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PROFESSIONAL visitors to Paris this summer will be glad to know something about the programme of the International Congress of Architects, which holds its sessions from July 29 to August 4. The questions to be discussed are: 1. Artistic Property in Architectural Works; 2. The Teaching of Architecture; 3. The Title of Architect in Different Countries; 4. Inexpensive Dwellings in All Countries; 5. The Preservation of Monuments; 6. The Influence of Official Regulations on Contemporary Private Architecture. In addition to these more serious exercises, there is to be a "Soirée Musicale" on the evening of July 29; an excursion to Chantilly on July 31, and a closing banquet August 4; and, in connection with the Congress, there will be an exhibition of architectural drawings. By the thoughtfulness of the managers of *La Construction Moderne*, another excursion, to Mont Saint-Michel-en-Mer, has been arranged for August 5 and 6, immediately following the close of the sessions of the Congress, at the very reduced price of fifty-five francs, including first-class railway tickets both ways, lodging and first and second breakfast at the hotel at Mont Saint-Michel, and dinner on the evening of Sunday, August 5, in the great hall of the monastery. On Monday morning, a lecture is to be given in the Hall of the Chevaliers, by M. Paul Gout, architect of the Monument, who will act as guide to the party in its examination of the place. M. Roujon, the Government Director of Fine-Arts, has promised to participate in this excursion, which should be a most interesting one. Any architect, or amateur, whether a member of the Congress or not, may take part in the excursion, which is open also to their wives and families.

THE question of the safety of the United States building at the Paris Exposition is, it appears, to be decided by a duel between the builder and the correspondent of the New York newspaper which first questioned its security. As Mr. R. B. Roosevelt, of New York, has seen the building, and was at once satisfied that it was unsafe, he ought certainly to be included in the challenge, which, if not convincing, is at least likely to silence further criticism. So far as our observation has gone, there is nothing about the appearance of the building to excite alarm, and a wooden shell, covered with half an inch of plaster, is not such a ponderous affair that human ingenuity is powerless to devise adequate support for it; but, as the French experts are, it is said, to make an examination of the whole structure, it would perhaps be best to wait, before shedding blood, until they have submitted their report.

IN the copyright case of Frederick Dielman against the R. H. White Company, in which it was sought to prevent the latter from selling photographs of a certain mosaic picture in the Congressional Library at Washington, designed by the

former, and copyrighted by him without any express contract with the Government reserving the copyright, the United States Circuit Court has rendered a decision, dismissing the suit, on the ground that the contract between the artist and the Government made no mention of any reservation of copyright, and that, unless the contract between an artist and his employer clearly set forth the reservation to the artist of the right of reproducing the work sold, the employer was entitled to make, or permit to be made, reproductions of it to any extent. If this decision covers the case of the other decorations in the Library, as we suppose it does, we may expect to see photographs of them soon become numerous, and, as friends of American art, we shall not regret this result. So far as the artists are concerned, although they have their own way of looking at their pecuniary affairs, it is to us inconceivable that it should not be more for their interest to have their work made familiar all over the world by unlimited copying and reproduction, than to force a few miserable pennies, by means of copyright, from their unwilling and resentful fellow-citizens. It certainly does not hurt Fra Angelico's fame to have his beautiful figures, reproduced in gold and color, sold by the hundred thousand in Florence, nor, to take a more modern instance, was it probably less advantageous to Millais, in reputation as well as money, to have his pictures, in unauthorized reproductions, scattered broadcast over England and America than it would have been to keep them under lock and key. In the case of the Library decorations, it may be observed that they lend themselves peculiarly to the sort of reproduction employed for Pre-Raphaelite painting, and reduced copies of them, bound or framed in the Florentine manner, would form an attractive novelty in artistic publications, and one which, as it seems to us, would do more than almost anything else to open the eyes of Americans, as well as foreigners, to the achievements of the modern school of American art.

ANNOUNCEMENT has been made of further reductions in the prices of manufactured iron and steel. Bar-iron has been reduced seven-tenths of a cent per pound, while steel billets are quoted at twenty-eight dollars a ton, in place of thirty dollars, and best foundry-iron at twenty dollars instead of twenty-two. Notwithstanding these concessions, the American Steel and Wire Company, which is a very large consumer of iron, will, it is said, after the middle of August manufacture its own raw material. It has for a long time been purchasing mineral lands, coal lands, furnaces and smelting plants, and, as it claims, can at any time produce all the material that it needs. The Steel and Wire Company is, perhaps, the largest regular customer of the iron manufacturers, and the loss of its business will throw so much more surplus stock on their hands. Meanwhile, two immense establishments for producing and working iron are in process of erection in Nova Scotia, mainly with Canadian money, which may be expected, as soon as they are in operation, to take the Canada market, a large and increasing one, out of American hands; and several new American plants will soon be ready to compete with the existing ones for such business as is left. That these circumstances foreshadow cheaper iron in the near future need hardly be explained, and the only question is how far the decline will go.

A CHARACTERISTIC scheme has been put forward by one of the guileless representatives of the present New York City Government, who suggests that "a very material aid to the Building Commissioner in safeguarding the public interests under his charge" would be to require "architects, engineers, builders, building superintendents, or any who assume supervisory control of building-operations" in the city to "secure a license before they take responsible charge of any construction enterprise." The conditions upon which licenses could be obtained by applicants are not stated, but can easily be imagined. While we approve of "safeguarding," or, to speak in English, protecting, the public interest in any reasonable way, the advantage to the community of a gigantic plundering scheme, by which every small builder, every superintendent, draughtsman and office-boy employed by an engineer or an architect would be compelled to obtain a license from the Tammany officials at such price as the masters of corrupt extortion might fix is, to say the least, questionable. Like all

suggestions of this kind in New York, the present scheme is flavored with a spice of the public welfare; but any one who imagines that the public would be any better off if it were carried out would do well to study the recent history of the police department for enlightenment as to the way in which public trusts of this sort are administered in New York.

THE will of John Ruskin has been filed in England. By it the estate of Brantwood, where the great writer died, is left to Mr. and Mrs. Severn, apparently relatives, with the request that it may not be sold or let on building lease; and his copyrights and other literary property are left to Mrs. Severn and Alexander Wedderburn, in trust, one thousand pounds a year, out of the profits of publication, to be paid to Mr. and Mrs. Severn for the maintenance of Brantwood, one hundred pounds to be paid to Mr. Wedderburn, and the remaining income to be invested. Unpublished manuscripts and private papers are left to Mrs. Severn and Prof. Charles Eliot Norton, of Cambridge. The residue of the estate is bequeathed to Mr. and Mrs. Severn. The value of the property is not great, the return giving it at a trifle over ten thousand pounds. As Mr. Ruskin had a very large income for many years, and is said to have been worth at one time at least six hundred thousand dollars, his charities, which are known to have been numerous, must have aggregated a very considerable sum.

IT is interesting to compare the course of the iron market here with that abroad, the more so that the price of manufactured iron here is artificially raised by exporting surplus stock, retaining in this country only as much as can be sold at rates regulated by the high protective tariff. If it should become impossible to sell American iron abroad, the surplus now exported would be retained at home, and would be a powerful aid in breaking a market already threatened by the approaching competition of mills outside the Trusts. It will be remembered that last winter, iron of all kinds was in great demand in Europe, at prices then considered high, and the active foreign market assisted greatly in putting up the prices to domestic consumers, who were cut off by the tariff from the benefit of competition, and had to submit to the terms imposed by the Trusts. Now the aspect of affairs has changed in Europe, as well as here. We are told in the latest market reports that, in England, the demand for manufactured iron and steel has been "less active of late, the advance in price having been followed by a falling-off in consumption." In France, there is "a weakness more and more marked in beams, which do not find purchasers;" and, in Belgium, "export business is more quiet; fortunately, domestic orders are still sufficient for the shops and rolling-mills, but the future is far from being reassuring." In pig-iron, the English market is reported "heavy, and the activity of demand has disappeared." In France, prices are stationary, as they are also in Belgium; but the Belgian production of pig-iron was considerably less in the year ending May 1 than it was in the preceding year, and this circumstance probably affects both the French and Belgian markets. In Germany, prices of pig-iron have been kept down by the selling agency which fixes rates for the producers, and no change has yet been found necessary.

THE origin of the story that the tomb of Osiris had been discovered in Egypt by M. Amélineau is explained by Professor Petrie in a lecture on some recent excavations at Abydos. The explorations here have resulted in the discovery of seven royal tombs, all probably belonging to the First Dynasty, long anterior to the building of the Pyramids. These tombs, which must have been built at least five thousand years ago, are of primitive construction, consisting of a central chamber, with roof and floor of wood, surrounded by smaller chambers, or recesses, in brickwork. The tomb was built partly below ground, with a staircase or sloping passage leading down into it, and the whole was then covered with a heap of sand. Certain prehistoric sepulchres, found in Egypt, consisting of a little chamber roofed with palm-leaves, evidently furnished the model for these larger and more permanent ones, just as these, with their sloping entrances, their principal and accessory chambers, and the pyramidal heap of sand over them, were certainly the prototype of the gigantic stone pyramids of a later age. In the course of the investigation of the royal

cemetery in which these tombs stood, it was found that one of the latter, the largest and most important, had been consecrated, probably under the Eighteenth Dynasty, to Osiris, and it was the inscription to this effect which led M. Amélineau to suppose that Osiris was really buried in it. Professor Petrie, however, finds no reason to believe that it was ever really the tomb of any one but King Zer, of the First Dynasty, and he concludes that, although the ancient hero Osiris was, very possibly, buried in a tomb in, or near, the temple dedicated to him, the site may have been lost, or built over, in the course of centuries of neglect; and that when, under the priestly rule of the Theban period, the ancient religion was revived, the ecclesiastics, not being able to find the real tomb of the hero, who had been forgotten for a thousand years, utilized another, which looked sufficiently ancient to be shown to the faithful as the veritable sepulchre. It is hardly necessary to observe that such proceedings in the interest of religion have not been entirely unknown in more modern days, and Professor Petrie's theory has a very reasonable air.

M. A. DUMAS contributes to *Le Génie Civil* an interesting study of the new Panama Canal, which is profitable reading in connection with the scheme for a canal through Nicaragua. Speaking of the Nicaragua Canal, M. Dumas says that it will cost much more to build it than to complete the Panama Canal, so that his observations in regard to the financial prospects of the latter apply even more forcibly to the others; while, if two canals should be built, a simple way of calculating the probable profits of each would be to divide by two the estimated income of either separately, deducting from the result the interest and expense charges. The most careful and well-considered estimate of the income of the Panama Canal yet made was that of the Commission of 1897, of which the distinguished statistician, M. Leroy-Beaulieu, was President. This Commission came to the conclusion that if the toll-charge were fixed at not more than two dollars a ton, the Canal would be used by from four to five million tons of shipping annually, which would give a gross income of, at most, ten million dollars a year. Two hundred and sixty million dollars have already been spent on the Panama Canal, and, after charging off the amount irretrievably lost by the reorganization, the Canal, when finished by the new company, will represent an investment of about two hundred and twenty millions, according to the most recent estimates. The cost of operation is estimated by the same Commission at about three million dollars, which would leave seven millions as the net income on an investment of two hundred and twenty millions. This is a trifle over three per cent, and it is easy to judge whether the financiers who advance the money for construction are likely to be satisfied with such a return. In fact, the French Commission estimates that it will be necessary to pay six per cent interest on the bonds of the Canal Company to induce bankers to purchase them; and, with this burden upon them from the outset, and the income only gradually reaching, in the course of years, the estimated amount, the position of the holders of common stock, or of junior bonds, may be imagined.

JUDGING from the experience of other canal companies, M. Dumas does not think his conclusions from the official figures too discouraging, but rather the contrary. The Suez Canal has been open for thirty years, and has never yet reached ten million tons; while, after ten years of operation, the traffic through it was only two-and-one-quarter million tons. The Manchester Canal has been open six years, and was used last year by less than one-and-one-quarter million tons, while its projectors based their estimates on a traffic of three million tons at the outset, increasing to ten millions in the seventh year. It is hardly necessary to remark that this canal, financed on estimates of an income nearly ten times as great as the reality, does not pay its operating expenses, much less any interest on its bonds. In the same way, the Corinth Canal was built to accommodate a traffic estimated at about four times the actual business, and its net income above expenses was, in the last year reported, three thousand dollars, constituting the total return on an investment of six millions. The Kiel Canal has been open for five years, and its receipts have not yet covered even the operating-expenses; but this is to a great extent a military enterprise, and the bondholders are probably protected by the German Government.

ARCHITECTURAL ACOUSTICS.¹—VII.

REVERBERATION: CALCULATION IN ADVANCE OF CONSTRUCTION.

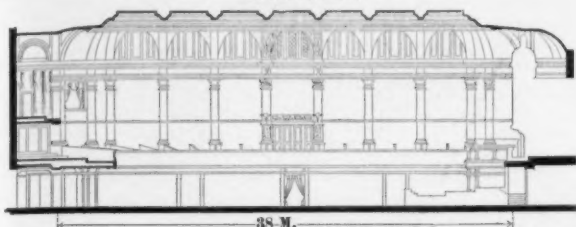


Fig. 20. The Leipzig Gewandhaus.

IN the present paper it is the purpose to show the application of the preceding analysis and data, taking as an example the design of the new Boston Music Hall now under construction, Messrs. McKim, Mead & White, architects.

In the introductory paper the general problem of architectural acoustics was shown to be a fairly complicated one, and to involve in its solution considerations of loudness, of interference, of resonance, and of reverberation. All these points received consideration while the Hall was being designed, but it is proposed to discuss here only the case of reverberation. In this respect a music hall is peculiarly interesting. In a theatre, for dramatic performances, where the music is of entirely subordinate importance, it is desirable to reduce the reverberation to the lowest possible value in all ways not inimical to loudness; but in a music hall, concert room, or opera house, this is decidedly not the case. To reduce the reverberation in a hall to a minimum, or to make the conditions such that it is very great, may, in certain cases, present practical difficulties to the architect—theoretically it presents none. To adjust, in the original design, the reverberation of a hall to a particular and approved value requires a study of conditions, of materials, and of arrangement, for which it has been the object of the preceding papers to prepare.

