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CONTENTS

WE publish in another column a letter from Dr. von der Hude, President of the Society of Berlin Architects, in relation to the Protestant Church-building Congress, which corrects our statement of January 27, in regard to the date of the meeting. The Congress will assemble in Berlin, May 24, instead of at Easter, as was originally intended; and Dr. von der Hude sends a cordial invitation to Americans who may be interested in the subject to participate in its deliberations. He encloses, also, a circular letter on the requirements of Evangelical-Lutheran churches, prepared by Dr. von Lechler, Ecclesiastical General Superintendent in Ulm, which presents so much interest that we translate it at length. Dr. von Lechler's suggestions have an air of authority which architects here are not much accustomed to; and the fact that railway-stations are often built in three parallel divisions, and that Solomon's Temple may have been built so, does not furnish such convincing proof to our mind as it does to that of the learned prelate that this is the most suitable arrangement for modern ecclesiastical structures. However, the practical suggestions are certainly of value, and, although our architects may have their own ideas as to the objectionable nature of stained-glass, or the peculiarly Protestant sympathies of the Old-German Renaissance, they will be glad to know what the German clergy think on the subject of chancels and altar-crosses, pulpits and galleries. In regard to the last, particularly, there is a curious difference between the German churchmen and the English. Most of our readers know that there is in England a Church-building Society, which encourages poor congregations to provide themselves with churches, by advancing money, generally in the form of a loan, at a low rate of interest, to congregations which have, with due effort, only been able to raise a part of the sum required. This Church-building Society publishes a set of rules, such as it thinks should be observed in the erection of a church, and enforces them by refusing absolutely to make any grant of money in cases where any of the rules are violated. One of the inflexible stipulations made by the Society is, or was, when we inquired into the matter, that no grant should be made to any church with galleries. Dr. von Lechler's other idea, that the pulpit should be placed in the middle of the chancel arch, where it would cut off the view of the altar from the large part of the congregation, to say nothing of having the clergyman turn his back upon the Sacrament during the greater part of the service, would, we imagine, find little favor among churchmen, either in England or America; while his device for sending the preacher's voice forward, by hanging a curtain behind him, across the chancel arch, during the sermon, and drawing it back afterwards, is curiously foreign to our notions. All this, however, only serves to show how useful the Berlin Congress is likely to be, in enabling people of different shades of the same creed to compare ideas. Mr. Micklethwaite, for example, could defend very convincingly the English plan, of placing the pulpit at the side of the chancel arch, where, with all deference to Dr. von Lechler's opinion, we believe it to be far better situated, acoustically, than in the middle of the chancel opening, particularly for a cruciform church; and Professor Aitchison, perhaps, could present some views on the adaptability of domes to Protestant churches, particularly to those intended, as Dr. von Lechler prefers, to be lighted from the roof, which would relieve them of what we think to be the prelate's unjust reproach. Such discussion, particularly if illustrated, as it should be, by good interior photographs of modern churches of the different types, could not fail to be extremely interesting, not only to architects and clergymen, but to the public.

DURING these rather dullish times, which now seem on the point of changing their character for the better, the draughtsmen have been sufferers together with all others connected with the building interests. Of draughtsmen there are two distinct classes, those whose weekly wage is an absolute necessity for their existence, and those to whom, thanks to their private means, it is a matter of comparative indifference. For the first class there is no help but patience, industry, and economy. To the second class this period of enforced inactivity has offered a grand chance for study and self-improvement, of which many have not been slow to take advantage in various ways. To a certain number of these there is now offered a rather unusual opportunity and we strongly commend it to their attention. A certain period of travel abroad is a very desirable factor in the education of one who desires to practise the art seriously, particularly if such travel is done in a purposeful and not a desultory manner, and if any draughtsman has saved enough to make a trip he can better spare the time now than when work is in full swing again. It is possible that there are many who have saved enough for such a trip and are only deterred from taking it because they do not feel sufficiently "up" in the Continental languages to be willing to venture off alone, knowing that many of the places they would like to see are off the beaten line of travel, where one not conversant with the language is rather the victim than the master of circumstances. Still, what one cannot do alone he can do successfully in company with others whose accomplishments supplement his own deficiencies.

THE bicycle trip which a number of young architects and draughtsmen made through the Valley of the Loire a year or two ago was a very successful thing of its kind, but it was rather a holiday than a serious affair. A trip of a very different kind and of the most serious character is now projected by Professor A. D. F. Hamlin, of Columbia College, who proposes to conduct a party of a dozen or fifteen young men, who are willing to do serious work, over a portion of Italy for the sake of studying the architectural works of the Renaissance period. During the entire period of the trip a definite line of instruction and study will be pursued, though not to such a degree as to interfere with the reasonable freedom of the individual student who can, if it seems best to him, at times form a flying column all by himself, investigate some town not visited by the party and rejoin it with a report. The party is to rendezvous at Naples early in June and spend the time between then and early October about as follows: a week with Naples for a centre; a month with Rome for a centre, and a month with Florence for a centre; the rest of the time being spent between the cities of Northern Italy. The expenses for the entire trip will, according to personal habits and means, vary from five hundred to twelve hundred dollars, while the tuition-fee for the entire trip will be one hundred and fifty dollars. More detailed information concerning this trip, which promises unusual advantages, can be had by addressing Professor Hamlin at Columbia College, New York.

IT has long been a teaching of popular science that a common cause of the bursting of steam-boilers is that the water is allowed to get low in them, so that the sides, or tubes, thus exposed, become heated, and the feed-water, being incautiously turned on while the boiler is in this condition, and coming in contact with the overheated surfaces, suddenly develops so much steam that the safety-valve cannot open quickly enough to relieve the pressure, and the boiler explodes. A common lecture experiment, to illustrate this theory, consists in heating, over a spirit-lamp, a copper flask, closed by a cork, through which is inserted a small tube. When the tube is red-hot, water is poured in through the tube. At first, there is little or no apparent result, the water being kept away from the hot metal, in what is known as a "spheroidal" condition, by a film of steam between it and the heated surface, just as drops of water run over the top of a red-hot stove, without boiling away. As the temperature of the copper flask falls, however, a moment comes when the isolating film of steam is no longer formed. The water then comes in contact with the metal, and boils violently, expelling the cork with such force as to suggest a boiler explosion. Reasoning from this experiment, it is assumed that boilers allowed to run dry may become so hot that water, suddenly admitted to them, may even take for a moment the "spheroidal condition," only to burst more violently into steam a moment later; and the accidents which frequently take place, particularly in England, from the bursting of the water-fronts of ranges, are attributed to this cause. It is easy to fit to the water-fronts small safety-valves, which are made and sold for the purpose; but the believers in the "spheroidal" theory discourage the use of them, on the ground that no safety-valve can open quickly enough to relieve the pressure due to the sudden formation of steam by contact of water with a very hot surface.

THE London *Engineering*, which has come across a letter in the *Lancet* rehearsing this well-known piece of science, takes its author rather sharply to task for not knowing better than to repeat fallacies of this kind, gathered from old-fashioned text-books, but contradicted by actual experience. It says that, so long ago as 1867, the Manchester Steam-Users' Association made experiments on "kitchen-boilers," answering to our range water-fronts, and have since repeated them with a large Lancashire boiler, and have not in a single instance succeeded in producing anything like an explosion in the manner indicated. In fact, as *Engineering* points out, the latent and specific heat coefficients of water being large, while its conducting power is small, there is no method known by which a large quantity of water can be instantaneously converted into steam. In the case of a boiler, the specific heat of iron being only about one-ninth that of water, a large amount of hot iron is necessary to heat a comparatively small amount of water. According to the "spheroidal" theory, cold water in a red-hot boiler is kept away from contact with the iron by the film of steam until the temperature falls to about 400° Fahrenheit. Supposing the temperature of the water admitted to be 60°, it would take more than four pounds of iron, at 400°, to raise one pound of water from 60° to 212°, and even then the increase in temperature would be by no means instantaneous. In practice, the Manchester experiments show conclusively that the generation of steam, by turning fresh water into a hot boiler, never takes place with explosive violence; and *Engineering* challenges the *Lancet* to produce the particulars of a single case in which the explosion of a boiler has been proved to be due to the rapid generation of steam caused by the contact of cold water with over-heated surfaces. So far as kitchen-boilers are concerned, at least, the Manchester experiments are conclusive. In these, a cast-iron boiler, weighing eighty-five pounds, and having an internal capacity of less than a cubic foot, was fitted with a one-inch supply-pipe, connected with a tank of cold water, with a head of six or eight feet, and a small safety-valve, set to open at a pressure of thirty-five pounds to the square inch, was inserted in the top. There was no other opening in the boiler. This boiler was heated until the greater part of it was red-hot, and lead melted on the top. The cold water supply-pipe was then opened, and a one-inch stream of cold water let in. Not only was there no explosion, but the safety-valve did not open, showing that the pressure did not at any time reach thirty-five pounds, while the boiler could probably have resisted a hundred and fifty pounds without difficulty. This experiment was repeated in many forms, but always with the same result; and Mr. Lavington Fletcher, who made the tests for the Association, concluded his report on the subject by sarcastically observing that "though we failed in exploding the boilers, I trust something may have been done toward exploding the theory that they [the experiments] were instituted to test, a theory which has done so much to perpetuate fatal steam-boiler explosions, by arresting full investigation, and throwing dust in the eyes of coroners and jurors."

LA SEMAINE DES CONSTRUCTEURS gives an account of a lecture, illustrated by lantern views, given by M. Champier, the director of the *Revue des Arts Decoratifs*, at the Conservatoire des Arts et Métiers, on the industrial arts in America. M. Champier's observations seem to have made him an enthusiast on this subject, and even *La Semaine*, "without sharing entirely," as it says, "the lecturer's ideas," declares that "he has revealed to us an America hitherto unknown, the artistic America, full of taste, of poetry and of keen sensibility." Champier had little to say of American exterior architecture, preferring to devote himself particularly to what he called the "art industries" of the United States; and to illustrate these he threw on the screen a series of views of interiors in houses, large and small, which, as *La Semaine* says, "were truly of the deepest interest." "What harmony," it continues, "what original and unexpected pleasantness, what a wealth of good taste in all these interiors!" "After visiting, so to speak, with the lecturer, all these halls, and parlors and libraries, colored throughout, brightened with rugs and hangings of all sorts, filled with porcelains, and cabinets, and exquisitely chosen objects of art, one can understand the disgust of a Frenchman, returning from Chicago, to find again in the Parisian apartments the naked walls, the staring curtains, the monotonous wooden floors, and, especially, the universal whitewash which everywhere covers the ceilings."

TAKING the industrial arts separately, M. Champier found that, in bronze-working, America was yet in infancy; but he discovered that, of late years, there was an encouraging tendency to abandon the queer imitations of "Oriental" or "Empire" designs, and look to natural plants and flowers for inspiration, which, he thought, would soon lead the art to a sound foundation. As for wrought-iron work, this step has already been taken, and he found the art in brilliant progress. The elevator enclosures, stair-railings, iron gates and so on that he saw were to him astonishing in their novel combinations, and inventive treatment, "full of charm and delicacy." In the same way, the silver-work, though still retaining traces of French, Oriental or Japanese flavors, appeared to him to be in process of development into an art truly national. The American porcelain did not, in detail, please the lecturer, but he found a very successful originality in the way in which earthenware was used by architects as a mural decoration for fireplaces, fountains, bars and pharmacies, these last, he explained, being a sort of retail liquor-stores, very much frequented. In conclusion, the lecturer spoke of the enormous progress which had been made by the professional schools, including the American schools of industrial art, every one of which had been established by private effort; and said that, in his opinion, the reason why art industry had developed so marvellously in the United States was because it had been founded on the study of surrounding nature, "the true and only source of art."

THERE seems to be nothing new this week in what the newspapers are pleased to call the "controversy between the Secretary of the Treasury and the American Institute of Architects," but all who know anything about the matter appear to be agreed that, unless there is enough tact available in some source to bring about an immediate reopening of negotiations, nothing can be done to carry out the Tarsney law so long as the present Secretary of the Treasury remains in office. The next thing, therefore, for the friends of decent architecture to do is to make preparations for presenting their views more effectively, and to this end we shall publish next week an important and statistical paper, adequately illustrated, which brings into sharp comparison and contrast the work of Government and private architects. If this does not inspire sufficient horror, the history of the Supervising Architect's office, if half that has been said of it since its foundation is true, would furnish scandals enough to make up the deficiency in a most generous manner.

OFFICE-HELP FOR ARCHITECTS.[1]—XXVII.

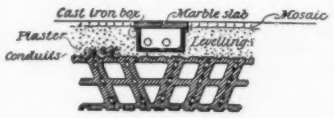


Fig. 133.

§ 331. Top Surfaces: — The consideration of the top or finished surfaces may be divided into two heads: the foundation or rough work and the finished work. The foundation or rough work is preparatory for laying stone, marble, mosaic or tile, or for wood in some form, and the finished work which goes on above the foundation.

§ 332. Rough Work: *Masonry Floors:* — When rough work is merely preparatory for any stone surface, it consists in a levelling up of Rosendale-cement, sand and cinder concrete to within three inches of the level of the finished floor. This concrete should be at least 2″ thick. When for any cause it must be made less in thickness, it should be made of Rosendale-cement mortar No. 2, Table II, and left to set thoroughly. After the concrete has thoroughly set, and immediately before the tiles are to be laid, the upper surface should be spread with Portland-cement mortar No. 2, Table II. All gas-pipes, electric conduits, etc., should be laid previously to the spreading of the concrete, and the space around them for one-half an inch filled with gauged mortar or plaster-of-Paris. Then the concrete filling should be laid and rammed so as to have the top of the concrete 1″ above the highest fitting. If horizontal runs of steam-pipes are absolutely unavoidable, light cast-iron boxes should be built-in with a curbing but no top (Fig. 133), the curbing being made 1¼″ below the level of the finished floor so as to receive a marble cover. Vertical openings should be provided for by building-in sleeves of No. 16 galvanized sheet-iron of sufficient size to allow the passage of couplings of the largest size of pipes used (Fig. 134). Ordinarily the openings for steam-pipes should be 5″ × 8″; for plumbing pipes, about 8″ × 10″, and for others to correspond.

§ 333. Wood Floors: — A most satisfactory construction is that shown in Figure 135. The arches are simply levelled off to the level of the top of the beams, and then a 2″ plank under-floor is laid at right angles to the beams, Z-shaped clips securing the planks from moving. The planks should be spaced about ¼″ apart, so as to secure a little ventilation. Channels for conduits and pipes of various kinds and descriptions, where needed, are made by using rebated ends with covering-strips as shown, or by cutting the ends off square and putting in a 1″ × 2″ strip to carry the cover-board. This method of construction requires that horizontal runs of large-sized pipe be avoided throughout, except in the toilet-rooms, where sufficient filling can be placed above the arch to make the offsets needed. It is very much the most economical in weight and cost. Where for any reason this plan cannot be followed, then make the floor-arches level up to the top of the beams with concrete, bedding sleepers 16″ on centres, as shown in Figure 136, clamping them to the beams with Z-shaped clamps, and lay the upper-floor directly on the sleepers. In either case, the floors could be laid continuously over the entire area to be covered without reference to partitions, where the same might possibly be of a temporary character. Permanent partitions should be erected before floors are put down.

§ 334. Finished Floors: *Mosaic:* — Mosaic-work is made of small irregularly-shaped pieces of marble about ½″ square

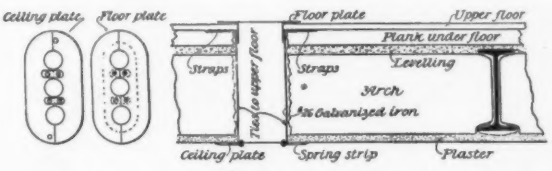


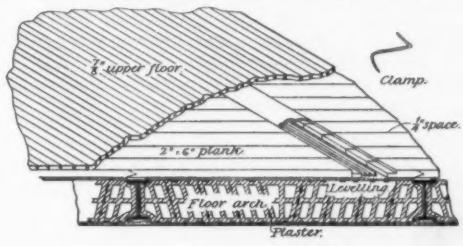
Fig. 134.

and ½″ deep, with one side approximately flat, set in the best Portland cement. In the setting, as the foundations stop at a point 3″ below the level of the finished floor, they must be brought up with Portland-cement concrete to within ⅝″ of the finished floor-line, and then the mosaic is set, well filled with neat Portland cement, and after being thoroughly flushed with water, is permitted to set. After the pieces are set, they are rubbed smooth with heavy stone rubbers and polished with oil. Usually additional Portland cement is spread to within ¼″ of the finished floor-level to bed the stones in. When the mosaic is in patterns, it is pasted on Manilla paper at the shop and then turned down on soft mortar and tamped until the mortar comes up between the joints. Tamping is generally done with rammers of about 10″ × 6″ face, weighing about forty pounds. No piece of mosaic should ever be larger than 1″ square. Mosaic makes the most durable floor that can be laid.

Tiles: — A levelling-up of Portland cement should be laid to within ¼″ of the proposed bottom of the tile. When it has perfectly set, it should be well wet with water, and then new dry Portland cement spread over the surface about ⅛″ deep. Tiles should be thoroughly washed and then laid on the Portland cement in the proper pattern, covering an area as large as practicable, or as can be carefully laid in 20 minutes. Each tile should be carefully bedded and brought to the level of the adjoining tiles, and when a section is completed, it should be washed over with water, covered with boards for three days, and kept from use for at least a week.

Marble Ashlar: — Marble ashlar should be laid in manner similar to that described for the tiles in all respects. Care should be taken to obtain a marble that does not stain with Portland cement, or else Lafarge or Vicat cement should be used to set the material. The marble should be in slabs as large as practicable, sawed on the underside so as to be perfectly plane, and then perfectly bedded.

Concrete: — Concrete may be used for an inexpensive floor in conjunction with a marble border. In this case the filling should be brought up to within ½″ of grade with Portland-cement mortar and the last ½″ surfaced with Portland cement and sand in equal parts, floated up perfectly smooth, and either finished with dabbing or blocked-off into squares or rectangles,



Improved construction.

Fig. 135.

a straight-edge and marking-tool similar to that shown in Figure 137 being used. The effect can be enhanced at a moderate expenditure by putting in a border of colored marble.

§ 335. Finished Floor: *Wood Floors:* — Wooden floors may be of any close-grained wood, preferably quartered or rift-sawn and in lengths of about 14′ 0″. Material should be ⅞″ thick and between 2½″ and 4½″ face, tongued-and-grooved. Oftentimes in purchasing North Carolina pine, the material

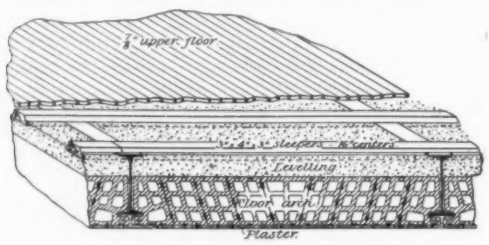
[1] By George Hill, Consulting Engineer. Continued from No. 951, page 126.

ABBREVIATIONS AND SYMBOLS.

= equal to.	∴ therefore.
∥ parallel to.	□′ square feet.
÷ divided by.	□″ square inches.
× multiplied by.	8# read 8 pounds per lineal foot.
+ added to.	[channel bar.
a^2 a multiplied by itself.	I I-beam.
$a > b$: — a greater than b.	T T-iron.
$a < b$: — a less than b.	L angle iron.
$\frac{a}{b}$: — a divided by b.	⊥ deck beam.
	● round section.

I ton = 2,000 pounds as this is the conventional ton, the legal ton is 2,240 pounds, but is rarely used.
l = the length between supports of any beam or girder or height of any column, always in feet.
b = breadth of any beam or girder, always in inches.
d = depth of any beam or girder, or the least transverse dimension of any column, always in inches.
L = total load uniformly distributed coming on any piece in pounds.
L^{pf} = " " " " per square foot in pounds.
W = concentrated load on any piece in pounds.
s = span of any arch or truss between centres of end pins in feet, or spread of footing courses.
A = area of any section in square inches.
M = maximum bending-moment in inch pounds.
n = distance of centre of gravity of section from either top or bottom edge in inches.
I = moment of inertia, neutral axis through centre of gravity.
R = moment of resistance of section.
r = radius of gyration, in inches.
Sc = safe compressive strain in pounds per square inch.
St = " tensile " " " " " " "
Ss = " shearing " " " " " " "
S = strain per square inch in extreme fibre.
P_e = upward reaction of support at left-hand end of beam.
P_f = " " " " " right " " " "
e = distance of centre of gravity of load from left hand of beam.
f = " " " " " " " " " right " " "

can be purchased by calling for "clear heart and sap North Carolina pine, $\frac{7}{8}$" thick, 2½" to 4½" face, tongued-and-grooved," and then sorting the rift-sawn stuff for the halls, and using the balance elsewhere. The usual widths are such that two widths of the narrow boarding make one width of the wide



Ordinary construction.

Fig. 136.

boarding. This is extensively used in the South. To resist wear, Michigan sugar-maple is the best; then quartered white oak, quartered Georgia pine, quartered North Carolina pine; then spruce. This indicates the general division. Woods with similar characteristics as to the grain will wear about the same. For carpeting, either spruce or North Carolina pine may be used; the harder woods being difficult to secure the carpeting to, and softer woods being too expensive. Parquetry floors are made by building with blocks of about 10" on a side, $\frac{7}{8}$" thick, veneered on a pine core and used for ornamental purposes almost entirely. Strip floors made without tonguing or grooving should be rift-sawn, very long, and glued-up when laid.

Laying: — All tongued-and-grooved floors should be so laid as to make an angle of 90 degrees with the sleepers or floor-beams; or of 90 degrees with the under-floor where there are no sleepers. They should be tightly strained and blind nailed. The best practice is to lay one or more thicknesses of building-felt between the under and upper flooring and this in general should be done. The thicker the felt the better the result, until the felt shows a thickness of about $\frac{1}{8}$". Strip floors and parquetry floors should be either nailed on the side or screwed to the under-floor, the head of the screw being countersunk and covered with a small wooden button. As soon as the floor is laid, all the floors that are intended to be left bare should be planed and then given one coat of filler and one coat of shellac. Then the floors should be covered with building-paper and boards until the building is ready for delivery. The laying of a floor in a good room should be the last thing to be done, the floor being scribed around all bases, architraves and trim. Immediately on the completion of the floor, the room should be locked up until the building is turned over to the owner.

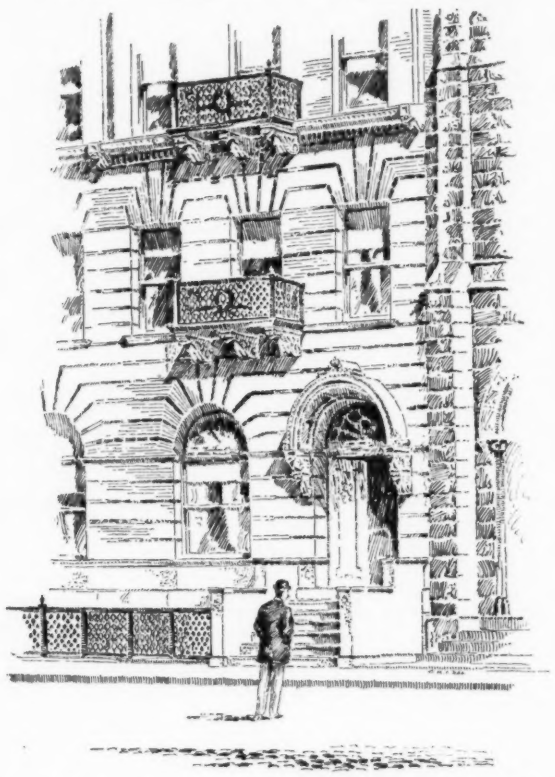
Finish: — Where a very good finish is desired for yellow pine, mix one gallon of raw oil with one pint of turpentine and one gill of dryer. Put it in a shallow pan of galvanized-iron or copper, then prepare a mop of cotton with a large end; soak the mop in the pan, squeeze out the surplus preparation, then apply with a slight rubbing pressure. This dressing should be applied as soon as the floor is laid, giving two coats on separate days. Thereafter one coat a week will keep the floor in excellent shape. For other hardwoods there are a number of excellent wax finishes on the market which are furnished with full instructions as to use.

Fig. 137.

[To be continued.]

Job Lot Architecture. — The following extract from the Louisville *Courier-Journal* indicates that Mr. Carlisle's views on architecture are no more palatable in his native State than they are in Buffalo and elsewhere: "Mr. D. H. Burnham, the Chicago architect, is rather bumptious in his reply to Mr. Carlisle's refusal to have Government buildings erected on plans selected through competition among the various architects in the country. Mr. Burnham was Chief of Construction of the World's Fair, and he thinks he knows a thing or two. We don't pretend to discuss the merits of the contention between Mr. Carlisle and Mr. Burnham, but our sympathies are entirely with any movement that would give us an improved style in the Government buildings throughout the country. They are nearly all equally ugly — outside of Washington, that is — and they all seem to be taken from the same job lot. They look alike, no matter whether they be built in the style of French Renaissance or in the Classic Style. A stranger goes through a town, comes to a particularly pretentious structure whose parts don't hang together, and he at once exclaims: 'Government building.' He recognizes the family likeness. There is a manifest indifference and lack of individuality about Government buildings."

EVANGELICAL-LUTHERAN CHURCHES.[1]



Entrance to Apartment-house, 31st. Street, New York, N. Y. Mr. Charles H. Israels, Architect.

THE following suggestions for the building of Evangelical-Lutheran churches have been formulated by the prelate Dr. von Lechler, General-Superintendent of Ulm.

1. If the Evangelical Church should ask for the principles which should be employed in the building of their sacred edifices, as distinguished from the Catholic and Oriental Churches, it would be necessary, before answering, to consider, from the beginning, the requirements of all the different evangelical confessions; for the evangelical churches are in this point, as in others, partly agreed, and partly of dissimilar opinion. We, therefore, limit ourselves here to the requirements of the Evangelical-Lutheran sect.

2. Perfect stillness, and clear, even though subdued light, form, for the exposition of the Word as well as for the sacred services, the first requirement for which the architect must provide. Every word must be easily heard, every movement of the minister must be easily seen by every person in the congregation.

3. Both these requirements can be fulfilled only when the pulpit and the altar lie in a line, or very near together.

4. Without galleries, the object of collecting as many auditors as possible within the smallest limits of space cannot be attained. Therefore, one or more tiers of galleries are indispensable in every evangelical church-building in a large parish. Windows at the back of the people in the galleries are useless, ugly and inconvenient. Two rows of windows, over each other, are a mere makeshift.

5. It is necessary in building a new church, to provide also for the lesser religious services, and the principal matters of parish life outside of divine service, such as the consideration of parish affairs, the instruction of applicants for Confirmation, and so on; and for these purposes, as well as for sacristies, accommodations should be planned, and considered in the estimates. Such secondary buildings are best arranged on the long sides of the church, occupying their whole extent. Through this means the plan will take a form which is justified by precedent from the most important examples in the history of sacred and secular architecture, such as the Temple of Solomon, the Roman dwellings, the Basilica of Constantine, the German type of dwellings, and railway buildings. The secondary buildings represent the approaches and ante-rooms to the church. In case of need, they serve to enlarge the accommodations for the worshippers at divine service; and through them the church receives the evident stamp of a house for a congregation.

6. By reason of the attached buildings, the side light for the interior of the church will be cut off. The introduction of top-light through the roof is, therefore, unavoidable; but lighting from above is at once the most beautiful and most sensible illumination for an Evangelical church interior. The clerestory windows in the main

[1] Translation of a circular prepared in anticipation of the Evangelical Church-building Congress, to be held in May next, at Berlin.

building, over the roofs of the lower portions, serve for thorough and satisfactory completion.

7. For the Evangelical-Lutheran service a chancel is simply indispensable. The distinction between the Word simply expounded, and that associated with a mystic offering, and the partial superiority of the latter, lead to a desire for a choir, or chancel, as a space divided though not separated from the nave, and raised above it by steps. This raising is necessary, as otherwise the altar would not be visible to every one in the nave. Through the chancel, especially, the church building receives, not only the character of a house for the congregation, but the still higher one of the house of God. The chancel must, from regard to the requirements mentioned in Section 2, be neither very deep, nor much narrower than the nave. The altar should be so placed that communicants can circulate around it, and that the clergy, at the consecration of the Elements, can have their faces toward the congregation, without turning their backs to the altar.

8. On the back wall of the chancel should be placed the high crucifix. The background of this should not be formed by a window. In the consecration of the Elements, the clergy will stand between the crucifix and the altar. [The crucifix on the altar may be dispensed with; it hinders the view from the chancel into the nave, and *vice versa*. Instead of it may be placed the Bible — opened during divine service.]

9. Along each side of the choir chairs are arranged, which are destined particularly for ordinations.

10. The proper place for the pulpit is the entrance to the choir. The position at the angle of the choir is a makeshift, unsymmetrical and æsthetically unsatisfactory. The middle of the choir entrance is the position favored by experience in all other cases of speaking before a large assembly, and especially by the example of the theatre. The only difficulty to be encountered is that of securing a reverberating back wall, and overhead sounding-board. In the absence of a better solution, the provision of a curtain, divided in the middle and shutting off the choir behind the pulpit, might be considered. This curtain would be closed during the preaching, and drawn back afterwards. The suggestion of the story of the Passion, which lay concealed behind it, might be worth thinking of.[1]

11. The font belongs in the same line with the pulpit and the altar. Since its position at the entrance of the church is no longer admissible, its most suitable place is in the nave, in front of the choir entrance.

12. Around the font, the children of age for Confirmation should be assembled, under the eyes of the congregation, in the best place in the church. The seats should be movable, and so arranged that room may be left for the baptisms.

13. The organ can only find room opposite the altar, thus, as a rule, at the west side of the church. It forms the necessary balance to the choir, liturgically, æsthetically and practically. The different divisions of the divine service must have each their special place, where their significance can have proper importance. Under the prearranged disposition of the single parts, a line, varying in height, is formed from the organ straight through the nave, across the font, through the pulpit, choir and altar, to the high crucifix.

14. The division of the congregation into clergy, vestry, heads of families, mothers of families, and so on, should be shown in the division of the seating. For the heads of families, and the young men, the galleries form the proper place, and the nave for the women worshippers. For the clergy and parish officers seats must be assigned both in the choir and the nave, the latter for the preaching and the former for services of consecration, such as investiture, ordination, installation, etc. For the teachers we should like to see a place expressly reserved, either by the organ or in the nave, beside the clergy and vestry. The assignment of places of honor for the secular heads of the community and public officials, so far as they belong to the parish, or have, for solemn ceremonies, occasion to assist at its service, is not contrary to the spirit of the Gospel. The proper place for them is the gallery. The whole seating should be the subject of artistic management, so far as means will permit. In this way the different destination of the seats would be plainly indicated.

15. Domes are an Oriental and Roman ornament, æsthetically luxurious, practically without value, and even injurious. The tower is, and remains, the proper culmination of the building. The ellipse, the form of unity combined with duality, is a more living form than the mere simplicity of the circle.

16. The roof of a church lighted from overhead opens, since it must be, above all, the source of light, a fertile field for beautiful architectural thoughts. Since the Gothic devoted its attention only to the tower, not to the completion of the roof, the termination of the house of God itself, there is here a special place, in which the Evangelical architecture may find opportunity to surpass the traditional Catholic style.

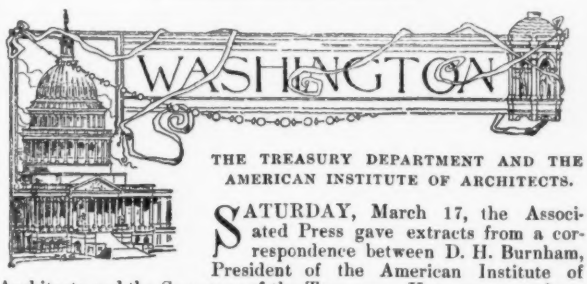
17. A light, dry, well-built basement is, besides affording space for heating-apparatus, valuable for the uses of the church, such as the storing of archives, or other purposes. Compare Spurgeon's Tabernacle.

18. For populous parishes, so long as the accommodations for Divine worship fall short of the requirements, large churches are as necessary as small ones, or even more so. The Spurgeon Tabernacle shows that it is possible to arrange a perfectly satisfactory church auditorium for a congregation of at least six thousand. Single church-buildings of this sort are at all times a necessity in large cities. For such structures the amphitheatral form is perhaps to be recommended, and the arrangement will then be different.

19. The persistent tendency toward the dressing-up of Evangelical churches with gorgeous stained-glass ought to be firmly resisted in the interest of Evangelical simplicity and clearness. The art of glass-staining itself ought to be led more into Evangelical ways, and wall-painting cultivated in connection with it, or instead of it. As for style, the Old German Renaissance will be found most in sympathy with the Lutheran spirit.

20. To the united body of architects and proprietors of buildings the request may be addressed, that they should think of making the interiors of existing old churches, often, with æsthetic views so very unfortunately arranged, more suitable for their purpose, by the introduction of reverberating walls and similar expedients.

[1] If the pulpit is banished to the corner of the choir, a desk for the precentor may be placed on the other corner as a pendant.



THE TREASURY DEPARTMENT AND THE AMERICAN INSTITUTE OF ARCHITECTS.

SATURDAY, March 17, the Associated Press gave extracts from a correspondence between D. H. Burnham, President of the American Institute of Architects and the Secretary of the Treasury. Your correspondent, on the 15th, requested permission of Mr. Carlisle to examine the letters but was informed that they would not be given out.

When the Secretary refused me the desired information, I wrote requesting Mr. Burnham to let me have it, and he sent me the correspondence that had passed between them. The following is a synopsis made without the omission of any of the material points:

About a year ago Secretary Carlisle gave the Institute Directors a hearing and expressed himself as desirous of doing anything that could be done toward getting better buildings for the Government.

The correspondence began with a letter from Mr. Alfred Stone to the Supervising Architect, requesting information and his good will in placing the matter before the Secretary. Mr. O'Rourke answered November 11, 1893, stating that the only reason for deferring action was the fact of the Secretary's being overwhelmed with more important matters and he could not therefore give it his attention.

On January 9, 1894, the Board of Directors of the American Institute of Architects wrote the Secretary a letter in reference to the design of the Buffalo Building, asking that he would use his power to prevent the erection of a building from such a design.

January 17, 1894, Mr. O'Rourke, the Supervising Architect, answered this letter with many flippant remarks on the method of folding, dating and enveloping the enclosure and ended by saying that from its "ill-breeding and being at variance with professional courtesy . . . . based on indefinite and *ex parte* information" he did not believe in its authenticity.

In the memorial of Mr. Burnham, in which the above-mentioned letters are inserted, he proves that the design criticised was taken directly from the Supervising Architect's drawings.

On January 19, 1894, Mr. Stone, in a dignified and business-like letter, wrote to Mr. O'Rourke verifying the authenticity of the letter of January 9, 1894, and stating that it was forwarded by Messrs. Clay and Treat, but that he was not aware whether they did this personally or by letter.

The Treasury Department took no further action. The Executive Committee of the American Institute of Architects, at a meeting called on February 5, 1894, was urged forward by the Buffalo Chapter, the citizens of Buffalo and the profession at large, according to the memorial. The Committee wrote and telegraphed requesting a hearing. When they arrived in Washington they received a note (February 6) from Mr. Van Senden, private secretary to Secretary Carlisle, stating that Mr. Carlisle could not meet them but turned them over to Mr. O'Rourke, who was authorized to confer with them. The Committee did not feel that they could confer with the Supervising Architect until he had withdrawn his letter of January 17, 1894, which they considered an insult to the Executive Committee.

Finally, they were met by Mr. Curtis, Assistant Secretary of the Treasury, and by his advice prepared the memorial of which this is a synopsis:

He [Mr. Curtis] stated that the design of the Buffalo Building had been withdrawn from the Postmaster-General's office, and the work would rest where it was [this was February 6], and furthermore requested them to give the Secretary advice on the following points, as lack of information and light on these points stood in the way of putting the Bill into operation:

1. The cost would be increased by the proposed new method.

2. "Since the Bill was passed, Congressmen have claimed the right themselves to nominate the architects to be employed for each place, and are very generally opposed to the competition system."

3. The Department is requested to proceed with Buffalo and other work to aid the unemployed.

4. No scheme for a competition had been formulated.

Mr. O'Rourke wrote to Mr. Burnham February 6, stating that he had "always been entirely favorable to putting the problem into operation," and that he would be pleased to meet the Executive Committee of the American Institute of Architects.

Mr. Burnham to Mr. O'Rourke on February 9, 1894, stated the impossibility of the suggested meeting before the withdrawal of the letter of January 17, and stated that he was preparing a memorial, because Secretary Curtis said that such a document was desired before taking action on the Buffalo building.

The memorial in question takes up the points raised by Mr. Curtis. There were present at this meeting with Mr. Curtis, Messrs. George B. Post, E. H. Kendall, Charles F. McKim, Arthur Rotch, W. W. Clay and Samuel A. Treat. This committee examined the design of the Buffalo building and determined that it was not possible to make the present design satisfactory by alteration.

The memorial then discusses the points raised by Mr. Curtis, and numbered 1, 2, 3 and 4 in order. It shows (1) that it would cost on the face of the reports one per cent more than ordinary Government work, (2) that the profession and people of Buffalo desire a competition. (3) Shows the mistake of the Secretary in assuming that the people of Buffalo wish the matter unnecessarily hurried. Editorials and other signs prove this. Further, that the competition can be carried through in a short time. (4) The Institute would furnish a scheme for a satisfactory competition and the members would hold themselves in readiness to give advice free of expense.

The memorial also suggests how the competitors should be selected so as to satisfy Congressmen, the community in which the building is to be erected, and the architects who are to compete.

The memorial calls attention to a statement by Mr. O'Rourke that it will take the Supervising Architect's Office, as at present constituted, three and a half years to design the buildings already authorized, hence the need of employing outside assistance.

It requests the Secretary to name a day when the Executive Committee of the Institute may be heard upon the questions covered in the memorial, and makes a further offer of assistance without pay.

As an appendix to the memorial there was added a complete scheme for a model competition, stating the main features of such a competition: designating the names of competitors, the character of information and maps to accompany letter; the character and number of drawings required; the cost of building; style of rendering, brief description, drawings to be submitted under motto with name in sealed envelope; the requirement of a professional adviser who is to examine and select five, from which the Secretary or his assistant shall select one, and appoint the author as the architect of the building at the regular rates; the other four who have premiated designs are to have engrossed testimonials; all drawings to be returned to competitors; all expenses of competition, except that of professional advisor and engrossing, to be borne by competitors.

This memorial was submitted February 14, 1894. On March 6, Secretary Carlisle wrote to Mr. Burnham acknowledging the receipt of the memorial, stating that it did not overcome the difficulties mentioned by Mr. Curtis, and that the memorial was confined "exclusively to elucidating the plan for competition only and leaves without discussion and unsolved all the principal obstacles in the way of putting the act into force."

He said the experiment might be tried with some other building as well as the Buffalo one, and as they were ready to go on with the working-drawings they would not delay on this building while the subject was being given further consideration.

He said further, that "additional legislation would be needed to protect the Government," but stated that this did not indicate opposition, but that he would favor any practical scheme. He also declined to give another interview, unless they were prepared to suggest "legislation that will accomplish the purposes you desire."

March 9, 1894, Mr. Burnham answered the above letter by calling attention to the inaccuracies therein, showing that it had not passed the scrutiny of the Secretary and suggesting that there was a "juggling with words." The letter reviewed the answers given in the memorial to points 1, 2, 3 and 4, and showed clearly that they had been duly considered and legitimately and carefully answered. He asserted that if the measure had the good will of the Department, it could be brought about in a few weeks. Attention was also called to the protestations of the Supervising Architect, that he would do all in his power to forward the matter. Mr. Burnham did not consider the obstacles real ones, and suggested that the only change needed was a clause making the execution of the law mandatory.

This letter Mr. Carlisle answered March 12, 1894, stating, "Your very offensive and ungentlemanly letter is just received, and you are informed that this Department will have no further correspondence with you upon the subject to which it relates or on any other subject."

Unfortunately this action of the Secretary will delay, apparently indefinitely, the era of monumental, cultured and artistic Government architecture, the beginning of which we thought near at hand.

The work at the World's Fair has shown the architects of this country to be capable of producing effects in every respect equal to the best artistic work done in Europe, a fact which I think few people had before realized. Most people were willing to grant that we were equal to European architects in construction, planning and devices for comfort and convenience, but we were thought too utilitarian for proper artistic productions. When the proper men are selected, this has been proved untrue. We had hoped that the time had come when the best men would be selected for each Government building, but under our methods of government this seems to be difficult of attainment.

The Secretary of the Treasury must necessarily be a politician or a financier, or a political financier. His education, associations, surroundings in either case in no way tend to educate him into an appreciation of the beautiful in art or architecture. In such matters he will defer to the Supervising Architect; without a Supervising Architect in thorough sympathy with the movement, nothing can be accomplished. Eventually, I hope, the Government will have a bureau of thoroughly-trained artists and architects, who depend for their position on merit, not on politics, who will select designs for buildings, statuary and painting.

THE PROJECTED RAILWAY STATION ON THE ESPLANADE DES INVALIDES. — M. CÉSAR DALY. — M. CAVELIER. — THE MONUMENT TO GOUNOD.

WE had last year the question of the Opéra Comique and this year we have the question of the Gare des Invalides, which alike interests architects and all those who cannot stand by and see the aspect of Paris and its monuments altered without raising their voices. The several projects for a general Metropolitan railway have not yet met with any success and have had to contend against all kinds of obstacles thrown purposely in their way. But oftentimes what cannot be accomplished as a whole can be effected bit by bit. I have already spoken of the work on the Sceaux Railway, which is prolonged into the very centre of the Latin Quarter by an under-ground line beneath the Boulevard St. Michel, as far as the Sorbonne. The real purpose of this extension is said to be, to reach eventually the Halles Centrales and be there connected with the Moulineaux line which has already been constructed as far as the Champ de Mars near the Eiffel Tower. This junction would take place at the point where the Boulevard St. Michel crosses the Boulevard St. Germain near the Musée de Cluny.

Let us suppose this scheme carried out and then we can see that it would only be necessary to prolong either the Chemin de fer de l'Est or du Nord, as far as the Halles Centrales, for Paris to find itself traversed by three great lines forming junction at its centre. One part of this undertaking is finished practically, and in a few months the Sceaux line will be in operation. At the present moment, attention is centered on the prolongation of the Moulineaux line as far as the Invalides and takes form in a discussion as to where the station of the Invalides shall be placed. People are much agitated lest this structure placed on the axis of the Esplanade, though near the Seine, should injure the effect of the Esplanade itself and of the Hôtel des Invalides. Discussions have been insistent and protests have been numerous. The Société des Amis des Monuments protested, the Société Centrale des Architectes protested, the Société des Architectes deplômés protested, everybody has protested. It was then learned that the station would not be placed on the axis but on one side, under the trees which surround the Esplanade, and that it should not be wholly above ground. But this concession was not enough and it was asked why it could not be a hundred metres farther off to satisfy the demands of artists and art-loving Parisians. M. Berger, Deputy and formerly a Director of the Exposition of 1889, discovered and suggested a possible site and, in January last, supported an interpellation before the Chamber of Deputies. The Minister of Public Works, M. Jonnart, replied, but without making clear what his intentions were; still he declared that he had "not been able to approve of this project, which consists in cutting in the Esplanade des Invalides an open trench ending in a grand station susceptible of important development." This statement was applauded, but it did not prevent speakers from attacking the scheme. M. Trélat, architect and Deputy for the Seine, echoed the protests and demanded that people should respect "the public monuments, consecrate in their beauty by the judgment of generations, which are the riches and glories of the nation. Now the Invalides is one of the monuments of the world, and when we mention the Invalides," he added, "we mean to speak of the grand monument of Libéral Bruant and not of the addition subsequently made by Hardouin

Mansart: not of the dome of the illustrious architect, a dome which constitutes one of the features in the distant views of Paris. . . The Hôtel des Invalides is a monument subject to close perspective effects. It takes its relief and detaches itself from the Esplanade which is just as indispensable to it, as on a painter's canvass are the values of the foreground which stage the subject. The Esplanade was conceived at the same time with the building: it makes with it one integral composition. If you do not respect the integrity of the form of the Esplanade, I mean that superb nudity which gives all its measure to the architectural edifice — which stamps it with importance and solemnity, rest assured, gentlemen, and I affirm it in the name of every architect, you will allow the building due to Libéral Bruant to be dishonored." Incidentally, M. Trélat took advantage of this little lecture on architecture and æsthetics to lament that the façade of the École Militaire still remained hidden behind the Machinery Gallery which was meant to be but a temporary structure, and he indicated his inquietude at seeing a current forming in public opinion which would allow monuments of art to be sacrificed to certain interests, respectable enough, but less imperative than the interest of art. At the close of the discussion it was, on motion of M. Hubert, voted that "The Chamber, satisfied that the Government will know how to care for the urgent needs of transportation without attacking the perspective effect of the Esplanade des Invalides, now passes to the order of the day."

