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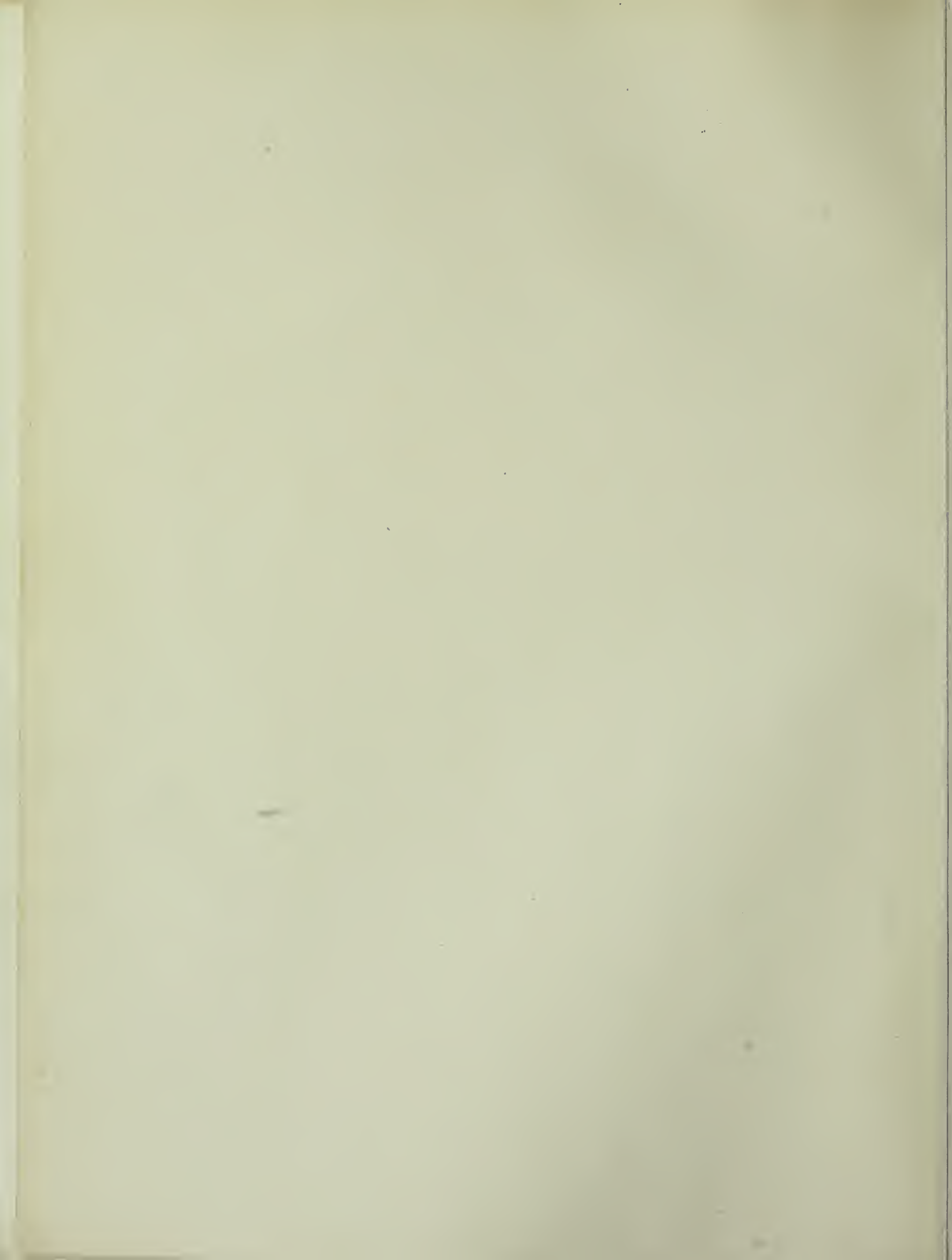
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THE BRICKBUILDER.

VOL. 15

JANUARY 1906

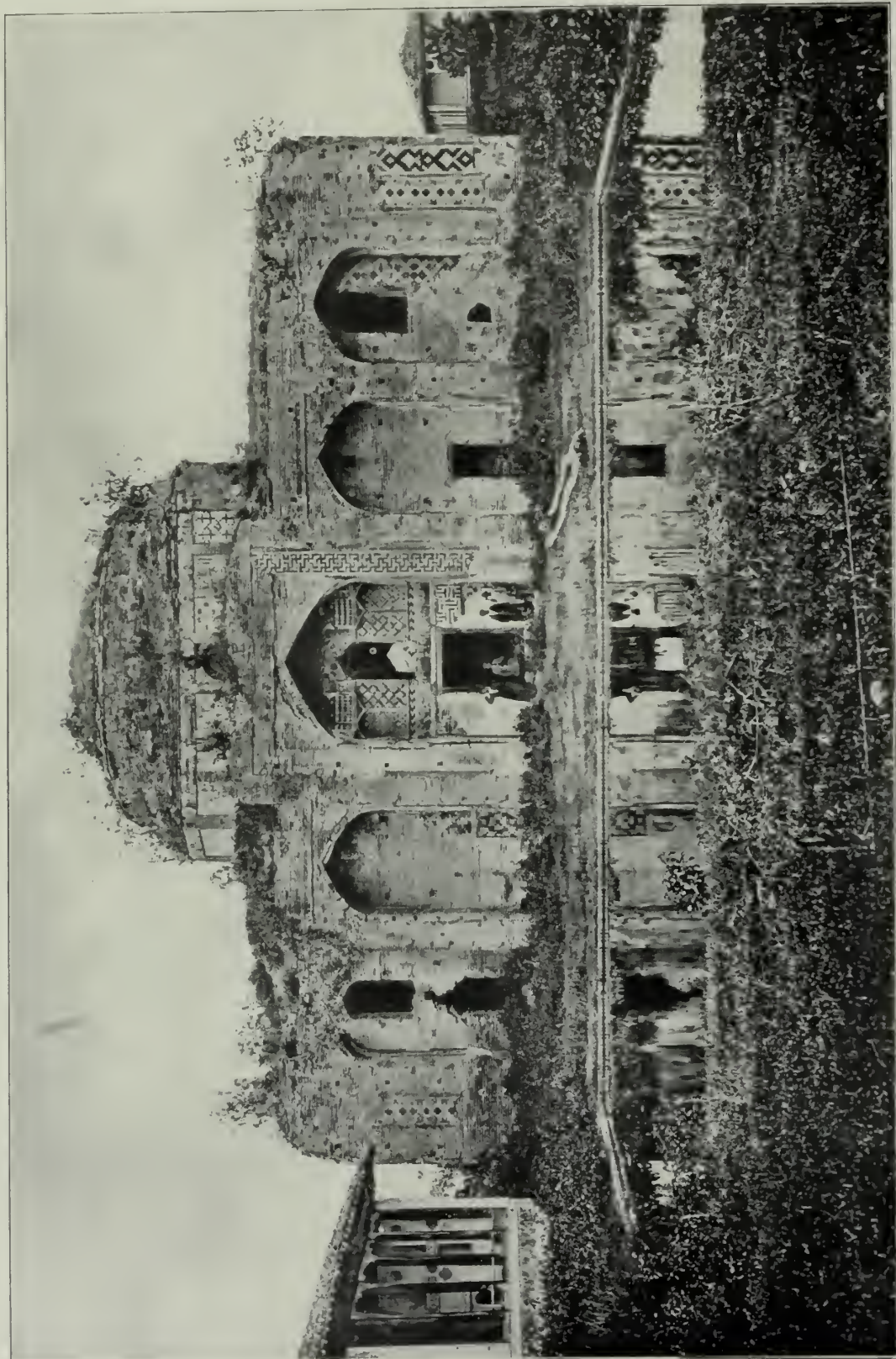
No. 1

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FROM WORK OF J. F. BENTLEY, J. MILTON DYER, MAGINNIS, WALSH &
SULLIVAN, TRACY & SWARTWOUT.

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AN OLD MOSQUE AT AMOL, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 1 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY JANUARY 1906

THE BRICKBUILDER.

PUBLISHED MONTHLY BY
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ST. LOUIS CATHEDRAL COMPETITION.

IT was decided some time since to build a Roman Catholic cathedral for St. Louis, and the archbishop of St. Louis appears to have been responsible for the conduct of a competition which was so managed as to alienate the interest of nearly all of the better architects in that city.

The building was to cost in the neighborhood of one million dollars. No compensation was offered to unsuccessful competitors; the compensation of the successful competitor was left indefinite; it was not stipulated that the author of the design should be employed to carry the work into execution, and the programme contained many other specific provisions in contravention to the recognized practice of the profession. A number of St. Louis architects and several foreign practitioners were invited to submit designs. When the conditions were first placed before them, the archbishop's attention was called to the objectionable items, and, after consideration of the matter, it was understood that he agreed that they would be modified to be more in conformity with the usages of the Institute. But such modification was not made, and as a result the St. Louis Chapter of the Institute drew up a series of resolutions expressing its sense that no member of the Institute could honorably and creditably participate in the competition.

It is a constant mystery to every outsider why architects are willing to indulge in so much scrambling for competitive work, and it is certainly to be hoped that architects will more generally decline to have anything to do with such competitions as this one. The action of the Chapter, it is claimed, was not influenced in the

slightest degree by the fact that the archbishop appeared to be in favor of a foreign architect, but was based wholly upon the feeling that the professional standards which have been countenanced and recommended by the Institute for the conduct of competitions should be rigidly adhered to.

The expediency of passing a Chapter resolution may be open to debate, but to our mind the individual members of the profession in St. Louis were quite right in abstaining wholly from this competition.

THE OFFICE BUILDING COMPETITION WINNERS.

THE jury for the office building competition has awarded the first prize (\$500) to Raymond M. Hood, Pawtucket, R. I.; second prize (\$200) to William C. Hazlett, New York City; third prize (\$100) to Claude F. Bragdon, Rochester, N. Y.; and mentions to the following: J. W. Thomas, Jr., Columbus, Ohio; Oscar Wenderoth, Washington, D. C.; Edward F. Maher, Boston; Israel P. Lord, Somerville, Mass.; Roland E. Borhek, Seattle, Wash.; J. H. Phillips, New York City.

The competition was judged in New York City by Messrs. Walter Cook, Cass Gilbert and H. Van Buren Magonigle.

THE ARCHITECTURAL FAIENCE COMPETITION B WINNERS.

THE competition was judged by Mr. Henry Forbes Bigelow of Boston.

The winner of the prize (\$50) is Maurice P. Meade of Boston.

Mention was given the designs submitted by Robert Fuller Jackson, Brookline, Mass.; Joseph W. Wilson, Chicago; Homer Kiessling, Roslindale, Mass.; John James Craig, Boston, Mass.; Calvin Kiessling, Boston, Mass.; Arthur Howell Knox, Chicago.

The prize and mention drawings will be published in THE BRICKBUILDER for February, also Mr. Bigelow's report.

THE annual convention of the Architectural League of America will be held in New York City on the 31st of January and the 1st and 2d of February. A very attractive programme has been prepared, concluding with a dinner given by the Architectural League of New York on the evening of February 2.

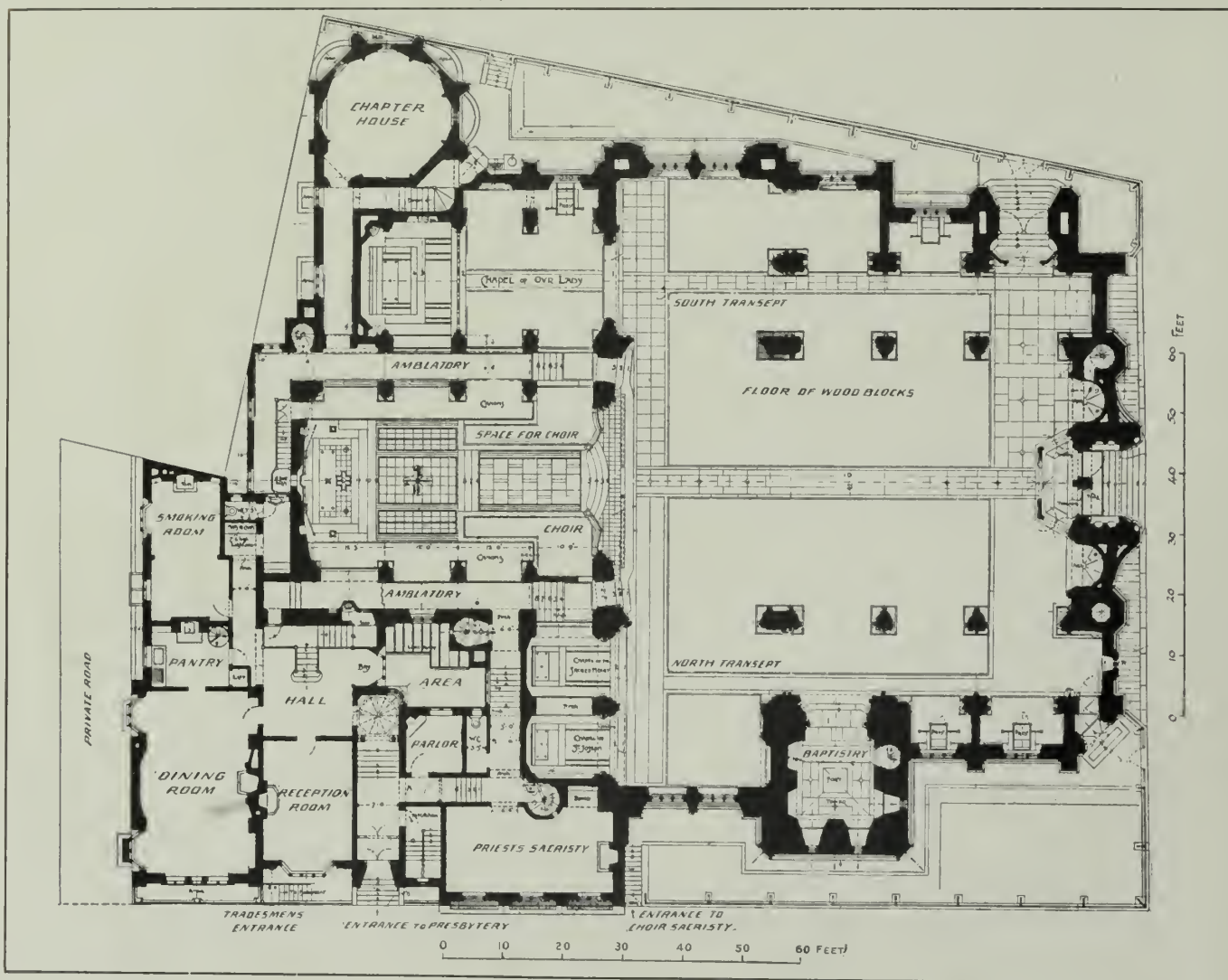
Modern Catholic Church Work in England. II.

BY R. RANDAL PHILLIPS.

THE new Cathedral and Presbytery of St. Anne, Leeds, occupies an almost isolated site of a similar building designed by Pugin, demolished to make way for a street improvement. The shape of the site, being very wide in comparison to its length, has involved a treatment of plan with a wide nave of 42 feet and double side aisles, with all the altars at the east end. The nave has a flat segmental pointed roof, with piers and arches carried up

with a parish room, about 40 feet by 21 feet. The two sacristies, about 30 feet by 20 feet each, are in connection with the ambulatory and presbytery. The latter accommodates the canon and priests of the cathedral. The ground floor of the presbytery is almost level with the gallery over the ambulatory around the choir, so that this gallery can be easily entered from the presbytery staircase. The nave, aisles, Lady chapel and transept will seat eight hundred and fifty persons and the choir fifty, exclusive of canons' stalls. The wide 42-foot span of nave roof has principals of latticed steel ribs. The floor of the nave is of wood blocks, with terrazzo paving to the aisles, and marble for the sanctuary and choir.

The Church of the Holy Rood at Watford, in Hert-



PLAN, ST. ANNE'S CATHEDRAL, LEEDS.

as high as possible, in order to give a feeling of loftiness. The side aisles also have flat roofs, in order to get the utmost height for clearstory and aisle windows. The choir and sanctuary, which is about 30 feet wide by 50 feet long, has an ambulatory all round, and there is a gallery over the latter for the organ and orchestra or additional choir. The high altar is treated simply with choice marbles, and a lofty baldachino and reredos of carved wood colored and gilt. The chapter house, which is approached from the ambulatory, is octagonal in plan

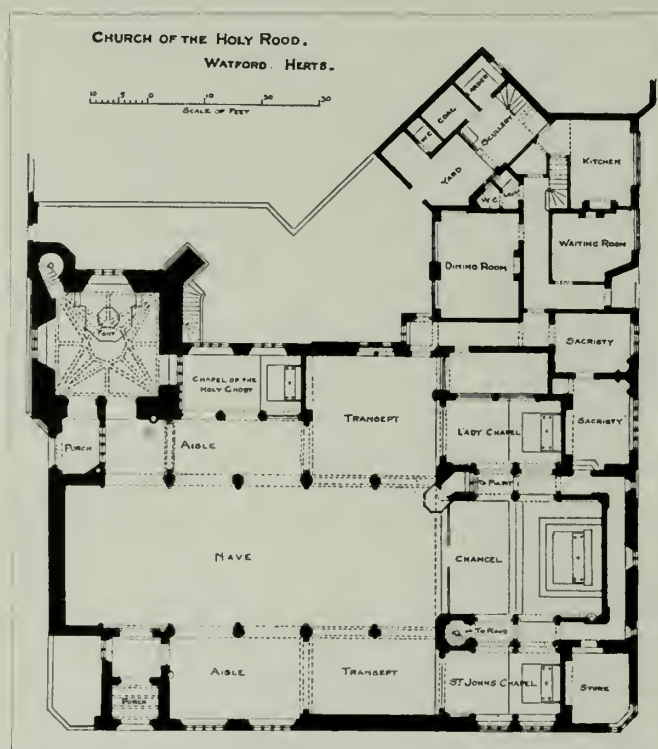
fordshire, by Mr. J. F. Bentley (1893), is acknowledged to be one of the finest modern churches erected in England. The architect had an absolutely free hand in its design, and he produced a building decorated with consummate ability. Its effect is sumptuous. The sanctuary is enriched with mural paintings of saints and angels, the high altar is of marble, inlaid with lapis lazuli and pearl, and bears a tabernacle of gilt bronze, lapis and pearl; the electric-light fittings are of gilt copper, very original and beautiful, and on the north side is the



ST. ANNE'S CATHEDRAL, LEEDS.
J. H. Eastwood, Architect.

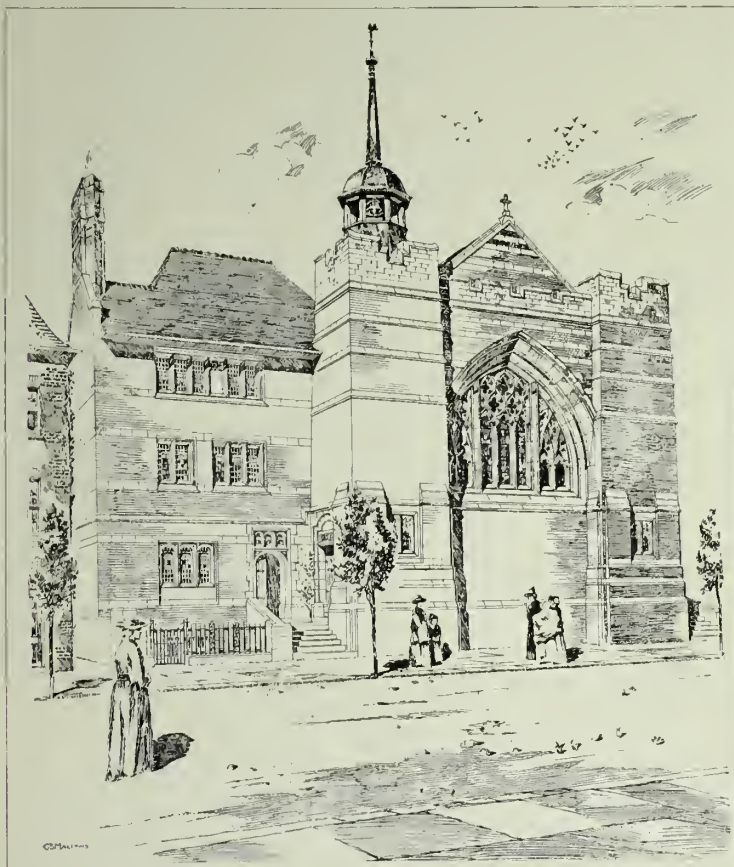


CHURCH OF THE HOLY ROOD, WATFORD.

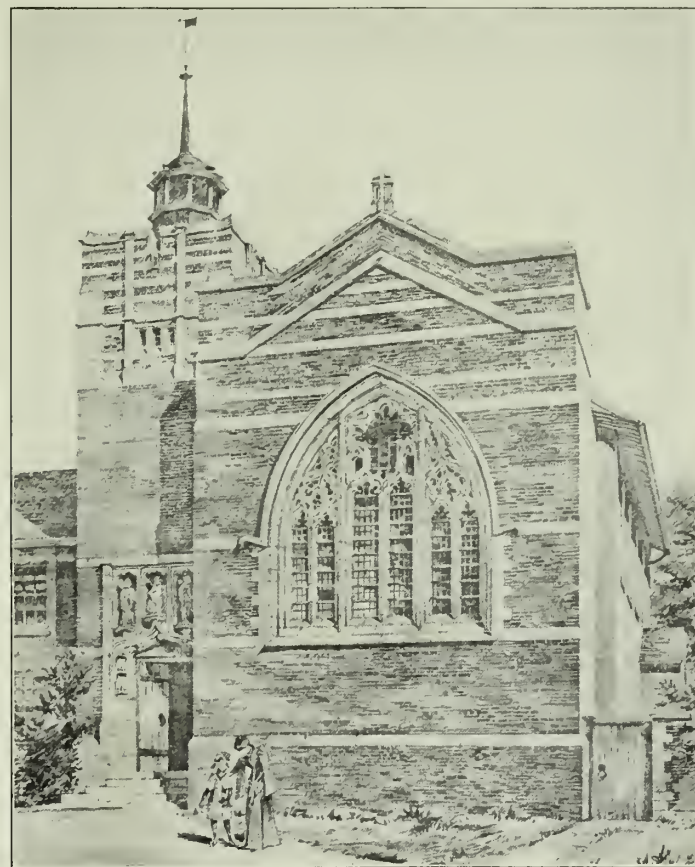


PLAN, CHURCH OF THE HOLY ROOD.

THE HIGH ALTAR, CHURCH OF THE HOLY ROOD.
J. F. Bentley, Architect.



CHURCH AT FOLKESTONE.



ST. AUGUSTINE'S CHURCH, SUDBURY.

Leonard Stokes, Architect.



ALTAR, ALL SOULS' CHURCH, PETERBOROUGH.



ST. CLARE'S CHURCH, SEFTON PARK, LIVERPOOL.

Leonard Stokes, Architect.



ST CLARE'S CHURCH, SEFTON PARK, LIVERPOOL.



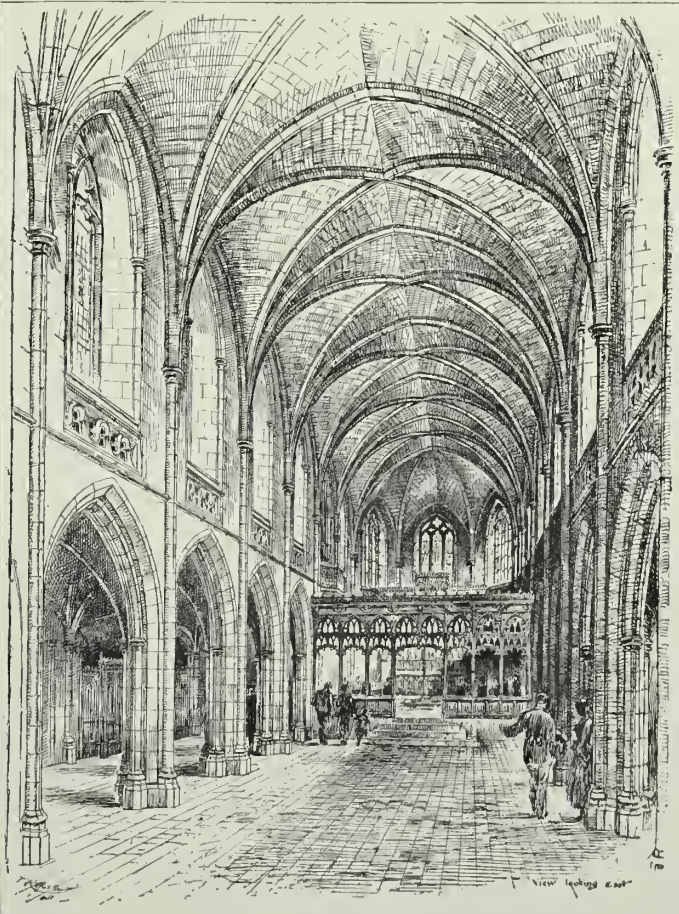
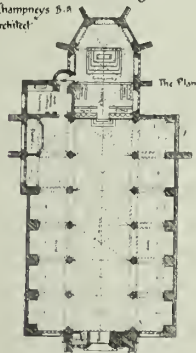
NORTH WINDOW, ST. CLARE'S CHURCH.
Leonard Stokes, Architect.



ALL SOULS' CHURCH, PETERBOROUGH.
Leonard Stokes, Architect.

St. Mary-Star of the Sea
Hastings

Basil Champneys S.R.
Architect



ST. MARY-STAR-OF-THE-SEA, HASTINGS.
Basil Champneys, Architect.

chantry chapel of the founder dedicated to the Holy Ghost, and enclosed with a screen of gilded metal-work.

To appreciate the church one needs to see it in all its glory of color, but the accompanying illustrations show what a wonderful effect Bentley accomplished there. Everything is by his hand, and all is imbued with an intense feeling of devotion. Nothing is conventional; and though the general design is Gothic, there is an absence of the familiar details which proclaim the mediocre architect of Gothic tendencies. The plan shows that the building occupies practically a square site, and includes a presbytery, access from which into the church is gained through one of the transepts. The planning throughout is admirably regular and shows that the architect was free from those vagaries which are usually associated with artist-craftsmen. While referring to this splendid church (which was completed in 1900), it is worth noting that when the Bishop of Brooklyn was on a visit to England in 1897 he was much struck by the new cathedral at Westminster; and, having made the acquaintance of its creator, he arranged with him to prepare designs for the Brooklyn Cathedral. Bentley went to New York in the following year, and on his return set out a ground plan, and, as time would permit, proceeded to put on paper the elevations of the glorious Gothic cathedral which his vision beheld, but which Fate decreed he should never realize.

Of quite a different caliber to Bentley, but in his sphere one of the most talented architects in England to-day, is Mr. Leonard Stokes. He is one of the small body of men to whom we look for the best modern Gothic. The characteristic of their work is that, while embodying the best features of traditional Gothic, it is imbued with a freshness of detail and refined sense of scale which at once command appreciation. Gothic church architecture offers innumerable possibilities for the abuse of proportion, and hence some of the dullest buildings are to be found in this style, done by the rag, tag, and bobtail, — men with not sufficient taste to discern what to avoid in the buildings to which they go for inspiration. Mr. Stokes is an architect of very different sort, as the accompanying illustrations of the churches at Liverpool, Peterborough, Sudbury and Folkestone clearly show. It only needs a glance at the altar in All Souls', Peterborough, to recognize that here is an example of truly modern Gothic, full of vigor and imagination. The treatment of this altar in a splayed recess, with its reredos and canopy, is altogether delightful. The design of the molding, too, is worthy of attention. The church at Sefton Park seats six hundred people. As commonly seen in modern churches, the aisles are mere passageways contrived under the internal buttresses, the whole body of the church giving an unobstructed view of the altar. The pulpit, it will be noted, has a crucifix beside it.

The Church of St. Mary-Star-of-the-Sea, Hastings, is particularly interesting for its association with Coventry Patmore, at whose expense the fabric above ground was executed; the little chantry, indicated on the plan, is to his wife. It is not long since two volumes of the life of Coventry Patmore were issued, written by the architect of this church, Mr. Basil Champneys, whose work is always distinguished by its scholarship and reverence.

The Work of the Boston Schoolhouse Commission, 1901-1905. IV.

ARCHITECTS' SERVICES.

THE Board early attempted to put into definite form the relations between the architect and the Commission, and the Corporation Counsel to that end drew up, in 1902, a form of agreement defining the duties and responsibilities of each. He suggested that it be a regular contract, approved by the Mayor, rather than a mere agreement between the Board and the architect, and on that account added a bond to make it legal. There being some objections raised to this formality by some of the architects, none of the contracts have been presented to the Mayor, but all the architects have worked under the terms laid down in that agreement, and as subsequently changed to the present form.

In 1904 the Boston Society of Architects appointed a special committee to redraft this agreement. With the



THOMAS GARDNER SCHOOL.

Grammar, Athol and Brentwood Streets, Allston.
Stickney & Austin, Architects.

14 rooms: 700 pupils.

Cube, 735,573 (630,000).

Cost, \$142,718.37 (\$138,600).

Cost, cubic foot, \$0.19 (\$0.22).

Cost per pupil, \$203.88 (\$198.00).

exception of an added clause to cover payment for partial services, the agreement was only slightly modified, principally in its form of expression, the aim being to avoid the use of legal phraseology.

Under this agreement the Board furnish the architect with all the necessary information as to the lot, the grades, the nature of the soil, — making what borings are necessary, — the connections with sewer, water, etc., and all restrictions of the lot. The Board also furnish the requirements for the school to be built, together with the approximate cubical contents and proposed cost, estimated according to the standards noted in article II of this series. The architect, with such consultation with, and advice from, the Board as he may desire, draws up preliminary studies of the scheme of plan, design and construction. Having figured the cubical contents of these preliminary studies, in the form accepted by the

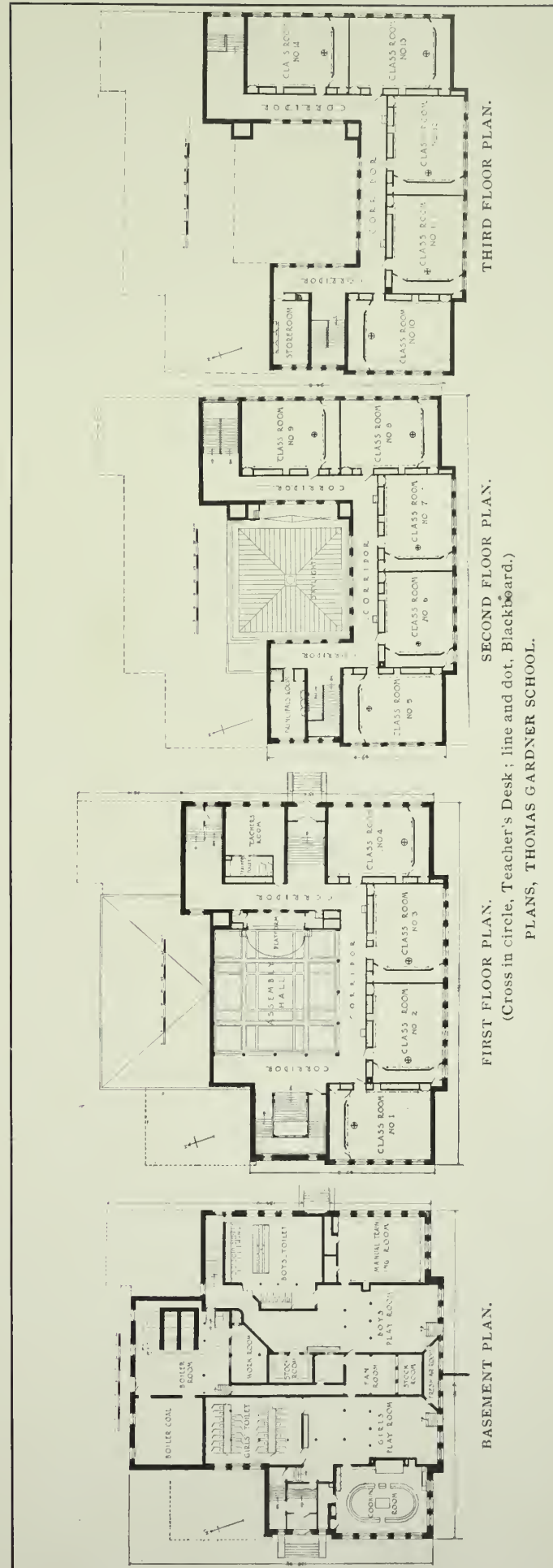
Board as the basis for working drawings, the Board and the architect agree upon a definite limit of cost for the building. If, after the bids for construction have been received, the lowest bid overruns this limit of cost, owing to departure from or extravagant interpretation of the preliminary studies in the working drawings, the architect makes such re-study and revised drawings as may be necessary to reduce the cost to the proper limit without expense to the city. When the working drawings are finished they are loaned to the Board for the purpose of blue printing; when the contract is signed the architect furnishes the Board with two sets of blue prints mounted on cloth, as well as a perspective drawing of the exterior for reproduction; and when the building is finished the architect furnishes the Board with a complete set of working drawings on tracing cloth embodying all the changes made during construction.

The Board employ domestic engineers, who have charge of all the heating, ventilating and electric work, referred to below as the domestic engineering, in connection with the new schools and of the repair work of that kind in the old schools as well. These engineers confer with the architect during the preparation of preliminary studies and later advise him in detail as to the requirements. They make, themselves, the working drawings and specifications for, and have the direction of, the domestic engineering. The Board have the specifications for the building printed, but the architect and the engineers prepare and revise for the printer the copy for such specifications, preparing them along the lines of previous specifications, thus keeping them uniform.

The architect makes the application for building permit and furnishes the building department with two sets of such blue prints as may be required. The specifications are furnished by the Board. The architect has only the general supervision over the domestic engineering, but furnishes full architect's services for all other work in connection with the building. He makes, on a prescribed form, all estimates and allowances for payments under all contracts for the general work, and the estimates for payments for the domestic engineering are certified to by the engineers.

According to the terms of the city contract, the architect is sole judge, without any appeal to arbitration, as to the interpretation of plans and specifications and as to the value of work added or deducted. This authority may well cause friction, for reference to the courts would hardly be resorted to unless much was at stake, and yet that is the contractor's or the owner's sole appeal from the architect's decision. It would seem as if reference to the Board, the uninterested agent of the real owner, the City, or to a board of arbitration, were advisable where a difference of opinion as to the proper valuation of materials and labor exists.

In compensation for such services the architect receives a commission of two and one-half per cent on the cost of the domestic engineering and of five per cent on the cost of all other work. The payments are made as follows: two and one-half per cent on all contracts other than those for domestic engineering is paid upon the signing of the contracts, and thereafter two and one-half per cent is paid on estimates for payments to contractors as they from time to time are made, until the full pay-





DEARBORN SCHOOL.

Grammar, Ambrose and Orchard Park Streets, Roxbury.

Edwin J. Lewis, Architect.

21 rooms: 1,050 pupils.

Cube, 980,100 (\$40,000).

Cost, \$211,308 (\$184,800).

Cost, cubic foot, \$0.21 (\$0.22).

Cost per pupil, \$201.24 (\$176.00).

ment is made. If any remains unpaid at the completion of the work it is then paid.

In order to regulate the payment for partial services more clearly than in the original agreement it is now agreed that upon the completion of the preliminary studies the value of the architect's services shall be reckoned as one-fifth of the estimated commission; when the working drawings and specifications are ready for contract the value of his services shall be reckoned as three-fifths; any intermediate stage is reckoned proportionately. If, for some reason other than stated above, the Board set aside the whole or any part of an architect's studies, drawings and specifications while retaining him to prepare corresponding new studies and drawings for the same building, the City pays him for the work thus set aside a sum not exceeding three times the actual cost of draughting, paying for the new work on the regular commission basis above described. In the agreement the word "building" is used to define not only the structure itself, but all the work of grading, planting, fencing, etc., of the grounds and all decorative painting or sculpture in the structure.

The architects for the various buildings are selected by the Board from among those living and practising in Boston. They are selected without competition and without reference to previous experience in schoolhouse or other large work. It is the policy of the Board, however, to select from among such architects as have already established a professional reputation. Before an architect is appointed, however, he submits working drawings

and specifications for a completed building, together with notes as to the business methods employed in his office. Reference is made to clients and builders whose names are submitted by the architect, and it is only after a careful survey of all this information that the Board make a selection. In the four years of the Board's experience several have been twice appointed.

THE THOMAS GARDNER SCHOOL.

There are two ways of arranging to take care of future increase in school attendance in a district. The first, illustrated by the Mason School, described in the November issue, and the Perry School, described in this article, is to procure a lot large enough for two buildings and locate the first building accordingly, designing it for present needs. The second is illustrated by the Thomas Gardner School, in which case a school is designed for probable future needs and only partly built. In either case the bare figures do not give the first construction a good showing according to standards, for while in the one case there is a very large lot to be graded and planted, in the other there is the need of assembly hall and, to an extent, domestic engineering installed for a much larger building.

The basement of this school is of the regular grammar type, containing the playrooms, toilets, manual training room and cooking school and the heating apparatus to which nothing but a third boiler need be added to make it capable of taking care of the completed building.

Above the basement the plan is unconventional, an experiment having been tried in the location of the assembly hall. On each of the three floors a row of classrooms with a corridor surrounds a large central court which, roofed over at the level of the second-story window sills, gives an assembly hall on the first floor. The wall of the interior court, which, above the main floor, lights the corridors, is carried on a colonnade on the first floor, so that there is free communication between the hall and the corridor which takes the place of side aisles.

Even with fireproof construction there are evident advantages of a first-floor location over the more usual one on the second story, and still more over the occasional one on the third floor as in the Jefferson School described in the December issue, and the Dearborn School described in this article. It remains to be seen whether it can be worked out economically, involving as it does, a large court above the first floor to give light to the assembly hall and the upper corridors.

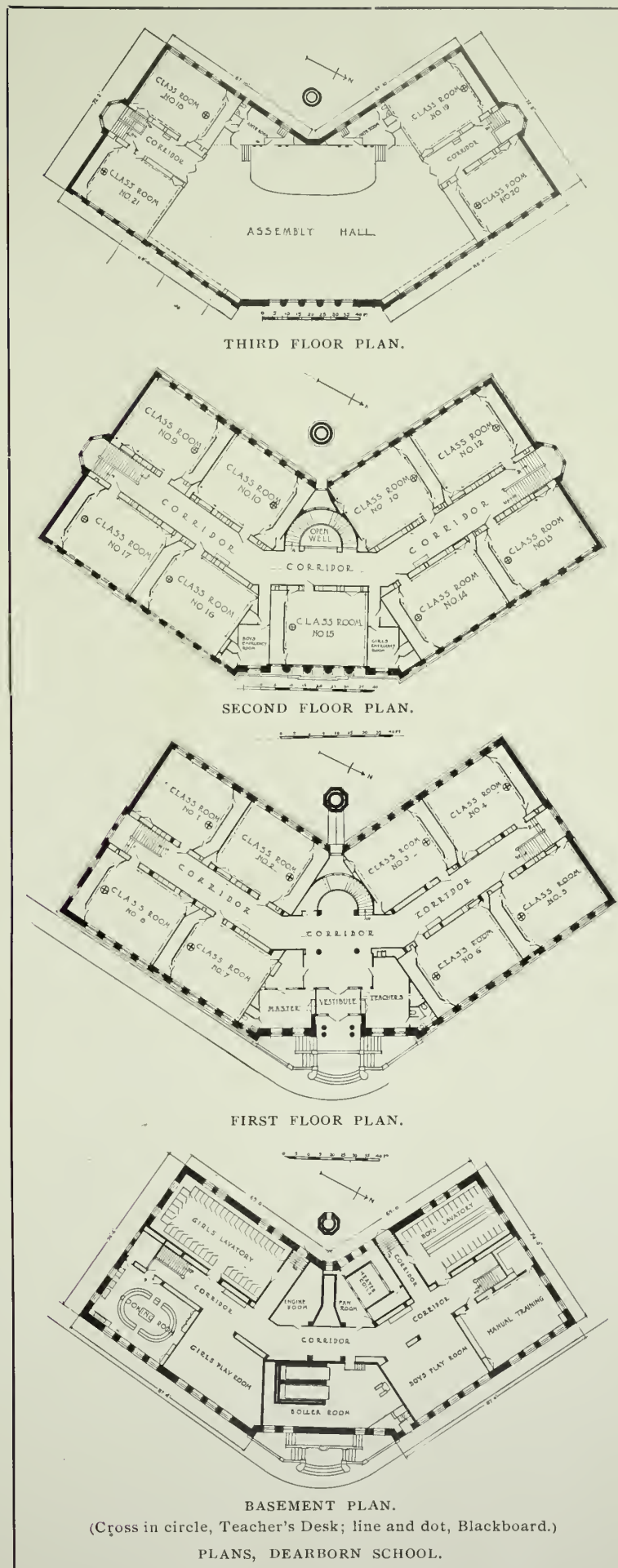
The boiler room and coal storage are under the future addition, so that a considerable part of its basement is already built. This, in addition to the other usual factors in a partially constructed building, gives the school a poor economy on a fourteen-room basis. It was built for a very low figure per cubic foot, however, nineteen cents, its total cost being not so far in excess of the standard as its cube, and when completed as a twenty-six room school should approximate the standards.

THE OLIVER HAZARD PERRY SCHOOL.

In the case of this school as in that of the Samuel W. Mason, a building designed for present needs was constructed upon one-half of a large lot, the other half of which is available for another building whenever the increased school population of the district demands it.

It is a six-room plan with the boys' and girls' entrances at opposite corners of the central block and giving on the play yards arranged on either side of the building. From the vestibules, stairs lead down to the basement and up to the first floor. The master's room and teachers' room are located in mezzanines over the vestibules, the main stairways being at either end of the corridor which divides the building on the long axis. The assembly hall occupies the second and third stories of the central block of the building, flanked on each story by two classrooms on each side, giving a total of fourteen classrooms. This scheme of plan for a fourteen-room building is very compact, and with the manual training room and cooking school in the basement, besides the usual domestic engineering, it was not only impossible to provide playrooms, but it was also necessary to use a fan system for ventilation to save the space needed for the heating stacks in a gravity system.

As will be seen by the figures appended to the illustration, the cube, owing to the compactness of the plan,—a compactness that is obtained at a certain sacrifice of basement facilities,—is well under





OLIVER HAZARD PERRY SCHOOL.
Grammar, City Point, South Boston.
Clough & Wardner, Architects.

14 rooms: 700 pupils.

Cube, 612,351 (630,000).

Cost, cubic foot, \$0.24 (\$0.22).

Cost, \$145,633.23 (\$138,600).

Cost per pupil, \$208.05 (\$198.00)

the standard. The cost, however, was \$7,000 over the standard on account of the grading of a large lot, and brickwork needed in connection with walls on party lines, both of which items appear in the total figure.

THE DEARBORN SCHOOL.

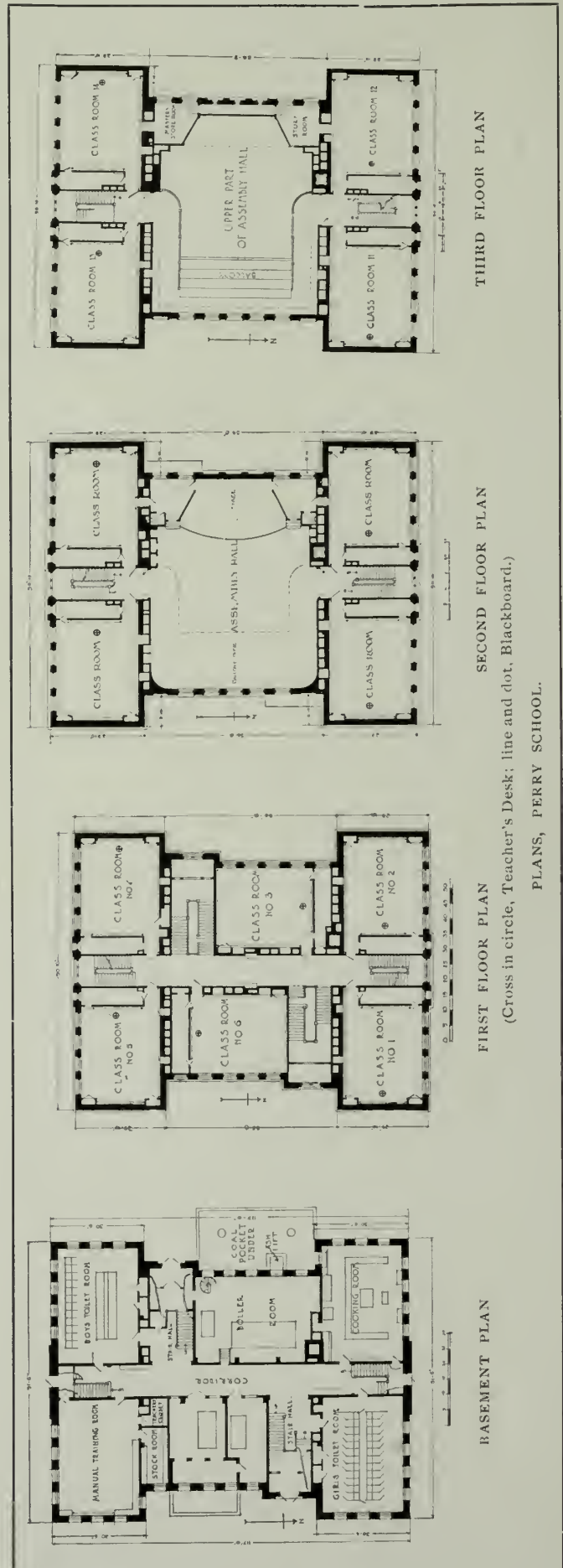
This school, designed to be eventually a thirty-three room building, has been built as a twenty-one room school. For many reasons it was advisable to keep for a time the present building now in use on the same lot, and the new school was so placed as to interfere as little as possible with it. The main entrance is on the corner of the two streets that bound the lot, the walls of the building following the lot lines on these two streets. The future addition of twelve rooms will continue the building along Orchard Park Street.

While the form of the plan is unusual, the accommodation of the various floors is typical, the assembly hall being, as in the Jefferson School, on the third floor but gaining added height by extending up into the pitched roof, a form of roof not often employed, but which, as in this case, occasionally serves a distinct purpose.

The size of the school gives ample room in the basement for playrooms as well as the other usual grammar school accommodations. The whole of the basement under the future addition will be available for playroom purposes.

The heating and ventilating systems are similar to those installed in the Mather School.

The cost of this building was not so much in excess of the standard as the cube, the cost per cubic foot being twenty-one cents; and with the engineering plant for a thirty-three room school already installed under the present contracts, the school, when finally completed, should approximate the standards.



Brick Architecture in Denver. II.

THERE is, perhaps, no other city in the United States where so many small buildings are built almost entirely of brick, and a house constructed entirely of wood is very difficult to find, even among the more modest ones. The Building Ordinance has for years prohibited the construction of frame buildings, and the newly framed ordinance prohibits even the use of shingle or half timbered and cement upper stories, excepting in the outer suburban districts.

The general appearance of the residence section has been improved recently by the construction of curbing, surfacing and the laying of sidewalks, and while the results are not all that could be wished for on account of so much vacant property, still these districts are rapidly filling up with brick houses of a substantial character.

Schweinfurth during his brief residence here. One is a beautiful brownish pink, which blends exceedingly well with a deep veined sandstone; the roof is a deep brown. Another is built of a deep red pressed brick, laid in red mortar. This house, which might be called "Romanesque" in style, is especially successful in its porches, which seem in keeping with the excellent gables. Another house quite similar in style is by Andrews, Jaques & Rantoul of Boston.

The house by Varian & Sterner, constructed of buff brick of a gray tone and light gray terra cotta, is very pleasing for its general good proportions, although in the illustration the building loses a good deal of its prospective values, caused by the necessity of placing the camera too close to the building. The same may also be said of the excellent Colonial house by F. J. Sterner, who has recently opened an office in New York City. This is



HOUSES BY T. D. BOAL AND FISHER & HUNTINGTON, ARCHITECTS.

Denver, like many western cities, has suffered through the platting of so much real estate, and the introduction of the electric cars and the cheapness of suburban property have caused a great scattering in dwellings, and consequently there is much vacant property which must be built upon before Denver will have a compact and completed appearance.

The material most generally used is pressed brick of various colors, viz., red, buff, gray and so-called "pink," all of a good quality. Another brick which meets favor is the stiff mud rough machine made variety, which corresponds to the eastern "Harvard" brick. It is a beautiful deep red in color, and is usually laid up in Flemish bond with heavy raked mortar joints.

About the only brick architecture of interest is to be found in medium and low cost residences, since the more costly houses, which were constructed before the panic of 1893, are built of various colored stone, and very few large houses have been built since then. Most of the buildings illustrated have been erected within the past ten years.

Two of the most successful houses, particularly as regards color, are those designed by the late A. C.

probably the best example of a Colonial house in the city. Another Colonial house by E. H. Moorman is quite pleasing, save for the unusual gable treatment and the entasis of the porch columns.

The house by Fisher & Huntington is laid up in a rough deep red brick with black headers and raked joints in the lower story, and has a frieze above the windows of a darker shade of bricks combined with the black ends of sewer pipe closures. Another house by Fisher & Huntington has a lower story of dark red pressed brick and black headers. The deep gray stone and the similar color of the cement in the upper story make a pleasing color combination.

The house by H. T. E. Wendall deserves something more than mere mention. The exterior is cemented and stained a warm buff with dark red brick arches and quoins and a light red tiled roof. The street wall and the wrought iron work add to the general harmony.

The two houses, the one on the right by T. D. Boal, and the other on the left by Fisher & Huntington, are joined by an arch which spans a public alley, a rather pleasing way of disguising these usually unsightly passages.



HOUSE BY A. C. SCHWENFURTH, ARCHITECT.



HOUSE BY A. C. SCHWENFURTH, ARCHITECT.



HOUSE BY ANDREWS, JAMES & RANTOUL, ARCHITECTS.

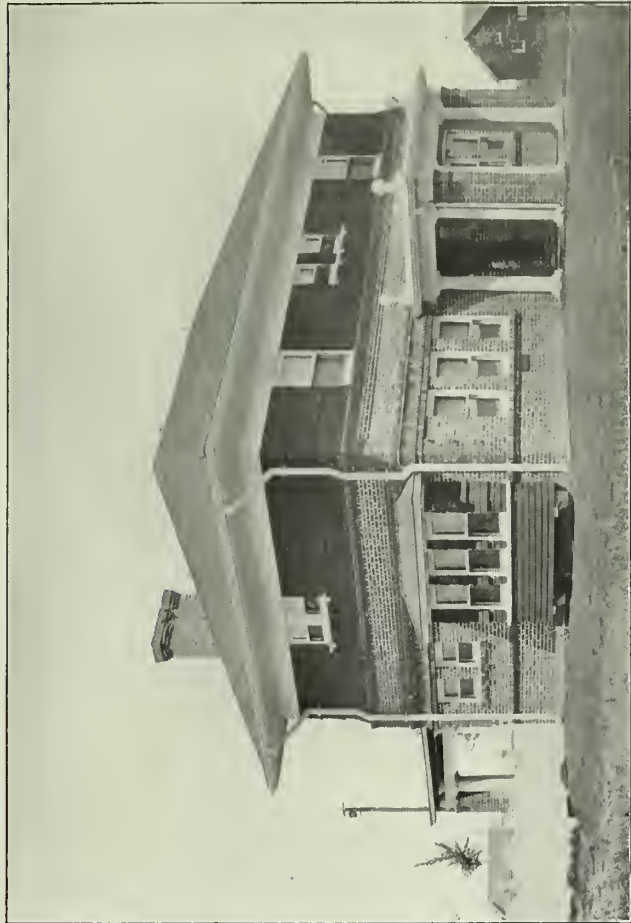


HOUSE BY VARIAN & STERNER, ARCHITECTS.

HOUSES IN DENVER, COLO.

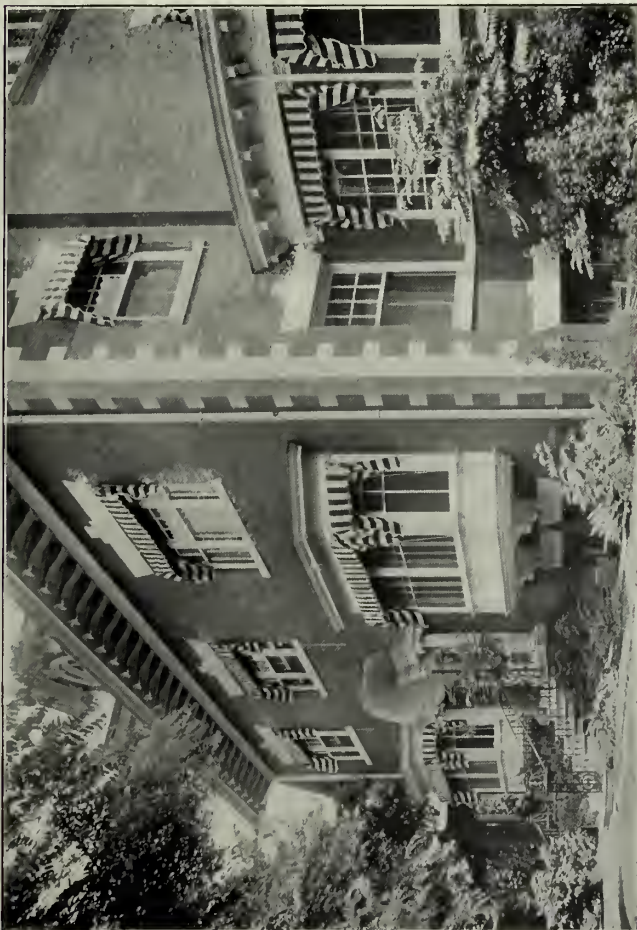


HOUSE BY E. H. MOORMAN, ARCHITECT.



HOUSE BY FISHER & HUNTINGTON, ARCHITECTS.

HOUSES IN DENVER, COLO.



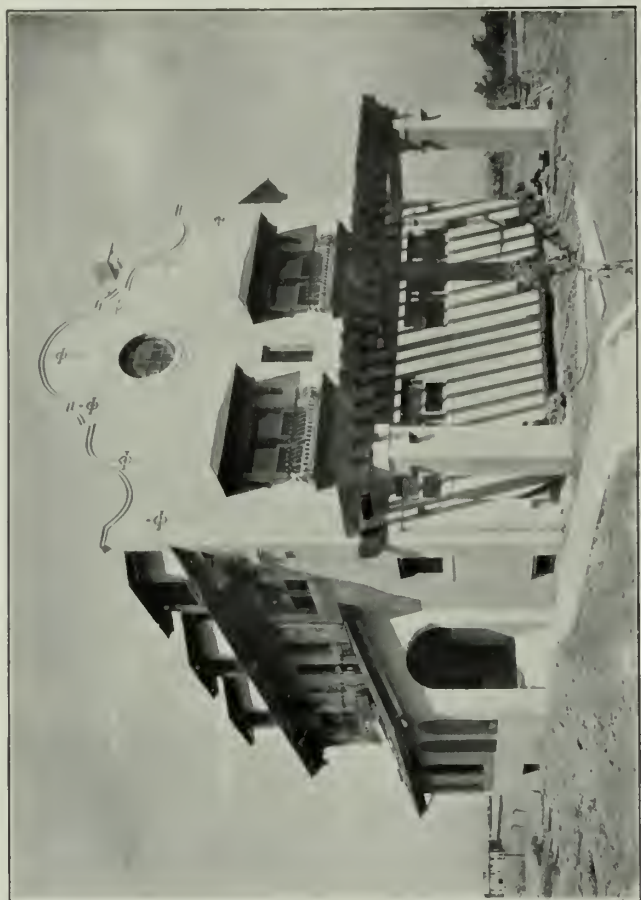
HOUSE BY F. J. STERNER, ARCHITECT.



HOUSE BY GOVE & WALSH, ARCHITECTS.



HOUSE BY H. T. E. WENDELL, ARCHITECT.



HOUSE BY FISHER & HUNTINGTON, ARCHITECTS.



HOUSE BY T. D. BOAL, ARCHITECT.



ENTRANCE TO COUNTRY CLUB. FISHER & HUNTINGTON, ARCHITECTS.
HOUSES IN DENVER, COLO.



ROW OF HOUSES BY F. J. STERNER, ARCHITECT.



HOUSE BY FISHER & HUNTINGTON, ARCHITECTS.

HOUSES IN DENVER, COLO.

Convention of the American Institute of Architects' Report.

THE thirty-ninth annual convention of the American Institute of Architects was held at Washington, January 9, 10 and 11. It was very largely attended, over one hundred being present.

The address of welcome was made by the Hon. Henry B. F. Macfarland of Washington. He stated that the Institute has done more for Washington than any other society in the country, and that the city will never forget the aid given so generously by the Institute five years ago, at which time the whole scheme of the improvement of the capital was only in misty embryo, in which form it would have undoubtedly remained but for the initiative taken at the convention held that year.

The figures presented by the treasurer in his report are indicative of the growth which has come to the Institute within the past few years. The dues alone give an income of \$6,700 a year. The total receipts amounted last year to \$8,884.64; but the expenses aggregated \$10,522.54, so that the reserve in the treasury was reduced by \$1,637.90. This reduction is, however, chargeable chiefly to the amounts that have been paid out on account of the Octagon; and a proposition was advanced by Mr. Stead of Washington to assess each member of the Institute twenty-one dollars to pay off the entire indebtedness on this house, and leave a small fund for repairs and maintenance. The Institute next year will celebrate its fiftieth anniversary, and it is certainly to be hoped that in some way the funds can be collected to free it entirely from debt.

In the report of the Committee on Uniformity of Contract and Lien Laws it was interesting to note that the Institute had sold 110,000 copies of the uniform contract since last May.

The Institute elected to honorary membership Sir Casper Purden Clark, the director of the Metropolitan Museum of Art. He was educated as an architect, was gold medalist when a boy for work as an architect, and was for many years organizer and director of the South Kensington Museum.

The most interesting feature of the convention followed the report of the Committee on Competitions, made by Mr. Glenn Brown. Mr. R. D. Andrews read a very thoughtful, well-considered paper on the subject, and the discussion was participated in by John M. Carrère, Cass Gilbert and George B. Post, while William B. Mundie of Chicago presented an extremely interesting and compact code of competitions (the code will be found at the end of this report), which, after due deliberation, was referred to the Committee on Competitions for consideration.

In Mr. Brown's report allusion was made to the competition for the New York cathedral which cost the competitors \$140,000, and the Phœbe Hurst competition which cost the competitors \$500,000; and an instance was cited of the competition for one building which actually cost the competitors far more than the whole building itself.

Mr. Gilbert, while admitting that competitions seem in many cases inevitable, denied that any real gain has resulted thereby for either the client or the winner, and

that invariably the selection of an architect based on his record and his ability is more satisfactory in the end. The competition system will cease just as soon as the American Institute of Architects wants it to cease, and not before. Co-operation, and not competition, is the life of trade.

Mr. Post also expressed the feeling that the best results can usually be obtained by selection rather than by competition, but that we must accept conditions as we find them, and raise the tone of our competitors quite as much as of our codes.

Mr. Andrews's paper was along the same lines, and urged co-operation between the architects engaged in competition, and the application of the Golden Rule to such work, rather than letting the competition for business degenerate into a selfish scramble.

Mr. Carrère very clearly epitomized the alleged advantages of the competitive system as follows: First, that it would increase one's practice. This he questioned, and felt that the same amount of energy in other directions would produce better results. Second, that competitions would give a better selection for the owner; though this is in fact seldom substantiated by observed results. Indeed, it is doubtful if, on the whole, the results of competitions anywhere in the world have been commensurate with what would have been better obtained by intelligent selection. The third claim, so often put forth in favor of competition, is that by this means new, dormant talent would manifest itself and would be discovered for the benefit of all concerned. And against this it is alleged, with perfect reason, that no beginner, however talented, however fertile in ideas, can possibly be able to rightly judge material or artistic effects and combinations, and that no untried man can be given his best opportunity by competition. The danger in our government competitions has been that they tend to establish an official style of architecture, which would not be the case if the design were left to individual incentive. For instance, no good building has ever been designed with columns and an order carried through more than two stories in height. And yet, in our government work we have four and often more stories crowded into one order. In our competitions for government work we compete to get the job, and if the style of other buildings shows that the government seems to be asking for a many storied order, we put in what is most likely to get the work, rather than what we believe to be best.

The convention elected the following officers for the ensuing year:

President, Frank Miles Day of Philadelphia; first vice-president, Cass Gilbert of New York; second vice-president, William B. Mundie of Chicago; secretary and treasurer, Glenn Brown of Washington; for directors, Alfred Stone, I. K. Pond and R. A. Cram for three years, and James W. Reid for two years.

C. D. Maginnis, B. G. Goodhue and J. R. Coolidge, Jr., of Boston, S. B. P. Trowbridge of New York, and Richard Schmidt of Chicago were elected Fellows of the Institute.

Wednesday morning an extremely interesting series of illustrated papers was presented on Municipal Improvements, including the Artistic Development of Paris, by Eugene Henard; the Improvement of the Schuylkill

River Banks, by C. C. Zantzinger; and Municipal Improvements in the Borough of Brooklyn, New York City, by Electus D. Litchfield.

In the evening of the same day a paper with illustrations, prepared by Mr. Burnham, showing the development of Manila, was offered by Mr. Anderson.

In the general business of the Thursday session it was voted to constitute a Committee on Practice, to whom shall be referred all complaints, and who shall be required to investigate at discretion and report for action by the Judicial Committee.

Action was also taken in regard to the impending disfigurement of the Pittsburg Courthouse, reaffirming the sense of the convention that this artistic monument should not be altered.

The Board of Directors was instructed to appoint a committee on the preservation of buildings of historic and artistic interest.

A resolution was adopted expressing the satisfaction of the convention at the reappointment of the present Boston Schoolhouse Commission, and its sense of the value of the work of the commission in studying and standardizing the requirements of city schoolhouse construction in matters of convenience, hygiene and economy.

The convention passed a vote expressing its appreciation of the excellent work which has been done by the secretary, Mr. Glenn Brown, in the conduct of the routine work of the Institute and in the preparation for the annual convention. It was a tribute which was certainly earned by years of hard and often thankless service, but every architect who has attended these conventions appreciates how much the society owes to its secretary.

A very enjoyable banquet was held Tuesday evening in the hall of the New Willard, and was attended by one hundred and twenty-five members, including a number of ladies who attended the convention.

There was also an opportunity given the delegates to witness an extremely interesting cavalry and artillery drill Thursday afternoon at Fort Myer, Va.; a most extraordinary display of horsemanship, which was well worth the attendance of all who saw it.

The convention as a whole was markedly successful, and the interest was unflagging from the opening until the adjournment.

The next convention will be held in Washington, and will be a special affair, commemorating the fiftieth anniversary.

A CODE TO GOVERN COMPETITIONS.

By WILLIAM B. MUNDIE.

The American Institute of Architects recommends that wherever possible an architect be employed without a competitor. When a competitor is deemed necessary the procedure must be in accordance with the following code:

FORM OF COMPETITION.

A. The competition must be limited to a certain number of architects, each of whom is invited to take part.

B. Each competitor to receive a certain sum of money to reimburse him for the expense incurred. This sum to be agreed upon between competitors and prospective

client, and this sum to be paid to each competitor other than the one awarded the commission, or a prize, if prizes are agreed upon.

C. The author of the design receiving the first mention by the jury must be employed to design and superintend the erection of the building.

JURY OF AWARD.

The jury of award must consist of not less than three members, and a majority of the jury must be members in good standing in the American Institute of Architects, and the entire jury of award to be agreed upon between competitors and prospective client.

PROGRAMME.

The programme must be drawn so as to form a contract and be signed by all competitors and prospective client.

RULE OF CONDUCT.

A. All designs must be signed by the name of the competitors submitting designs.

B. No member of the American Institute of Architects shall enter a second competition for the same building unless he was a competitor in the first competition.

C. No change or deviation from this code shall be permissible until such change shall receive the sanction of the Executive Committee of the Institute.

D. It shall be deemed unprofessional for any member of the American Institute to violate any of the provisions of this code.

E. It shall be deemed unprofessional for any member of the American Institute to enter any competition based upon this code with any competitor who has been once censured for unprofessional conduct in competitions conducted under this code.

THE ARCHITECTURAL LEAGUE OF AMERICA.

THE Architectural League of America has begun an educational effort which may be of great value to itself and to the architectural schools throughout the country. Appeals have been made to all the leading universities having regular departments of architecture, asking that scholarships be set aside to be awarded under proper conditions to members of the League.

Harvard University was the first to respond, and has offered three scholarships in architecture, two of which are to be awarded upon the result of a competition in design, and the third given to the member of the Architectural League who shall attain the highest rank in the entrance examinations of the University. These scholarships will be awarded yearly, and the selection has been very generously placed by Harvard in the hands of the officers of the League. In this way the University gains a number of earnest, picked students, who are sure to do credit to their training; while, on the other hand, many of the League members will doubtless, by reason of these scholarships, be incited to better work and more earnest endeavor toward self-education.

It is hoped that the example set by Harvard will be followed very soon by other universities, and the League is certainly accomplishing a good work in what it has done.

Editorial Comment and Selected Miscellany

SMALL BRICK HOUSE COMPETITION

FOR lack of space in this issue, the programme for the Small Brick House Competition (photographs and plans of executed work) will be published in the February issue.

THE CHRIST CHURCH AND BABCOCK MEMORIAL HOUSE.

THIS group of buildings, illustrated in the plate forms of this issue, will attract much attention because they provide almost ideal facilities for a church work which needs to be largely institutional, although the church proper is architecturally the dominant feature.

The programme of requirements prepared by the building committee for the guidance of the architects



INTERIOR, THE CHRIST CHURCH AND BABCOCK MEMORIAL HOUSE, NEW YORK CITY.
Parish & Schroeder, Architects.

called for a church seating 500, to be a distinct building and architecturally the most important feature; a church house to contain a Sunday-school hall seating 1,000, a church parlor, a men's club room, gymnasium, boys' and girls' club rooms, kindergarten room, offices, residents' quarters, etc.

As one approaches the buildings there will be seen a simple but dignified church of Gothic architecture extending lengthwise to the street. At the end of this building rises a church house in the style of the domestic Gothic of Oxford. This apparently small church house is in reality an L of the church house proper, which is a five-story building completely screened from the street by the high ridge of the church roof. The relative size of



PANEL FOR FIREPLACE MANTEL, EXECUTED IN LOW RELIEF
COLORED MAT GLAZE FAIENCE, BY ROOKWOOD
POTTERY COMPANY.

the two buildings is illustrated by the sectional drawing. The entrance to the church is distinct from that of the church house, and the entire church building is set apart for worship.

Entering the church house, one passes into a large hall leading to two offices for visitors. Beyond there is



A HOUSE AT GREAT NECK, L. I.
Little & O'Connor, Architects. Roofed with Ludowici Tile.

a large church parlor with kitchen and ladies' dressing room adjacent, and a men's parlor with coat room. A door on this floor gives communication between the church and church parlor. In connection with the men's club, it is proposed to furnish the basement with bowling alleys, etc.



Detail by Widmann, Walsh & Boisselier, Architects.
Winkley Terra Cotta Co., Makers.

Passing up the stairs to the second floor, one will enter a large Sunday-school hall about 100 feet by 50 feet in size, 28 feet in height, and lighted from all four sides. Opening from it there are six Bible-class rooms and two large galleries seating 200 children each, for the infant and intermediate departments.



AUDITORIUM BUILDING, MINNEAPOLIS, MINN.

Bertrand & Chamberlain, Architects.

The face brick were made by the Hydraulic Press Brick Co.

On the Sunday-school floor is a large library for Sunday-school and general use. On the gallery floor is the pastor's study. Both floors also contain secretaries' rooms.

On the fourth floor are the girls' club rooms, kindergarten or more properly children's room (for the kindergarten will doubtless continue to use the Sunday-school hall), gymnasium (extending through two floors) with lockers and baths, also quarters for resident workers.

DETAIL BY BEEZER BROS., ARCHITECTS.
Excelsior Terra Cotta Co., Makers.HOUSE 58 E. 67TH ST., NEW YORK CITY.
WILLIAM SOMERFIELD, ARCHITECT.Built of light gray standard brick made by
Kreischer Brick Mfg. Co.DETAIL BY GEORGE KRAMER THOMP-
SON, ARCHITECT.
New York Architectural Terra Cotta Co.,
Makers.A LARGE OFFICE BUILDING
ENTIRELY OF TERRA
COTTA

THE new West Street Building, New York City, Cass Gilbert, architect, which will be two hundred feet by one hundred, and twenty-seven stories high, will be built entirely of a light buff terra cotta with ornamentation of colored terra cotta. It promises to be one of the most interesting and beautiful of modern office buildings, particularly so because of the extensive use of finely modeled and colored terra cotta. The contract has been given to the Atlantic Terra Cotta Company, New York City.



DETAIL BY BROCKIE & HASTINGS, ARCHITECTS.
Atlantic Terra Cotta Co., Makers

IN GENERAL.

Wagner & Manning, architects, Denver, Colo., have opened a branch office at Port Arthur, Texas. Manufacturers' catalogues and samples are desired.

Kitchell & O'Rourke, architects, have severed their connection with Jeremiah O'Rourke & Sons and opened offices for the practice of architecture in the Scheuer Building, Newark, N. J. Manufacturers' catalogues and samples are desired.

D. A. Crone, architect, Pittsburg, Pa., has removed



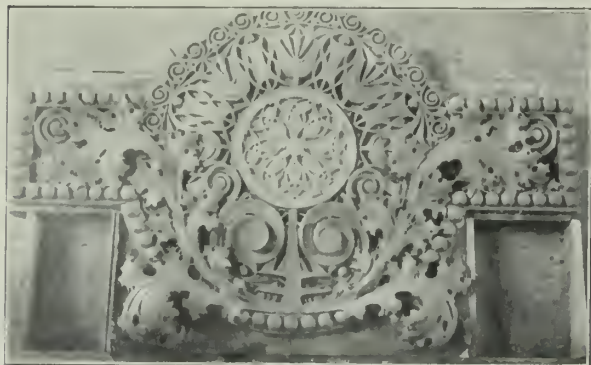
DETAIL BY PRICE & MC LAN-
AHAN, ARCHITECTS.
Conkling-Armstrong Terra-
Cotta Co., Makers.



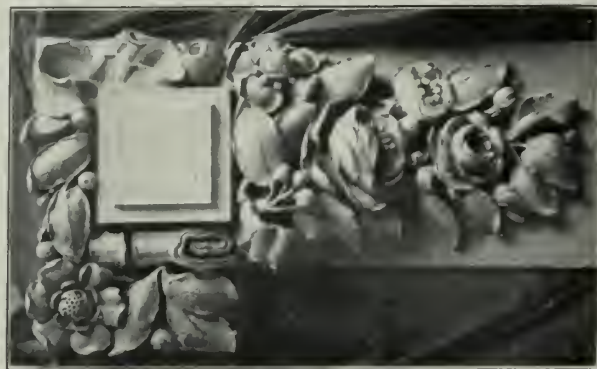
REPRODUCTION FROM PORTRAIT OF WHISTLER.
GEORGE B. POST & SON, ARCHITECTS.
South Amboy Terra Cotta Co., Makers.

his offices to the Conestoga Building. Manufacturers' catalogues and samples are desired.

The Celadon Roofing Tile Company has recently closed contracts for furnishing its Imperial Spanish tile for the Elks' Temple in South Bend, Ind.; Freyermuth & Maurer, architects; for the same pattern of tile for Mr. W. J. Tener's residence at Leetsdale, Pa., Rutan & Russell, Pittsburg, architects; the same pattern for a large garage at the corner of 50th Street and Broadway, New York; the same pattern for the residence of Mr. J. H. Whittemore at Waterbury, Conn., McKim, Meade & White, architects; the French A tile for the new cathedral at Seattle, Wash., Heins & La Farge, architects; the Imperial Spanish for the Simon Guggenheim Hall, Colorado State School of Mines, at Golden, James Murdock, Denver, architect.



DETAIL BY W. L. KLEWER, ARCHITECT.
Northwestern Terra Cotta Co., Makers.



DETAIL BY HENRY IVES COBB, ARCHITECT.
Standard Terra Cotta Works, Makers.



THE KLINGMAN EXPOSITION BUILDING, GRAND RAPIDS, MICH.
WILLIAMSON & CROW, ARCHITECTS.
Built of "Ironclay" Brick. F. H. McDonald, Agent.

WANTED — A competent Architectural Draughtsman with experience in Terra Cotta works. Give name of works or last employer, also age and wages expected. Gladding, McBean & Co., San Francisco.

BRICK AGENCY WANTED — Sales agency in New England wanted with reliable manufacturer for face brick in all shades. Address "Agency," care of "The Brickbuilder."

WANTED — Architectural Draughtsman; one with technical training and experience in railroad designing preferred. State age, experience and salary expected. Address, W. C. Cushing, Chief Engineer M. of W., Pennsylvania Lines, Pittsburgh, Pa.





"THE THRIFT" SAVINGS INSTITUTION, BROOKLYN, N. Y. WILLIAM B. TUBBY & BROTHER, ARCHITECTS.

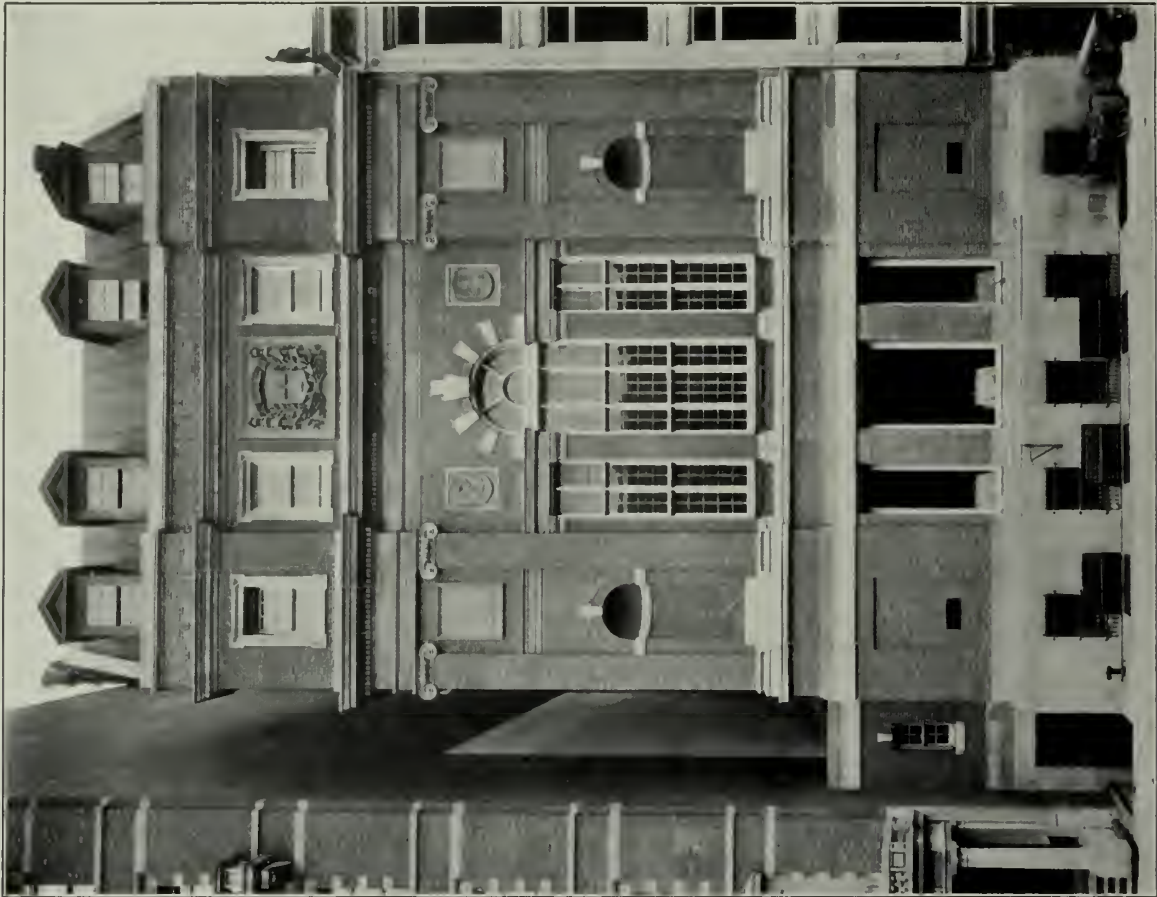


FLATBUSH TRUST COMPANY BUILDING, BROOKLYN, N. Y. KIRBY, PETIT & GREEN, ARCHITECTS.



THE OLD FACADE, WEST 44TH STREET.

THE HARVARD CLUB, NEW YORK CITY.
MCKIM, MEAD & WHITE, ARCHITECTS.



THE NEW FACADE, WEST 45TH STREET.



THE GREAT HALL, HARVARD CLUB EXTENSION, WEST 45TH STREET, NEW YORK CITY.

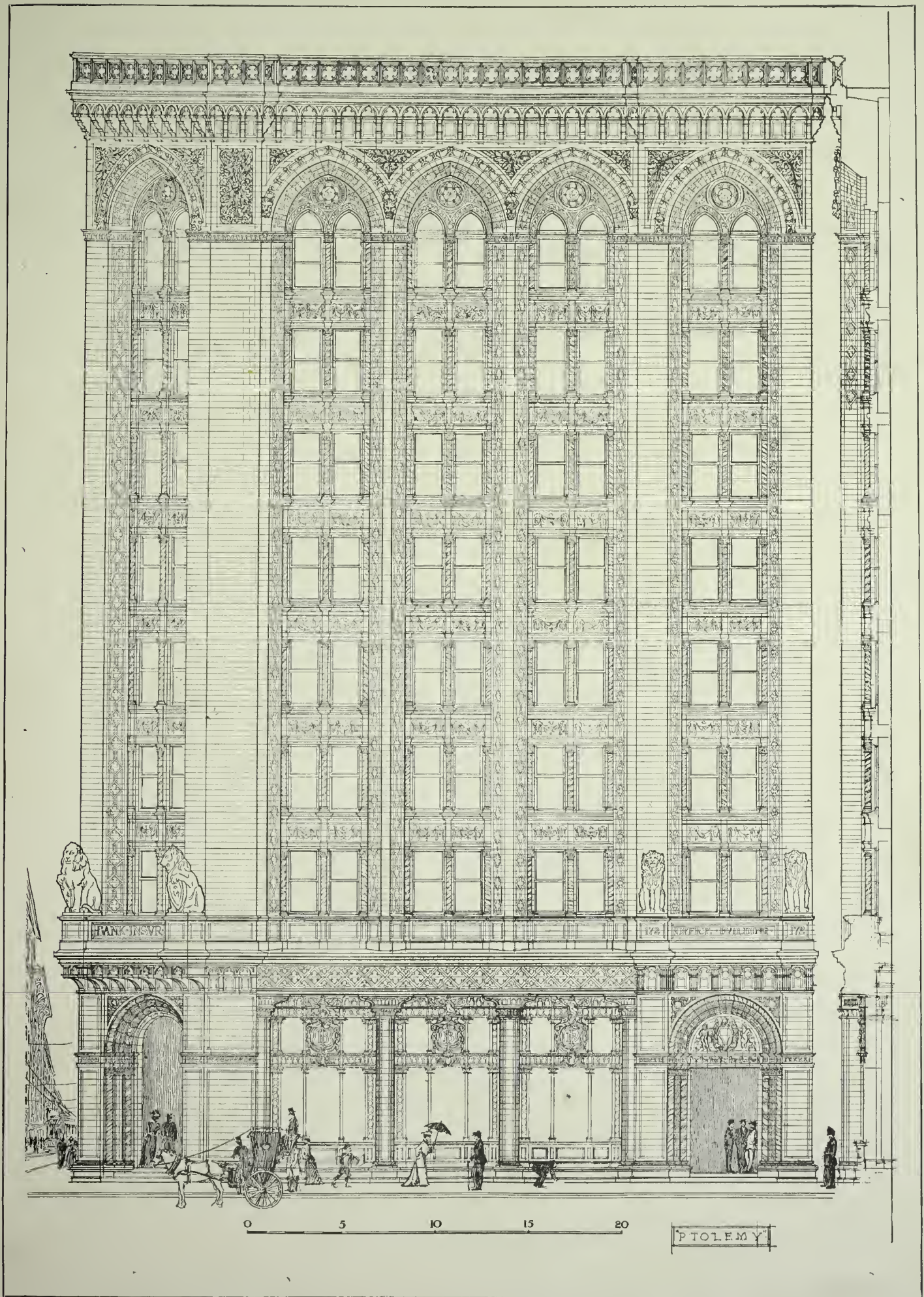
MCKIM, MEAD & WHITE, ARCHITECTS.



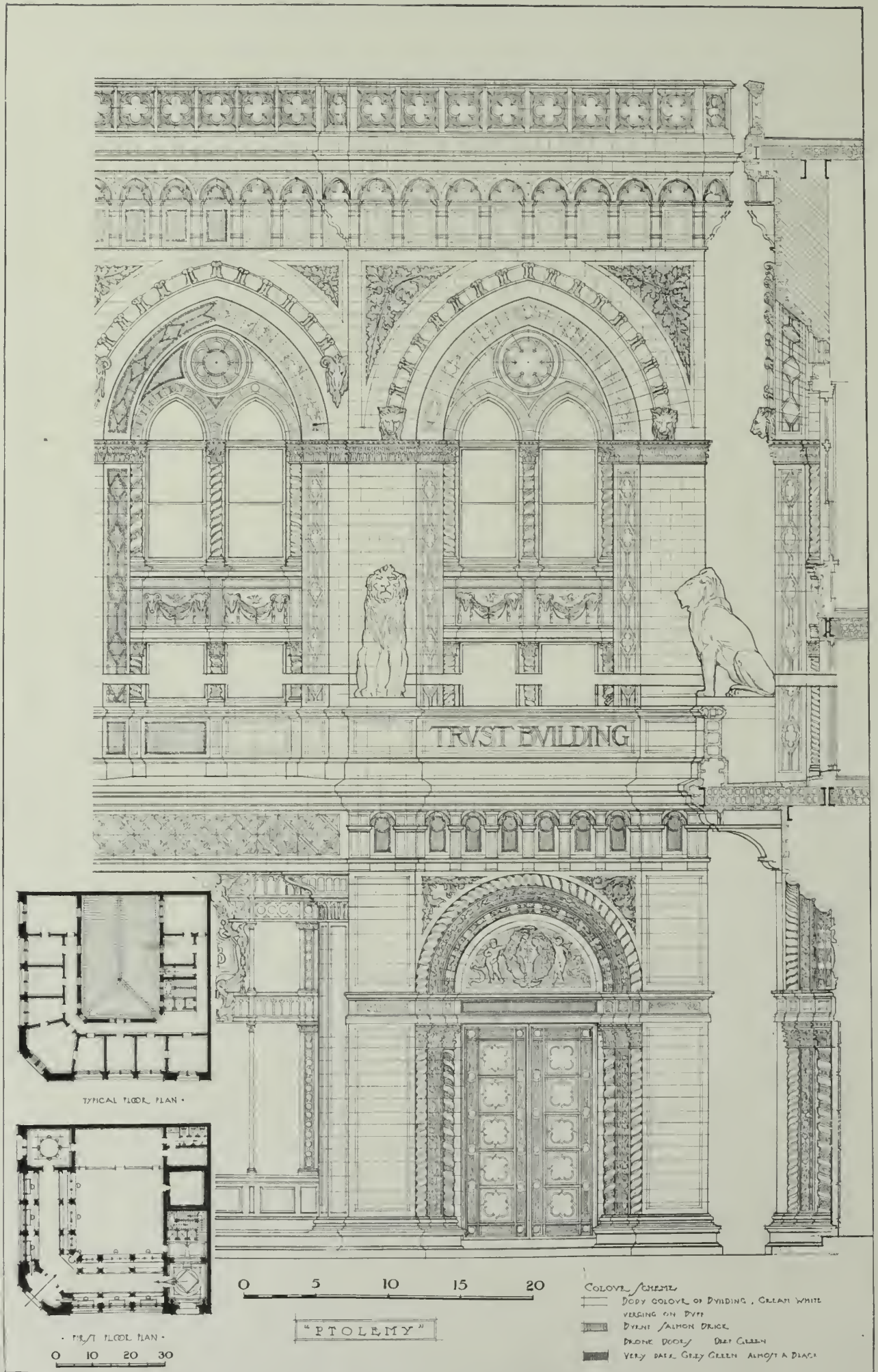


GARAGE FOR TIFFANY & CO., NEW YORK CITY.
MCKIM, MEAD & WHITE, ARCHITECTS.

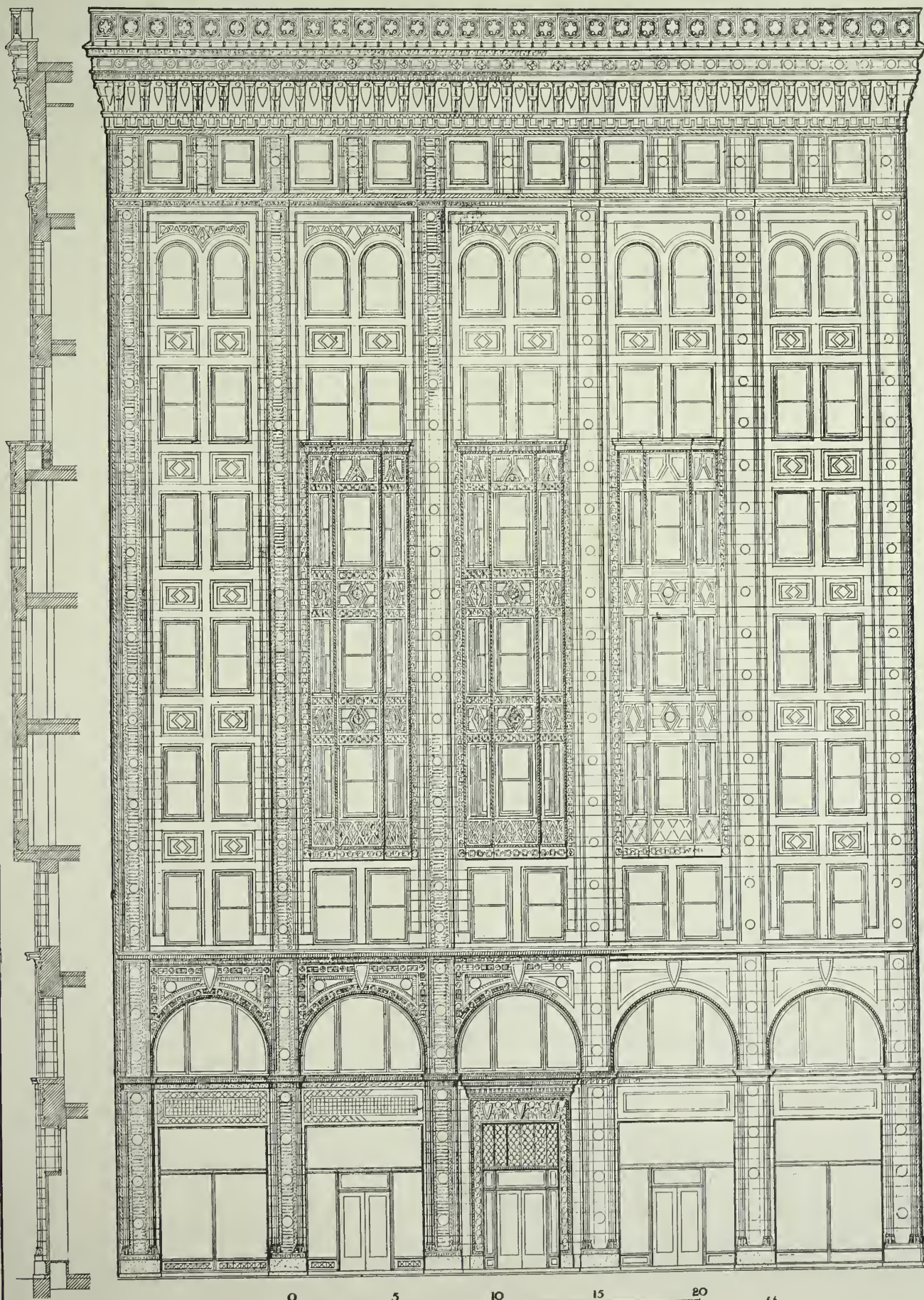




FIRST PRIZE DESIGN.
 SUBMITTED BY RAYMOND M. HOOD, PARIS, FRANCE.

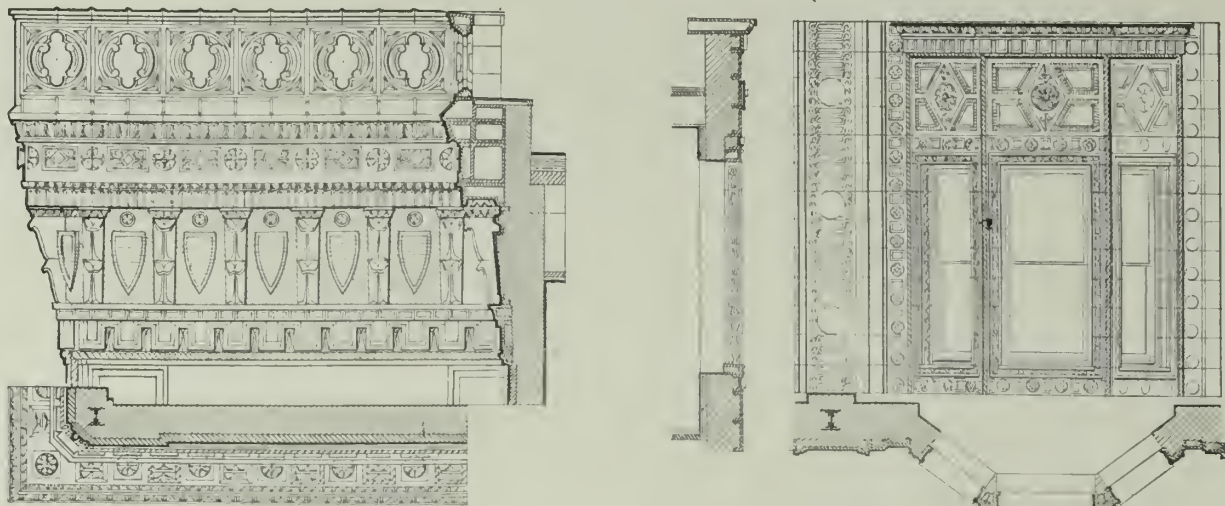


PLANS AND DETAILS BY RAYMOND M. HOOD.



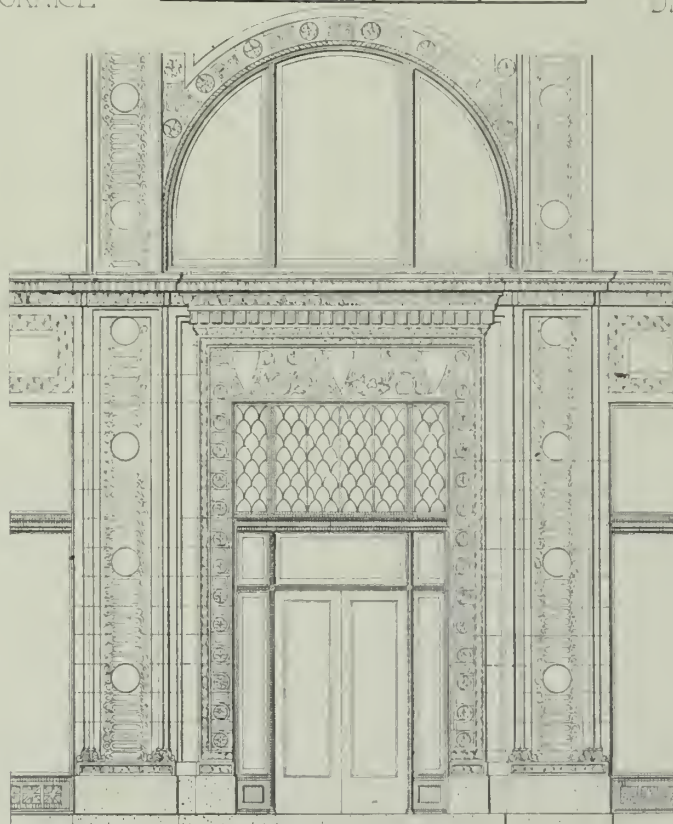
"SKELETON FRAME,
TERRA-COTTA DRESS."

SECOND PRIZE DESIGN.
SUBMITTED BY WILLIAM C. HAZLETT, NEW YORK CITY.



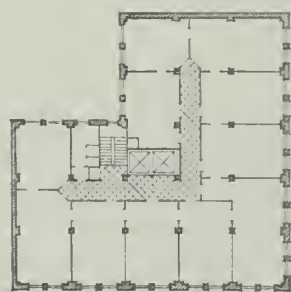
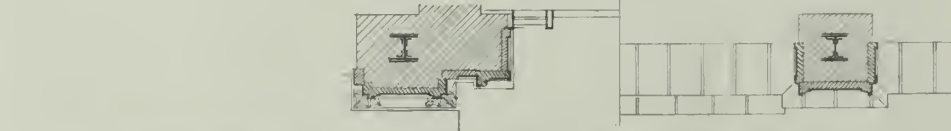
DETAIL OF CORNICE

DETAIL OF BAYS



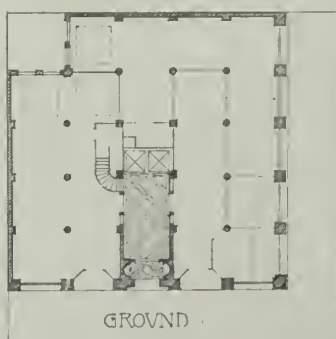
DETAIL OF DOOR

"SKELETON FRAME,
TERRA-COTTA DRESS."






UPPER

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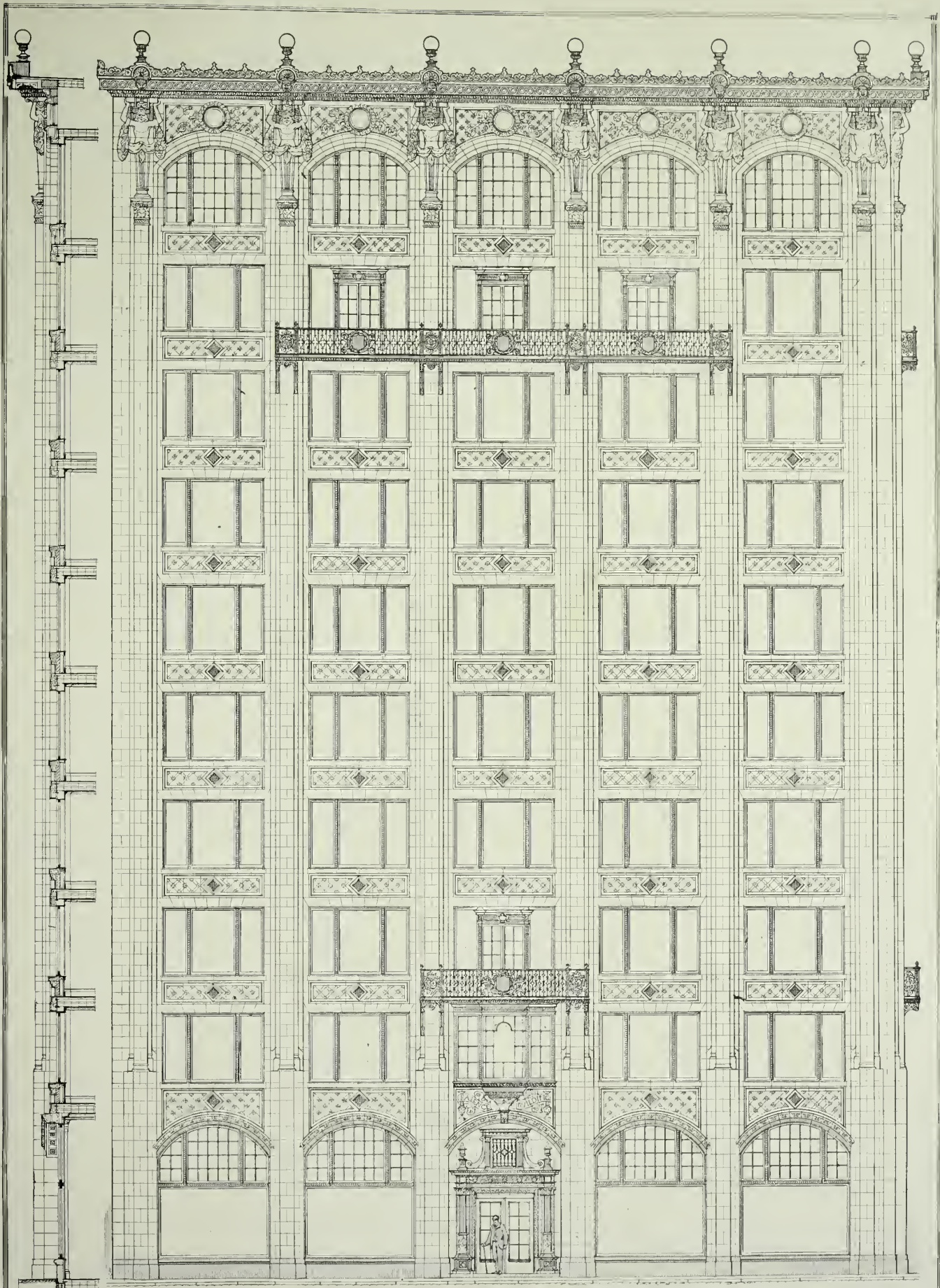


GROUND

Body of wall of light warm
grey enameled terra-cotta
Decorated members picked
out in color. Yellow blue and
green.

In cornice, blue shields
and rosettes on green ground
Blue. = 
Green. = 
Yellow. = 

LEGEND



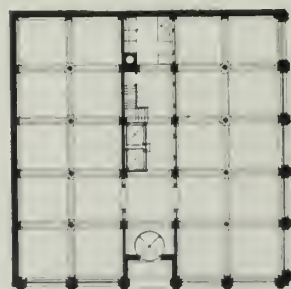
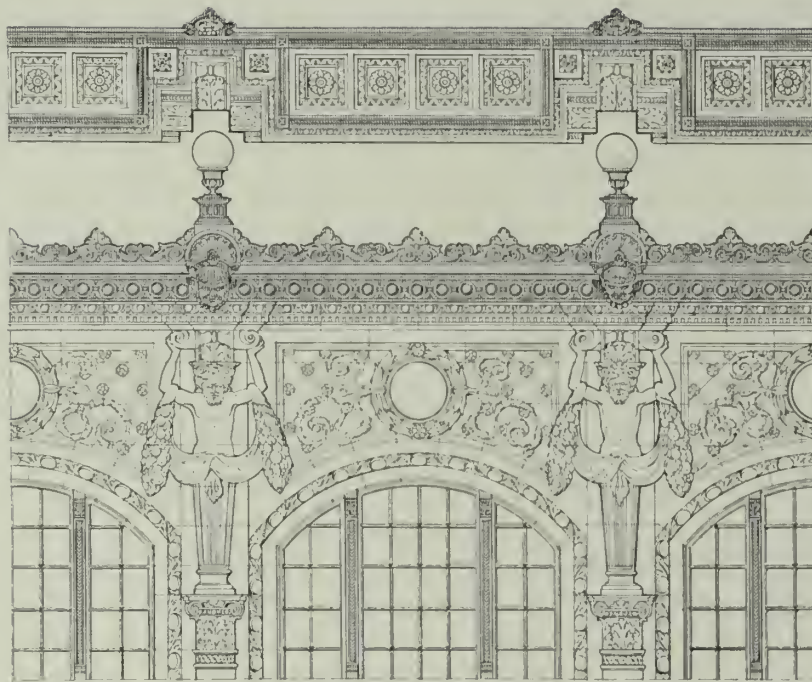
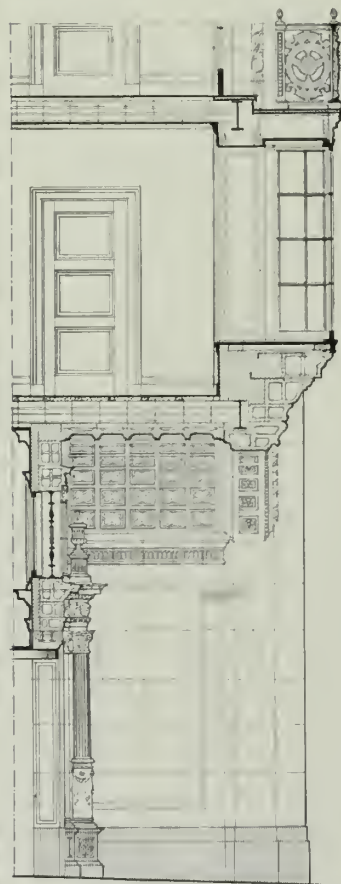
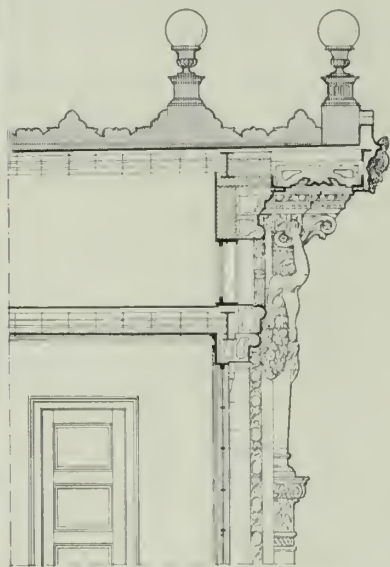
OFFICE BUILDING COMPETITION

0 5 10 15 20

"TO DAY"

THIRD PRIZE DESIGN.
SUBMITTED BY CLAUDE F. BRAGDON, ROCHESTER, N. Y.

ALL OVERHANGING PARTS ARE
SUPPORTED FROM BENEATH BY
AN ORNAMENTAL IRON FRAME



OFFICE BUILDING COMPETITION

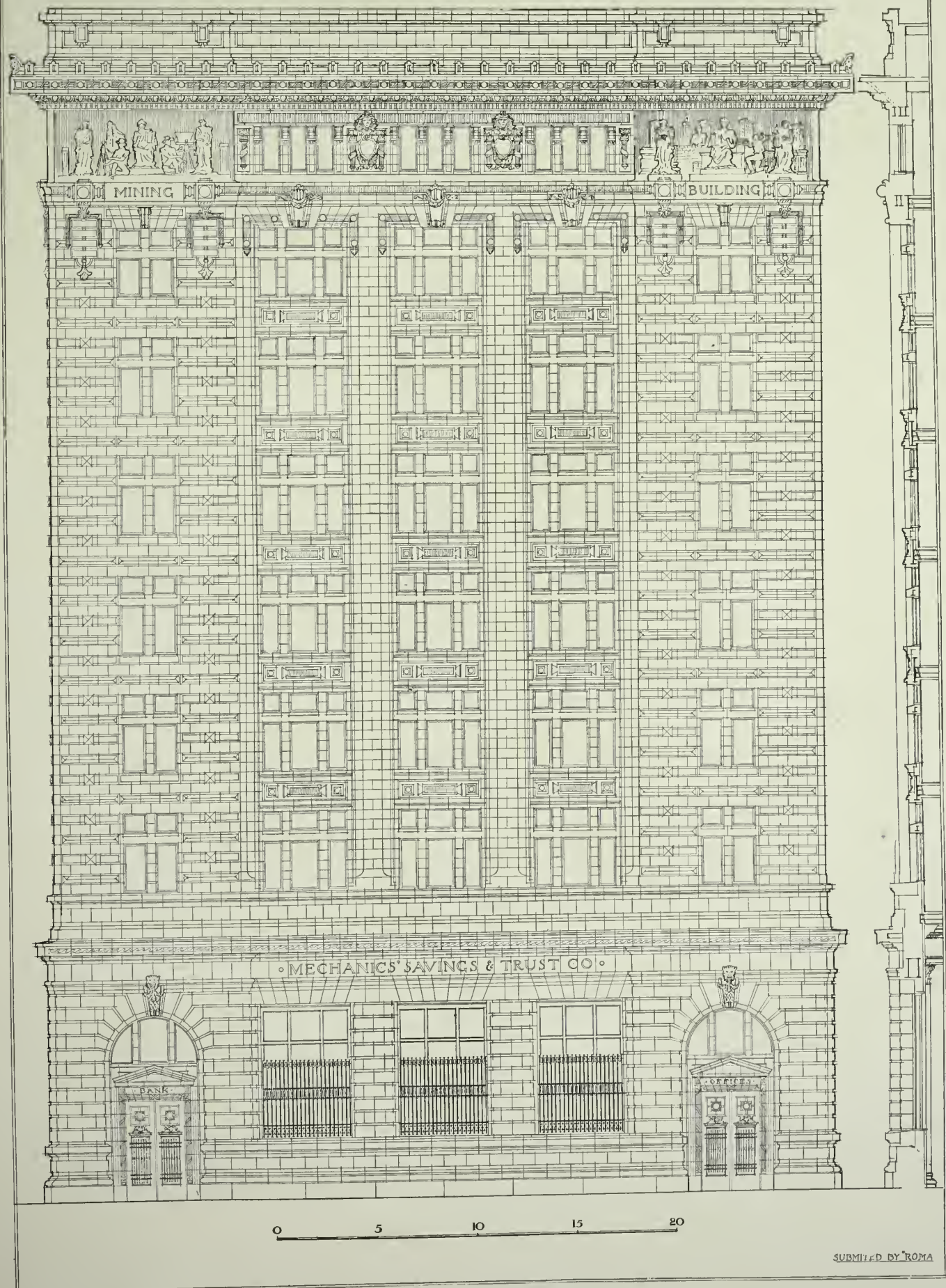
COLOR SCHEME—THE BODY OF THE BUILDING IS SEMI-GLAZED GRAY TERRA-COTTA. COLOR IS INTRODUCED IN THE ENTRANCE THE FRIEZE AND CORNICE AND IN THE PANELS BETWEEN THE WINDOWS OF EACH STORY—THE COLORS EMPLOYED ARE OF THE DELLA ROBBIA ORDER, THAT IS PALE BLUE LIGHT GREEN WHITE AND BUFF—

"TO-DAY"

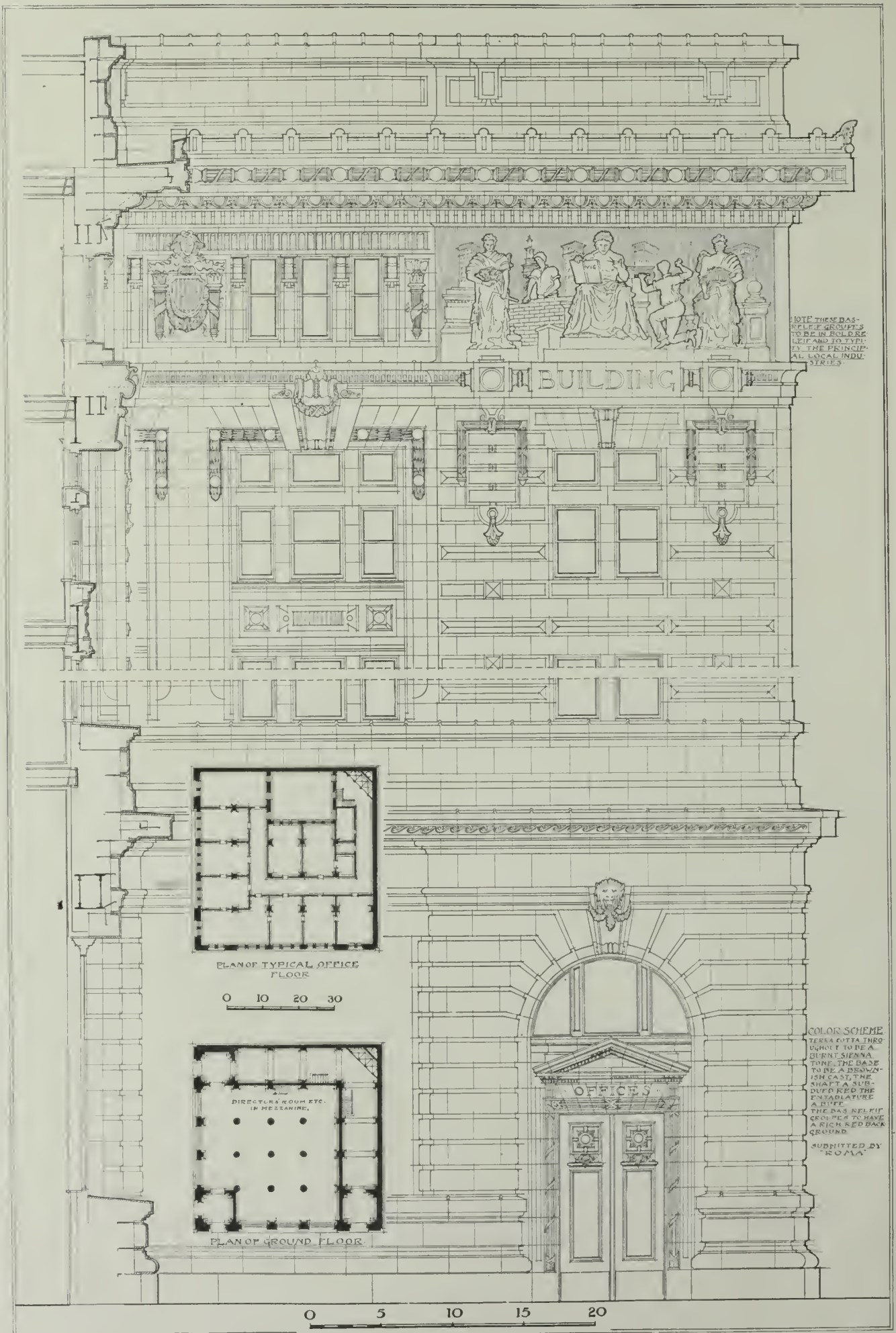
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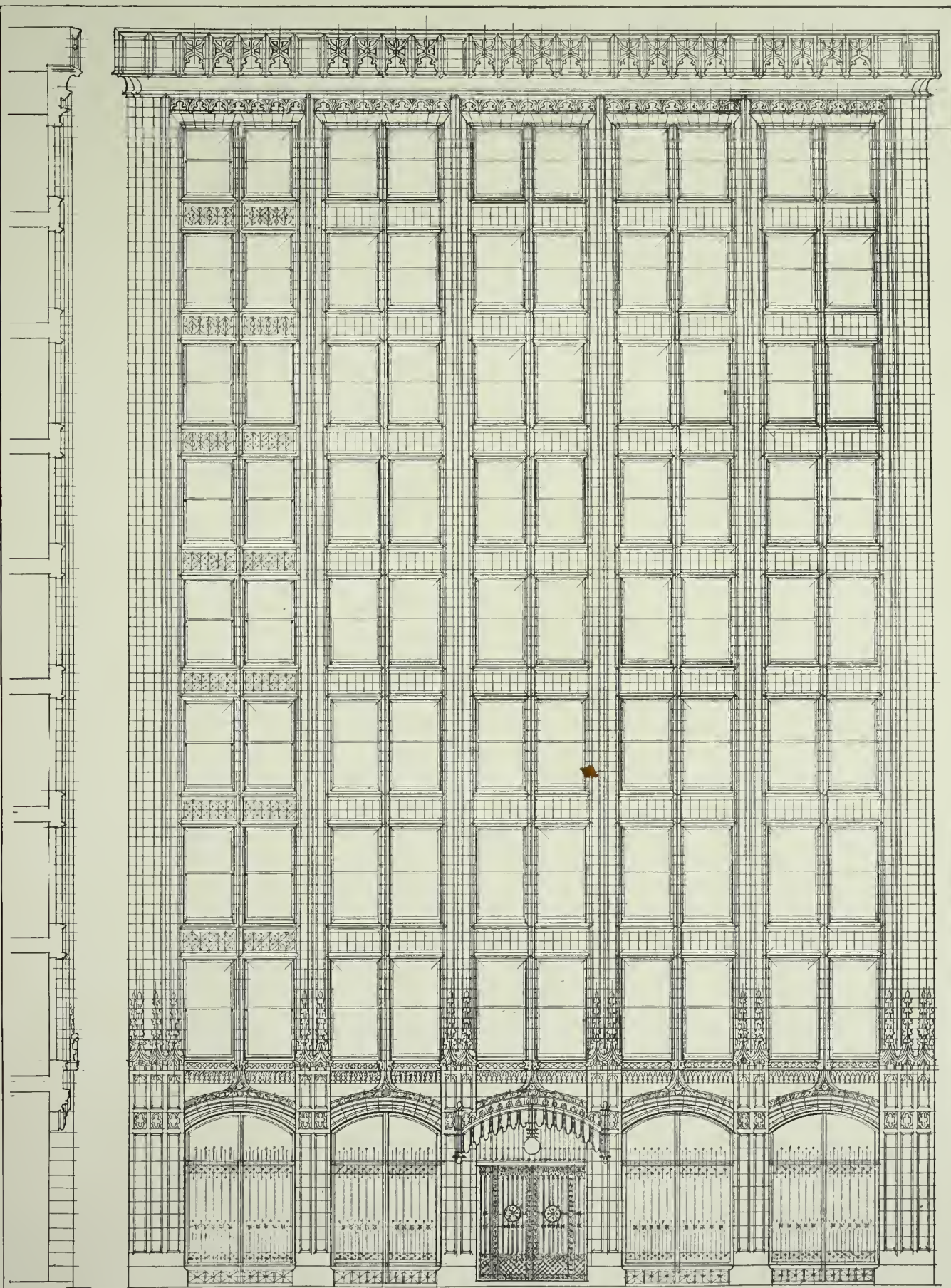
PLANS AND DETAILS BY CLAUDE F. BRAGDON.



FIRST MENTION.
 SUBMITTED BY J. W. THOMAS, JR., COLUMBUS, OHIO.



PLANS AND DETAILS BY J. W. THOMAS, JR.



ELEVATION.

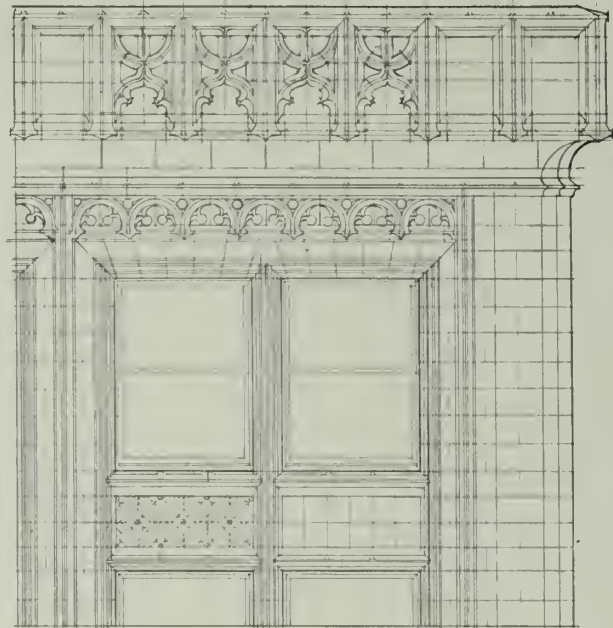
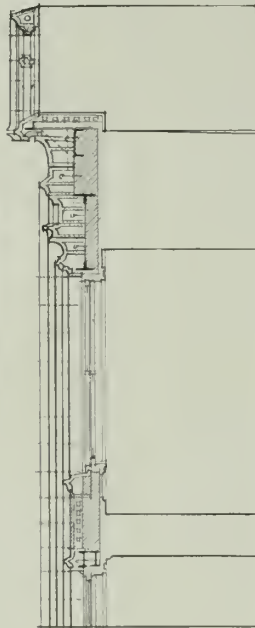
THE BRICKBUILDER COMPETITION FOR AN OFFICE BUILDING

0 5 10 15 20

SUBMITTED BY VERTICAL

THIRD MENTION.
SUBMITTED BY EDWARD F. MAHER, BOSTON.

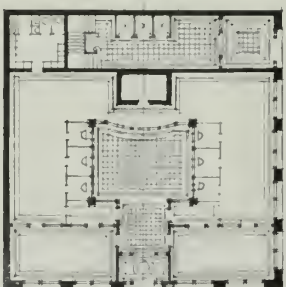
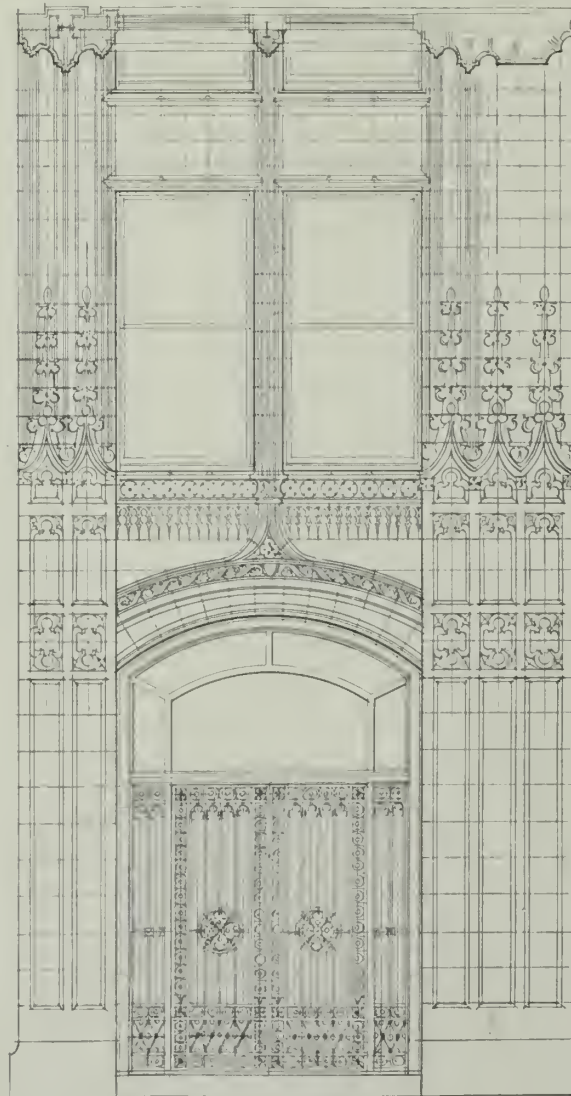
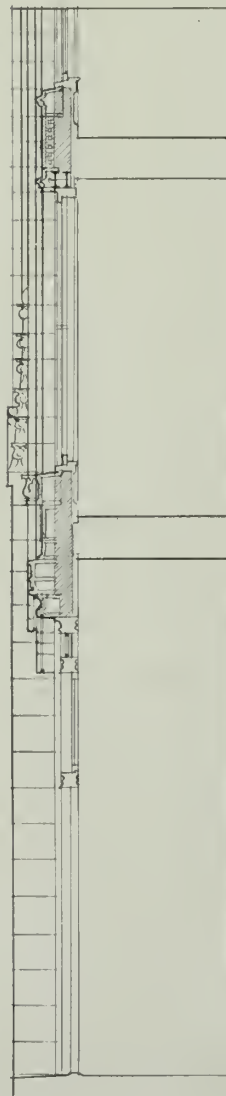
THE BRICKBUILDER
COMPETITION
FOR AN
OFFICE BUILDING



COLOR SCHEME
DULL GLAZED OLD IVORY
COLORED TERRACOTTA
WITH GREEN, BLUE AND
AND OLD IVORY TILES



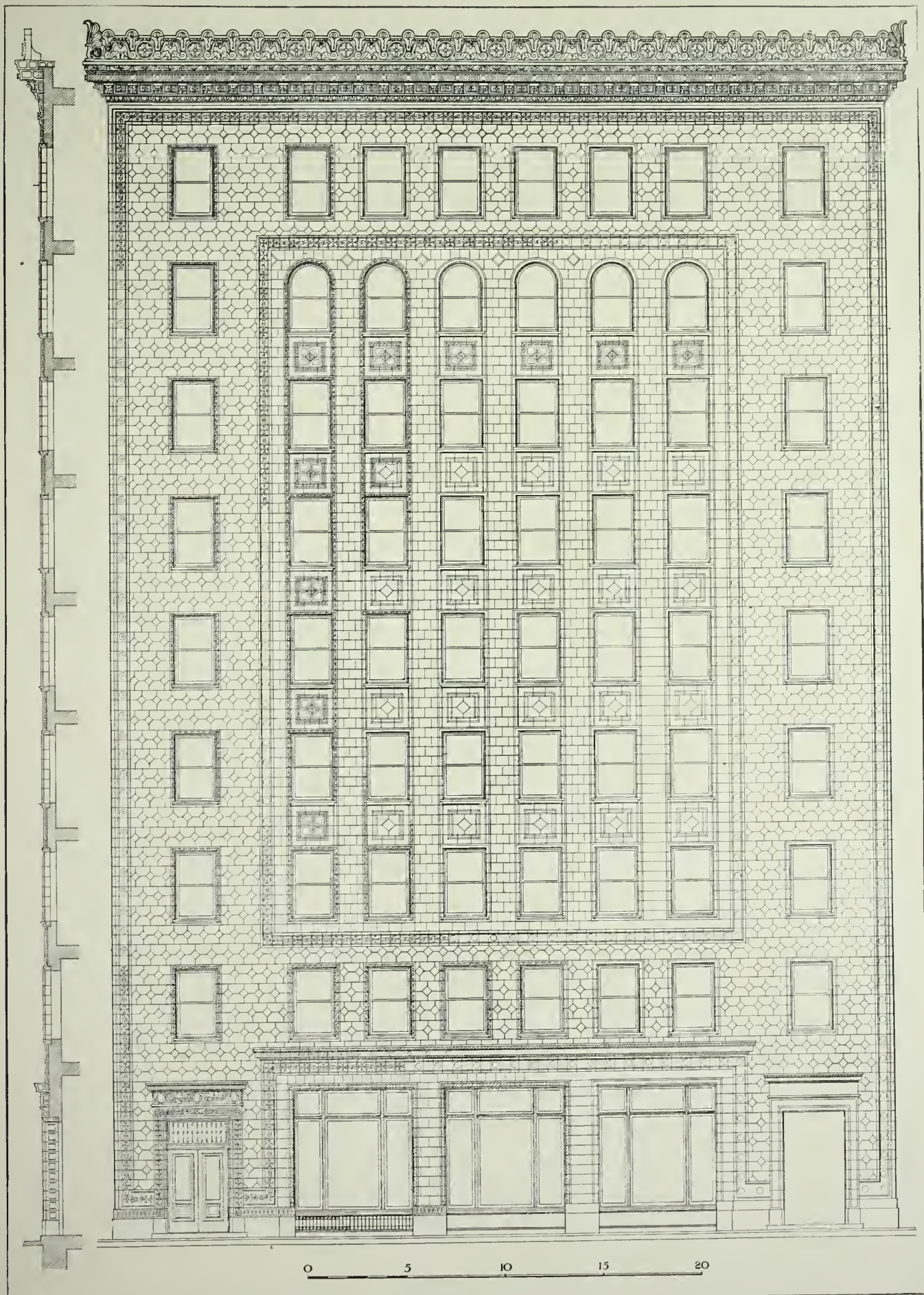
SUBMITTED BY VERTICAL



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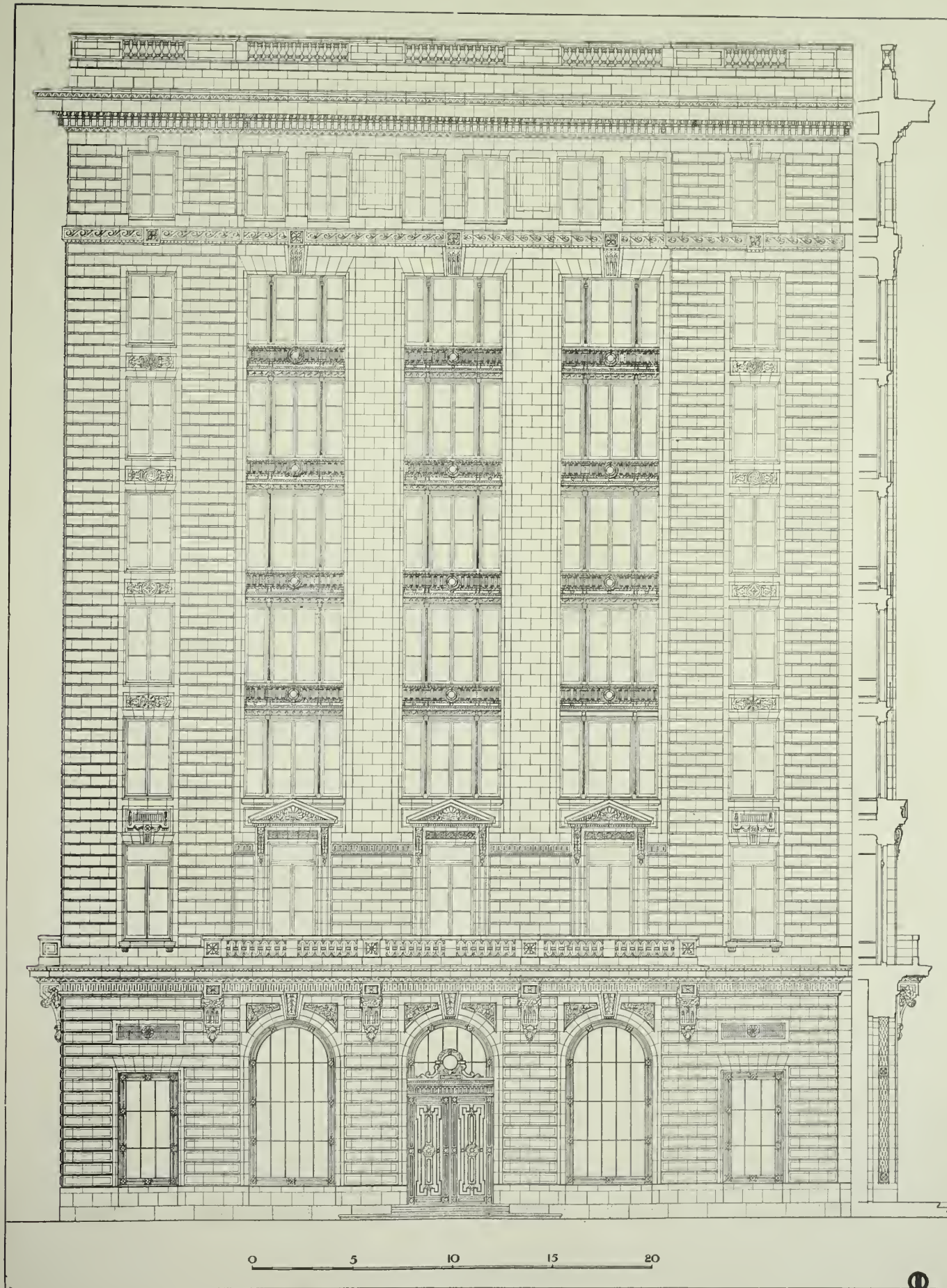
PLANS AND DETAILS BY EDWARD F. MAHER.



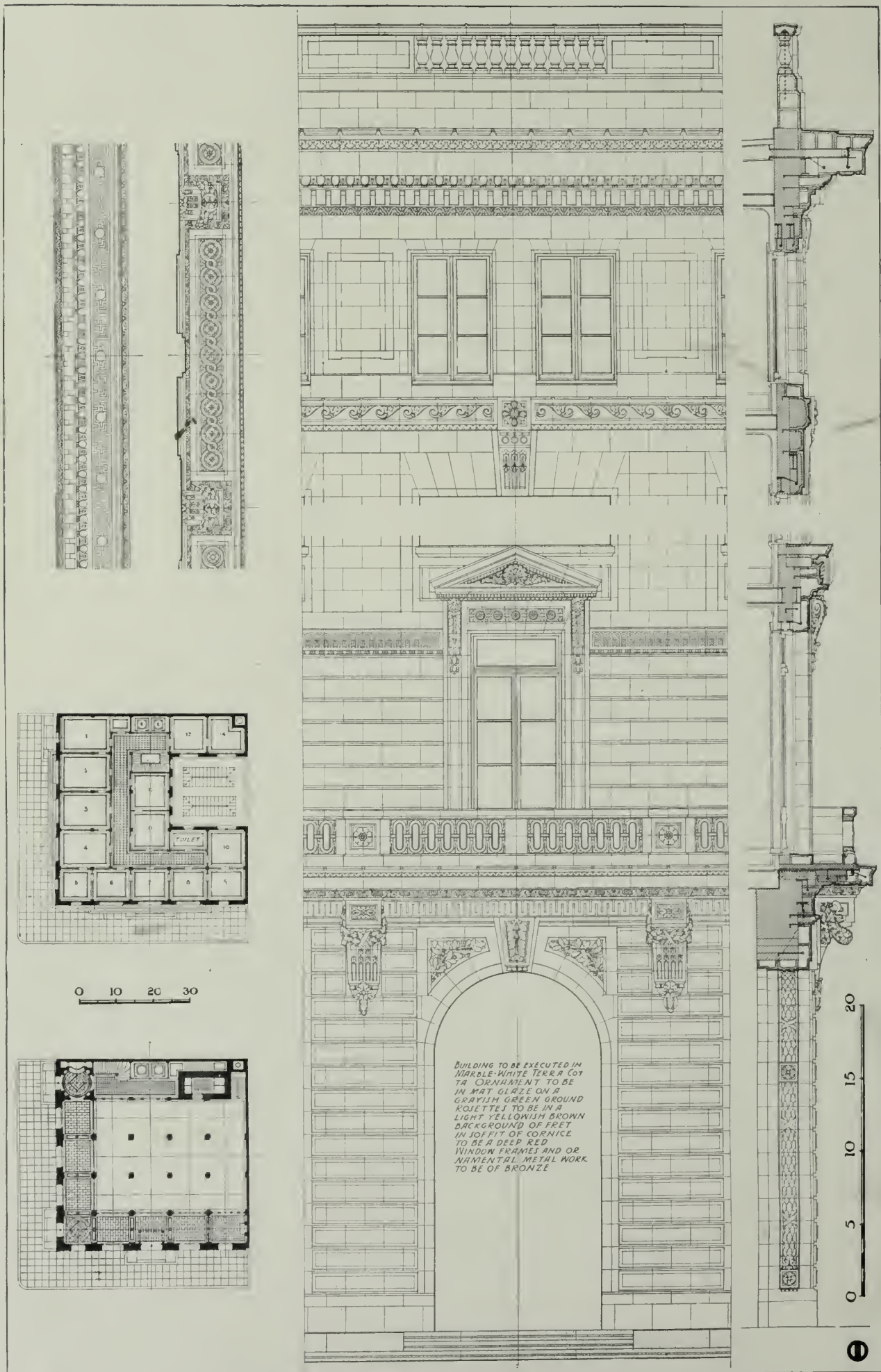
SUBMITTED BY ALBERT BAYNE LAWYER, NEW YORK CITY.



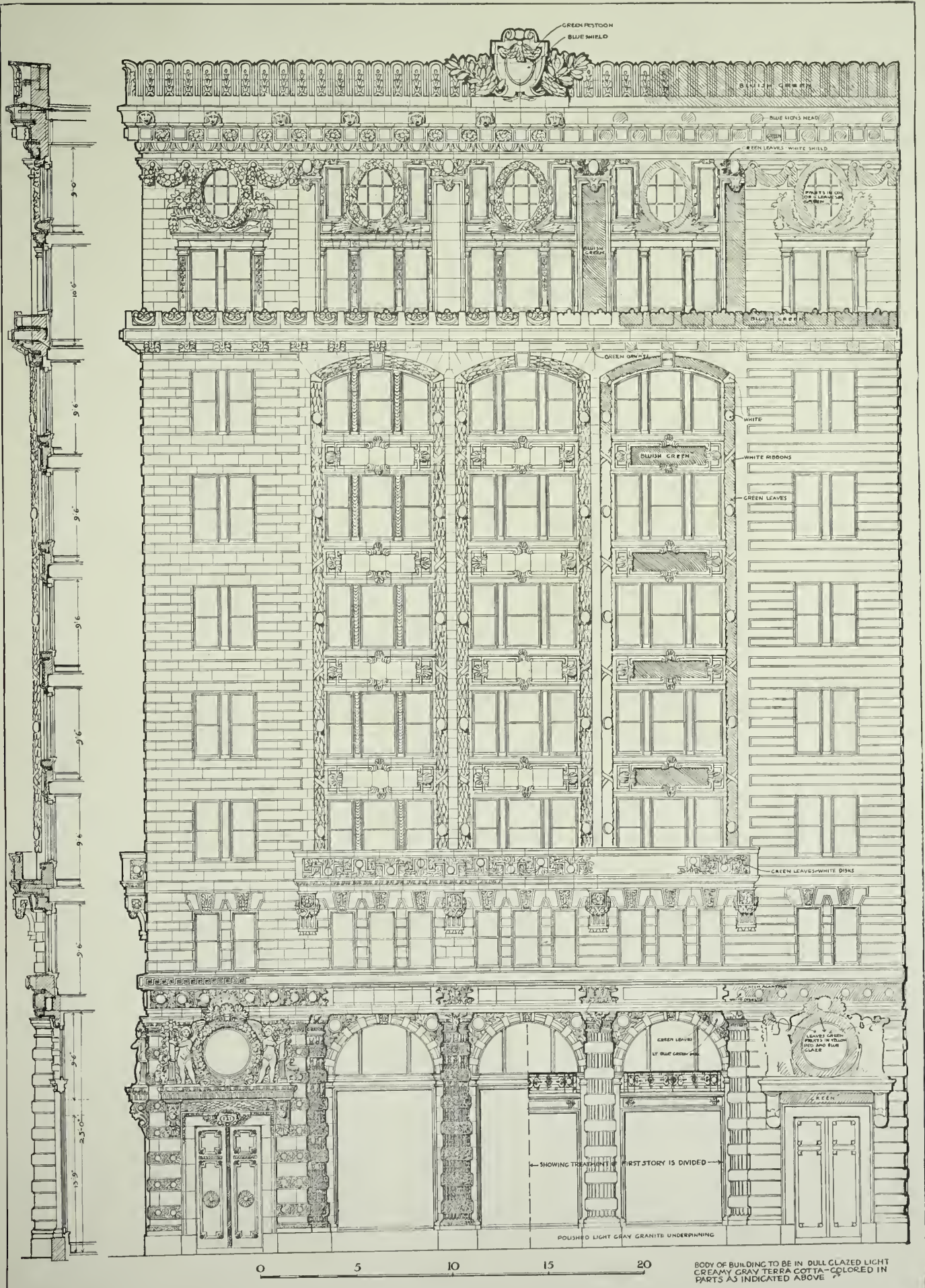
PLANS AND DETAILS BY ALBERT BAYNE LAWYER.



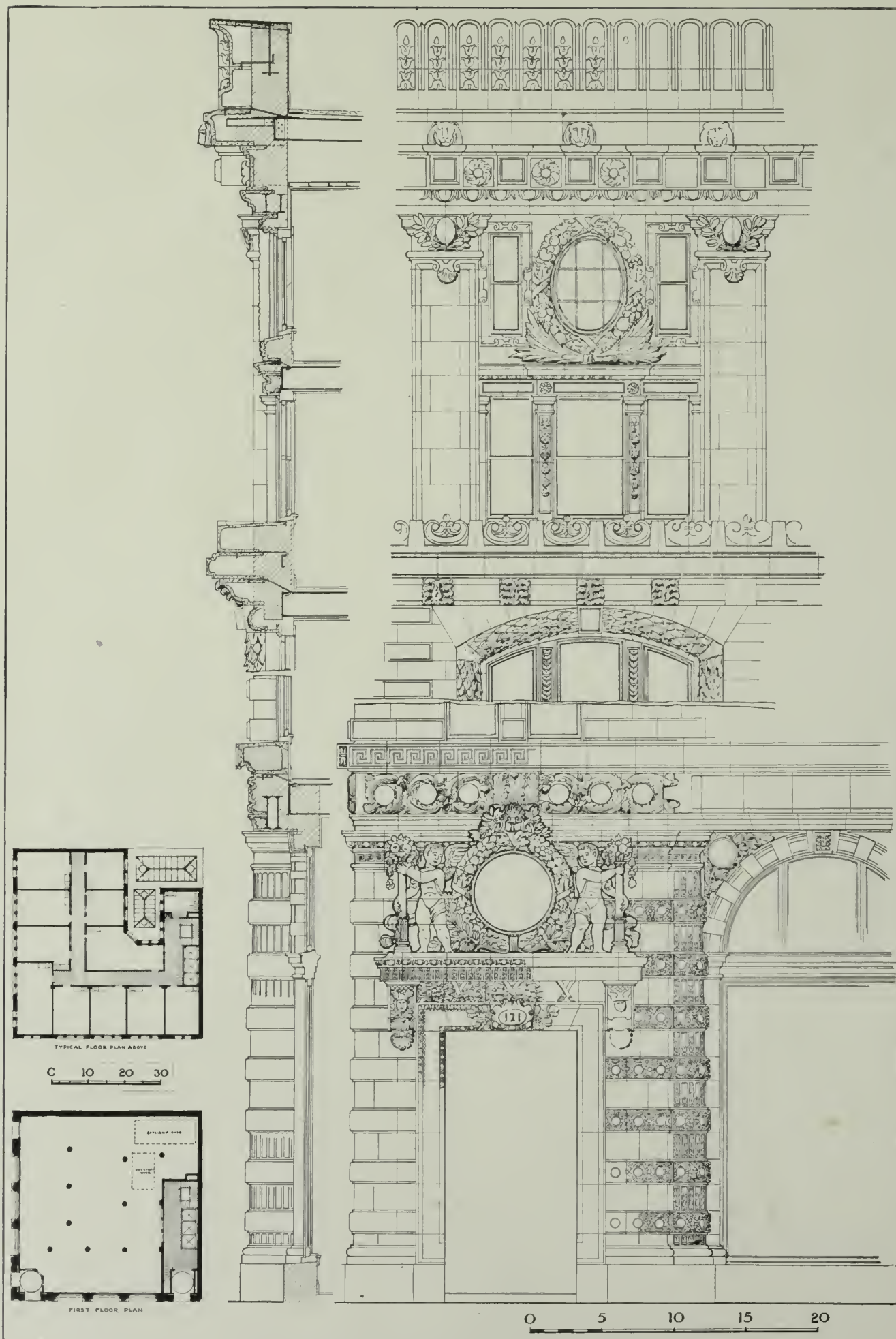
SECOND MENTION.
 SUBMITTED BY OSCAR WENDEROTH, WASHINGTON, D. C.