It is not at all difficult to show *a priori* that in a hall for orchestral music the reverberation should neither be very great, nor, on the other hand, extremely small. However, in this matter it was not necessary to rely on theoretical considerations. Mr. Gericke, the conductor of the Boston Symphony Orchestra, made the statement that an orchestra, meaning by this a symphony orchestra, is never heard to the best advantage in a theatre; that the sound seems oppressed, and that a certain amount of reverberation is necessary. An examination of all the available plans of the halls cited as more or less satisfactory models, in the preliminary discussion of the plans for the new hall, showed that they were such as to give greater reverberation than the ordinary theatre style of construction. While several plans were thus cursorily examined the real discussion was based on only two buildings—the present Boston Music Hall and the Leipzig Gewandhaus; one was familiar to all and immediately accessible, the other familiar to a number of those in consultation, and its plans in great detail were to be found in "*Das neue Gewandhaus in Leipzig, von Paul Gropius und H. Schmieden.*" It should, perhaps, be immediately added that neither hall served as a model architecturally, but that both were used rather as definitions and starting points on the acoustical side of the discussion. The old Music Hall was not a desirable model in every respect, even acoustically, and the Leipzig Gewandhaus, having a seating capacity about that of Sanders Theatre, 1500, was so small as to be debarred from serving directly, for this if for no other reason.

The history of the new hall is about as follows: A number of years ago, when the subject was first agitated, Mr. McKim prepared plans and a model along classical lines of a most attractive auditorium, and afterwards, at Mr. Higginson's instance, visited Europe for the purpose of consulting with musical and scientific authorities in France and Germany. But the Greek Theatre as a music-hall was an untried experiment, and because untried was regarded as of uncertain merits for the purpose by the conductors consulted by Mr. Higginson and Mr. McKim. It was, therefore, abandoned. Ten years later, when the project was again revived, the conventional rectangular form was adopted, and the intention of the building committee was to follow the general proportions and arrangement of the Leipzig Gewandhaus, so enlarged as to increase its

seating capacity about seventy per cent; thus making it a little more than equal to the old hall. At this stage calculation was first applied.

The often-repeated statement that a copy of an auditorium does not necessarily possess the same acoustical qualities is not justified, and invests the subject with an unwarranted mysticism. The fact is that exact copies have rarely been made, and can hardly be expected. The constant changes and improvements in the materials used for interior construction in the line of better fireproofing, — wire-lath or the application of the plaster directly to tile walls — have led to the taking of liberties in what were perhaps regarded as non-essentials; this has resulted, as shown by the preceding tables, in a changed absorbing power of the walls. Our increasing demands in regard to heat and ventilation, the restriction upon the dimensions enforced by location, the changes in size imposed by the demands for seating capacity, have prevented, in different degrees, copies from being copies, and models from successfully serving as models. So different have been the results under what was thought to be safe guidance, — but a guidance imperfectly followed, — that the belief has become current that the whole subject is beyond control. Had the new Music Hall been enlarged from the Leipzig Gewandhaus to increase the seating capacity seventy per cent, which, proportions being preserved, would have doubled the volume, and then built, as it is being built, according to the most modern methods of fireproof construction, the result, unfortunately, would have been to confirm the belief. No mistake is more easy to make than that of copying an auditorium, — but in different materials or on a different scale, — in the expectation that the result will be the same. Every departure must be compensated by some other, — a change in material by a change in the size or distribution of the audience, or perhaps by a partially compensating change in the material used in some other part of the hall, — a change in size by a change in the proportions or shape. For moderate departures from the model such compensation can be made, and the model will serve well as a guide to a first approximation. When the departure is great the approved auditorium, unless discriminatingly used, is liable to be a treacherous guide. In this case the departure was necessarily great.

The comparison of halls should be based on the duration of the residual sound after the cessation of a source that has produced over the hall some standard average intensity of sound, — say one million times the minimum audible intensity, 1,000,000 *i*. The means for this calculation was furnished in the fifth paper. The values of *V* and *a* for the three halls under comparison are determined as follows: —

DIMENSIONS OF THE THREE HALLS IN METRES.²

	Leipzig Gewandhaus.	Boston Music Hall, Old.	Boston Music Hall, New.
Length.	38	39.2	39.5
Breadth.	19	23.5	22.8
Height.	15.5	20.0	17.9
Volume.	11,200	18,400	(16,200)

The length given for the Leipzig Gewandhaus, 38 metres, is measured from the organ front to the architecturally principal wall in the rear. On the floor and by boxes in the balconies the seats extend 3 metres farther back, making the whole length of the hall, exclusive of the organ niche, 41 metres. This increases the volume of the hall about 200 cubic metres, making the total volume 11,400 cubic metres.

DIMENSIONS OF THE THREE HALLS IN FEET.

	Leipzig Gewandhaus.	Boston Music Hall, Old.	Boston Music Hall, New.
Length.	124	129	130
Breadth.	62	77	75
Height.	52	66	59
Volume.	400,000	637,000	(578,000)

The length given for the Leipzig Gewandhaus, 124 feet, is measured from the organ front to the architecturally principal wall in the rear. On the floor and by boxes in the balconies the seats extend 10 feet farther back, making the total length of the hall, exclusive of the organ niche, 134 feet. This increases the volume 7,000 cubic feet, making the total volume 407,000 cubic feet.

The height given for the new hall, 59 feet, is the average height from the sloping floor. The length is measured on the floor of the main part of the hall; above the second gallery it extends back 9 feet, giving an additional volume of 2,000 cubic feet. The stage, instead of being out in the room, is in a contracted recess, having a depth of 26 feet, a breadth, front and back, of 60 feet and 45 feet, respectively, and a height, front and back, of 44 feet and 35 feet, respectively, with a volume of 5,400 cubic feet. The total volume of the new Music Hall is, therefore, 634,000 cubic feet.

¹A series of papers by Wallace C. Sabine, Assistant-Professor of Physics at Harvard University. Continued from No. 1276, page 76.

The height given for the new Boston Music Hall, 17.9, is the average height from the sloping floor. The length is measured on the floor of the main part of the hall; above the second gallery it extends back 2.74 metres, giving an additional volume of 580 cubic metres. The stage, instead of being out in the room, is in a contracted recess having a depth of 7.9 metres, a breadth, front and back, of 18.3 and 13.6, respectively, and a height, front and back, of 13.4 and 10.6, respectively, with a volume of 1,500 cubic metres. The height of the stage-recess is determined by the absolute requirements of

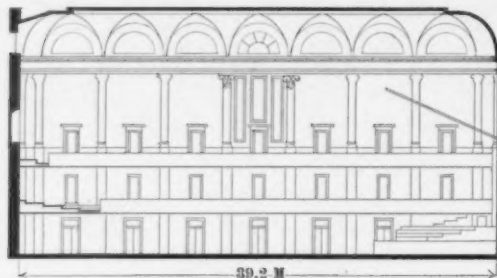


Fig. 21. The Old Boston Music Hall.

the large organ to be built by Mr. Geo. S. Hutchings. This organ will extend across the whole breadth of the stage. The total volume of the new Boston Music Hall is, therefore, 18,300 cubic metres.

In the following table of materials in the three halls no distinction is made between plaster on wire-lath and plaster on wood-lath, the experiments recorded in the preceding paper having shown no certain difference in absorbing power. The areas of wall-surface are expressed in square metres. The number of persons in the audience is reckoned from the number of seats, no account being taken of standing room.

ABSORBING MATERIAL.

	Leipzig Gewandhaus.	Boston Music Hall, Old.	Boston Music Hall, New.
Plaster on lath.	2,206	3,030	1,040
Plaster on tile.	0	0	1,830
Glass.	17	55	22
Wood.	235	771	625
Drapery.	80	4	0
Audience:			
on floor.	990	1,251	1,466
in 1st balcony.	494	680	606
in 2d balcony.	33	460	507
Total audience.	1,517	2,391	2,579
Orchestra.	80	80	80

The drapery in the Leipzig Gewandhaus will be rated as shellia, and in the old Music Hall as cretonne, to which it approximates in each case. It is an almost needless refinement to rate differently the orchestra and the audience merely because the members of the orchestra sit more or less clear of each other, but for the sake of a certain formal completeness

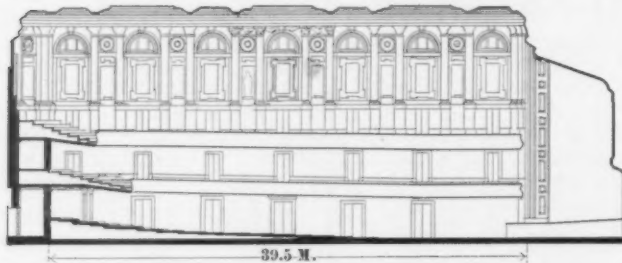


Fig. 22. The New Boston Music Hall.

it will be done. For the above materials the coefficients, taken from the preceding paper, are as follows:—

COEFFICIENTS OF ABSORPTION.

Plaster on lath.	0.033
Plaster on tile.	0.025
Glass.	0.027
Wood.	0.061
Drapery { shellia	23
cretonne.	15
Audience per person.	44
Orchestra per man.	48

In the following table is entered the total absorbing power contributed by each of these elements. As this is the first example of such calculation all the elements will be shown, although it will then be immediately evident that some are of wholly negligible magnitude.

ABSORBING POWER.

	Leipzig Gewandhaus.	Boston Music Hall, Old.	Boston Music Hall, New.
Plaster on lath.	73	100	34
Plaster on tile.	0	0	46
Glass.	0.4	1.5	0.6
Wood.	14	47	38
Drapery.	18	0.6	0
Audience.	667	1,052	1,135
Orchestra.	38	38	38
Total = a.	810	1,239	1,292

V and a being determined for each of the three halls, the duration, T , of the residual sound after standard initial intensity can be calculated.

The results in seconds are as follows:—

Leipzig Gewandhaus.	2.30
Old Boston Music Hall.	2.44
New Boston Music Hall.	2.31

In other words, the new hall, although having a seating-capacity for over a thousand more than the Gewandhaus and nearly two hundred more than the old hall, will have a reverberation between the two, and nearer that of the Gewandhaus than that of the old hall.

It is interesting to contrast this with the result that would have been obtained had the plan been followed of reproducing on an enlarged scale the Gewandhaus. Assuming perfect reproduction of all proportions with like materials, the volume would have been 25,300 cubic metres, and the absorbing power 1,370, resulting in the value, $T=3.02$. This would have differed from the chosen result by an amount that would have been very noticeable.

The new Boston Music Hall is, therefore, not a copy of the Gewandhaus, but the desired results have been attained in a very different way.

A few general considerations, not directly connected with reverberation, may be of interest. The three halls are of nearly the same length on the floor; but in the old hall and in the Gewandhaus the platform for the orchestra is out in the hall, and the galleries extend along both sides of it; while in the new hall the orchestra is not out in the main body of the room, and for this reason is slightly farther from the rear of the hall; but this is more than compensated for in respect to loudness by the orchestra being in a somewhat contracted stage recess, from the side walls of which the reflection is better because they are nearer and not occupied by an audience. Also it may be noted that the new hall is not so high as the old and is not so broad.

Thus is opened up the question of loudness, and this has been solved to a first approximation for the case of sustained tones. But as the series of papers now concluded is devoted to the question of reverberation, this new problem must be reserved for a subsequent discussion.

WALLACE C. SABINE.

CONCRETE FLOORS.¹—II.

Fig. 1.

DURING all the years in which I have been interested in fireproof construction I have grown increasingly impressed with the fact that the greatest field open for the ingenuity and skill of the architect and builder

is to be found in the direction of providing fireproof dwellings for the people at small cost, in lieu of those match-boxes which are now multiplied by the thousand in our large cities in apparent defiance of all desire of improvement, and in utter disregard of danger to human life.

Although a fireproof dwelling must cost more than a non-fireproof one, it will pay best in the end, because it does not decay or fall into disrepair, but, where ordinary care is used, is practically everlasting.

¹ A paper read before the Northern Architectural Association at Newcastle, February 14, 1900, by Frank Caws [F.] Vice-President of the Association, and printed in the *Journal of the Royal Institute of British Architects*. Continued from No. 1276, page 79.

Moreover, it is vermin-proof, and cleaner and more sanitary than buildings containing many hidden chambers and cells of decaying timber, and ever-gathering dust.

The limitations as to the size of cement-concrete floor-slabs are largely determined by the quantity which a gang of men can cast in one day. If the slabs are made unduly large, it is highly probable that some of them may be left by the workmen half-finished over night, the other half being added next day, consequently leaving a joint right across the slab, which, though by no means fatal to its strength, is extremely undesirable.

In designing a large expanse of flooring it is necessary, therefore, to subdivide the area into squares of reasonable extent, and I may say that, in my own practice, I consider a square of about 150 superficial feet a reasonable size to arrange for, although in some cases I have found it necessary to make them much larger.

The steel girders which form the divisions between the slabs should be made strong enough to carry the weight of the slabs themselves and of their greatest proposed loads; but it must not be supposed that, when the slabs are set hard, these steel girders will necessarily be called upon to wholly sustain these weights.

I say necessarily, for much depends upon the manner in which the girders are placed. For example, if the girders are placed entirely or mainly beneath the concrete so that the full thickness of the slab, or a considerable thickness of it, passes above the top of the girder, as shown by Figure 1; and if in such a case the casting of the slab be performed in one heat, or as nearly in one heat as possible, which can be done by organizing a sufficient number of working gangs—in this case the whole floor, consisting of numerous squares, may be regarded as one homogeneous slab, which is therefore so largely self-sustaining that, when once it is set, it brings but very little of its weight to bear upon these girders, which apparently support it.

But if, as an example of another method, the girders be placed so that their tops are bare or else covered by a thin surface of concrete, as shown by Figure 2, the girders in this case practically cut the



Fig. 2.

various squares asunder, so that each square naturally must bear wholly upon the girder. It will be obvious from these two examples that the former method, upon the score of strength, is distinctly preferable, though sometimes circumstances compel the use of the latter method; and whichever method is employed, it is always wise to make the girders strong enough to bear the entire weight, though they may never be called upon to do so.