This is still vague and if the propriety of respecting the general effect of the Esplanade is practically affirmed there is no proof that the Government understands these rights as artists understand them. It is a matter of taste, of appreciation, and it is quite justifiable to mistrust the taste and appreciation of the promoters of this railway undertaking — mere men of business, not artists. If the Senate takes up this question, as it is to be hoped it will, I trust that as in the case of the Opéra Comique it will defend the artistic interests of monumental Paris and check, so far as it is possible, a movement which would so wholly sacrifice the grandiose aspect of the capital.

César Daly died January 11 last, at Wissous, a little village near Paris, at the age of eighty-three. He was one of the best known of French architects, having produced a great quantity of precious architectural publications and having travelled in almost every country. His literary and archæological works earned him a place in all architectural, archæological and fine arts societies: to enumerate them all would consume much space, and they would be found in every country. Amongst others he was an Honorary and Corresponding Member of the American Institute of Architects, and in 1892 the Royal Gold Medal of the Royal Institute of British Architects was bestowed on him. In his early youth he lived in England and did not leave it until fifteen years old. As soon as he had finished his studies he entered Duban's atelier. In those days young architects did little travelling and gave themselves little trouble about mathematics, but the native taste of César Daly for science and for travel enabled him to create for himself a wholly individual place in the world, for which he prepared himself by collecting during his travels a mass of sketches and data of various kinds.

In 1839, he founded the *Revue Générale de l'Architecture.* As diocesan architect he restored the Cathedral of Alby. As for his literary works, they are numberless: amongst them may be enumerated "*Les Motifs Historiques d'Architecture et de Sculpture*"; "*L'Architecture privée au dix-neuvième Siecle*"; "*L'Architecture funéraire*"; "*Le Mobilier d'Eglises,*" etc., in addition to his writings in the *Revue Générale.* In short, as M. Daumet, President of the Société Centrale said, he was a man who for more than half a century filled an illustrious place in the ranks of artists and writers.

The sculptors, too, have suffered equally grievous loss in the death of M. Cavelier, Member of the Institute, professor at the École des Beaux-Arts and vice-president of the Société des Artistes Français. He was born at Paris in 1814 and won the Grand Prix de Rome in 1842, having studied under David d'Angers and Paul Delaroche. His most important works are the "Sleeping Penelope," which gained the Medal of Honor in 1849, "Truth" (1853), "Cornelia," "a Bacchante," besides a large number of portrait-busts, amongst which may be mentioned those of Ary Scheffer, Horace Vernet and Duban, and likewise statues of Monseigneur Affre, Archbishop of Paris, Pascal and Napoleon I.

Cavelier, who became a member of the Académie des Beaux-Arts in 1865 and an officer of the Legion of Honor in 1861, devoted his later years to teaching and of those of his pupils who have achieved fame I will name MM. Barrias, Fagel, Allard and Octobre, who won the Grand Prix de Rome last year. To the discharge of his duties as head of an atelier he brought zeal, assiduity, fervor and a good humor which made him beloved and venerated. His charitableness is indicated by the "*legs* Cavelier" which stands at the head of the *livre de charité* of the Société des Artistes Français, for in concert with his wife he devoted a large sum as a fund to give relief to old and indigent artists.

At the death of the composer Gounod, in October, 1893, a committee was organized to procure the erection of a monument to him and the head of this committee, M. Ambrose Thomas, has just asked Mercié to take charge of the sculptural portion and he has accepted, while M. Formigé has been equally willing to undertake the architectural treatment.

THE WORLD'S COLUMBIAN EXHIBITION.

ALTHOUGH we make use of the following extracts from *Engineering* rather late in the day, we think it is worth while to do so, as the writer makes several points of interest. Moreover, what is said here is of weight, in the first place because of the high standing of *Engineering* at all times, and next because it was the only English journal which, so far as we know, gave thorough heed and attention to the World's Fair from the time of its inception to and after its close. No more exhaustive treatment of the Fair and its exhibits can be found than in the voluminous and thorough accounts published in that journal during the past three years.

On Monday, October 30, the World's Columbian Exhibition of 1893 officially closed its doors and is passing into the region of history. During its brief span of life, it achieved great things, and it has come to a termination with an unexpected and undoubted triumph. More than twenty-one millions of visitors passed its turn-stiles, each paying a price for admission unknown at European exhibitions. This enormous aggregate falls far short of the sanguine anticipations many of its supporters confidently held to, six months ago, but, on the other hand, it vastly exceeds what was expected after the Exhibition had been opened ninety days to the public. . . .

If record-breaking be a weakness of the people of Chicago, they should, indeed, be well content. They have held the largest exhibition the world has seen (or is likely to see for many years); they reared the most beautiful buildings on an ideal site; they have expended (and perhaps lost) more money than has hitherto been devoted to any exhibition; they can claim to have met the hardest time and darkest prospects, worse relatively than those of Vienna in 1873, when cholera and panic were hardly such foes as the crashing of banks and the sudden disappearance of colossal fortunes; they can boast of by far the greatest attendance ever realized on any single day; and if their total number of visitors falls short of that of the Paris Exposition of 1889, they will remember that the price of admission was fifty cents instead of fifty *centimes.* The record has been broken, too, in a less satisfactory way by fire and accident: the destruction of the cold-storage building, and the great loss of life attending it, finds no parallel in the history of exhibitions; the ambulance-service was kept busy within the grounds of Jackson Park, and a deplorable loss of life from railway accidents must be laid to the account of the World's Fair. This, indeed, was to be expected, for the many lines centering in Chicago are overburdened with traffic under ordinary conditions, and the extra burdens thrown upon them during the past three months could not be borne without many disasters. . . .

Nothing succeeds like success, and the unexpected turn of events has broken down the hostile feelings that prevailed so long. Instead of criticism comes laudation, well-deserved, though somewhat tardy; the New York papers are now almost as proud of the success as Chicago herself; the annexed extract shows the tone that now prevails:

"Thus has Chicago gloriously redeemed the obligations incurred when she assumed the task of building a World's Fair. Chicago's business men started out to prepare for a finer, bigger, and more successful enterprise than the world had ever seen in this line. The verdict of the jury of the nations of the earth, who have seen it, is that it is unquestionably bigger and undoubtedly finer, and now it is assuredly more successful. Great is Chicago, and we are prouder than ever of her."

Not only has the World's Fair been a "finer, bigger, and more successful enterprise than the world had ever seen in this line;" it will, in our opinion, have more important results than have attended any International Exhibition since 1851. The consequences to Chicago can be imagined, though their extent is not to be gauged. Her greatness will increase, her commercial power will extend, and her relations with the Old World will grow larger every year. The refining and educating influences of the exhibition will be permanently felt, not only in Chicago, but throughout the United States, and the whole nation cannot fail to be richer, better and wiser for the work done by the great central metropolis of the Union. The consequences to foreign nations will, in our opinion, be hardly less fateful. The large crowds expected from Europe did not come, but visitors from this side of the Atlantic partly made up in importance what they lacked in numbers. To-day the power, progress and importance of the United States are understood abroad better than they were ever known before; the possibilities of future foreign trade with the Republic — tariff or no tariff — are more completely realized. Once more, so it seems to us, we have been worsted in the fierce commercial struggle of the world, by neglecting a golden opportunity, of which our most formidable trade opponent, Germany, was not slow to take advantage. Never, at any international exhibition, has any foreign country been so completely represented. The reason was an obvious one — though German manufacturers were, for a very long time, slow to grasp it. Germany has trade to make, and we have trade to lose, with the United States; it cannot be disputed that the display made by Germany will hereafter be the chief memory associated with the exhibits at the World's Fair, and it is scarcely doubtful that the consequences will be promptly seen in the returns of our export trade with America. Germany, however, was not the only country making a splendid record at Chicago;

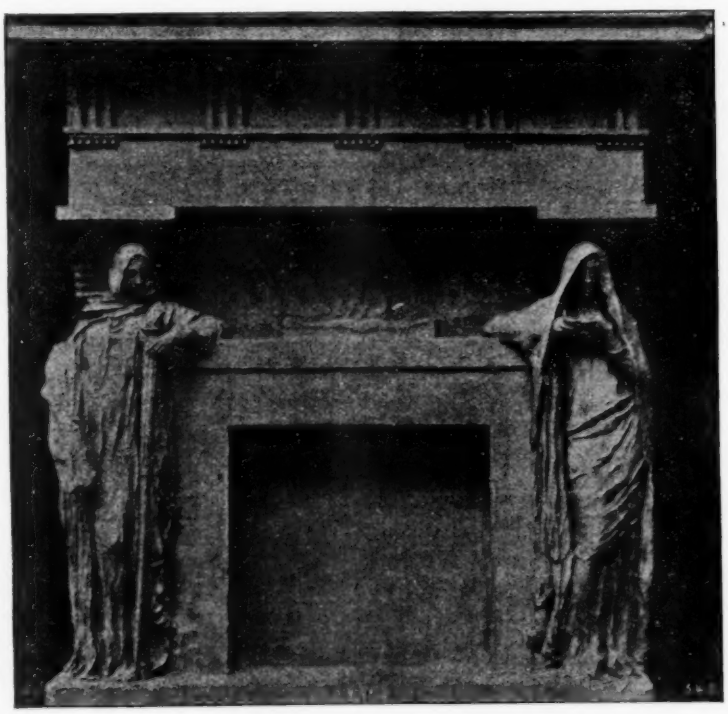
France was nobly represented, while Sweden, Russia, Italy, Spain and Switzerland were prominent among European nations. Great Britain may well be proud of those among her colonies who, wholly at their own cost, took part in the Exhibition. New South Wales made a display worthy of a first-class nation, and Canada came very close behind; Ceylon was represented in a way never before attempted, and several others helped to make good the deficiencies of the mother country. One of the most outspoken utterances on this subject was recently made by Mr. Henniker Heaton, M. P., when visiting Chicago a few weeks since:

"You may say that I am disgusted with Great Britain's exhibit and attendance. The former is puny and in no degree representative. England and Englanders will never have another such glorious opportunity for an international exhibit of their resources and capabilities. I do not in the slightest degree hold Sir Richard Webster responsible for the situation, and Parliament supplied a plenteous fund, but the extent and importance of the Exhibition have been wholly misconstrued and unappreciated in England.

"As for the lack of European attendance or patronage, they have no conception of what they have missed seeing and enjoying. On the other hand, Australia has surpassed herself, and I am proud of her as an English subject. Her exhibit in the Agricultural Hall is marvellously fine and creditable, and in a large measure redeems England's indifference or cupidity."

We imagine there are but few unprejudiced people competent of judging who will not thoroughly indorse Mr. Henniker Heaton's criticisms, and we sincerely hope that this gentleman will not fail, on his return to England, to repeat and emphasize his well-grounded strictures.

For good or ill the opportunity has passed away, but we may yet learn useful lessons, if we choose to do so, from the Columbian Exhibition. Such celebrations, in one country or another, and at short intervals, appear inevitable, and the experience at Chicago ought to be useful on future occasions, especially to exhibitors, who are the most important elements of an exhibition. We think it will be generally admitted hereafter that the World's Fair was on too large a scale; that the exterior of the buildings was too beautiful, and the surroundings too attractive for the well-being of exhibitors, and in this connection we should like to hear from British exhibitors, whether they have been satisfied with their venture, and, if not, for what reasons. . . .



Model for a Fireplace. Miss Caroline C. Peddle, Sculptor. Exhibited at the late Exhibition of the Architectural League.

We are bound to say, though we say it with fear and trembling, that Women's Buildings should be avoided in the future, and that the Midway Plaisance, though it was full of delights, established a dangerous precedent. We consider that the public had little, if any, ground for complaint, and the fullest cause for satisfaction, both as regards the means provided for their transport to and from the Exhibition and their comfort (except for bad restaurants) and amusement during their visits; this is said without allowing for the fact that the American crowd is the most long-suffering and most self-respecting crowd in the world. Of those in whose hands the vast responsibility was vested, no words of praise can be too loud. . . .

With hearty congratulations we echo the words of the New York journalist, "Great is Chicago, and we are prouder than ever of her."

THE SCHOOL OF ARCHITECTURE OF THE UNIVERSITY OF PENNSYLVANIA.

LESS than four years ago a school for the teaching of Architecture was established in Philadelphia, at the University of Pennsylvania. Its growth has been without precedent and the breadth and thoroughness of the curriculum thus made possible make it one of the most striking evidences of the present interest in architectural education. This interest has been gaining in strength for a decade and more and during that period the older schools have enjoyed their greatest prosperity. Within the ranks of the profession the belief has been gaining ground that a broader training than that to be found in the office is necessary to the highest success, while outside the profession, college-bred men are turning to architecture and fathers are choosing it for their sons as one of the most desirable of the learned pursuits. Naturally this interest in the profession and demand for higher training for its practice calls for the establishment of highly-organized schools where architecture, in its broadest and best sense, may be taught.

Four years ago three strong and splendidly-equipped architectural schools were in existence in this country: one at the Massachusetts Institute of Technology, another at Cornell University and a third at Columbia College. That great architectural centres like New York and Boston should have schools of such a character showed Philadelphia, herself a centre of great activity in architectural practice, that the natural base for another school was within her own borders. All the conditions were favorable to the establishment of such an institution; much more so, indeed, than at the founding of the older schools, because public and professional sense of the need of them was much keener. The need of such a school and the promise of its success became so obvious by 1890, that the project for its establishment was taken up and seriously discussed in various quarters. The final decision as to its location was, however, reached in accordance with the requirements of a full course of architectural study. Such a course must be comprehensive enough to broadly educate the coming architect. He must be grounded by it not only in the æsthetics, the history and the science of his profession, but he must find in it a complement of general studies before he can be said to have a thorough school training in architecture.

That the natural location for the new school was in a university seemed, therefore, as obvious as the need for its establishment, and the University of Pennsylvania promptly took the initiative, establishing "The School of Architecture" within its own jurisdiction, under the advice of a number of leading Philadelphia architects, known and honored throughout the country for their high professional attainments.

The new department was opened in October, 1890, in a large draughting-room in one of the University buildings and a simple equipment was provided for the opening class. Pending the appointment of a Professor of Architecture, one of the architects actively assisting in establishing the School, Mr. Theophilus P. Chandler, Jr., was appointed Director. Mr. Chandler continued in charge of the affairs of the school until the end of its first year, when Prof. Warren P. Laird was elected to the Chair of Architecture and the management of the school placed in his hands. Professor Laird reorganized the scheme of instruction, basing the educational policy of the school on what may be termed "Academic" methods; methods employed in the leading architectural schools of the world and found by experience to yield the best results in those of this country.

Thus established, the School of Architecture has rapidly developed, and now offers a full Four Years' Course; a Two Years' Special Course and an Auxiliary Course in Interior Architecture; engages a large corps of special instructors; occupies a suite of eight rooms and is fully equipped in every way for the conduct of its work. The annual increase in attendance has been relatively large, the number of students this year being upwards of seventy.

THE FOUR YEARS' COURSE IN ARCHITECTURE.

The complete course is so arranged that it gives the most thorough training possible in the study of the art — in the æsthetics of architecture — while still maintaining a proper balance of scientific studies, adding thereto a reasonable complement of studies inducing general culture.

At the very outset of his course the student enters upon his professional work, devoting an ever-increasing amount of time to it as he advances. In the Freshman year he receives daily drill in Free-hand and Mechanical Drawing and gains, in Elementary Design, a familiarity with correct architectural forms while undergoing constant

drill in the drawing and rendering of classic doorways, windows, colonnades, etc. One-third of the student's time is thus occupied, the remainder being given to Algebra, Geometry and Trigonometry, French or German, Rhetoric and Chemistry. In the Sophomore year somewhat less than half the time is devoted to general subjects, comprising Analytical Geometry, French or German, English Literature and Physics, the greater number of hours being devoted to the purely architectural studies: these are a sequence of the first year's work and lead the student through an advancing series of subjects. From the elementary work of the Freshman year he is taken to Free-hand Drawing in charcoal from the cast; his studies in Instrumental Drawing and Descriptive Geometry find their sequence in Shades and Shadows and in Perspective, while the Elementary Design finds him prepared for a study of the Five Orders of Architecture as a starting-point for Design proper, to which the second half of the year is given. The course now broadens, in the attention given to the History of Architecture which continues throughout this and the following year. A certain drill is given the Sophomore class in the preparation of working-drawings from rough notes, finding its sequel in the lectures on Building Construction given in the next year.

With the third, or Junior year, all general studies cease and the student gives his entire attention to professional work, which now passes into a more advanced stage. To Free-hand Drawing in charcoal and pencil is given a greater number of hours than before and the subjects are selected from among more highly-developed architectural forms and from the antique. This line of work is greatly expanded by the introduction of Water-color Drawing and Pen-and-Ink Rendering. The former takes the form of still-life work during this year, in which harmony and the contrast of color are taught, while the latter enters at once upon the treatment of architectural subjects. Modelling in clay is introduced in this year, proving an excellent counterpart to the Free-hand Drawing. Design, however, becomes in this year the most important single subject. If architecture in its broadest and highest sense is to be understood it must be through the study of architectural composition — composition of plan as well as façade — composition in accord with principles underlying all good architecture. This it is endeavored to impart to the student. To this end Professor Laird has secured, in the Assistant-professor of Design, the highest available talent from the École des Beaux-Arts, Paris, and the library has been stocked with valuable books to aid him in his work. This is carried on by means of a series of problems in design, reviewed and criticised, on their completion, by a jury of architects, who award the "mentions." The History of Architecture is completed in this year, and a short course in the History of Ornament given. The scientific branches of study are represented by Mechanics of Materials, Lectures on Heating and Ventilating, Water-supply and Sewage-disposal, Building-construction, and exercises in elementary Surveying.

The Senior year continues and concludes, in an advanced form, the various courses in Design, Free-hand Drawing, Water-color and Pen-and-Ink. The problems in design partake of a more monumental character, concluding with a Thesis in Design on a programme of an extended nature. Water-color drawing is based on the rendering of architectural perspectives and sketching from nature, while Pen-and-Ink and Free-hand deal with advanced forms in conclusion of these special lines of work. Graphic Statics in this year concludes the studies begun with Mechanics, while lectures upon Acoustics, Professional Practice, Specifications and Estimates, etc., give the student some insight into those phases of the practical life he is about to enter. Some knowledge of this life has been gained before this point, however, in the majority of cases, as the school requirement of office-work or out-door sketching during the summer vacation leads the greater part of the students to enter offices at that time.

On completion of this Four Years' Course, the graduate is granted the Degree of Bachelor of Science, to be followed, after subsequent years of study along special lines, by that of Bachelor of Science in Architecture.

THE SPECIAL COURSE.

The Two Years' Course was established for architectural draughtsmen and has proved very successful. It gives a purely technical course, made up of the cream of the professional studies of the Four Years' Course, and offers to draughtsmen, with limited time at their disposal for an education, the advantages of technical training. It is not a short cut for students who are unable to undertake the Four Years' Course, but is an advanced course for advanced students. As an introduction to the more advanced work of the course, the special students are first given a thorough working knowledge of the Orders, followed by two Order Problems in Design; this is supplemented by Shades and Shadows and Perspective, and followed at once by the study of Design, pursued under the instruction of the Assistant-professor of Design and in association with the advanced classes of the Four Years' Course. Free-hand Drawing, Water-color, Pen-and-Ink Rendering and the History of Architecture are continued throughout the two years of the course, while a short course in the History of Ornament and the full course in Modelling find place in its first year. Scientific studies are not neglected in this course, those of the Four Years' Course in Mechanics, Graphical Statics, Sanitary Science, Building Construction and Surveying being among the prescribed studies.

In additional to these professional courses, a Two Years' Course in Interior Architecture is being conducted under the special instruction of Mr. Everett, the school's instructor in Drawing and a very successful pupil of Mr. C. Howard Walker's course in the Boston Museum of Fine Arts. Interior decoration, as an art closely allied to that of architecture, is here presented to a special class.

The officers of the School of Architecture are ten in number, as follows: Warren Powers Laird, Professor of Architecture, in charge of the department; Edgar V. Seeler, Assistant-professor of Design, from the École des Beaux-Arts, Paris; Charles E. Dana, Professor of Art, Instructor in Water-color Drawing (pupil of Luminais); Julian Millard, Instructor in Architecture (from Mass. Institute Technology); Herbert Edward Everett, Instructor in Drawing and Decoration (from course in Decoration, School of Drawing and Painting, Boston Museum of Fine Arts); Wilson Eyre, Jr., Architect, Instructor in Pen-and-Ink Rendering; Henry Plasschaert, Instructor in Modelling (from *Atelier* Peppin, Paris); George Walter Dawson, Assistant-instructor in Drawing (from Normal Art School, Boston); Amos J. Boyden, S. B., Architect, Lecturer on Building Construction; Miss Jean B. Skidmore, Librarian.

In addition to the above, the School receives the instruction of eighteen members of the University faculty in the general-culture studies, and a course of special lectures is being delivered this year by prominent Philadelphia architects.

The School has been possessed from the first, of the kindly interest and active assistance in various ways, of the body of architects, referred to above, who constitute a Board of Advisors, to whose approval the general policy of the school is subject. It is composed, under title of "The Faculty of the School of Architecture," of the following named gentlemen: Theophilus P. Chandler, Jr., Wilson Eyre, Jr., Walter Cope, Barr Ferree, Frank Miles Day, John Stewardson, Charles E. Dana, and *ex-officio*, the Provost of the University, the Dean of the College Department and the Professor of Architecture.

EQUIPMENT.

In material equipment the School is highly favored. From its modest beginning in one room it now has a suite of eight in the largest of the University buildings, comprising draughting-rooms, lecture-room, library, drawing-room, study and modelling-room. The library is well stocked with valuable books, photographs, drawings and the leading architectural periodicals of this country and Europe.

The drawing-room is lighted by north and overhead light, provided with vertical screens, tables and lockers, and has a fine collection of casts, drawing-models and water-color models. The draughting-rooms are well equipped with desks, each with its electric-light, with board-racks, sinks and tables, while the modelling-room, professor's study and lecture-room are each fully equipped for their uses. The department rooms are lighted by electricity and heated with steam.

The Faculty of the School has established a travelling-scholarship in architecture, open to Pennsylvania draughtsmen and students in the school, and award $1,000 annually for foreign travel and study. The first scholar is now in Europe.

BOOKS AND PAPERS.

WE were very much surprised some years ago when we came to poll the vote cast for the "best twenty books for an architect's library" to find that Webster's "*Unabridged Dictionary*" held the twelfth place in the list. Until then, we could only have supposed that, while a good dictionary was a desirable adjunct to anyone's library, it could not have occurred to anyone to give it a place amongst the twenty books that would be first bought by an architect.

In spite, however, of the constant revision and enlargement that the publishers have given to Webster's Dictionary, it has not entirely satisfied the requirements of the reading public and a few years ago the Century Company published their very elaborate and costly "*Century Dictionary*," which was so elaborate, so reliable, so profusely illustrated that it seemed that it must remain for many years as the Ultima Thule beyond which no lexicographer would think of venturing. But less than two years have elapsed since the publication of the last volume of the "*Century Dictionary*," and already the first volume of the "*Standard Dictionary*" is on the market, and its obvious good qualities are so many and so various, that many will be found who prefer it to its more encyclopædic sister published by the Century Company.

What these good qualities are can be fully appreciated only by inspection and comparison with earlier dictionaries, but some may be briefly mentioned here.

It is in form slightly smaller than the Century Company's and rather larger than Webster's, while in bulk it is about one-sixth of the former and rather more than a sixth larger than the latter, and yet it is more serviceable for ordinary use than either, since it contains more words and definitions; for instance, under the letter "*A*" it contains more than four thousand words not contained in the "*Century*" and about two and a half times as many as are contained in "*Webster's*," points all of which must conduce to its success and

popularity if there are not blemishes to offset these advantages. It is difficult to perceive, however, how greater pains could have been taken to guard against blemishes of all kinds. The editorial staff was large, well organized and composed of men of recognized attainment and scholarship, many of whom were for years employed on analogous work for the "*Century Dictionary*," and constant care has been taken to refer, in case of doubt, to specialists in the particular branch of learning in any part of the English-speaking world. At the same time, pains have been taken to reduce to its true value the element of the personal equation, for all words of disputed meaning, pronunciation and spelling have been referred to an advisory committee of fifty-two members, subjected to vote by them and the result recorded and adopted.

Some of the excellent and individual characteristics of the "*Standard Dictionary*"[1] are these: The etymology of a word is not, as is the case of all other dictionaries, used as a preface to the definition in such a way that the eye has to pass over several lines of irrelevant matter before it strikes the definition, but follows the definitions. In the matter of spelling-reform, the recommendations of the Philological Association, where they have not been adopted absolutely, have been clearly indicated, and the hyphenation of compound words is reduced to a consistent system.

In one of the features from which we hoped most we have been disappointed: the "grouping of related words" under the most important word of the group — a most difficult matter to accomplish satisfactorily, but a most valuable one if well done — has not been as judiciously carried out as it should have been.

Thus under "Carpentry" we do find a list of related terms, but under "Engineering" there is none, nor yet under "Farming," "Binding," "Geography," "Geology" and many other places where one has as much right to expect it as under "Carpentry." Moreover the list is ill-arranged and to a degree injudiciously selected, for we find the names of tools included alphabetically in the same list with carpentry-terms proper, whereas, they should have been included in a subdivision of the list, and we cannot see why such words as "board," "plank," "window" and "sash" have been omitted if "stud," "joist," "muntin" and "door" were included, and why the last word should be printed in small caps while "floor" is printed in lower case. The number of unusual terms is not great, but amongst them can certainly be included "brob," "brog," "scorper" and "fuor," and the latter is so unusual that the makers of the dictionary do not even know what it means, since they do not give it a place in the dictionary itself. The word "chit" is included, and yet the editors define chit as a cooper's tool!

The same sort of comment can be applied to the group of related words under "Architecture": "Elevation" is given, but "plan" and "section" are omitted; "roof" appears once more, while "floor" is again left out, while even so familiar a term as "dormer" is forgotten in favor, seemingly, of such abstrusities as "alette," "parastas" and "scamillus." We cannot perceive either, why, when there are in the English language such well known words as "roodloft," "flying-buttress" and "ridge-tile," the editors should have used in place of them in this list, the French words "*jubé*," "*arc-boutant*" and "*faitière*."

The paper, typography, illustration and binding are excellent and, though in these respects rather below the standard set by the "*Century Dictionary*," the purchaser of this new work will get a wonderfully good return for the money he spends.

Fifteen or twenty years ago, when the attention of amateurs and artists was first turned to Japanese work, any one who could get hold of one of the Japanese copy-books felt he had secured a veritable treasure. The importers quickly took the hint and increased their importations, and the Japanese in their turn were quick to see what was going on and began to manufacture these interesting field-books of decoration especially for the export market apparently, employing artists of all kinds, good, bad and indifferent, to furnish the drawings for their new works. The result of this was a speedy deterioration in the quality of books brought to this country, though the number and variety greatly increased, and it is not easy now to get the really good material that was formerly to be had. Apparently the Librairie de l'Art has recognized this difficulty, for it has just begun to issue in its "*Bibliothèque d'Education Artistique*" a selection of Japanese designs drawn from the collection of C. Gillot and published in octavo pamphlets on fine paper, under the title of "*Documents décoratifs Japonais*,"[2] at a franc and a half apiece. Each of these little pamphlets is devoted to a single branch of natural history as applied to decoration, as the Japanese understand it, and they have this significant advantage over the booklets that can be found in the curio-stores and elsewhere: they are all authentic examples credited in each case to the artist who designed them. We confess that we have not that familiarity with the names of celebrated Japanese artists that we have with those of their western brothers, but we are willing to believe that they are all gentlemen of ability, above the average of their fellows. At any rate, this crediting of the design to its real source is an excellent idea and the pamphlets themselves are much more serviceable in our rougher hands than the flimsy native productions.

[1] The "*Standard Dictionary of the English Language*" upon original plans, designed to give in complete and accurate statement, in the light of the most recent advances in knowledge, and in the readiest form for popular use the meaning, orthography, pronunciation and etymology of all the words and the idiomatic phrases in the speech and literature of the English-speaking people. Prepared by more than two hundred specialists and other scholars under the supervision of Isaac K. Funk, DD. Editor-in-Chief, New York: Funk & Wagnalls Company, 1893. Price, complete in one volume, in half-Russia, $12.

[2] "*Documents decoratifs Japonais.*" Librairie de L'Art. 8 Boulevard des Capucines, Paris, France. Price, 1 50 francs per part.

The adage that "many cooks spoil the broth" can, evidently, not be applied to the recent treatise on "*Modern Framed Structures*,"[3] for although the title page ascribes the editing to three engineers, and the preface gives credit to seven others who collaborated in the preparation of the subject matter, the book is thoroughly interesting and well written, the individuality of the different writers manifesting itself in the various portions in a very pleasing way. Two of the chapters are especially valuable, being upon topics which are usually neglected in a treatise of this sort. One is on skeleton construction, by Mr. C. Purdy, who is quoted as having designed many of the tall Chicago buildings; and the other, by D. A. Molitor on the æsthetic design of bridges, contains very valuable hints which the introduction emphasizes with the hope that they "may give an impetus to the growing sense of dislike for the innate ugliness which now characterizes many of the largest bridges of this country" (*videlicit*, the new Harvard Bridge at Boston).

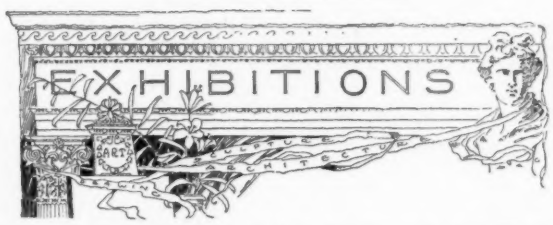
From a purely technical point of view, the chapters on combined, direct and bending strains and on distribution of loads over redundant members form a valuable addition to the literature of applied mechanics, presenting complete and intelligent analyses of conditions which, while theoretically wrong, are practically encountered in building and bridge construction. The same is true of the analysis presented of eccentric loading on columns, a condition which nearly always obtains in practice, but is hardly ever properly calculated. In Chapter XXVIII this is touched upon to a certain extent and a formula given:

$$A = \frac{M\,y}{f\,r^2}$$

in which A = metal area of column.
M = bending-moment due to eccentric load.
y = half width.
f = allowable fibre strain.
r = radius of gyration.

It is to be regretted that this very important subject has not been more fully elaborated. Indeed, the whole book shows the evils as well as the benefits of its multi-authorship, but a work of this sort should be welcomed and any deficiencies can be pardoned when it is remembered that the first near approach to the modern style of iron truss bridges was not made until 1852, and that only within the last twenty-five or thirty years have mathematical principles of truss-construction been generally understood, while for hardly more than twelve years has the actual strength of full-size members and joints been even approximately known.

[3] "*The Theory and Practice of Modern Framed Structures.*" By J. B. Johnson, C. E., C. W. Bryan, C. E. and F. E. Turneaure, C. E. New York: J. Wiley & Sons.



Boston, Mass. — *Water-colors by Ross Turner:* at Doll & Richards, 2 Park Street, March 23 to April 4.

Pen-and-Ink Drawings and Etchings by Joseph Pennell: at Walter Kimball & Company's, 9 Park Street, March 26 to April 7.

Water-colors by R. Clipston Sturgis: at 7 Park Street, March 26 to March 31.

Oil-paintings by R. L. Newman and J. A. McNeill Whistler: at the Museum of Fine Arts, March 27 to April 17.

Brooklyn, N. Y. — *Third Annual Exhibition of Architectural and Decorative Drawings of the Department of Architecture of the Brooklyn Institute of Arts and Sciences:* at the Brooklyn Art Association Galleries, 174 Montague Street, March 30 to April 21.

New York, N. Y. — *Sixty-ninth Annual Exhibition, National Academy of Design:* 23d Street and Fourth Avenue, April 2 to May 12.

Sixteenth Annual Exhibition of the Society of American Artists: at the Galleries of the American Fine Arts Society, 215 West 57th Street, March 12 to April 14.

Philadelphia, Pa. — *Fourth Annual Exhibition of Water-colors and Pastels:* at the Art Club Galleries, March 26 to April 22.

An Ancient Lock. — One of the most remarkable locks on record was at one time to be seen on the door of the ancient church at Bromley, in Kent. This lock was of equal age with the door, and dated from the fourteenth century. It was a stock lock, 2 feet 6 inches in length, 7½ inches in width and 5 inches thick. The bolt was 1 inch wide and 1½ inches thick, and, on the remarkably rude and heavy key being turned, shot out two inches. It is believed that the lock was of English manufacture. — *Invention.*

SOCIETIES

T-SQUARE CLUB OF PHILADELPHIA.

A MEETING of the T-Square Club was held on Wednesday evening, March 21. The subject for competition was "A scheme of color decoration for the hall of a country-house." There were nine drawings submitted. First mention was awarded to George B. Page; second mention to David K. Boyd and third mention to Frank R. Neff. The competition for the April meeting was announced: "A memorial library for a small town." Required drawings: Plan, front elevation and transverse section.

GEORGE BISPHAM PAGE, *Secretary.*

THE ILLUSTRATIONS

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

APARTMENT-HOUSE, CORNER OF BEACON AND CHARLES STREETS, BOSTON, MASS. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

[Gelatine Print issued with the International and Imperial Editions only.]

DESIGN FOR A CITY RESIDENCE ON LOT 25′ x 100′. MR. MANLY N. CUTTER, ARCHITECT, NEW YORK, N. Y.

THE front is somewhat of a departure from the usual style of city-houses, inasmuch as fieldstone is employed as a material for the front, and a central-light court is introduced for the better lighting of the central portion of the house, which is usually dark. The plans call for a four-story American basement structure, and an examination of them will at once convince one of the amount of space saved, and of convenience, light and comfort gained, over the old high-stooped houses, which were so much in vogue during the past quarter-century. The scheme has been to plan every part in such a manner as to make each room decorative by its arrangement rather than to put in the decorative features after the building is completed. The plumbing is kept entirely separate in shafts which the plumber may enter at the cellar and ascend to the roof without entering any of the living apartments, in case repairs are necessary. This is a distinct advantage, as those who have had experience with leaks and bursting pipes can testify. The lift runs from the cellar to the fourth floor and is to be used for trunks and other purposes. The hall throughout is well lighted on account of the oval well which extends to the top of the house, which is covered with a large skylight. The rooms are large and comfortable. Bath-rooms, closets, pantries, etc., have all been looked to and will be found where most necessary.

ACCEPTED COMPETITIVE DESIGN FOR SHAWNEE COUNTY COURT-HOUSE, TOPEKA, KANS. MR. J. G. HOLLAND, ARCHITECT, TOPEKA, KANS.

THE building is to be of fireproof construction throughout. Outside walls and cornice of stone. Interior walls of hard brick and hollow tile. Roof to be of iron-construction covered with fire-clay tiling. Floor-construction to be of steel I-beams, hollow tile and concrete. Floors in corridors and halls, marble tiling; in offices and court-rooms, linoleum laid in cement. Steam heat throughout. Plumbed for both electric and gas lighting, with sanitary closets, water-service, speaking-tubes, mail-chutes, etc. Vaults to be fitted with fireproof vault-doors and shutters. Offices, vaults and court-rooms fitted up with necessary desks, filing-cases, judges' stands, railings, etc., complete. An analysis has already been made which indicates that the bluestone on County Fair-grounds is a high-class building-material. If ample tests, to be made, shall confirm this, that stone will be used. If not proved to be absolutely reliable, other stone of approved quality will be used. Total cost of building, including extra ground, grading and possible changes, not to exceed $125,000.

HIGH-SCHOOL BUILDING, WABASH, IND. MESSRS. WING & MAHURIN, ARCHITECTS, FORT WAYNE, IND.

THIS building was placed under contract the latter part of last summer. The foundation was put in, but owing to the financial situation of the country the authorities were unable to dispose of their bonds, so the work was held over until this spring, when it will be pushed to completion as fast as possible. The building is to be built of Indiana oölitic lime-stone and intended to accommodate about three hundred and fifty pupils. The Board have adopted the Smead system of heating and ventilating, together with their dry-closets. Total cost, $35,000.

COMPETITIVE SKETCH FOR ALTERATIONS OF THE MASSACHUSETTS STATE-HOUSE, BOSTON, MASS. SUBMITTED BY MR. R. A. CRAM, ARCHITECT, BOSTON, MASS.

THIS design received the second place in the competition held several years ago, which resulted in the building of the State-house Extension being placed in the hands of Messrs. Brigham & Spofford. Mr. J. L. Faxon was associated with Mr. Cram as consulting architect.

SIXTH UNITED PRESBYTERIAN CHURCH, PITTSBURGH, PA. MR. W. S. FRASER, ARCHITECT, PITTSBURGH, PA.

[Additional Illustrations in the International Edition.]

THE SWEDISH GOVERNMENT BUILDING, WORLD'S COLUMBIAN EXHIBITION, CHICAGO, ILL. MR. GUSTAF WICKMAN, ARCHITECT.

[Gelatine Print.]

THE NEW ENGLAND CLAM-BAKE BUILDING, M. ALEX. SANDIER, ARCHITECT, PARIS, FRANCE AND THE CANADIAN GOVERNMENT BUILDING, MR. R. E. EDIS, ARCHITECT, LONDON, ENG., WORLD'S COLUMBIAN EXHIBITION, CHICAGO, ILL.

[Gelatine Print.]

PARISH CHURCH, HAMPSTEAD, ENG.: WEST END. F. P. COCKERELL, ARCHITECT.

NEW CHANCEL, PARISH CHURCH, VERWOOD, DORSET, ENG. MESSRS. ADYE & ADYE, M. S. A., ARCHITECTS, BRADFORD-ON-AVON, ENG.

THE new chancel of the church of St. Michael and All Angels has been built of stone. At the entrance of the chancel is a panelled alabaster screen and wrought-iron gates. The altar is approached by seven polished Devonshire-marble steps, and the floor of the chancel is paved with glazed tiles. The roof is formed of oak timbers, moulded, the principals resting on carved corbels. The choir-stalls are also of oak, panelled to correspond with the chancel screen. The arches of the sedilia and piscina are supported on polished-marble columns, and the label over is supported by carved figures of angels playing, respectively, the harp, the cymbals and the flute. On either side of the east window (terminating a string-course) are two angels in the attitude of adoration, holding the Host and the chalice. The altar is of oak, with open panels and a marble top inlaid with the usual five crosses in brass. It is surmounted by three retables supporting the usual ornaments, and at the back is a dossel formed of a warm-colored red damask, with wings of silk plush and side hangings of red and gold brocade.

BUSINESS PREMISES, UTTOXETER, ENG. MR. W. T. WALKER, ARCHITECT.

THE premises represented have been erected in the Market Place. The work is executed in white Hollington stone, and has been very well carried out.

COMMUNICATIONS

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

MANTELS.

NEW YORK, N. Y., March 16, 1894.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — Is it customary for an architect to make an additional charge for designing mantels in a house of moderate cost? If so, what is the usual commission?

An answer to the above questions will be greatly appreciated by

"A READER."

[IT is usual for architects to charge an additional rate for designing mantels, commonly ten per cent on the cost. — EDS. AMERICAN ARCHITECT.]

THE STAINING OF LIMESTONES BY CEMENT.

NEW YORK, N. Y., March 24, 1894.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — Under the above caption, there appears in this week's issue, correspondence regarding cement that will prevent stains appearing on the surfaces of limestone. With all due

deference to Mr. F. W. Chandler, that "no artificial cement with exception of Lafarge must be used," he must have overlooked the fact that Vicat cement, made in the south of France, will not stain marble, limestone or granite, and in fact, is superior to the cement he mentions, which of late has certainly not prevented stains appearing on limestones, where it has been used on buildings in this vicinity.

Mr. Richard M. Hunt, when he was informed that Vicat cement could be obtained, wrote to us as follows: "I am delighted that the Vicat cement is in the market again after an absence of some fifteen years. This cement was used in the Delaware and Hudson Canal Company's building with excellent results."

Messrs. Norcross Brothers and other large contractors that have built and are erecting stone buildings, now use Vicat cement, and it therefore seems appropriate that the architects who write specifications should insist on Vicat cement being used for setting limestone, and when used according to instructions, no stain will appear.

Yours very truly, Howard Fleming.

THE PROTESTANT CHURCH-BUILDING CONGRESS.

Berlin, Germany, March 3, 1894.

To the Editors of the American Architect: —

Dear Sirs, — I have read your article in January 27 issue, regarding the Congress in Berlin for Protestant church-building with great interest and am much pleased at your sympathy with our efforts. To correct your article, allow me to state that the Congress will take place May 24 and 25 and we hope to have the pleasure of seeing sympathizers from your country. Of course, representatives of every Christian faith will be welcome. The accompanying circular will show what we have in view. The forms of architecture are secondary considerations. Your devoted

von der Hude,
President of the Society of Berlin Architects.