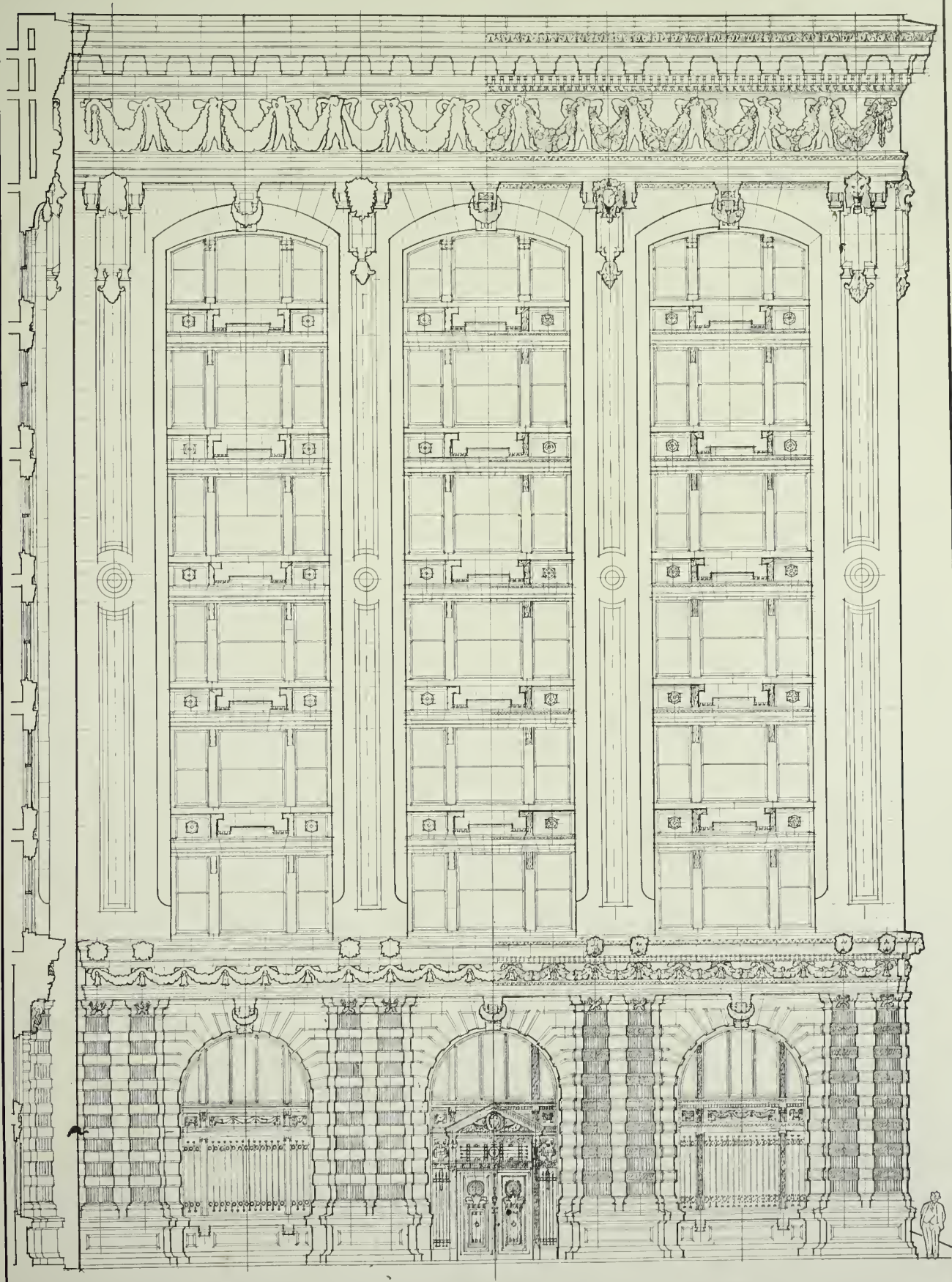
PLANS AND DETAILS BY OSCAR WENDEROTH.



SUBMITTED BY JAMES J. CRAIG, BOSTON.



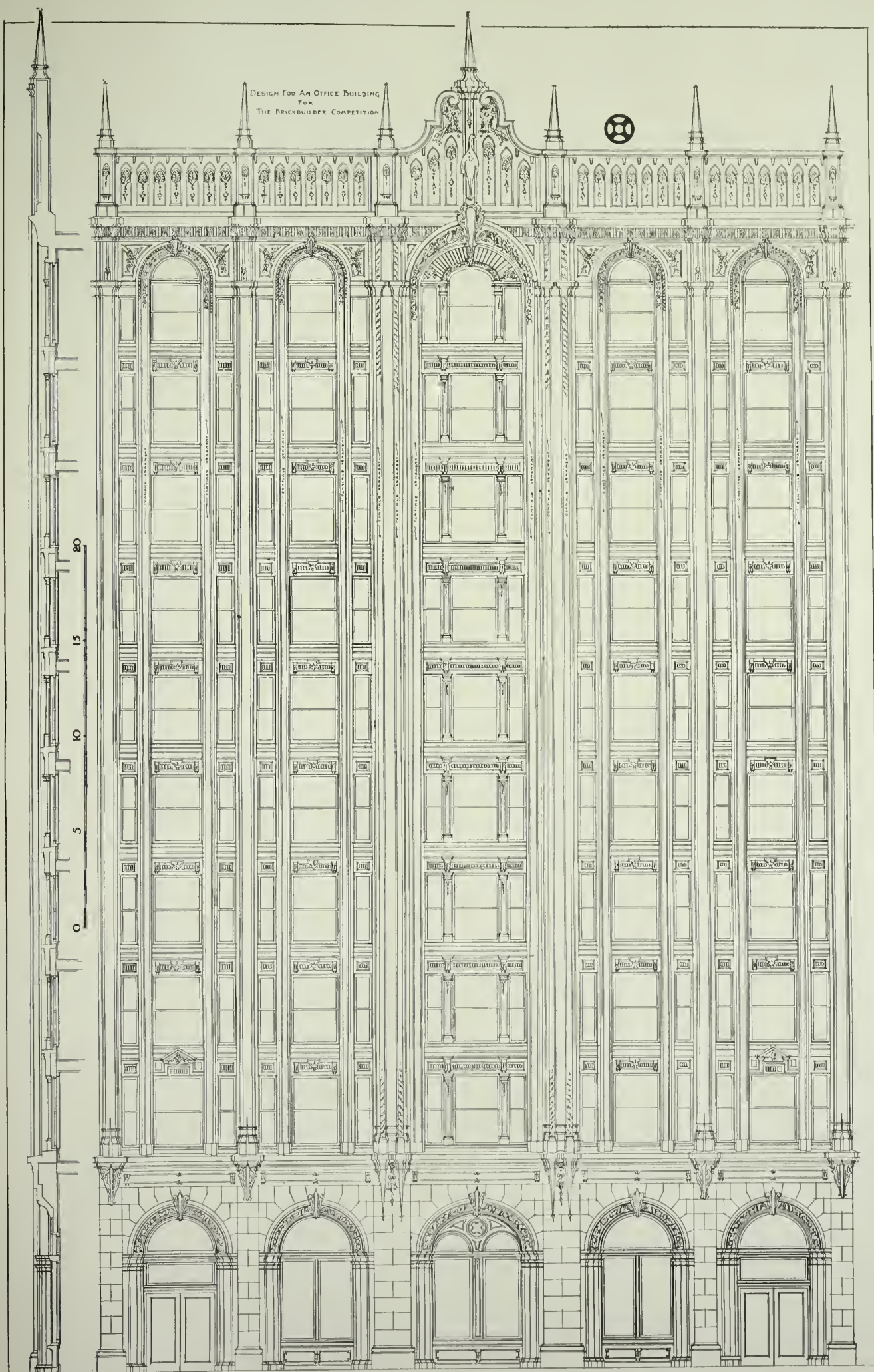
PLANS AND DETAILS BY JAMES J. CRAIG.



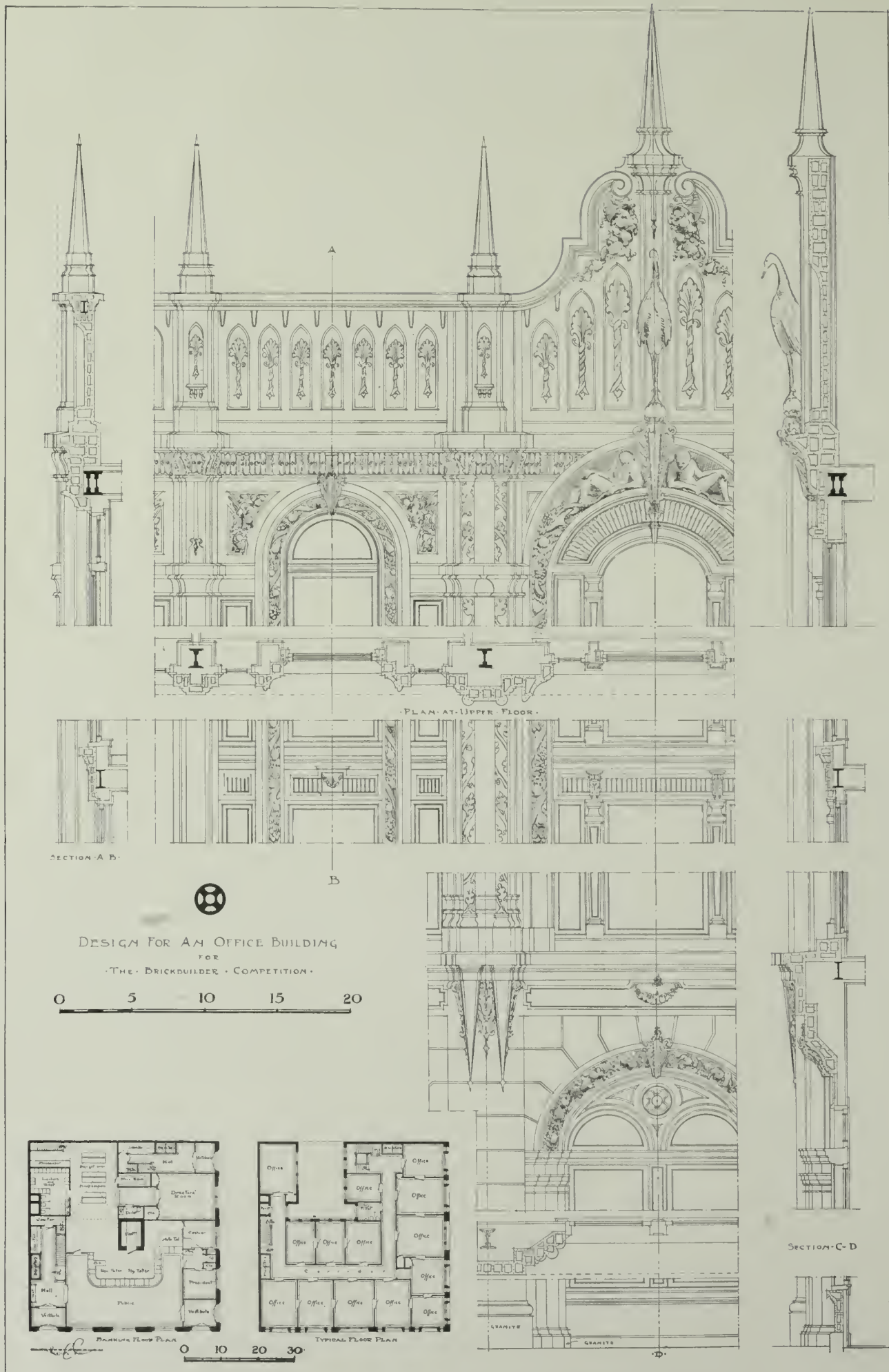
THE BRICKBUILDER
COMPETITION FOR AN OFFICE BUILDING

GARLAND

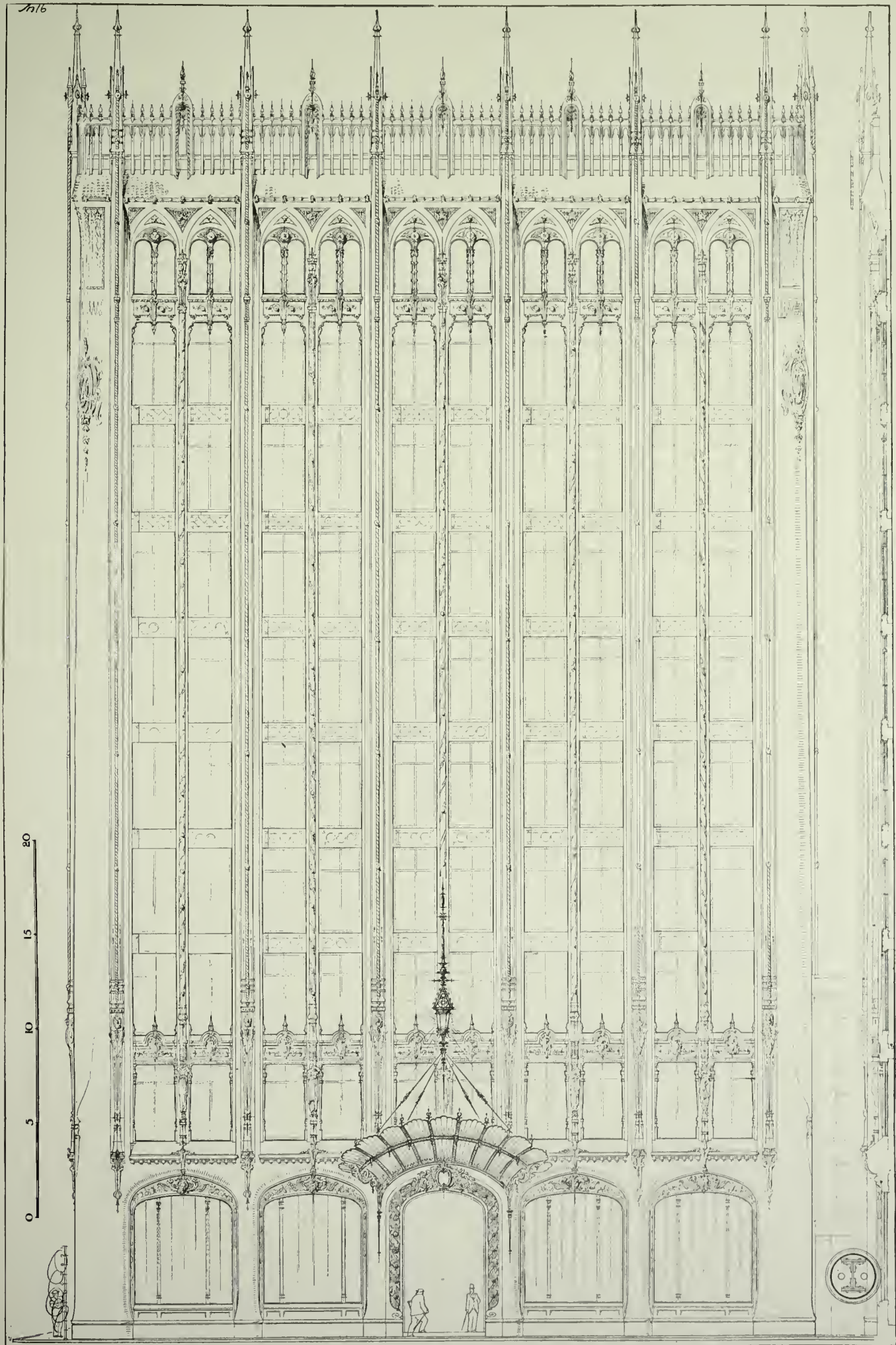
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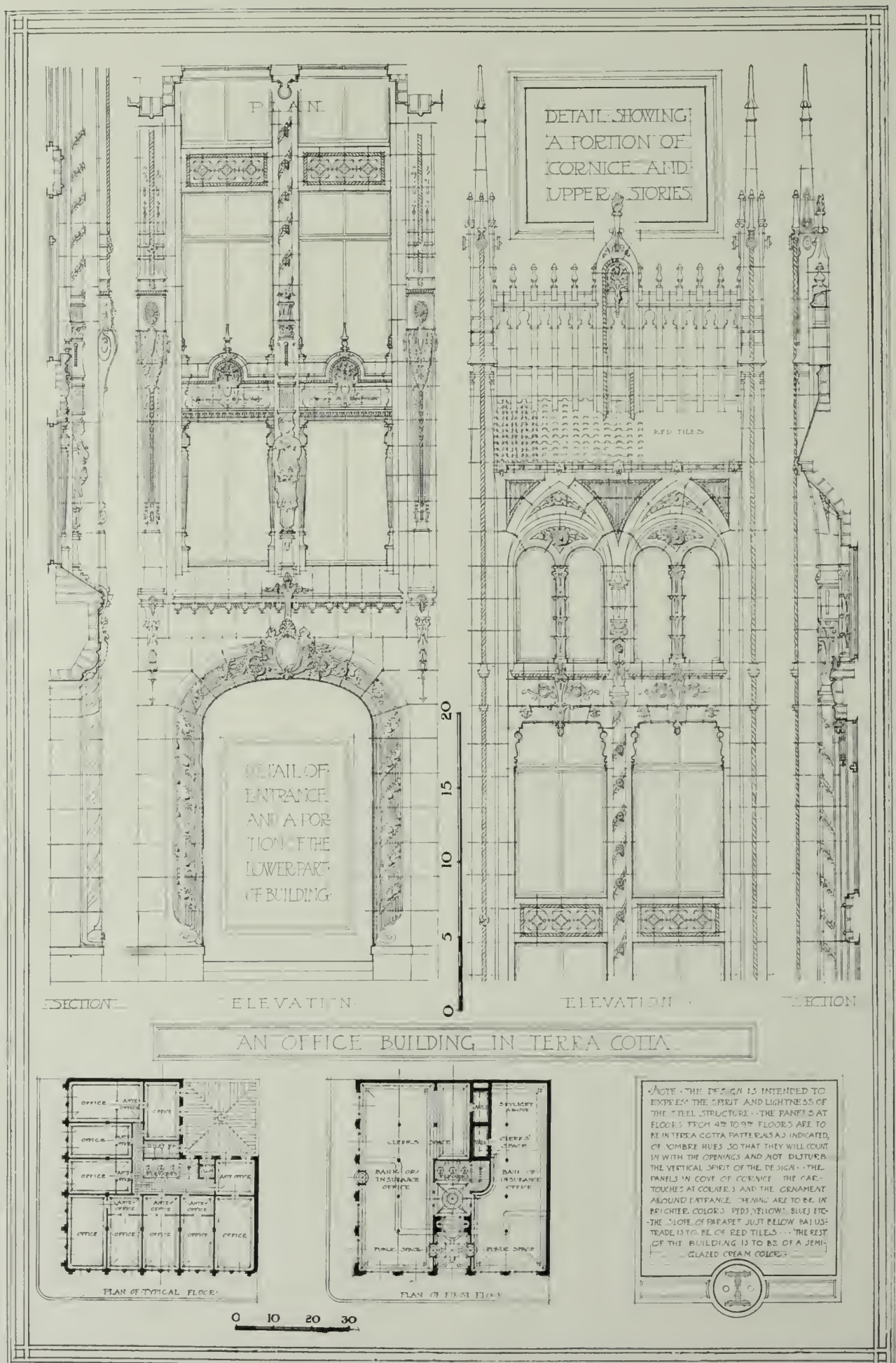
SUBMITTED BY V. H. WIGGLESWORTH, CHELSEA, MASS.



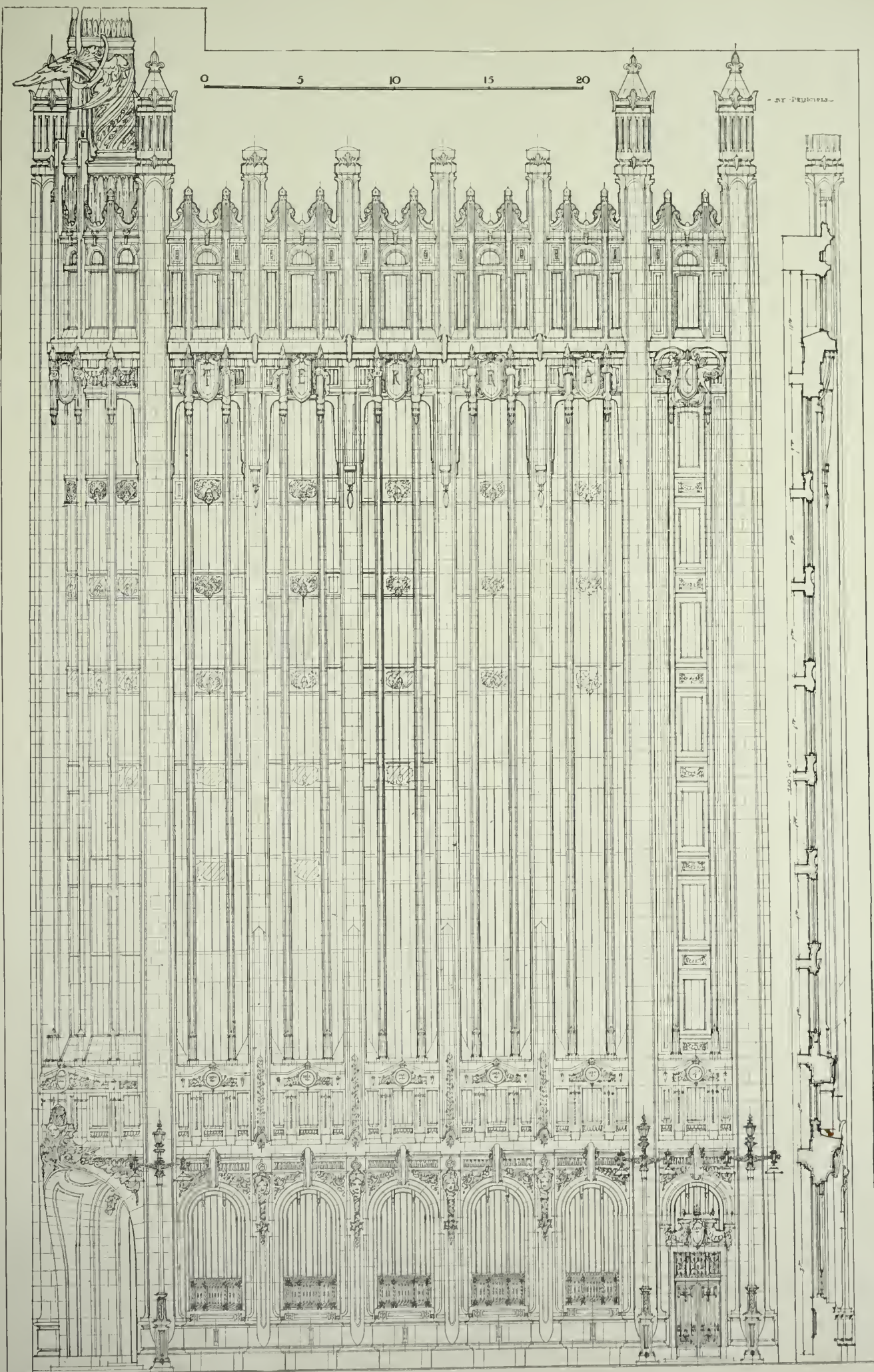
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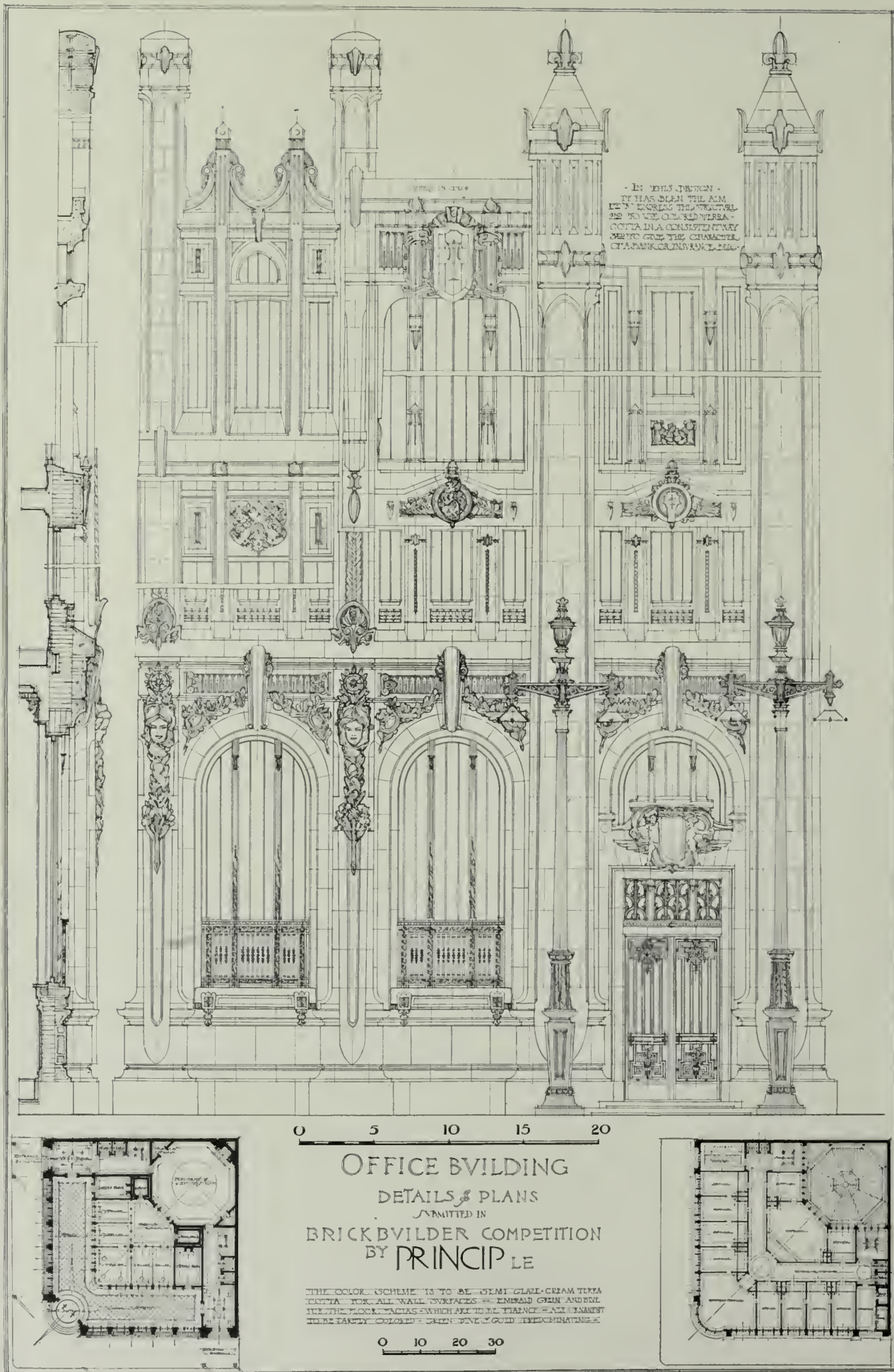
SUBMITTED BY EDWARD J. WEBER AND WILLIAM L. JOHNSON, BOSTON.



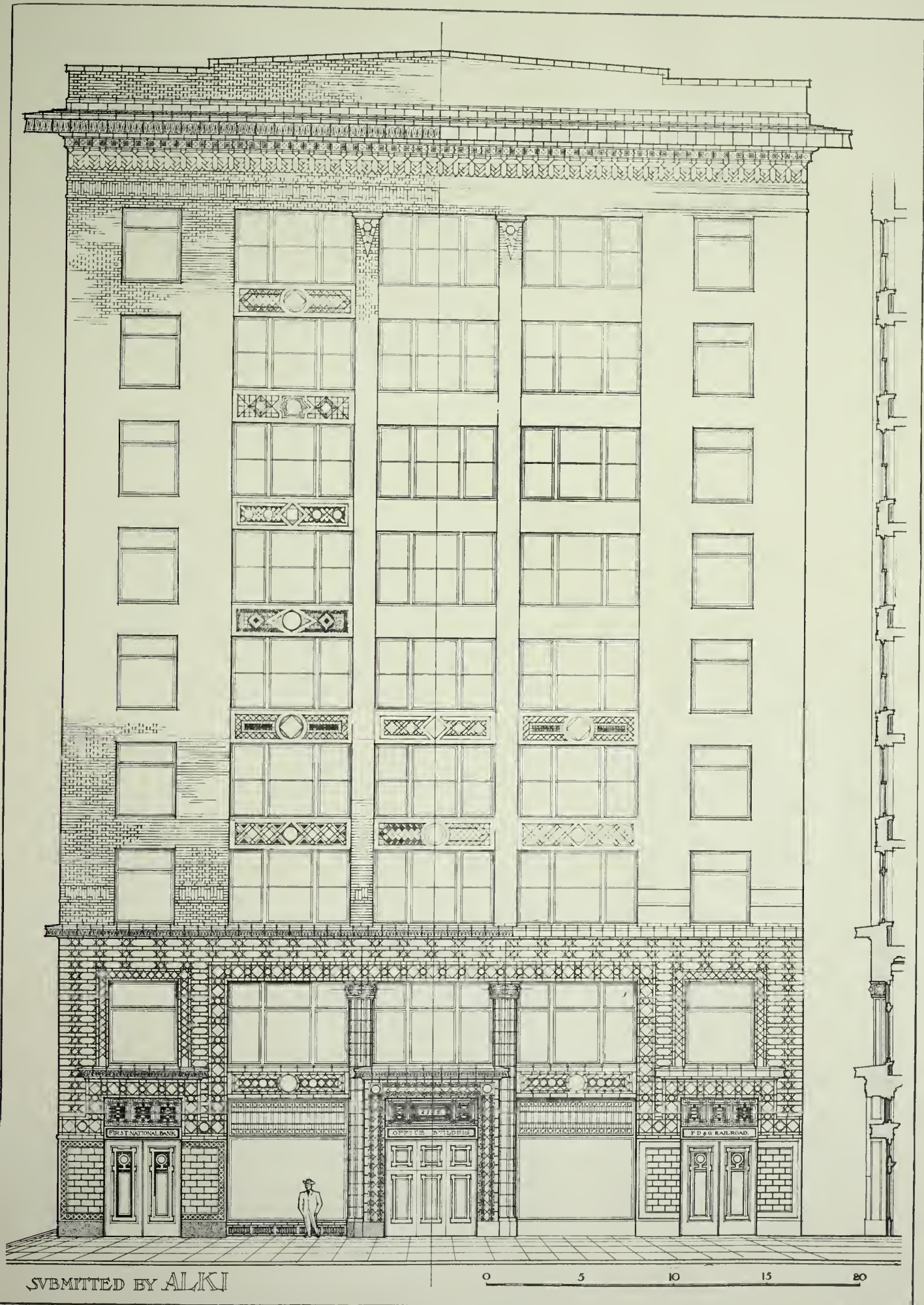
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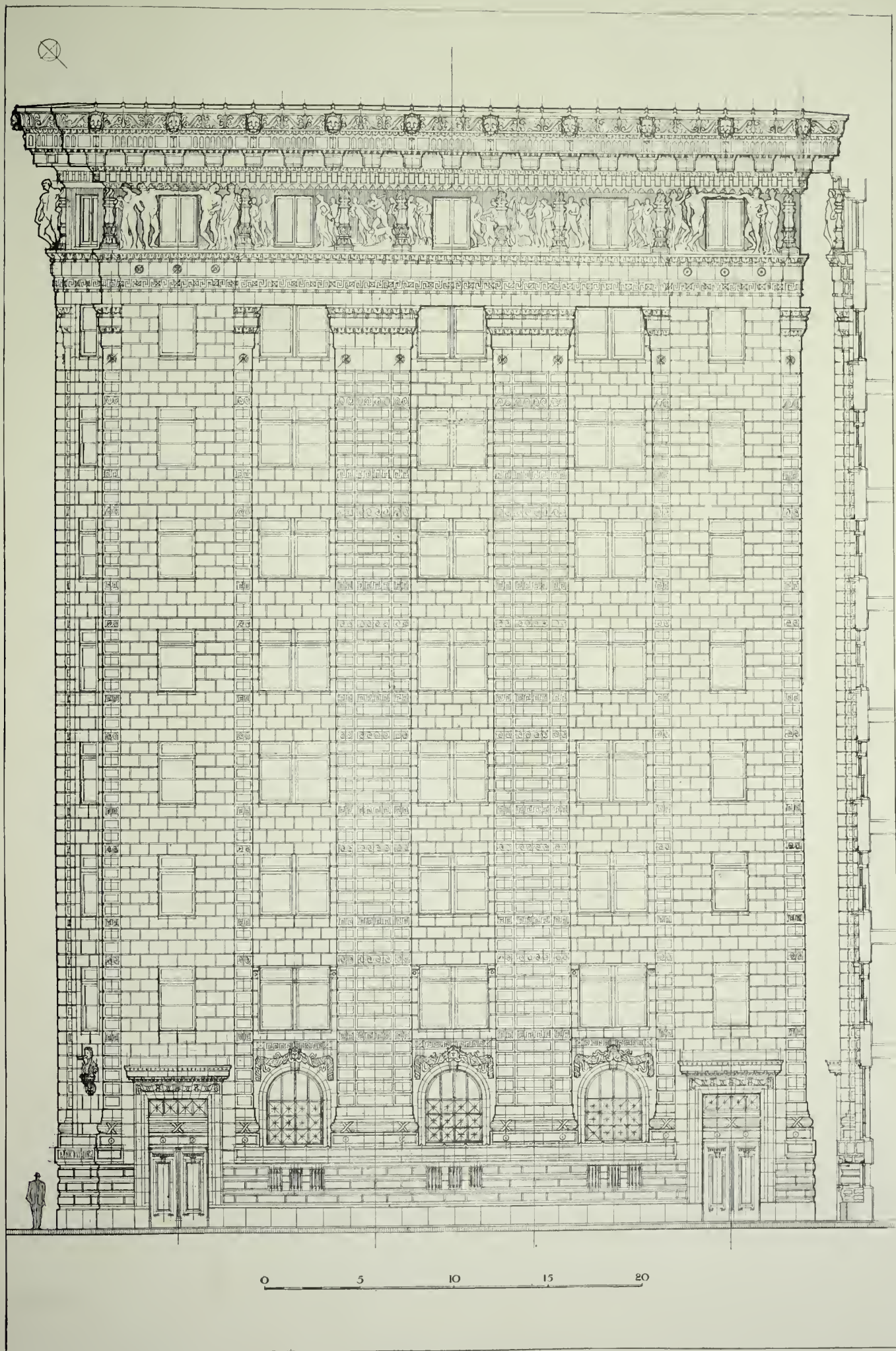
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 SUBMITTED BY ISRAEL PIERRE LORD, SOMERVILLE, MASS.



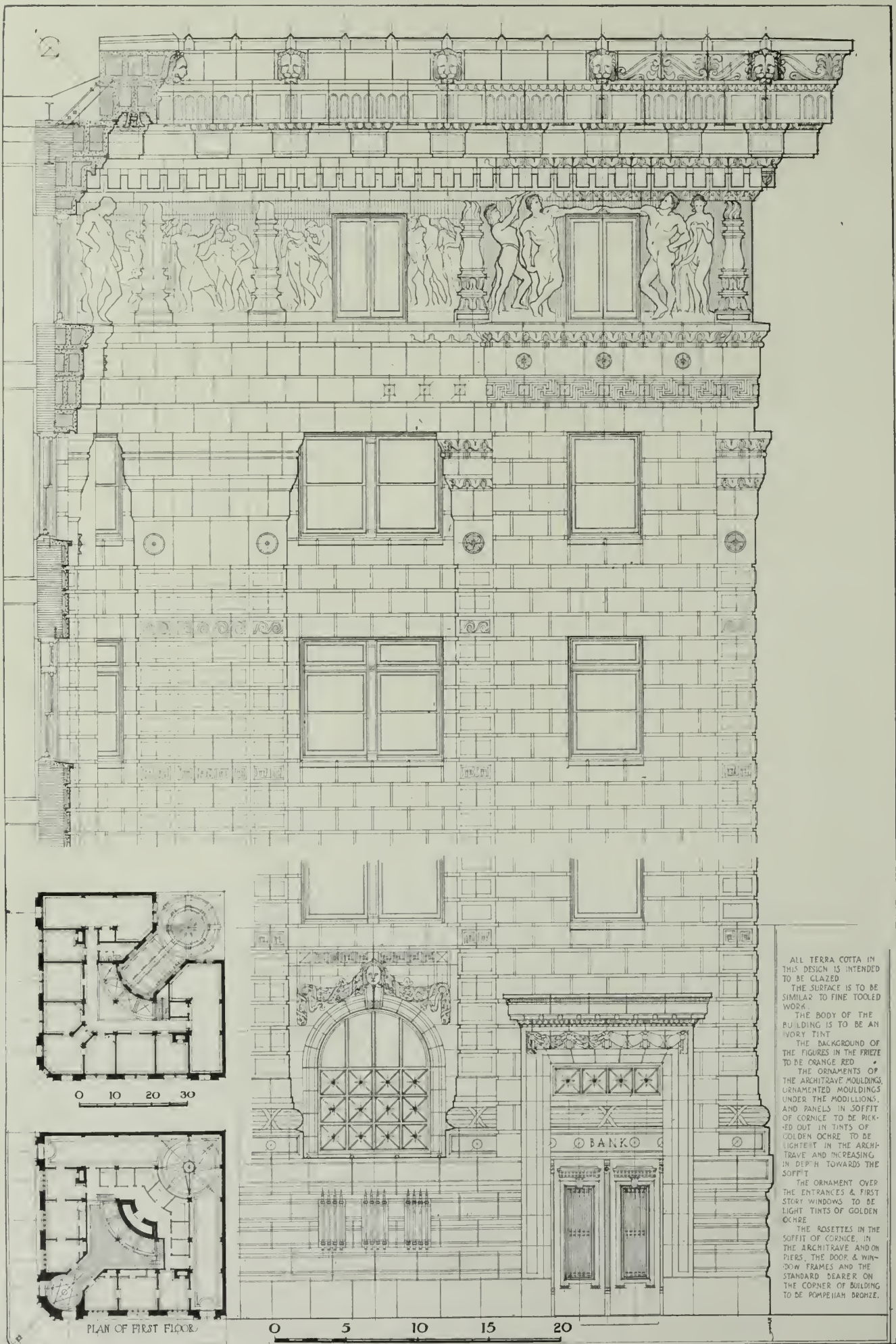
PLANS AND DETAILS BY ISRAEL PIERRE LORD.



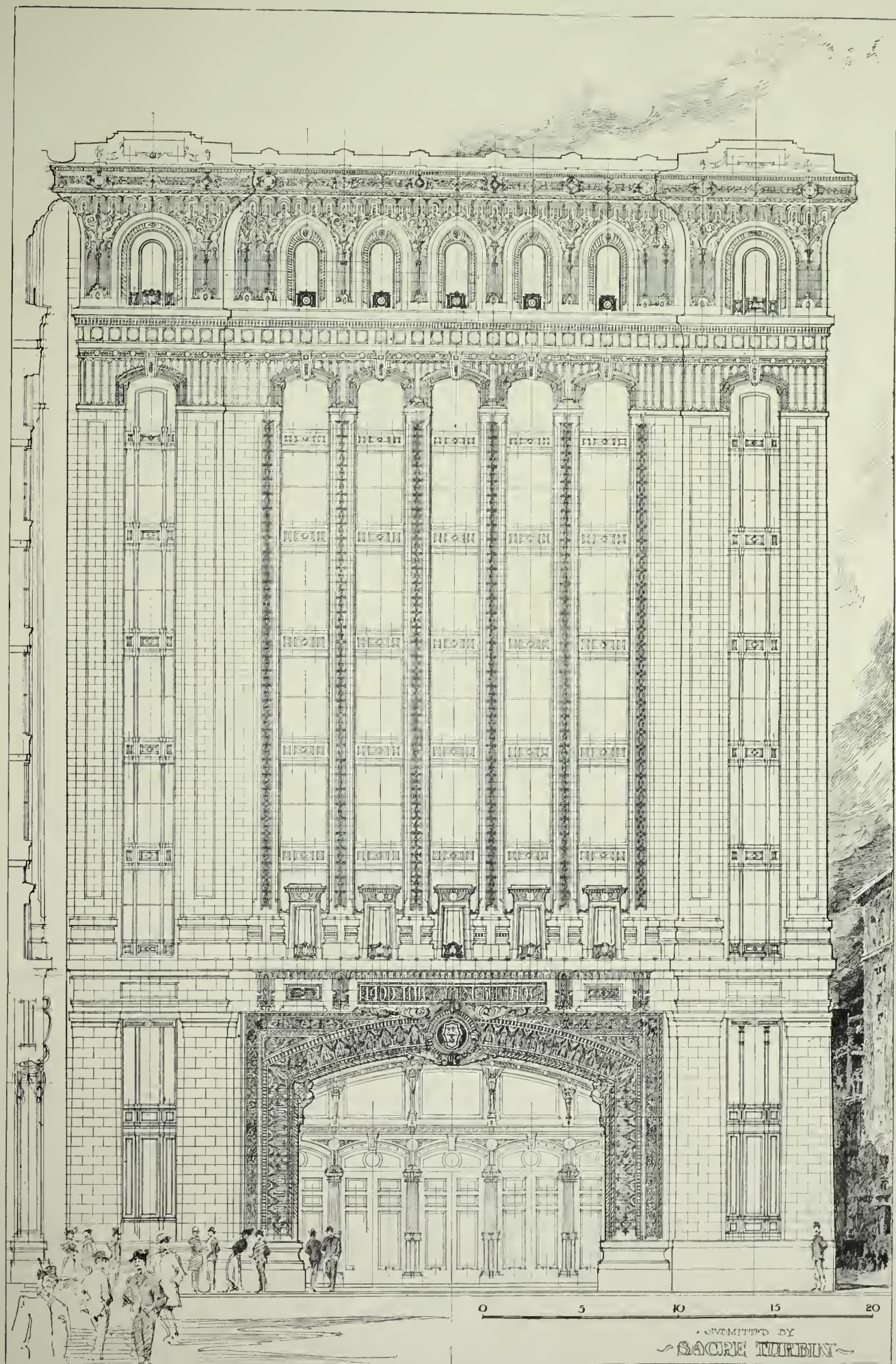
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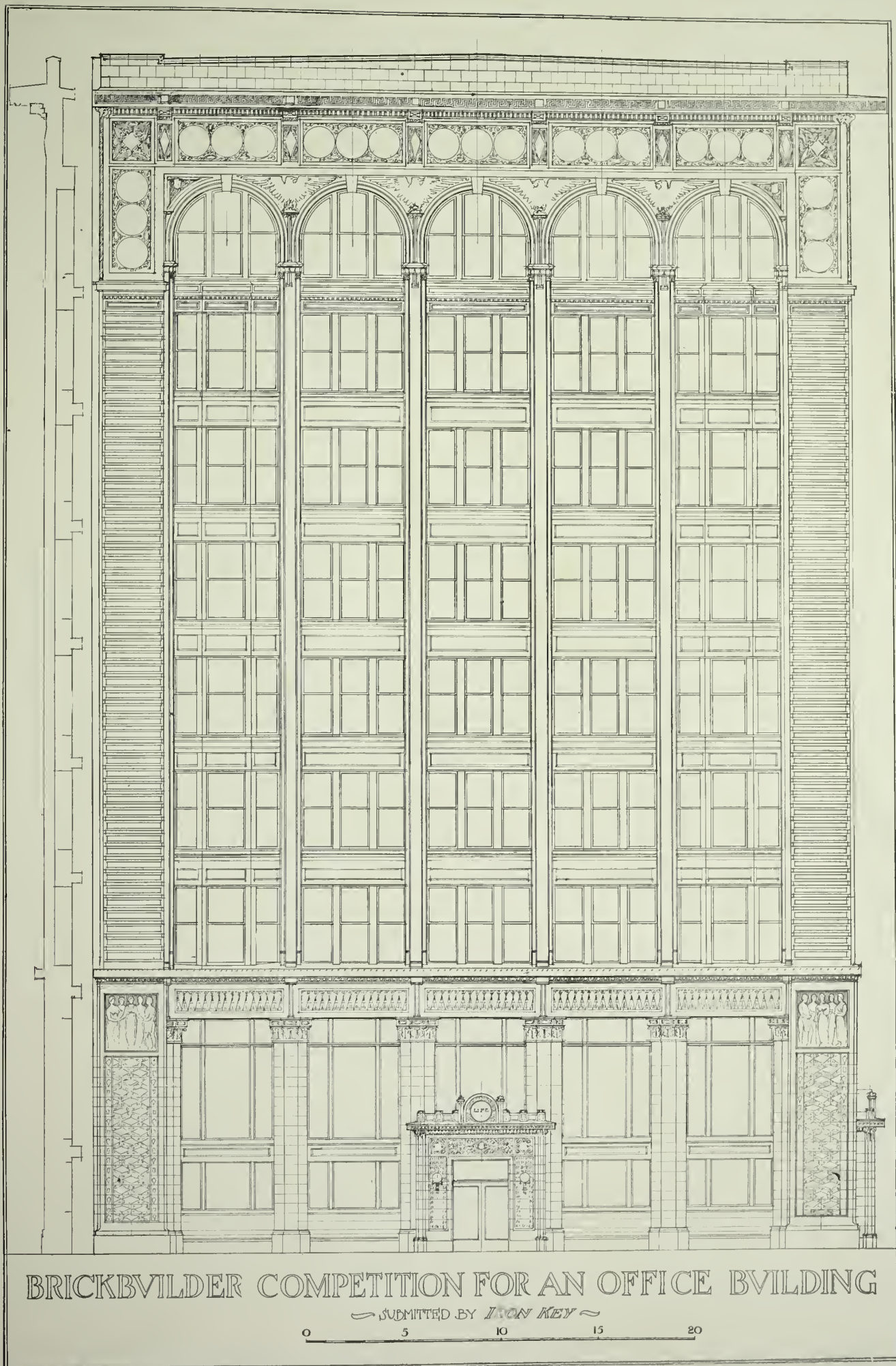
SIXTH MENTION.
 SUBMITTED BY J. H. PHILLIPS, NEW YORK CITY.



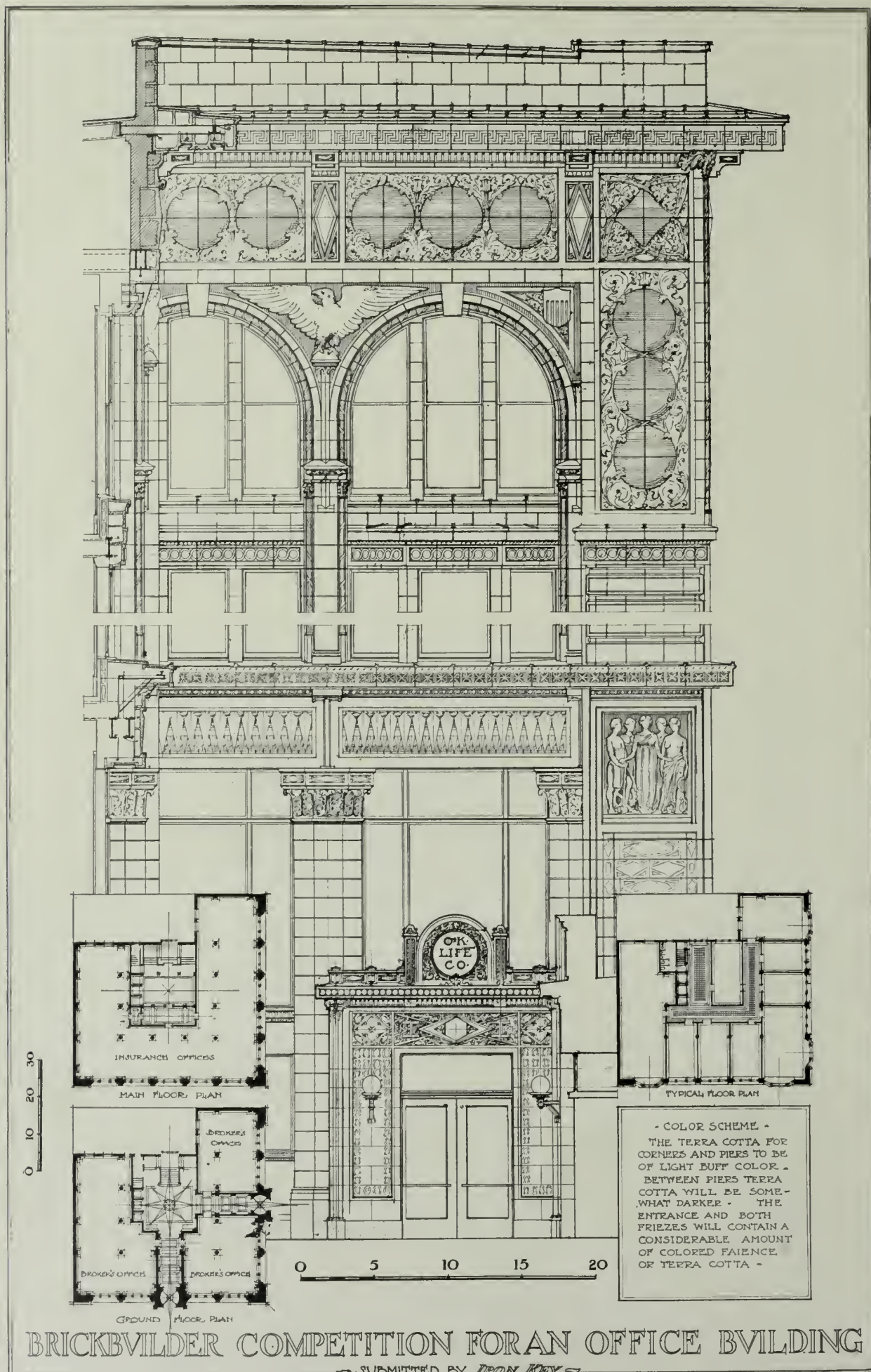
PLANS AND DETAILS BY J. H. PHILLIPS.

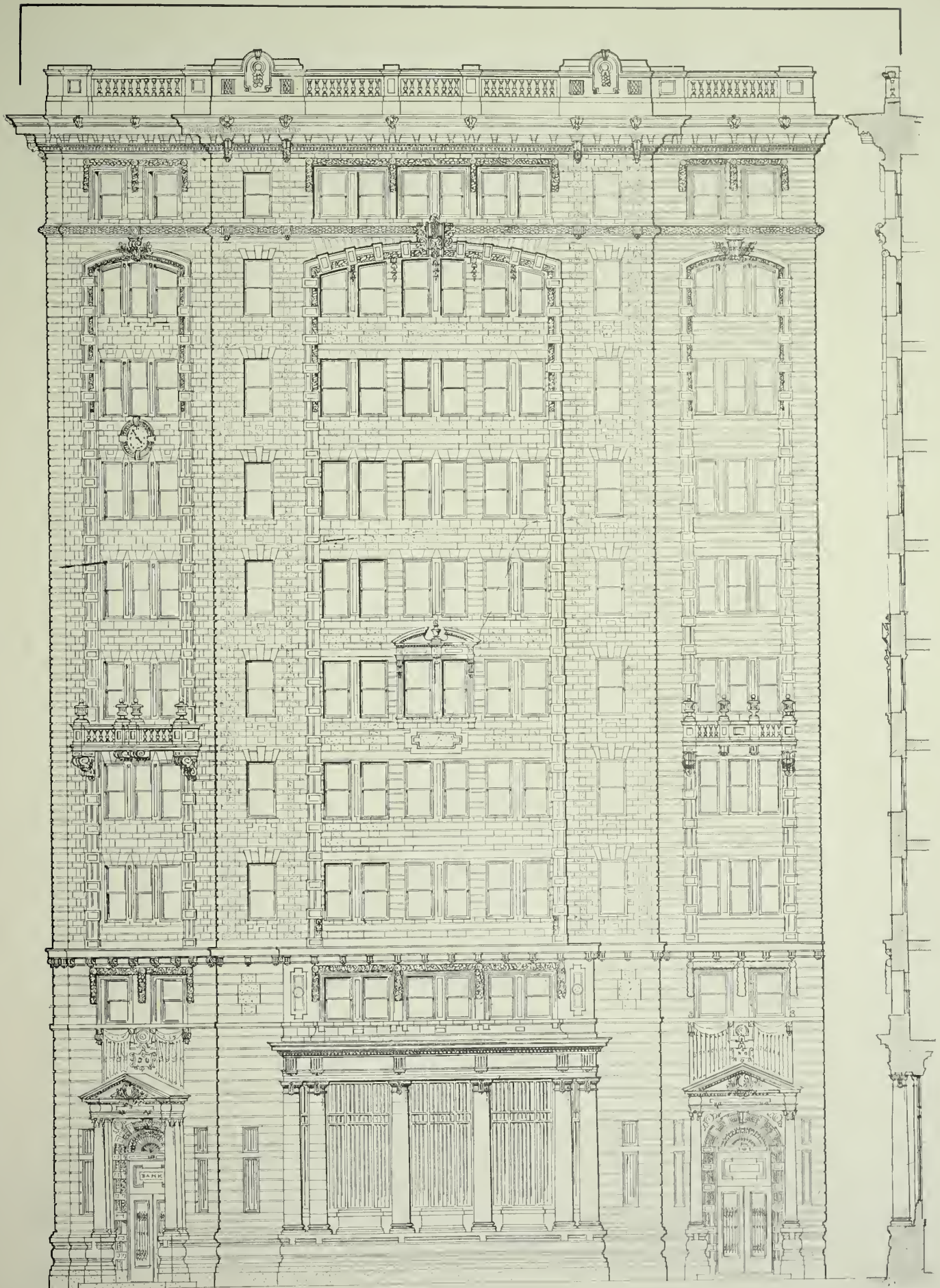


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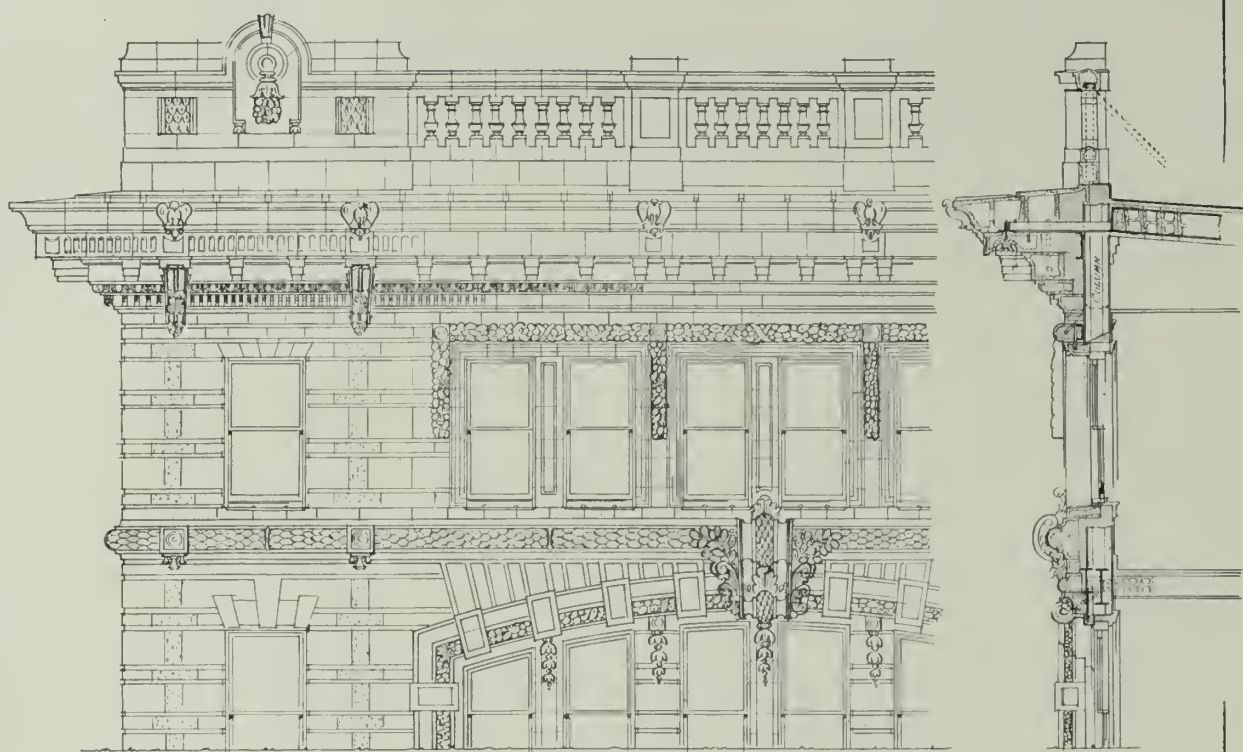
SUBMITTED BY E. C. LOWE, NEW YORK CITY.





0 5 10 15 20

SUBMITTED BY J. B. BLAIR, BOSTON.



^ CORNICER ^

0 5 10 15 20

^ SCALE FOR DETAILS ^



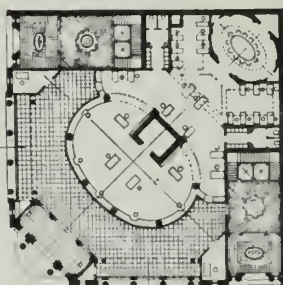
WALL SURFACE GREENS ARE TO BE
LIGHT WARM GREEN ^
[] DENOTES TWO SHADES DARKER ^
CEILING ARE TO BE HEAVY WHITE ^
WITH DULL GLAZED SURFACE ^
DOORS TO BE GREEN ^



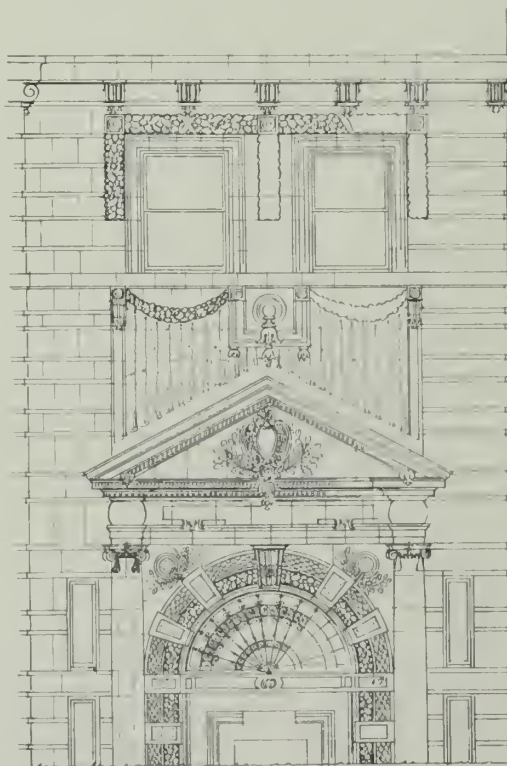
TYPICAL OFFICE FLOOR

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SCALE FOR PLANS

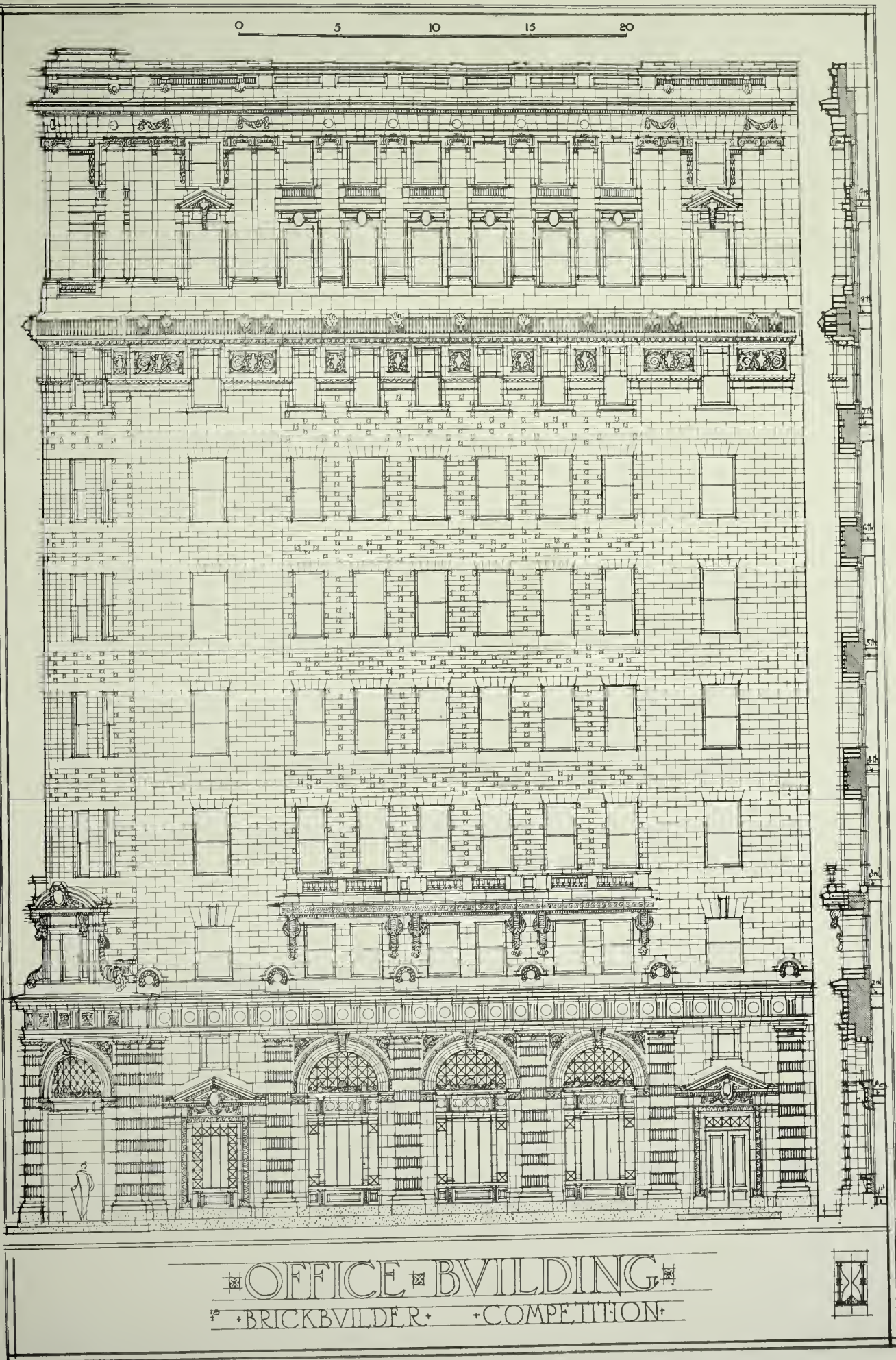


GROUND FLOOR



ENTRANCE DOOR

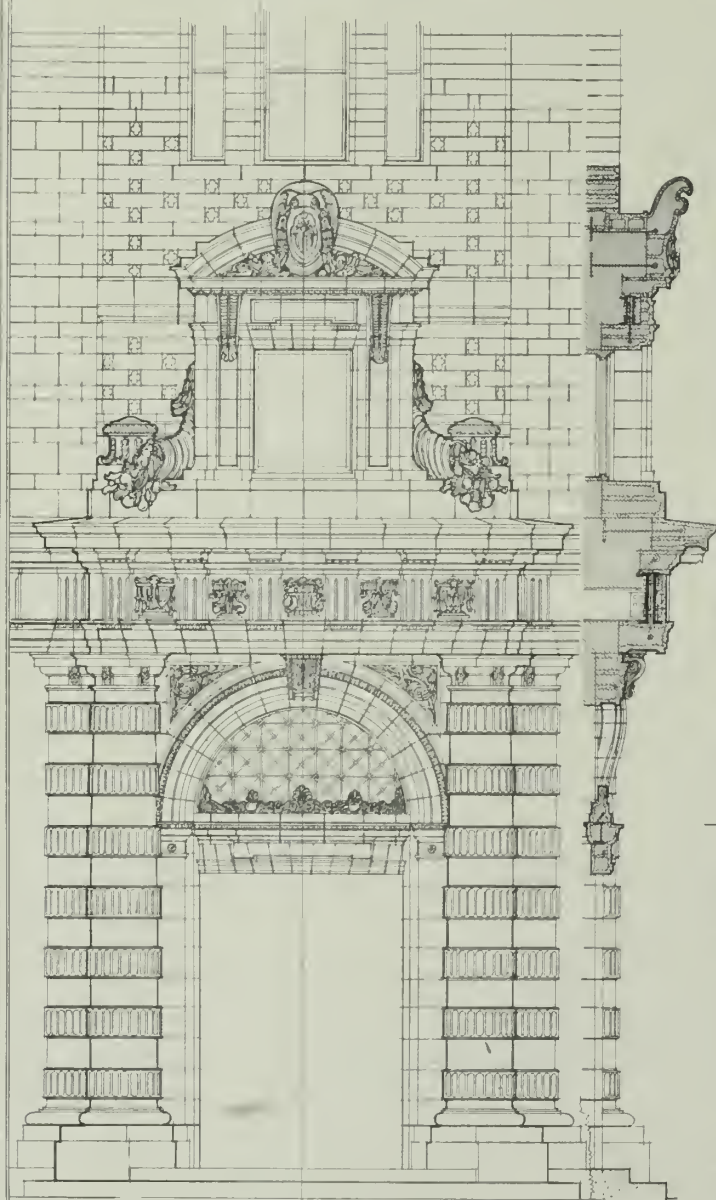
PLANS AND DETAILS BY J. B. BLAIR.



SUBMITTED BY ARTHUR G. BEIN AND GEORGE CORNER FENHAGEN, NEW YORK CITY.

OFFICE BUILDING BRICKBUILDER COMPETITION

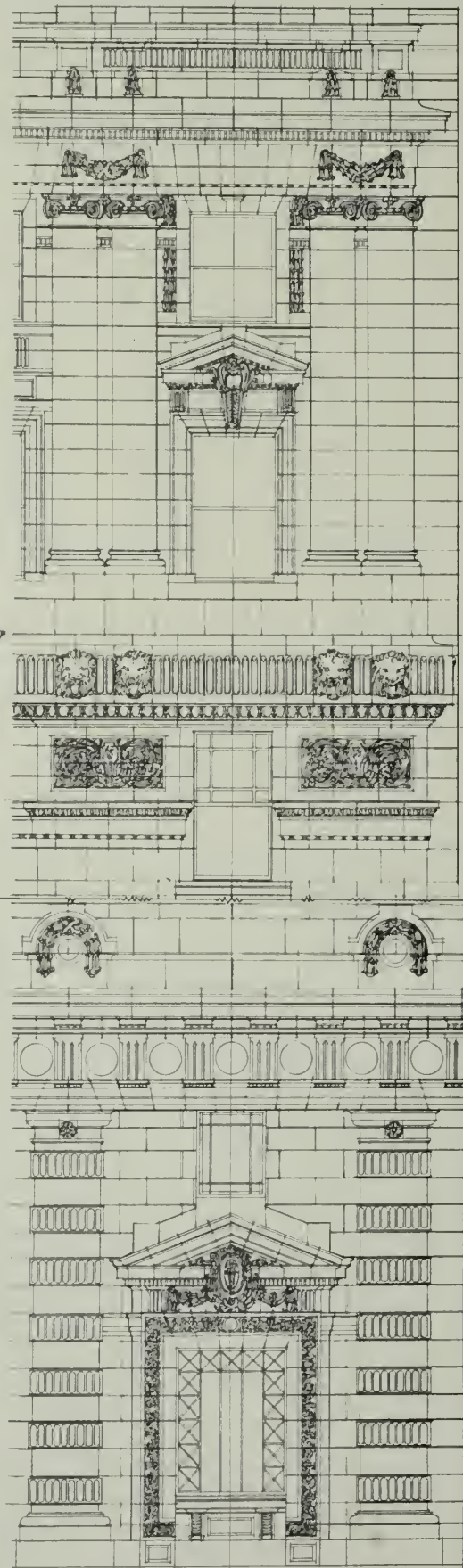
SUBMITTED BY: DEC. 23, 1905



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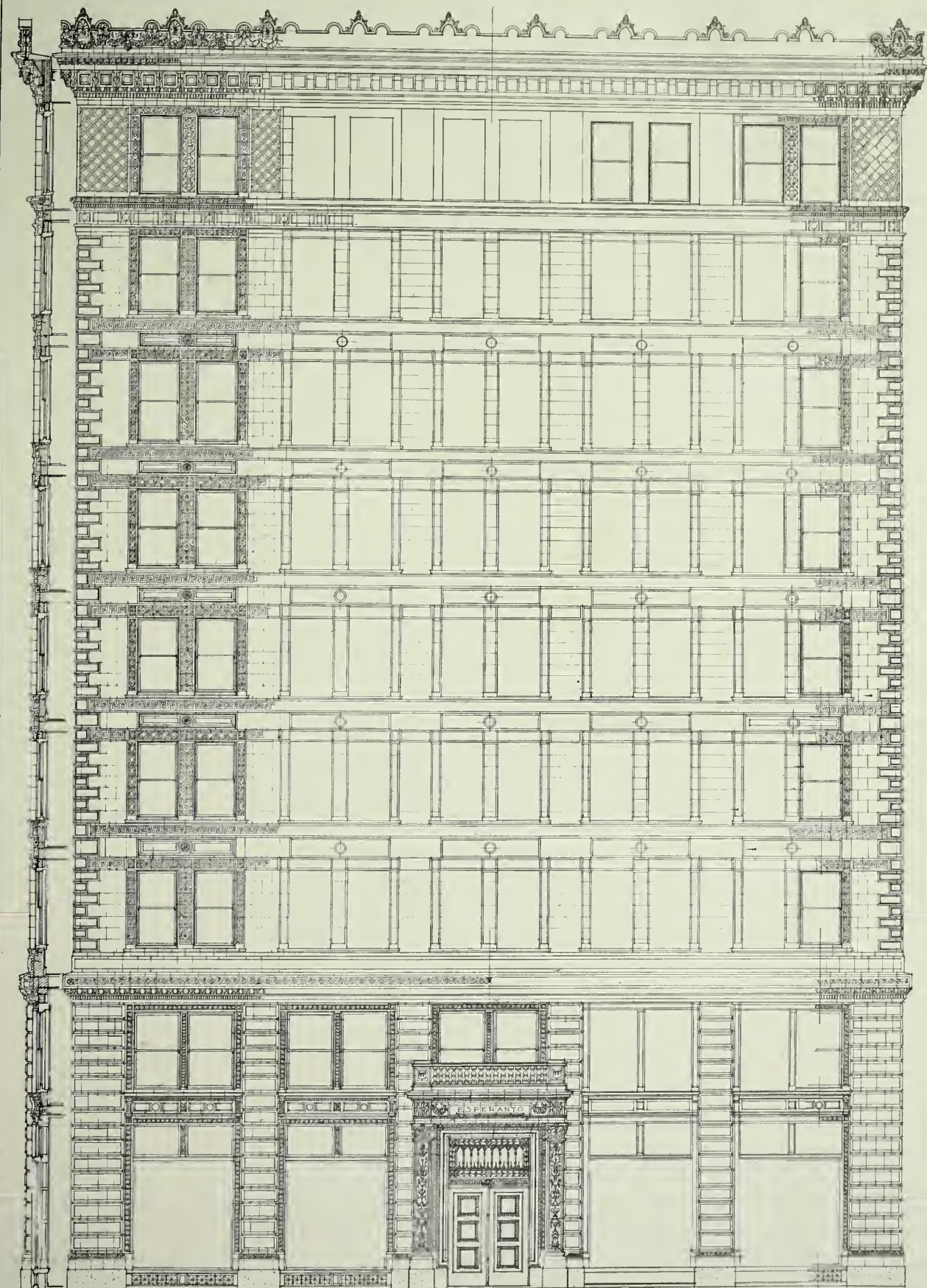


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THE GENERAL TONE OF THE BUILDING TO BE A LIGHT BUT - THE PRINCIPAL PORTION OF COLOR TO BE THE MAIN PRIZE IN WHICH A LIGHT GREEN BE DOMINATED WITH THE PART IN SHADOW TREATED IN A DEEP BLUE AND YELLOW OCHRE.

PLANS AND DETAILS BY ARTHUR G. BEIN AND GEORGE CORNER FENHAGEN.

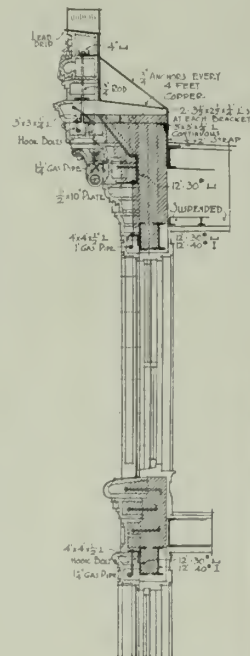
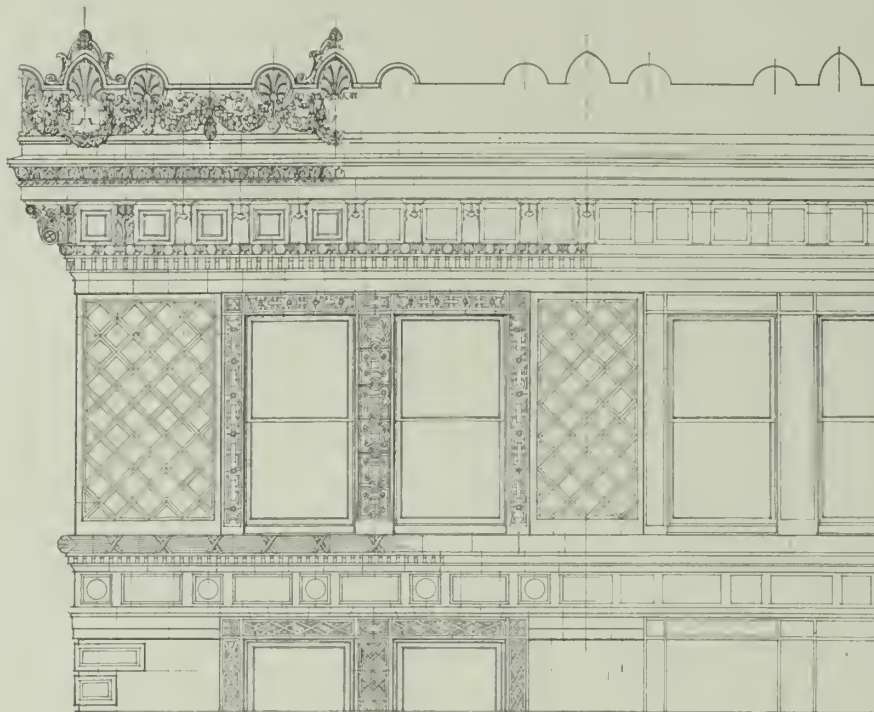


· AN OFFICE BUILDING IN TERRA COTTA

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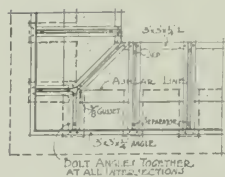
ESPERANTO

SUBMITTED BY W. CORNELL APPLETON, BROOKLINE, MASS.

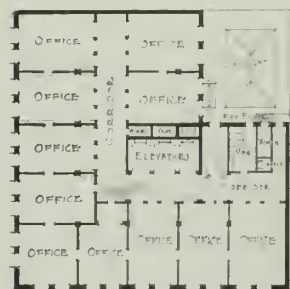


DETAIL OF UPPER STORY
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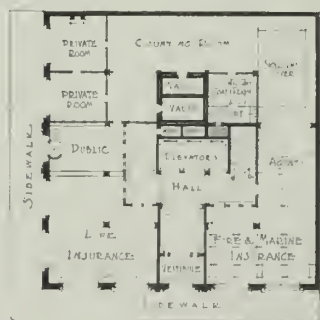
SECTIONS



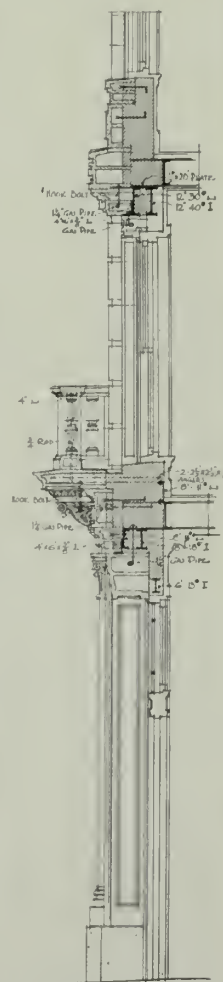
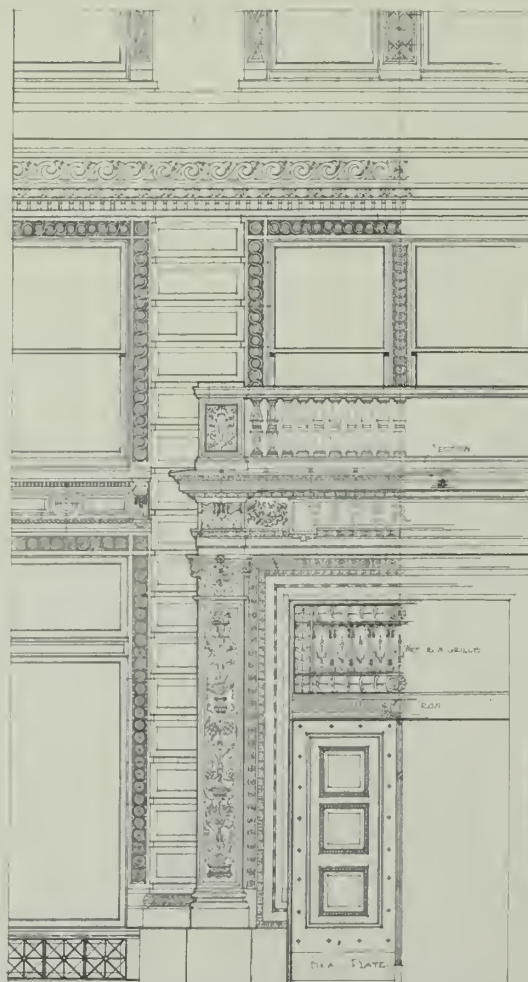
DETAIL OF CORNICE FRAMING



TYPICAL FLOOR PLAN



FIRST FLOOR PLAN
0 10 20 30



MATERIALS - DULL GLAZE TERRA COTTA ABOVE A BASE COURSE OF POLISHED MILFORD GRANITE. COLOR - 1ST & 2ND STORIES - BUFF 3RD TO 9TH STORIES - BUFF SAME AS 1ST STORY FOR TRIMMINGS AND A LIGHTER SHADE FOR FIELD. 9TH FLOOR - T.C. TILES IN BUFF & LIGHT SAGE GREEN - CORNICE BUFF. ALL ORNAMENT IN LOW RELIEF - TYPE CHOSEN FOR ITS VALUE AS TEXTURE IN THE WALL. **ESPERANTO**

PLANS AND DETAILS BY W. CORNELL APPLETON.

THE BRICKBUILDER.

VOL. 15

FEBRUARY 1906

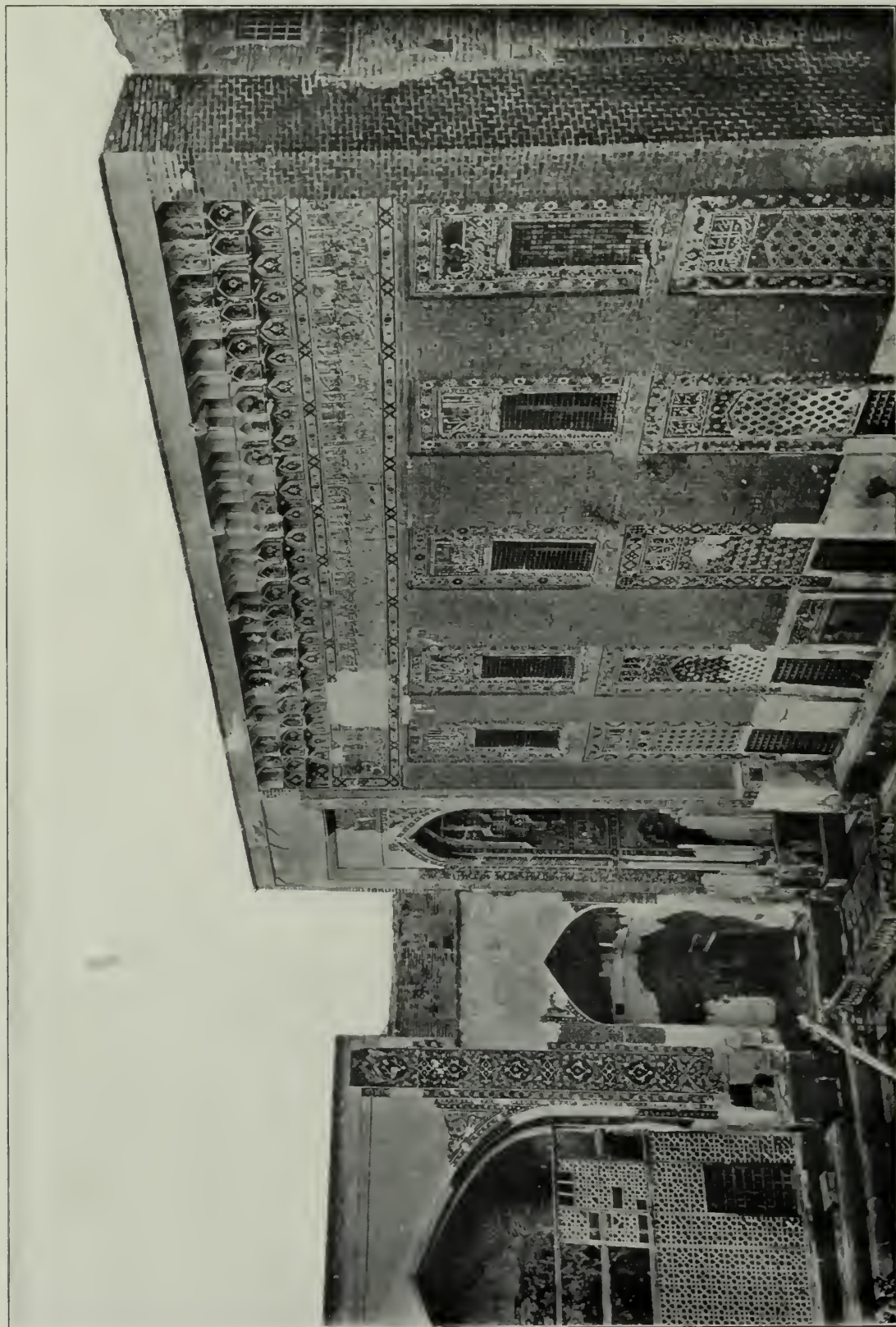
No. 2

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FAÇADE OF THE PRAYER ROOM, MOSQUE AT ARDEBIL, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 2

DEVOTED TO THE INTERESTS OF
ARCHITECTURE IN MATERIALS OF CLAY

FEBRUARY 1906

THE BRICKBUILDER.

PUBLISHED MONTHLY BY
ROGERS & MANSON,

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the American News Company and its branches.

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Agencies.—Clay Products	II	Cements	IV
Architectural Faience	II	Clay Chemicals	IV
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Brick	III	Machinery	IV
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Advertisements will be printed on cover pages only.

CHANGE IN OUR PLATE FORMS.

A NEW ruling has been made by the Post Office Department at Washington which bears directly upon architectural publications, inasmuch as by this ruling loose sheets, or plates as they are usually designated by publishers, must be bound in with the rest of the magazine in order that it may be mailed as second-class matter.

We are not disposed to discuss the wisdom of this ruling for the simple reason that it would be ineffective in bringing about a change; what the law directs we are bound to obey. The only serious difference which the change may make — and possibly it may be proven that after all it will not be serious — is in the matter of double plates, that is, one illustration extending across the fold of the sheet, and where this is done the stitching will oftentimes have to be made through the illustration. We are of the opinion, however, that many architects who file their plates object to the double plate illustration and will therefore be glad if they can be done away with altogether. However this may be, the probabilities are that the double-page plates will as a result of this law be reduced to a minimum.

To those who file their plates it will be an easy matter to lift them for the purpose from the binding, and in

doing so the plates will not be damaged in the least. The binding in has manifestly one advantage, and that is that plates will be kept in their proper places in the magazine until they are lifted for filing or other purposes.

This new law — or rather this new interpretation of an old law — will work no great hardship, as there will undoubtedly be ways devised which will adequately meet the needs.

THE BRICKBUILDER COMPETITIONS.

THERE are some features connected with the conducting of our competitions with which, apparently, contestants are not acquainted. As publishers we furnish the programme, cash prizes, and select the members of the Jury of Award. After that we are simply custodians of the drawings submitted. The remaining part of our work consists in the careful handling of the drawings while in our possession, arranging for the judging, publishing of the jury's report and such drawings as they may select for the purpose, and the returning of the drawings to their owners.

Some few of those who have entered our competitions apparently feel that this whole work can be done within a week's time, and to those especially we wish to explain that it would be impossible to do so for the following reasons: there are usually a large number of drawings entered in these competitions, and the proper arrangement of them, that they may be handled easily by the judges, requires some little time. Then the selection of the judges, as will be recognized, is one of the greatest importance and it is purposely left until the drawings are in for the very reason that we desire to have the problem treated, and not the judges. The men who are invited to do this work are of the leaders in the architectural profession, men whose interests are large and whose time is valuable, and to arrange a date on which three or five such men can meet is no easy matter, but the delay is more than compensated for in the value of the services which they give when the work is finally undertaken.

During all this time, of course, the contestant is not certain that his drawing has been received, nor do we see how it can be otherwise, because of the very fact that the sealed envelopes containing the names of the contestants are not opened until after the competition has been judged. Following this there is absolutely no delay in notifying the interested parties of the results.

This explanation is not offered by way of apology, but rather as an explanation to those who seem to misunderstand the conditions which must of necessity prevail.

THE BRICKBUILDER.

Office Building Competition.

THE SUCCESSFUL COMPETITORS.



MR. RAYMOND M. HOOD.

RAYMOND M. HOOD, who was awarded the first prize of \$500, received his early education at the Pawtucket (R. I.) High School, and then entered Brown University, where he spent one year.

He entered the Massachusetts Institute of Technology in the fall of 1899, graduating from the Architectural Course with honor in the class of 1903.

After graduation he spent about one year in the employ of Cram, Goodhue & Ferguson, architects, in their Boston and New York offices.

In the summer of 1904 he went abroad to further pursue his studies, and at present is a member of the School of Beaux Arts in Paris, being admitted in April, 1905. He has also spent considerable time in European travel and has studied for a period in the American Academy at Rome.



MR. J. W. THOMAS, JR.

WILLIAM C. HAZLETT, who was awarded the second prize of \$200, was graduated as civil engineer from Lehigh University, after which he spent some time in travel and study. His early training was in the offices of the late Bruce Price and McKim, Mead & White of New York City, since which time he has practised independently in that city.



MR. WILLIAM C. HAZLETT.

CLAUDE BRAGDON, who was awarded the third prize of \$100, received his architectural education in various offices, among others those of Green & Wicks of Buffalo, and the late Bruce Price of New York City. For the past fourteen years he has practised architecture in Rochester, N. Y.

JOHN H. PHILLIPS, who was awarded a mention, took the Civil Engineering Course at the University of Wisconsin. After graduation he was connected with the offices of Shepley, Rutan & Coolidge, S. S. Beman and Richard E. Schmidt, all of Chicago. In 1902 he won the Chicago Architectural Club Scholarship. At present he is connected with the office of Reed & Stem, architects, New York City.



MR. JOHN H. PHILLIPS.

J. W. THOMAS, JR., who was awarded a mention, received his architectural education at the University of Pennsylvania. He is at present in the office of an architect at Columbus, Ohio.

ROLAND E. BORHEK received his architectural training in various offices. At present he is in the Seattle (Wash.) branch office of A. Warren Gould of Boston.

Mentions were also given, by the Jury of Award, to Oscar Wenderoth of Washington, D. C., Edward F. Maher of Boston, and Israel P. Lord of Somerville, Mass. Sketches of these men were not received in time to be included in this issue.



MR. CLAUDE F. BRAGDON.



MR. ROLAND BORHEK.

Catholic Church Architecture.

BY CHARLES D. MAGINNIS.

PAPER I.

IT may be conceded at once that, in view of the splendor of opportunity presented by its great building activity, the Catholic Church has so far contributed insignificantly to the art of the United States. Just why this opportunity has availed so little, however, is a consideration always passed over by the critic, who invariably writes on this subject in a mood either of testy impatience or of profound discouragement. To my mind, no present estimate of the artistic asset of the church in this country can possibly indicate the measure of its ultimate influence upon the national art. The hope may indeed seem vis-



SAN PIETRO, TOSCANELLA.

A ninth century façade of great beauty and refinement, which might well have influenced American church design. Admirably adapted to brick and terra cotta.

ionary that, with modern methods of art production, the church will again inspire an artistic manifestation approaching the Gothic tradition in beauty of thought or in sublimity of power. So indissoluble is the art element from Catholic life and thought, however, that the promise of big artistic possibilities must amply appear in the very vitality of the church itself. The history of our own times presents no more interesting phenomenon than the rejuvenation of the Catholic Church under democratic government. Sharply isolated from political institutions which were supposed to be necessary to its spiritual control, it has grown in the free play of its energies, not merely in numbers and power, but in sheer moral prestige, so as to be admittedly the most potent spiritual influence in American life. Indeed, signs are not wanting that it is to the splendid conservatism of this great moral authority that we must look to maintain the Christian ideal of society against the growing forces of materialism. It is not to be wondered at if, in the development of this real potentiality, involving as it did the solution of many great problems incident to the organization of a new and strangely constituted society, the energies of the church

became too engrossed for the responsibilities of a discriminating art patronage.

In the mean time art was asserting itself as an important element in the national life quite independently of religious stimulus. So amazing indeed has been the development of this secular art within the last twenty years that the historic supremacy of Europe has finally been called into question in more than one department. The high standards now prevailing in our civic and domestic architecture, however, afford the most pertinent evidence of the remarkable elevation in national taste. That the Catholic Church will come into more sympathetic touch with this beautiful development is inevitable, as the conditions which have made for its detachment become gradually relaxed. As it is, I feel sure that many of the clergy do not realize the degree of this detachment, nor how far the old artistic prestige of the church has been compromised by a system of art production which its preoccupation and the hasty development of its boundaries were well calculated to foster. I refer to a system which owes its origin to Munich, a name which (great as it is in artistic association), in my judgment, symbolizes, therefore, most of the unfavorable influences which have retarded the healthy growth of Catholic art in America. Munich is the pernicious principle of Art in the control of Commerce. It is the multitude of foreign and domestic plaster-shops for turning out stereotyped saints by the thousands, it is the "combination" of western factory interests which is flooding the country with hideous altars and pews and confessional boxes, it is the so-called architect who makes merchandise of his plans, scattering them over the land in defiance of all the determining principles of site, tradition, climates, local resource and natural environment. Munich is the smart man with the catalogue.

That the high artistic reputation of the German city should be thus prejudiced by the localization of so unhealthy a system is unfortunate. Munich has many



CHURCH OF S. MARIA DELLE GRAZIE, MILAN.

Illustrating the possibilities of brick in application to monumental design. The church is attributed to Bramante, but the great dome only justifies the attribution.

splendid artists and admirable schools of art. To suppose, however, that the best sentiment of Munich is in sympathy with mimeographic art production, or that the powers of its best artists are enlisted in it, is absurd. This is sufficiently apparent in the circumstance that, in

order to remove the odium of it from the church, the Catholic Archbishop of Munich himself was forced a few years ago to issue a public letter protesting vehemently against this spurious and mechanical Christian art, and warning his clergy to give it no countenance or support whatever.

If art in the control of the counting room is degenerate at Munich, what hope is there for the principle in a



THE CATHEDRAL, AREZZO.

This is an excellent example of the logical manner in which the Italians modified the Gothic to suit the requirements of brick and terra cotta. The beauty of the apse is specially notable, the aisles lacking character through the smallness and irregularity of the windows. The tower is poor and badly related.

land where the commercial struggle is so keen that the fairest and most sequestered landscape is not sacred from the impudent insistence on the excellence of Sapolio or the efficacy of Little Liver Pills? Everyday experience proves that it makes not merely for low artistic standards, but for degrading methods. And yet, under a perfunctory patronage, this principle has extended tremendously to the detriment of Catholic art in this country. We must not hope for higher standards until a greater deliberation is exercised in the determination of the sources of true art production, for under present conditions art is not to be had merely by paying for it. There is certainly no lack to-day in this country of accomplished architects and sculptors and decorative artists, men who are eager to give their best service to the cause of ecclesiastical art. If it be not easy, except for those of keen artistic perceptions, to dissociate these from the mass, a little investigation will easily reveal them; and no personal or parochial consideration ought to be permitted to weigh in favor of him whose capacity does not survive a reasonable test. It often happens that the incapable architect is a very decent sort of a fellow, who causes considerable flow of the milk of human kindness, but the folly of employing him to design a church can be demonstrated by arithmetic. Suppose \$50,000 to have been appropriated for the erection of a parish church capable of seating one thousand people. A fifth of that sum will suffice to build a comfortable weather-proof structure of the requisite capacity and equip it with all physical essentials for congregational

worship. Four-fifths, therefore, of the appropriation is intended to secure an expression of architectural dignity in keeping with the solemn destination of the building. Even an ignorant architect or an ordinary mechanic may intelligently guide the expenditure of one-fifth of the appropriation, but, since he cannot reach an artistic issue, \$40,000 must be wasted under his hands, — a big sum of money to go for nothing. It was spent for art, and art is not the result, but something which is not to be argued into a resemblance to it by any degree of parochial approval. Architecture has its standards quite as well marked as those of literature, even if they be equally obscure to the general public. It may be, only five men in fifty have artistic discrimination, but is there a much bigger proportion who have literary judgments? Of the rest there are many who would yield no superiority to Ruskin over the local reporter. Yet literature is still worth while.

So vital a point, indeed, is the selection of the architect that upon it turns really the whole question. Since the services of the good architect usually cost no more than those of the bad one, it seems clear that only two considerations should be brought to bear on a particular



INTERIOR OF CATHEDRAL, AREZZO.

candidacy: first, the professional capacity of the man; second, his personal integrity. The best test of his capacity is the judgment of his own profession. How is he regarded by those who are eminent in it? Are his accomplishments acknowledged? If not, no weight whatever should be given to the circumstance that he has already designed many churches. They are presumably bad. Any man who has designed ten churches without receiving the commendation of so liberal a profession must be presumed to have done his share in discrediting

Catholic architecture, and should be passed over. The personal honor of the candidate may be considered reasonably established if, like the respectable lawyer, he can claim membership in the professional society which regulates the ethics of practice. In the face of Monsignor Lavalle's testimony, however, it ought to be still further



CHURCH OF SAN PIETRO SOMALDI, LUCCA.

This is one of many stately Italian types which, while not literally adaptable, is full of beautiful suggestion for American churches. The position of the tower was determined by immediate conditions; otherwise it were better placed, as at Prato.

attested by the experience of his previous clients. The architect once selected, his service ought to be permitted to extend, in the interest of artistic congruity, to the selection of every detail, including not merely the altars and the furniture, but the mural and window decoration. These matters are as much the legitimate concern of the architect as the structure itself. A bad decorator may easily ruin the effect of a fine interior, and even a very good one, if he happen to have no particular sympathy with the architecture, may contrive to give it an entirely wrong expression.

Some of the clerical contributors have touched upon the economic condition of the architect's problem. It is, indeed, a very vital matter, since the amount of money available in a given case may not only determine the degree and character of its elaboration, but may control the entire organism and style of the building. It is customary to speak of a limited building fund as a stultifying condition, as if it must necessarily make for inferior architecture, as if there existed some essential affinity between the artistic value of a work and the intrinsic cost of the materials of which it is made. As a matter of fact the element of cost has no relation whatever to artistic beauty. Very often cut granite and polished marbles serve

only to emphasize the inherent ugliness of bad design. Such is the alchemy of art that an unpretentious brick church, with the mark of gifted hands upon it, may have more artistic value than the cathedral. The economic condition, therefore, is not only not essentially prejudicial, but if it encouraged, as it ought to encourage, a simpler and more thoughtful kind of building, its influence would be, on the contrary, decidedly healthy. Let us not blame our poverty for our bad architecture, but the tasteless men who made that poverty ridiculous. Are we not sick and tired of the illiterate misrepresentation by which our sacrifice is made to strive by a system of architectural shams after more merit than it really has? Is it not a monstrous libel upon the splendid spirit of Catholic giving to thus mis-translate it into an expression of smirking hypocrisy designed to impress the neighbors? Of the grosser violations of the ethical principle in architectural beauty (such as the use of imitation marbles) it should be unnecessary to speak in an article on the designing of churches. Such insincerities, even if they may be assumed to gratify an untutored popular taste, have a very pernicious significance in association with the house of God. Who is confident enough to say that there is no insidious mischief done to the faith of the worshiper in that shock of disillusionment with which he perceives on the walls of the church the lie which is designed to deceive him? But the real nature of architecture is violated most commonly in the unintelligent effort to achieve beauty that has no structural authority. Architectural illusions may, of course, be created out of cardboard with historic outlines and good proportion of parts, but architecture must have organism as well as form, and the form and the organism must be so intimately wedded that one is the felicitous expression of the other. And yet, out of this scenic point of view, we constantly see flimsy materials used to simulate the rich externals of enduring masonry. Buildings profess to be of stone on the flimsy title of a veneer on the aisle walls, leaving the insincerity of the profession to be demon-



THE CATHEDRAL, PRATO.

A building of extremely graceful lines. The tower, which is admirably proportioned, is also splendidly placed to give the right accent to the composition. It is amazing that such a building as this, so well adapted to the materials with which we usually deal, should have proved so uninspiring to Catholic architecture in America.

strated by the wooden clearstory and the copper pinnacles. Gothic churches are still constructed of wood with meaningless pointed arches, their proud buttresses built of pine boards,—a triumph of the tenpenny nail. In the interior, lath and plaster, besides fulfilling their legitimate function of wall-covering, are persuaded into historic forms for which their properties utterly unfit them. Rarely is there any expression of vitality. The beautiful open-timber roofs, which so frankly confess their office and may be made so beautiful, are hardly ever employed. We find the nobility of masonry exemplified in the New York



CHURCH OF SAINTS ANDREA AND BERNARDINO, PERUGIA.

A classical composition of much dignity and beauty, though now somewhat overloaded with ornament of varying scale and feeling. The design is full of admirable suggestion.

Cathedral, where it imparts such an effect of muscular energy, of living, sentient architecture, but where else? St. Patrick's in lath and plaster would be ridiculous and unworthy to be classed as a great church. It is quite possible to bring something of the spirit of St. Patrick's into our parish churches, and until we do there can be no real health in our architecture. Above all, no Gothic should be attempted without the means to create such an effect of structural vitality.

The economic condition apart, it is clear we need more simplicity, more sincerity in our building. In these days especially, when the sumptuosities of art are employed to promote the interest of the social and business advertisement, the church, if it is to possess a distinctive expression, if it is to have within its doors an atmosphere not of the street, must wear an aspect of reticence, of dignity, even of severity.

Buildings of the Young Men's Christian Association.

BY IRVING K. POND, C. E., ARCHITECT.

THERE has grown up in recent years a new factor for the betterment of spiritual, mental and physical conditions in the lives of young men the country, and almost, the world over. It is not quite fair to those who set in motion and who have so devotedly and continuously nurtured and directed this new force to say simply that it has grown. Grown it has, but it has been nurtured by personal and constant care, and though now it seems to the outsider to have acquired a momentum sufficient to keep itself in motion, the end of individual initiative and personal care to be expended on it is not yet. The prime movers can have had small conception of how vast a movement theirs was to become. To-day no town which does not contain its Young Men's Christian Association can boast a well-rounded social life. The church may be there, the school may be there, the library may be there, the club may be there, and each appropriately housed; but unless the Christian Association is there the life is not complete. The town will have been at pains to have an inspiring church edifice; it will do the best it knows with its school-house; it will go abroad for an architect for its library. The conventions are established and every cultured citizen supposes himself to know what is required and what is the fashion in these buildings; but even the cultured citizen knows little more than in general of the needs and workings of the Christian Association, and when it comes to the problem of housing, the conventions cannot help him out, though not infrequently he blindly seeks their aid. As the scope of the work is unfolded, it will be seen that the Christian Association needs for its successful housing a building of much more complicated nature than that required by the church, the school, the library or even by the social club. It may demand the distinctive features of the typical building for any or all of these, and add thereto certain special features of the athletic club.

To bring order in plan out of what so easily might lapse into chaos, and to clothe the whole in a form of distinct and individual character is a no mean task to be set for an architect of even a high order of ability. It has been the misfortune of the Association that until fairly recently its buildings have quite generally fallen into the hands of no architect at all, or of those of inferior skill. Outside of a few of the larger city buildings, the plans had come from the minds of untrained secretaries,—untrained architecturally or otherwise; the designs have come from—who knows where? and character there never was. The secretary of to-day is highly trained along the lines of organization and management, and his work is highly specialized, but he has had and can have no architectural training; nor will he have or need such training. But the work of untrained secretaries and the taint of the commonplace in the public taste laid on Christian Association buildings of not so long ago that heavy burden of stupidity in plan and design which bears down so hard on the general run of evangelical church edifices.

It is the function of the Young Men's Christian Association to cultivate the social and spiritual graces, to instill a love for truth and strength. But the Christian Association, undenominational and unsectarian though it be in its work, had for a season in its spirit a touch of that Puritanism which looks askance at art, unless it be that simple and obvious art which is manifested in the general and uninspired run of modern academic work. Why do good people fear an art which touches the senses and appeals to the emotions? Why will they numb the finer feelings and seek only that art which in its very commonplaceness is worse than sin, for sin may be a momentary act, while this other is vulgar, and vulgarity is inbred? It will not be the function of this article to discuss questions of style, but rather to present those particular and practical matters of plan which will be found to be requisites in Association buildings of various types. But at the outset I must make a plea for freedom of design. I must ask building committees not to hamper the full and free development of a design which shall give distinctive and individual character to a Young Men's Christian Association building by forcing the architect to employ one of the cut and dried styles, be it Classic or Gothic, Colonial or Egyptian. None of these styles arose from the necessities of the Young Men's Christian Association. This Association has in it some of the elements which led originally to the development of each and all of the true styles. However, the repose of the Classic is not to be found in nor to be fitted to the dormitories or game rooms of the Young Men's Christian Association. Its gymnasium does not demand perpendicular Gothic for its full and consistent expression. The thin formality of the Colonial does not breathe that feeling of freedom and good fellowship one would seek and should find in the club and social rooms. The many and widely different uses to which the Christian Association building must be adapted should radiate outward from within, and show forth in the exterior, and would seem to demand for their complete and consistent expression a freedom and freshness of treatment such as are called for in few or no other classes of public or semi-public buildings.

The Young Men's Christian Association has a right to demand of the architects that its buildings shall possess all the inherent qualities of style, — beauty, dignity, sincerity and consistency; beauty in mass and color, dignity in design, sincerity in structure, and consistency within itself and in the adaptation of plan and design to use. There is opportunity to make the buildings of the Young Men's Christian Association as fresh and vital among buildings as its organization is among movements to exalt the standards of spiritual, intellectual and physical manhood.

The ideal of the Young Men's Christian Association is to develop along sane and wholesome lines the spirit, mind and body, so that in all the exigencies of life the young man shall find it possible and natural and pleasant to do the right with all his heart, with all his mind and with all his strength. Therefore the Association building should be so planned and designed as to minister naturally, efficiently and economically to the needs of the work. Into the training of the heart enter the social and religious elements. The training of the mind calls

for work along general and special educational lines, touching more or less deeply the arts, literature, manual training and the applied sciences. The body is trained by the practice of carefully regulated systems of physical culture, laid down upon broad lines. The building to respond to this work must be equipped with social and lecture rooms, laboratories and classrooms and the gymnasium.

In the category of social and lecture rooms are the reception room, the parlors, the game room, the club and class rooms for religious instruction. The educational work calls for laboratories, shops, well equipped class or school rooms, — all adapted for evening classes, — library, reading and study rooms. The work of physical culture demands the gymnasium, accessory to which are the locker and dressing rooms, the toilet and the bath, — shower and tub, — the natatorium and rooms for special work, such as ball and tennis courts, the physical director's office and examination room. In addition to all or any of these there are needed the general office, secretarial and board rooms, check rooms, general toilet rooms and rooms to let, — all of which will be treated in detail in due course. The work of the Christian Association has not been conventionalized, and its buildings consequently and fortunately have not been standardized, so no rules can be made to apply rigorously to all cases.

Primary, secondary and high schools have developed certain marked characteristics which define the types closely, so that they may be distinguished in whatever locality they may be found. But the work of the Young Men's Christian Association bends to local conditions and to the personality of those it is to help. There are three general classes, though, which can be clearly differentiated, however wide may be the variations within the class: the General Department, the Railroad Department and the Student Department. The numbers and character of the population, the extent of the funds available for establishment, equipment and maintenance, dictate the size and arrangement of the building and the magnitude of the work in each and all of these classes. The difference between buildings of these various classes shows broadly in this: those for the general departments will be equipped as far as possible with all the various rooms hereinbefore enumerated, that is, rooms necessary to house the management, the social, the educational and the physical sections of the work, and possibly dormitories. The buildings for railroad departments will be provided with rooms for rest and recreation. The educational features are quite subsidiary, while game rooms, smoking rooms, bathrooms and dormitories are of the utmost importance. The gymnasium for this type of building is a large room for general knock-about exercise, and is not equipped for special training. In the bathrooms, tubs are in demand, while showers are seldom or never used. In the buildings to house the student departments generally the educational rooms are not needed, nor the gymnasium, the college ministering sufficiently to these wants. Social rooms (including billiard rooms), lecture and assembly rooms, Bible-class rooms, game rooms, administration rooms and dormitories are necessary to the prosecution of the work of this class.

(To be continued.)

The Work of the Boston Schoolhouse Commission, 1901-1905. V.

FURNITURE AND FITTINGS.

FURNITURE.

ONE of the most important works of the Schoolhouse Commission is the study of the proper seating of the children, which they have carried on for three years under the direction of Dr. F. J. Cotton of the Children's Hospital.

The practical value of proper desks and chairs for the different grades is not questioned to-day. The ill effects of improper sitting attitudes are many and serious. Eye-strain is a frequent result, and many serious deformities, as curvature of the spine, owe their beginning to wrong sitting postures, engendered not only by badly constructed chairs but by a wrong relation between chair and desk.

The first step was the culling out of the mass of literature on the subject, those scientific data and suggestions which seemed of practical value. The demands of different grades, and different developments of children in the same grade, clearly point to the necessity of adjustable furniture. It is argued against it, that in practice it is not adjusted and so may be worse than a fixed approximation. This may well be the case with some of the over-elaborated models in which scientific theories have been carried to an extreme. It would seem from the results of the Commission's investigations that many of the complicated adjustments physiologically desirable can be in practice eliminated, reducing the work of adjustment to a point where it can be properly done by the janitors, subject to correction in a small percentage of cases by expert observation.

The features to be provided for, which seemed essential after a study of the literature on the subject, have been confirmed in the subsequent experiments and may be stated as follows:

- (1) Adjustment for height — vertically — of chair.
- (2) Adjustment for height — vertically — of desk.
- (3) A back rest of proper inclination with an adequate support for the lower back.
- (4) A proper depth of seat.
- (5) A proper slope of seat.
- (6) An adjustment of desk or chair for plus or minus distance *(varying with position).

All these features have been provided for in the furniture resulting from these experiments except No. 6. When reading, the chair and desk should be nearer together than when writing, but no device yet presented is really satisfactory. Those which work best are too complicated and expensive, while the simpler ones are not very smooth running and by no means noiseless.

The only one of the other requirements that needed any study was No. 3, a back rest which should give proper support for the lower back. The furniture on the market provided the other needed adjustments, but in none had the back support been carefully considered. What was needed was a uniform model, adjustable for

* Plus distance is that between the front edge of the seat and the vertical line dropped from the near edge of the desk; minus distance, the distance of the front edge of the seat in advance of this line.

height, concave from side to side, to minimize lateral twisting, and so curved as to support properly the lower back, maintaining the normal curve of the spine, the seat back stopping below the shoulder blades.

It would seem that heretofore the problem had been considered merely theoretically, on paper. In the summer of 1903, however, models were carved out according to theoretical data and then tested on a considerable number of children at the Children's Hospital. The models were tested for both normal and slightly abnormal back curves, and the value of the experiments was added to by the criticism and suggestions of the hospital staff and Dr. Lovett, through whose courtesy the experiments were made possible. From these experiments two models were shown to be necessary, one for larger, and one for smaller children. The curves originally formed were shown to need certain alterations, and with "modeling compound" and a draw shave, these changes were gradually made, constantly checking results with fresh trials. It was demonstrated in these tests that a

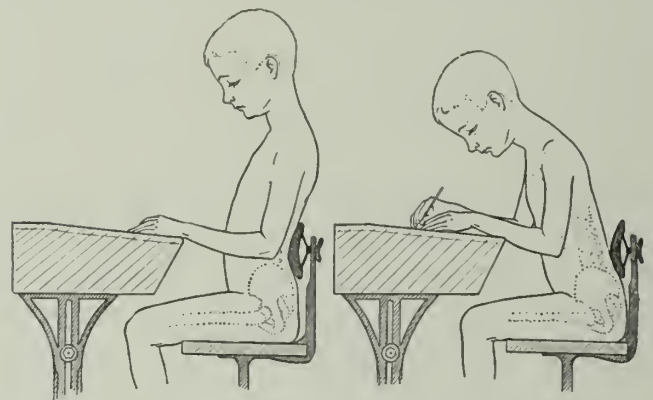


FIG. 1.

comparatively low back support is ample, and the value of a clear space between the point of support and the chair seat, to accommodate the individual variation in fat and clothes about the hips, was proved an advantage. An important physiological reason for such a clear space, and one that seems to have been heretofore overlooked, is the fact that in leaning forward for writing the spine does not simply swing away from the support. There is a slight rocking of the pelvis, and a tendency of the pelvis to slide back (on the yielding flesh of the buttocks) in such a way that the back is still in contact with the support and may be definitely steadied if the support be rightly curved. This point and the form of support adopted as a result of these experiments are shown in Fig. 1.

The curved support for the large children is nine and three-quarters inches wide and five inches high, with a concavity of one inch in depth from side to side, and a convexity of one inch in profile, the whole very slightly tilted backward, the maximum convexity coming about one-third the way up. This support is carried on a light casting running in the groove of a single cast-iron upright attached to the back of the seat. A set screw was at first used to fix the height after adjustment, but it has been found necessary to substitute a nut, as the set screw after a while became loose enough to be turned by the children, though originally set up with a wrench.

The desk is adjustable for height, as can be readily seen in Fig. 2, which shows the new furniture as installed in the William E. Russell School.

Having developed two sizes of chair, and using three commercial sizes of desk, the question of adjustment was still to be solved. Unless some rule for adjustment could be devised, the setting of furniture each year, in the Mather School, for instance, with 1,500 pupils, would be a serious problem.

The height of the desk called for no study, as the commercial scale seemed adequate, which called for a rise of eleven-sixteenths inch increase of desk height for every inch increase of seat height. This keeps the desk as low as sufficient knee room will allow. Each member of an incoming class is measured for the "base measurement," that is, from floor to bend of knee in sitting posture, which gives the proper seat height, and automatic scales, which are obtainable, give readings for



FIG. 2.

height of desk for each seat height. The two points that required study were the forward and back relation between chair and desk and the height of back support.

It at first seemed as if individual adjustment would be necessary, but after considerable experience it has become evident that an adjustment by scale, according to the recorded base measurements, gives proper seating in the large majority of cases, and that expert inspection afterward will readily pick out those cases of unusual development which call for special adjustment. These rarely exceed fifteen per cent.

The usual setting of the seat is at zero distance, that is, the front edge of seat directly under front edge of desk, but with only two sizes of chair seat and three sizes of desk for the nine grades, it has been found that with the smallest grades which use each size of seat, a one-inch minus distance is advisable, bringing the seat nearer the desk. A table has been developed for the different grades, in which the distance from edge of desk to top of back rest varies from ten and one-half inches for the smaller grades to thirteen and one-half inches for the larger grades, and in a large number of rooms set up according to this scale the results have been very satisfactory. It has proved that the chair seats adjustable for distance, which are provided in each back row, are not ordinarily needed, the routine adjustment by rule being accurate enough.

In the adjustment of the back support for height, the experiments again proved that the theoretically necessary individual adjustment was shown to be in practice unnecessary. Microscopic accuracy of adjustment is not called for. In a number of rooms the adjustments by scale were carefully corrected for the individual cases. This was an enormous task and, in an endeavor to find a scale for ordinary adjustment, measurements were taken of the distance of the top of back rest above the top of near edge of desk. Discarding the evidently exceptional cases, the distance varied from one-half to one and one-half inches. Theoretically it was decided, before the experiments, that the point of maximum convexity should come at the height of the hip bone at the side. The individual distance seems to vary independently of other measurements, and it has been impossible to make definite allowance for it. A scale adjustment was tried, however, of three-quarters of an inch for small desks, and one and one-quarter inches for large desks, after the ordinary adjustment of seat and desk for height had been made. It proved very satisfactory for nearly all except the largest girls, and the cases of obviously unusual formations. There were also a few cases needing special adjustment, on account of some improper sitting attitude, rather than anatomical formation. But with the curve of the support accommodating itself to the normal back curve, this arbitrary adjustment strikes very close, and the small percentage of exceptional cases which demand special adjustment, generally about twelve per cent, are easily picked out in a first walk around the room by an expert.

There is need for a third model of back support for girls of fuller development, but, with this exception, the furniture evolved by this investigation seems to be adequate and a vast improvement over the previous types. The matter of adjustment has been reduced to a scale that will allow of adjustment out of school hours, by janitors, according to a single measurement for each child. Beyond this there should be some administrative arrangement by which the special adjustments, for exceptional cases in each incoming class, could be made yearly by an expert.

FITTINGS.

The various fittings for wardrobes, the bookcases and dressers for classrooms and cooking rooms, and other miscellaneous fittings, such as map-holders, bulletin boards and chalk rails, have received continuous attention, and have been brought to standards for both the primary and the grammar schools. Drawings of these standards are furnished by the Board for the information of the architects and contractors. (Fig. 3.) In the same way, the various plumbing traps and catch-basins, as well as the fixtures themselves, have been standardized. (Fig. 4.) The sheet of plumbing standards issued by the Board shows both a porcelain latrine and a short hopper closet. In the primaries, the latrines have given excellent satisfaction, but where there is any objection to this form of closet by the head masters the short hopper closets are installed, though they are more difficult to keep clean, more easily damaged and no more sanitary.

The construction of the partitions has been made uniform as well. The Board approves of omitting the doors entirely in the primary schools, and on the boys

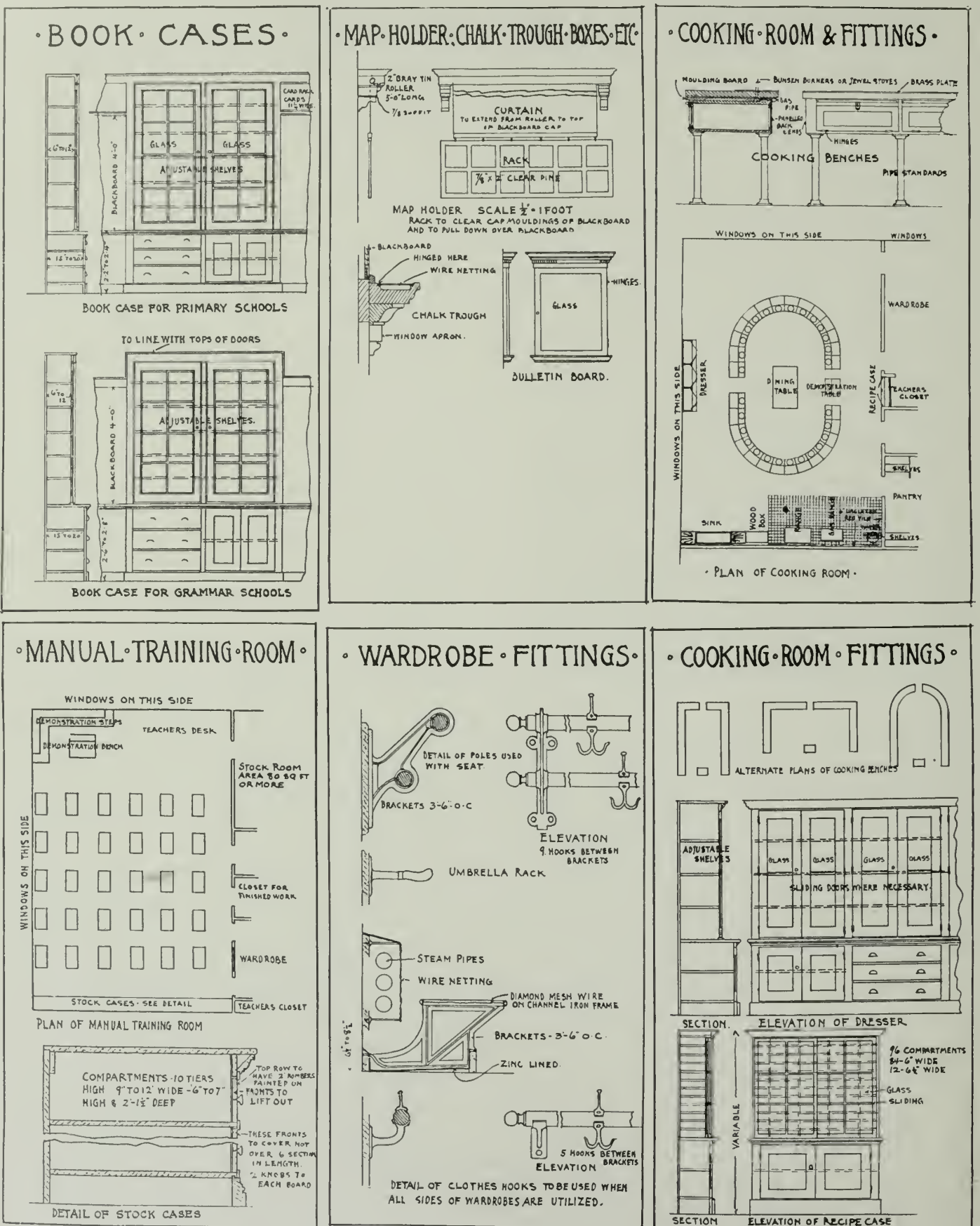
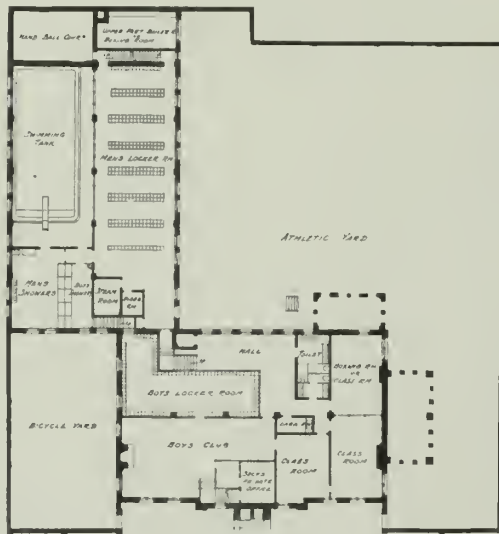


FIG. 3. STANDARDS OF GENERAL DETAIL, SCHOOLHOUSE DEPARTMENT, CITY OF BOSTON.

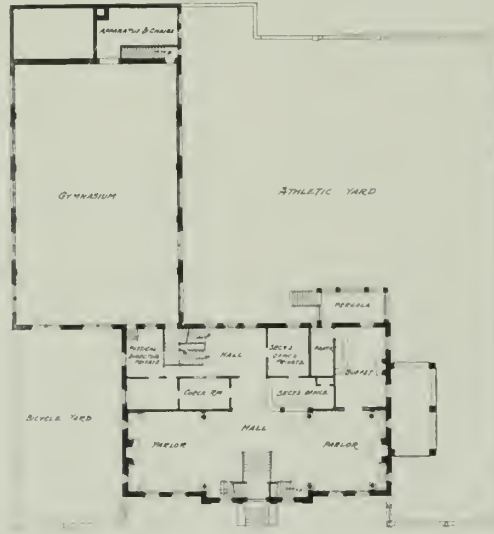




FRONT ELEVATION.



BASEMENT PLAN.



FIRST FLOOR PLAN.



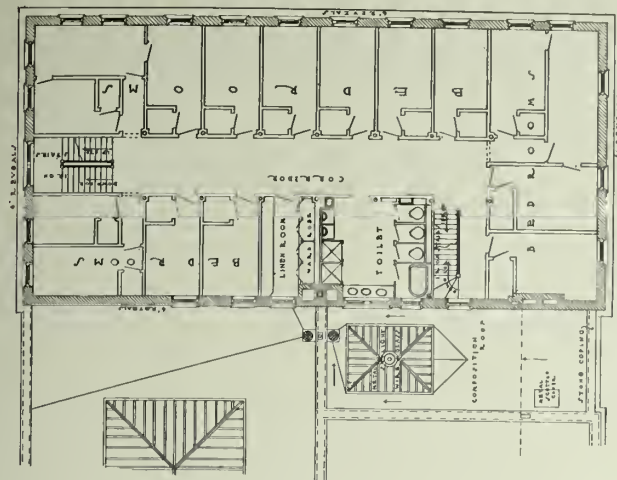
SECOND FLOOR PLAN.



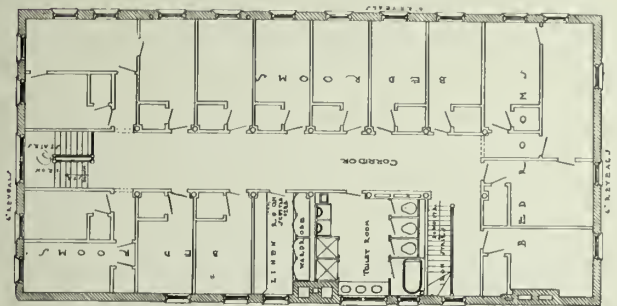
SIDE ELEVATION.

ELEVATIONS AND PLANS, Y. M. C. A. BUILDING, DECATUR, ILL.

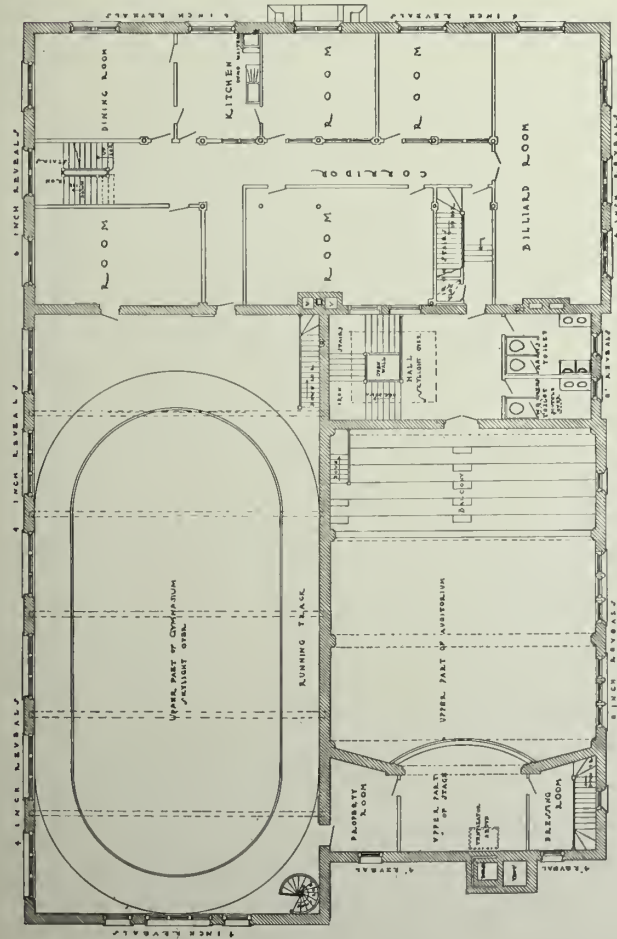
MAURAN, RUSSELL & GARDEN, ARCHITECTS.



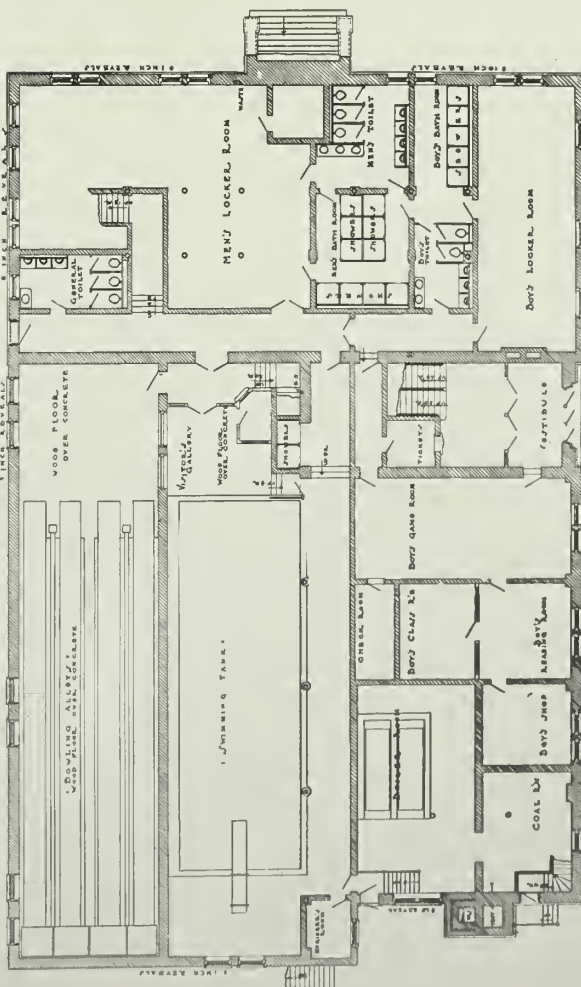
SCALE OF FEET
THIRD FLOOR PLAN.



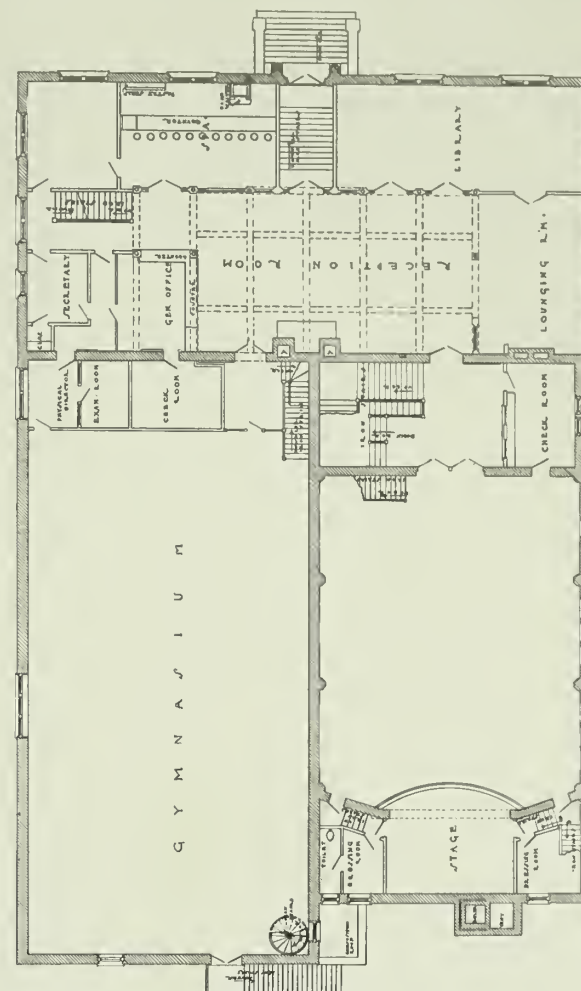
SCALE OF FEET
SECOND FLOOR PLAN.



SCALE OF FEET
FIRST FLOOR PLAN.

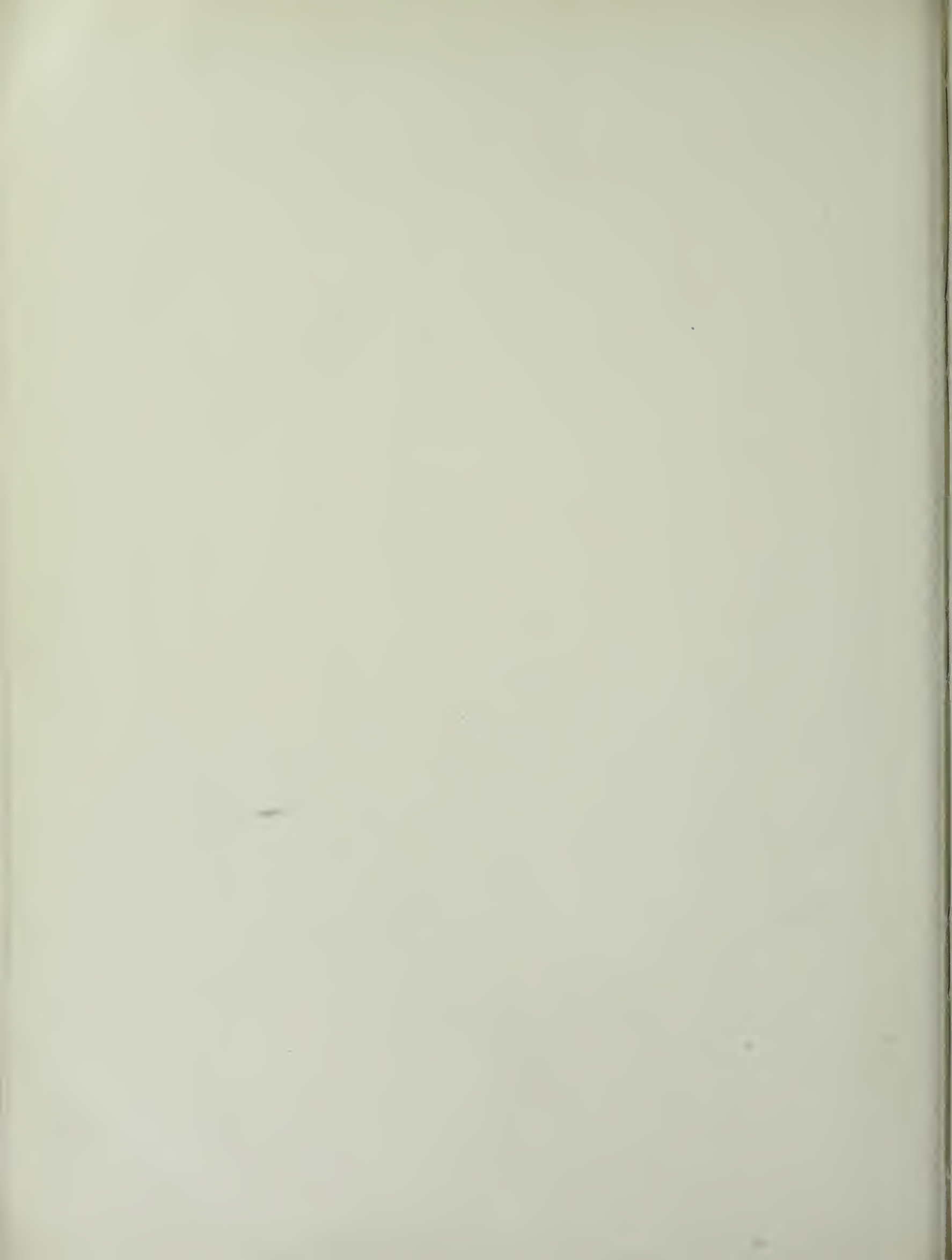


SCALE OF FEET
BASEMENT PLAN.

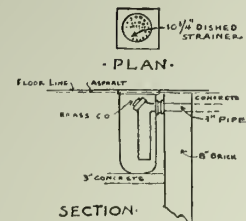


SCALE OF FEET
GYMNASIUM

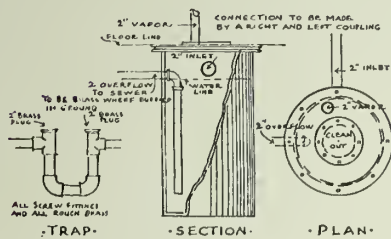
PLANS, Y. M. C. A. BUILDING, HYDE PARK, CHICAGO, ILL.
FROST & GRANGER, ARCHITECTS.



FLOOR WASH



BLOW-OFF TANK

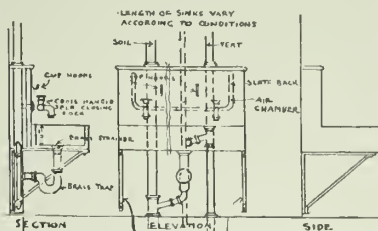


CONDUCTOR TRAP

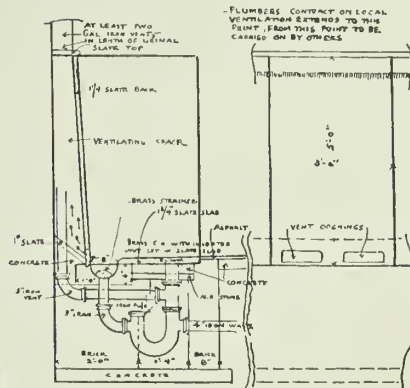


NO TRAP REQUIRED WHERE SEPARATE CONNECTION TO SURFACE DRAINAGE OCCURS

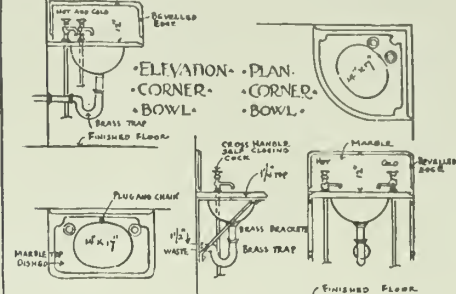
SLATE SINK



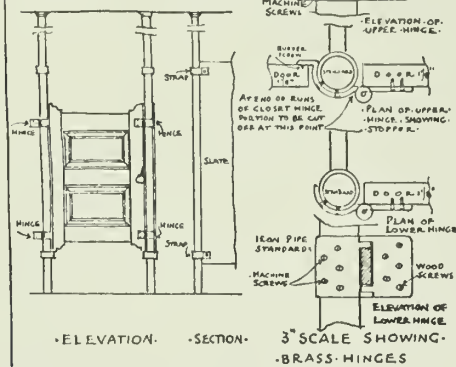
SLATE URINAL



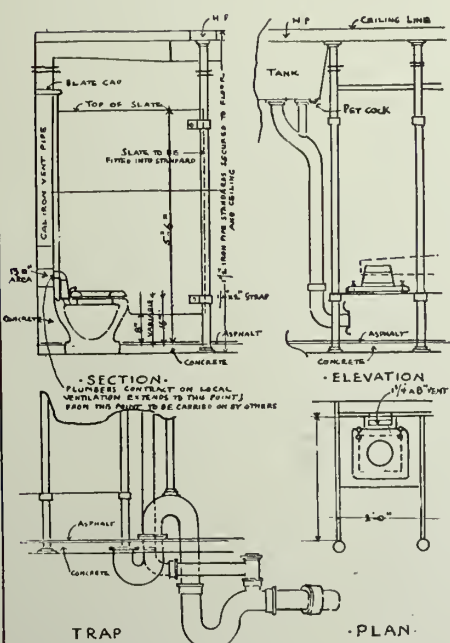
LAVATORY BOWLS



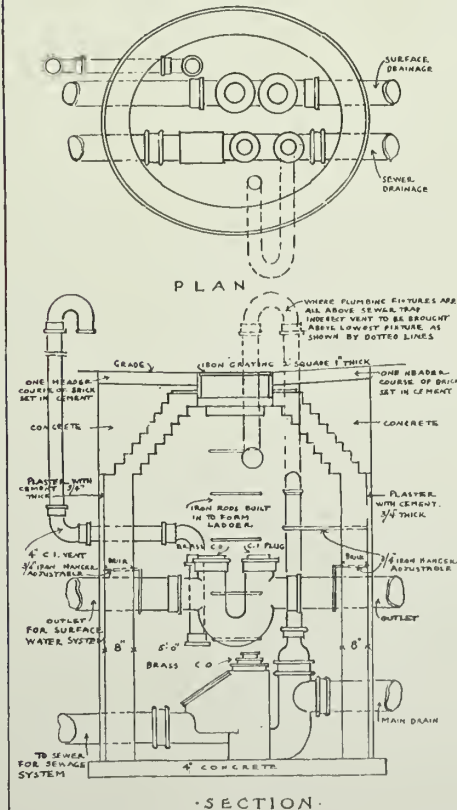
WATER CLOSET DOORS



PORCELAIN LATRINES



TIDE TRAP



RUNNING TRAP

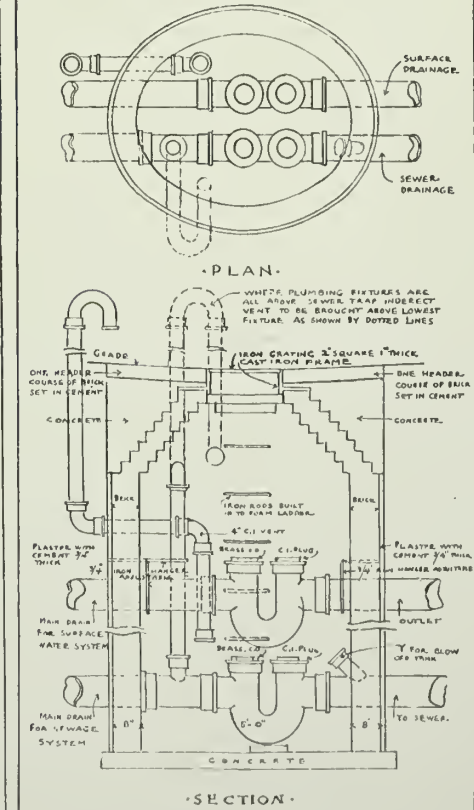
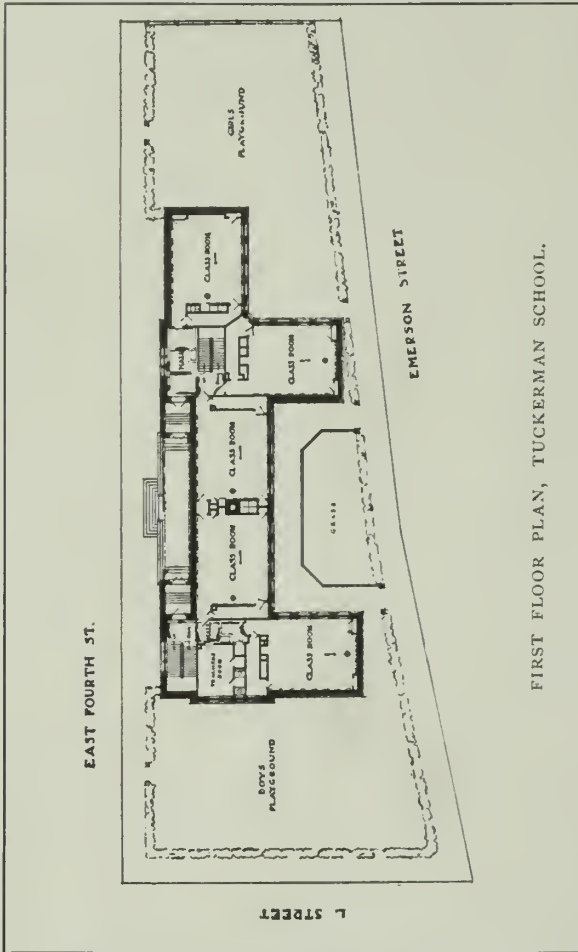
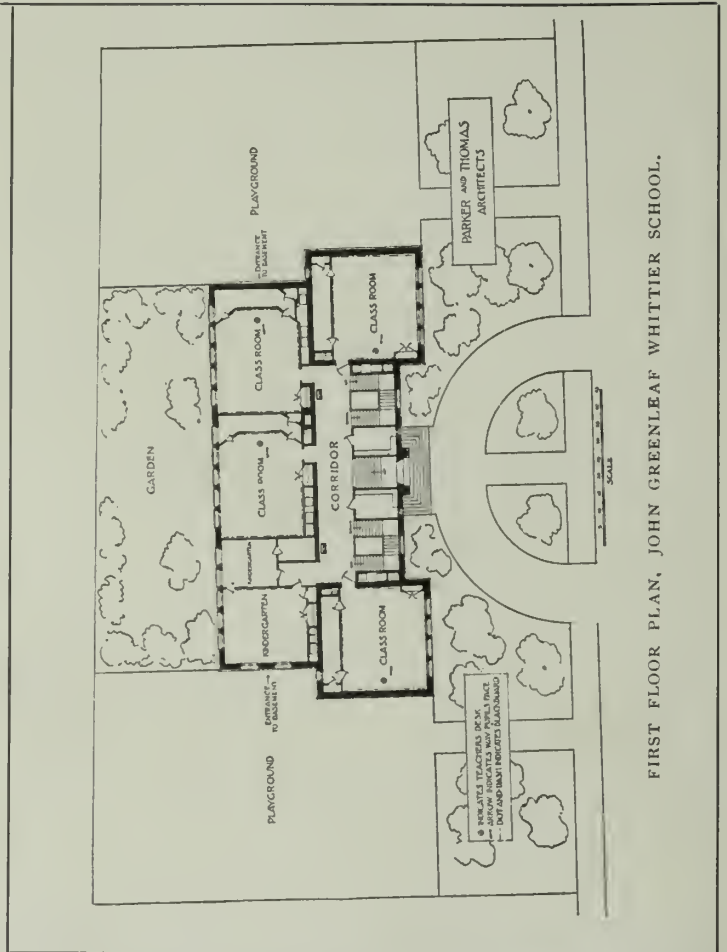


FIG. 4. PLUMBING STANDARDS, SCHOOLHOUSE DEPARTMENT, CITY OF BOSTON.