You have all heard the story of the gentleman who advertised for a coachman, and when three applicants presented themselves he examined them, one after the other, in this way. He asked the first man, "How near can you drive to the edge of a precipice?" "Within a yard, sir." The second said, "Within an inch." The third replied, "I should keep as far off as possible, sir." "You are the man for me," said the gentleman. It would be rather alarming if in our designs we were even to approach the possibilities of strength in very thin concrete slabs; and if we were to establish our practice upon the minimum, I am afraid we should get very few clients.

We, therefore, as architects, should be extremely careful in our work to allow a large excess of strength; but we should be likewise able to distinguish between a mere excess of strength and an excess of cost, at the expense rather than the gain of strength.

For example, if we introduce into concrete-floors a large number of steel joists or girders so arranged as to cut the various sections asunder, the chances are that the cost of all this steel-work will result in weakening the flooring as a whole, and certainly in rendering it less fireproof. If, upon the other hand, we were to construct an extensive floor-area of a large warehouse of one vast slab of concrete, with absolutely no subdivisions and no supporting girders, we might be charged with the same want of caution as the coachman who boasted of his being able to drive within an inch of the danger.

Between these two extremes I have endeavored in my own practice to find a happy medium, consistent with economy and also with caution.

Notwithstanding all the care we may take, we are liable to accidents occurring from unforeseen causes, such as subsidence of foundations, vibration due to machinery, either in the building itself or in the adjoining works, or to carelessness of workmen, both in casting the slabs and in erecting or removing the centring, also from inferior cement, which may be supplied in spite of every precaution. Therefore, I consider, if we can obtain at small cost our auxiliary strength without reducing the fireproof quality of our floors, we shall be well advised to do so.

The use of expansible metal-lathing laid down upon the centring as the base on which the slab may be cast is undoubtedly an excellent precaution, but is unfortunately a rather costly one.

At one time, with a view to such precautions, I employed small iron rods embedded in the cement near its under surface; but my latest practice has been to stretch upon the top of the centring, before casting the concrete, galvanized iron wire sheep-fold netting, which costs very little, and certainly adds great reserve of strength to cover such contingencies as I have named.

I also find it very advantageous to lay down loosely upon top of

this netting extremely light thin bars of angle or tee section, about three feet apart, which make very trifling addition to the cost of the floor, and afford still further safeguard, tending to check any movements of the building by binding the whole structure well together.

Some people think that cement floors are too cold, and accordingly cover them with wood, which, of course, involves a very great addition to the cost, having nothing but the sense of comfort to recommend it. For my own part, I think that a cement floor covered by a good cork-carpet is far preferable, and quite comfortable.

However well-seasoned wood-flooring may be, the boards will shrink, and when the floor is washed the moisture between the chinks cannot get away or be evaporated without, in time, tending to produce an undesirable state of mildew or decay. I am not arguing against parquetry floors laid upon a special glue, but I am dealing with floors of a more economical character suitable for ordinary dwellings.

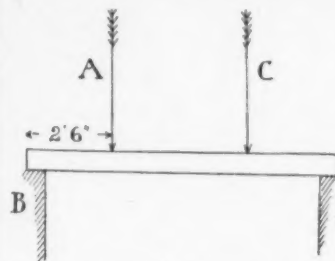


Fig. 3.

Every one recognizes the danger attached to the premature removal of centring from concrete-floors, of which we have had in the building world not a few lamentable examples; but there is another danger, not so generally recognized, which, with your permission, I should like to point out, namely, that of a too sudden removal of centring. Although the concrete may have had plenty of time to set, we must remember that its weight is resting upon the centring, and that when the centring is removed the slab must bend, however inappreciably, before it can become self-sustaining. The same thing is true of a wide-span masonry arch of any bridge, so that no contractor or engineer would ever dream of permitting the centring of such a bridge to be suddenly removed without first easing the wedges which sustain it.

Although the vertical movement of the mass of a slab in settling is generally too small to be measured, yet this slight movement involves the momentum of that great mass, which momentum may be sufficient seriously to damage, if not to wreck, the slab. It is, therefore, absolutely imperative that the wedges sustaining the centring of concrete-floors should be carefully eased, and the centring allowed to stand a day or two afterwards, and the wedges should be then examined, and not till they are proved to be quite loose should the centring be taken down.

It was my intention to have stated at the outset one or two considerations in regard to relative strength of beams and slabs which by the aid of diagrams I may be permitted to explain now. Here (Fig. 3) is a beam 10 feet broad, 1 foot deep, and 10 feet span. The effect of an equally distributed load, including the beam's own weight, can be shown, if we represent the load, as subdivided into two halves, by two arrows. The arrow A represents that half of the load which is carried by the support B, and the arrow C likewise represents the other half of the load carried by the other support D.

It will be seen that each arrow is placed at half the distance from the support to the centre of the span, so that the equally distributed load, which has its own centre of action there, acts with a leverage of $2\frac{1}{2}$ feet; that is, a quarter of the span. Now, let us suppose that this same slab is supported not only at its two ends, but also at its two sides; that is, all round its four edges, each edge sustaining a quarter of the total load. If we draw diagonals across the span of the beam, as shown by the dotted lines on Figure 4, we see that each edge carries as much of the load as is represented by each triangle; that is, one-fourth. But the centre of the load equally distributed upon each triangle occurs at the centre of the area of that triangle, which is not 2 feet 6 inches from the support, as in the case before-mentioned, but $1\frac{2}{3}$ feet therefrom. Thus, then, by allowing the square slab to rest on its four edges instead of on two only we reduce the leverage of the load from $2\frac{1}{2}$ feet to $1\frac{2}{3}$ feet, while at the same time we reduce the load itself acting upon each bearing edge from the $\frac{1}{2}$ to $\frac{1}{4}$ of the total load.

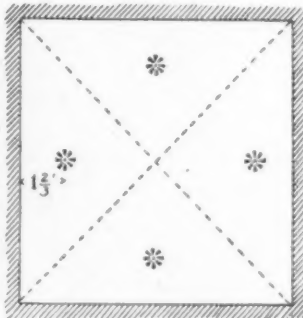


Fig. 4.

And thus we have in the first case $\frac{1}{2}$ multiplied by $2\frac{1}{2}$; that is, $1\frac{1}{4}$ measure of stress, while in the second case we have $1\frac{2}{3}$ feet leverage multiplied by $\frac{1}{4}$ of the load, yielding only $\frac{1}{10}$ measure of stress, which means, in short, that a square slab bearing on its two edges under a given distributed load is stressed three times more intensely than the same slab under the same load supported on its four edges. In other words, a square slab supported on its four edges is three times as strong as when supported only on its two opposite edges. We may from this example jump to the general conclusion that rectangular slabs resting all round their edges are always three times as strong as beams of span equal to the slab's length, but in point of

fact the difference between the strength of long narrow slabs bearing upon all their edges and of beams whose span equals the slab's length is much greater than would thus appear.

Suppose, for example, we were to test a concrete beam 1 foot deep by 1 foot wide by 10 feet span, we should find it would break under a comparatively small load; but if that same beam were supported along its sides as well as at its ends, three times the load which would break the beam of 10 feet span would utterly fail now to produce any visible effect upon it, and, indeed, we should find it practically impossible to break it by any load at all; for it would in truth be three times stronger than a beam of 1 foot span. The fact is, in comparing the strength of beams to that of oblong slabs, we must consider the narrower span of the slab as representing the span of the beam; and then it will always hold good that the slab is three times stronger than the beam, as before explained.

The text-book rule, that the strength of beams varies as their width, does not always hold good. For example, suppose that we were to compare the weight which would break the 1 foot deep by 1 foot wide concrete beam of 10 feet span with the weight which would break a concrete beam 1 foot deep by 10 feet wide by 10 feet span, we should find that the 10 feet wide beam would carry without breaking much more than ten times the weight which broke the 1 foot wide beam.

But the text-book principle, notwithstanding its limitations, reasserts itself when we come to apply it to the cases of beams of extraordinary breadth. If, for example, we consider the case of a concrete corridor floor 10 feet wide and 100 feet long, supported along the walls upon both sides, but having its extreme ends unsupported, we may regard it as a beam 100 feet wide of 10 feet span. Now we know that if we were to chalk out a 10 feet length in the middle of that corridor, that portion would bear one-tenth of the load which the 100 feet would sustain. Furthermore, the 10-feet section thus chalked out would bear the same load as if the floor were supported by walls at the extreme ends, though there are no walls there, because the edges, so to speak, where the chalk marks are are supported by the adjoining edges of the corridor floor, and that portion which we chalked in the middle of the length of the corridor is thus practically in the same condition as a slab having all its edges supported.

The fact is, the effect of walls supporting the extreme ends of the corridor-floor would not be felt throughout the entire length of

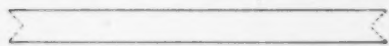


Fig. 5.

by the two mitre lines as dotted on this sketch, Figure 5.

It will thus be seen that a large expanse of slab-flooring has the remarkable principle of self-support to which the ordinary rule for gauging the strength of beams can apply only subject to important limitations.

Reverting to the case of girders which are beneath the level of the concrete slabs which they support, I must point out that it is very necessary that these should be protected from fire by being encased in solid concrete.

The largest slabs which I have carried out, I think, in my practice are about thirty-three feet long by some seventeen or eighteen feet wide by seven inches thick. I have done many of about that size, all of which have proved quite satisfactory, but, as before said, I prefer, as a rule, to make them smaller.

As regards floors of ordinary cottages covering small rooms, no steel joists need be used, but I would introduce wire-netting and the light steel bars before-mentioned, and in such cases the floors need not be more than six inches thick, and I am satisfied that if proper care were used in mixing and casting and so on, a 4-inch thickness would suffice for slabs not exceeding twelve feet span.

Referring to the sketch, Figure 6, for any given thickness of concrete, the stress of square slabs due to their own weight and to their distributed loads is, for reasons already stated, always proportional to their areas, multiplied by one-sixth of their span. Thus, if we know that, as shown by Figure 6, a slab of 10 feet square by 4 inches thick will carry safely a load of 9 cwt. per square foot, we may conclude that a 4-inch slab 5 feet square would carry a load of 72 cwt. per square foot; and similarly a 4-inch slab of 20 feet square would carry safely a load of 1½ cwt. per square foot, including its own dead weight.

The greatest stress of a square slab occurs at the mitres nearest the wall-bearings.

I had a slab without wire webbing, 20 feet square by 6 inches effective thickness, broken along the mitres when five weeks old by the sudden removal of the centring through neglecting to ease the wedges. That slab was still green. Had it been bone dry, and its centring cautiously relieved, I think it would have safely sustained a load of 2½ cwt. per square foot; that is, about two cwt. per foot over and above its own dead weight.

Heavy tail-weights of walls on concrete slabs resist movements of expansive force, and tend to improve the strength of the concrete not only by the counter-leverage due to encastment, but also by the compression thus induced, so that the lower floors of a building of many stories high generally show fewer contraction cracks than the top floors do.

When the centrings are first removed, the under surface of the

slabs from which air has been excluded are invariably damp, or, as the technical term has it, "green," like stone cut fresh from the quarry. Exposure to the air dries and hardens the concrete, and the general strength and rigidity due to this drying are so great that I consider slab-floors three months after removal of their centring

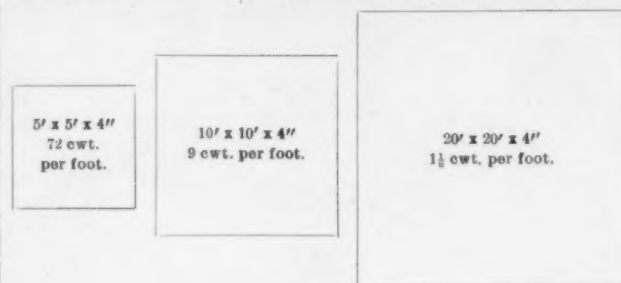


Fig. 6.

are probably about three times as strong as at the beginning of that three months.

Seeing that the stress of slabs under uniformly distributed loads is proportional to the cube of their span, it will be obvious that great reduction of stress is obtainable by forming the slabs with coved edges, as shown by Figure 1. Suppose, for example, we are dealing with slabs about twelve feet square, similar to those I have recently had cast at Messrs. Swan & Hunter's new offices at Wallsend, and we reduce the flat part to 10 feet square by means of our cove, the greatest stress is reduced accordingly as from the cube of 12 to the cube of 10; that is, about twenty-four per cent, and at the same time these covings serve to enclose the steel supporting-girders, thus protecting them from fire.

If time permitted there is much more I might have said on the subject, not only regarding concrete-floors, but also as to concrete-roofs, which, from a fireproof point-of-view, are certainly not less important.

Thus far my remarks have been so discursive that I feel it necessary, in closing this lecture, to focus, in the form of general rules, some of the conclusions to which twenty years of special experience have led me in regard to the construction of concrete slab-floors.

1. To take pains to obtain old cement.
2. To use good broken-brick aggregate, and not sand, in the proportion of four of brick to one of cement for the body of the slab, and fine crushed-granite without sand for the surface coating, having about three of granite to one of cement. (I may say I have found that when the surface coat is gauged two of granite to one of cement, it sets too soon, while the continued expansion of the body beneath is still going on, and this causes minute cracks, tending to deface and spoil the surface.)
3. To adopt, as precautionary provision, sheep-wire netting as the base, and steel angle or tee bars weighing not more than one-and-one-half pounds per lineal foot, spaced about three feet apart on the netting.
4. To consider a slab 10 feet square by 4 inches thick as capable of sustaining a load of 9 cwt. per foot, including its own weight, and to reckon that every slab will bear per square foot more or less than 9 cwt. directly in proportion to the square of its thickness, and inversely in proportion to the cube of its span.
5. To avoid casting slabs in frosty weather.
6. To insist upon organizing the gangs of workmen so as to cast as large an area of slabs as possible in one heat, and never to allow a slab to be left over night with its area only partially cast.
7. To insist upon strong centring, and to keep it all standing not less than five weeks after the last slab of the series of one flat is cast, and absolutely to forbid and prevent the sudden and careless removal of the centring.