NOTES AND CLIPPINGS

The French Government rewards French Exhibitors at Chicago. — To salve the wounds of French exhibitors at the World's Fair, who sold very little, owing to the financial stress, and declined the bronze medal, the French Government will distribute 136 rosettes of the Legion of Honor and twenty-five crosses of the higher grade. — *N. Y. Times.*

Washington Logs to go to France. — A schooner laden with the huge logs and tree trunks of which the Washington State Building at the World's Fair was constructed, will sail out of the harbor of Chicago some time during May. Its destination will be either Havre or Cherbourg, France. The Washington State Building was one of the most interesting at the Fair. Many of the timbers in the building are 3 feet square and 140 feet long. It is the intention of those who purchased the building to set it up in France exactly as it stood upon the World's Fair grounds. — *Chicago Herald.*

An Architect who never exceeded Estimates. — Archbishop Bernardo built a hermitage on the hill of *La Vera Cruz*, "the true cross," to which a retablo was given in 1492, by Pedro Gumiel, an architect of Alcala, who is generally called *Elkonrado*, because his works never exceeded his estimates; and all who to their cost have dabbled in bricks and mortar, raw materials of ruination, will visit this good man's memorial, since, take him for all in all, they ne'er will see his like again in Spain or out of it. Even Solomon, the wisest of men and greatest of builders, was out in his reckoning to the tune of £720,000, which he borrowed of a friend (I Kings ix: 11). — *First Edition of Richard Ford's Handbook of Spain.*

New Discoveries of Homeric Troy. — Prof. Thomas D. Seymour, of Yale, President of the Board of Directors of the American School at Athens, has recently received notice of new and important discoveries, which have resulted from excavations now being made on the Trojan Plains. The excavations at Hissarlik, which were brought to an end in 1890 by the untimely death of Dr. Schliemann, have been resumed under the direction of the well-known German scholar, Dr. Doerpfeld. The funds necessary for the continuance of the work were placed at his disposal by Mme. Schliemann. Three prominent German archæologists are with Dr. Doerpfeld as assistants, and results far exceeding the hopes of the explorers have been obtained. The strata noted in 1890 by means of a sunken shaft are now firmly established. They consist of three distinct parts — a premiocene, including an imposing fortified citadel, with dwellings, citadel walls, tower and gates; the miocene strata, or the Homeric Pergamos; the post-miocene strata, including archaic dwellings, Graeco-Hellenic edifices and imposing Roman structures. The sixth stratum, which Dr. Doerpfeld supposed is the Homeric Troy, proves to be the most imposing fortified citadel that ever, previous to Roman days, occupied the hill. The ruins of several large buildings have been laid bare, their groundwork being somewhat like a Greek temple. Their proportions are larger, and their masonry is superior. The citadel of this stratum is fortified by a wall five metres broad, and in some parts still stands several metres high. The northwest corner is faced by a massive tower about eighteen metres in width, and still standing over eight metres high. In size, solidity and finish, this tower is second to none other of Greek date. With several buildings of this period have been found abundant remains of local Lydian ware and of Mycenæan fragments. — *N. Y. Times.*

Expert Witnesses. — A correspondent of the *Engineer* writes as follows: "The recent utterances by our learned judges in the course of technical actions show that at the present time expert evidence is not looked upon with much favor by the Court. This has no doubt arisen from a want of appreciation on the part of an expert witness of the duties and obligations of his position. Too often is a skilled witness a self-constituted advocate, and as long as human nature remains what it is, and always has been, and as long as skilled witnesses are retained by the respective parties in a law-suit, so long will the majority of experts continue to deserve the bad odor in which they undoubtedly are held at present, and so long will the unfortunate honest witness be at a large discount. Let us consider the *raison d'être* of an expert witness. He is there, not to give evidence as to commonplace facts, which are in the grasp of all ordinarily educated men, but he is called to assist a jury to grasp the true meaning of circumstances and occurrences which, from their technical nature, are not readily understood by ordinary folk. He is to put into simple language a true, unbiassed and complete account of the case as far as its technical aspect is concerned, so as to put these facts and their real bearing on the case on a level with the other evidence, thus rendering it possible for the jury to assimilate, so to speak, the technical with the ordinary aspects of the case. To borrow an analogy from medicine, his function is to peptonise such information as may be without the comprehension of ordinary men, so that it may be inwardly digested by the jury. Mr. Justice Cave and other learned judges have, on more than one occasion recently, given utterance to their views as regards the value of technical evidence. They place very little value on such evidence; they go so far as to instruct the jury to pay little or no attention to the statements made by skilled witnesses, and very soon, we think, it will prejudice a man's case if he call expert evidence on his behalf. This is obviously a most unfortunate condition of things, for the advice or assistance of a technical man is simply indispensable in purely technical cases, and, instead of taking up an attitude of wholesale condemnation, it would be wiser if the powers that be would take such steps as may be expedient and necessary to winnow the chaff from the wheat, and to bring into operation a system on which the value of technical evidence would be deprived of its many doubtful points, and could be received without suspicion by either side and by the Court. . . . The questions which naturally suggest themselves are: At whose door should the blame be laid if the skilled witness does not know the whole truth? If he does know the whole truth, to what extent is he justified — if he be justified at all — in suppressing such facts as he may think fit? It would certainly appear that the system of cross-examining a skilled witness by counsel who is under no oath at all, and who is privileged, in virtue of his position in Court, to do and say pretty much what he likes, is wrong. It is productive of little good and possibly much evil — speaking generally — to allow a skilled witness to give evidence at all, unless his *bonâ fides* be absolutely established. To cross-examine him is even more ill-advised. An expert who has had some experience of the witness-box, and who has a wrong bias, is more than a match for nine-tenths of counsel, as far as eliciting the truth is concerned, and it serves no useful purpose to waste the time of the Court in more or less smart repartee, often terminating in almost personal abuse. I anticipate the thought that will pass through my readers' minds, 'Where are immaculate experts to be found?' I should not like to think that they cannot be found. It is significant that when men of unimpeachable integrity are required in any calling in life, they are always to be found. At present the fact appears to be that there is no demand for an unbiassed, disinterested and conscientious expert, and, indeed, I venture to suggest that there would be very little use for him under the present system, as he would be entirely at the mercy of the cross-examining counsel. If a witness is to be absolutely unbiassed, it would appear to follow, as a matter of common sense, that he should be interrogated by an equally unbiassed authority. . . ."

The New Decorations in the Apse of St. Paul's. — The spandrels of the inner dome of St. Paul's, London, were decorated with Salviati glass-mosaic, in designs by Watts, Stevens and Brittan, the time consumed being thirty-one years. During the last year work has progressed on the apse, the bay of the sanctuary, and the easternmost bay of the choir, and the scaffoldings may be removed very soon. These mosaics are by W. B. Richmond. In the apse he has decorated three curved panels of the vault, placing a large figure of Christ, surrounded by a glory, in the central panel. The side compartments have a laughing and a weeping angel, recorders of the deeds of the just and unjust. On a lower level are six panels having mosaic figures of Hope, Fortitude, Charity, Truth, Chastity and Justice. The saucer-shaped dome of the choir has a scene of the creation of winged fowl. Nineteen spaces, great and little, have been embellished with mosaics at a cost of $60,000, and, at least, as much again will be needed to complete the choir. A peculiarity of the methods used by Mr. Richmond is the direct setting of the cubes of the mosaic in the plaster, instead of first fixing them upside down on paper in the studio, and then placing them by sections. The cubes are made in England, and have their colors burned clear through. Mr. Richmond has trained up a set of workmen to place the cubes at once in the mortar, as a painter works direct on the canvas. It is not yet certain that the colors and forms will carry far enough to be seen from the floor of the cathedral when the staging is removed. About one-eighth of the decoration is now finished. If money is ready and the work carried on steadily, it will take about fourteen years to complete the interior. — *N. Y. Times.*

Bids for World's Fair Buildings refused. — All bids for the World's Fair buildings were rejected by the South Park Board of Commissioners last week because of low figures. The superintendent was instructed to negotiate with private persons for the sale of buildings. By this means it is thought a larger purchase price can be obtained. The bids amounted to $37,000.

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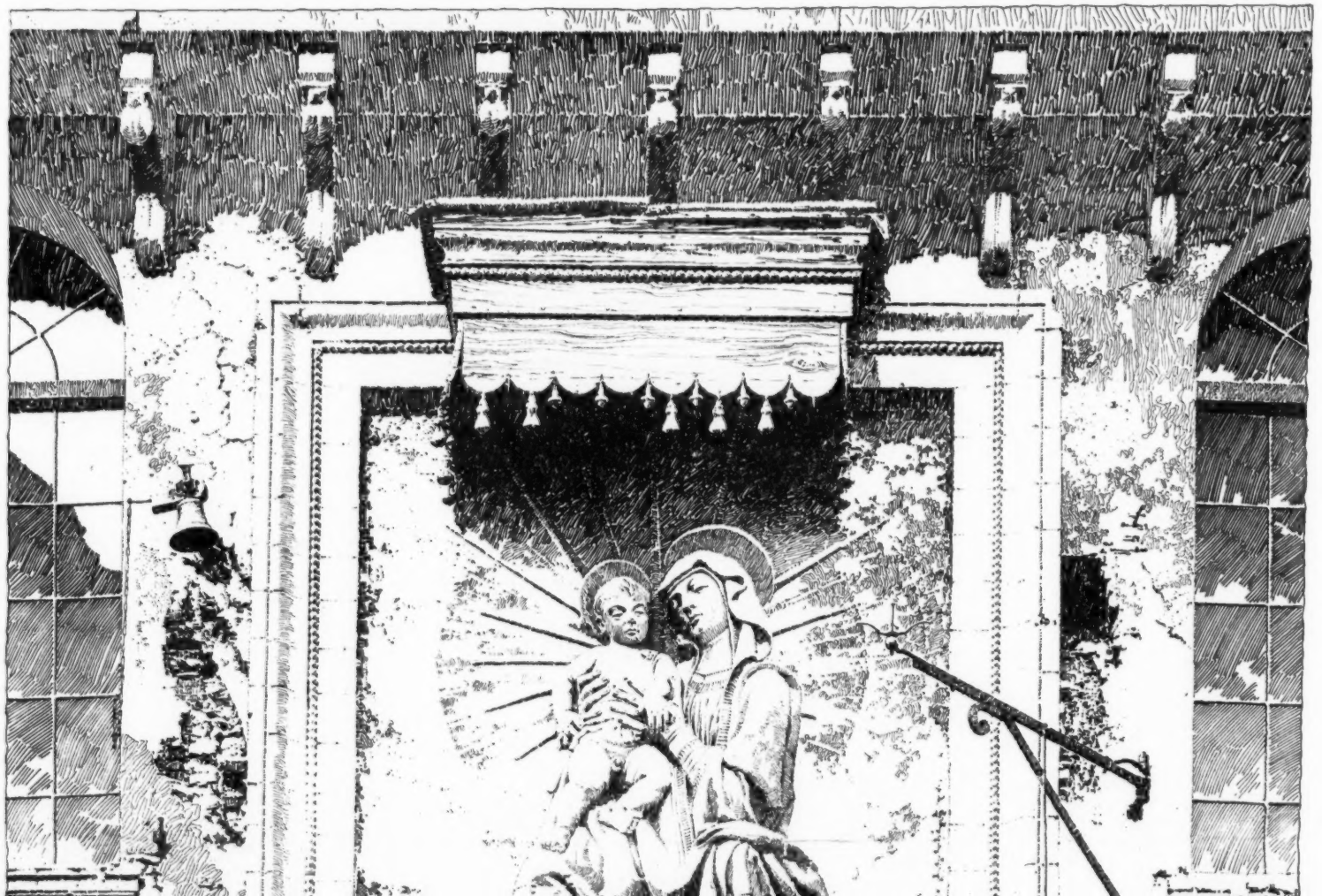

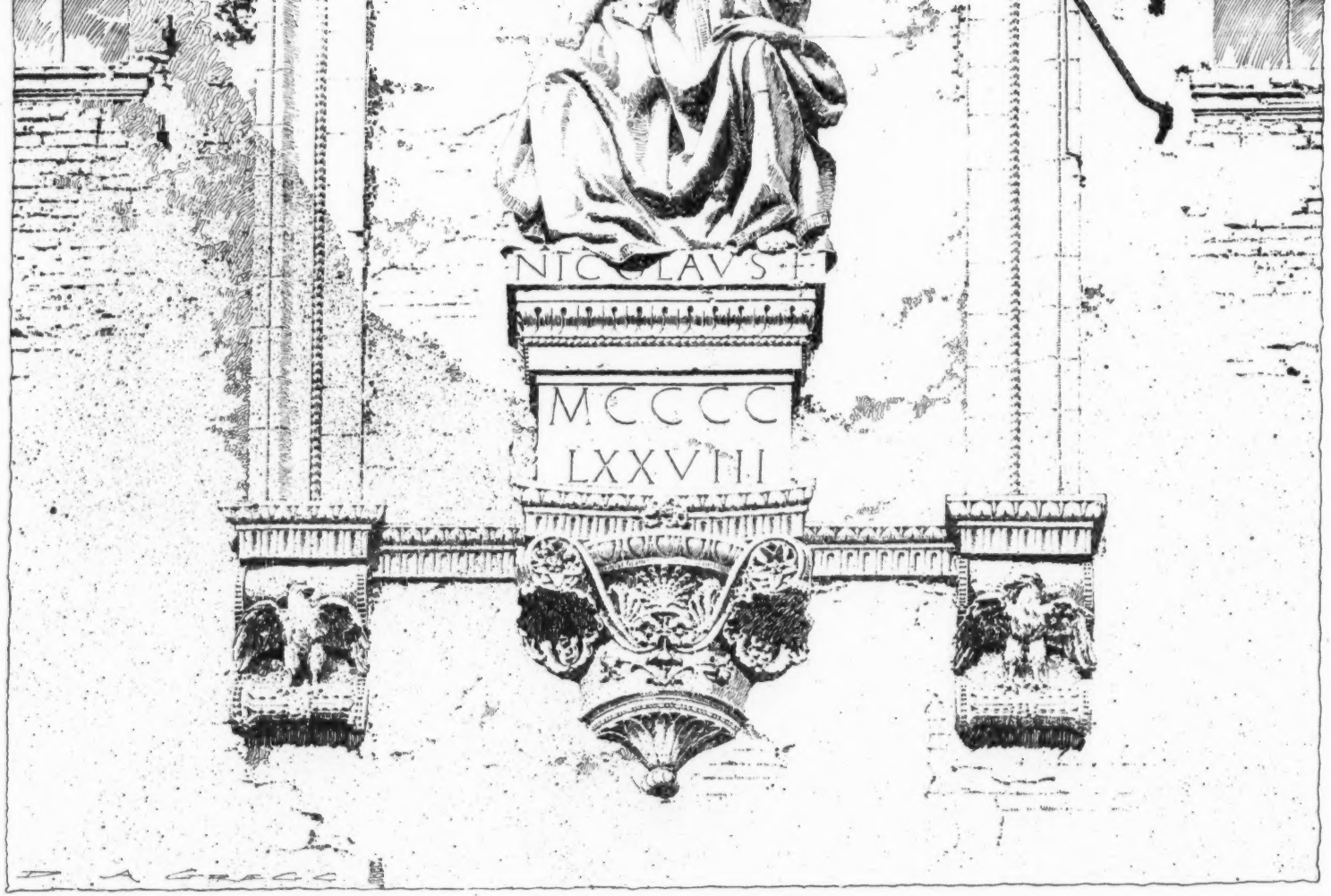

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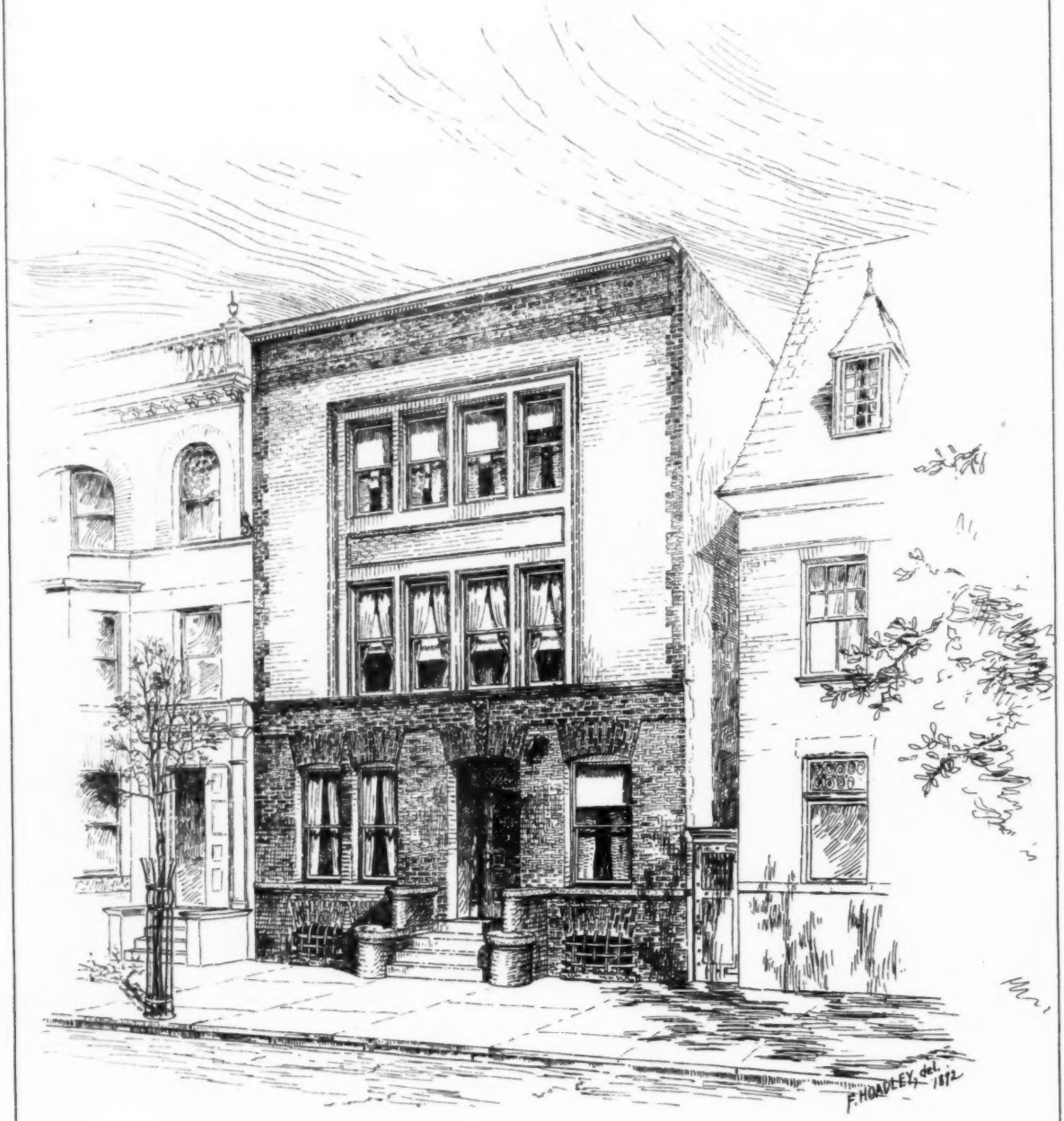

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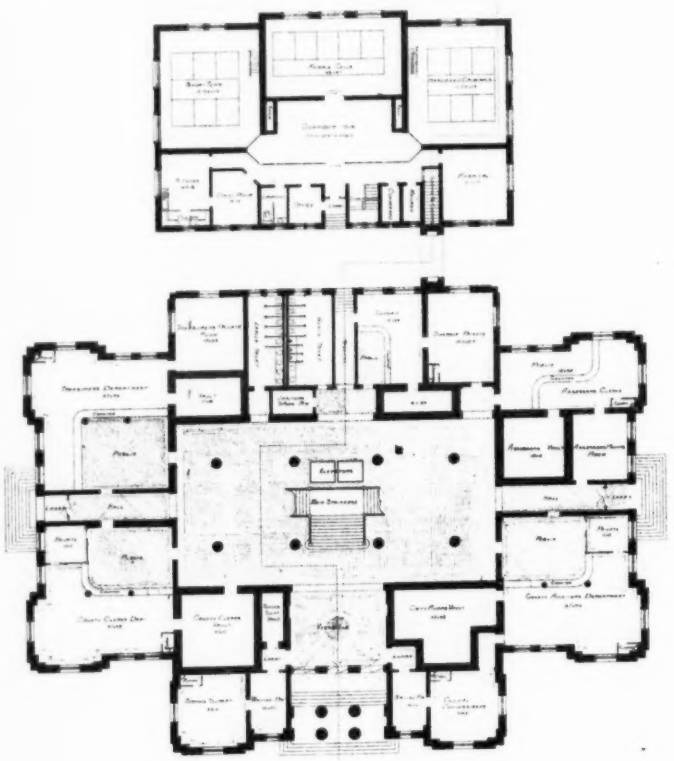
John Parkinson, Archt. Seattle.



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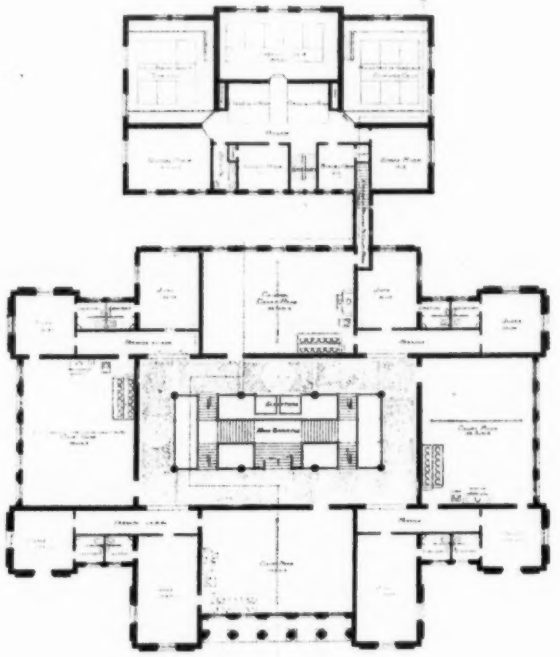

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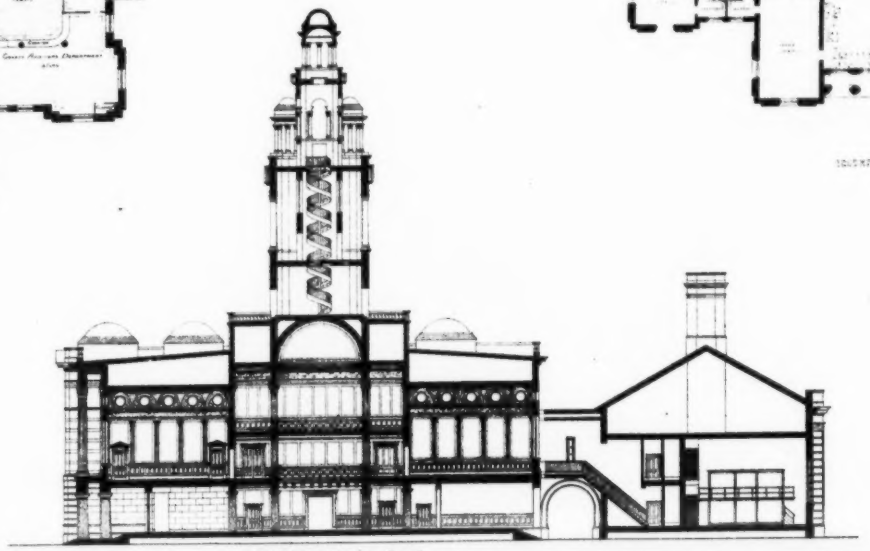

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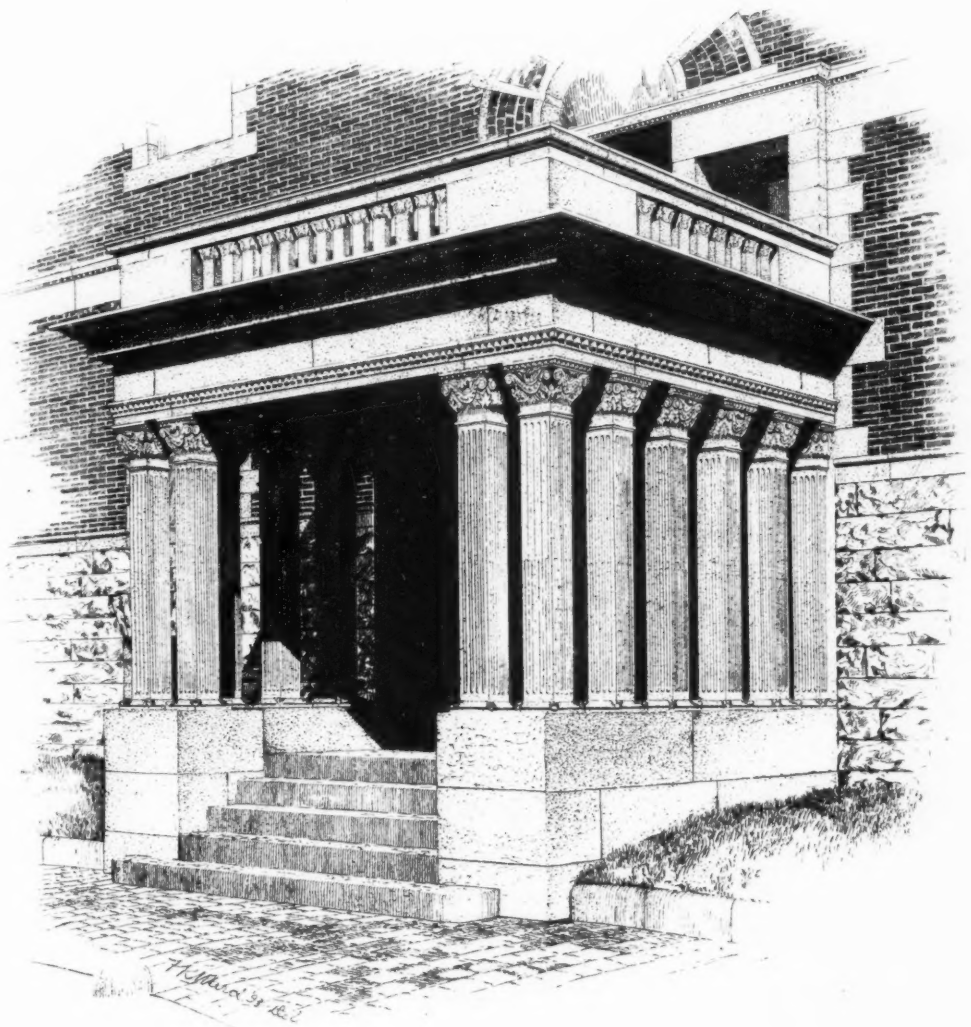

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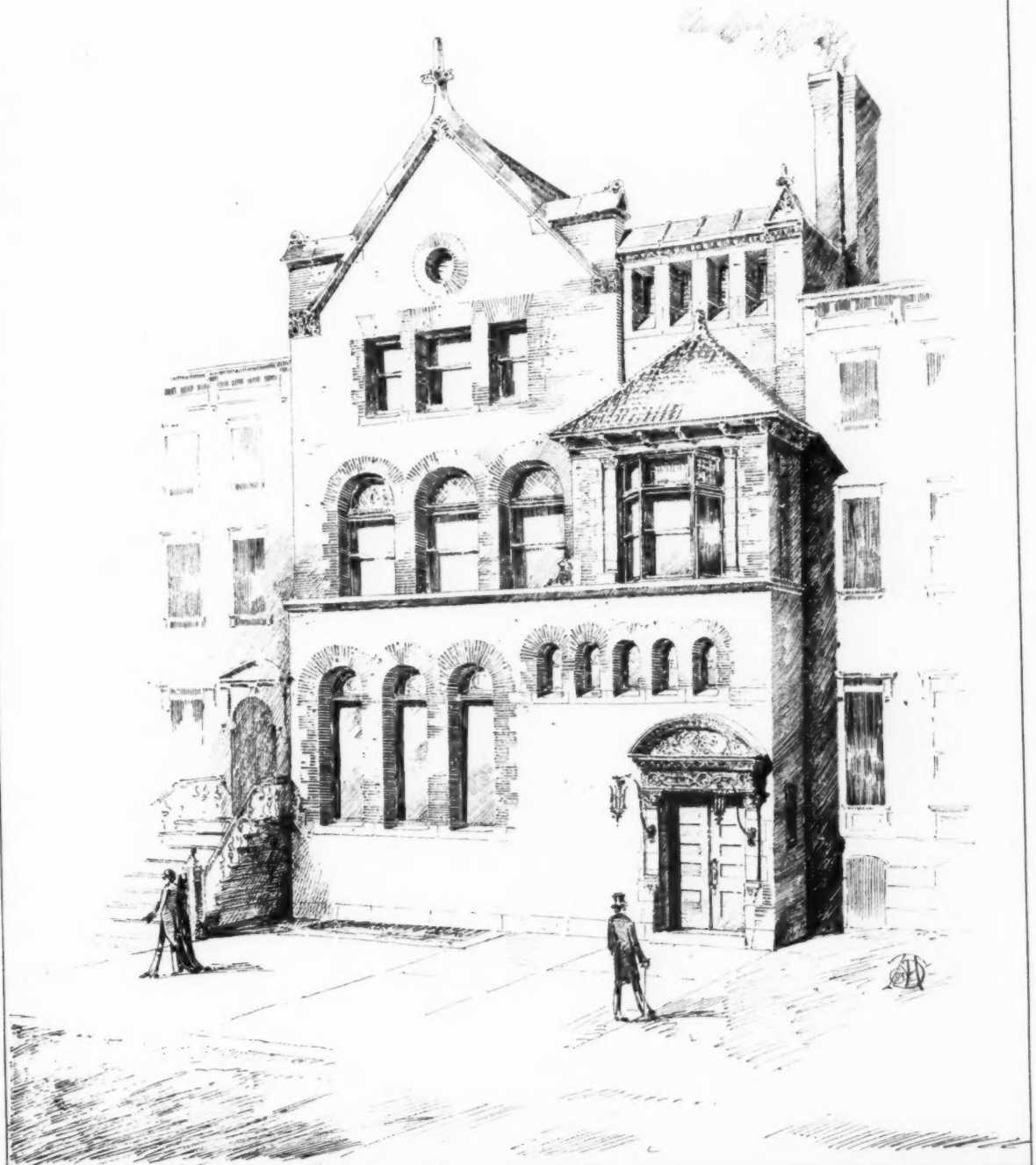

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The American Architect and Building News, January 6, 1894. No. 941.

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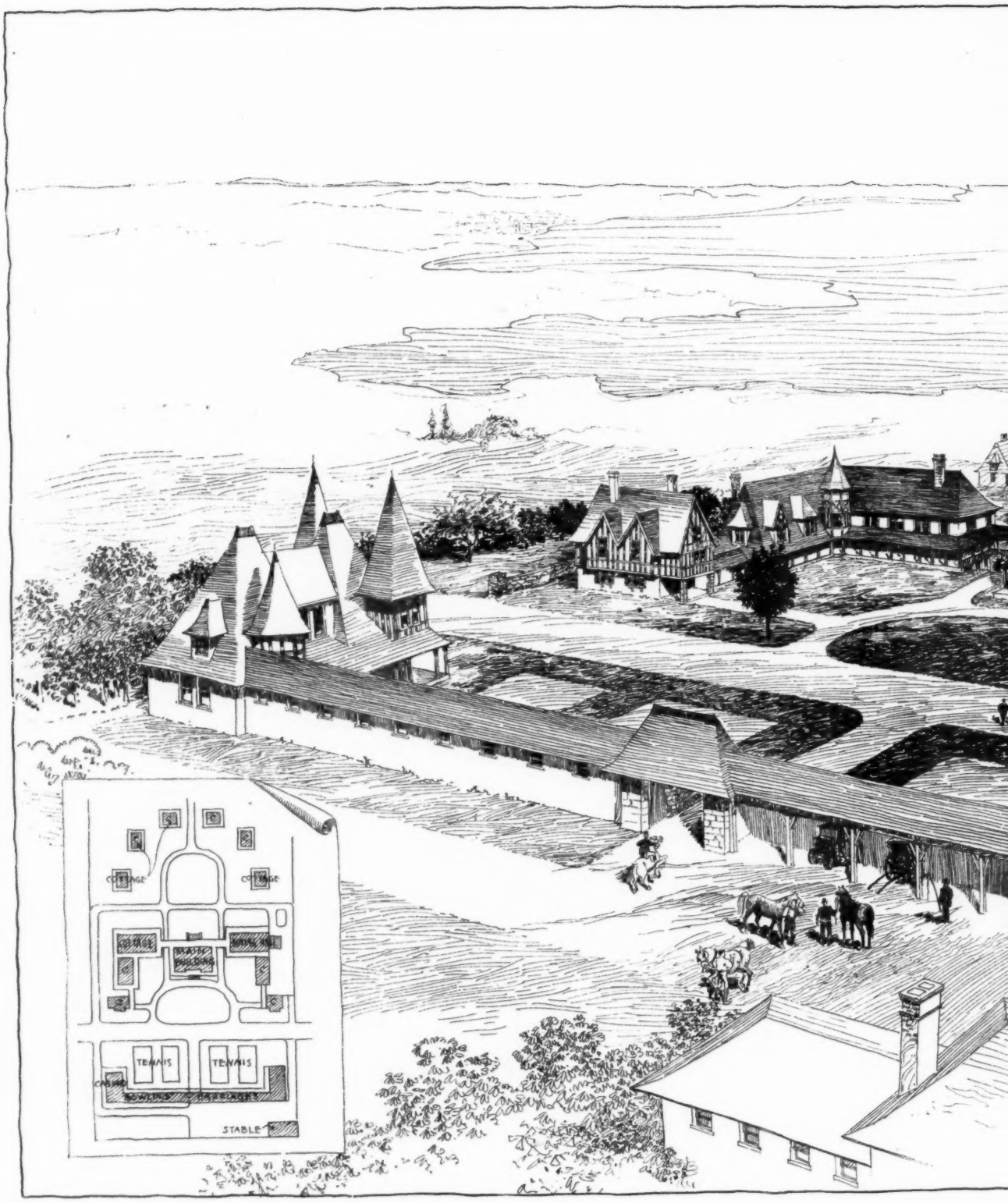

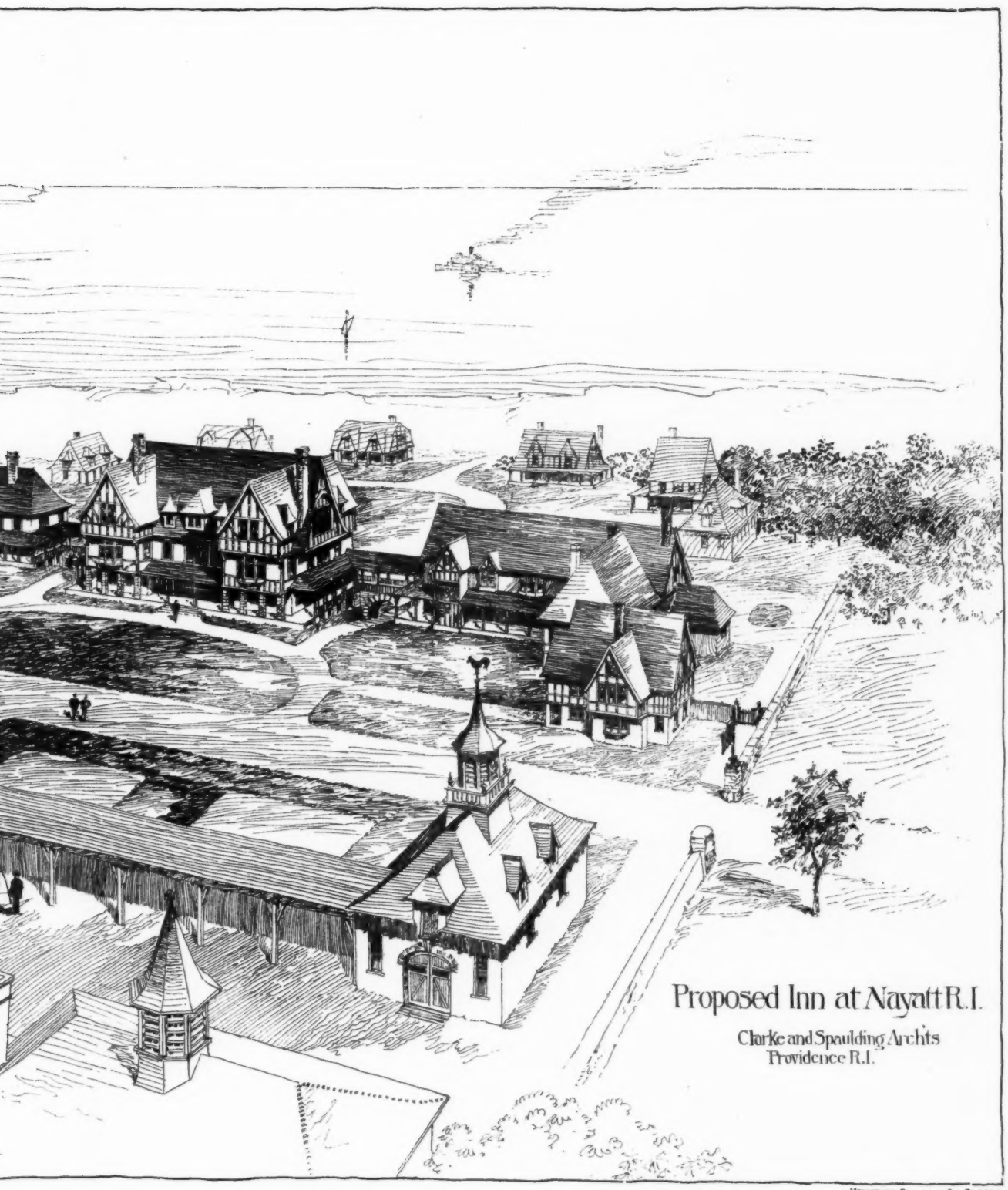

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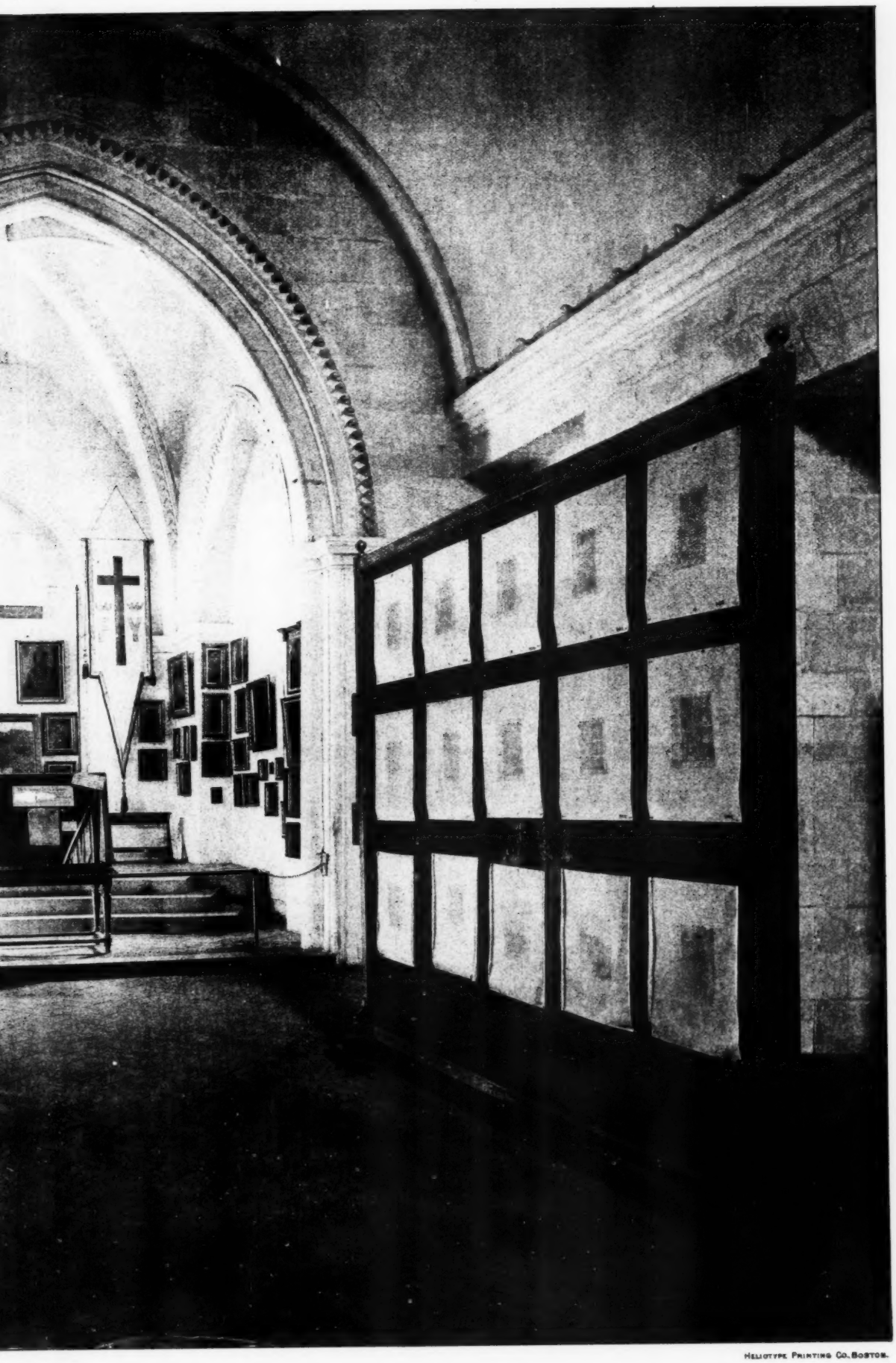

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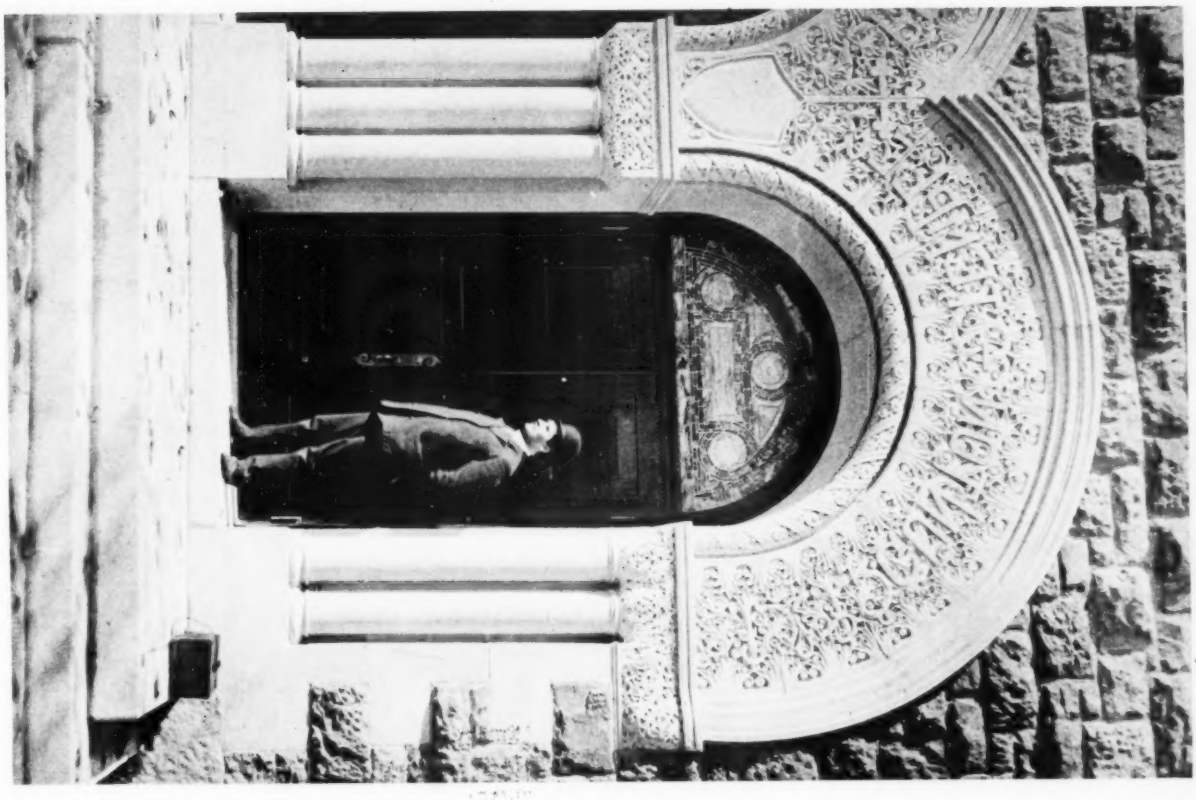

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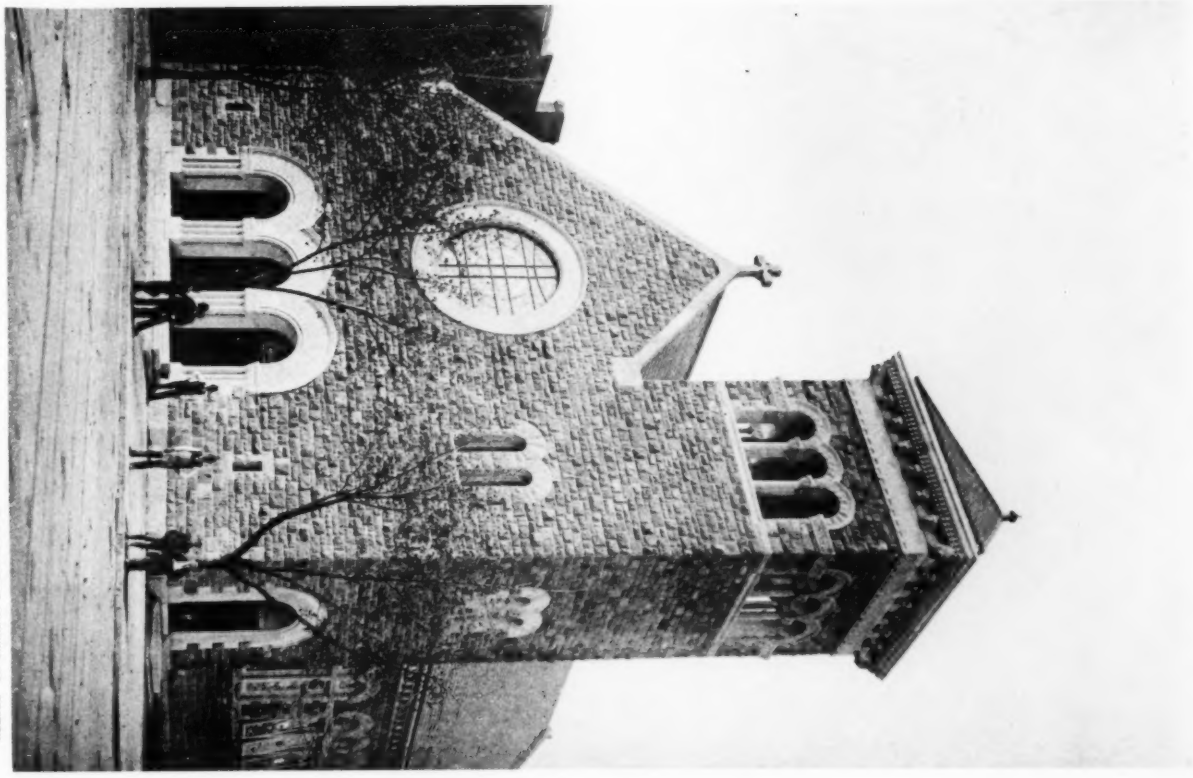

THE GUNTON-TEMPLE MEMORIAL CHURCH, WASHINGTON, D. C.