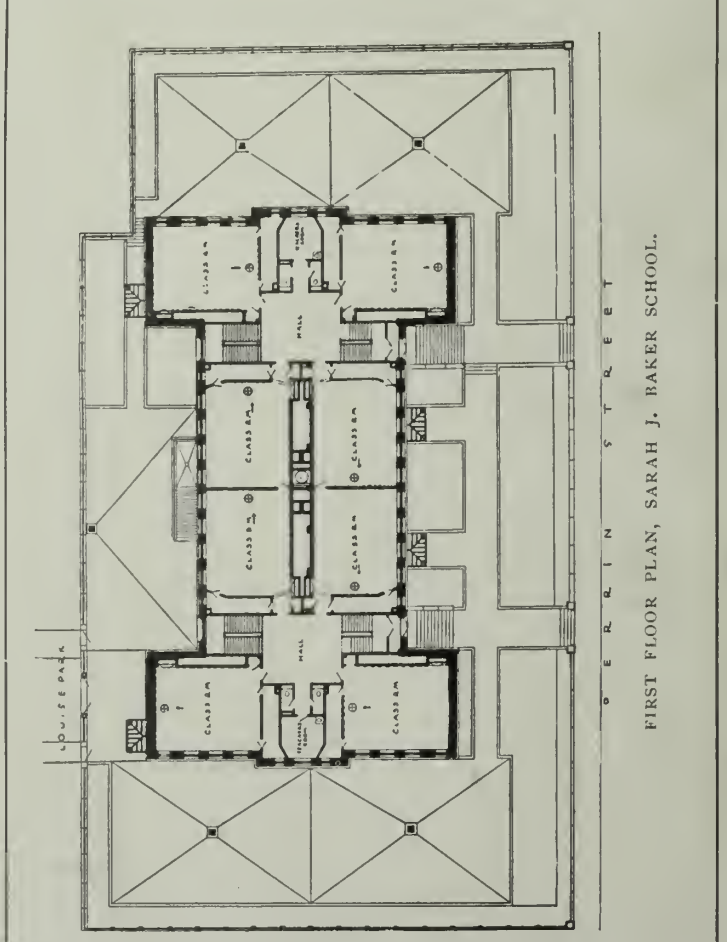


FIRST FLOOR PLAN, CHRISTOPHER COLUMBUS SCHOOL.

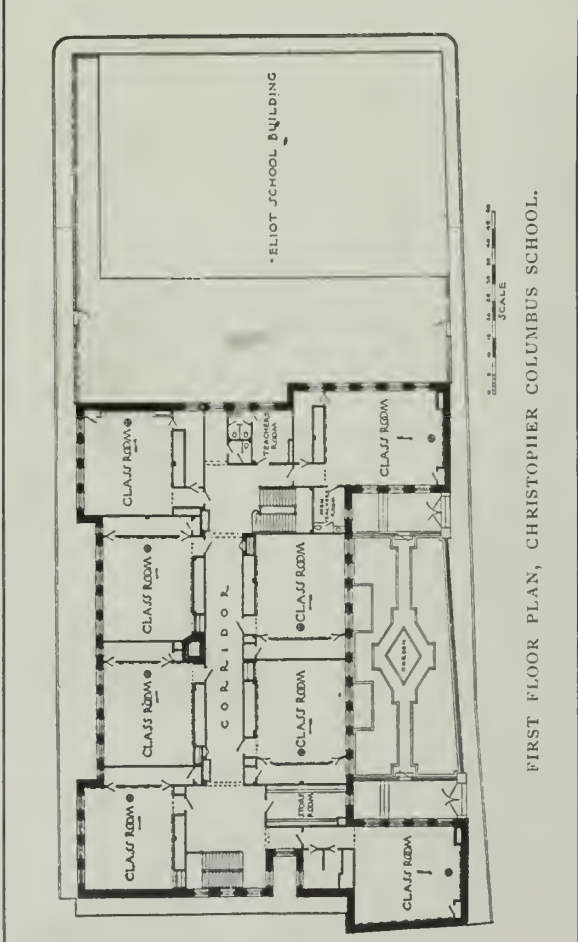
CROSS IN CIRCLE, TEACHER'S DESK. LINE AND DOT, BLACKBOARD.



FIRST FLOOR PLAN, SARAH J. BAKER SCHOOL.



FIRST FLOOR PLAN, JOHN GREENLEAF WHITTIER SCHOOL.



FIRST FLOOR PLAN, TUCKERMAN SCHOOL.

side in the grammar schools. They do not insist on this, however, believing it to be to a certain extent a matter of administration, and so follow the wishes of the masters in this respect. In the matter of urinals, however, they have been unable to come to an agreement with the other school authorities, and install the continuous urinal, without partitions, which they consider the most sanitary and easily cleaned.

REPAIRS.

Besides the work of constructing new buildings a great deal of work has been done in repairing the old, principally in repairing and altering the heating and ventilating systems, installing new sanitation, and in the furnishing of more adequate fire protection. The Board conferred with the fire chiefs in this matter before adopting a policy. They feel that the ordinary exits will be most efficient in case of fire, and while they have equipped some twenty-seven schools with outside fire-escapes, they believe it to be saner to do what is possible towards the fireproofing of the walls and floors enclosing the heating apparatus, and so reducing to a minimum the danger of a fire getting started.

In the year 1903-1904, nearly \$250,000 was expended for new sanitation in the older buildings, and last year, for such sanitation and heating repairs, about \$125,000 was expended.

THE CHRISTOPHER COLUMBUS SCHOOL.

This was the first primary school built after the Board had formulated its first guide to economy of planning; that is, that a total floor area should be not greater than twice the area of the schoolrooms on that floor. The guide for cubical contents had not at that time been settled.

Its plan is conventional in scheme, the central corridor, with stairs at either end modified in detail to fit the special conditions of a restricted lot. It is built out to the lot line on North Bennet Street, as it faces a playground on that side, thus allowing an open garden space to assist the lighting on the narrower Tileston Street. The existing Eliot School occupies the end of the lot,



THE TUCKERMAN SCHOOL.

Primary, Lincoln District, corner L and E. Fourth Streets, So. Boston.
Charles K. Cummings, Architect.

10 rooms: 500 pupils.

Cube, 306,748 (350,000).

Cost cubic foot, \$0.25 (\$0.22).

Cost, \$77,065.90 (\$77,000).

Cost per pupil, \$154 (\$154).

(Figures in parentheses are limits set by the Board.)

leaving no room for adequate playgrounds. If the roof playgrounds installed in the Washington School prove successful, it will be possible at any time to equip this school in a similar manner. A number of the classrooms are below standard size, as, in this neighborhood, many of the children are foreigners, and are put in ungraded classes of from thirty-five to forty, instead of the usual fifty.

The heating is by the gravity system, and is of sufficient capacity to heat the Eliot School as well, a fourteen-room building. This added somewhat to the cost, which is considerably above

the low limit which should apply to a twenty-four room building. It is about midway between the two limits set for primary schools.

The building has proved satisfactory, the master finding nothing to criticise, and it fills all the requirements of the Board.

THE SARAH J. BAKER SCHOOL.

THE SARAH J. BAKER SCHOOL.

(Illustrated on Plate 24 of this issue.)

Primary, Lewis District, Perrin Street.

J. A. Schweinfurth and John J. Craig, Architects.

24 rooms: 1,200 pupils.

Cube, 708,607 (720,000).

Cost cubic foot, \$0.2217 (\$0.22).

Cost, \$157,161.93 (\$158,400).

Cost per pupil, \$131 (\$132).

(Figures in parentheses are limits set by the Board.)



DETAIL, THE JOHN GREENLEAF WHITTIER SCHOOL.

This school was contracted for in March, 1905, about two years after the Christopher Columbus. Their requirements are identical. In plan it is quite different, being practically two four-room floor plans, back to back, each with its set of staircases and entrances, with emergency doors in the dividing wall. It is located in a residence district with plenty of trees, and no high buildings, or the immediate likelihood of them, to obstruct light. The lot is large enough for small playgrounds, a girls' and a boys' yard at each end serving independently the two parts of the building. In the basement the toilets



THE CHRISTOPHER COLUMBUS SCHOOL.

Primary, Eliot and Hancock District, North Bennet Street.
Winslow & Bigelow, Architects.
24 rooms: 1,200 pupils.

Cube, 727,068 (720,000). Cost cubic foot, \$0.236 (\$0.22)
Cost, \$173,512.08 (\$158,400). Cost per pupil, \$144.59 (\$132.00).
(Figures in parentheses are limits set by the Board.)

are similarly separated, and there is as well a large common playroom and a smaller separate one for girls.

The heating system is a combination pump and gravity return system, with plenum fan for ventilation, like that installed in the Mather School. The main ducts, for the distribution of air to the lower ends of the various vertical ducts, are of masonry, below the basement floor, instead of galvanized iron on the basement ceiling as in previously constructed schools. The ducts are large enough for a man to walk in, and so give free access to the bottoms of all uptakes, allowing of ready cleaning, and substituting for the more or less perishable metal-work a permanent construction.

The area and cube are well below the standard, doubtless due to the economy of hall area in this scheme of plan. The cost per cubic foot is slightly in excess of the standard, but the total cost is still within the limit.

This school, built under a single contract, with bonus and forfeiture clause, has just been completed, well within its contract time, sustaining the claim of the Board that delays in completion will be obviated by this method of procedure. Of the other schools, for various reasons, very few have been built in this way, and in almost every case delays, sometimes serious, have occurred.

The single contract and time limit tend to increase slightly the cost, but assurance that a school will be ready for occupancy on time is a legitimate purchase.

THE TUCKERMAN SCHOOL.

A long and narrow lot has developed for this school a plan analogous to that of the Baker School, in that it has a three-room plan and a two-room plan, end to end, with emergency doors in the dividing wall. The two parts

are entered from the ends of a narrow terrace raised some few steps above the sidewalk. The play yards are at either end of the lot, with the service drive entering at the rear between the two wings. There is one common playroom in the basement. As in all the other schools, the construction is fireproof throughout.

THE JOHN GREENLEAF WHITTIER SCHOOL.

(Illustrated on Plate 24 of this issue.)

Primary, Henry L. Pierce District, Southern Avenue.
Parker & Thomas, Architects.
10 rooms: 300 pupils.

Cube, 325,051 (350,000). Cost cubic foot, \$0.22 (\$0.22).
Cost, \$72,260.70 (\$77,000). Cost per pupil, \$144.54 (\$154).
(Figures in parentheses are limits set by the Board.)



DETAIL, THE CHRISTOPHER COLUMBUS SCHOOL.

THE JOHN GREENLEAF WHITTIER SCHOOL.

This and the Tuckerman School are the two latest and the two smallest primary schools built by the Board. It has been generally more difficult to build the smaller schools within standard limits than the larger, and it is a significant fact that of these two latest schools, both are well below the standard in cube, and that one is but \$65.90 above the standard limit of \$77,000, while the other is \$4,731 or six per cent below it.

The Whittier School is on an ample lot, with a cemetery at the rear assuring unrestricted south light for the rooms on that side. The other rooms open off the ends of the corridor, with its two stairways and storerooms. The basement, as usual in a primary school, has merely the heating and toilet arrangements and playrooms opening on to the play yards at either end of the building.

(Concluded.)



Architectural Faience Competition B.

REPORT.

PRIZE DESIGN. In placing this design first it was felt that the whole design was very agreeable in proportion and balance, and that the detail was kept in good scale throughout.

The outline of the cartouche in the central panel might be somewhat improved. The color, if well handled, would add greatly to the beauty of the design; and it is one which lends itself peculiarly to the use of color, and also very suitably to the material.

FIRST MENTION has most of the merits of the prize design, but the lower supports seem unduly heavy, and the proportions not quite as agreeable as in the other design. The color is well handled, and the drawing good.

SECOND MENTION is a design of an entirely different type from any of the others, and as such deserves special mention. It would of course be very suitable to an informal room, and suggests the clubhouse mentioned in the programme. The figures are somewhat large, and would have to be in very low relief not to overpower the design; but as the columns project considerably there might be some difficulty between the capital and the figures.

This design shows great cleverness, is an extremely interesting drawing, and the color is well handled.

THIRD MENTION is a very good drawing, and is very pleasing in proportions; but the detail is not as interesting as the general disposition.

FOURTH MENTION is beautiful in color and execution, but the top part of the design seems to crush the supports. This could have been obviated had the opening been made considerably higher.

FIFTH MENTION is a well composed design, and the drawing extremely painstaking, but it would be more interesting if not executed with the same care and patience over its entire surface. The double frieze seems rather too heavy for the rest of the composition.

SIXTH MENTION is quite different from any of the others in type, and as such deserves mention; especially as it lends itself extremely well to execution in faience.

HENRY FORBES BIGELOW.

PROGRAMME.

SUBJECT: A LARGE MANTEL WITH HOOD.

ONE CASH PRIZE ONLY. FIFTY DOLLARS FOR BEST DESIGN.

ALSO MENTIONS.

At the end of a large hall, such as would occur in a clubhouse or in the main lobby or dining-room of a hotel, it is desired to place a large mantel with a hood, similar in style to that of the period of Francis I of France. This mantel should be designed to be executed in architectural faience in one or more colors.

The color scheme may be indicated by a key.

The mantel is to occupy a wall space of not more than 150 square feet.

Drawings required. Plan and elevation at a scale of one-half inch to the foot.

Drawings may be rendered at will on a sheet of unmounted white paper, measuring 16 inches by 20 inches.

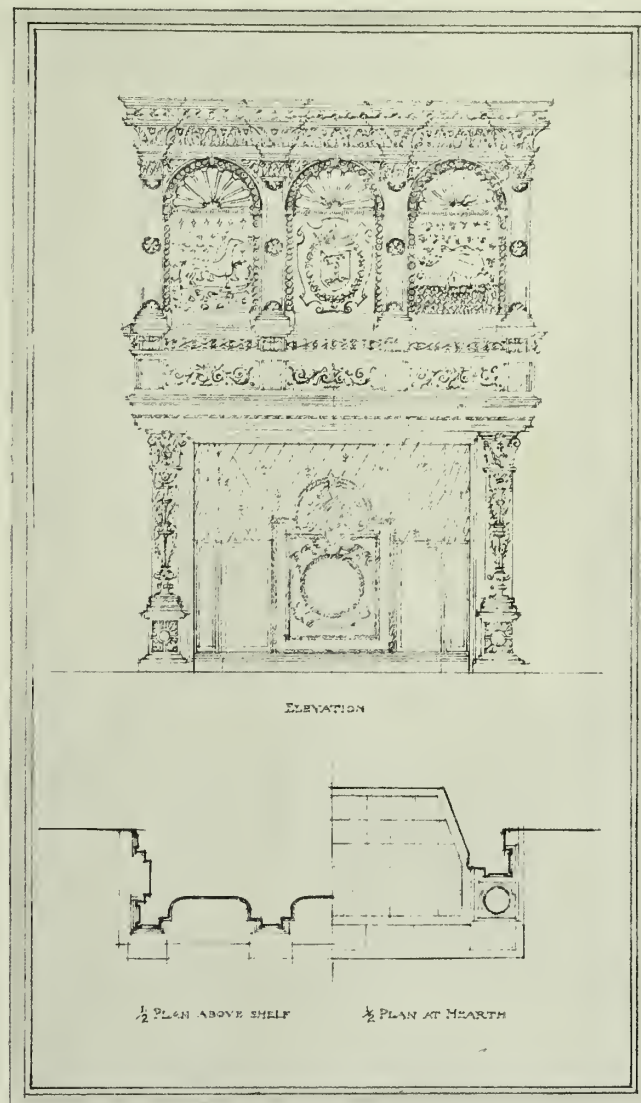
Each drawing is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with a *nom de plume* on the exterior and containing the true name and address of the contestant.

FOURTH COMPETITION
ALUMNI FELLOWSHIP
IN ARCHITECTURE,
UNIVERSITY OF
PENNSYLVANIA.

THE Trustees of the University of Pennsylvania announce the fourth competition for the Alumni Fellowship in Architecture. This Fellowship, of the value of one thousand dollars, was established in 1903 for annual award during a term of five years in recognition of the action of the General Archi-

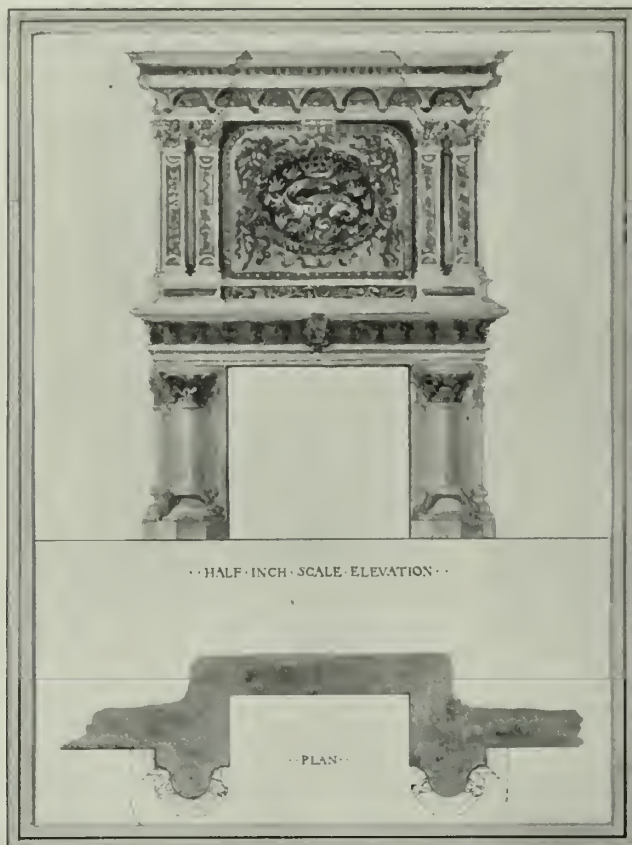
tectural Alumni Society in securing by general subscription among its members, for the needs of the School of Architecture, a fund of five thousand dollars.

All persons under thirty years of age, who have taken at the University of Pennsylvania either the degree of B. S. or M. S. in Architecture or the certificate of the two-year special course in architecture, are eligible to the Fellowship, save only such as may have already secured opportunities for foreign travel and study equivalent to those conferred by this Fellowship. The holder of the Fellowship is expected to sail for Europe not later than September 1, 1906, where he will be required to spend not less than one year in travel and study.



PRIZE DESIGN.

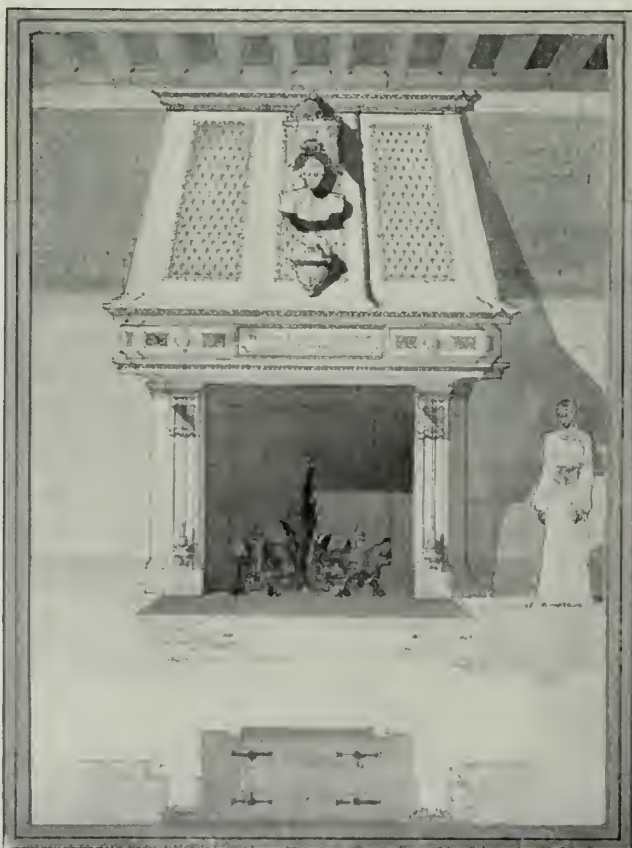
SUBMITTED BY MAURICE P. MEADE, BOSTON.



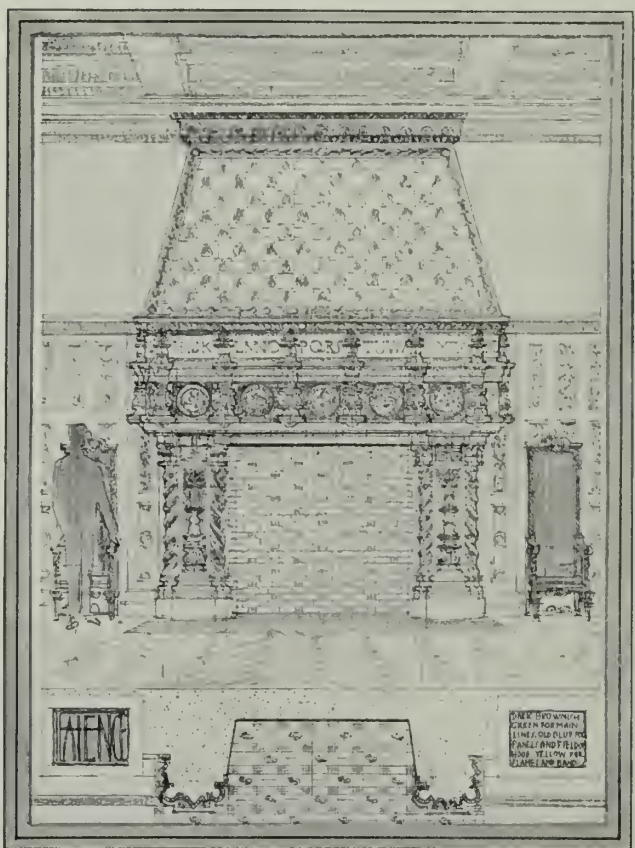
FIRST MENTION.
SUBMITTED BY ROBERT FULLER JACKSON, BOSTON.



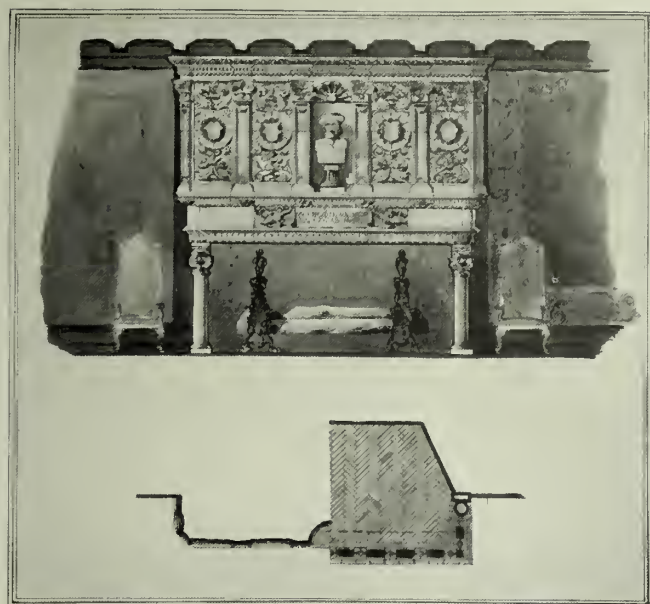
SECOND MENTION.
SUBMITTED BY JOSEPH W. WILSON, CHICAGO.



THIRD MENTION.
SUBMITTED BY HOMER KIESSLING, ROSLINDALE, MASS.

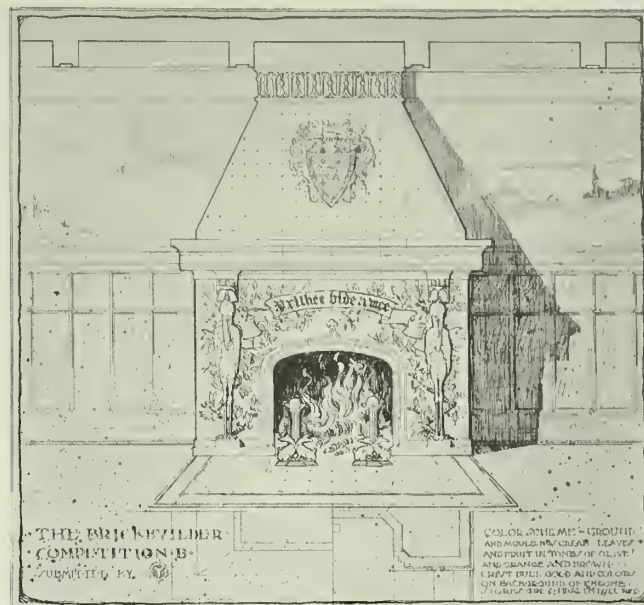


FIFTH MENTION.
SUBMITTED BY CALVIN KIESSLING, BOSTON.



FOURTH MENTION.

SUBMITTED BY JOHN J. CRAIG, BOSTON.



SIXTH MENTION.

SUBMITTED BY ARTHUR HOWELL KNOX, CHICAGO.

CONVENTION OF THE ARCHITECTURAL LEAGUE OF AMERICA.

THE Seventh Annual Convention of the Architectural League of America was held in New York City January 31, February 1 and 2. That the interest in the League is wide and that its effort is earnest may be realized in noting the personnel of the convention. The delegates included architects, draughtsmen, university teachers and their senior students in architecture, and painters and sculptors of national reputation. The purposes of the League became clear to the onlooker who heard the discussions of the three days' business session and listened to the reports of the standing committees.

One evening during the convention, according to custom, was open to the general public. Prof. A. D. F. Hamlin, head of the Architectural School of Columbia University, gave an interesting address on "The Relation of Decorative Sculpture and Painting to Architecture." The subject was treated in an historical way and was illustrated with lantern slides. Mr. Hugh M. G. Garden, of Chicago, followed with a paper on "Architectural Styles and American Life."

The National Sculpture Society acted as host to the delegates on the first day, and conducted them on an automobile tour around the city, visiting notable architectural works, and ending with a luncheon in the Borough of Richmond, in sight of the beginnings of Staten Island's great Municipal Ferry Terminal, and where they were welcomed by President Cromwell, who told of future plans for his borough.

For the second day of the convention the National Society of Mural Painters acted as host and entertained the delegates at luncheon, after which they were conducted on a tour through the interiors of several of New York's finest buildings. This permitted them to meet

Mr. John La Farge, who gave an informal explanatory talk beneath his great painting, "The Ascension." A view was also had of Mr. Robert Blum's mural decorations in Mendelssohn Hall, the interior of the new Parkhurst Church, the new Appellate Court Building, the interior of the St. Regis Hotel, the apartments of Mr. Louis Tiffany, and C. Y. Turner's new paintings for the De Witt Clinton High School.

On the third day the delegates were guests of the Architectural League of New York, and the convention ended with the annual dinner, which at the same time marked the opening of the New York League Exhibition. President Richard H. Hunt, of the Architectural League of New York, presided at the banquet, and speeches were made by the newly elected president of the Architectural League of America, Mr. Ernest J. Russell of St. Louis, Mr. George B. Post, Mr. E. H. Blashfield, Mr. Karl Bitter, Mr. Calvin Tompkins, president of the Municipal Art Society, Mr. Frank Miles Day, president of the American Institute of Architects, Sir Caspar Purdon Clarke, F. Hopkinson Smith and others.

The work of the League for the past year is well presented in the following report submitted by the Executive Board:

REPORT OF THE EXECUTIVE BOARD.

Your Executive Board respectfully submits the following report:

As provided by the Constitution of the League, your president, representing the Chicago Architectural Club, selected the following gentlemen from that club to act with him: Mr. Richard E. Schmidt, V.-Pres.; Mr. John L. Hamilton, Sec.; Mr. Herman V. von Holst, Treas.; Mr. Alfred Hoyt Granger, Mr. Howard V. D. Shaw, Mr. Elmer C. Jensen, who, together with your president, N. Max Dunning, have constituted the Executive Board.

The meetings of this Board have been held approximately every two weeks, at which time questions of routine business have been taken up and disposed of.

The Executive Board has been particularly fortunate this year in having had its line of action largely mapped out for it by the convention

in Pittsburg and has bent its efforts toward putting into active operation the projects recommended by the retiring Board, and by the Standing Committees in their reports to that convention.

We have succeeded in a measure, and I am pleased to report the following results:

School Scholarships.—In our effort to establish scholarships in the architectural schools of the country, we met with a most generous response from the President and Fellows of Harvard University, receiving from them by gift three "scholarships in architecture," each equivalent to one year's free tuition at Harvard. Two of these scholarships are awarded upon the result of a competition in design conducted and judged under the auspices of the League, in the various constituent clubs and open to any of their members. The third scholarship is awarded to that member of the League who passes the highest regular entrance-examination. The first competition for these scholarships was held simultaneously in all of the clubs last September and two scholarships were awarded. The men receiving these scholarships are at present pursuing their studies in Harvard. While there were but few competitors, this fact was easily attributable to the short notice that could be given and it would be an unfair criterion by which to judge of the success of the scholarship idea. Announcements have been issued for the second competition, which will be held early in March and upon the results of which the scholarships for next year will be awarded. It is only due to the President and Fellows of Harvard and to Prof. Warren, who has so earnestly championed our cause, that a large number should compete and show that we are deeply sensible of the great assistance they have given us in carrying out our programme of education.

While we have not as yet received scholarships from other architectural schools, the manner in which they have taken up the question and the interest shown in its possibilities lead us to expect that eventually we will have other scholarships to offer to our members.

Traveling Scholarships.—We have also secured pledges of the funds necessary for establishing an "Architectural League of America Traveling Scholarship" of a value of \$1,200. A part of these funds are already in the League treasury and we anticipate no delay in receiving the remainder. Announcement of this competition has already been sent out, and the programme has been written, but this will not be made public until the time of the preliminary competition.

It has been the intent of the Executive Board to make the restrictions as to eligibility as broad as can be made, consistent with the best interests of the scholarship and its recipient.

We will require from all competitors an essay in which they will set forth their opinion as to what is the function of such a scholarship as this, and what, if any, are their natural predilections, with the intention that their designated study may be made congenial to their tastes and impose the least possible restriction on the individuality of their work.

We will require that the holder of the first scholarship observe particularly some designated subject pertaining to the improvement of cities, and report to the Executive Board.

Your Executive Board has given this question of a Foreign Traveling Scholarship deep consideration, and are greatly impressed with its future possibilities and inestimable value. We therefore respectfully recommend that this project be continued and developed. We would further recommend that, at the earliest moment it may be found expedient, the League establish Traveling Scholarships in Mural Painting and in Sculpture.

The Annual.—A contract has been signed with Mr. John C. Baker, of Philadelphia, to assume the management of *The Architectural Annual*, and this work will be carried to completion without the League assuming any financial responsibility whatever.

We have every reasonable assurance that *The Architectural Annual* will not only be a volume which will be a credit to the Architectural League of America, as a *resume* of the current work in Architecture, Painting and Sculpture, but that it will also maintain the Foreign Traveling Scholarship in Architecture and probably, in the near future, in alternate years, scholarships in sculpture and mural painting.

The Executive Board have had published the document issued by the Committee on Education and have also had published and distributed in pamphlet form the Report of the Committee on Civic Improvement, as authorized by the last convention.

Your Executive Board recommends:

That the question of periodical bulletins be considered. These to set forth the prospective work the League has in mind, in order that it may be incorporated in the programmes of the various clubs.

That archives for the preservation of club documents should be established.

That a Committee on Foreign Correspondence be made a standing committee. Their duty to bring about a closer harmony between our organization and foreign similar organizations, to the end that our traveling scholars shall be given a better standing and increased opportunities while abroad, and the international question of better government as expressed in concrete examples of civic improvement may be more universally studied and the knowledge more systematically disseminated.

That the Architectural League of America appoint a delegate who is thoroughly familiar with the League's work and ideals to attend and represent it at the World's Congress of Architects to be held in London in July. Our position as an architectural body and our interest in the progress of architectural thought seem to demand that this be done.

Finally, it is the opinion of your Executive Board that, considering the personnel of our society, the sphere of its greatest usefulness is an educational one in the broadest sense. That we must use our good offices to encourage in the minds of the younger members of our organization high ideals of architectural expression and professional practice.

And that we shall exert in the greatest degree possible a strong influence in molding the public mind to a better appreciation of art.

INTERNATIONAL CONGRESS OF ARCHITECTS.

THE Seventh International Congress of Architects will be held in London, July 16-21. This will be the first session ever held in an English-speaking country. It is the desire of the American Section that the next Congress may be held in America.

For the information of those not familiar with the work of the Congress the American Section of the Permanent Committee begs to state that this is the only organization of its kind in the world.

The sessions are held every three years, and in the interim the work is in charge of a Permanent Committee now composed of architects representing seventeen different countries. This committee directs the policy of the organization, selects the character of subjects to be discussed, and considers whatever matters may be brought before it.

The members of the American Section of the Permanent Committee are: W. L. B. Jenney, Chairman; William S. Eames, Vice-President; Francis R. Allen, Glenn Brown; George O. Totten, Jr., Secretary.

An International Congress of Architects affords an opportunity of visiting a foreign country under particularly favorable circumstances, of meeting men of one's own profession of different nationalities, of great personal benefit derived from the discussions and debates of the Congress and the elevation of the profession and the public in general in matters of art.

Any architect in good standing may become a member on payment of the subscription. National Architectural Societies and the individual chapters comprising them, as well as local architectural clubs, may have the privilege of appointing delegates upon payment of the subscription to the Congress.

As there is already a very general interest shown in the Congress by American architects, it may be possible to arrange several parties which will add to the pleasure of the trip, to sail on different dates. If those desiring to join such parties will send their names as soon as possible to George O. Totten, Jr., 808 Seventeenth Street, Washington, D. C., Secretary of Permanent Committee, or to Glenn Brown, Sec. A. I. A., Washington, D. C., sailing lists and other information will be sent.

Editorial Comment and Selected Miscellany

REINFORCED CONCRETE CONSTRUCTION.

EDITOR THE BRICKBUILDER:

In the January issue of *New York Manufacturer* appears an article professing to be an abstract of a speech delivered by Mr. E. N. Hunting of Pittsburg, on reinforced concrete, in which the following gems occur, bringing to mind an editorial in *Cement Age* of May last:

"The cause of reinforced concrete construction would seem to be in danger of being damned, not by faint praise, but by too much praise. Some warm admirers of this system of construction have rushed into print with articles attributing to concrete every virtue which it is possible for a building material to possess. They have gone so far that one may question whether their motives have always been disinterested."

Mr. Hunting, after informing his audience (the American Society of Mechanical Engineers) that concrete is a mixture of sand, stone, cement and water which can be obtained everywhere locally, goes on to say:

"The mixtures of the aggregates can be made by very efficient mechanical devices—or by the use of the most ignorant class of labor—with the same good result."

"Forces of nature, no matter how severe, have but little effect

on concrete; neither do acid fumes and high temperatures affect it."

"Although winter construction in concrete is not

commonly considered good practice among engineers, we are of the opinion that cold weather is the most advantageous time to handle this class of work, because when temperatures are low the aggregates of concrete are of the smallest volume, and contraction due to temperature stresses is seldom found in work carried out in winter. Cracks seldom develop from expansion—almost entirely from contraction."

I have been a close reader of your publication from its start, have studied numerous works on cement and concrete; lately an exhaustive one by Louis Carlton Sabin, B. S. C. E., and the only conclusion I have been able to reach is that the claim made by Mr. Hunting, that the most ignorant class of labor is competent to mix concrete, is radically wrong. In the



DETAIL EXECUTED
BY NEW JERSEY
TERRA COTTA CO.

numerous cases cited by you of collapsed reinforced concrete construction, many are attributed to just ignorance.

The *Engineering Record* of January, 1904, in an editorial stated: "Concrete-steel has one characteristic that renders imperative the greatest possible care, both in design and construction, viz., the process of manufacture of the material is concurrent with the building of the finished structure. The faults of manufacture manifest themselves only in the weakness or failure of the structure, and this is precisely why so large a number of concrete-steel failures, mostly or all in buildings, have been lately recorded. . . . It is unqualifiedly imperative that the best class of workmanship in every respect should be found in concrete-steel construction."

Sabin states: "The desirable elements in concrete are, first: That when treated in the proposed manner it shall develop a certain strength at the end of a given period; second: That it shall contain

no compounds within itself which may, at any future time, cause it to change its form or volume, or lose any of its previously acquired strength; third: That it shall be able to withstand the action of any exterior agency to which it may be subjected that would tend to decrease its strength or change its form or volume. . . . The defects which lie hidden in cement may be even greater than those in lumber and cast iron in proportion to its possible strength, and defects in cement are often more treacherous because their development may be deferred for some time. The importance of knowing whether the cement fulfills the second and third requirements noted above is therefore evident."



FIRE DEPARTMENT HOUSE, LONG ISLAND CITY, L. I.

Parish & Schroeder, Architects.



DETAIL BY PRICE & MCLANAHAN, ARCHITECTS.

Conkling-Armstrong Terra Cotta Co., Makers.



COOK COUNTY NORMAL SCHOOL FOR TEACHERS, CHICAGO.

W. B. Mundie, Architect.

Fireproofed by National Fireproofing Company.

To a layman it would seem from the foregoing argument that the most skilled of labor is demanded for concrete construction, and not, as Mr. Hunting asserts, the most ignorant.

A. N. MULLER.

NEW YORK.

AN INTERESTING EXAMPLE OF BRICKWORK.

THE new Long Island Storage Warehouse at Brooklyn, Helmle & Huberty, architects, illustrated in the plate form of this issue, is a very interesting example of the use of brick pattern-work in large wall surfaces. The centers of the diamond shapes, which form the pattern, are of old gold mottled brick, the outline being in light buff. This combination of colors gives to the wall a warm, mellow tone which contrasts well with the light-colored terra cotta trim of the building. The bricks were furnished by Sayre & Fisher Company of New York, and the architectural terra cotta by the Perth Amboy Terra Cotta Co.

CONSOLIDATION OF ROOFING TILE CONCERNS.

THE Ludowici Roofing Tile Company and the Celadon Roofing Tile Company

have merged their interests. The merging corporation will be known as The Ludowici-Celadon Company. The united strength of these two organizations makes a formidable aggregation of assets, plants and salesmen, with immeasurable facilities for the production of clay roofing tiles and equal facilities for marketing its ware.

The maintenance of four large factories—at Chicago Heights, Ill., New Lexington, O., Ludowici, Ga., and Alfred, N. Y.—will prove of vast importance in the rapid distribution of material, and at the same time enable The

Ludowici-Celadon Company to meet architects' and engineers' specifications with any quantity of roofing tiles, of any shape, in any color, at any time. Branch offices will be established in all the large cities.



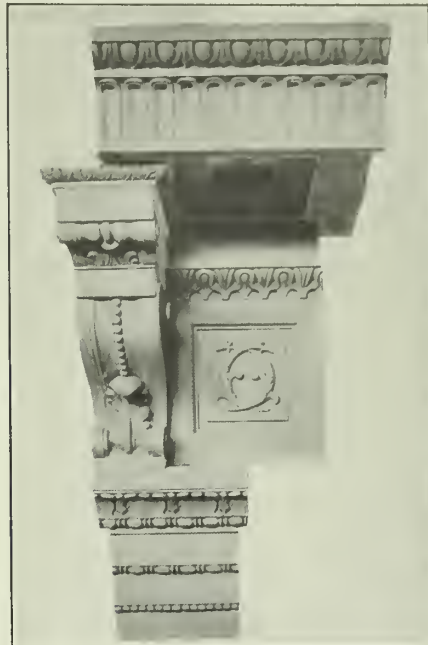
BREWERS' EXCHANGE, BALTIMORE, MD.

Joseph Evans Sperry, Architect.

Entire Front of Terra Cotta, except Brick in Second and Third Stories. Work executed by New York Architectural Terra Cotta Company.



DETAIL OF PETTIBONE-PEABODY COMPANY BUILDING, APPLETON WIS.
H. H. Waterman, Architect.
Executed in White Enamel Terra Cotta by American Terra Cotta and Ceramic Company.



DETAIL BY ALEXANDER MACKINTOSH,
ARCHITECT.
Excelsior Terra Cotta Company, Makers.

IN GENERAL

George G. Teeter, architect, Winnipeg, Man., has taken offices at 536½ Main Street, that city. Manufacturers' catalogues and samples solicited.

Peter Brust and Richard Philipp have associated themselves under the firm name of Brust & Philipp, for the general practice of architecture. Offices, 82 Wisconsin Street, Milwaukee.

Oliver J. Popp, architect, St. Louis, Mo., has removed his office to 4976A Reber Place.

A. O. Hoddick, architect, New York City, has removed his office to 29 West 34th St.

The Ludowici - Celadon Company have just completed a full-glazed green Spanish tile roof for the Carnegie Technical School at Pittsburg, Pa., Palmer & Hornbostel, architects. They will also supply their Conosera tile for the house and stable of E. B. Corey, Esq., Far Rockaway; their

French A tile for Public School No. 19 at Yonkers, C. C. Shipman, architect, and College Library at Huron, S. D., Patton & Miller, architects; their flat shingle tile for the new Lutheran Church at Dayton, Ohio, Peters, Burns & Pretzinger, architects.

The Grueby Faience Company are supplying for the City College buildings, New York, George B Post & Son, architects, a dull finish green tile dado. There are eleven thousand running feet of this work, which is six feet high, made up of tiles 4½ inches by 9 inches, with base and cap.

The new garage at Baltimore, of which Beecher, Friz & Gregg are architects, will be roofed with a green unglazed Spanish tile furnished by Bennett's Roofing Tile Works, Baltimore. This building, which is unusually interesting, will, when completed, be published in THE BRICKBUILDER.

The South Amboy Terra Cotta Company will supply their terra cotta for the following buildings, St. Mary's



DETAIL BY FISHER & LAURIE,
ARCHITECTS.
St. Louis Terra Cotta Company,
Makers.



BLOW SCHOOL, ST. LOUIS, MO.

W. B. Ittner, Architect.

Roofed with American S Tile, made by Cincinnati Roofing Tile and Terra Cotta Co.

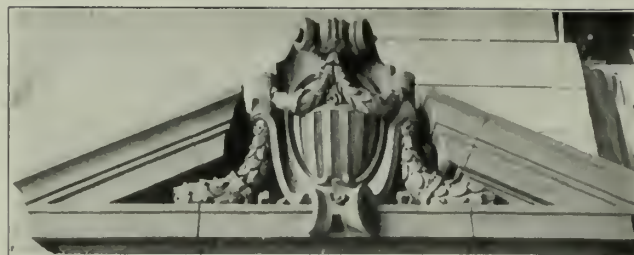
School, Wilkesbarre, Pa., Owen McGlynn, architect; addition to Powell Building, New York City, Henri Fouchaux, architect; Mt. Carmel Rectory, Astoria, L. I., John E. Kirby, architect; thirty-two apartment houses, corners of Willoughby and Wychoff streets, Brooklyn, N. Y., Robert T. Rasmussen, architect.



DETAIL BY C. B. J. SNYDER, ARCHITECT.
Atlantic Terra Cotta Co., Makers

Architects W. T. Bray and Carl E. Nystrom have consolidated their business interests and are now located in the offices of the former, 610 Paladio Building, Duluth, Minn.

Joseph H. Casey, architect, has opened an office at Anderson, S.C. Manufacturers' catalogs and samples solicited.



DETAIL EXECUTED BY NORTHWESTERN TERRA COTTA CO.

WANTED—Four Architectural Draughtsmen of experience. Steady positions. State salary wanted. Rubush & Hunter, Architects, Indianapolis, Ind.

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Competition for Photographs and Plans of Two Small Brick Houses.

FIRST PRIZE, \$100.00; SECOND PRIZE, \$50.00; THIRD PRIZE, \$25.00;
FOURTH PRIZE, \$15.00; FIFTH PRIZE, \$10.00.

10"	
Place Here Photographs of One House Trim to Fit Space.	Place Here Photographs of One House Trim to Fit Space
Place Here First and Second Floor Plans of House Shown Above	Place Here First and Second Floor Plans of House Shown Above
Give Here Location, Name of Architect, Cost, and Cubical Contents.	Give Here Location, Name of Architect, Cost, and Cubical Contents.
Submitted by	

Competition closes June 1, 1906.

PROGRAM.

The object of the Competition is to obtain a collection of photographs and plans of well designed, well planned houses which have been built of brick at a cost ranging from \$3,000 to \$7,000 each.

The best in design and plan for the cost, whether this be \$3,000 or \$7,000, will be given the prizes.

The houses must be detached, and built entirely of brick, except the trim, such as porches and cornices, may be of other materials.

SPECIFIC REQUIREMENTS. On a piece of heavy cardboard measuring exactly 12 x 15 inches, inside border lines drawn 1 inch from edge of cardboard, shall be mounted (at the top of card) in spaces measuring 4 x 5 inches each, one photograph each of two houses.

These photographs should be mounted (pasted on) with care and trimmed to actual size of the spaces.

Below these photographs, in spaces measuring 5 x 7 inches each, shall be drawn or mounted the first and second floor plans of each house.

In the panels below these spaces shall be clearly printed the location (city or town and state), the names of the architects, total cost of each house, and cubical contents.

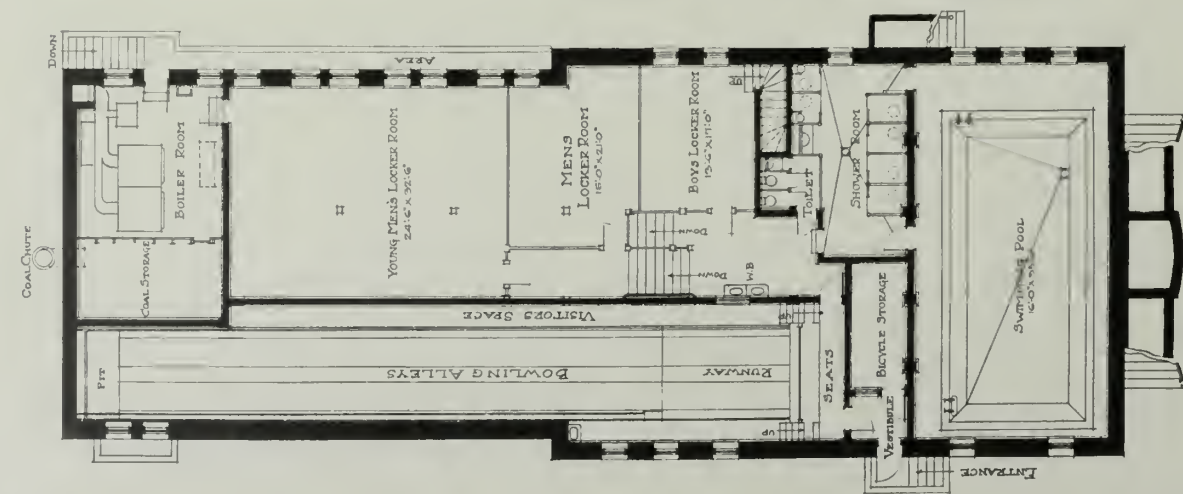
Below these panels should be given the *nom de plume* of the contestant, consisting of only one word.

The accompanying diagram indicates exactly the manner in which subjects should be presented.

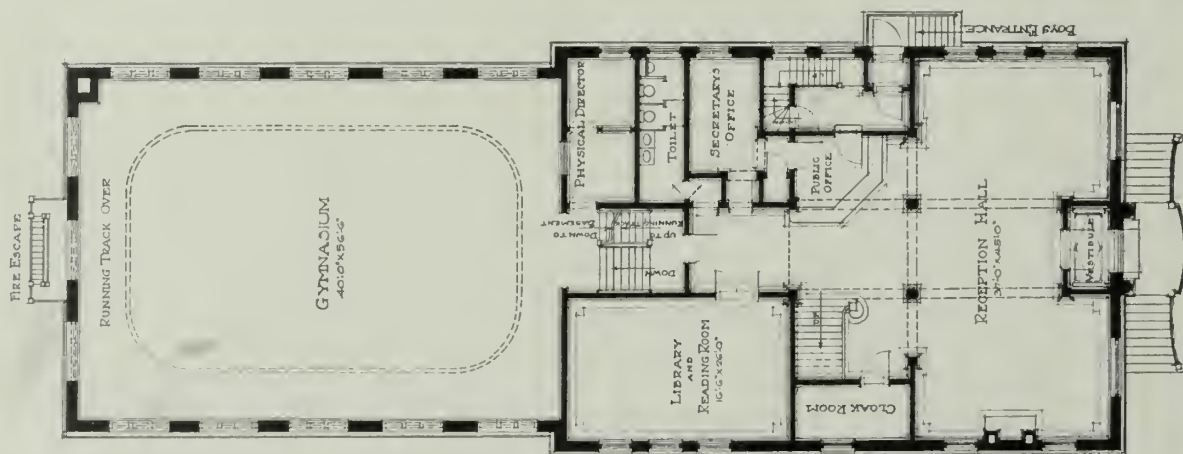
These sheets are to be delivered at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., charges prepaid, on or before June 1, 1906. They should be carefully packaged to prevent damage in transit. Accompanying each sheet is to be a sealed envelope with a *nom de plume* on the exterior and containing the true name and address of the contestant.

The Competition will be judged by two well-known architects. Competition open to every one.

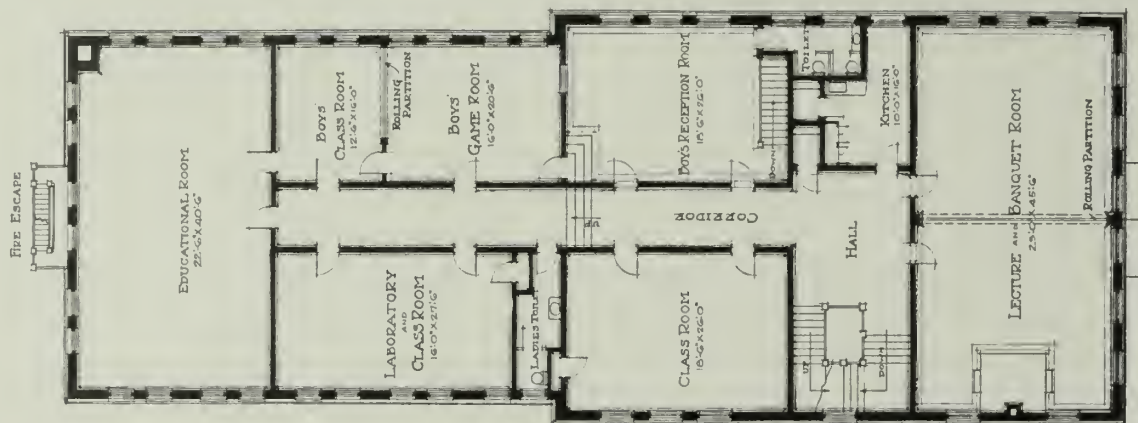
The groups awarded prizes are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others.



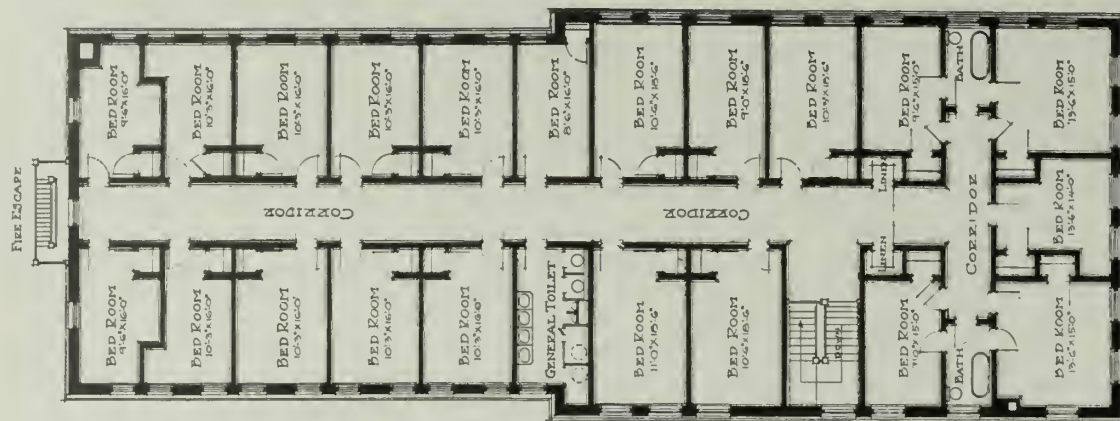
BASEMENT PLAN



FIRST FLOOR PLAN



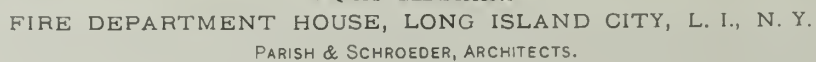
SECOND FLOOR PLAN



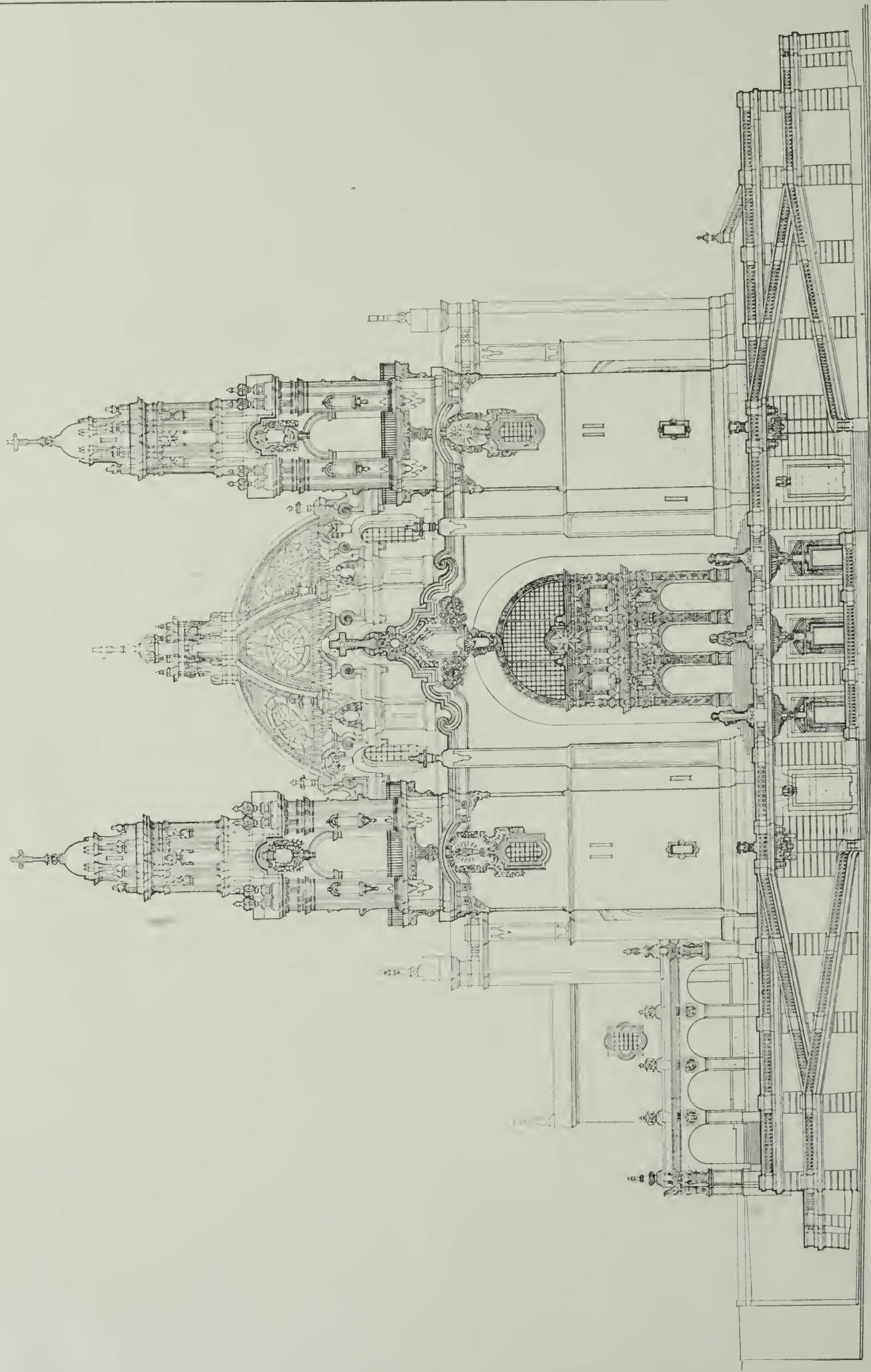
THIRD FLOOR PLAN

PLANS, Y. M. C. A. BUILDING, NIAGARA FALLS, N. Y.
SEYMOUR & PAUL A. DAVIS, 30, ARCHITECTS.

SEYMOUR & PAUL A. DAVIS, 30, ARCHITECTS.

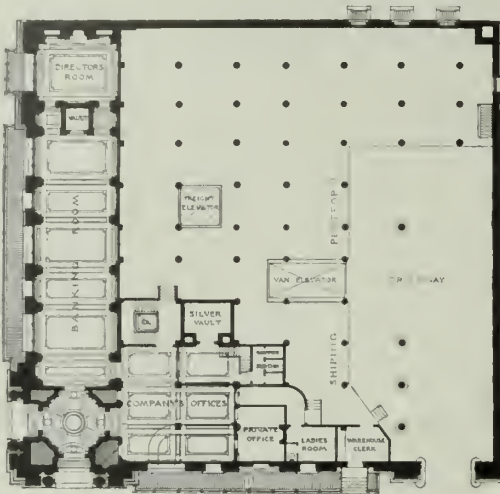


PARISH & SCHROEDER, ARCHITECTS.

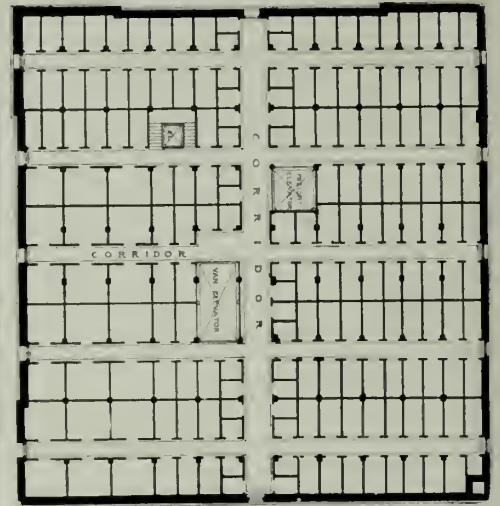


SOUTH ELEVATION.
CATHEDRAL OF ST. VIBIANA, LOS ANGELES, CAL.
MAGINNIS, WALSH & SULLIVAN, ARCHITECTS.





FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



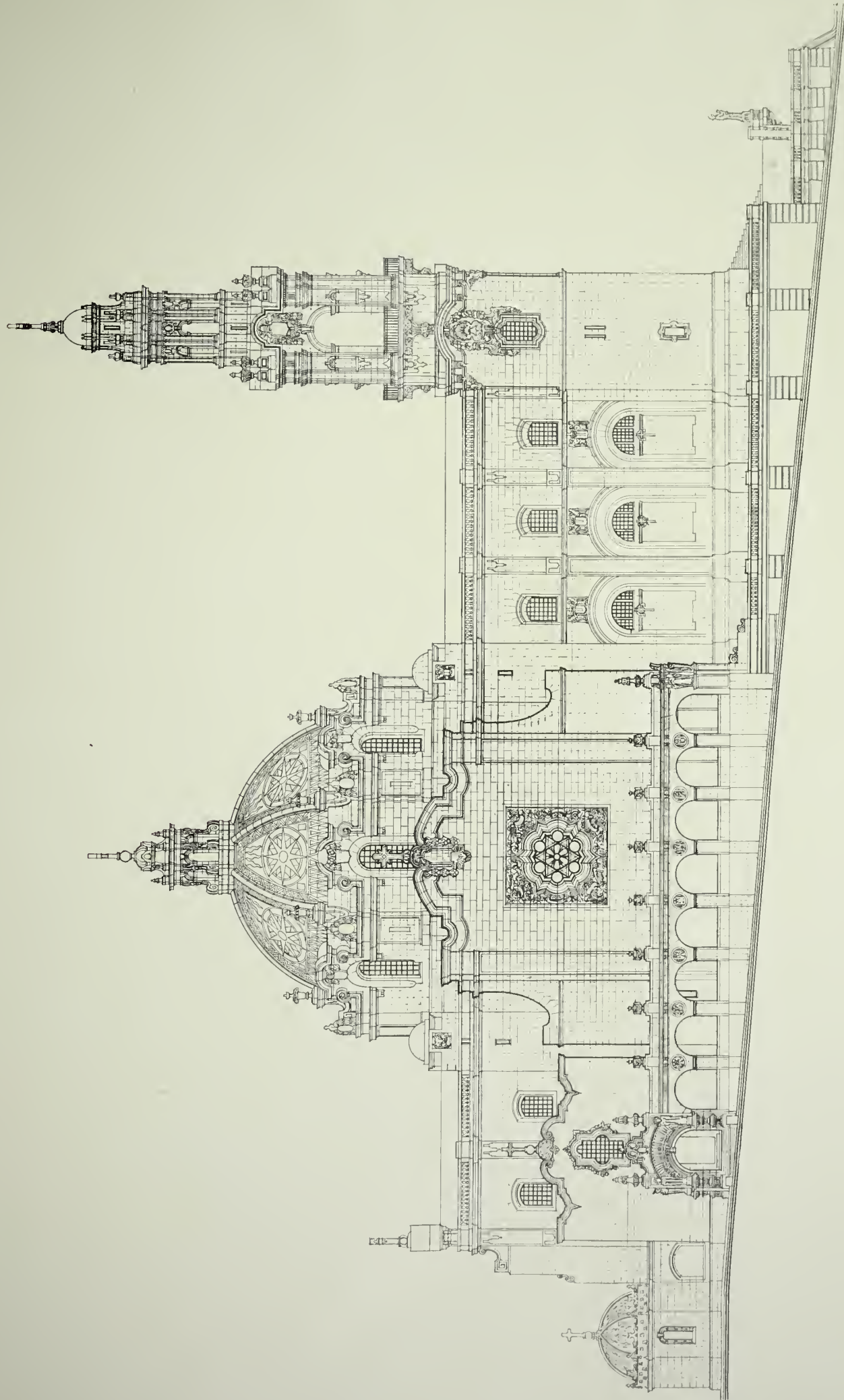
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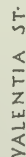


THE SARAH J. BAKER SCHOOL, BOSTON.
J. A. SCHWEINFURTH AND JOHN J. CRAIG, ARCHITECTS.

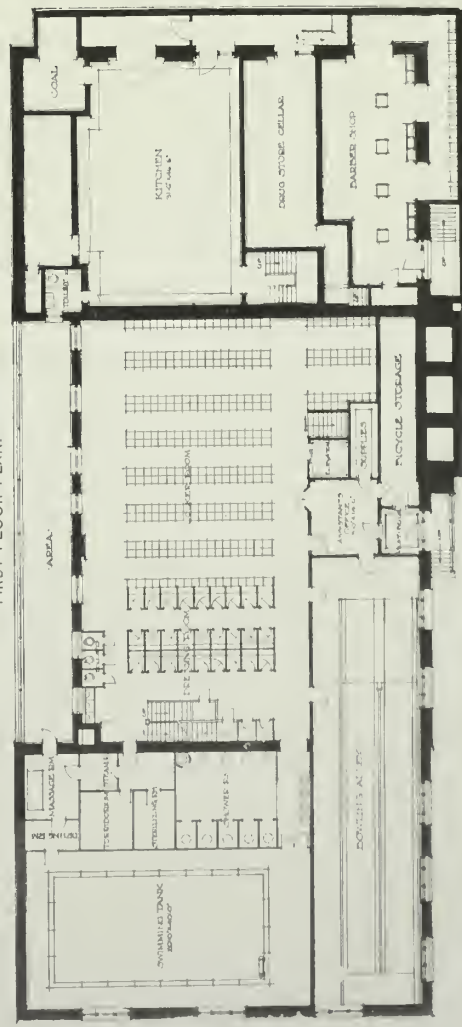
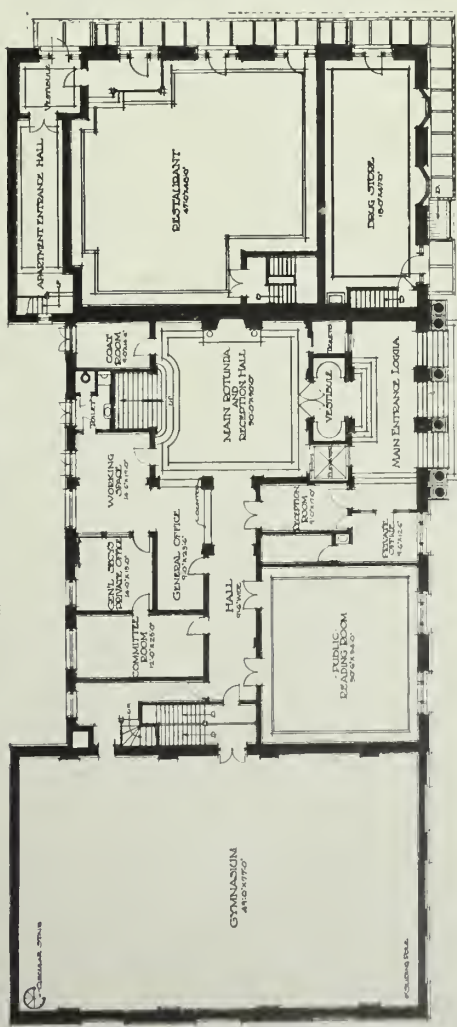
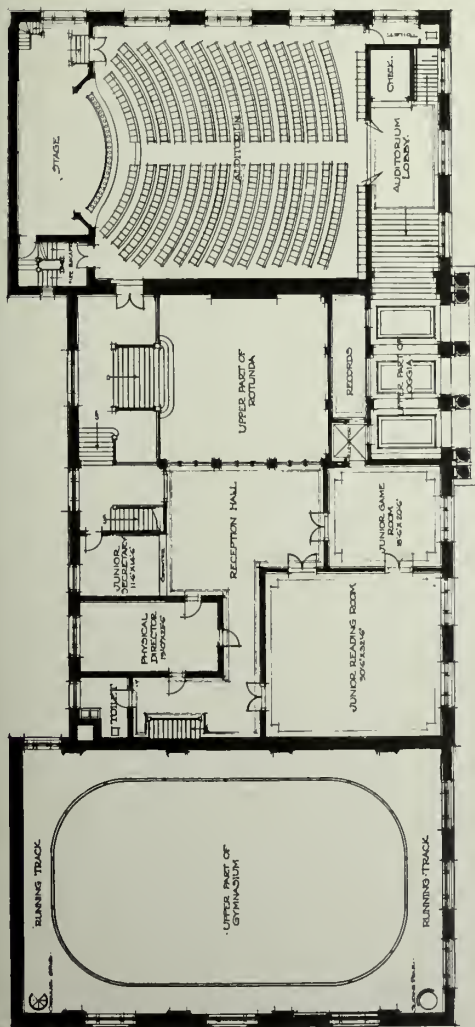
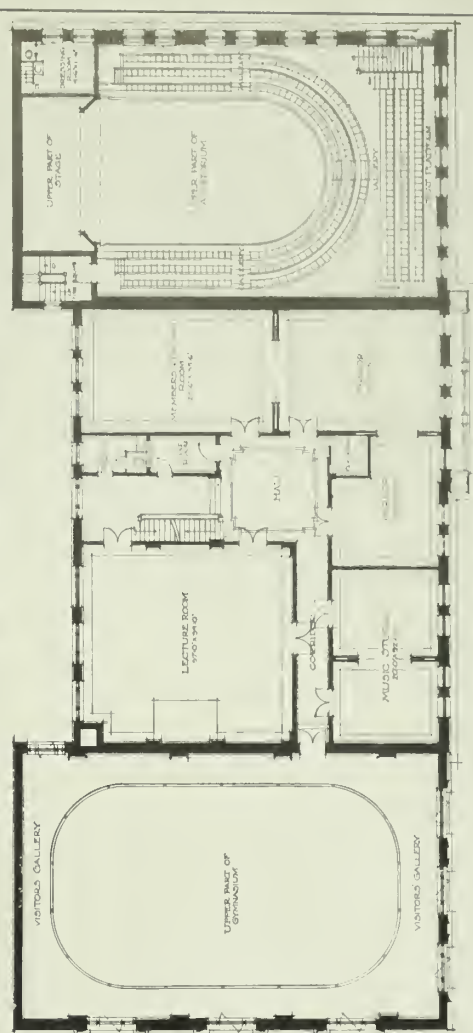


WEST ELEVATION
CATHEDRAL OF ST. VIBIANA, LOS ANGELES, CAL.
MAGINNIS, WALSH & SULLIVAN, ARCHITECTS.





MAGINNIS, WALSH & SULLIVAN, ARCHITECTS.



PLANS, Y. M. C. A. BUILDING, SCRANTON, PA.
SEYMOUR & PAUL A. DAVIS, 30, ARCHITECTS.



THE BRICKBUILDER.

VOL. 15

MARCH 1906

No. 3

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REMAINS OF A MAUSOLEUM AT SAMARKAND, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 3

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

MARCH 1906

THE BRICKBUILDER.

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THE INSURGENTS.

ARCHITECTURE as practised to-day in this country is represented by two radically different schools, one of which clings to classic tradition, which accepts the lessons of the past and strives to build up upon our inheritance, which emphasizes a rational, logical solution of all problems, and endeavors to work in the lines which the great masters of the past have found worthy. The other school, in a perfectly sincere desire for individuality, would cut loose from traditional art, would seek its inspiration straight from nature, and would condemn all art which does not have its fountain spring in the imagination. This latter school has evolved some beautiful creations and is a vivifying force which cannot for one moment be ignored or belittled in considering the artistic possibilities of our country. Its best exponents rank among the keenest, most sensitively balanced minds in the profession, and they have contributed enormously to the artistic progress which has marked the past few years, both directly by their own productions and indirectly by the influence their work has exerted upon even the most rigid formalist who has had occasion to study them and their methods. But, as with nearly all minority enthusiasts, they have inclined to the mistaken

idea that the other school is necessarily antagonistic, and that holding views apart they are justified in ignoring the majority of their professional brethren. The discussions of the American Institute of Architects have rarely fallen into the hands of the idealists. This is to be regretted. An honest difference of opinion publicly expressed generally means a mental exercise which is good for both parties. If the votaries of the newer art have a grievance against the Ecole des Beaux Arts, what better place is there to discuss it than in the ranks of the American Institute, which are certainly large enough and sufficiently all embracing? The distinctions are not wholly geographical. Art ought to be the same on Lake Michigan, on the Hudson River or beside Beacon Hill; and when the time comes that the conventions of the American Institute of Architects will be attended and participated in, not by all the architects who think just alike but by all who think differently on matters of art and design, on matters of education and precedent, and when these different elements will meet on the common ground of their love of the creative art, and will give each other points, criticise each other's methods, and where their neighbors are wrong tell them so and help them to get better, then will come a great day for the architectural future of our land. We are none of us wholly right, and few of us, we hope, are wholly wrong, while all of us have possibilities of growth. So that it is not a question of East or West or North or South, but rather of honest differences being aired and rubbed together as the best kind of stimulant for national growth. And meantime neither side is doing well to confine its proselyting efforts, its convincing arguments, to its own votaries who are already fully converted.

THE Managing Committee of the John Stewardson Memorial Scholarship in Architecture announces, by authority of the Trustees of the University of Pennsylvania, who act as trustees of the Memorial Fund, a competition for a scholarship of the value of one thousand dollars, the holder of which is to spend one year in travel and in the study of architecture in Europe under the direction of the committee.

THE Executive Committee of the T-Square Club announces the third competition for the Walter Cope Memorial Prize. The prize consists of seventy-five dollars' worth of architectural books. The programme calls for a kiosk for a subway station.

Catholic Church Architecture.

BY CHARLES D. MAGINNIS.

Paper II.

TO what extent should we permit the architectural traditions of Europe to govern the development of church architecture in America? Do there exist any peculiar conditions or tendencies here which make a demand upon the architect for a less historic expression? Does the traditional organism of the church building logically meet all the requirements of modern congregational needs?

These are questions which frequently obtrude upon the mind of the architect in the absence of any authoritative definition of his problem. It is remarkable that the clerical contributors to this discussion offer little encouragement to what was assumed to be a real demand for a departure from the traditional plan in respect of the use of side aisles for seating. Yet the innovation of the fixed pew has undoubtedly introduced a new condition, if a purely utilitarian one, which has not been frankly met. In European churches, where the altars are so numerous and the pavement is left quite free, so that processions can cross the floor in all directions, columns and piers offer no impediment. But in the American church, where the high altar is the center of interest,—the focal point for an entire congregation,—the division of the floor space into three parts by two rows of columns, which obstruct the vision of a considerable number of people, appears arbitrary and irrational. To omit the columns altogether, however, is simply to rob the church of its traditional aspect, substituting an auditorium character which is very objectionable. No expedient can be entertained which does such violence to historic sentiment. A compromise commonly resorted to consists in reducing the diameter of the columns, often to a grievous attenuation, which is only begging the question. What might be considered a reasonable solution is illustrated in the plan of the new Cathedral designed for Los Angeles, Cal. Here the optical condition is satisfied and the traditional perspective at the same time preserved by making the nave fairly broad and the side aisles merely of ambulatory width. The transepts, which are ordinarily more or less screened from a view of the altar by the big piers which normally result from the intersection of the nave, are here rendered entirely available by the splaying of the corners. As this large central space can find logical architectural expression only in a dome, which is essentially a cathedral feature, such a plan would require modification to fit the needs of the parish church,—a modification of which it is quite susceptible, as shallower transepts would obviate the necessity for splaying the piers at the crossing. With the basilica type of plan, however, there is the difficulty that the ambulatories would not be wide enough to permit of being terminated by side altars. The ambulatory feature, therefore, is to

be recommended, in association with the basilica, only for the smaller churches where, by means of ventilated niches in the outer walls, it may be made to give excellent place to the confessionals, without the usual displacement of seats.

There need be no outrage done to tradition, therefore, in satisfying an utilitarian condition which, if it be not arbitrary, is at least considered frequently to be of some importance.

Should the new papal recommendation in respect to church music prove to be widely effective, it will make for the deepening of the chancel, which will be a great gain from the artistic point of view. At present the chancel has, nearly always, too little architectural dignity and is not seldom reduced to a big niche in the rear wall. The spirit of such a change as this would be singularly opposed to that which is working towards the auditorium-izing of the church. One is toward the historic plan, the tendency of the other away from it. Whatever the issue, the deep and lofty chancel would be unquestionably in the interest of good architecture. In Gothic designs we too rarely see the gable-ended chancel of the English type, which gives such fine opportunity for a noble mullioned window. The objection to a flood of light over the altar may easily be met by employing for the window decoration such a subject as the Crucifixion, which would require a low, mellow tone in the glass.

The basement church is a source of perplexity to the architect, as it is often very difficult to express it exteriorly without prejudice to the general effect. Ideally, the base of any formal architectural composition ought to be as nearly as possible unbroken in order to convey an impression of repose. The piercing of this base, then, by a series of windows large enough to carry light into a wide and very low apartment must serve to impart a more or less restless look to the superstructure. Many of our buildings in consequence look restless and undignified. It is not by any means, however, an artistically impossible condition of the architect's problem. Indeed, I believe that the basement church may be given a decidedly serious and artistic character, being, at the same time, well aware that its effect is nearly always hideously ugly. Architects appear to have been satisfied to regard this untraditional feature of the church as hopelessly utilitarian. The idea of this secondary church *is* utilitarian, but it is a church and ought to be treated responsibly. That it is susceptible of some measure of architectural dignity is fairly demonstrated by St. Margaret's, Brockton, Mass. Here, by a steel girder construction, the usual clutter of small columns has been avoided, the number introduced corresponding to that designed for the church overhead. These columns have been given a sturdy character with capitals of rich symbolic pattern, close-knit in a Byzantine manner, the capitals varying in design. The line of the chancel is marked by a vigorous segmental arch, and, within, distinction and importance have been given the altar, horizontally rather than vertically, by carrying the reredos the width of the nave. The altars and reredos being executed in white cement, the expense was much less than would have been necessary to purchase a small altar of marble which, in itself, would be inadequate to furnish the chancel. The stations of the cross are set in the wall and surrounded, not

NOTE. — In connection with this second and concluding paper by Mr. Maginnis, we have chosen to present some of the work which has been done by his firm for the reason that we believe it best illustrates his ideas concerning Catholic Church design. — EDITORS.



CHURCH AT WHITINSVILLE, MASS.



CHURCH AT LEOMINSTER, MASS.



TYMPANUM

ILLUSTRATING THE ARTISTIC RESTRAINT WHICH OUGHT TO
CHARACTERIZE ECCLESIASTICAL DECORATION.

PEW END

DECORATIVE FIGURE



CHAPEL AT BRIGHTON, MASS.



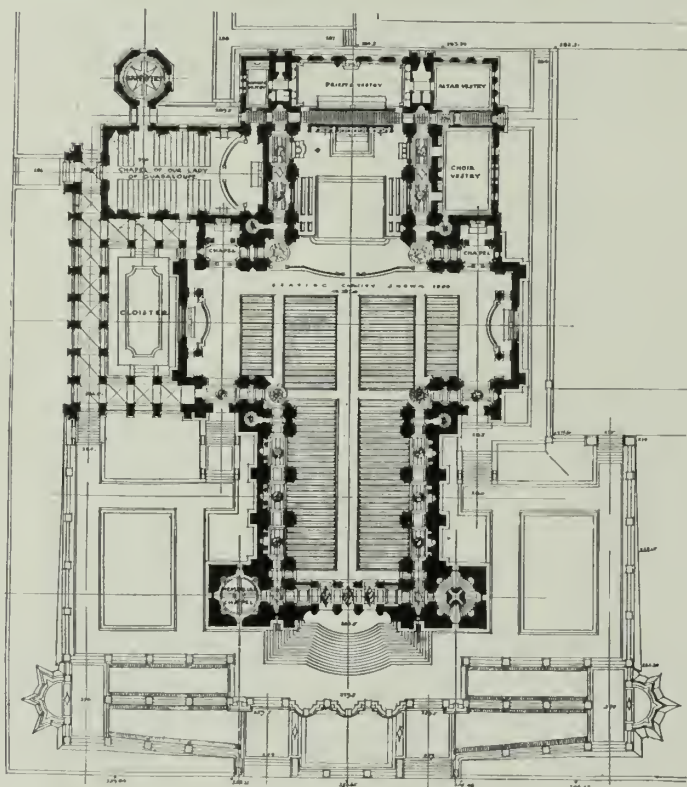
CHURCH AT LOS ANGELES.



INTERIOR OF BASEMENT, CHURCH AT BROCKTON, MASS.



MAIN ALTAR, BASEMENT, CHURCH AT BROCKTON, MASS.



PLAN, CATHEDRAL, LOS ANGELES, CAL.



PLEASING DECORATIVE SETTING TO AN ORDINARY COMMERCIAL PANEL.



CHURCH AT CAMBRIDGE, MASS.



CHURCH AT NORTHAMPTON, MASS.

by ready-made frames, but by arabesque borders of special design. If the basement is a necessary adjunct of the parish church, and there are many reasons for considering it such in populous centers, it ought to be worthy of serious artistic study.

A word may well be said on the subject of the window lighting from the point of view of the architect. There is such a curiously general sentiment in favor of bright interiors that one feels diffident about proclaiming it as mistaken. Yet it is undeniable that our church interiors have often too lively an effect to be devotional. The light

electric extravagances which suggest the theater rather than the church. He has little religious sentiment, indeed, over whose imagination the little ruby light of the chancel has not more power than a thousand Edison lamps.

The relative adaptability of historic architectural styles to church building in America has been a matter of much interesting discussion. So far as it is an academic question, however, the battle of the styles need not be regarded under the circumstances as a very vital affair. That it should be necessary to canvass the merits of par-



Example of Monumental Church Building for whose Style there was found Authority in the Immediate Traditions as well as in the Climate of the Locality.

is too uniformly distributed, so that there is little or no shadow to give effect of mystery. In aggravation of this, the mural decoration is frequently thin and pale, so that the whole effect is rather bizarre than solemn. I do not advocate such an atmosphere as will make the reading of one's prayer-book a strain upon the eyesight, but a system of lighting may easily be devised which would greatly contribute to the emotional appeal of the architecture. On the subject of artificial lighting, I shall not enter further than to express the hope that, in the same interest, time may moderate the passion for those

ticular systems of architecture at all is a curiously anomalous condition which we owe to the evolution of the camera and the steamboat. In other times an architectural system obtained for centuries, during which a particular civilization expressed itself, generation after generation, with all the spontaneity of a common speech, with all the unconsciousness of geographical isolation, so that its manners and customs and its social and political history are clearly recorded in its architecture. Contrast such a condition with our own, and is it to be wondered at if, with all the architectural precedents from Pericles to



APSE AND ALTAR AT BRIGHTON, MASS.



ALTAR AND EAST WINDOW
IN CHURCH AT
MARLBORO, MASS.



CHANCEL COLUMN IN BASEMENT, CHURCH,
CAMBRIDGE, MASS.



INTERIOR ST. LEO'S, LEOMINSTER, MASS.
ILLUSTRATING A VITAL SYSTEM OF CONSTRUCTION.

McKinley, from classic Greece to Oklahoma, bound in volume at his elbow, the modern architect is embarrassed and self-conscious; that, allured by the beauty with which other times and other manners have been expressed, he is apt to be persuaded into a false expression of his own? It is thus that our architecture to a great extent is merely an epitome of past architectural epochs, an historical panorama, — even in its very confusion, however, full of intelligibility to the future historian of the time, to whom it cannot fail to be likewise occasionally diverting, as he observes the flippancy and caprice with which we have dealt with our artistic heritage. But if there has been much of playfulness in the spirit with which we have dealt with the materials of the past, there has been, too, a great deal of serious experimentation based upon the principle that a true architecture must be essentially national and racial, though it has so far developed no thoroughly vital and expressive system. That the history of art, long and varied as it is, should fail to furnish forth, ready-made to our hands, an architectural style which lends itself to the instant expression of a civilization so intensely individual, and withal so exceedingly complex as ours, is not remarkable. Indeed, it is not easy to say which one of several historic styles now much employed offers the most promising claims for adaptability. The gradual assertiveness of our own peculiar needs, of our own racial genius, accompanied by a lessening consciousness of tradition, a more national self-reliance, must tend to the ultimate development of a native architectural system. Whether a style of architecture, however, which is the product of the intense civic activities of the nation will have any pertinence to ecclesiastical needs is another matter. So venerable an organization as the Catholic Church at least will, it is safe to say, be slow to express itself in terms unfamiliar or unhistoric. There is some danger, on the contrary, of its continuing architectural traditions which have long ceased to be valuable; for, in spite of its temporal universality and its consequent indifference to the changing fashion of the day, the architectural history of the Catholic Church has its dead bones. As Father Heuser points out, much of what we admire, even in the art of the church, is related to antiquated social and political conditions. In estimating the probability of a development towards a nationally uniform ecclesiastical style, however, we must not lose sight of so determining a consideration as the diversity of climate which naturally characterizes so vast a territory as ours and, especially, of the great ethnical complexity of the Catholic body in America, a condition which in itself must be a powerful impediment for many years to come.

Since an organic ecclesiastical style is unlikely to issue spontaneously from the existing conditions, it would seem that nothing short of an hierarchical pronouncement could bring order out of the present chaos, and a most worthy question it would be for the determination of the hierarchy. Short of this measure there might be developed an admirable, most interesting and experimentally instructive condition if the architecture of a particular diocese or archdiocese were confined to one style. The act of choice would thus, instead of being based upon the caprice of the clergyman or the architect, be magnified into an affair of dignified deliberation. It would make

for a coherency of architectural expression, an organic orderliness within the precise geographical limits of each ecclesiastical district, which would be edifying to a degree.

To examine at any length the relative claims on our consideration of the various historic styles already in use amongst us would be impossible in such an article as this. Something, however, ought to be said, if there were room for nothing else, towards removing an apparently widespread disbelief in the vitality of a style which, on many accounts, makes the most powerful claim upon our sympathies of them all. I refer, of course, to the Gothic, which is conceded, even by those who profess to regard it as an obsolete system, to be the most admirable artistic tradition of the church. That the possibilities of this wonderful art have not yet been exhausted, that it still holds something for our life and time, is attested by the vigorous revival which is proceeding in England and in our own country, a revival which is earnestly stimulated by a few serious and conscientious architects of ability. While the Catholic body in England, inconsiderable as it is, has associated itself with this interesting movement to such purpose as was denoted by the high quality of its recent architecture illustrated in a previous paper, it is humiliating to realize that in this country the fruits have gone almost exclusively to the Episcopal Church, to which we appear to have effectually given over the Gothic tradition. It is not to be supposed that such a statement takes no account of the statistical fact that we have thousands of professedly Gothic churches of our own; but it is undeniable that, excepting St. Patrick's, New York, and a few parish churches of exceptional quality, there is no worthy Gothic architecture whatever in America to which we can lay claim. To say, therefore, that the Gothic style is commonplace in America, in any sense that would imply that we have much of it that is scholarly or serious or beautiful, is not true. When good Gothic architecture becomes hackneyed in America we will have reached a rare level of culture indeed.

A misapprehension exists, for which it is not easy to account, that the Gothic is an expensive style, but it is not necessarily more so than any other. It is a style of wonderful flexibility whose genius can adapt itself to the modest parish church as well as to the great cathedral. Amiens might be divested of its lovely intricacies and be no less Gothic, so there still remained that magnificent sincerity of structure which must always be the first attribute of noble architecture. The most available model of the Gothic system for the needs of the Catholic Church in America and the most beautiful and stately is the parish type of the perpendicular Gothic of England, than which no better tradition could be intrusted by the church to the hands of the sympathetic architect.

The early round-arched types of Lombardy and Sicily, illustrated in the previous paper, developed as they have been from the materials of brick and terra cotta, with which our means require us chiefly to deal, are likewise so beautifully suggestive for our uses that it is wonderful why they have been so long disregarded. Many of these have an interesting Byzantine feeling which would encourage the development of that beautiful system of ornament which one sees so gloriously exemplified in the

interior of St. Mark's at Venice and in the old church of Ravenna and Sicily. Inexpressibly noble and beautiful in their mosaic orderliness of color, these interiors are surpassed in devotional character only by the very highest expression of Gothic, which has almost no color whatever. In the light of this Byzantine tradition, how can we patiently tolerate the gaudily tinted walls and the parti-colored statuary which distinguish so many of our American churches?

Surely the time has finally arrived when the Catholic Church in this country should seek some level of artistic expression which will do less injustice to her religious culture. To longer endure the trifling of ignorant hands with the shaping of her material temple is to fatuously conceal the divinity of her message. Naught but an active sense of the dignity of her own inspiration is now

wanting to the development of an artistic symbolism which shall manifest that inner beauty which, at present, is so persistently falsified in architectural ugliness and insincerity. The native art is intelligent and vital. In the buoyant grace and beauty of its secular activities we can see the promise which it holds for lofty accomplishment and its adequacy even to that supreme challenge which the Catholic Church alone can give it. This may be given or it may be withheld, for the church need feel no sense of obligation to contemporary art. But the obligation to itself is one which can no longer be ignored without serious loss of prestige and consequent injury to the effectiveness of its mission, namely, the obligation to express itself in such intelligible and coherent and therefore beautiful and scholarly terms of art as shall give a more convincing testimony of its divine constitution

Buildings of the Young Men's Christian Association. II.

BY IRVING K. POND, C. E., ARCHITECT.

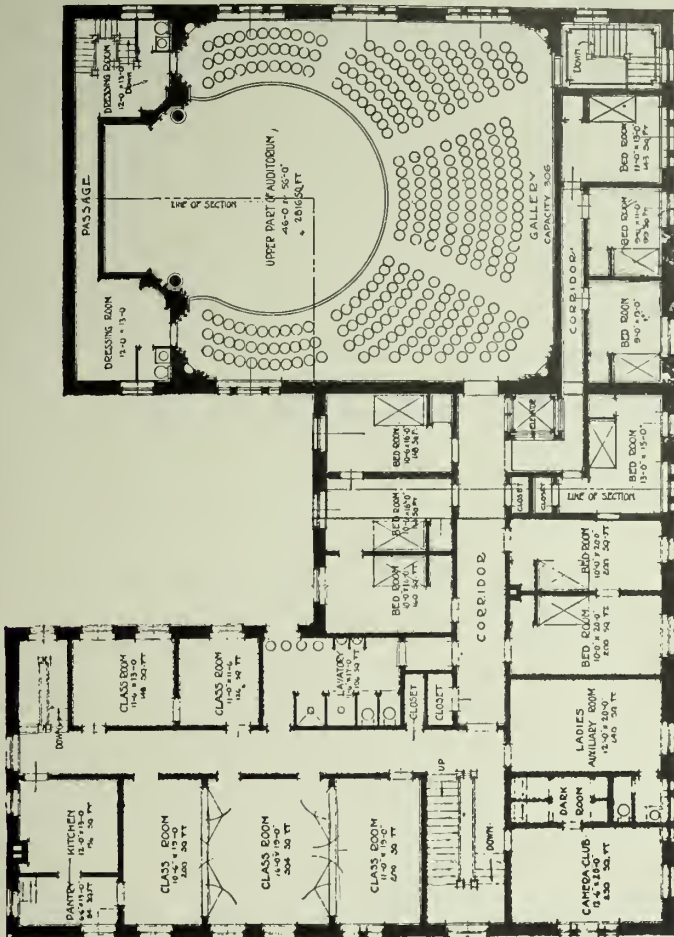
IN speaking more particularly and in detail of the features of the ideal buildings for each of the classes noted, the General, the Railroad, the Student, it is well to note first those rooms and requirements which are common and essential to all, such as the office, the reception room, the parlors, the game rooms, the reading rooms, the assembly room, the cloak and general toilet rooms, etc., etc. In general, the extent and character of the membership and the special character of the work will dictate the size, number and detailed arrangement of these rooms; but certain rules may be laid down and certain suggestions made. The office must be so placed that it shall command, in so far as possible, the entire situation. It shall be directly accessible from the entrance, shall command a view of the general rooms, and command the approach to all main corridors and stairways. It should not give to the reception hall the character of the hotel lobby, but should be more in the nature of the office of the refined social clubs, and the atmosphere of the entire social portion of the building should be that which surrounds the home just as far as it is possible to produce that atmosphere by arrangements, proportions and furnishings. The ideal of the Association is not to rob the young man of a home, but to furnish him with one and to make him capable of appreciating and deserving it. So the open and unfurnishable rotunda is to be avoided and the parlors and game rooms are quietly and unostentatiously to proclaim their several uses.

In smaller buildings, that economy and efficiency of service may be highest, the office, the secretary's room, — which frequently are one and the same, — the board room, the physical director's room and the physical examination room should be in conjunction; of course the last two rooms must be directly connected with the gymnasium. An ample check room, as nearly as possible under the direct supervision of the office, should be provided for the storage of hats, overshoes, overcoats and wraps which cannot conveniently be placed in the private lock-

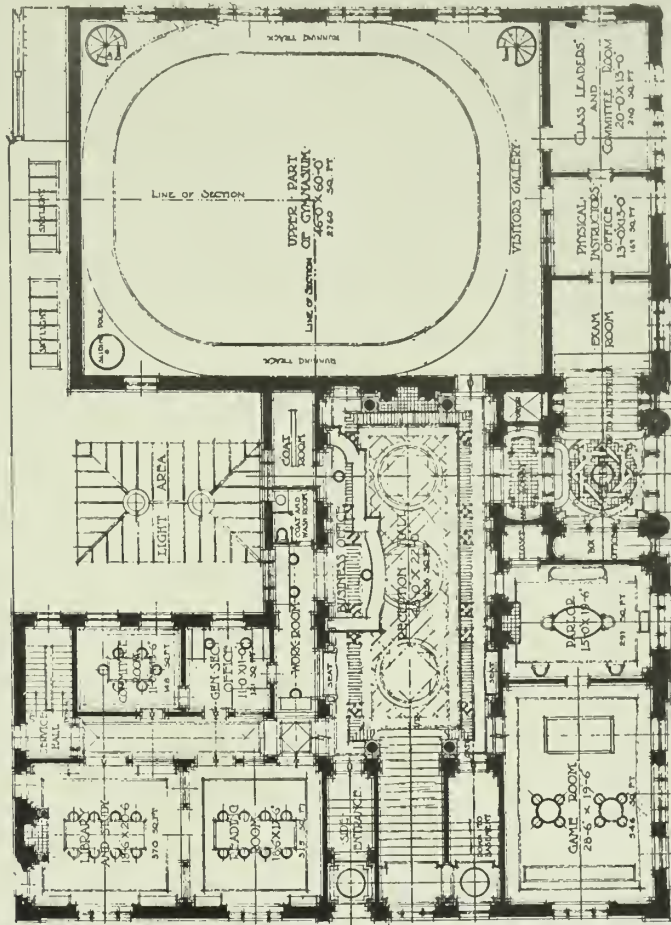
ers. Convenient to the check room should be the general toilet room, with its full equipment of lavatories, urinals and water-closets. This room is absolutely distinct from that in connection with the gymnasium bath and locker rooms. If an assembly room to which women are admitted upon occasion is a feature of the building, a separate and distinct toilet room should be provided for the use of these women. In the reception room or in an alcove opening upon it members may converse with visiting friends, who generally are not allowed the freedom of the building without a pass from the secretary. The visitors' gallery of the gymnasium is generally made readily accessible to the public, who, however, in entering and leaving the gallery should pass under the regard of the secretary or of the physical director.

The parlors are furnished for general conversation and social uses. Easy chairs, tables for books and papers, lounges or settees and a generous fireplace are considered as desirable furnishings. The ample fireplace is almost a necessary feature in social rooms. More remote than the parlors should be the game rooms in which there often is the louder noise of laughter and less of self-contained enjoyment. The character of the membership (and the regulations of the board) will dictate the equipment for the "games," which range from billiard and pool through ping-pong, shuffle-board and tiddle-de-winks to "authors" and the newest puzzles. More remote still from the direct surveillance of the office are the clubrooms and the classrooms for spiritual instruction. The furnishing of these rooms should meet the requirements of good taste and their special uses. Appropriate pictures may adorn the walls.

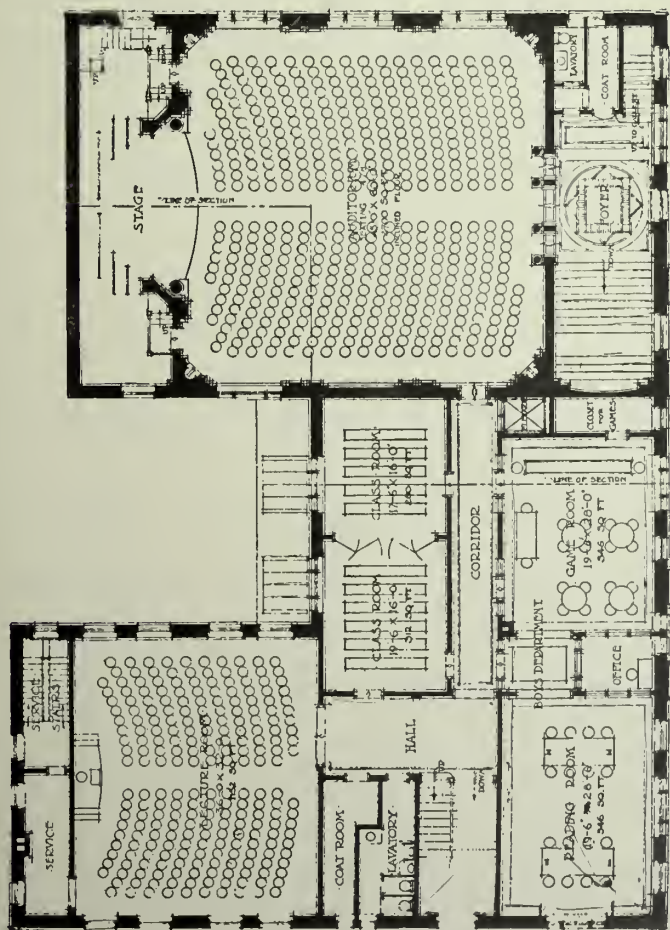
These rooms above enumerated, together with the assembly room, constitute those which are common to all Association buildings. The assembly room is an important factor and takes on many forms according to the location and the nature of the work of the Association using it. An assembly room of some sort is necessary to



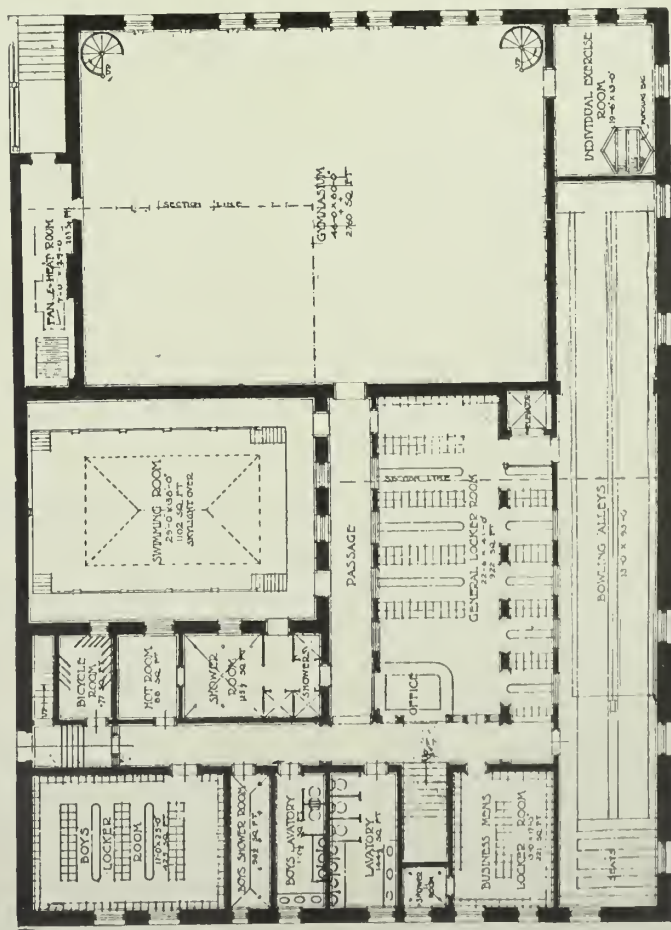
THIRD FLOOR PLAN.



FIRST FLOOR PLAN.

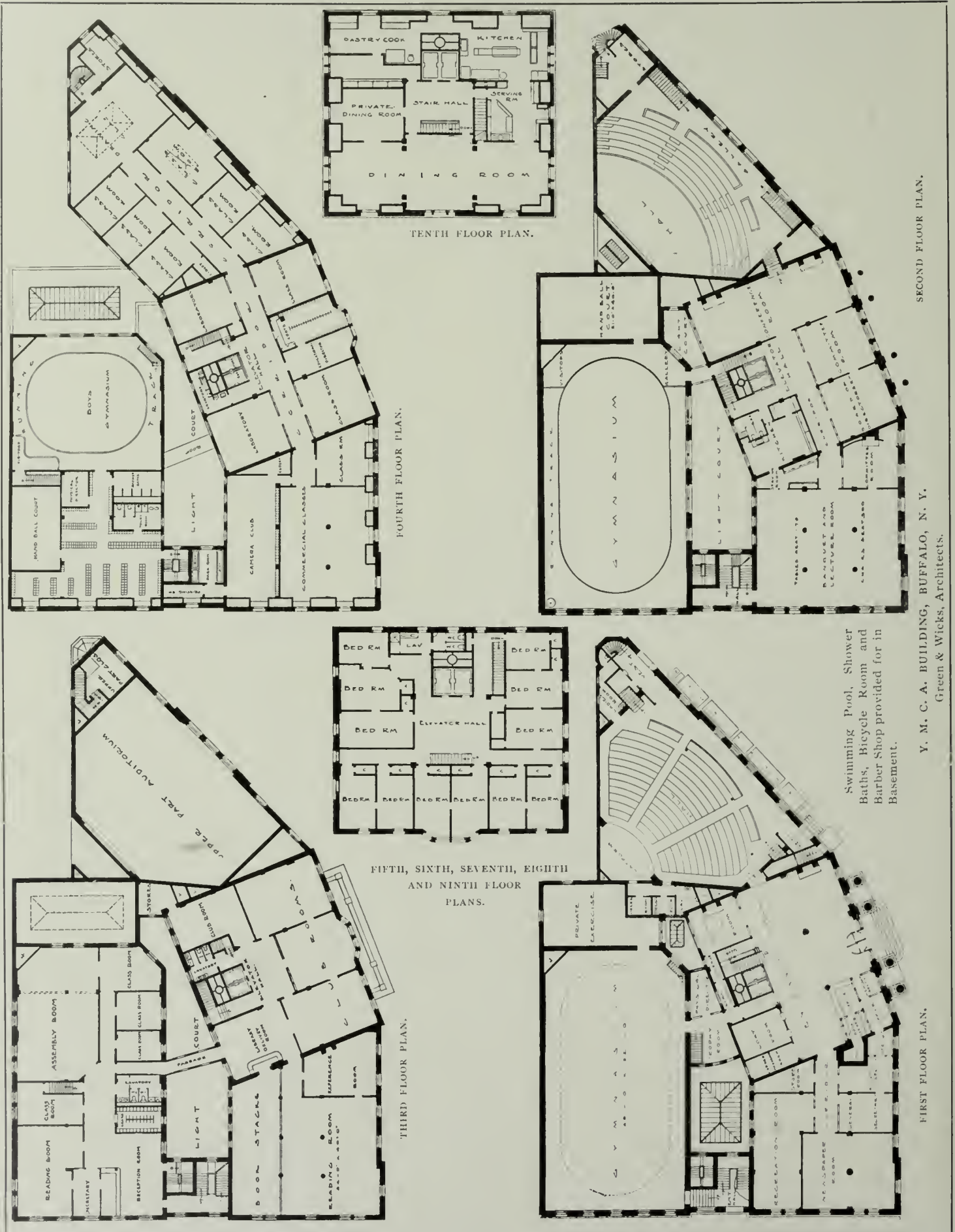


SECOND FLOOR PLAN.



BASMENT PLAN.

Y. M. C. A. BUILDING, PAWTUCKET, R. I. Walter Atherton and Herbert D. Hale, Associate Architects.



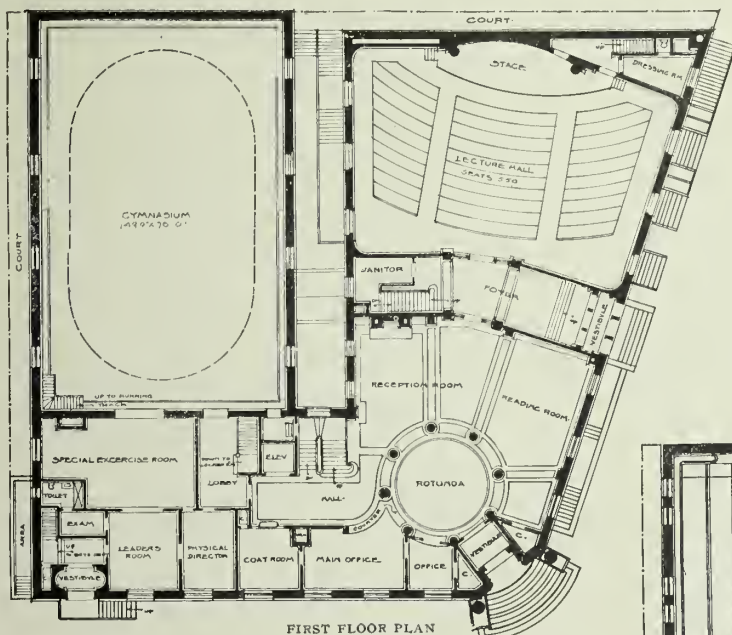
Swimming Pool, Shower
Baths, Bicycle Room and
Barber Shop provided for in
Basement.

Y. M. C. A. BUILDING, BUFFALO, N. Y.
Green & Wicks, Architects.

every Association building, but it is not always necessary or desirable that every Association building shall contain a large auditorium. When there is conveniently at hand a suitable public hall in which larger gatherings may be held and in which larger entertainments may be given, it may be unwise to cumber the Association property with a large hall. A hall which can be let for outside uses, and thus furnish a revenue, may be a desirable feature, though it be not in constant use by the Association. Not infrequently the Association auditorium is furnished with a curtained stage on which scenery may be set. More frequently, however, the hall is equipped with a recessed platform flanked on either side by dressing rooms or retiring rooms with toilet equipment. The smaller assembly halls are furnished with but a rostrum from which the lectures and music are heard. To enhance the size of the assembly room, two or more lecture rooms may be made to open into it with wide doors. Some-

The general department makes a special feature of the work of education, through the medium of the various clubs, of duly organized day and evening classes, of quiet intercourse with learned men when the student member drinks at the fountain of knowledge in a manner most enticing. Unless the department carries on the educational work upon a large scale the various classes meet in the clubrooms, which may easily be transformed into rooms suitable for class work. Not infrequently, though, in the larger Association building special rooms are fitted up for special uses and devoted to them. It is not uncommon to find rooms equipped for manual training, with wood and sometimes metal working machinery and tools. Laboratories in which electrical problems may be studied and demonstrated and dark rooms for photographic work are not rare in Association buildings. The classroom is generally less formally furnished than the typical schoolroom, a room which really has no place in the Association building.

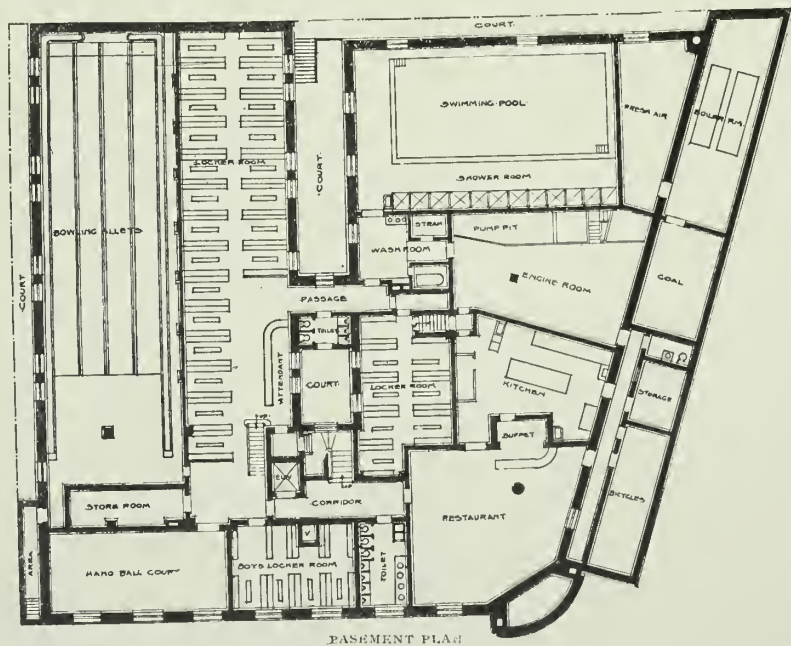
The portions of the building which are to be regarded more especially as income producing are now to be considered. It would be pleasant all around, for the architect as well as for the Association boards, if space for rental were not a requisite, as it is in a great majority of instances. Membership dues, fees for classes and clubs, locker rentals, etc., do not bring in sufficient with which to carry on the work; and so, as a Young Men's Christian Association department is rarely endowed, it is found to be a matter of constant necessity to solicit funds from members and outsiders that the work of the department shall not fail. To make the burden of this continued soliciting as light as possible and to secure a certain definite and regular income, it has been found practicable to pro-



Y. M. C. A. BUILDING, BROOKLYN, N. Y.
Boring & Tilton, Architects.

times in the assembly halls, in order to accommodate a large number on small ground area, a gallery or galleries are introduced in amphitheatrical form. This form in no way ministers to the devotional mood, and Associations which have halls of no other form may well hold their larger and more important religious services in some chapel which has been designed to minister to the feelings of love and reverence and devotion.

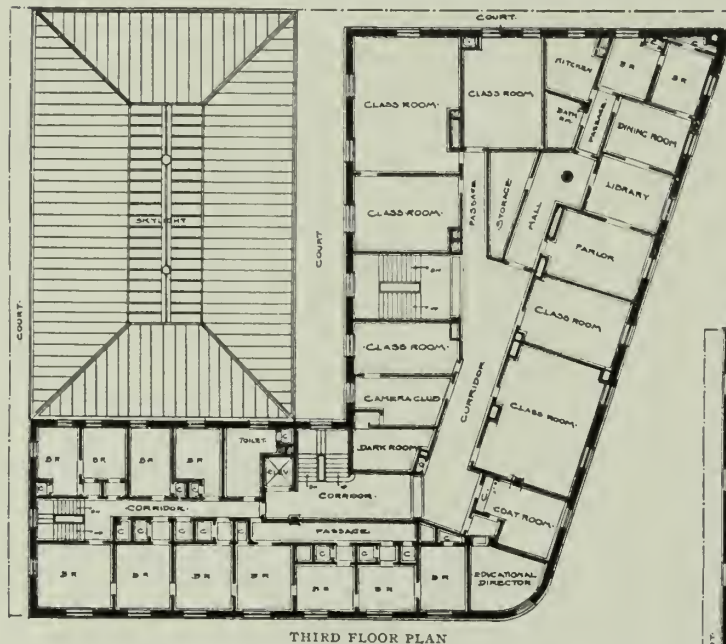
The swimming pool and bathrooms equipped with tubs and showers are rarely to be found in general department buildings which contain no gymnasium. They are fairly common in some form or other in student department buildings and indispensable to the work of the railroad departments. The baths are so closely concerned with the gymnasium that they will be discussed in connection with that feature.



vide for rent certain space in the buildings of the Association. How this space is to be employed is for the Association providing it to decide. If the building is in a congested business district, shops or offices will naturally be considered. As these will rob the building of its distinctive character—if not of distinction and character—their introduction is to be deplored. The importance

which of necessity must be given to shops and offices will make the Association appear like the tail end of a commercial proposition. But the presence of shops and offices is better than that the work should languish or cease.

The barber shop and the restaurant will find appropriate lodgment in the Association building. Whether these shall be for the public as well or for the sole use of Association members will depend upon conditions. The subdivision of the rentable space into dormitories and rooms and suites for young men is now recognized

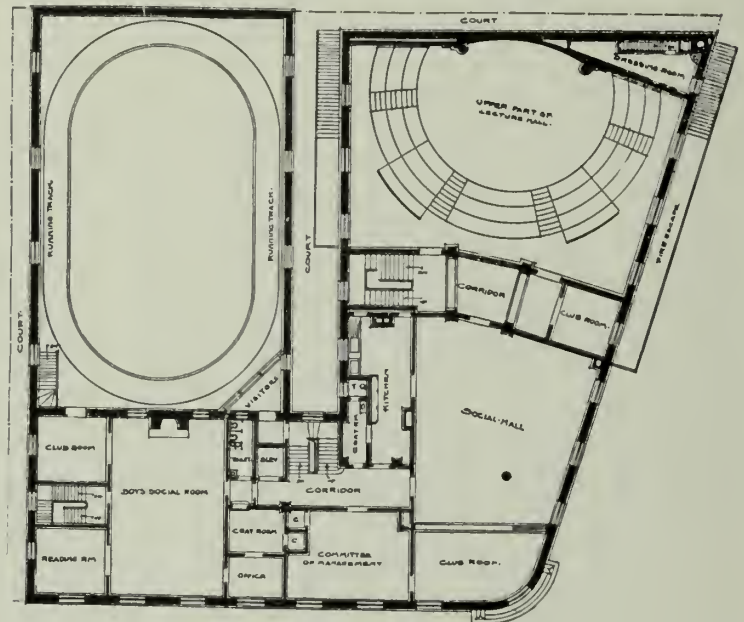


THIRD FLOOR PLAN
(SLEEPING ROOMS ON FOURTH FLOOR.)

V. M. C. A. BUILDING, BROOKLYN, N. Y.
Roring & Tilton, Architects.

as a practicable and desirable method of producing income and at the same time of helping the young men. This arrangement aids the architect, too, for space so devoted is most easily and effectively subordinated to the greater masses. These apartments are very desirable in buildings situated in residence and hotel districts. The portion of the building devoted to residential quarters should be reached through its own special street door, to which each resident should possess a key, that his movements may be as free as if he were in a private home. The plan, however, should afford the secretary convenience of access to and direct supervision of these quarters. Only in special cases are dormitories to be provided. In general single rooms or suites, consisting of a study and one or two bedrooms connecting, each with sufficient closet space, is the arrangement to be desired. Storage room, linen room, bath and toilet rooms, ample in size and in the number of fixtures provided, janitor's closet, are all necessary features of the residential portion. The rooms should be planned and arranged for convenience as well as with an eye to taste; with space for bed, study table, chiffonier and two or three chairs, one at least of which shall be an easy chair. That these chambers for young men should be located in the upper stories, especially in buildings of medium size, would seem to be a foregone conclusion.

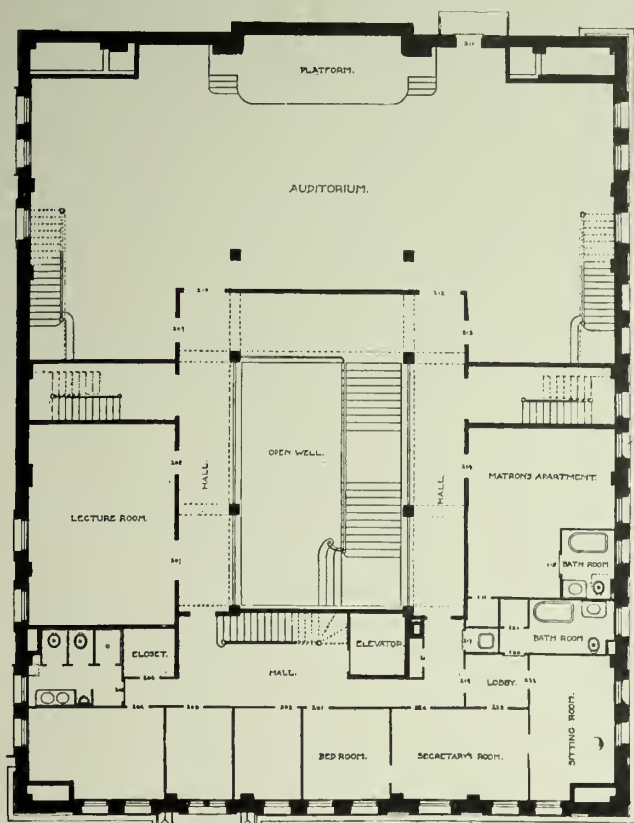
The question will frequently arise as to the comparative desirability of extending the residence space over the gymnasium ceiling, when by so doing the requisite number of rooms can be obtained in one story; or of providing two stories of smaller floor area. The question in the latter case simply concerns the possibility of unity in external appearance when the building is to be designed with a, say, four-story portion backed up by a two-story portion. Where the street façade only is seen this inequality in heights does not so much matter, but where the building is to be seen from three or four sides it may cause concern. The matter of having to mount the extra flight of stairs to the rooms in a fourth story does not need grave consideration in a building to be occupied by young men given to athletics. When four stories in height is exceeded the elevator is a necessity. The real drawback in the case of extending the residence floor over the gymnasium lies in the difficulty of keeping the jar and the noise from the superimposed rooms. It is possible, and especially so in fireproof structures, to insulate the upper story, but in any case the matters of floor deadening and the running of heat-



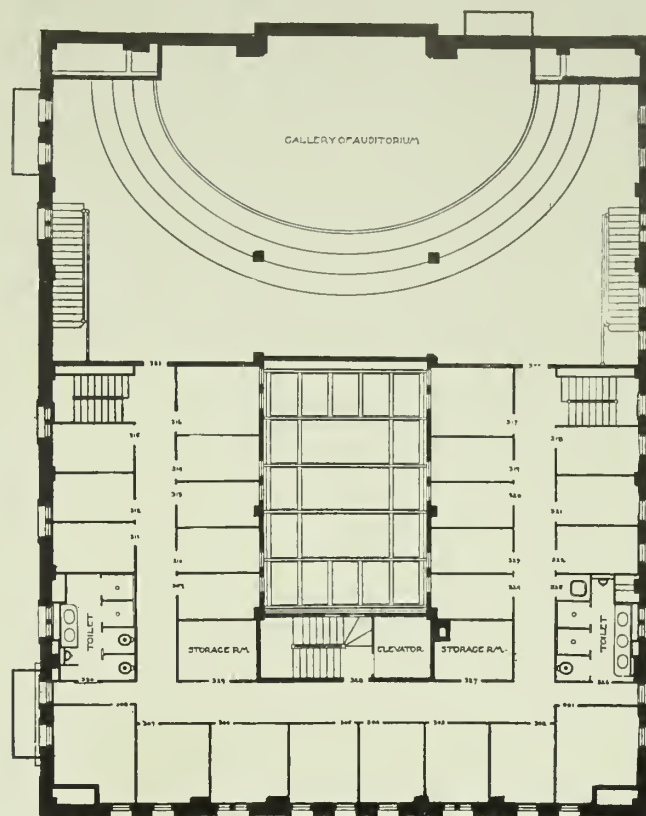
SECOND FLOOR PLAN

ing and plumbing pipes, which are great conductors of sound, must receive the most careful attention.

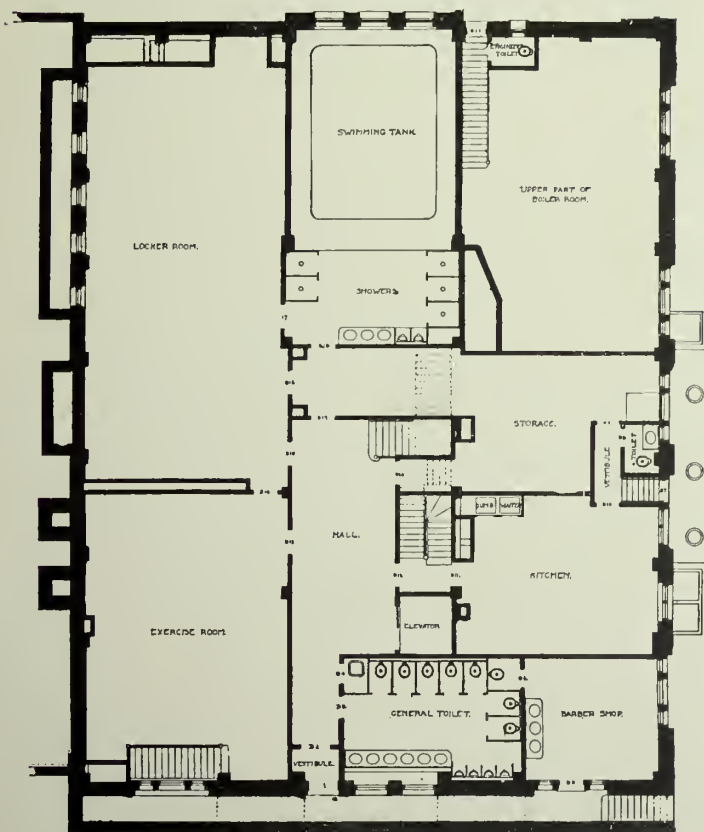
In railroad departments the bedrooms may be small, just large enough, in fact, to contain comfortably a man, a bed and a chair, as all functions of the toilet are performed in the general toilet and bath rooms, which must be planned and located with this in mind. The partitions separating these small sleeping compartments, as they really are, should be vermin-proof and are best constructed of solid plaster to the height of about seven feet. Above that height, and up to the ceiling of the large room which contains these lesser chambers, the partition is carried in the form of a heavy wire screen of about an inch and a half mesh. This netting will prevent encroachment or intrusion and at the same time will allow ventilation. Each of the smaller chambers should have a window to the outer air. The reason for this arrange-



SECOND FLOOR PLAN.



THIRD FLOOR PLAN.



BASEMENT PLAN.



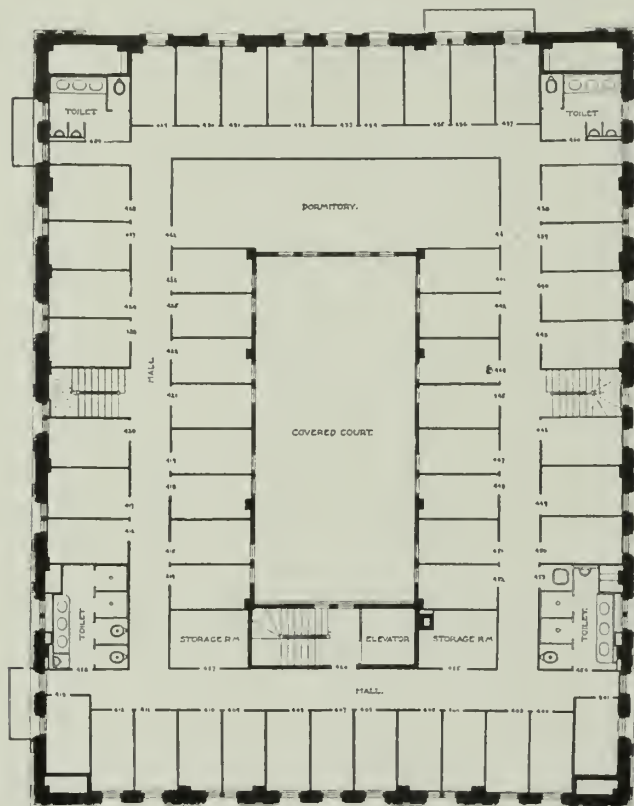
FIRST FLOOR PLAN.

NAVAL BRANCH V. M. C. A. BUILDING, BROOKLYN N. Y.
Parish & Schroeder, Architects.

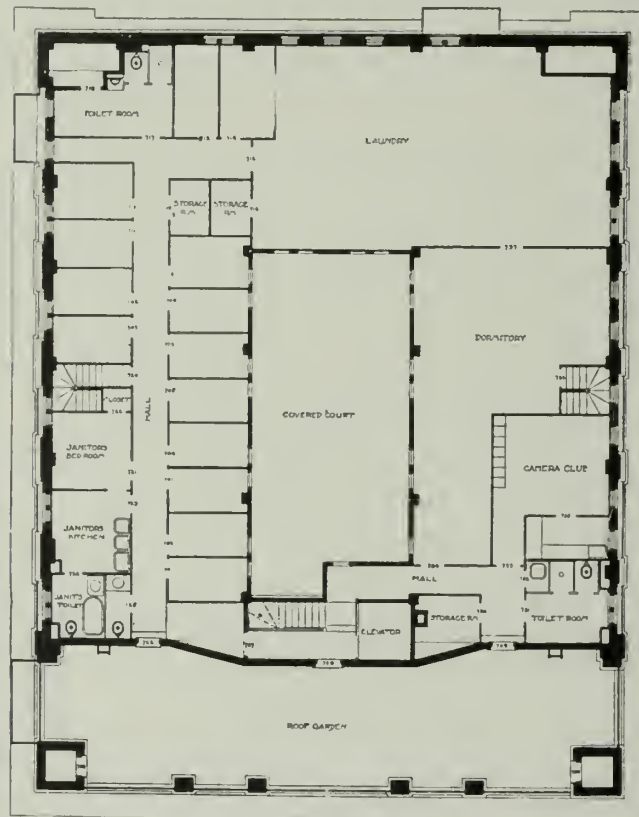
ment is to furnish the greatest number of individual and detached bedrooms in a given space, and, too, to subserve the interests of economy in construction and operation. The restaurant of the railroad department should contain a quick service lunch counter which shall continue in operation the whole night.

Dormitories, small chambers and general and private study rooms, together with the quick service restaurant, are features of the student departments which are located in the proximity of the large professional schools of a

devoted exclusively to boys' clubs and work among the boys. These embryonic members are allowed the use of the gymnasium at stated hours, and special locker facilities are provided for them. Whenever possible their domain is best located in the basement or lower stories, with a separate and direct entrance from without, so that the boys need not invade the portions of the building which are devoted to the regular membership. Special effort should be made to keep the noise, which is sure to emanate from the boys' domain, from penetrat-



FOURTH, FIFTH AND SIXTH FLOOR PLANS.



SEVENTH FLOOR PLAN.

NAVAL BRANCH Y. M. C. A. BUILDING, BROOKLYN, N. Y.

great city. The Young Men's Christian Association carries its work into army posts and to the naval bases, but an understanding of what is needed in these special cases must come from study of local conditions, aided by a knowledge of how other conditions have been met.

In the general departments cognizance is taken of the desirability to develop a constituency and, while insuring a fuller membership, make easier the training of the young man by beginning with the boy. And so in nearly every general department building some space is

ing elsewhere the building and disturbing those engaged in social and educational labors. Really the boys should not be in the building during the hours of its occupancy by the regular members, but this is a detail of management and not of planning. The need of extreme care in planning and construction, that noise shall not reach and disturb those engaged in social and intellectual activities, must be emphasized now that the gymnasium, bowling alley, swimming pool and such noisy portions of the building are to be discussed.

(To be continued.)



FARM BUILDINGS AT PRINCETON, N. J. R. C. Geldersleeve, Architect.

The Village Courthouse. Article II.

BY OSCAR ENDERS.

THE rapid development of our country, the progress of civic culture and law-abiding tendencies, and the requirements of communities for the maintenance of law and order, have made the county courthouse an essential requisite of modern living.

The rude enclosures of one hundred years ago, which met the demands of those early times, must necessarily give way to more modern structures because of this development. Modern requirements are in a constant state of evolution, new departments are being continually created in response to the demands of civilization; thus older buildings naturally fail to meet these new requirements.

A village courthouse may be described as an enlarged justice room; it must serve in a complete manner the purposes for which it was designed, it must conform to certain requisites.

First. It should contain suitable rooms for every department, properly located.

Second. It should be simply planned, and comprehensive to all who may have business there.

Third. Its exterior design should be expressive of its purpose, and at the same time so dignified as to impart to all the fact that obedience to the law is conducive to liberty.

Such is the ideal of a county courthouse. It is one that has been seldom thought of and more rarely attained. Until recently architects have been content to copy from their predecessors, adding some features which never told the story correctly. In borrowing their designs they should have given back again a building invested with so much added beauty that it would have made the repayment of the loan a gift. Courthouse aberrations have thus been multiplied, and, in some cases, mass and detail have been given which had no appropriateness to the purpose of the building.

Fortunately, in recent years, architects have become far more careful and exacting, and the courthouses now being built in some of our western towns are becoming, in a truer sense than ever before, faithful and conscientious productions.

The author of the accompanying sketches has endeavored to fulfill the foregoing requisites, as well as to conform to the requirements set forth in the programme.

The design submitted is not the traditional "dome capped and porticoed" courthouse, and has not been confined to a mere archaeological exhibition of conventional motives.

By going briefly over the sketches it will become apparent that the best method of dealing with the site is to plan a building to follow the contour of the land, and so, by convenient locations for the different floor levels, secure means of easy access to the various departments. The point where the plan should not fail is in the concentration of departments and good intercommunication.

On entering the building we ascend by means of adjacent staircases to the main floor, then upward to the

second floor, terminating in one broad flight. A single stairway, thoughtfully designed, with something distinctive about it, if attainable without sacrifice of convenience in any way, is preferable to commonplace steep and cramped ascents. The staircase would be of stone, with balustrades of white marble.

The central lobby measures thirty-six feet by forty-five feet, and is abundantly lighted through the open well above by means of a skylight, which is screened by a ceiling light, paneled and filled with ornamental glass; additional light is introduced through the three large windows on the grand staircase.

A colonnade of white marble columns supports the gallery formed by the open well, the walls in rear of which it is proposed to decorate with frescoes representing scenes in the history of the county. The floor would be paved with burnt clay mosaic.

The various rooms of the respective departments are placed upon the floors assigned to them in the programme. The grand jury room, being approached directly from the stair landing, occupies the right center and measures 25 feet by 25 feet, by 12 feet 6 inches in height. It is lighted by three large mullioned windows. The ceiling is flat, with molded and enriched panels. A room for witnesses, a vault for documents, a toilet room and ante-room are immediately adjacent to this first group.

Similar in lay-out is the group opposite, occupying the left center, and contains rooms for the district attorney, his clerks, an anteroom, toilet and vault. Connected with the district attorney's rooms is the sheriff's room, which it was thought proper to locate in close proximity to the court room.

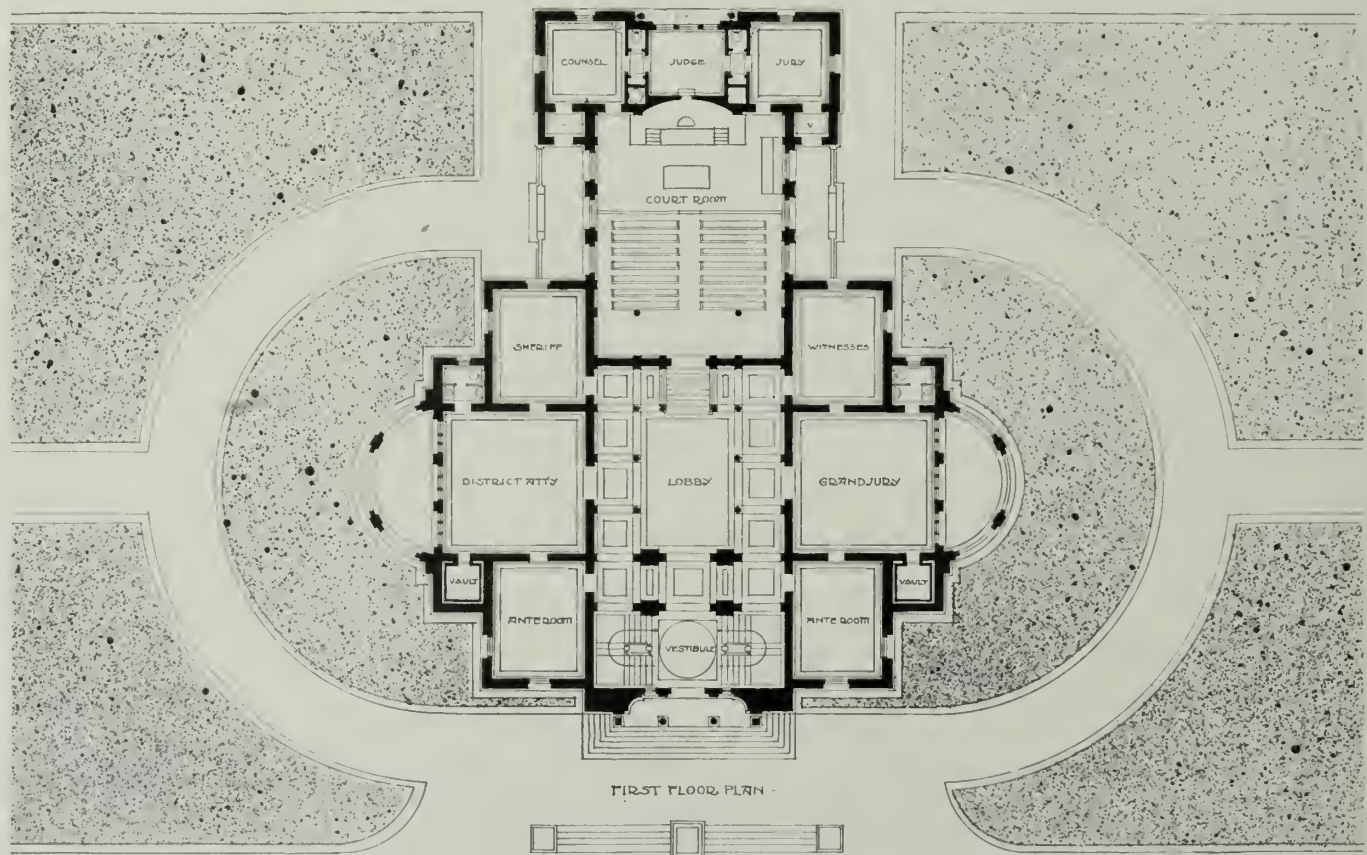
The third group, containing the large court room, judge, counsel and jury rooms, occupies the central rear, and may be closed off and used independently of the remainder of the building without in the least degree interfering with the workings of the departments. It is 36 feet by 45 feet, by 27 feet in height, with coved and enriched ceiling, supported on pilasters. An open balcony, entered from the second floor level, is provided over the principal entrance to this court room. It will be noted that this group of rooms is raised above the main floor sufficiently to bring it level with the street at rear of lot.

The department of registrar, his clerks and waiting room, as also the probate court room, with rooms for judge, jury and witnesses, are placed upon the second floor. There are also on this floor public toilets for men and women, and a retiring room for the latter.

The basement, of which no plan is given, contains storerooms for records, janitor's quarters and rooms for the heating and ventilating apparatus.

While it is true that the exterior should, in a measure, be an archetype of the structures in this section of our country, which, by some, may be looked upon as expressive of the artistic wealth of former times, and granting that we cannot afford to discard the lessons of the past, there is no reason why we should make ourselves the slaves of the past, or imitate what is no longer appropriate.

So let the exterior design speak for itself. During the delightful task of evolving it, the first consideration has been the convenience of plan, and in no case has this been sacrificed in order to improve the exterior, which I



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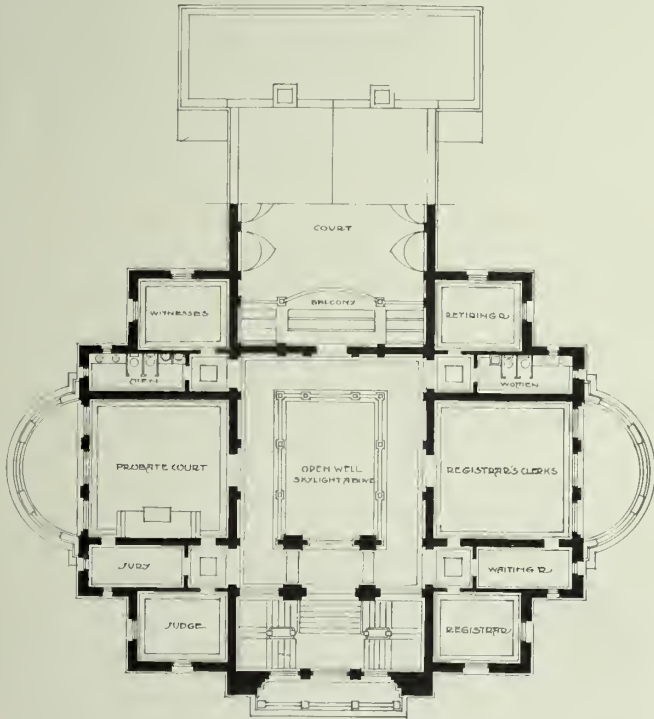
A VILLAGE COURTHOUSE.

Oscar Enders, Architect.

believe has lost nothing by this course of procedure; developing naturally from the plan, it expresses externally the internal arrangement, and thus gains immeasurably in interest and variety.

Elaborate ornamentation has been avoided, and what little there is shall be in low relief, concentrated in masses and contrasted with broad effects of plain wall surface.

The fitness of the ornament has been carefully considered, and while its flatness may be thought unfit by some, the effect that results from contrasting it with plain surfaces justifies, I think, its use. The seated eagles on four corners add a note of interest to the building.



SECOND FLOOR PLAN. A VILLAGE COURTHOUSE.

The tower is centrally located. It is twelve feet square externally at the base, and designed in three stages, reaching a height of one hundred feet above the pavement.

The materials for the outer walls shall be Missouri red granite for the base and steps, granite also for the columns forming the main entrance; these to be monoliths and polished; the remaining portions of all elevations to be of brick and terra cotta. The brick to be shrimp red in color, laid up in white mortar, with horizontal joints one-half inch thick and vertical joints struck flush. The dressings to be of pink terra cotta, except the vermiculated panels, which are to be of white glazed terra cotta.

Calculating the cubical contents of the building at thirty cents per cubic foot, it would cost \$115,000. This includes the electric wiring, heating and ventilation, but no mural decorations. It is within the power of architects to advise or influence public bodies, and to so direct public taste that enactments may be passed providing for the development of our towns in accordance with a well-ordered scheme; in this scheme should be embodied and centrally located the village square, upon which nothing could be more fittingly placed than a simple, dignified and well-designed courthouse.