In conclusion, you must please understand that in making no reference to many other methods of concrete-flooring which are more or less successfully practised, I have no desire to cast any reflection upon them, but have thought it best to confine my remarks to my own experience, and to speak the things which I know rather than those of which I have heard.

Thirty years ago Messrs. Pedder and Brannon, architects, erected near the gas-works at Hendon, Sunderland, two concrete cottages, which, after completion, they filled with straw and other combustibles, and, in the presence of a company of well-known Sunderland townsmen, set fire to. No visible damage resulted at that time, and the cottages have been occupied by tenants, I believe, ever since. A few weeks ago, the present proprietor took me down to inspect them. I found them in excellent condition, in fact as good as ever they were. The working-people occupying them are paying good rents, and the proprietor is about to build four similar fireproof cottages adjoining, plans for which have been recently approved by the Sunderland Corporation.

The test of a fierce fire and of thirty years' subsequent wear and use permits no other conclusion than that fireproof cottages for the people can be built cheaply, substantially and sanitarily. And in this case the proprietor finds little or no main structural repairs needed after thirty years of rough use.

Gentlemen, I think we shall all do well to lay these facts to heart, and to do, each of us, what we can to help bring about a great reform in the shape of fireproof homes for the common people.

SECOND ANNUAL CONVENTION OF THE ARCHITECTURAL LEAGUE OF AMERICA.



Weather heralded the commencement of the Second Annual Convention, and whether the temperature had anything to do with it or not, certainly there was a warmth to some of the early sessions quite in harmony with the thermometer outside. But as the normal climatic "summer resort" conditions returned to Chicago, so beautiful harmony gradually settled down over the work at its closing sessions.

The organizations formally connected with the League being only about a dozen, the number of official delegates was naturally very small. Something less than thirty, counting all classes, really had any right to take part in the proceedings; although in this respect the rulings of the chair were always the most lenient, and courtesy was extended to all.

The coming of the convention had been heralded with very considerable newspaper enthusiasm, so that it was at first, until the conditions were explained, somewhat dampening to the ardor of visitors to find usually not more than sixty, and probably never over one hundred persons present, including delegates, local members and outsiders. Yet the enthusiasm and intense interest of the delegates themselves was as plain as it is unusually in gatherings of this kind, and stray visitors rarely withdrew when once they were in the hall. Most every session had a few ladies among the audience.

The regular sessions were held, by the kindness and courtesy of the Art Institute, in the beautiful Fullerton Memorial Hall, and although the space was consequently more than ample, yet aside from the active Architectural Club members the number of Chicago men who appeared was lamentably small, all complaining of dull work, and nothing to do; yet, of the six hundred architects of Chicago, probably not more than a dozen non-members even appeared within the doors, and, as far as known, none of them gave their draughtsmen an opportunity to come!

As a rule, the delegates were a rather unusually sharp, bright and attractive looking set, and represented evidently very faithfully the general make-up of the clubs that they appeared for. The majority were unquestionably draughtsmen or young architects probably with comparatively limited practical experience but certainly with enormous and unbounded enthusiasm for their work and profession as they saw it. The impression (possibly false) would be that many of them, or certainly of their constituents, were not the so-called school-trained men. Partially, probably, because of their enthusiasm, and partially because of their lack of such training, they frequently desired to break over the traces, and would receive with applause condemnation of all design, school, styles and general existing conditions; and yet when it came to a vote upon any particular and specific point, their good American common-sense generally brought them quite squarely to more conservative ideas of even design.

Composed exclusively of young men, their enthusiasm has not yet become "crankiness," and there was far greater energy and interest displayed in the work than is seen at the conventions of the American Institute. Few of the regular delegates missed a single session, and though some of them looked a little hollow-eyed at the conclusion, yet their enthusiasm was, if anything, greater than at the beginning. Such energy cannot fail to redound to the general advantage of the profession at large, and to the good of American architectural design.

The most important work of the convention may be said to have been the adoption of a constitution, thus formally and really completing the organization of the League. But such work, necessitating, as it always seems to, a large amount of wrangling and interminable discussion, was of little interest except to the active participants. Of possibly less actual importance, but of far greater general interest, was the character and trend of the thought and feeling of the convention as evinced in minor discussions, and in the consideration of the papers introduced. From these it was interesting to note how general and widespread was becoming the interest in municipal art, as it is called; from nearly every club represented came reports of either present active work or intentions to commence such work for the beautifying and adornment of our cities, and for the uniting of many elements for agitating this purpose. This feeling here at the convention was also materially fostered by the chance coincidence of another national convention on outdoor art, just closing as the League began its labors, and one evening was devoted to a joint session of very considerable interest, and of no little profit. Views were numerous showing the enormous advantages gained by architectural work when properly, though simply, surrounded by good landscape effects.

In due course, the reports, papers, etc., will all be published, and can be consulted and studied in detail by those so desiring, hence any garbled extracts are unnecessary, but, considered in a general way, the work of the convention at the different sessions is somewhat as follows:—

The sessions were formally opened on Thursday afternoon, about three o'clock, with addresses of welcome. Mr. Kelsey, of Philadelphia, followed with the president's address. He noted that the League had already been officially recognized by leading architectural societies both in this country and Europe. Invitations had been received to attend the Congress of Architects at London, to be held under the auspices of the Royal Institute of British Architects, also a communication from the French government in charge of the

International Congress of Architects to be held at Paris this summer, and of not less importance a request from the President of the American Institute of Architects to appoint a committee to confer with a similar one from the Institute relative to a code governing competitions for design and other matters of mutual interest. He referred to the contemplated formal and definite organization of the League, and urged that it be not made too strict and binding, since obligations were apt to lead to discord. He said that in some quarters there was a false impression that the League had been formed in opposition to the A. I. A., but that he felt that the League's attitude toward that association should be one of deference and respect, and he was gratified to report the old organization had already extended the hand of friendship.

Mr. Kelsey referred at considerable length to the motto, "Progress before Precedent," and held himself accountable for its promulgation, since it had appeared to him to well indicate the sentiment of the Cleveland gathering. Its adoption by this convention was of little concern, if they were alive to the need of relating architecture more closely to the people by rational expression.

Various reports and communications followed, but the main interest centred in considering the action of the Executive Board in voting the "Architectural Annual" as the official organ of the League, and also almost equally the more or less formal assumption of the words, "Progress before Precedent," as the motto of the League.

The delegate from New York at once put on his paint and appeared upon the warpath. Whether from a technical, legal, or parliamentary point, he was almost invariably invincible, and although apparently recognized by the delegates as an intensely disagreeable party, yet he was almost as invariably fully supported. As a result, with only one dissenting voice, the action of the Executive Board and of the president in relation to the adoption of the official organ was repudiated. The motto was explained as never having been legally adopted and consequently could not be said to exist, so it was considered to be dead and buried.

Mr. Cass Gilbert was not present, but his report on municipal improvements was read, together with communications from others upon the same topic.

The Thursday-evening session was devoted entirely to outdoor work and municipal improvements, with papers and views.

On Friday morning there were interesting reports from the various clubs as to their last year's work. That of the Philadelphia T-Square Club, with its "Grub Club," where from twenty to forty members daily lunched at a very small expense and its travelling-scholarship was especially interesting. The Cincinnati Chapter was now preparing, defining and codifying a list of technical terms to more accurately meet disputed questions arising in relation to contractor's work, and all seemed to be interesting themselves in local municipal art improvement work. The feature of the morning, however, was the ovation to Mr. Sullivan, who was present in the audience as a spectator and called upon to address the convention. He was evidently the master, and, as one of the later speakers expressed it, they the disciples, and he was greeted with continued and continued applause, which only stopped as he began his extemporaneous remarks. His main theme was that there were in the world but the "rhythm of growth" and the "rhythm of decay." His English, as usual, was charming, albeit at times quite unintelligible. While very vigorous in his denunciation of books and schools of architecture, and of styles, he certainly scored several good points about slavish imitations.

Mr. Elmer Grey, of Milwaukee, delivered most charmingly an unusually well-written paper on "Indigenous and Inventive Architecture," which was followed by the reading by the secretary of a very timely paper by Professor Trowbridge, of Cornell, upon the "Education of the Architectural Student." While it gave several hard raps to the pet theories of the audience, yet it was good-naturedly, and at several points even quite enthusiastically, received. His main contention was that a good (architectural) school education was the only safe basis for professional success, and that the (rare) genius with his mind trained in these lines could be safely trusted to work upon new and individual lines with taste and skill. Mr. Frank Wright, in his long paper on "Architects," belabored every existing condition and every ordinary practitioner, right and left, up and down, front and back, without any exception either as to practice or design. It was at times quite bright and funny, but such an exaggeration and perversion of (undoubtedly occasionally existing) facts can give but little serious weight to his paper.

Friday afternoon was devoted to riding about the city and seeing the sights, a trip which visiting-delegates were kind enough to say they very greatly enjoyed. Friday evening had in the arrangement of the programme been left without any meetings, but as a matter of necessity, it seemed to be essential to occupy that time also and an evening session was held, mainly for the adoption of the constitution. As expected, this was a long and tedious work, so that it was nearly midnight before adjournment was possible.

Saturday, the last day, was largely filled with routine business, but preceded by several papers. Mr. Benes, of Cleveland, set forth clearly the duties of the societies belonging to the League, especially in relationship to League work, exhibitions, etc. A paper written by Mr. Flagg (who was not present) was read upon "American Architecture as opposed to Architecture in America," where he contended that architecture, like style in dress, was growing more and more cosmopolitan and that eventually the difference between the architecture

of different countries would be in minor detail only, and that if, as at present seemed a fact, the French ideas were the best, and most artistic and practical, so, in the end they would be the leading factor by very force of their superiority.

The "Licensing of Architects," a paper written by Mr. Elzner, of Cincinnati, in opposition to such a system, led to a long series of questions (which could hardly be called a discussion) addressed to members of the Illinois Examining Board who were present, showing that the law in this State was working very satisfactorily. It also incidentally brought out the fact that most of the clubs were more or less favorably interested in probable legislation of this character in their respective States, the Cincinnati delegation seeming to be the only one particularly opposed to such a course.

Owing to the belligerent character of the delegate from the Architectural League of New York, there was expectation of considerable "ginger" in Mr. Harder's paper on "Progress before Precedent." He, however, stated that he had written no paper, but had only come prepared for a very strong presentation against this idea. But as the motto had never officially existed and, at any rate, was in the condition of Mr. Sullivan's Frenchman of Francis I's time (mentioned the day before), who was dead and going to stay dead, he felt as if he were assisting at a funeral of something never born, and consequently had nothing to say. Whereupon Mr. Wight felt that an old epitaph he vaguely remembered, running about as follows, would be appropriate to the occasion:—

"And now that I am so soon done for,
I wonder what I was born for."

The afternoon of Saturday was devoted to the final closing-up of necessary routine business. There were thanks voted to all parties, and the selection of Philadelphia as the next place of meeting, which was a foregone conclusion. The delegate from Toronto presented the claims of his city, but was finally satisfied by most enthusiastic cheers for Toronto and the Queen. For "hygienic reasons," unanimous consent was given to waiving the constitution and fixing the date other than prescribed in that document, so that either May or September are likely to be chosen rather than the date as fixed by the law. In the selection of officers for the following year the election of Mr. Llewellyn, of the city, was received with enthusiasm.

The final adjournment was not until late in the afternoon, and the banquet at the Auditorium Hotel brought the interested ones together again in the evening with the addition of some of the distinguished local architects. The speaking was fully up to the average and possibly should be called brilliant, but certainly there was great enthusiasm, and yet the end, which left all in an amiable frame of mind, was not unwelcome to many tired delegates and entertainers, all of whom felt that the Second Annual Convention had been a great success.

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CHURCH OF ST. VICTOR, MONTESQUIEU-VOLVESTRE, FRANCE. This plate is copied from Baron Taylor's "Voyages pittoresques."

DETROIT BICENTENNIAL MEMORIAL, DETROIT, MICH. MR. STANFORD WHITE, ARCHITECT, NEW YORK, N. Y.

IN connection with the drawings, Mr. White submitted the following report from his committee:—

"To James McMillan, William C. Maybury, James E. Scripps, F. H. Walker and C. L. Freer:

"Gentlemen,—After careful consideration of the proposed sites

and of the suggestions which were made for a monument to commemorate properly the bicentenary of the discovery and foundation of the city of Detroit, your committee is of the undivided opinion that the lower point of the park on Belle Isle in the centre of the Detroit River is beyond question the situation preferable to all others, and offers an opportunity without parallel in the world. A monument erected here would be commanding and significant as on no other site. It would stand as a gateway and beacon to the commerce of the West; and it has been the endeavor of your committee, in the design submitted, to present a monument that preserves this beacon-like character and significance.

"The design contemplates redeeming the flat below the point of the island, carrying Belle Isle down to a point where deep water commences, and at this point the erection of a great Doric column, the highest in the world—surrounded by groups of sculpture in the water—treated in the character of the memorial columns of Classic time, and supporting a tripod which would assume a torch-like character at night by the use of electricity and by a great flame of natural-gas, so characteristic of the West and impossible elsewhere. This light at night would command the river and both lakes.

"The design further contemplates as a support and surrounding to the column a great basin, flanked by flights of steps supporting colonnades, in the centre of which would rest the statue of Cadillac, or a group of sculpture embodying with the statue of Cadillac the story of the discoverers; and upon the connecting esplanade positions are afforded for the future erection of statues of distinguished citizens of Detroit.

"In order that the column should centre on the avenue of trees which now exists on the island, and be seen from one end of the Grand Central boulevard to the other, the present casino would have to be removed, and the avenue of trees connected with the column by a formal rectangular lake, in which illuminated fountains might play at night, and upon each side of which formal gardens are part of the design.

"The removal of the boat-houses and swimming-baths to the upper side of the bridge, and the moving of the ferry to a point in close juxtaposition to but below the bridge, would become a necessity. The scheme as presented contemplates nothing further than the column, basin, and rectangular colonnade and lake; but a new bridge, to be built at some future time, and a new casino, should form part of a full and harmonious plan for the permanent embellishment of the island.