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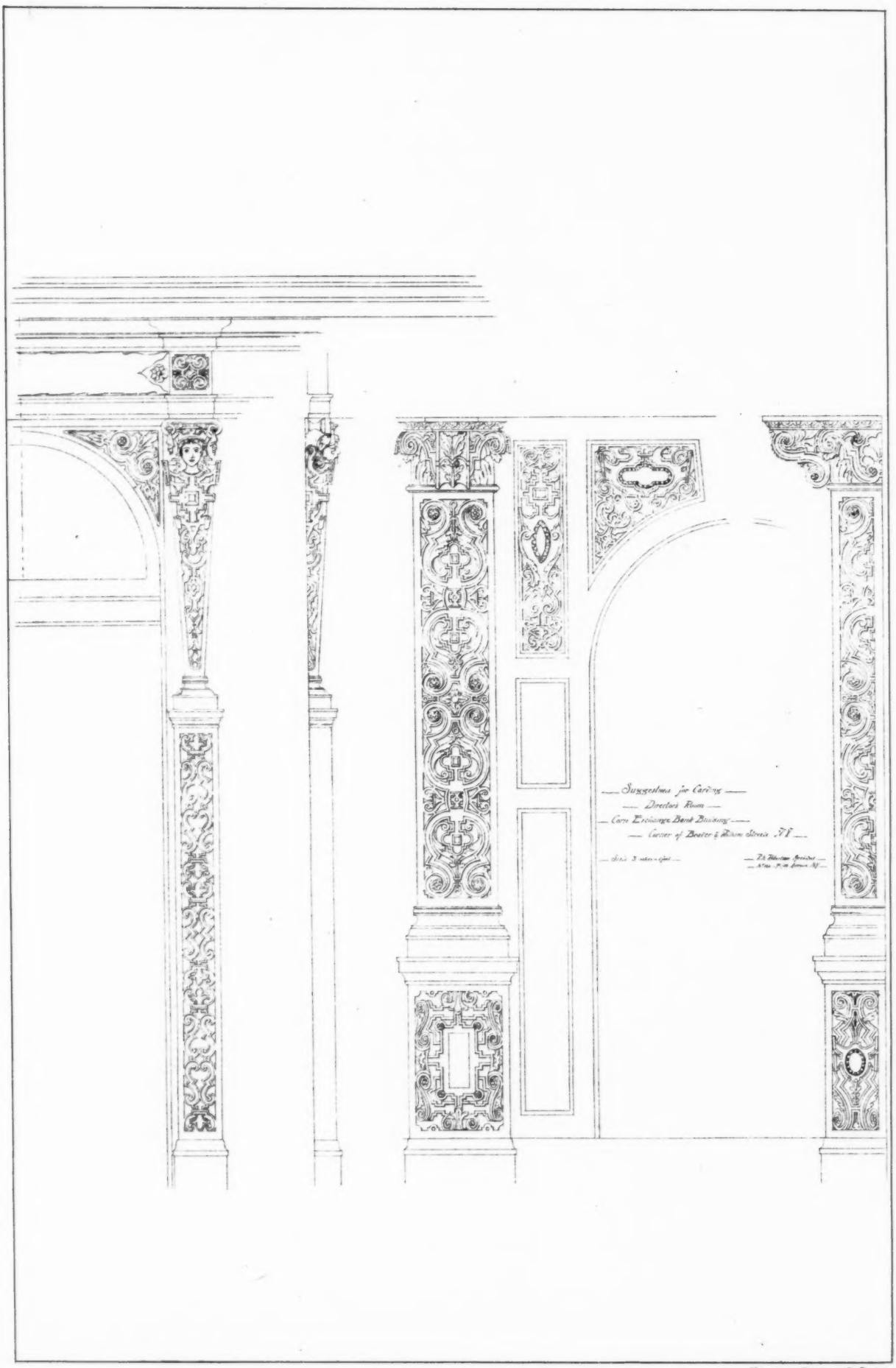

PEDIMENTAL SCULPTURE FOR THE PENNSYLVANIA RAILROAD STATION, PHILADELPHIA, PA. HALF-SCALE MODEL.

CARL BITTER, Sculptor.

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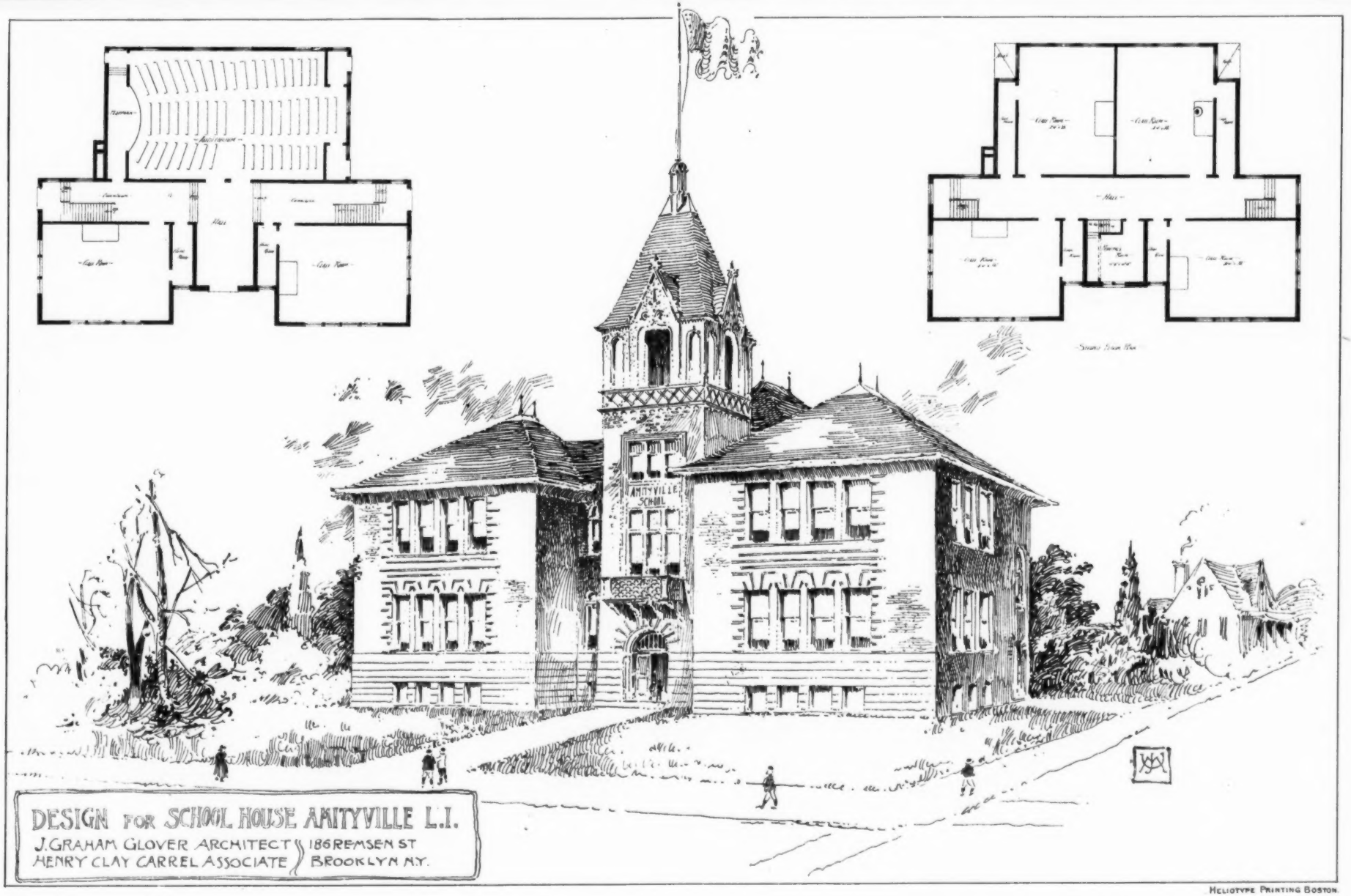

DESIGN FOR SCHOOL HOUSE AMITYVILLE L.I.

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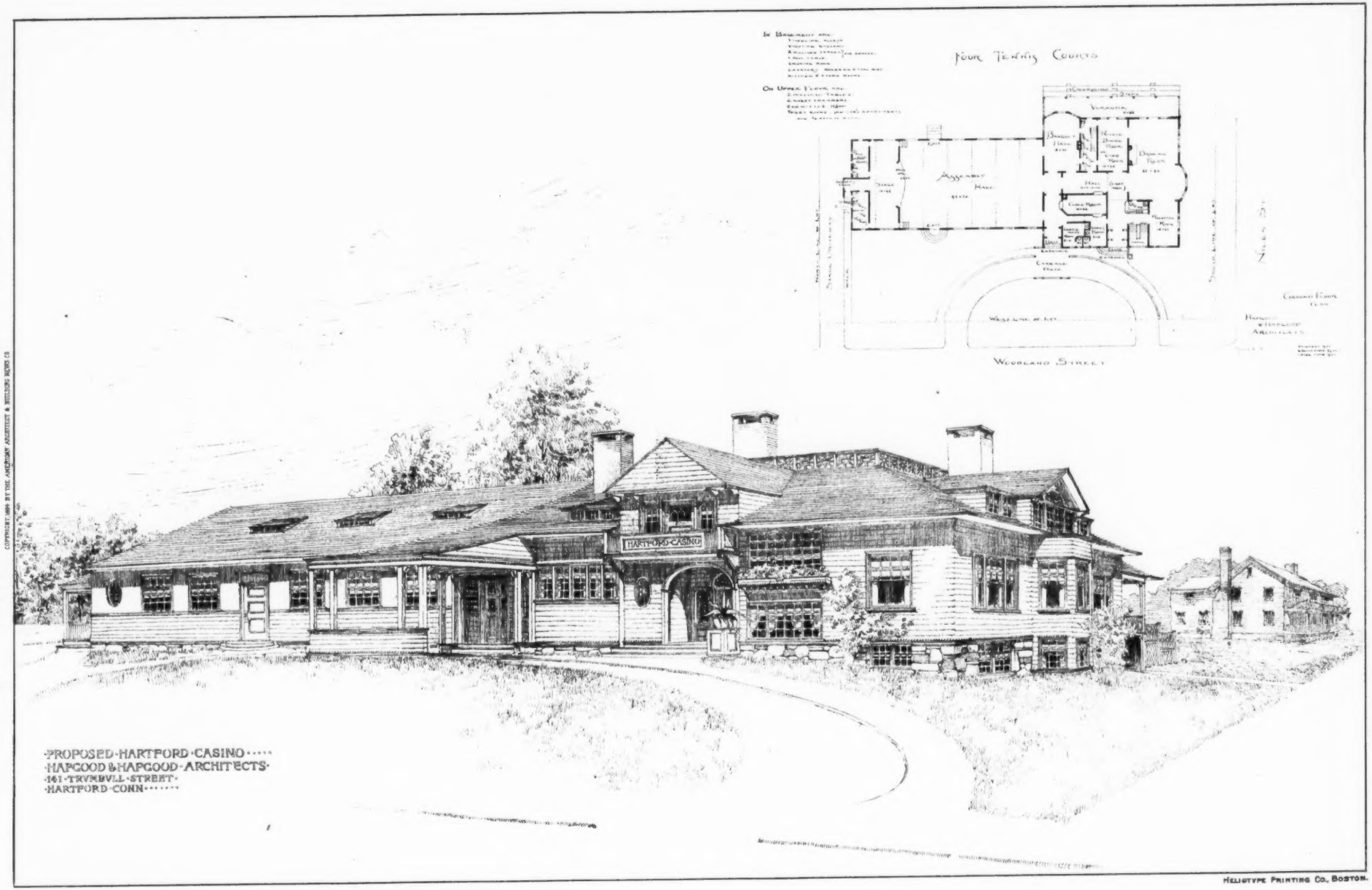

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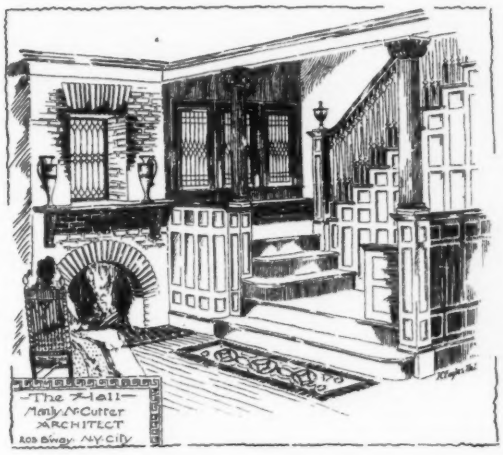
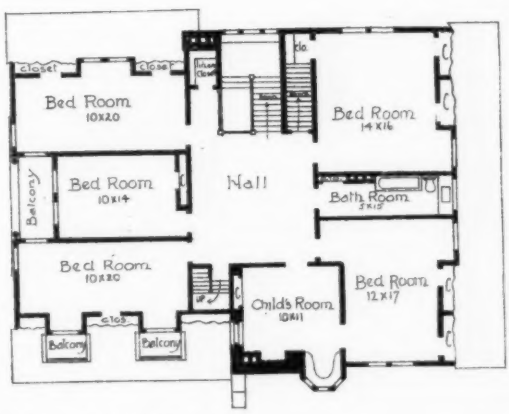


First Floor Plan.



Second Floor Plan

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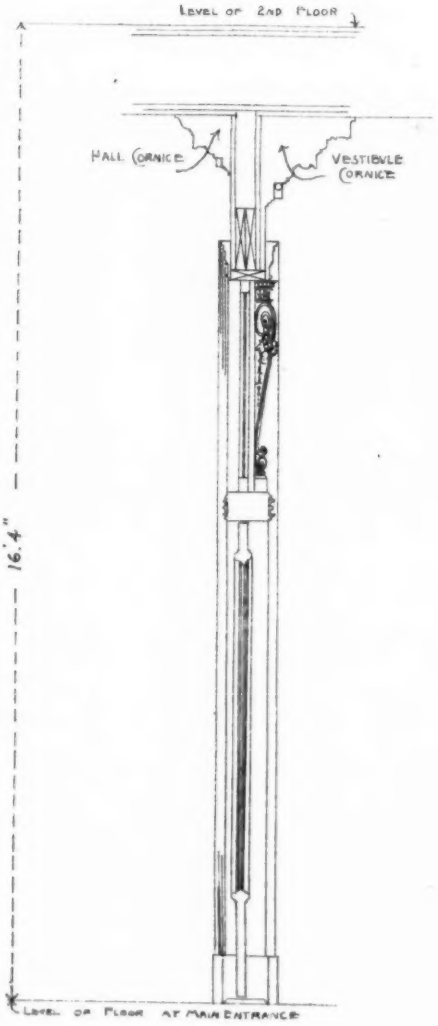

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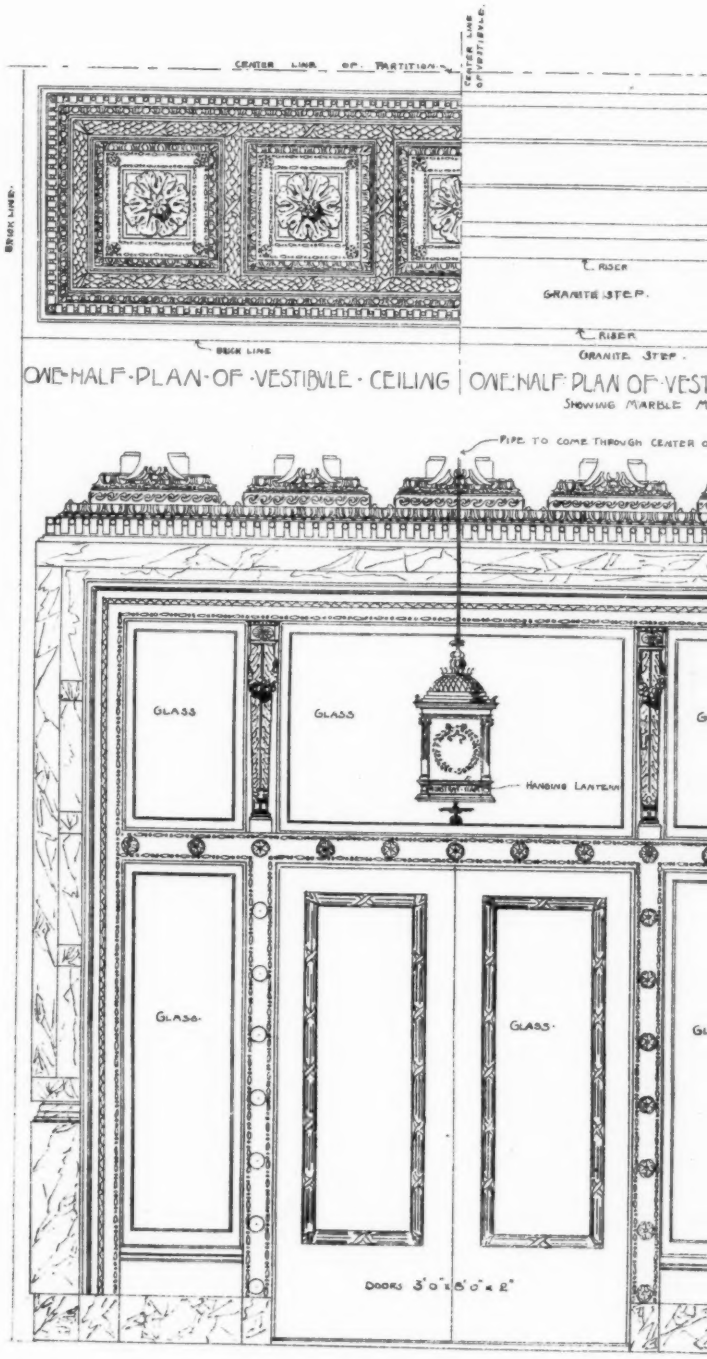

ONE-HALF PLAN OF VESTIBULE CEILING

ONE-HALF PLAN OF VEST
Showing Marble M

INTERIOR ELEVATION OF VESTIBULE LOOKING TOW

MAIN ENTRANCE VESTIBULE

MERCHANTS · NATIONAL · BANK · BUILDING ·

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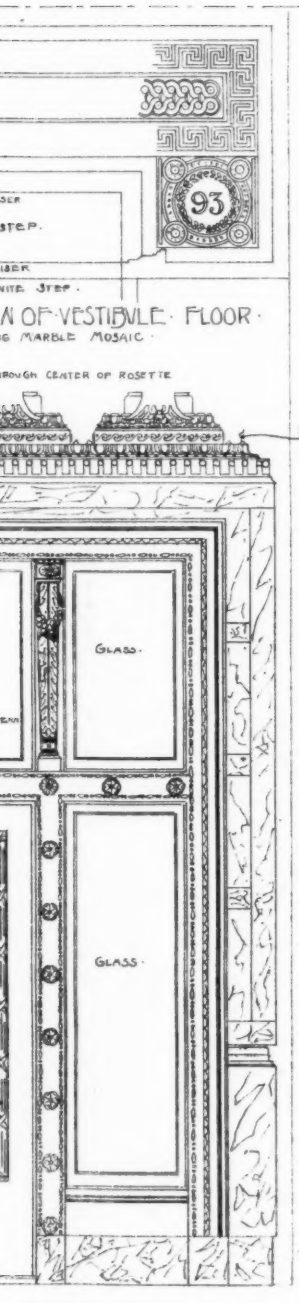
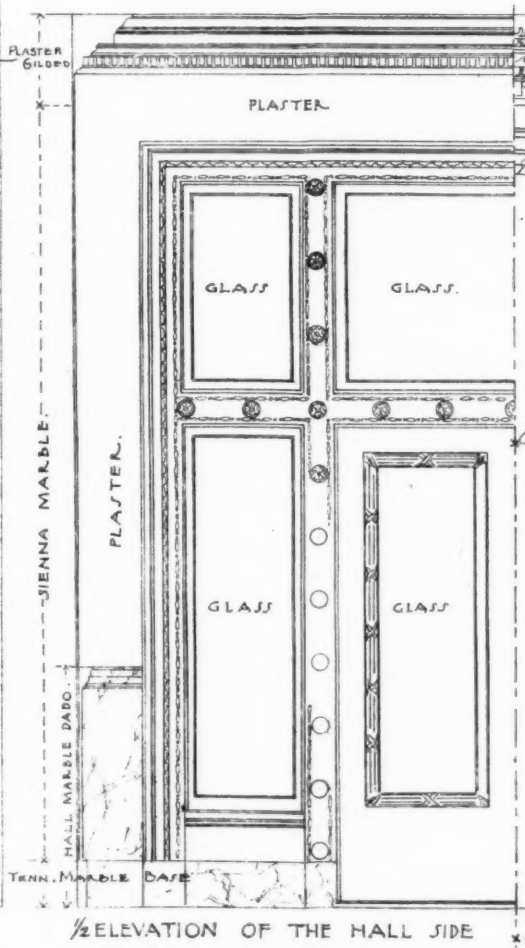
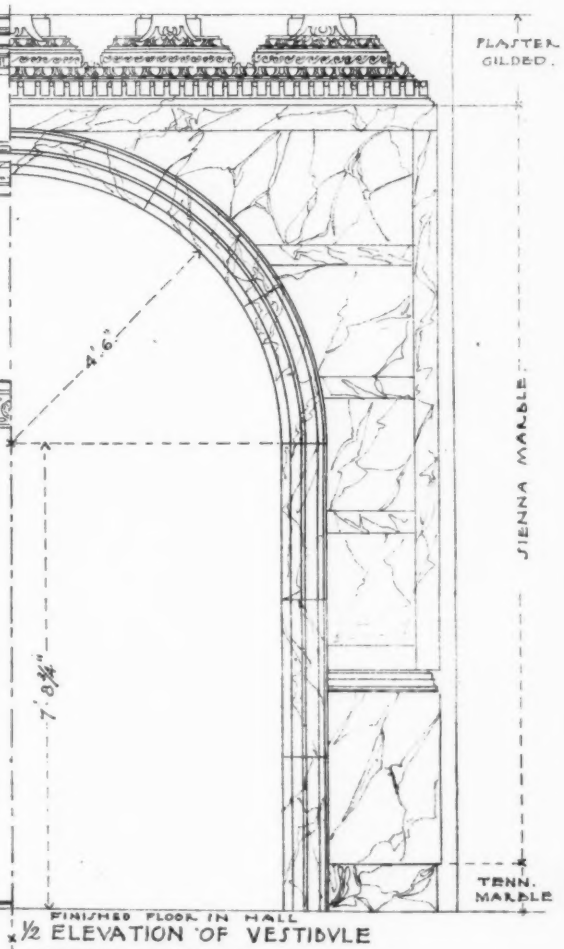


ING TOWARDS HALL.



½ ELEVATION OF THE HALL SIDE OF SCREEN BET. VESTIBULE & HALL



½ ELEVATION OF VESTIBULE LOOKING TOWARDS STREET.

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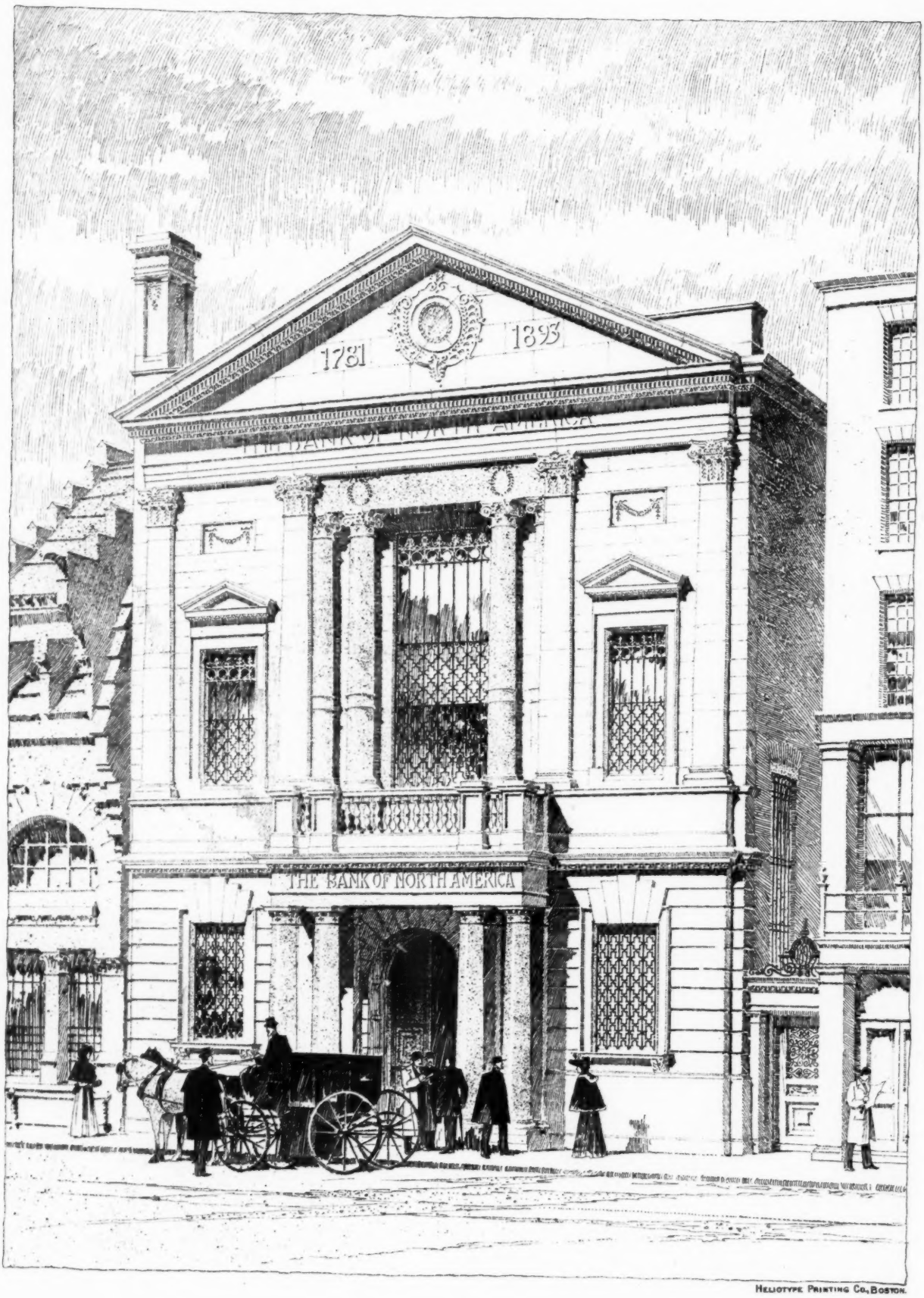

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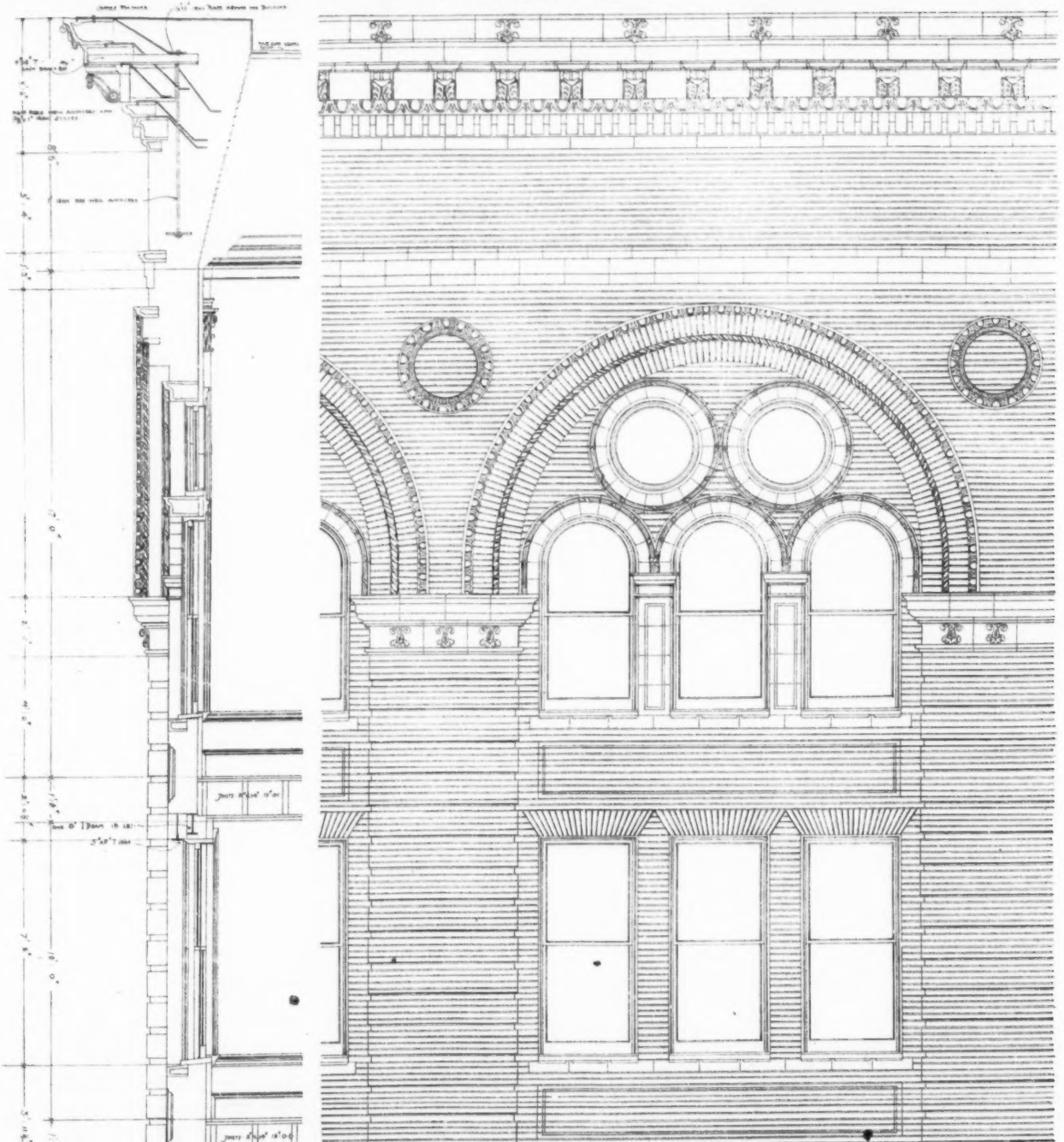

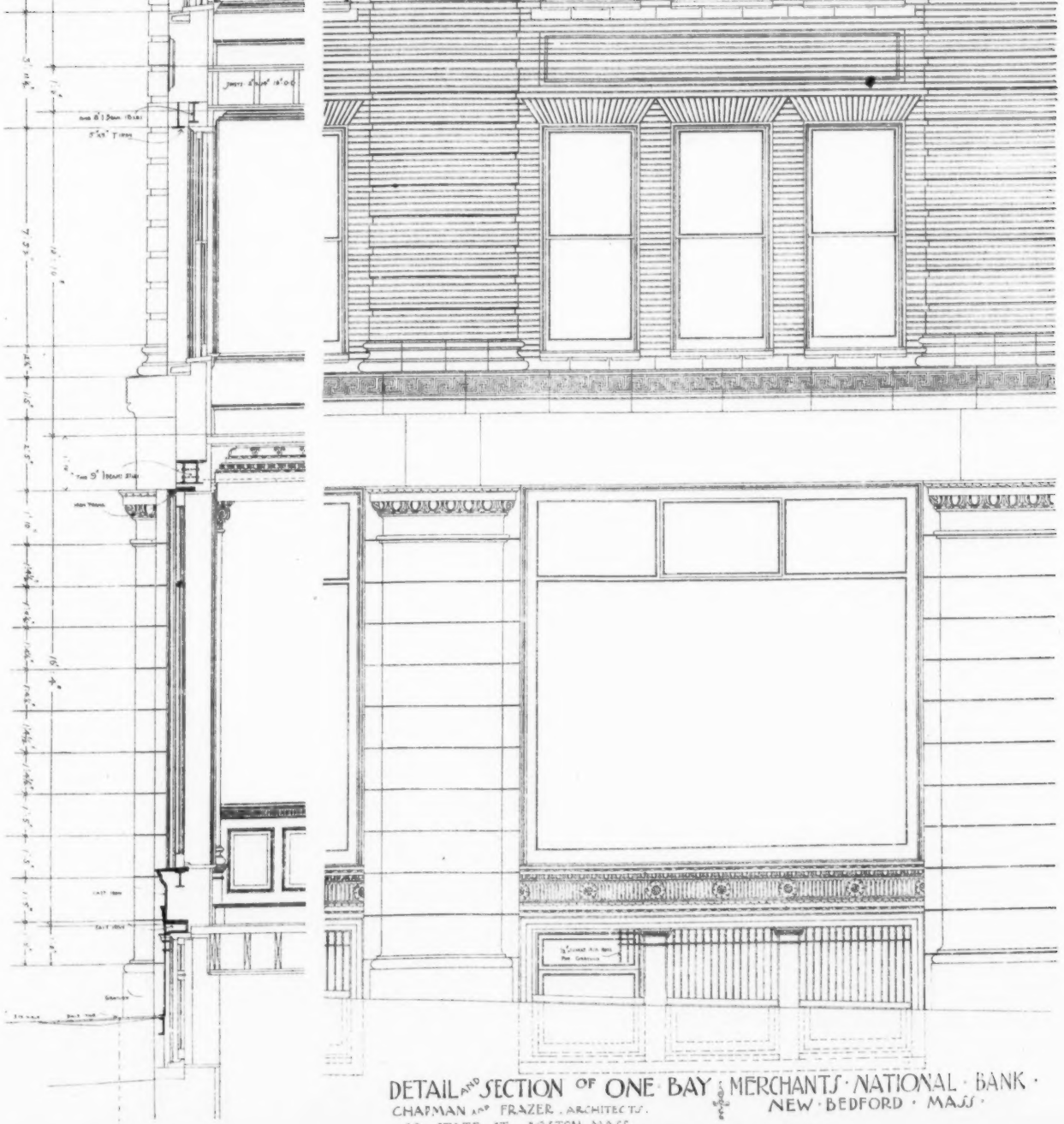

DETAIL AND SECTION OF ONE BAY · MERCHANTS · NATIONAL · BANK ·
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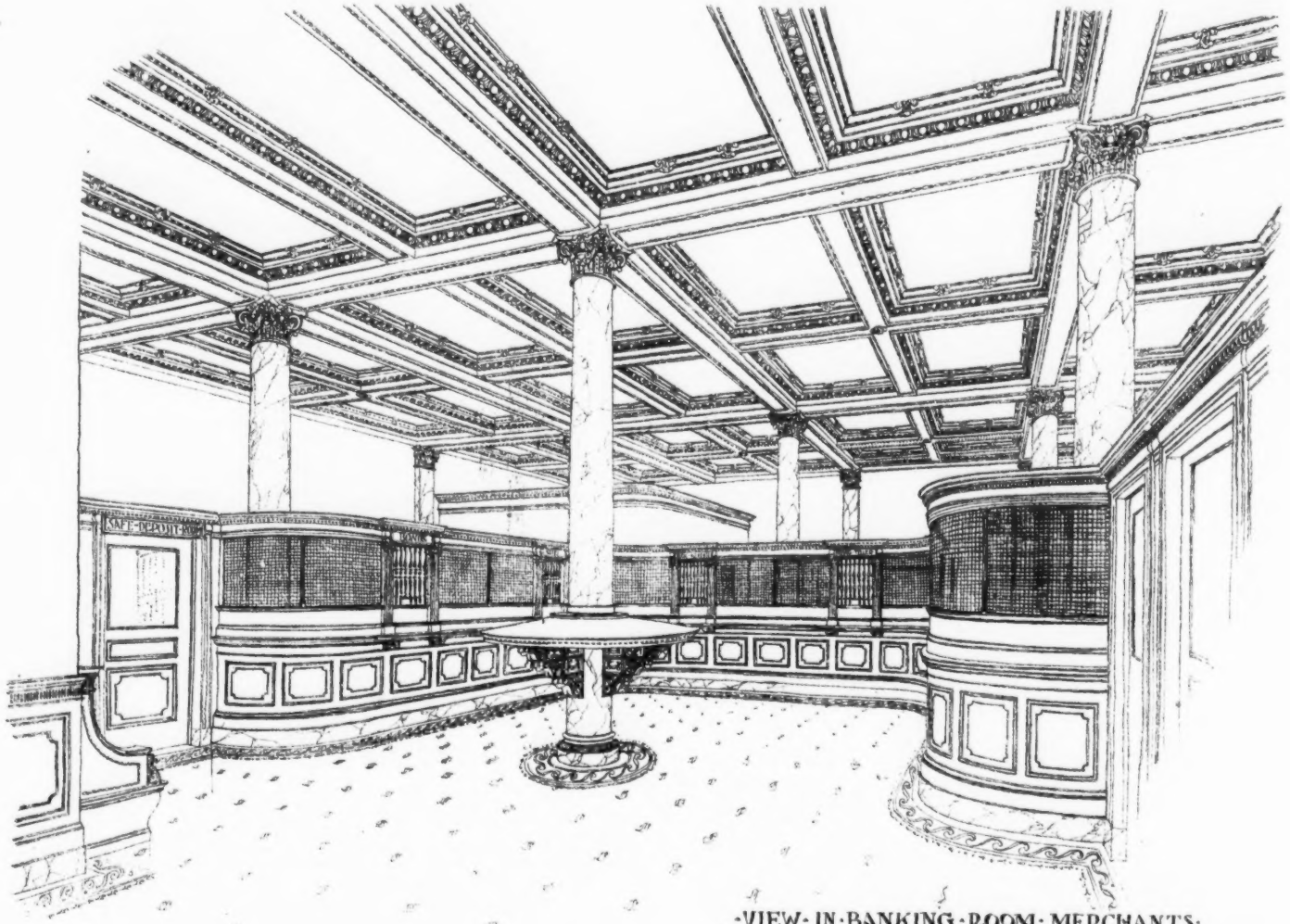
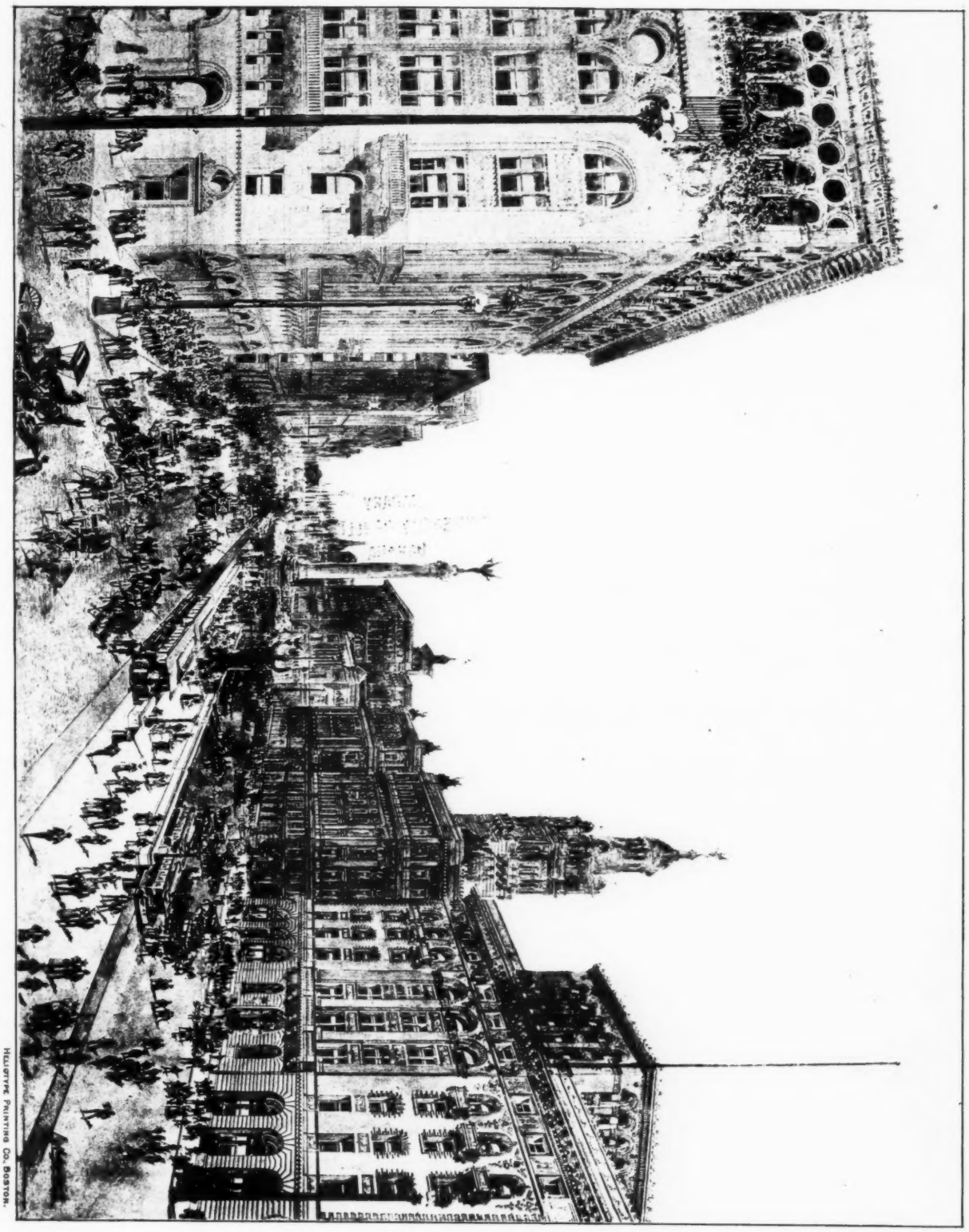


VIEW IN BANKING ROOM MERCHANTS NATIONAL BANK NEW BEDFORD MASS.
Chapman and Frazer Architects 89 State St Boston



SUGGESTED IMPROVEMENT OF TWELFTH STREET, ST. LOUIS, MO.

STEWART, McCLURE & MULGARDT, Architects.