Editorial Comment and Selected Miscellany

A CONTRACTOR'S RESPONSIBILITY.

IT is not uncommon to find in an architect's specification a clause which instructs a builder to determine all grades and building lines, to conform to all building regulations, and even in some cases to assume all responsibility for strength of construction. The question whether or not an architect is justified in so transferring



ENTRANCE, ST. MICHAEL'S CHURCH, BROOKLYN, N. Y.

Raymond F. Almirall, Architect.

the responsibility to some one else's shoulders is an open one. H. H. Richardson use to say that no architect need ever bother himself about constructive details; that that was properly the province of the builder, and it was the architect's function solely to treat architecture as a fine art. Unfortunately, however much the architect may wish to classify himself above mere sordid detail, his clients are very apt to consider him as the final arbiter on all matters both structural and artistic; and however strongly a specification may be drawn to transfer the responsibility to some one else's shoulders, clients have a very provoking habit of refusing sometimes to accept such transfer and holding the architect pretty rigidly to the result, either structural or otherwise. The art of architecture is, after all, what makes it worth while, but in our opinion the architect neglects not only his clients but his own opportunities when he declines to accept full responsibility for everything having to do with the profession. The architect surely is not a master builder, and is quite right in declining to even consider matters which pertain purely to the functions of a foreman or master mechanic; but it is mere sophistry and a confession of weakness to



ORCHESTRA HALL, CHICAGO.
D. H. Burnham & Co., Architects.
Fireproofed by the National Fireproofing Co.

ignore the necessary business and practical details involved in the laying out and construction of a large building. Architecture loses as it becomes nothing but ornament and decoration. It is at its best when it is thoroughly and rationally structural; and aside from any question of whether or not it is quite fair to ask a builder to do the architect's work, the architect, for his own sake, for the sake of the best phases of his own art, should retain an immediate and personal hold upon even the humblest structural details.

GUARANTEED ARCHITECTURE.

IN one of the semi-architectural periodicals there appeared recently the advertisement of an enterprising New York concern which announced its readiness to assume the entire charge of constructing any sort of a building, taking all burdens of every sort off of the owner's shoulders, employing the contractors, hiring an architect, selecting the furniture, and in fact asking the owner only that he shall obligingly keep out of the way until his house or building is entirely completed ready for use, and even guaranteeing that the cost shall keep within a stated sum. The awful example of the architect who so frequently is unable to build a house for what the owner is willing to pay was cited as one argument in favor of employing such an agency. An advertisement of this sort might appeal to some unfortunate individuals in this world who are under the necessity of building themselves a house, but we can hardly imagine that any such concern as was represented by this advertisement would even in the slightest degree interfere with the practice of the self-respecting architect who loves his profession; for the owner who would be willing to so give up everything to

any one, architect or any other; who cared so little to see the house grow, to see the ideas take shape, that he was willing to abandon all control of its development for the mere sake of a doubtful guarantee, would not be the kind of client that would be worth anything to an architect with ideals. There is no occupation which can be more enjoyable, can be more full of pleasant associations and can leave a larger number of delightful memories than building one's own house. Only as the owner's individuality is cleverly combined by the architect into the practical working out of the design can any dwelling be considered an artistic success, so that the true architect who loves his work would regret most of all to see his client sail away to Europe and leave him with *carte blanche*. The value of services such as were heralded by the advertisement is beneath consideration. Any one can guarantee to keep within a certain sum of money in the building of a house if he cares nothing for details and has the whole control of those details in his hands.

NEW BOOKS.

BUILDING CONSTRUCTION AND SUPERINTENDENCE. By F. E. Kidder, C. E., Ph. D., Architect. Part III: Trussed Roofs and Roof Trusses. 306 Illustrations. Section I. New York: William T. Comstock. One large 8vo vol., pp. 298. Price, \$3.00.

This work is the last of the series of "Building Construction and Superintendence" from the hand of Mr.



A FACTORY WITH DETAIL OF ENTRANCE, LA SALLE, ILL.
Pond & Pond, Architects.



DETAIL BY H. B. MULLIKEN.

Made by New York Architectural Terra Cotta Co.

Kidder and the closing work of his life. It is a work that he had been engaged on for years.

The following subjects are treated: "Types of Wooden Trusses and the Mechanical Principles Involved"; "Types of Steel Trusses"; "Layout of Trussed Roofs — Bracing of the Roof and Trusses"; "Open Timber Roofs and Church Roofs"; "Vaulted and Domed Ceilings, Octagonal and Domed Roofs"; "Coliseums, Armories, Train Sheds, Exposition Buildings, etc."; "Computing the Purlin and Truss Loads and Supporting Forces"; "Stress Diagrams and Vertical Loads for Trusses Symmetrically and Unsymmetrically Loaded."

THE TWENTIETH CENTURY BRICKLAYER'S AND MASON'S ASSISTANT. Two Parts. By Fred T. Hodgson. Chicago: Frederick J. Drake & Co.

Comprising a series of exhaustive instructions in all kinds of bricklayer's work, including laying foundations, bonding, arching, gauged work, construction of damp courses, coping, building bridges, piers, chimneys, flues, fireplaces, corbeling, plain and fancy cornices, brick paneling, pilasters, plinths and other brickwork, plain and ornamental.

Practical instructions for the use of stone masons, stone cutters, marble workers and stone contractors, showing how to lay out and work all kinds of arches; stone steps, stairs and hand-rails, skew bridges and

arches, circle on circle work, niches, Classic and Gothic stonework, piers and other stonework, plain and ornamental.

The seventh edition of the Architects' Directory, containing the names and addresses of all the architects of this country and Canada, has just been issued by William T. Comstock, 23 Warren Street, New York. Price, \$2.00.

CAPITAL DESIGNED BY J. S. CAMPBELL.
Standard Terra Cotta Works, Makers.

IN GENERAL.

The Brooklyn Chapter of the American Institute of Architects will hold its sixth annual exhibition at the Pouch Gallery, Clinton Avenue, Brooklyn, from the 7th to the 19th of May inclusive.

Exhibits of drawings, photographs, sculpture and objects of industrial art are desired from all interested.

In order to stimulate the artistic development of the pupils in the art schools of Brooklyn, the Chapter has instituted a competition for a cover design for the Catalogue of the 1906 exhi-



MANTEL FOR RECEPTION ROOM.

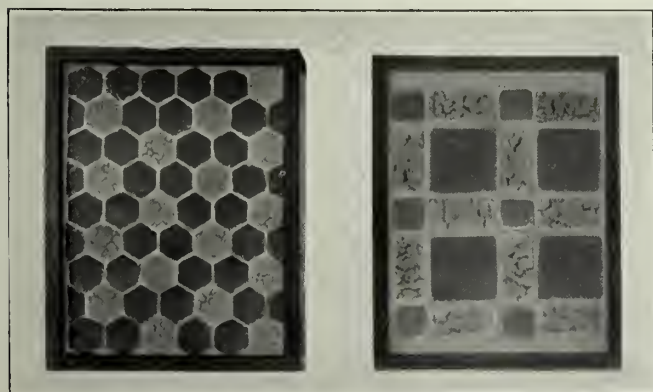
Executed in Colored Mat Glaze Faience by Rookwood Pottery Co.

bition, to be limited to the pupils of these schools only. A prize of \$25 for the first and \$15 for the second best designs will be awarded to the successful competitors.

In order to increase public interest in the subject of good architecture the Chapter has instituted a competition in connection with its annual exhibition and will award a bronze medal for the photograph of the most architectural detached house located in the Borough of Brooklyn. There will also be a first and second mention for those next in merit.

Butler, Rodman & Oliver, architects, announce the dissolution of their partnership by mutual agreement. Messrs. Butler and Rodman, under the firm name of Butler & Rodman, will retain the present office at No. 16 East Twenty-third Street. Mr. Marshal Francis Oliver has removed his office to Nos. 35-37 West Thirty-first Street.

The various officers and chairmen of committees of the Architectural League of America for the year 1906-1907 are as follows:



PAVEMENT TILES MADE BY GRUEBY FAIENCE CO.



HOUSE AT CINCINNATI, OHIO.

Built of Brick made by Ohio Mining & Manufacturing Co.

EXECUTIVE BOARD. President, Ernest J. Russell; vice-president, Frederick M. Mann; corresponding secretary, William B. Ittner; recording secretary, Ernest Helfensteller, Jr.; treasurer, John C. Stephens; Samuel L. Sherer and Jesse N. Watson, all of St. Louis.

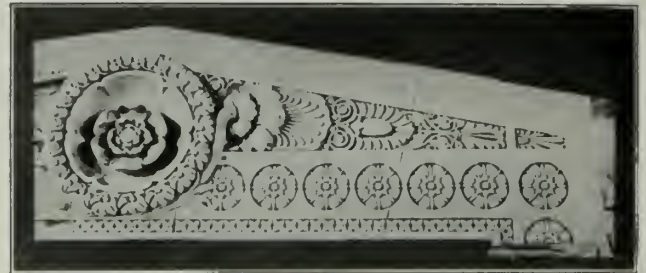
CHAIRMEN OF COMMITTEES. Publicity and Promotion, John Molitor, Philadelphia; Current Club Work, J. P. Hynes, Toronto; Education, Newton A. Wells, Urbana, Ill.; Co-operation with the Institute, William B. Ittner, St. Louis; Civic Improvement, Frederick S. Lamb, New York; Foreign Scholarship, N. Max Dunning, Chicago.

DETAIL BY YORK & SAWYER.
Brick, Terra Cotta & Tile Co., Makers.

The Atlantic Terra Cotta Company of New York are making extensive additions to their plant to accommodate the increasing demand for their dull enamel white marble finish terra cotta. There is a marked tendency, in the East especially, to employ glazed and colored terra cotta in buildings of nearly all types.

The Ohio Mining and Manufacturing Company have installed at their Shawnee, Ohio, brick plant a complete electrical equipment besides new brick presses. This improvement is made necessary by their increased business.

The Tiffany Enameled Brick Company, Momence,

DETAIL BY PRICE & MACLANAHAN.
Conkling-Armstrong Terra Cotta Co.DETAIL BY RICHARD E. SCHMIDT.
Northwestern Terra Cotta Co., Makers.

Ill., have opened general offices in the Chamber of Commerce Building, Chicago.

The Atlantic Terra Cotta Company has recently closed a contract with the Fuller Construction Company for the architectural terra cotta for the entire three

fronts, from second story up, of the Plaza Hotel, New York City, H. J. Hardenbergh, architect. The material to be used is their dull enamel white marble finish terra cotta. They will also furnish about half a million enameled brick of the same material to be used in this building. The company has recently completed two large buildings with this material: the Buckingham Building, Waterbury, Conn., McKim, Mead & White, architects; and the Berkeley Galleries, Boston, Mass., Codman & Despradelle, architects. This

material has all the advantages of the sand-blasted glaze, without the many disadvantages.

NEW AND OLD

THE Boston Custom House is a solid, substantial looking edifice of Quincy granite which in its day

was considered a marvel of architecture, and stories are still told about the difficulties encountered in getting out the granite columns which support the pediment of the front and which were hauled by oxen from Quincy to Boston after

WIDMANN, WALSH & BOISSELIER, ARCHITECTS.
Winkle Terra Cotta Co., Makers.



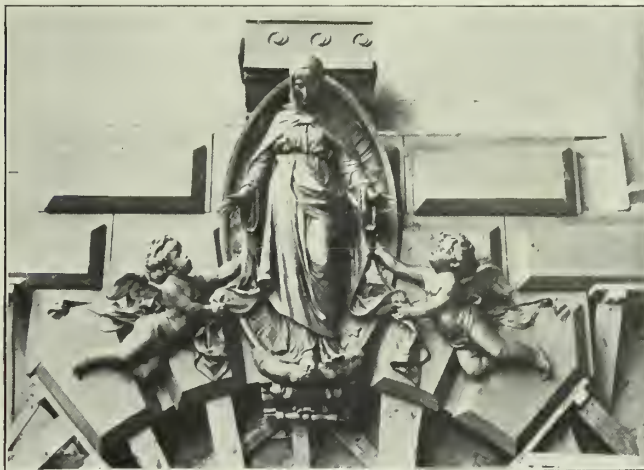
FIRST METHODIST EPISCOPAL CHURCH AND WOMAN'S COLLEGE, BALTIMORE, MD.

McKim, Mead & White, Architects.

Roofs of all the buildings covered with Bennett's roofing tiles.

being stalled on the way for several months. It is a structure of very simple design, and is one of the city's treasured monuments, even though the requirements of the Custom House Department have long since outgrown the narrow quarters which this building affords.

There is now being



DETAIL BY HELME, HUBERTY & HUDSON.

Perth Amboy Terra Cotta Co., Makers.



FIGURE DESIGNED BY JOHN E. KIRBY.

South Amboy Terra Cotta Co., Makers.

completed on Tremont Street, at Scollay Square, a building to be occupied by the Suffolk Savings Bank. It has been designed by Mr. Cass Gilbert, and, allowing for the difference in site and grades, it follows very closely the general lines of design which were worked out in the old Custom House. It is interesting to compare these two structures, both of them monumental in character, both of them thoroughly and well designed in every detail, and to consider how admirably adapted the style must be for the purpose that it can serve so fitly for two buildings so far apart in date as these structures are ; for

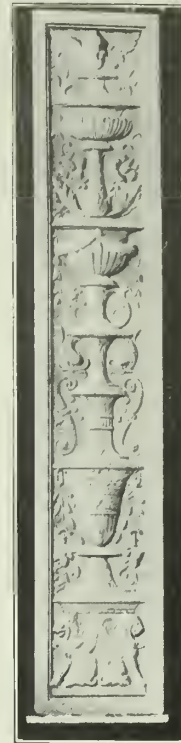
sense a copy of the older structure. The scale is different, the plan is totally unlike, but the same spirit of refined, studied classicism has given both buildings a similar stamp.



ST. PATRICK'S CHURCH, MEMPHIS, TENN.

Chighizola, Harker & Cairns, Architects.

Brick made by Hydraulic-Press Brick Co.

DETAIL BY MCKIM,
MEAD & WHITE.
Atlantic Terra Cotta
Co., Makers.



YORKVILLE BANK, NEW YORK CITY.

Mynicke & Franke, Architects.

Entire trim of terra cotta, made by Excelsior Terra Cotta Co.

Draughtsmen Wanted

WANTED — Architectural Draughtsman by Toronto firm; must be able man. State experience fully and salary expected. Address, Toronto, care "The Brickbuilder."

WANTED — By a New York City Architect, a Draughtsman to do tracing; clean and accurate work and a good general draughtsman. Write, stating experience, references and salary. New York, care "The Brickbuilder."

MUNICIPAL CIVIL SERVICE COMMISSION.

No. 61 Elm Street, New York.

PUBLIC NOTICE is hereby given that an open competitive examination will be held for the position of

ARCHITECTURAL DRAUGHTSMAN.

Wednesday and Thursday, April 18 and 19, at 10 a. m.

The receipt of applications will close on Wednesday, April 11, at 4 p. m.

For scope of examination and further information apply to the Secretary of the Commission.

WILLIAM F. BAKER, President,
R. ROSS APPLETON,
ALFRED J. TALLEY,
Civil Service Commissioners.

FRANK A. SPENCER, Secretary.

MUNICIPAL CIVIL SERVICE COMMISSION.

No. 61 Elm Street, New York.

PUBLIC NOTICE is hereby given that an open competitive examination will be held for the position of

ARCHITECTURAL DRAUGHTSMAN DESIGNER.

Wednesday and Thursday, April 25 and 26, at 10 a. m.

The receipt of applications will close on Wednesday, April 18, 1906, at 4 p. m.

For scope of examination and further information apply to the Secretary of the Commission.

WILLIAM F. BAKER, President,
R. ROSS APPLETON,
ALFRED J. TALLEY,
Civil Service Commissioners.

FRANK A. SPENCER, Secretary.

Competition for Photographs and Plans of Two Small Brick Houses.

FIRST PRIZE, \$100.00; SECOND PRIZE, \$50.00; THIRD PRIZE, \$25.00;

FOURTH PRIZE, \$15.00; FIFTH PRIZE, \$10.00

Competition closes June 1, 1906.

10"	
<p>Place Here Photographs of One House Trim to Fit Space.</p>	<p>Place Here Photographs of One House Trim to Fit Space</p>
<p>Place Here First and Second Floor Plans of House Shown Above</p>	<p>Place Here First and Second Floor Plans of House Shown Above</p>
<p>Give Here Location, Name of Architect, Cost, and Cubical Contents.</p>	<p>Give Here Location, Name of Architect, Cost, and Cubical Contents.</p>
13"	

Submitted by

PROGRAM.

The object of the Competition is to obtain a collection of photographs and plans of well designed, well planned houses which have been built of brick at a cost ranging from \$3,000 to \$7,000 each.

The best in design and plan for the cost, whether this be \$3,000 or \$7,000, will be given the prizes.

The houses must be detached, and built entirely of brick, except the trim, such as porches and cornices, may be of other materials.

SPECIFIC REQUIREMENTS. On a piece of heavy cardboard measuring exactly 12 x 15 inches, inside border lines drawn 1 inch from edge of cardboard, shall be mounted (at the top of card) in spaces measuring 4 x 5 inches each, one photograph each of two houses.

These photographs should be mounted (pasted on) with care and trimmed to actual size of the spaces.

Below these photographs, in spaces measuring 5 x 7 inches each, shall be drawn or mounted the first and second floor plans of each house.

In the panels below these spaces shall be clearly printed the location (city or town and state), the names of the architects, total cost of each house, and cubical contents.

Below these panels should be given the *nom de plume* of the contestant, consisting of only one word.

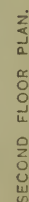
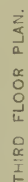
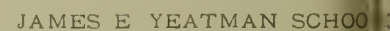
The accompanying diagram indicates exactly the manner in which subjects should be presented.

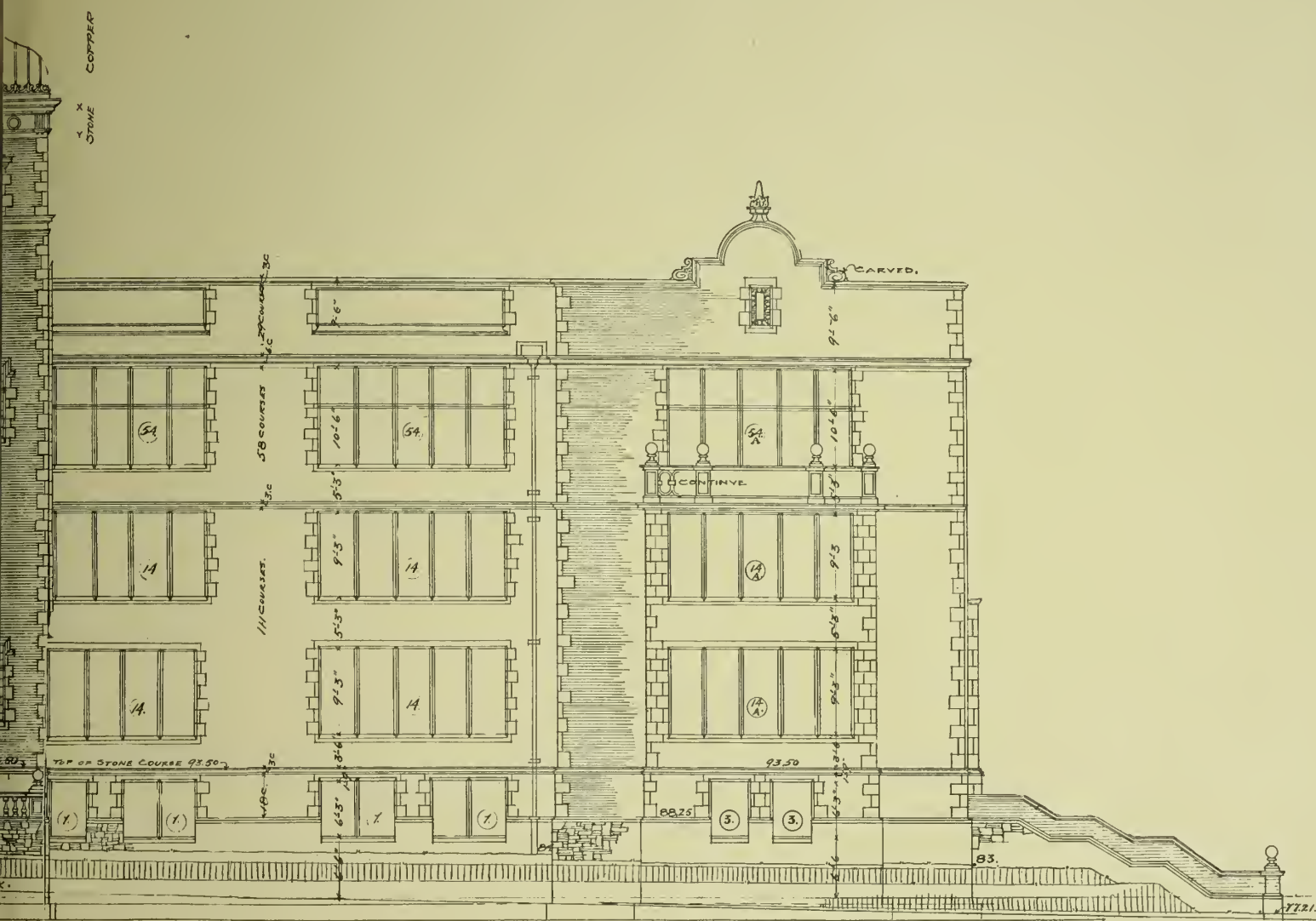
These sheets are to be delivered at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., charges prepaid, on or before June 1, 1906. They should be carefully packaged to prevent damage in transit. Accompanying each sheet is to be a sealed envelope with a *nom de plume* on the exterior and containing the true name and address of the contestant.

The Competition will be judged by two well-known architects.

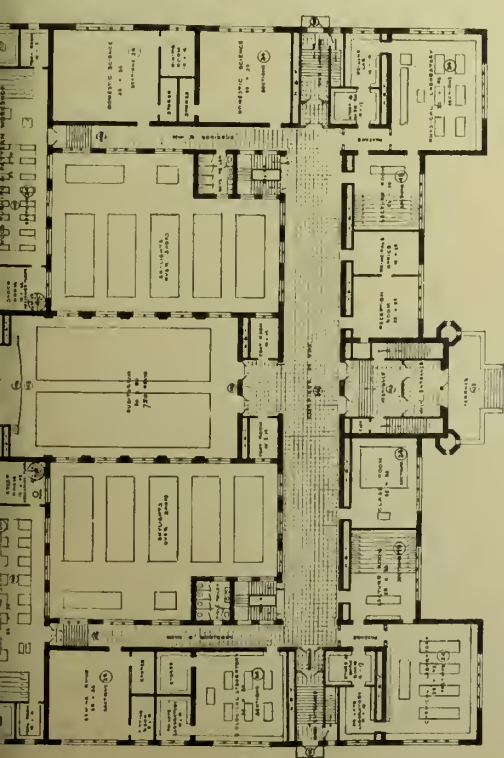
Competition open to every one.

The groups awarded prizes are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others.

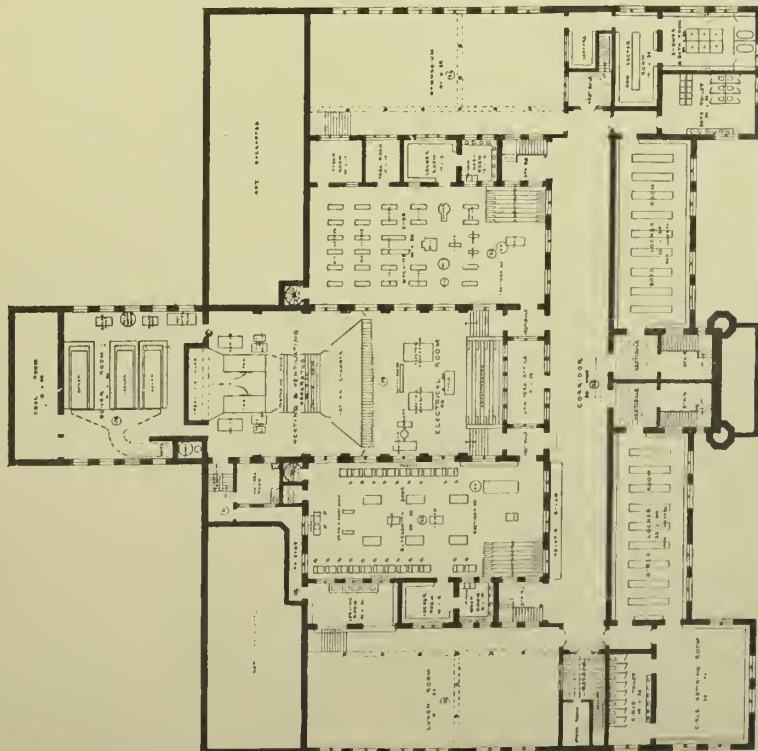




IO. WILLIAM B. ITTNER, ARCHITECT.

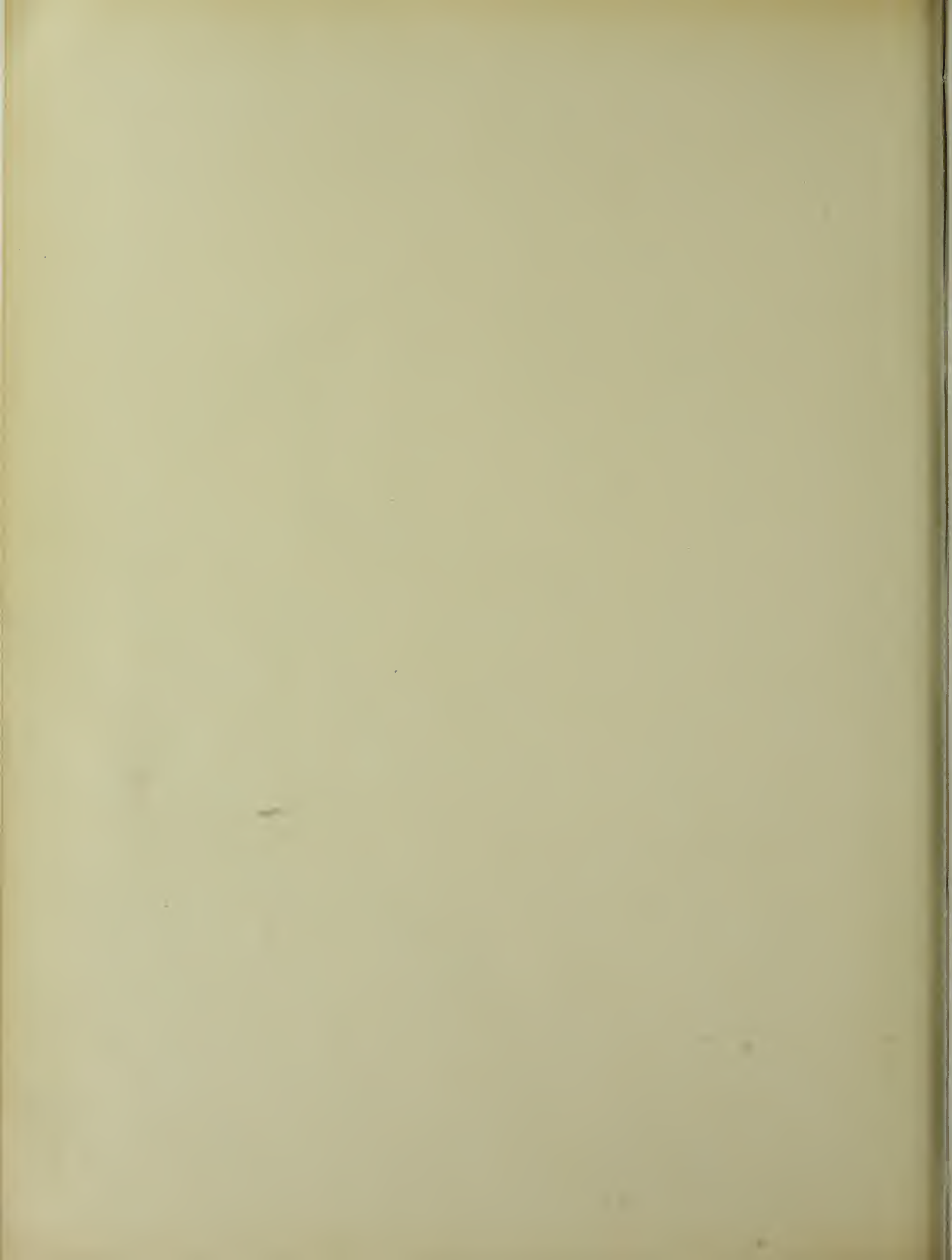


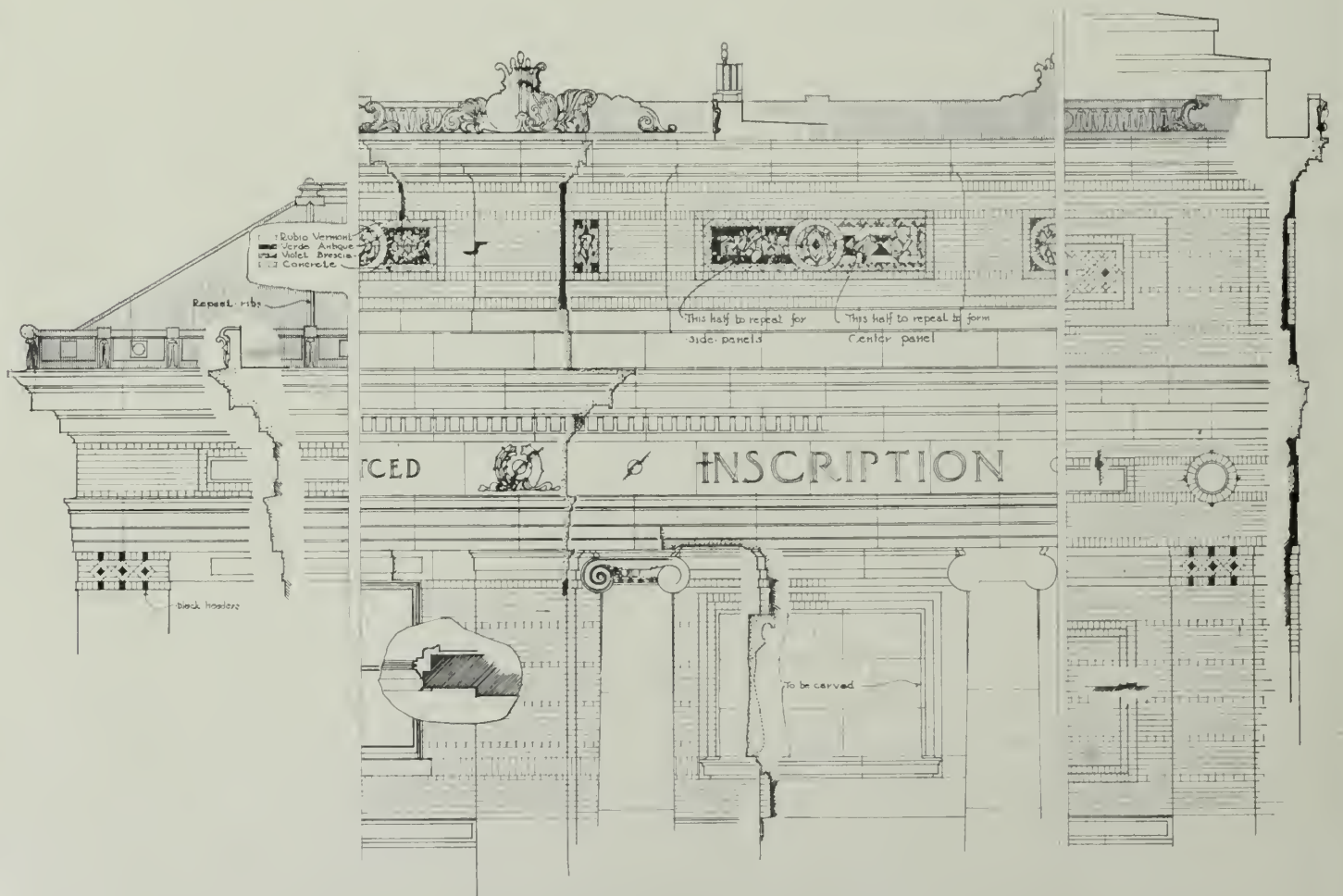
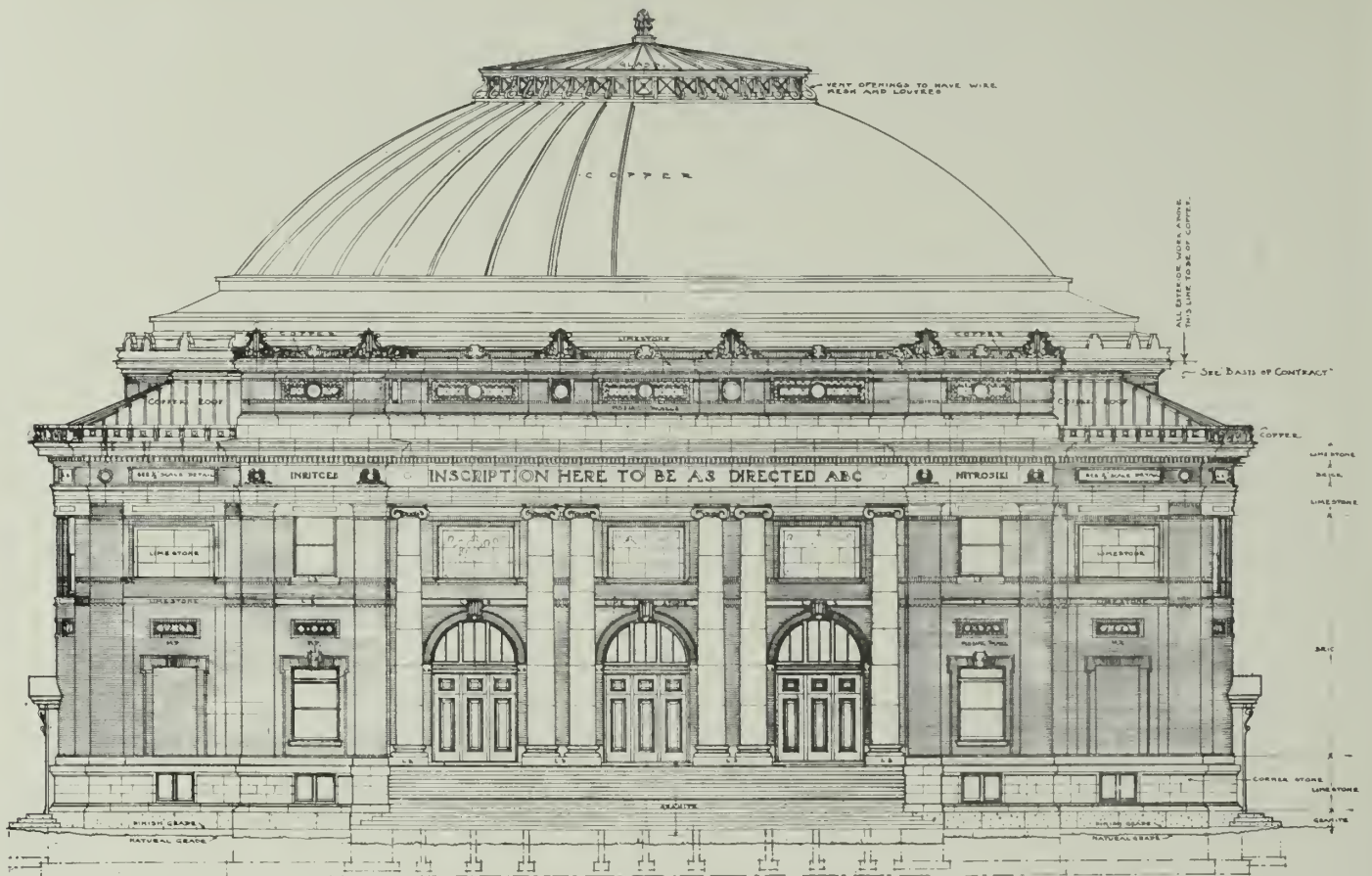
FIRST FLOOR PLAN.



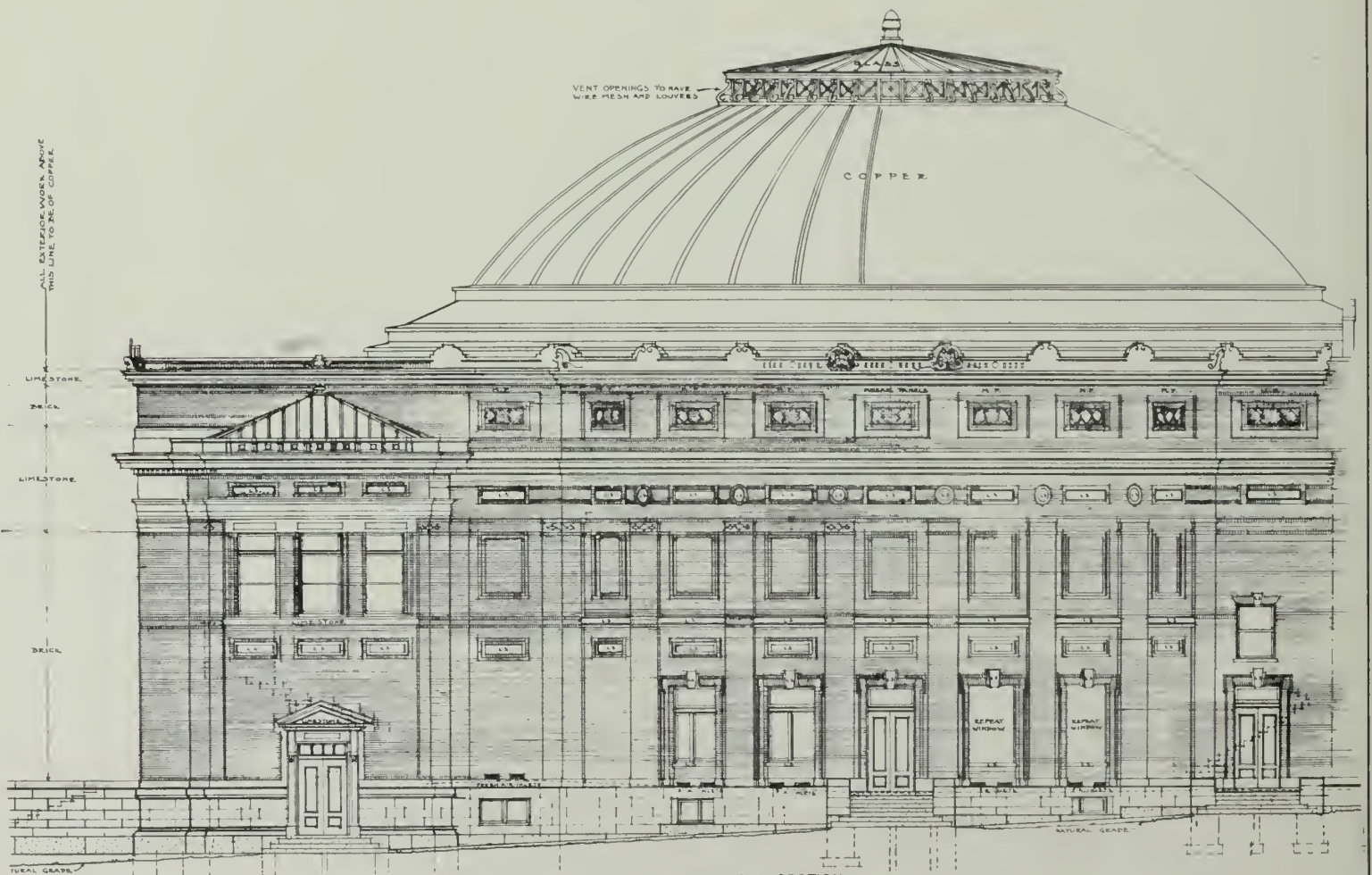
BASEMENT PLAN.

SCHOOLS, ST. LOUIS, MO. WILLIAM B. ITTNER, ARCHITECT.

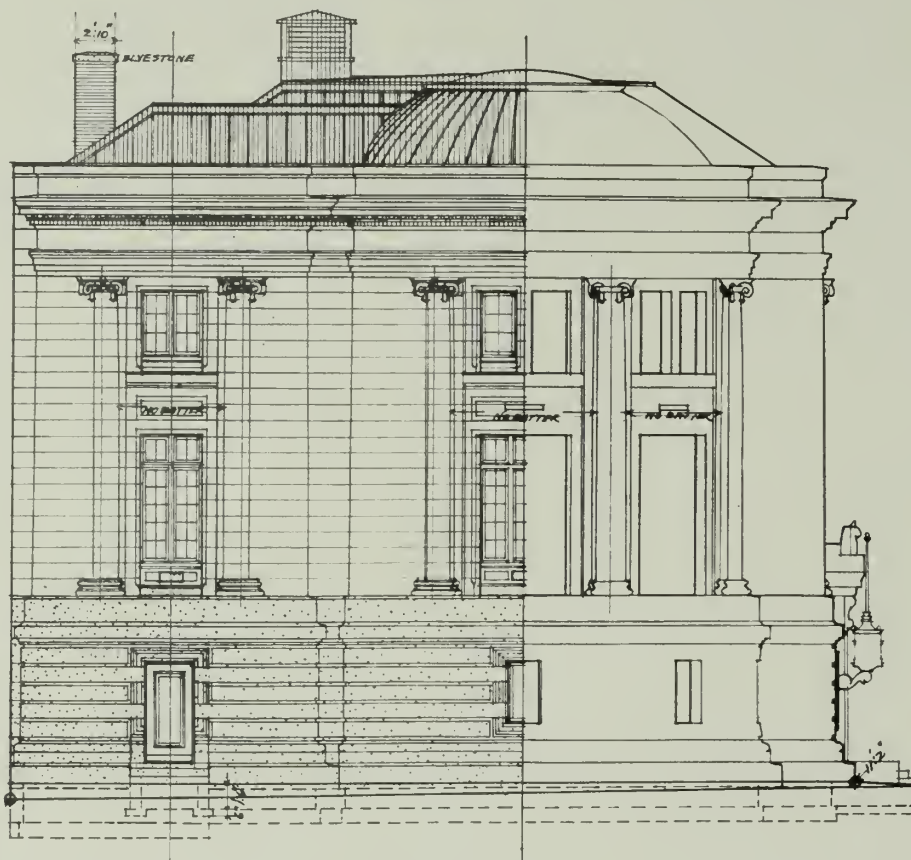




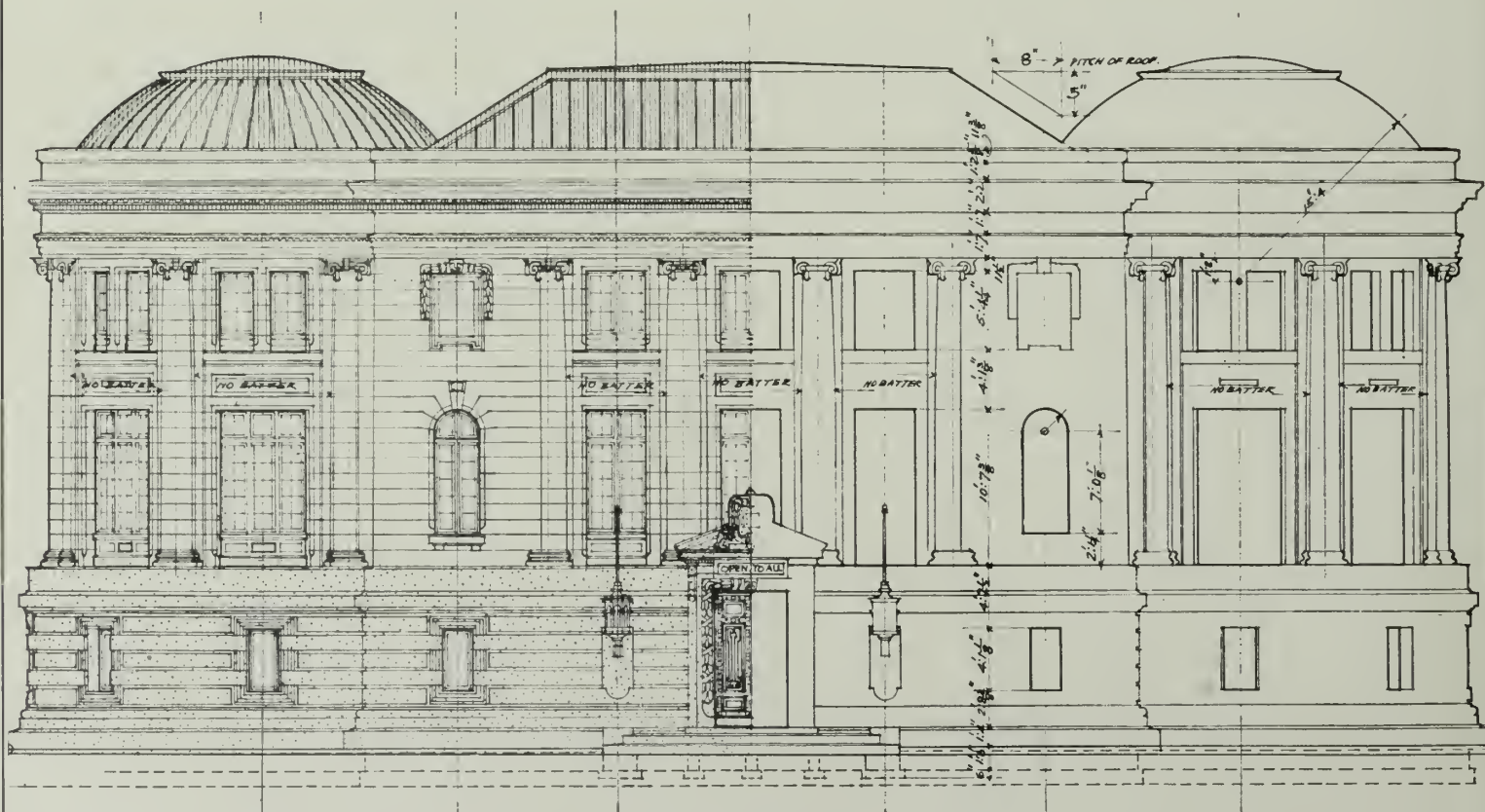
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SIDE ELEVATION AND LONGITUDINAL SECTION.
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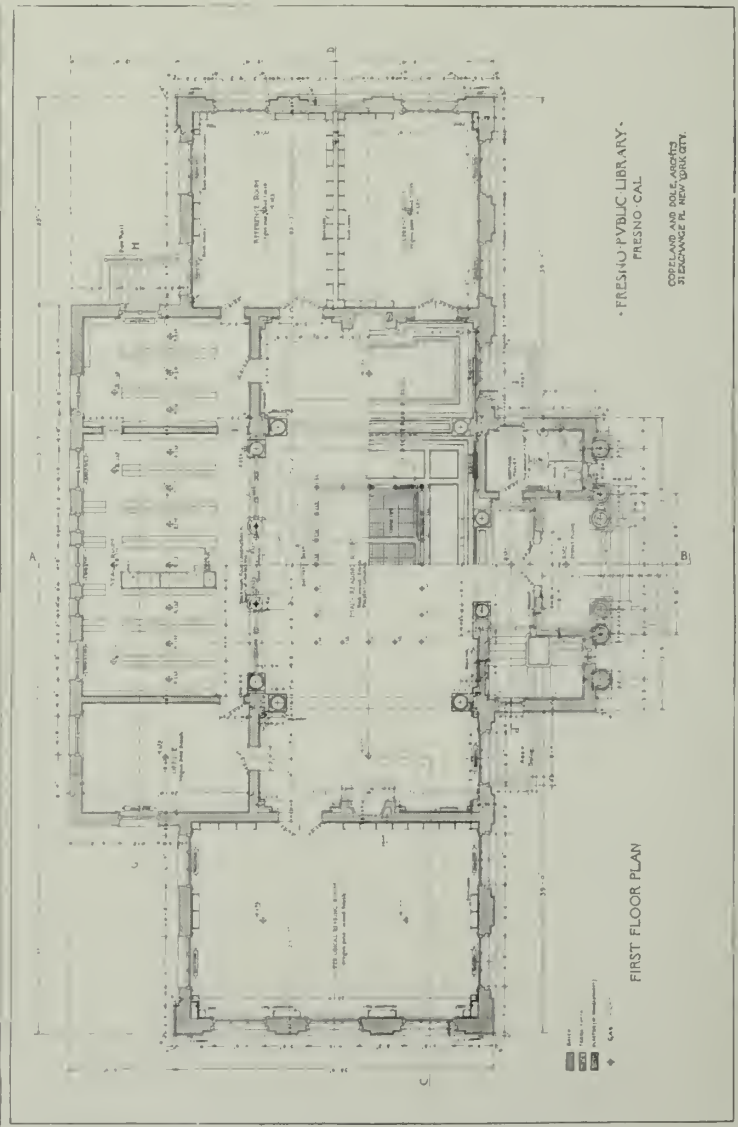
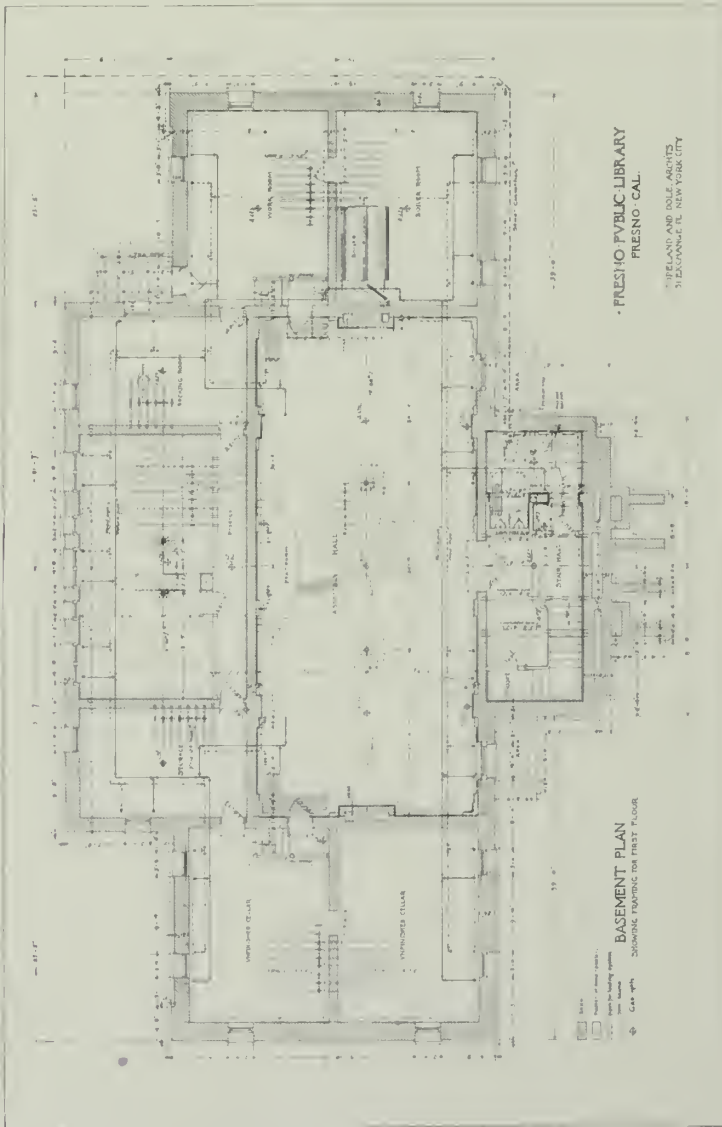
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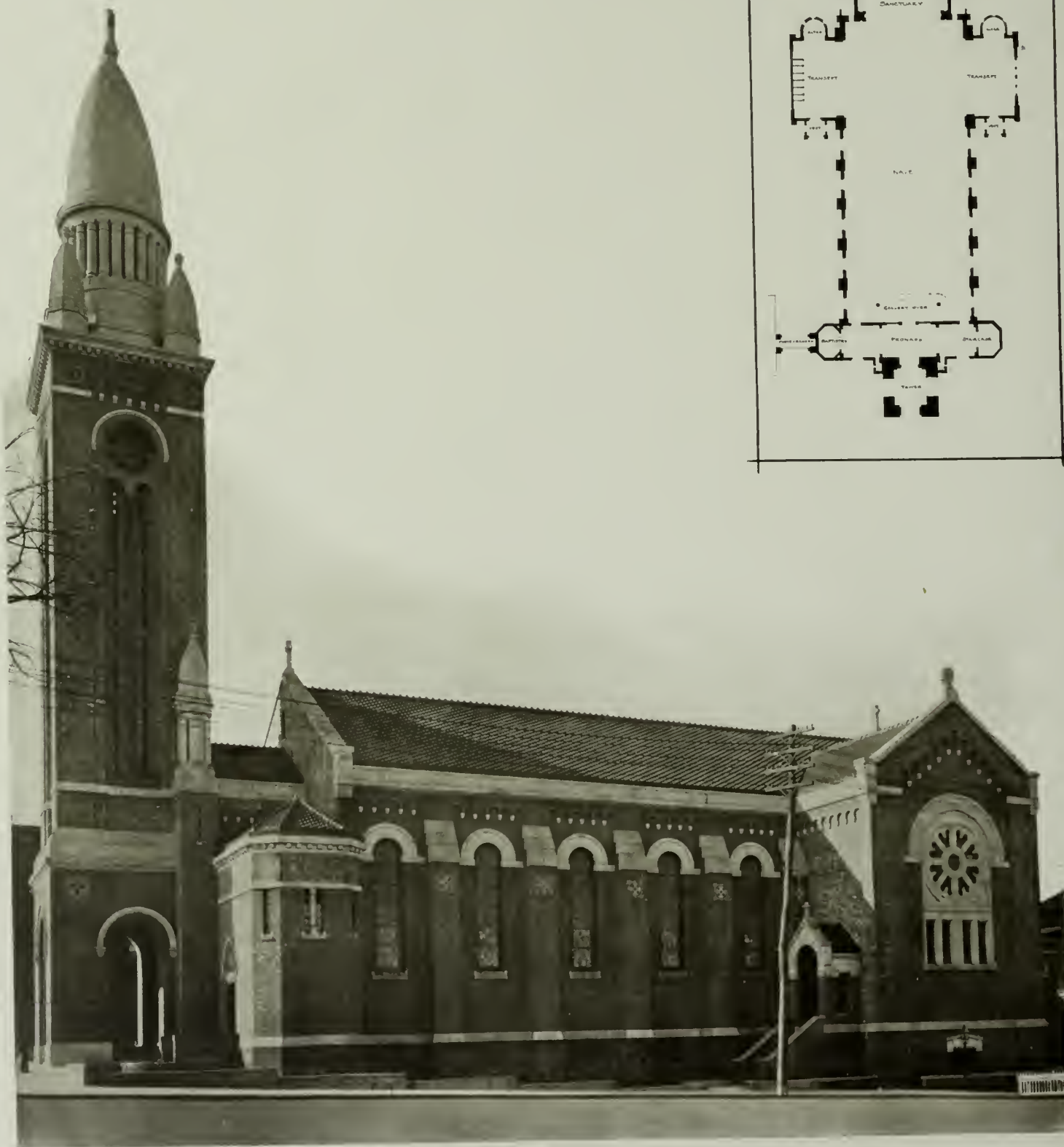
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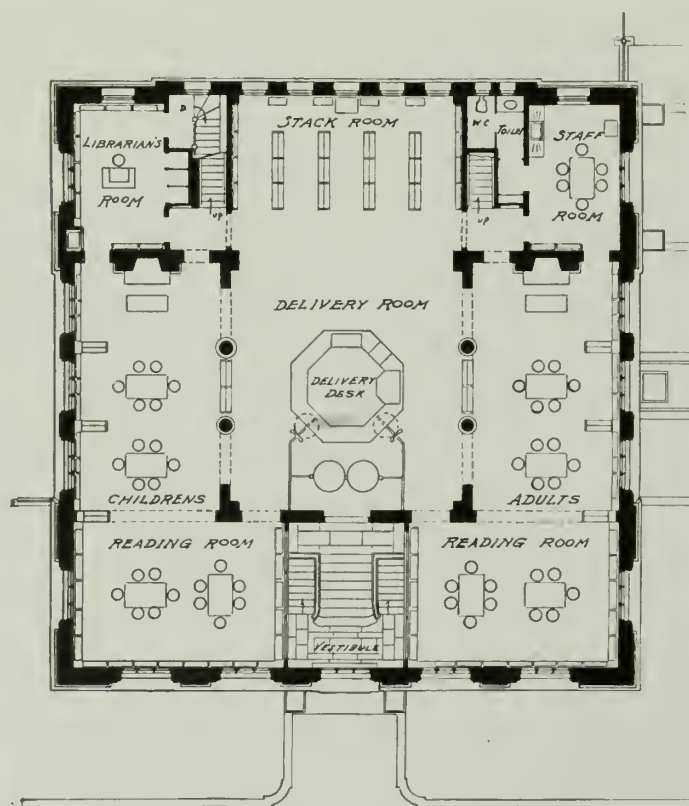
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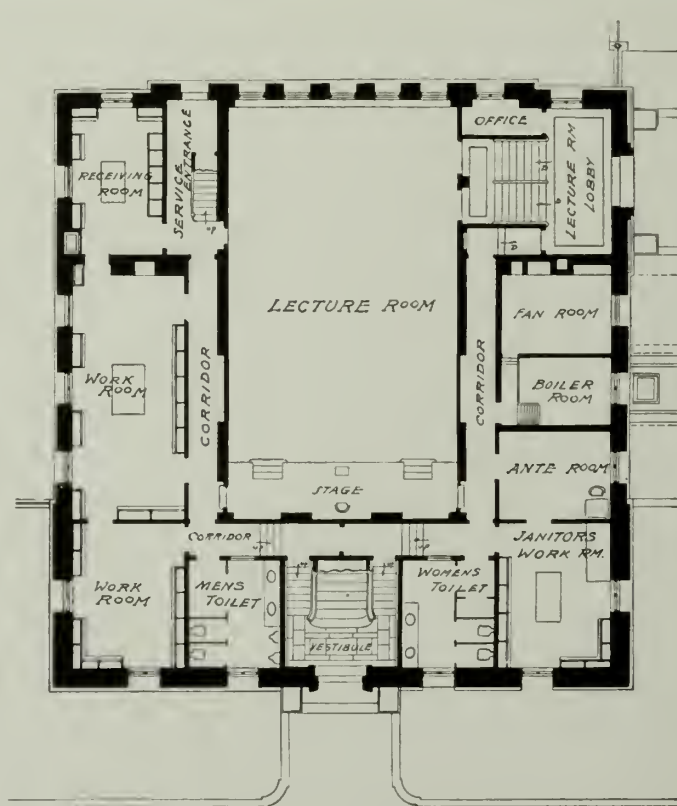
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RAYMOND F. ALMIRALL, ARCHITECT.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

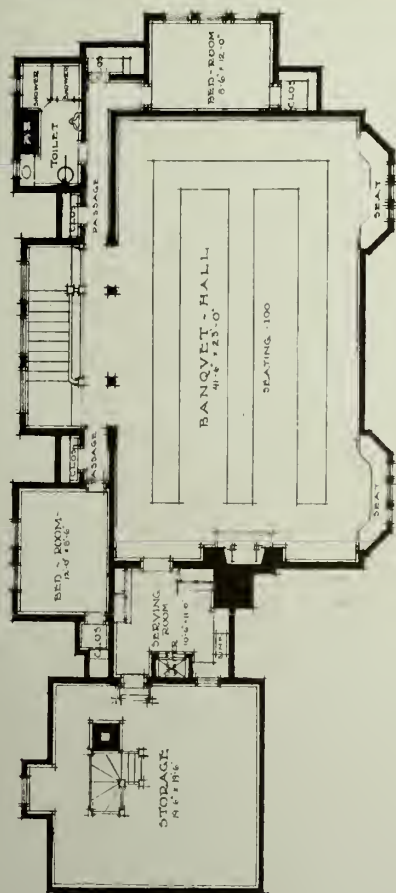
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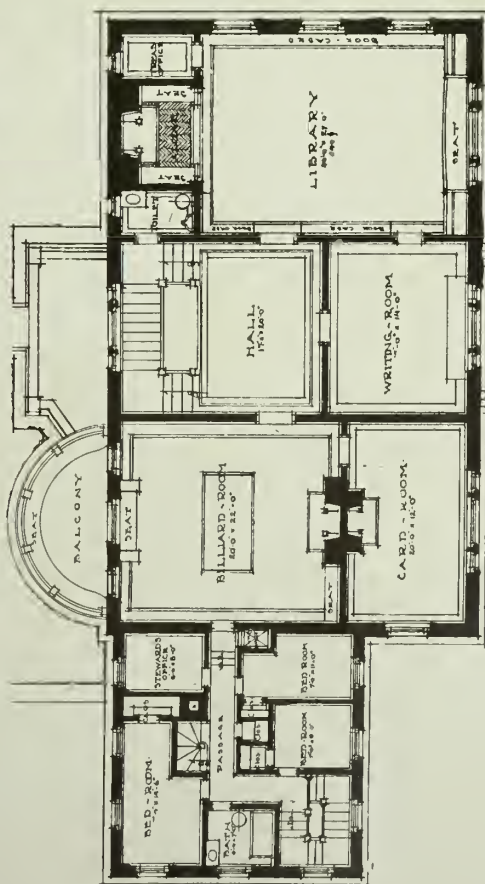
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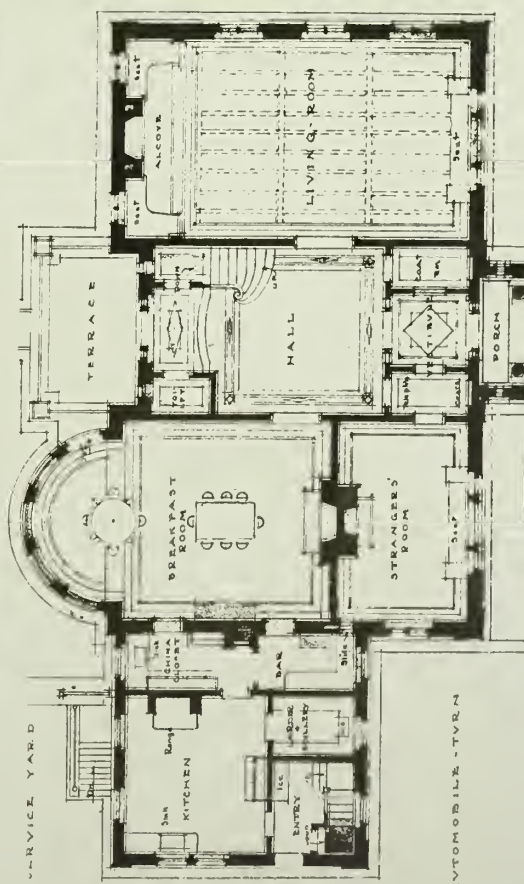
YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, BROOKLYN, N. Y.
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THIRD FLOOR PLAN.

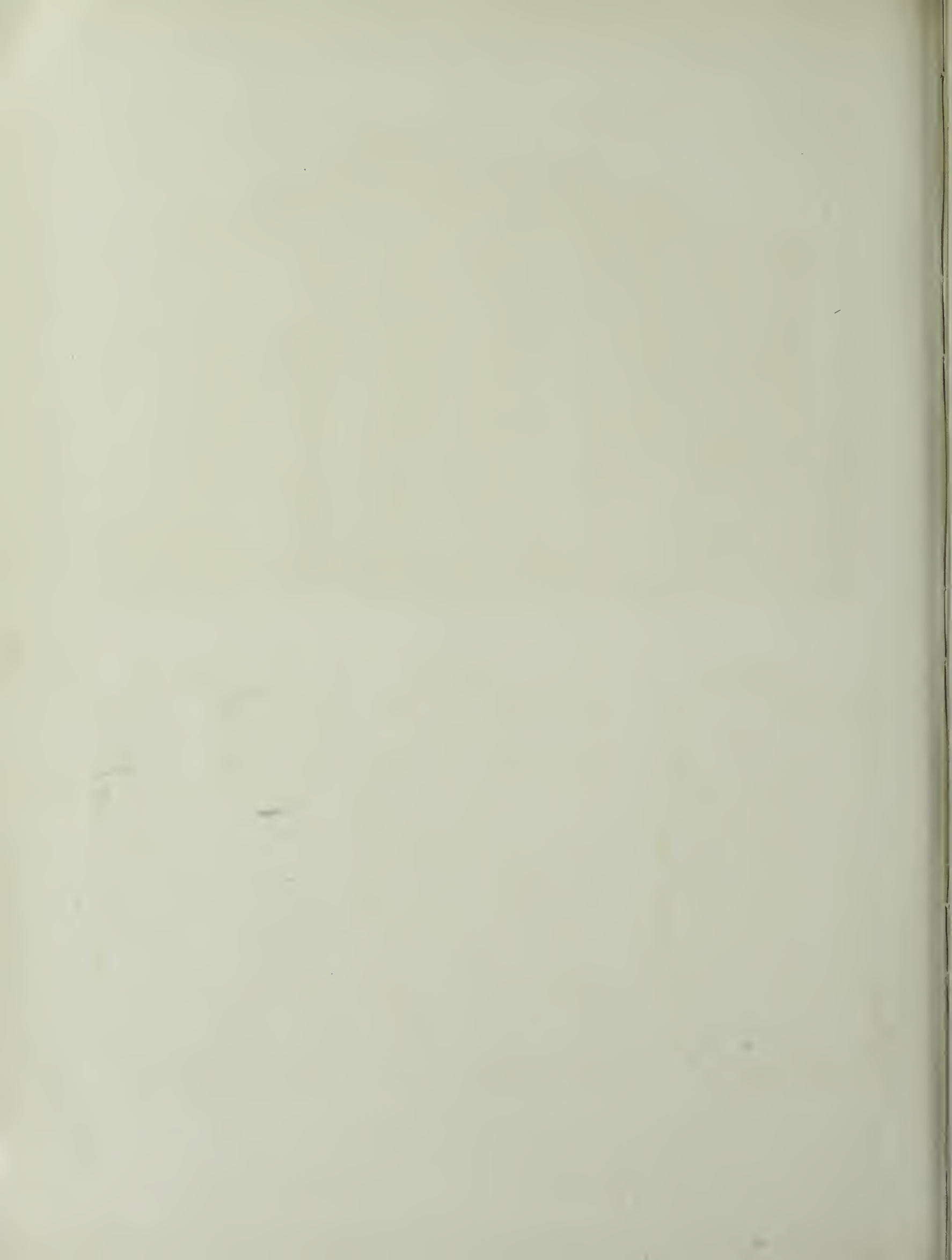


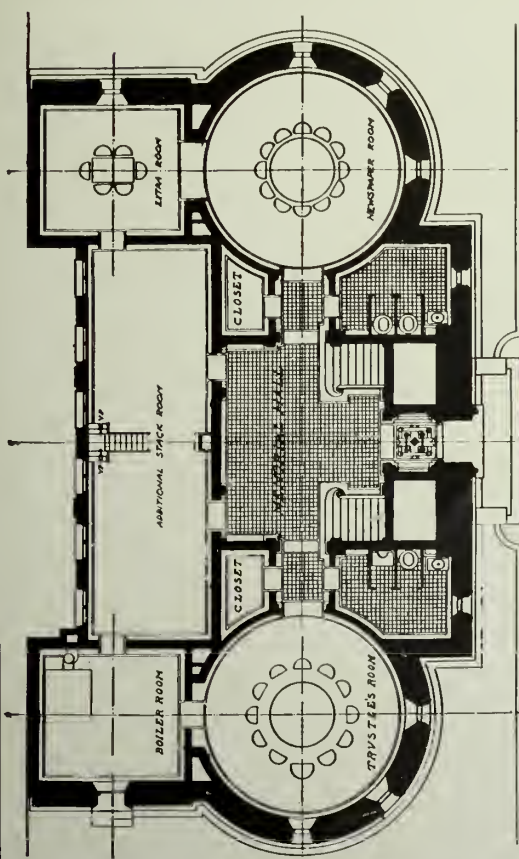
SECOND FLOOR PLAN.



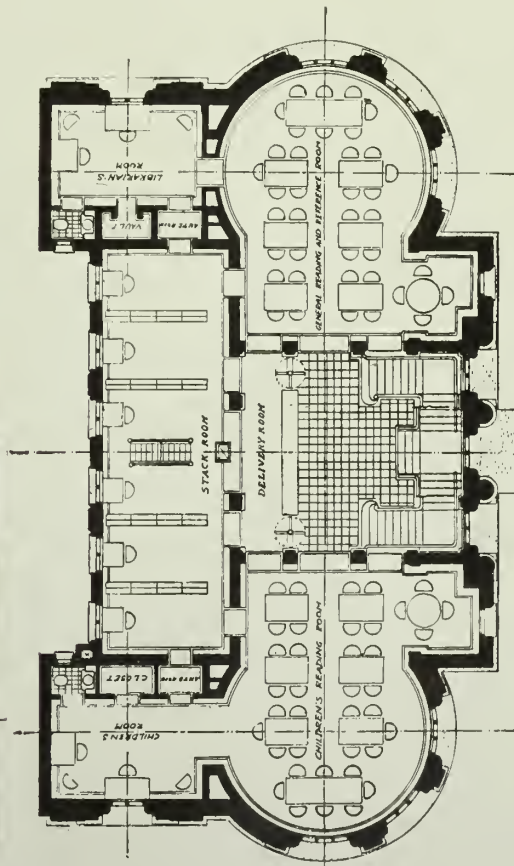
FIRST FLOOR PLAN

PHI DELTA PSI CLUBHOUSE, CAMBRIDGE, MASS.
JAMES PURDON, ARCHITECT.

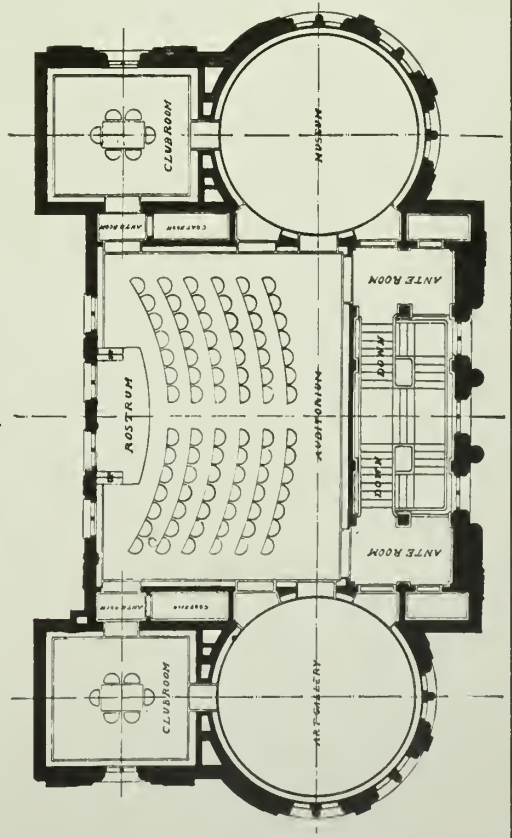




FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



THIRD FLOOR PLAN.

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ALBERT RANDOLPH ROSS, ARCHITECT.





LOOKING TOWARD ALTAR.

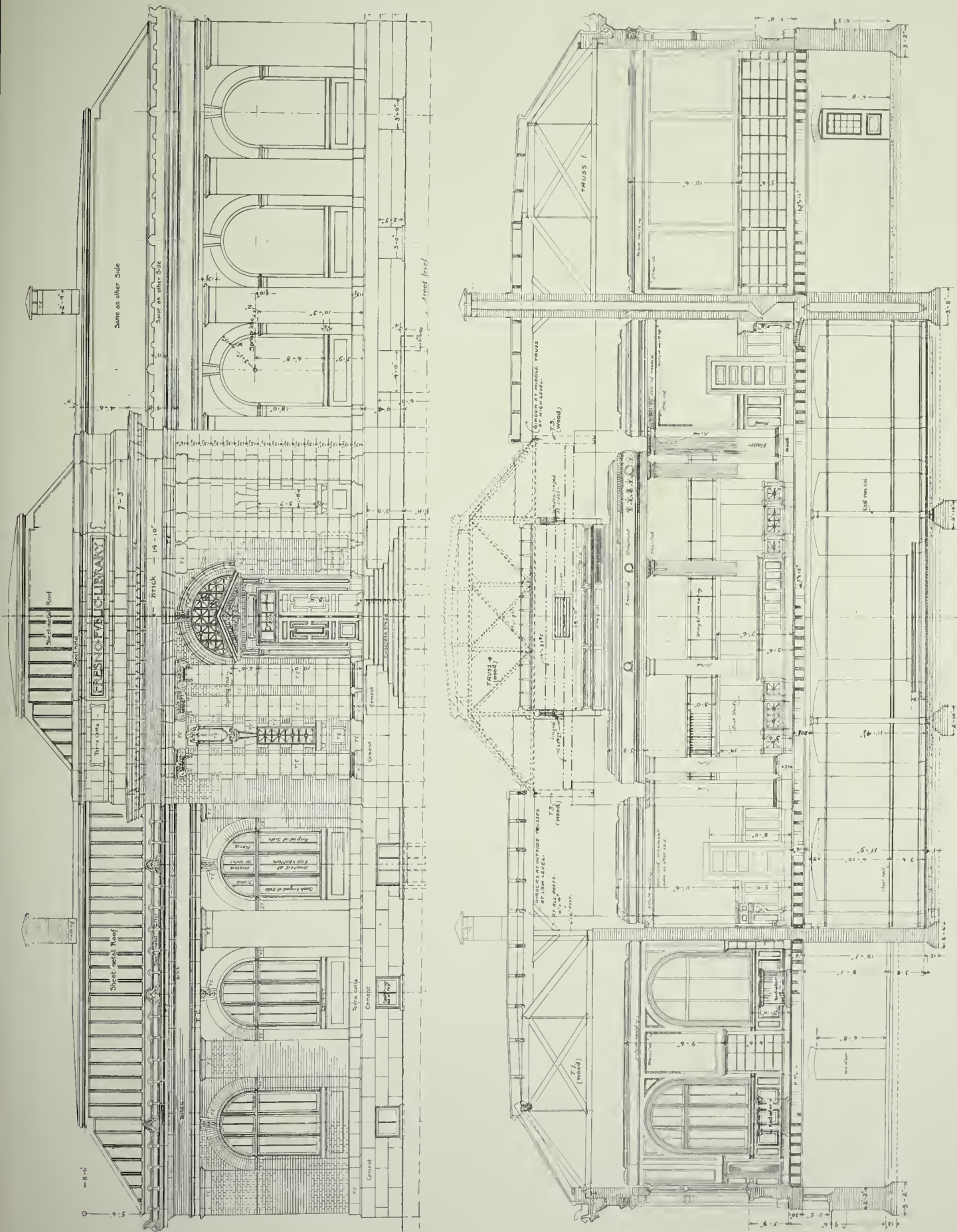


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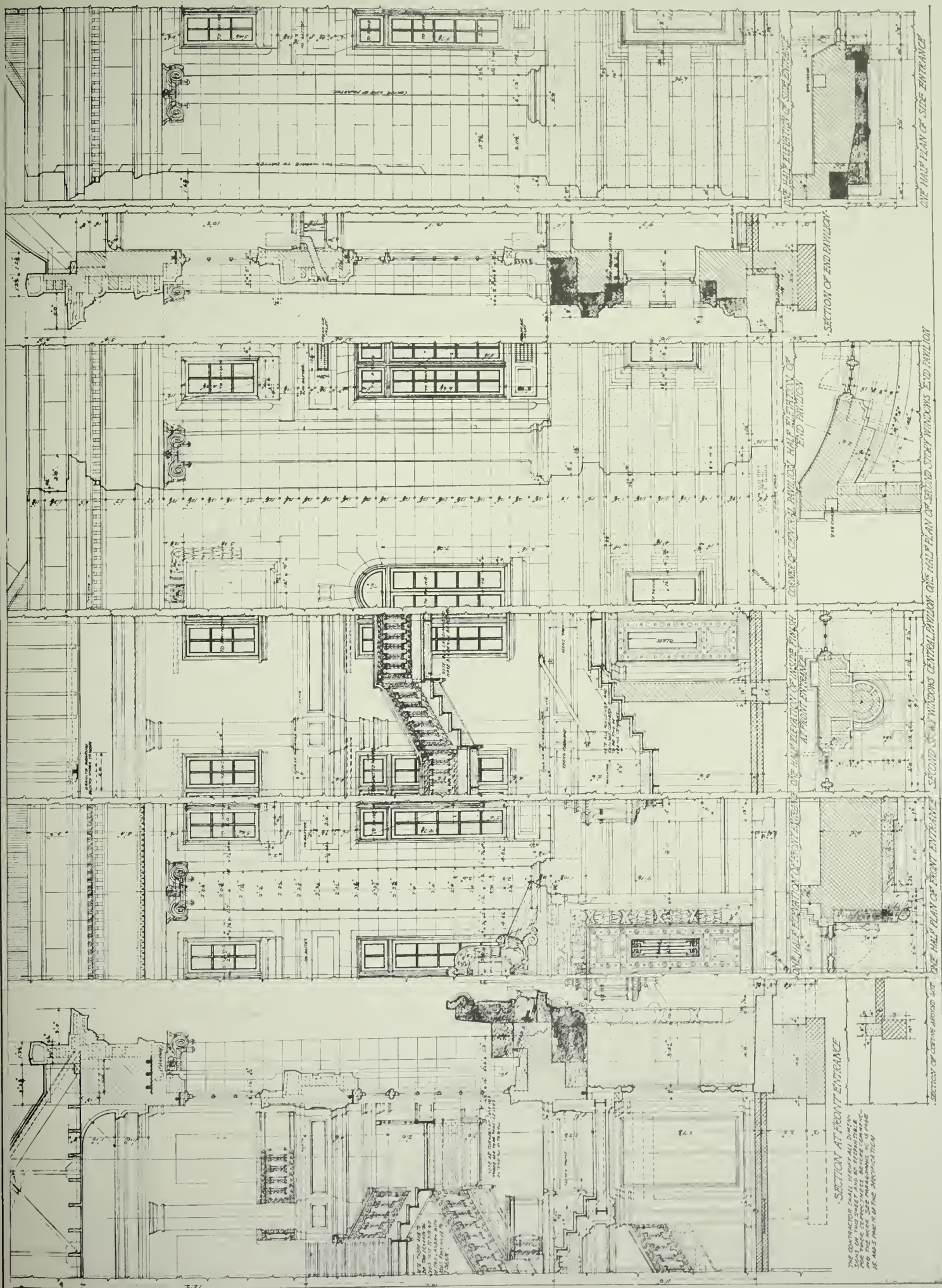


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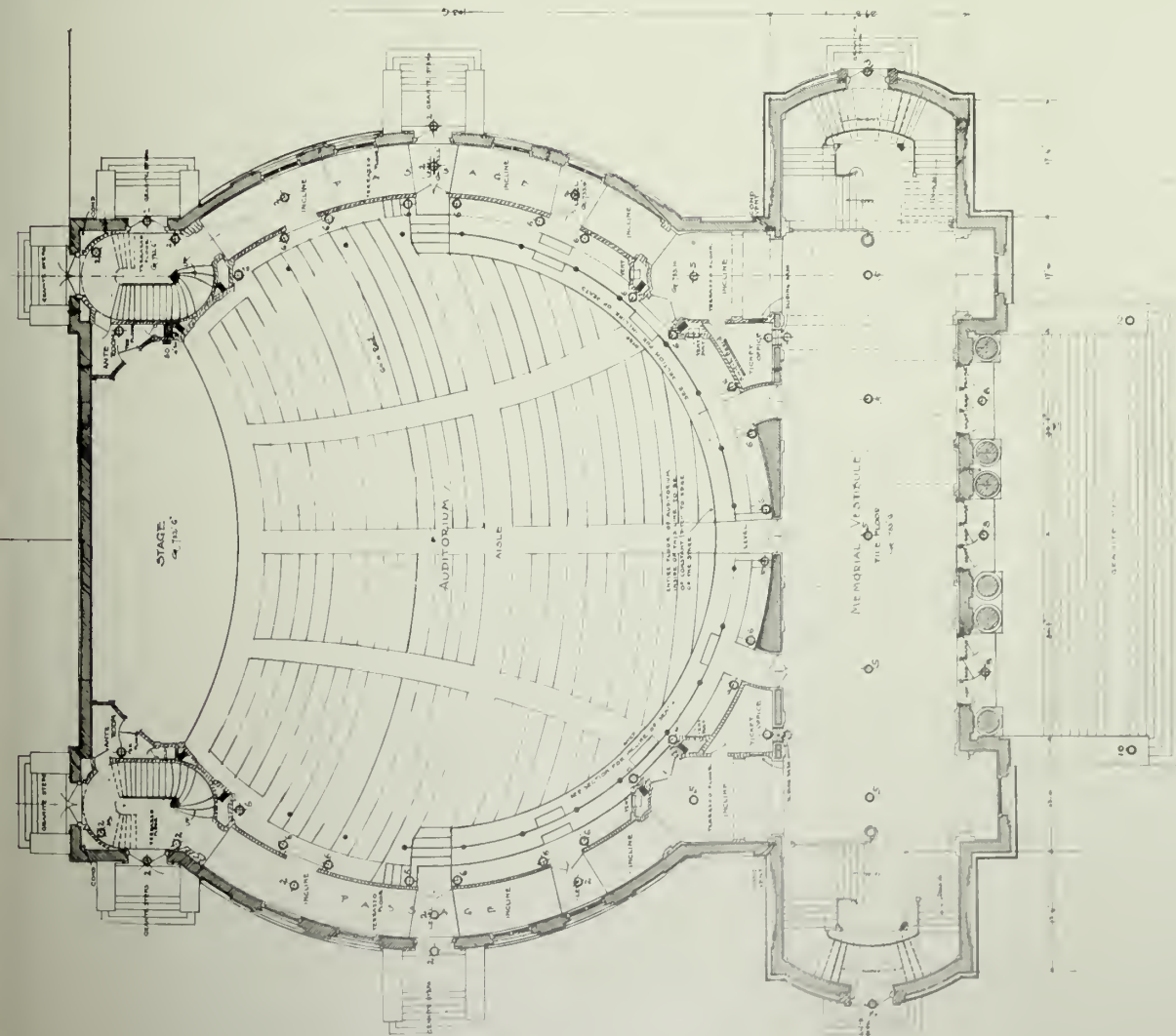
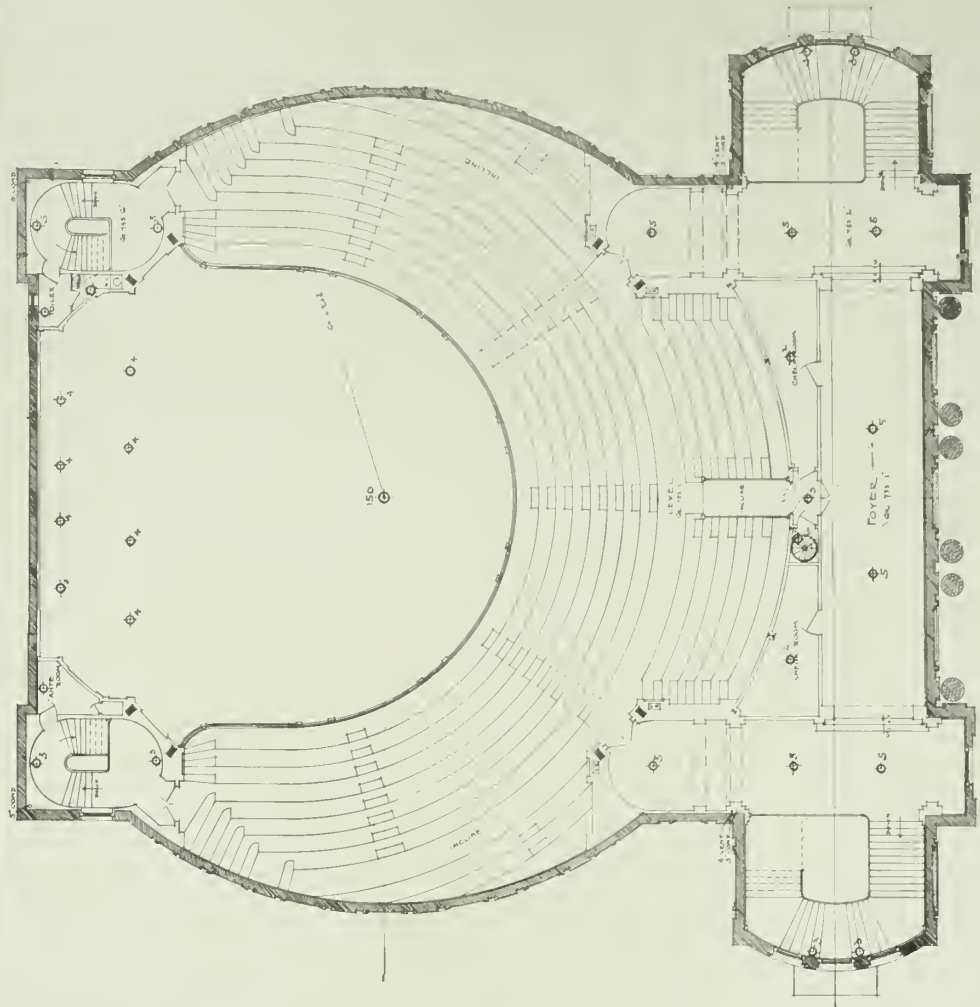
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FIRST AND GALLERY FLOOR PLANS.
AUDITORIUM BUILDING, UNIVERSITY OF ILLINOIS,
CHAMPAIGN, ILL.
C. H. BLACKALL, ARCHITECT.

THE BRICKBUILDER

VOLUME XV

APRIL 1906

NUMBER 4

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Brick	III	Roofing Tile	IV

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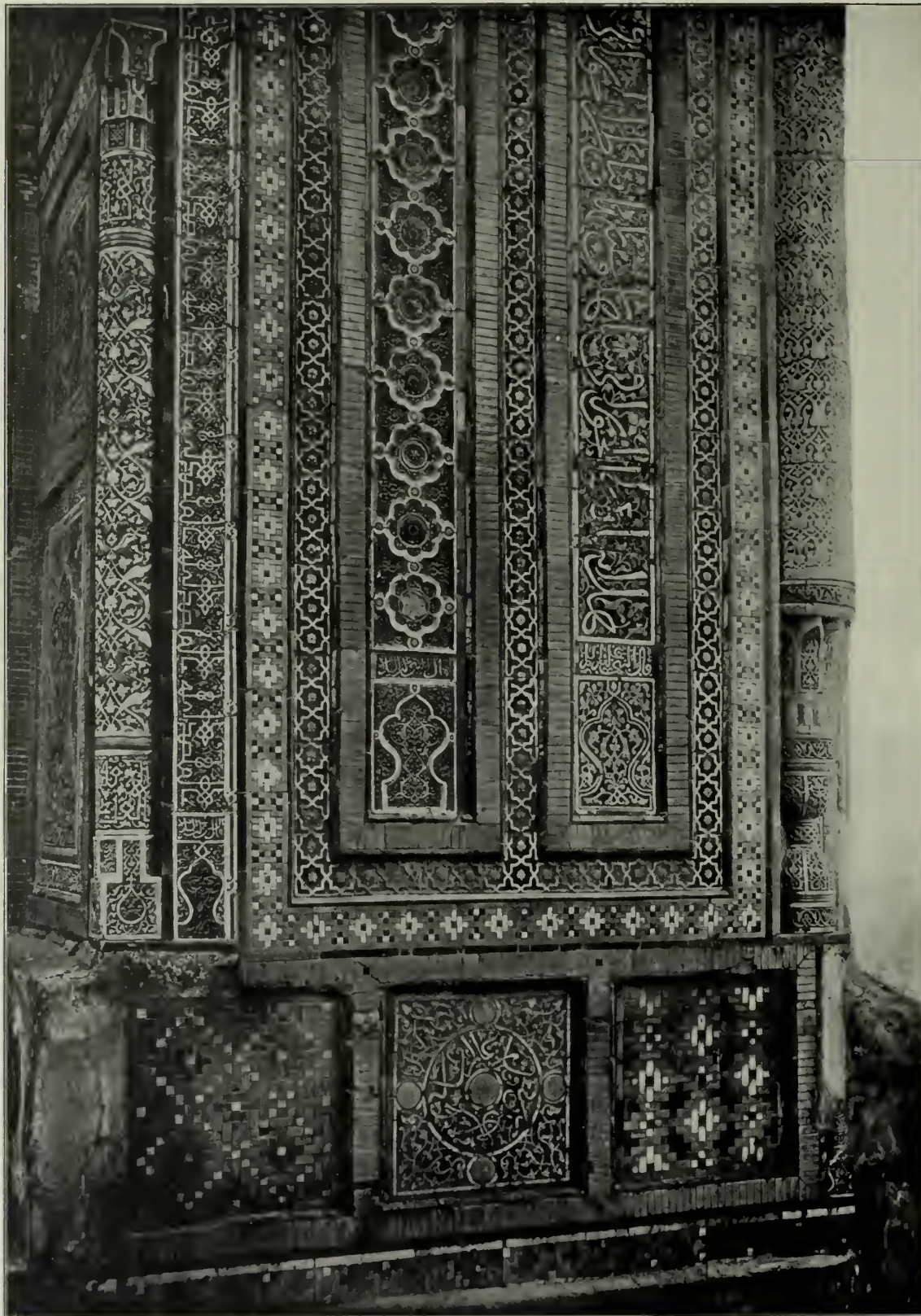
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DETAIL OF A MAUSOLEUM AT SAMARKAND, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 4

DEVOTED TO THE INTERESTS OF
ARCHITECTURE IN MATERIALS OF CLAY

APRIL 1906

AND NOW SAN FRANCISCO.

THIS is beyond question the severest test which has been given to the steel cage construction. It would perhaps be impossible to construct an edifice which would be earthquake proof; but thus far there have been no published reports which would cause a modification of the first expressed beliefs that the buildings in San Francisco which were constructed on modern approved systems realized in this test all that had been expected of them.

However well the isolated structures may have withstood the combined effects of earthquake and fire, the fact undoubtedly remains that the heart of the city is swept pretty nearly clean; that practically all of it must be rebuilt. The city now offers a clear field, and the world will await with a great deal of interest the outcome of the attempts to build a new and a better San Francisco.

It is certainly to be hoped that one of the first results will be the dispelling of the idea that there is any business necessity for a business structure of more than eight stories in height. However the San Francisco buildings may have actually withstood the shock of the earthquake, it is unquestioned that other things being equal the high buildings would suffer most; and if the city is to avoid a repetition of the horrors and the terrible loss of property which it has just experienced its building laws must be at once so modified that building expansion shall be lateral rather than vertical, that no structure of any sort shall be allowed in the center of the city which could be so damaged by a slight earthquake shock as to be a menace to its neighbors, that absolutely nothing but first-class steel cage construction shall be tolerated within the business limits of the city. San Francisco owes it to itself, as well as to the country at large, to insist upon such regulations being carried out at once; for while the money damage appears to fall first and most heavily on San Francisco, a very large proportion of the loss is bound to be distributed over the whole country, so that we will all be losers by this terrible fire.

We will be losers by the fire if we consider only the material damage, but if this catastrophe leads to building a modern city properly from the ground up, we will at least have some compensation for this loss. The world, however, learns its lessons very slowly. The Chicago of 1876 was hardly better than the Chicago of 1866, though the fire made all things possible. Baltimore, with its fine chance to rebuild in a better and more thorough manner, failed almost entirely to make any real improvement; but in the two years since the Baltimore fire this country has awakened to a sense of civic duty which was never experienced before. Most of our large cities have

felt the necessity for beautifying the municipality, and large, carefully thought out schemes of municipal improvement have been considered, and in some cases partially carried out. San Francisco itself has felt the movement, for before this disaster a scheme was partially worked out providing for a very comprehensive municipal improvement. So that we can at least hope that the discouraging inertia which prevented the proper rebuilding of Baltimore may give way in San Francisco to the enthusiasm on the subject of municipal art which has sprung up in such widespread manner of late years.

In this rebuilding the architectural profession has its great opportunity. Of course most of the buildings which will be constructed immediately will be of the crudest type and will afford very little opportunity for architectural display, if, indeed, architects are employed upon them at all. But with the field so nearly free it ought not to be assumed for a moment that the old lines are to be followed, as they were in Baltimore; but that when the first hysteria of fright and distress shall have passed away the lines of the new city shall be laid out right, and that what is done, either for public or private work, shall be parts of a scheme which will commend itself to those who have studied this question so carefully. This is not an occasion for individual greed. The architectural profession will undoubtedly have a great deal to do, and the San Francisco architects will be rushed with work as they never were before; but we hope that the profession in the western city will pull as a unit for better, more beautiful building, and will not let themselves be swept off their feet by the desire for haste, nor allow petty jealousies and professional distrust to interfere with the kind of coöperation which is so essential to a city beautiful.

The first feeling in the presence of a catastrophe of this nature is one of hopeless helplessness. The forces of the earth and of the fire seem too much for man's strength, while we ask ourselves how soon a similar catastrophe could recur. There is one fact about which we can be perfectly sure; — San Francisco will be rebuilt, and rebuilt at once. Earthquakes will undoubtedly come again, but if the city is to be prepared to meet them the reconstruction must be throughout of steel, knit together as we know perfectly well how to do it, and thoroughly protected against the flames which will ever be with us. Steel construction and a severe restriction of height is the answer to the San Francisco catastrophe; and coöperation and determination to do the best, and to make the city beautiful, must be the keynote for the work which is to lie before the architectural profession.

Buildings of the Young Men's Christian Association. III.

BY IRVING K. POND, C. E., ARCHITECT.

(Continued from page 52, March number.)

AS the systematic training of the body is one of the three primary functions of the Christian Association in its development of young manhood, the space devoted to this work must receive full and careful consideration in the planning of the building. The gymnasium is not all there is to the Association building, any more than athletics is all there is to college life, though the volume of noise would almost make the outsider think so. However, the gymnasium and its appurtenances are of sufficient importance to merit a fairly close study here. Other rooms may be adapted or readapted to other purposes than those originally intended, but the gymnasium can be nothing but a gymnasium. It never can be a banquet hall nor an audience room and impart to the banqueter or the auditor any sense of congruity, and every extraneous use to which the gymnasium is put robs it of its proper and higher use as a gymnasium. Club-rooms opening into one another give more congenial surroundings for feast or flow of wisdom.

The character of work done in the gymnasium in a great majority of Associations is broad in the extreme, including as it does class work in calisthenics, hand, basket and indoor base ball, apparatus and track work. The spirit of the times is forcing the work more and more into competitive lines, to the exclusion unfortunately of pure gymnastics, for there is nothing better than tumbling and apparatus work, such as the use of the bars, horizontal and parallel, the rings and horses, to develop the body, and the spirit through the body, while the spiritual gain in the "meets" and competitive games is problematical, to say the least. Possibly the discussion of these matters will seem as remote from the purpose of this paper as a discussion of styles, so it will not be continued. However, whether athletics or gymnastics is to dominate will affect in a marked degree the equipment and conduct of the gymnasium. Track work calls for the running track, and no running which is for speed rather than for exercise can be done on a track in a room under fifty feet square. In a room under forty feet square the track curtails the space required for indoor and basket ball. A room forty by sixty feet, ground dimensions, is a well

proportioned room for general work, and is found to be practically the minimum where athletics is to be indulged in extensively. The size of the regular classes dictates the dimensions of the room in many cases. Each adult requires at least forty square feet and each youth at least thirty square feet of floor area for class work in calisthenics.

If, as is the tendency, athletics is to monopolize time and space in the gymnasium, smaller rooms should be provided for apparatus, for tumbling and wrestling and bag punching. Bag punching especially should be given its own proper environment, as no other work can be carried on simultaneously with it in the same room.

The indiscriminate batting or throwing of balls about the gymnasium — a disease which, together with a general roughness of play, seems to be incidental to athletics — is dangerous to limb and discouraging if not disastrous to fine work in any acrobatic or gymnastic line which is attempted in the same room.

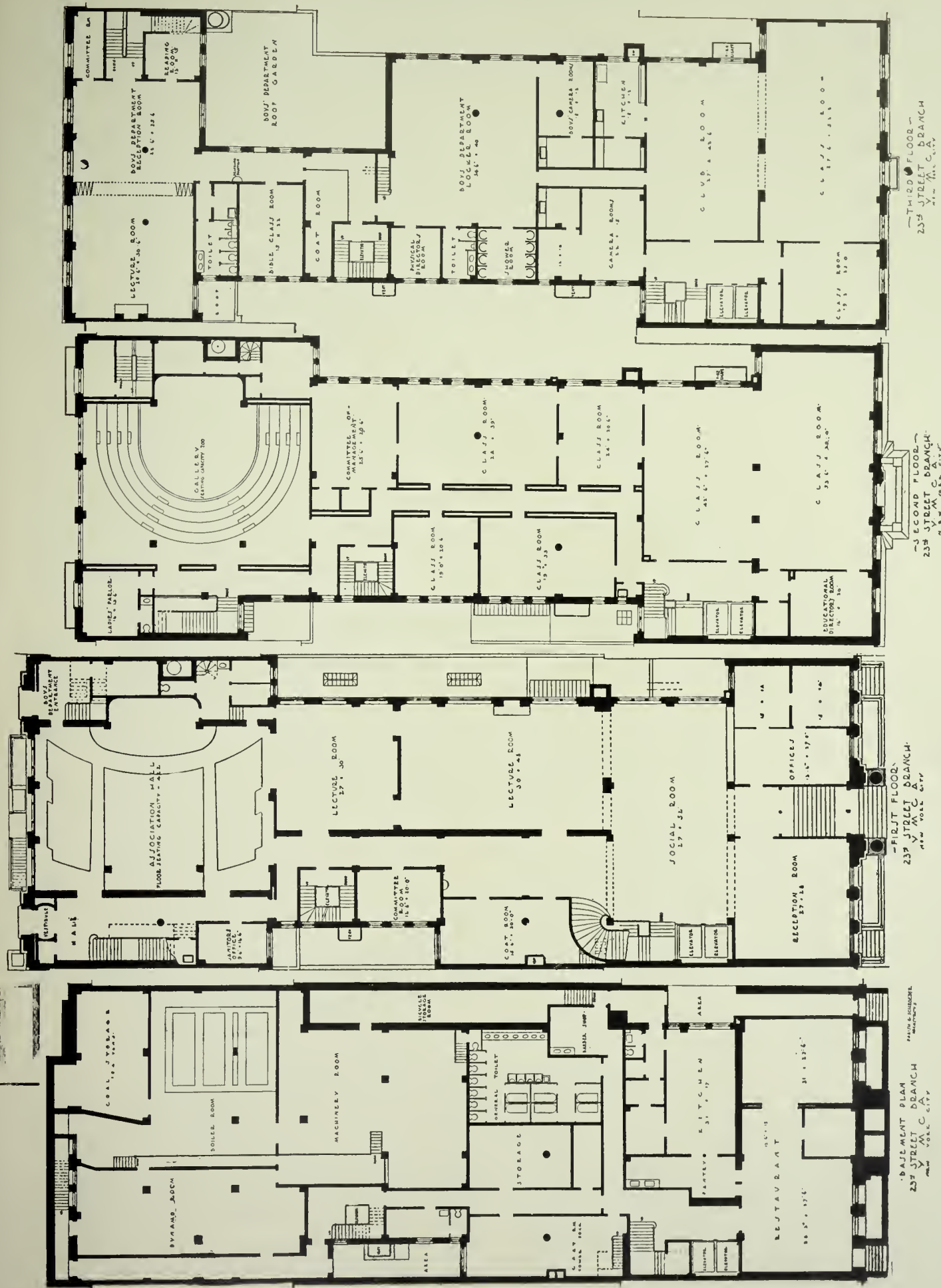
It is well to panel the walls of the gymnasium in wood to such a height as may be required to attach all wall apparatus. For unity of effect and to meet all conditions, this paneling would best reach from the floor to the underside of the running track. The pipes or coils which supply heat by direct radiation should be suspended from the supports of the running track and not set on wall brackets, nor ever be placed upon the floor of the gymnasium. To place radiators upon the floor is both dangerous and uneconomical of space. Registers for indirect heating and ventilating should be placed in the walls. The platform of the running track is rarely at a lesser height than eight feet in the clear from the floor, more generally a clearance of ten feet is desirable, and even more than this should be given if the track is more than moderately wide and if general work is to be carried on upon the floor under the track. To the walls under the gallery are attached the chest weights, the machines for developing special sets of muscles, the club and dumb-bell racks, the ladder bars, etc., etc.

There are no fixed standards of gymnasium equipment, but each Association will furnish and equip according to its means and the necessities. No list of apparatus is attempted here. Data is furnished in pamphlets, catalogues and through correspondence by the various makers of gymnasium goods and apparatus. These makers, in conjunction with a trained secretary who has studied the situation, can balance cost over against needs and desires and so furnish a satisfactory equipment. The curved forms and padding of the run-

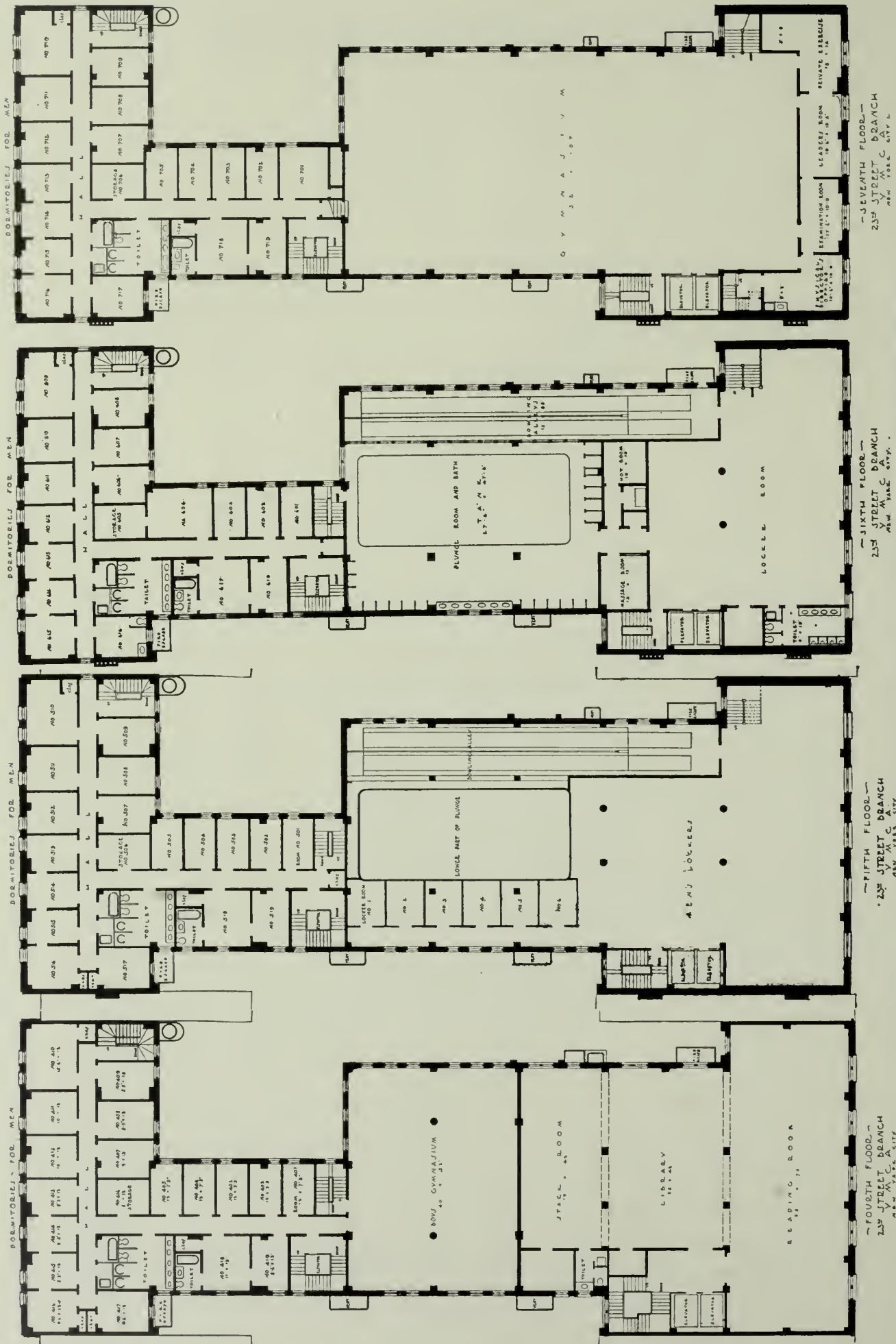


YOUNG MEN'S CHRISTIAN ASSOCIATION
BUILDING, WEST TWENTY-THIRD
STREET, NEW YORK.

Parish & Schroeder, Architects.



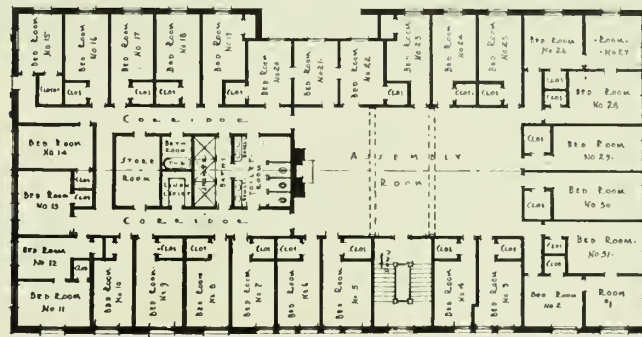
PLANS, YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, WEST TWENTY-THIRD STREET, NEW YORK CITY.
Parish & Schroeder, Architects.



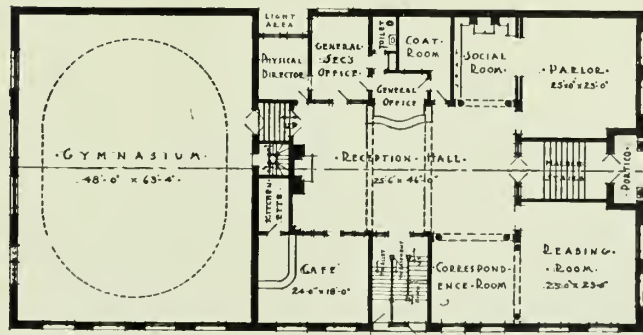
(Eighth Floor, Upper Part of Gymnasium and Sleeping Rooms. Ninth Floor, Sleeping Rooms and Roof Garden.)
 PLANS, YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, WEST TWENTY-THIRD STREET, NEW YORK CITY.
 Parish & Schroeder, Architects.

The billiard and pool tables and the bowling alleys, which are coming more and more to be attractive features of Association club life, are to be considered as aids to the social rather than the physical development. The alleys are mentioned here because of their necessarily close proximity (in a good plan) to the locker rooms and the baths. When alleys are installed it should be in pairs, and the practical work of manufacture and installation can best be done by the specialist. The plan should afford convenient and readily accessible space for spectators, in addition to the space allotted to the players and separated therefrom. The visitors' space should be

immediately beneath the locker rooms. The locker rooms should be airy and well ventilated, by forced draught if needs be. There should be separate and separately entered compartments, containing in one the men's lockers, in another lockers for youths, and in a third the boys' lockers. It is well that these classes should not commingle in the locker rooms. The men's lockers are the largest in size, those for the youths somewhat smaller and the boys' lockers of still lesser dimensions. These lockers are made in metal or of wood of standard sizes, by regular makers who will furnish lockers or data. Not infrequently it has been found desirable to cater to another and distinct class of members, the business men, who are provided with a separate room furnished with lockers of the largest size or with individual dressing rooms and equipped with separate showers and toilet. Such lockers or dressing rooms rent at a much higher



THIRD FLOOR PLAN.

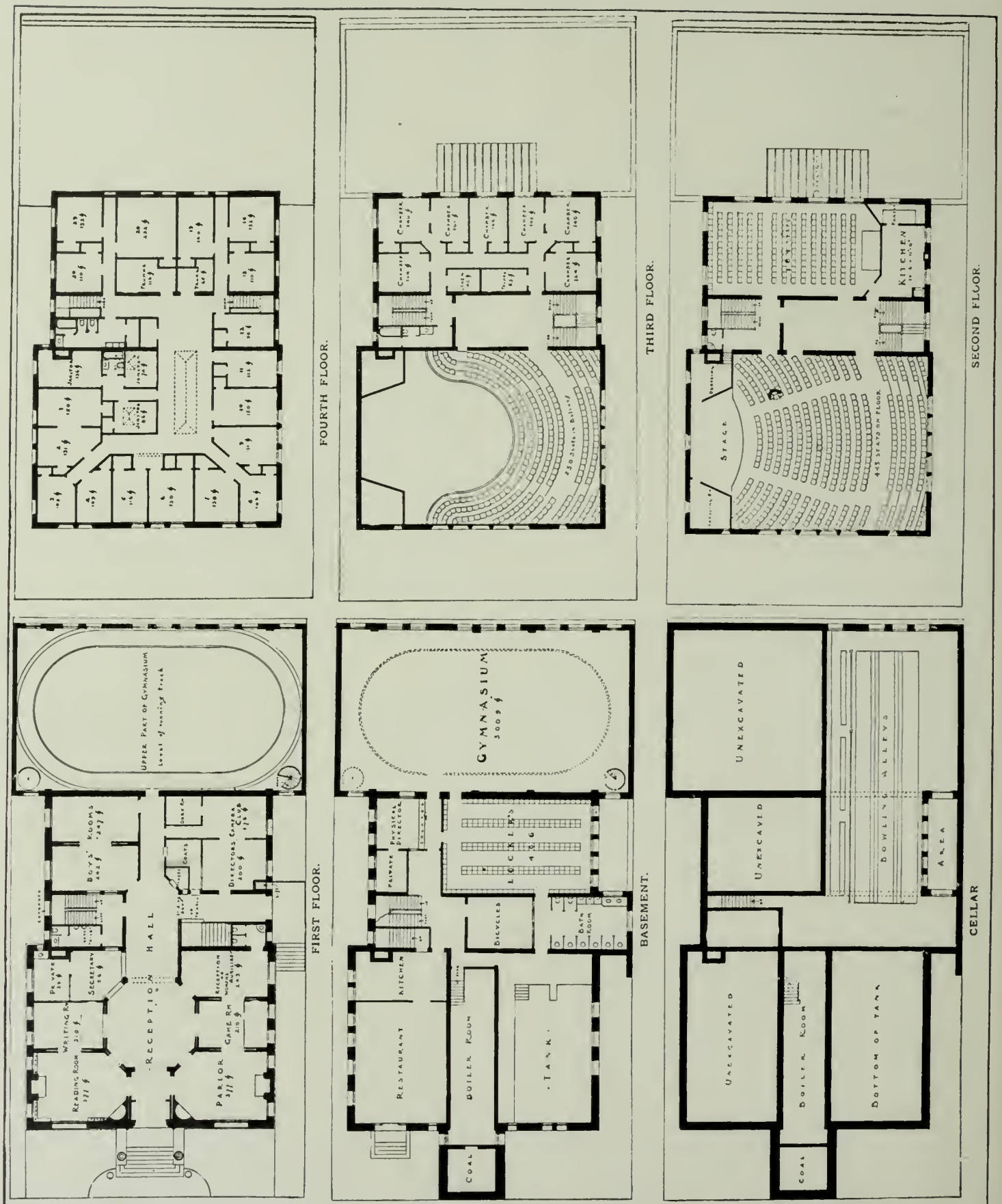


FIRST FLOOR PLAN.

Leonard H. Field, Jr., Architect.

rate than do the ordinary lockers, and are furnished as an inducement to business men to aid in the work of maintenance. Individual dressing rooms for the regular members, rented at what would seem to be even a high rate, have been found to be not economical of space and in some instances are being abandoned. In the larger Associations, however, it is well to provide a few individual dressing rooms.

The subject of the baths calls for careful consideration, both as to the location and as to the type. In location the baths should be convenient both to toilet and locker rooms. For Associations which cater to athletics the shower is the most desirable form to install. The sharp shower and hard rub are most invigorating after violent team or track work. The tub generally is little used except by members who seek only the luxury of the bath. In a majority of Associations are to be found a



PLANS, YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, SOMERVILLE, MASS.

Brainerd, Leeds & Russell, Architects.



YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING,
SOMERVILLE, MASS.
Brainerd, Leeds & Russell, Architects.

few members who care for the bath independently of the exercise. Where such conditions exist one tub to six or eight showers will be found to be ample. The showers (which should have shower and not needle heads) should be supplied with hot and cold water which shall flow through a mixer or mixing valve, so perfect in its operation that water at the extreme of heat or cold need never strike the body unless the bather so desires. A steam room and a massage table are desirable features of any bath equipment, but features which are not absolutely necessary in the smaller and more moderately endowed Associations.

Two important considerations arise in connection with the location of the swimming pool: first, its position with reference to the toilet and locker rooms; and, second, its situation as affecting economy of operation. The necessity of frequent changes in the entire body of water in the pool makes it desirable that its bottom should be well above sewer line, otherwise a sump and expensive pumping are required. Against this item of continued expense must be set off the extra cost of the increased size of the building and of constructing the pool out of the ground, as will be necessary if its bottom is above basement floor level. In solving this problem local conditions must control. An item which affects economy of cost, both of construction and operation, is the size of the tank. The general desire is for large pools of, say, twenty feet by sixty feet in clear dimensions, with water eight feet deep at the deep end. As great a length as possible is desirable in long-distance swimming contests, and great width is desirable for races and games. Swimming can be learned and enjoyed and can be made to furnish sufficient exercise in a much smaller pool, in one say eighteen feet by forty feet clear measurement, with depth of water the same at the ends as in the case of the larger pool. But as remarked before, contests, races and games rather than sane health building exercise seem to be the tendency of the day. The average number of bathers dictates in a measure the size of the pool.

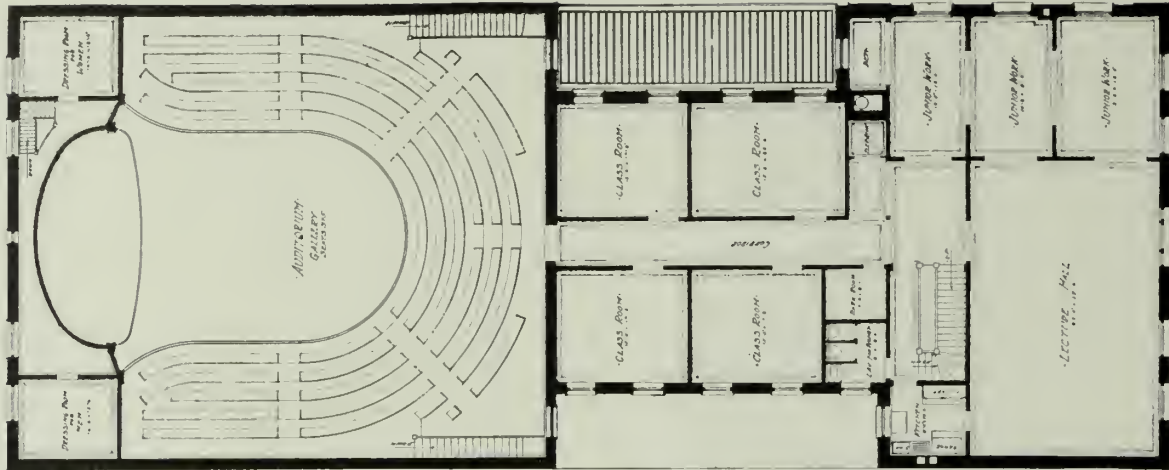
Access to the swimming pool should always be had through a vestibule containing showers, where the person is thoroughly cleansed before the bather is permitted to enter the pool. The reason in this is sufficiently apparent. The clear height above the water should be such as to allow the use of a spring board and, if possible, of a horizontal bar. It is well, when conditions are favorable, to furnish the tank room with a considerable space for spectators that aquatic games and swimming matches may be witnessed. The approach to this space follows the rule which governs the approach to similar spaces in the bowling alley and the gymnasium proper.

A practical matter, touching upon economy of service, is that relating to the positions of the locker, bath and toilet rooms. These rooms should be entered severally and directly from an anteroom in which are located the desk of the attendant, the towel cabinet and the supply cases. Where conditions demand it a bicycle storage room for the use of members may be provided on or near the ground level and as convenient to the locker room as may be.

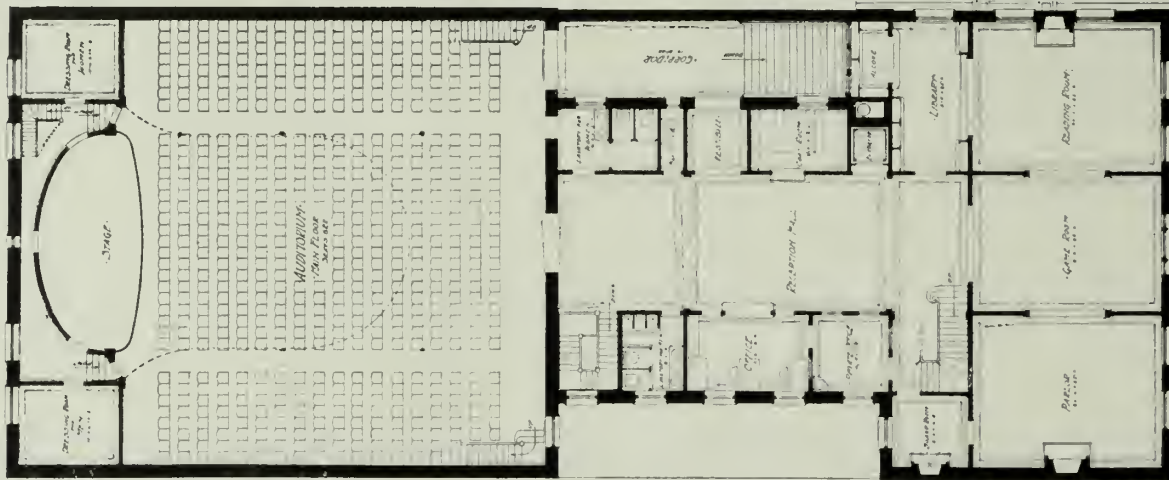
It has been the purpose of these papers to present the definite and distinctive points which must be considered in the planning of buildings for the Young Men's Christian Association in the United States. In what manner and how effectively these various points have been met in the plans which accompany these notes is left for the reader to determine. Into a study of the plans let this consideration enter: any plan which comes from an archi-



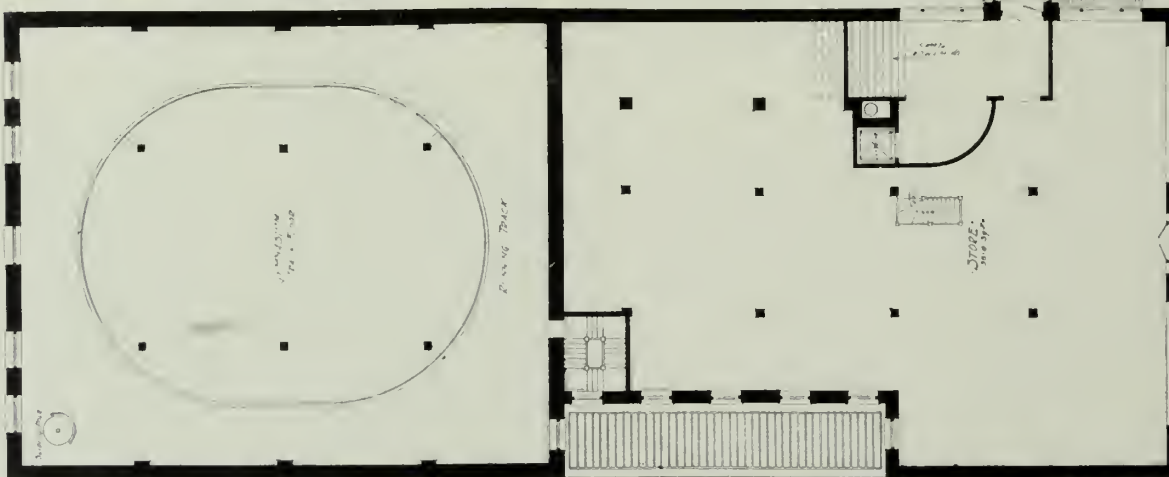
YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING,
ALLENTOWN, PA.
Wallace E. Ruhe, Architect.



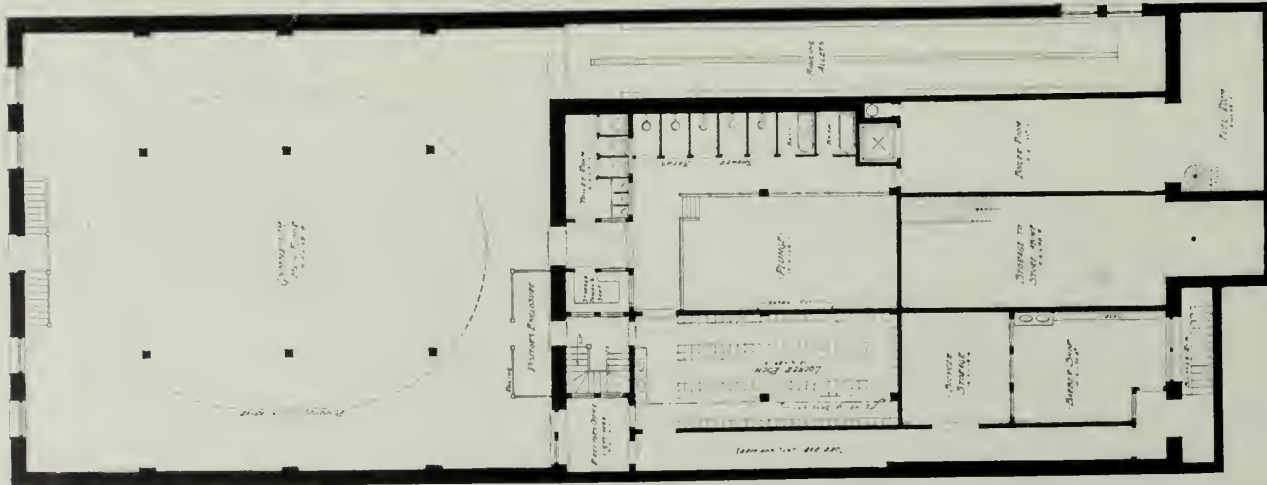
THIRD FLOOR PLAN.



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.



BASEMENT PLAN.

PLANS, YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, ALLENTOWN, PA.

Wallace E. Ruhe, Architect.

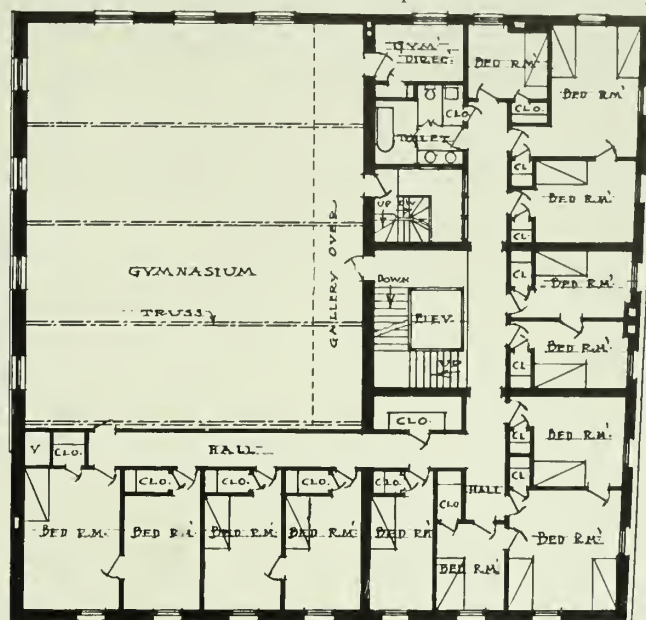
fect of reputation, and which seems at a glance to reveal a discrepancy or an idiosyncrasy, may call for a study of conditions. So if an auditorium seems overlarge for the plan, it may be, as in at least one case it is, that the nature of the work in that special locality demands that an intellectual and spiritual appeal be made to the public at large. If the gymnasium seems oversmall, it may be that the out-of-door life and sports, summer and winter,

all that that means. If school and lecture rooms predominate it will undoubtedly be found that in its work the Association is catering to the tastes of a serious-minded constituency which is ambitious and determined to rise above the deadly plane of daily life in office and shop.

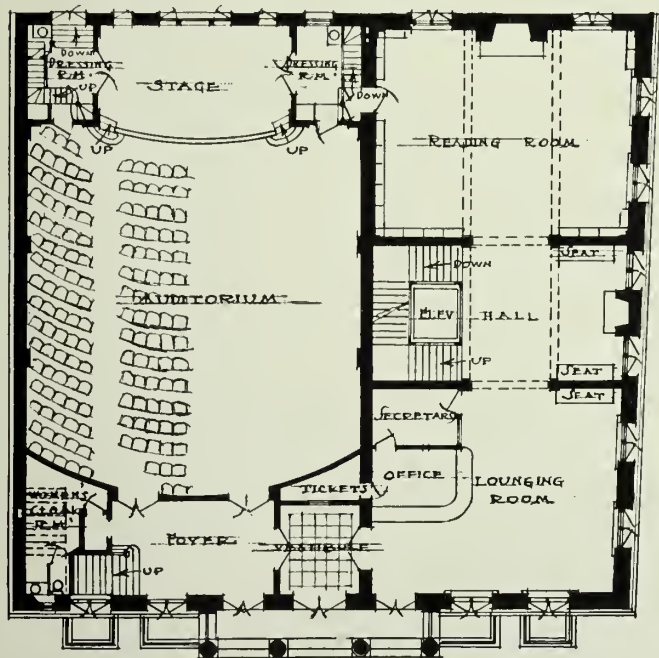
The work of the Association is broad, and each locality will be found to present its own interesting and individual problems. To solve these problems is the duty



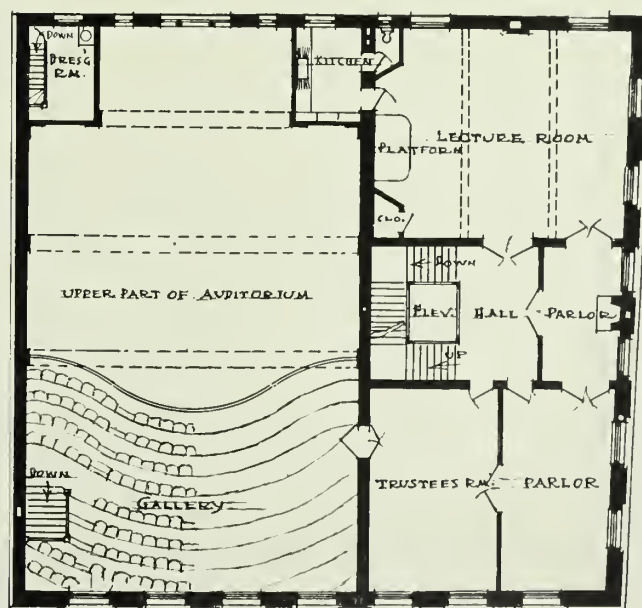
THIRD FLOOR PLAN.



FOURTH FLOOR PLAN.



FIRST FLOOR PLAN.



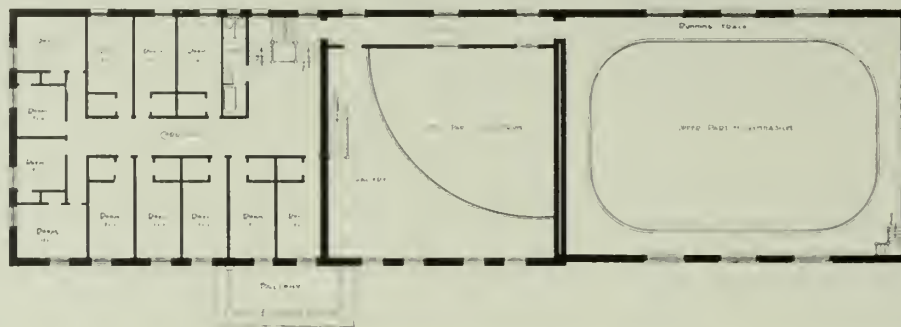
SECOND FLOOR PLAN.

PLANS, YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, HARRISBURG, PA.

York & Sawyer, Architects.

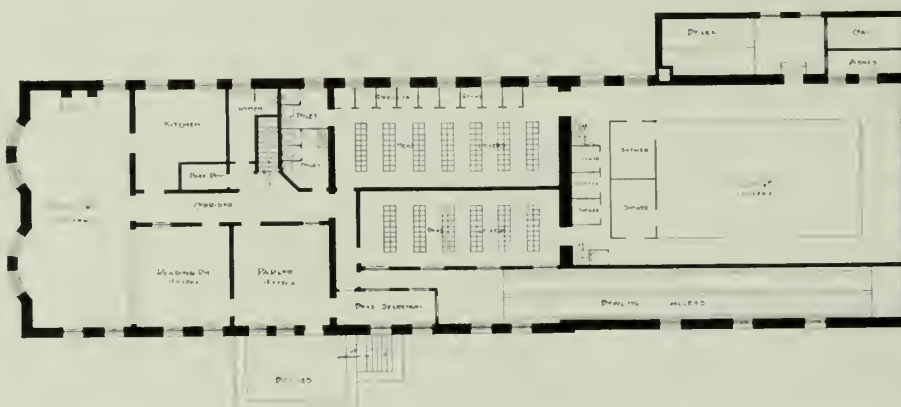
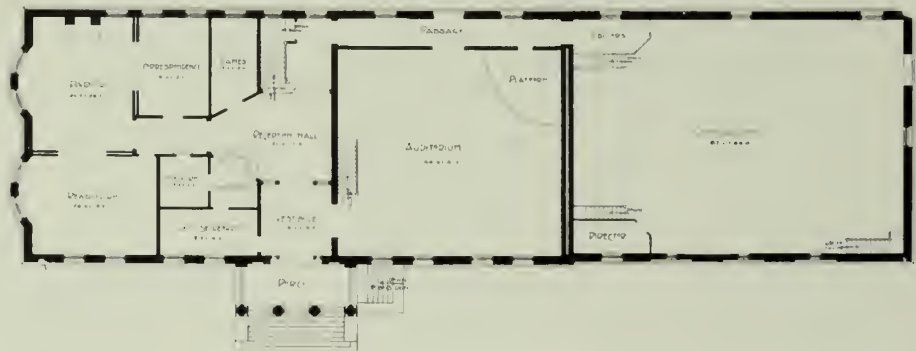
of the community which supports the Association make altogether unnecessary a larger and more thoroughly equipped room for indoor exercise. If the social rooms seem to outweigh in importance the classrooms, it is barely possible that club interests or an awakened spiritual consciousness in that locality have been found to be a much more vital factor than a call to the intellectual life in saving and reclaiming boys and young men from the streets, with

of the well-trained and sympathetic secretary, sustained by a broad-minded and sympathetic board. To appreciate the view-points of secretary and of board, to grasp understandingly the greater problem and to make the building in beauty and simplicity minister economically and effectively to all the needs of the work, is the interesting task set for the architect who is called upon to serve professionally the Young Men's Christian Association.



THE
SECOND FLOOR
PLAN.

THE
FIRST FLOOR
PLAN.

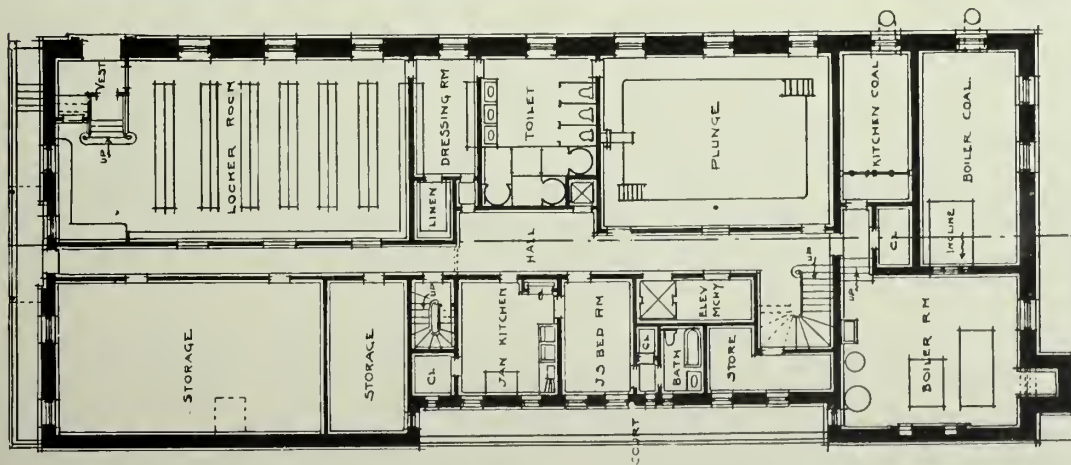


THE
BASEMENT
PLAN.

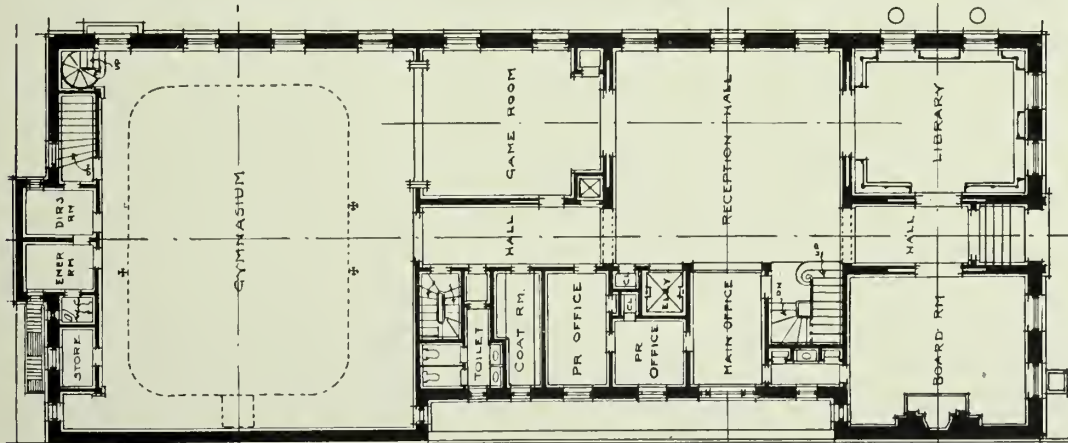
YOUNG MEN'S
CHRISTIAN ASSOCIATION
BUILDING,
COLORADO SPRINGS,
COLORADO.

Thomas P. Barber,
Architect.

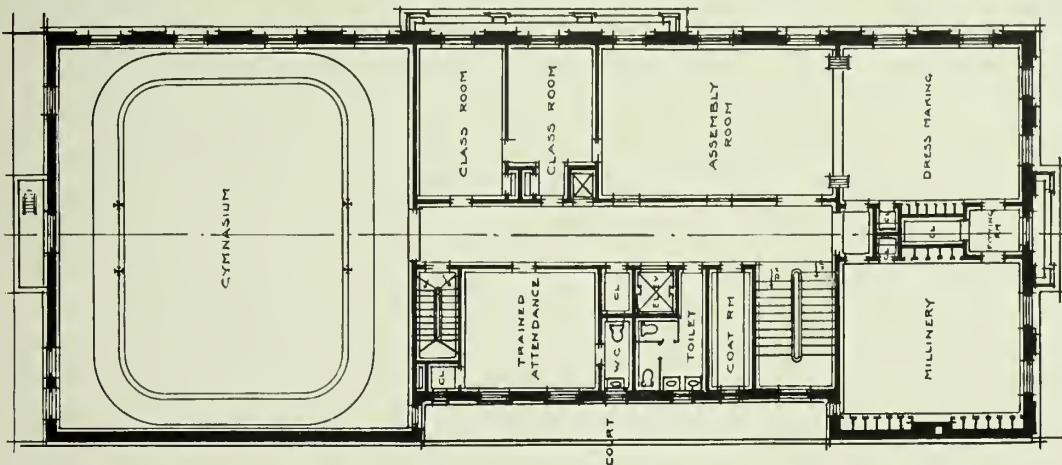




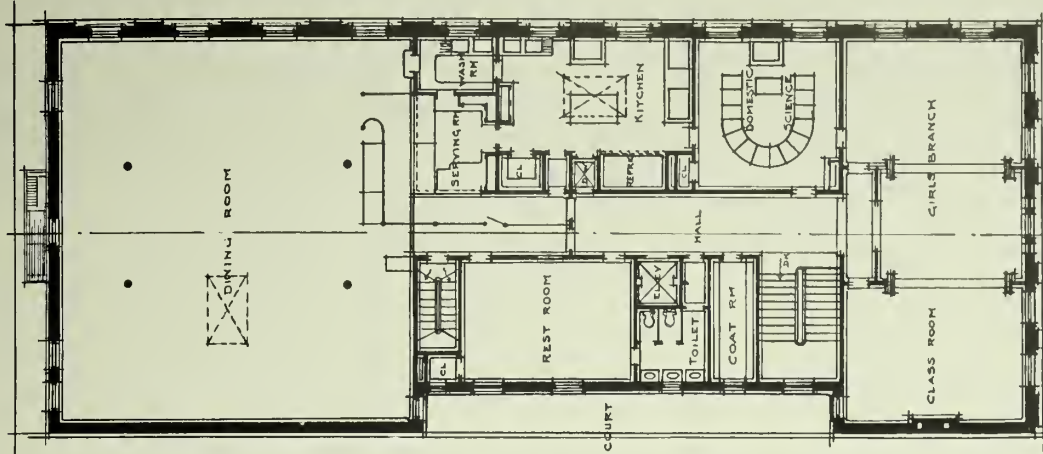
BASEMENT PLAN.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



THIRD FLOOR PLAN.

PLANS, YOUNG WOMEN'S CHRISTIAN ASSOCIATION BUILDING, PATERSON, N. J.
Welch, Smith & Provot, Architects.

The Hotel Blenheim.

A NEW TYPE OF CONSTRUCTION.

BY J. FLETCHER STREET.