"The present design, however, does admit of the possibility of placing in a secondary semicircular colonnade facing east on either side of the column, the aquarium and the horticultural hall. If this were done, a much finer result could be obtained than by putting these buildings in separate structures. This suggestion, however, does not affect the main plan, which would be complete in itself with or without this additional colonnade.

"The proposition, therefore, practically resolves itself into (1) the engineering work in filling-in at the end of the island, (2) the moving of the casino and the moving of the ferry-house and baths, (3) the erection of the column (the staircase, elevators and torch) and its encircling sculpture, (4) the erection of the basin, platform and steps, (5) the building of the arcade and pavilions, and (6) the laying out of the lake, the fountains and the flower-gardens.

"The estimates do not consider the engineering work, or the removal of the buildings, but cover the balance of the work, which could, on the estimate of reliable contractors, be built within the sum of a million dollars; the column and encircling sculpture and flight of steps alone for the sum of about five hundred thousand dollars.

"Your committee has undertaken the consideration of this memorial with the greatest enthusiasm; they feel that there is here offered an unrivalled opportunity, and that if such a design is artistically and properly carried out, the Detroit column would forever stand as the sign and insignia of the city the world over, and rank with the famous monuments of all time.

(Signed.)

"Respectfully submitted,

"STANFORD WHITE."

Preliminary to the erection of the colonnade and column, an extensive shallow area in the river abreast of Belle Isle, and known as the "middle ground," will be dredged—by permission of the general government, granted two years ago, and at the expense of the municipality, an appropriation for that purpose having already been granted.

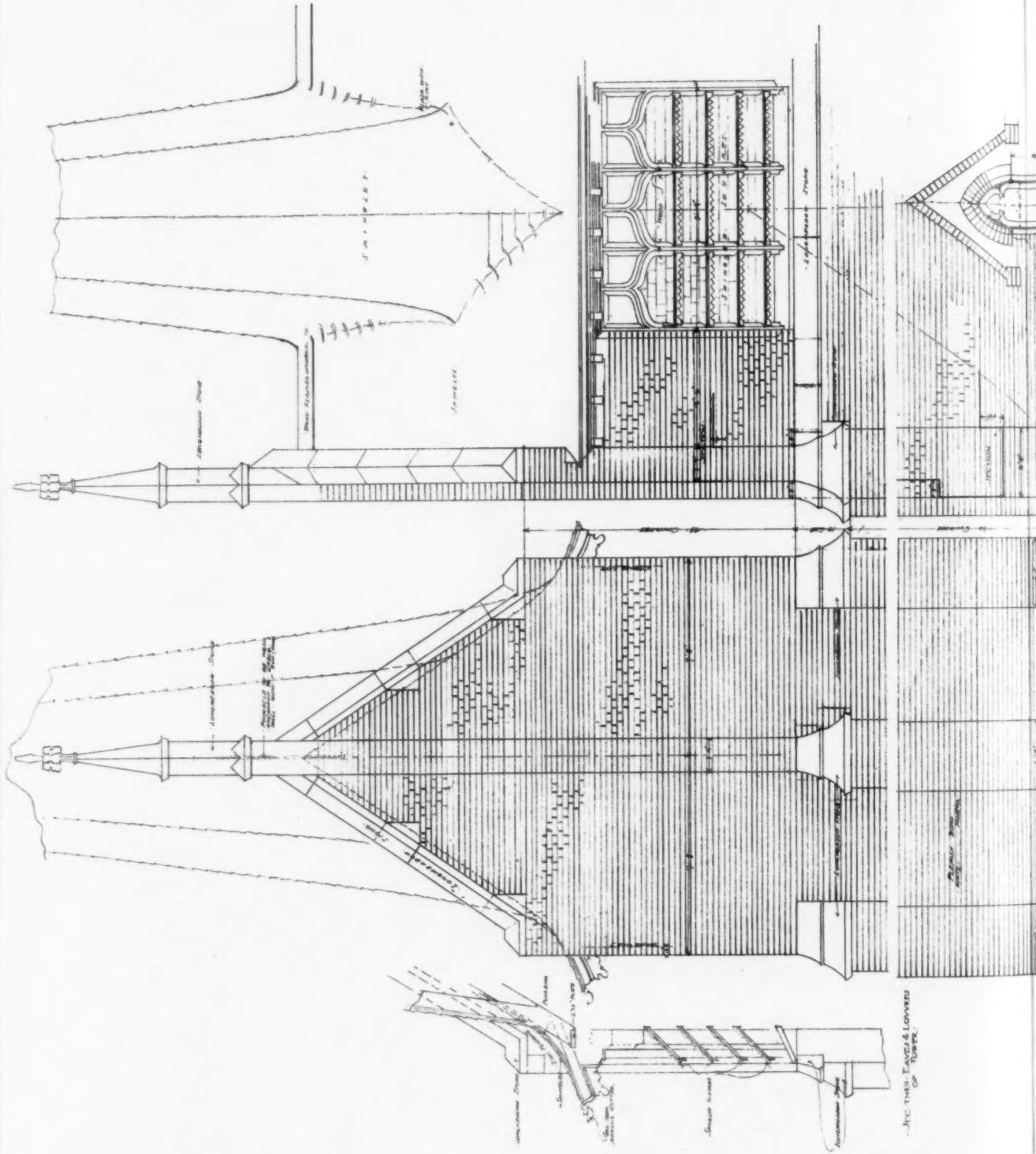
The earth thus obtained will be deposited at the west, or downstream, end of Belle Isle, thus providing, it is estimated, 53 acres additional of "made" land.

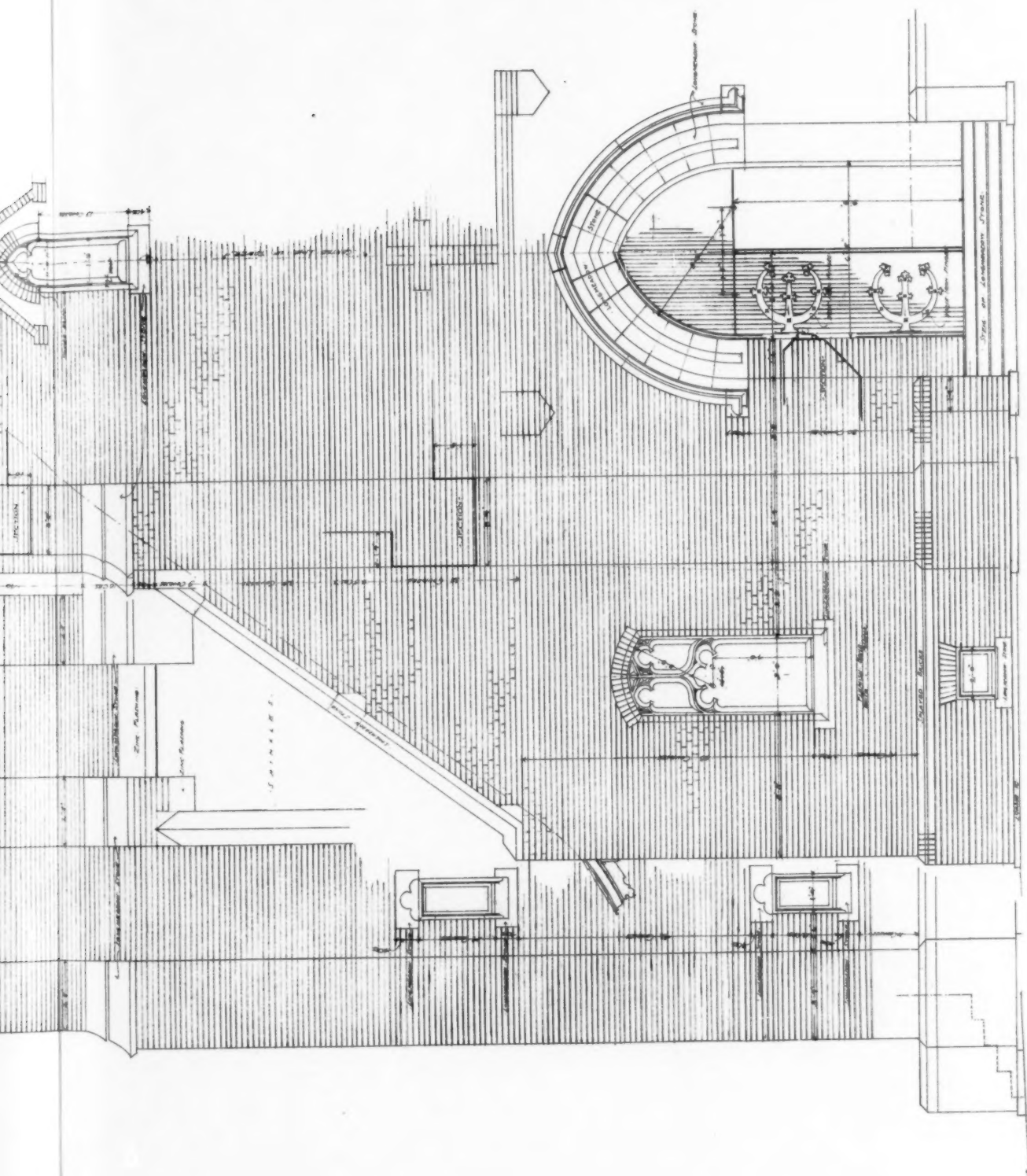
By this means the memorial will be brought exactly to the two-and-one-half-mile circle of the city's area. At this point Belle Isle is 1,400 feet wide, the south, or Canadian, channel of the river being half a mile wide, while the north, or American, channel is 1,300 feet wide. The down-stream prospect from the site of the memorial includes a river of an average width of half a mile extending a distance of 5½ miles, with the city of Detroit on the north shore and the cities of Walkerville and Windsor (Ont.) on the south shore.

NOTE: During the flow of about six miles—all school geographies to the contrary—the Detroit River, as it passes the city of Detroit, flows almost due west. At the extreme western limit of the city it turns, and thence to Lake Erie flows south.

PLAN OF THE SAME.

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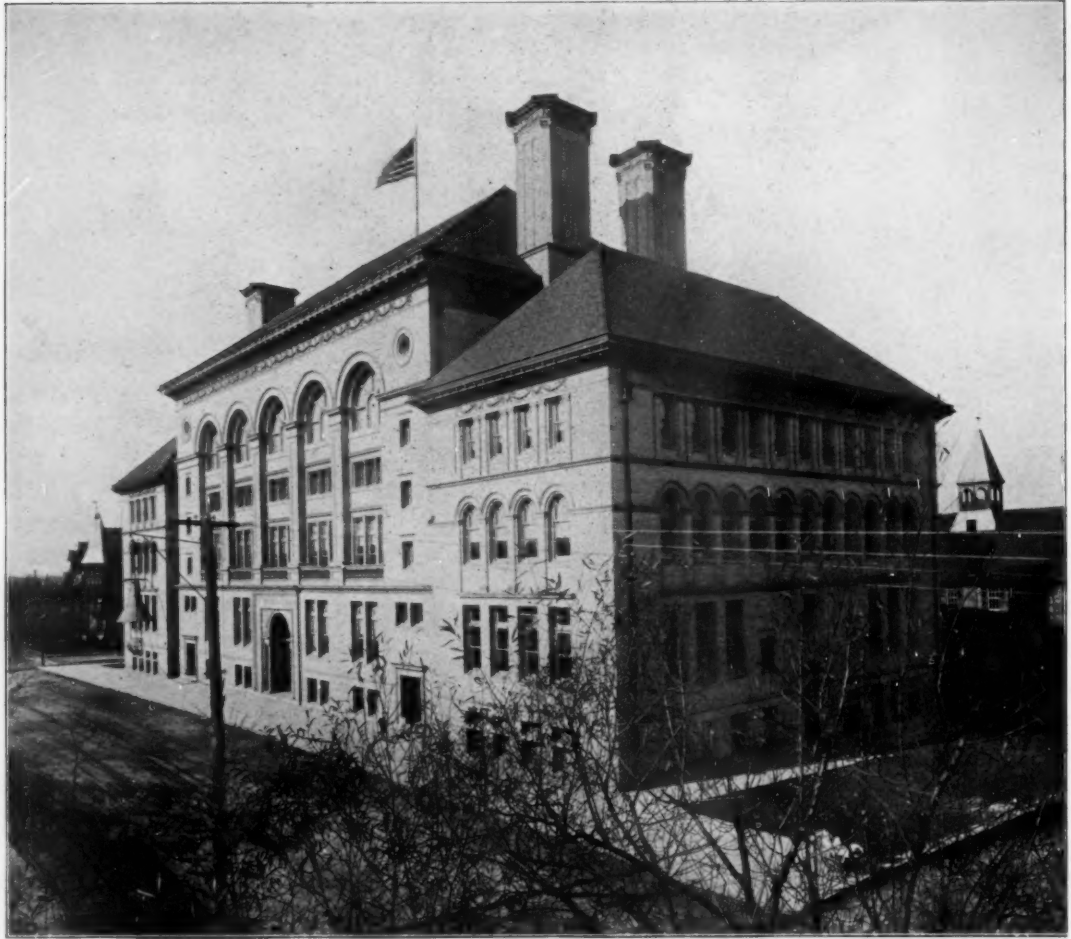




- PART - ELEVATION OF - FRONT -

SIDE - ELEVATION - OF - TOWER -

DETAILS OF CHURCH FOR REV. T. P. LUCEY, NORTHAMPTON, MASS.
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THE FRONT.