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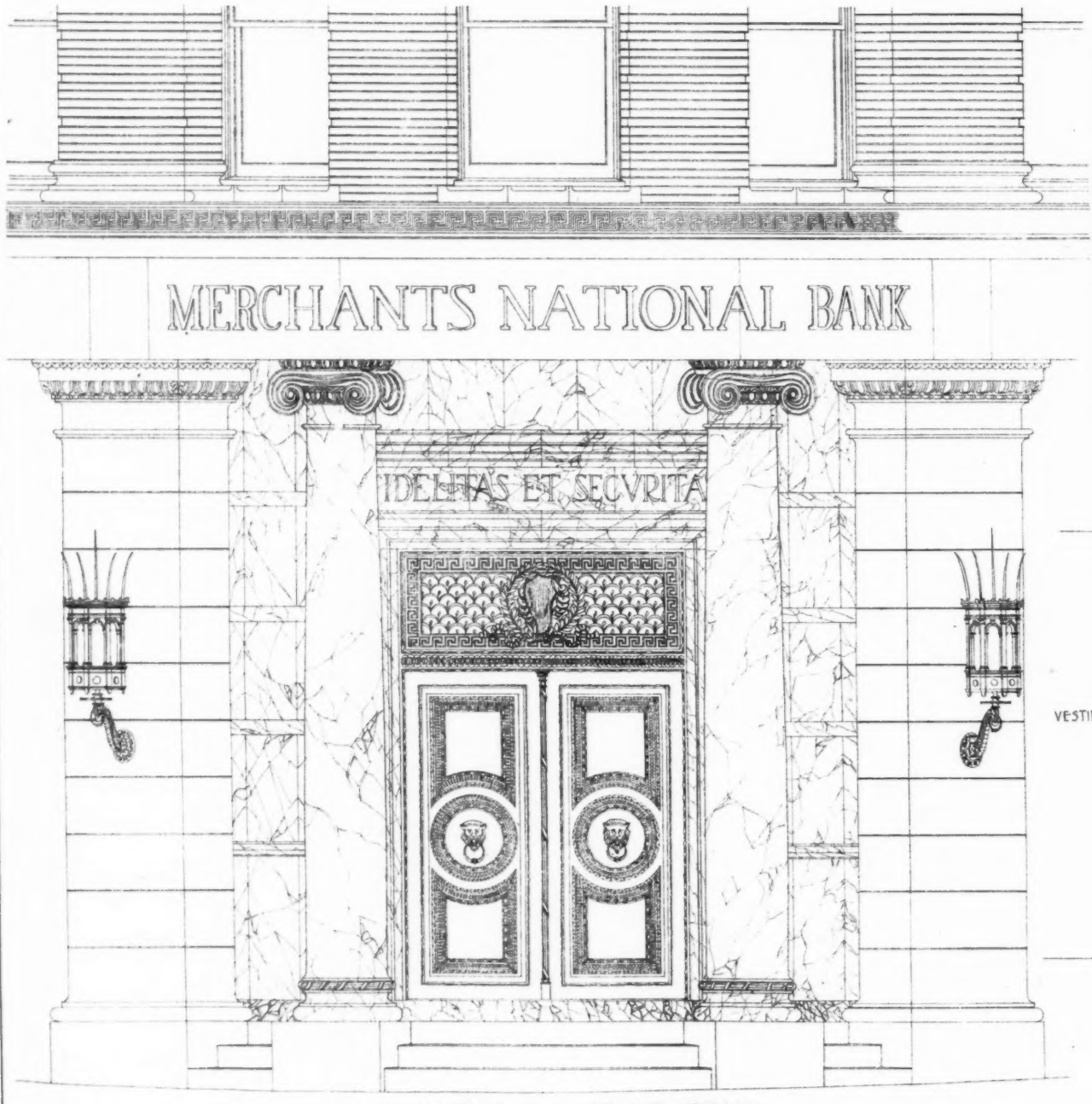

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THE BANK ENTRANCE

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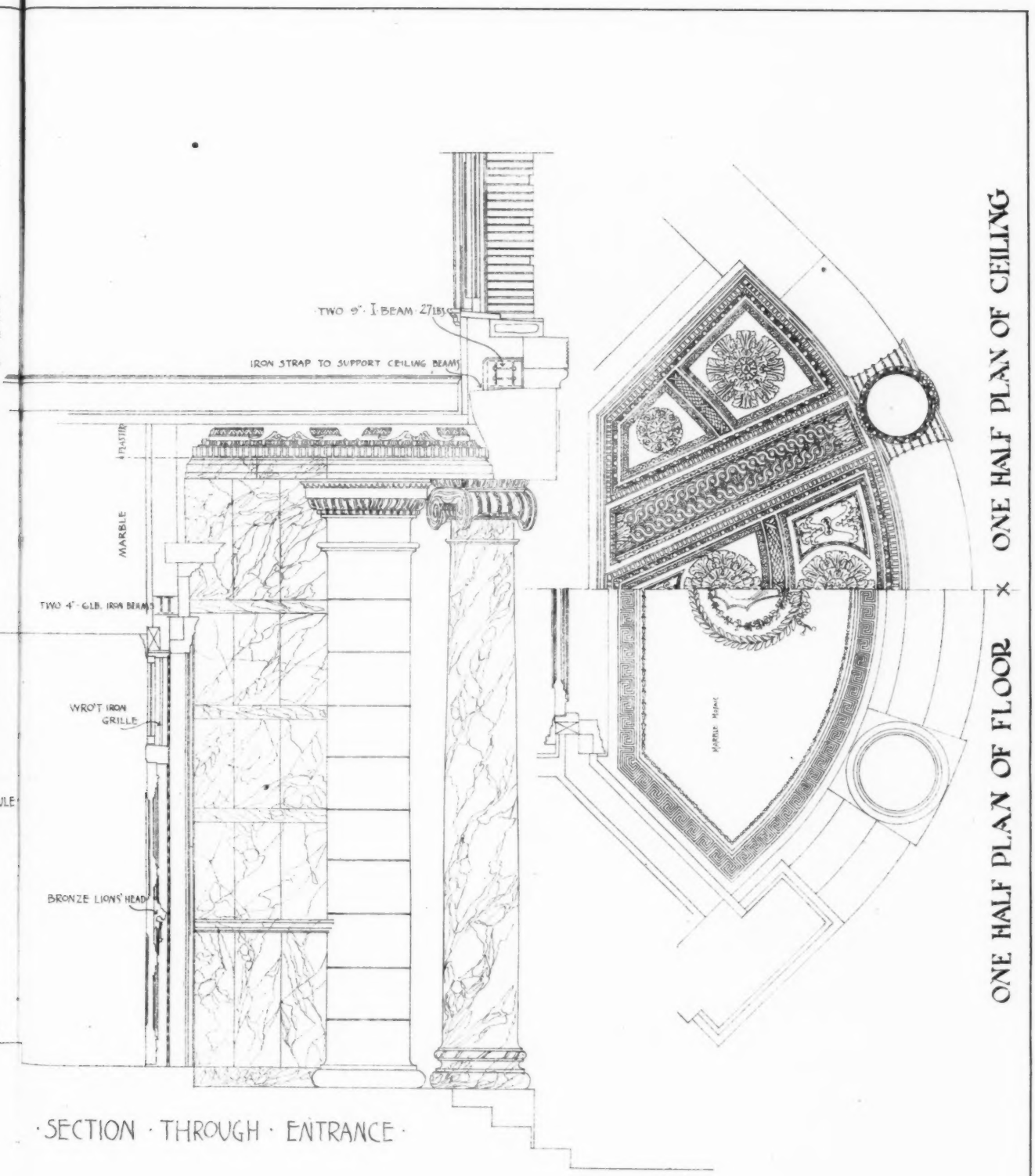

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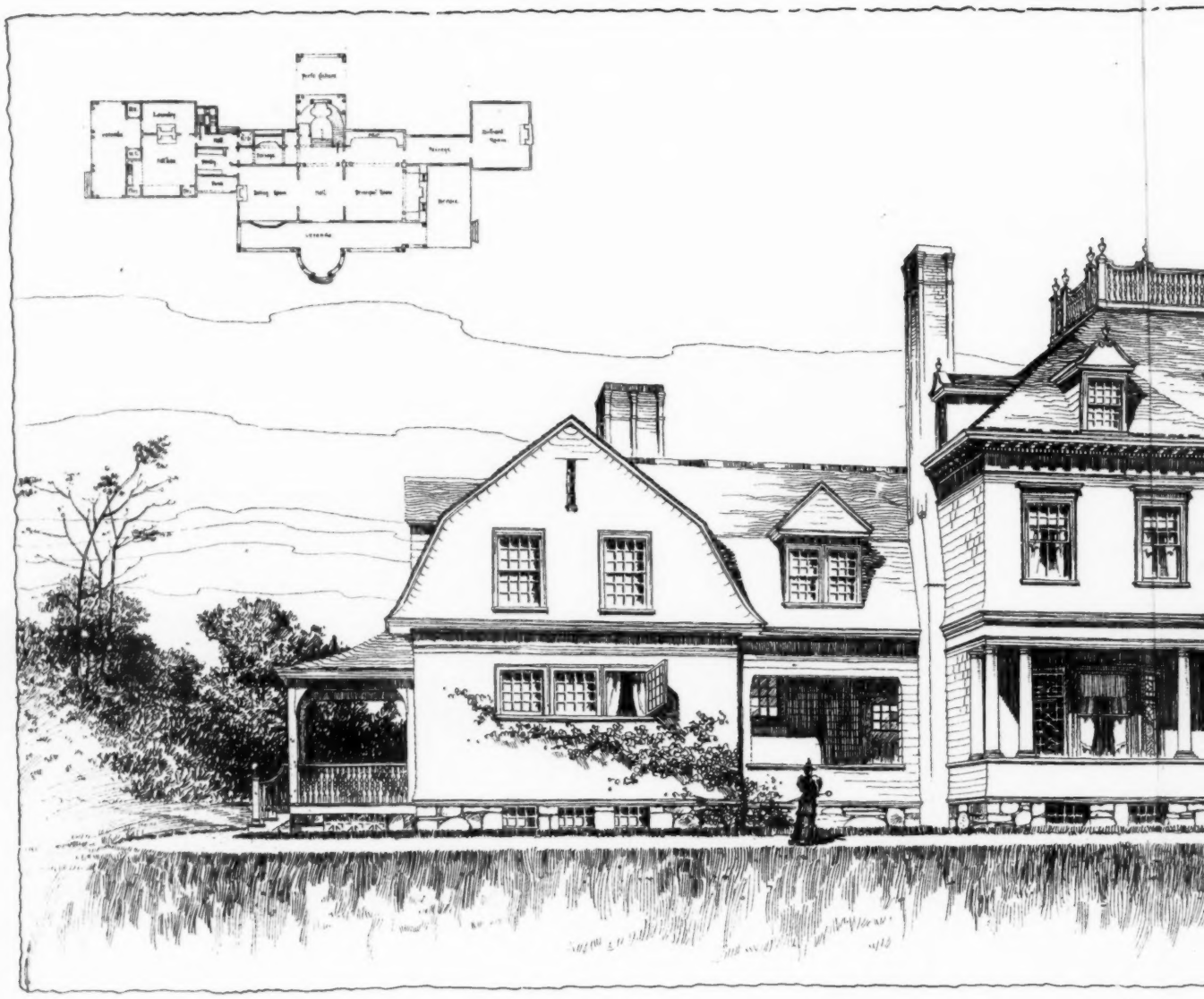

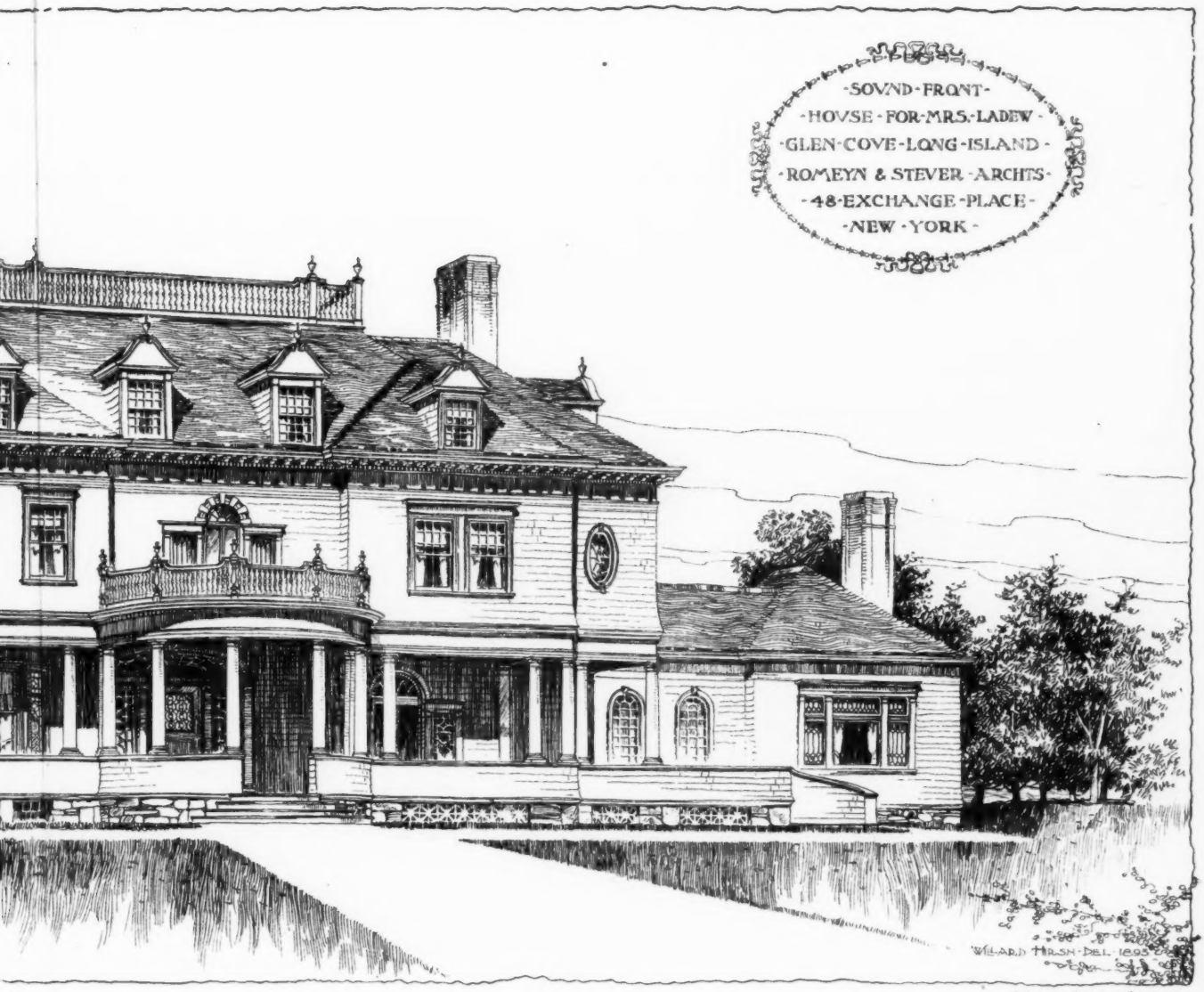

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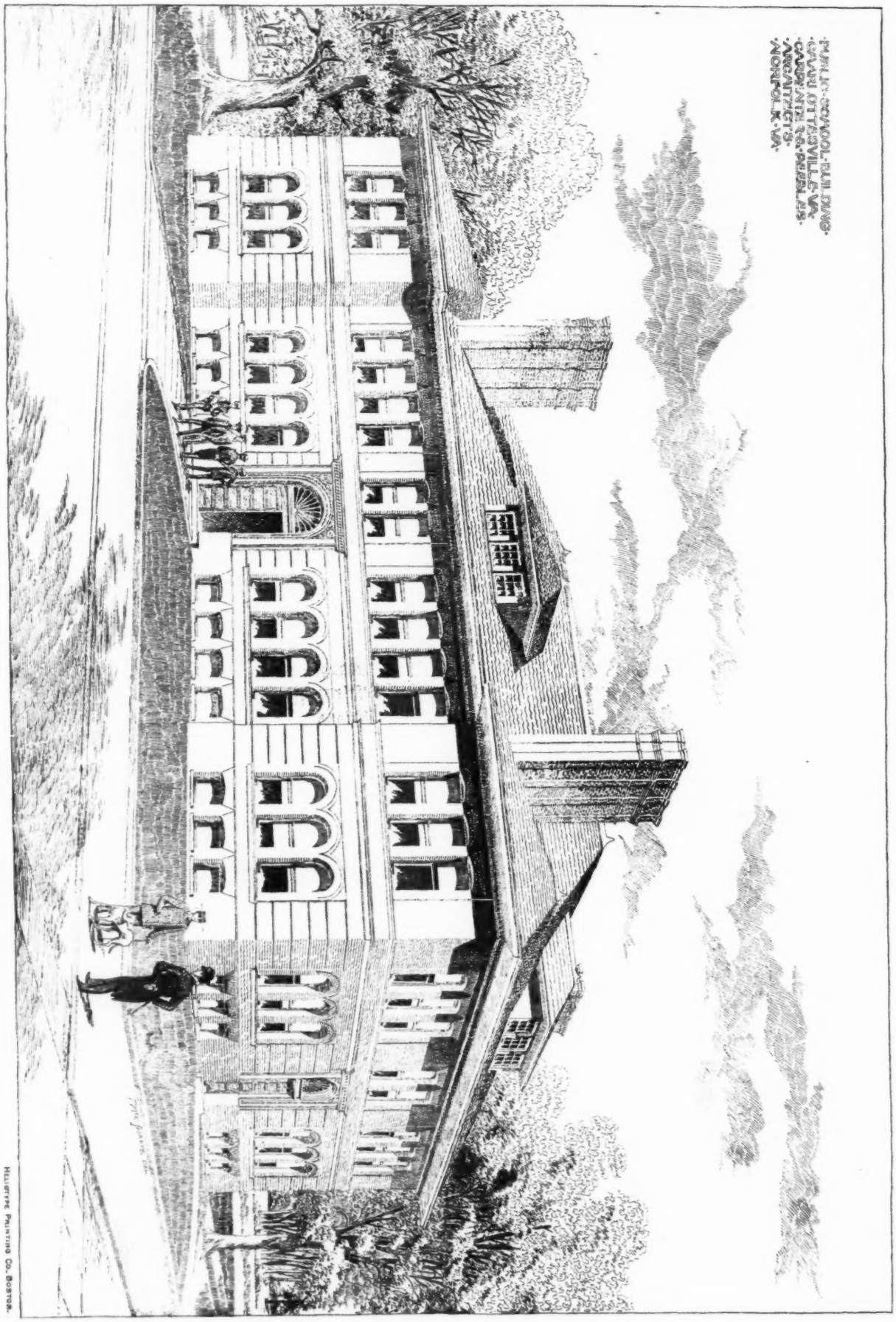
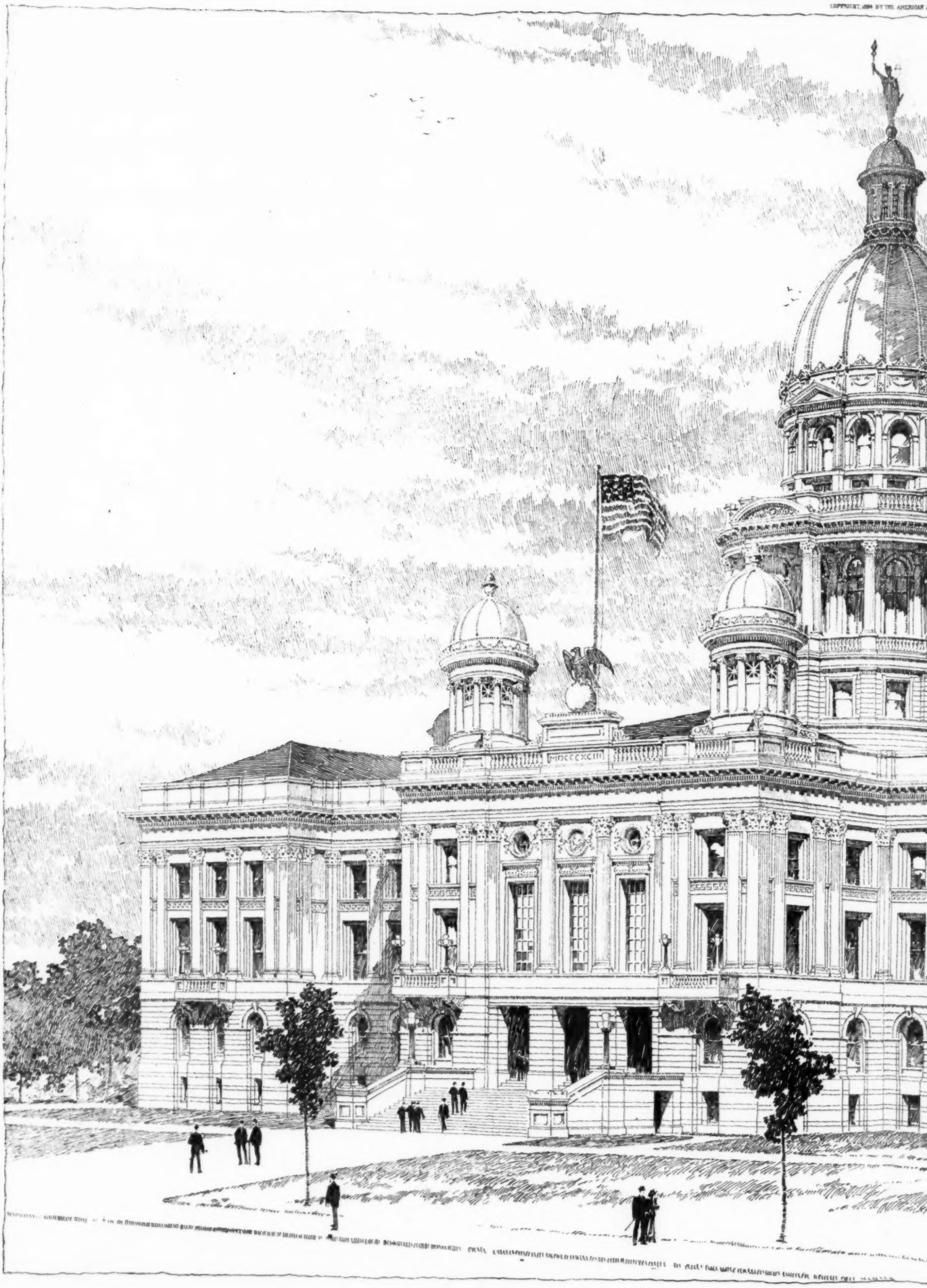
ORGAN-LOFT IN THE CONGREGATIONAL CHURCH, PROVIDENCE, R. I.

CARRÈRE & HASTINGS, Architects.

PUBLIC SCHOOL BUILDING.
CAVALIER OTTESVILLE, VA.
CAMERON & PEEBLES.
ARCHITECTS.
NORFOLK, VA.

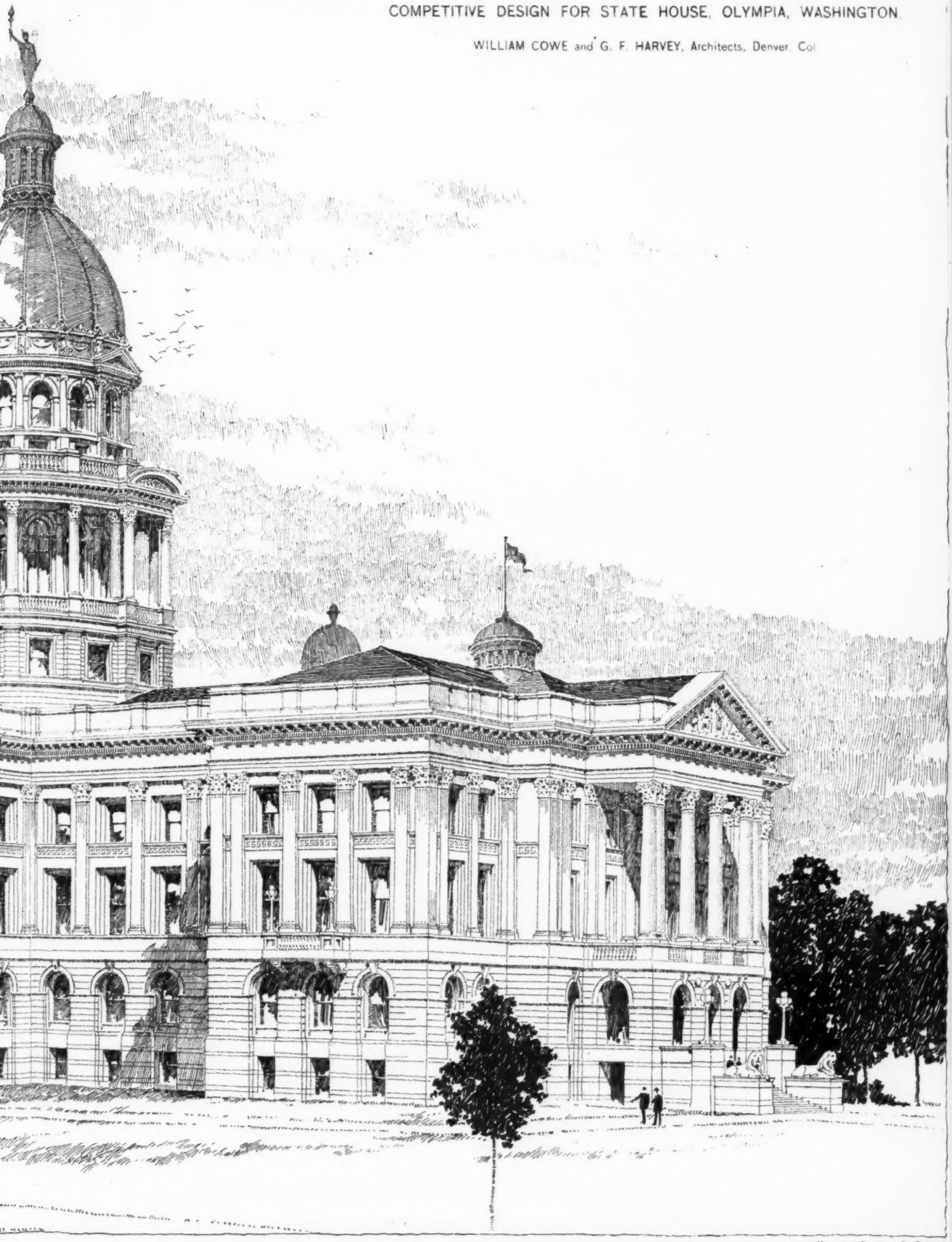


HELIOTYPE PRINTING CO., BOSTON.



COMPETITIVE DESIGN FOR STATE HOUSE, OLYMPIA, WASHINGTON.

WILLIAM COWE and G. F. HARVEY, Architects, Denver, Col.



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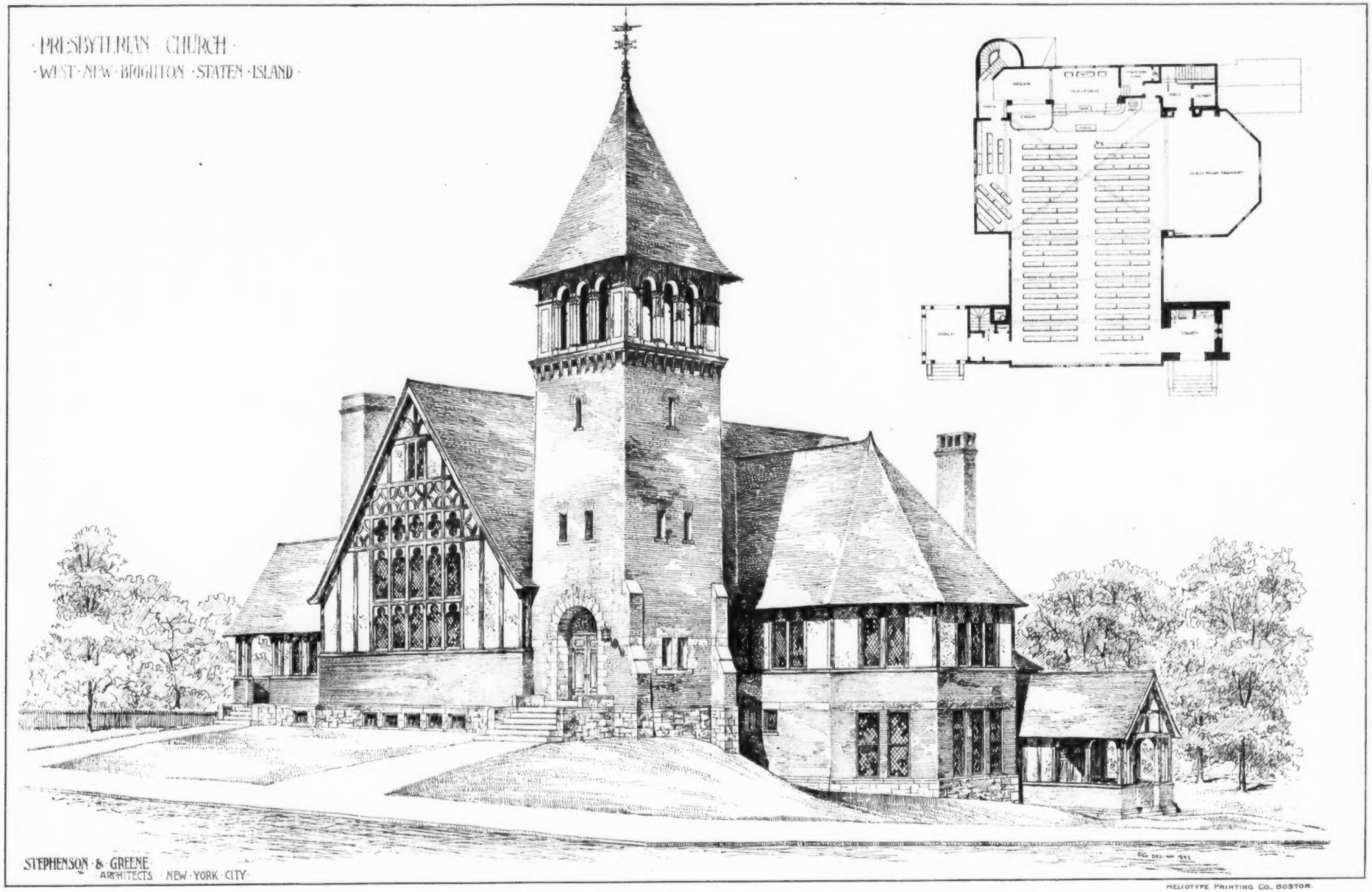
AMERICAN ARCHITECT AND BUILDING NEWS, FEB. 3, 1894. No 945.

PRESBYTERIAN CHURCH
WEST NEW BRIGHTON STATEN ISLAND



STEPHENSON & GREENE
ARCHITECTS NEW YORK CITY

HELIOTYPE PRINTING CO., BOSTON.

HOUSES ON COMMONWEALTH AVENUE, BOSTON, MASS.

PEABODY & STEARNS, Architects.

McKIM, MEAD & WHITE, Architects.

The American Architect and Building News, February 5, 1894. No. 945.

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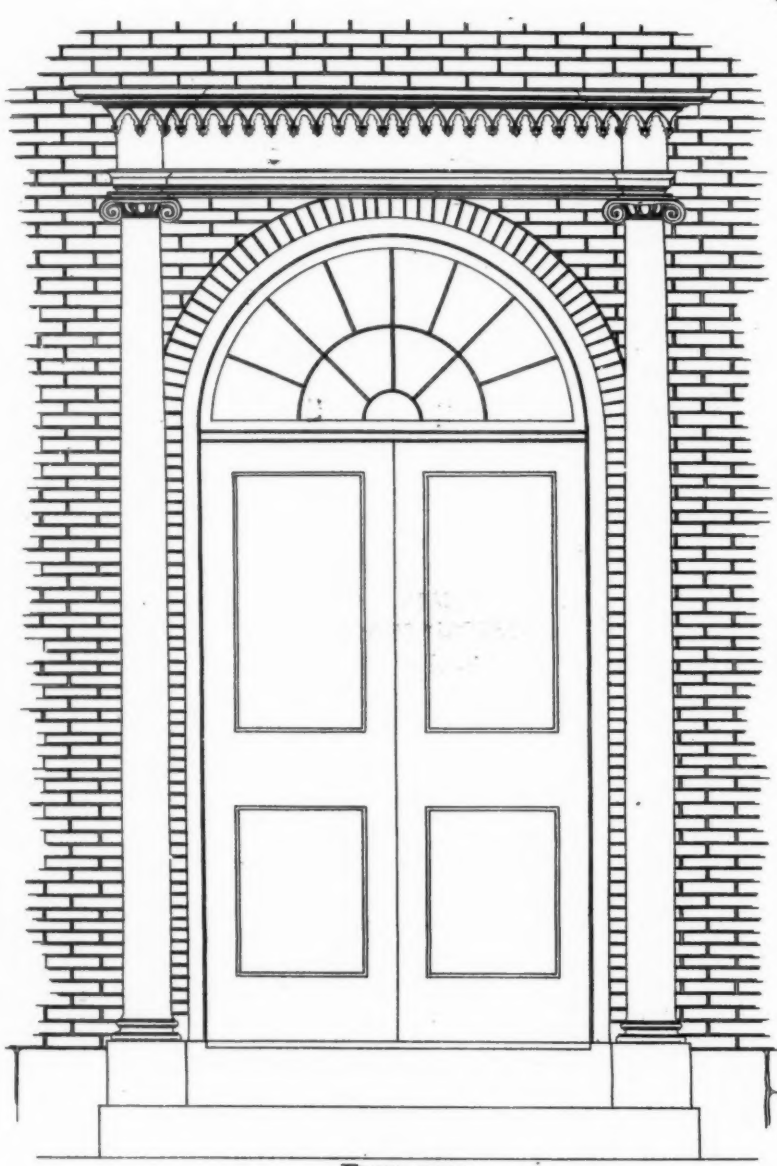
HOUSES ON COMMONWEALTH AVENUE, BOSTON, MASS.

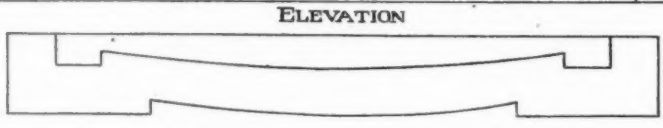
PEABODY & STEARNS, Architects. McKIM, MEAD & WHITE, Architects.

DOORWAY
OLD CUSTOM HOUSE
PORTSMOUTH N.H.

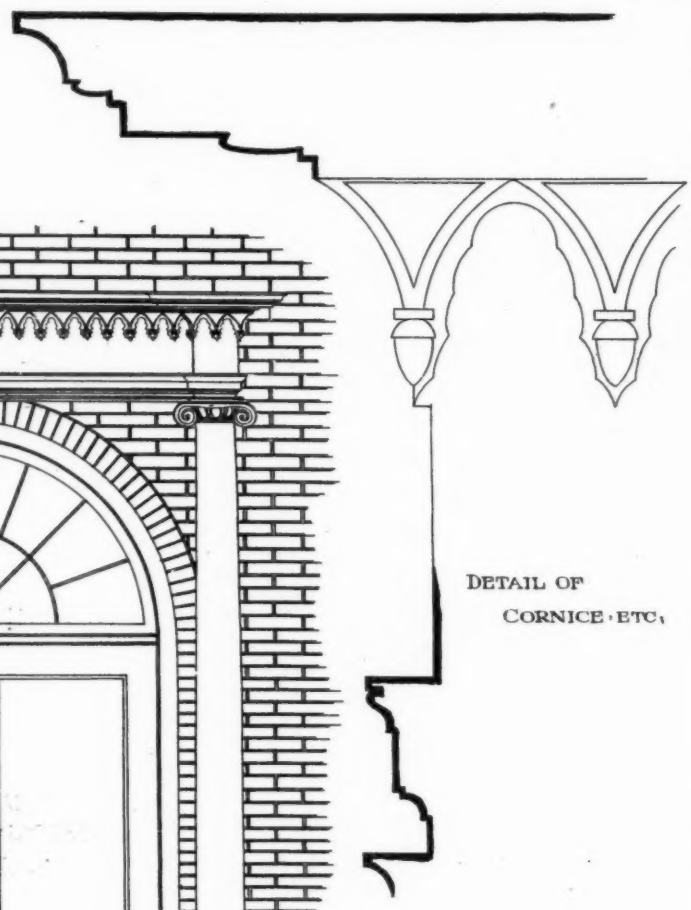
MEASURED BY CLARENCE FOWLER.
DRAWN BY F.A. CAMPBELL.



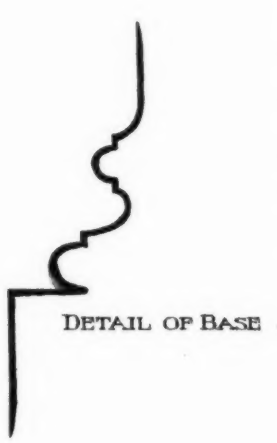
ELEVATION



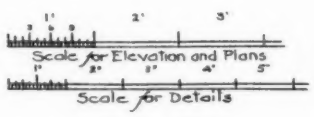
PLANS OF FRIEZE AND CORNICE



DETAIL OF CORNICE, ETC.



DETAIL OF BASE



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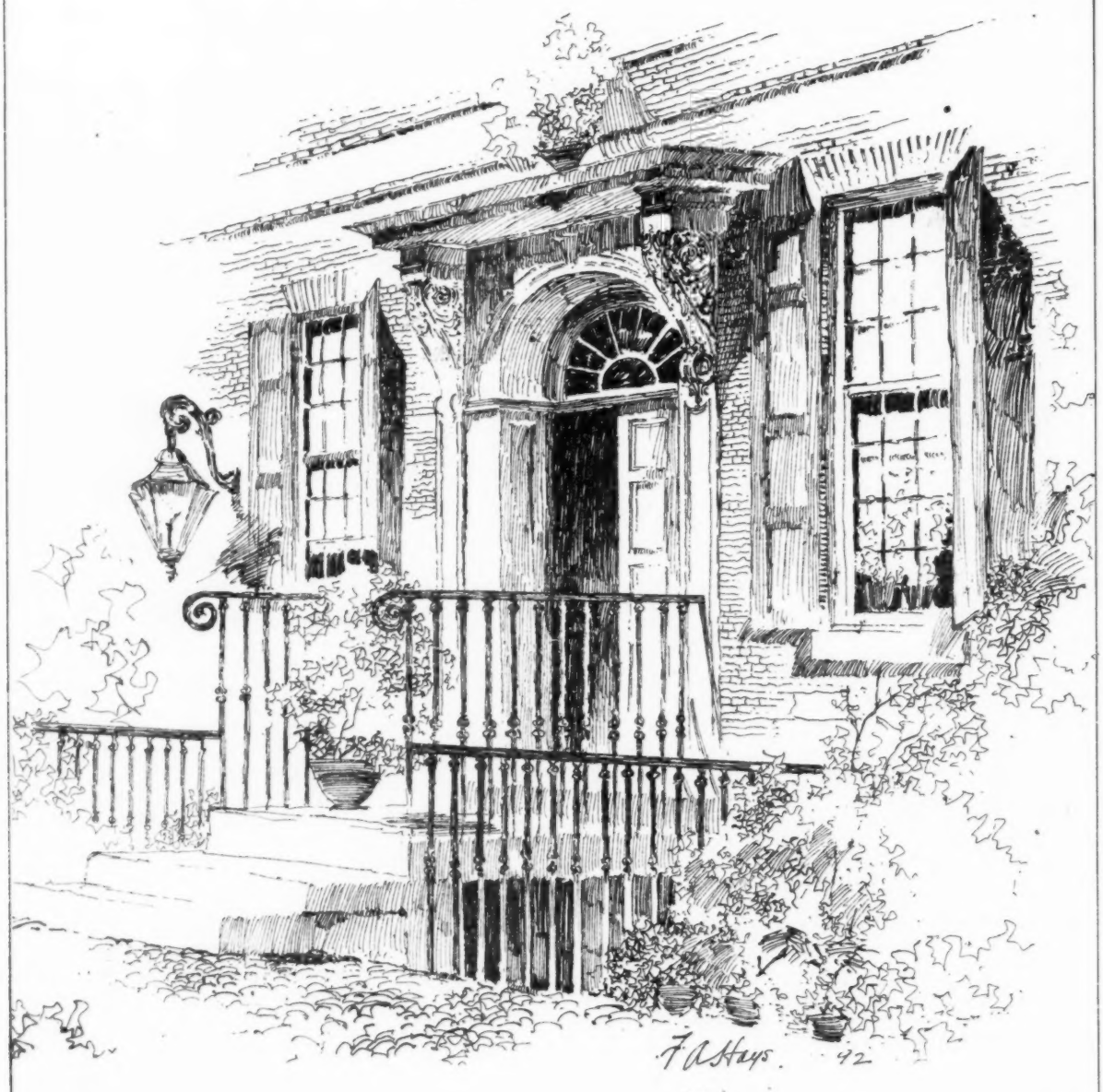
St. Joseph's
in the
·COURTYARD·

Willings Alley
·Philada·



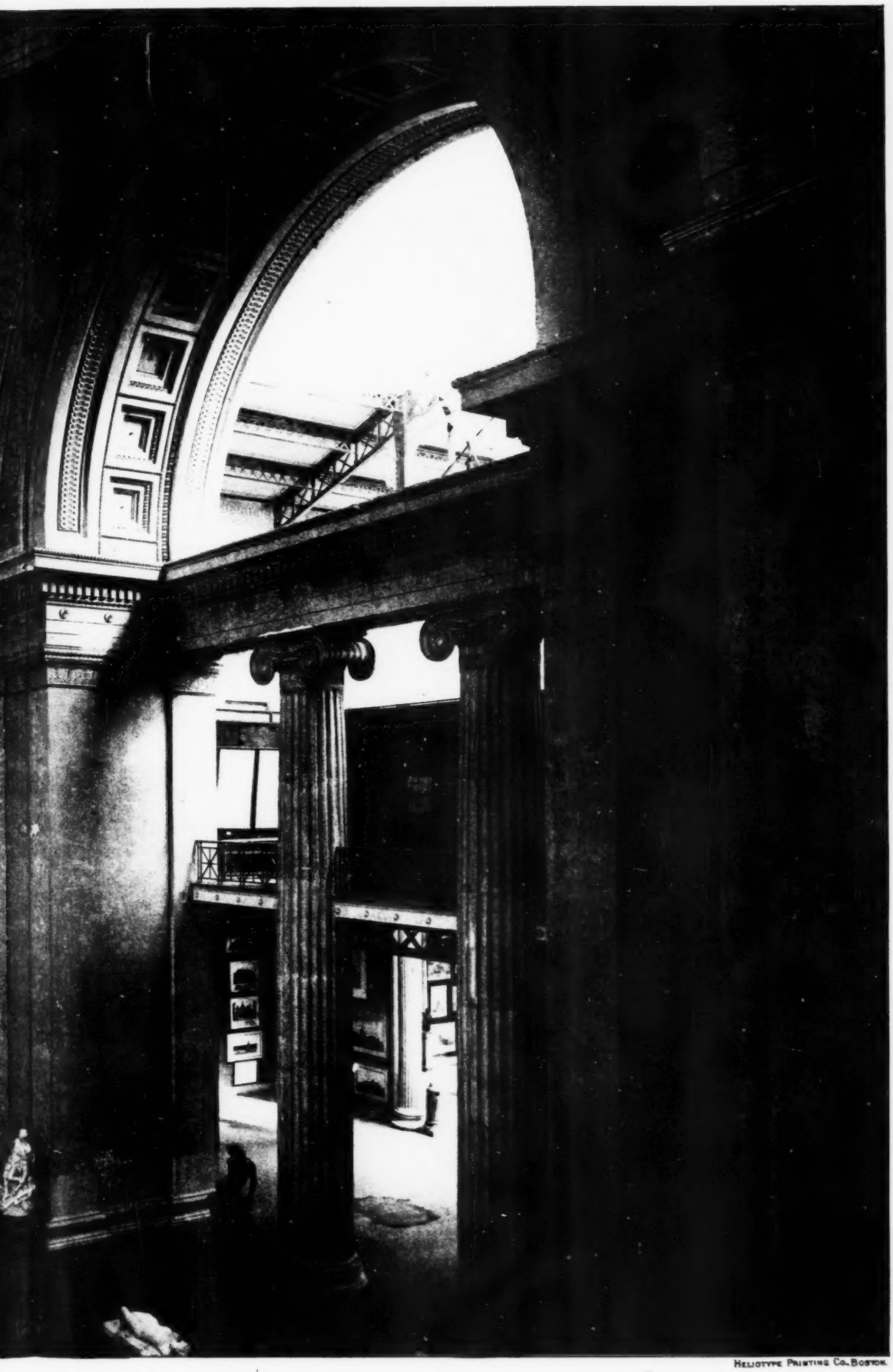
Heliotype Printing Co. Boston.