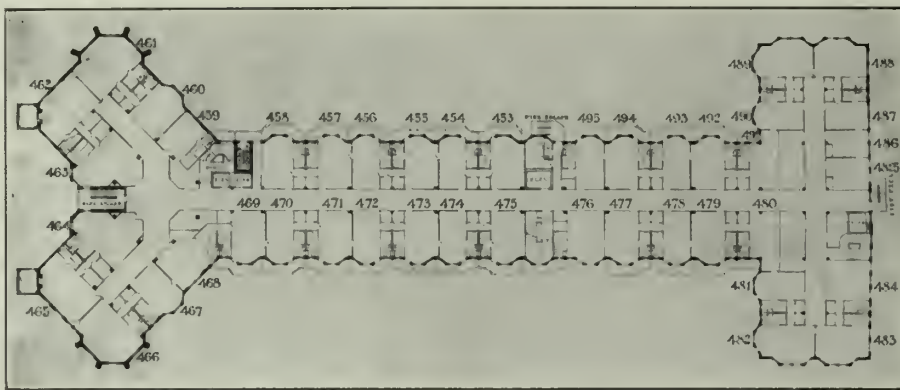
THE one thought which should be kept in mind in designing a hotel is that the construction be of a type which meets every requirement and condition of a truly fireproof building. In the Blenheim, erected at Atlantic City, N. J., the architects have given due consideration to this most vital and important point, and have studied it both in the light of their own experience and by the results of severe and practical tests so recently imposed upon fireproof and so-called fireproof structures.

The building is about 600 feet long, 125 feet wide, eight stories high, with a dome equal to twelve stories in height. It was started on June 12, 1905, and was practically completed, ready for finishing and furnishing, on December 1, 1905.

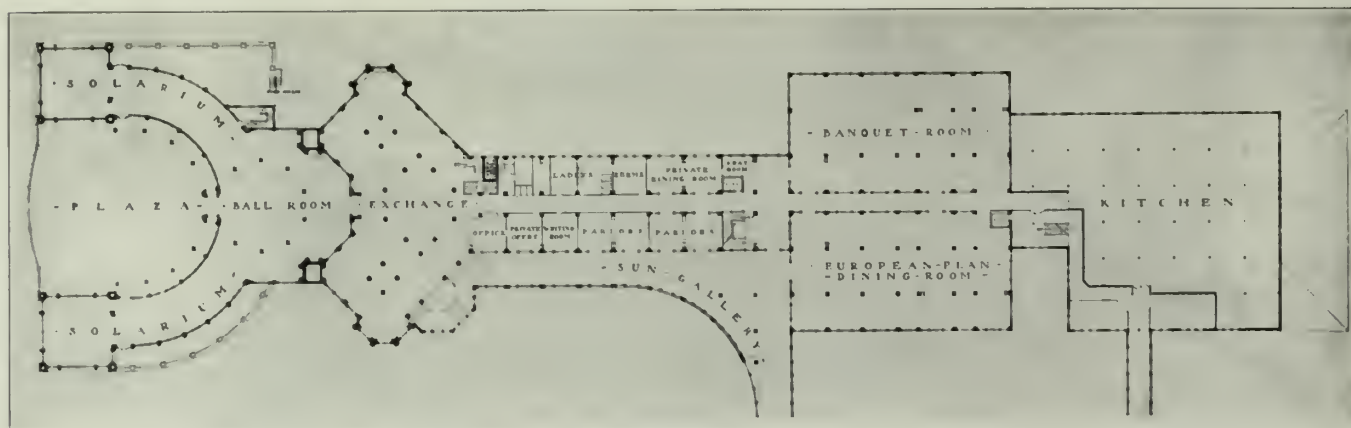
A time limit for the completion of

the use of structural steel was the noise that would result in the assembling of members and in the driving of rivets. As this would be a disturbing element to the guests of the Marlborough, an adjacent hotel and one under the same management, a construction thoroughly practical, and yet one that could be carried forward with the least possible delay and in the quietest manner, needed to be decided upon.

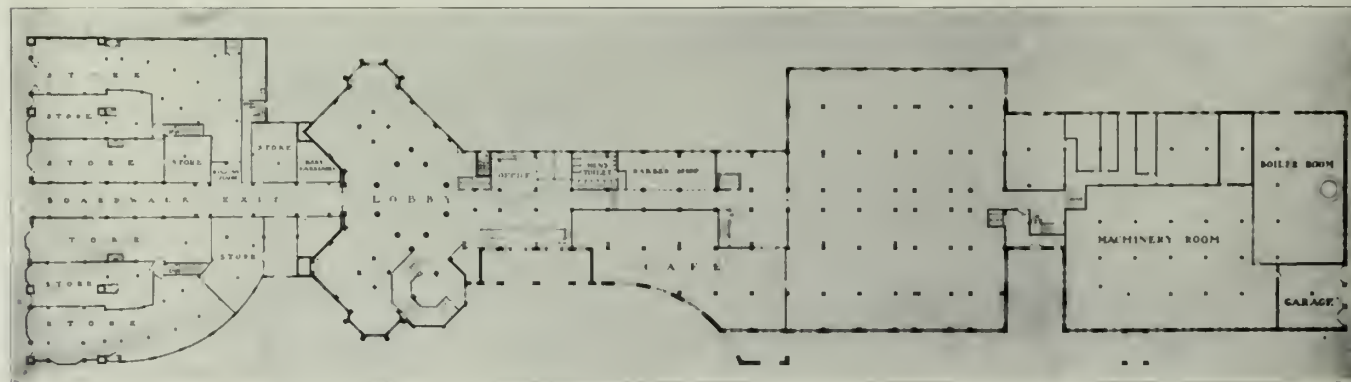
Estimates were obtained for steel fireproofed with hollow tile, and an armored concrete and tile construction.



TYPICAL BEDROOM FLOOR PLAN.



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

the building having been imposed, it was thought advisable not to take chances with the uncertain conditions of the steel market, as former experiences had shown that much serious delay frequently results from this source. Another and perhaps one of the strongest objections to

Not only was the latter system cheaper, but it was the only type which could be guaranteed, under a heavy penalty, to be completed within the specified time.

The contract price for the clay tile and concrete construction—the one adopted—was \$126,000, while the



FRONT OF THE HOTEL FROM THE PLAZA.
THE NEW HOTEL BLENHEIM, ATLANTIC CITY, N. J.
Price & McLanahan, Architects.



FRONT AND SIDE VIEW FROM BOARDWALK.

PAVILIONS, CONTAINING THE STORES AND SOLARIA.
THE NEW HOTEL BLenheim, ATLANTIC CITY, N. J.

lowest bid for the steel and tile construction was \$220,000. The steel necessary for the latter construction could not have been had under four months, whereas work was immediately begun with the system adopted and carried on at the rate of about a floor per week.

With the successful issue of the building the fact has been clearly demonstrated that here is a system of fireproofing which can not only be installed in less time than is required by any other system, but also at a much less cost.

A thorough consideration of all these conditions made clear the pronounced advantages of this construction under the requirements imposed.

The significant feature of the construction is the introduction of hollow tile in combination with the concrete floor slab. The exterior walls are built entirely of hollow tile, the floors being of long span hollow tile construction, reinforced with steel bars, and reinforced columns and girders of concrete. Twelve-inch terra cotta tiles, varying in depth according to span, were placed between the lines of concrete joists, which had a uniform width of four inches.

Besides greatly lightening the construction, this system has the advantage of giving a drier floor and one more nearly sound-proof. But the remarkable distinction is realized in the shorter time occupied in erection over that consumed by any system where a solid concrete slab is used.

The use of hollow clay tile in the outside walls of the building was peculiarly advantageous. With this came the solution of giving the finished cement surface of the building the desired bond back into the body of the wall, which is of the utmost importance where surfaces so treated are exposed to driving storms of great energy common along the coast. The outside surfaces of these wall tiles are made with a depressed groove which gives a very strong bond to the plaster.

The double air-chambers of the tile make impossible the conveyance of water through the wall. One of the greatest advantages gained is in the elimination of inside

wall furring, the plaster being applied direct to the tile. Many other advantages are gained, such as the greatly decreased cost of insurance and repairs, and the more satisfactory insulation of heat and cold.

This use of a definite principle in regard to the construction has given rise to a certain expression in the design which accentuates the sturdy character and strong masses of the structural parts. This is particularly evident from within, where the beams and girders necessary to meet the requirements of durability are carefully considered in their treatment so as not to detract from the feeling of the real purpose of the construction.

The structure in itself is virtually monolithic. With a foundation of piles it rises from floor to floor by means of solid concrete piers regularly diminishing in size as they ascend. Into these are framed the necessary girders and beams for supporting floor joists and outside walls. All walls are curtain walls and are carried at each floor level by their respective girders. This gives the great advantage of permitting work to be advanced at any number of story levels at the same time.

The building as an architectural achievement is most interesting, the design being influenced somewhat by ancient types of Spanish and Mexican work. In the treatment of the exterior the true character of the construction has been frankly confessed. The walls are coated with a gray cement, the dullness of which is relieved by a liberal use of colored tiles in friezes, spandrels and panels. The designs are simple and almost entirely geometric in character, and in only a few instances has the desired effect been sought in a pictorial way, the most con-



BALCONIES TO BEDROOM FLOORS.



A GABLE TREATED WITH INLAID TILE.



These floors are of varying span between girders according to the exigencies of the plan, and are for spans up to 18 feet. After the wood centering is in place, the tiles, which are 8x8 inches with cross webs, are set end to end in tiers about four inches apart. The reinforcing steel bars are then set between them, and the concrete is tamped into this space.

spicuous example being the band encircling the head house at the sixth floor level. Here, within a well defined border of dull blue tile, is depicted a continuous series of sporting dolphins executed in red. Whether or not the detail of this decoration appeals to one, it must be allowed that the general effect is brilliant and a decided relief to the more conventional forms employed.

Otherwise than in these panels and bands of tile the entire exterior decoration consists of ornamental terra cotta of a suitable light green shade. The manner of applying the cement coating to the outer walls deserves notice. The exposed outer surface of concrete columns and beams being in the same plane as the tile blocks of the wall, a different strength of cement mortar was found necessary in the application of the scratch coat on account of the varying adhesive quality of the two materials, and it was only in the finishing coat that a uniform mix could be applied to the surface of the walls.

The dome has been made the principal feature in the design of the exterior. This motif results by a number of interesting transitions which occur above the sixth floor level, where the typical nature of the floor arrangement ceases. This permits the introduction of broad and spacious balconies along these upper stories, giving a distinct advantage to rooms opening thereon. At the eighth floor level two smaller domes occur, forming cover for the

porches at this point. These very successfully balance the main dome and, with their heavy buttressed angles, mark the return of the broadly extending head house into the narrow and somewhat attenuated body structure.

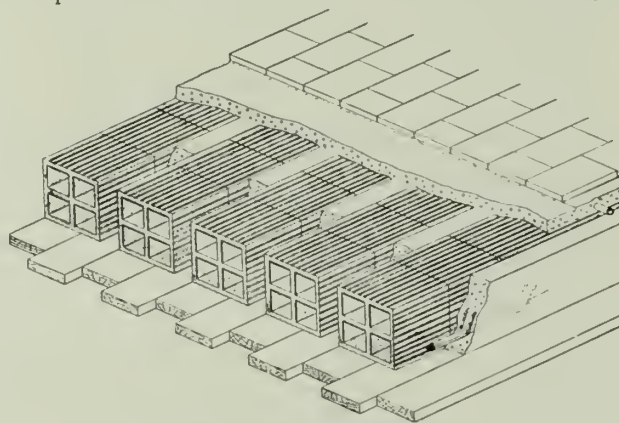
At the front of these, forming perhaps the most conspicuous features of the entire building, are the two broad stacks which mark the termination of the principal mass of the structure. Each of these stacks encloses a series of flues leading from the fireplaces located in the special suites planned for this portion of the building. The large fireplaces in the exchange, solarium and lobby also have their outlets into these stacks. The long façade of the body house is happily relieved by a series of bays extending through the first four sleeping floors. These are broken by a

continuous balcony at the fourth floor level, following in its contour the lines formed by the projecting bays.

The level of this balcony is abruptly changed and raised another story when the rear wing is reached, confessing in a satisfactory manner the extra story height of this part. All these balconies are partitioned off between the individual rooms, so that the result is one of a series of private porches extending entirely around the building.

The accompanying floor plans show that the hotel may be entered directly from the Boardwalk through a spacious corridor flanked on both sides

by stores, which in their character will add greatly to the convenience and accommodation of the hotel guests. This passage leads directly into the main lobby. Here is found a low extending hall, which runs back towards the center of the building, where the secondary entrance



FLOOR CONSTRUCTION.



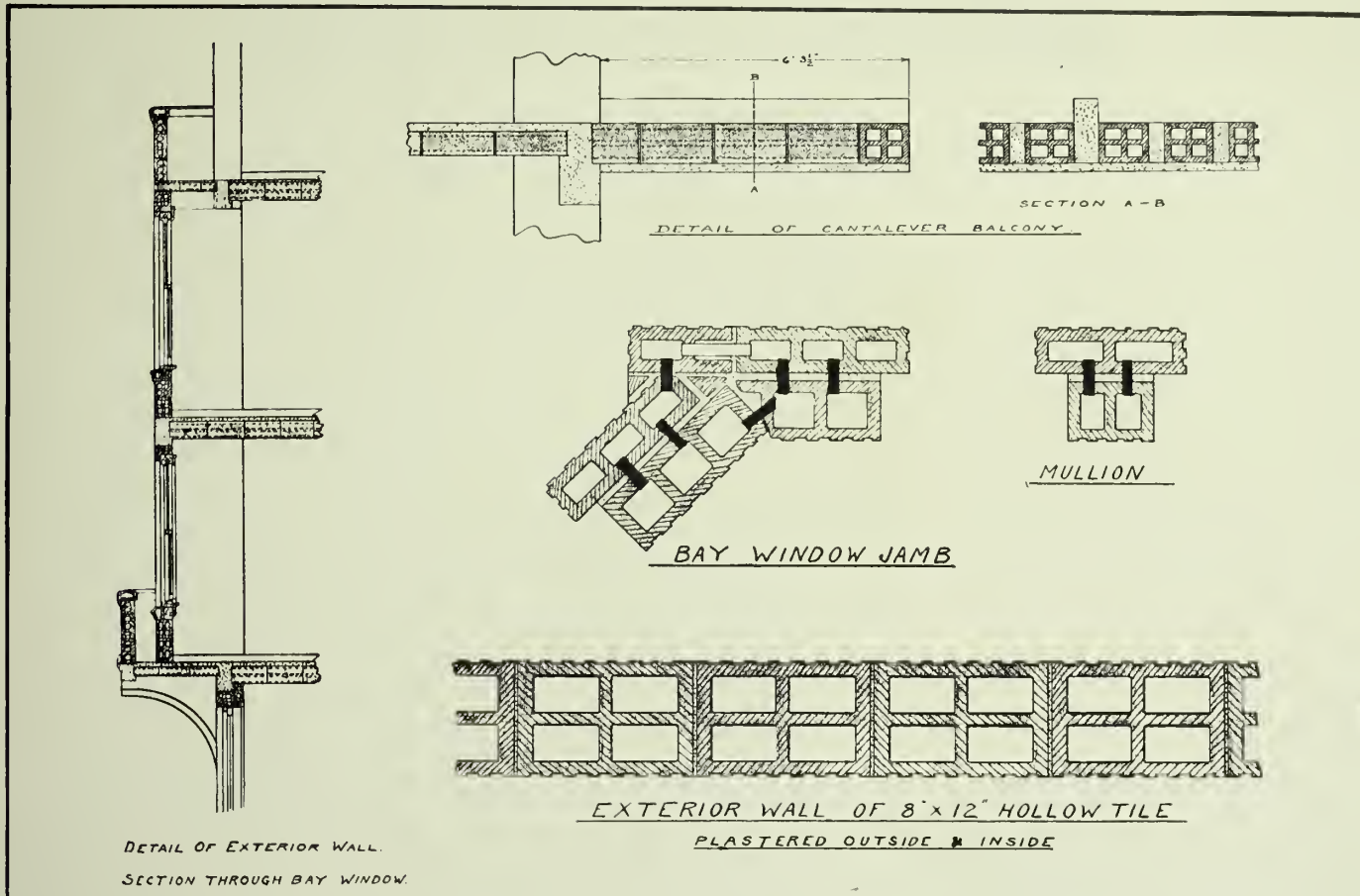
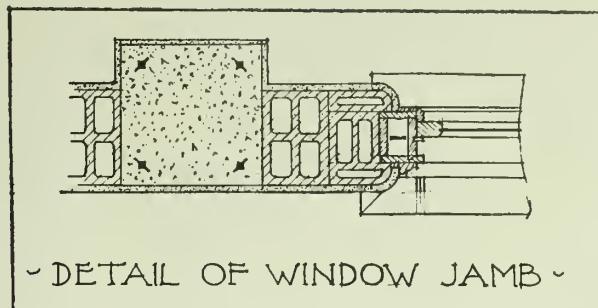
SHOWING EXTERIOR WALLS OF HOLLOW TILES DEEPLY GROOVED TO GIVE A STRONG BOND TO THE PLASTER FINISH.

from Ohio Avenue is situated. It is provided with the usual administrative accessories, and has space set apart to be used as writing and billiard rooms.

A wide octagonal stairway leads up from the lobby into the exchange. Here is entered a great, irregular hall covering an area of seven thousand square feet. The design of this is conspicuous in the introduction of massive columns and piers, which in reality are the principal supporting elements of the structure above this point. They have been treated in a frank yet conservative man-

ner. Its purpose is at once expressed in that it is entirely enclosed by glass, except where the necessary supporting piers are introduced. Where emphasized by a broad, low dome it divides and sweeps out in easy contour, to be finally interrupted by the two square pavilions directly overlooking the Boardwalk.

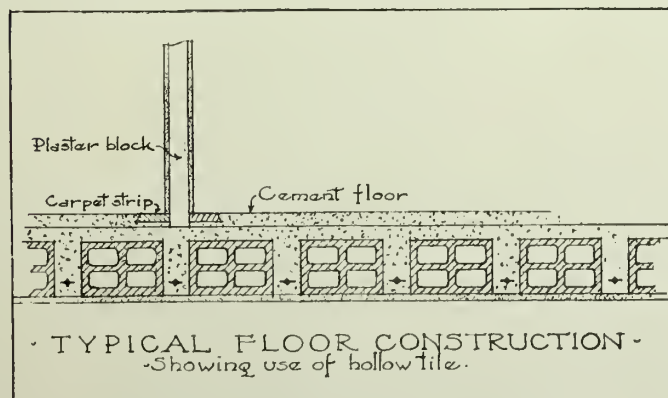
Included within this spreading horseshoe of the solarium is the plaza, an open porch of broad expanse. The outer circumference of this, extending back within the inner line of the solarium, provides a suitably protected area where breakfast



ner, which in no way detracts from the expression of the construction.

The general office of the hotel is placed at the rear of the exchange, across from the two forward elevators, which are calculated to do the greater amount of service required. The height of the exchange gives a well-proportioned room and allows for a gallery at one end, where the house orchestra may be placed without interfering in any way with the general accommodations of the hotel.

The principal circulative space of the hotel is the sola-



rium may be served in the open air, after the custom of well-regulated European hotels. A preparation room for this purpose occurs on the floor below. The front of the plaza, reaching out with a large radius, extends well beyond the building line, affording ample and splendid opportunities for unobstructed views of Atlantic City life. A plain wrought iron railing is designed with the purpose that the outlook may be interfered with as little as possible. This open porch is paved with a graded floor of cement laid out in geometrical designs,

accentuated and modified by such colors as give a characteristic and harmonious whole.

Towards the back of the solarium and under the small dome is the space to be used as a dance hall. On each side of this, somewhat apart from the general circulation, are four interesting fireplaces for the comfort of those not caring to take any active part in the festivities.

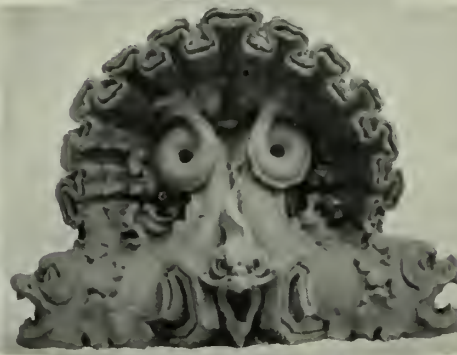
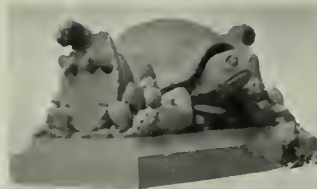
Out of the exchange and approached by the principal stairway is the sun gallery which, extending back along the body of the building, turns and circles across Ohio Avenue, there connecting with a similar parlor on the Marlborough side, thus forming the principal artery of the two hotels.

Opening from this sun gallery the European dining room occupies the remaining space afforded by the main body of the house. This will be adaptable to the use of the two hotels. The architectural and decorative treatment shows much study and serious design. The lower portions of the heavy piers occasioned by the construction are left severely plain.

Opposite this room and across the corridor is the banquet room, a room of like character and capacity, but one that will be used only on such occasions as its name suggests.

These dining halls connect directly with the kitchen by a common passage at the rear of the main corridor.

The majority of bedrooms in the main body of the house have been treated with individual projecting bays which permit of an extended range of view. Connected to each bedroom is a private bath. Running ice water is supplied by a system of circulation heavily insulated, and all baths are provided with fresh and salt, besides hot and cold water. All plumbing and steam risers have been concealed by the use of permanent pipe ducts installed on the walls of all bathrooms. An opportunity for ready inspection at every floor is made possible by the use of an adjustable duct cover. This entirely does away with the always objectionable condition of exposed piping. The bath-



A GROUP OF TERRA COTTA
DETAILS.



DETAIL OF STACK.

rooms are finished with a plain seven-eighths inch ceramic tile and sanitary base.

Although every precaution has been taken to make the building as nearly fireproof as possible, several fire escapes have been provided, also a fire tower with solid walls twelve inches thick, enclosing a stairway running the entire story height of the structure.

Fire danger against outside sources is guarded against by the adoption of an extended sprinkler system occurring on the south side of the building. This provides an outlet over each window or series of windows, so that in case of fire from adjoining properties a veritable sheet of water can be sprayed down the face of the wall.

The kitchen and machinery building at the rear of the hotel proper is a structure 102 feet by 115 feet, three stories in height. Provision has been made for the ready inspection by guests of the manner and methods employed in conducting this portion of the business.

The mechanical equipment includes six 150 horse-power boilers of the return tubular type. For the supply of electricity for lighting and power purposes a 250-kw. direct-connected generating plant has been installed. For refrigeration there are two six-ton ammonia compressors run from a belt driven line shaft, and one forty-ton compressor direct-connected to a Corliss engine. From this extended line shaft is driven the ice water circulating pump, feed pump and house circulating pump, besides machines for minor services, such as motor power for the laundry.

The first floor is devoted entirely to the appurtenances of the kitchen. Overlooking the kitchen at one end is a gallery from which the guest may have opportunity to inspect the preparation of meals.

This innovation from the usual style of hotels shows a distinct mark of progress in design and construction, and will always demand attention from those interested in work not bound by precedent.

Editorial Comment and Selected Miscellany

ASSISTANCE TO SAN FRANCISCO ARCHITECTS.

WHILE the flames were still blazing over the ruined city, the officials of San Francisco telegraphed to several of the larger eastern cities asking how many architects and draughtsmen could be sent on at once. This call is only one of the many instances of foolish hysteria which this catastrophe has developed. Unfor-

of the Society of Architects called for volunteers to go as draughtsmen to the West to offer their services to the San Francisco architects.

There were over eighty responses, and out of this number a selection of twenty capable, experienced draughtsmen of various grades were sent at the expense of the relief committee to San Francisco, with instructions to place themselves at the disposal of the San Francisco architects and to assist them in any way they could.

Similar requests have been sent to other cities. At this writing, however, it is not known in just what form the response has been made. It is quite certain that there will be a large amount of the rebuilding intrusted to architects outside the city, but aside from the question of professional conduct it certainly would be poor business for an architect without any local affiliations or influence to thrust himself unasked upon the San Francisco community. We sincerely trust that the self-respecting architects everywhere will feel disposed to help in any manner the San Francisco architects, but will appreciate that their western brethren are perfectly able to cope with the great bulk of the work which will be done in that city.

This is an emergency which calls for cordial coöperation, but does not require undercutting competition.



TERRA COTTA CAP BY HOPPIN &
KOEN, ARCHITECTS.
New York Architectural Terra Cotta Co.,
Makers.



GRACE CHURCH CHAPEL, CHICAGO.

Cram, Goodhue & Ferguson, Architects.

Interior trim of terra cotta, made by Northwestern Terra Cotta Co.

tunately some of the relief committees in the eastern cities were affected much the same way, and in Boston a call was made at once upon the Boston Society of Architects to furnish architects and draughtsmen by the carload to be shipped offhand to the West.

Those who recall the experiences at Baltimore immediately after its fire will appreciate the position that architects could be forced into who would trust themselves unasked upon a community at a crisis of this sort, and the Boston Society of Architects wisely declined to be rushed into an ill-considered action. At the urgent request, however, of the relief association, a committee



DETAIL OF RAILWAY STATION, BAY CITY, MICH.

W. T. Cooper & Son, Architects.

Built of "Ironclay" Brick.



BUILDING FOR THE RUMFORD FALLS POWER CO., RUMFORD FALLS, ME.

Stone, Carpenter & Willson, Architects.

Built entirely of gray terra cotta, made by Excelsior Terra Cotta Co.

INTERESTING CAPITAL.

IT cannot be too strongly emphasized that the great damage at San Francisco was chargeable to the poor character of the buildings, which were easily shaken down and put in shape to become a ready prey for flames. In the rebuilding of the city large amounts of money will be needed at once. If San Francisco desires to make investments attractive in the burnt district the city must at once revise its building laws and make such regulations as will give security to invested funds. Building is an exact science to a very considerable degree, and it is so perfectly possible to rebuild the city in such shape that a recurrence of this disaster shall be well-nigh impossible, that there ought not to be the slightest tolerance within the business district of anything but thoroughly first-class construction. This will mean that the cost of building will undoubtedly be increased, but the increase will be comparatively insignificant in comparison with the terrible damage which has already been charged up, and which is liable to occur again if conditions in the future are as they have been in the past. A business community like San Francisco can better afford to pay for first-class building than to pay for a first-class fire.

NATIONAL SOLDIERS HOME, JOHNSON CITY, TENN.

IN addition to the illustrations of the National Soldiers Home at Johnson City,



DETAIL EXECUTED BY
SOUTH AMBOY TERRA
COTTA CO.

which are published in this issue, there were published in *THE BRICKBUILDER* for April, 1903, plans of the Hospital Group; plans, elevation, and details of the Hospital Ward Building; plans and elevations of the Kitchen Building, and plans and elevations of the Hospital Administration Building. And in *THE BRICKBUILDER* for May, 1904, views of the Mess Hall and portions of the Hospital Group.

MATERIALS EMPLOYED IN THE HOTEL BLENHEIM.

THE structural work for the Hotel Blenheim was executed by the National Fireproofing Company; Celadon tiles were used on the roof; Moravian and Grueby tiles were used in the decoration of the walls, and the terra cotta details were furnished by the Conkling-Armstrong Terra Cotta Company.

IN GENERAL.

Cram, Goodhue & Ferguson have been selected as architects for the new St. Thomas' Church, New York City.

Cass Gilbert has removed his New York office to 11 East 24th Street.

Washington University, St. Louis, has offered one scholarship, for a regular student in architecture, to the Architectural League of America. The value of the scholarship is one hundred and fifty dollars annually.

President Ernest J. Russell and ex-President N. Max Dunning will represent the Architectural League of America at the International Congress of Architects to be held in London during July.

The Gargoyle Club, composed of the younger architects and draughtsmen of New York City, has been organized. The objects of the club are to promote social intercourse and good fellowship among the members, and to study the fine arts. Henry C. Van Cleef, architect, 220 Broadway, is the president.

The Agricultural and Mechanical College of Texas, College Station, Texas, now offers courses in architecture and engineering. Manufacturers' catalogues and samples are desired for this department.

The following named architectural firms are desirous of receiving manufacturers' catalogues and samples: L. Engelmann, 20 Lafayette Building, Portland, Ore.; Irving D. Porter, 1421 F Street, N. W., Washington, D. C.; R. N. Hockenberry & Co., Washington Building, Portland, Ore.; L. D. Brackney, 1 Morehouse Block, El Paso, Texas.

The terra cotta used in the churches at Leominster, Mass., and Northampton, Mass., illustrated in connection with Mr. Maginnis's article in *THE BRICKBUILDER* for March, was made by the Excelsior Terra Cotta Company.

The Ohio Mining and Manufacturing Company will



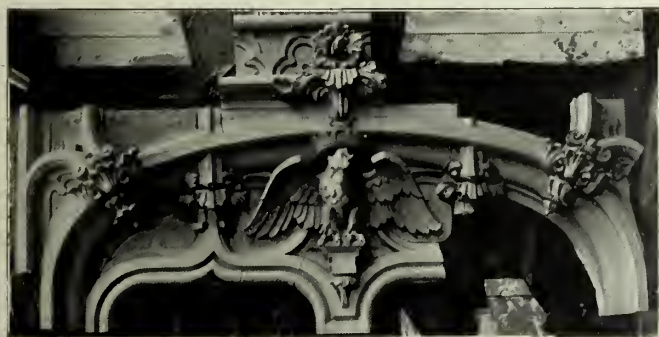
TERRA COTTA COLUMNS TO FENCE AND GATEWAY, CREAM OF WHEAT BUILDING, MINNEAPOLIS, MINN.

Harry W. Jones, Architect.

American Terra Cotta and Ceramic Co., Makers.



DETAIL EXECUTED BY THE NEW JERSEY TERRA COTTA CO.



DETAIL BY CASS GILBERT, ARCHITECT.
Atlantic Terra Cotta Co., Makers.



DETAILS BY GILLESPIE & CARREL, ARCHITECTS.
Brick Terra Cotta and Tile Co., Makers.

furnish about two million of their dark speckled buff brick for new schoolhouses in Chicago.

The Hydraulic-Press Brick Company of St. Louis has added another to its already long list of brick plants located in the best clay belts of the country. The new one is the Ayer-McCarel Clay Company of Brazil, Ind., the product of which is vitrified gray and buff

face bricks, also salt glaze bricks. The present capacity will be doubled.

The South Amboy Terra Cotta Company will furnish the architectural terra cotta for a large stable, which is to be built in New York City by Thompson-Starrett Company. Hill & Stout are the architects.

BUILDING OPERATIONS FOR MARCH.

AT what may be regarded as the opening of the building season the outlook is decidedly promising. Official reports received and formulated by the *American Contractor*, from more than forty of the leading cities of the country, show a general and quite decided gain as compared with the corresponding month, March, of 1905. The following figures show the percentage of gain in cities where the increase is most marked: Cleveland, 43; Chattanooga, 49; Duluth, 668; Louisville, 54; Los Angeles, 84; Mobile, 46; St. Paul, 35; San Francisco, 23; Scranton, 50; Syracuse, 40; Salt Lake City, 31; Trenton, 252; Toledo, 22. The losses reported are somewhat in excess of last month. The following statement shows the percentage in leading cities: Cincinnati, 45; Columbus, 49; Hartford, 32; Kansas City, 70; Milwaukee, 23; Minneapolis, 42; Nashville, 73; Philadelphia, 19; St. Louis, 55; Washington, 49; New York, with \$22,928,906, only fairly holds its own, the gain being 2 per cent. At this time last year the building movement was decidedly strong, and to have fairly maintained it is an excellent

showing. It is deeply significant that New York makes a slight gain over March, 1905, in spite of the enormous amount of construction work that has been in progress there during the past year. Baltimore shows a loss of only 4 per cent, although the work of rebuilding was at its height a year ago. Conditions are favorable for a prosperous year in construction lines.



ENGINE HOUSE, ST. LOUIS, MO.
James A. Smith, Architect.
Terra Cotta furnished by St. Louis Terra Cotta Co.



A ROOF COVERED WITH "AMERICAN S" TILE.
Made by Cincinnati Roofing Tile & Terra Cotta Co.

WANTED — Architectural draughtsmen. State experience and salary expected. Address "Buffalo," care "The Brickbuilder."

WANTED — An architectural draughtsman. Address Cudworth & Woodworth, Architects, Norwich, Conn.

WANTED — By a New York City Architect, a Draughtsman to do tracing; clean and accurate work and a good general draughtsman. Write, stating experience, references and salary. New York, care "The Brickbuilder."

WANTED, SUPERINTENDENT OF CONSTRUCTION — By a Company engaged in erecting from time to time Bank Buildings of moderate size at different places. Duties would be to examine critically plans and specifications received from the architects; advertise for and collect tenders; make recommendations regarding contracts, after conference with the architects; see that detail drawings are promptly furnished, and exercise a general supervision over the work of the architects and contractors. Salary \$200 a month at outset to properly qualified person. Address "Construction," care "The Brickbuilder."

Competition for Photographs and Plans of Two Small Brick Houses.

FIRST PRIZE, \$100.00; SECOND PRIZE, \$50.00; THIRD PRIZE, \$25.00;
FOURTH PRIZE, \$15.00; FIFTH PRIZE, \$10.00

Competition closes June 1, 1906.

PROGRAM.

The object of the Competition is to obtain a collection of photographs and plans of well designed, well planned houses which have been built of brick at a cost ranging from \$3,000 to \$7,000 each.

The best in design and plan for the cost, whether this be \$3,000 or \$7,000, will be given the prizes.

The houses must be detached, and built entirely of brick, except the trim, such as porches and cornices, may be of other materials.

SPECIFIC REQUIREMENTS. On a piece of heavy cardboard measuring exactly 12 x 15 inches, inside border lines drawn 1 inch from edge of cardboard, shall be mounted (at the top of card) in spaces measuring 4 x 5 inches each, one photograph each of two houses.

These photographs should be mounted (pasted on) with care and trimmed to actual size of the spaces.

Below these photographs, in spaces measuring 5 x 7 inches each, shall be drawn or mounted the first and second floor plans of each house.

In the panels below these spaces shall be clearly printed the location (city or town and state), the names of the architects, total cost of each house, and cubical contents.

Below these panels should be given the *nom de plume* of the contestant, consisting of only one word.

The accompanying diagram indicates exactly the manner in which subjects should be presented.

These sheets are to be delivered at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., charges prepaid, on or before June 1, 1906. They should be carefully packaged to prevent damage in transit. Accompanying each sheet is to be a sealed envelope with a *nom de plume* on the exterior and containing the true name and address of the contestant.

The Competition will be judged by two well-known architects.

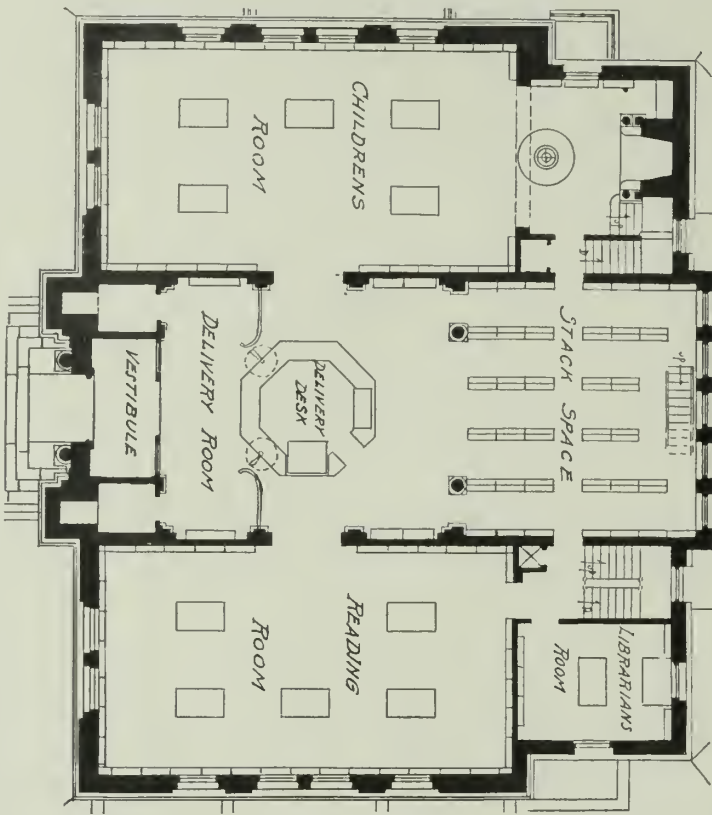
Competition open to every one.

The groups awarded prizes are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others.

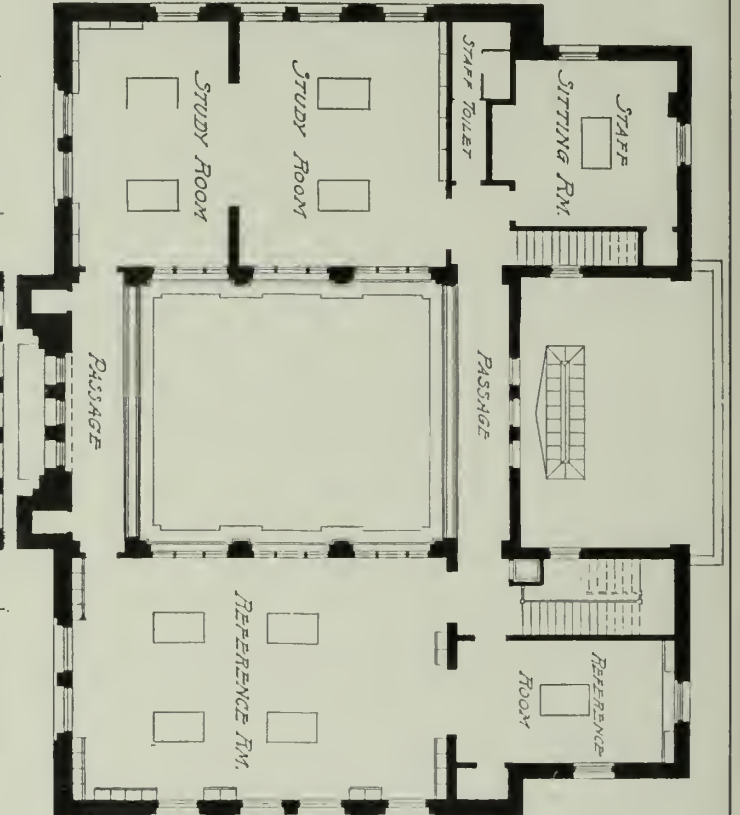
10"	
Place Here Photographs of One House. Trim to Fit Space.	Place Here Photographs of One House Trim to Fit Space
Place Here First and Second Floor Plans of House Shown Above	Place Here First and Second Floor Plans of House Shown Above.
Give Here Location, Name of Architect, Cost, and Cubical Contents.	Give Here Location, Name of Architect, Cost, and Cubical Contents.
Submitted by	



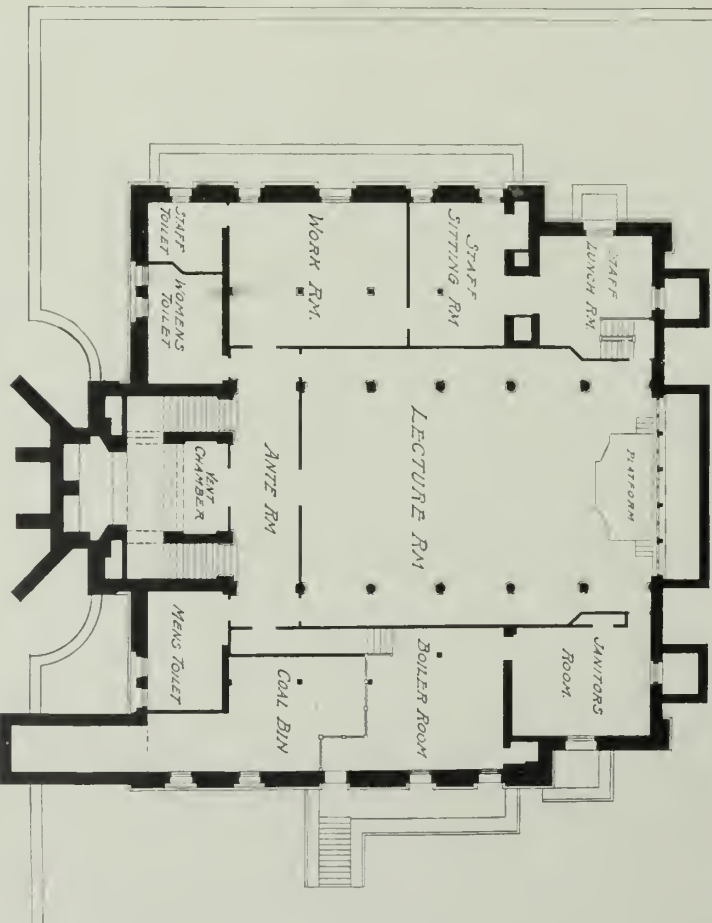
FIRST FLOOR PLAN, FLATBUSH BRANCH.



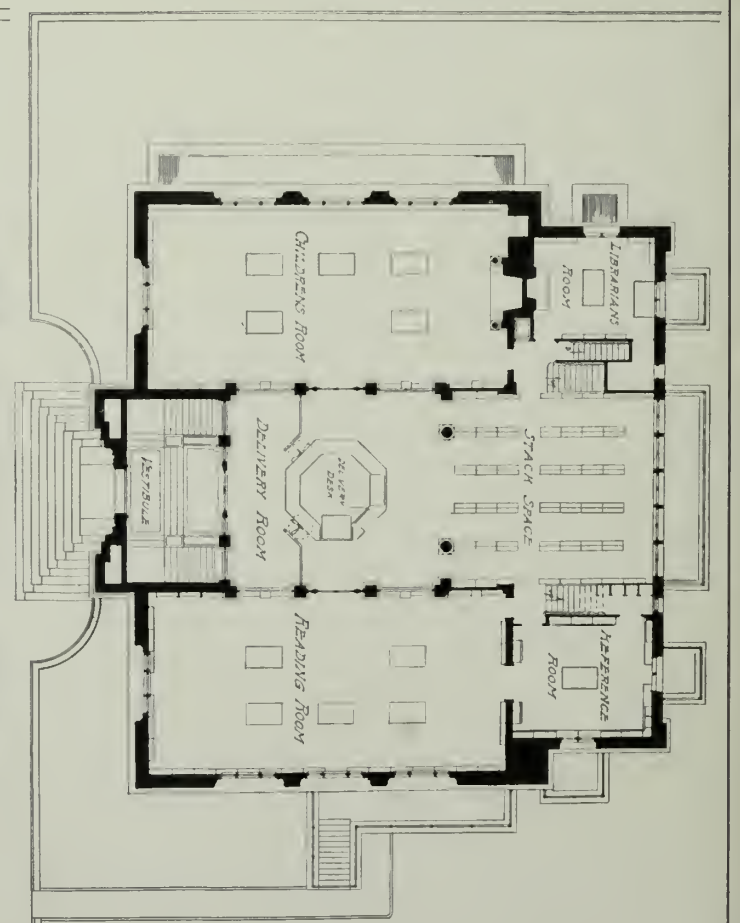
SECOND FLOOR PLAN, FLATBUSH BRANCH.



BASEMENT PLAN, GREENPOINT BRANCH.

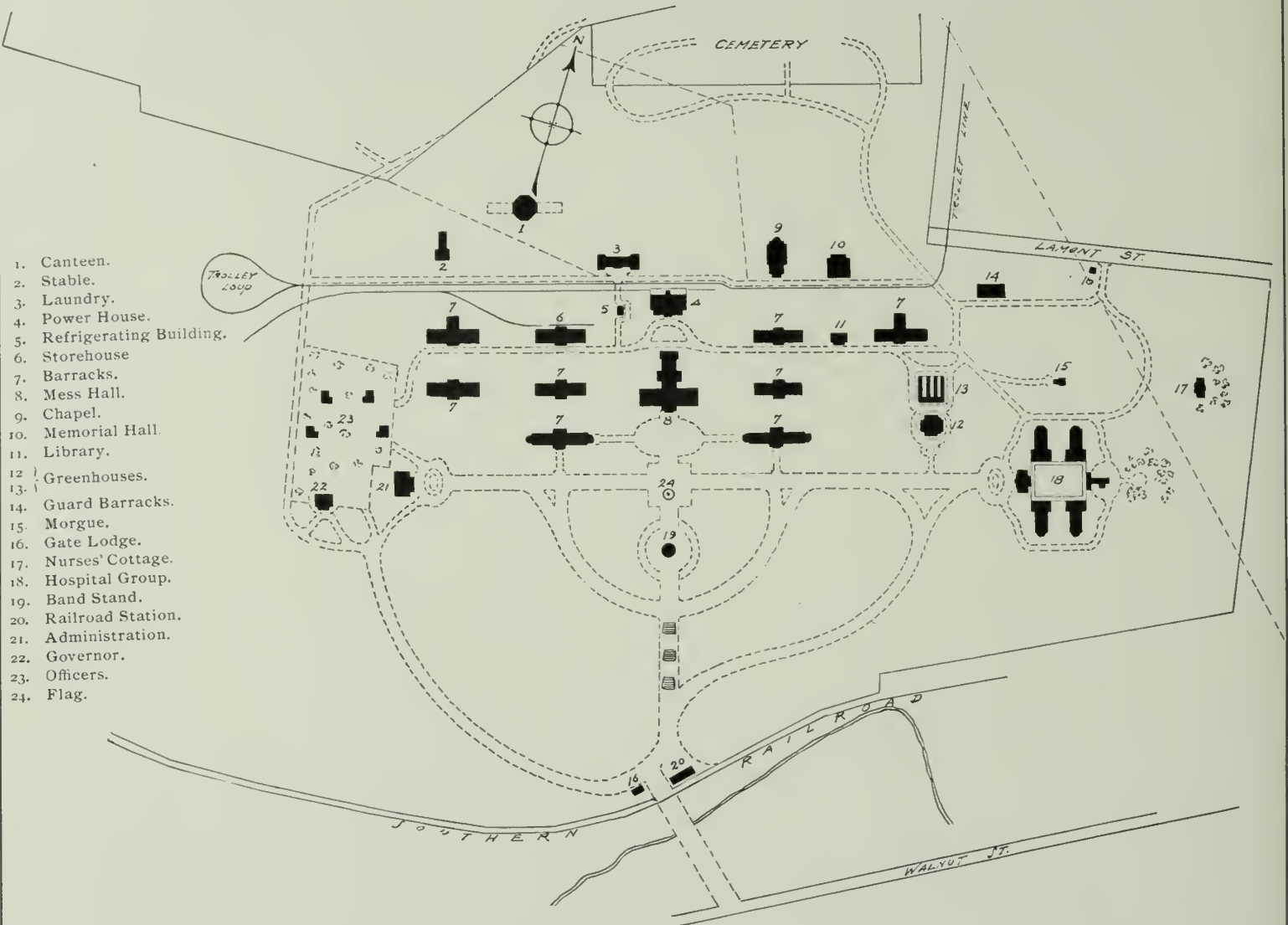


FIRST FLOOR PLAN, GREENPOINT BRANCH.

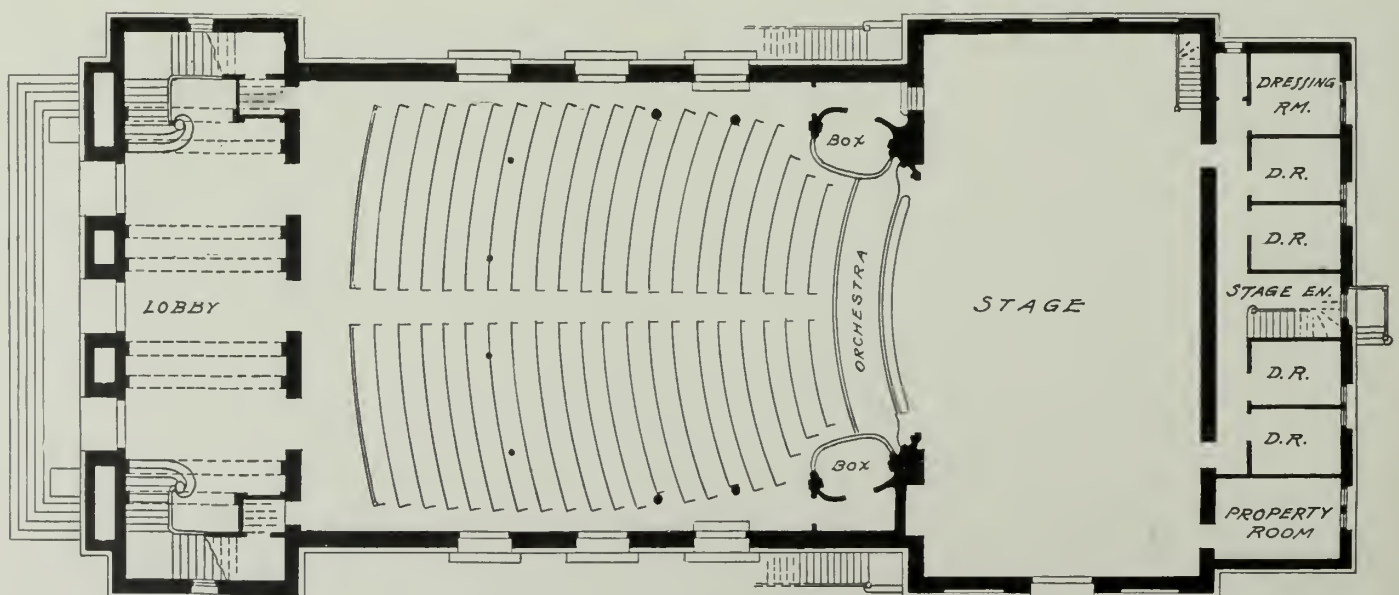


PLANS, CARNEGIE BRANCH LIBRARIES, NEW YORK CITY.
R. L. DAUS, ARCHITECT.





GROUND PLAN.

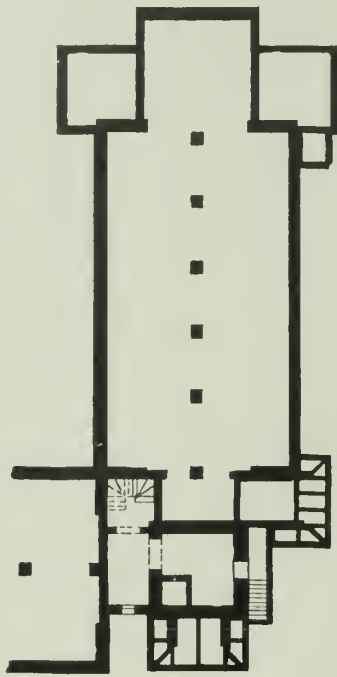


FIRST FLOOR PLAN, MEMORIAL HALL.

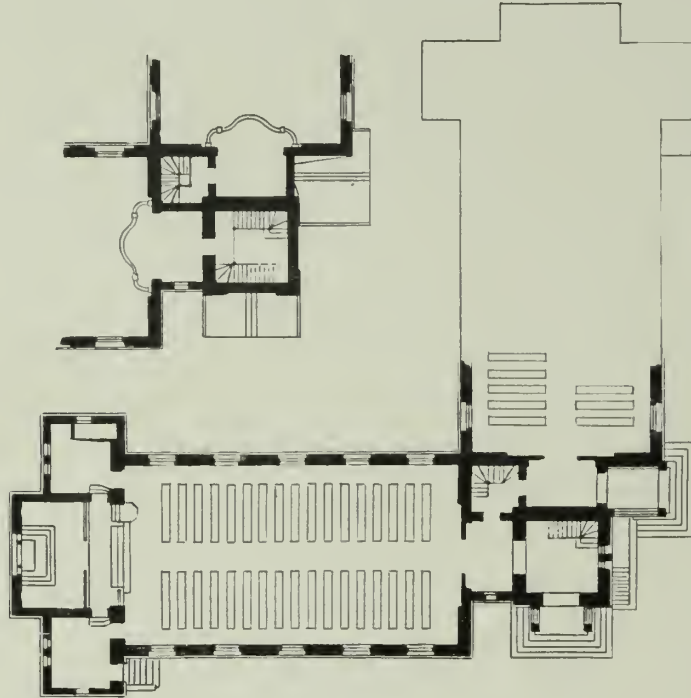
NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.

J. H. FREEDLANDER, ARCHITECT.

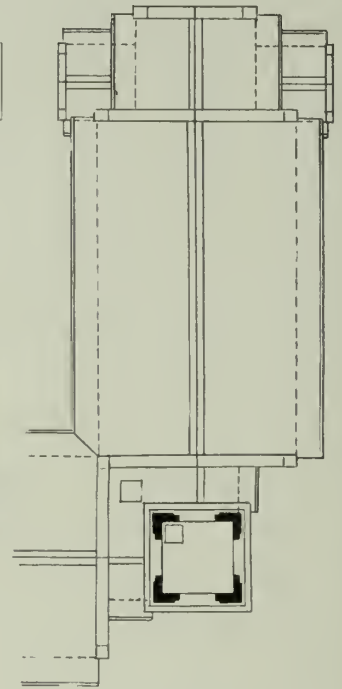




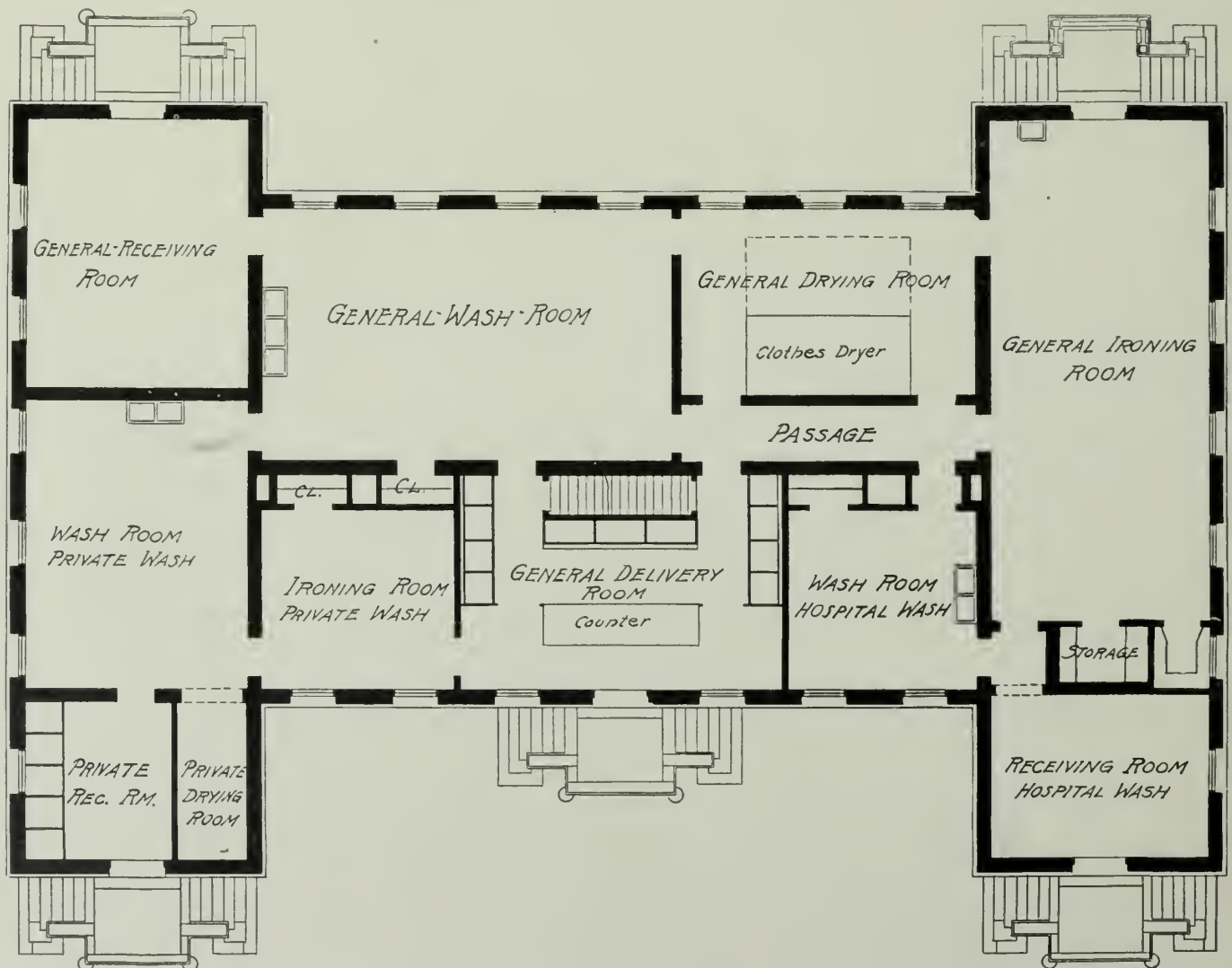
FOUNDATION PLAN.



MAIN FLOOR PLAN.
CHAPEL.



ROOF PLAN.

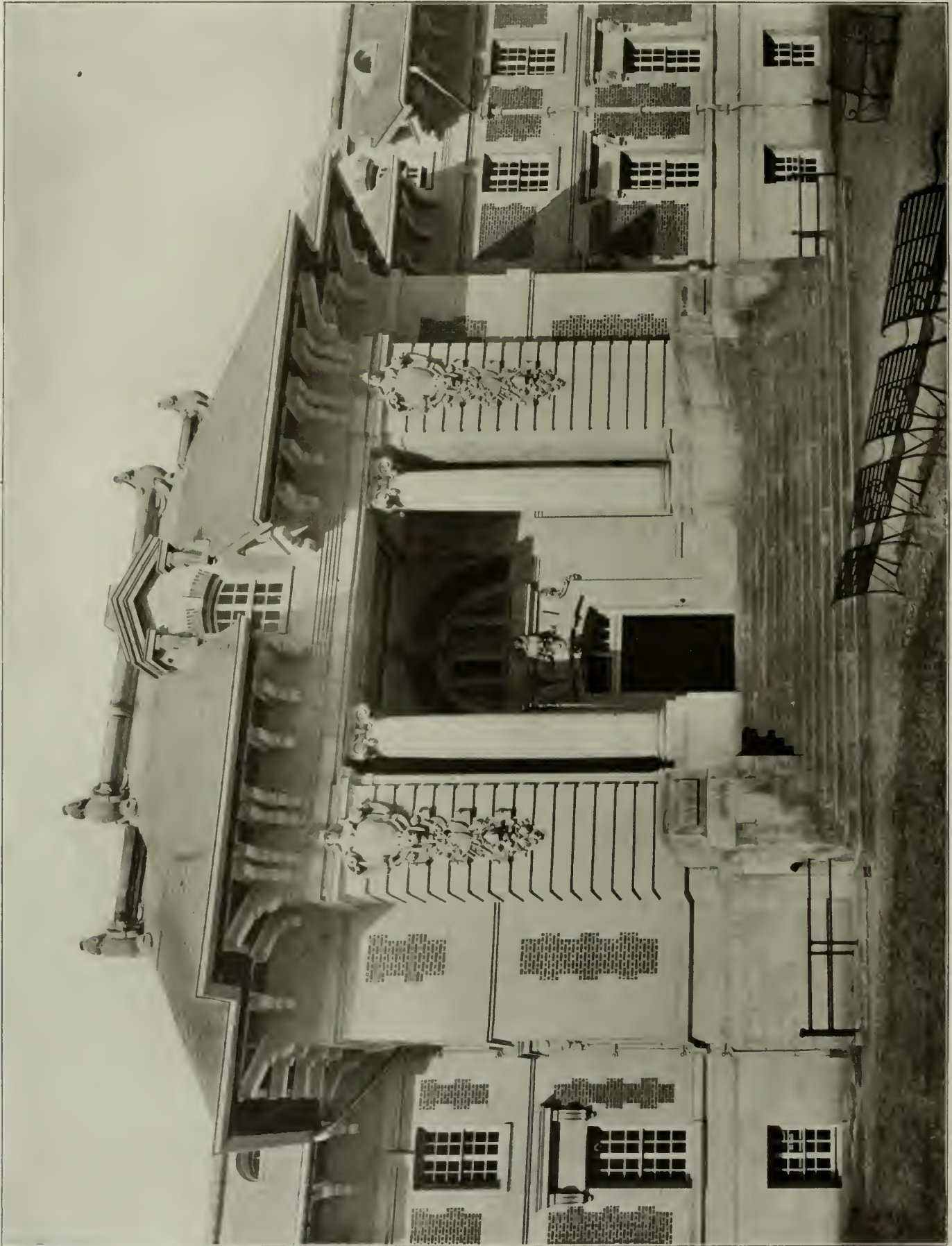


FIRST FLOOR PLAN, LAUNDRY.

NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.

J. H. FREEDLANDER, ARCHITECT.





ENTRANCE TO BARRACKS.
NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.
J. H. FREEDLANDER, ARCHITECT.





HOSPITAL GROUP, LOOKING SOUTH.



MEMORIAL HALL.

NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.

J. H. FREEDLANDER, ARCHITECT.





CARNEGIE BRANCH LIBRARY, FLATBUSH, N. Y. R. L. DAUS, ARCHITECT.



CARNEGIE BRANCH LIBRARY, GREENPOINT, N. Y. R. L. DAUS, ARCHITECT.





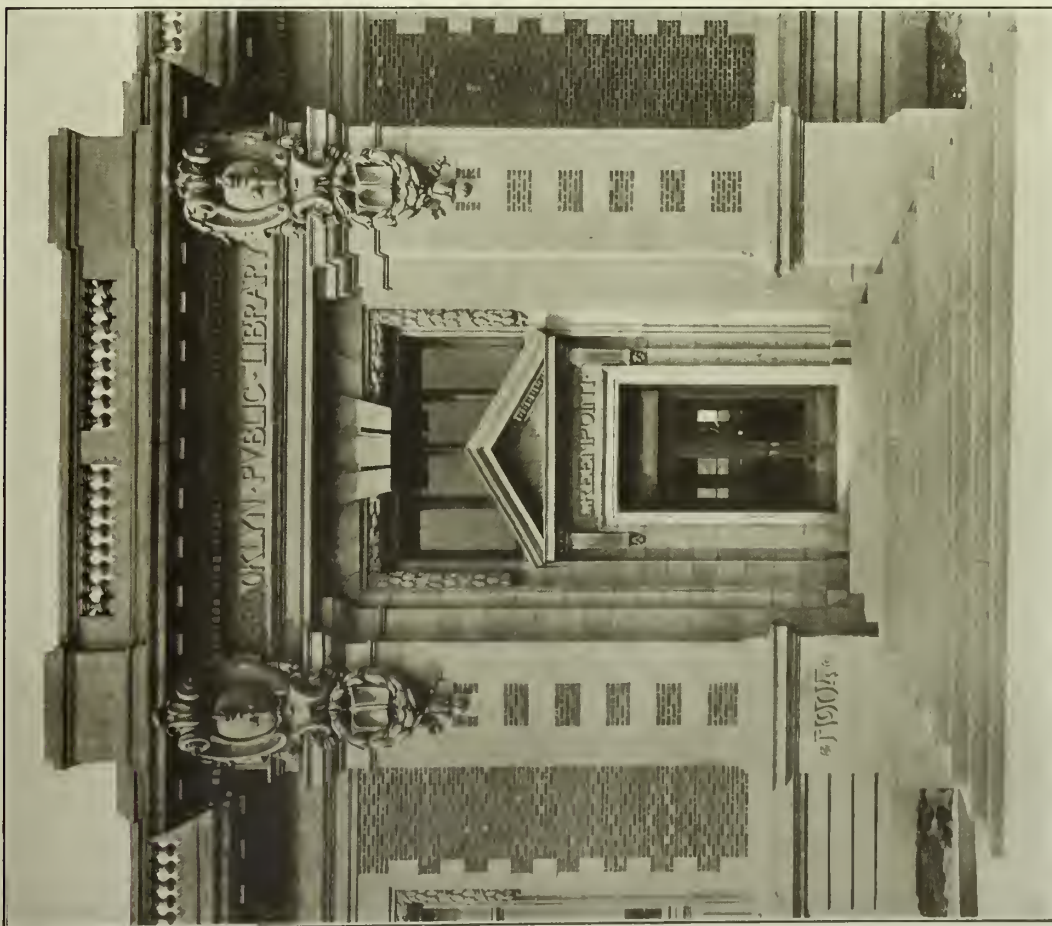
COTTAGES AT PORT SUNLIGHT, ENGLAND



COTTAGES AT PORT SUNLIGHT, ENGLAND.



DETAIL, MAIN ENTRANCE.
CARNEGIE BRANCH LIBRARY, FLATBUSH, N. Y.
R. L. DAUS, ARCHITECT.



DETAIL MAIN ENTRANCE.
CARNEGIE BRANCH LIBRARY, GREENPOINT, N. Y.
R. L. DAUS, ARCHITECT.



MESS HALL.



CHAPEL.

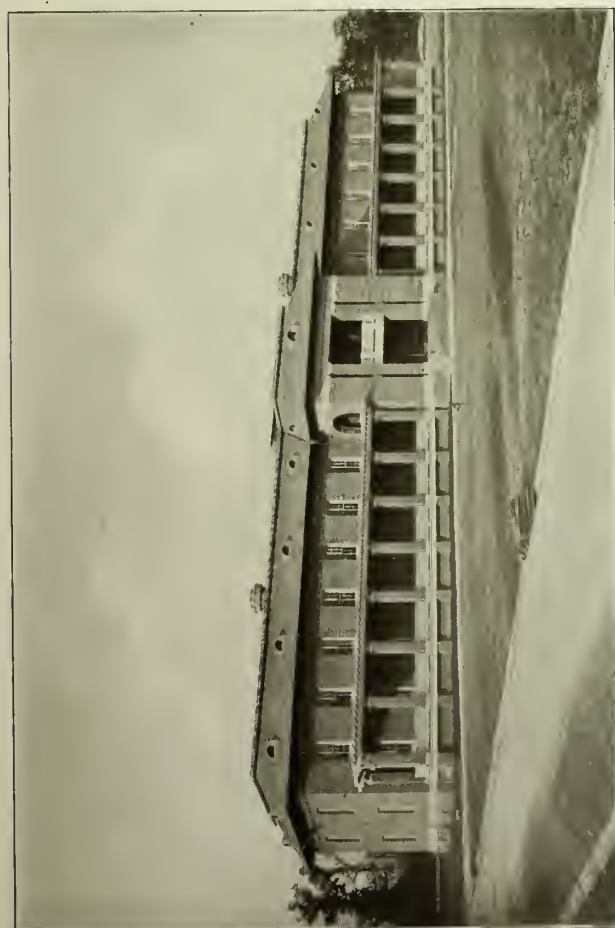
NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.
J. H. FREEDLANDER, ARCHITECT.



ADMINISTRATION BUILDING.



POWER HOUSE.



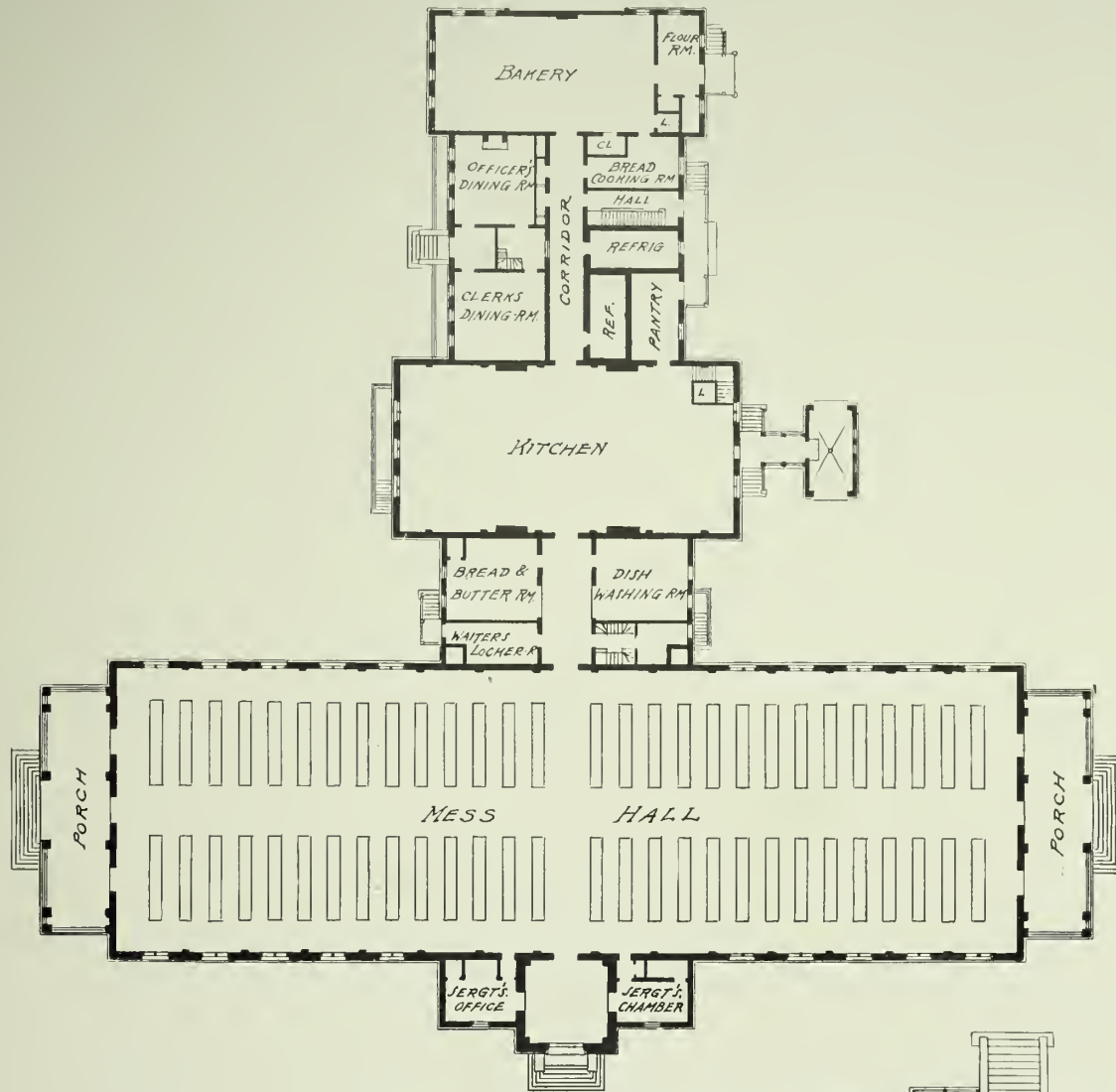
BARRACKS.



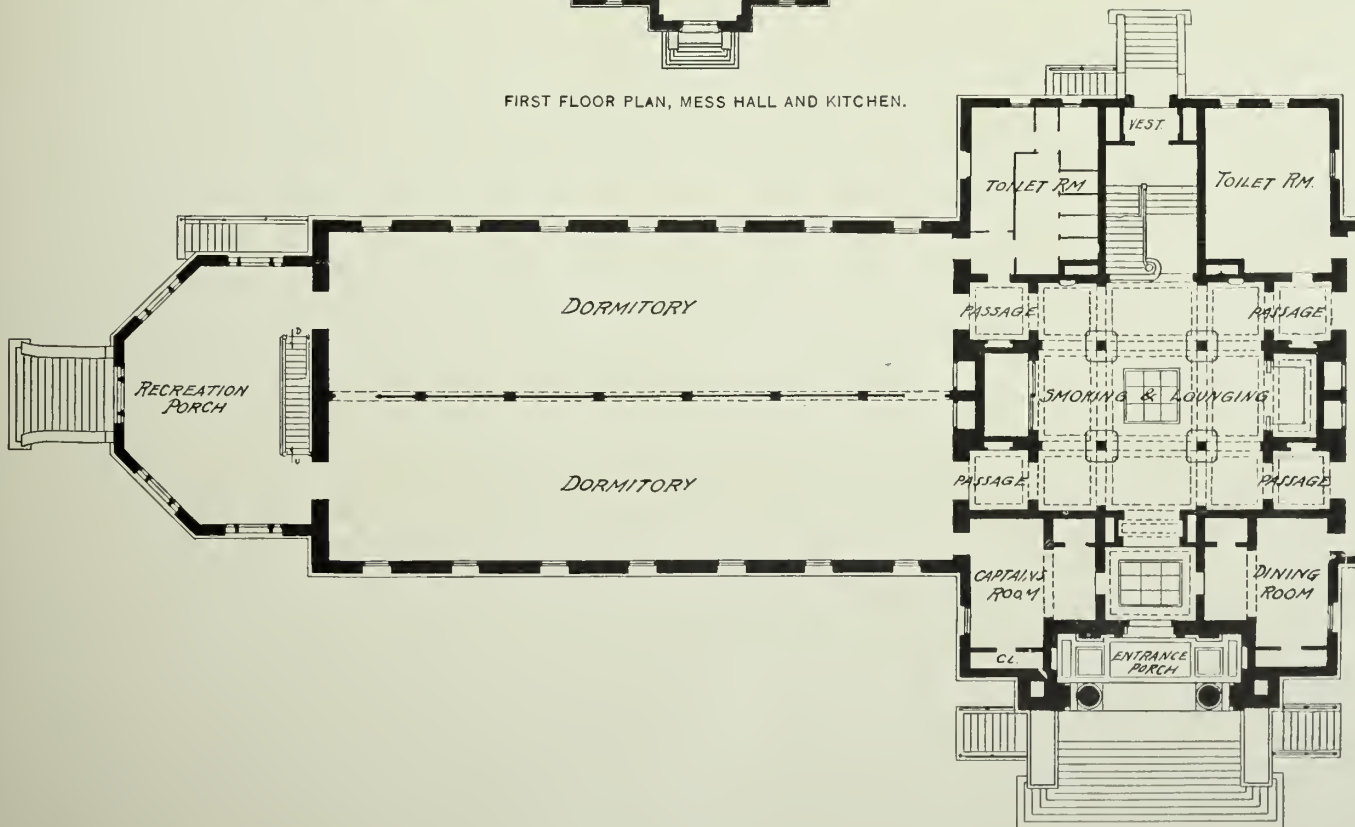
LAUNDRY

NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.

J. H. FREEDLANDER, ARCHITECT.



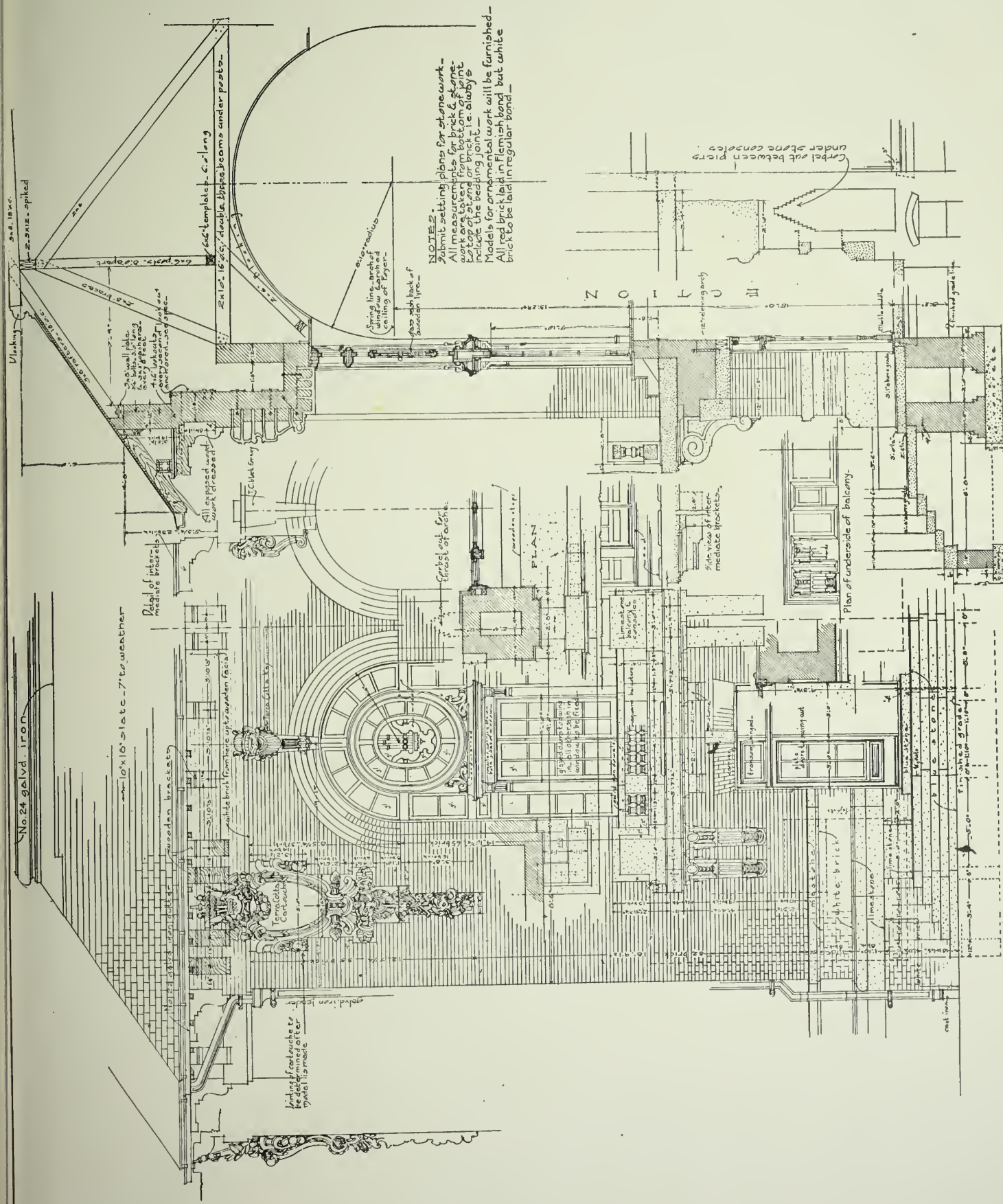
FIRST FLOOR PLAN, MESS HALL AND KITCHEN.



FIRST FLOOR PLAN, BARRACKS.

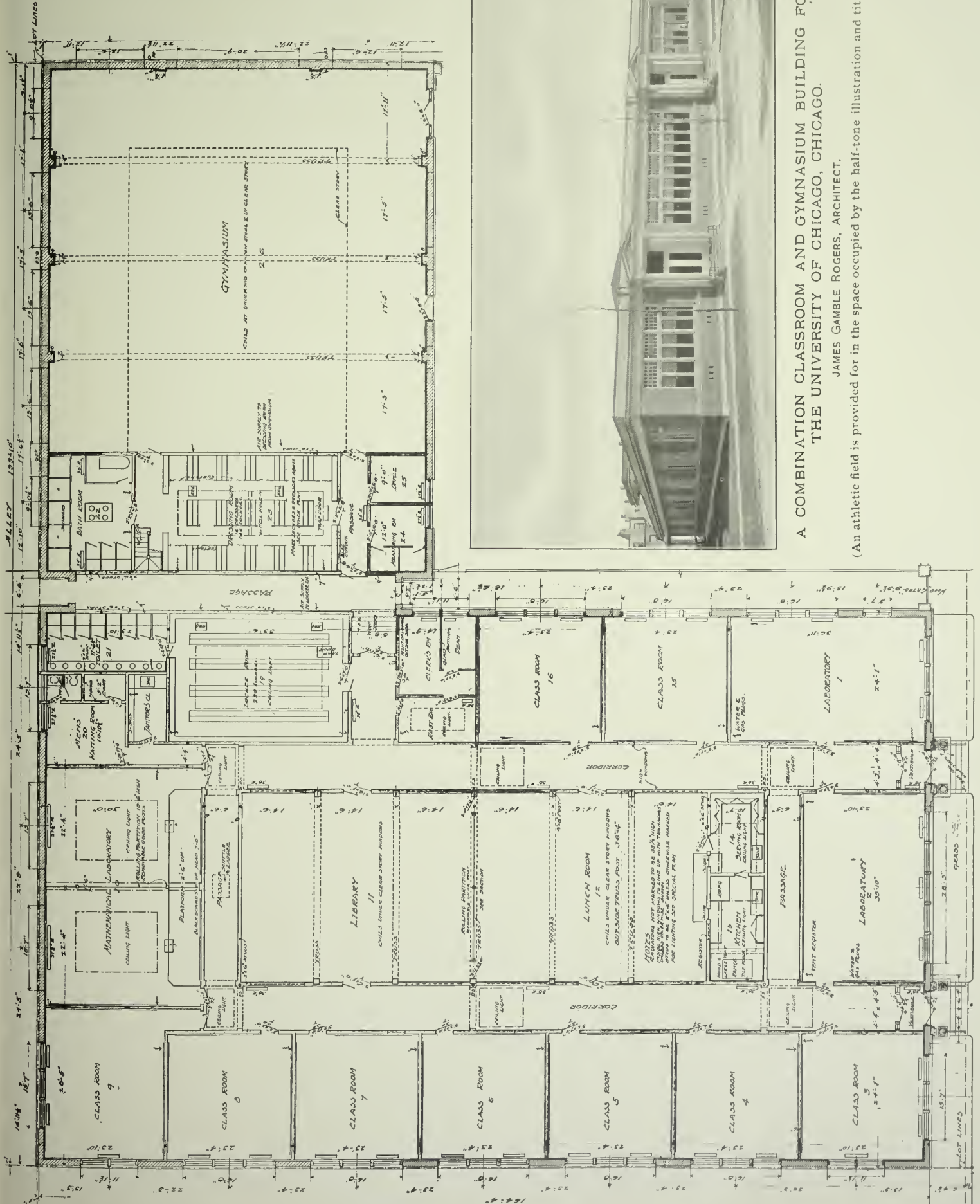
NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.

J. H. FREEDLANDER, ARCHITECT.



NOTE 2.
 Submit setting plans for stone work -
 All measurements for brick & stone
 work are taken from bottom of joint
 between courses of brick or stone
 including the bedding joint i.e. always
 Models for ornamental work will be furnished -
 All red brick laid in Flemish bond but white
 brick to be laid in regular bond -

NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS, JOHNSON CITY, TENN.
 DETAILS, FRONT ELEVATION, MEMORIAL HALL.
 J. H. FREEDLANDER, ARCHITECT.



A COMBINATION CLASSROOM AND GYMNASIUM BUILDING FOR
THE UNIVERSITY OF CHICAGO, CHICAGO.
JAMES GAMBLE ROGERS, ARCHITECT.
(An athletic field is provided for in the space occupied by the half-tone illustration and titling.)

THE BRICKBUILDER

VOLUME XV

MAY 1906

NUMBER 5

PUBLISHED MONTHLY BY ROGERS & MANSON

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“ Terra Cotta	II and III	Fireproofing	IV
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& BIGELOW, WOOD, DONN & DEMING, C. C. ZANTZINGER.

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GRAVE TOWERS AT KUM, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 5

DEVOTED TO THE INTERESTS OF
ARCHITECTURE IN MATERIALS OF CLAY

MAY 1906

FIRE WASTE AND FOREST DESTRUCTION.

NO country, however great its resources, can long continue to stand a yearly fire loss of \$250,000,000. The consumption of wood per capita is also increasing in this country, and has risen from eleven to fourteen feet, board measure, per annum. With these two increases it is evident that the destruction of the forests and the destruction by fire are going along hand in hand toward our national bankruptcy.

The destruction of the forests means the loss of water-storing soil and the consequent washing out of the soluble plant food stored therein, and therefore the wasting of the fertilizing materials which would reproduce the vegetable growth.

It is therefore apparent to the least observant that we are surely burning the candle at both ends, and this double destruction should be brought home to the minds of the building public. The waste through fire of the products of the forests which have been incorporated into buildings brings about another element of destruction in the waste of other building materials and the contents of the buildings.

It is almost incredible that \$250,000,000 could be wiped out of existence in a year's time through fire losses, and yet we find people of intelligence willing to invest their money in buildings having wooden interior construction. Architects owe it to their clients, newspapers owe it to their readers, and builders owe it to their patrons to use all their influence toward the prevention of this extravagant and useless waste of good materials.

It is estimated by competent authorities that white pine lumber will disappear from the markets within eight years, and that the long leaf pine forests, which are rapidly giving way to the sawmills, will soon disappear and that structural and finishing lumber will rapidly advance in price. There are two ways of checking this waste; one is to curtail the consumption of lumber by using other materials for building, and the other is the reforestation of large tracts of land by the national government. Under existing conditions of ownership of land, this latter scheme is possible only to a limited degree, and then only on waste or government land.

The elimination of wood structural material from buildings is quite possible by a slight increase in cost over the ordinary methods of wood joist and stud construction, and the more elaborate the building the smaller the percentage of increase of cost. It is quite possible for an architect to make a comparison in each instance, and

if carefully done he will find that the greater part of the increased cost is in the floor systems and the partitions. When the very superior construction of the floors is taken into consideration there is no room for argument, as the shrinkage of the wood joist and the studs, with their attendant openings along the washboards and the cracking of plastered walls, alone are sufficient to condemn the use of wood in any but the cheapest buildings.

If the architect will use his knowledge and information with his client, he will find that it is possible in many instances to persuade them to use non-combustible construction, if the merits and the relative costs are properly placed before them. It is indeed the moral duty of every one connected with the building trades to stop the waste by fire and forest destruction, and no effort should be spared by those having the knowledge to disseminate it for the benefit of mankind.

Looking at it from an immediately practical standpoint, if \$250,000,000 is regarded as a yearly interest at five per cent it will cover an investment of \$5,000,000,000. Every intelligent man in the building trades can see that if this additional amount of money was *permanently invested* in building materials it would mean, not only more business for him, but easier living. Money that is burned up is wasted and ceases to earn money, and is wiped off as "capital account," and goes to the "loss account," and is absolute waste.

The replacement of burned material prevents its use in new structures which would in turn earn money and provide additional facilities for comfort and increase of business.

It needs some good hard talking on the part of those who know the truth about *waste* to make the average man understand that fire loss is *waste*, and not merely taking money from one pocket and putting it in the other, as many suppose.

An argument often advanced by the unthinking is that fires "put money into circulation." They seem to be unable to realize that money is merely the token of values, and if its interchange does not represent equivalent values, then one party to the transaction is not getting a square deal. It is always possible to either prove or disprove an argument by taking it to its limits. If it is a good thing, as some people argue, to "put money into circulation," then it might be possible easily to accomplish this, by say, having the government employ men to pump out the sea. Of course this needs no answer, neither does the argument of the unthinking people who argue that fire waste is a good thing because it "puts money into circulation."

Catholic Church Architecture.

BY C. GRANT LA FARGE.

(The church work shown in connection with this article is by Heins & La Farge.)

IN the discussion of ecclesiastical architecture as applied specifically to the building of Catholic churches in this country, perhaps we shall find it of interest to compare the views presented by the professors of that faith with the trend of opinion manifested by the adherents of the Episcopal Church. These involve principally the professional relations between the client and the architect, and the general question of style.

Let us look first at the professional relation.

There has been an enormous and widespread building of Catholic churches in America, extending over a considerable period of years, and so far as the Catholic clergy have had anything to say, in the columns of this magazine relating to their experience with architects, it has been to express what seems to be a fairly acute dissatisfaction, on grounds in the main of lack of professional integrity. This is a matter, on the one hand, of vital moment to the clergy charged with the responsibility of building; and on the other it is one of intense interest to those members of the architectural profession who desire to exercise their talents in the designing of churches.

If we examine the



CHURCH OF OUR LADY OF MT. CARMEL, TUXEDO PARK, N. Y.



INTERIOR, CHURCH OF OUR LADY OF MT. CARMEL.
Example of light, strong and easily built roof truss entirely of planks.



CHAPEL AT WEST POINT, N. Y.

great mass of the Catholic buildings here, what do we see? Certainly not a notable quality of contribution to that architectural achievement which is one of the most

striking manifestations of our national growth. In the great march of artistic development it has lagged pitifully behind, — poverty of construction; paucity of æsthetic idea; ignorance of the fundamentals of sound and traditional design to the point of illiteracy; inconceivable tawdriness of decoration and appointment; cheap shams and mock gorgeousness, where honest simplicity would have satisfied the

eye, and left the soul in tranquillity. There are exceptions to this, of course; woe betide the writer were it not so, but in the main the postulate holds painfully true.

Of Protestant building there is a different story to tell. It will not do to look too far back, for we should find ourselves in a time when the Catholic Church was without the means to express itself upon the soil of the New World. But since the time when it has possessed and employed those means, it is fair to make the comparison. During a part of that period it is true that Protestant church building has shared the general poverty of architectural resources that characterized our efforts in other directions, but it is also true that it produced examples notably in advance of the general average, such, for instance, as the work of Upjohn and Renwick. And coming down to our own time, the works of its architects which merit serious consideration, and frequently high praise, at the hands of their professional brethren and of the public at large, make a long list that need not be rehearsed; the pages of this and other technical journals conclusively exhibit the fact. The question we may properly ask is, whether the architectural achievements in

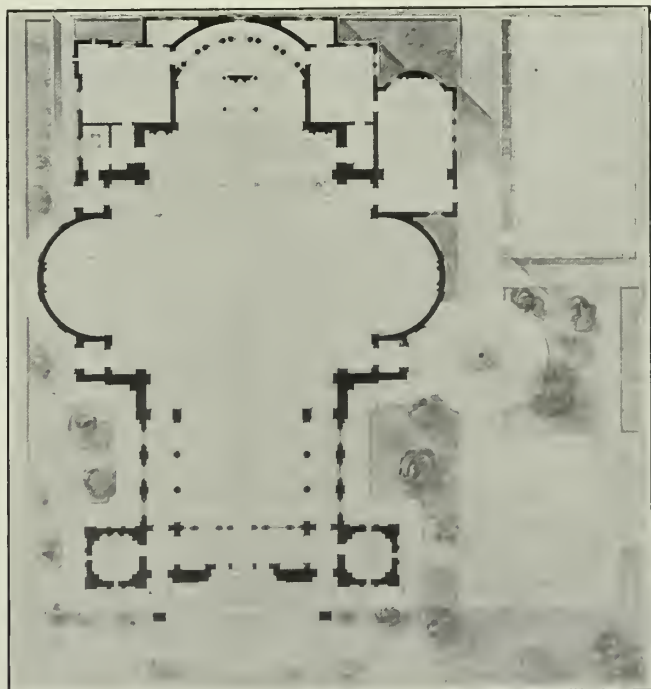


CATHEDRAL AT SEATTLE, WASH.

The building stands on a height overlooking Puget Sound, and will be visible from a vast distance, hence great importance is given to the towers.



PRESENT CONDITION OF BUILDING.



PLANS.

this particular field correspond in value, practically and ideally, with that of the architectural product of the time in the civic, the domestic and the commercial fields; and to this question the answer must be in the affirmative.

Now, in all that the Episcopal clergy have to say in their discussion of the subject in these columns there is no hint of distrust or dissatisfaction with the architects whom they have employed upon what may be designated as ethical grounds, —and surely they speak from a long and wide experience. We have then, to state it briefly, on the one hand, banal inferiority and the producer viewed with marked suspicion; on the other, a very fairly high grade of achievement, with presumably no disposition toward its authors other than that of counsel to aid them in the efforts yet before them. This is not to say, by any manner of means, that the valuable and suggestive papers contributed by the Catholic clergy

oldest of all the Christian creeds, its deep and abiding faith, its continuity and its power. Such a condition as is indicated must be to him a source of lively regret, and he most naturally inquires as to the reason for its existence.

One obvious fact appears: that the architects charged with the erection of Protestant churches have numbered among them the foremost men of the profession, men of authority, holding convictions and competent to maintain them, to guide their clients when guidance has been necessary; while, except in a few rare cases, the designers of the Catholic edifices are men who have failed to command either recognition from their fellows or any adequate measure of public esteem. There is no difficulty in determining who those are that may reasonably be expected to fall within the former category; Mr. Maginnis has indicated this so clearly that no more need be said.



CHURCH OF THE BLESSED SACRAMENT, PROVIDENCE, R. I.

FACADE: Red brick, red terra cotta and brownstone. Church begun in 1899 and still lacks the finish of vestibule and the stone entrance steps. The triple arches of entrance will stand open, the bronze doors of the inner vestibule being set quite far back. This will give deep shadows under the arches. The campanile is built with a vertical curve or entasis.

NAVE: The cinquefoil ceiling is of cypress wood. All the lower walls clothed with marble. The marble has been used very carefully to make a well-considered color scheme, increasing in richness as it goes toward the sanctuary. The electric light brackets are temporary.

are not filled with practical advice that we owe it to ourselves to lay to heart, as well as with the exposition of just those points of theory which they, above all others, must advance and from which our greatest stimulus must come. But it is the one aspect alone that is just now under consideration, and that only because what we seek is a true mutual understanding. Whatever will shed light upon that is too valuable to be passed by in a matter of so great concern as this is at the present time. No thoughtful architect who regards his calling with a proper pride or a due sense of its serious responsibilities, no architect of scholarly attainment — certainly no such architect who belongs to the Catholic faith — but must keenly appreciate the momentous importance of this problem that lies before his profession, — to give adequate structural expression in his native land to this

Now why should there be this divergence in practice between the opposite bodies? It is not easy to accept quite the view advanced by Mr. Maginnis as to the preoccupation of the church with problems of development and organization. The history of past epochs does not seem to point this way, for to instance only a few, the time that saw the beginning of the great abbeys and monastic institutions of France was one that demanded of the church no less than the establishment of a whole scheme of civilization; and the stupendous flowering of the Gothic grew from the midst of a struggle, both religious and political, as great as any in which she has ever been engaged. And for some nine hundred years she wrestled with so serious a problem as the celibacy of the clergy, — from before Calixtus I in the first quarter of the third century until the final settlement in 1027, — a period that covers

the exquisite beauty of Byzantium, Ravenna and Romanesque Italy, as well as the vast body of precursors of the Gothic of France. Instances, too, are not wanting — the quality of Mr. Maginnis's own work shows that — in our own moment of time. One naturally hesitates to dwell upon personal experience, but it is strikingly true of the writer's that the client who has been most sympathetic and open-minded, most keenly appreciative of artistic necessity down to ultimate detail of every sort, most patient under the limitations of material resource for many years, has been the pastor of a parish that presents all the difficulties that beset the growth of our typical Catholic communities in New England.

But Mr. Maginnis carries conviction, indeed, when he

beginnings of that local culture which is, after all, but a pretty recent affair. This isolation, moreover, and the composition of the parishes, at the same time that they have separated the church from much of the artistic activity of the more leisured and wealthy sections of the community, have also contributed to produce a fertile ground for the action of a sort of parochial politics, under which the artistic destinies of the church have been too often confided to the incapable hands of those chosen for other reasons than proved fitness. To determine the fact is to indicate its remedy. Many of the conditions hastily touched upon above are passing. — have passed in large measure, and with their disappearance it is not too much to expect that the church will play a part as distinguished



CHURCH OF THE BLESSED SACRAMENT, PROVIDENCE, R. I.

SOUTH TRANSEPT: Shows side altar: partly in marble and partly in modeled plaster relief. The panels in wainscot bearing crosses are ultimately to be replaced by the Stations of the Cross, in colored relief. The rectangular panel over altar and the circular space in the wall above are to receive figure paintings.

HIGH ALTAR AND BALDACHINO: Dome of copper gilded, rest of marble. All the details, even to the crucifix and altar candlesticks, designed by the architects.

points out the detachment of the clergy and the influence exerted by that condition in saying: "The high standards now prevailing in our civic and domestic architecture, however, afford the most pertinent evidence of the remarkable elevation in national taste. That the Catholic Church will come into more sympathetic touch with this beautiful development is inevitable, as the conditions which have made for its detachment become gradually relaxed."

The church here in the beginning was regarded as an alien; its large and rapidly growing parishes have been made up for the most part of the poor and the newly arrived citizen, and under such circumstances it has not been strange to find it isolated to a great extent from the

in the development of American art as she already has in other fields; that she will come in fact into her birth-right.

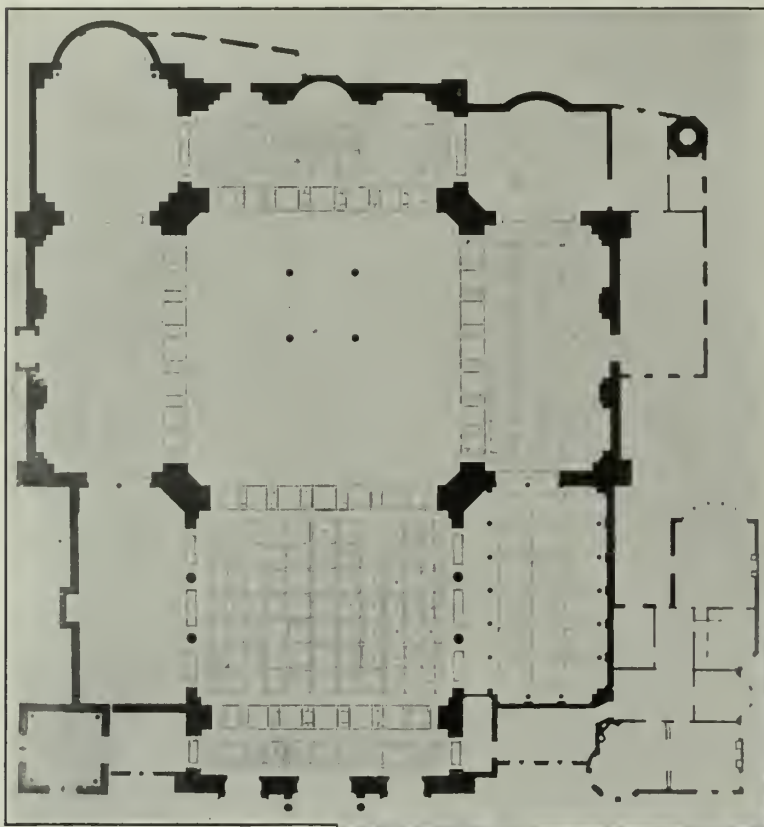
When we lay our course upon the sea of discussion of style we are in troubled waters, vexed by cross-currents of conflicting opinion, and lashed by the winds of vehement controversy. They roar from the Gothic North, and rage from the Renascent South; dark squalls scurry out of the Byzantine East, and from the West queer little whirlwinds born of that iridescent dream, the "American style," dance their brief fantastic way through the confusion; while in certain latitudes there is easy sailing in the favorable trade winds of Beaux Arts Paris. The vehemence rises sometimes to passionate heights, and

goes so far that it even has become a curious manifestation of the *odium theologicum*, on the part of one of the most brilliant contributors to these papers, Mr. Cram, who, forgetting his own previous animadversions upon the sad example of Ruskin, would have us believe that all of art and religion, morality and the Divine Glory, shall be forever imprisoned in what Henry James must forgive us for calling "horrific vitreous Perpendicular." Yet, however the intending navigator may at first feel em-

dominant and its most natural expression through the inspiration of the English Gothic.

The Catholic clergy, on the other hand, while also giving vent to the idea that a wide range of choice is to be contemplated, show no general tendency to fasten upon any one style as the most suitable to the concrete embodiment of their church. To lay this to indifference on their part, to failure of attention or absence of the interest necessary to produce personal conviction, in a matter of such immediate consequence to the welfare of that which lies in their charge, would be unfair. Distracted they may be by the contrariety of view among the architectural practitioners, or disheartened frequently by the failure of those whom they have unfortunately and unwisely confided in to give worthy expression to such aspirations as they may themselves have had; lacking in experience of the artistic problem, but not indifferent, far from it. Rather would it seem theirs to believe that Catholicism and catholicity go hand in hand; that they may feel the inheritance of their church to be as wide in time and space as all of Christianity.

If this be so, it has a weighty bearing upon the question of style to-day. For it means that the!

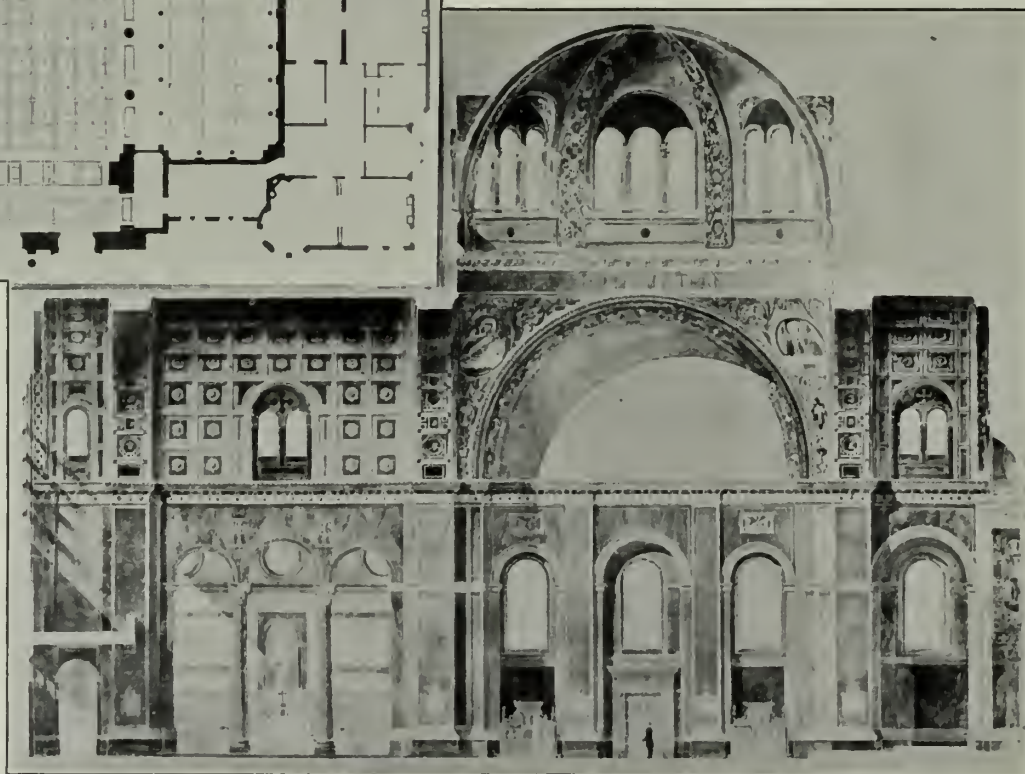


ST. MATTHEW'S CHURCH,
WASHINGTON, D. C.

Plan and longitudinal section. The church is only partly built. The interior is to be of extreme richness of color, marbles and mosaic being extensively used. The high altar will stand under the dome in a low enclosed choir.

barrassed in his choice of pilot through this turbulence, reflection should convince him that the real meaning of it all is life—pulsing vitality, throbbing interest; all in short that is at the opposite pole from the hopeless dullness of self-satisfied inert stagnation.

In comparing the views of the clerical contributors, one interesting point forces itself upon our attention. The Episcopal clergy freely admit the claims upon us of various styles, and recognize their inherent charm, but this is by way of being, as it were, the expression of individual taste; the consensus of opinion is in the direction of an admission that the Anglican inheritance is



church is not French nor English, Italian nor Spanish; not Byzantine, Romanesque, Gothic nor Renaissance; bound neither to the time when the Pagan basilica was diverted to the uses of the Christian church, nor to that of the glorious mediæval efflorescence, nor to the days of the Great Separation; but that potentially all of these are hers, so that she make wise use of them according to site and climate, material resources and structural needs.

The Tarsney Act.

HISTORICAL REVIEW.

BY GLENN BROWN.

THE history of Federal architecture is interesting, as an example of the more or less vague methods adopted by a democracy in the treatment of art.

It is well to note that in our early history the Presidents were given direct control of Federal buildings, and Washington, Jefferson and Madison personally interested themselves in this work; each endeavored to select the most skillful architect of his day, and insisted on well-established forms and proportions being applied to our buildings. The selection of Thomas U. Walter as architect for the extension of the Capitol, in opposition to Congress, was the last instance of the personal action of a President, until President Roosevelt established the location of the Agricultural Building on the Mall in 1904.

In 1855 Mr. Walter made plans for the extension of the Treasury Department. A. B. Young was appointed superintending architect of this building, acting under Captain Bowman, Corps of Engineers; with this appointment the office of the Supervising Architect of the Treasury Department originated. With such a convenient corps of official experts at their command, it became the custom of Congress to place custom houses, post offices and United States courthouses under this office.

When this custom became an established practice there was a gradual depreciation in the character of Federal architecture, the work becoming distinctly inferior in artistic qualities to private work designed by the best qualified architects.

It proved unfortunate that appointments to this office, with three notable exceptions, were made a matter of political expediency, and politics, not merit, governed in the appointment of the larger number of office assistants as well as in that of the chief.

The American Institute of Architects, with a keen appreciation of this rapid depreciation in the character of our national architecture, after several years' consideration of the subject in 1875, formulated a Bill to regulate and improve the Federal practice. During the same year William A. Potter, Supervising Architect, who fully appreciated the necessity of a reorganization of the office, introduced a modification of the Institute Bill. This Bill the Institute approved and zealously supported. Modifications of this measure and entirely new ones were introduced from 1875 to 1892; several of these measures being advocated before Congress by the Institute. During the presidency of Edward H. Kendall, the directors of the Institute introduced a Bill which was modified and known as "Tarsney Bill." The committees of both the House and Senate accorded the directors and representative architects from various sections of the country a hearing, after which they reported the measure as modified favorably, and it became a law February 20, 1893.

THE TARSNEY ACT.

(U. S. Statutes at Large, Vol. 27.)

"CHAP. 146. — An act authorizing the Secretary of the Treasury to obtain plans and specifications for public buildings to be erected under the supervision of the

Treasury Department, and providing for local supervision of the construction of the same.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury be, and he is hereby, authorized in his discretion to obtain plans, drawings, and specifications for the erection of public buildings for the United States authorized by Congress, to be erected under the supervision and direction of the Secretary of the Treasury, by competition among architects under such conditions as he may prescribe, and to make payment for the service of the architect whose plan may be selected out of the appropriations for the respective buildings: *Provided*, that not less than five architects shall be invited by the said secretary to compete for the furnishing of such plans and specifications and the supervision of such construction: *and provided further*, that the general supervision of the work shall continue in the office of the Supervising Architect of the Treasury Department, the Supervising Architect to be the representative of the government in all matters connected with the erection and completion of such buildings, the receipt of proposals, the award of contracts therefor, and the disbursement of moneys thereunder, and perform all the duties that now pertain to his office, except the preparation of the drawings and specifications for such buildings and the local supervision of the construction thereof, the said drawings and specifications, however, to be subject at all times to modification and change relating to plan or arrangement of building and selection of material therefor as may be directed by the Secretary of the Treasury.

"Approved February 20, 1893."

Within a month after the passage of the act John G. Carlisle became Secretary of the Treasury. A delegation from the Institute urged him to select architects for future Federal buildings under the new law. The secretary declined to follow this advice on the ground that the act conflicted with laws already in operation, stating that there was no clause in the law repealing other laws in conflict therewith.

Lawyers of established reputation gave favorable opinions on the working qualities of the law, but as the act was not obligatory, and its operation was in the discretion of the secretary, Mr. Carlisle refused to act under its provisions.

This refusal of the secretary caused the noted Burnham-Carlisle correspondence. D. H. Burnham at this time, 1894, being president of the Institute, conducted the campaign for good architecture with great force and determination. The matter was taken up by the technical and daily press in all sections of the United States. Although this discussion had no effect upon Mr. Carlisle, it called the attention of the intelligent and thinking people of the country to the degraded character of our Federal architecture and the unbusinesslike methods of conducting the work at this period.

The facts brought out during the discussion proved conclusively the inferior character of design, the excessive cost of office work and building construction, and the unreasonable time required for the erection of government buildings.

The Dockery Commission, experts appointed to investigate the business methods of conducting various

departments of the government and to suggest changes that would economize, simplify and better the conduct of government business, made a report on the Supervising Architect's office May 25, 1894. In this report they quote the only laws under which the Supervising Architect's office is now operated—the Sundry Civil Act, March 3, 1875, and the Tarsney Act, February 20, 1893. This commission recommended competition under the later act, as well as the reorganization of the Supervising Architect's office into a public building bureau to represent the government, and advised that there would be a saving in expense to the government by giving out the work to private practitioners at the regular rate of five per cent.

The publicity given the matter by the press and the investigations by those in authority prepared the way for putting the act in force under the new secretary, Lyman J. Gage, as one of his early official acts. Under his direction and with the advice and assistance of the officers of the Institute, a programme was drawn August 20, 1897, for the Norfolk, Va., Courthouse and Post Office. The drawings were opened October 12, 1897, and the jury awarded the work to Wyatt & Nolting of Baltimore. The Ellis Island Immigrant Station was awarded to Boring & Tilton, December 7, 1897; and the Post Office and Custom House, Camden, N. J., to Rankin & Kellogg, March 1, 1898. These were followed by the awards to Cass Gilbert of the New York Custom House, September, 1899, and of the Baltimore Custom House to Hornblower & Marshall, June 14, 1900. From 1900 to the present time, the following awards for Federal buildings have been made: Allentown, George Bispham Page; Atlantic City, Davis & Davis; Battle Creek, A. Kahn; Cleveland, A. W. Brunner; Green Bay, German & Lignell; Hammond, J. T. Hutton; Huntington, Parker & Thomas; Indianapolis, Rankin & Kellogg; Kankakee, Pond & Pond; Marblehead, Peters & Rice; Nashua, F. M. Wakefield; Providence, Clarke & Howe; San Francisco, Eames & Young; Superior, Barber & Barber; Wheeling, Marsh & Peter; Vincennes, Vonnegut & Bohn; Zanesville, George F. Hammond. Although the final selection has rested with the Secretary of the Treasury, he has in every instance given the work in accordance with the selection made by the expert jury.

METHOD OF SELECTING COMPETITORS.

A carefully selected list is prepared giving the names of architects who have proved by their executed work, their capacity in design, construction, and executive ability, for the conduct of large work. This list is submitted to the Secretary of the Treasury and from it he selects a limited number of competitors.

In this selection, qualifications being considered equal, consideration is given to the convenience of the residence of the architect to the building to be erected.

First, acting upon a ruling of the Secretary of the Treasury, it was the custom to select half the competitors for their known skill and ability and half for political expediency. The competitions have shown that the competitors selected for their known skill have submitted distinctly superior plans and designs, and no competitor who has been selected for political reasons has presented a scheme of sufficient merit to win. When this fact had

been clearly demonstrated by experience the Secretary of the Treasury changed his ruling and now all competitors are selected from a list of architects, any one of whom, as shown by his executed work, is qualified to undertake building for the Federal government. In making the selection of competitors, due consideration is given to the magnitude and character of the building to be constructed.

METHOD OF CONDUCTING COMPETITIONS.

The regulations for the conduct of competitions under the Tarsney Act were issued by Secretary of the Treasury Lyman J. Gage, July 3, 1897.

The broad principles of the regulations were:

1. The selection of at least five architects of good professional standing as competitors.
2. Jury of two experts and the Supervising Architect of the Treasury to report on the merit of the plans.
3. The award to the successful competitor of the preparation of plans and the supervision of the building.
4. A fee of five per cent on the cost of the work up to \$500,000, three and one-half per cent on next \$500,000, and two and one-half per cent on an excess of \$1,000,000.
5. No unsuccessful competitor has a claim against the government.
6. Reserved the right to reject all designs in case none were considered suitable.
7. Detailed estimates of cost to be submitted.
8. Competitors, by violation of conditions or an attempt to influence the jury, forfeited all privileges.
9. No member of the jury to have direct or indirect interest in any one of the designs submitted.
10. Submission of drawings and description without any distinguishing mark.
11. Competitor's name in plain sealed envelope.
12. Jury to place out of competition any set of drawings which violated any of the conditions.
13. The selection of one of the designs by the Secretary of the Treasury, and its approval by the Postmaster-General and the Secretary of the Interior, to be final and conclusive.
14. The secretary reserves the right to remove the architect or revoke his commission if found incompetent, or an improper person, allowing equitable compensation for work already done.
15. The architect to make full working drawings, modifying any of his competition plans to meet further requirements.
16. Further clause in reference to modification and revision of plans.
17. The commission or fee of architect to be computed on the actual cost of construction, not including furniture, gas and electric light fixtures and electric light plants.
18. The commission to be in full for architect's services, including traveling expenses.
19. The architect shall be paid one-fifth when preliminary drawings are completed; three-tenths when working drawings are completed, and a percentage monthly on the basis of the work performed.
20. Until the actual cost of the building is determined the fee is based on the proposed cost, and finally upon the actual cost of the building when completed.

21. The department to provide a superintendent of construction satisfactory to the architect.

22. The architect to provide one set of tracings of all drawings for the use of the government, the department to make mechanical reproductions.

23. Return of drawings to unsuccessful competitors, and no use of part of their plans will be made without the consent of the author.

24. Payments will be made on the construction, upon vouchers certified by the architect and countersigned by the department.

25. The Supervising Architect will receive proposals and determine the manner in which the various branches of the work are to be let.

26. All contracts, except for exigency expenses, shall be advertised, and awarded by the Supervising Architect to the lowest responsible bidder.

27. The Supervising Architect is instructed to make the necessary provisions to carry out these regulations.

28. The regulations are subject to change or modification at the pleasure of the Secretary of the Treasury.

The regulations have been modified from time to time. An important modification was made in the case of the New York Custom House, May 11, 1899, when the fee for professional service, instead of the sliding scale for constructions of over \$500,000 (clause 4), was fixed at five per cent on the total cost of the work. The Ellis Island building was the only structure that has been awarded under the sliding scale. In the rules for the Baltimore Custom House, the number of experts on the jury was increased from two to four (clause 2). Clause 21 has been changed, abolishing the office of superintendent and detailing an inspector for the work. February 24, 1903, a new set of regulations was issued embodying the above-mentioned changes, at the same time rewording and rearranging several of the clauses and adding a requirement that no employee of the Treasury Department shall enter any competition held under these regulations.

In addition to the general regulations, a specific programme has been drawn for each building. This programme gave the contemplated cost of the proposed building, the uses for which it was intended, and the number of rooms and floor area required for each. The number and character of the drawings required were also given in the programmes as well as the date for, and methods of, their delivery. In addition to the drawings an estimate of cost has been required, in each case giving the cubical contents of the building, the exterior surface of all stonework, and the amount of all contracts necessary to complete the building, exclusive of mural paintings, electric plant, gas and electric fixtures, and the architect's fee.

METHOD OF MAKING AWARDS.

The drawings and descriptions are received at the Treasury Department on a specified day without names or marks of identification.

The jury, composed of four architects of established reputation, together with the Supervising Architect meet at the Treasury, when the packages containing the drawings are opened and each sheet of drawings, the descrip-

tion, and the sealed blank envelope containing the name of the competitor of each set, is given the same number. The numbered and sealed envelopes containing the names of the competitors are laid aside unopened. The drawings are then compared, studied and criticised by the members of the jury, the drawings showing the least merit being gradually eliminated. The final selection is made by a vote of the jury, and in ninety per cent of the cases the opinion of the jury has been unanimous. The juries have been conscientious in the performance of their duty, taking from one to three days in making the selection according to the magnitude of the building and the merit of the designs submitted.

The jury after making their decisions report to the Secretary of the Treasury, who in each instance has confirmed their award. After the award has been approved by the Secretary of the Treasury the envelope numbered to correspond with the successful design is opened by him and the name of the successful competitor is announced.

After the publication of the designs it has been a peculiarly unanimous feeling in the profession that the most meritorious scheme has in each case been selected, and this feeling extends to the competitors except in a limited number of cases.

The only case of friction developed was the decision on the New York Custom House, which was one of the early competitions. The jury had presented to them two schemes of nearly equal merit, and they determined to open the envelopes of each set and invite the competitors who submitted the drawings in these two sets to appear before the committee and give an explanation of their schemes. This was done, and while it is doubtful whether the judgment of the jury was influenced by the explanations, it created a spirit of antagonism, a desire of other competitors to explain their schemes, and was followed by a determined effort to throw aside the award of the jury. This was unfortunate, and disaster was averted only by the determined stand of Secretary Gage in upholding the award of the jury.

The jury felt that an error of judgment had been committed in opening the two envelopes and allowing the competitors to appear before them. After this experience the Secretary of the Treasury has required the decision and award to be made before the sealed envelope containing the name of the competitor is opened.

There is a general feeling that the character of design will clearly indicate to the jury the name of the competitor. I have heard from a large number of the jurors, and have acted on four juries myself, and in few if any cases did the character of the design indicate the architect, and the jury were in the dark as to the successful competitor until the envelope had been opened by the Secretary of the Treasury and the name disclosed.

There has been only one instance where the jury felt that a competitor had placed indicating marks on his drawings. This set of drawings was promptly laid aside and their merits were not considered.

The country is to be congratulated upon the fact that in the twenty-two competitions, the profession feel that awards in every case have been unbiased and that the best scheme submitted in the competition has been selected.

It is commonly supposed that an effective drawing or a brilliantly designed elevation would be the winning factor in a competition of this character; strange to say this has had little influence with the juries, and a large percentage of the awards have been made on the merits of the plan for the building. The arrangement and grouping of the rooms for conveniences of business, symmetry, and monumental effects have been the controlling factors in making the awards.

After the award has been made, a contract in accordance with the regulations and programme has in each case been made between the architect and the Secretary of the Treasury acting for the United States.

GOOD RESULTS OF THE TARSNEY ACT.

The various Federal structures erected under the United States government from 1860 to 1896 are distinctly inferior as artistic productions to buildings of the same character designed by private architects. This must have been due to the selection of the Supervising Architect and his assistant, usually for political reasons. Messrs. Potter, Hill and Aiken may be mentioned as men of such ability as to have produced good results under the hampering conditions which surrounded them. Under the direction of Secretary Gage, in 1897, the Supervising Architect and his assistants were placed under the Civil Service rules, and the architect and his assistants have since that date secured their positions by merit under Civil Service examinations. James Knox Taylor was the first to secure the office in this way, and in the past eight years the character of designs made in the office has been of a high grade. The large amount of important private work in the past year has induced many of the designers and draughtsmen, who have shown their ability, to leave the office of the Supervising Architect and enter into private offices or independent practice. What effect this will have upon the character of work in the office is yet to be shown.

The Secretary of the Treasury, Mr. Shaw, in a communication to Congress, says: "I have to state that the experience of the department with the seven buildings completed and under construction has been on the whole favorable as to merits of designs and quality of constructive work."

Under the Tarsney Act it must be conceded that the work is immeasurably superior to any building done by the government from 1860 to 1896, and it, together with the merit system which now rules in the office, has been a material factor in uplifting the character of work done by the corps in the Supervising Architect's office during the past six years.

The successful competitions under this law have induced other departments of the government and municipal authorities to select architects under regulations similar to the provisions of the act. Among such competitions may be mentioned the Municipal Building, the Agricultural Building and the Municipal Hospital in Washington.

It has also been the cause of many municipal authorities conducting competitions on a higher plane, with reasonable restrictions and under proper safeguards.

Burnt Clay Construction at San Francisco.

BY CHARLES H. ALDEN, JR.

ONLY a personal investigation of the ruined city of San Francisco enables one to realize the extent of the destruction to buildings and property in the catastrophe of April 18, 1906. To the observer, the actual destruction will undoubtedly be found far in excess of any ideas gained from outside information. No other conflagration gives us a basis for comparison in extent of devastated area. Here practically an entire city was destroyed; the buildings remaining unaffected on the outskirts are so comparatively few in number and unimportant in character that they hardly affect our impression of the total disaster. Entering from the bay, the natural gateway of the city, and walking through the business thoroughfares, the ruined and desolated areas extend as far as the eye can reach. Here there is no "fire line" to mark the limit of destruction. The few buildings in the devastated area which have escaped stand isolated with only their shells intact, gutted by the flames, but bearing witness to the strength and resistance of modern building construction.

The burnt clay products are found to have been extensively used in various ways, very generally in connection with wood and other combustible construction. A first impression leads one to form the idea that these products have failed in their fire-resisting qualities. A further study of the ruins and consideration of the causes of the disaster modify the opinion to a belief that the material itself was not at fault, but that the wholesale destruction and various other kinds of damage were due to the unusual character of the destructive agencies and the very incomplete and misguided manner in which our knowledge of the art of fireproof construction has been practised. We know how to build strongly with fire-resisting materials and in a practically fireproof manner, but the necessity of limiting cost and rushing the work to completion prevents our taking advantage of sound methods and building safely, as we ought to be compelled to do by the city ordinances. San Francisco seems to have been particularly lax in this regard. Combustible buildings have been built in the thickly settled portions of the city, and many of them are of recent origin.

The causes of the destruction of the city were three;—earthquake, fire and dynamite. The damage caused by each separately is at present impossible to determine. The earthquake was felt suddenly and continued intermittently with varying intensity for a considerable period. It was followed closely by the fire, and during and after the fire large quantities of dynamite were used on many of the buildings without apparent method. That the earthquake alone could have disastrous effect is evident from its action on the surface of the ground and from buildings known to have escaped the fire and dynamite. The effects of the shock, however, were found to be very elusive, one portion of a building being seriously affected while another portion entirely escaped injury. The character and actual effect of these shocks do not seem to be clearly understood; we can only say that firm ground and solid foundations were better able

to resist, than the more plastic soil and filled-in land, which was seriously affected. The new Post Office building was in a locality violently shaken, the ground in front of it being raised and depressed, causing undulations varying from four to five feet from the horizontal. The building itself was but slightly damaged, some cracks appearing in the outside stonework and slight damage was done to the interior partitions, which are of terra cotta. The universal extent of the quake is shown in the wholesale destruction of chimneys in the surrounding districts.

The effects of fire on the brick and terra cotta structures are not easily separated from the destruction by dynamite. The fire-resisting qualities of modern fireproof construction have been tested in other conflagrations. That at San Francisco teaches nothing radically new as to the effect on the material, but its imperfect use is responsible in most cases for the disastrous consequences. Intense heat caused some chipping and discoloration to

"Here there is no 'fire line' to mark the limit of destruction."



"Fairmont Hotel (exterior walls of terra cotta), though gutted, still crowns Nob Hill, its outer walls practically uninjured, its floors of concrete ruined"

architectural terra cotta, but of all materials standing it is by far the best preserved.

The exact destruction by dynamite explosion cannot be determined. Portions of buildings which were stated on good authority to have been intact after the fire are now reduced to ruins through the action of the explosive inside their own walls or in neighboring buildings. Dynamite certainly had a disastrous effect on all forms of building construction in San Francisco. The effect on walls was similar to that caused by the quake as it produced cracks and scaling.

Most of the buildings in the burnt area had bearing walls of brick with floors of timber construction. The falling of the brick walls was caused largely by the poor quality of the cementing material. In most cases the bricks were separated from each other merely by the shock of falling, showing little adhesion of the mortar.

The Call Building is conspicuous among those that survived the ordeal. It was one of the best built in the city, being of terra cotta fireproof construction. It was structurally intact before the use of dynamite on surrounding buildings, and will be repaired, and ready for

occupancy within one month from the time of the disaster.

Near the City Hall and Post Office is an eight-story brick building with terra cotta walls and floors in good condition. It is now being used for banking purposes. The columns are fireproofed by four-inch terra cotta blocks which were not properly anchored or wired in place and in some cases they have fallen off. Pipes are carried next to the columns inside the fireproofing. The terra cotta partitions are bonded to the column casings, and where partitions have failed the casings are torn from the columns. This method of column protection is noticed in other buildings, notably in the Crocker, a large granite and terra cotta structure in the heart of the burnt district. The floors here are of terra cotta tile of side construction and are well preserved; any structural damage that has been done is believed to have been the result of dynamite. The safe deposit

A line of steel skeleton, burnt-clay-clothed structures.



"The few buildings that have escaped destruction bear witness to the strength and resistance of modern building construction."

vaults in the basement are uninjured and are in present use. The end construction method of laying the floor tile found in another building shows damage to a greater extent, but a comparison of the two methods is useless in this instance, for the two buildings were undoubtedly subjected to entirely different conditions. Another method of terra cotta flooring is found in the Emporium, a large store building also in the heart of the burnt district. These floors are thin segmental arches with terra cotta covering enclosing the beam. The workmanship appears to have been totally inadequate, for the six upper floors have entirely disappeared, leaving portions only of the two lower ones in place. The column protection is also of the type mentioned before, and much of it has been shaken off.

Two interesting terra cotta fronts remain standing in this portion of the city. They belong to a building of otherwise combustible construction built around a low frame building occupying the corner. This corner building has been entirely destroyed, and of the other building the fronts alone remain standing, chipped and blackened to a slight extent, but bearing witness to the

incombustible quality of architectural terra cotta. Other isolated fronts appear in other portions of the city and are, in the main, fairly well preserved. One exception only was noted where the terra cotta was of a peculiar reddish color and did not seem able to withstand the action of the heat. In cases where stone was used, — granite being used to a considerable extent in the lower portions of the buildings, — the work is badly spalled.

Apart from the business center of the city, but still in the devastated area, the St. Francis Hotel shows interesting effects of the fire. It is thirteen stories high, built around a court, and faces a park. The two lower stories are of stone, the upper stories of brick, surmounted by a galvanized cornice. The stone is badly spalled and the cornice has disappeared, but the brick is left in good condition. The court is faced with brick, with no apparent tie to the backing, and has peeled

confused, examples are clear of structural methods and details which should be avoided, and if other methods had been employed it is safe to say that the buildings would have a very different aspect, in spite of the serious destructive agencies to which they were subjected. The protection of columns by metal lath and plaster is inadequate, as shown in the Fairmont Hotel and many other instances. Terra cotta blocks built loosely around the columns and not secured in place may have resisted the fire in some instances, but a different condition would have been found if the columns had been actually built in solid, as is often required in other cities. This was done in some instances in San Francisco and the work was found to be intact.

The conclusion arrived at after the Baltimore fire, that metal ties for face brick were ineffectual, does not seem to have held in this instance, for here corrugated metal



THE CALL BUILDING.
Built of burnt clay.

badly. Inside, the structure is nearly intact, although subjected to a fearful heat.

Another hotel, the Fairmont, is six stories high, prominently situated on the slope of the hill to the northwest, a conspicuous landmark as one looks across the devastated area. This building was not completed at the time of the earthquake and fire. The lower story above the foundation is of granite and the portion above entirely of terra cotta. The outside of the building is in good condition, except for the spalling of the stone, and discoloration of the terra cotta, which can be easily removed. The inside tells a very different story. The column protection is of expanded metal and plaster. This method of protection is also applied to the beams in the floors. As a fireproof protection it proved of little value, for the columns have seriously failed, buckling into a great variety of shapes.

Although the causes which led to the ruin of the city are of a complex nature and present conditions somewhat



THE CITY HALL.
Built of stone.

ties appear to have held the face brick securely. Probably conditions were entirely different, and it is difficult to form general conclusions in this case as in many others.

That better methods of building should be required is the obvious lesson to be drawn from the San Francisco ruins, and the people appear to be inclined to profit by it. How much they will profit will be shown in the new city which seems destined to be built in the near future.

The man with the panacea for all building evils is on the spot, working overtime. Will San Francisco become the experimental ground for every quack idea, or will her people give to the world a new city, created from those materials and by those methods which give beauty and permanence?

The one lesson for all parties who are identified with the building interests of this country is, that sane and sound construction is the only real safeguard against calamities of this sort.

The position that San Francisco has occupied on the Pacific Coast is not to be gainsaid because of the catastrophe which has overtaken her, and brains and money will not be lacking to put her again in a commanding position. It is the belief also that the civic possibilities will not be so wholly ignored in this instance as they have been in the cities which have suffered so severely in the past. Furthermore, I believe this fire will open a way for an architectural opportunity such as the country has not witnessed before.

In San Francisco the opportunities will await the architect rather than the engineer. We do not need an engineer to tell us how to tie the architecture and the construction into one. We do need architects to properly treat the bones of our buildings, and the opportunity of rebuilding the city is distinctly one of architecture. We know by the best of evidence that the structures which were built upon honor and upon recognized sound principles suffered comparatively little damage from either earthquake or fire; and if, in the rebuilding, her people will only take the time to start right, will not allow themselves to be rushed into ill-advised rebuilding as was the case at Baltimore, will recognize the obligation of working out pretty carefully a general scheme before indiscriminate building permits are issued, the new city will have opportunities such as no other except Washington has ever enjoyed. And if San Francisco is to command the confidence of the investor, is to receive the money backing which is so necessary to all large building operations, it is absolutely essential that the first step taken shall be the deliberate study of the general problem.

It is hardly conceivable that San Francisco can quite dare to neglect the splendid opportunities of a field swept almost clean for new ideas. Many of the buildings, of course, are still standing. The location of some of the prominent structures is not likely to be changed, but whoever is intrusted with the task of mapping the city of the future ought to have a very free hand, and the new San Francisco need suffer very little from past inheritances if only the forethought is taken in time.

While the old city was developing the natural topographical lines were entirely ignored; the business quarter thrust itself out into the bay; streets were carried straight over almost impossible hills; and the most expensive portion was the poorest in natural advantages. The city was poorly planned and worse built. In the rebuilding the filled-in flats cannot be ignored and will again become centers of business, but in the reconstruction the fact should be borne in mind that these filled lands proved to be the most unstable sites for building operations, the earthquake doing far more damage there than on the main land. Consequently one of the first rules to be laid down should be that heavy buildings must be carried clear through the filling and down to a solid natural bottom. Any one who is familiar with conditions in Chicago will remember how for generations the city was built upon a quaking bed of mud until General Sooy Smith had the courage of his convictions and carried foundations down to the rock. This is what ought to be done in San Francisco.

Beyond this, however, if the buildings of the future are to be safe against a recurrence of just such disasters

the restrictions of height must be absolute and far more than they are at present. It is one of the inconsistencies of our business life that in these days of rapid transit and the telephone the tall building should have obtained such a stronghold, and in the rebuilding of San Francisco the aggregate advantage to the city as a whole will very likely be measured pretty fairly in an inverse ratio to the limit of height of buildings. The tall building construction enormously develops a small locality, while restriction of height forces building to spread over a larger area and benefits a greater number of owners. Quite aside from the æsthetic effect there is surely every good business reason for an extreme minimizing of the heights of buildings which are intended to resist such cataclysms as this.

It should not be assumed that the steel frame construction implies tall buildings. That type was adopted in the first instance as an economical constructive measure to reduce the amount of floor space given up to walls in the lower story. For a number of years the system has been developing towards a rigidity of all its members, and the necessity for an elastic construction has not always been considered. The earthquake shows how essential it is that buildings of this character in that geological neighborhood should be able to give without breaking, should have a certain degree of flexibility. In very few instances was the steel frame very materially damaged; but in many cases the envelope, whether of one material or another, was shaken loose or fell out as a result of distortion, so that the result to the building was nearly as bad as if the steel frame had been dislocated. We must in future pay more attention to the tying of the envelope on to the frame. We cannot depend upon a rigid material. Anything approaching a monolithic construction, even though reinforced in the most thorough manner with steel, would be inadequate to properly resist earthquake. The ideal material would be one in which each piece is so designed or so tied that the whole would possess both strength and flexibility.

It is evident that in many of the damaged steel frame buildings too much reliance was placed upon the frame and not sufficient care was given to the masonry. Poor mortar, poor bonds, and a structurally weak material could never successfully clothe even the best steel frame. The envelope must be applied with the utmost care, and in all these buildings it is economy to use Portland cement mortar. This has been conclusively proved by the example of the Palace Hotel, which appears to have been built upon honor, of good bricks, laid in excellent mortar, and which stood the shock far better than some of the steel frame buildings.

CONCRETE VS. HOLLOW TILE.

A WRITER in the San Francisco *Chronicle* of May 18 says: "Engineers and others whose hastily pronounced opinions have flown into print are, many of them, representatives of, or interested in, concrete construction. Few people understand what concrete is or that in its use there lies greater opportunity for the use of inferior materials than in any other construction, and it is universally admitted that poor concrete is absolutely worthless. Hon-

esty has not been the general policy of concrete constructors, and, unfortunately for San Francisco, the sand banks are too near at hand.

"The papers have been full of the statements as to concrete being the only material for properly protecting the steel in buildings, which are unfounded in fact. A hasty glance at the first floor of the St. Francis, which evidently is all that was given by the engineer for a concrete construction company, reveals the fact that concrete afforded protection to the steel columns of this floor, as intended. However, all the other floors of the St. Francis had the steel columns incased in hollow tile, and they are all standing and in perfect condition, except in two instances where the space was insufficient to incase with hollow tile of proper thickness.

"Any unbiased engineer who will examine the following buildings, the Chronicle, St. Francis, Mills, Crocker, Mutual Life, Union Trust, Claus Spreckels and James L. Flood, will agree in the opinion that in all of these buildings hollow tile fireproofing did its work of protecting the steel perfectly. The Fairmont is the most noteworthy example of the insecurity of concrete for protection to steel. Here the question arises, was the concrete fireproofing of the best quality and workmanship? Granted that it was not, what building ordinances can enforce honest work?

"A city of the dull grayness of concrete would defy all laws of beauty. Why, then, should we strive for a beautiful city? Concrete does not lend itself architecturally to anything that appeals to the eye. Let us pause a moment before we transform our city into such hideousness as has been suggested by concrete engineers and others interested in its introduction."

THE FIRE AND QUAKE TEST OF STEEL FRAME CONSTRUCTION.

MR. OSBORNE HOWES, chairman of the Boston Board of Underwriters, who is now in San Francisco, has this to say in a letter to the Boston *Herald*:

"The fire has again tested the fireproof buildings of steel frame construction and again they have come through the ordeal in a reasonably satisfactory manner. If all of the business section of San Francisco had been made up of structures like the Call Building or the Fairmont Hotel, which were of the protected steel-frame order of construction, the damage caused by the earthquake would have been insignificant, and there would not have been any fire worth speaking of. This is an admonition for the future which it would be well for Americans living in other cities besides San Francisco to take to heart. For the moment the leading citizens of this far western city are strongly of the opinion that the new San Francisco which is to spring from the ashes of the old metropolis must be of fireproof construction, but when one considers the increased cost of this class of building, the inevitable delay that will attend the efforts to obtain from the East or from Europe the needed structural steel, and the urgent desire that naturally will be felt to reestablish the thousands of business houses that have been broken up by the fire, it may be doubted whether these good intentions will lead to the general enforcement of these wise precautions.

"It seems to me, as I have already said, that the earthquake demonstrated that it was only the poorly constructed buildings that were seriously injured, and, indeed, the same statement holds true of the fire test. If the San Franciscans can be persuaded, in spite of the temptations I have referred to above, to put up only best of modern buildings for their factories and warehouses, there should be little apprehension felt elsewhere for the security of capital invested in their city.

"A walk through the streets of San Francisco furnishes convincing proof that the manner in which experiences such as those of the 18th and 19th inst. are to be averted in the future is by having the city rebuilt by the general use of the protected steel frame form of construction. Buildings of this type are said to have suffered practically no loss from the shock of the earthquake. It is impossible at this writing to make in most instances a careful examination of these interiors, but looked at from an exterior point of view they appear to be as structurally sound as they were before the fire, the damage being confined to windows and window casings and other wooden fittings, and to the crumbling of some of the finer stone carving and finishing. The great buildings of this type, such as those occupied by the Emporium department store, the St. Francis Hotel, the Fairmont Hotel and the *Call* newspaper, look to the outside observer as though they might be entirely repaired for an outgo not greater than twenty or thirty per cent of their value. This restriction in extent of loss was evidently due to the proper protection of their steel beams and columns, for in scores of instances in buildings of ordinary construction where unprotected steel beams and columns were used, these can be seen buckled and twisted into all forms of distortion by the direct action of the intense heat."

COMMENTS BY THE CALIFORNIA STATE BOARD OF ARCHITECTS.

"THOROUGH inspections and investigation have been made through the burnt district, and it has been found that safety is not a question of style of architecture, but quality of workmanship.

"Cornices and arches need not be excluded from the new city. Where they are properly anchored and built they withstood the shock and fire both. It is the opinion of the Board that the city need not be without its picturesque cornices and decorations. The Call and Kohl buildings are proof enough that good work on decorations will insure them against destruction.

"The pile foundation has been found to be the most substantial. In the earth's vibrations it rests as does a chip in the water. And the building rests securely upon it. Forty-five feet is advised as a safe depth for either pile or concrete foundations.

"The height makes no difference in the matter of safety. Any building supported by what is known as the cage steel frame will withstand any ordinary shake. It is necessary that San Francisco have its high buildings. With proper workmanship they can be built in such a way that they will be absolutely safe.

"Bay windows are not considered safe. And, though it is strongly urged that decorations be permitted, few projections should be allowed.

Some Interesting Old Churches at Panama.

IN the city of Panama and vicinity may be found many interesting examples of architecture by Spanish and French architects of the sixteenth and seventeenth centuries.

The oldest, and the one which attracts most attention, is the "Old Tower." This tower is all that remains of one of the principal churches of the old town,—the walls of the building proper being nearly demolished. It stands sentinel-like, overlooking the bay and the site of the old town of Panama, which was destroyed by the Buccaneer Morgan in 1671. It is said that in this tower the people made their last stand against him. It is about five miles down the coast from the present city, and is so overgrown with a dense tropical jungle as to be almost inaccessible.

In the city proper, founded about 1672, the best examples of architecture are found in the Catholic



A GLIMPSE OF THE CATHEDRAL TOWER OVER THE HOUSE TOPS.



THE CATHEDRAL AT PANAMA.

churches of Santo Domingo, the Cathedral, Santa-Ana and Mercedes.

Of Santo Domingo, which was entirely of brick, there is little remaining but the famous arch, which has a clear span of thirty-seven feet, with a rise of seven feet nine inches. It is said that the first two attempts to build this arch failed, but the third time it stood, and is to-day a monument of the builders' skill.

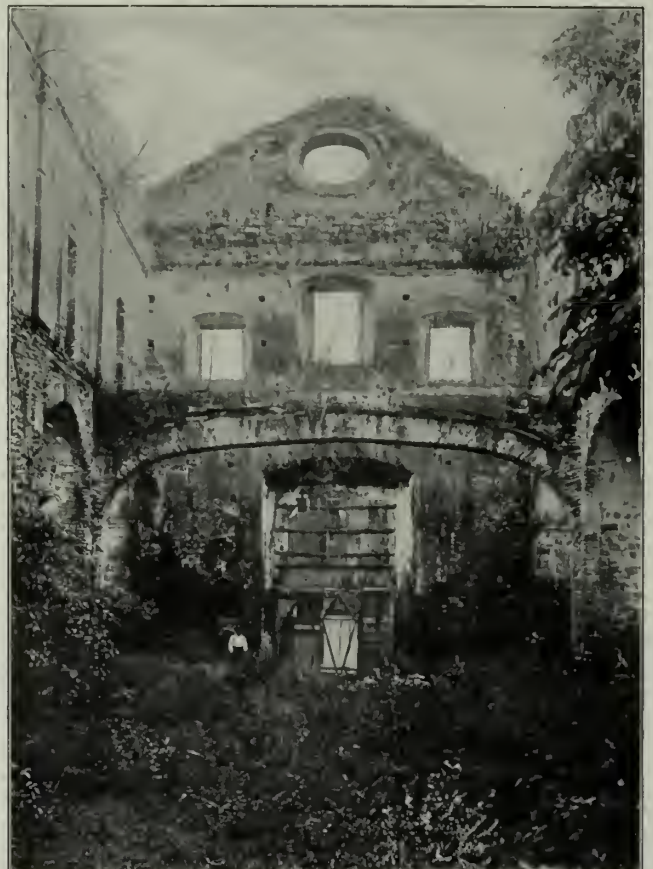
The cathedral is the largest and most pretentious building in the city. The side walls are of stone and brick, plastered on the exterior, while the front is faced with a brownstone closely resembling unglazed terra cotta. The façade has numerous niches which contain carved wooden figures which seem to be in a good state of preservation. The tops of the two towers have a unique form of decoration. Large clamshells are embedded in the plaster in geometrical designs, forming a pleasing brightness in the sunlight.