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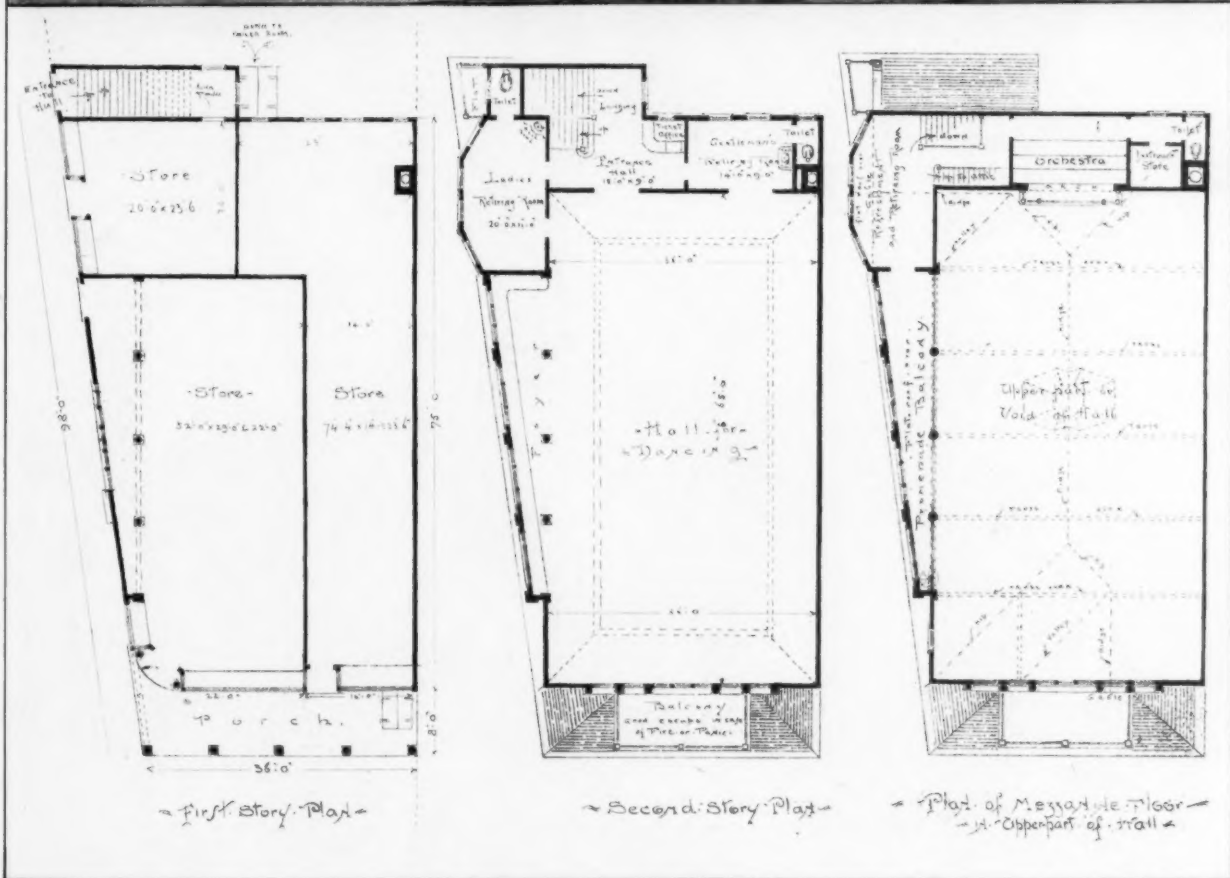
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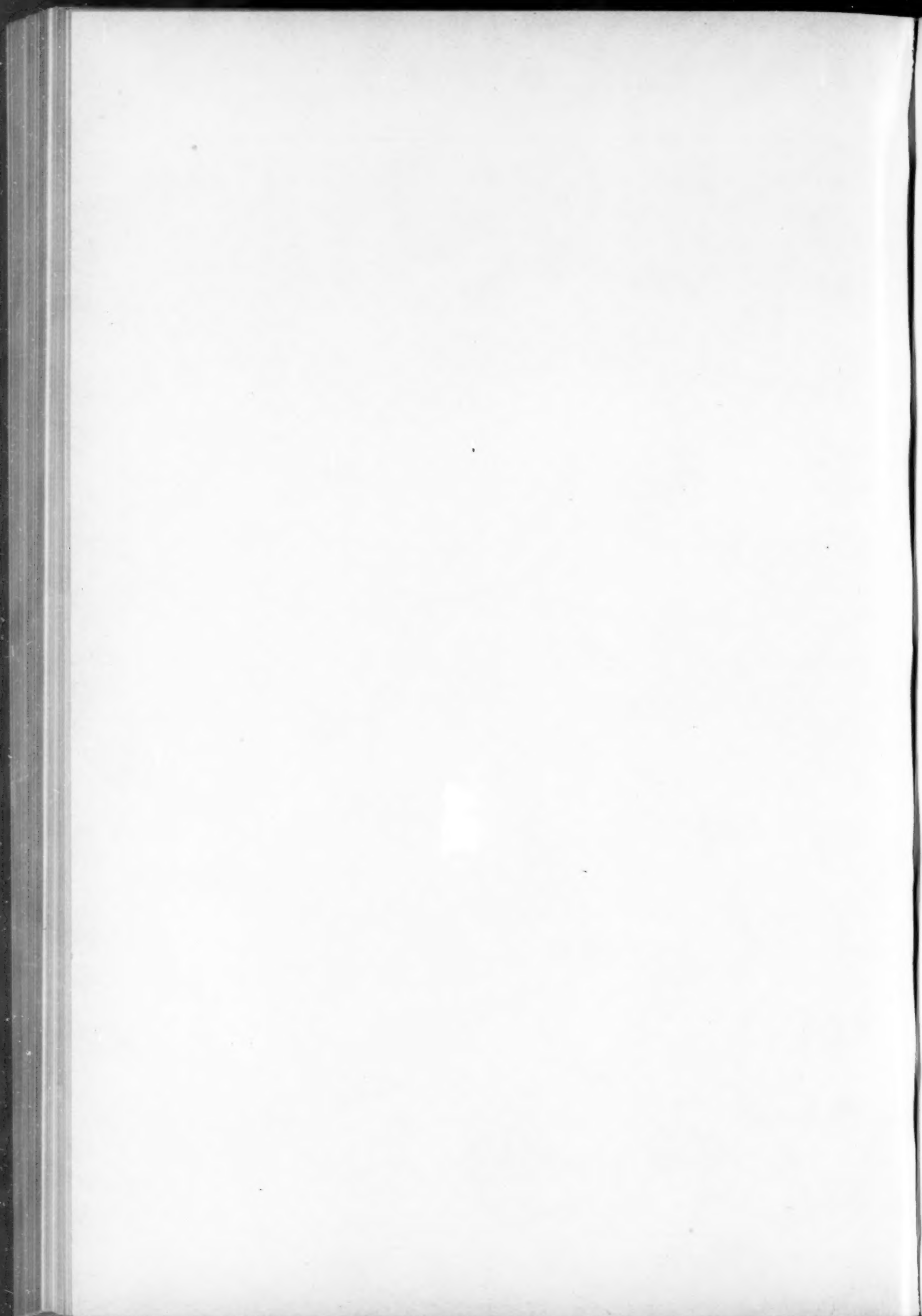
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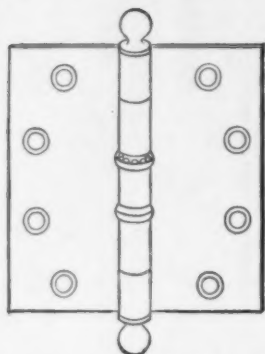
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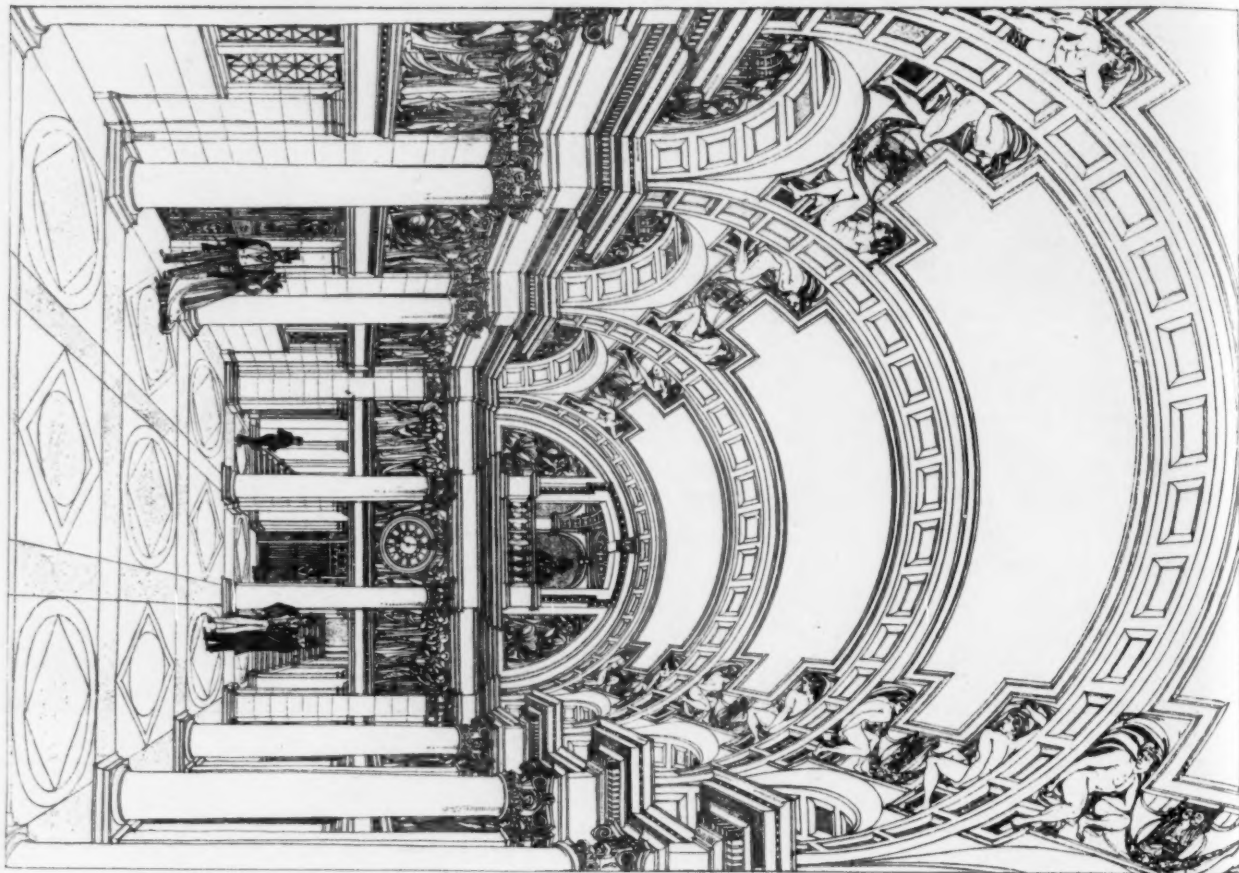
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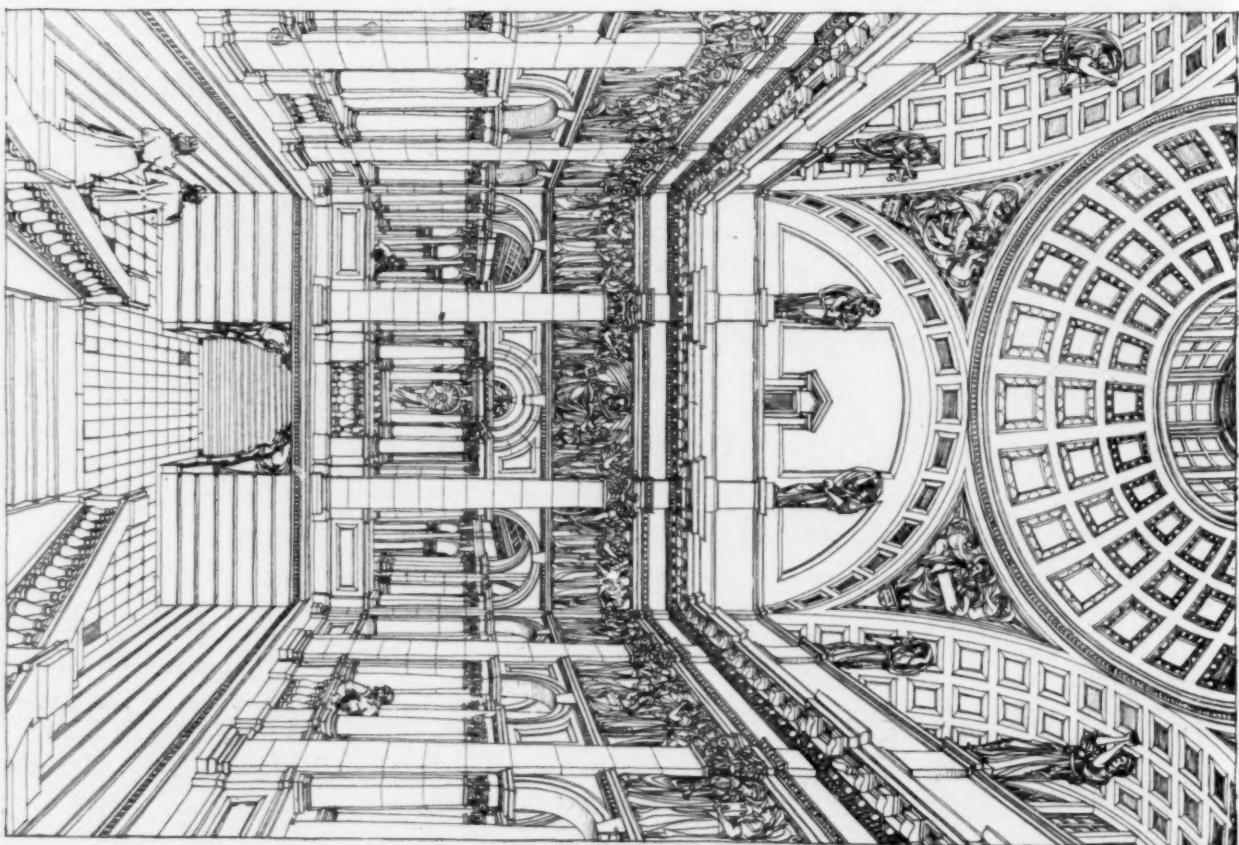
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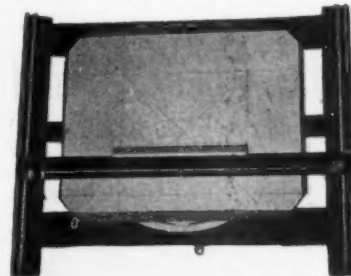
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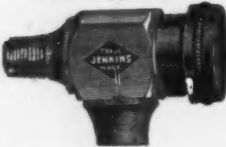
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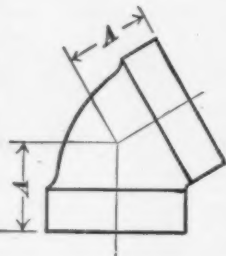
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(Advance Rumors Continued.)