NEGATIVE BY C. D. ARNOLD, REVERSED

UNDER THE DOME OF THE

WORLD'S COLUMBIAN EXHIBITION,

CHARLES B. ATWOOD, A



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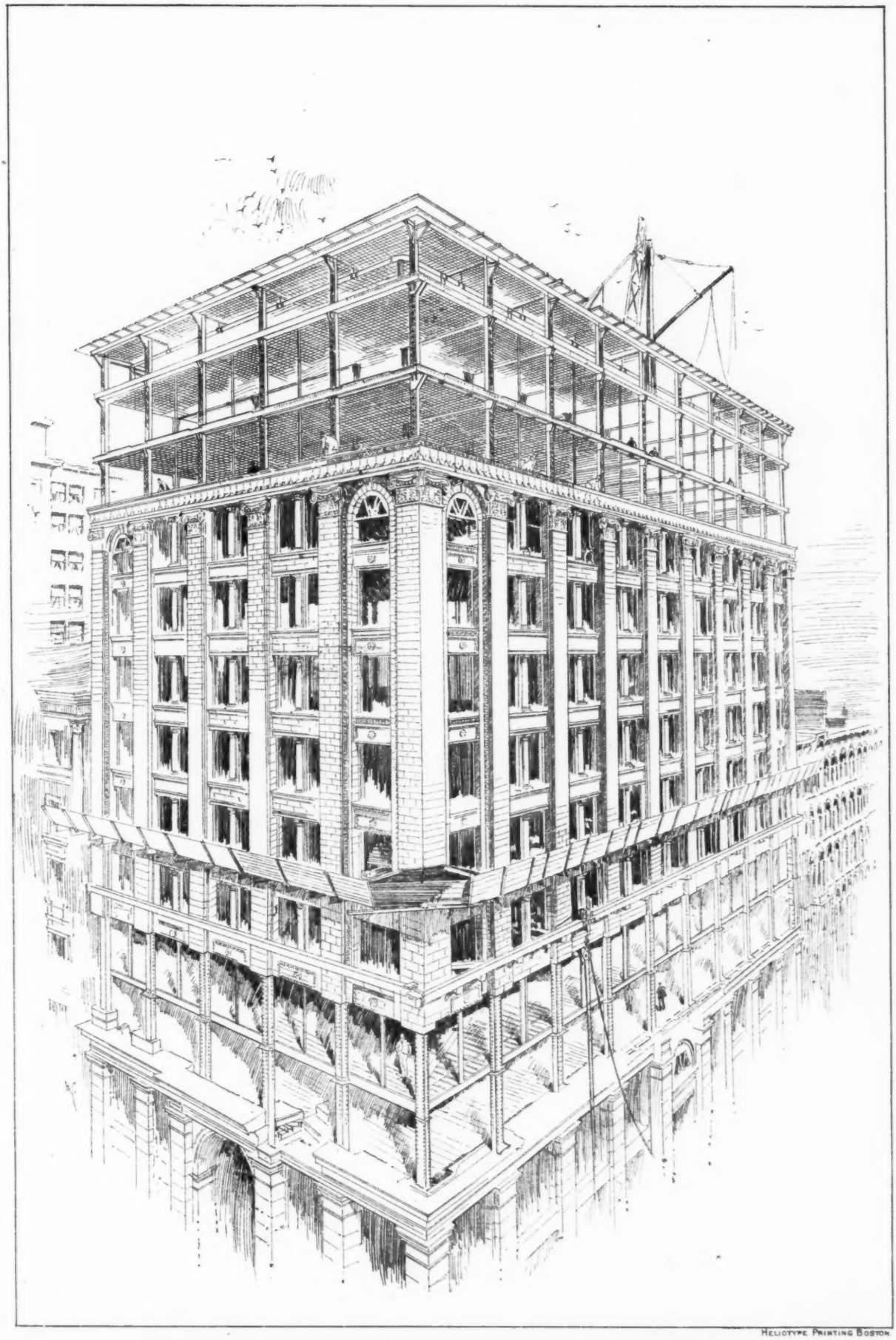
ME OF THE ART GALLERY.
I EXHIBITION, CHICAGO, ILLINOIS.
S B. ATWOOD, Architect.



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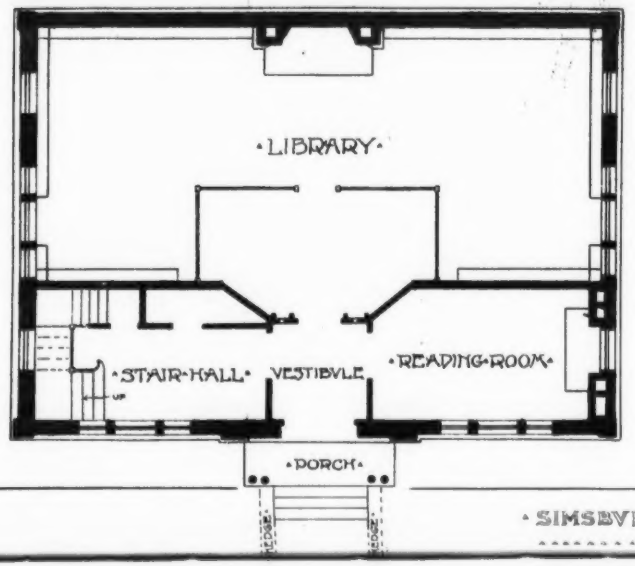
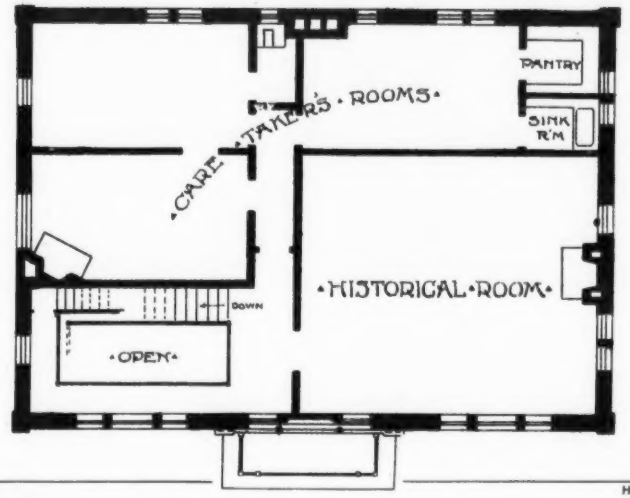
SKELETON CONSTRUCTION AS USED ON THE NEW YORK LIFE BUILDING, CHICAGO, ILL.

W. L. B. JENNEY and W. B. MUNDIE, Architects.

AMERICAN ARCHITECT AND BUILDING NEWS, FEB. 10 1894. No 946.

HAPGOOD & HAPGOOD · ARCH'TS ·
HARTFORD · CONN ·





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COXHEAD & COXHEAD, Architects

THE HELIOTYPE PRINTING CO., BOSTON.

Ventfort Hall,

Lenox, Mass.

Rotch and Tilden, Architects,
Boston.

HELIOTYPE PRINTING CO. BOSTON.

THE HELIOTYPE PRINTING CO., BOSTON

INTERIOR OF THE HOWARD MEMORIAL LIBRARY, NEW ORLEANS, LA.

SHEPLEY, RUTAN & COOLIDGE, Architects.

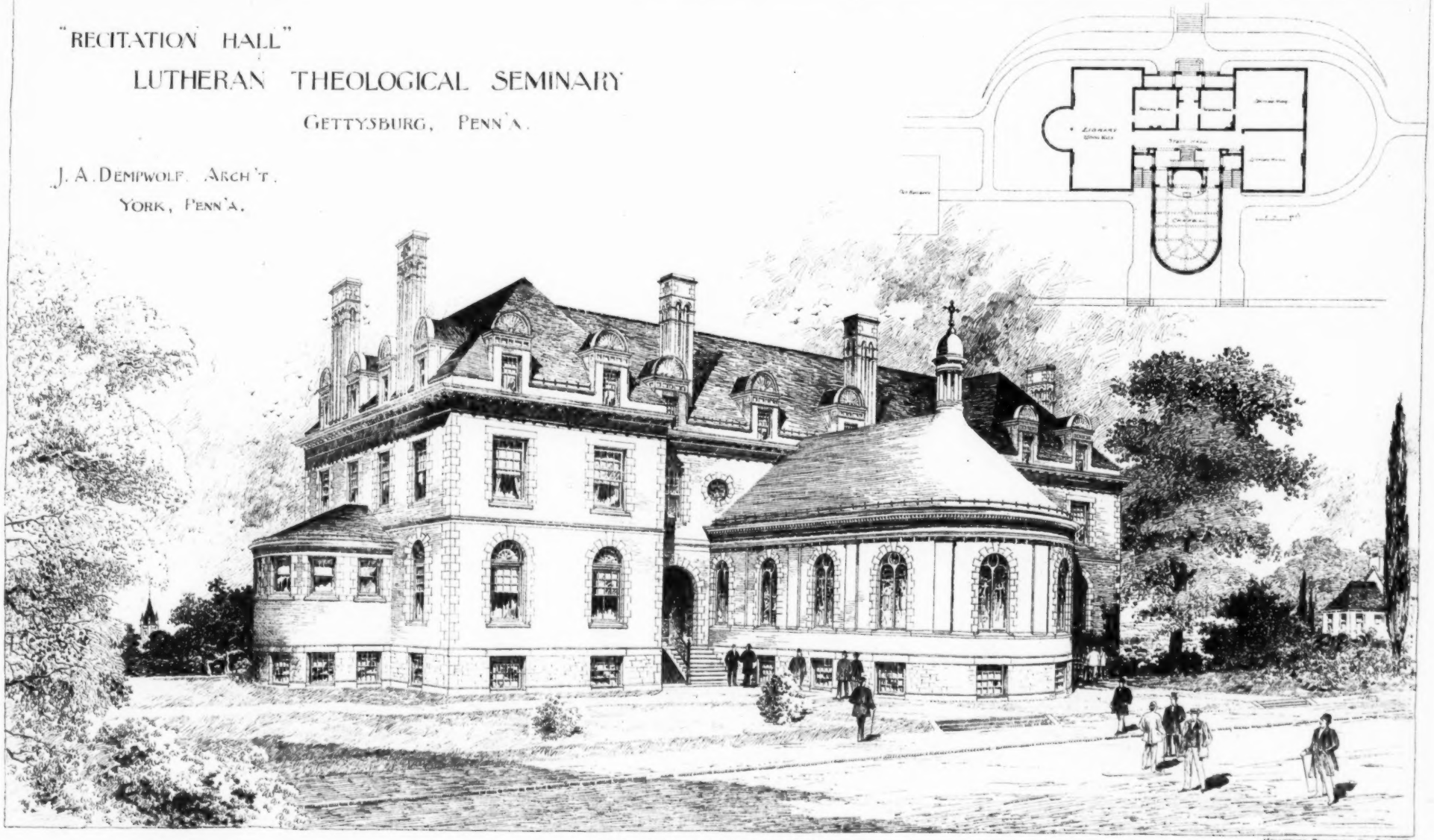
No. 943. American Architect and Building News, Feb. 24, 1894.

"RECITATION HALL"

LUTHERAN THEOLOGICAL SEMINARY

GETTYSBURG, PENN'A.

J. A. DEMPWOLF, ARCH'T.
YORK, PENN'A.



VIEW FROM THE NORTH WEST.

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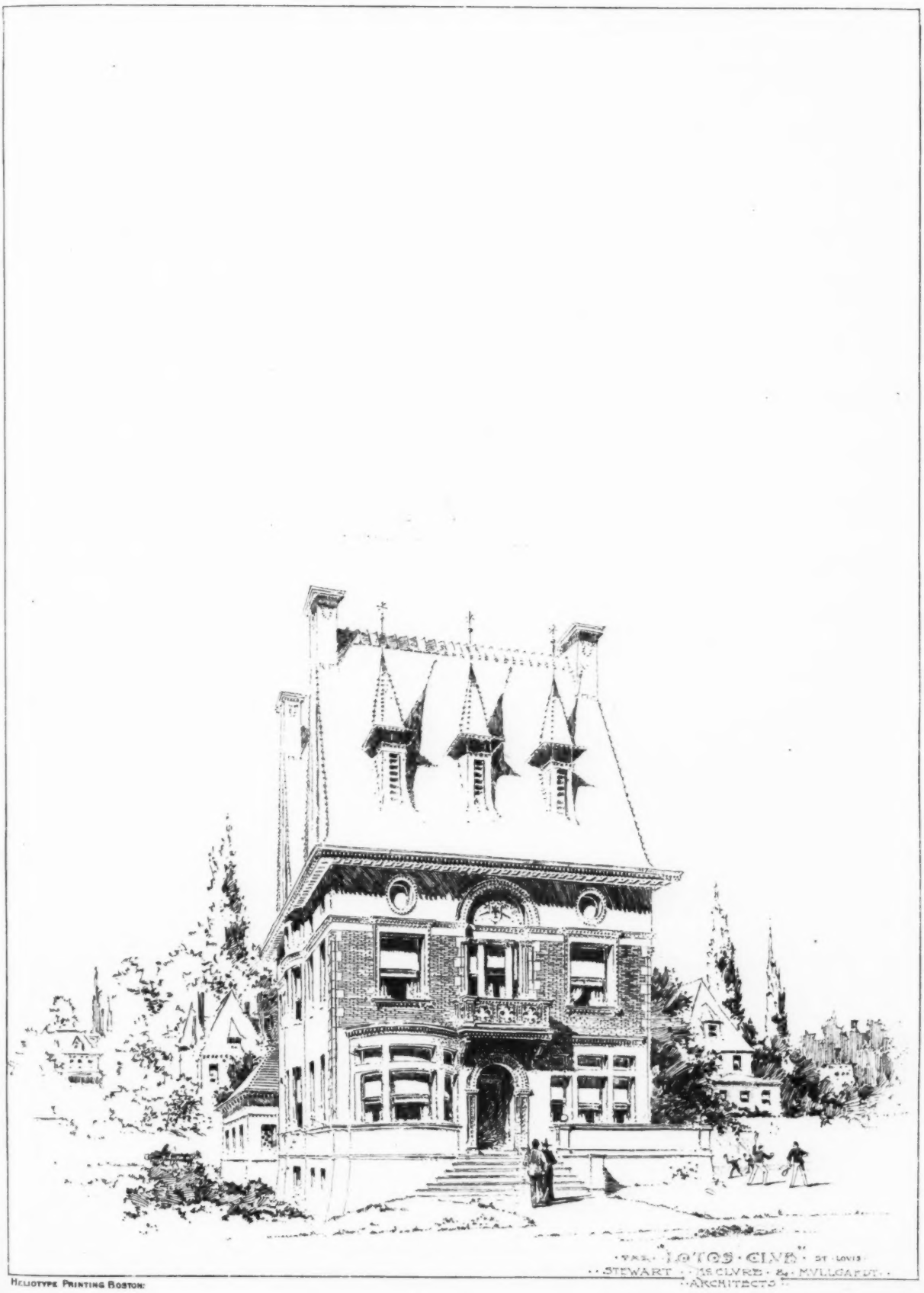
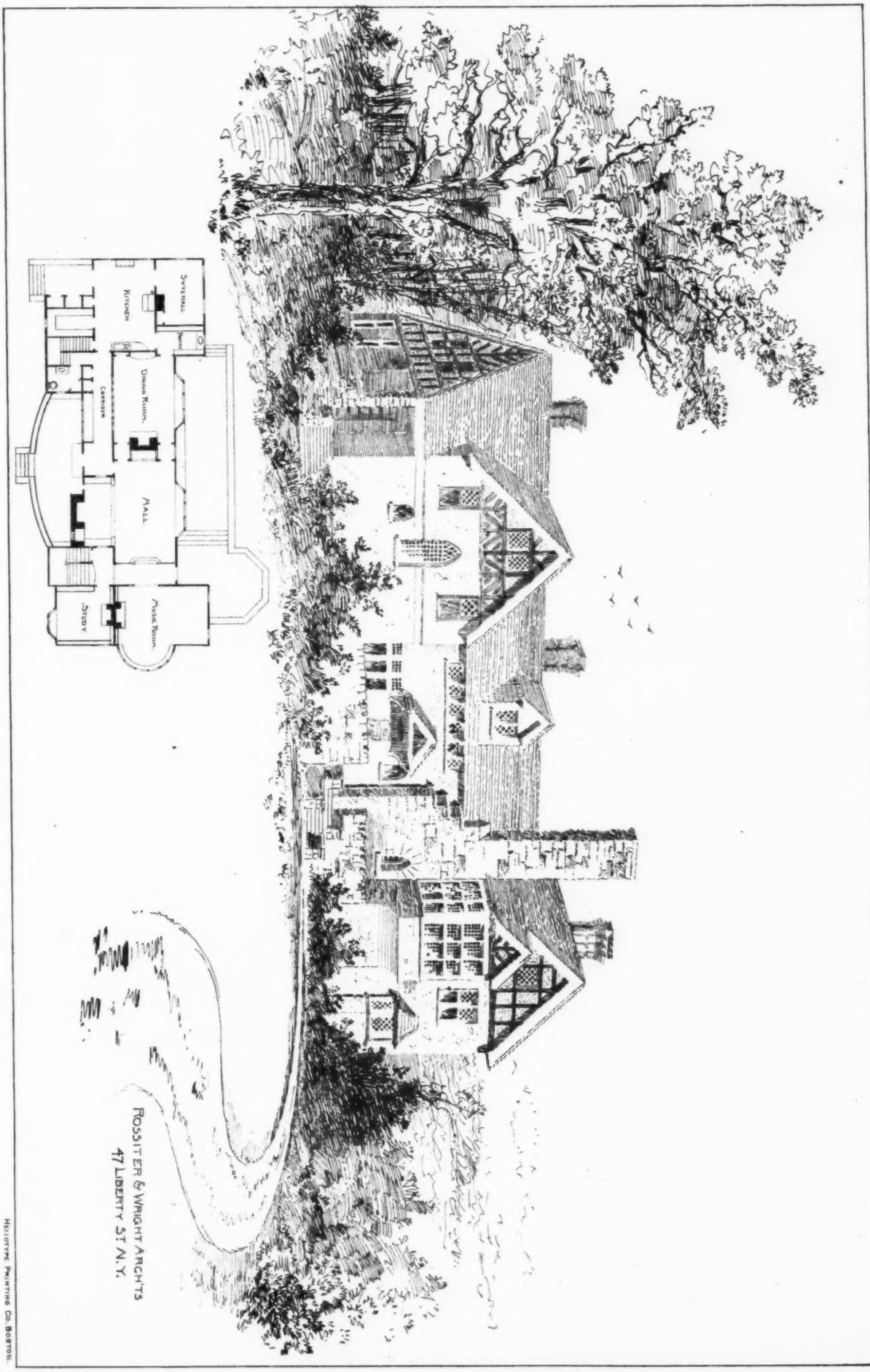
COLONIAL RESIDENCE
BARNETT, HAYNES & BARNETT.
ARCHTS. ST. LOUIS.

HELIOTYPE PRINTING CO., BOSTON.



"THE LOTOS CLUB" ST. LOUIS
STEWART & McCLURE & MULLGARDT
ARCHITECTS

HELIOTYPE PRINTING BOSTON.



ROSSITER & WRIGHT ARCH'TS
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The American Architect and Building News, February 24, 1894. No. 948.

HELIOCHROME

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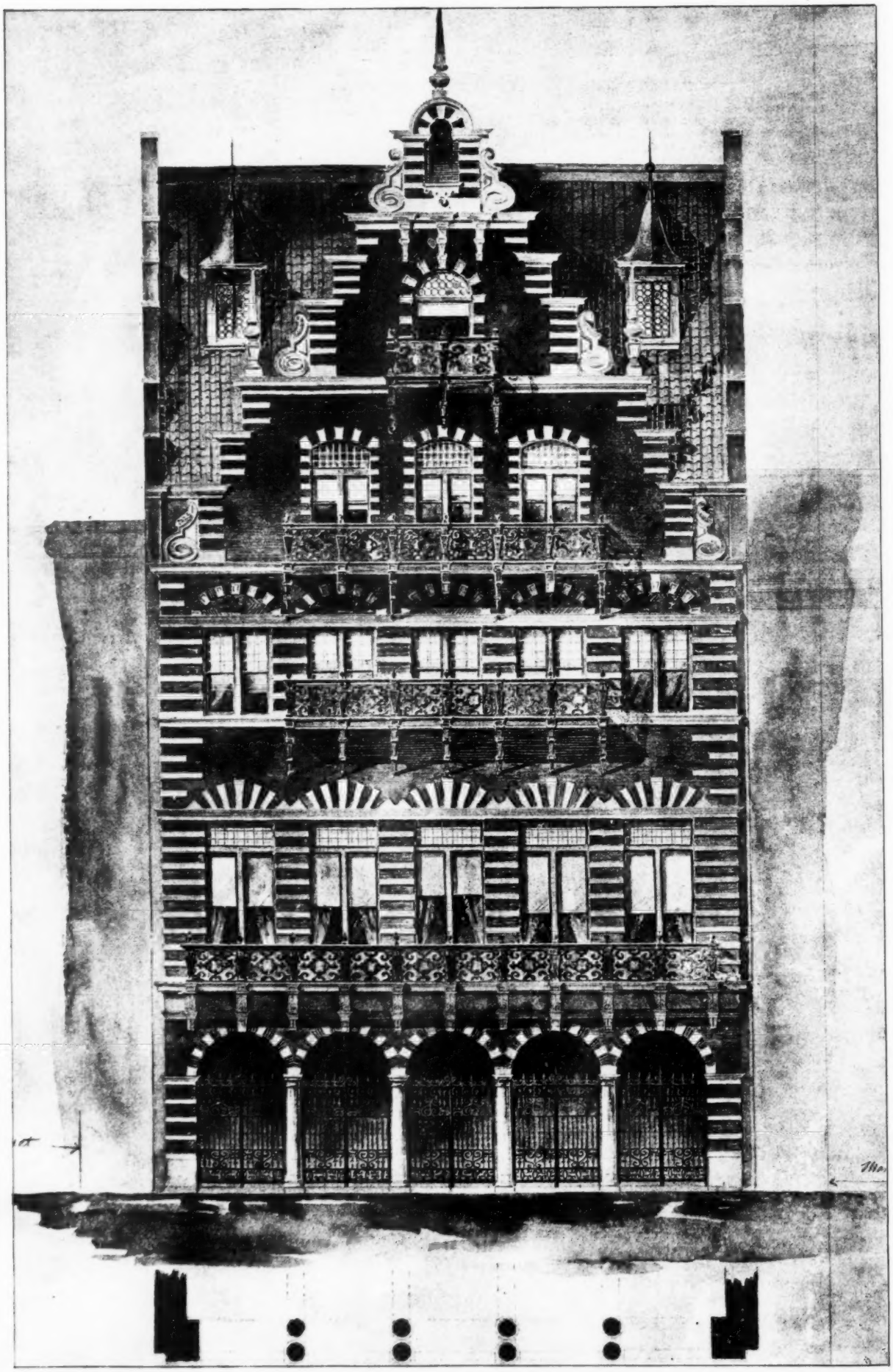
ENTRANCES TO THE HOUSE OF DR. H. M. JERNEGAN, COMMONWEALTH AVENUE, BOSTON, MASS.

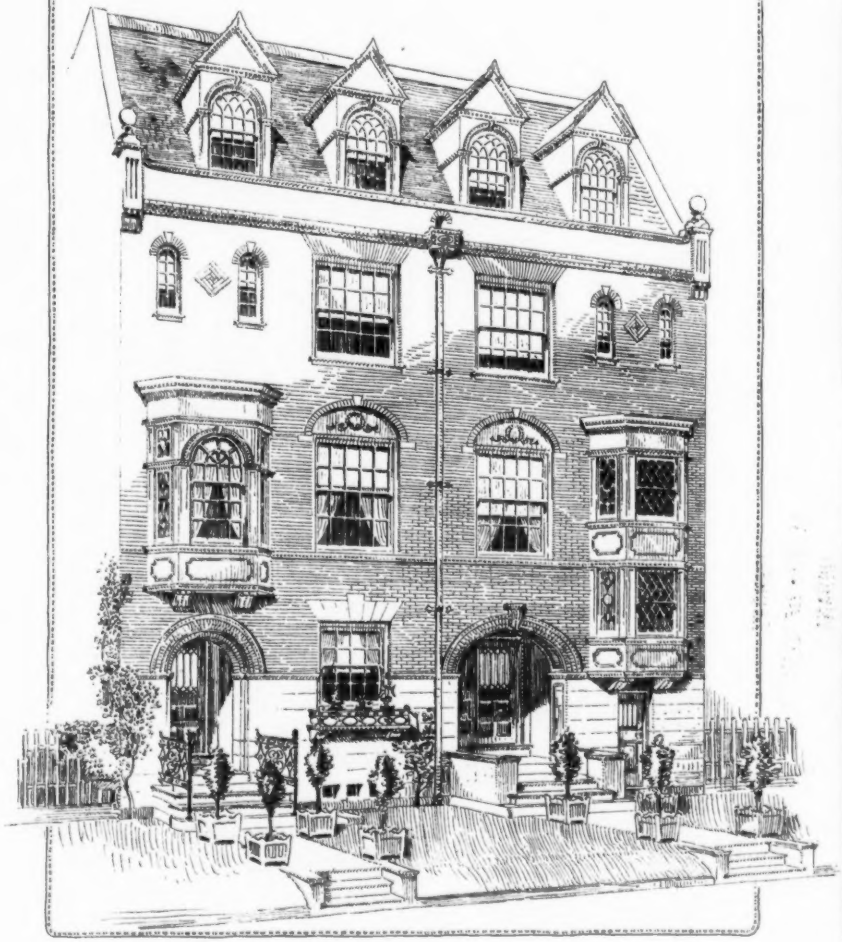
GEORGE A. AVERY, Architect.



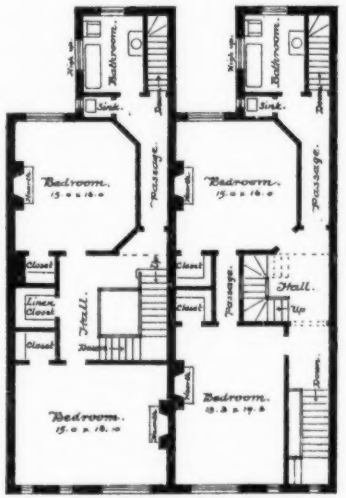
ENTRANCE FACADE TO THE AMERICAN INSTITUTE EXHIBITION BUILDINGS, NEW YORK.

ROMEYN & STEVER, Architects.

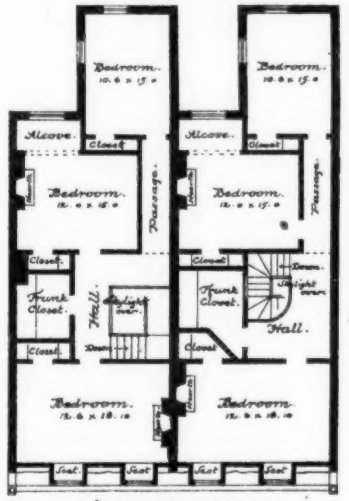
No 949. American Architect and Building News, Mar. 3, 1894.



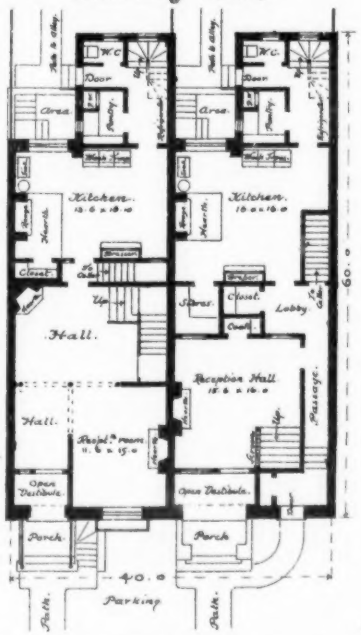
Preliminary Sketches for
Houses at Washington D. C.

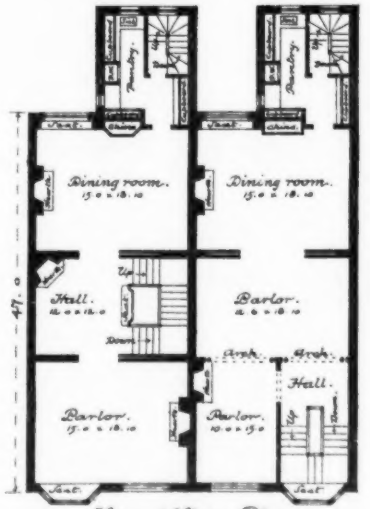


Third Story Plan.



Fourth Story Plan.





Second Story Plan.

Wm. F. Marsh, Arch.t
1303 Penn.a ave. Washington, D. C.

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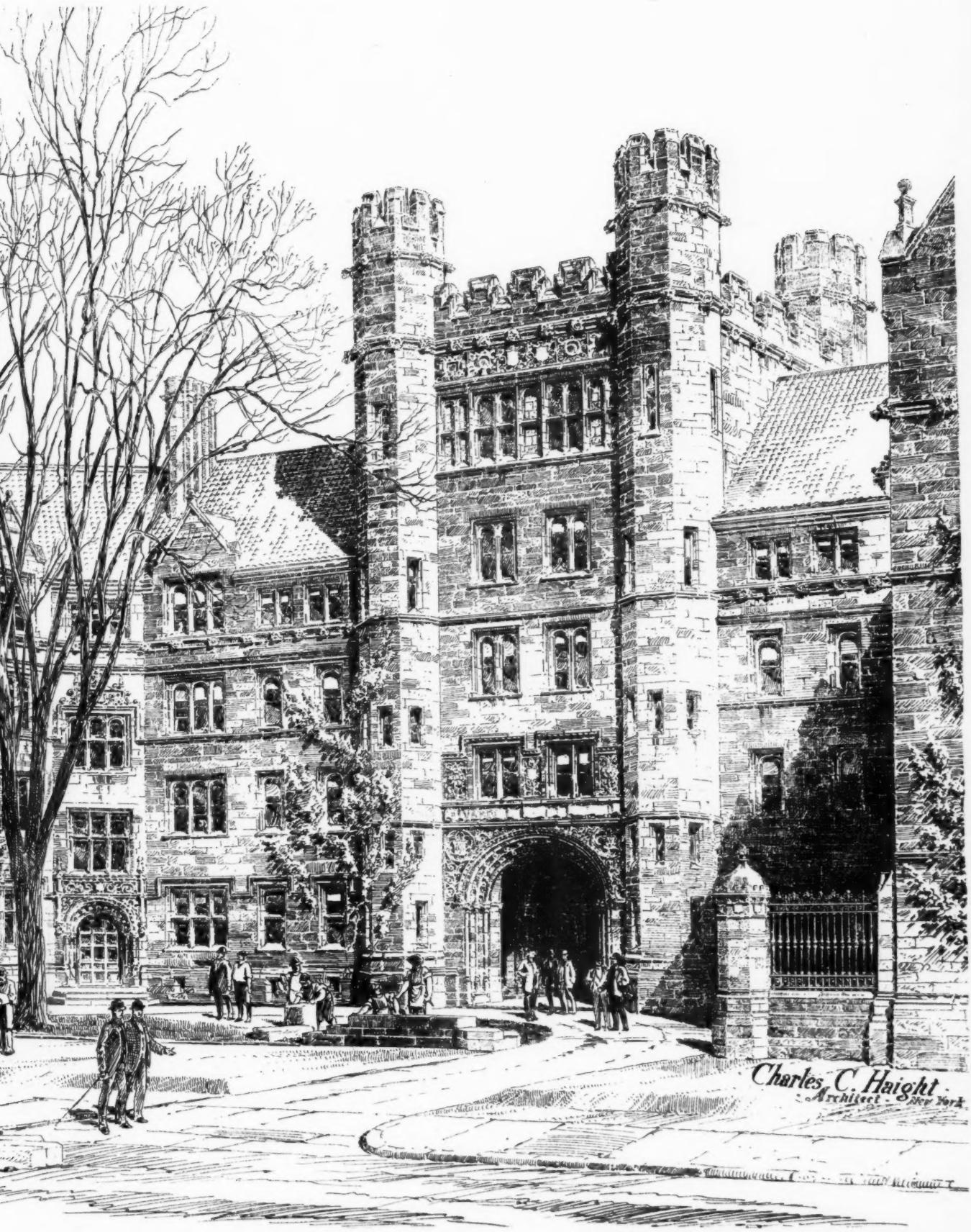
VANDERBILT DORMITORY
YALE COLLEGE

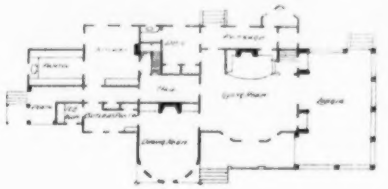


HELIOTYPE PRINTING CO., BOSTON.

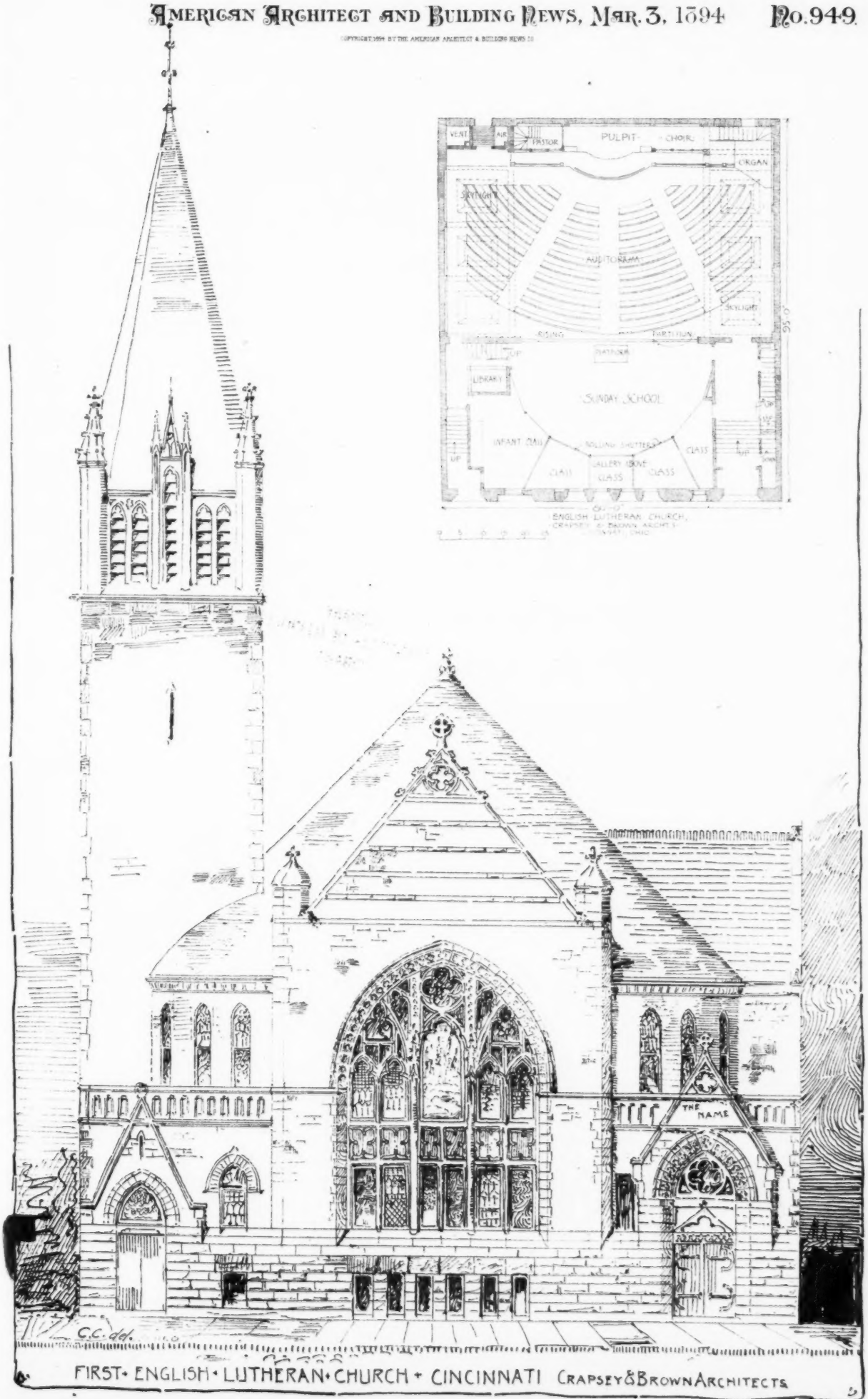
American Architect and Building News, Mar. 3, 1894. No. 949.

A House at Oyster Bay L.I.
For MR GEO. BULLOCK.

Stickney & Austin
Archts Boston & Keweenaw Mass.



First Floor Plan



FIRST · ENGLISH · LUTHERAN · CHURCH · CINCINNATI CRAPSEY & BROWN ARCHITECTS.

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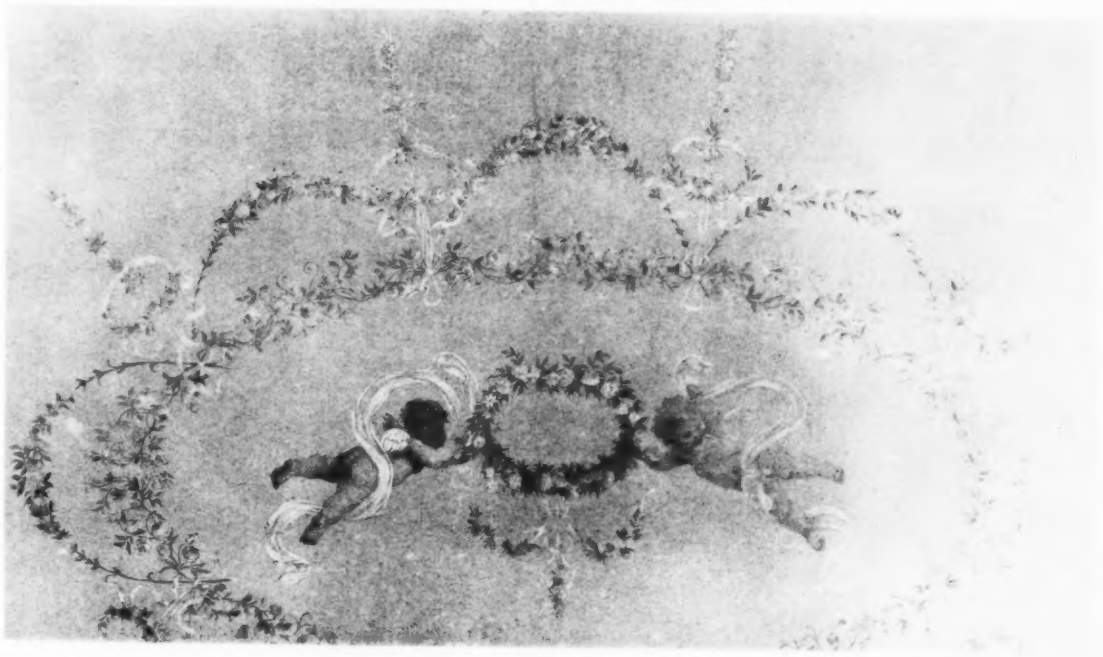
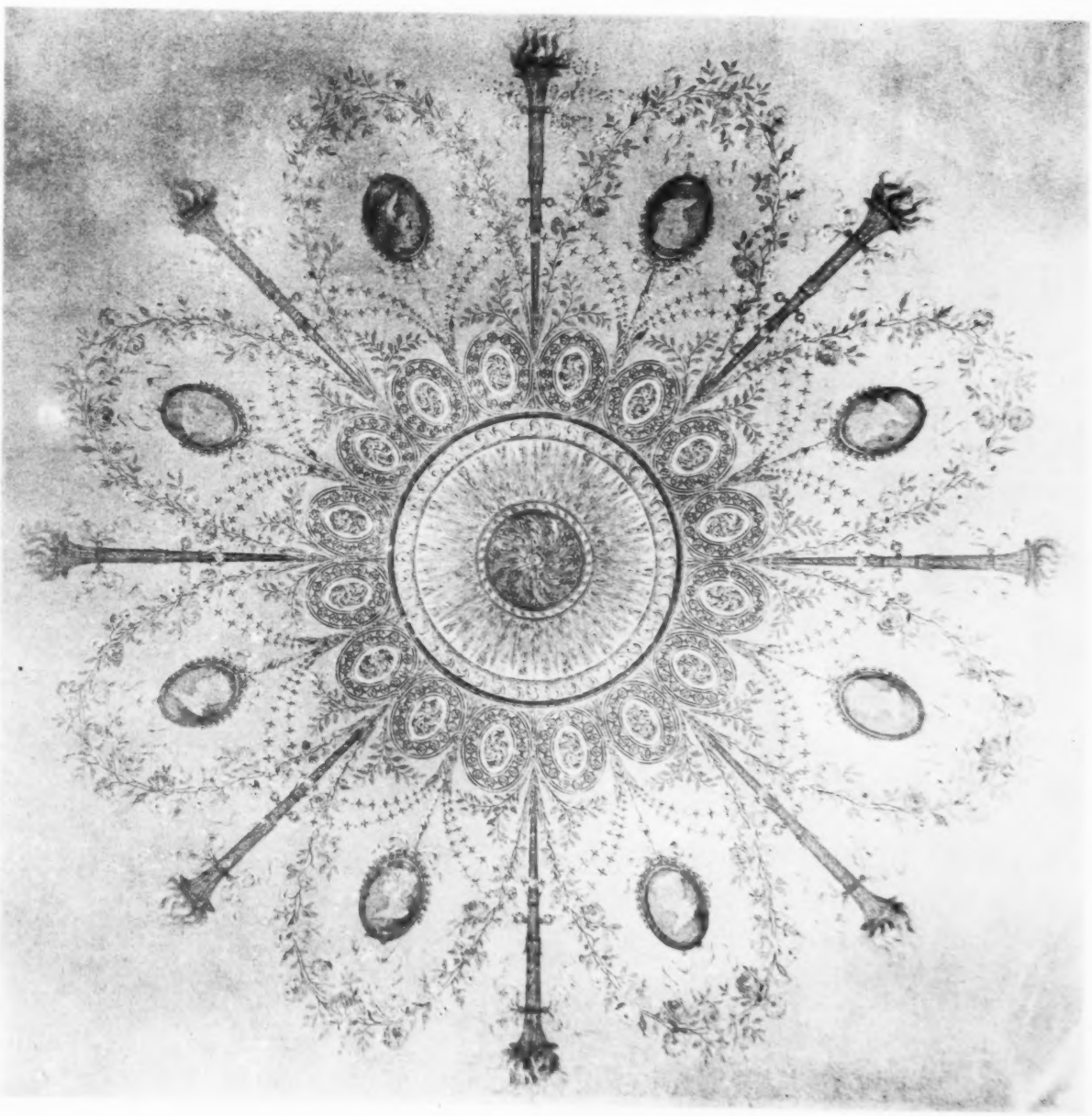
HOUSE OF DR. H. M. JERNEGAN, COMMONWEALTH AVENUE, BOSTON, MASS.

GEORGE A. AVERY, Architect.



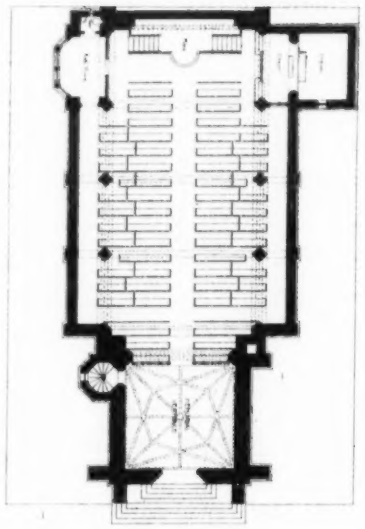


CHAMBER CEILING DECORATIONS IN THE HOUSE OF WILLIAM ROCKEFELLER, ESQ., TARRYTOWN, N.Y.