The parish churches of Santa-Ana and Mercedes rank next in size and architecture. They are built of brick and stone, plastered on the exterior. With the cathedral, they were probably built soon after the old city was destroyed. Mercedes presents a pleasing composition with its little chapel at the near corner and a vault on the opposite side.

These examples show that the architecture in Central America in this period was decorative and constructively strong, as the good state of preservation of the buildings show.



THE OLD TOWER OF PANAMA.



RUINS OF SANTO DOMINGO CHURCH, PANAMA.



MERCEDES CHURCH, PANAMA.



SANTA-ANA CHURCH, PANAMA.

Another Thought in Ecclesiastical Architecture.

THE problem of ecclesiastical architecture is not for the profession alone. It concerns us also, who are intimately associated with the interior life and responsibilities of the church. So, while the debate between twelfth century Gothic and sixteenth century Renaissance goes on, we, the laity, hold our own opinions. Traditional associations count for nothing unless the creed remain the same. The architect will solve his problem only as he keeps abreast of the developing thought of his generation. Every change in the theory of worship demands a corresponding change in the practice of architecture. Why should not the architect be an eclectic, able to think and work in established lines, ready also to cast aside traditional theories and develop a style consistent with modern interpretation? To the true worker there is no school. He recognizes the truth in all schools.

That ecclesiastical architecture and public worship are closely related is self-evident. We see the relation more readily in the story of the past. The Gothic cathedral of the thirteenth century represents the sociology and theology of that period. Lofty vaulting, splendor of stained glass, elaboration of ornament, massiveness of structure, clouds of incense kindled in the ignorant and superstitious worshiper a feeling of mystery and awe. The long nave served as an ambulatory for gorgeous processions. The priests, a privileged and detached class, performed the service in an unknown tongue. Such a service was a natural product of the thought of the age. It was not then known that the earth revolves around the sun nor that the blood circulates in the body. The art of printing had not been discovered. The feudal system held the mass of the people in abject vassalage, and both people and lords were subject to a supreme and despotic church. The cathedrals of the Old World are a priceless heritage as the expression of imaginative art. Massive walls, faultless proportions, thoroughness of workmanship, delicacy of conception appeal to the æsthetic sense. The impression made is often mistaken for true reverence, because we confuse the emotional with the rational character of religion.

So ingrained are the old theories of reverence that architects apparently find it difficult to think in or express other principles of worship. What the architect fails to discern is forced upon him by the subtle influence of our age. Physical science, democratic ideals and even industrial development ruthlessly destroy our Christian symbolism. The church spire, pointing heavenward, once represented the principle of aspiration. The symbolism ceased when modern study swept away the theory of a heaven located in the firmament. The principle of architecture which impels the worshiper to fall on his knees is a survival of mediæval theology. The rational interpretation is based on universal benevolence and filial relations between God and man. Intelligent worship does not ask that a church should inspire either awe or mystery. No sacredness attaches to the edifice; it is simply a suitable place where the congregation meets for instruction and inspiration. Necessity is the foundation

of art, and no creation is beautiful which fails in the true and useful.

In a teaching church the first test must be its acoustic properties. It frequently occurs that costly and magnificent churches are, by this practical demand, monstrous failures. The two great obstacles to effective speaking are height and space. The old rule should apply here, — the speaker's power diminishes according to the square of the distance. The demand is for shorter naves and lower walls, with no obstructing pillars.

The consecration of costly and magnificent buildings to the service of One who taught that the possession of great wealth makes entrance to His kingdom difficult is surely incongruous. Even the Mohammedans declare our elaborate systems of worship unchristian. They do not think that Jesus, who prayed in the wilderness and on the hillside, in the huts of the peasants, in the humble abodes of the fishermen, furnished any warrant for the gorgeousness of modern Christian worship, with all the accessories which beguile the mind, mystify the intellect, and thus divert the human heart from the worship of the great God toward a symbol and type.

The simplicity of our church building should be a rebuke to the materialism of this generation. Is it Christian to put millions of dollars in buildings which are used one day in seven, while nearly a third of the human family are living at the poverty line? Or, if every family were well housed and abundantly fed, every child educated, every social inequality rectified and money poured freely into the church treasury, would we be justified in the erection of costly edifices while retaining the name "Christian"? Must not the church building forever protest against the passion for vulgar display?

Simplicity in ecclesiastical architecture does not eliminate beauty; it rather leads to it, for simplicity is a necessary element of the beautiful. Faultless proportion, fitness of material, thoroughness of workmanship are the only mediums by which he must express fine artistic feeling and produce that which is really noble and true.

The decline of the churchgoing habit is attracting general attention. Are we to have abandoned pews as we have abandoned farms? This apathy does not indicate a decline in religious interest. A deep and widespread spiritual awakening is manifested in the development of applied Christianity. Improvement in social and industrial conditions, public health associations, peace conferences, arbitration treaties, international fraternity are some of the forms in which vitalized Christian thought is coming to expression. Both minister and architect must work in sympathy with these larger progressive ideals. The practical and rational must be their aim, rather than the emotional.

The dream of a national architecture which will be a true and lasting expression of American aims, ideals and life, as the cathedrals of the thirteenth century were types of their generation, can never be realized. In those days all minds were united in a common religious faith. In these days every one, even the unlettered, thinks for himself. The builders of the cathedrals were of one race and one climate. Americans are made up of every race, and our territory includes all climates. Our national style of architecture can be expressed only in diversity.

H. G. EOB.

Editorial Comment and Selected Miscellany

COMPETITION FOR COTTAGE DESIGNS FOR CASH PRIZES AGGREGATING \$4,000.

GARDEN CITY, L. I., a beautiful suburban town on the Hempstead plains, nineteen miles from New York and about midway between the ocean and Long Island Sound, is so well known as hardly to need description. The town was founded and its development begun by the late A. T. Stewart. It is laid out with wide avenues, large parked areas and a wealth of foliage and shrubbery. It contains the fine cathedral church of the diocese of Long Island, St. Paul's School for Boys and St. Mary's School for Girls, the popular Garden City Hotel and the links of the Garden City Golf Club.

The extensive improvements in transportation facilities undertaken by the Pennsylvania Railroad have awakened a new interest in the Long Island suburban towns as residential centers, and in response to this demand the Garden City Company is about to undertake further development of its extensive holdings, and to this end has instituted an architectural competition in the hope that the younger members, at least, of the architectural profession may be interested to develop a type of suburban house design of moderate cost which shall combine beauty of design with economy of construction and maintenance. It has appointed a committee, consisting of Mr. Allen Evarts, president of the Garden City Company; Mr. William R. Mead, architect, of the firm of McKim, Mead & White; and Mr. Dean Alvord, real estate expert, who will conduct the competition and make the award. All designs are to be in the hands of the committee by August 1, 1906. The programme of the competition may be obtained on application to the Garden City Company, 60 Wall Street, New York.

The property in question consists of two tracts, each 112 feet by 1,200 feet, lying on either side of a street 52 feet wide. Two schemes of development are under consideration, one calling for the building of single detached houses to cost \$7,000 each, and the other for double houses of \$12,500 cost. For each scheme a first prize of \$1,000 and a second prize of \$500 is offered, and, in addition, ten prizes of \$100 each will be awarded to the next ten designs, whether of the single or double houses. The authors of the first and second prize designs are required to furnish complete working drawings, details and specifications of their designs, and in case the company shall decide to carry out any of the designs to which the \$100 prizes are awarded, it agrees to employ the authors of such designs to furnish working drawings and specifications upon the additional payment of a sum which, together with the \$100 prize award, shall equal three per cent of the cost of the building. The drawings required are a block plan, a block elevation, plans, elevations and section of one unit and an additional sheet to contain a perspective sketch, details or any other matter which the designer may wish to present, and rendered at his option.

THE CONCRETE FAD.

THE use of methods of construction employing concrete as a base has expanded beyond all reason during the past few years. We say this advisedly while recognizing all of the excellent qualities which reinforced



DETAIL BY STANDARD TERRA COTTA WORKS.
J. I. Campbell, Architect.

concrete possesses. But it is about time for the public to be disabused of the idea that the universal panacea of all constructive woes is to rush into reinforced concrete. This is an easy, slipshod way of getting over difficulties; but we are learning that it leads to other troubles quite as annoying as those from which concrete would deliver us. Any material which is fashioned so wholly by unskilled labor offers pitfalls for the unthinking and inex-



REREDOS, ST. PAUL'S CHURCH, ROCHESTER, N. Y.
Heins & La Farge, Architects.
Executed in faience by Rookwood Pottery Co.

perienced constructor. It is the fashion to suggest reinforced concrete, and it seems so simple, so straightforward and so all satisfying that we very easily forget how signally it can fail, and how it, of all materials, requires the closest care and offers us the least assurance against imperfect workmanship as the work progresses. It is the one building material in use to-day which is actually



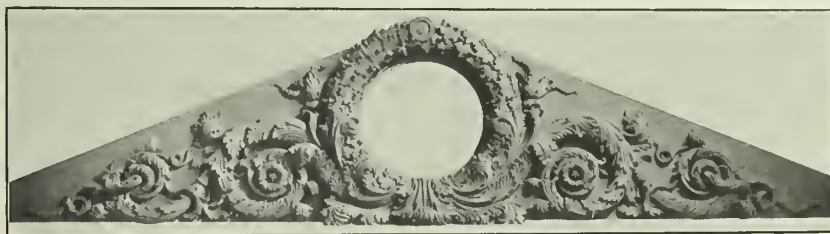
"THE PINES" TILE DECORATION FOR A FIREPLACE.
Grueby Faience Co., Makers. Addison B. Le Boutellier, Architect.

put into the building before it is finished, and of whose conduct under stress we can have no exact knowledge until months after it may be too late to change it. Let us use concrete for the great variety of purposes for which it is fitted, but let us also use it understandingly and intelligently.

FINANCING BUILDING OPERATIONS.

THE financing building contractor is a product of the last decade. His hand is already appearing in San Francisco, where several schemes have been suggested for financing on a huge scale the extensive building operations which are expected to follow the readjustment of the city's losses. A catastrophe of this sort is a splendid opportunity for the builder who offers to float the loan, and, if necessary, even lease the building, provided only he is given the contract. But there are pitfalls in this scheme which must be apparent to property owners. It is a pretty safe general rule that neither the architect nor the contractor can serve two masters with success, and if the builder is furnishing the money for a contract the temptation to use the power which he thereby acquires is more than most builders can withstand. It is to be hoped that as San

Francisco begins to emerge from its ashes, the speculative builder, even when backed up with untold millions of eastern money, will not be given a free field, but will be placed where he belongs—under the direction, the superintendence of a competent architect.



DETAIL BY CONKLING-ARMSTRONG TERRA COTTA CO.
Horace Trumbauer, Architect.

able memorial is to be erected in the city whose affairs he directed.

The committee of influential citizens having charge of this fund, after considerable deliberation, very wisely called in the advice of the Boston Society of Architects to aid it in the selection of a sculptor and of a site. By thus intrusting work of this sort to the society a precedent has been established which might well be followed in other cities, and if the Society of Architects is able to discharge its task in such a way as to secure the best artistic

results for the city, it will make it pretty hard for a choice to be made in other similar cases in any other way.

There is no body of professional men so well qualified

THE COLLINS MEMORIAL.

THE friends of the Honorable P. A. Collins, who died while holding the office of Mayor of Boston, have united to form a fund out of which a suit-



HOUSE AT GREENWICH, CONN.
H. C. Pelton, Architect. Roofed with "Old Mission" tile made by
Ludowici-Celadon Co.



SYMBOLS EMPLOYED IN DECORATIVE TREATMENT OF ST. THOMAS CHURCH, MITTINEAGUE, MASS.
Excelsior Terra Cotta Co., Makers. John William Donohue, Architect.



COLONIAL TRUST BUILDING, READING, PA.
Seymour & Paul Davis, Architects.
Faced with Roman "Ironclay" fire-flashed brick.

to decide questions of this sort as the architects, and it is one of the duties which the profession owes the public to give its services in cases of this sort, and to give them in such manner as shall bring credit both to the city and to the profession.

THE BOSTON BUILDING DEPARTMENT.

DURING the last thirty-four years there have been but three Commissioners of Building in the city of Boston.



DETAIL BY SOUTH AMBOY TERRA COTTA CO.

The building laws of the city have on the whole been wisely and equitably administered, and the permanence in office which has been so marked a feature of the building department has been somewhat unusual in the annals of American cities. Disputes between the Building Department and architects and contractors are by the statutes adjusted through a board of appeals. One member of this board is appointed by the Master Builders' Association, another is appointed by the Boston Society of Architects, and a third is appointed at large by the Mayor. The appointees of the Master Builders and the Architects

have been renominated for each successive term ever since 1892. Mr. Arthur G. Everett has just received the renomination for the ensuing three years. Rotation in office has many advantages, but the city of Boston has evidently known when it was well off and has chosen to retain its tried advisers year after year.



DETAIL EXECUTED BY NEW JERSEY TERRA COTTA CO.

UNIVERSITY OF MICHIGAN.

THE University of Michigan has at last come into line with a number of institutions of higher education in this country by establishing a department of architecture. The organization of this department has been intrusted to Mr. Emil Lorch, who has made for himself an excellent record at Harvard, at the University of Pennsylvania and in his native city of Detroit.

There can be hardly any more discouraging task set to an enthusiastic, educated architect than to establish out of hand a department for teaching to raw beginners the details of his profession. This new department, however, will have the advantage of the excellent organization which in a few years has made such a success of the architectural department of Harvard University



HELLMAN BUILDING, LOS ANGELES, CAL.
A. F. Rosenheim, Architect.
Face and Enamelled Brick made by Hydraulic-Press Brick Co.



ENTRANCE SHOWING TERRA COTTA TREATMENT.
New York Architectural Terra Cotta Co., Makers.

under Professor Warren, and will also be able to draw its lessons and experiences from the other schools which are multiplying so fast throughout the country. The nearest architectural school to Ann Arbor of national renown is at the University of Illinois, distant several hundred miles. Detroit is close at hand, and Mr. Lorch will undoubtedly be ably seconded by the architects of that city, and with the prestige of the University of Michigan to help it the new department ought to achieve a speedy success.



DETAIL EXECUTED BY PERTH AMBOY TERRA COTTA CO.
George B. Post & Sons, Architects.

BUILDING OPERATIONS FOR APRIL.

OFFICIAL reports from fifty leading cities of the country, received, tabulated and compared with previous records by *The American Contractor*, show no decline of the remarkable prosperity that has prevailed in the construction field for some time past. This statement must be taken as applying to the aggregate of cities, since a falling off is noted in some of them. As a rule, however, the larger cities show decided gains. Not that only, but these gains are widely distributed throughout the country and amply demonstrate that the building movement now in progress is founded upon the most comprehensive and stable national prosperity. This is one of the most encouraging features of the situation and clearly indicates a continuance of the present remarkable building movement.

The following figures show the percentage of gains in building permits granted in leading cities during April, as compared with the corresponding month of last year: Indianapolis, 10; Kansas City, 43; Memphis, 24; Mobile, 56; Nashville, 24; New Haven, 193; New Orleans, 85; Omaha, 18; Philadelphia, 22; St. Louis, 49; Seattle, 62; Syracuse, 58; Toledo, 26; Terre Haute, 80; Tacoma, 42; Washington, 21; Wilkesbarre, 304; Atlanta, 95; Buffalo, 114; Chicago, 66; Dallas, 165; Detroit, 42; Duluth, 162; Harrisburg, 57. In New York there is a falling off of 5 per cent, although Manhattan shows a gain of 5 per cent. This is decidedly favorable when the enormous building operations of 1905 are taken into account. The percentage of loss in other leading cities is as follows: Baltimore, 79; Chattanooga, 56; Columbus, 35; Denver, 13; Louisville, 36; Minneapolis, 43; South Bend, 66; Worcester, 12. The loss in Baltimore is accounted for by the fact that a permit calling for an investment of \$1,500,000 was issued to the Baltimore & Ohio Railroad Company in April, 1905, and Grand Rapids shows unfavorably on account of a \$150,000 permit issued in April, 1905.

THE SORT OF LAND UPON WHICH THE BUSINESS SECTION OF SAN FRANCISCO WAS BUILT.

MOST of the destruction done by earthquake in San Francisco was practically inevitable in view of the site upon



DETAIL BY WINKLE TERRA COTTA CO.
Eames & Young, Architects.

which the greater part of the business section of the city was constructed and the character of its composition. This was no less than a deep marsh originally covered with peat or open water. The site of Market Street was a long ridge of sand many feet above the surrounding levels and running from the hills near the Pacific toward Oakland Bay. The original water front of San Francisco was a fifth of a mile west of its present location, and that distance up Mar-

ket Street, measuring from the Oakland ferry terminal. To the south in the Mission district there was open water and a fine anchorage in what was then called Yerba Buena Cove. Stretching outward from Oakland Bay and with their farthest limits close to the present site of the new City Hall were many long swamps, which were in reality subterranean lakes, whose surface bore a strong formation of peat. Upon this men or animals and even loaded carts might move with safety if evenly and without shock. On the other hand, men and animals that incautiously leaped from one place to another shot through the surface peat and often disappeared forever as if in a quicksand.

Into these bogs for sixteen years from 1852, at two separate intervals, sand was dumped which had been torn from the hillsides by steam shovels that took out a cubic yard, a ton and a half, at each scoop. This heavy sand bore down the peat so that open water remained after vast volumes of sand had been placed upon the peat. When the swamps and mud flats were finally filled so that their surface was firm they were even then, and have ever since been, only more or less jelly-like masses. Through this infirm material all the pipes of the water and sewer system of San Francisco in its business districts and in most of the region south of Market Street were laid. When the earthquake came the filled-in ground shook like the jelly it is. The only firm and rigid material in its millions of cubic yards of surface area and depth were the iron pipes. Naturally they broke, as they would not bend, and San Francisco's water system was therefore instantly disabled. In 1846 forty acres around Portsmouth Square were the only available site for a city at San Francisco.

IN GENERAL.

The architectural terra cotta used in Memorial Hall and Mess Hall, Johnson City, illustrated in *THE BRICKBUILDER* for April, was furnished by the Excelsior Terra Cotta Company.



INTERIOR, THE RIALTO BUILDING, CHICAGO.

D. H. Burnham & Co., Architects.

Whole finish in enamel terra cotta made by Northwestern Terra Cotta Co.



DETAIL BY SCHICKEL & DITMARS, ARCHITECTS.
Atlantic Terra Cotta Co., Makers.

The New York offices of the National Fireproofing Company have been removed to the Flatiron Building, Madison Square. This move is made to secure increased facilities and in order to be near the center of building activity.

The following named architectural firms desire manufacturers' samples and catalogues: Charles Paff & Co., 1153 O'Farrell Street, San Francisco, Cal.; Armitage & Rowell, 1427 Post Street, San Francisco, Cal.;

Schnaittacher & Boese, 1706 Fillmore Street, San Francisco, Cal.; Meyers & Ward, 1156 Webster Street, Oakland, Cal.; D. J. Patterson, 305 San Pablo Avenue, Oakland, Cal.; Charles E. White, Jr., Oak Park, Ill.; N. C. Curtis, University of North Carolina, Chapel Hill, N. C.

The new armory at Syracuse, N. Y., will be built of a dark flash Norman brick, made by the Ohio Mining and Manufacturing Company.

The Conkling-Armstrong Terra Cotta Company report the following new contracts: Maryland Institute, Baltimore, Md., Pell & Corbett, architects, sand-blasted glaze to match marble; library at Huntingdon, Pa., E. L. Tilton, architect, limestone finish; store building, Lancaster, Pa., C. E. Urban, architect, dull white enamel; Georgetown University, Rosslyn, Va., Ewing & Chapel, architects, limestone finish; Pennsylvania Building, Baltimore, Parker & Thomas, architects.

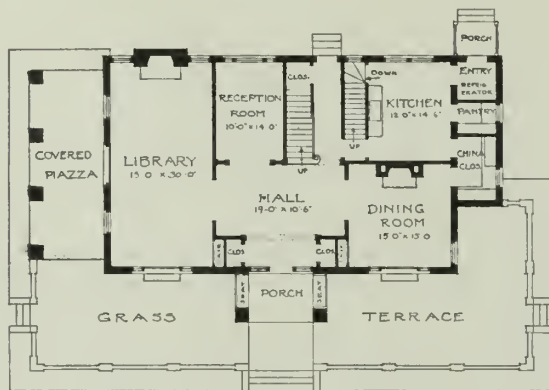
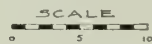
TO MANUFACTURERS, BUILDING MATERIAL MERCHANTS and others, wishing active, reliable representative in the San Francisco market, with large acquaintance among architects and property owners, Steel Frames, Cement, Fireproof Materials, Architectural Publications, Rolling Steel Doors, Iron Windows, Hard Wood Finish, Waterproof Materials, Building Trade Specialties. References. In reply please state clean-cut proposition and best terms. Address, A. E. ACKLOM, 2129 Eagle Avenue, Alameda, Cal.

WANTED — Several competent architectural draughtsmen for positions in Chicago and middle West. Write, giving experience and references, G. Broes Van Dort & Co., 218 La Salle Street, Chicago, Illinois.

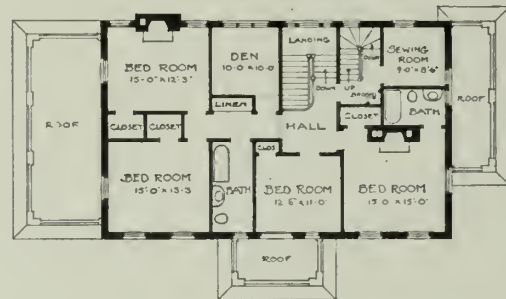




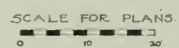
FRONT (SOUTH) ELEVATION



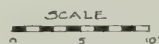
FIRST FLOOR



SECOND FLOOR

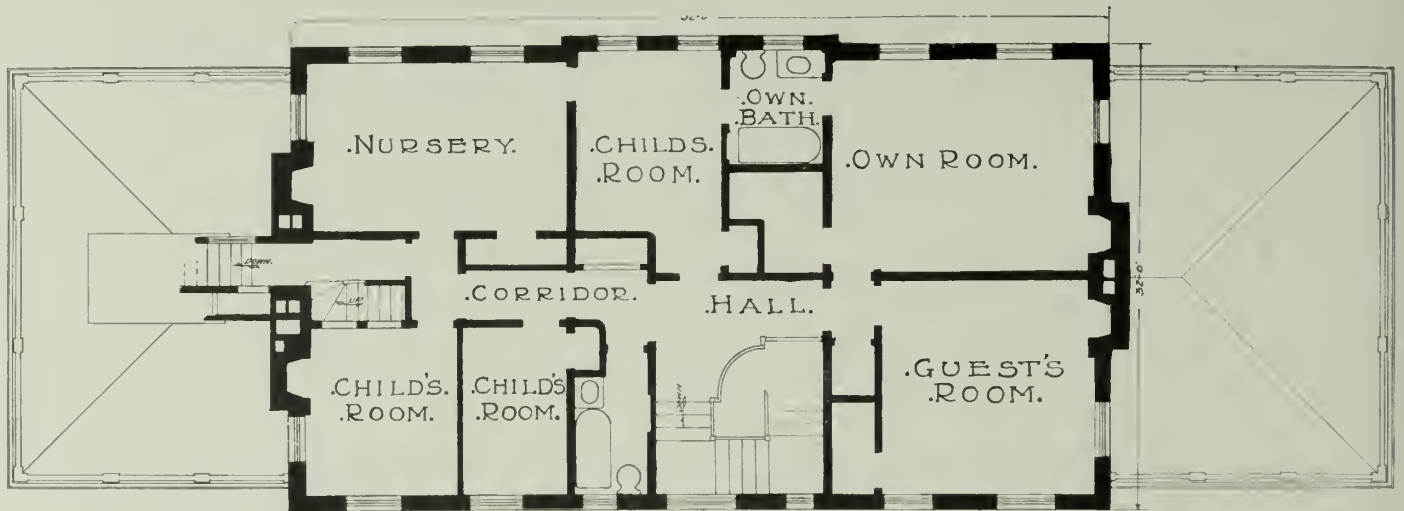


WEST ELEVATION

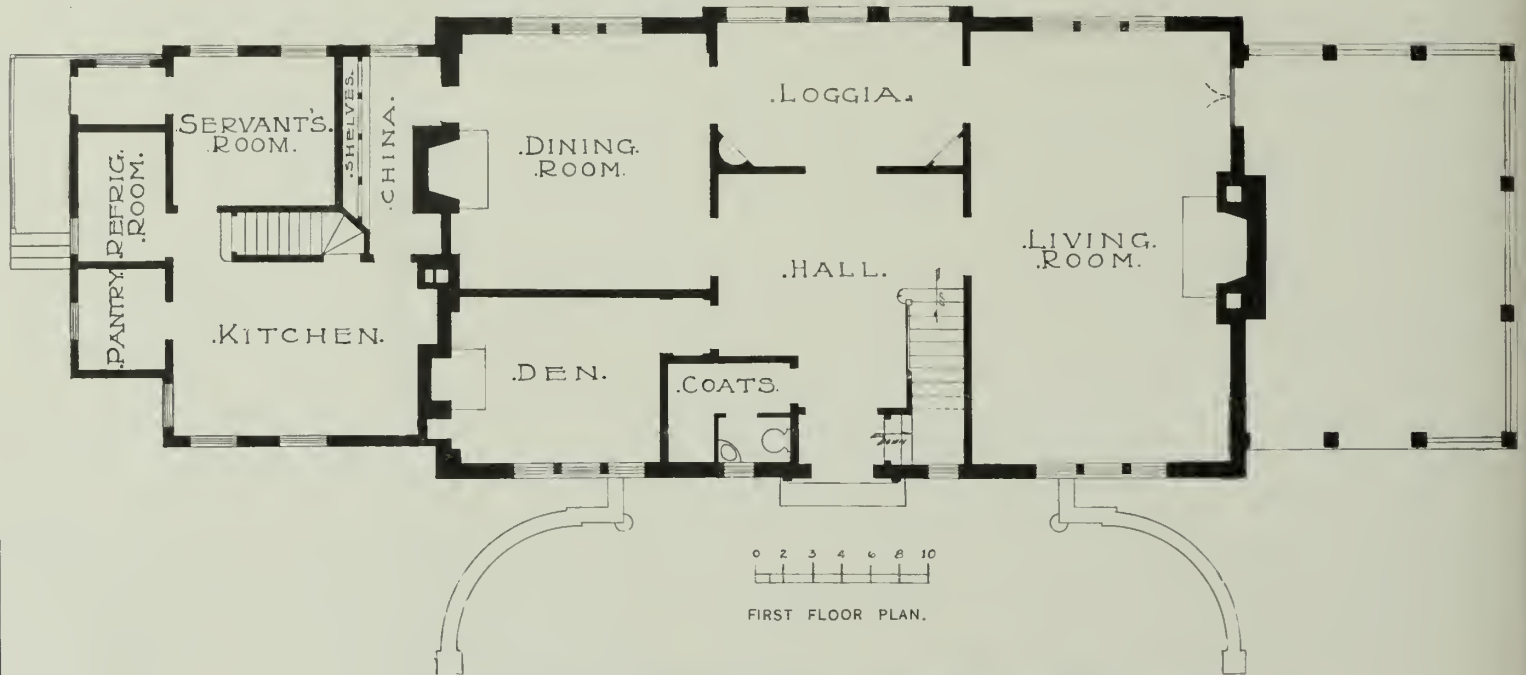


DESIGN FOR A FIREPROOF HOUSE.

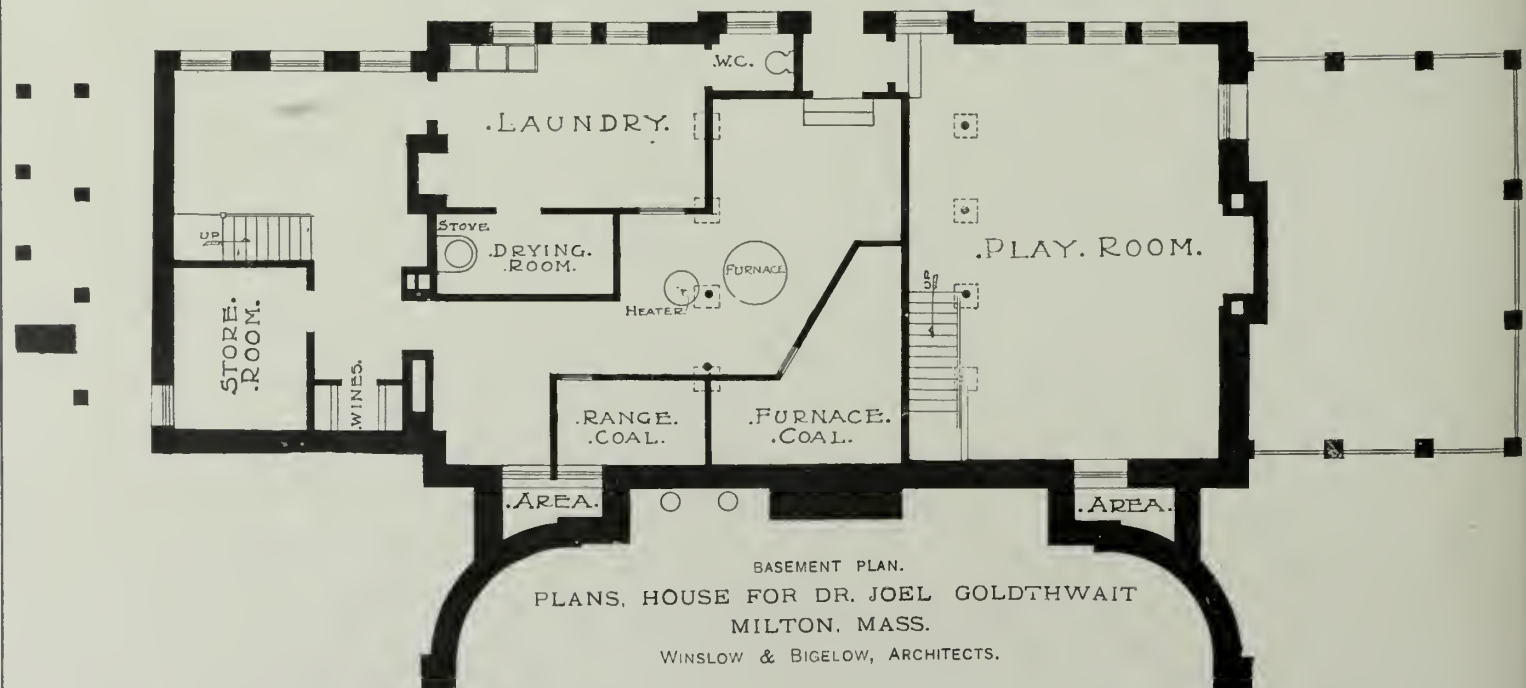
BENJAMIN PROCTOR, JR., ARCHITECT.



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.

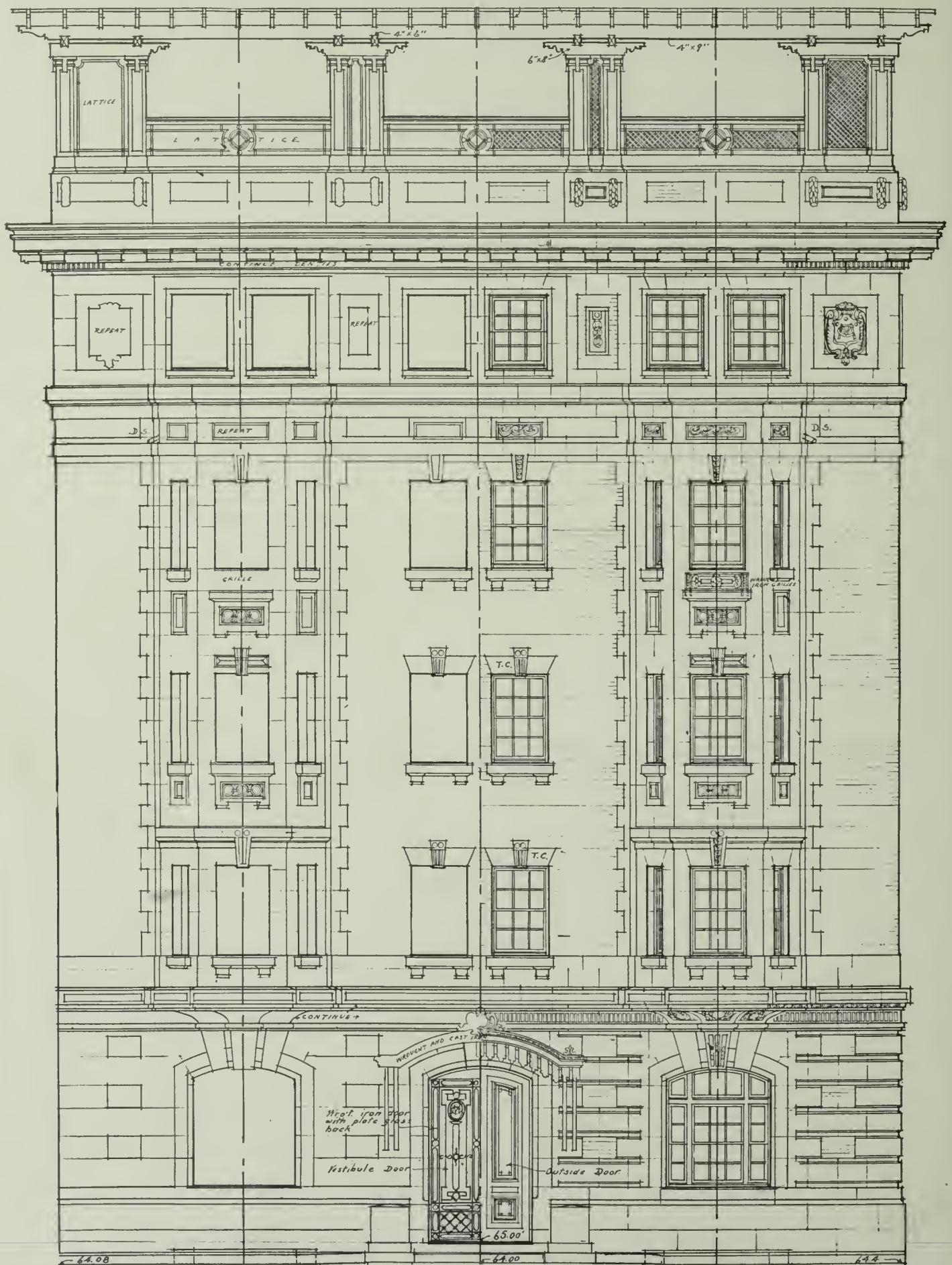


BASEMENT PLAN.

PLANS, HOUSE FOR DR. JOEL GOLDTHWAIT
MILTON, MASS.

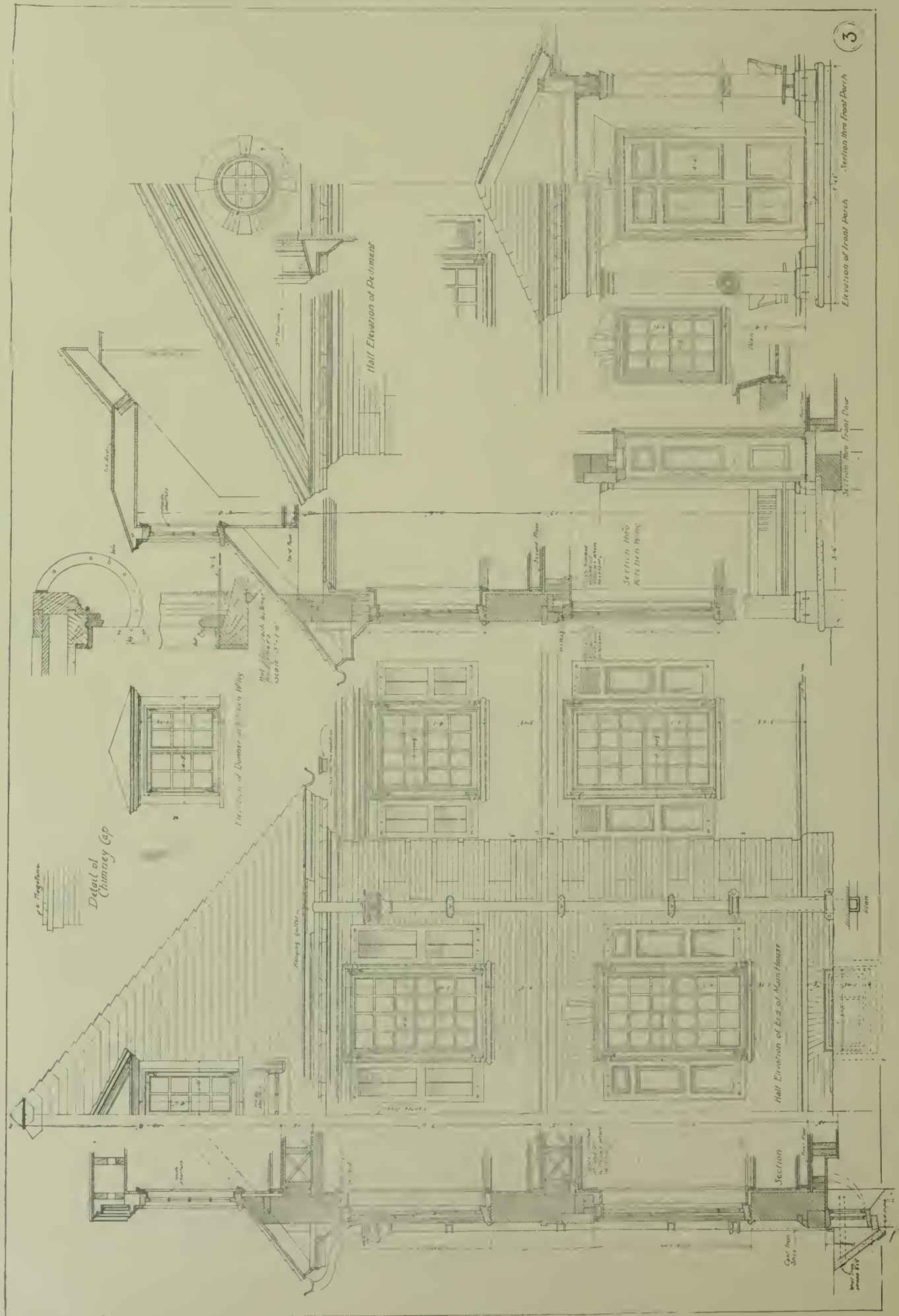
WINSLOW & BIGELOW, ARCHITECTS.





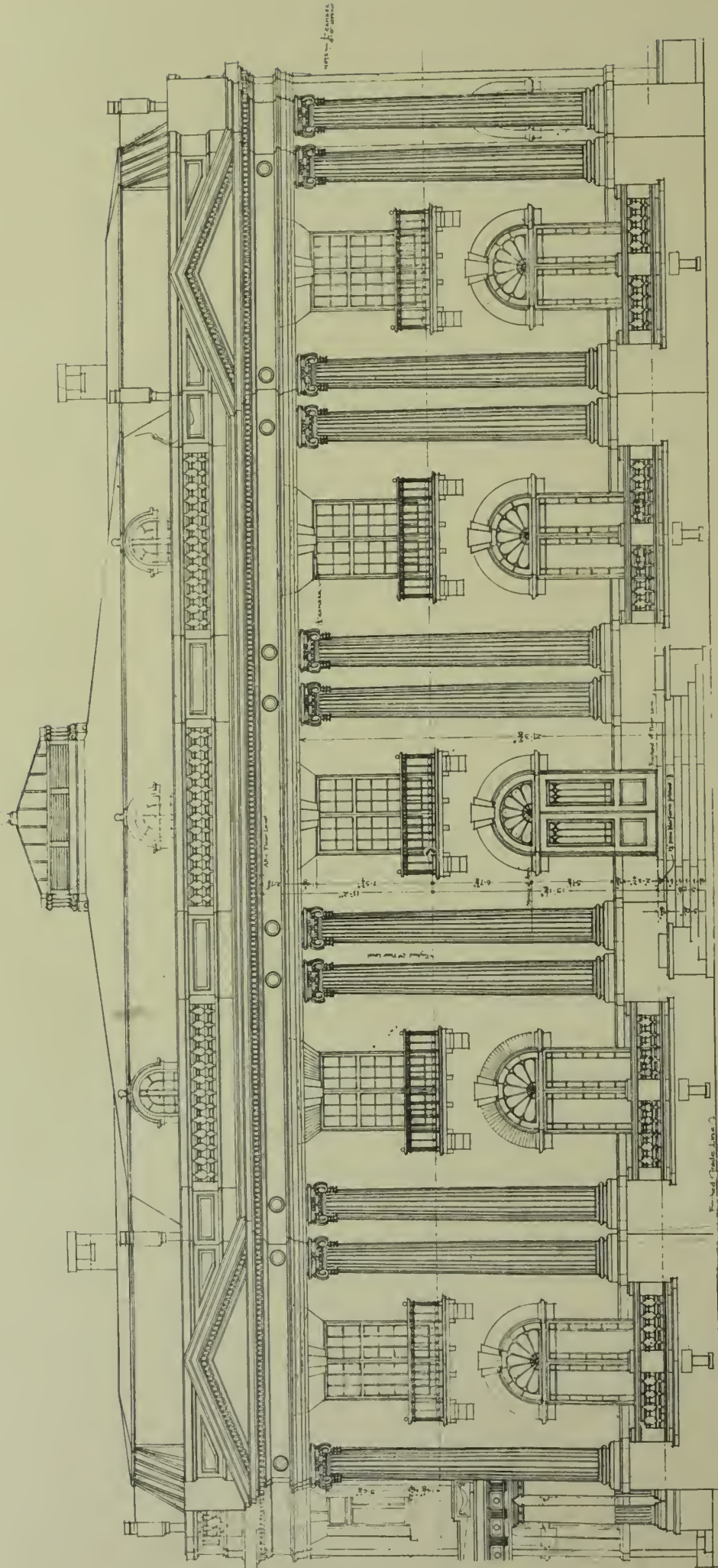
FRONT ELEVATION, BACHELOR APARTMENT AT WASHINGTON, D. C.

WOOD, DONN & DEMING, ARCHITECTS.

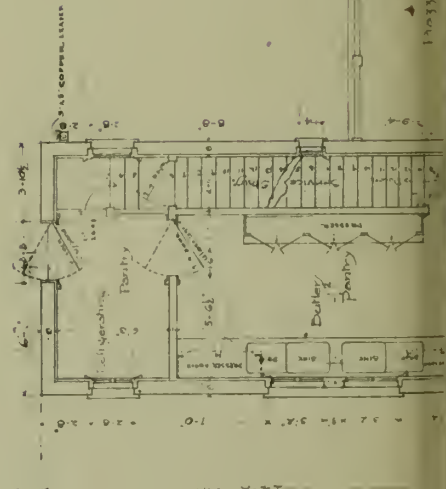


DETAILS, HOUSE AT PRINCETON, N. J.
COPE & STEWARDSON, ARCHITECTS.



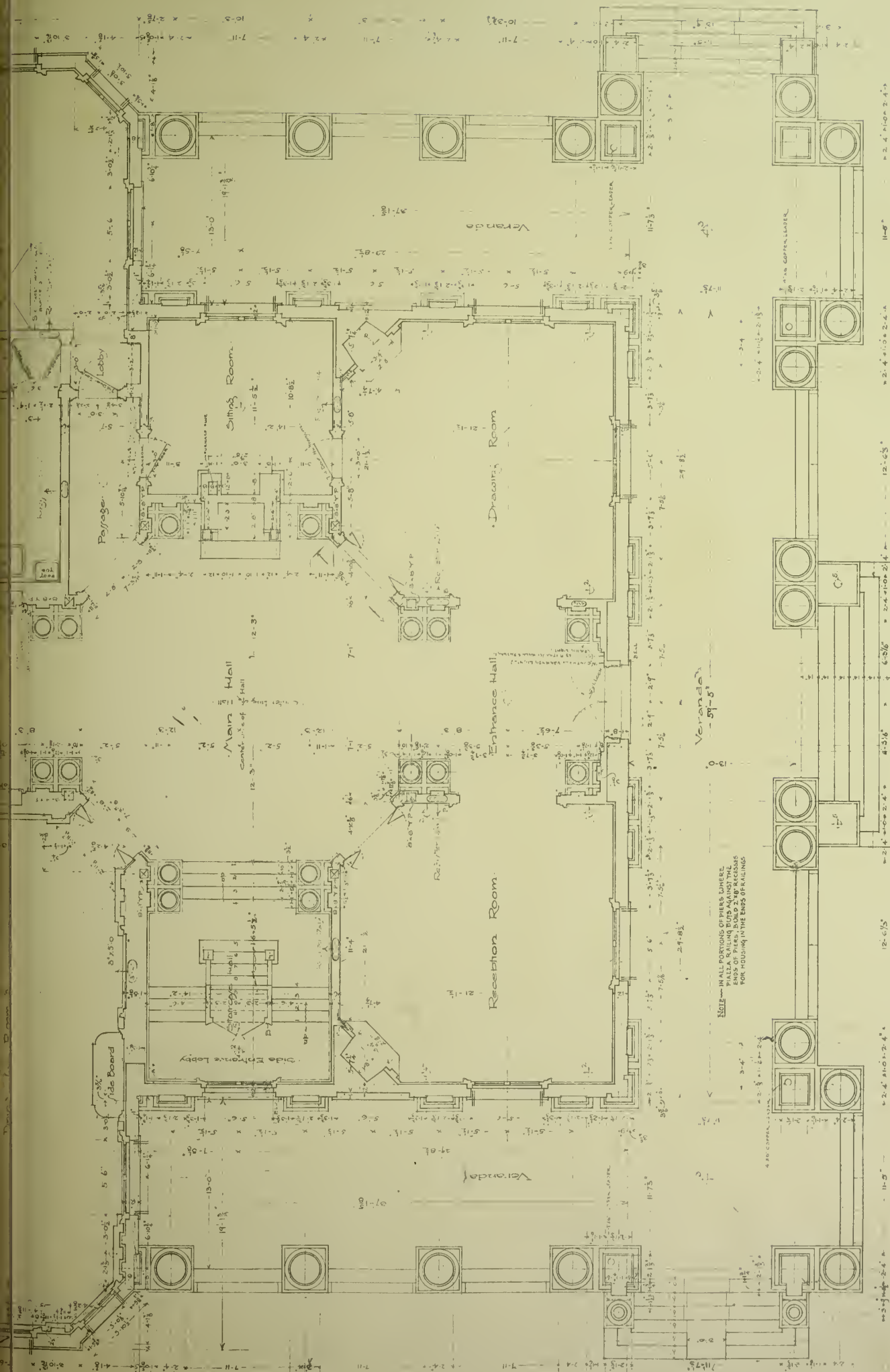


FRONT ELEVATION.

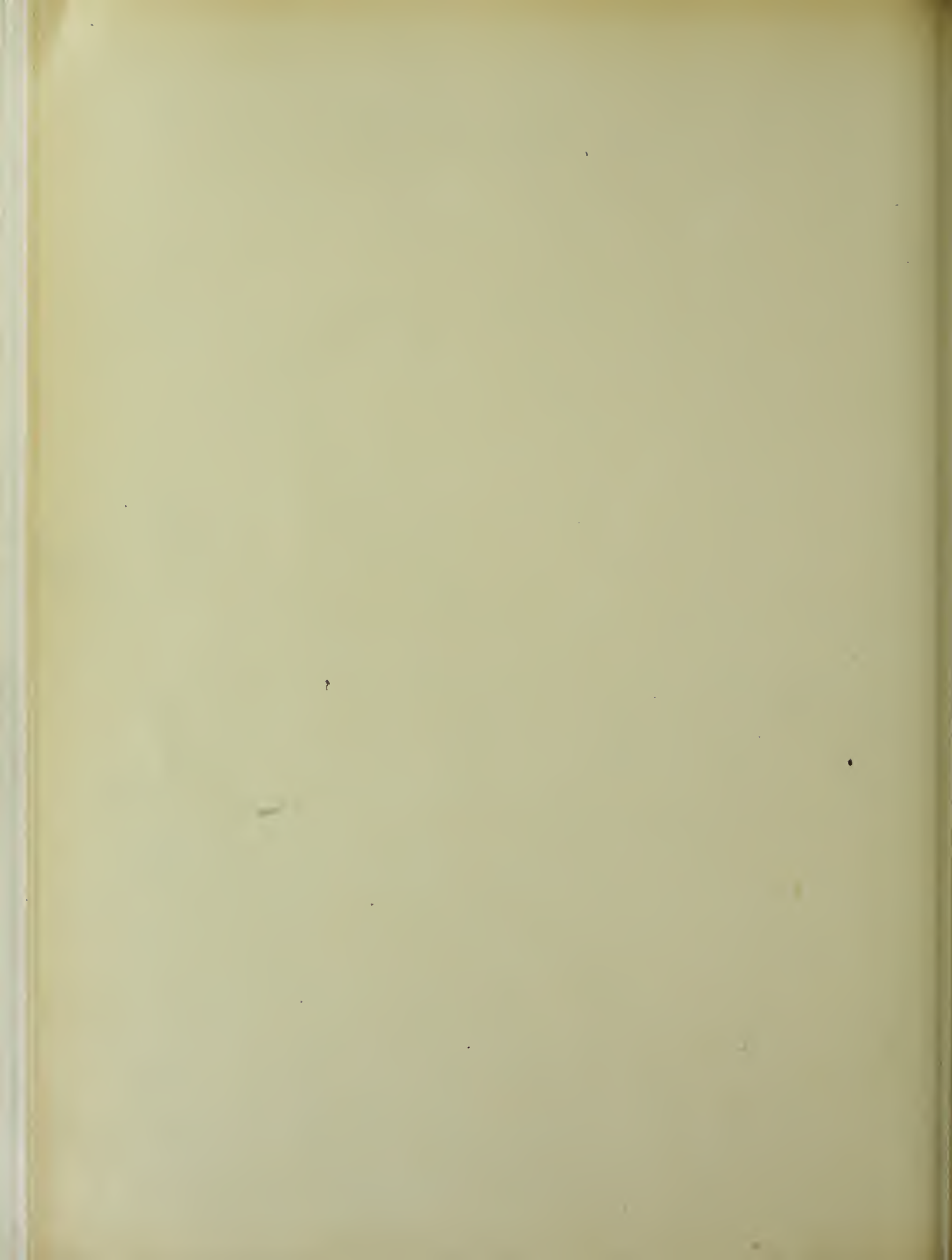


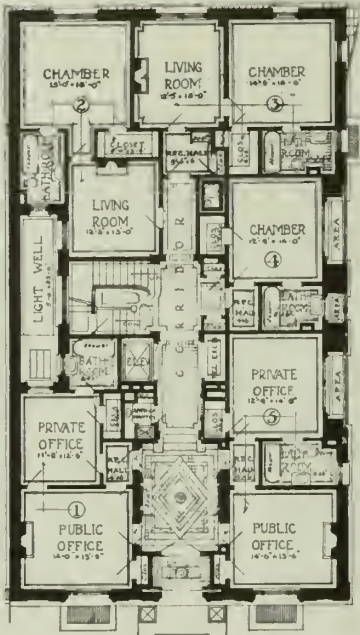
1882

1882-1883

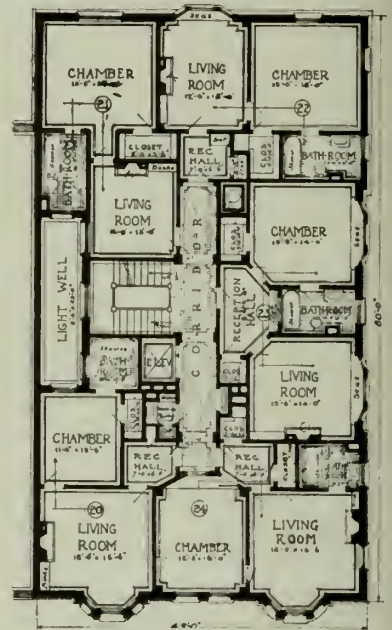
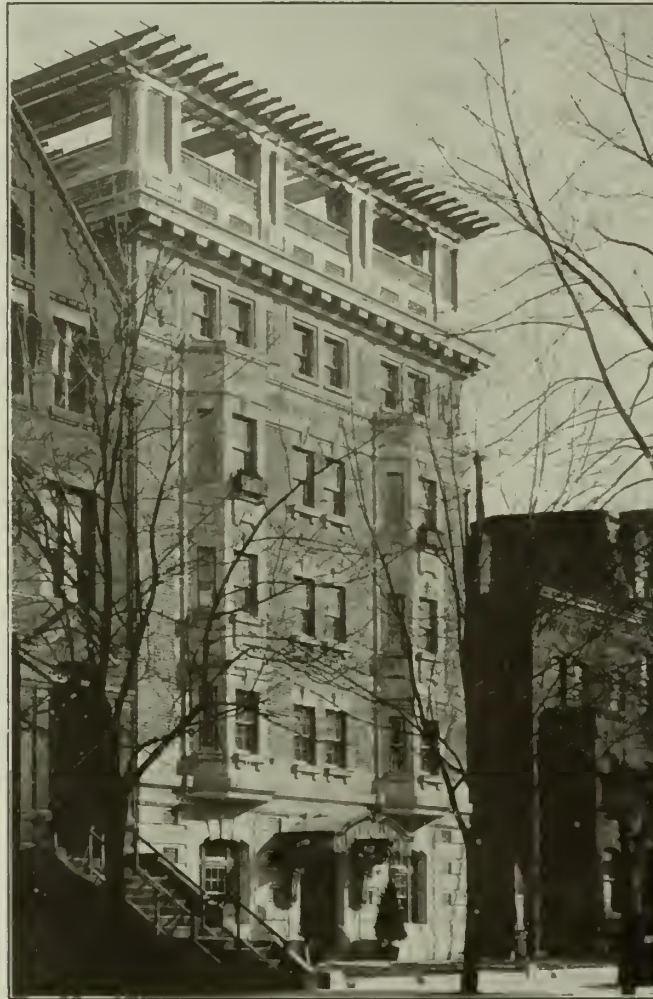


FIRST FLOOR PLAN.
HOUSE FOR SPENCER P. SHOTTER, ESQ., SAVANNAH, GA.
INGLE & ALMIRALL AND RAYMOND F. ALMIRALL, SUCCESSORS, ARCHITECTS.





FIRST FLOOR PLAN



TYPICAL FLOOR PLAN.



BACHELOR APARTMENT AT WASHINGTON, D. C.
WOOD, DONN & DEMING, ARCHITECTS.





HOUSE AND STABLE FOR MISS ELIZABETH BLACK, MILWAUKEE, WIS.
ALEXANDER C. ESCHWEILER, ARCHITECT.





HOUSE FOR DR. JOEL GOLDTHWAIT. MILTON, MASS.
WINSLOW & BIGELOW, ARCHITECTS.





HOUSE FOR LOFTUS CUDDY, ESQ., CLEVELAND, OHIO.

J. MILTON DYER, ARCHITECT.



STABLE FOR LOFTUS CUDDY, ESQ., CLEVELAND, OHIO.
J. MILTON DYER, ARCHITECT.



FIREPLACE IN LIVING ROOM.

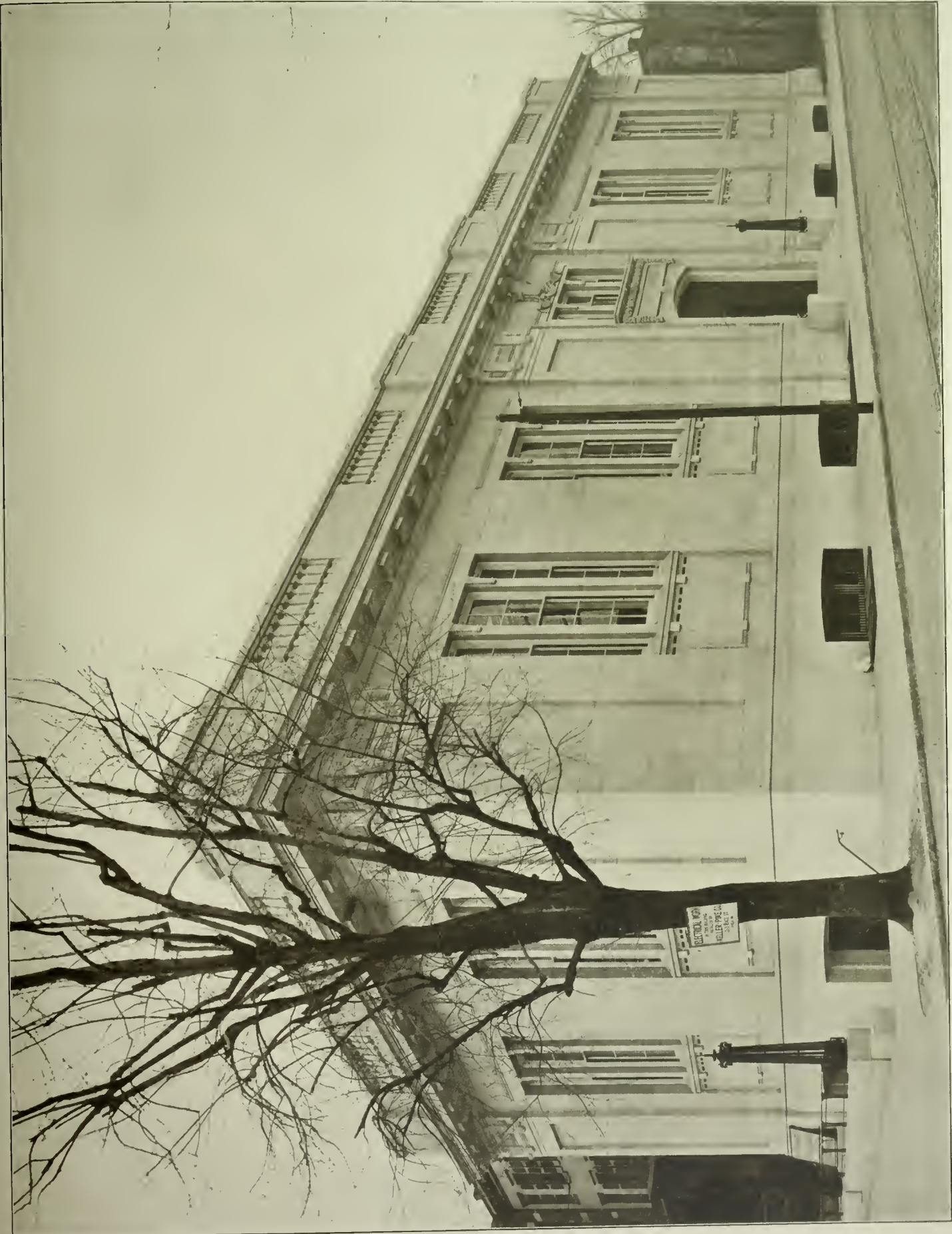


HOUSE FOR D. O. WICKHAM, ESQ., CLEVELAND, OHIO.
J. MILTON DYER, ARCHITECT.

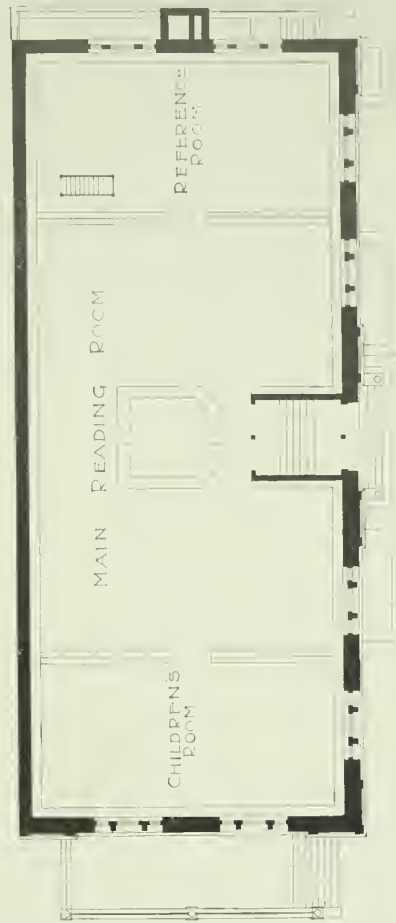
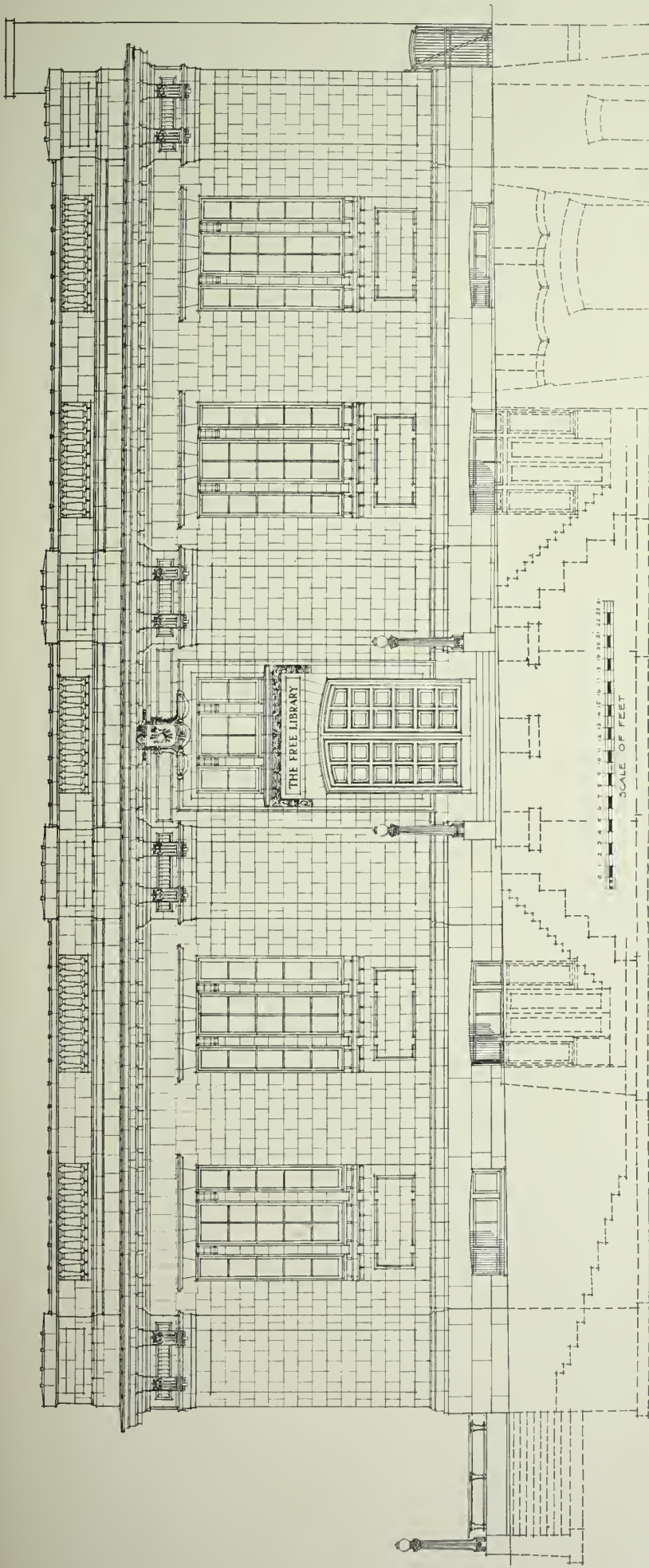


DETAIL OF FRONT ENTRANCE. HOUSE FOR MISS ELIZABETH BLACK, MILWAUKEE, WIS.

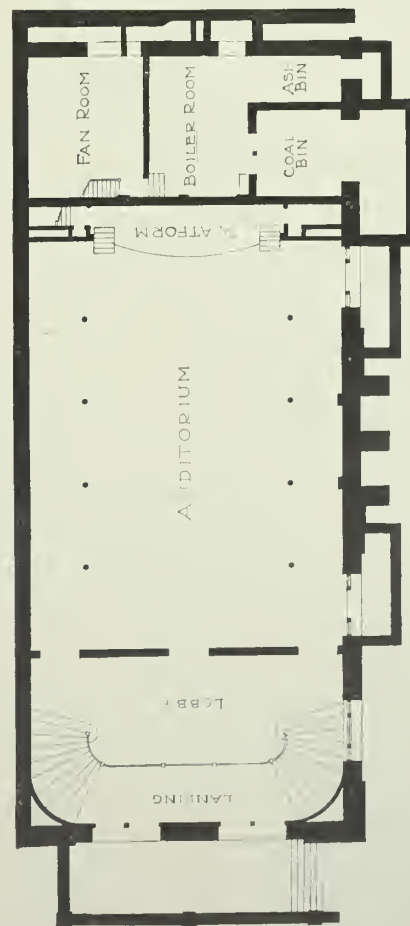
ALEXANDER C. ESCHWEILER, ARCHITECT.



CARNEGIE BRANCH LIBRARY, WEST PHILADELPHIA, PA.
C. C. ZANTZINGER, ARCHITECT.



FIRST FLOOR PLAN.

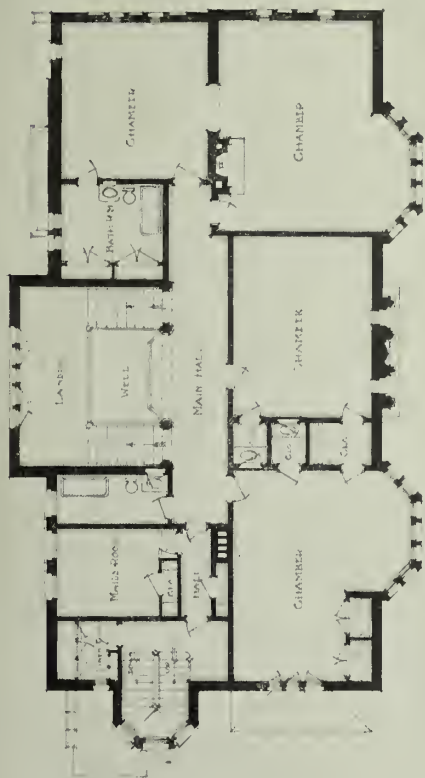
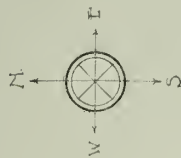


BASEMENT PLAN.

FRONT ELEVATION AND PLANS, CARNEGIE BRANCH LIBRARY, WEST PHILADELPHIA, PA

C. C. ZANTZINGER, ARCHITECT.

RESIDENCE & STABLE FOR
MISS ELIZABETH BLACK
MILWAUKEE - WISCONSIN
ALEXANDER C. ESCHWEILER
ARCHITECT.

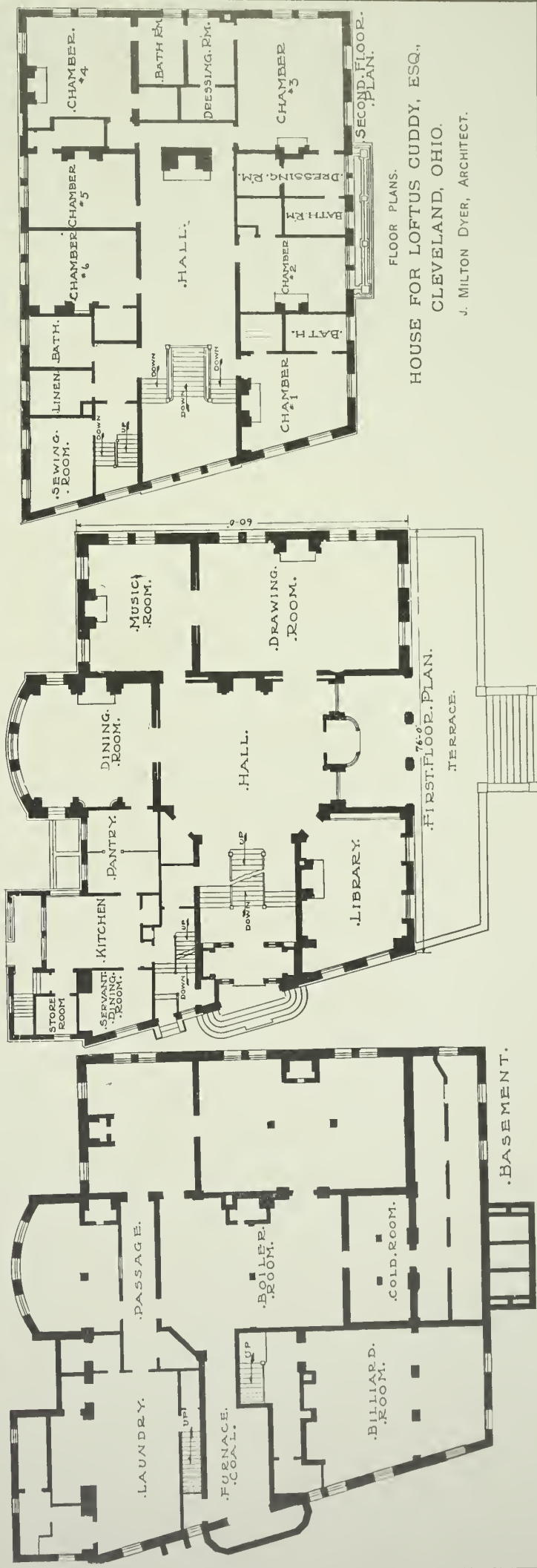
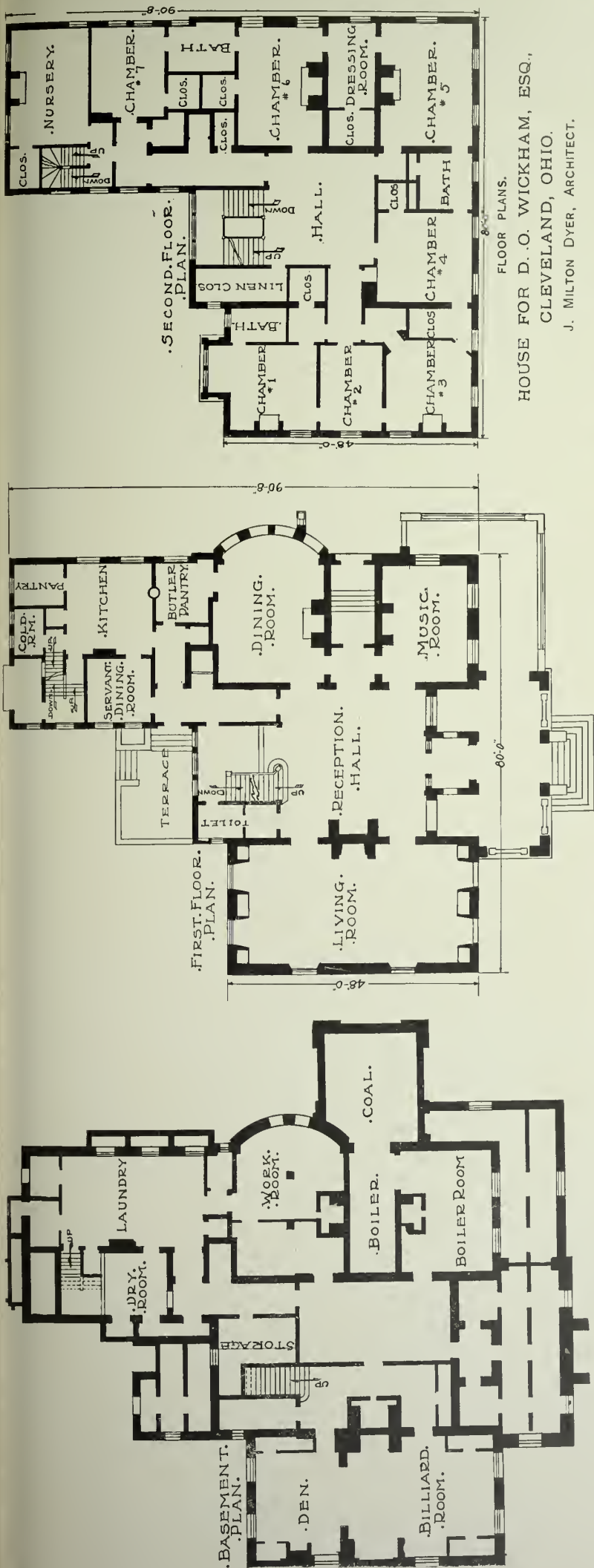


SECOND FLOOR PLAN



FIRST FLOOR PLAN

PLANS HOUSE AND STABLE FOR MISS ELIZABETH BLACK, MILWAUKEE, WIS.
ALEXANDER C. ESCHWEILER, ARCHITECT.



THE BRICKBUILDER

VOLUME XV

JUNE 1906

NUMBER 6

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MAUSOLEUM OF THE SAINTS, AT ARDEBIL, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 6

DEVOTED TO THE INTERESTS OF
ARCHITECTURE IN MATERIALS OF CLAY

JUNE 1906

Lessons of the San Francisco Fire.

WITHIN a period of less than thirty-five years this country has been visited by at least five serious conflagrations. The Chicago fire was the immediate originating cause of our present fireproofing methods. These methods during the past thirty years have been steadily developed along lines which we believe lead to complete protection, and there is no doubt but that our modern fireproofing devices are amply sufficient to protect against any merely local fire. There have been, however, only two cases in which the systems could be studied in their power to resist the effects of a general conflagration, namely, at Baltimore and, more lately, at San Francisco. In the latter case the situation was greatly complicated by the effects of the earthquake, in that the vast majority of the buildings in the devastated district being of inflammable construction were reduced to a condition which afforded unlimited opportunity for the ensuing fire to gain its full force unchecked. Furthermore this was the only fire in our history during which there was practically no opportunity to successfully combat it by the use of water, and the flames were unchecked in their attacks upon the relatively few and isolated buildings of so-called fireproof construction.

The fire has not brought out any really new facts in regard to fireproof construction. It has, however, emphasized all of the lessons of the past and has made more imperative the civic necessity of fireproof structures as barriers to a conflagration. San Francisco was very lax in its laws and it has paid the penalty. Whether the city will profit by this bitter experience is a question which time alone will answer. The fire and the earthquake were observed and studied on the spot by scores of competent trained observers. Engineering and architectural papers have been filled with full accounts of what happened and what resulted, so that it is not difficult to determine how the different buildings behaved under extreme stress. It is, however, only possible to arrive at just conclusions by taking the sum of the evidence presented and drawing general conclusions which can be corroborated by the testimony of different experts, for while theoretically any trained architect or engineer should be able rightly to measure the consequences and the lessons of the fire, the personal equation counts for so much that very few of the statements thus far published are entirely free from bias. Furthermore it is a little astonishing that trained observers should so often

fail to note the leading facts in cases of this sort. For example, one of the engineering papers published a long study in detail of the effect of the fire on the different buildings, in which the writer in only a very few instances made the slightest mention of the materials actually employed in the construction, aside from stating that the buildings were or were not of steel frame type. Again, the personal equation colors very largely one's appreciation of the amount of damage. In looking over the burned district of San Francisco the buildings which have stood at all, which have retained any semblance of structure, are such an exception that some have credited them with far less damage than will probably be found to be the case when actual reconstruction takes place.

The immediate interest of this journal lies in the manner in which the fireproofing systems have stood the test. Our position has for years been that a material which was made by the action of heat could easily be counted upon most successfully to stand the action of heat in a building, and that the burned clay products were the most efficient fireproofing mediums within our reach. At the same time we have most carefully studied all the reports of experts who have visited San Francisco, and have examined the ruins through our personal representatives in the endeavor to determine just what have been the relative merits of the two systems of fireproofing which are now most prominently before the market.

IN this fire concrete has had its first severe test. Terra cotta was used in the Union Trust, the Crocker, both the Chronicle buildings, the Emporium and the Flood buildings, beside many others, while nearly all the leading concrete systems were to be found in numbers of the buildings which are still standing in more or less fragmentary condition. But in going over the published studies of the behavior of concrete and the terra cotta fireproofing there seems to be one fact that comes out again and again and which is brought out very strongly in the excellent review written by Mr. B. B. Holland for the *Engineering Record*. To quote directly: "It is very hard to get correct information regarding the destruction of buildings, as every person seems to have a different story to tell as to what caused the damage, and as to how hot the fire was around any of the buildings. I find that in all cases where the fire was very severe and the concrete covering of columns had come off, the damage to the columns was far greater than where the columns

had been covered with hollow tile and the tile had fallen off. It seems the tile stayed on the columns long enough to protect them from the fire, while in the case of the concrete protection the fire seems to have eaten right through and melted the columns in many cases. My examination in all these cases has been as careful as possible. I went over this ground five times and got all the information that I possibly could regarding each building from different individuals." Again: "In the Emporium Building, six stories with segmental tile arches, tile partitions and column coverings, the building is a wreck. It was subjected to a very hot fire and was dynamited three times, but where the columns stood the tile arches are still intact." Also, in the Crocker Building, fireproofed entirely with hollow tile, where the partitions are down the tile is not broken but is in good condition, though it is especially noted that the fire was very hot. On the other hand, in the Sellers Building, while the concrete of the floors seems in good condition, on careful examination it was found to be very loose and soft, though there was not much heat in the building. In the Postal Telegraph Building, fireproofed entirely of concrete, the column coverings are all off and the columns and beams badly damaged. This can be contrasted with the Union Trust Building, fireproofed with terra cotta, where most of the damage was done by fire, the column covering being all off on the first story but the columns not injured. Compare also the Hamilton Building, of concrete floor arches and metal partitions, in which the column coverings are all gone and the concrete floors soft and easily broken.

WE are not trying to draw any parallel nor to claim for terra cotta that it is perfect, either in its composition or in its method of use, neither would we say that concrete can not be used to advantage in a building. We do not expect perfection in any system of fireproof construction, nor is it fair to claim that so far there has been evolved any system which is more than fire-resistive or to expect that a structure can be shaken by a severe earthquake and thoroughly gutted by a fire developing heat enough to melt glass and terra cotta and yet have much left of it. The point is whether or not our modern systems of fireproofing can and do in the last extremity save the structure of steel. The surface, whatever it may be, is bound to be ruined. We maintain that the records of the San Francisco fire show that terra cotta has accomplished all that is claimed for it, and that even under the most severe case we can now claim with perfect justice that the structure of a building can be efficiently protected against conflagration. On the other hand, it goes without saying that nothing can withstand such a combined catastrophe as overturned San Francisco.

We have said that San Francisco has paid the penalty of her lax laws. So far as we can ascertain there are only two buildings in the burned district which were protected by wire glass and shutters. In the new Telephone Building the windows were provided with frames of metal and the two lower stories were glazed with wire glass. This building was exposed to a fire so excessive that the heat within the building was sufficient to melt the glass cells

of the storage battery. Flames did not break out within the building, however, owing to the exclusion of air by the metal window screens, doors, etc. It is even stated that curtains hung at the windows were charred and fell to the floor without producing flames. The shutters were of the rolling type, coiling up into the metal window frames. Also in the California Electrical Company's works, which were of so-called slow burning mill construction, the window frames were entirely of metal, glazed with wire glass, and the building had in addition a sprinkler system supplied from a fifty thousand gallon tank on the roof. The earthquake affected the building but slightly, and the fire was sufficient to melt the wire glass in one or two of the windows. Fire broke out in several parts of the building, but was extinguished by the sprinklers, and the building was saved with very little damage. These two structures do not give us any additional light on the action of either concrete or terra cotta in a fire, but they do emphasize the scanty extent to which San Francisco was equipped with what is recognized as thoroughly up-to-date fire protection.

IN conclusion, our contention is that in San Francisco the terra cotta fireproofing, in every case where it was properly applied, offered a certain flexibility, by reason of its many joints, which minimized the disruptive effect of the earthquake, and that, so far as we know, in every case where terra cotta was properly used for protection against fire the damage to the steel frame was extremely slight. We have not been able to locate a single instance in which structural damage resulted from failure of the terra cotta protection when it was applied in a reasonably thorough manner. On the other hand, this fire seems in our judgment to show that any monolithic floor construction will not stand a severe shock without splintering or shattering so as to be practically worthless, and that while terra cotta protection frequently falls off after a fire when cooling, leaving the steel bare, concrete under similar conditions will crack and fall off before the fire has reached its maximum, leaving the steel entirely exposed to the destructive effects of heat. Furthermore, we find that terra cotta passes through the fire without apparently losing its strength. The action of fire on concrete is not fully known as yet, but the results of the experiments which have been conducted at Watertown and the observed results at San Francisco are evidence that when subjected to excessive heat concrete undergoes a molecular change which may not be apparent at first, but which in time is sure to bring about the disintegration of the material.

We admit freely that discussions of this sort are more or less academic, that in a building which suffers a loss of sixty or seventy per cent the question of the exact system of fireproofing is not of vital interest to the man who pays the bill, when neither system affords absolute protection. But if the evidence of San Francisco is to be taken as a whole and the absolute degree of protection considered, the system which has stood the best is that which is built up in small pieces thoroughly tied together, possessing flexibility against shock combined with resistive powers to heat, and nothing but terra cotta would answer fully this description.

Burnt Clay Construction at San Francisco.

EXTRACTS FROM REPORT OF F. W. FITZPATRICK, EXECUTIVE OFFICER OF THE INTERNATIONAL SOCIETY OF BUILDING COMMISSIONERS, ON INVESTIGATIONS CARRIED ON IN BEHALF OF THAT SOCIETY, THE UNITED STATES GOVERNMENT, THE BRICKBUILDER AND OTHER TECHNICAL JOURNALS, ETC., ETC.

AS Mr. Charles H. Alden well said in the last issue of THE BRICKBUILDER, "Only a personal investigation of the ruined city enables one to realize the extent of the destruction." Naturally the stricken people seek to minimize the actual damage by the earthquake, while the architects and builders are particularly anxious to impress one with the notion that dynamite did the greatest damage to the buildings that particularly interest the readers of this journal.

In no city, excepting perhaps New Orleans, was there so much highly inflammable, poor construction. San Francisco was literally ninety per cent wood, and, for a city so used to earthquakes of varying degree and that could reasonably expect a very severe shock some time, its general construction was, to say the least, careless. In the tall buildings only was there the slightest precaution taken against shake, and that consisted only in very thoroughly bracing the steel frame. In all else, the stonework, the brickwork, the fireproofing, the work was done as if it were always to rest upon a level, immovable bed. More than that, even in her tall buildings San Francisco was built from fifteen per cent to fifty per cent poorer in construction than the work generally found in our eastern cities, while it would be reasonable to expect, on account of quake and exceedingly great fire hazard, that she would have built from fourteen per cent to thirty per cent better and stronger than anywhere else.

Her local brick is not of poor quality, and the brick she bought elsewhere is of the best; her local terra cotta was sharp, well modeled, but too thin and not scientifically constructed to resist fire, lacking in sufficiency of web and in uniform thickness of assailable faces; her fireproofing tile floors were largely of side construction and of dense tile, forms and material not acceptable in the best practice East; her column coverings were light, and so were her partitions. The work in no case was up to the eastern standard, and certainly not what one should do in the face of the possibilities there. It was all that was demanded of the builders; it was the class that was accepted and generally better than exacted by the ridiculously lax building regulations. The people are paying the penalty for their sins. All this laxity, if not ignorance, has spelled a loss to the extent of fully \$300,000,000! In the burned district the quake damage alone would have amounted to \$10,000,000 at most.

In the tall buildings, so-called "fireproof," the brickwork was merely shelved on the frame and carried story by story. No additional bonding or tying of the wall in itself nor tying to the frame was done, and the quake effects show, where any damage is apparent, that these walls gripped tightly at top and bottom but were bulged in the middle of the span, sometimes resulting in hori-

zontal cracks at the bearing, but more frequently in cross fissures as in the New Chronicle Building. The terra cotta cornices were not overmuch tied in, and it is indeed a wonder that more sections of them were not shaken to the street. In few cases were the steel column protections of tile well jointed and adequately tied to the columns. The result was that in many instances this protection failed, the column buckled and let down the loads from above, causing much damage. In some cases the facing brick were not adequately bonded to the backing, with the result that that facing peeled off in huge sections. In the cheaper buildings, noticed particularly outside of the fire section, the brickwork was very poorly executed and but little if any tying done between the wood framing and those brick walls. Naturally, with such conditions, plus the use of sand, water and (very little) lime mortar, roof trusses "kicked" against gables and piers, and even the newest buildings have about as much brick scattered about the streets as still remain in the walls.

This is the unattractive side of the picture, and it has been most artistically touched up and exploited by those to whose interest it is to discredit burnt clay products. They have done their work at much expense but pretty thoroughly, for the people generally, not appreciating the real inwardness of the thing and following the lead of these clever but unprincipled molders of public opinion, are loud in their denunciation of brick and clamor that wood only is quake-proof.

The obverse of that picture is that wherever burnt clay products were used with the slightest skill by the architects and put in place as they should be, they have given a splendid account of themselves and stand out conspicuously superior to anything that has passed through the fire and yet preserved any resemblance to its former self.

Preaching has had but little effect upon San Francisco builders (and alas! it seems to have but little upon most of the others), so possibly this terrific lesson may have a salutary effect upon them and graphically point the way to what they must do to secure a really fireproof and quake-proof construction. Heretofore they have imperfectly placed a little fireproofing material around their steel frames, and deemed that a sufficient precaution and a sort of heavenly dispensation to go ahead and do everything else about that building as flimsily and as inflammably as possible, brazenly assuring owners and occupants that the structure was positively proof against its two worst enemies. They have seen that wherever fire touched stone, granite, marble or concrete, that material has gone completely to pieces or been spalled and cruelly defaced; they have seen that where their face brick was properly bonded to the backing and the entire wall well tied to its frame, that wall is as good to-day as it ever was; that where common brickwork was well done, with good mortar and ample bonding, and even unstiffened by steel frame, as in the Palace Hotel and some of the big churches in the burned district, it has valiantly withstood quake and fire and even dynamite; that where terra cotta decoration was used with discretion, all the surface part of equal thickness, properly planned and with rounded internal angles, and all tied in safe and sound, it has remained so; that where the fireproofing



SAN FRANCISCO GAS AND ELECTRIC BLDG.
Stone badly spalled, interior completely gutted, but
brickwork perfect.



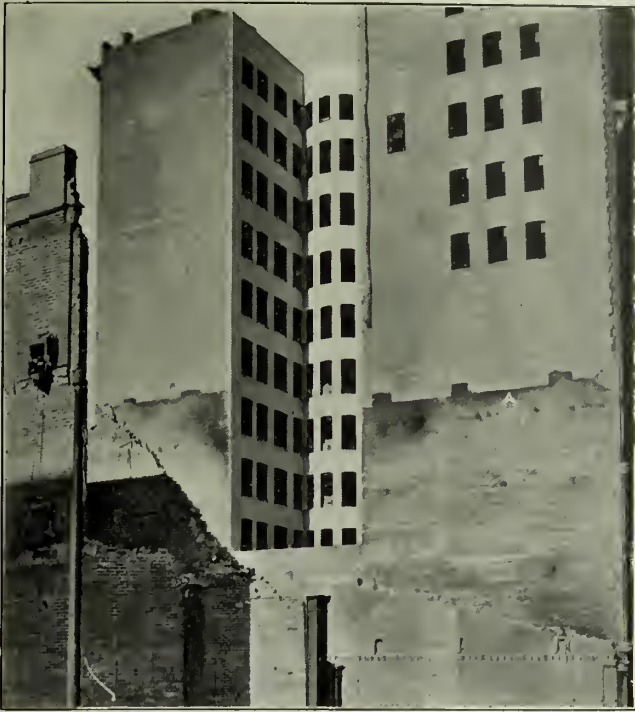
MILLS BUILDING.
Stonework A A badly spalled, while the upper eight
stories of brick and terra cotta are intact
save at a few spots like B.



MUTUAL SAVINGS BANK.
Stonework A B D destroyed, terra cotta gables
above intact.

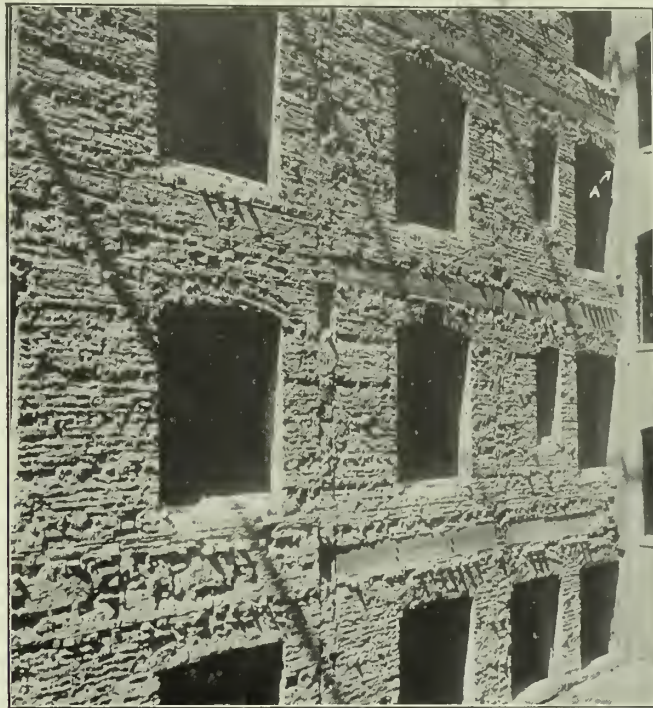


CALL BUILDING.
Note effect of fire on stonework at A B, and that
terra cotta dome C is undamaged.



SHREVE BUILDING.

Fire was hot enough to destroy adjoining buildings at A, but side and court walls are intact and unshaken.

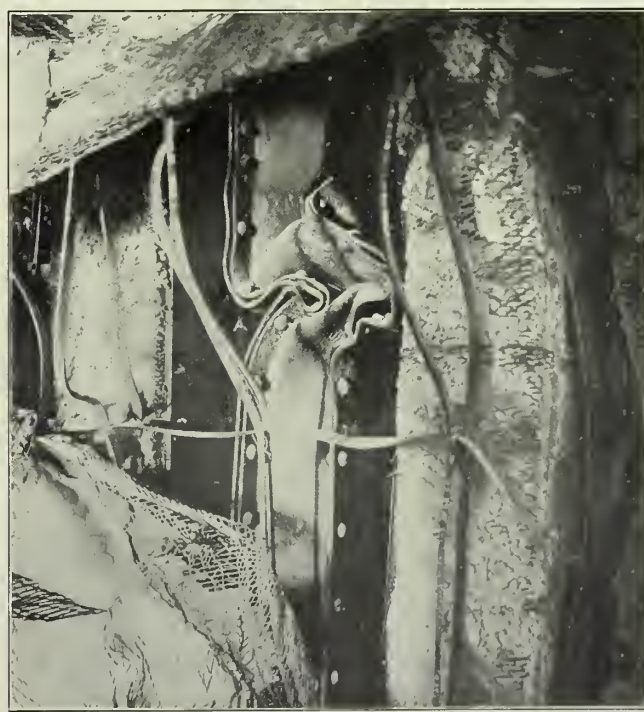


ST. FRANCIS HOTEL.

Court walls, work poorly done and facing A B not bonded to backing. Quake and fire have revealed that neglect.



Poorly set column protection, and with pipes *inside* of casting, in one of the so-called "tile fireproof" buildings. Note fire effect on column at A.



Poorly applied column protection in a so-called "concrete fireproofed" building. Note fire effect on column at A.



ARONSON BUILDING.

Stone spalled at C, terra cotta base "quaked" at E, but rest of terra cotta and brick perfect.
See metal cornice.



UNION TRUST BUILDING.

Wherever fire touched it, as at A, there is an ineffaceable mark: not so with the brick and terra cotta above.



MUTUAL LIFE BUILDING.

Note stone at A B and condition of brick immediately above. Intense fire in building C. (D D present offices and restaurants.)



WEST GATE APARTMENTS.

Stonework A completely demoralized, also metal cornice D. Enameled brick, well laid, exposed to equal fire and unmarred.

tile was ample in dimension, properly bonded, laid with cement mortar and rigidly tied to the columns, or set in place (the partitions not built up on *top* of finished wood floors or of inferior concrete with wood floor strips) it amply protected the steel frame and is in itself intact; that where stairs and elevator shafts were enclosed, or a building cut up into small units of properly enclosed spaces, fire was confined to limited areas and did but little damage; that where internal decorations, doors, trim, etc., were of metal, as in the Kohl Building, all that decoration remains intact, and in itself prevented the spread of fire from room to room; that where metallic furniture and cases were used in rooms enclosed with fireproofing tile and windows properly protected, all books and papers were intact; that where even a wooden frame building was enclosed with brick walls and the window openings protected (by wired glass in metal sash) against external attack, as in the California Electric Supply Building, even the wood framing and all the contents of the building were absolutely safe and untouched, though an exactly similar building, save that it had no protection to its windows, situated but a few blocks away, lost its "slow-burning frame" and all its contents in less than forty minutes' time.

They have seen all this, I say; they have before them various object lessons of the different parts and details that have done their several individual duties well. Now, then, in heaven's name! have they not intelligence enough to assemble all those details into one structure and make it a really "fireproof" building?

STUDYING THE EARTHQUAKE.

IMPORTANT WORK OF GEOLOGICAL SURVEY.

IMPORTANT to builders throughout the country is an investigation recently begun by the United States Geological Survey to find out the effect upon various kinds of structural material of earthquakes. Numerous inquiries have been received by Charles D. Walcott, director of the Survey, since the California earthquake as to the buildings which best stood the shock of that catastrophe and the reasons why some buildings survived and others fell in the wake of this convulsion of the earth. Interesting light on this phase of the earthquake was thrown by a letter recently received at the Survey from Charles G. Yale, who is the special geological survey agent on the Pacific Coast. Mr. Yale was in San Francisco at the time of the earthquake, and therefore had excellent opportunities for studying its effect. His offices are located in the Appraisers building. This building, Mr. Yale says, in his letter to Director Walcott, was one of the few business structures in San Francisco which was not injured either by the earthquake or the fire. With the exception of the falling of a little plaster on several floors the building is wholly free from damage. "It is probably the only building of its kind in the city," said Mr. Yale, "which does not show a single crack in its brick walls. This may be due to the fact that the foundation of the building consists of a six-foot bed of solid cement placed upon thousands of piles, and that the bricks are put together with cement instead of mortar. The walls of this building are thicker below the sidewalk than they are above. Thus when the building is shaken by an earthquake it moves as a monolith.

Study in Paris.

BY GILBERT HINDERMYER.

SO widespread is the fame of L'Ecole des Beaux Arts that the name itself has become almost synonymous with study in Paris. Presumably every architect and most laymen possess enough general knowledge of this great art school and sufficient understanding of its purpose, principles and achievements to make unnecessary detailed description of the institution which France proudly opens to the world. In choosing how he shall study, the prestige, reputation and influence of the school make it a factor which the student must reckon with first.

But all who go to Paris for study do not intend to enter the school. While many regard L'Ecole des Beaux Arts as the Temple of Architecture and accept its teachings as the Bible of the architect, others again are not so sure. To be an apostle of the school, its methods and results, is to be called Frenchman; to say the education of the architect may be completed just as well and more quickly outside the school is to chance the reputation of seeking less than the best. Evading a point of view so radical as either may lend interest to comment upon both, since the spectator sees more of the game than the players, and observation from the outside adds poise to judgment. Naturally, then, the first decision for the student of architecture is whether or not he shall try to enter the school, and what he shall do as an alternative if he stay out. Regarding the former, inquiring minds will gather a kind of parallel column arrangement of ideas something like this:

Perhaps a *diplome* from L'Ecole des Beaux Arts seems desirable as a guarantee of training which many do not hesitate to call the best. The cultured mind and varied information of the technical school graduate are theoretically taken for granted; the self-taught man is often required to prove both. But to the man of affairs who aims for results regardless of method and prefers practice to theory, the *diplome* may mean nothing. There will always be those who ask, "Is it commercially good?" The full course of the school is long, depending upon a certain aggregate of "values" practically impossible to complete in less than three years, usually more. This, following upon a regular or special college course or some years of office training, means the expenditure of much valuable time. However, one may give up the *diplome*, omit values in other branches and devote himself principally to architecture. Completing the full course will insure a training in theory as perfect as may be. If too much of theory and too little of the practical seem evident, still the honor, distinction and prestige of the *diplome* are the rewards; the practical application rests with the finished student. Should some studies in which values are required appear useless in office practice, it is to be remembered that the ideally trained architect recognizes few studies which are useless in his profession. Perhaps the school principles of plan and design seem too obviously French in point of view rather than applicable to American conditions; it is claimed that these ideas are taught as principles so broad and fundamental as to be of general application.

If the student arrive in Paris less inclined to sober analysis, have the time, money and be not too old, he will probably try the entrance examinations, as the enthusiasm born of discussion among the many candidates is contagious. Unless one's age be a year or two less than thirty the choice is spared him, as the French government decrees that none may remain a student of L'Ecole — much less enter — whom French standards judge thus conspicuously superannuated.

The examinations are commonly believed to be difficult, covering a wide range of questions in history, oral and written mathematics, geometry, a twelve-hour solution of a problem in architecture and a study in free-hand rendering. The problem in architecture counts most. Preparatory ateliers conducted for this purpose are ever ready to teach the special points expected from the applicant in his sketch. While in no wise detracting from the glory of those who have passed the ordeal in triumph, nor lacking sympathy for those laid low, the average of opinion indicates that a college graduate with a proportionate knowledge of architecture should scarcely find these examinations filled with the terrors from which it is commonly supposed they are inseparable. Much of the difficulty naturally results from an insufficient knowledge of French. Only a little knowledge is often said to be enough; but it is well to remember, in general, that a fair proficiency in America seems a little knowledge in Paris. As always, a cool head, an even poise, steady nerves and the ability to enter in good condition after weeks of coaching and fearsome comment — coupled with the ability to produce what one knows at the right moment, rather than any unusual or specialized erudition — seem the qualities which win.

Should the weight of opinion thus far seem in favor of the school, there may be enough of importance to more than keep the balance true in considering the alternatives for him who stays out. The student who decides to omit the school, either through necessity or merely from choice, will find other opportunities for study, much in line with the work of the school and free from most of its hindrances. *Diplomes* or graduates of the school may always be had to give programmes, guide and criticise individual work at regular times, and to act as "coach" generally, for fees which are not excessive. There are ateliers where one may work from the cast or from the figure, draped or nude, every day and every evening for a trifling sum paid upon each admission. There are clever men who teach water color, though this, perhaps, belongs more in the province of the painter, whose methods of study touch but never coincide with those of the architect. There are the school exhibitions of every required sketch, problem and project, valued by the judges and open to all for study and comparison. The competition for the "Grand Prix" — four years in the Villa Medici, at Rome — is the most important event of the student year. The various solutions and the drawings are much discussed in preparation, and the finished results exhibited in June. Lesser competitions are distributed through the year. Students of the school are all about one, ready and anxious to discuss questions, criticise each solution of every problem, and to impart the school's methods and point of view. Easily obtained

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A Village Courthouse.

ARTICLE III.

BY ALBERT RANDOLPH ROSS.

NOT long since, being interested in the erection of a public library in a small New England town, I was asked by the committee who had the matter in hand to make sketches for a contemplated county courthouse, a site for which had been acquired facing the public square, the civic center of the town, which was the county seat. The village was of some historical interest and significance; the first company of soldiers in the Revolution having assembled and departed from its square, and it was, too, an altogether pleasing place, especially in the spring and early summer when I first saw it.

The square, a plot of ground some six hundred feet by seven hundred feet, was surrounded by a line of venerable elm trees no doubt a hundred years old or more, and was parked out in grass plots and gravel cross walks. In the center was a flat basin of water with an invisible central outlet, which on certain occasions sent a column of water into the air, splashing back into the pool. At one side was the proverbial granite horse trough with its well-worn granite buffers and hitching posts, and across the street the village inn, a wooden building of the Colonial times with a big piazza, where farmers smoked and talked crops after their midday meal. On the side of the square opposite was the village main street, with its interurban trolley line and nondescript buildings of business, stores, offices, a bank, etc., and, as they faced north and were in shadow, their glaring lack of architectural design was not offensive from a little distance. The public library was placed at one side and the courthouse was to face it, opposite.

The building committee, why selected I don't know, as they seemed utterly unqualified for the work, was composed of two farmers from outlying districts and a retired plumber. The plumber no doubt was thought to possess the necessary technical knowledge to guide them in their undertaking.

I found, however, on attending their regular monthly meeting to discuss requirements, that I had very much mistaken the situation. The county collector was present, an energetic man with a head like the late Matthew Quay or Cecil Rhodes, who at once arrested attention, and it was plain to see that the committee of farmers were under complete domination and entirely directed by this man. As a matter of fact he was the committee himself, and as it transpired was certainly well equipped for the position. He had experience in the erection of public buildings and had given the matter considerable study. He had visited the principal municipal buildings the world over, was just, honest, and had the interests of the county at heart.

The farmer members had also given the matter study according to their lights, and arrived at some strong convictions as to what a county courthouse should be. They had taken sundry trips of inspection of such buildings at the county's expense and got together a collection of prints, plans and photographs, most of them of buildings from the middle and southwestern states.

Their chief conclusions were that the building should have a rotunda, dome and portico; the arrangement of rooms, their sizes and other matters, seemed to them of secondary importance. They were of the opinion, too, that it should be built of rock face granite. They knew that the amount of the appropriation would not permit the dome which they had in mind being constructed of granite, but galvanized iron, painted and sanded, would answer so they argued, as from the ground the difference of material would not be noticeable.

This was the opinion also of a warm personal friend whom they believed competent to pass judgment, — the owner of the near by granite quarry, who had, indeed, accompanied them upon some of their excursions of study.

While there was no question as to the advisability and necessity of a rotunda or lobby, I questioned the appropriateness of a dome, and suggested the omission of this feature of the design, getting the impressiveness which they desired rather by a fine entrance portico and pediment, and suggested that a dome would be of little use within and that its cost might be better put to other uses.

To my surprise the county collector agreed; he questioned the fitness of a dome for such a building, and although he was forced to admit the domes on the county courthouses which they had collected, he called attention to other better precedents, among them, to my delight, the Palais-du-justice in Paris, which had impressed him as characteristic and appropriate to the purpose of such a building; and further he argued that the funds would not permit of a dome properly constructed, and that the flag pole which was to be placed on its top might be more in evidence if put at the end of an exedra in front of the building at the ground level. The dome feature was therefore finally waived, provided a sufficient impressiveness could be got from the main entrance motif.

The sizes and disposition of rooms, height and number of stories, were soon settled. The principal courtroom was to be placed at the rear of the building facing the main entrance, the grand jury room and anteroom at the right; rooms for the district attorney, prisoners, witnesses, etc., at the left, on the main floor, with separate entrances at the rear for the use of the judge, counsel, and warden; and the probate court, private office, registry of deeds, private offices for registrar and clerks, on the second floor. Public stairways were to be placed at either side of the building toward the front; the main courtroom was to extend through two stories, with a balcony at the level of the second story; the basement was to be given over to rooms for storage, vaults for records, space for heating and ventilating apparatus, and janitor's quarters.

These suggestions formed the basis of a set of sketch plans and a perspective which were finally satisfactory, although I had an inkling that the committee still hankered for the dome feature; and we got our granite quarry friend to make an estimate of its cost.

Of course it was expected the estimate would be tentative, but we were by no means prepared for one that was more than twice the appropriation. It certainly was not justified by the sketches. The contractor seemed to

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The square, a plot of ground some six hundred feet by seven hundred feet, was surrounded by a line of venerable elm trees no doubt a hundred years old or more, and well parked out in grass plots and gravel cross walks. In the center was a flat basin of water with an invisible central outlet, which on certain occasions sent a column of water into the air, splashing back into the pool. At one side was the proverbial granite horse trough with its well-worn granite buffers and hitching posts, and across the street the village inn, a wooden building of the Colonial times with a big piazza, where farmers smoked and talked shops after their midday meal. On the side of the square opposite was the village main street, with its intermittent trolley line and nondescript buildings of business, stores, offices, a bank, etc., and, as they faced north and were in shadow, their glaring lack of architectural design was not offensive from a little distance. The public library was placed at one side and the courthouse was to face it, opposite.

The building committee, why selected I don't know, as they seemed utterly unqualified for the work, was composed of two farmers from outlying districts and a retired lumberer. The plumber no doubt was thought to possess the necessary technical knowledge to guide them in their undertaking.

I found, however, on attending their regular monthly meetings to discuss requirements, that I had very much mistaken the situation. The county collector was present, an energetic man with a head like the late Matthew Quay or Cecil Rhodes, who at once arrested attention, and it was plain to see that the committee of farmers were under complete domination and entirely directed by this man. As a matter of fact he was the committee himself, and as it transpired was certainly well equipped for the position. He had experience in the erection of public buildings and had given the matter considerable study. He had visited the principal municipal buildings the world over, was just, honest, and had the interests of the county at heart.

The former members had also given the matter study according to their lights, and arrived at some strong convictions as to what a county courthouse should be. They had taken sundry trips of inspection of such buildings at the county's expense and got together a collection of points, plans and photographs, most of them of buildings from the middle and southwestern states.

Their chief conclusions were that the building should have a rotunda, dome and portico; the arrangement of rooms, their sizes and other matters, seemed to them of secondary importance. They were of the opinion, too, that it should be built of rock face granite. They knew that the amount of the appropriation would not permit the dome which they had in mind being constructed of granite, but galvanized iron, painted and sanded, would answer so they argued, as from the ground the difference of material would not be noticeable.

This was the opinion also of a warm personal friend whom they believed competent to pass judgment, — the owner of the near by granite quarry, who had, indeed, accompanied them upon some of their excursions of study.

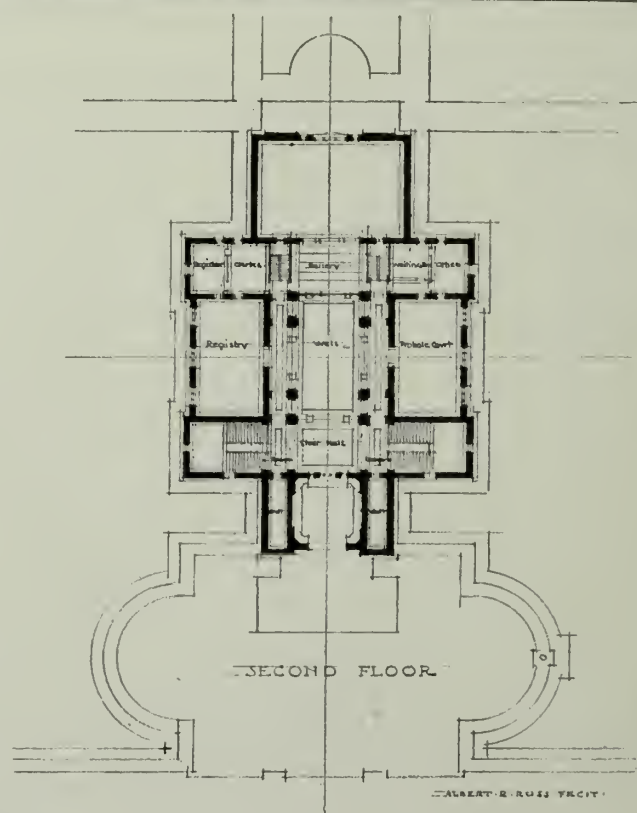
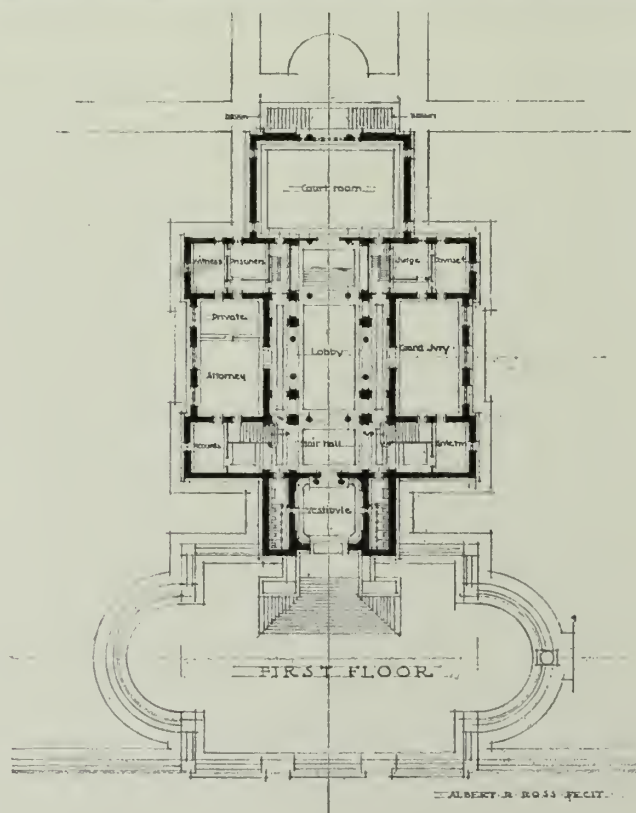
While there was no question as to the advisability and necessity of a rotunda or lobby, I questioned the appropriateness of a dome, and suggested the omission of this feature of the design, getting the impressiveness which they desired rather by a fine entrance portico and pediment, and suggested that a dome would be of little use within and that its cost might be better put to other uses.

To my surprise the county collector agreed; he questioned the fitness of a dome for such a building, and although he was forced to admit the domes on the county courthouses which they had collected, he called attention to other better precedents, among them, to my delight, the Palais-du-justice in Paris, which had impressed him as characteristic and appropriate to the purpose of such a building; and further he argued that the funds would not permit of a dome properly constructed, and that the flag pole which was to be placed on its top might be more in evidence if put at the end of an exedra in front of the building at the ground level. The dome feature was therefore finally waived, provided a sufficient impressiveness could be got from the main entrance motif.

The sizes and disposition of rooms, height and number of stories, were soon settled. The principal courtroom was to be placed at the rear of the building facing the main entrance, the grand jury room and anteroom at the right; rooms for the district attorney, prisoners, witnesses, etc., at the left, on the main floor, with separate entrances at the rear for the use of the judge, counsel, and warden; and the probate court, private office, registry of deeds, private offices for registrar and clerks, on the second floor. Public stairways were to be placed at either side of the building toward the front; the main courtroom was to extend through two stories, with a balcony at the level of the second story; the basement was to be given over to rooms for storage, vaults for records, space for heating and ventilating apparatus, and janitor's quarters.

These suggestions formed the basis of a set of sketch plans and a perspective which were finally satisfactory, although I had an inkling that the committee still hankered for the dome feature; and we got our granite quarry friend to make an estimate of its cost.

Of course it was expected the estimate would be tentative, but we were by no means prepared for one that was more than twice the appropriation. It certainly was not justified by the sketches. The contractor seemed to



A VILLAGE COURTHOUSE.
Albert Randolph Ross, Architect.

think that the work was to be his at any cost, and doubtless intended to retire from business on its profits.

Alternatives were suggested, to be sure, which tended to somewhat reduce the estimate, — omitting the front columns; reducing the thickness of the ashlar; making the back of the building of brick (which would not be considered).

More estimates were got from other contractors, which only proved, however, that the building could not be erected in granite, not even in rock face granite, within the appropriation, and a way out of the difficulty was, as usual, left to the architect to find.

On considering other material, limestone naturally suggested itself, but was rejected on account of excessive cost of freight, and terra cotta or terra cotta and brick was, I am glad to say, finally considered.

I have always had a strong partiality for this beautiful material; its beauty is hardly rivaled by marble, and its texture, color, susceptibility of ornament, and fireproof qualities lend themselves especially to a building situated as this one, in a small town surrounded by ample foilage and lawn.

After some further discussion of possible material, — reinforced concrete, etc., — it was decided to adopt a light colored pressed brick and terra cotta. I then suggested omitting the columns of the portico, believing the beauty of a free-standing column being in the perfection of its vertical tapering curve, or entices, which is impracticable in terra cotta on account of warping consequent to burning, unless it is broken in some way, by rustication for instance, which did not seem appropriate. A motif of an arch, pediment and flanking piers and vestibule was substituted, with the endeavor to still obtain the same desired expression of the dignity of the courts contained in the building as was given by the portico, and a design which would permit of an appropriate and fitting use of the material.

Hence these little sketches, on which satisfactory estimates were got, of a county courthouse facing the civic center of a small town; to be built of brick and terra cotta with fireproof floors and roof, a granite base and steps, and, in design, based upon an adaptation of Roman classic, which seems to be an accepted style for American municipal buildings.

“**D**ISHONEST mortar — a corrupt conglomeration of sea sand and lime,” is the explanation given by a Japanese architect for nearly all of the earthquake damage in San Francisco. Dr. Nakamura was sent over by his government to investigate the recent disaster, but from his quoted comments on what he has seen it is evident that he thinks he has learned nothing except the things not to do in an earthquake country. At home, he says, there is no lack of confidence in brick buildings, though Japan has many earthquakes more severe than the one which caused, or started, the destruction of San Francisco, but the secret of safety is the use of good mortar. It is undoubtedly true that American builders use a vast amount of mortar ranging from indifferent to bad. This is perfectly well known to everybody with any knowledge at all on the subject who watches the construction of our houses and observes the quality of the sand and the small proportion of lime that is mixed with it.

West End Houses, London.

BY R. RANDAL PHILLIPS.

THE briefest inquiry into the planning of the older town houses, and the provisions made in them for the needs of the occupants, will at once reveal how the antiquated idea of having a great show for the guests at the expense of the host still held sway, and it will also be noticed what meager accommodation was provided for the numerous servants on whom the work of the house devolved. It is curious to note, moreover, how our grandfathers seem to have been oblivious of the fact that proper service between kitchen and dining room is impossible when the two are widely separated by corridors and stairs.

Another important detail is the hall; this, in fact, may be regarded as the ruling factor in the planning, because in town houses where receptions are frequent ample hall space must be provided in one form or another. Oftentimes the hall is made into an open room with fireplace, — quite a different thing to a mere passageway, — and undoubtedly this is the best arrangement that can be followed, provided there is sufficient space to allow it to be done. Space, however, is generally the great scarcity in these town houses, for sites are very costly in the West End, and the architect needs all his ingenuity to contrive to get the largest possible rooms on what is really a narrow frontage, at the same time providing a commodious hall and a dignified staircase leading out of it. The general requirements of these London houses are as follows: On the ground floor (or the first floor, as it is called in America), dining room, morning room and possibly a library or billiard room, with lavatory; on the first floor, drawing room or rooms, as may be required, or a single drawing room with boudoir leading out of it, and guests' bedroom with bathroom; on the second floor, the bedrooms of the heads of the family, comprising one large bedroom, bathroom and one or two smaller bedrooms; on the third floor other bedrooms for the family (special provision having to be made if there are children); and finally, on the fourth floor, the servants' bedrooms, box room, etc.; the kitchen offices being arranged in the basement.

Turning now to the exterior, it would be futile to describe even a tithe of the many treatments to be seen. The accompanying illustrations, however, serve to show what modern architects have done and are doing in the West End. Going back a few years we come across many delightful examples of brickwork by Norman Shaw; his houses in Queen's Gate; for example, or the one in Cadogan Square, Chelsea. In Mr. Shaw's houses we may trace many moods and manners, but they are always distinct and refined, full of vigor and free from conventionality. As a corner treatment, No. 180 Queen's Gate is particularly good. Ernest George, too, is another great builder of brick houses, albeit his work smacks of the Continental sketchbook; but no one will dispute the cleverness with which he introduces Flemish motives into a London building, as, for example, in the houses in Harrington Gardens. Mr. Flockhart's work is somewhat uneven; still, as representative of another class of West End house, No. 2 Palace Court, Bayswater, is well



LORD WINDSOR'S HOUSE, 54 MOUNT STREET.
Fairfax B. Wade, Architect.



NO. 180 QUEEN'S STREET.
Norman Shaw, Architect.



THE YELLOW HOUSE, BAYSWATER HILL.
Built of Yellow Terra Cotta.
Ernest George, Architect.



HOUSES IN HARRINGTON GARDENS.
Ernest George & Peto, Architects.



NOS. 18 AND 19 COLLINGHAM GARDENS, EARL'S COURT.
Ernest George & Peto, Architects.



NOS. 10 AND 12 PALACE COURT, BAYSWATER.
J. M. Maclaren, Architect.



HOUSES IN HARRINGTON GARDENS.
Ernest George & Peto, Architects.



HOUSES IN HANS ROAD, CHELSEA.
HOUSES AT LEFT. C. F. A. Voysey, Architect
HOUSE AT RIGHT. Mr. Macmurdo, Architect.



LORD RIBBLESDALE'S HOUSE, GREEN STREET.
Sidney R. J. Smith, Architect.



THE DUKE OF MARLBOROUGH'S NEW HOUSE, CURZON STREET.
Romaine-Walker & Besant, Architects.



HOUSE AT CORNER HARLEY ST. AND QUEEN ANNE ST.
Professor Beresford Pite, Architect.



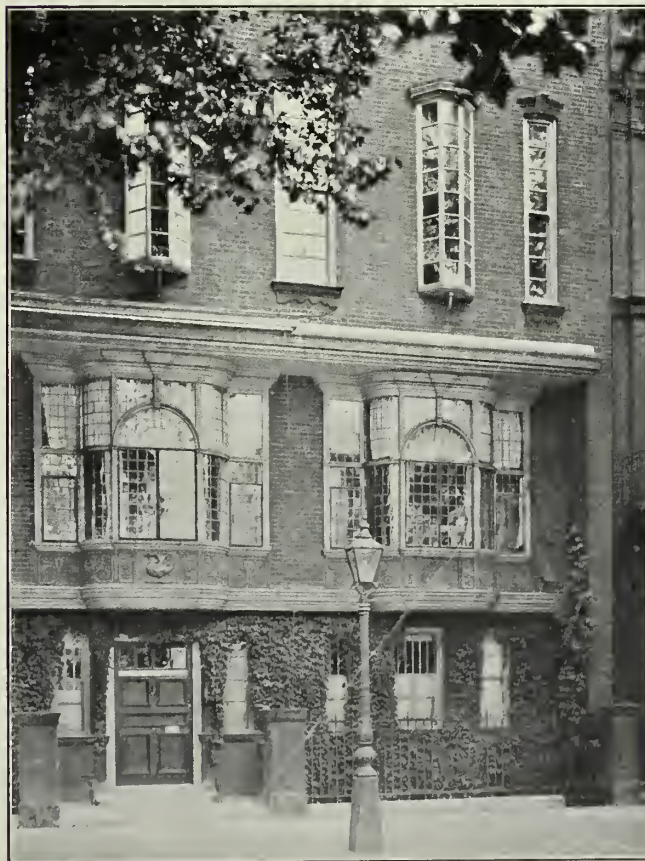
NO. 30 CHARLES STREET.



NO. 3 BERKELEY STREET.
H. Huntly-Gordon, Architect.



NO. 16 CHARLES STREET.



OLD SWAN HOUSE, CHELSEA, S. W.

included in the present collection.

A very notable West End house, as a piece of architecture, is the block in Palace Court by the late Mr. Maclaren,—an architect who died when only half his work was done.

Chelsea has been a great place of rebuilding within recent years. There are many fine new houses facing the Embankment, and a great scheme was carried out close by for a veritable colony of mansions. As a whole they are not remarkable for any excellence of architectural quality, nevertheless there is a spacious air about them.

In one of the roads on the estate, Hans Road, is to be found an unusual example, namely, of two houses by Mr. Voysey, who has here made an excursion in town design on the same lines as his country work; there were to have been four of these houses, but two only were built; next door is a house by Mr. Macmurdo, a capable architect, who has designed a goodly number of West End houses.

In the streets leading off Park Lane numerous houses for the nobility have been erected, prominent among them being Lord Windsor's in Mount Street, and Lord Ribblesdale's in Green Street. Both are well designed, but the former is quite the better of the two. Another important new mansion is that in Curzon Street for the Duke of Marlborough. This is clearly French in much of its detail; but however common it may be to find good, modern, classic work in American cities, it certainly is not so in English ones, and we must therefore be grateful to Mr. Romaine Walker for this sturdy block. One or two doorways in Charles Street, close by, are worthy of notice,—Nos. 16 and 30, here shown.

Finally, going somewhat nearer in, we find a number of excellent new houses in Harley Street and its neighborhood, though these are so many "slips" between dull houses of an older time; more particularly in this district there are the two houses by Prof. Beresford Pite, one at the corner of Harley Street and Queen Anne Street, and the other in Mortimer Street. Professor Pite is always unusual. Sometimes his novelties or importations are not altogether happy—witness the front to Christ Church, Brixton—but in these two town houses he has displayed his skill to good effect, embracing sculpture and low-relief carving in his designs. They are full of new detail and fresh treatments, and in thus briefly alluding to them as the work of one of the most capable of English architects these few notes on West End houses may fittingly be brought to a close.



NO. 82 MORTIMER STREET.
Prof. Beresford Pite, Architect.

The Village Railway Station. I.

BY CHRISTIAN MORGENSTIERNE.

IN most suburban towns or villages the station has, and makes for itself, the most important position of any of the public buildings. Aside from its value as civic beauty, a small park has been found to greatly increase the intrinsic value of railroad properties and often develops into a civic center of a small town.

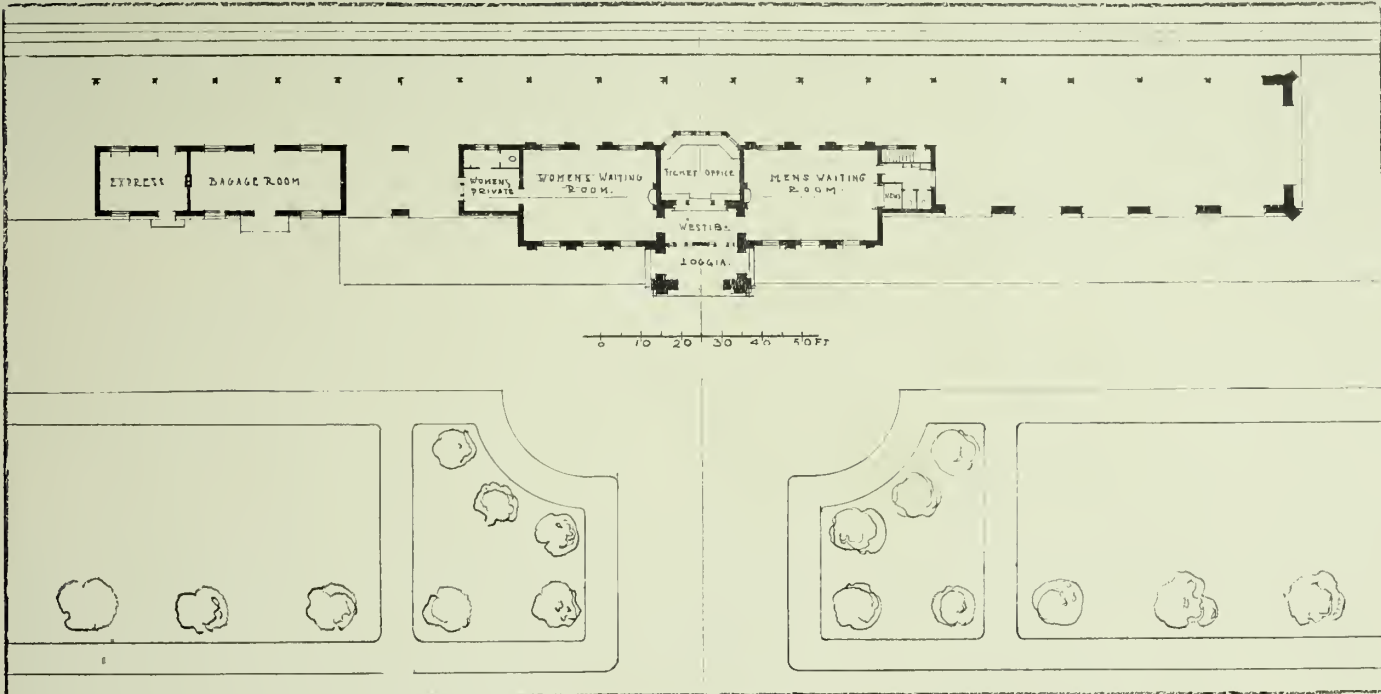
In the accompanying sketch the station is placed close to a public square surrounded by a large park, which is intended to be the pride of this little community. The public buildings previously published in *THE BRICKBUILDER* we will suppose are already placed facing this square and park. The passengers arriving at the station in carriages, etc., are driven to the covered loggia (on the town side away from the trains and foot passengers), and on entering directly face the ticket office, which is, as it should be, in a most prominent location. To the left is the women's room and to the right the men's. This system of dividing the station into two parts has this advantage, viz., that the men's room will be used by the smokers, and being a large room of importance it will of necessity be kept clean and provided with ample ventilation. As will be seen, a small private rest room is arranged for the women, with toilet room adjacent. This room should be decorated in such a manner as to make it restful and attractive, and should be supplied with one or two couches and comfortable chairs.

It is always advisable to project the ticket office towards the tracks in some sort of a bay window, so as to give the operator a view of all trains and as much of the platform as is possible.

The cutting of the station into two parts, as is done here, gives up the large airy general waiting room advocated by many of the roads. Arranged with the ticket office at one end and the drinking fountain at the other, it is much more desirable for larger towns and cities, and under special conditions necessitating larger women's and men's rooms, and will therefore take proportionately more ground than the plan here submitted. As a further objection the large waiting room usually allows for only a small smoking room, which is always objectionable.

The platform, covered with flat or very slightly pitched roof, has this great advantage, that it can be received on a broad transom bar, allowing the upper part of all openings to admit direct light into the waiting rooms. It has been found that platforms should hardly ever be less than sixteen feet wide and wider if possible. A train order room is only introduced where same is needed, being usually at division points, but does not often occur in ordinary suburban or village stations. The baggage and express rooms are placed as may be desired, more often combined in one rather than as here shown, and always of sizes determined by the amount of traffic and local conditions, there being no rule for their area.

The design of this station calls for a deep red paving brick (or its equal) with terra cotta trimmings and a soft green tile roof. In the interior all the rooms are to have tile floors except the ticket office. The baggage and



A VILLAGE RAILWAY STATION.
Christian Morgenstierne, Architect.

express rooms will have brick or concrete floors. The walls of waiting rooms and entry will be of semi-glazed terra cotta from floor up to the spring line of the arched openings, and above this line of plaster. The ceiling will be a plaster vault with delicately molded ribs.

A drinking fountain will be built into wall, to be made of white tile tied to the walls with colored tile faience running around the entire room as a border.

For a larger city station, or one used exclusively for the manufacturing districts, tile finish is the most durable, being, when properly designed and executed, dust and dirt proof.



Tiles may have both pattern and color, which if restrained will add a life and charm to our village railway station in sharp contrast to the dinginess of the great majority of those now extant.

Hardy shrubs and decorative trees shall be planted in the parkway near the station; bright coarse sand shall cover the walks, for it is our desire that this gateway to our homes shall be made simply attractive without being gaudy, bespeaking the traits of the townspeople, who, although not far removed from the hustle of a great civic center, are yet enabled to lead for at least a portion of each day the simple life.

abled to lead for at least a portion of each day the simple life.

Editorial Comment and Selected Miscellany

THEATER FIRES.

IN most of our theaters a curtain of woven asbestos run in metal grooves is accepted as sufficient protection against the spread of fire. As a matter of probability no theater curtain of any sort could be depended upon for an extreme sudden emergency. Some of the experiments in this direction which have recently been conducted in Vienna are quite illuminating in their results. Of course the temporary theater in which the experiments were made of necessity could not reproduce all the conditions of an actual building, but they were nevertheless sufficiently close to practice to offer some fertile suggestions.

In the first experiment a fire was lighted on the stage,



DETAIL OF THE NEW CHRISTIAN SCIENCE CHURCH, BOSTON.

Charles Brigham, Architect.

Roofs of Domes built of Architectural Terra Cotta made by Atlantic Terra Cotta Co.

the ordinary curtain dropped, the ventilators in the auditorium opened and those on the stage closed. In less than two minutes the curtain gave way, the entire theater was enveloped in flames and conditions created which would have been fatal to life. In a subsequent experiment the conditions were identical, except that an iron curtain was lowered. The reports do not concise the condition of the curtain after a few moments, but they do say that its protective powers proved quite illusory and the flames burst forth in the auditorium with greater violence, if possible, than before. It is practically impossible to construct an absolutely reliable fire curtain and to have it properly used as a guard in a sudden emergency. If actors were all willing to sacrifice themselves



HOUSE AT COLUMBUS, OHIO.

F. L. Packard, Architect.

Roofed with Old Shingle Tile made by Ludowici-Celadon Co.

for the sake of the audience, keeping the stage ventilators open and closing the fireproof curtain upon the appearance of the fire on the stage, the audience could undoubtedly be taken care of, but it would be expecting too much to suppose that any company of stage hands would so consent to shut themselves into a fiery furnace. We would not argue from this that fire curtains are of no value, but rather that they are of slight efficiency unless supplemented by a full equipment of sprinklers, automatic alarms and fire hose under the control of a trained fire department.

STRENGTH A FEATURE OF BUILDING LAWS.

THE San Francisco *Chronicle* reports the progress which is being made toward the elaboration of a new building law for the city of San Francisco. Of course it is hardly fair to judge of so technical a thing as the building law by any report which would come through the medium of the newspaper reporter, but the *Chronicle's* summary indicates, at least in a measure, how lax the laws in San Francisco must have been previous to the fire. The clauses in the proposed law which most interest the newspaper seem to be those relating to strength of material, but any educated architect or engineer reading these would see that they are simply a presentation of the requirements which have been enforced for years in most of our large cities. After all, what San Francisco



DETAIL BY JOHN E. KIRBY, ARCHITECT.

South Amboy Terra Cotta Co., Makers.



DETAIL BY GEORGE B. POST & SONS,
ARCHITECTS.

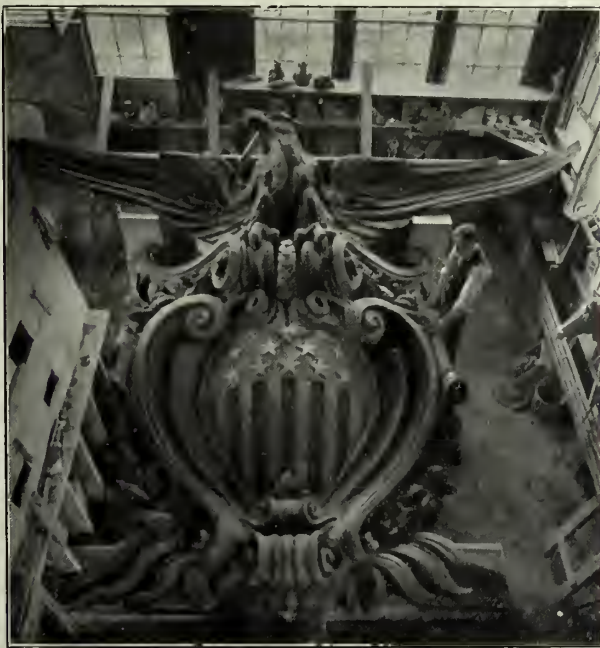
Perth Amboy Terra Cotta Co., Makers.

most needs is not mere strength for quiescent loads in buildings, but more rigid enforcement of laws relating to fireproofing and especially to lateral bracing.

HOTEL ALEXANDER, SAN FRANCISCO.

THE Hotel
Alexander
in San Francisco

is a structure eleven stories high, with a frontage of only thirty-five feet, the narrow width corresponding with the direction in which it appears the greatest movement took place during the earthquake. One of the fronts is constructed of gray sandstone blocks. The other walls consist throughout of red brick, and the noticeable feature is that these walls are all carefully attached to the steel skeleton by anchor bolts carried through the wall with



DETAIL FOR AMERICAN TRUST AND SAVINGS BUILDING,
CHICAGO, ILLINOIS.

(Spread of Wings, Eighteen Feet.)

American Terra Cotta & Ceramic Co., Makers.

iron plates on the exterior face. This construction was barely completed at the time of the fire and apparently very little damage was done to it. Of course the finish was entirely destroyed by the fire, and the stone was slightly chipped in places about the openings, but as a structure it appears to be perfectly intact to-day. This is an illustration of the point upon which we have so frequently insisted, namely, that our knowledge of construction is to-day amply sufficient to permit us to erect build-

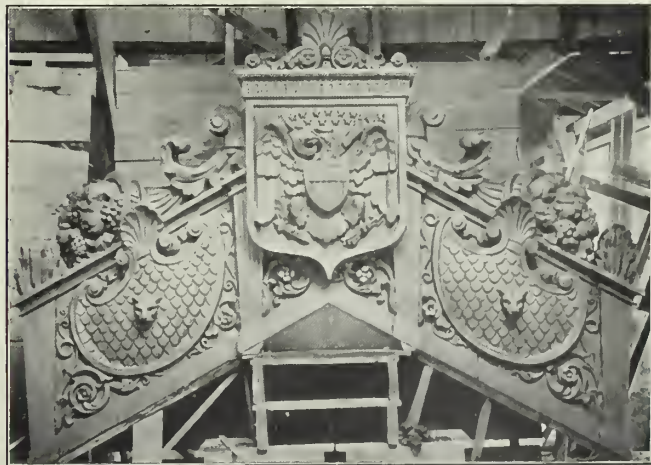


DETAIL OF PUBLIC LIBRARY, UNION HILL, N. J.

Albert R. Ross, Architect.

New York Architectural Terra Cotta Co., Makers.

ings of even more than usual height which shall be practically proof against destruction by fire or even by an earthquake similar to that which occurred in San Francisco. The difficulty is that we so seldom actually apply this knowledge in our construction. The fatal haste which is a ruination of all good construction impels most owners and builders to neglect those precautions which, while perhaps in a way extraordinary and intended to provide only against extreme perils, are nevertheless



DETAIL FOR NEW WAR COLLEGE, WASHINGTON, D. C.

McKim, Meade & White, Architects.

Brick, Terra Cotta & Tile Co., Makers.

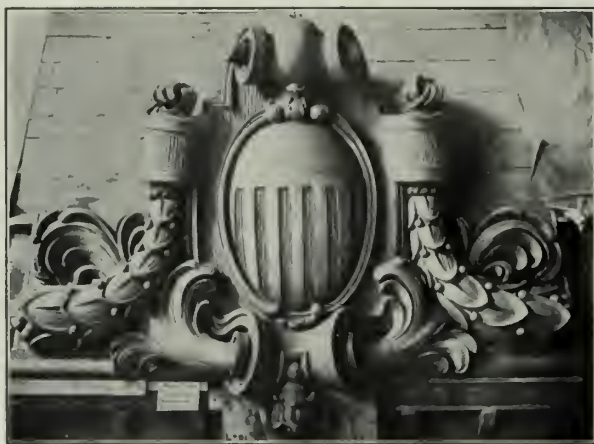


A PANEL IN FAIENCE TILES.
Made by Hartford Faience Co.

essential functions of a thoroughly well constructed modern building. The added cost of such thorough bonding and tying as was adopted in the Hotel Alexander is too inconsiderable to be thought of. The added security in the structure itself is, no doubt, fully appreciated now by the owners of this building.

STUDY OF THE ORDERS.

THIS book on the Orders consists of three of the regular instruction papers of the American School of Correspondence in Chicago, with the accompanying plates



TROPHY IN PARAPET.
Northwestern Terra Cotta Co., Makers.

which were prepared with the special purpose of giving the student a clear, concise description of the Orders and the system of proportions to which they were reduced by the Renaissance architects. The volume forms a very convenient reference book for any architectural draughtsman, and would prove of value to the architect in practice. Indeed, it would be a very excellent book to have in every draughting room. The illustrations are both from photographs and from drawings, and show the standard examples which are recognized as classic by architects everywhere. Some of the text is necessarily more or less dogmatic, as when it states that "the designing of buildings consists in a graphic representation of their intended

shapes and sizes," and that "an architect uses mechanical drawing to express his ideas;" but on the whole there is really very little to object to in the volume. The drawings are clean and clear and the text is quite free from superfluity. It is the best school work upon the subject which we have seen.

BUILDING OPERATIONS FOR MAY.

REPORTS from some fifty of the leading cities of the country, received by *The American Contractor*, New York, tabulated and compared with those of the corresponding month of last year, show that the building operations of May, 1906, fully justified the predictions made in their report. Two-thirds of the cities show an increase



DETAIL BY ST. LOUIS TERRA COTTA CO.
Root & Siemens, Architects.

over the operations of 1905. In Greater New York the gain is small, only one per cent, but this is a remarkable showing when the enormous, record-breaking business of last year, with which the comparison is made, is taken into account. Chicago breaks all its records with \$6,494,220, a gain of sixty per cent over May, 1905. The percentage of gain in other leading cities is as follows: Atlanta, 34; Bridgeport, 167; Buffalo, 60; Cleveland, 17; Duluth, 110; Harrisburg, 112; Louisville, 50; Nashville, 130; Newark, 26; New Orleans, 48; Omaha, 75; Philadelphia, 11; Portland, 307; St. Louis, 14; St. Paul, 49; Seattle, 30; Syracuse, 34; Toledo, 93; Tacoma, 111; Wilkesbarre, 271. The following figures show the losses reported in leading cities: Cincinnati, 44; Denver, 26;



RAILROAD STATION, PINE LAWN, N. Y.
Palmer & Hornbostel, Architects.
Roofing Tile made by Cincinnati Roofing Tile and Terra Cotta Co.



UNITED STATES POST OFFICE, CHAMPAIGN, ILLINOIS.

James Knox Taylor, Architect.

Entire Trim made by the Excelsior Terra Cotta Co.



THE REPUBLIC BUILDING, CHICAGO.

Holabird & Roche, Architects.

Fireproofed throughout by National Fireproofing Co.

Indianapolis, 35; Kansas City, 17; Milwaukee, 23; Minneapolis, 25; Mobile, 67; New Haven, 34. Some of the cities showing a loss have had a building boom for some years past and diminished building was almost a matter of necessity. Taken altogether, the report is of a most satisfactory and encouraging character and leaves no reason to doubt but what the building operations of the season now fairly under way will break all records. This seems all the more remarkable when it is understood that both wages and building materials are now ruling very high.



