 9 A. M. and 5 P. M., and on any Saturday between the hours of 9 A. M. and 1 P. M. THOMAS BLANCHARD, JAMES HEWINS, MARSHALL P. WRIGHT, County Commissioners of Norfolk County, Mass. Peabody & Stearns, architects, 919 State Street Exchange, Boston. 1435

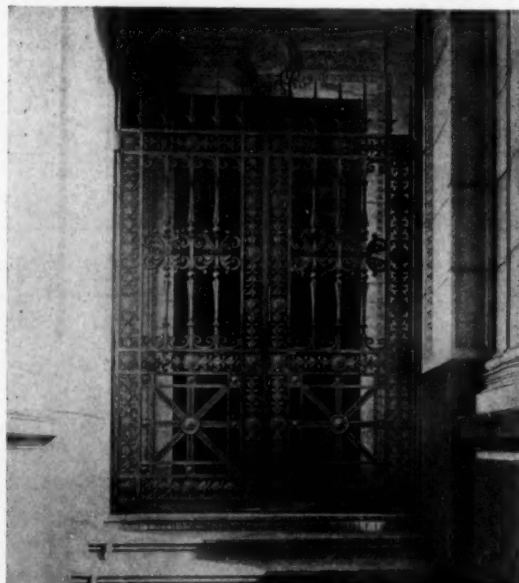
Treasury Department, Office Supervising Architect, Washington, D. C., June 11th, 1903. Sealed proposals will be received at this office until 3 o'clock P. M. on the 16th day of July, 1903, and then opened, for the construction (excepting heating apparatus, electric wiring and conduits) of the U. S. Post-office at Waterbury, Connecticut, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Waterbury, Conn., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1435

PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 11th, 1903. Sealed proposals will be received at this office until 3 o'clock P. M. on the 7th day of July, 1903, and then opened for furnishing and delivering the draughting materials required in accordance with the specification and schedule, copies of which may be had at this office. JAMES KNOX TAYLOR, Supervising Architect. 1435

Treasury Department, Office Supervising Architect, Washington, D. C., June 10, 1903. Sealed proposals will be received at this office until 3 o'clock P. M. on the 14th day of July, 1903, and then opened, for the construction (including plumbing, heating apparatus, electric wiring and conduits) of the U. S. Post-office at Winston, N. C., in accordance with the drawings and specification, copies of which may be had at this office, or at the office of the Postmaster at Winston, N. C., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1435

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 6, 1903. Sealed proposals will be received at this office until 3 o'clock P. M. on the 6th day of July, 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. 1435



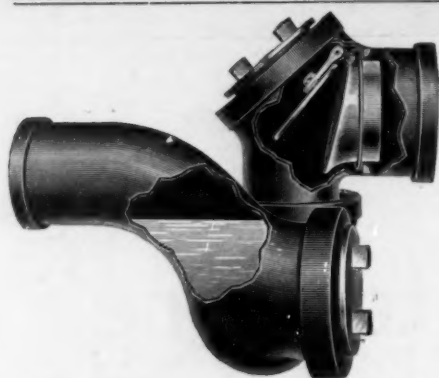
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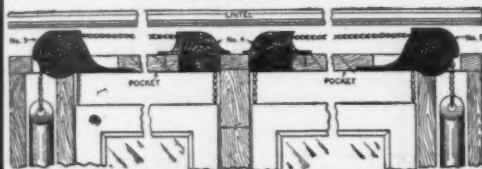
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 Recommended to its Members by
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 was

ADOPTED BY THE SOCIETY, FEBRUARY 1.

. . . 1895. . .

SECTION 1. No Member should enter into
 partnership, in any form or degree, with any
 builder, contractor, or manufacturer.

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 draw-
 ings 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 altera-
 tions of a building designed by another archi-
 tect, 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, with-
 out 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 de-
 signs 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 draw-
 ings 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 Archi-
 tects' "schedule of charges" represents mini-
 mum 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 archi-
 tect 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.

SECTION 16. A Member should so conduct his
 practice as to forward the cause of profes-
 sional education and render all possible help
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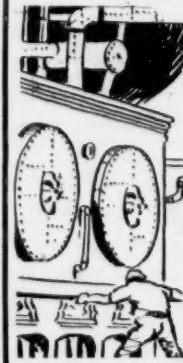
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