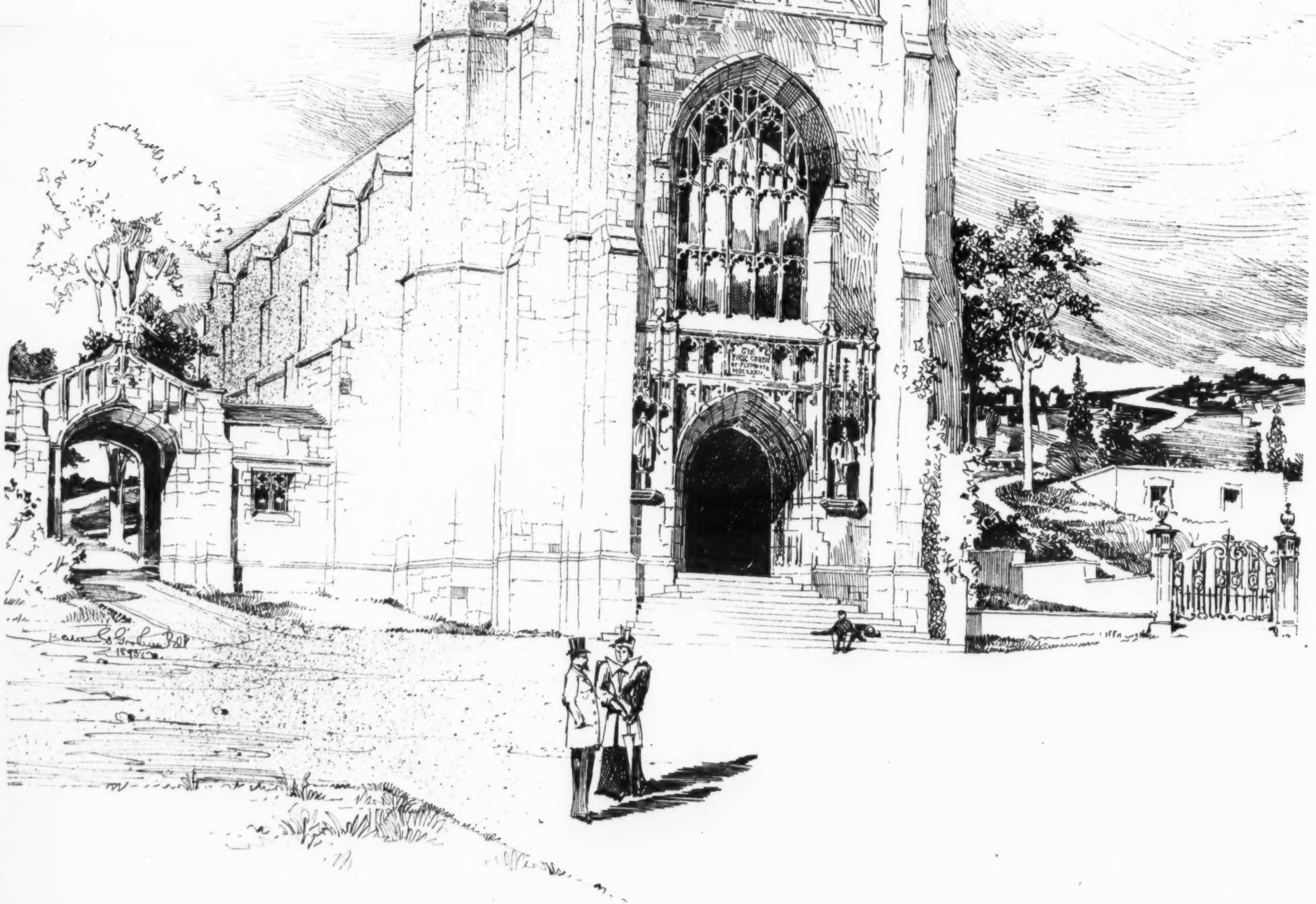
H. T. SCHLADERMUNDTT, Decorator

DESIGN FOR THE FIRST CHURCH AT PLYMOUTH

CRAM, WENTWORTH & GOODHUE, ARCHITECTS.
53 STATE ST. BOSTON, MASS.



PLAN.



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HOUSE FOR MRS. HARRY WAINWRIGHT
PITTSBURGH PA.

CHARLES BICKEL
ARCHITECT

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CITY OF BOSTON

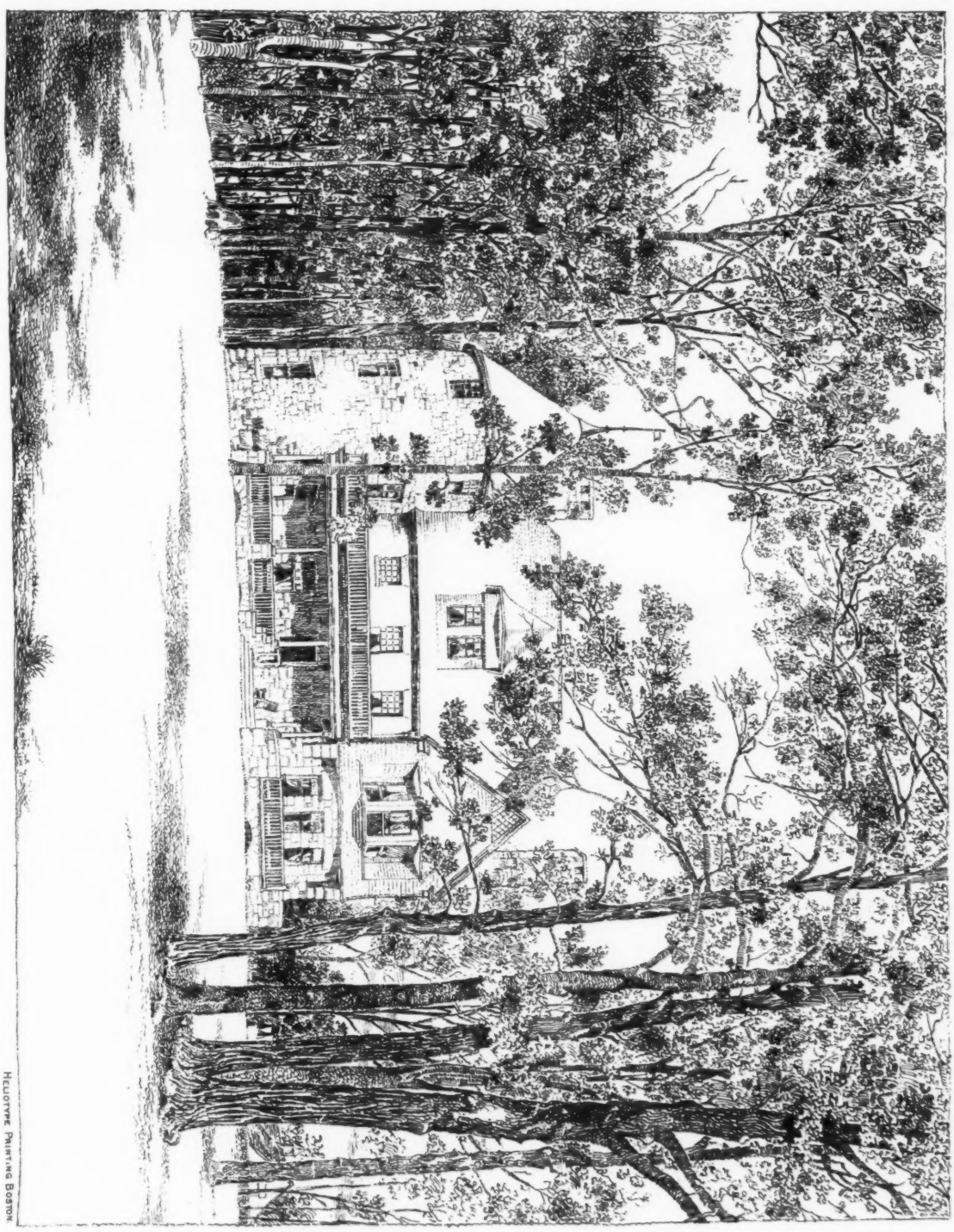
PRIMARY SCHOOL EUSTIS ST ROXBURY

EDMUND M WHEELWRIGHT :: CITY ARCHT

CITY OF BOSTON.

PRIMARY SCHOOL MORTON ST.

EDMUND M. WHEELWRIGHT - CITY ARCHT.



HOUSE NEAR MORRISTOWN, N. J.

ALFRED E. BARLOW, Architect, 149 Broadway, N. Y.

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The American Architect and Building News, March 17, 1894. No. 951.

NEGATIVE BY C. D. ARNOLD

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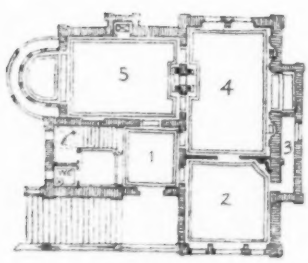
NORTHEAST ANNEX OF THE ART BUILDING.

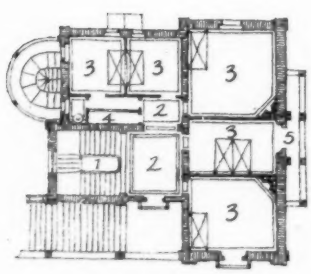
WORLD'S COLUMBIAN EXHIBITION, CHICAGO, ILLINOIS.

CHARLES B. ATWOOD, Architect.

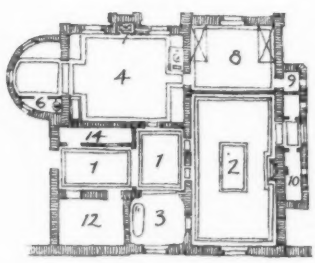
HOUSE OF SEÑOR DE SARACIBAR.
ARCHITECT: SALAMANCA, SPAIN.



FIRST FLOOR.



SECOND FLOOR.



BASEMENT PLAN.

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THE AMERICAN ARCHITECT & BUILDING NEWS CO.

White.

Rood Screen - St Peters Church - Morristown - N. J.
Executed by Jno. Williams - New York -

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GYMNASIUM AND ARMORY BUILDING AT RUTGERS COLLEGE, NEW BRUNSWICK, N. J.

CHARLES ALLING GIFFORD, Architect, 31 Union Square West, New York

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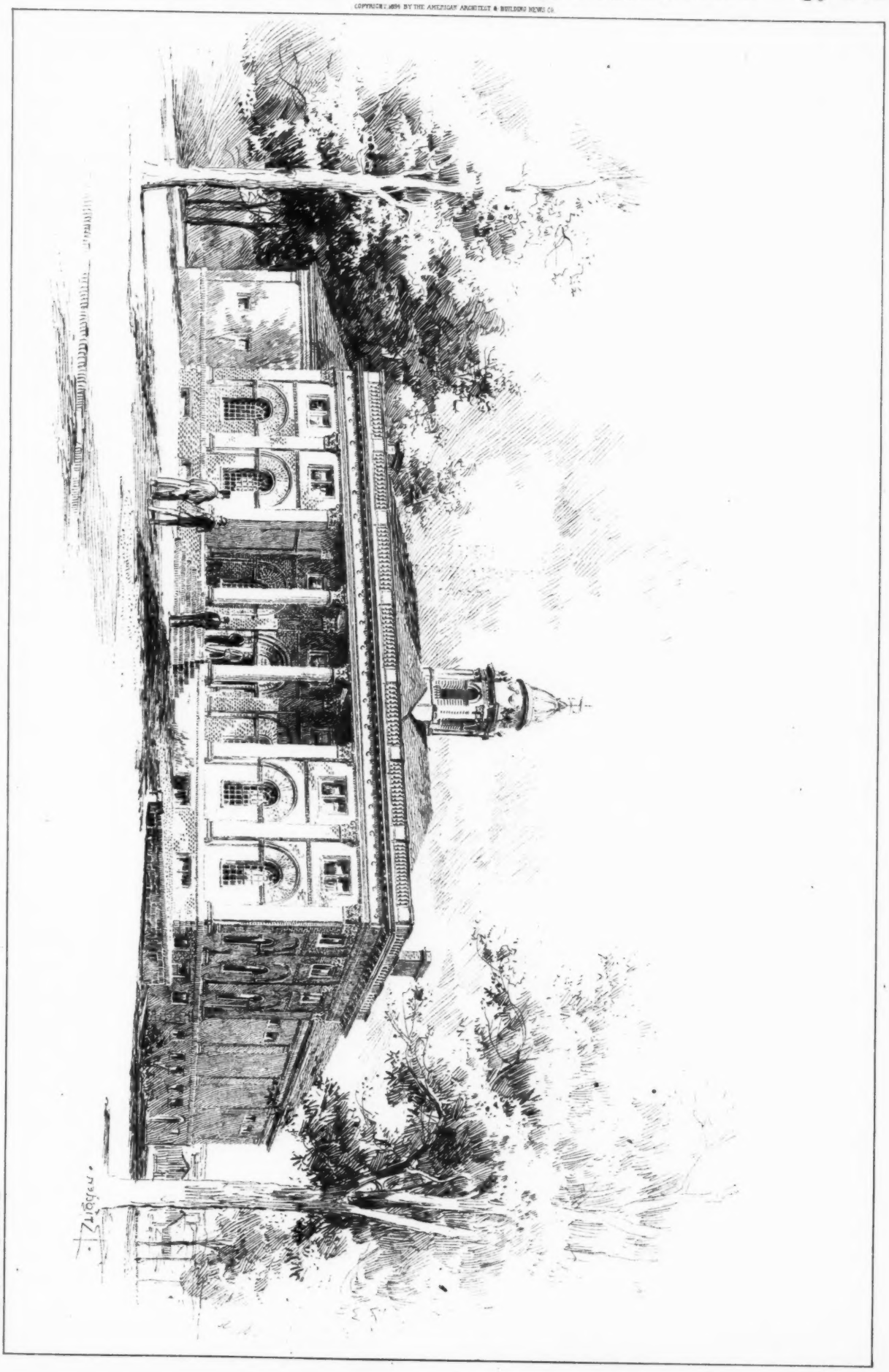

GYMNASIUM AND ARMORY BUILDING AT RUTGERS COLLEGE, NEW BRUNSWICK, N. J.

CHARLES ALLING GIFFORD, Architect, 31 Union Square West, New York.

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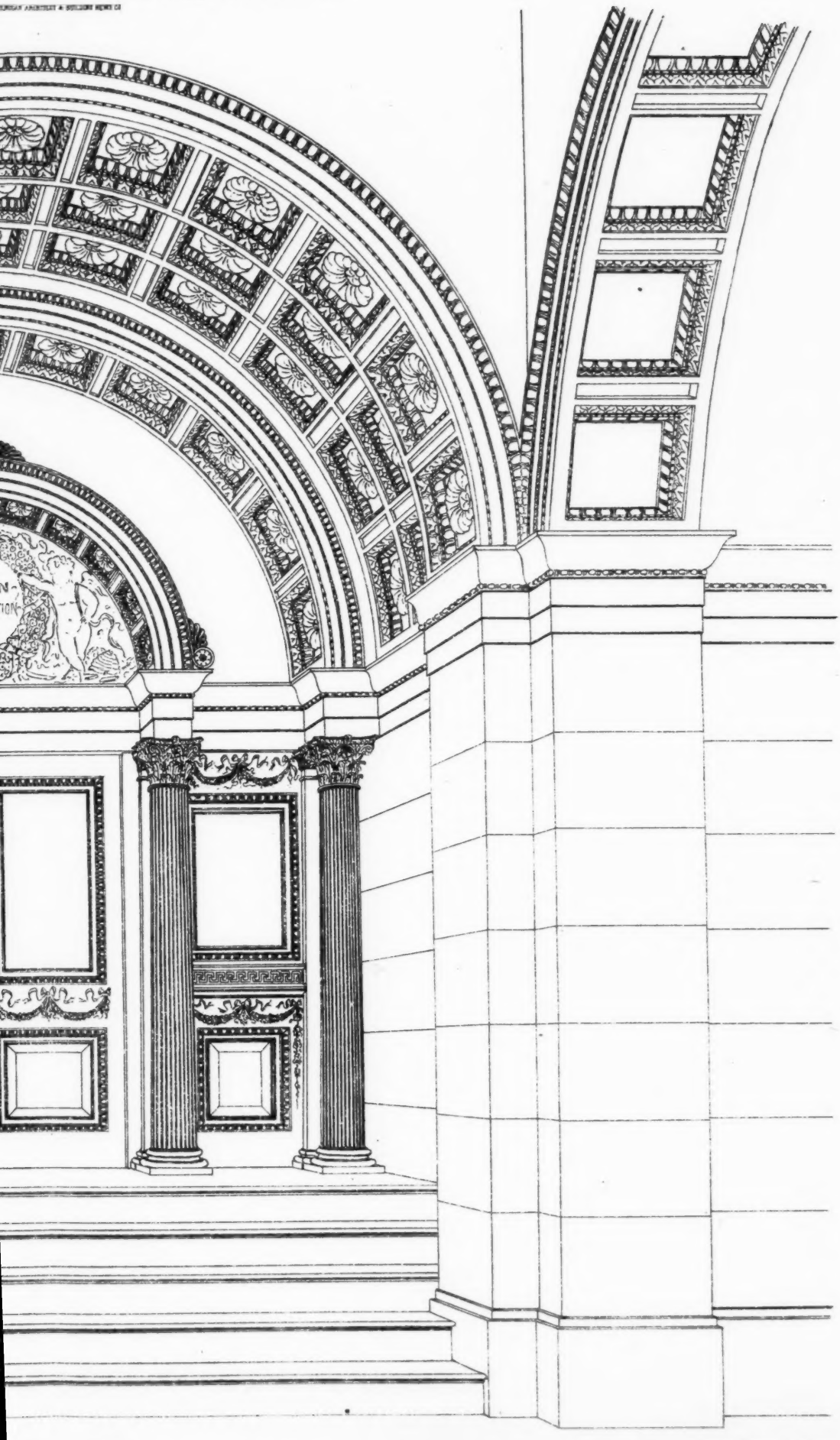
ENTRANCE TO THE BANKING ROOM OF THE P

CHARLES EDWARDS, A



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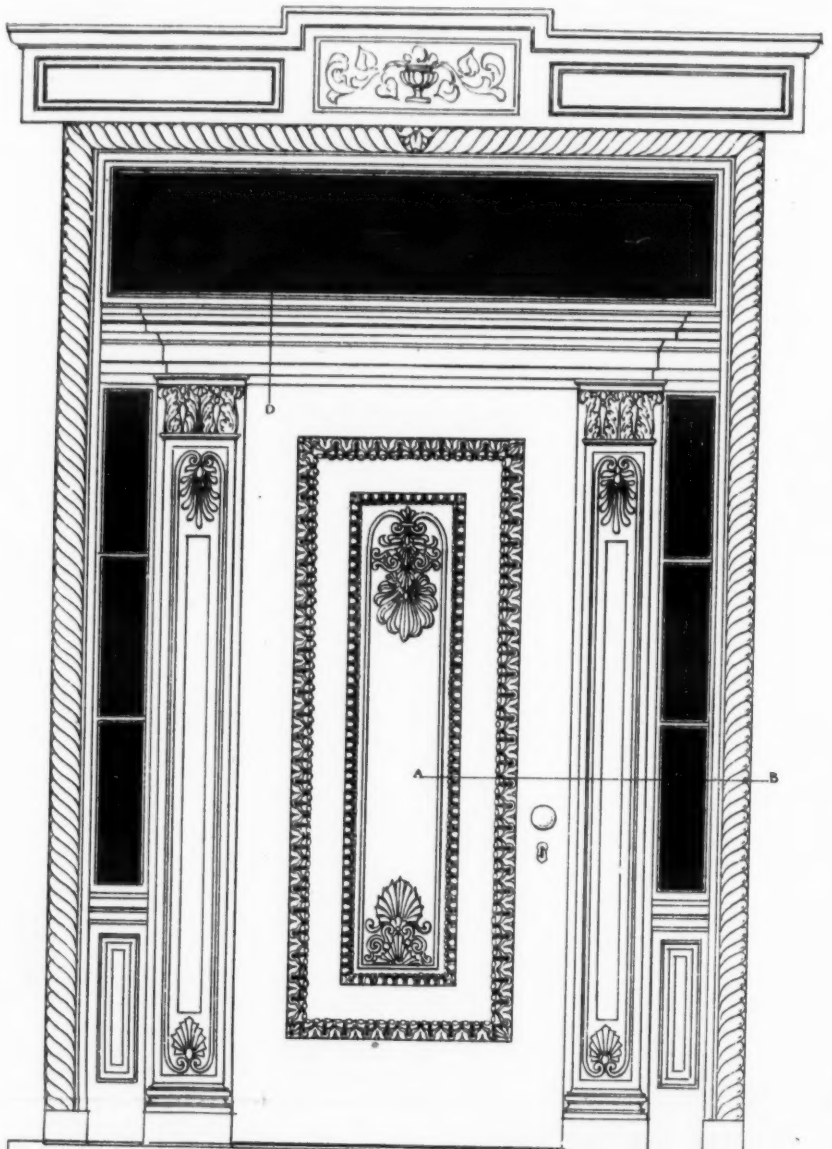
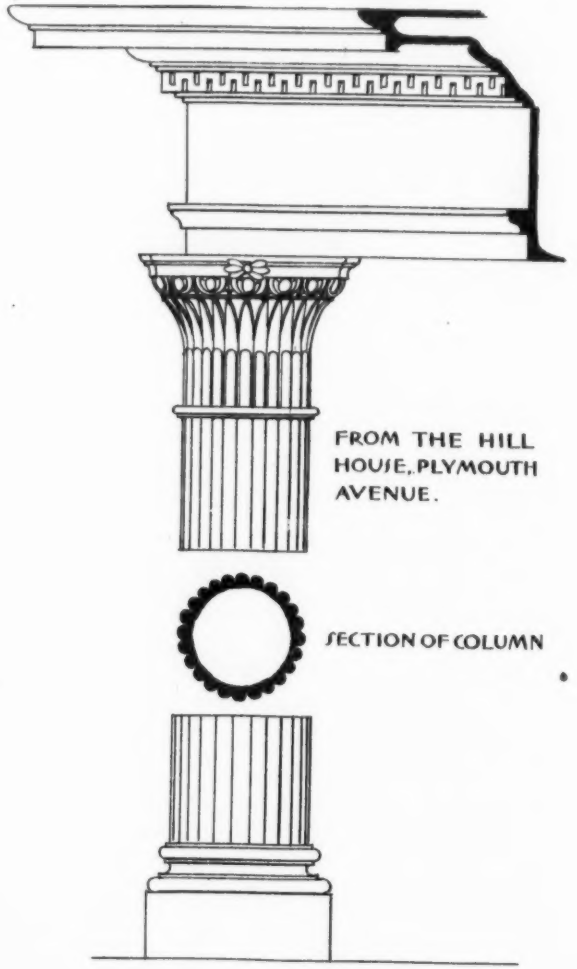
OF THE PATERSON SAVINGS INSTITUTION.

EDWARDS, Architect.

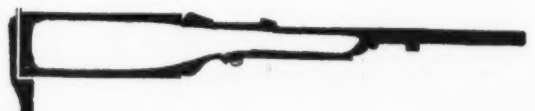
AT ROCHESTER

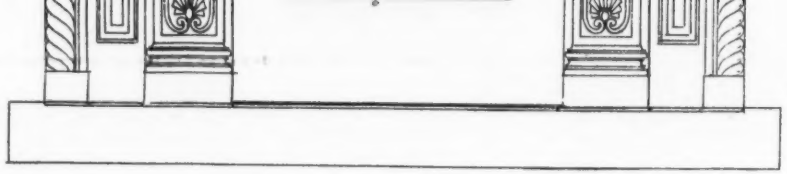




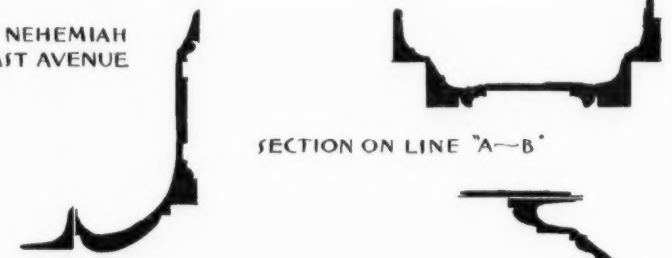
FROM THE HILL HOUSE, PLYMOUTH AVENUE.

SECTION OF COLUMN

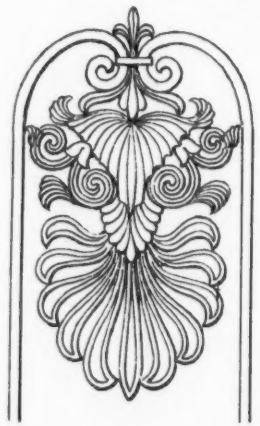


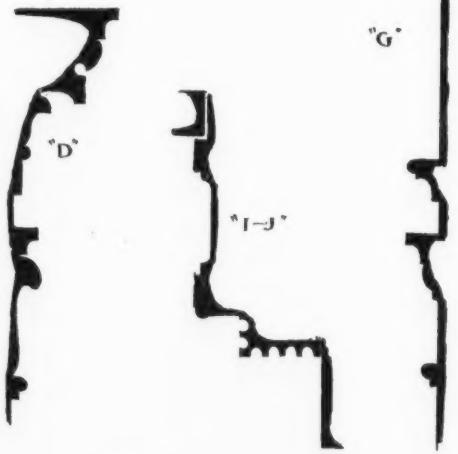


DOORWAY TO THE NEHEMIAH OSBORN HOUSE, EAST AVENUE



SECTION ON LINE "A—B"

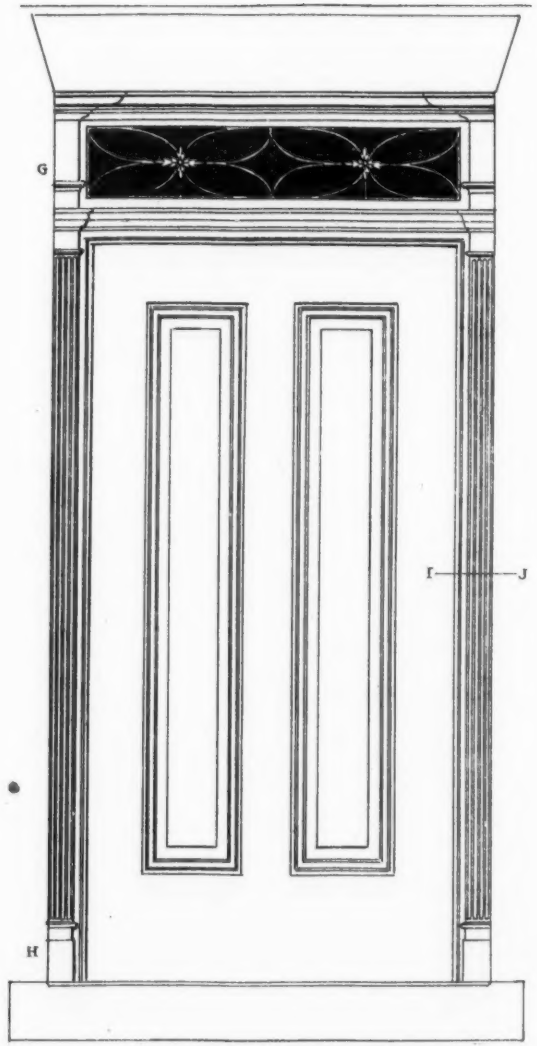




ORNAMENT ON DOOR

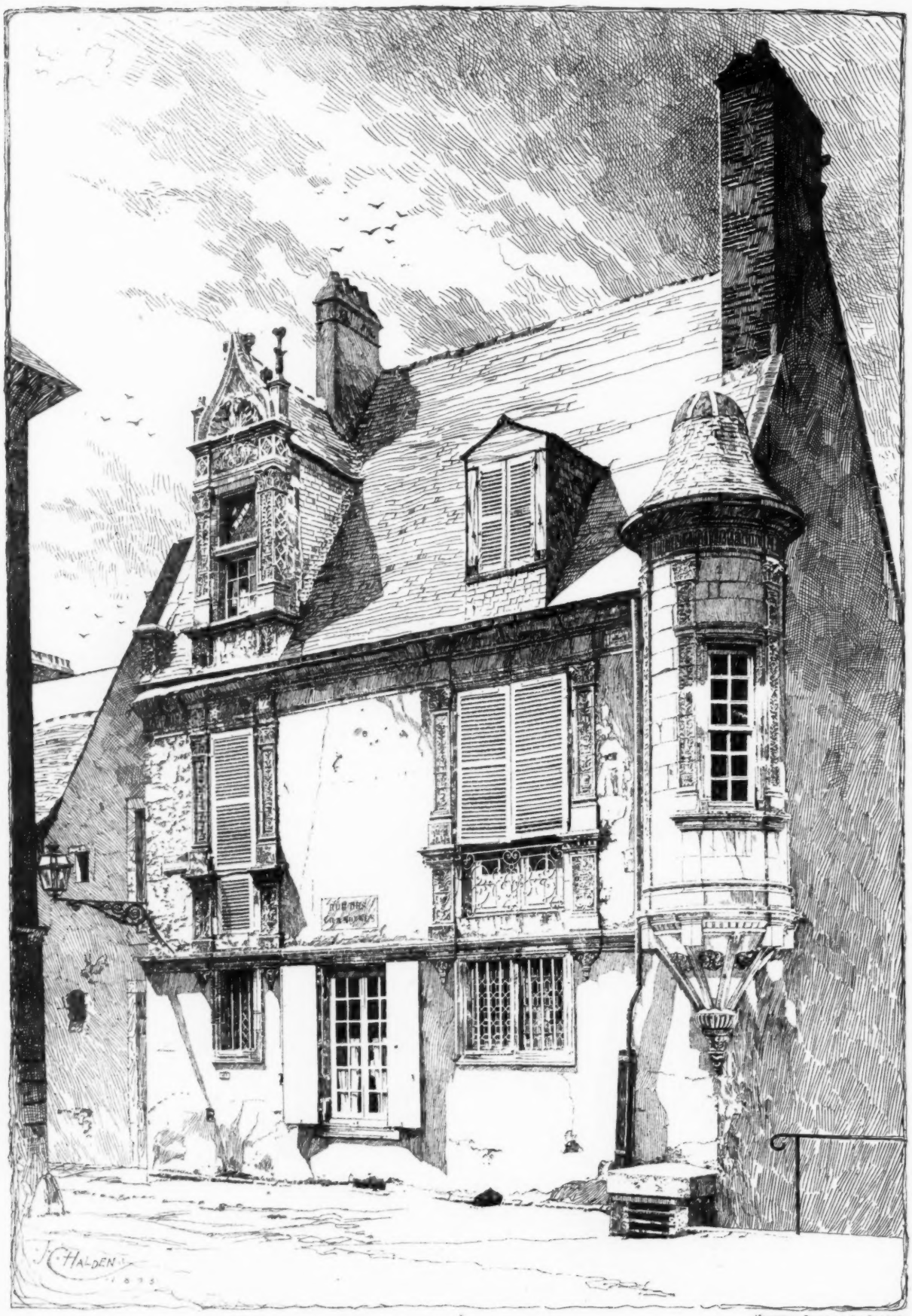
COLONIAL WORK IN THE GENESEE VALLEY

MEASURED AND DRAWN BY CLAUDE FAYETTE BRAGDON



DOOR ON WEST AVENUE

HELIOTYPE PRINTING BOSTON.



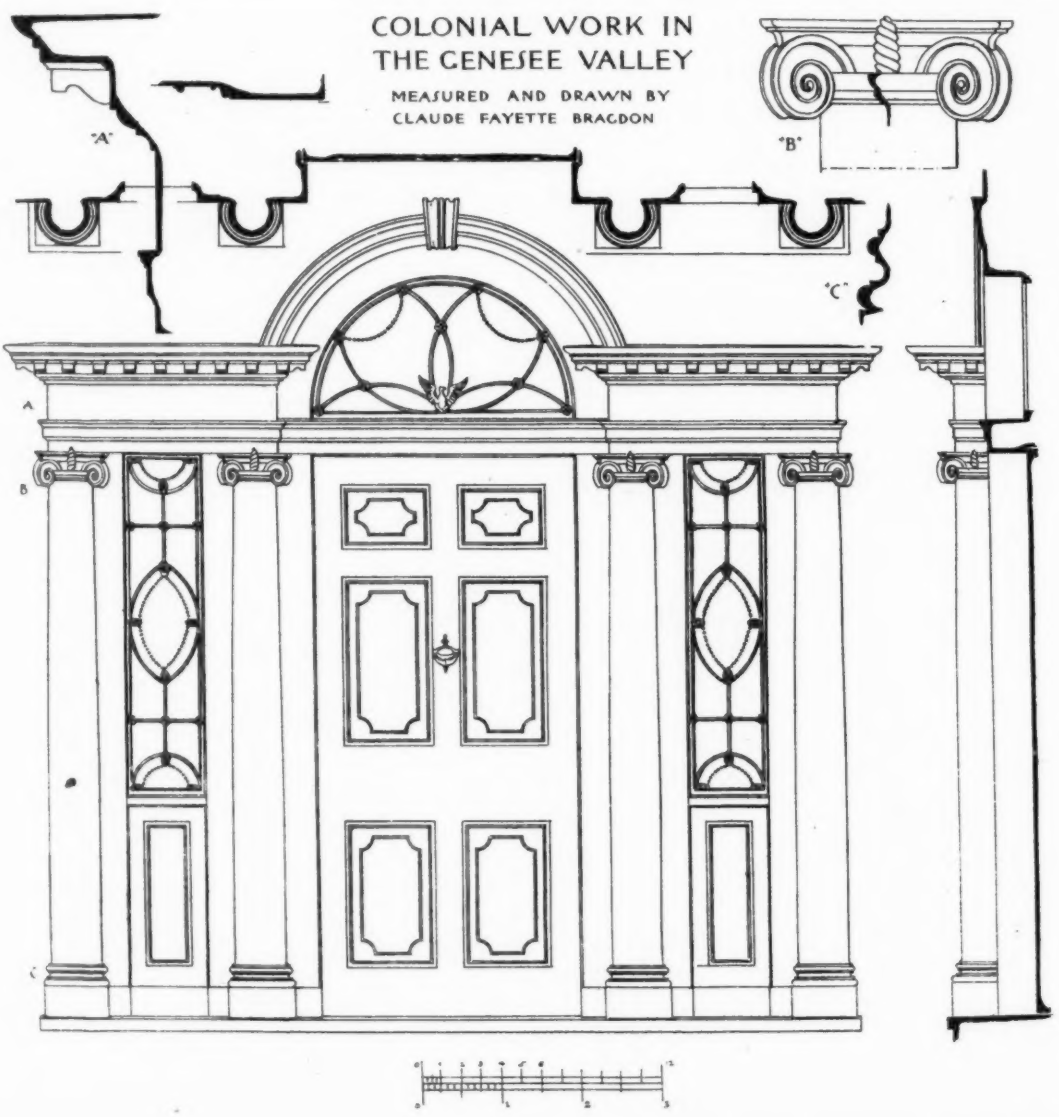
HELIOTYPE PRINTING CO., BOSTON.

OLD HOUSE LE MANS FRANCE

AT CANANDAIGUA

COLONIAL WORK IN THE GENESEE VALLEY

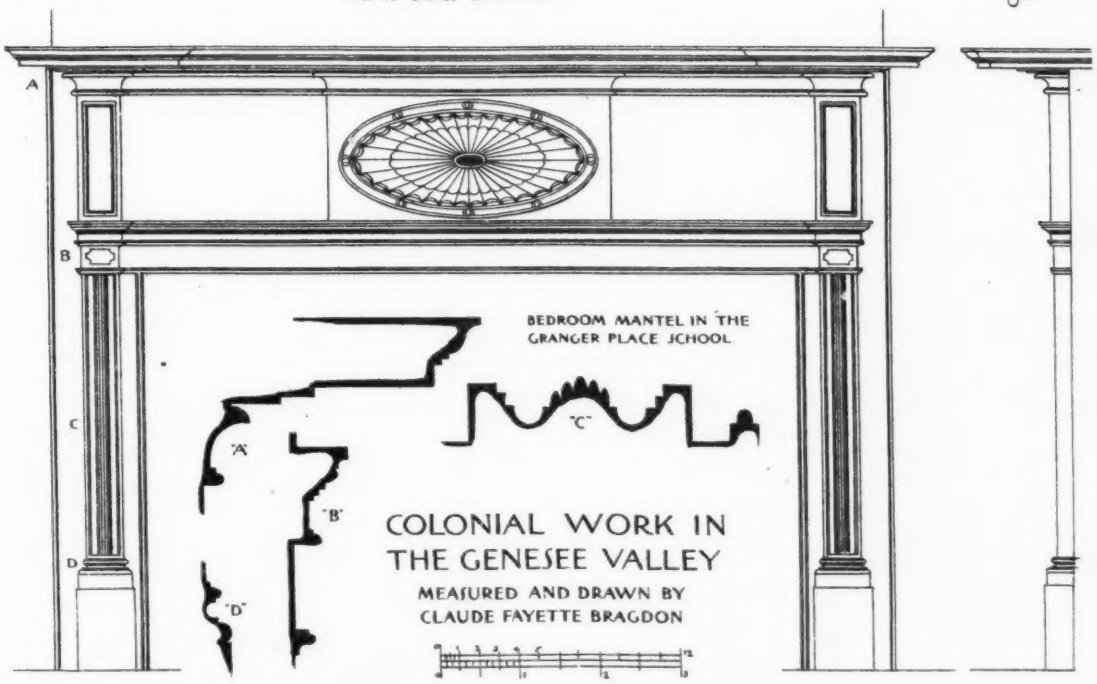
MEASURED AND DRAWN BY
CLAUDE FAYETTE BRAGDON



AT CANANDAIGUA

THE ONTARIO COUNTY JAIL BUILT IN 1815. BY JOHN DOANE, ARCHT.

INLAID BRASS ORNAMENT

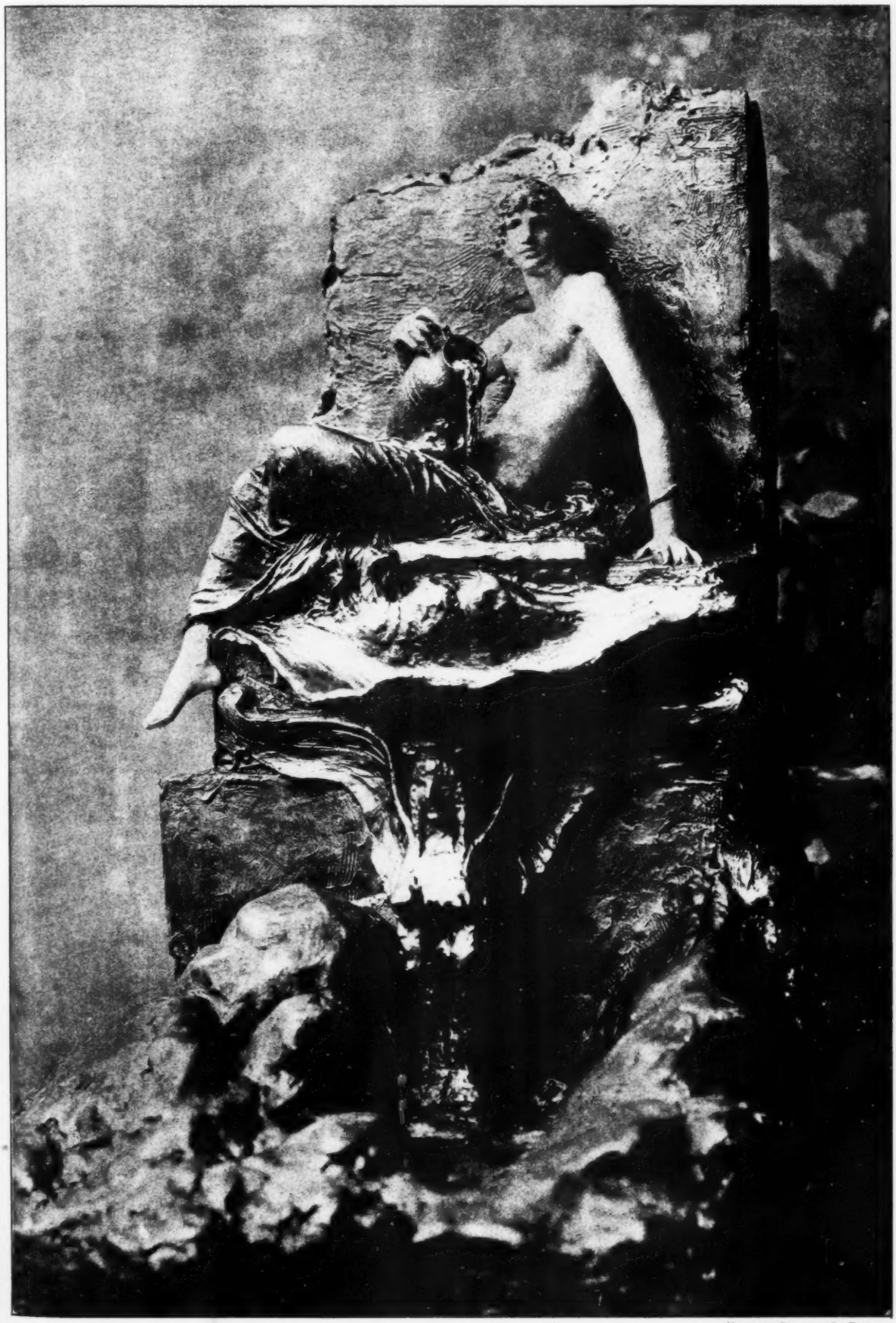


BEDROOM MANTEL IN THE GRANGER PLACE SCHOOL

COLONIAL WORK IN THE GENESEE VALLEY

MEASURED AND DRAWN BY CLAUDE FAYETTE BRAGDON

HELIOTYPE PRINTING BOSTON.