Clarion, Pa.—The Congregational Society contemplates erecting a \$10,000 church.

Detroit, Mich.—Malcomson & Higginbotham are preparing plans for the new H. C. Parke public school building to be located on the corner Milwaukee Ave. and Beaubien St.; estimated cost, \$38,000.

Malcomson & Higginbotham are preparing plans for the new Bellefontaine School on Morrell St., near Fort St.; cost, \$37,000.

Malcomson & Higginbotham are preparing plans for a residence on Jefferson Ave., near the Waterworks, to cost \$12,000.

Joseph E. Mills is preparing plans for a terrace of 8 two-story brick residences to cost \$25,000.

Architect Mills is preparing plans for a brick residence corner Cass and Putnam Aves., to cost \$10,000.

Rogers & McFarlane are preparing plans for the conversion of the Norvell homestead, Jefferson Ave. and Ropelle St., into an apartment-house, E. C. Van Housen, agent.

Nettleton & Kahn are preparing plans for a three-story store, 30' x 60', on Woodward Ave., near John R. St., for Geo. Leadley.

Dubuque, Ia.—Martin Heer, architect, has prepared plans for St. Mary's Catholic Society for an auditorium and society hall. It will be three-story and basement, 63' x 100', with metal or slate roof, costing \$25,000.

Eveleth, Minn.—Tenbush & Hill, Duluth, architects, have plans for a bank building to be erected here, for A. G. Kingston. It will be a two-story structure, 45' x 100'; cost, \$9,000.

Forest City, Ia.—C. H. Johnston, architect, of St. Paul, has drawn plans for the Commercial Hotel Co. for the new building soon to be erected. It will be three-story, brick, 72' x 132'; cost, \$35,000.

Germantown, Pa.—Plans are being prepared by Baldwin & Pennington, Baltimore, Md., for a new college building for St. Vincent's Seminary. It will be three stories high, have two wings, 26' x 30', constructed of brick, stone and iron, and will cost about \$50,000.

Girard, Ill.—George H. Helmle, of Springfield, has prepared plans for a frame church, 54' x 58', for the Christian Society; cost, \$35,000.

Holyoke, Mass.—Gilbert Potvin will erect a large brick tenement block on West St., after plans by Architect W. B. Reed; cost, \$20,000.

Huntsville, Ala.—The Parkhill Mfg. of Fitchburg, will locate a large cotton plant here at an ultimate cost of about \$2,000,000. It will have a capacity of 100,000 spindles divided into ten mills. A bleachery and print work will also be installed.

Laurel, Tenn.—The Laurel Oil & Fertilizer Co., recently incorporated with a capital of \$50,000, will erect an oil mill and fertilizer factory.

Lynn, Mass.—Holman K. Wheeler has prepared plans for the new school-house to be erected on Lynnfield St. It will be two stories and basement high, 53' x 53', and will be built of red brick.

Madison, Wis.—The Wisconsin Building Company has awarded the general contract to erect a four-story and basement building, 97' x 100', to N. Fredrickson & Sons; cost, \$40,000.

Milwaukee, Wis.—Architects H. Messmer & Son are preparing plans for an addition to the factory of F. Prinz. It will be 60' x 70', three-story, of brick and stone; cost, \$15,000.

The Borchert Malting Co. has been organized and will erect a large independent malting plant at once; cost, \$100,000.

Minneapolis, Minn.—F. B. & L. L. Long, architects, have plans for a building to be erected on 8th St., between Nicollet and Hennepin Aves., by A. Knoblauch. It will be 42' x 110', three stories and basement, of pressed brick, cut stone and terra-cotta, gravel roof; cost, \$20,000.

Newburyport, Mass.—Architect Holman K. Wheeler, of Lynn, was successful in the competition to furnish plans for the new twelve-room public school to be erected here.

New Richmond, Minn.—Omeyer & Thorl, architects, are preparing plans for a school-building to be erected here. It will be of pressed brick, cut stone trimmings, two stories and basement, containing six rooms; cost, \$15,000.

New York, N. Y.—A stock company formed of the alumni and friends of the Teachers' College will build a new dormitory for the college, at a cost of about \$1,000,000.

Columbia University has received a donation of \$100,000 for the erection of a students' hall. The new building will be located on Broadway, adjoining the engineering building, and will be 60' x 100'. Schickel & Ditmars, 111 Fifth Ave., have prepared plans for a five-story brick and stone addition, costing \$150,000, to be built to the German Hospital, at Lexington Ave. and 77th St.

Omaha, Neb.—Turnbull & Jones, Elgin, Ill., are preparing plans for a brick church for the Calvary Baptist Society, to cost about \$40,000.

ALTERATIONS AND ADDITIONS.

Montclair, N. J.—Interior alterations & addition to club-house; \$30,000; o., Montclair Club; a., Van Vleck & Goldsmith, 111 Fifth Ave.

New York, N. Y.—W. Fifty-sixth St., No. 13, two-story extension, 10' 6" x 25' 8"; \$6,000; o., Wm. R. Barr, 13 W. 56th St.; a., C. W. Romeyn, 55 Broadway.

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New York, N. Y.—Washington Ave., n. w. cor. 171st St., five-story bk. flat, 50' x 84'; \$30,000; o., Niebuhr & Stadlander; a., W. C. Dickerson, 149th St. & 3d Ave.

Eighty-fourth St., nr. 3d Ave., five-story bk. & st. flat, 25' 6" x 88' 2"; \$22,000; o., Carrie Gault, 485 Columbus Ave.; a., Thos. Graham, 1238 Madison Ave.

W. Eighty-third St., Nos. 328-330, six-story bk. flat, 60' x 88' 2" & 26' 4"; \$75,000; o., Herbert H. True, 2291 Broadway; a., Clarence True, 2291 Broadway.

CHURCHES.

Brooklyn, N. Y.—St. Edward's St., cor. Leo Pl., bk. church & rectory, slate roof; \$80,000; o., Rev. J. F. Meslin, 11 Auburn Pl.; a., F. J. Kelly & Son, 138 Dean St.; b., L. W. Seaman, Jr., & Son, 137 Grand Ave.

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Briarcliffe Manor, N. Y.—Three-story fr. school, 60' x 150'; \$35,000; o., School for Practical Agriculture and Horticulture, Geo. T. Powell, director; a., A. J. Manning, 99 John St.

Chillicothe, Mo.—Two-story bk. high school & library, 73' x 98', slate roof, fan steam; \$20,000; o., Board of Education; a., W. L. Garver.

Chillicothe, O.—Three-story bk. high school, 130' x 140', slate roof, hot air; \$38,000; o., Board of Education; a., Yost & Packard and H. Spielman, Columbus.

Duluth, Minn.—First St., bet. 25th & 26th Aves., three-story bk. school, 71' x 91', slate roof, steam; \$30,000; o., City; a., J. J. Wanzenheim.

Sharon, O.—Two-story bk. school, 38' x 43', slate roof, furnace; \$20,000; o., Board of Education; a., C. A. Stribling & Co., Columbus.

Shelby, O.—Two-story bk. school, 45' x 75', slate roof, furnace; \$20,000; o., School Board; a., Yost & Packard and H. Spielman, Columbus.

FACTORIES.

Brooklyn, N. Y.—Leonard St., cor. Richardson St., bk. foundry, 75' x 101'; \$40,000; o., George P. Smith, 8 Second Ave.; a., H. T. Howell, 138th St. & Brook Ave., Manhattan.

Irving St., nr. Van Brunt St., five-story bk. & st. factory, 50' x 95'; \$15,000; o., Savars Bros.; a., Jno. L. Young, 1221 Fulton St.

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Benson, Minn.—Three-story bk. hotel, 40' x 125', pitch & gravel roof, steam; \$15,000; o., John E. Lee; a., Chas. R. Aldrich.

Dickson, Tenn.—Three-story bk. & terra-cotta hotel, tin roof, steam; \$10,000; o., a., W. T. Anderson.

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Brooklyn, N. Y.—Newkirk Ave., cor. E. 22d St., two-story & attic fr. dwell., 26' 8" x 44', shingle roof; \$6,000; o., M. Moskowitz, 59 E. 79th St., New York.

Garfield Pl., s. s. 189' 1" W. Prospect Park, 3 four-story & base, bk. dwells., 22' x 49', steam heat; \$36,000; o., W. Flanagan, 69 Seventh Ave.

Burlington, Ia.—One-story st. & two-story fr. dwell., \$5,000; o., F. S. Churchill; a., F. R. Comstock, 124 W. 45th St., New York City.

Charleston, W. Va.—Two-story bk. parish-house, 30' x 70', slate roof, hot water; \$25,000; o., Rev. R. D. Roesser, D. D., a., Yost & Packard and H. Spielman, Columbus, O.

Columbus, O.—Two-story bk. dwell., 38' x 45', slate roof, hot water; \$10,000; o., E. B. Steer; a., Yost & Packard.

Bryden Road, 2½-story bk. dwell., 38' x 46', slate roof, hot water; \$9,000; a., J. A. Jones.

Hyde Park, N. Y.—Three-story bk. & st. dwell., 50' x 110'; \$75,000; o., Samuel B. Sexton, 2 Wall St., New York City; a., York & Sawyer, 156 Fifth Ave., New York City.

Mt. Vernon, N. Y.—2½-story fr. dwell., 30' x 47'; \$8,000; o., S. W. Cowen; a., A. G. C. Fletcher, 1133 Broadway, New York City.

Newark, N. J.—Hedden Terrace, 2½-story fr. dwell., 30' x 36'; \$7,000; o., Prof. S. I. Wood; a., MacLagan & Marsh.

Newark, O.—Three-story bk. dwell., 50' x 50', tile roof, hot water; \$15,000; o., H. Swisher; a., W. T. Mills, Columbus.

New York, N. Y.—E. Seventy-third St., No. 22, four & five-story bk. dwell., 23' 7" x 85' 6", tile on cement roof; \$50,000; o., E. N. Herzog, 119 Spring St.; a., Heins & La Farge, 5 Beekman St.

Caldwell Ave., s. w. 500' & 525' 156th St., 2 three-story bk. dwells., 21' x 61'; \$16,000; o., Catharine A. Lavelle, 1354 Prospect Ave.; a., J. H. Lavelle, 1354 Prospect Ave.

Madison Ave., s. w. cor. 78th St., five-story bk. dwell., 30' 10" x 69', copper roof; \$75,000; o., Beulah P. Rollins, 205 W. 57th St.; a., McKim, Mead & White, 160 Fifth Ave.

Ottumwa, Ia.—2½-story fr. dwell., 45' x 60'; \$8,000; o., S. H. Harper; a., F. R. Comstock, 124 W. 45th St., New York City.

Philadelphia, Pa.—Sixteenth and Walnut Sts., four-story & attic st. dwell., 30' x 95'; \$70,000; o., Geo. Hubbs; b., Geo. F. Payne & Co.; a., Horace Trumbauer.

Providence, R. I.—Broome St., three-story bk. & st. dwell.; \$100,000; & two-story bk. & st. stable; o., Alfred M. Coates; a., Ogden Codman, Jr., 281 Fourth Ave., New York City.

Waynesburg, W. Va.—Two-story st. & terra-cotta dwell., 48' x 50', slate roof, hot water; \$15,000; o., A. B. Reese; a., John W. Vester, Washington, Pa.

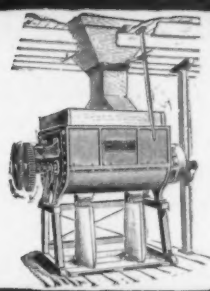
MERCANTILE BUILDINGS.

Charleston, W. Va.—Five-story bk. business block, 60' x 130', slate roof, steam; \$60,000; o., Loewenstein & Sons; a., Yost & Packard, Columbus, O.

Newark, O.—Three-story bk. business block, 40' x 95', tin roof, furnace; \$35,000; o., O. C. Jones; a., C. A. Stribling.

OFFICE BUILDINGS.

Brooklyn, N. Y.—De Kalb Ave., cor. Franklin Ave., three-story bk. office building, etc., 20' x 59', steam heat; \$14,000; o., Geo. L. Fitzgerald, 253 Lexington Ave., Manhattan; a., A. Barabari, 251 E. 116th St., Manhattan.



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BUILDING INTELLIGENCE.

(Office-buildings Continued.)

Philadelphia, Pa.—Broad and Sansom Sts., twenty-story brownst. front & steel construction loft & office building, 76' x 103'; \$750,000; o., Thomas B. Wanamaker; b., Doyle & Doak; a., Jas. H. Windrim.

PUBLIC BUILDINGS.

Fort Dodge, Ia.—Four-story bk. & st. court-house, 94' x 124', slate roof, steam; \$100,000; o., Webster County; a., H. C. Koch & Son, Milwaukee, Wis.

Hamilton, Mont.—Two-story bk. court-house, 64' x 74', shingle roof, steam; \$20,000; o., Ravalli County; a., A. J. Gibson, Missoula.

New York, N. Y.—Bathgate Ave., nr. 177th St., three-story bk. police station, 90' x 94' 8"; block roof; \$90,000; o., City of New York; a., Horgan & Slattery, 1 Madison Ave.

Pelham, N. Y.—Two-story fr. & st. public library, 35' x 50'; \$10,000; o., Town; a., B. H. Simonson, 253 Broadway, New York City.

Philadelphia, Pa.—Germantown Ave., No. 3546, three-story bk. & st. fire-house, 32' x 90'; \$19,000; o., City; b., Harry B. Shoemaker; a., Jos. M. Huston.

STABLES.

Larchmont, N. Y.—Fr. stable, 35' x 70', & paddock, 25' x 70'; \$12,000; o., A. M. Greer, 50 Broadway, New York City; a., Francis A. Rooke, 489 Fifth Ave., New York City.