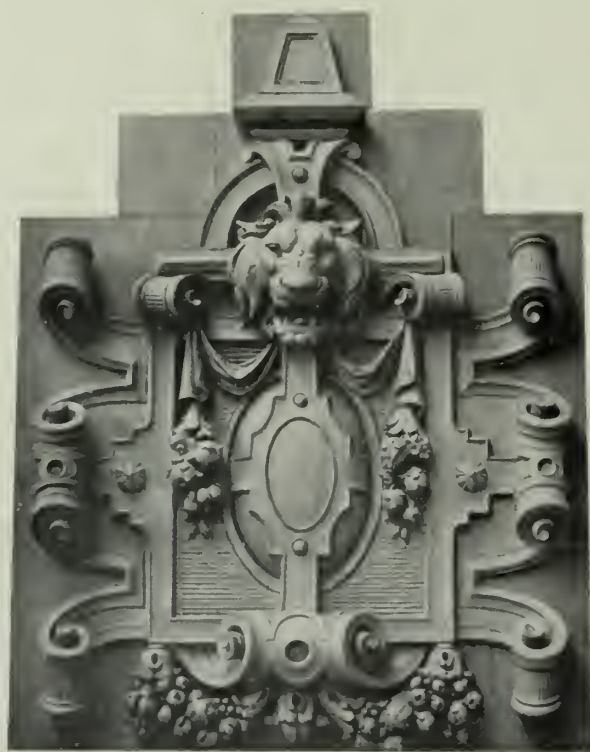
APARTMENT HOUSE, NEW YORK CITY.

Moore & Landsiedel, Architects.

Faced with Brick made by Kreischer Brick Manufacturing Co.

ENAMELED BRICKS AND CLEAN FOOD.

THE "New York Model Plant," referred to in the report concerning the condition of the packing houses in Chicago, is the new abattoir located at 39th Street and 11th Avenue, Horgan & Slattery, architects. The report says: "The lower side walls are covered with white porcelain brick. When the slaughtering of each day is finished, water is turned on and in not more than fifteen minutes the room is so thoroughly cleansed that all perceptible odors and traces of the work are removed. . . . White porcelain lined bricks and curved tiles join floors and side-walls that no corners may retain dirt and refuse." The building of such a model plant was not the outcome of an *exposé*, but rather a rational treatment of a commercial problem by men who knew right from wrong. "Lined throughout with enameled brick" would be a good headline for advertising any packing plant. The bricks and special shapes employed in this model abattoir were furnished by the American Enameled Brick and Tile Company.



DETAIL BY GEORGE KIESTER, ARCHITECT.
Conkling-Armstrong Terra Cotta Co., Makers

IN GENERAL.

The new Carnegie Library at West Philadelphia, C. C. Zantzinger, architect, illustrated in *THE BRICKBUILDER* for May, was built above the base course of a dull finish white enameled terra cotta, closely resembling marble. The material was furnished by the Conkling-Armstrong Terra Cotta Company.

The new group of buildings being erected at Eddystone, Pa., for the Baldwin Locomotive Works, are of hollow tile fireproofing blocks.

Gladding, McBean & Co., San Francisco, whose offices

were destroyed by earthquake and fire, have relocated at 1611 Franklin Street, San Francisco.

The new Courthouse at Utica, N. Y., will be built of light gray Roman brick furnished by the Ohio Mining and Manufacturing Company.

The South Amboy Terra Cotta Company will supply their terra cotta for the new Mercantile Building, corner Fifth Avenue and 15th Street, New York City; also for the Roman Catholic Church at Wilkesbarre, Pa., Owen McGlynn, architect. Both glazed and colored terra cotta will be used in the church.

The Ludowici-Celadon Company, manufacturers of terra cotta roofing tiles, now have offices under direct management of their own experienced men in seven leading cities of the country: New York, Chicago, Cleveland, Philadelphia, Pittsburg, New Orleans and Denver. They also have agents in nearly all the other large cities.

The new group of buildings for the McDonald University, Montreal, will be roofed with a red Spanish interlocking tile, made by the Ludowici-Celadon Company. This is one of the largest roofing tile contracts ever let, requiring several thousand squares. The same company will furnish their Conosera tile for four of the new buildings composing the terminal of the Pennsylvania Railway Company at Washington.

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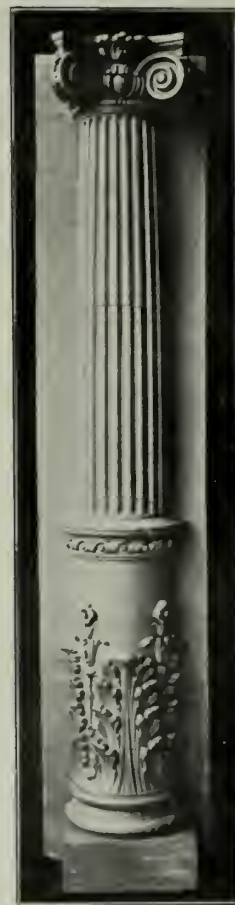
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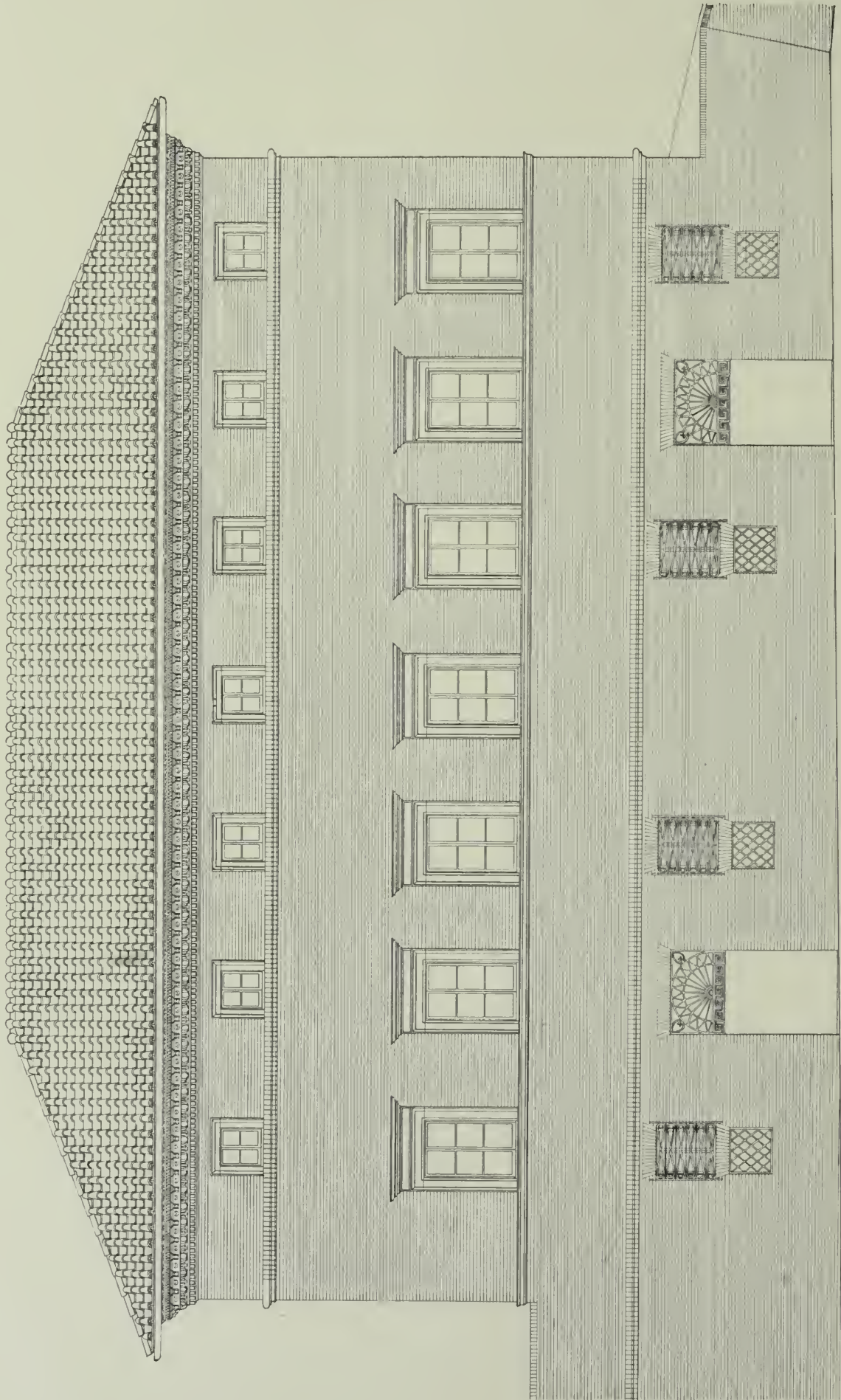
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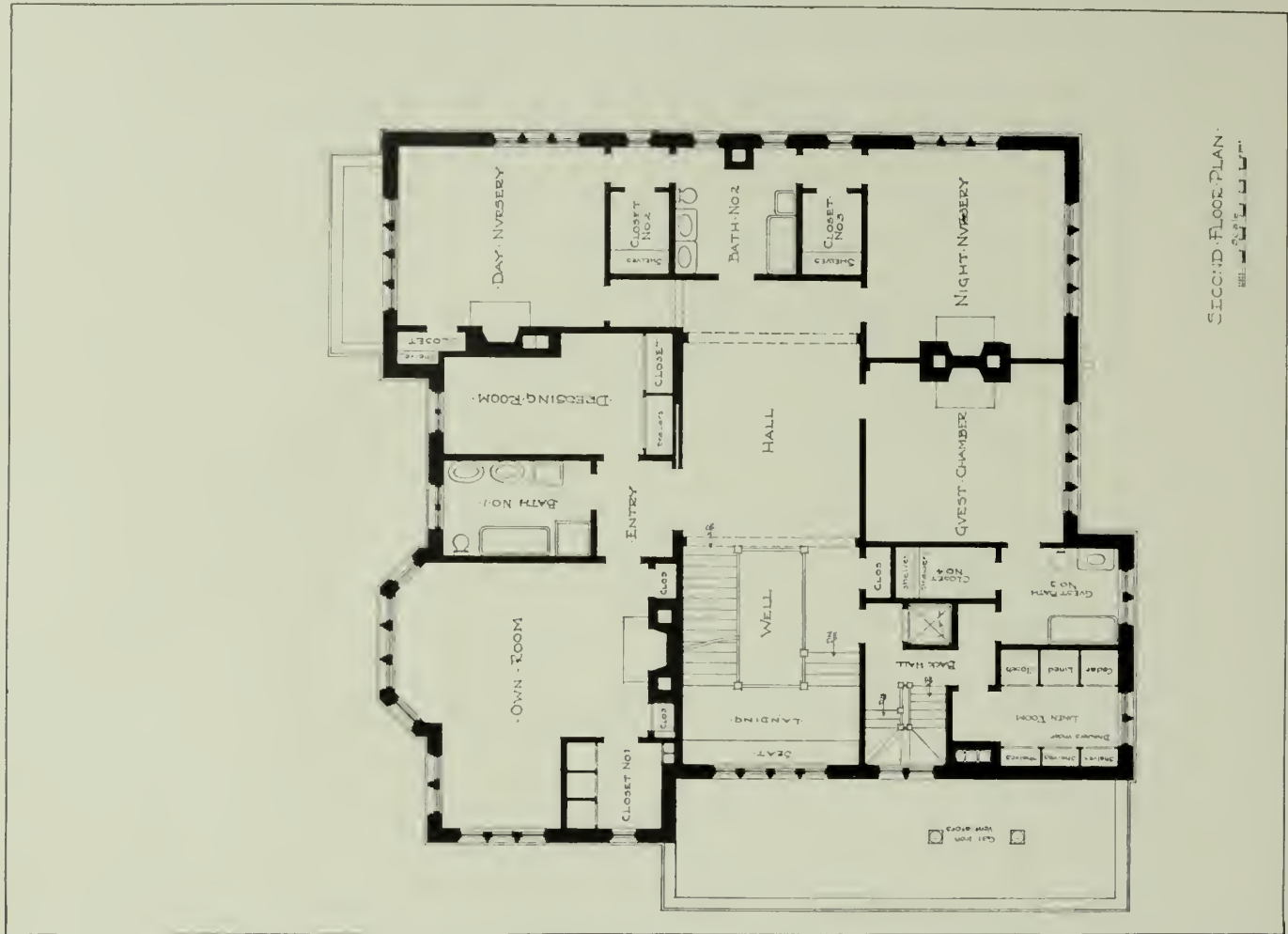
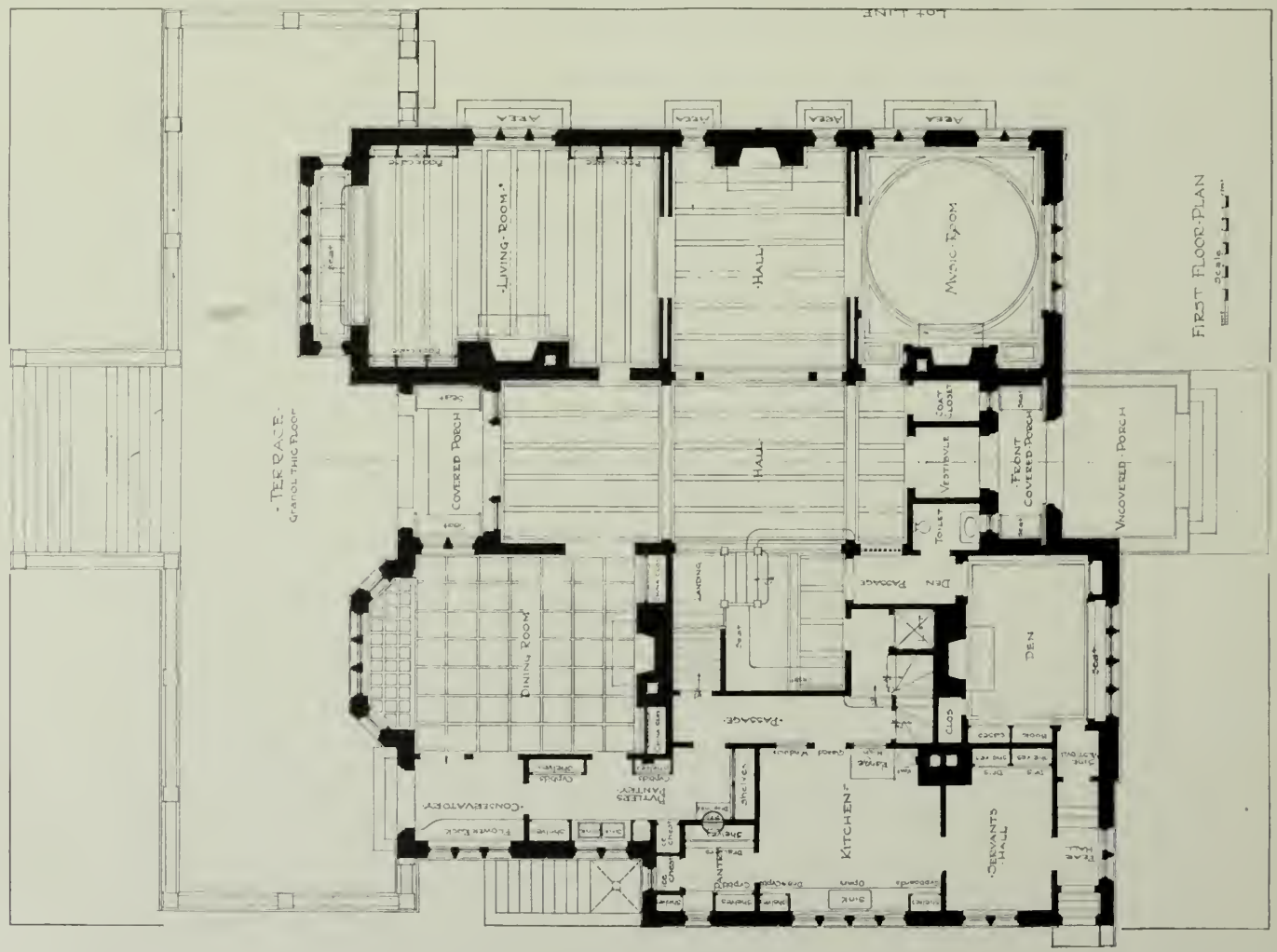




THE CASA POLLINI, SIENA, ITALY. A CLASSIC OF THE ITALIAN RENAISSANCE.

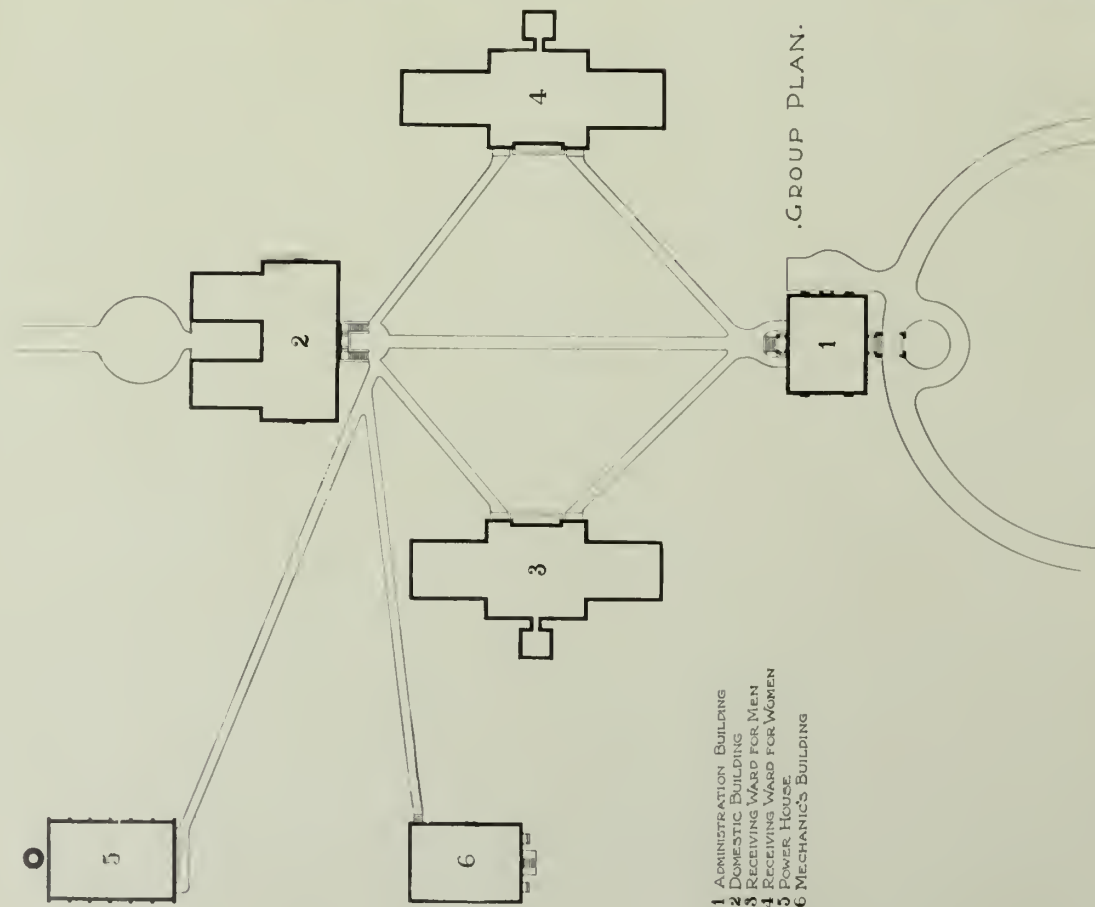
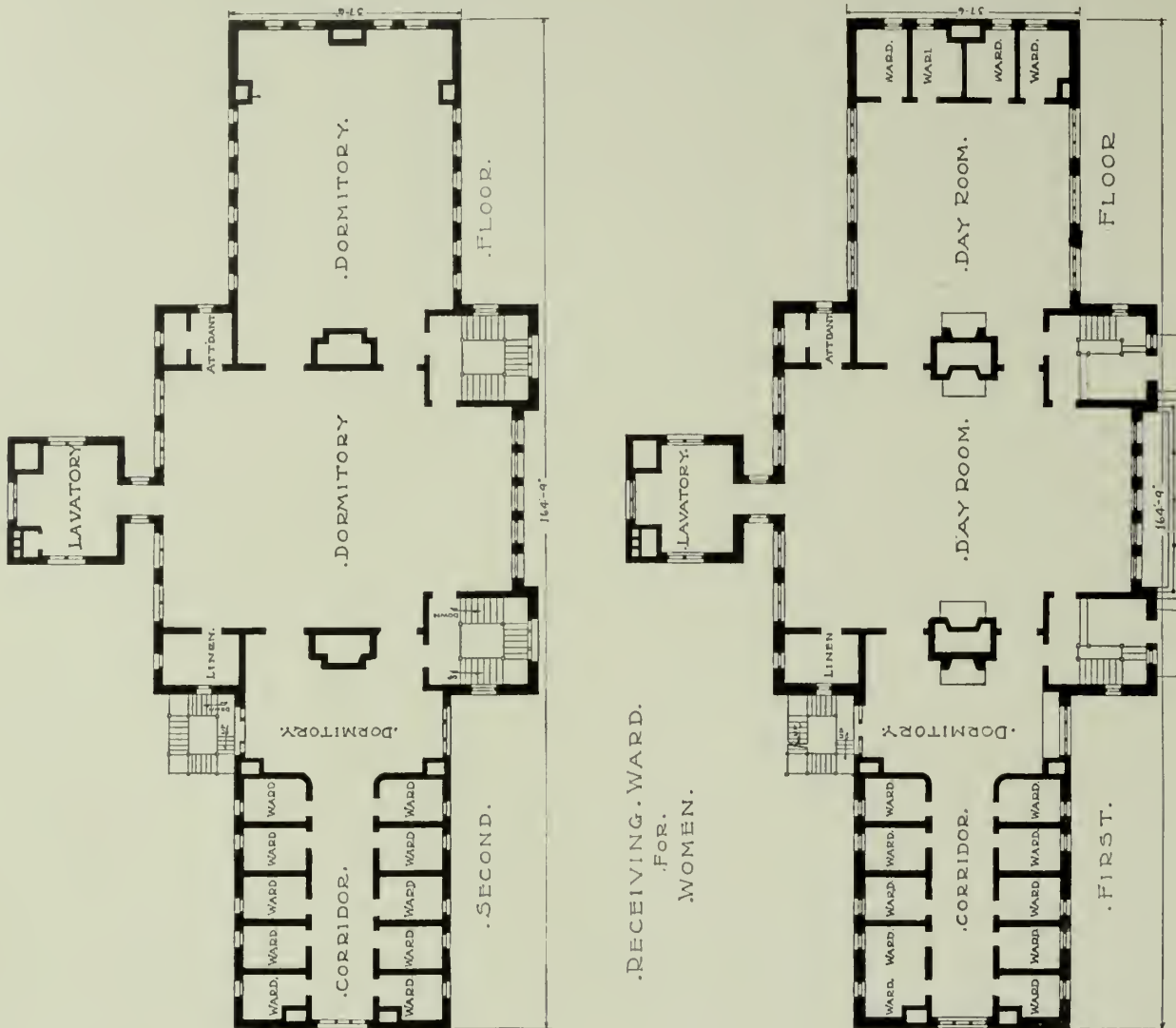
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HOUSE FOR EMORY W. CLARK, ESQ., DETROIT, MICH.
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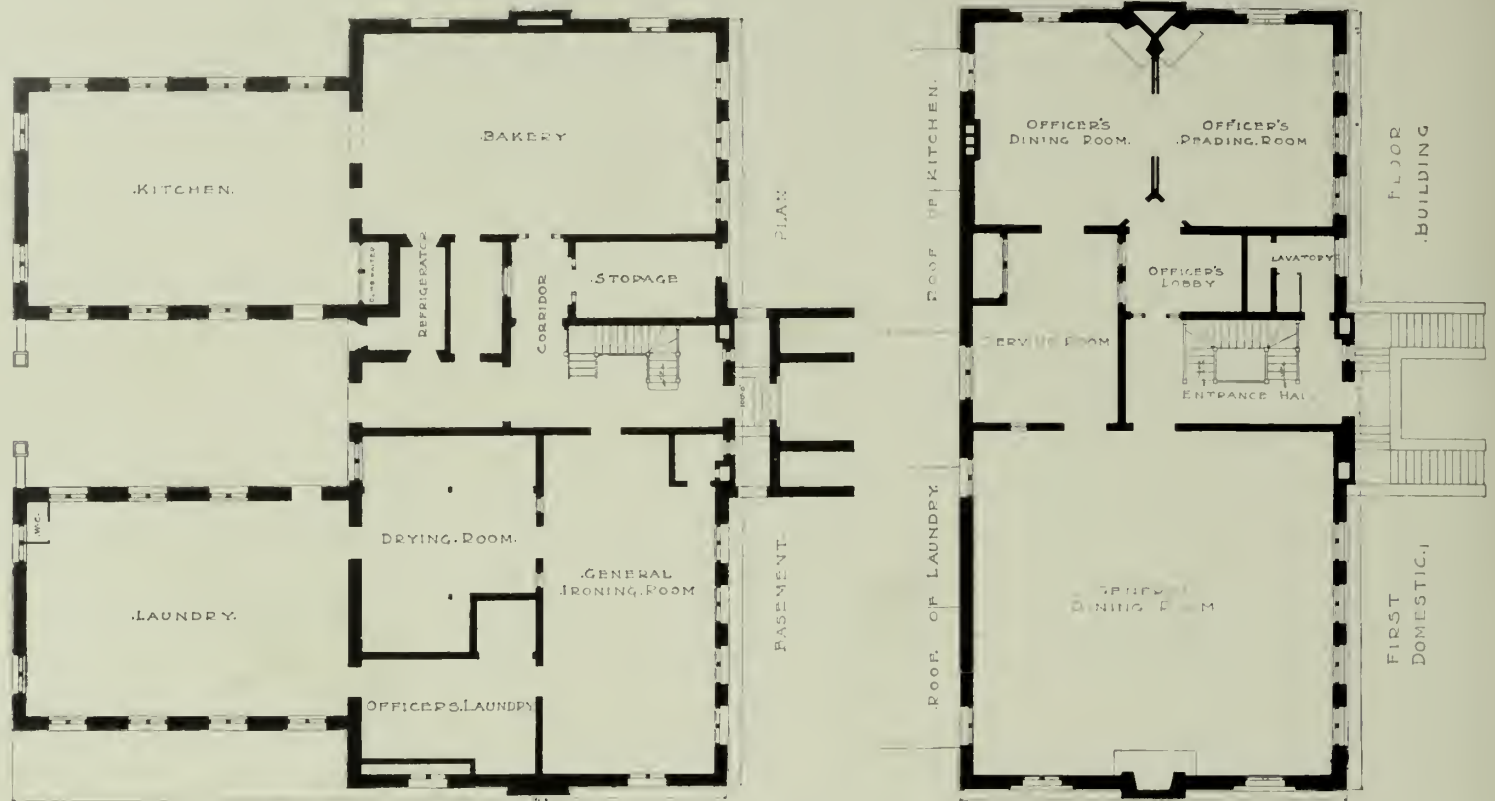




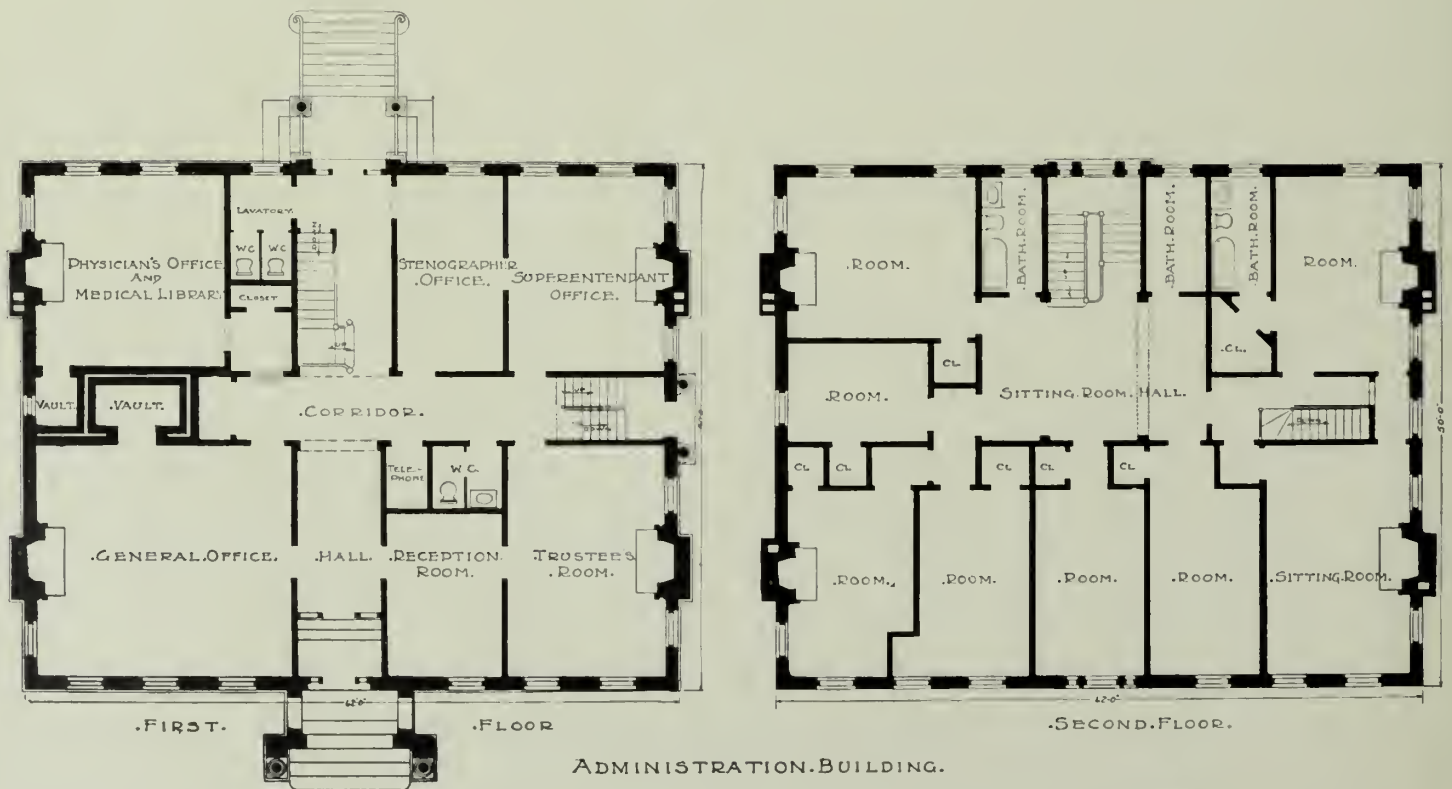
- 1 ADMINISTRATION BUILDING
- 2 DOMESTIC BUILDING
- 3 RECEIVING WARD FOR MEN
- 4 RECEIVING WARD FOR WOMEN
- 5 POWER HOUSE
- 6 MECHANICS BUILDING

This plan and accompanying illustrations represent only the central administration and distributing group. The permanent residences of the colony group are scattered at considerable intervals over a territory of about eighteen hundred acres.

STATE COLONY FOR THE INSANE, GARDNER, MASS.
JOHN A. FOX, ARCHITECT.



PLANS, DOMESTIC BUILDING.



ADMINISTRATION BUILDING.

CARRIAGE PORCH.



STATE COLONY FOR THE INSANE, GARDNER, MASS.

JOHN A. FOX, ARCHITECT.



DOMESTIC BUILDING.

STATE COLONY FOR THE INSANE, GARDNER, MASS.

JOHN A. FOX, ARCHITECT.



ADMINISTRATION BUILDING.



RECEIVING WARD FOR WOMEN.

RECEIVING WARD FOR MEN (SEE BLOCK, PLAN 3) IS THE SAME IN EXTERIOR DESIGN AND ALMOST IDENTICAL IN PLAN.
STATE COLONY FOR THE INSANE, GARDNER, MASS.

JOHN A. FOX, ARCHITECT.





HOUSE FOR HOWLAND S. RUSSELL, ESQ., MILTON, MASS.

PARKER & THOMAS, ARCHITECTS.



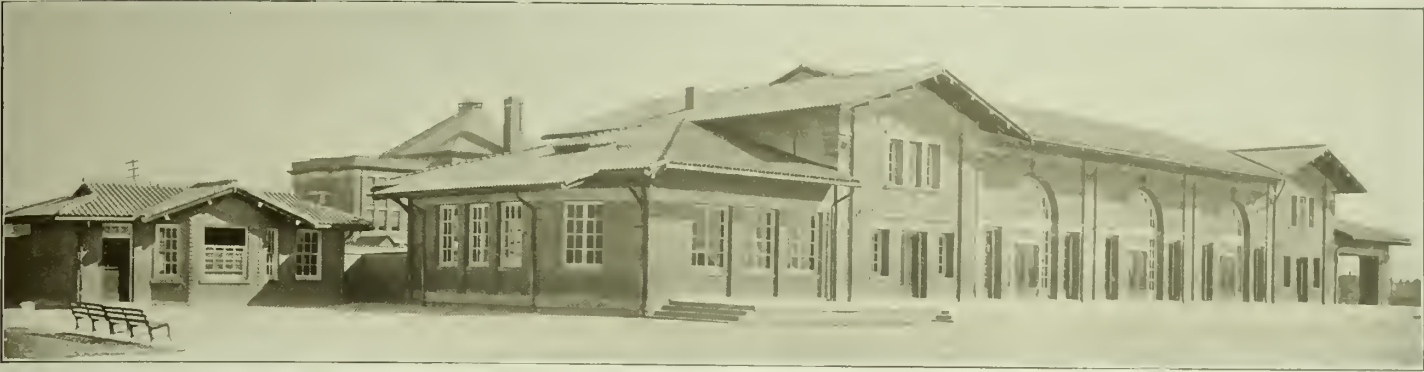
HOUSE AND STABLE FOR W. D. SAWYER, ESQ., MILWAUKEE, WIS.

PARKER & THOMAS, ARCHITECTS.

(BUEMMING & DICK ASSOCIATED.)



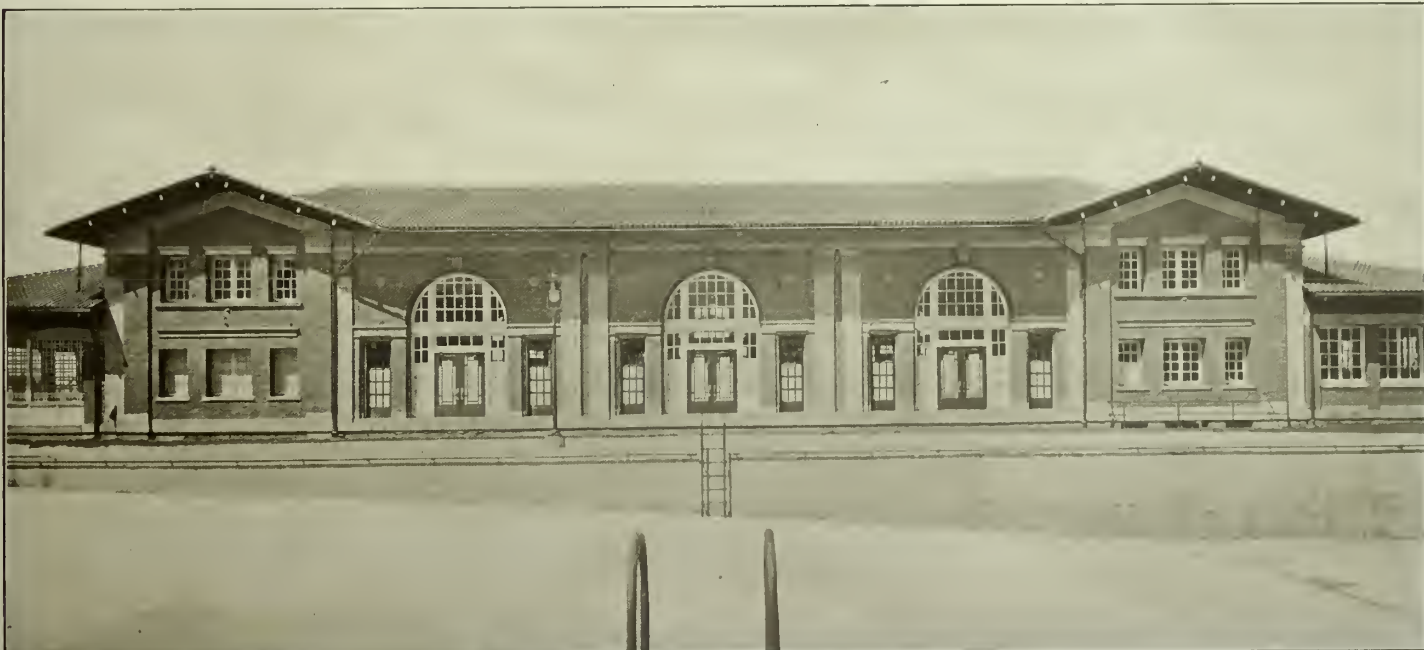
HOUSE FOR EMORY W. CLARK, ESQ., DETROIT, MICH
GEORGE HUNT INGRAHAM, ARCHITECT.



FACADE FACING PARK.



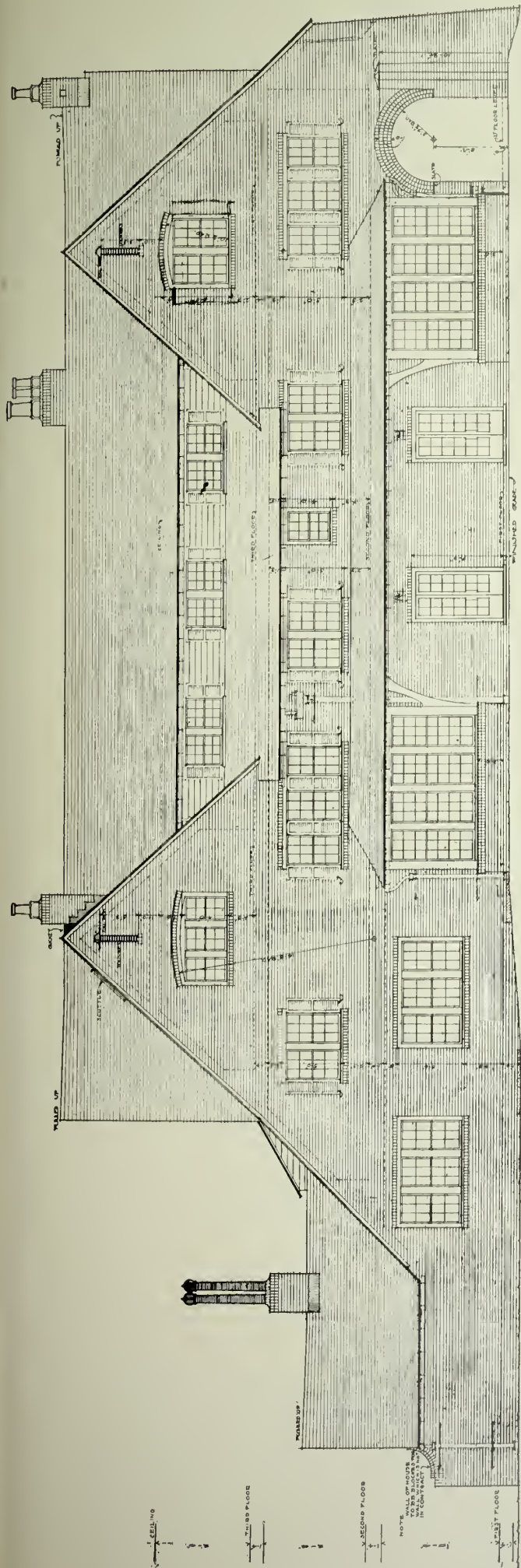
DETAIL OF FACADE.



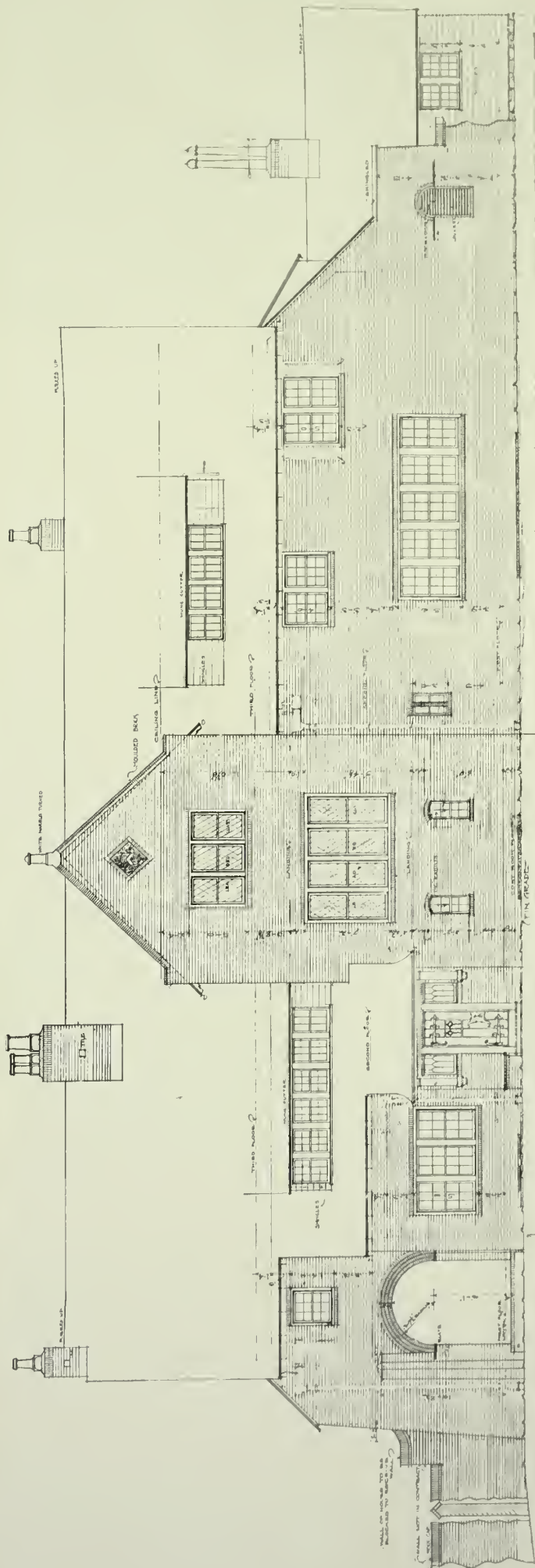
LOOKING ACROSS THE SWIMMING POOL.

MUNICIPAL FIELD HOUSE, OGDEN PARK, CHICAGO.

D. H. BURNHAM & Co., ARCHITECTS.

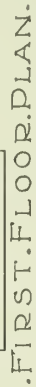
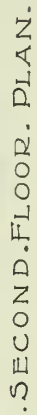


EAST ELEVATION.



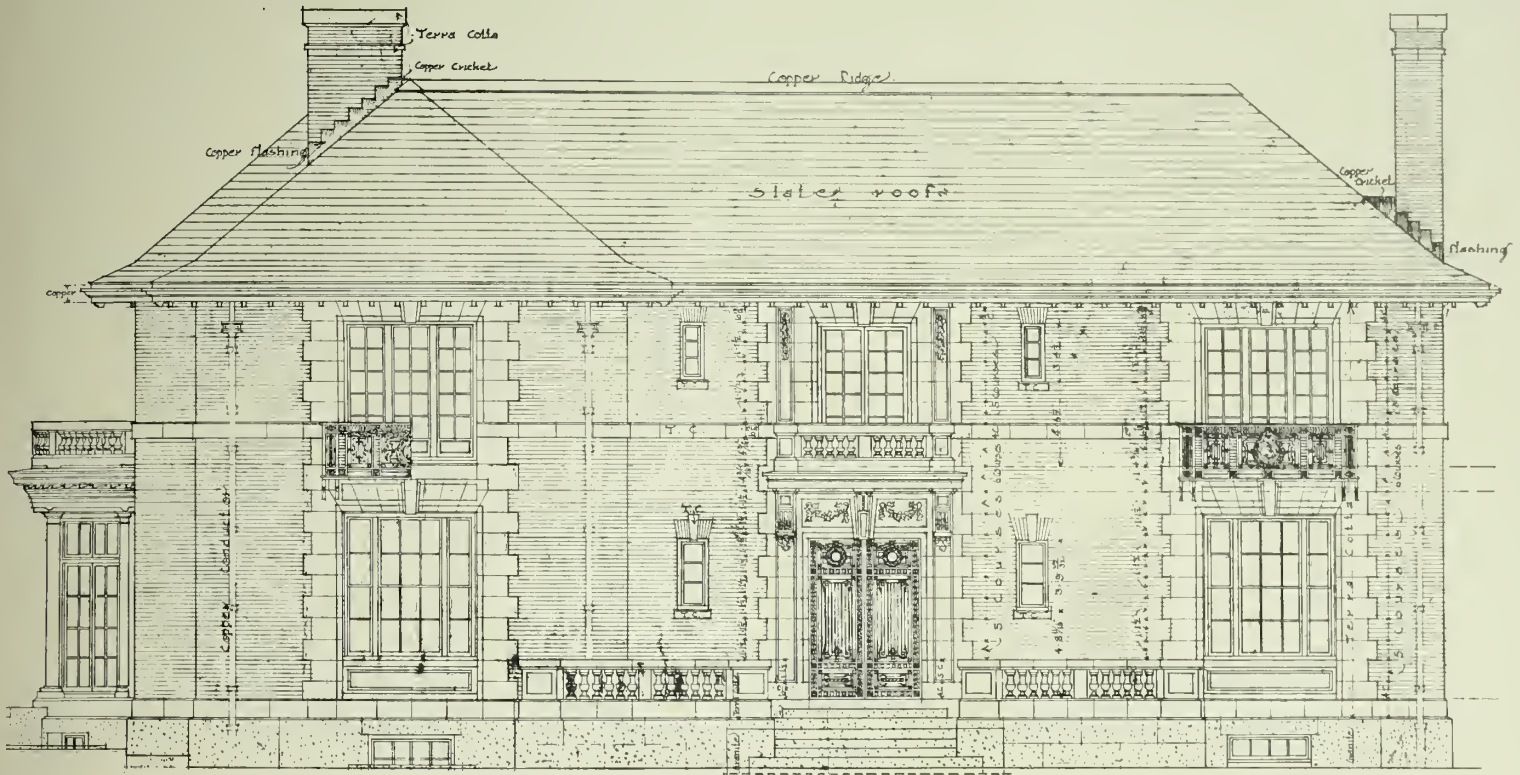
WEST ELEVATION.

HOUSE FOR HOWLAND S. RUSSELL, ESQ., MILTON, MASS
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HOUSE FOR HOWLAND S. RUSSELL, ESQ., MILTON, MASS.

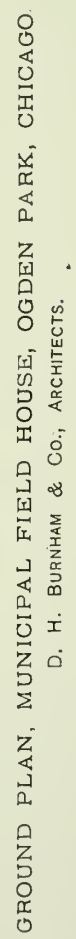
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FRONT ELEVATION.



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THE BRICKBUILDER

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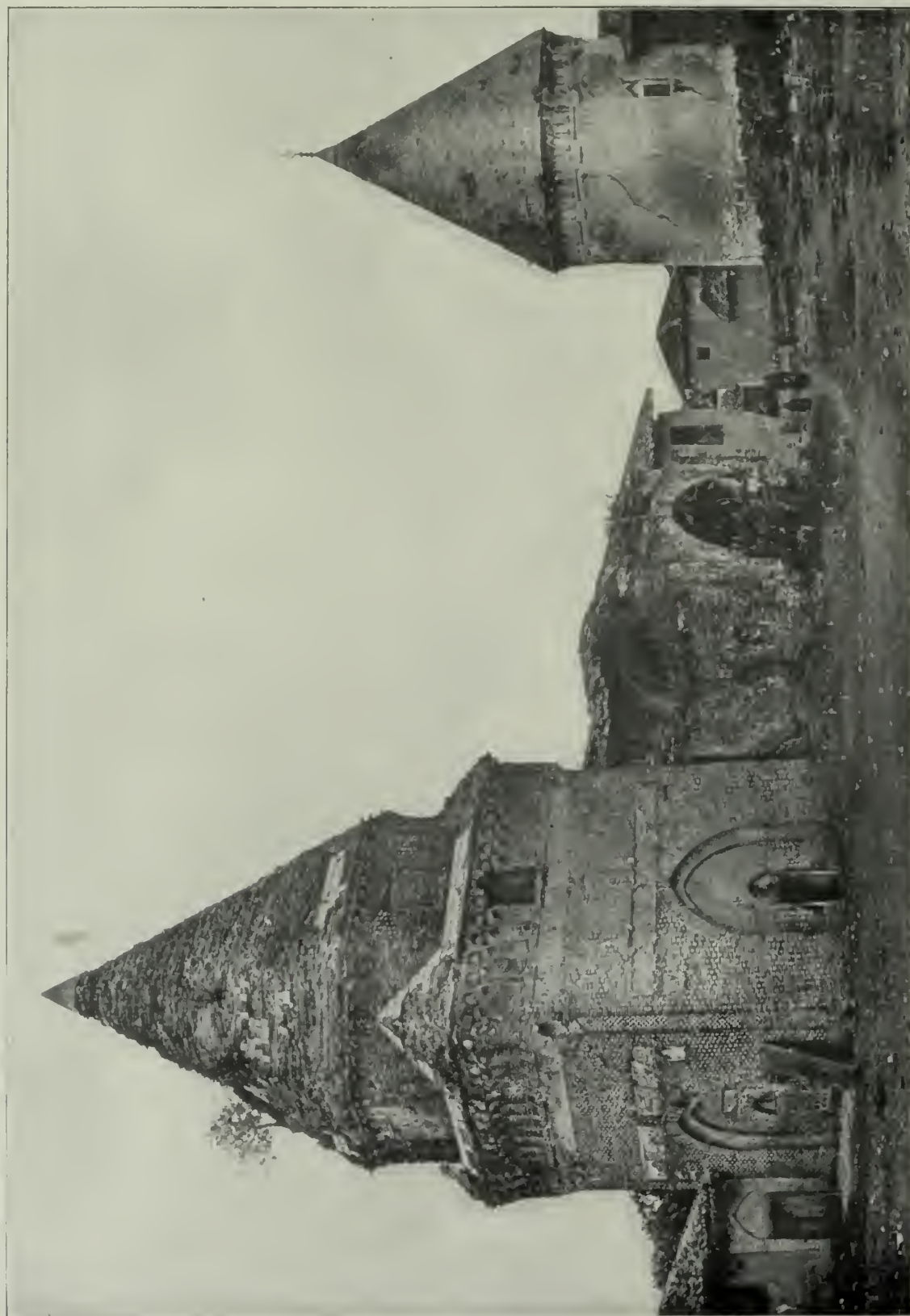
PLATE ILLUSTRATIONS

FROM WORK BY

RICHARD B. VAN DER BOIJEN, FRANK CHOUTEAU BROWN, FRANK FREEMAN, HOWARD
VAN D. SHAW, ROBERT C. SPENCER, JR., ITALIAN CORNICES, WILL S. ALDRICH, DEL.

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MAUSOLEUMS AT SARI, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 8 DEVOTED TO THE INTERESTS OF
ARCHITECTURE IN MATERIALS OF CLAY AUGUST 1906

The Seventh International Congress of Architects.

THE Congress just closed in London was probably the largest gathering of architects ever held. There were nearly seventeen hundred in attendance, including seven hundred foreigners. Numbers, however, were not all; it included men of ability and distinction, some of the foremost men of our profession from twenty-two different countries. The subjects presented too, were without exception of the broadest international importance and were discussed by men of world-wide reputation. The visits and excursions were made to places of the greatest architectural interest and beauty. The receptions held in our honor at the Royal Academy, the Lord Mayor's and elsewhere were most flattering, and last but not least the cordial and hearty good fellowship extended by our English hosts was such as to be long remembered.

The only criticism which might be brought, if such it be, was that of embarrassment of riches. There was almost too much to do and too many subjects for discussion, so many in fact as to necessitate these being carried on in two different places simultaneously.

Those who have not attended these great international gatherings question their real value, for no matter how interesting, instructive and really wise the discussions and conclusions may be, the Congress has no real executive power, and cannot enforce its principles. Nevertheless, that it has a real power and far-reaching influence for good is unquestionable, at least to those who are familiar with its workings.

The Congress was officially opened Monday, July 16, and closed with a farewell banquet the following Saturday, but the real opening, for us Americans at least, was the dinner given Saturday evening, July 14, by Mr. Owen Flemming, to the British members of the American Institute of Architects, and to which all the American members in attendance at the Congress were invited. This was a most charming and informal affair and gave an opportunity at the outset of meeting many of the distinguished men who were to be our hosts the following week.

The inaugural meeting was held at three o'clock, Monday afternoon, in the Guild Hall, an interesting mediæval structure corresponding to a town hall. His Grace the Duke of Argyll presided. There were also present H. R. H. the Princess Louise, the Lord Mayor of London, his sheriffs in the full regalia of their office,

foreign diplomats, including the American Ambassador, Hon. Whitelaw Reid, Sir Alma Tadema, Sir W. R. Richmond, Sir Aston Webb and Professor Aitchison.

The Congress was formally opened with an address by the president, Mr. John Belcher, who is also president of the Royal Institute of British Architects. In welcoming the members he referred to the interest taken in the Congress by His Majesty King Edward and the Prince of Wales and of the gracious presence of H. R. H. the Princess Louise, herself a sculptor of distinction. The address was very modest, full of thought, and the welcome most cordial and sincere. Mr. W. J. Locke, the secretary, and upon whom devolved the great work of preparation and organization of the Congress, stated that over twenty-five thousand circulars had been distributed and that he believed that every practising architect the world over had received notice of the Congress; that many governments had appointed delegates as well as one hundred and one architectural societies. The official delegates from the United States were George B. Post, W. L. B. Jenney, Frank Miles Day, W. S. Eames, Glenn Brown, Francis R. Allen and George Oakley Totten, Jr. Replies to the president's address were made by a delegate from each country, Mr. George B. Post responding for America.

The inaugural speech was made by the Duke of Argyll, who also welcomed the members and gracefully referred to all the countries represented, especially America. These inaugural meetings of the Congress are always formal and impressive and presided over by some high dignitary of state. At the Brussels Congress, held in 1897, King Leopold attended in person. In the evening the members were tendered a reception by the Royal Academy of Arts, at Burlington House.

On Tuesday, at 10 A. M., the Congress convened for the discussion of papers at the rooms of the Institute and the Grafton Galleries. There had been selected an English and foreign honorary president and secretary for each subject. America was given two honorary presidents, Messrs. Frank Miles Day and W. S. Eames, and one honorary secretary, Mr. George Oakley Totten, Jr. Mr. Reginald Blomfield and Sig. Cannizzaro presided at the Institute rooms. The first paper was on "The Chateaux of St. Germain," by M. Daumet, the restorer of Chantilly.

The first subject presented was "The Execution of Important Government and Municipal Architectural

Work by Salaried Officials." This resulted in a spirited discussion. Such men as Herr Otto Wagner, the entire Belgian Society, Mr. G. H. Fellowes Prynne, Professor Nagy (Hungary), M. Jules de Bercyik (Budapest), and others maintaining that the "official architect" was liable to be too swamped in red tape officialism to devote any serious thought to artistic considerations. That, further, he was under the surveillance of a higher official who was not likely to have any sympathy for or appreciation of art of any kind. They maintained that such offices should exist but be confined to purely practical, technical and economic considerations, but never artistic. Mr. F. E. P. Edwards of Bradford and Mr. W. E. Riley, architect of the London County Council, argued for the official architect but against surveyors and others without the title and proper training. The general impression given by the discussion was that the work done by private architects was likely to be superior to that of the officials in all countries except France and possibly Germany. M. Poupinel argued that in France the very object of the Ecole des Beaux Arts was the training of men for such position, and that the official architects of France were those who had received the Grand Prix de Rome.

The resolution of the meeting as finally adopted was:

"That in the future in the interests of the administrations and the public and in the higher interests of the art of architecture, public bodies, whether government, provincial or municipal, should entrust works of architecture only to qualified professional architects either by competition or otherwise."

At the Grafton Galleries, Mr. Frank Miles Day presiding, the subject under discussion was "Steel and Reinforced Concrete." The æsthetic view of the matter was developed by Professor Cloquet, Belgium, and Mons. Augustin Rey and Ellis Marsland of France, while no very valuable paper on its practical application was presented. Mr. George B. Post said that the architects of large practice in America used ferro-concrete with considerable trepidation, from the fact that there were no established constants which could be employed in computing the strains.

Two excursions were arranged for the afternoon, one to Hampton Court and the other to Hatfield House. A special train was provided to take the members to visit the latter, the famous old home of the Marquis of Salisbury, and about six hundred ladies and gentlemen availed themselves of the opportunity of seeing this historic house. The visitors were received by Col. Eustace Balfour, who gave a short history of the building. The house is too well known to need special description. It may be of interest, however, to note that this is one of the first mansions in England to possess a basement story, and shows in this, as well as in many other respects, the Italian influence. The interior is very rich, and there is a remarkable wealth of oak-paneled walls, elaborate marble chimney-pieces and ornate plaster ceiling in gilt and colored armorial decoration. Hatfield, too, is beautiful in its setting. The park contains all the charms to be found in the English garden, — formal in treatment directly about the house and wild and picturesque in the middle and far distance. At five o'clock tea was served in a quaint old inn, and the members of the Congress returned to town well content both with the excellent

arrangements, the delightful cordiality they had received and the interesting and beautiful things they had seen.

The meeting at the Institute rooms Wednesday morning was presided over by Dr. H. Muthesius (Germany), and the subject discussed was "The Organization of Public International Competition." A very admirable and concise paper was presented by M. Gaudet of Paris, while one advocating almost the same principles was presented by the "Society Architectura et Amicitia" (Amsterdam). In both, preliminary and final competitions were advocated. In these papers it was also argued that the competition is for the production of merely a preparatory scheme and not the final design. The resolution adopted referred the matter to the Permanent Committee for consideration and report at the next Congress.

The subject, "Ownership of Architects' Drawings," was discussed under the presidency of Mr. W. S. Eames. Mr. Heathcote Stratham presented a resolution asking the members of the Royal Institute to urge the passage of a bill by Parliament to make the Institute's scale of charges a law. Dr. Muthesius said that the paper referred only to England, but that the subject was an international one. After further discussion by M. Harmand, Messrs. Middleton, Hudson, Kersey, Read, Berry and others, the following resolution was passed:

"That this Congress is of opinion that the architect is employed for the production of a building, and that all drawings and papers prepared by him to that end are undoubtedly his property."

In the afternoon visits were made to Buckingham Palace Gardens and Westminster Abbey and subsequently to the works of Messrs. Holloway and Doulton.

M. Dahlerup (Denmark) presided at the rooms of the Institute in the evening, when "The Responsibilities of a Government in the Conservation of National Monuments" was discussed. This is a subject which has received the consideration of previous congresses and naturally concerns Europe more than America.

The resolution presented by Mr. Alex. Graham was "That this International Congress of Architects recommend that the British Government be approached with a view to appointing a Royal Commission to control and to extend the operations of the Ancient Monuments Protection Amendment Act of 1900 and to prepare an accurate catalogue of all ancient monuments in the British Islands, whether historic or prehistoric." One of the English magazines observed that "there was no better method than the appointment of such a body for decently interfering the subject." Others who took part in the discussion were M. Besnard (Paris), Prof. Baldwin Brown, Mr. W. R. Lethaby and Com. Alfredi d'Andrade (Italy).

The subject at the Grafton Galleries on Wednesday morning was, "How far Should the Architect Receive the Theoretical and Practical Training of the Craftsman?" The chairmen were Herr Otto Wagner (Austria) and Mr. R. S. Balfour (Eng.); secretaries, Mr. H. O. Talbolton (Scotland) and Gustave Wickman (Sweden).

Papers were read by Mr. Reginald Blomfield, M. Van Gobbelschroy (Belgium), Herr Otto Wagner and M. Gaston Trélat. M. Robert Lesage (Paris) gave a summary on the work at the Ecole des Beaux Arts and other French governmental schools. Mr. C. Howard Walker said he thought that the general education, both theo-

retical and practical, should run side by side, and he explained the methods of instruction in America.

The resolution as proposed by Prof. V. Nagy (Budapest) and passed was:

"This Congress, considering that the architect, the master of the works, having under his immediate direction workmen and artisans of the most varied bodies of the state and utilizing the services of the most varied industries, has no means of acquiring in each of these trades and in each of these industries the complete knowledge of a specialist, expresses a desire that opportunity should be given to architectural students to acquire in a general but exact manner the technical parts of the various trades and industries of the building trade without claiming to practise their trades and industries. It also expresses the wish that between these schools international and continuous relations may be established."

The evening discussions at the Grafton Galleries were conducted under the chairmanship of Sir William Emerson and M. Ch. Buls (Belgium). The secretary was Mr. Perkins Pick (England). Papers illustrated by lantern slides were presented by M. Ch. Buls, M. Eugène Hénard (who planned the new avenue Nicolas II), Dr. J. Stübgen (Berlin) and Mr. Raymond Unwin. The most interesting paper of the evening was that of Mr. Frank Miles Day, who described the work of the park improvement schemes now under way in many of our American cities. On Thursday morning Mr. W. S. Eames presided at the meeting at the Institute Rooms where the subject of "Artistic Copyright" was discussed. Papers by Mons. Talvat, Trélat and Harmand were read. The resolutions presented by M. Harmand were adopted. They were:

"1. That architectural designs comprise designs of façades, exteriors and interiors together with plans, sections and elevations, and they constitute the first manifestation of the architect's ideas and the work of architecture.

"2. That the building is but the reproduction on the site of the architectural drawings.

"And this Congress renews the resolution of former congresses that works of architecture be protected in all legislative enactments and in all international conventions equally with every other kind of artistic work."

The next subject discussed was, "To what extent and in what sense should the architect have control over other artists and craftsmen in the completion of a national or public building?" The meeting was presided over by M. Böker (Russia) as chairman and Mr. Totten as secretary. Papers were read by Sir William Richmond, K. C. B., M. Nénot (Paris), Herr L. B. Müller, M. Bonnier (Paris), Mr. Ellicott (Baltimore). The resolution proposed by Herr Wagner, viz., "The architect in the construction of a building is to be given absolute power over the co-operating craftsmen, but in a special manner over co-operating artists," was carried.

Thursday morning the subject of "The Education of the Public in Architecture" was discussed under the joint presidency of Sir Aston Webb and Dr. Stübgen. Papers were read by Mr. John Belcher, Mr. Banister, Mr. F. Fletcher, M. Albert Mayeux and others. The papers presented were well worth careful consideration.

In the afternoon visits were made by sections of the Congress to Windsor Castle, St. Paul's, the Temple, St.

Bartholomew's, Smithfield, the Institute of Chartered Accountants, Kensington Palace, and a reception was tendered the members by our ambassador, Hon. White-law Reid, at Dorchester House. This is one of the finest houses in London and shows strongly the Italian influence.

In the evening the members attended a reception given by the Royal Institute of British Architects in the Royal Botanic Gardens. The conservatories were illuminated and the trees hung with myriads of tiny fairy lamps, producing rather a weird but beautiful and enchanting effect. Music by the Royal Horse Guard Band, a Shakespearian play and other amusements made the time pass quickly and very enjoyably. An interesting little ceremony in the course of the evening was the presentation by M. Daumet of the Medal of the Institute of France to the Royal Institute of British Architects.

On Friday, all day, excursions by special trains were arranged for Cambridge and Oxford. To spend a day in either of these quaint old towns, full of history and some of the finest architecture of England, under ordinary circumstances is delightful, but in company with our agreeable hosts as guides and companions doubly so. Luncheon in both places was served in the beautiful old dining halls of the colleges. Carriages were provided where the distances were great; in fact, everything for the comfort, pleasure and edification of the parties.

At the evening session of the Congress a paper was read by Mr. Cecil Smith on "The Tomb of Agamemnon."

On Saturday morning the papers were again resumed. The first subject discussed was "A Statutory Qualification for Architects." Much was said that would be of interest to those who believe in the licensing of architects. The movement seems to be growing, for many countries have it under serious consideration. The analogous subject, "The Title and Diploma of Architect," was also discussed and is being pushed in all those European countries where they take special pride in their architectural schools, especially France.

In the afternoon a visit was made to Greenwich Hospital by boat. While the buildings were of great interest, their original drawings by Wren, Stuart, John Webb and Yenn were even more so.

In the evening the farewell banquet was held in the Victoria rooms of the Hotel Cecil. This was presided over by Mr. Belcher, the president. His Grace the Duke of Northumberland was the guest of honor. A number of foreign ministers were present, and about five hundred members of the Congress. The use of an official toastmaster who made all the announcements was a source of much interest to Americans. After the toasts to His Majesty King Edward and the royal family had been drunk, Sir William Emerson proposed the "Foreign Delegates" and made some very interesting remarks. The delegates then replied, some in English, others in French or their native tongues. Their remarks were brief, formal and complimentary. It was a special compliment to America to have Mr. Cass Gilbert asked to reply to the toast, "The Royal Institute of British Architects," which he did most gracefully. Mr. Belcher then made the closing remarks of the Seventh International Congress of Architects.

GEORGE OAKLEY TOTTEN, JR.

The Relation Between English and American Domestic Architecture.

BY FRANK CHOUTEAU BROWN.

THE INFLUENCE OF MATERIALS.

BEFORE attempting an analysis of the very essence of the movement,—its modernity,—it becomes essen-



FIG. 1. OLD STONE AND PLASTER ENGLISH HOUSE.

tial to take up the influence exerted by materials—after historic style and precedent the most important single factor having to do with the general consideration of the subject—upon modern English and American architecture; so that some common comprehension of the true import of this local and variable element may be had. To establish at once an idea of the importance and value of this topic, it is but necessary to recall the difference between the English Georgian and American Colonial buildings, — differences partially due to changes in climate and surroundings, but mostly to a change in the material of which the buildings were constructed, which change caused an immediate and marked alteration in the character of the style itself.

In the colonies the universal use of wood—the natural local product—for the smaller churches and the great majority of the houses immediately lightened their details and parts to proportions more appropriate to the new material than were those derived from the massive English brick and stone originals. A column in stone, for instance, demands a certain diameter-thickness in order that it be quarried, worked and handled with any safety; while the difficulty of obtaining and milling large pieces of timber, and their tendency to check and crack under exposure to the weather, caused the Colonial builders to considerably reduce the diameter of their wooden

columns, although compelled to retain substantially the same height.

They next readapted all their moldings to this new standard of proportion, making them more delicate and refined than the English sections, of which they were otherwise direct copies. Indeed, it is most remarkable to observe how exactly and for what a long period of time the pure outlines of Classic English molding sections were retained in this refined form in structures erected in this country. Undoubtedly the many "Builders' Handbooks" of the period—then so generally in use—with their ample illustrations of the Orders, and notable Italian and English Renaissance buildings, were largely responsible.

Not only did the change in material effect a change in detail, but it was also directly responsible for changes in the plan and outline treatment of the very structure itself.

Once the technical possibilities of the new material, wood, were thoroughly comprehended, it was immediately recognized that its advantages of easy working and quick framing at joints and angles allowed of a greater diversity in plan and exterior outline than was possible in the stone or brick cottage with which all concerned had previously been more familiar. This discovery, once made, was immediately taken advantage of by even the earliest builders; and so the similarity of aspect between the cottage of this and all earlier times—which had

been present for so many centuries—was soon lost; while in the larger and more pretentious brick dwelling the English derivation and similarity yet remained unmistakably apparent, and was therefore the more easily perpetuated.

On the other hand, what are considered as some of the most modern treatments of materials are actually the strongest witnesses of the influence exerted—often unconsciously—by historic association and precedent; reappearing even after lying



FIG. 2. COTTAGE AT BOURNVILLE.



FIG. 3. COTTAGE AT PORT SUNLIGHT.



FIG. 4. HOUSE AT DETROIT. A. W. Chittenden, Architect



FIG. 5. "SANDHOUSE," WITLEY, SURREY. F. W. Troup, Architect.

latent for centuries. The charm and interest of the old Renaissance rough brickwork were soon acknowledged, and one of the first evidences of a different acquired view-point was a recognition of the artistic value of the textures inherent in materials.

Spurred by the interest furnished by a new point of view, new ways of varying the regularity of brick-surfaced walls began to be invented, — and old ones rediscovered. Walls of brick were paneled with rows of

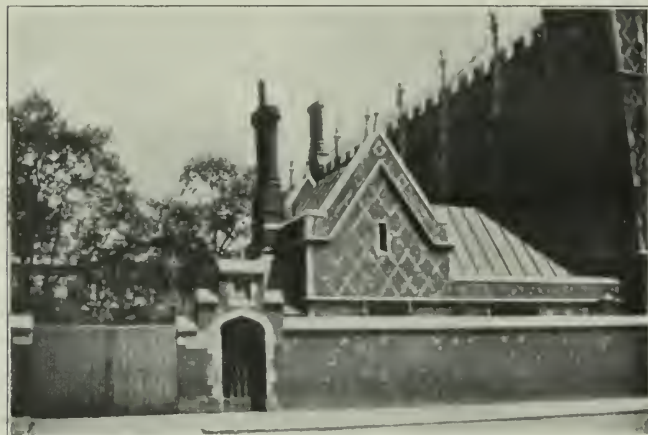


FIG. 6. ENGLISH GABLE SHOWING BRICK PATTERN.

headers; their planes broken by recessed or projecting blocks of flint or bits of stone, so as to obtain a *chiaroscuro* of light and shadow; diaper patterns, picked out in various ways; variations of English and Flemish bonds; the introduction of bits of stone, of cement or of other materials, or of color were employed in the endeavor to further relieve their possible monotony of tone. Under this renewed impetus, often the same tricks and even the same designs as appeared in the earlier brick architecture of Italy, England and France were unconsciously revived and reapplied.

The restfulness and beauty of plain, unadorned surfaces of different materials, unbroken save by their material-texture, began to be recognized. Existing older dwellings, where additions and alterations — made at many different times and periods — had all united to produce a final charm and picturesqueness of their own (Fig. 1), suggested the combination of surfaces of different textures and materials in new compositions of artistic irregularity and unbalance of motive, just as surfaces of different perpendicular planes formed by the projecting and recessed elements of the plan had before been used; and as those composed of different horizontal lines (Figs. 2 and 3) were soon no more to be avoided. The interruption of cornices and belts by bays, dormers or gables was no longer to be considered an architectural crime. Perhaps it was these same examples that first disclosed the possibility of combining different styles and periods into a single pleasing architectural — or, better, *unarchitectural* — whole; and thus, perhaps, the architectural designer first became familiar and acquainted with uncounted thousands of models of beautiful and appealingly human, because they were imperfect, compositions.

Of course there arise the same questions of ethics and of theory as to the use of materials that confront us when considering our American right to historic — yet

not insularly native — styles of architecture; but certainly they are here less abstract and therefore are more easily and certainly to be answered. The most native or natural material should properly always be employed. If we manufacture, or inherit, or find the material near our hands, it rightly and undisputably belongs to us. This we have already recognized unconsciously by our use of wood; even conforming a foreign, if inherited, architectural style to its technical requirements and nature.

But the day of wood is nearly over; it is almost exhausted. It now costs as much as brick or cement or stone; therefore it is commercially right for us to abandon it and to turn to one of these other materials, *the one most natural and native to the locality where we are to build*, and then to employ it after the fashion that seems



FIG. 7. DETAIL OF BRICKWORK, HOUSE, PORT SUNLIGHT.

locally and technically most fitted to the material selected. Here indeed comes the problem, and one that we must meet squarely and solve successfully before we can attain a natural and native "style" of architecture. For this purpose we can do no better than to apply the hints and suggestions that are furnished so freely by contemporary English work; but we should first adapt them to our own purpose and requirements. The material must first be selected, and that one will always be most appropriate that is most naturally a product of the vicinity where the structure is itself to be located.

Then the method of its employment becomes the most important consideration; and here too the designer should be governed by the same ethical considerations, and so allow the work in the neighborhood to suggest

the employment that is most natural. The use of a local material by the native, unconscious and uneducated workmen will often convey to an open and receptive mind the



FIG. 8. COTTAGES AT ALLERFORD.

germ of an appropriate idea capable of freer expansion and artistic expression.

Frequently it may require a careful study of the nature of the material itself, as well as of similar products of other countries used at other periods; for, after all, a certain portion of the style of these buildings, wheresoever they are located, *must* have been derived from the material employed; and that portion, no matter how exotic the example, is indubitably ours for what value of suggestion or adaptation it may inherently possess. The dwelling in Detroit shown in Figure 4, for instance, is as simple and logical an exposition of the use of material as it would be possible to find. The diaper treatment of brickwork illustrated in such other examples as Figures 5, 6 and 7 is here utilized to accent the gable features, themselves evidently derived from English Gothic precedent and yet suggesting, by their flatness of slope, along with the general roof treatment, distinctive differences traceable to their adaptation to our locality and climate.

As far as that material is itself concerned, we certainly have a right—equal to that of the English practitioners—to the use of brick; so long as they are employed in the forms and manner that are consistent developments of its latent technical possibilities. Undoubtedly some of the most apt, interesting and suggestive English employments of brick were those of the Elizabethan period, so called. There then became defined a style especially adapted for large rambling country houses and almost as available for smaller and more modest structures of the same Gothic feeling.

Our right in America to erect structures in a style copied or derived from that of this, or any other, period in England is largely a question of ethics and nice distinction as to each individual's point of view. How far the style adapted itself to the material or the material influenced the style is more a question of individual theory and feeling than a matter which can be absolutely and authoritatively stated for all those concerned. Certain it is that in some ways and under some conditions of environment and surroundings, both style and material are too nicely adapted and correlated to each other to be easily disengaged. It would certainly be an extreme purist who would feel called upon to deny that, as the manufacture of brick is a distinctive and important industry of this country, any consistent and proper use of brickwork would be at all foreign to the major portions of the United States.

Does not the question resolve itself almost wholly down to one of the extent to which the foreign manner of employing brickwork may or may not be *exactly* transcribed to our American surroundings; and does not the interest of the problem largely arise from the very difficulties presented by this question for the solution of the individual artistic conscience?

All will agree that the brick buildings belonging to the Elizabethan period are full of suggestions, both as to general form and exact details of treatment, that are as appropriate *to the material* to-day as at the time they were first evolved. But the period and life that produced these forms and details do not now exist, and our different surroundings of themselves demand a different method of treatment. It is of course not possible for any two temperaments to agree



FIG. 9. OLD HOUSE, GERMANTOWN, PA.



FIG. 10. BRICK AND STONE HOUSE.
D. K. and L. V. Boyd, Architects.



FIG. 11. SUBURBAN STORE AND DWELLING.
Charles Barton Keen, Architect.

as to the solution, or solutions, of such a question; the very basic differences of idea that arise but add variety and interest to the results arrived at so differently, and this but increases the number of possible motifs at the disposition of the designer, and therefore the flexibility and freedom with which he may utilize his material. In other words, the infusion of the modern spirit (which alone legalizes the transplanting of these motifs to our soil and their reutilization by us to-day or to-morrow) must endow these well-worn architectural forms with a new plasticity of handling and pliability of motive that



FIG. 12. STORE FRONT, SUBURBAN STORE AND DWELLING.
Charles Barton Keen, Architect.

may in adequate hands eventually result in something as individual, as personal and as original as the sculptures of Rodin.

Another material, stone, we also possess in a great variety of colors and kinds, but the American architect — perhaps again from the lack of atmosphere and native historical models — seems unable to utilize and employ it in the same interesting technical ways as do his English contemporaries. This is perhaps natural, as in England, in certain counties — to take as an instance Derbyshire — the entire countryside is built up with rustic cottages where the only material employed for the walls, and even sometimes for the roofs of the buildings, is the native stone. A typical village of this sort is Bakewell, with only a couple of thousand inhabitants, and the old stable

of the famous "Haddon Hall" — illustrated in the July BRICKBUILDER — although more pretentious than many of the models that such a village could furnish, may be taken as a representative instance of this native use of stonework. Something of the naive simplicity and charm of such rustic natural stonework is illustrated by the small cottages at Allerford (Fig. 8), of a type that — with the exception of the modern tile roof that is so unfortunately contrasted with the thatched cottage across the lane — is repeated, in those counties where stone is a natural product, again and again throughout England.

In this country it seems difficult for us to use rus-



FIG. 13. OLD PLASTER AND TIMBER HOUSES, HANOVER, ENGLAND.

tic stonework in any such simple, straightforward and characteristic manner. We have apparently limited ourselves to two methods of its employment, — random seam-face ashlar, or a natural field-stone wall surface. In one or two localities, notably in the vicinity of Philadelphia (where there exist many such models for the simple use of the material as the old building illustrated in Figure 9), stonework has been used after the fashion suggested by this "historic" example, and therefore it more nearly approaches some of the modern English work in technique. Many modernly designed English houses illustrate interesting uses of stonework; and the similar, if more regular and perhaps therefore less interesting, use in the first story of the Pennsylvania house (Fig. 10)



FIG. 14. PLASTER STABLE, NORTH SHORE OF MASSACHUSETTS.

should indicate with what success a thoroughly American and natural treatment, designed to obtain an effect from the quality and texture native to the material itself, is available in the solution of our native problems.

Even plain broad surfaces of cement or plaster still



FIG. 15. PLASTER COUNTRY HOUSE, MASSACHUSETTS

seem somewhat exotic here in New England, although perhaps the real reason for this lies more in the psychological fact that so far our eyes and minds have not become sufficiently accustomed to this material to cause it to seem natural and usual to us; yet this result is eventually inevitable, and must soon follow from the movement for its use that is now so widely evidencing itself. After that primary period is once passed it will be easier for us to judge as to its adaptability and value to our native architectural style than it is at present: although its general use on buildings too distinctively Italian, Spanish or markedly English in type to appear convincingly native has so far largely prevented its just appreciation. The material itself is certainly quite as logically ours to use as brick or any other of the important products which we now possess in common with other people; and once that its employment in such native buildings as the combination store and residence illustrated in Figures 11 and 12 becomes general, we can begin to consider it from a less prejudiced standpoint.

The historical treatment of plaster as well as that method most natural to the material, both with a small amount of exposed timber work and also with the simple plain surfaces that have been adopted as more typically modern, is indicated by the old plaster houses at Hanover (Fig. 13) that bear a close and direct relationship to modern English and American work of similar character.

The American architect has but recently begun to use plaster after the English manner, but the movement has already gained so much momentum that it is evident that this style is destined to be immensely popular. Yet these houses are sometimes still too suggestively English to appear wholly at home in their new world environment; while when used after the Italian style it is even more un-American, as for instance the group of stable build

ings appearing over the high stone wall and latticework in the accompanying illustration (Fig. 14). The plaster cottage of mixed Spanish and Mexican derivation, and the plaster and timber dwelling that too perfectly reproduces an historical atmosphere, are so at variance with their surroundings that it distracts our attention from the material and prevents us from judging in such examples of its applicability to our American purposes and needs.

In another illustration (Fig. 15) the foreign atmosphere is not so strongly in evidence. At first glance the structure might indeed be a simple framed house, clapboarded or shingled after the ordinary American fashion. It needs a closer inspection to note the distinctively Italian character of the entrance and some of the minor details of the house, but its total effect is more natively American, and the plain textured surfaces of the plaster wall treatment lend it an added attractiveness not to be obtained by a more conventional wall covering.

America does possess one building surfacing material that is distinctively native and as historically our own as our short insular architectural history allows. The

shingle, as a manufactured article, is not used under conditions at all comparable with ours in any other country, even for a roof covering; while so far as employing it upon the outside wall of a building is concerned, its use in this way is even more typically American; although in England slate is employed occasionally to cover wall surfaces, or portions of wall surface, in much the same manner as we use the wooden shingle (Fig. 16). Despite its Italian roof line, its classic entrance motive and Renaissance proportioned detail, the summer dwelling (Fig. 17) is as distinctively American in character as the rugged landscape of which it forms a part.

For roofing purposes we possess shingles, slate and tile; the two last named materials have been used in England on buildings both old and new, but



FIG. 16. COTTAGES, PORT SUNLIGHT.



FIG. 17. SUBURBAN HOUSE, NORTH SHORE OF MASSACHUSETTS.

after a fashion quite different from that commonly employed in our country, where the chief endeavor seems to be to apply them as evenly and uniformly as is mathematically possible.

New Uses for Terra Cotta Building Blocks.

THE HOUSE.

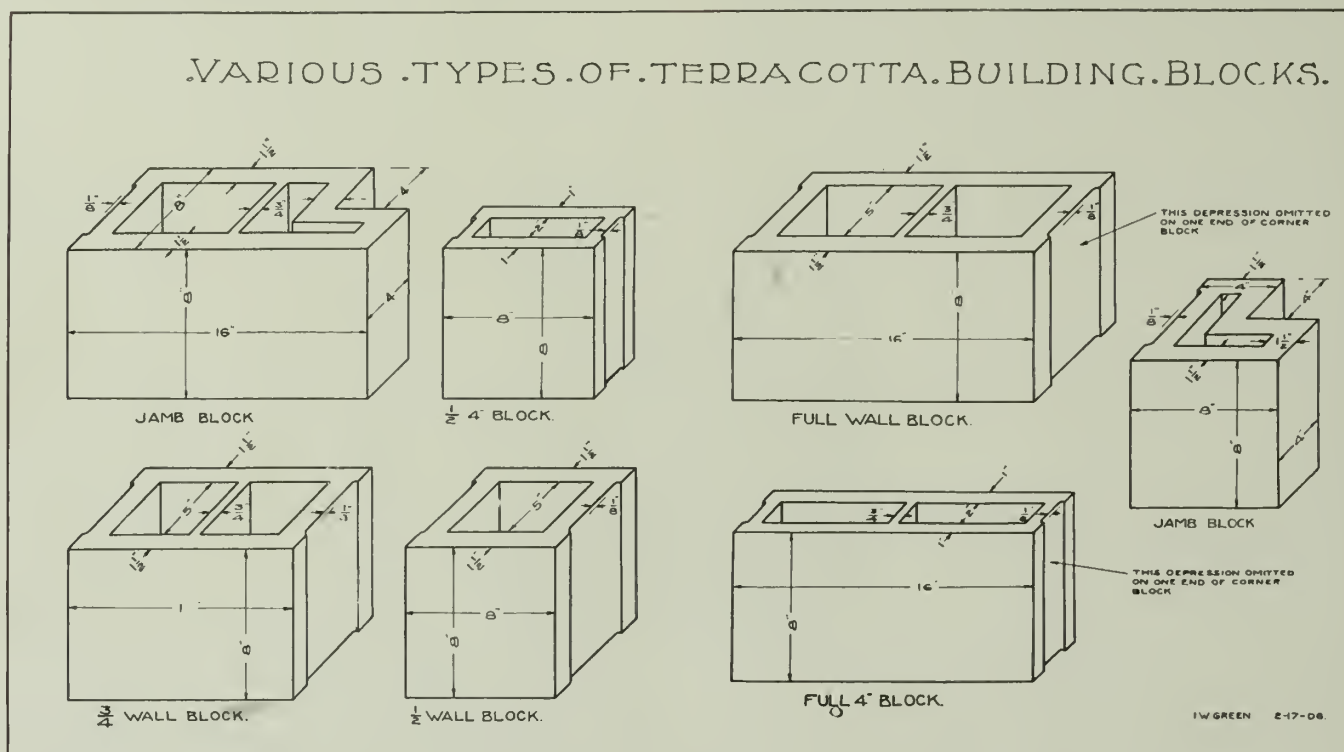
THE construction of a serviceable and artistic detached house of hollow terra cotta building blocks offers few technical problems that cannot be easily overcome; but as the details of the work are not as well understood as those pertaining to wood framing and brick construction, a description of some of the various types of blocks and their uses may prove of value.

Modern terra cotta building blocks possess advantages of great importance over nearly all other building materials. They are absolutely fireproof, resisting temperatures upward of 2,500 degrees. They are lighter in weight than either bricks, stone or concrete, and are

wall built with blocks eight inches thick would prove strong enough for any imaginable work in modern houses.

Durability, warmth and dryness to an unusual degree are obtained from walls of these blocks. They are practically indestructible and, being thoroughly vitrified, are perfect non-conductors of heat and cold and do not absorb moisture. Sound also is deadened by the air spaces in them. Walls constructed of 8-inch blocks thus possess all the desirable qualities demanded,—strength, durability, fireproof, sound-proof, warmth and dryness.

The question of cost and economy of construction may appeal to some more strongly than the other qualities enumerated, but first cost, after all, is only a part of the problem. Outside of the question of first cost of material, points of economy in handling and labor must be considered. Owing to their lightness and convenient size they can be laid in a wall at less expense than stone. A single block can be placed in position in one-third the time



manufactured in convenient sizes for handling. A 4 x 8 x 16 inch block weighs only 20 pounds, and the larger size, 8 x 8 x 16, averages 34 pounds. A cubic foot of hollow terra cotta blocks thus averages in weight 40 pounds, while the lightest of cinder concrete weighs 90 pounds, and stone, granite and cement blocks suitable for building purposes much more.

In dealing with any building material the factor of safety is one of the first that architects must consider. Hollow terra cotta blocks are made under severe fire and compression tests, and every one therefore possesses a uniform standard of strength. Tests made with blocks 8 x 8 x 16 inches have developed an ultimate strength of 2,500 pounds per square inch in center web blocks and 1,969 pounds per square inch on gross area and 6,000 pounds per square inch on net area in corner blocks. Thus for all building purposes they surpass in strength any possible compression they could ever be subjected to. A

required to set a stone of similar dimensions. There is likewise a considerable saving in lime, sand and cement, and, as plaster can be applied direct, lathing and furring are saved. The architect, to deal economically with this material, must have suitable variety and sizes to meet all emergencies.

The manufacturing of building materials at the factory, so that the builder has little more to do than to assemble them on the building site, is a feature of modern constructional work that saves time and delay. The great steel structures are made according to specifications at the mills, and then merely assembled rapidly and securely by the builder. The architect in designing houses of hollow tile blocks merely specifies the size and kind of blocks for each detail, and the work of assembling by the builder is simple and rapid. Wall blocks, water tables, window sills, cornice blocks, band courses, quoins and various other shapes are ready for his use in various sizes. To

give variety to the building, rock-faced, tool-faced, plain and imitation stone blocks are at his command as stock material. Ornamental terra cotta made from special drawings and designs is manufactured to suit the needs of any architect. Stairways, lintels and chimneys are assembled with equal ease by means of special shapes designed to meet the requirements of each case.

The method of construction is simple. A few precautions for the mason should be observed. The blocks should be laid in one part of best Portland cement to five of lime mortar. The sand should be clean, good and sharp and the lime freshly burned. The joints should not exceed one-quarter inch in thickness and the blocks should be bonded so that all vertical joints are over each other. Thick or heavy joints in the wall spoil the effect and nothing is gained by them.

In the construction of a house the foundations and basement walls should be built of salt-glazed blocks in preference to others as they withstand moisture better. In the West blocks are manufactured so that the openings can be laid horizontal, but in the East the practice is to have the openings vertical, and the blocks are made with this purpose in view. The greater strength insured in the wall by laying the blocks vertically is sufficient reason why this method will eventually prevail.

The foundations are made of building blocks 8 x 8 x 16 inches, laid up in Portland cement mortar on concrete footings, with the length of the blocks forming the thickness of the walls. Rock-faced or tool-faced water-table blocks 10 inches wide, including the 2-inch wash, with a quarter-inch drip, cap the top course of the foundation blocks. The wall blocks, 8 inches thick, 8 inches high and 16 inches long, are laid on the water-table blocks, with quoins and corner blocks projecting. The walls are thus 8 inches thick and the foundations 16 inches, which insures dry cellars and floors.

Wooden floor joists are preferred in many cases to iron, owing to the difference in cost and difficulties experienced in securing structural steel work for a small house. The floor joists are laid on the walls for the first floor and secured in position by special blocks with the

inside edges cut half through to accommodate the ends of the joists. These special joist blocks are made in the standard sizes and fractional lengths. The floor joists of the upper story are laid on the walls with the ends meeting the band course blocks which project beyond the building. Inside blocks, 10 x 4 inches, are bonded to the inside of the band course blocks and meet the joists on either end. The joists thus fit snugly in position

and are held there by the blocks, giving a space of 16 inches between centers.

Special jamb blocks, window sills and lintels are manufactured. The jamb blocks have one web cut out to accommodate the jamb. The window sills are 16 inches long, 8 inches high on the inside with slope down to 5 inches. Several shapes are made and their fitting is simple. Special sizes for large windows are easily obtained on order. The window quoins are made plain, rock-faced

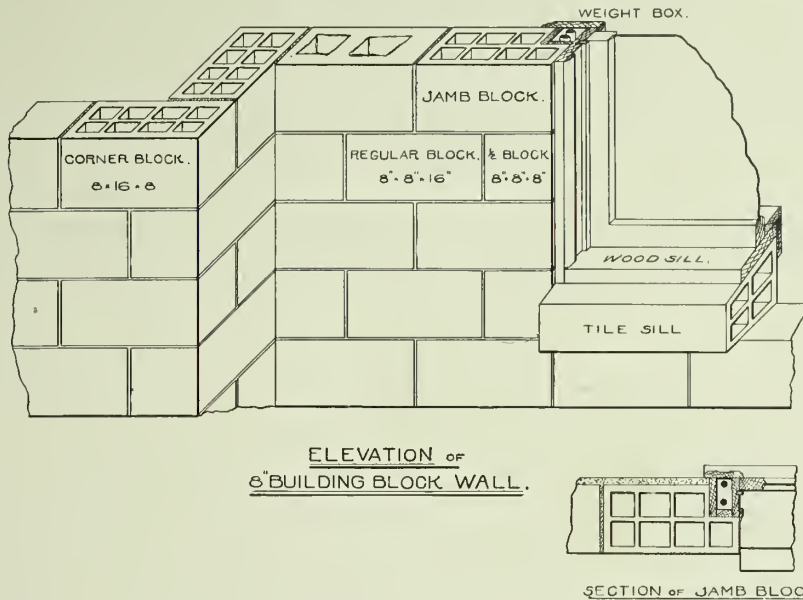
or tooled, and the lintels of doors and windows are formed of special lintel blocks laid up in the ordinary flat arch system.

The walls are carried to the cornice in the usual style of stone buildings. Ornamental cornice tiles are fitted to the top course, giving a projection of 5 inches. The cornice tiles are curved, fluted or rounded as desired. The lower part of the blocks fit snugly to the upper course of wall blocks, and this modest projection gives beauty and symmetry to the structure. The roof rafters are laid on the wall blocks in the same manner as the lower floor joists, or they may be used in connection with special cornice blocks with the inside web cut out to make room for the ends.

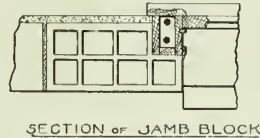
The framing of the roof is made in the ordinary way and shingled or tiled as desired. If

wooden porches are used openings should be left in the walls for the porch beams. The latter rest directly on the walls. By using fractional sizes of blocks these openings can readily be made as desired. These blocks, however, are as easily cut and broken as bricks, and any desired change can be made without difficulty. In every respect they are as simply handled as bricks.

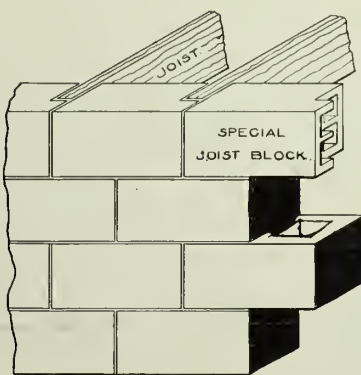
The inside of the blocks are scored to receive the plaster, and no furring is necessary. The outside may



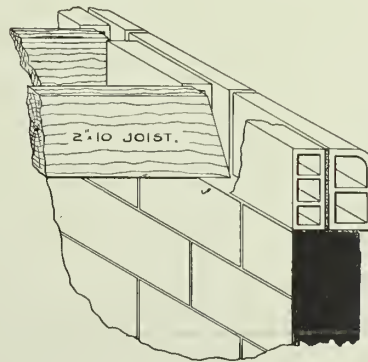
ELEVATION OF
8" BUILDING BLOCK WALL.



SECTION OF JAMB BLOCK



WITHOUT BAND COURSE.

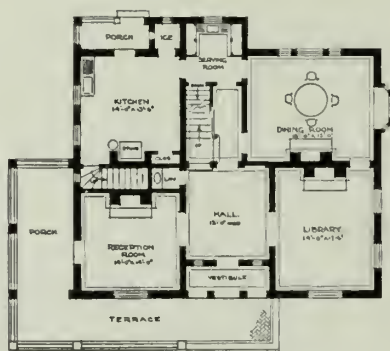


WITH BAND COURSE

METHOD OF SUPPORTING FLOOR JOISTS.



SIDE ELEVATION.



FIRST FLOOR PLAN.

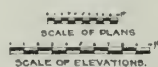


SECOND FLOOR PLAN.

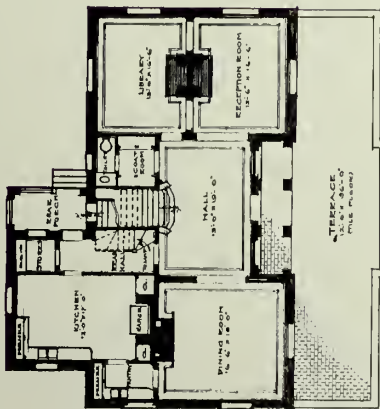


FRONT ELEVATION.

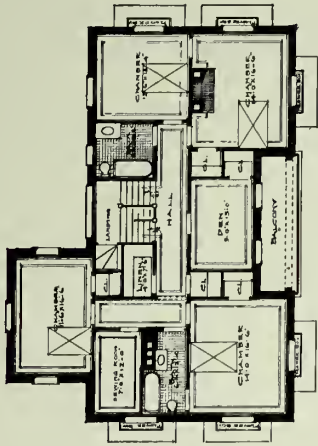
SURFACES SHOWN DOTTED ARE ROUGH CAST EXCEPT WINDOW TRIMMINGS, MOULDINGS AND STEPS, WHICH ARE TO BE SMOOTH. ALL BRICK SHOWN IS TO BE RED INCLUDING FLOOR OF TERRACE. ROOFS OF TIN WITH STANDING SEAMS.



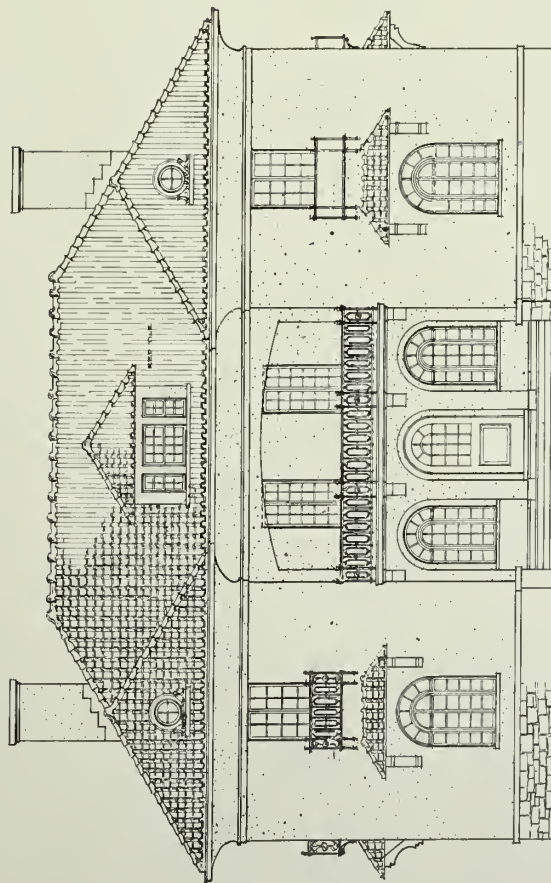
DESIGN FOR A HOUSE TO BE BUILT OF TERRA COTTA BLOCKS, USING BRICK FOR QUOINS,— WALLS ROUGH-CAST.
Charles H. Carr, Architect.



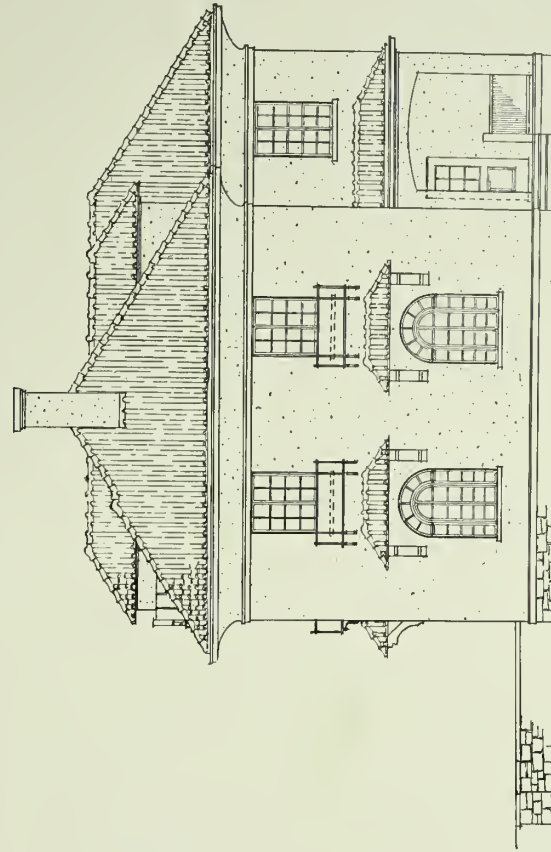
FIRST FLOOR PLAN.
Scale 1/8" = 1'-0"



SECOND FLOOR PLAN.
Scale 1/8" = 1'-0"



FRONT ELEVATION



EAST ELEVATION

DESIGN FOR A HOUSE TO BE BUILT OF TERRA COTTA BLOCKS,—WALLS ROUGH-CAST.
Elliot W. Hazzard, Architect.

be plain, in matched colors or with glazed or tooled surfaces. Where stucco work is desired outside, no matching of colors is necessary.

Chimney blocks are made with air spaces surrounding the flue, which in no way interfere with the draught. A fire starting in a chimney so built could not possibly injure woodwork or even paper which comes in contact with the outside. The total weight of such a chimney is about one-half that of one built of brick, thus requiring lighter foundations and footings. Ornamental chimney caps of terra cotta tiles may be had for finish. These chimney blocks are 14 x 14 inches, with a space of 8 x 8 inches for the flue.

The cost of a simple yet artistic house of this description, built with 8-inch terra cotta walls, 16-inch foundation courses, with wooden porches, floors and wood framing and sheathing for the roofs, would be about 20 cents per cubic foot of total contents; or, if the interior finish and equipment are made less elaborate, the cost may be scaled down to 18 or 19 cents. The usual price in figuring semi-porous terra cotta blocks in the wall, making no allowances for openings, is 26 cents per square foot of exterior surface when walls are 8 inches thick.

If it is desired to rough-cast or stucco the exterior walls, the tiles lend themselves readily to this treatment. The blocks are made for immediate plastering, so that no preliminary work is demanded. The only requirement before applying the plaster is to water soak the tiles either by hand or with a hose. Two coats of plaster, at least seven-eighths of an inch thick, should be applied. The first coat must be well set before the second is applied, and it should be constantly tooled until set. A good composition for this work consists of three parts clean, sharp sand, one part good Portland cement and two per cent of total weight of sand and cement to be hydrated lime. The rough-casting of the exterior in this manner should cost from 50 to 75 cents per square yard, according to the method of application and quality of material.

A terra cotta hollow-tile house, veneered with pressed brick, gives a good finish and provides one of the most substantial houses ever devised. Small flat galvanized iron bonds come with the terra cotta blocks, when specified, for brick veneering. The bricks are laid up in courses, breaking joints, with the bonds placed at every fourth course. These flat bonds are laid across the top

of the bricks and tiles, so that they become firmly embedded in the mortar. The 8-inch blocks will thus just accommodate each course of four bricks, so that the bonds will lie flat. The laying of the blocks and brick veneer must proceed simultaneously in each course, so that the exact levels can be obtained and the bonding made perfect.

A pressed-brick veneer will thus make the walls 12 inches thick and add greatly to their strength and durability. The fireproof quality of the walls is further enhanced, and their durability will be beyond all comparison with other forms of construction. Courses of ornamental bricks can be employed to give artistic effect. Stringcourse of projecting tiles can be omitted in such a structure and ornamental face bricks be employed instead.

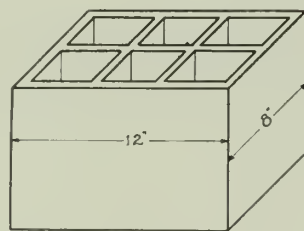
The variety of effects that one can secure is almost inexhaustible.

With pressed bricks at \$28 per thousand, a 4-inch veneer will cost in the walls about 34 cents per square foot of exterior surface.

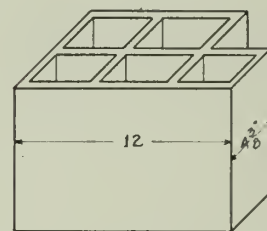
In estimating it should be clearly borne in mind that plaster can be directly applied to the hollow tile blocks, so that lathing and furring are saved. In applying stucco or rough-

cast the same holds true, so that the work is simple and relatively inexpensive. The plaster adheres firmly to the walls, so that it will not chip, crack or peel off. The brick veneer is even more firm and durable, for the veneer is securely and permanently bonded to the tile blocks. The veneer could not be taken off without pulling down the walls. Furthermore the tile blocks weigh at least two-thirds less than bricks and nearly three-fourths less than stone. In estimating the cost of labor this difference in weight is an important item. A bricklayer can build a wall of terra cotta blocks in much less time than required for stone or brick.

In the ordinary wall block the inside web is three-quarters of an inch, and the outside web one and a half inches, leaving thereby a five-inch air space in the walls. In the half blocks the webs are of the same thickness, and in the jamb blocks the webs are all one and a half inches. In the four-inch blocks, 8 x 16 inches width and length, the outside webs are one inch, and the inside three-quarters of an inch, giving a two-inch air space between. The depression between the blocks on each end for receiving the mortar to make narrow joints is one-eighth of an inch deep. These points are clearly shown in the illustrations.



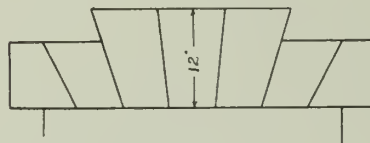
• ROCKFACE • RETURN •



• ROCKFACE • JAMB •



• DOOR AND WINDOW • LINTELS •



The Village Cottage. I.

BY CHARLES C. GRANT.

IN choosing a site for an ideal village of three thousand inhabitants, two factors have influenced your contributor: first, the capacity of the location to supply the best requirements for such a village; and, second, the need of a country-side for a model community. By a model community is meant one of independent citizens,—not dependent on some corporation, philanthropically inclined, as is Port Sunlight in England, for example.

When our people shall awake to a fuller realization of the real joys which come with the possession of a country-side acre on which to establish a home, then will they desert the many storied apartments and scatter over the face of God's good earth, there to live in closer touch with the better luxuries of life. The way is opening and in fact the exodus has begun. The connecting links between the country home and the city office have been found in the auto and the trolley.

To place our village on some southerly slope, such as abound in the beautiful Mohawk Valley in Central New York, would undoubtedly satisfy all requirements of an ideal village; and while there is much that is good architecturally in this valley, an exemplary village here placed would exert an incalculable influence.

The main street with its stores, the town hall, the meeting-house, the railroad station, the library, the green, and last but not least the dwellings, all in perfect relation, compose our "Spotless Town." Father Time, when our work is accomplished, will be needed to perfect what we have done.

The butcher has prospered, and the time has come to him, as it comes to many men, when he feels that a cottage of his own for himself and wife and "bairnies three" will realize his "castles in Spain." A plot of ground on one of the principal streets not far from the village green is the site our butcher has acquired for his future home. A cottage properly planned may easily meet the requirements of such a family of moderate means. Perhaps no phase in our building has so little study by competent designers. Commissions of this kind are not sought for by the successful architect, busy with big schemes rendering him more profitable income and adding to his reputation. So it seems that the solution is up to the young designer. Successful small houses are lower rungs in the architectural ladder of fame.

The problem of the small house is by no means an easy one, restricted as it is in so many ways. Perhaps the problem set by THE BRICKBUILDER has the minimum of restrictions, but then recollect that this is an ideal.

The cottage as the heart of the scheme is to be placed centrally on the plot and well towards the front, with its small garden—its outdoor room—to the west. People are beginning to realize that formal gardens are not only for the man of wealth; that a small garden, one easily maintained, is a delight, and, in addition, we have a certain dignity impossible to obtain by other means. Retain by all means those beautiful old-fashioned flowers, but let us have order and symmetry and not an unplanned jumble.

The small stable with its accommodations for a horse

and cow and two carriages is placed aline with the house. The planting about this stable and about the garden, together with the house, forms a screen which will make private most of the property. A plea for privacy cannot be too strongly made. It is characteristically American to be otherwise.

In the present instance, recreation and rest were much considered in the laying out of this private portion, and the result is a small simple garden, a tennis court running north and south, with its seats and shelter facing the east, the tiny grove and ample unbroken lawn flanked with small fruit trees. The truck patch and hennery seem desirable as yielding some return for the outlay on the property, although many will differ regarding the hennery.

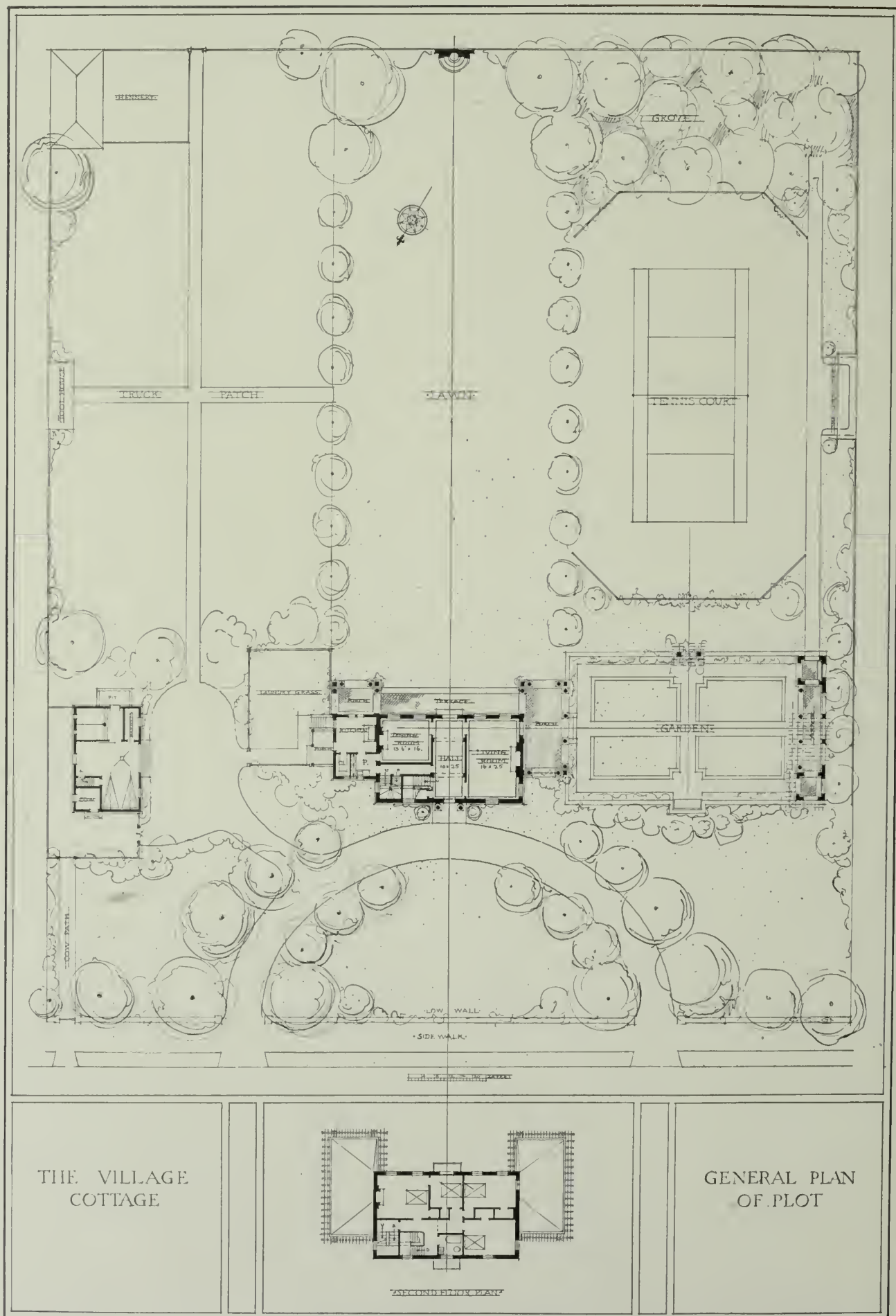
The house plans speak for themselves so well that they do not need a great deal of explanation. The main living room replaces the library, reception room and parlor of a more pretentious house. This particular plan seems to call for a through hall unobstructed by a staircase. The glass doors at the rear should give a visitor a good impression on entering. Glass doors also lead from the hall to the dining room and living room. The proper relation of dining room, pantry and kitchen is observed. That the dimensions of the house may be kept as small as possible, the laundry is placed in the basement. Area steps give access directly to the drying room.

The treatment of the principal room is to be very simple, as a small cottage cannot stand a great deal of architectural woodwork. Poplar, probably the least expensive of the woods now obtainable, is to be used for architraves, baseboard, picture mold, etc., all white enamel finish. Having the rooms treated alike will give a feeling of spaciousness. The many splendid papers and stuffs now in use will furnish the necessary variety in color schemes for the different rooms. Oiled yellow pine is the thing for the service portion.

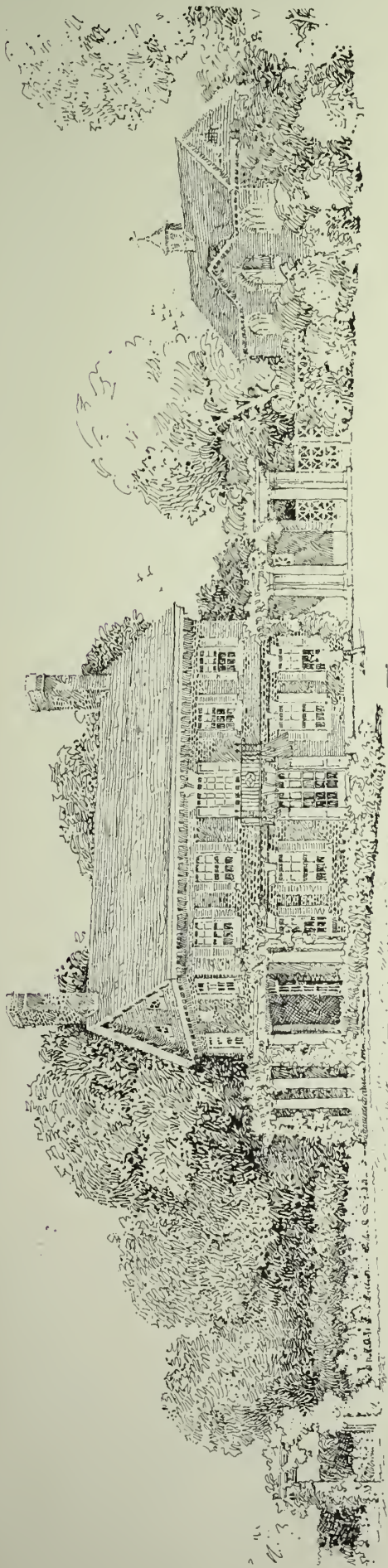
The bedroom floor needs little discussion. The bedrooms naturally are placed to overlook the best parts of the property. The closets should please the most exacting of housewives. The attic space is to contain a servant's room and a storage room.

Hard-burned hand-made brick, a good red in color, laid with the well known Flemish bond, the headers a shade or two darker than the stretchers, and the joints a gray white, is planned as the material for outside walls, which are to be built with an air space as a protection against moisture. White marble is the material of window sills and heads, also of base course and copings. The character of the house requires a white cornice. This and the white porches are of wood. In order that the kitchen wing may not count strongly in the design, but rather balance the west porch, this is to be of frame stuccoed on expanded metal; the show rafters to be carried around as on the porch. The main roof is to be covered with large flat tiles in varying shades of red.

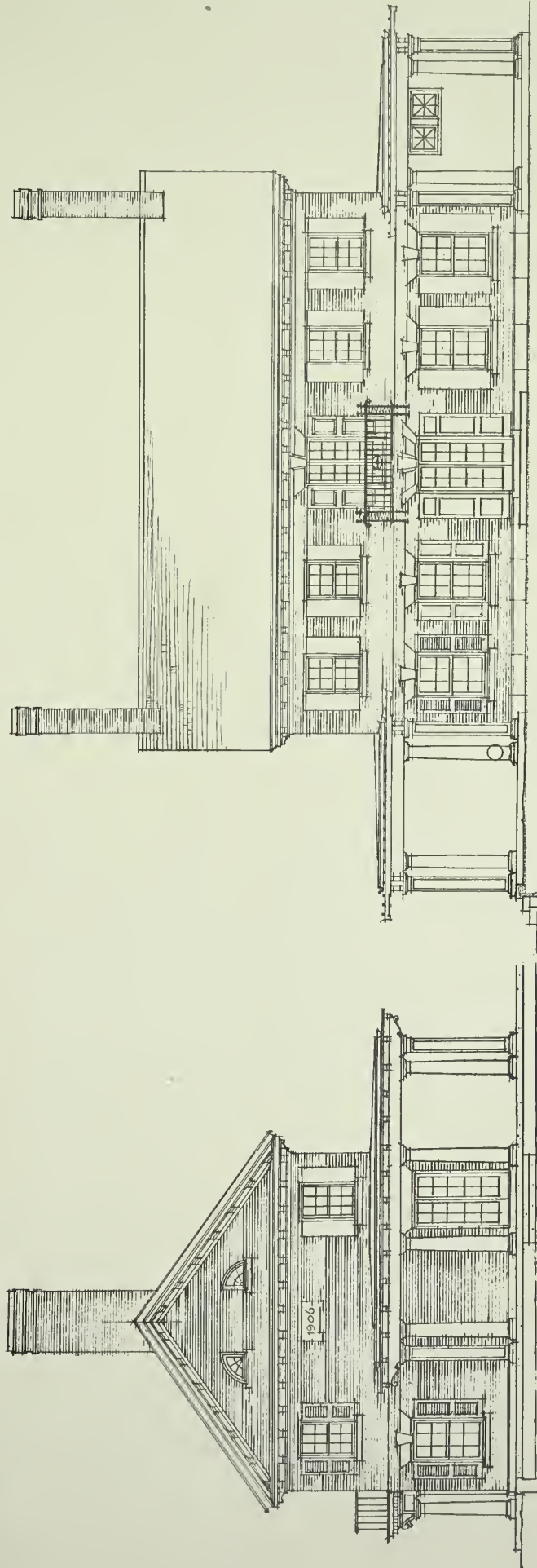
Such is a home designed for a family who would lead "the simple life," to whom beauty in their surroundings is a necessity. Every man of an artistic temperament, with an innate love of home, is continually building and rebuilding his air castle, and it is inevitable that it should become a reality, perhaps a castle in fact, perhaps only a cottage.



GROUND PLAN. A VILLAGE COTTAGE.
Charles C. Grant, Architect.



A VIEW OF THE COTTAGE FROM THE TENNIS COURT



GARDEN ELEVATION.

FRONT ELEVATION.

A VILLAGE COTTAGE. Charles C. Grant, Architect.

Editorial Comment and Selected Miscellany

A TRIBUTE TO THE LATE STANFORD WHITE.

At a meeting held July 24 by the Executive Committees of the New York Chapter of the American Institute of Architects, the Society of Beaux Arts Architects and the Architectural League of New York, the following resolutions were passed:

Resolved, That the Executive Committees of the New York Chapter of the American Institute of Architects, the Society of Beaux Arts Architects and the Architectural League of New York desire in the name of their respective societies to express their sense of the great loss which the Profession and the Art of Architecture have sustained in the death of Stanford White.

His quick and generous appreciation of all that is beautiful, even beyond the field of his immediate profession, was so genuine that the influence of his work will long continue to be a stimulus to the artistic development of this country.

Only those of us who have been closely associated with him professionally can fully appreciate the love and enthusiasm with which he devoted himself to Art.

His was a commanding personality and whatever he produced had the touch of genius.

COMPETITION FOR A MEMORIAL MONUMENT. PROGRAM.

THE Cape Cod Pilgrim Memorial Association offers five (5) prizes of \$200 each, to be awarded by their Building Committee to competitors submitting to them designs for a monument to be erected at Provincetown, Mass., to commemorate the Landing of the Pilgrims and the Signing of the Compact. The Committee do not oblige themselves to use any of the designs thus submitted, or employ any of these competitors. The monument is to be of granite, not less than two hundred and fifty feet in height, built upon a hill of sand formation, about ninety feet above sea level. It is to have an inclined walk (no steps) of concrete, from bottom to top of interior. Each competitor may submit a brief description of his design, calling attention to any points of interest. No estimates are to be submitted, as the Committee will obtain figures upon such of the designs as commend themselves to their acceptance. The monument is to cost about \$80,000. Only two drawings are to be submitted, a plan and an elevation, except that a second elevation may be sent in if necessary to explain the design. No other drawings will be received. They are to be made upon paper measuring 18 inches by 24 inches, with a single line for a border. No motto or device shall be put upon the drawings,

but they shall be accompanied by a sealed envelope containing the name of the competitor. These drawings and envelopes will be numbered as received, and they will be known to the Committee by these numbers. All drawings must be delivered to Willard T. Sears, 70 Kilby Street, Boston, Mass., consulting architect of the Building Committee, on or before October 1, 1906. J. Henry Sears, Lorenzo D. Baker, Win. B. Lawrence, Building Committee, the Cape Cod Pilgrim Memorial Association.

COMPETITION FOR PUBLIC DRINKING FOUNTAINS TO BE ERECTED IN THE CITY OF NEW YORK.

THE American Society for the Prevention of Cruelty to Animals of the city of New York has offered a prize of \$500.00 for the best design for a bronze drinking fountain. The competition is open to architects, sculptors, modelers and decorative designers.

The award will be made by a jury consisting of the president of the American Society for the Prevention of Cruelty to Animals, the chairman of the Municipal Art Commission, the president of the Municipal Art Society of New York and an architect or sculptor to be selected by these three, and Prof. A. D. F. Hamlin.

Drawings and models, with the accompanying envelopes, must be securely packed or wrapped and delivered at the shipping office of Columbia University (entrance from Broadway or Amsterdam Avenue at 119th Street) before 6 o'clock P. M., on Saturday, September 29, 1906.

Any inquiries regarding this competition should be addressed to Colonel Alfred Wagstaff, president of the American Society for the Prevention of Cruelty to Animals, New York City.



STATUE IN RESIDENCE AT SPRINGFIELD, OHIO.

Frank Lloyd Wright, Architect.
American Terra Cotta and Ceramic Co.,
Makers.



PANEL OVER MANTEL, NEW ROCHELLE YACHT CLUB.
Standard Terra Cotta Works, Makers.

THE PENNSYLVANIA ACADEMY OF THE FINE ARTS AND THE T SQUARE CLUB OF PHILADELPHIA

PROPOSE to hold
a joint Exhibi-

tion in the galleries of the Academy during the month of December next.

The Exhibition will cover the field of architecture in its broadest sense, and will include all the allied arts, of which she is the mother.

As in the twelve previous annual T Square Club exhibitions, the Department of Architectural Design will dominate. It will include not only the technical drawings of the most distinguished American and European architects produced during the last year, but will also include a large number of models and photographs of finished work.

The Department of Mural Painting will be conducted with the co-operation of the National Society of Mural

The Juries of Selection will admit only works of the first importance. Juries of Award, composed of the most distinguished workers in the several departments, will be appointed at the opening of the Exhibition, but not announced until after the awards are made. It has not been determined as yet what form these awards will take. Believing that the intrinsic value of an award bears little relation to its importance, the award may consist only of a public announcement and a personal notification.

All inquiries in regard to this Exhibition may be addressed to either of the undersigned.

T Square Club, C. L. Borie, Jr., Secretary, 251 South Fourth Street, Philadelphia, Pa.; The Pennsylvania



FIRE DEPARTMENT HOUSE, CAMBRIDGE, MASS. C. R. Greco, Architect.

Painters. This will include a large number of mural paintings by the foremost members of the profession, photographs of executed work too large to be hung in the galleries and a large collection of preliminary sketches and cartoons. The Department of Architectural Sculpture will be conducted with the co-operation of the National Sculpture Society, and will include full size and sketch models of the most important work of the year. The Department of Landscape Architecture will be conducted with the co-operation of the American Society of Landscape Architects, including models, photographs and drawings. The Department of Arts and Crafts will be divided as follows: Art Metal Work, Terra Cotta, Architectural Woodwork, Stained and Leaded Glass, Interior Decorations, Garden Decorations.

Academy of the Fine Arts, John E. D. Trask, Secretary, corner Broad and Cherry Streets, Philadelphia, Pa.

BUILDING OPERATIONS FOR JULY.

BUILDING operations in the large cities throughout the country have increased handsomely during the month of July, 1906, as compared with the same month of the past year, with a few exceptions, notably that of Greater New York, which has scored such tremendous results in the past few years that a breathing spell was to be expected almost at any time. According to official reports to the *American Contractor*, New York, and presented herewith, the gain in the majority of building centers is most gratifying, and there are no indications



CAPITAL BY CHARLES W. LEAVITT,
ARCHITECT.

Excelsior Terra Cotta Co., Makers.

that the maximum has been reached. With a few exceptions the cities which failed to discount their last year's record are of the minor class and were not expected to exceed the totals of the prosperous month of July, 1905. The percentage of gain as compared with the same month of the past year are: Atlanta, 65; Baltimore, 50; Birmingham, 156; Bridgeport, 92; Buffalo, 87; Chicago, 28; Denver, 21; Duluth, 61; Grand Rapids, 88; Jersey City, 120; Little Rock, 100; Louisville, 129; Los Angeles, 37; Minneapolis, 81; Memphis, 36; Mobile, 76; Newark, 38; New Orleans, 18; Philadelphia, 45; Pittsburg, 16; Portland, Ore., 166; Rochester, 88; St. Louis, 41; St. Paul, 11; San Antonio, 80; Scranton, 47; Seattle, 27; Spokane, 32; Salt Lake City, 138; Topeka, 161; Tacoma, 74; Worcester, 77. The reaction in Greater New York amounts to 30 per cent, although the Borough of Brooklyn made a gain of 16 per cent during this time, and the aggregate gain of fifty-seven cities is 31 per cent. The losses are mostly confined to smaller cities.

OF RATHER MORE THAN PASSING INTEREST.

THERE are 11,500,000 buildings in the country, valued at \$14,500,000,000. Of that number only 4,000 are of fireproof construction, and that only in so far as the skeleton framework is concerned. All of them can be damaged from 30 to 90 per cent in a conflagration; the others can be totally wiped out of existence by fire, and the country seems hard at work at the job. 1905 saw \$500,000,000 of new buildings put up. But

that the maximum has been reached. With a few exceptions the cities which failed to discount their last year's record are of the minor class and were not expected to exceed the totals of the prosperous month of July, 1905. The percentage of gain as compared with the same month of

\$200,000,000 damage was done by fire, and that in a "normal year." Plus that \$200,000,000, attempted fire prevention in the way of fire departments, water, etc., cost us \$300,000,000. The average business man

seems imbued with the fool idea to gamble with the insurance companies and take the risk of letting his property burn and being reimbursed by them, rather than building indestructibly in the first place. We did get back \$95,000,000 in 1905 from the insurance people. But note that fire costs us \$200,000,000 in destruction, smoke; \$300,000,000 for fire fighting and, above and beyond that, \$195,000,000 paid to the insurance companies in premiums during that same period of time!

There is but one absolutely fireproof building in the [country, the Board of Underwriters' Laboratory in Chicago, that cannot be damaged over 2 per cent even in the fiercest conflagration. Yet it cost but 12 per cent more to build than the ordinary flimsy structure. This year we are building \$725,000,000 worth of buildings.

But, including San Francisco, our lowest estimate of destruction is \$500,000,000 for the year. That one fire wiped out 2,381 acres of city, 20,000 buildings at least, and 80 per cent of the property value of the city before the fire, or, in money value, \$315,000,000 went up into smoke, \$1,000,000,000 was lost in business to the city and to the country and it will take \$350,000,000 and twenty years' time (and \$12,000,000 to clean up the debris) before the city will be anywhere near itself again. For all



DETAIL BY H. J. HARDENBERGH, ARCHITECT.
Atlantic Terra Cotta Co., Makers.



RESIDENCE AT MARION, MASS.

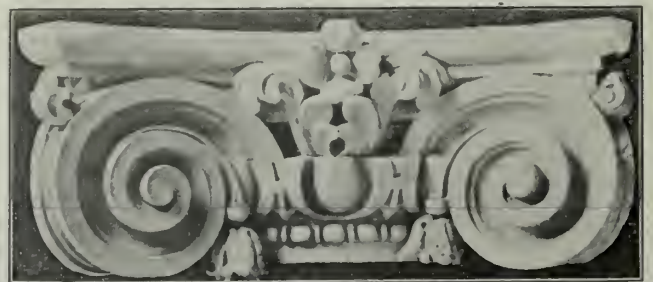
Coolidge & Carlson, Architects.

Roofed with Open Shingle Tile made by Ludowici-Celadon Co.



DETAIL, FIRST BAPTIST CHURCH, WORCESTER, MASS.
Gillespie & Carrel, Architects.

Brick, Terra Cotta and Tile Co., Makers.



DETAIL BY JAMES KNOX TAYLOR, ARCHITECT.

South Amboy Terra Cotta Co., Makers.

of that loss the people *may* get back \$135,000,000 from the insurance companies!

To build thoroughly fire-proof now means some additional expense because the conflagration risk is so great all about. If every one had built sanely there would be no occasion for this expense, simply incombustible buildings would be required. Yet even though the expense may be greater, the only way the permanency of a structure can be assured is to build it *absolutely* fireproof. Building requirements should be more exacting; insurance rates upon fire-traps should be prohibitive; taxation upon property should be graduated. As it is now, the more a man spends, the better he builds, the less protection he needs from the municipality, the greater the tax he has to pay. It should be that if one so builds as to require the minimum of protection from the city his tax should be lowered, while the one who builds a fire-trap or maintains one, requiring the maximum of protection, should be made to pay a commensurate tax, the maximum.

F. W. FITZPATRICK,

Secretary International Society of Building Commissioners and Inspectors.

TWO NEW CATALOGUES.

TWO interesting and valuable catalogues have come to our table; one issued by the Northwestern Terra Cotta Company of Chicago, which besides being beautifully illustrated from work which has been executed by this company, has a series of plates showing clearly the methods of construction for the various features of a building. One page contains a series of helpful suggestions for estimating, and a statement of what is required by the manufacturer from the architect. The work would perhaps better be described if it were called a Text-Book on Architectural Terra Cotta rather than a catalogue.

The Ironclay Brick Company of Columbus, Ohio, has issued a pocket sized catalogue, leather bound, in which there



ASSEMBLY BUILDING, CHICAGO UNIVERSITY.

Shepley, Rutan & Coolidge, Architects.

Fireproofed throughout by the National Fireproofing Company.

sketches by the students of the Architectural Department at the University of Illinois has recently been issued in a very attractive portfolio form.

The work of the architectural students at Washington University, St. Louis, makes another attractive portfolio.

IN GENERAL.

Frank P. Milburn and Michael Heister, architects, and George T. Kepler, engineer, have formed a copartnership for the practice of architecture under the firm name of Frank P. Milburn & Co.; offices, Life Building, Washington, D. C.

Leon E. Stanhope, architect, has formed a special partnership with Holabird & Roche of Chicago, for the purpose of opening a branch office at 923 Monadnock Building, San Francisco.

Henry C. Hengels, architect, 704 Grand Avenue, Milwaukee, Wis., is desirous of receiving manufacturers' samples and catalogues.



DETAIL BY CLINTON & RUSSELL, ARCHITECTS.

New York Architectural Terra Cotta Co., Makers.

The terra cotta for the Elks Club House, Philadelphia,

E. P. Simon and D. B. Bassett, associate architects, illustrated in our July number, was manufactured by the Excelsior Terra Cotta Company of Rocky Hill, N. J.

Carter, Black & Ayers have furnished, recently, the face and enameled bricks for the large sales stables and auction rooms of the Fiss, Doerr & Carroll Horse Company, New York City, Horgan & Slattery, architects. They are also furnishing, at the present time, the enameled and face brick being used in the Water Side Power Station of Edison Company, New York City. This is one of the large

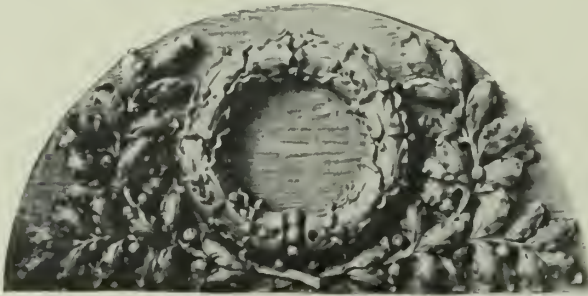


DETAIL BY PERTH AMBOY TERRA COTTA CO.

George B. Post & Sons, Architects.

contracts of the year. As agents of the Northeastern Terra Cotta Company, they will supply architectural terra cotta for several new apartment houses now being erected in New York.

The Atelier Jallade of the Society of Beaux Arts Architects announces that after September 1 it will reorganize under the name of "The Jallade-Prevot Atelier." Mr. Jallade associates in his atelier work, Professor M. Prevot, late of Cornell University, Department of Architecture. The object of this association is to give more personal attention and time to each pupil. It is proposed to have the pupils continue to do the regular Society Beaux Arts Architects' problems, and in addition give a series of lectures on the theory of architecture and practical construction. Admission to the Atelier will be through an examination and the number of pupils will be limited.



DETAIL MADE BY NEW JERSEY TERRA COTTA CO.

Mr. Myron Hunt, writing of the San Francisco earthquake in *The House Beautiful*, observes that while brick buildings suffered most, the greatest damage was noticeable where joists were not thoroughly anchored to the walls. Continuing, he says: "Much San Francisco brickwork was laid dry; that is to say, the bricks were not wet before laying. The earthquake and fire threw these walls down, and the bricks lie on the ground, practically clean of mortar because of faulty laying. Well built brick walls, laid in cement, stood surprisingly well."

A semi-philanthropic scheme for improvement of the East End of London has been put forth by Mr. Imre Kiralfy. It is proposed to widen thoroughfares and to create public gardens and other open breathing spaces. The improvements are directed especially at Spitalfields and Shadwell. At the former a huge emporium is to be



DETAIL BY CONKLING-ARMSTRONG TERRA COTTA CO.
C. E. Cassell & Son, Architects.

built similar to large bazars in France and Belgium. At Shadwell it is proposed to erect two or three large buildings with glass-covered arcades giving access from one garden to another. These buildings being considerably higher than the former rookeries, a gain in floor space is attained, and at the same time improved housing conditions are offered to tenants. Sloping ground is to be utilized by a series of terraces which will accommodate audiences divided in groups before a public band stand. A museum and library is also suggested, to be placed beside the Thames and to have a veranda overlooking the river. In the basement would be public baths, a swimming pool and gymnasium. Mr. Kiralfy declares that investors will receive from four and a half to six per cent interest for their money, while the neighborhoods will receive gardens and street widening free of cost.



DETAIL BY LOUIS CURTISS, ARCHITECT.
Northwestern Terra Cotta Co., Makers.

ARCHITECTURAL DRAUGHTSMEN WANTED — Two first-class draughtsmen can secure permanent employment at a good salary by addressing H. E. Bonitz, Architect, Wilmington, N. C. Forward samples of work and state salary desired with application.

PARTNERSHIP WANTED — A man of 31, married, having a university education in architecture and an experience of ten years in leading Chicago offices, is desirous of affiliation in business with an architect well established in some smaller city, preferably but not necessarily in the Central States. Passed with high standing the Illinois State Board examination, and can furnish highest references from profession in Chicago as to character and ability. Well bred and capable of dealing with a refined clientage. Address W. A. W., 1618 Monadnock Block, Chicago.

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THE GRADUATE YEAR. Affords opportunity for advanced work in design and other subjects, leading to the degree of M. S. in Arch.

THE TWO YEAR SPECIAL COURSE. For qualified draughtsmen, offers advanced technical training, yielding a certificate of proficiency.

THE UNIVERSITY. Also grants advanced standing to college graduates, offers a combination of liberal and technical courses whereby the degrees of A. B. and B. S. in Arch. can be taken in six years, and conducts a Summer School in which architectural studies may be taken.

FOR FULL INFORMATION address Dr. J. H. PENNIMAN, Dean, College Hall, University of Pennsylvania, Philadelphia, Pa.

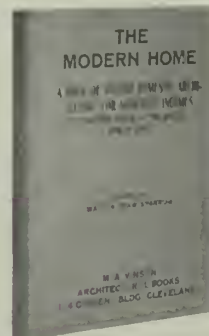
A Book you want

"THE MODERN HOME" has
40 pages in color
120 pages of photos and sketches
Illustrating medium sized houses and
cottages of England
Bound in strong linen boards
Sent prepaid **\$3.50**
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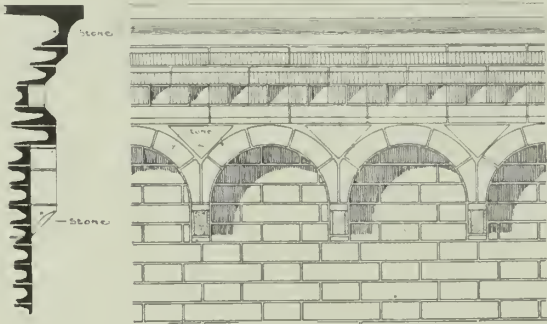
M. A. VINSON

Books on Architecture

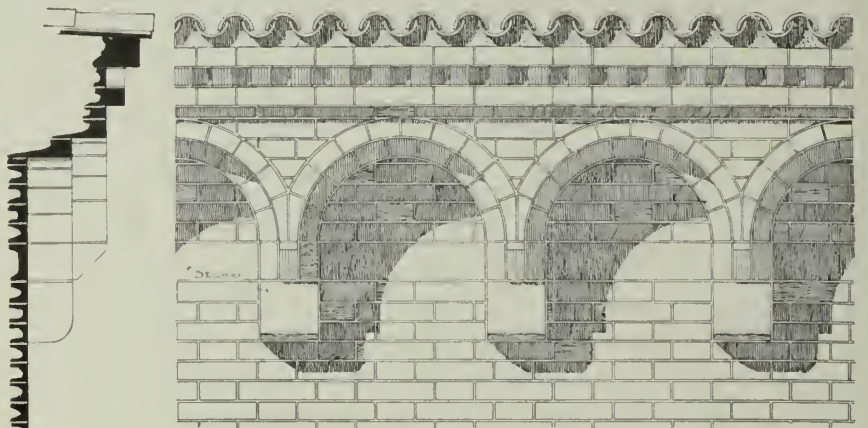
1114 Citizens Building, CLEVELAND, O.