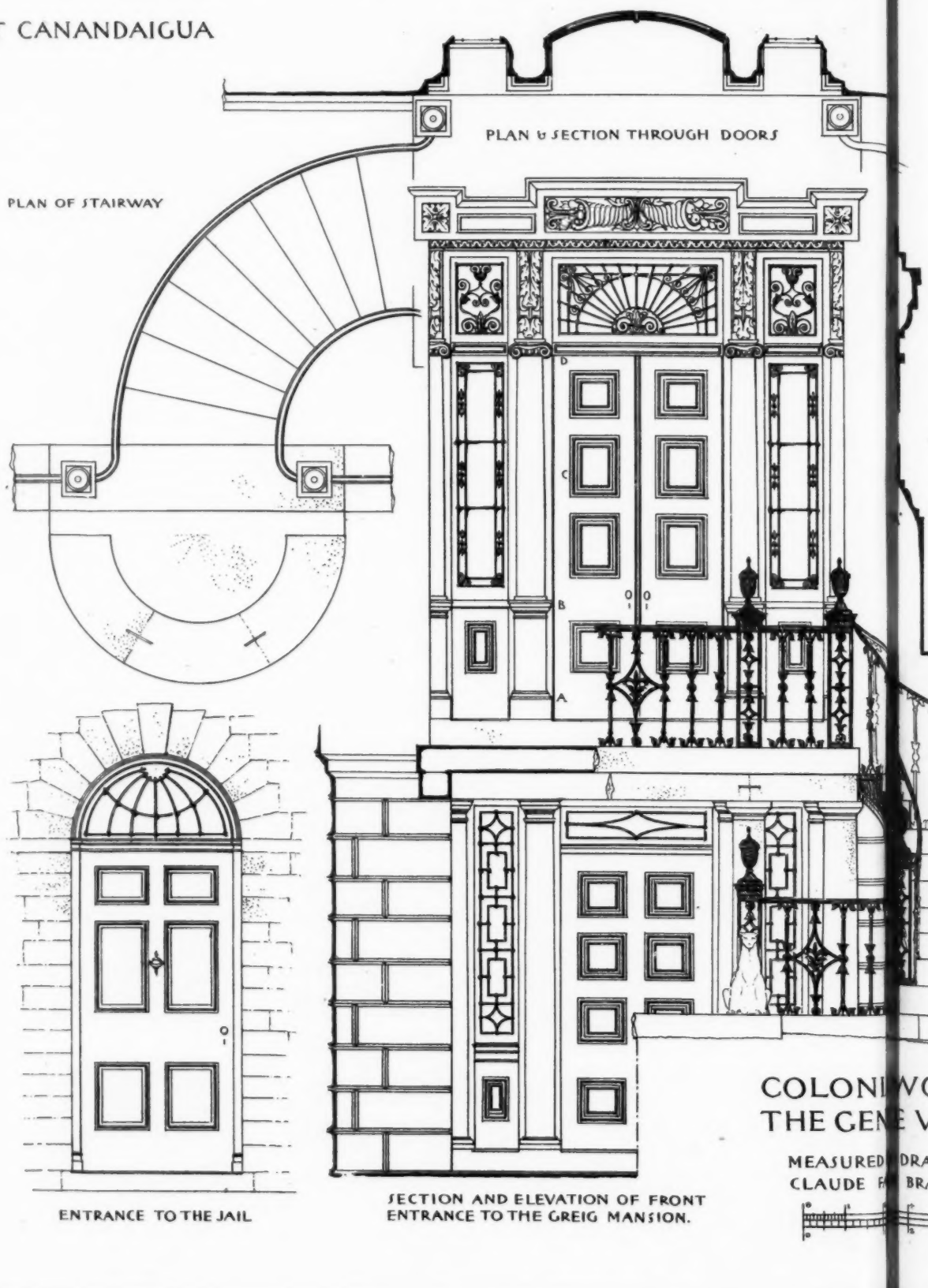


HELIOTYPE PRINTING CO. BOSTON.

SUGGESTION FOR A FOUNTAIN.

THEODORE BAUER, Sculptor.

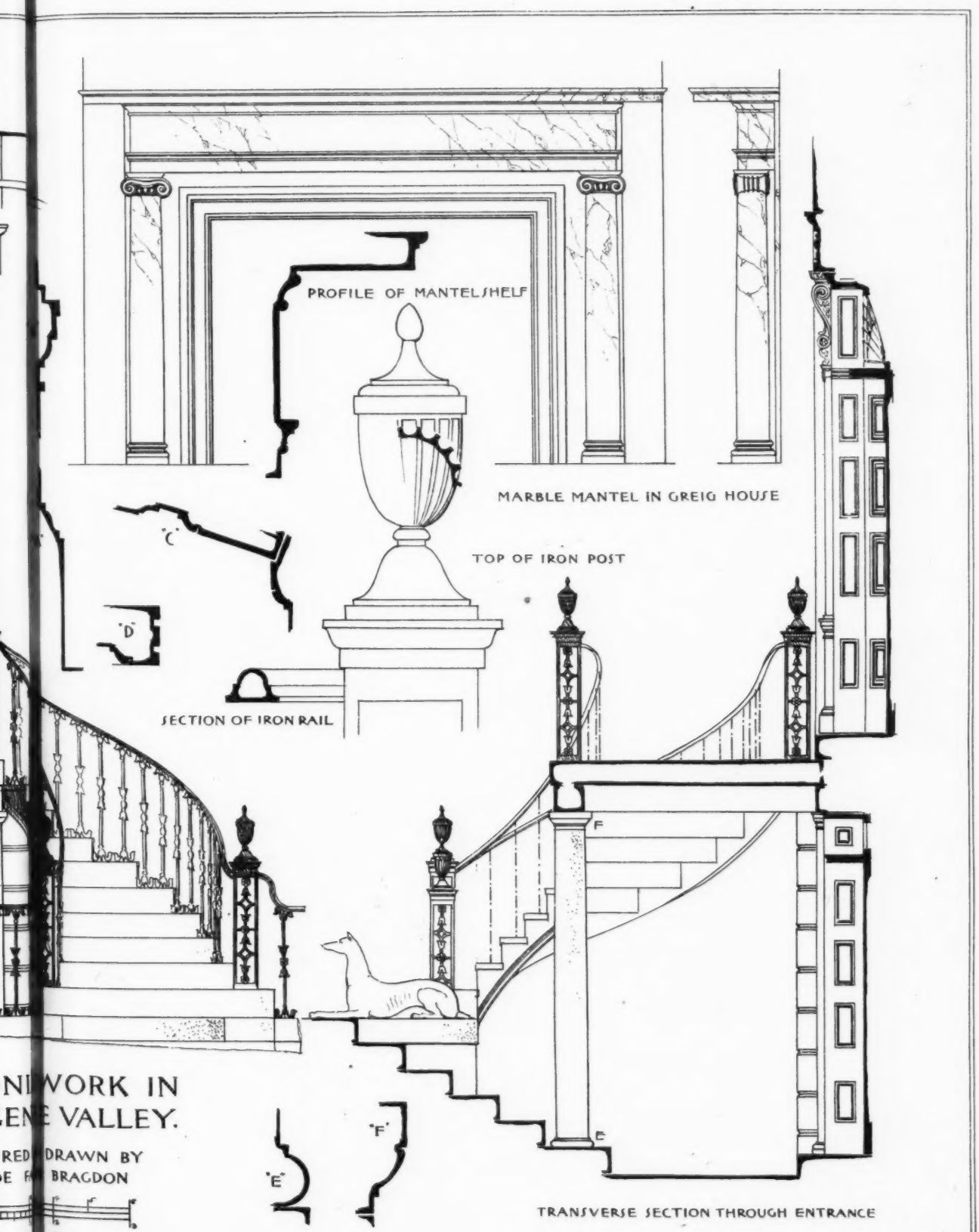
AT CANANDAIGUA



ENTRANCE TO THE JAIL

SECTION AND ELEVATION OF FRONT ENTRANCE TO THE GREIG MANSION.

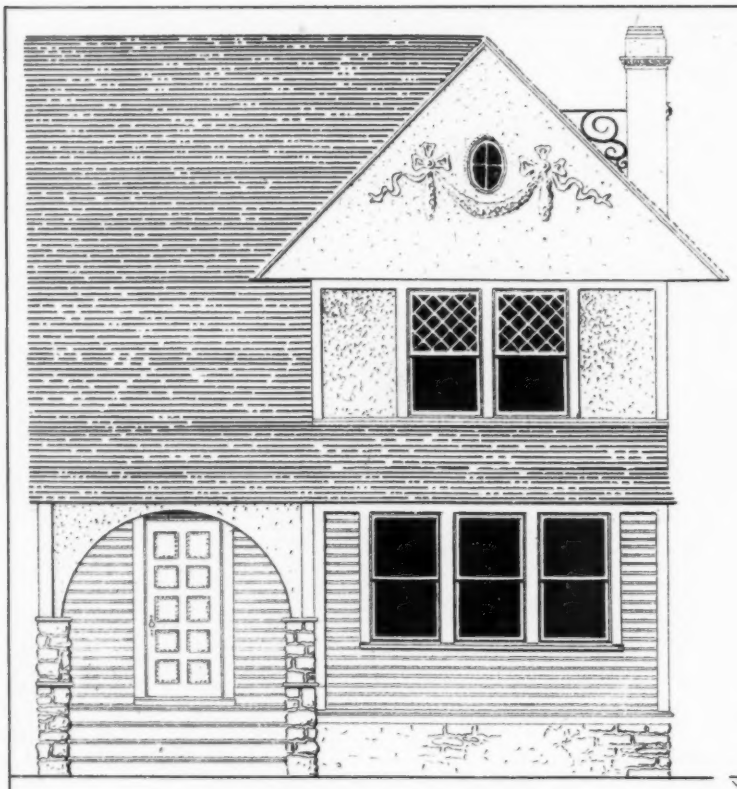
COLONI WO
THE GEN VA
MEASURED DRAV
CLAUDE F BRA



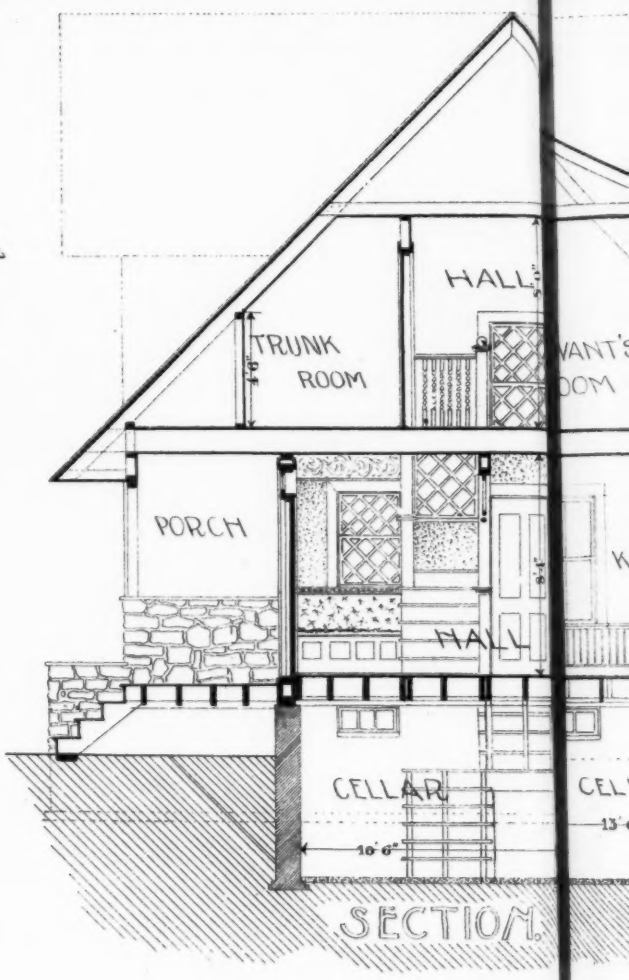
NI WORK IN
LEN VALLEY.

RED DRAWN BY
DE F BRAGDON

HELIOTYPE PRINTING CO., BOSTON.

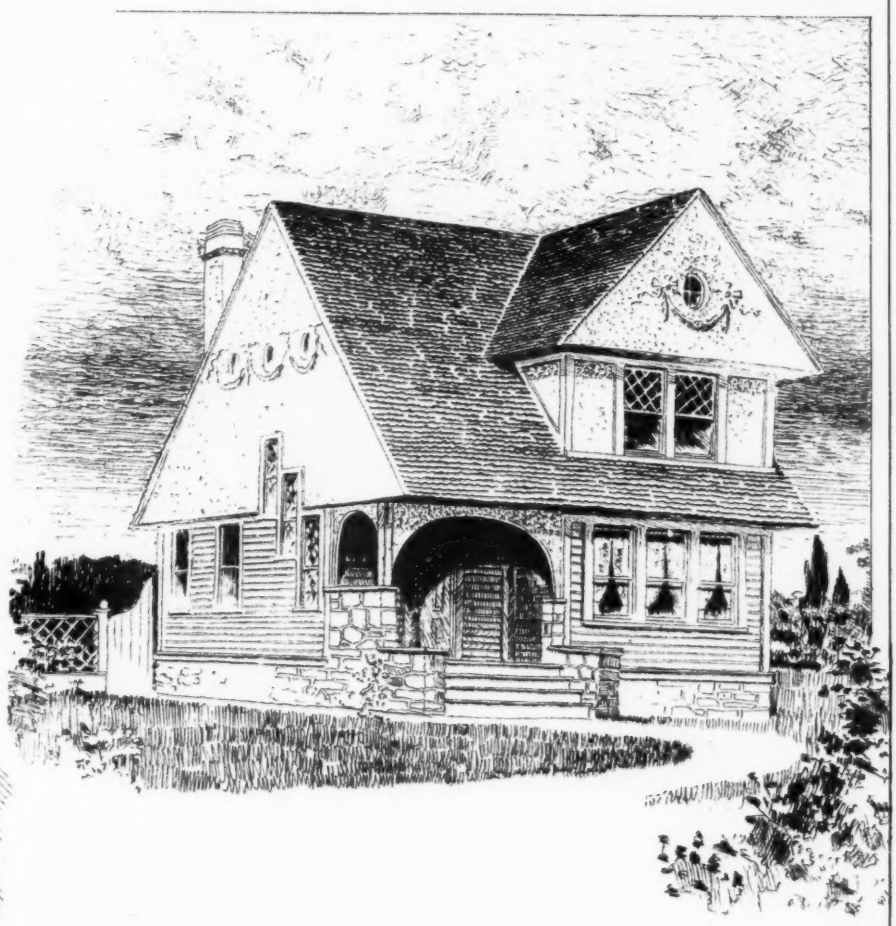


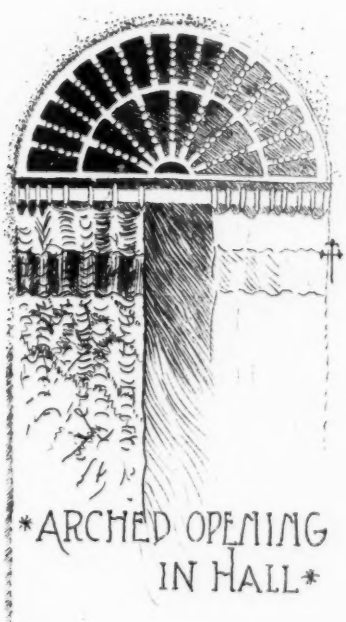
FRONT ELEVATION.

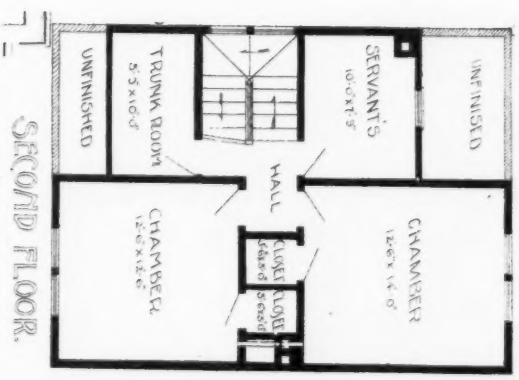


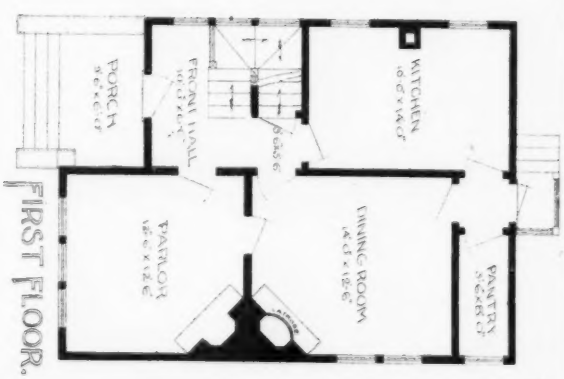
VIEW OF HALL IN SUBURBAN COTTAGE.

SUBURBAN COTAG
OF MODERATE ST
WADDY B. WOOD ARCT
WASHINGT
D.C.









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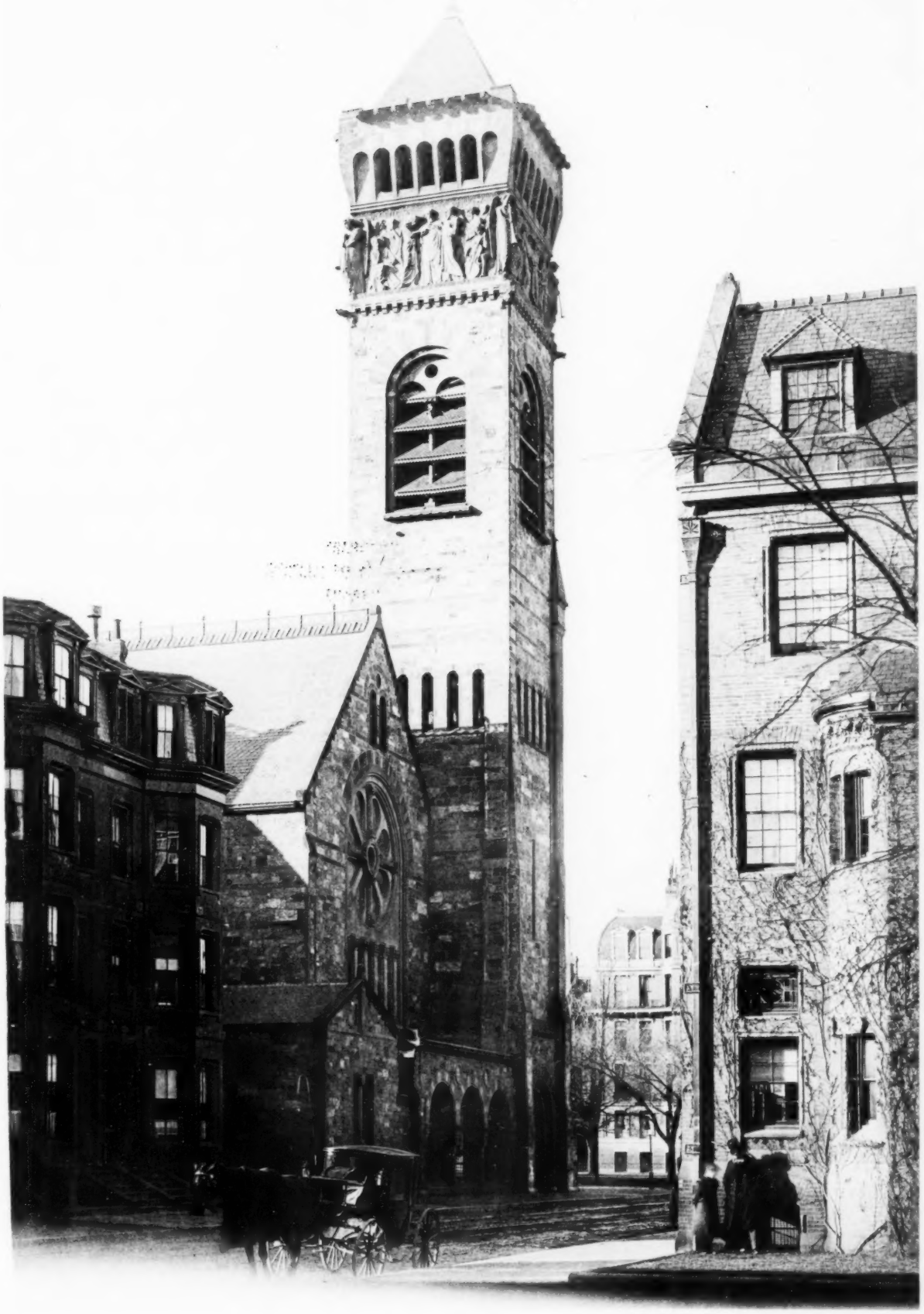
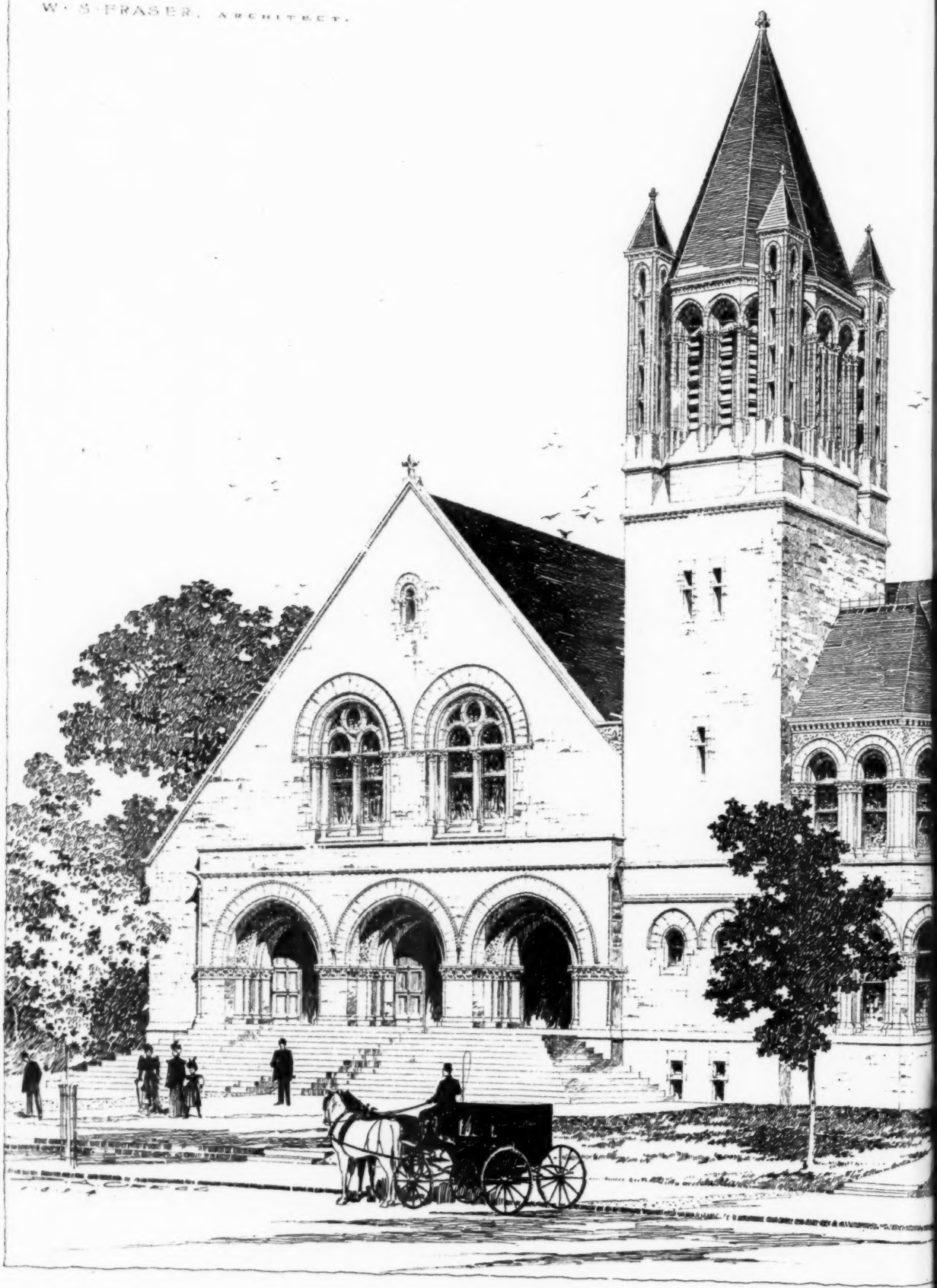


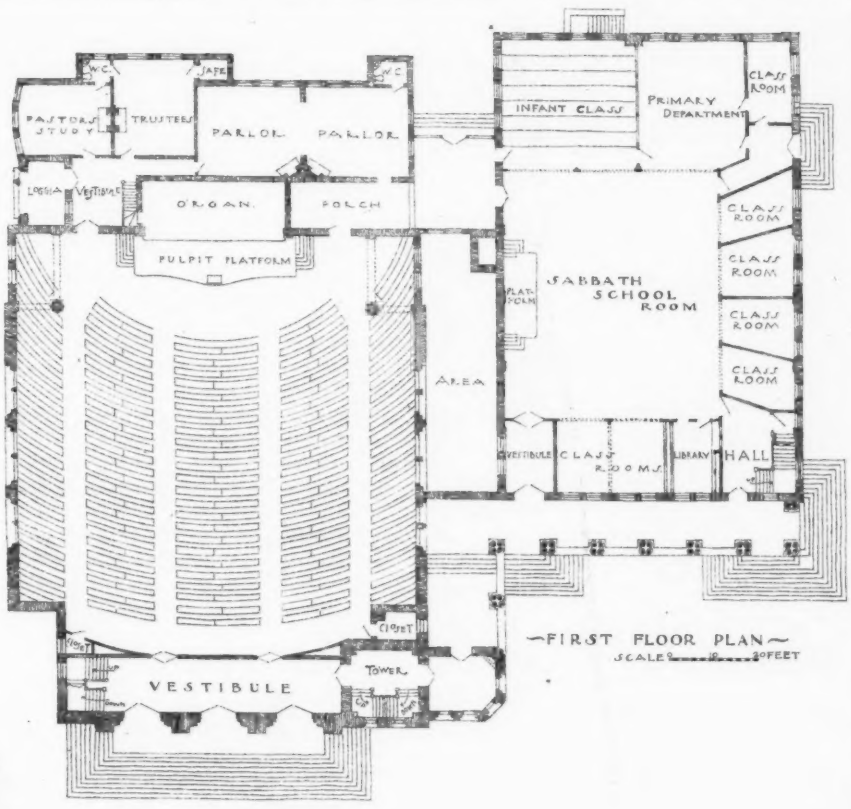
THE HELIOTYPE PRINTING CO., BOSTON

FIRST BAPTIST ["BRATTLE SQUARE"] CHURCH, CLARENDON STREET, BOSTON, MASS.

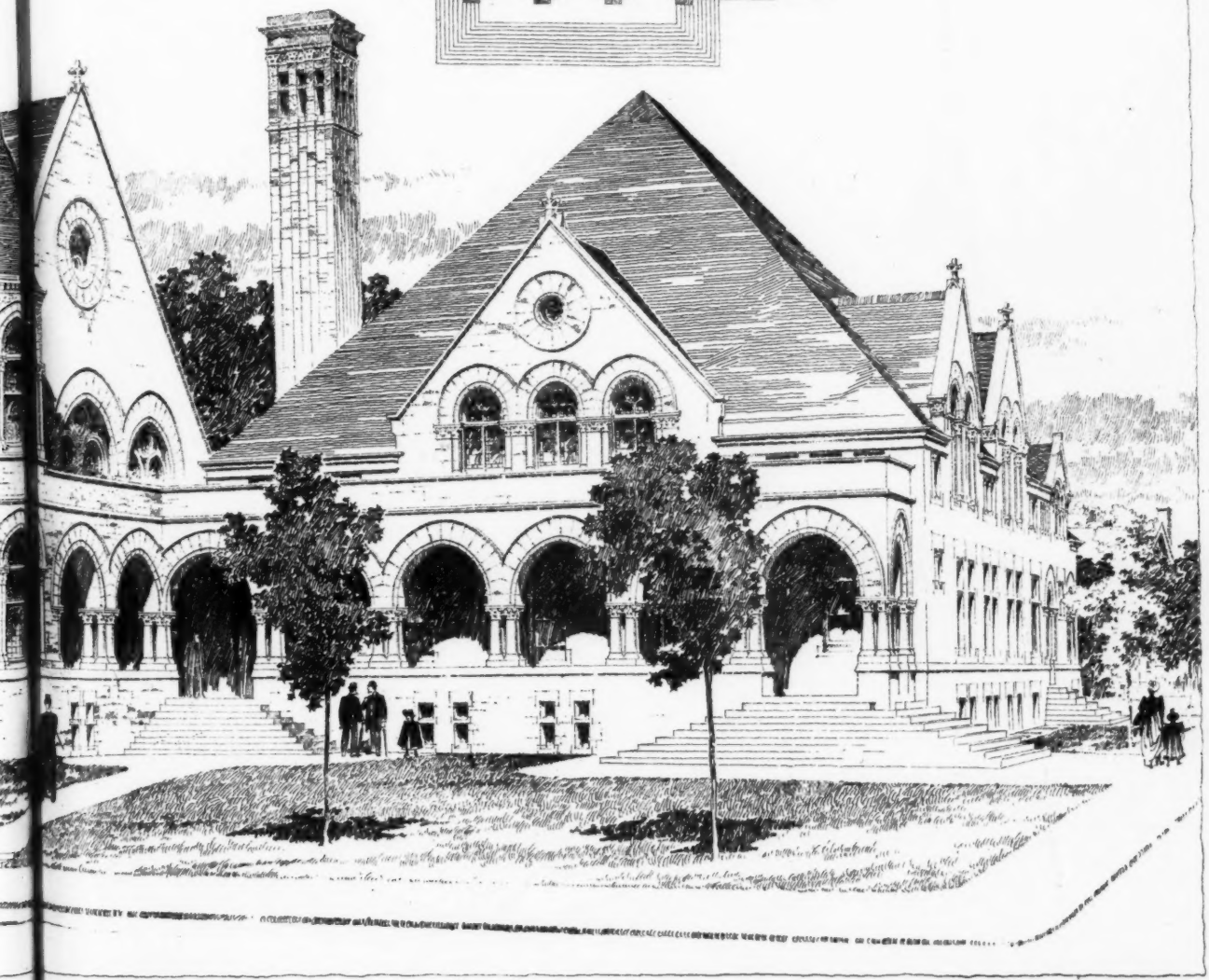
GAMBRILL & RICHARDSON, Architects.

SIXTH UNITED PRESBYTERIAN CHURCH
PITTSBURGH PA (EAST END)
W. S. FRASER, ARCHITECT.





—FIRST FLOOR PLAN—
SCALE 0 10 20 FEET



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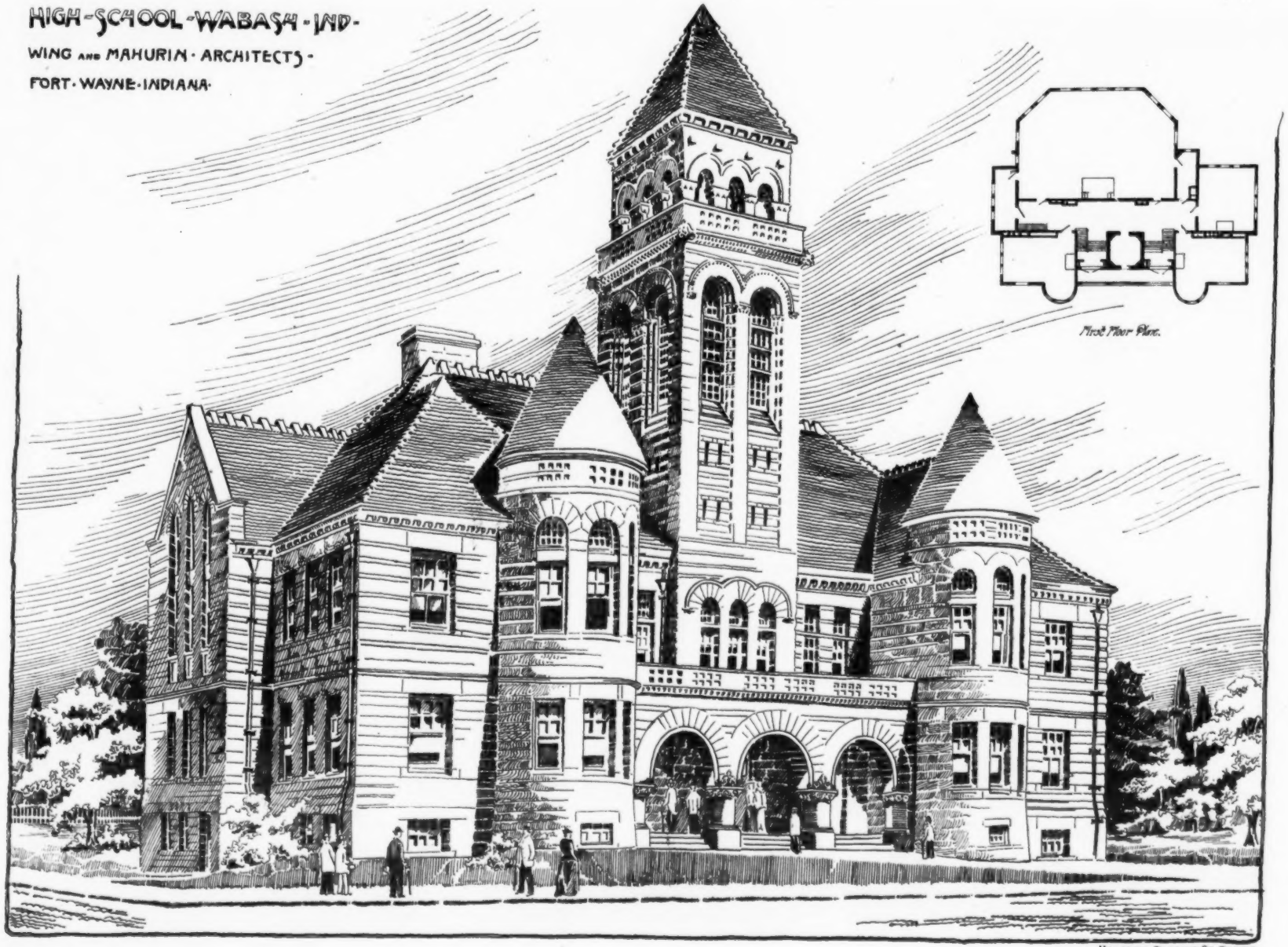
No 953. American Architect and Building News, Mar. 31, 1894.

HIGH-SCHOOL-WABASH-IND.

WING AND MAHURIN · ARCHITECTS ·

FORT · WAYNE · INDIANA ·



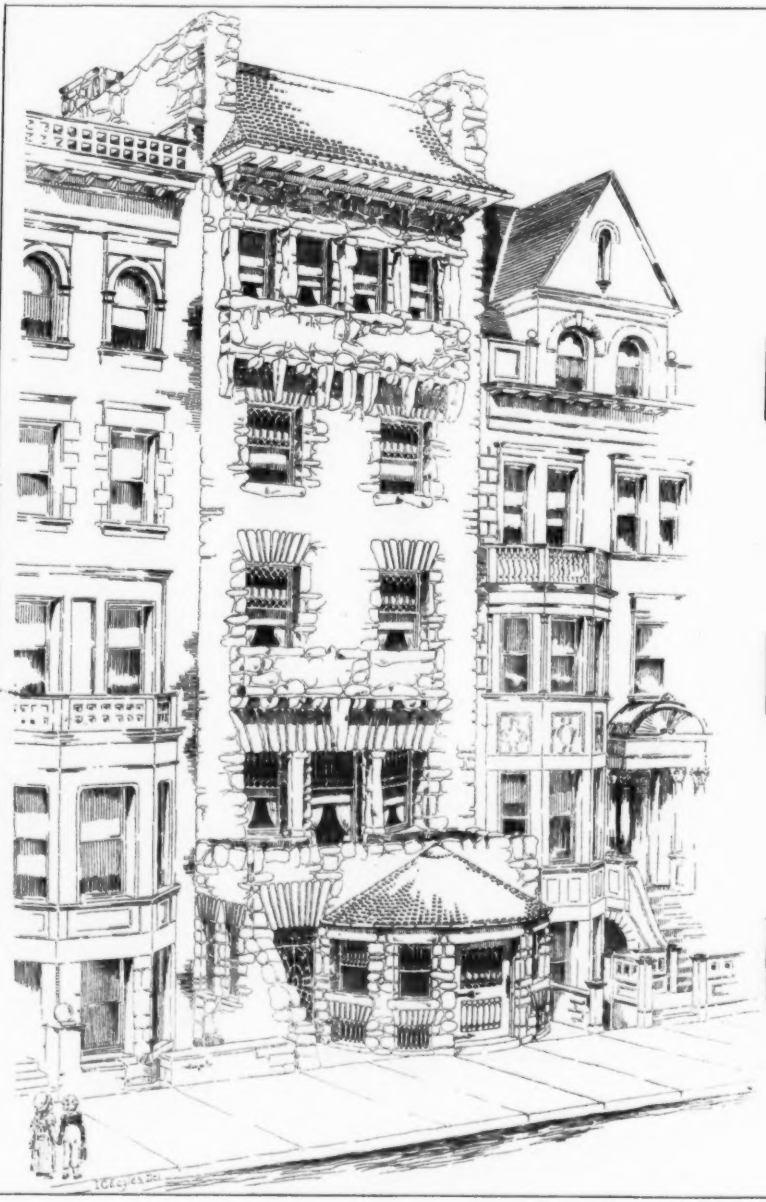
First Floor Plan.

HELIOTYPE PRINTING CO., BOSTON.

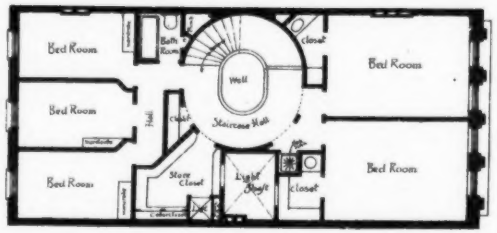
SECOND PRIZE DESIGN FOR ALTERATION OF THE MASSACHUSETTS STATE HOUSE.

RALPH A. CRAM, Architect.

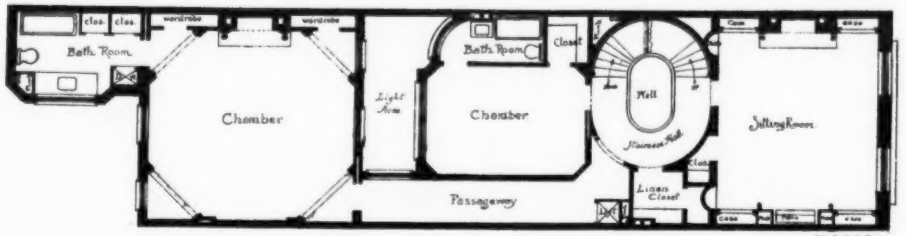
No. 953. AMERICAN ARCHITECT AND BUILDING NEWS, MAR. 31, 1894.



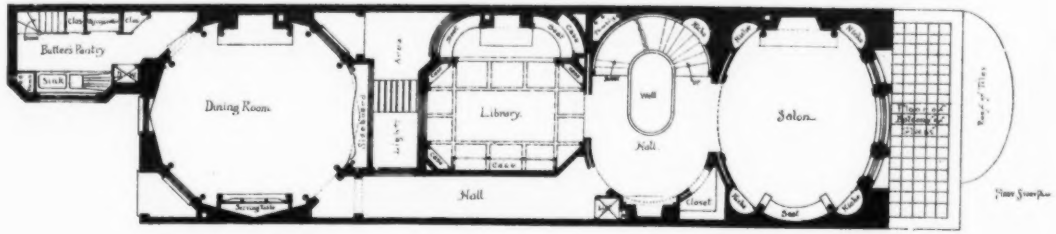
MANLY M. CUTTER
ARCHITECT
203 Broadway / N.Y. City.

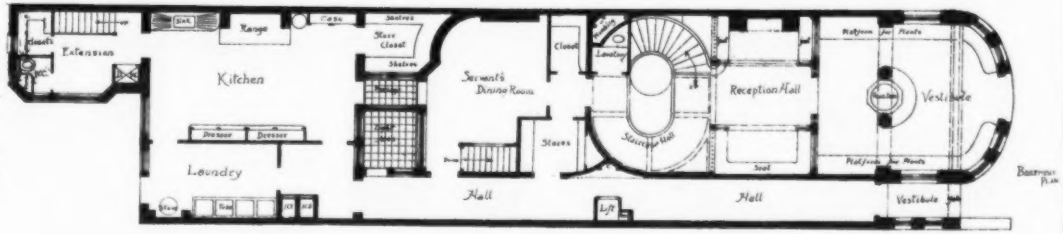


Fourth Story Plan.



Second Story Plan.





Basement Plan.

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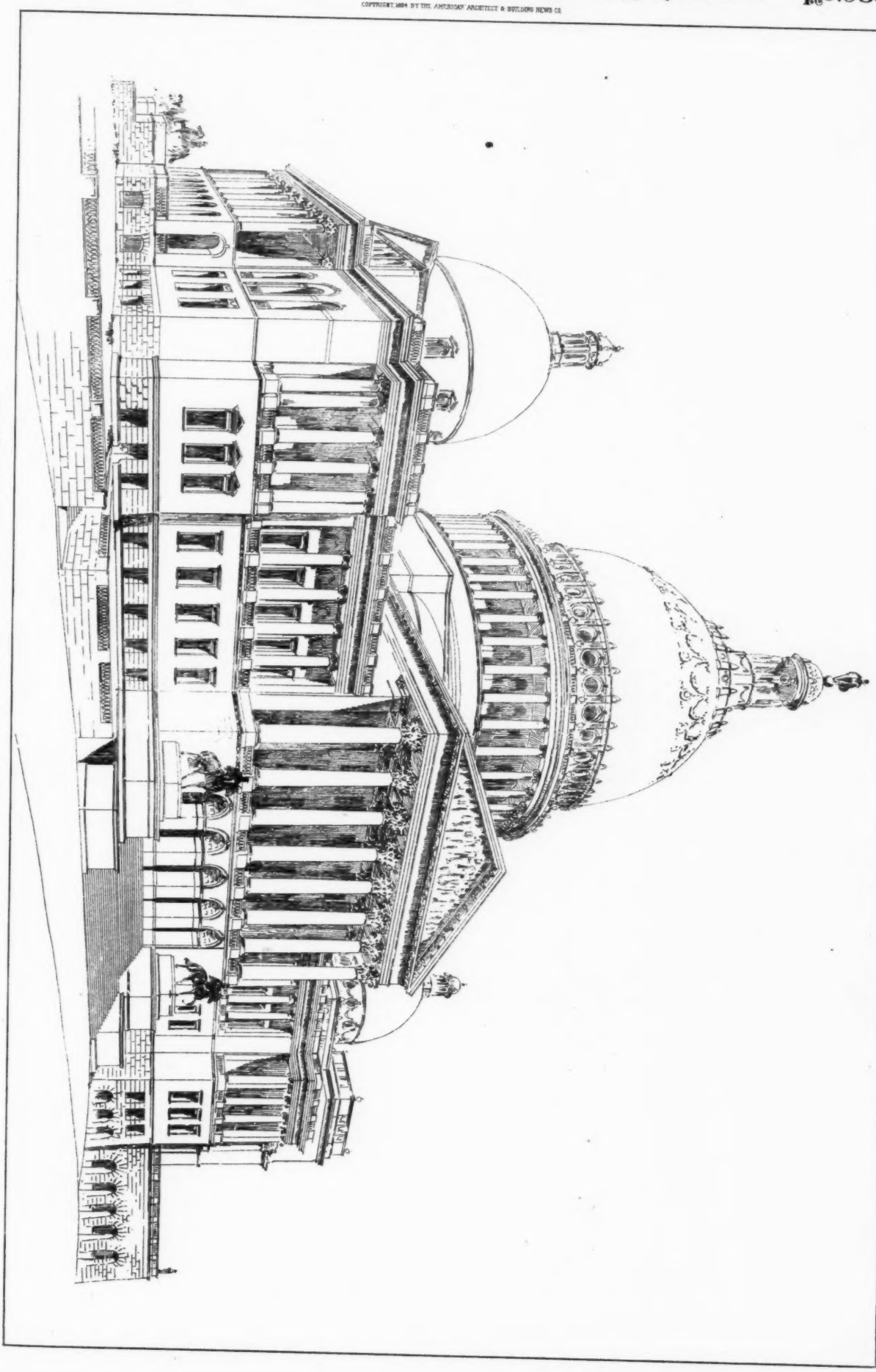
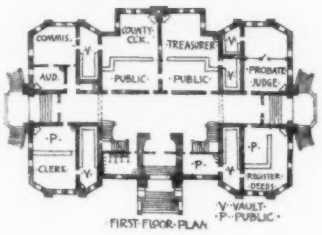


SECOND PRIZE DESIGN FOR ALTERATION OF THE MASSACHUSETTS STATE HOUSE.

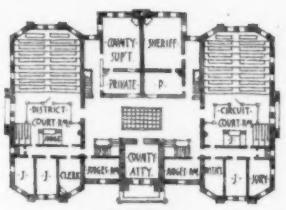
RALPH A. CRAM, Architect.



FIRST FLOOR PLAN

V-VAULT
P-PUBLIC

ACCEPTED DESIGN
FOR THE PROPOSED
SHAWNEE COUNTY COURT HOUSE
AT TOPEKA KANSAS
J. G. HOLLAND ARCHITECT
TOPEKA KANSAS



SECOND FLOOR

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APARTMENT HOUSE, CORNER BEACON AND CHARLES STREETS, BOSTON, MASS.

McKIM, MEAD & WHITE, Architects.

APARTMENT HOUSE, CORNER BEACON AND CHARLES STREETS, BOSTON, MASS.

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