Fr. stable, 35' x 70'; \$12,000; o., Austin M. Greer, 50 Broadway, New York City; a., Frank A. Rooke, 489 Fifth Ave., New York City.

Massapequa, L. I., N. Y.—Two-story fr. stable & carriage-house, 50' x 53'; \$2,500; o., William Floyd; a., Wm. Diltney, 3 Union Sq., New York City.

Newton, Mass.—Eldredge St., two-story stable, 46' x 47', hot water; \$5,500; o., G. F. Simpson; b., H. H. Hunt.

New York, N. Y.—W. Twenty-second St., No. 530, four-story bk. stable, 25' 8" x 98' 9", tar, felt & gravel roof; \$11,000; o., S. H. Berlin, 440 W. 20th St.; a., Dodge & Morrison, 41 Wall St.

Seventh Ave., nr. 54th St., two-story bk. stable, 25' x 55', tar & gravel roof; \$3,000; o., Ann Duffy, 12 W. 70th St.

Lexington Ave., No. 253, three-story bk. stable, 25' x 59', tar & gravel roof; \$12,000; o., Louis Fitzgerald, 253 Lexington Ave.; a., C. A. Bienna, 216 W. 34th St.

One Hundred and Seventh St., nr. Pleasant Ave., three-story bk. stable, 30' x 99' 3"; \$18,000; o., Jno. H. Meyer, 910 E. 5th St.; a., C. B. Meyer, 1 Union Sq.

Riverside Drive, cor. 106th St., 2 five-story bk. dwells., 30' 11" x 61'; \$95,000; o., b. Stewart & Smith, 70th St. & Broadway; a., R. D. Kohn, 96 Fifth Ave.

STORES.

Boston, Mass.—Tremont St., Nos. 1313-17, fr. store building, 55' x 69' x 71', flat roof; \$6,000; o., Mrs. C. J. Shields; a. & b., James Fagan.

Columbus Ave., No. 1091, three-story bk. store & office-building, 48' x 61', flat roof; \$12,000; o., Geo. C. Conant; b., Chas. King & Co.; a., M. Gulton.

Breckenridge, Minn.—Two-story & base, bk. department store, 66' x 110', pitch & gravel roof, steam; \$20,000; o., Mikeche & Verlin; a., Schuler Bros., Wahpeton, N. D.

Brooklyn, N. Y.—Grand St., nr. Driggs Ave., 2 four-story bk. stores & tenements, 25' x 70'; \$16,000; o., G. F. Laubendorfer, 835 Hancock St.; a., W. B. Willis, 17 Troutman St.

Flatbush Ave., s. St. Mark's Ave., 6 one-story bk. stores, 55' x 75'; \$30,000; o., Louis Schelling; a., Chas. Werner, 26 Court St.

Chicago, Ill.—Belmont Ave., cor. Hayne Ave., bk. & st. store & flats, 25' x 72', comp. roof, steam; \$8,000; o., John Wensler; a., Theodor Steuben.

Cincinnati, O.—Fourth St., nr. Elm St., three-story bk. store building, 24' x 99', asphalt roof, steam; \$12,000; o., Briggs Swift Estate; a., J. G. Steinkamp & Bro.

East St. Louis, Ill.—Two-story bk. & st. trimmings store & flat, 47' x 60', gravel roof, steam; \$6,000; a., A. B. Frankel.

Milwaukee, Wis.—Thirtieth and National Sts., two-story bk. store & flats, 70' x 70', comp. roof, furnace; \$8,000; o., A. Siegfried; a., O. C. Uehling.

New York, N. Y.—Bleecker St., Nos. 26-30, seven-story bk. store & lofts, 69' x 90'; \$195,000; o., V. S. Minnerly, 284 Pearl St.; a., L. F. Heinecke, 192 Bowery.

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(Stores Continued.)

tenement, 46' 1" x 95'; \$42,500; o., L. Kaufmann, 35 Nassau St.

W. Twenty-fourth St., No. 41, eight-st'y bk. stores & offices, 20' 10" x 89' 9"; \$65,000; o., Catharine Walsh, Newark, N. J.; a., F. C. Zobel, 165 Broadway.

Mercer St., No. 133, eight-st'y bk. store & loft building, 29' 5" x 71' 2"; \$60,000; o., C. E. Smith, 149 E. 22d St.; a., H. A. Jacobs, 16 E. 23d St.

Paris, Tex.—Two-st'y bk. & st. store & office building, 54' x 133', metallic roof; \$12,000; o., O. C. Connor; a., W. G. Barry.

Philadelphia, Pa.—N. Eighth St., Nos. 7-13, five-st'y bk. & terra-cotta store building, 78' x 132'; \$13,000; o., Lit Bros.; b., Chas. McCaul.

Eighth St., cor. Filbert St., five-st'y bk. & terra-cotta front retail store, 107' x 150'; \$93,000; o., Lit Bros.; b., Charles McCaul.

TENEMENT-HOUSES.

Brooklyn, N. Y.—Prospect Pl., nr. Grand Ave., 2 four-st'y bk. tenements, 30' x 73'; \$20,000; o., Thos. Monahan, 469 St. John Pl.; a., F. S. Lowe, 186 Remsen St.

Carlton Ave., nr. Park Ave., 2 four-st'y bk. tenements, 25' x 53' 6", tar & felt roof; \$12,000; o., H. Lemmerman, Somerville, N. J.; a., P. B. Marryat, 133 Fifth Ave.

New York, N. Y.—Rutgers St., Nos. 64-66, 2 six-st'y bk. tenements & stores, 43' 4" x 53' 11"; \$70,000; o., Friedman & Feinberg; a., M. Bernstein, 245 Broadway.

One Hundred and Thirty-ninth St., nr. Alexander Ave., 4 five-st'y bk. tenements & stores, 25' x 87'; \$80,000; o., The Gaines-Roberts Co., 667 E. 137th St.; a., H. T. Howell, Brook Ave. & 138th St.

BUILDING INTELLIGENCE.

(Tenement-Houses Continued.)

Broome St., s. e. cor. Orchard St., five-st'y bk. tenement & store, 22' x 55' 2"; \$25,000; o., Mandel & Makransky, 1015 Third Ave.; a., M. Bernstein, 245 Broadway.

THEATRES AND HALLS.

Benton Harbor, Mich.—Two-st'y & base. st. & bk. memorial hall, 40' x 80', slate roof, steam; \$10,000; o., Ladies Relief Corps; a., C. A. Brehmer, South Bend, Ind.

Brooklyn, N. Y.—Graham Ave., cor. Debevoise St., bk. theatre, 100' x 150', felt & slate roof, steam heat; \$120,000; o., Richard Hyde, 22 Eighth Ave.; a., Dodge & Morrison, 41 Wall St., New York.

Dubuque, Ia.—Three-st'y & base. auditorium & society hall, 63' x 100', metal or slate roof, hot water; \$25,000; o., St. Mary's Catholic Church; a., Martin Heer.

Elkhorn, Wis.—Two-st'y bk. & st. theatre & store building, 75' x 112', tin roof, furnace; \$20,000; o., E. H. Sprague; a., H. C. Koch & Son.

New York, N. Y.—Lexington Ave., nr. 101st St., three-st'y bk. hall, 90' x 150'; \$80,000; o., A. Goldstein, 118th St. & St. Nicholas Ave.; a., Chas. Rentz, 153 Fifth Ave.

WAREHOUSES.

New York, N. Y.—E. Eighty-second St., Nos. 603-609, three-st'y bk. warehouse, 33' x 119', tar & gravel roof; \$26,000; o., & a., Godfrey Knoche, 501 E. 71st St.; b., Colonial Construction Works, 516 E. 72d St.

MISCELLANEOUS.

Boston, Mass.—N. Harvard St., three-st'y fr. boat-house, 96' x 138', pitch roof, hot water; \$40,000; o.,



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COMPETITIONS.

TOWN-HALL.

[At Glens Falls, N. Y.]

Plans and specifications will be received by the Board of Trustees until June 18th, for a town-hall. T. I. DILLON, clerk. 1277

PROPOSALS.

HIGH SCHOOL.

[At New York, N. Y.]

Sealed proposals will be received by the Committee on Buildings of the Board of Education until June 18, for erecting new Girl's High School in the Borough of Manhattan. RICHARD H. ADAMS, et al., Committee on Buildings. 1277

ADMINISTRATION BUILDING.

[At New York, N. Y.]

Sealed proposals are wanted until June 21, for erecting the administration building at the penitentiary, Blackwell's Island. FRANCIS J. LANTRY, commissioner. 1277

HIGH SCHOOL.

[At St. Paul, O.]

Proposals will be received until June 18, for erecting a high-school building. C. E. SNYDER, clerk. 1277

ASPHALT PAVEMENT.

[At Washington, D. C.]

Sealed proposals will be received until June 24, 1900, for paving various streets and avenues with sheet asphalt. H. B. MACFARLAND, JOHN W. ROSS, LANSING H. BEACH, commissioners, D. C. 1277

SCHOOL-HOUSE.

[At Buffalo, N. Y.]

Sealed proposals will be received until June 18, for the erection of a school-house. CHR. ZOGG, secretary. 1277



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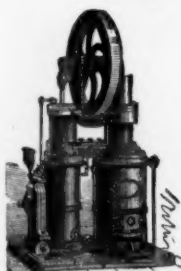
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PROPOSALS.

HOTEL.

[At Niles, O.]
Sealed bids will be received until June 23, for the erection of a four-story brick hotel. CHARLES S. PEW. 1277

CHURCH.

[At Waterloo, Ia.]
Sealed proposals will be received until June 20th, by St. Joseph's Catholic Society for the erection of a church. BUILDING COMMITTEE. 1278

SCHOOL-HOUSE.

[At Cedar Falls, Ia.]
Sealed bids will be received until June 26th, for the erection of a school-building. W. T. M. AITKEN. 1278

FIREPROOFING.

[At Washington, D. C.]
Sealed proposals for fireproof floor, ceiling and roof construction, and for electric hoists, will be received until July 5, 1900, at U. S. Engineer Office, 735 N. Capitol St., Washington, D. C. JOHN STEPHEN SEWELL, lieutenant, engineers. 1279

OFFICERS' QUARTERS.

[At West Point, N. Y.]
Sealed proposals, in triplicate, will be received here until July 5, for construction of two officers' quarters, as per plans in this office. Address Q. M., U. S. M. A. 1279

Treasury Department, Office of Supervising Architect, Washington, D. C., June 7, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 23 day of July, 1900, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the N. W. extension of the U. S. Bureau of Engraving and Printing, Washington, D. C., in accordance with the drawings and

PROPOSALS.

specification, copies of which may be had at this office, or at the office of the Superintendent at the Bureau, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1278

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 9, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of July, 1900, and then opened, for furnishing the heating and ventilating apparatus, complete in place, for the U. S. Custom-house and Post-office building at Bristol, Tenn., in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Bristol, Tennessee, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1278

Treasury Department, Office Supervising Architect, Washington, D. C., June 9th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of July, 1900, and then opened, for the erection and completion (except boilers and gas-fixture) of the boiler-house and stack for the U. S. Marine Hospital at Cleveland, Ohio, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Custodian at Cleveland, Ohio. JAMES KNOX TAYLOR, Supervising Architect. 1278

Treasury Department, Office Supervising Architect, Washington, D. C., June 1st, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 6th day of July, 1900, and then opened, for the alterations and additions (except electric wiring and conduits) to the U. S. Post-office Building, Springfield, Massachusetts, in accordance with the drawings and specification, which will be furnished at the discretion of the Supervising Architect on application at this office or at the office of the Postmaster, Springfield, Mass. JAMES KNOX TAYLOR, Supervising Architect. 1277

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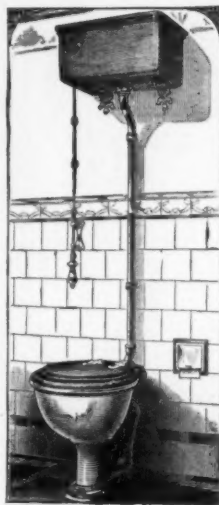
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PROPOSALS.

HOSPITAL BUILDINGS.

[At Athens, O.]
Sealed proposals will be received by the Trustees of the Athens State Hospital until June 23d, for an infirmary and an amusement building. E. H. RORICK, sec. 1277

CHURCH.

[At Anoka, Minn.]
Sealed proposals will be received until June 30th, for the erection of a church for the First Baptist Society. JOHN GOSS. 1278

SCHOOL-HOUSE.

[At Aneta, N. D.]
Sealed proposals will be received until June 26th, for the erection of a school-house. J. G. GUNDERSON, pres. 1278

SCHOOL-HOUSE.

[At Easton, Minn.]
Sealed proposals will be received until June 18th, for the erection of a school-house. REV. MR. LESCHES. 1277



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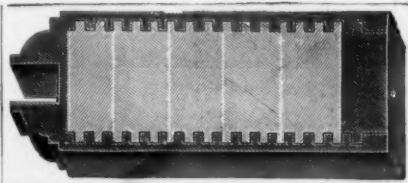
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Prepared in Conformity with the Best Standards of Practice, and Recommended to its Members by the Boston Society of Architects, was . . .

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 drawings or other services "on approval" and without adequate pecuniary compensation.

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

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

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

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

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

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

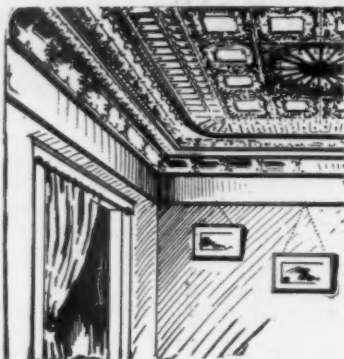
SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot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

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

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

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

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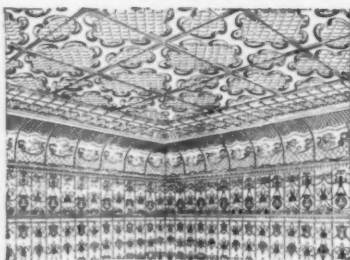
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