CORNICES

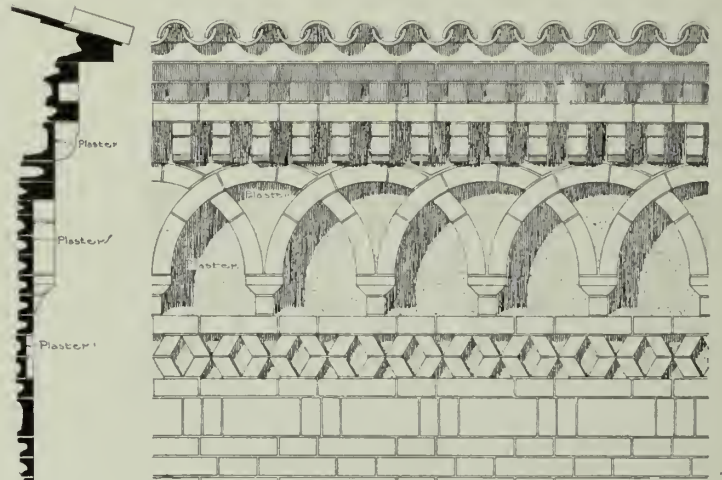
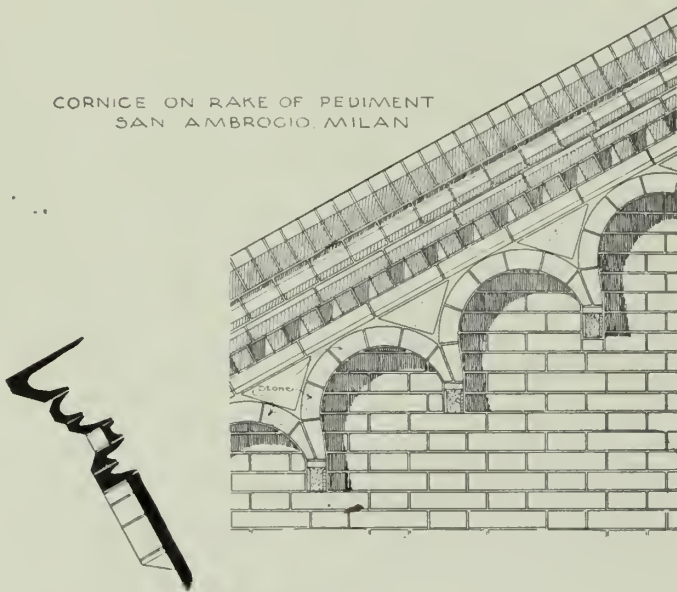


CORNICE AROUND COURT
SAN AMBROGIO, MILAN

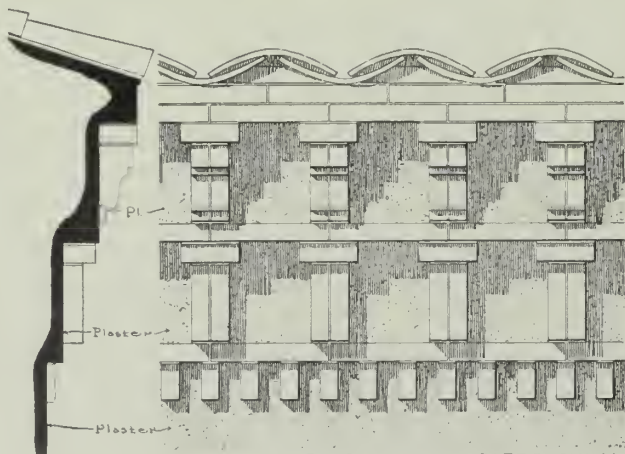


CORNICE AROUND APSE
SAN AMBROGIO, MILAN

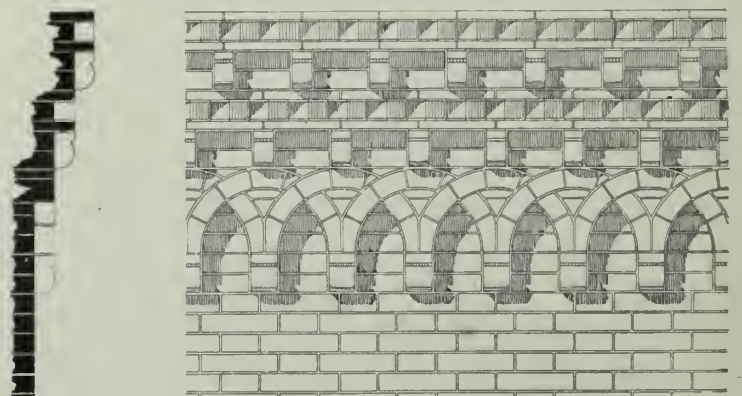
CORNICE ON RAKE OF PEDIMENT
SAN AMBROGIO, MILAN



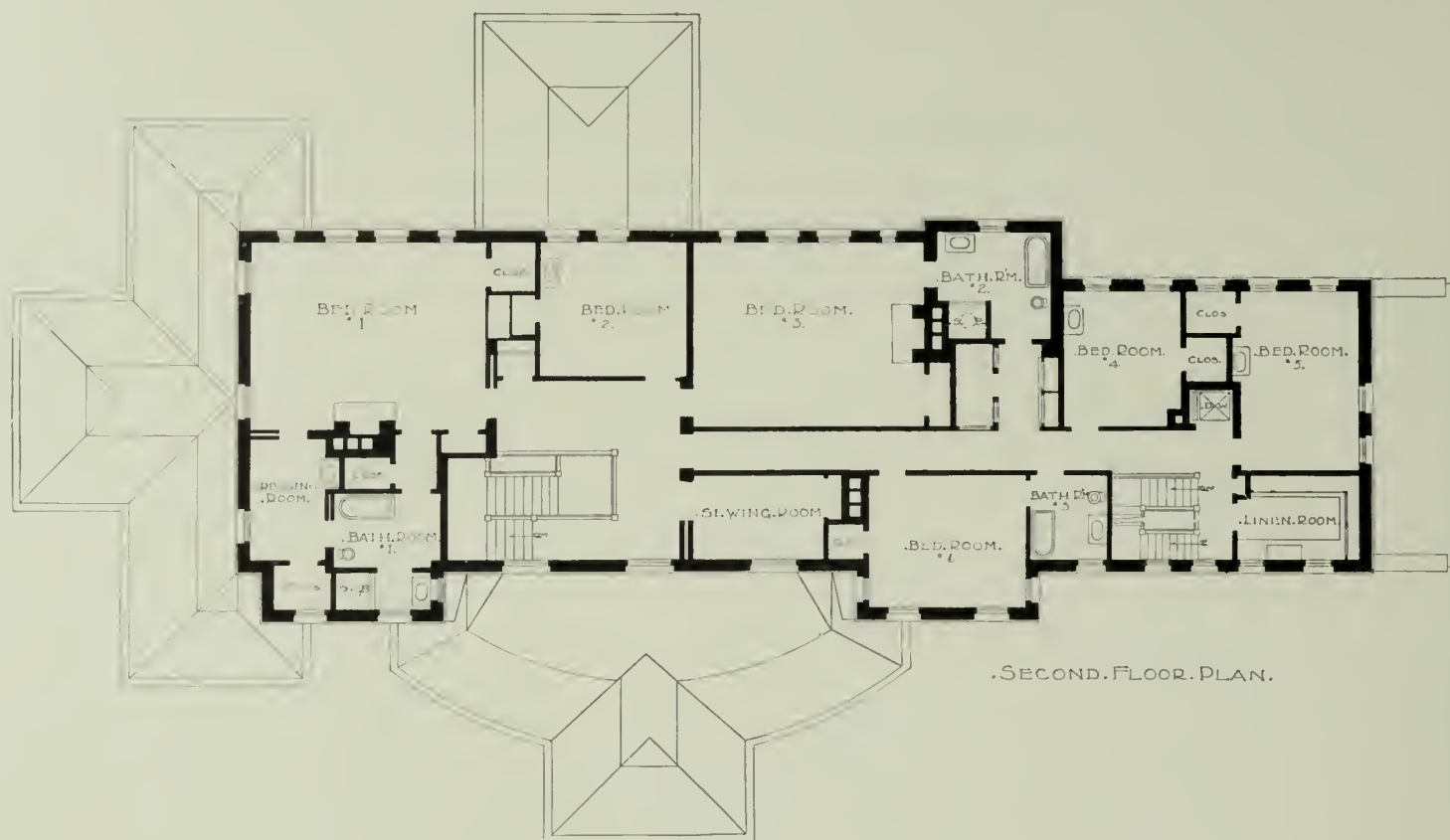
CORNICE AROUND DOME
SAN AMBROGIO, MILAN



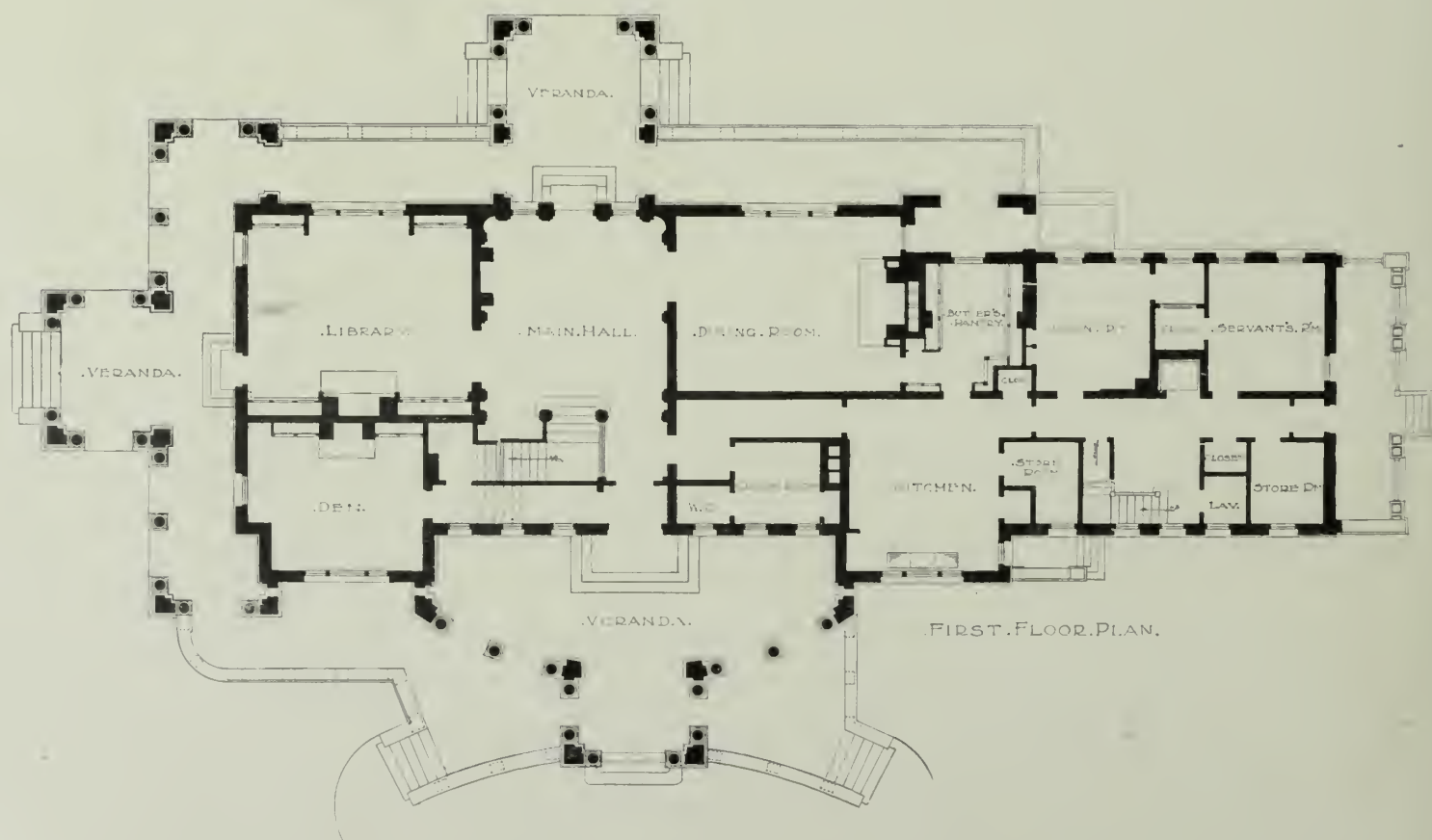
CORNICE FROM RANDAZZO, SICILY



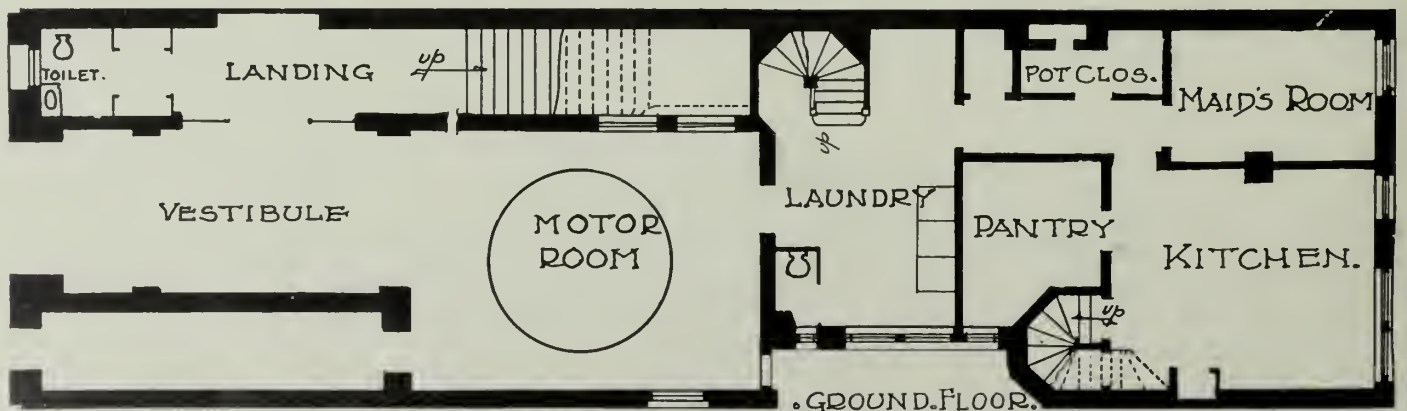
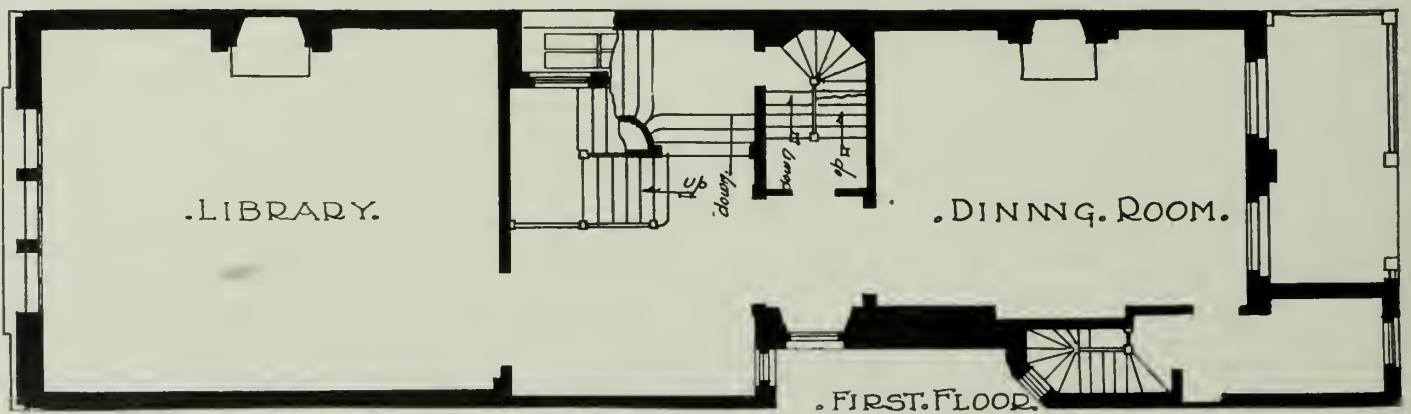
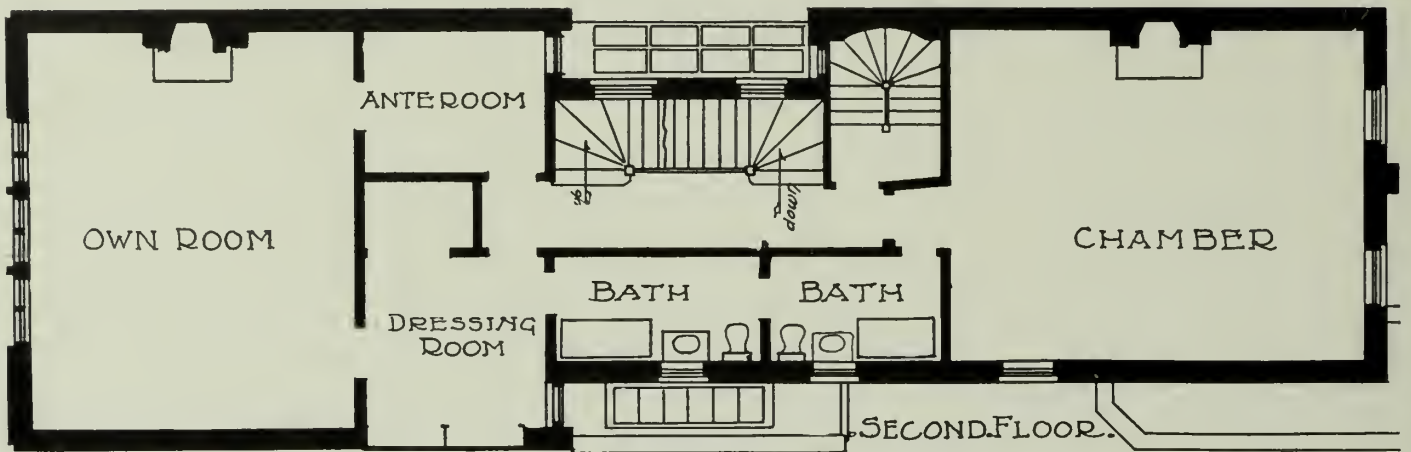
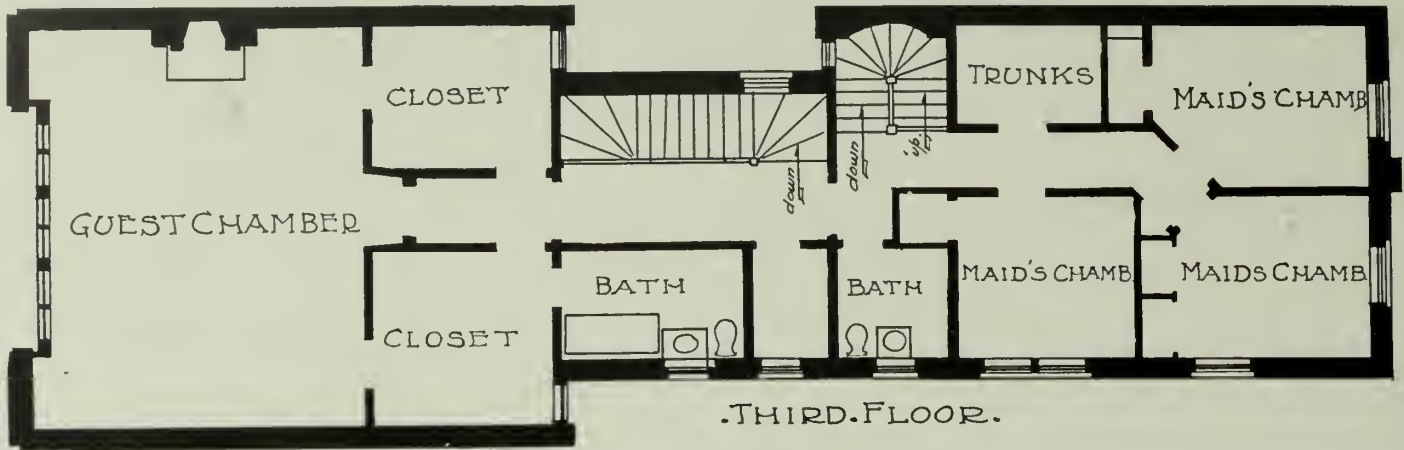
A ODD CORNICE



Scale of feet



PLANS. HOUSE FOR S. G. BAYNE, ESQ., WHITE PLAINS, N. Y.
FRANK FREEMAN, ARCHITECT.



PLANS. HOUSE FOR RALPH M. SHAW, ESQ., CHICAGO
HOWARD VAN D. SHAW, ARCHITECT.



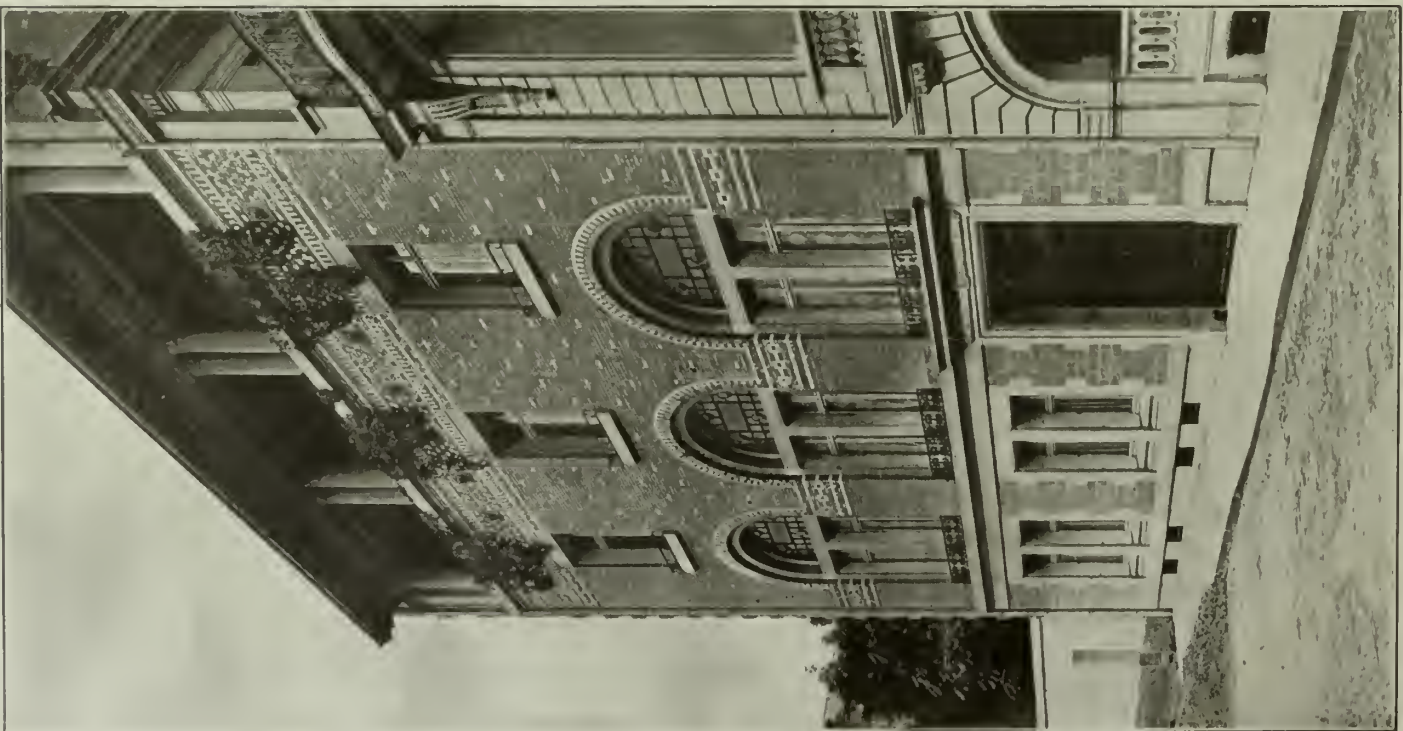
ENTRANCE FRONT.



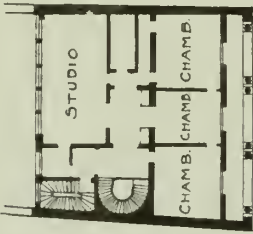
LAWN FRONT, HOUSE FOR ELMER E. CLAPP, ESQ., DEDHAM, MASS.
FRANK CHOUTEAU BROWN, ARCHITECT.



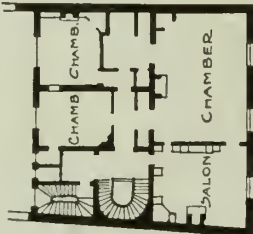
SIGMA CHI CHAPTER HOUSE, MADISON, WIS.
ROBERT C. SPENCER, JR., AND CLAUDE & STARCK, ASSOCIATE ARCHITECTS.



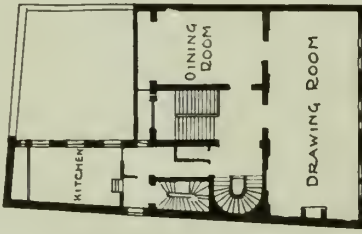
HOUSE OF RICHARD B. VAN DER BOIJEN. ARCHITECT. PARIS
FIRST FLOOR ACCOMMODATING STABLE AND GARAGE.



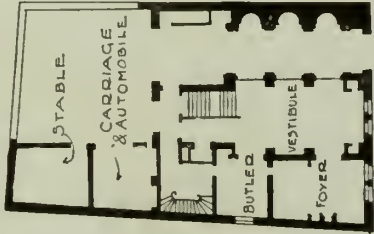
THIRD FLOOR.



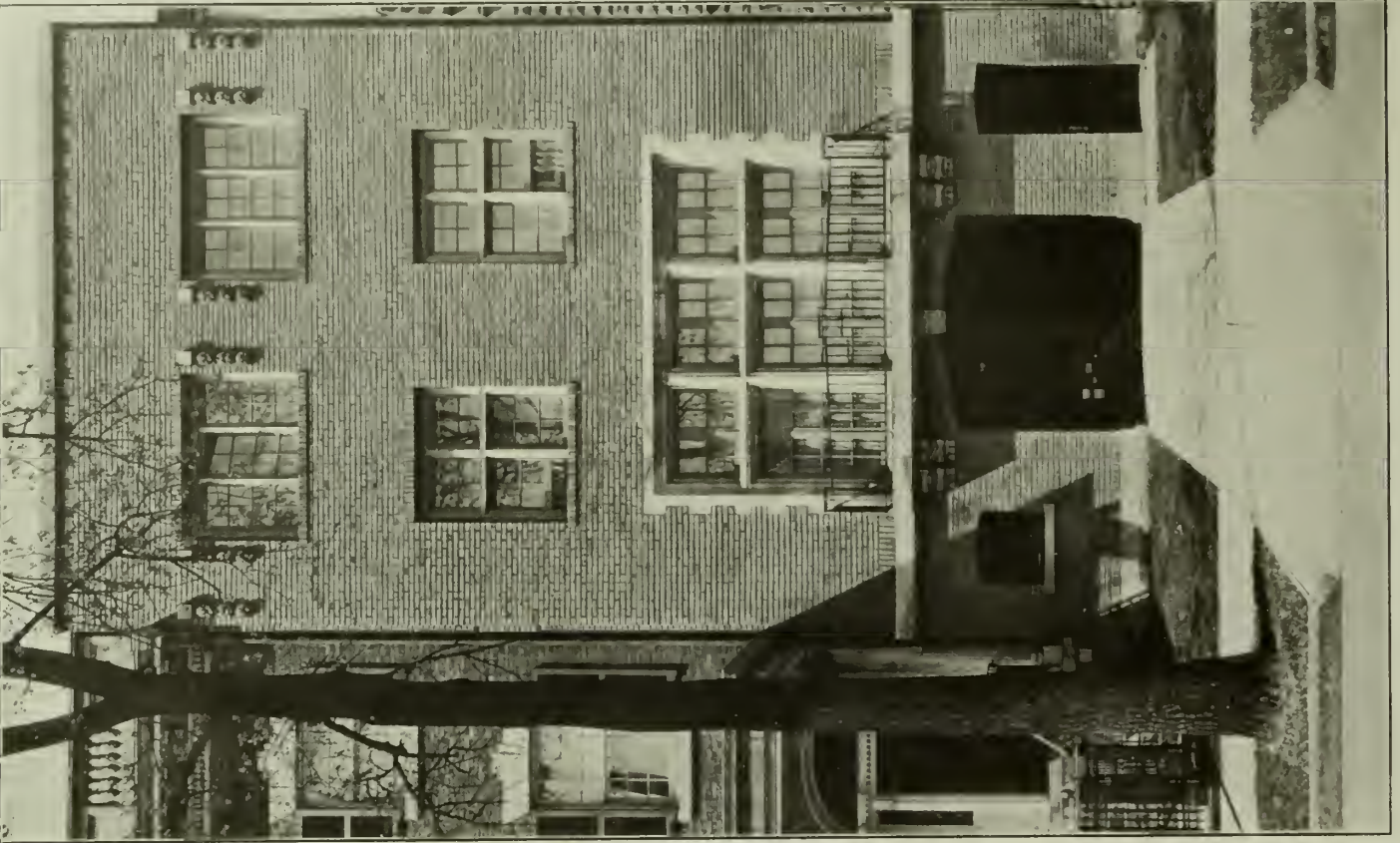
SECOND FLOOR.



FIRST FLOOR.



GROUND FLOOR.



HOUSE FOR RALPH SHAW, ESQ., CHICAGO
HOWARD VAN D. SHAW, ARCHITECT.
FIRST FLOOR ACCOMMODATING GARAGE.
(SEE PLATE 101.)



HOUSE FOR S. G. BAYNE, ESQ., WHITE PLAINS, N. Y.
FRANK FREEMAN, ARCHITECT.



HOUSE FOR S. G. BAYNE, ESQ., WHITE PLAINS N. Y.
FRANK FREEMAN, ARCHITECT.



HOUSE FOR A. J. MASON, ESQ., CHICAGO.
HOWARD VAN D. SHAW, ARCHITECT.



HOUSE FOR THE MISSES COLVIN, LAKE FOREST, ILL.
HOWARD VAN D. SHAW, ARCHITECT.



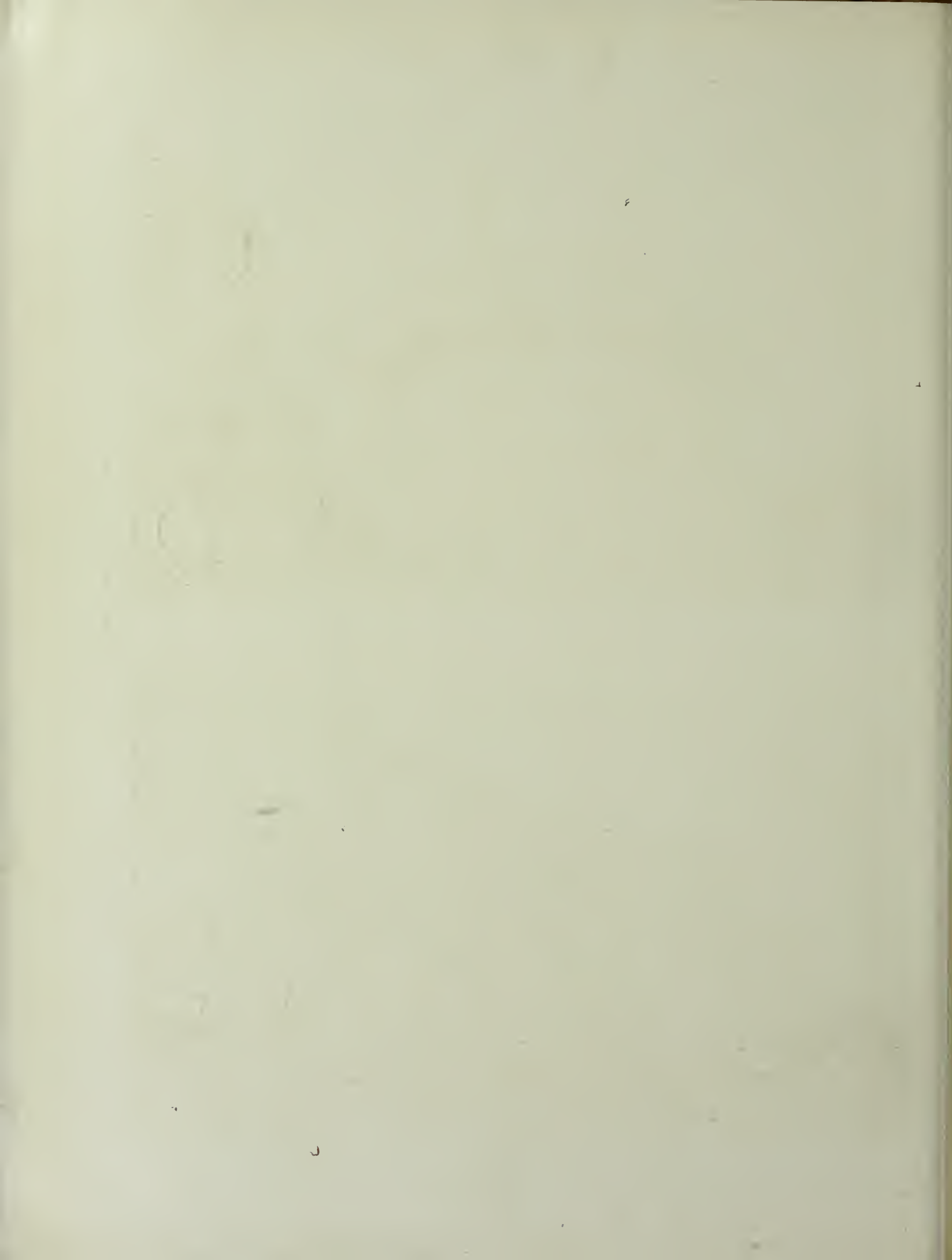


ENTRANCE, HOUSE FOR A. J. MASON, ESQ., CHICAGO



ENTRANCE, HOUSE FOR C. H. STARKWEATHER ESQ., CHICAGO.

HOWARD VAN D. SHAW. ARCHITECT.

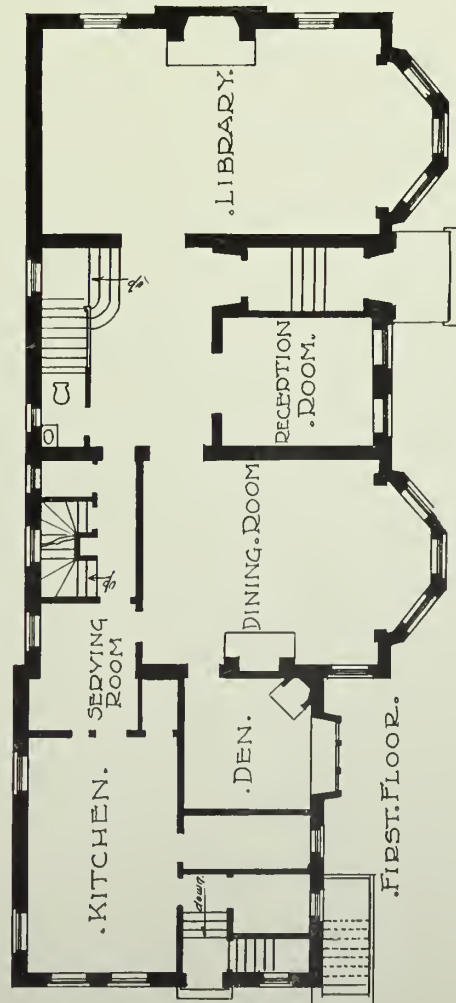
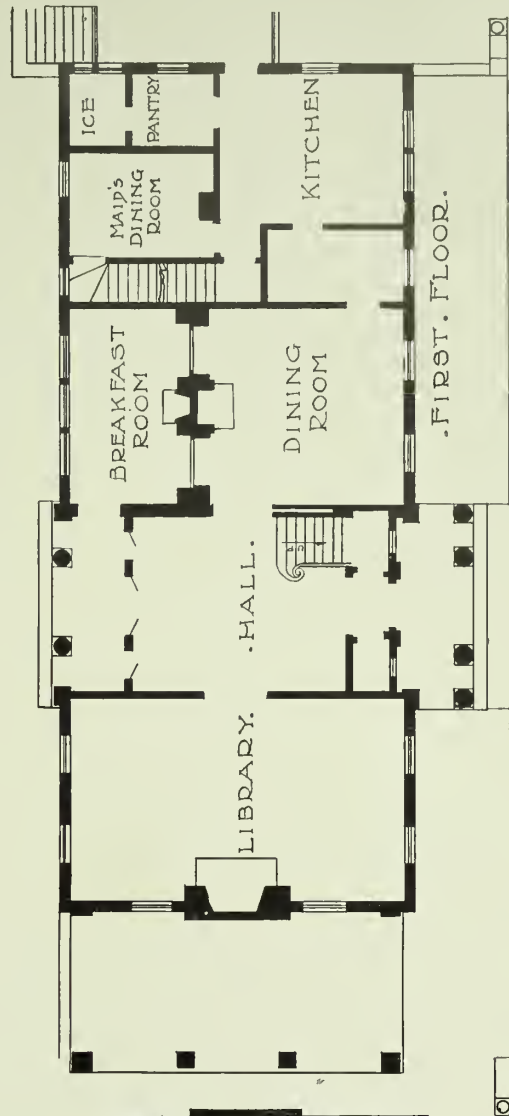
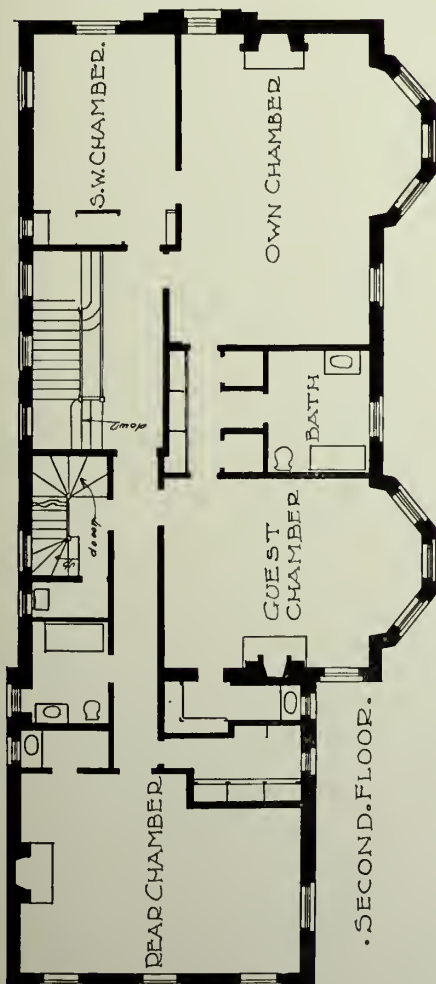




HOUSE FOR A. BOLZA, ESQ., CHICAGO.
HOWARD VAN D. SHAW, ARCHITECT.



HOUSE FOR C. H. STARKWEATHER, ESQ., CHICAGO.
HOWARD VAN D. SHAW, ARCHITECT.

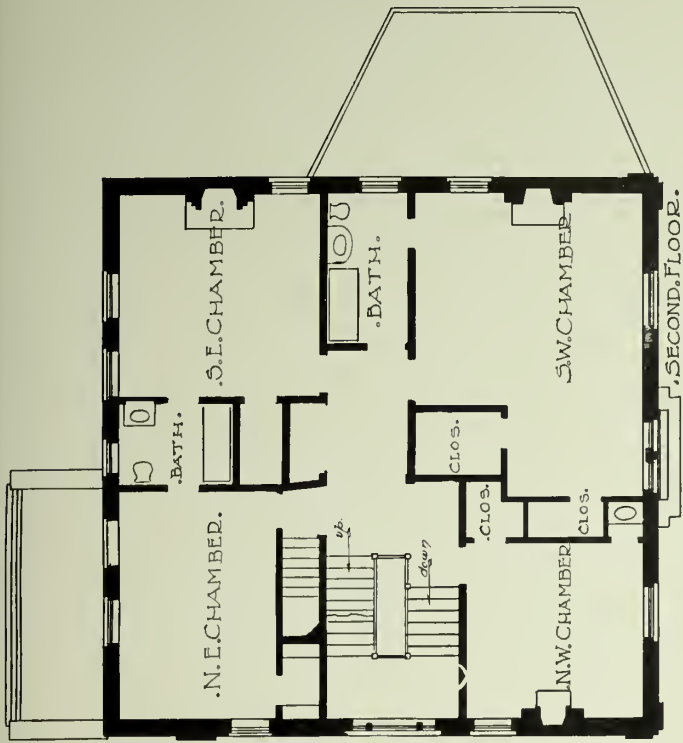


PLANS, HOUSE FOR THE MISSES COLVIN, LAKE FOREST, ILL.

PLANS, HOUSE FOR C. H. STARKWEATHER, ESQ., CHICAGO

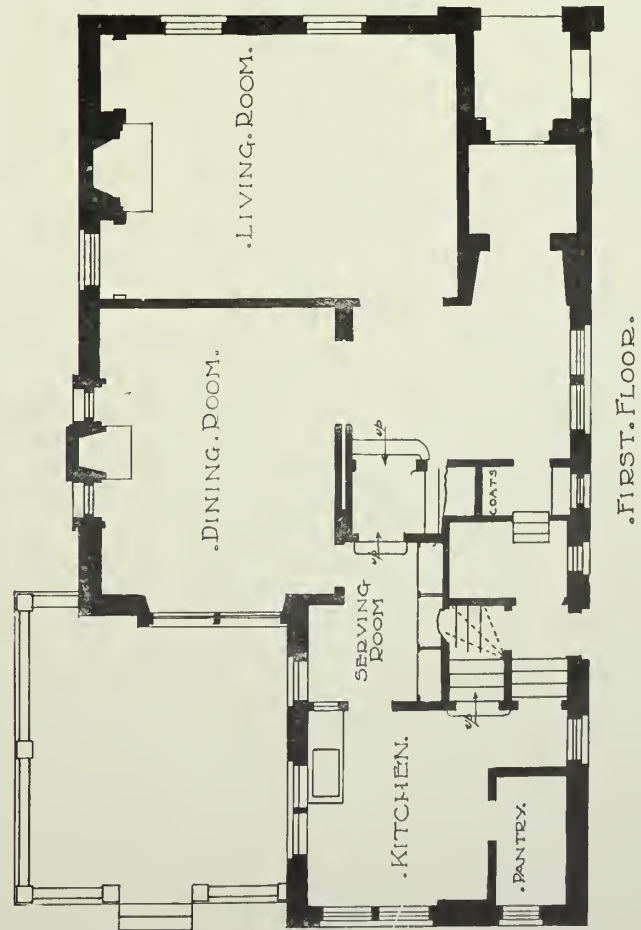
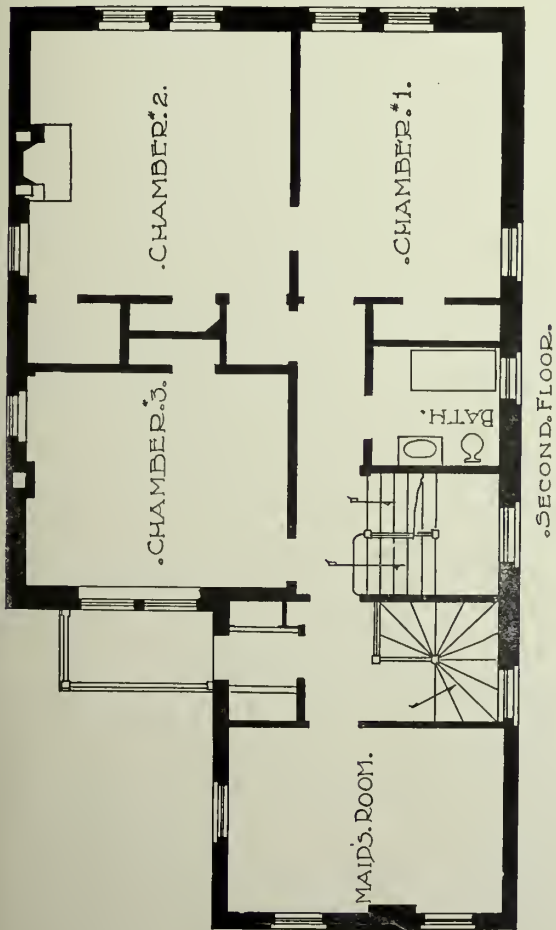
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PLANS, HOUSE, A. J. MASON, ESQ., CHICAGO

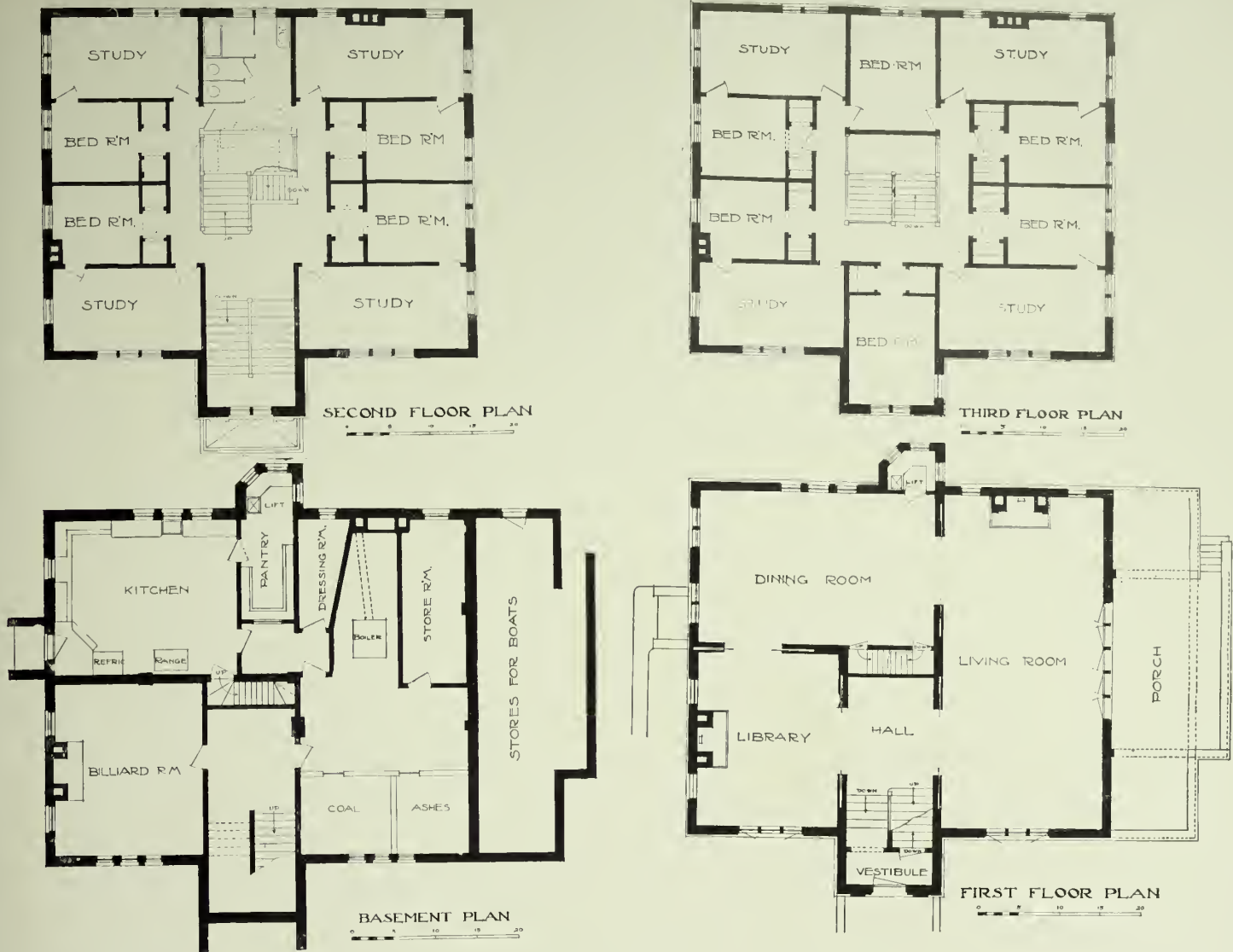
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PLANS, HOUSE FOR A. BOLZA, ESQ., CHICAGO

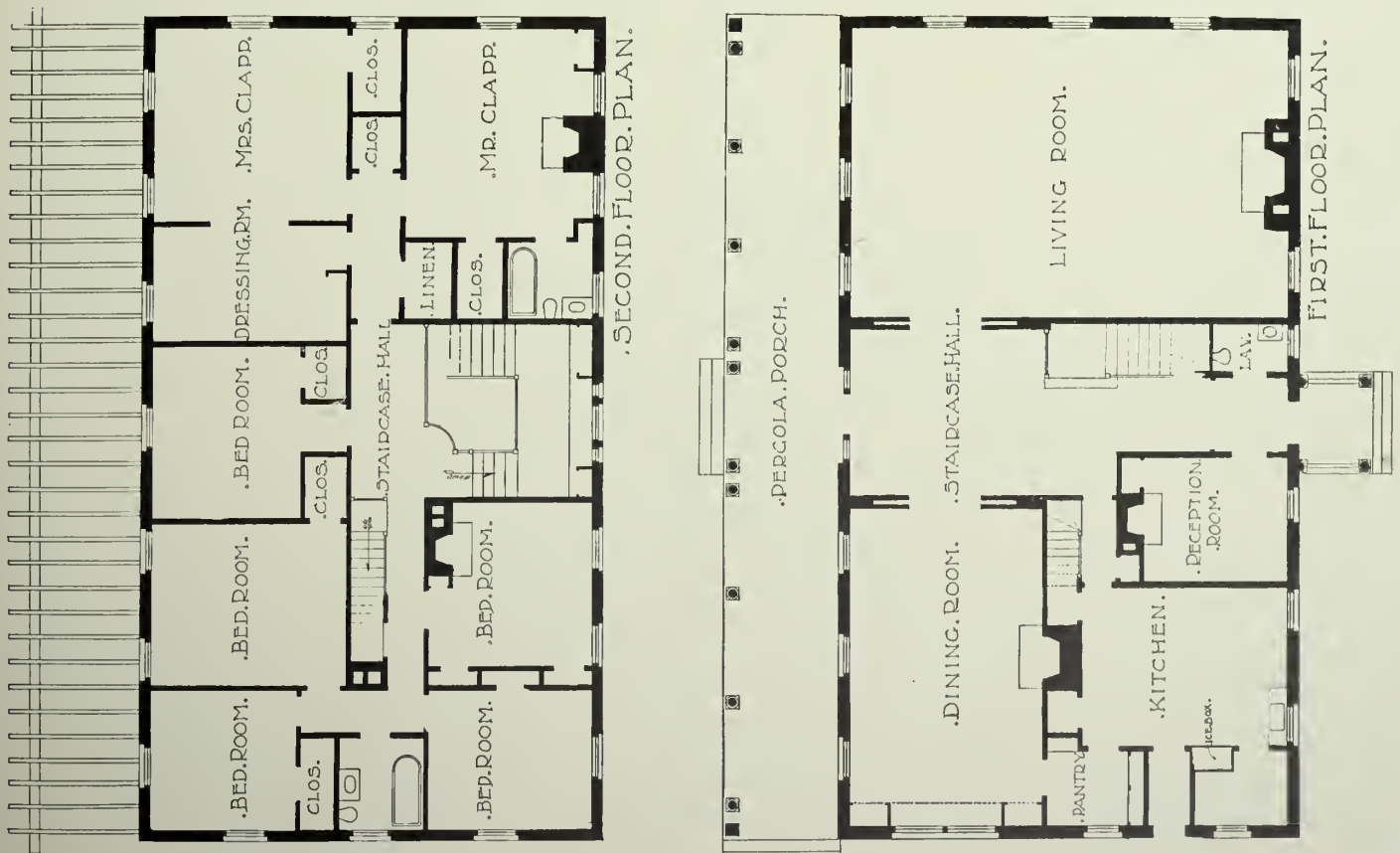
First Floor.

Second Floor.



PLANS, SIGMA CHI CHAPTER HOUSE, MADISON, WIS

R. C. SPENCER, JR., AND CLAUDE & STARCK, ASSOCIATE ARCHITECTS.



PLANS, HOUSE FOR ELMER E. CLAPP, ESQ., DEDHAM, MASS

FRANK CHOUTEAU BROWN, ARCHITECT.

THE BRICKBUILDER

VOLUME XV

SEPTEMBER 1906

NUMBER 9

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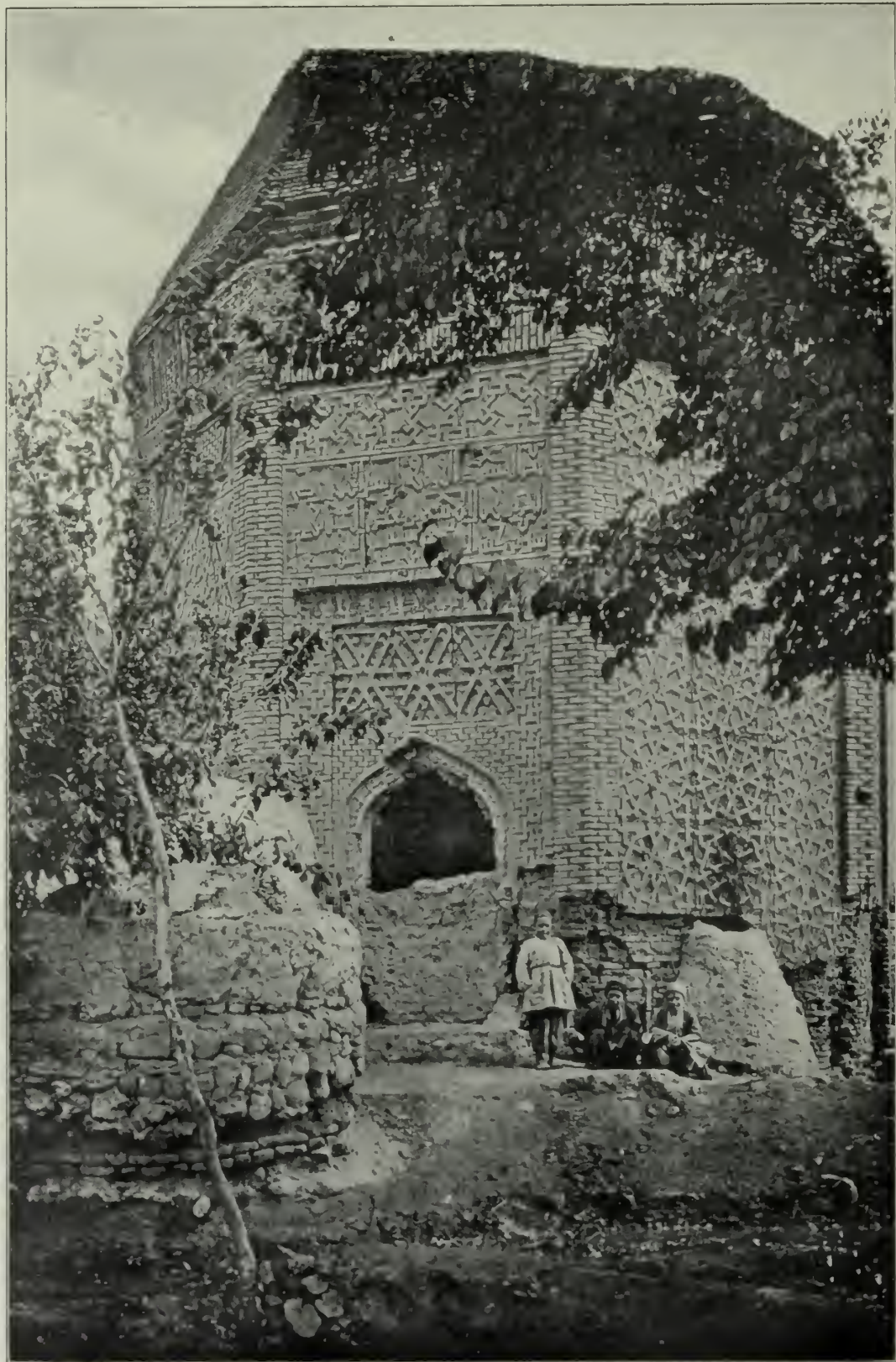
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MAUSOLEUM AT NACHTSCHEWAN, PERSIA.

THE BRICKVILDER

VOL. 15 No. 9 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY SEPTEMBER 1906

THE NET RESULTS.

THE International Congress of Architects, which was fully reported in our last issue, was in nearly every respect a great success. In attendance, in enthusiasm and in variety of topics discussed, it was everything which could have been anticipated. It is only when one tries to measure the tangible resulting good to the profession that there is any question as to how far and in what measure congresses of this sort accomplish their avowed mission of furthering the cause of good architecture. Considered merely as excuses for kindred architectural spirits to meet and discuss topics of mutual interest, as opportunities for encouraging a fraternal feeling among architects, and as occasions for showing to the public at large that architecture is a well-organized, coherent profession, these congresses are eminently successful.

But one cannot seriously study the reports of such conventions and congresses without a feeling of regret that, where so much effort has been expended, so much thought has been given to the elaboration of themes well worth considering, and so much said that should have lasting effect, all this effort should really reach only a very few, and that the results of all these congresses should so often be stowed away in the files of the architectural periodicals, seldom seen or consulted. That is the one respect in which architectural gatherings do not altogether realize their expectations. The discussions of fruitful topics usually are followed only by a limited number who were present at the meeting, who, it is true, carry away vivid impressions which are of value in the daily life of the profession, but who are seldom to pass along such impressions to their less fortunate brethren who remain behind over the drawing board.

Even with the most careful reporting the real spirit and enthusiasm of a congress such as this cannot be appreciated by proxy. Furthermore, without in the least decrying the high order of talent represented by the delegates, there are many who never take part who are numbered among the very best architects, and from whom we would expect the greatest amount of helpful criticism and advice. It is the active practitioner that we listen to most effectively, the man who not only thinks and says things, but does them, — the architect who is often so busy that he has no time to prepare papers, much less to read them in a far country. This, of course, is inevitable, but it is none the less to be regretted.

Also, notwithstanding the enthusiasm which is so easily aroused in a gathering such as took place at London, the very size of the body operates against that free expression of opinion which does the profession so much good. We cannot help walking on stilts a little when addressing a large body of thinking men, but it is precisely because we do not profit most by stilted talks that one could wish the proceedings of such congresses could be more personal and less professional, if that expresses the case.

In the desire to give each country a representation in the proceedings, it has seemed to us that the programmes must have been overloaded, and that if each day's proceedings had been cut down one-half and only the very choicest, most crisp thoughts could have been condensed into short, direct address, the academic character of the proceedings would have been much less manifest, and a livelier benefit would have accrued to all the listeners. At the same time, it would also have been much more likely that the reports of such proceedings would carry with them the true kernel of thought which would be of benefit to those who would read only at a distance. We can never hope to influence many readers or people with long discourses and it is easy to imagine a congress even larger in numbers than that of London, but with the speech-making and paper-reading reduced and concentrated to a few hours of really earnest and profitable discourse.

It will be noticed that Mr. Kelsey very gracefully invited the Congress to meet year after next in this country. We can then have a chance to see whether we can do things any better on this side of the water.

EDUCATION OF THE PUBLIC IN ARCHITECTURE.

TO our mind the best thought was called out at the London International Congress of Architects by the discussion of the subject of the "Education of the Public in Architecture." In the discussion, it seemed to be accepted by some of the delegates as a matter of course that the public is not interested in architecture, and that, therefore, this interest has to be awakened, carefully cultured and encouraged up to a more or less general appreciation of the particular manifestations which the architects have in mind. This may be true in England. To

a certain extent it is true everywhere, but in a sense it is fundamentally untrue. Certainly there is no manifestation of human effort which reaches the general people more thoroughly than architecture. There is no means by which money can be so effectively spread around among all classes of people as by building, and it is again and again shown in all of our large cities that the public is alive to architecture, wants to know about it and takes a deep interest in building operations.

The public certainly is not interested in architectural exhibitions. We admit that fully, and even the constant efforts of all our architectural societies have not yet resulted in a single architectural exhibition which could in any sense be called popular. But we do claim that building operations, especially when they lead to a large and imposing architectural effect, are studied with the utmost daily attention by all classes of people. The public in this country certainly wants public art. It welcomes it, and if it is indiscriminate in its approval, we question if this is not quite as much the fault of the architects as of the public.

The real necessity for education, in our minds, is not to teach the public what is good architecture, so much as to bring them to a closer appreciation of the function the architect plays in public work. To many people he is still a sort of upper craftsman; less businesslike than a mason; not as practical as a carpenter; but one who increases the cost of a building from some unknown reason, and keeps the builders all guessing. Any one who looks back over the progress of the profession in this country for the last quarter of a century, can readily appreciate how modern a thing the American architect is, and how little he is understood. The nation, the cities, the individuals, have thrown opportunities at the profession with both hands. The profession has never been quite equal to it, but has made a brave fight and is fighting still.

When we say that the public appreciates architecture, we do not mean that the appreciation is a knowing or an intelligent one. It simply likes a large, handsome piece of building construction, and, generally speaking, the public that goes by on the street will take kindly to the really good architectural monuments. There is, however, beyond question, a great work to be done, and the suggestion that was made at the Congress by M. Anciaux, to educate the public by means of the creation of museums of architecture, is one which deserves careful consideration, and which, if carried out very generally, would undoubtedly do a great deal to bring about the desired results. It is safe to say that the collection of architectural casts in the Metropolitan Museum at New York is studied and admired more than any other one feature of that magnificent collection, and there ought to be similar collections in all of our large cities. Whether the time is yet ripe for them to be independent collections is a question. Even now nearly all of our museums have a more or less general collection of architectural casts, and if these could be enlarged so as to be more specific in their illustrations, — to include models of complete buildings of the best type, with examples of decorations of furnished interiors, and with, perhaps, in connection therewith, exhibitions of architectural drawings, — they would become powerful educational agents.

THE CONDUCT OF INTERNATIONAL ARCHITECTURAL COMPETITIONS.

THE recent fiasco of the competition for the Peace Palace at The Hague was so strong in the minds of European architects that it necessarily suggested a very lively discussion at the London Congress of Architects. Our own remedy for the evils of an international competition would be not to have any. We see no reason to believe that any country would gain by importing directly outside talent for its assistance. It is not conceivable that an outsider would be as likely to give any national monument its local character as those properly to the manner born. Quite aside from the question as to whether or not a competition for any building is desirable, it is beyond dispute that no International Competition has ever resulted in anything but failure.

In the discussions on this subject at the Congress the anonymity of all competitions seemed to be accepted as a matter of course. At the last convention of the American Institute at Washington, a proposal was made that all competitive drawings should be signed by the full name of the author. We have no sympathy with the theory that would impose a blind chance upon the results of any competition, neglecting entirely the personality of the architects themselves, and striving to arrive at a decision based upon a fortuitous display of more or less accurate drawings. Personality is one of the strong features in architecture, and to disregard it entirely is to insure failure. This has been proven over and over again so conclusively by competitions here and elsewhere, that it is rather surprising no mention of this shortcoming should have appeared in this discussion at London.

A MINISTRY OF THE FINE ARTS.

IN the presidential address of welcome, given by Mr. John Belcher at the London Congress of Architects, the speaker called attention to one of the defects in the architectural conditions of Great Britain, which is in a measure a lack also in this country. England has no Ministry of Fine Arts nor any similar authority to watch over the interests of the public in respect to the art as distinguished from the science of building. In the United States that function is assumed by something which does not seem to have its exact counterpart abroad, represented by our municipal art societies, civic art commissions, art leaguers and kindred associations. All of these are creations of comparatively recent years. In fact, it is doubtful if there was an art society of any sort in this country possessing any weight of influence prior to the Columbian Exhibition year. Public opinion is now represented very efficiently in most of our large cities by private association, which aims to formulate the best properties and wishes of the best practitioners in architecture and art. For nearly ten years these societies worked in the dark, with little results. But with the inception of the improvements in Washington a national change has begun, and we believe it is fair to say that the results which have been accomplished by our various municipal art organizations have been more potent for good, and have actually accomplished more results than would have been possible with any Ministry of the Fine Arts.

The Group-Plan. II.

THE ELEMENTAL TYPES OF COMPOSITION.

BY ALFRED MORTON GITHENS.

WE have said that there seem to be barely six or eight elemental types of plan composition and that most groups are made up of one or more of them. Now we will take up these types seriatim.

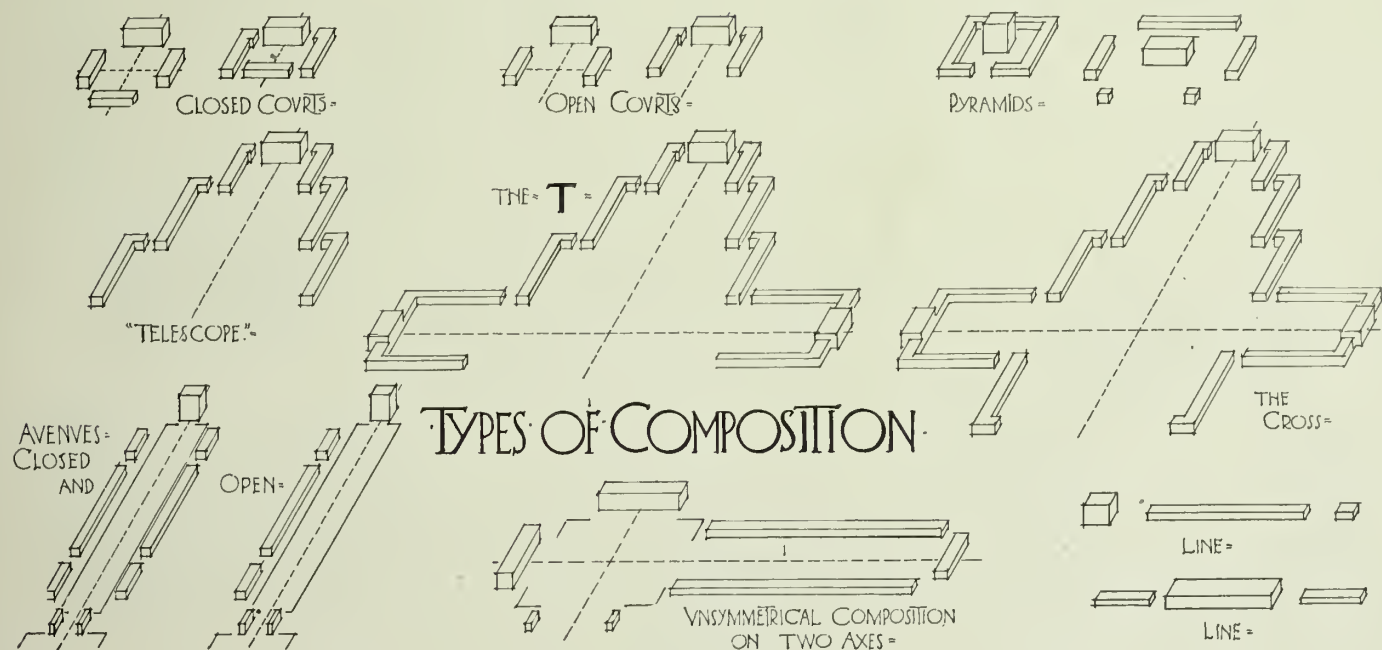
THE CLOSED COURT. — The simplest and historically the first is the *closed court*. Originally planned for defence against outsiders and yet that it might be open to the air within, it persisted as the type plan for seclusion and privacy. The houses of Greece and Rome and the mediæval cloisters and colleges are examples. Through its monumental possibilities it became the type for the palaces and *fora*.

Just now, especially in America, it is in disfavor. The court open on one side, to the south if possible, is

approach. There are countless examples of all degrees of importance from the little Orphans' Home at Wallingford at the end of its country lane, to the palaces of the Louvre or Versailles, terminating two of the greatest vistas of the world.

This *composition* is sometimes chosen for another reason; the open side may be an outlook merely, as in the Fine Arts Square of the California University, which overlooks a grove of pine trees, the most attractive natural feature of the Berkeley hillside. Mr. Flagg has twice used the *open court* in the Annapolis Academy; the Campus and Amphitheater face the Severn River, and the Parade the Chesapeake.

This group suggests a peculiarity of many American compositions; an entire indifference to the corners of a *court*,—important as the sides and far more difficult to compose. Many arrangements have been tried and a few successfully. The buildings may be frankly separated as in the Berkeley "College Square," where



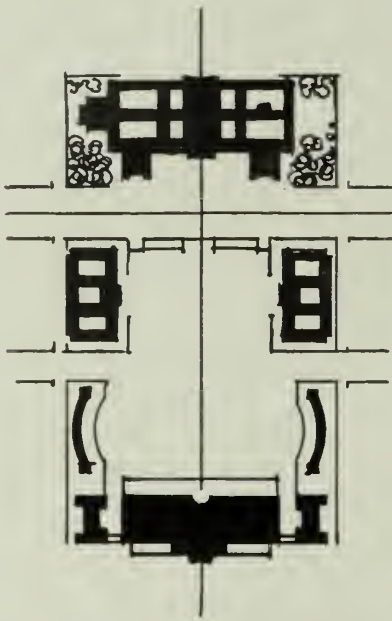
preferred, as giving more light and air, and the *closed court* seldom chosen except in cities where space is limited. The entrances to it are usually either choked, as in fortified mediæval buildings, or else not given their deserved importance. When well arranged of course no composition can be more dignified. Witness the great central court of M. Bénard's University of California, the "college square," as it has been called, for it is the ideal type of a city square in arrangement; that is to say, no avenue finds its termination there, but the circulation passes through it in one side and out the opposite, connecting it with the technical and scientific buildings above and the Fine Arts Square and city below.

THE OPEN COURT. — A *closed court* is only partially effective as the termination of a great avenue, for the building in the forefront hides those behind: remove it and the three sides remaining are all effective. This is the *open court*, the second of the *compositions* and that most often used in modern planning. The entrance is no longer a difficulty, for the open side is naturally the

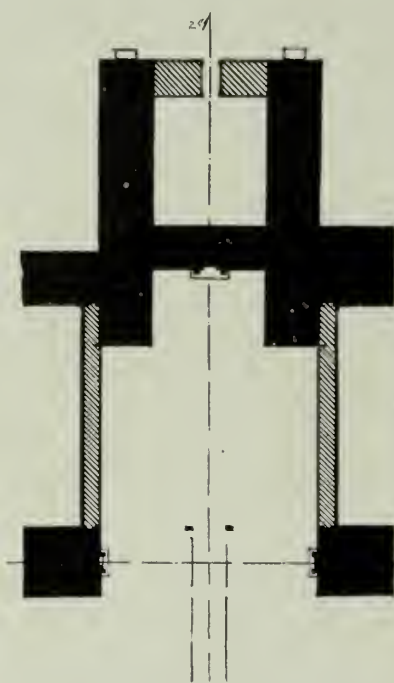
masses of high trees form the upper corners of the court; the corners connected by low arches, curved as in the "Palais d'Enfance," or rectangular as in Mr. Howard's University of California; the wings placed in line with the end pavilions of the central building, and so masking them as in M. Eustache's Gare; the wings flanking the central building and so masked by it, as in M. Bénard's Fine Arts Square, perhaps open to criticism because each symmetrical wing is partly covered by the Central Museum. M. Prost in his Imprimerie Nationale partially overcomes this last difficulty, for each wing is dissymmetrical, with one of its end pavilions especially designed to link it to the central building.

Corners in Gothic courtyards are always strong. The entrance tower is sometimes there or even the great hall as in Cardinal Wolsey's quadrangle at Christ's College, Oxford.

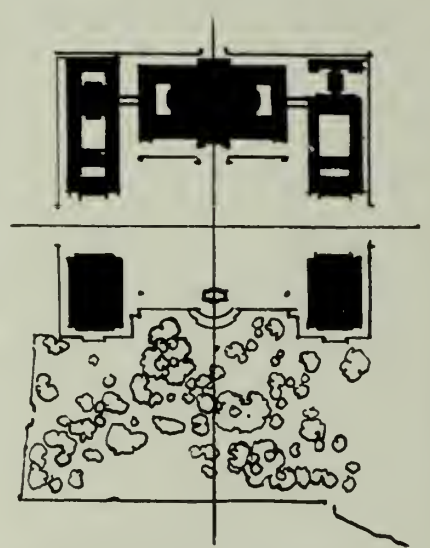
The French under the Bourbons preserved this tradition and reinforced the corners with projecting pavilions. A recessed corner, so common under the Empire, was



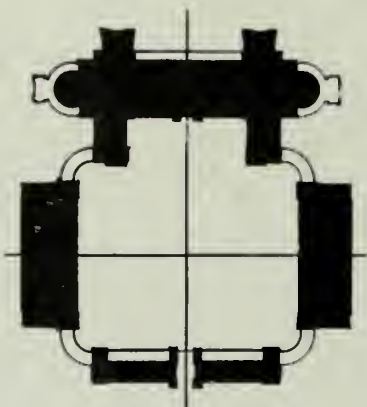
COLLEGE SQUARE, UNIVERSITY OF CALIFORNIA.
Bénard.



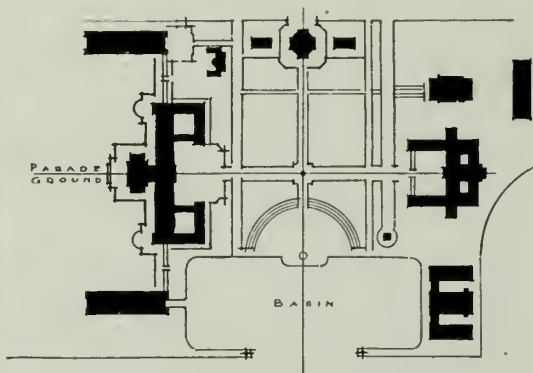
ORPHANAGE, WALLINGFORD, PA.
Delano & Aldrich.



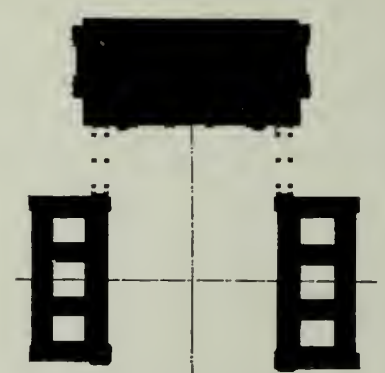
FINE ARTS SQUARE, UNIVERSITY OF CALIFORNIA.
Bénard.



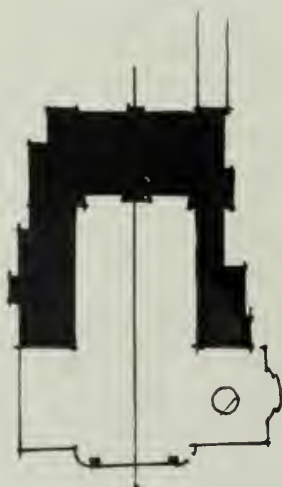
PALAIS D'ENFANCE.



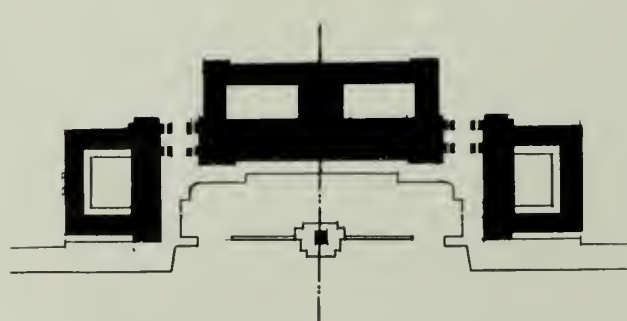
NAVAL ACADEMY, ANNAPOLIS.
Ernest Flagg.



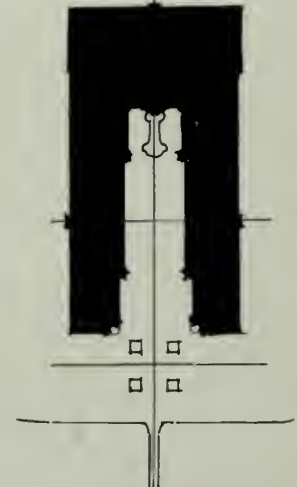
GARE — COURT OF HONOR.



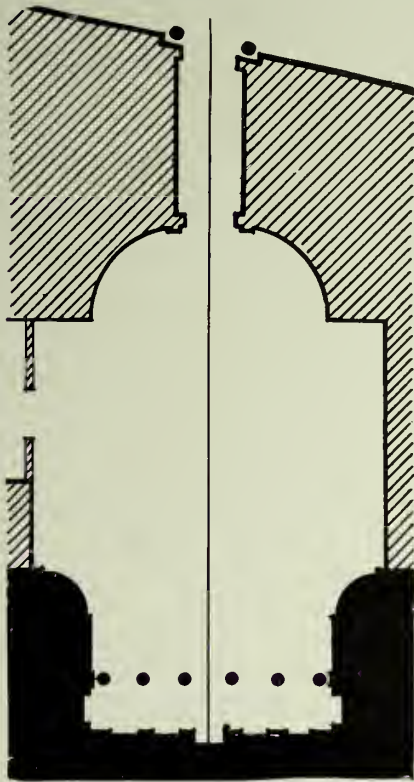
CHATEAU DE ST. CLOUD.



IMPRIMERIE NATIONALE — COURT OF HONOR.
Prost.



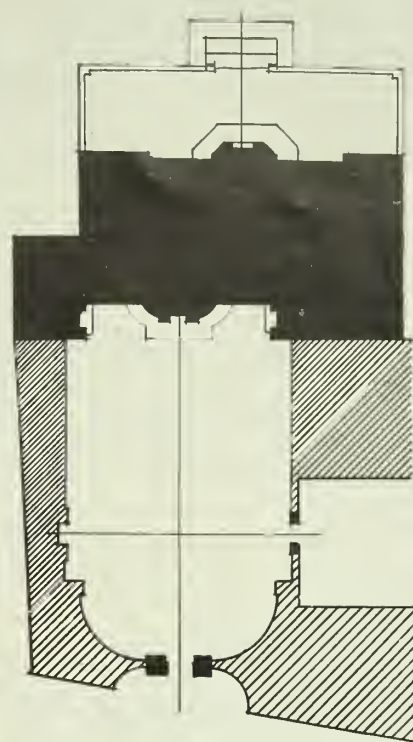
CHAMPS DE MARS, PARIS EXPOSITION OF 1900.



HOTEL DE NOAILLES.



PALAIS DE LOUVRE.



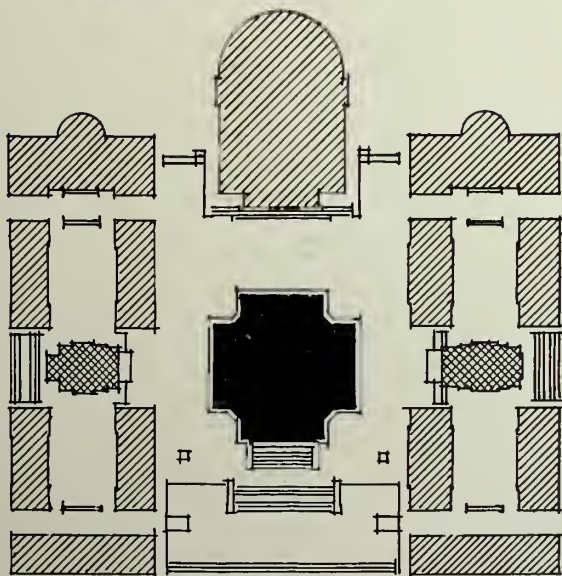
HOTEL DE MATIGNON.



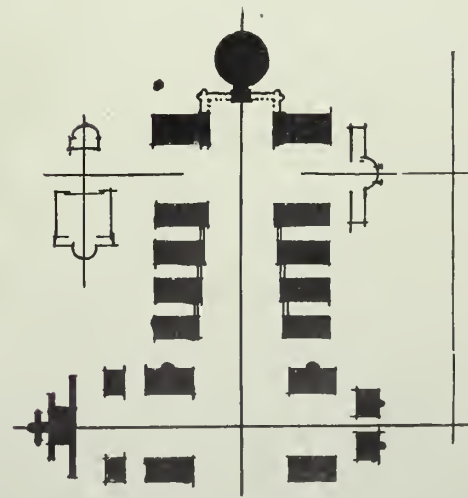
PALACE FOR A CONCLAVE OF MONARCHS.
Bigot.



AVENUE DES INVALIDES.



COLUMBIA UNIVERSITY, NEW YORK.
McKim, Mead & White.



PROJECT FOR UNIVERSITY OF CALIFORNIA.
Howard & Caldwell.

then abhorred, and a court was planned in such manner that from the entrance it could be seen in its entirety. Notice this corner treatment in the courts of Old St. Cloud and the Hotels of Noailles and Matignon.

THE "TELESCOPE." — This principle led to a curious development. Imagine a series of *open courts*, the first intact, the others divided and the halves placed flanking the first, somewhat suggesting the outline of an open telescope. Examples are the Cour du Carrousel of the Louvre or the Place d'Armes of Versailles and the buildings of the Paris Exposition on the Champ de Mars or before the Invalides.

THE "T." — The progression may continue and an *open court* be placed on each side the main axis to form a T, as in M. Bigot's Palace for a Conclave of Monarchs or Mr. Howard's project for the University of California. This forces a secondary axis otherwise quite unnecessary in any court, *closed* or *open*, *simple* or *compound*.

THE CROSS. — Draw together the final courts and add two advancing wings. There results yet another type, the *cross*.

THE AVENUE. — The *avenue* is nothing but a long, narrow *open court* — the Invalides axis of the Paris Exposition for instance. Two avenues at right angles are nothing but the *cross*. Develop the crossing in the way the *telescope* was developed and the composition of the Place de la Concorde is evolved.

THE OPEN AVENUE. — All the foregoing have been symmetrical. There are at least two monumental compositions that are not. Suppose one side of the *avenue* was toward a river or overlooked extensive country. It would be natural not to block this side with buildings; there results the *open avenue*.

THE UNSYMMETRICAL COMPOSITION ON TWO AXES. — Start again with an *open court* square or nearly so; remove one side and replace it with a second *open court*, long and narrow. This is the *unsymmetrical composition on two axes* of the Pittsburg Technical Schools.

THE PYRAMID. — So far each composition named has been grouped around a court or courts of varying shapes. The inner façades of the buildings were the more important and the first to be considered; the exteriors almost "arranged themselves." Suppose a building occupied the central space, naturally the largest or highest building of the group; or, rather, suppose this great building were placed in the center of a simple *open court*, so that from any outside point of view the silhouette of the group massed up toward the center more or less to the form of a pyramid. This is the composition of the Baths of Caracalla — or Columbia University at New York — the *pyramid* it may be called.

THE LINE. — The last composition and perhaps the most simple of all is the *line*. Symmetrical or unsymmetrical, a *silhouette composition* seen from one side only or from both.

Perhaps all *compositions* are in part *line compositions*, for the qualities of each exterior façade are precisely those of the *line*. In general, each type merges into the next. Hybrid types are without number, and some of these we must try to analyze. They are difficult to arrange, but when well composed are singularly interesting.

Reconstruction of the Floors in the Equitable Building Baltimore, Md.

BY CORYDON T. PURDY.

THE reconstruction of the floors in the Equitable Building in Baltimore, after the fire, presented an unusual problem, and the terra cotta arch adopted by Mr. Joseph Evans Sperry, the architect of the building, to meet the requirements, is worthy of special notice.

The building was originally constructed in 1890, and is nine stories high. It has a structural iron frame; but the exterior walls are not supported by it. The columns are made of cast iron and are placed along all wall lines, as well as through the middle of the building, so that they carry the floor at every point, and the walls simply enclose the building.

The floor beams were originally arranged and figured for a Guastavino construction, and the joist beams were figured light, as is ordinarily and properly done with that construction. They were spaced six feet nine inches to eight feet four inches apart, and the girder beams, which were made strong enough for any ordinary short span fireproof construction, including the live loads now required by law, were mostly spaced fifteen feet five inches apart.

The buildings on the opposite side of the street, both ways, were not burned and the walls of the Equitable Building were not much injured. Unlike other buildings, the fire came into this one slowly; but it burned fiercely, and the destruction of the interior was nearly complete. This result was largely due to the way in which the floors had actually been made. A cheap non-fireproof construction was substituted for the Guastavino. It consisted of a five-inch segmental arch of hard terra cotta covered with a two-inch plank floor resting on top of the beams and on the crown of the arch without any filling material in between. This left the bottom of the beams exposed and provided fuel for the flames. Everything that could burn was consumed; the partitions, which were made of a local product called Lime of Tiel, were completely wrecked; in several places heavy safes broke through the segmental arches and fell to the basement, leaving gaping holes above; and everywhere the terra cotta arches were more or less injured.

It was evident at the first examination after the fire that all the interior construction of the building would have to be rebuilt, unless, possibly, the old structural frame might be used over again. In all material respects it was intact. Some of the columns were broken, many of the joist beams were bent and twisted, and quite a number of the girders were in bad shape; but broken columns could be replaced, and fortunately the beams were made of wrought iron instead of steel and could, therefore, be straightened and used again.

The worst feature of the problem of using the old structural frame in the reconstruction of the building was the lack of strength in the joist beams. They were strong enough for the Guastavino construction as originally designed, but the question of cost and other considerations prevented the use of that form of construction. The arch used, however, would have to have the same characteristics, that is to say it would have to distribute

its load to the girder beams as well as to the joist beams.

In addition to this primary requirement it was also necessary,

First, that the weight of the entire construction of the floor, including the beams, the plastering, the filling over the arch and the floor finish, should not be more than ninety pounds.

Second, that the ceiling in each story should be level and unbroken, except by the girders.

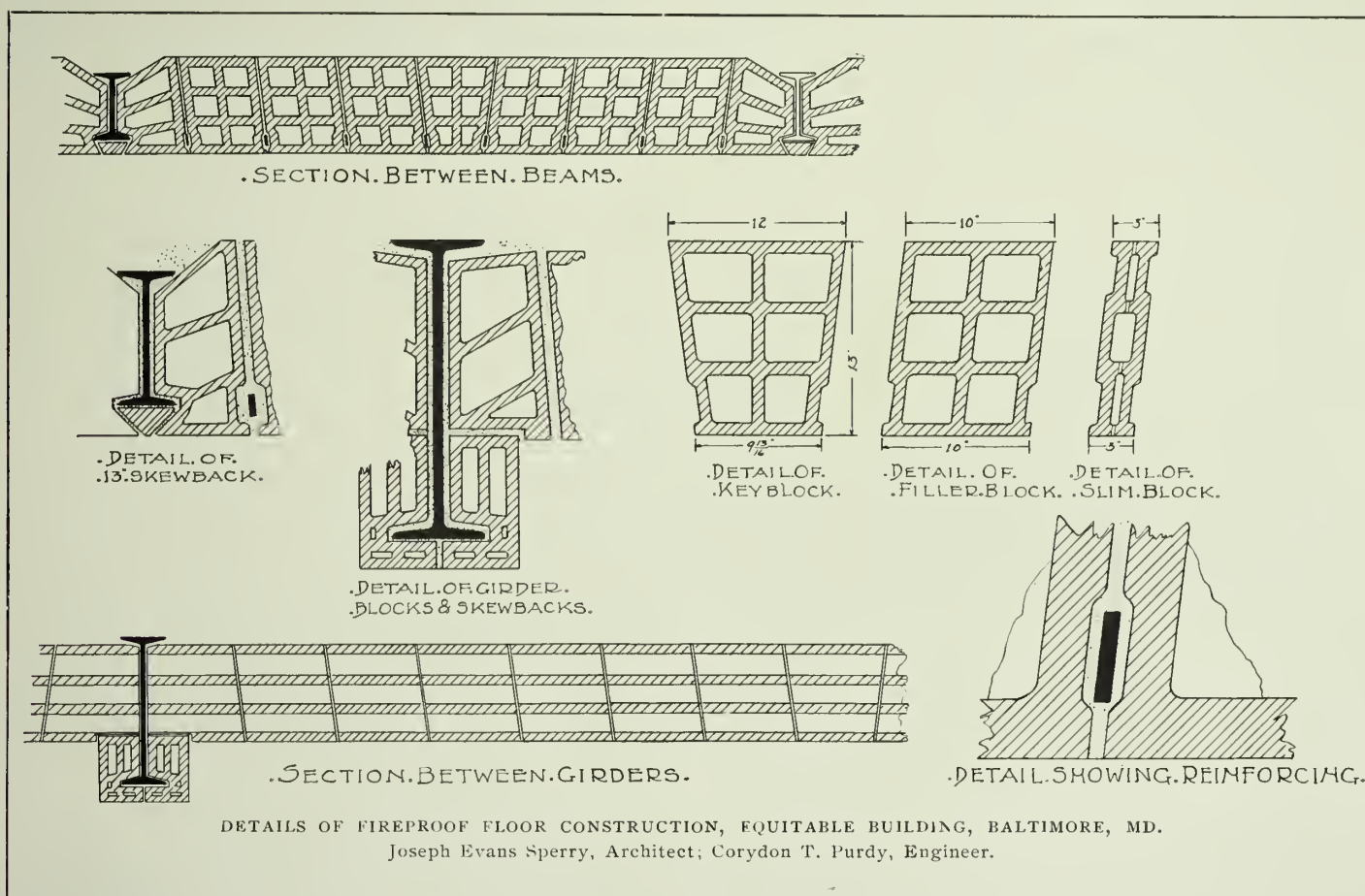
Third, that the fireproofing quality of the construction, as a whole, should be unquestionable; and

Fourth, that the projection of the girders below the ceiling line should be covered particularly well.

bottom of the beams is fully provided for. It will also be noticed that the blocks are made to arch both between the beams and between the girders—side construction in the former case and end construction in the latter.

As finally constructed the end blocks adjoining the girders were turned the other way, so that these pieces were made as ordinary skew backs. The size of the blocks was then modified to meet this change and to satisfy the varying widths between the joist beams. The forms of these blocks, as actually constructed, are shown in the illustration.

The specifications required that the girder blocks covering the projection of the girder beams below the ceiling should all be anchored together under the beams with



At first it was thought that all these conditions could be met with reinforced concrete construction; but every form of such construction occasioned a greater weight for the floor than the ninety pounds, and if a form sufficiently light in weight could have been devised it would have required a hanging ceiling, which was objected to.

The plan finally adopted provided for a flat semiporous terra cotta arch thirteen inches in depth. The general scheme of this arch as proposed is shown in the illustration. It will be noticed that it extends two inches below the joist beams, and that the girder cover extends two inches below the girder; thus the fireproofing of the

iron staples. With this tying together of the blocks and the notched arrangement of the skew backs, the permanency of the construction, even under the worst conditions, seemed to be assured. In fact, after the covering is once constructed it must be broken to pieces before it can be taken off.

The total weight of this arch, with the wood finish, the cinder concrete filling, the plastering and the beams, just came within the ninety pounds limit. In all other respects it was equally acceptable. It was also the most economical plan considered. It served as an excellent illustration of what can be done with reinforced terra cotta.

Suggestions for Architectural Travel in Spain.

BY L. MORRIS LEISENRING.

TO a lover of the arts Spain presents so much of richness and color, of variety and contrast, of the exquisitely refined and of the ruggedly picturesque, that it is difficult to account for the comparative lack of interest shown in her by the student world. Of late years architects have shown her more appreciation, but it is still undoubtedly true that the great majority of student travelers do not cross her borders. This may be due in a measure to her own attitude, for she has proudly held aloof from modern innovation and change, requiring the traveler to do as the Spaniards do, and rather rubbing in the fact that he is in Spain and not at home. The way of the traveler is hard here, and even Baedeker grows pessimistic once he is south of the Pyrenees and habitually looks on the dark side. But to the enthusiastic student a few inconveniences met and cherished comforts left behind only add spice to his experiences, especially in a



SAN ESTEBAN, SALAMANCA.

Note square tower at Crossing. Peculiar to this locality.

country which will give so much in return for her petty shortcomings as grand old Spain.

For as well as what may be called "modern architecture" she offers for study strata of the civilization of ages. Before history began, her native Iberian stock, which seems to have sprung from the soil itself, was given a touch of the North by the wandering Celts. The Phœnicians and Carthaginians gave the first impulse to her civilization, and the Romans, after the fierce Punic wars, established their beneficent rule for four hundred years of fruitful peace. It was then that Spain's architecture began. The Goths and Vandals worked three centuries of destruction and feeble imitation of the arts of their predecessors before the Moors blazed their path from south to north and held themselves on the peninsula by continual warfare for seven centuries. During these years they developed a civilization which stands as one of the first the world has produced, and which has left this ultra Christian country a heritage of art and tradition which shows itself in all forms of her life to-day.

Coincident with the final overthrow of the Moors the Catholic kings opened the possibilities for a new

NOTE. — The author wishes to acknowledge his indebtedness to his traveling companion, Mr. Frederick Reed, for the use of a number of the illustrations in these articles.



WHITEWASHED SEVILLE.

civilization when through Columbus they discovered our world. Immediately riches poured in and Spain found herself, under the first rulers of the Austrian line, the mistress of two continents. She was thus placed in a position so entirely analogous to our own recent past, that we must feel a thrill of sympathy for her sufferings from the pangs and penalties of the *nouveau riche*. Like us, after years of privation and warfare during which she had not time to look to her arts, she found herself in immediate need of an architecture rich enough for her new station in life.

Up to this time she had produced only a few nobly simple Romanesque and Gothic churches. These styles at once assumed a more elaborate character. Moriscos were set to work for their Christian masters and the Quattrocento was transplanted from Italy. From this time on the development of the Renaissance took much the same course as in Italy, the rich fancy of the Plateresque and Grotesque styles dying down to the correct precision of the Cinquecento, and the coldness of this style meeting violent protest in the florid Rococo, which in turn dwindled to commonplaces in the eighteenth century.

The crime of Spain, according to the critics, is her



GERONA, ON THE ONA.

failure to have developed and carried to a logical conclusion any style which may be strictly called Spanish. It is difficult to grasp the exact point of this, for eliminating from consideration the wonderful art of the Saracens, that child of nomad African parents that was born and raised in Spain, we find here types to be seen



CHURCH OF SANTA CATALINA, SEVILLE.



A PATIO, RONDA.



A PATIO, RONDA.



TOLEDO. THE CATHEDRAL SPIRE FROM THE ROOFS.

in no other country. Also in her adoption of foreign styles Spain has masterfully adapted them and given each a distinct Spanish character. She has also shown particular skill in developing the allied arts, such as wrought and chiseled iron and brass; sculpture in wood, generally colored or gilded; encaustic and enameled tiles; tooled leather and beautiful armor.

It was her sudden fall from power and internal decay under the Inquisition which paralyzed her architectural progress, rather than a dearth of imagination and creative power in her artists. A country cannot be called barren of these qualities which produced a Berruguete, a Diego de Siloe, a Valdelvira and a Montanes, who worked in the free spirit of the early Renaissance, or a Herrera, who could as cleverly articulate the dry bones of the Cinquecento as any of his Italian *confrères*.

So while Italian, French and even German influence is seen in plenty, it is influence only, and the results answer the requirements of Spanish climate and customs.

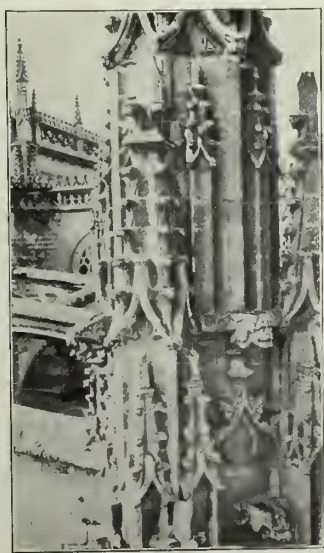
Now, when one has said "Spanish climate and customs" he has in no wise committed himself, for from the

mountainous North of Aragon and Catalonia to the gentle slopes and plains of Andalusia is a long cry in manners, customs and language even. "*Quien dice España dice todo*" (who says Spain says all) is believed by the Spaniard to be entirely true, but true of *his* Spain, *his* province. He turns a cold shoulder to his brothers living across the mountain ranges which almost invariably separate one Spain from another, knowing little and caring less of what is doing a day's journey from his own hearthstone. His true national character shows itself only in his sturdy championship of that Quixotic ideal, "*L'Honora España*," which it is the business of the government to look out for. As the country's configuration has placed him in a little corner hard to get out from, he calmly develops his individuality, *living* with all his might, in grace, dignity and peace, leaving reforms for to-morrow and dreaming of the glorious past. It is the contrasts so developed which make one's impressions here so keen and incisive and give such spice and flavor to his experiences.

That man who loves the study of his fellows as well as



CHURCH AT SALAMANCA. Note pierced work under roof.



GOthic DETAILS FROM THE ROOF OF THE CATHEDRAL, SEVILLE.



IN THE JARDIN DEL PRINCIPE, ARANJUEZ.



CONVENT DE SANTA PAULA, SEVILLE.



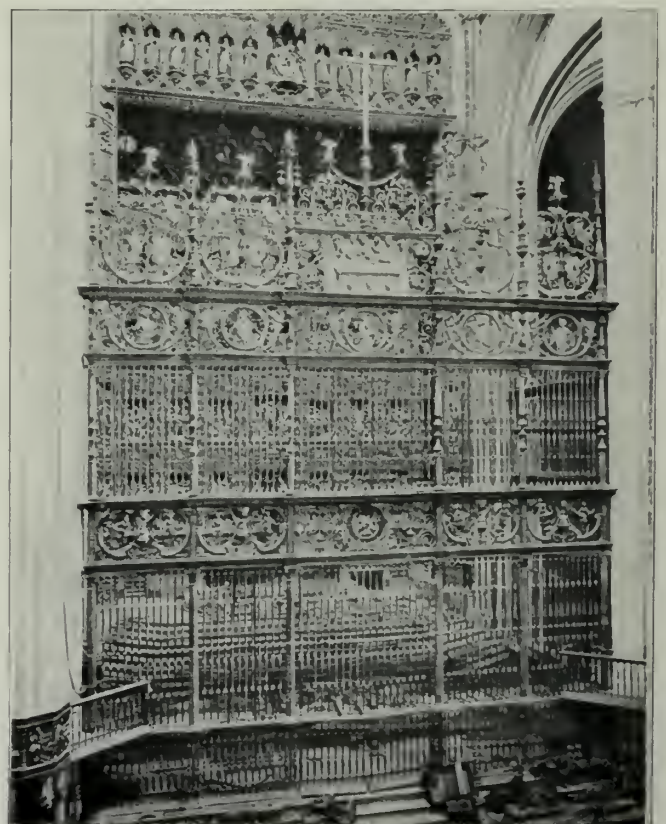
THE GENERALIFE FROM THE MEZQUITO, ALHAMBRA



CASA CABELLO, CORDOBA.
Example of the large doorways leading to the Patios.



THE APSE, SAN JUAN DE LOS REYES, TOLEDO.



SCREEN, CATHEDRAL AT GRANADA.



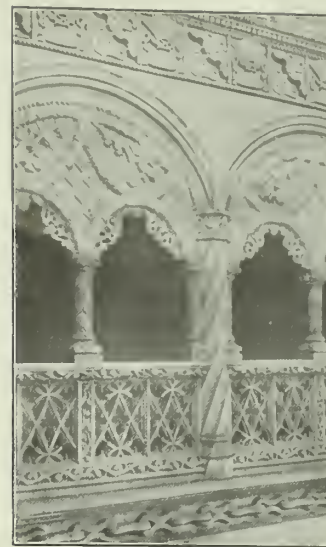
COURT OF THE IRISH COLLEGE, SALAMANCA.



CLOISTER, SAN JUAN DE LOS REYES, TOLEDO.



ON THE TOLEDO BRIDGE, MADRID.



SAN GREGORIO, VALLADOLID, RENAISSANCE INFLUENCED BY MOORISH AND GOTHIC.

of the arts, will find in Spain a joy forever. For here he finds the most picturesque of countries to be architecturally thoroughly worth while; giving him the excuse, so to speak, of lingering to study, while becoming acquainted with ideals so different from his own. The dress of the peasantry, their implements, water jars, blankets, *alforjas* or saddlebags, *botas* or wine flasks, snuffboxes and even the hair on the donkeys' backs, show charming decorative forms. These with the festivals, fairs, dances, games, and bullfights of the people will appeal strongly to an artistic nature.

As it is the purpose of this article to aid the prospective traveler, the following hints will be given in as few words as possible, though it is difficult to adopt a guidebook manner in writing of Spain.

It will be advantageous to look over the following books before making out the itinerary, further suggestions for which are given later:

Technical: "Monumentos Arquitectonicos de España," published by the Spanish government. Prentiss, "Renaissance Architecture in Spain"; Street, "Gothic

Architecture in Spain"; Fletcher, "History of Architecture"; frontispieces in *THE BRICKBUILDER* for some years back, and that part of the larger architectural histories devoted to Spain.

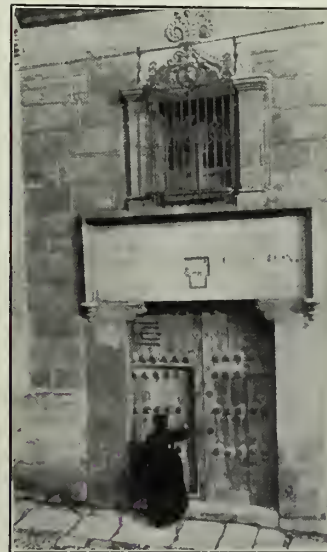
General: Hale, "Story of Spain," "Seven Cities of Spain"; Hay, "Castilian Days"; D'Amicis, "Spain and the Spaniards"; Irving, "Sketch Book" and "The Alhambra"; Jennings, "Tourist in Spain, 1835-38"; Calvert, "Impressions of Spain," "The Alhambra," "Moorish Remains in Spain"; Jungaendel and Garlett, "Die Baukunst Spaniens"; Villa-Amil, "España Artística y Mommental"; Waring, "Architectural Studies in Burgos"; Waring and Macquoid, "Examples of Architectural Art in Italy and Spain"; Wyatt, "An Architect's Notebook in Spain." Historical novels: Crawford, "In the Palace of the King"; Roulet, "God the King, My Brother."

Both Baedeker's and Ford's (Murray's) are excellent handbooks. Baedeker's is the more concise and up-to-date. Ford's is the best for the sportsman and general traveler.

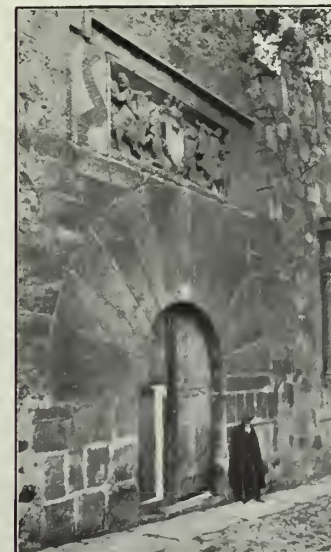
The best time for travel is in the spring and fall. The



DOORWAY, CHURCH OF SAN PABLO, BARCELONA.



A TYPICAL DOORWAY IN AVILA.



A DOORWAY, AVILA.



A BALCONY, SALAMANCA.

ideal trip as regards time of year and pleasurable incident would be to start from Gibraltar about the middle of March and allowing, say two months for the trip, to arrive in the northern mountains as the heat of summer becomes oppressive. If one travels necessarily in the autumn or with a desire to follow the course of architectural development which was in general from north to south he should start from Port-Bou or Irun about the middle of August and reach Granada any time during October, while there is still fruit in plenty and the days are sunny and warm. Travel in the winter, north of Andalusia, is almost impossible for one used to a warmed house, as no arrangements are made for heating. It is possible, however, to travel through the summer months, if one is careful to avoid a sequence of midday sun and vaultlike church. Suggestions follow for trips of one, two and three months' duration.

ONE MONTH.

Ronda..... $\frac{1}{2}$ day	Avila.....1 day
Granada.....3 "	Salamanca.....3 "
Seville.....3 "	Valladolid.....1 "
Cordova.....1 "	Burgos.....3 "
Madrid.....2 "	Saragossa.....1 "
Toledo.....2 "	Tarragona.....1 "
Segovia.....1 "	Barcelona.....1 "
Escorial..... $\frac{1}{2}$ "	

Time allowed for actual travel $7\frac{1}{2}$ days.

TWO MONTHS.

Ronda..... $\frac{1}{2}$ day	Escorial.....1 day
Granada.....6 "	Avila.....2 "
Seville.....6 "	Salamanca.....6 "
(Seville to Cadiz by boat.)	Valladolid.....1 "
Cadiz.....1 "	Burgos.....3 "
Jerez.....1 "	Trip to Silos.....2 "
Cordova.....3 "	Saragossa.....2 "
Madrid.....3 "	Lerida.....1 "
Aranjuez.....1 "	Poblet.....1 "
Toledo.....5 "	Tarragona.....2 "
Segovia.....2 "	Barcelona.....2 "
	Gerona..... $\frac{1}{2}$ "

$10\frac{1}{2}$ days' actual travel.

THREE MONTHS.

Ronda..... $\frac{1}{2}$ day	Avila.....2 days
Granada.....7 "	Escorial.....1 "
Cordova.....3 "	Madrid.....5 "
Seville.....7 "	Aranjuez.....1 "
Jerez.....1 "	Toledo.....6 "
Cadiz.....1 "	Alcala de Henares..... $\frac{1}{2}$ "
(Cadiz to Lisbon by boat.)	Guadalajara..... $\frac{1}{2}$ "
Lisbon.....3 "	Segovia.....2 "
(Including excursions to Belem and Cintra.)	La Granja.....1 "
Alcobaca..... $\frac{1}{2}$ "	Valladolid.....1 "
Batalha.....1 "	Palencia..... $\frac{1}{2}$ "
Thomar..... $\frac{1}{2}$ "	Burgos.....5 "
Coimbra.....1 "	Trip to Silos.....2 "
Santiago-de-Compostella.....3 "	Trip to Saragossa with stops.....2 "
Leon.....2 "	Saragossa.....3 "
Zamora.....1 "	Lerida.....1 "
Salamanca.....6 "	Poblet.....1 "
Medina del Campo..... $\frac{1}{2}$ "	Tarragona.....2 "
	Barcelona.....3 "
	Gerona..... $\frac{1}{2}$ "

14 days' actual travel.

This may be extended to include a trip to the Balearic Isles; sailing from and returning to Barcelona in three days and four nights, or one may return via Alicante, from whence picturesque Murcia may be visited and Barcelona regained via Valencia and the east coast towns which are not particularly valuable to the architect.

LANGUAGE. — It is misleading to say that a knowledge of the language is not necessary. One can speak English and pay two prices, or French and fare not much better. If he ventures at all from the beaten track he will be at a loss with either. But it is reassuring to consider how very little Spanish he may know and still make his way. A few phrases gleaned from a phrase book or dictionary or from endeavors to read the *Correspondencia Española* (the principal newspaper) will, with persistency and a pleasant manner, almost invariably see one through.



SHOWING THE SPANISH FEELING FOR DECORATIVE TREATMENT, AT ITS HEIGHT.

*METHOD OF TRAVEL. — One traveling for experience may find tramping, bicycling, etc., pleasant, but the student with limited time had best rely on the prosaic train. He will find, in the natural course of things, short trips to be made in diligences, muleback or on foot which will break the monotony of railroading. If one can afford to travel first class he had best do so. This will give the privilege, at a considerable advance in price over the regular first-class fare, of traveling by the *trains de luxe*, which are about twice as fast as the regular trains. The expense of this sort of travel is, however, formidable to the average student. Any well-bred person may very enjoyably travel third class if he is willing to offer, as well as accept, the somewhat elaborate courtesy of the Spanish peasant; to treat all men as his equal and use his rain coat for a seat cushion. Certain unpleasant habits of the Spaniards are found in all classes, while their many ingratiating ones are found most strongly evidenced in the sturdy, dignified and courteous man of the people. The second class may be left unspoken of as one gains no advantage in point of time over the third (the fast trains carrying first class only) and in addition has stuffy cushions and the most uninteresting and boorish type of travelers.

At the first large city (as at Granada on the south or

*See "A Tramp in Spain," Bart Kennedy; "In Northern Spain" (Tramping and Camping), Gadow; "Sketches Awheel in Modern Iberia," F. B. and W. H. Workman; description of a tour on horseback (page 12), Murray's Handbook for Spain.

Barcelona on the north) one should apply during his first day for a *billett por kilometros* or mileage ticket, good on all railroads in Spain. He should first consult the *Guia Oficial de los Ferro-Carriles*, or general railroad guide, to decide the distance (in kilometers) he will probably travel. For the one-month trip given here it will take about three thousand kilometers, for the three-



FINIAL OVER DOORWAY, TOLEDO.

months trip about four thousand. (They cannot be used in Portugal.) This is a most excellent method of securing transportation, saving at least forty per cent and being (unlike circular tickets) always available to go anywhere within the time limit. They are sold for from eighteen hundred kilometers good for three months to twelve thousand kilometers good for fifteen months. One's photograph, about two and one-half inches square, must be presented with the application, for identification. It takes five or six days to get the ticket. The holder presents this at the ticket offices en route, receiving a ticket for the detached number of kilometers.

In traveling by boat one should go first class and should previously inquire whether anything to eat may be had on board. Pleasant trips of this kind may be made from Gibraltar to Cadiz and Lisbon; between



OUTLOOK FROM SEGOVIA, TEMPLAR CHURCH IN THE MIDDLE DISTANCE.

Cadiz and Seville on the Guadalquivir; from Barcelona to Palma, Majorca and so on.

Diligences are seldom needed except to reach the towns from the usually isolated railway stations. Some trips, however, must be made by them, as to La Granja from Segovia and to the monastery at Silos from Burgos. This last, for which the guidebooks give directions, is a journey both by diligence and on mules which should not be missed if time can be spared to it. If the weather is good the outside seats are always sought for.

(This article will be concluded in the October issue.)

The Relation Between English and American Domestic Architecture.

BY FRANK CHOUTEAU BROWN.

THE ESSENCE OF MODERNITY.

THE more definite of the qualities and characteristics that go to make up the modern English type of residence architecture have already been considered. The influences exerted by architectural styles derived from historic precedents existing in England, as well as those emanating directly from the material employed, have been taken up at length. Except in the larger or more monumental modern buildings (Fig. 1), the suggestion of an historic style is never given in such a way as to become formal or insistent, and therefore even with the most modest structures it cannot appear pretentious or overpowering. Indeed it may be said that the third most important characteristic of English domestic architecture is its unpretentiousness, its *naïveté*, its quiet domesticity of effect.

Several things may be deduced from a study of the various examples of this modern type. They uniformly avoid the use of conventional architectural forms and moldings, as well as any fixed formality in the balance of façade or use of material. To take as an instance Mr. Macartney's house in Sussex (Fig. 2), it will be noticed at once that no conventional cornice is used upon the building. At one end is a simple coved molding with small iron brackets carrying the detached gutter, while in another place the eaves are formed by the projecting rafters alone. Where the roof projects over the face walls of the gable there is no elaborate raking cornice or set of moldings, but the slates lap over and the roof is finished in the simplest, most "cottagey" manner. Again, the stonework of the wall surfaces is treated in a great variety of ways: at one place a fairly conventional ashlar; at another the method of laying is less exact and more broken up; while in the first story wall, beside the doorway, rough courses of all kinds of stone are employed, and in the return from the gable face the roughest kind of ashlar treatment is utilized along with some brickwork that repeats the material used in the exterior corner angles of the walls. The only moldings that appear in the entire design are along the top of the simple entrance-door opening, which is thus quietly emphasized and accented. See how closely these modern walls resemble the stonework in the walls of the old house at Lincoln (Fig. 3), where the growths of moss and lichen in the crevices are responsible for the principal differences of aspect between them.

Mr. Brierley's "The Close" (Fig. 4) is slightly more architectural in effect, though still sufficiently picturesque and informal in composition to be classed in the same group as the other dwelling. The difference results somewhat from the severe simplicity of plan and the additional historic suggestiveness of the material (brick) and, in part, from the treatment of the finish upon the top of the gable walls, which more closely suggests Elizabethan precedent.

But, beside the qualities already enumerated, there are a great many modern country dwellings where the charm depends upon something less tangible than is indicated

by the term "historic style." Perhaps it would be more illustrative to say that in some of this modern work has been reproduced the quality of "picturesqueness," which, in essence, forms so much of the charm of many an old house. This picturesqueness is most elusive and impalpable in result; its spirit is so fleeting and evanescent, so variable, that it is only possible to say that, in part, it depends largely upon composition; the grouping of plain and different textured wall surfaces, gables and dormers; of windows, projecting and recessed wall planes and chimney tops; but above all, its *effect* must be informal and unstudied. The new composition must reproduce the atmosphere of old groupings obtained naturally by the changes, alterations and additions made by generation after generation of owners.

The work of one architect, Mr. Lutyens, is consistently picturesque time after time. Stone seems his favorite material, and in such rambling country houses as "Orchards" and Fulbrook House (Figs. 5 and 6) he has evidently closely suited his treatment to his material, adapting both from local existing buildings belonging to the less formal historic periods.



FIG. 2. ENTRANCE FRONT, "MINSTED," SUSSEX.
Mervyn Macartney, Architect.

The elusive element of the picturesque is not alone the birthright of the English architectural designer, as the bold plastered gable flanking the crisp-angled chimney, the stretch of dormer-broken, penthouse roof with pointed timbered gables, and the stone-terraced walks of the house reared against the sky across the little rough-grown American garden (Fig. 7) offer ample evidence. The element of the picturesque lurks ever rather in the minute than in the composition of a grander scale, and here, in such another engaging grouping as that of buttressed entrance and indrawn chimney, of gable, bay and latticed casement (Fig. 8), is a bit of more modest, less assertive proof. This is what is called — for want of a better term — "picturesque." Such compositions as these must have been felt for and built up in perspective study before the different elements were coldly placed and figured in elevation and in plan.

After the style, after the careful selection of material and its perfect fitness to its method of use ("technique") and to the locality where it is employed, after the nice adaptation of the technical possibilities of the material and the employment of all those refinements native to it,



FIG. 1. PUBLIC LIBRARY, KINGSTON-ON-THAMES.
Alfred Cox, Architect.

perhaps the greatest attribute of this modern work in England is the extreme art to which the architectural designers of that country have attained in the pleasing, unartificial employment of motif and material, and their composition into masses of happily contrasting texture, color and form. Through some subtle and intuitive process they have succeeded in stepping outside the bounds of stiff architectural restraint that so often hold the designer in bondage. There is an informality of effect, the result of a higher art, that makes each structure an intimate and personal expression of the problem presented by that individual dwelling. This problem is approached directly, solved simply, and treated with refinement through all its working out. The result is that these dwellings present an aspect of unconscious "homeliness," in the true meaning of the word, that is rarely experienced in the dwellings of any other country.



FIG. 3. OLD STONE HOUSE BACK OF CATHEDRAL, LINCOLN.

It is true that architectural style *must* be evolved from historical precedents that are both native and natural to it, and that it is almost impossible to find an English dwelling or manor house of any age at all that does not contain much of this "homely" feeling. But the inevitability of this result should not detract from the credit to



FIG. 4. GARDEN FRONT, "THE CLOSE," BROMPTON.
Walter H. Brierly, Architect.

be given to those individuals who have to-day succeeded in reproducing this effect so consistently and continuously as is done by the best younger English architects. It may be that it is this feeling that creates the atmosphere that makes all England so attractive to the traveler.

Undoubtedly a great deal of the effect of English domestic architecture must be attributed to the customary surroundings of the ordinary English dwellings, — surroundings that are unusual and rarely found in America; for no English residence, however humble, is considered complete until its proper accessories of shrubbery and garden have been perfected and developed. But even where such accessories are impossible, as in a house abutting directly on the street, the designer so consistently reproduces the atmosphere of many composite old dwellings, or so unconsciously interprets the conditions imposed by his materials, that the building itself possesses a sense of absolute fitness to its location.

An attempt to define the exact constitution of this type of dwelling may be suggestive and help in clarifying the problem for the individual student. Using the terms "Classic" and "Gothic" in the somewhat arbitrary though broad application already alluded to, the one being intended to refer to the balanced plan and composition of the buildings of the English Renaissance,



FIG. 5. SOUTH TERRACE, "THE ORCHARDS," SURREY.
E. L. Lutyens, Architect.

and the other to the more subtle, irregular, unbalanced treatment of dwellings, in both plan and elevation, that was a survival of the period of Gothic supremacy in architecture, it may be possible to arrive at a point of view that will be understandable both to the writer and to the reader. "Classic" architecture is easily definable and reduced to a comprehensible set of rules, while "Gothic" architecture admits of no such exact definition, being rather the individual crystallizations of a constantly varying form and spirit than the reproduction and composition of a well understood series of architectural motives. Taking these meanings, therefore, it might be possible to define the trend of modern British architectural practice by saying briefly that it consists of the use of Classic detail in combination with Gothic forms, feeling and composition. A supplementary definition might be made that would apparently state just the reverse of this, but in the end the meaning is nearly the same; and in the nice merging of these two styles lies, as it seems to the writer, the success or failure of modern English architecture. Often the combined features are both Classic and Gothic, and sometimes, as has been



FIG. 6. SOUTH FRONT, FULBROOK HOUSE, SURREY.
E. L. Lutyens, Architect.

intimated, an individual instance may be found where it would be more appropriate to say that Gothic detail or features have been used after a Classic fashion, but the first statement would seem to more invariably apply, and this latter one may be confined rather to individual and exceptional instances.

But after all, the dominating, underlying feeling that makes itself apparent through all this work, the feeling that alone succeeds in blending together the two architectural styles hitherto considered as most antagonistic, is the modernity of treatment that is *always* present in greater or less degree. It is this feeling — and although its effect is noticeable and easily recognized, it is itself so intangible that it is impossible to definitely seize upon and analyze its characteristics — that it is necessary for the American designer to assimilate and to intuitively comprehend before he can even begin to apply its principles in practice to the different series of localized problems that constantly confront him. For the spirit and essence of modernity, where it can be discerned and reapplied to our own problems, is ours by right as a con-



FIG. 7. HOUSE, CINCINNATI, OHIO.
Edwin J. Lewis, Jr., Architect.

temporary; and this characteristic may be used in precisely the way the English themselves are using it, as a leaven to allow of the incorporation and adaptation of Elizabethan or other historical motives into our modern architectural problems.

The type of architecture which has reached a distinctive and typically modern development in such dwellings as have been grouped together in villages like Port Sunlight, Leigh and Bournville, while apparently blossoming suddenly, was yet of slow and gradual development. As evidence of this we find many of the individual fea-



FIG. 9. A HOUSE IN LONDON.
Norman Shaw, Architect.

tures, distinctive and typical of most of the up-to-date modern work, in dwellings now regarded—by comparison—as old-fashioned. The group of houses that follow, for instance, all designed by Mr. Norman Shaw, have a certain historic and sequential interest in representing the process of evolution through which English design passed in attaining its present definite type of residence architecture. All include some portions that are evident survivals of the routine engendered by the previous uninteresting architectural decade. In some ways they still appear uncouth in composition and not wholly satisfying in proportion; some details are unnecessarily ugly or meaningless; some moldings unstudied, commonplace and unornamental; while several betray a certain effect of awkwardness from an evident lack of ease in combining what must have then seemed somewhat incongruous elements. Yet it is now possible



FIG. 8. ENTRANCE MOTIVE, HOUSE, WARWICK, R. I.
F. Manton Wakefield, Architect.

to realize how far they were in advance of their time, and how clearly they shadow forth the essential traits—even some of the mannerisms—of the architecture that was to succeed them.

The first (Fig. 9) represents a problem that has not yet proved wholly amenable to the formulæ championed by the modern English practitioner. Indeed this particular example is as good, if not better, than many city dwellings that are being erected in London to-day. Of the two bays one seems a little too archaic in ornament and fussy in molding; and the other (all the more so by contrast) somewhat awkward and uncouth, which is further emphasized by the lack of unity between its finish at the top and its relation to the gable, wall and roof behind it, to which it is somewhat ungraciously attached.

The composition is yet sufficiently interesting to hold the attention, and by simplifying the molded members and making their scale more appropriate to the brick window caps, giving the brick bay less projection and a dif-



FIG. 10. DOUBLE HOUSES, BEDFORD PARK.
Norman Shaw, Architect.

ferent crowning finish, this composition would compare favorably with the English town house of most modern design.

The suburban dwelling was then, as now, more certainly and successfully soluble. The two cottages in Bedford Park (Fig. 10) may reveal a certain still apparent awkwardness, but those in Richmond Terrace (Fig. 11) are excellently treated with bays, dormers and chimney tops quite thoroughly typical. The one in the immediate foreground, running off the picture, shows the use of two materials, brick and tiles (or slate), for different sections of wall surfaces, to which attention has already been called. The bays here are excellently treated. The second story windows are a little crude and clumsy, the dormer much better in scale than the preceding examples, and the fronts and chimney tops quite thoroughly typical. The cottage beyond shows the use of a motive triply repeated (this later becoming a favorite trick of the modern school, as may afterwards be noted). The window employed on the side return of



FIG. 11. TWO COTTAGES, RICHMOND TERRACE.
Norman Shaw, Architect.



FIG. 12. HOUSE, BEDFORD PARK.
Norman Shaw, Architect.

these dormers is ungraceful. (Later we will see how, by placing the corner window on the angle and leaving the gable dormer treatment just as it is here, the English have obtained a more natural and pleasant design.) The first story bay is quite as successful as those on the other house, but the doorway hood still possesses the faults already mentioned in the house hoods of Bedford Park. The arches over the window openings on the side are too high and heavy, while the whole composition is just a



FIG. 13. THE INN, BEDFORD PARK.
Norman Shaw, Architect.

little bit fixed and inflexible. The other illustrates the triple repetition of a motive — a favorite trick of the modern school — repeated in the larger Bedford Park house (Fig. 12), where it is accented by the three bays immediately below the gables, and combines dormers and bays quite as successfully as on the nearer house. The clumsy windows, the crude dormers of the one cottage, and the awkward doorway hood of the other are obvious defects, while both compositions are a trifle too

fixed and inflexible.

The Inn at Bedford Park (Fig. 13) is perhaps the most interesting composition of the group. Its bulging front windows are precisely like those in a few old surviving fronts around London and throughout England. The gable is repeated with monotonous regularity, but the wall surfaces have been nicely broken by the varied uses of plaster, brick and tile, and the door hood is an improvement over both the examples criticised.

Although this group of dwellings will lose by comparison with more recent English work, still, judged on their own merits, it must be confessed that, though not wholly successful, they still possess considerable charm and ease of treatment; while occupying the position they do midway between the old school and the new, with the new influences still awkward and uncertain of expression, they well deserve a place in any record of the progress and development of the new Renaissance in English domestic architecture.

Editorial Comment and Selected Miscellany

SALARIED GOVERNMENT ARCHITECTS.

THE discussion in the International Congress on the execution of important government and municipal architectural work by salaried officials appears to have touched a sore spot, judging by the earnest protests which were voiced against this species of architectural patronage. It was summed up that there were two good reasons against the giving of important municipal work to salaried officials, namely, it was neither for the good of the administration nor for the good of the public. We are in such a state of transition in this country that it is too early yet to see how our government buildings can best be designed and built, having in view all the difficulties and application of politics, which cannot be ignored. Apparently none of the speakers at the Congress were in favor of having work done by salaried architects. Every objection was raised, and the most convincing arguments were put forth to show that it was hopeless to expect any good out of a government employee, and yet we fancy that there is another side to the question which would come home very closely to many an architect who has been worked to the very verge of distraction by a large practice, and who has seen his opportunities only half elaborated, simply from lack of time

man were sure of a fixed salary, even though it might be a small one, he would be freer to devote himself to the artistic solution of the problem before him. Also it is reasonable to assume that the architect who has once solved properly a municipal or government problem is better qualified to do it



CORBEL, EXECUTED BY SOUTH AMBOY
TERRA COTTA COMPANY.

and money. There is a very strong feeling that architects should always be on salary when employed upon a large building; that the percentage system of payment is fundamentally wrong, in that the harder a man works to secure an economical result, the less money he gets; and that if a

few years ago. The fact that our present government architect at Washington is so conspicuously successful in his art simply emphasizes the difficulties which preceding administrations experienced.

OPPORTUNITY.

THE September *Century* magazine had a number of drawings by Joseph Pennell of the French Cathedrals. It also had sketch plans and illustrations of two lodges, to be built at a cost of about \$1,000. It furthermore printed a very brief but comprehensive article by Benjamin Ide Wheeler on the Rebuilding of San Francisco. This made three distinctly architectural features in a single number of a popular magazine, all of which goes to show that architecture is rapidly becoming one of the foremost attractions for the people, and that we are as a nation, becoming great builders.

Architecture, as a profession, presents such fascinating opportunities that it is no wonder that our brightest young men are flocking into it in such numbers. Each year it seems as if our architectural schools were turning



TENNESSEE TRUST BUILDING.
MEMPHIS, TENN.

Shaw & Pfeil, Architects.
Brick furnished by Hydraulic-Pressed Brick Co.

again than any beginner, however talented.



GUNTHER BUILDING, BALTIMORE, MD.
Simonson & Pietsch, Architects.
Brick furnished by Ironclay Brick Company.

out more incipient architects than could possibly find place, but the demand for good men is constantly a little larger than the supply, and opportunities which were unheard of a few years ago are now multiplying in all our large cities. It was not long since that the engineer would have scouted the idea of his requiring any architectural assistance in designing a bridge. But in New York they not only demand the highest architectural talent in connection with bridge building, but they decline to allow a public bridge to be built unless it comes up to a pretty high standard of excellence. In Boston the railway corporation which controls the transportation system and monopolizes so much of the streets, has recently called to its aid a commission of five prominent architects, who are to devise with its experts as to the proper architectural features for its elevated structures. And the story can be repeated in nearly all of our large cities. This country has the money, and if our architecture is not all that it might be, perhaps the architects themselves are partly to blame. Surely the opportunities are enough for any one.

REINFORCED STEEL CONCRETE.

THE reinforced concrete mania is not confined to this country, to judge by the proceedings of the London International Congress of Architects. The reports of the papers read upon this subject, and the discussions which followed, sound very familiar. If they are as old to the English practitioners as they are to us, this must have been a dreary session of the Congress. We have been interested personally, however, in noting in the discussions about concrete, its use and abuse, the constantly recurring comparisons with brick and terra cotta, and the



PUBLIC LIBRARY, UNION HILL, N. J.
Albert Randolph Ross, Architect.
Terra Cotta furnished by New York Architectural Terra Cotta Company.

general opinion was by no means always to the disadvantage of the latter [material]. One of the speakers cleverly put it that nothing succeeds like failure. Surely the concrete constructors have had abundant opportunity to learn by their failures. That they are learning good lessons, that steel concrete is a recognized factor in good construction to-day, we do not question for a minute. It has its admirable uses, but the time is not yet when steel concrete can be carried to its ultimate conclusions, as claimed by those who favor it so strongly, without incurring a risk which was by no means



FAIENCE MANTEL.
Hartford Faience Company, Makers

overlooked in the discussion of the Congress.

In this connection it is of interest to notice how largely practice in this country was cited, and what frequent reference was made to the experience of the United States. About twenty-five years ago a bright young Englishman, Mr. Gale, upon winning the Godwin Bursary, chose to come to this country and study American constructive methods. He made a very interesting report thereon, which can be found tucked away in the proceedings of the British Institute. We believe that he was the first foreigner to recognize that we had any construction worth studying, and since then the number of architectural visitors to our shores has been yearly increasing, so that we can fairly claim now that we have something worth investigation, and, even though rein-



ELGIN NATIONAL WATCH WORKS, ELGIN, ILL.
Patton & Miller and Frank Abbot, Architects.
Roofed with French A. Tile made by Ludowici-Celadon Company.



DETAIL BY A. A. RITCHER, ARCHITECT.
Conkling-Armstrong Terra Cotta Company, Makers.

forced concrete came to us from France, we fancy there are a few ideas in its application which would be of value even to French construction.

That steel concrete has come to stay, and that it will be developed properly, is unquestioned. But Mr. Post voiced the sentiment of many American architects in his statement that ferro-concrete was used here with considerable trepidation, from the fact that there were no used constants which could be employed in computing strengths, and that, in fact, the opinion of the material was very much like that of the distinguished Mr. Weller with regard to veal pies — "They were very good things when you knows the lady as made them."



DETAIL BY WIDMANN, WALSH & BOISSELIER, ARCHITECTS.
Northwestern Terra Cotta Company, Makers.

SUB CELLARS.

STEEL skeleton construction came to us out of the West, and now another feature has been added to architectural possibilities. In most of our cities there is a legal limit to the height to which a building can be carried. In none of them is there any limit to the depth to which it may descend. The buildings which were erected in Chicago up to a few years since had very shallow cellars, or basements, as there existed a mistaken hypothesis that the soil under Chicago was not suitable for heavy buildings, and would not support the loads. It is a singular manifestation of the way in which even professional men will follow a blind lead, that for so many years Chicago architects continued to float their buildings on a layer of mud, when only a few feet beneath was a particularly good hard blue clay substratum resting directly upon rock.

The later buildings erected in Chicago have been very

largely equipped with from two to four sub-cellars, foundations being carried down from forty to one hundred feet below the street, giving ample opportunities for all the underground work which could be desired. There is no particular limit to the depth to which a building can be carried. While we are not yet able to excavate to a great depth as economically as we can the shallow cellars, such difficulty will undoubtedly be overcome, and we may easily predict that in buildings of the not very distant future there may be in some instances as many stories beneath ground as there are above it. In the meantime the tendency to build two or more cellars, one under the other, is quite manifest, and in some of the larger cities many of the older buildings, originally provided with but one basement, are having sub-cellars built under them without disturbing the superstructure, thus adding from one to two more stories available for mercantile purposes.

BUILDING OPERATIONS FOR AUGUST.

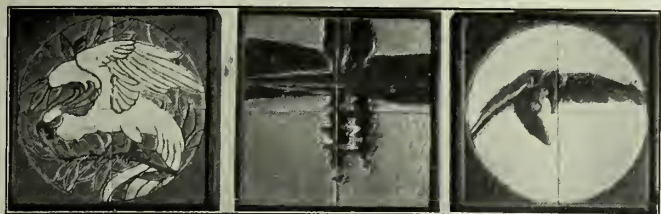
FROM official building reports received by *The American Contractor*, New York, from various cities, less than usual in number, by reason of Labor Day intervening, it appears that prosperity continues in the building trades. While some cities show a falling off, the loss is overbalanced fully two to one by gains. When it is remembered that August, 1905, with which month the present reports are contrasted, was a month of decided activity, largely breaking previous records, the present showing is exceedingly favorable. The following figures show the percentage of gains over August, 1905: Atlanta, 57; Bridgeport, 176; Cincinnati, 7; Denver, 65; Los Angeles, 4; Milwaukee, 16; Memphis, 18; New Haven, 18; Newark, 46; Omaha, 11; Philadelphia, 19; Portland, Ore., 94; St. Louis, 20; Seattle, 68; South Bend, 256;



DETAIL BY THE WINKLE TERRA COTTA CO.



DETAIL BY H. W. KIRCHNER, ARCHITECT.
American Terra Cotta & Ceramic Co., Makers.



FIREPLACE TILE MADE BY GRUEBY FAIENCE COMPANY.

Syracuse, 93; Toledo, 280; Tacoma, 82; Washington, 14. Twelve of the cities reporting show a loss. The figures for all the boroughs of New York are not at hand, but the loss in Manhattan is 40 per cent. The percentage of loss in other cities is as follows: Buffalo, 57; Chicago, 15; Duluth, 21; Grand Rapids, 3; Harrisburg, 70; Kansas City, 20; Louisville, 50; New Orleans, 67; Paterson, 83. In New York the situation must be ascribed to the immense number of permits taken out last year, the enormous number of contracts placed during the earlier months of the present year and the circumstance that the construction of apartment houses is almost at a standstill, there being really an overconstruction of that class of buildings. Taken altogether the reports show a healthful and satisfactory condition.

ROMAN LIME.

THERE has recently appeared in the market a mortar-making material which promises to fill the place in this country which is occupied in France by the Lime of Tiel. This material, known as Roman Lime, is manufactured by the Cummings Cement Company of Akron, N. Y. It is hydraulic in character with certain fireproofing qualities of an asbestic nature and is warranted not to stain brick or stonemasonry. It is light colored and capable of carrying a larger proportion of sand than either Quick Lime or Portland

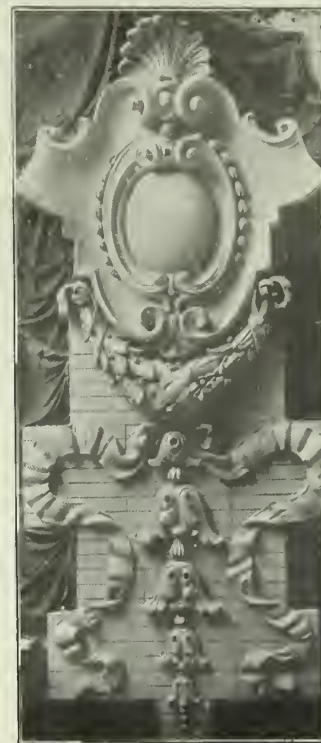
Cement and is considerably cheaper.

Lime of Tiel is used in France to an enormous extent in concrete sea walls, reservoirs, aqueducts and buildings of all descriptions. On account of its stainless qualities it was used exclusively in the construction of the Equitable Building in New York City despite its cost of about \$4.50 per bar-

rel. Although the Lime of Tiel still brings a very high price in our market, it is frequently specified in important work of the highest class where a stainless mortar is desired.

The manufacturers of "Roman Lime" or "American Lime of Tiel" make the strong claim that whatever can be done with Lime of Tiel of France can also be done with their product, and that the latter is, in

every respect, fully equal to the French product, being as carefully manufactured and just as thoroughly hydrated.



DETAIL BY CHARLES VOLZ, ARCHITECT.

Standard Terra Cotta Works, Makers.

IN GENERAL.

Wyatt & Nolting, architects, Baltimore, announce the removal of their offices to the Keyser Building, Calvert and German streets.

V. O. Wallingford and C. W. Spencer, architects, Albuquerque, N. M., have discontinued their association. Mr. Spencer will continue the office at Albuquerque while Mr. Wallingford will locate in San Francisco.

Young & Son, architects, Templeton Building, Salt Lake City, request manufacturers' catalogues and samples.

The National Electrical Contractors' Association, W. H. Morton, secretary, Utica, N. Y., has adopted a set of standard symbols for wiring plans, which are meant especially to be helpful to architects.



DETAIL BY THE NEW JERSEY TERRA COTTA COMPANY.



THE RYERSON WAREHOUSE, CHICAGO, ILL.

Holabird & Roche, Architects.

Fireproofed throughout by National Fireproofing Co.



COMMONWEALTH ELECTRIC CO. STATION, CHICAGO, ILL.

Shepley Kutan & Coolidge, Architects.



WAINSCOT IN CAFÉ OF HOTEL DEVON, NEW YORK.
Finished by The Rookwood Pottery Co., in colored mat glaze Faience.

The terra cotta used in the house of S. G. Bayne, Esq., White Plains, N. Y., Frank Freeman, architect, illustrated in *THE BRICKBUILDER* for September, was manufactured by the Excelsior Terra Cotta Company.

The American Enameled Brick & Tile Company are furnishing about a million of their brick for the new Plaza Hotel, New York City. This company is shipping nearly one-half a million of bricks per month, which they are enabled to do because of the enlargement of their plant, made necessary by an increased demand for enameled brick throughout the country.

The following named buildings will be roofed with Edwin Bennett's roofing tile: Davidson residence, Washington, Wood, Donn & Deming, architects, red unglazed Mission tiles; Williams residence, Washington, G. O. Totten, architect, green glazed Spanish tiles; Bliss residence, Washington, A. C. Goner, architect, red unglazed Spanish "S" tiles; Shoemaker residence, Philadelphia, James C. Fernald, architect, red unglazed Spanish tiles.



THE MILWAUKEE ELECTRIC RAILROAD & LIGHT CO.'S
PUBLIC SERVICE BUILDING.
Brick furnished by Ohio Mining and Manufacturing Company.

The idea of using glazed tiles or brick, to overcome the soot of London, is not new. It has been advocated for some years and practised, in spots and panels, now and then. But Mr. Halsey Ricardo, who received the Society of Arts Silver Medal about four years ago, for a paper on "The Architect's Use of Enameled Tiles," has put his ideas into practise by facing the walls of a whole house — a large unattached mansion in the Addison Road — with glazed brick colored green and blue, dressed with a matt-glazed terra cotta of a light color. The mass of the wall appears to be green; the blue is used in smaller quantities for spandrels, etc. The roof is of glazed Spanish tiles of a bright green.

The city of Springfield, Mass., is alarmed at the erection of a tall building in its business district and that excellent spokesman *The Republican*, pleads for a maximum limit of one hundred feet as a height for future buildings. This is probably a satisfactory limit for the needs of Springfield at present and for many years to come. But the newspaper quoted goes too far in saying that New York and Chicago would be better off in a business way had skyscrapers been limited to one hundred feet. There is no doubt but that the skyscraper is in need of regulation, and none are so ready to welcome this as are the architects of the country. The upward tendency of buildings is not beautiful, nor sanitary, nor in the end wise, but it is almost a platitude to say that under the present conditions it is a necessity.

COMPETITION FOR A MASONIC TEMPLE.

THE Masonic Temple Company of Beaumont, Texas, invites competitive plans for a two-story Masonic Temple, sixty by one hundred and fifteen feet, cost not to exceed \$25,000.00. Successful architect to give bond that building can be erected for estimate given. The company reserves the right to reject any and all plans. For further particulars, address C. E. Walden, Chairman Building Committee, Beaumont, Texas.

FOR SALE — Architect's office with furnishings, located in a city in the middle West with a population of 12,000, mostly Germans. No other architect in the city. There are also several near-by towns without architects. Good opportunity for a German. Address "N. B.," care "The Brickbuilder."

ARCHITECTURAL DRAUGHTSMEN WANTED — Good paying positions for competent men in a terra cotta factory located near New York City. State age, training and references. Address "T. C.," care "The Brickbuilder."

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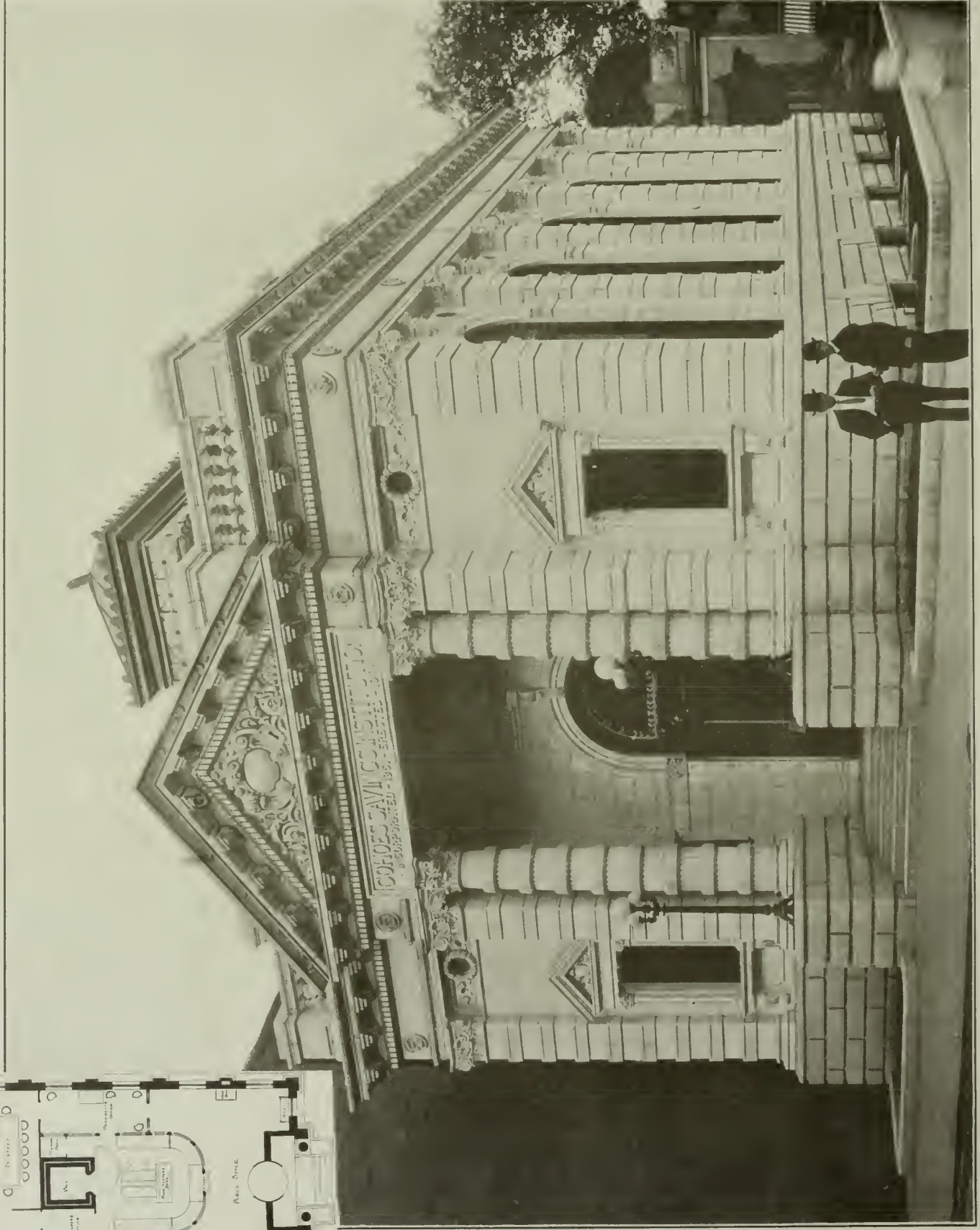
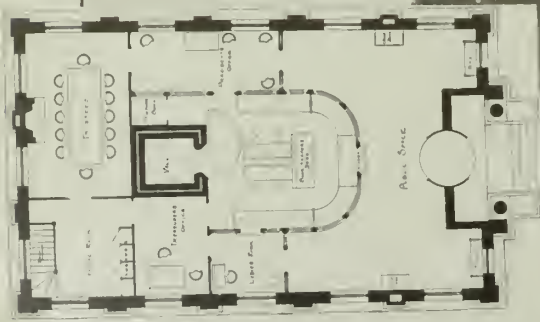
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FOR FULL INFORMATION address Dr. J. H. PENNIMAN, Dean. College Hall, University of Pennsylvania, Philadelphia, Pa.



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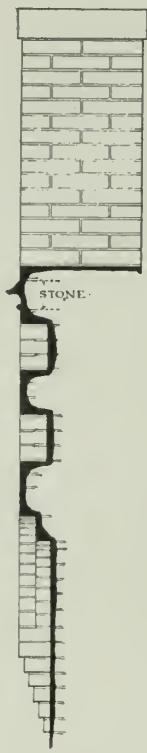


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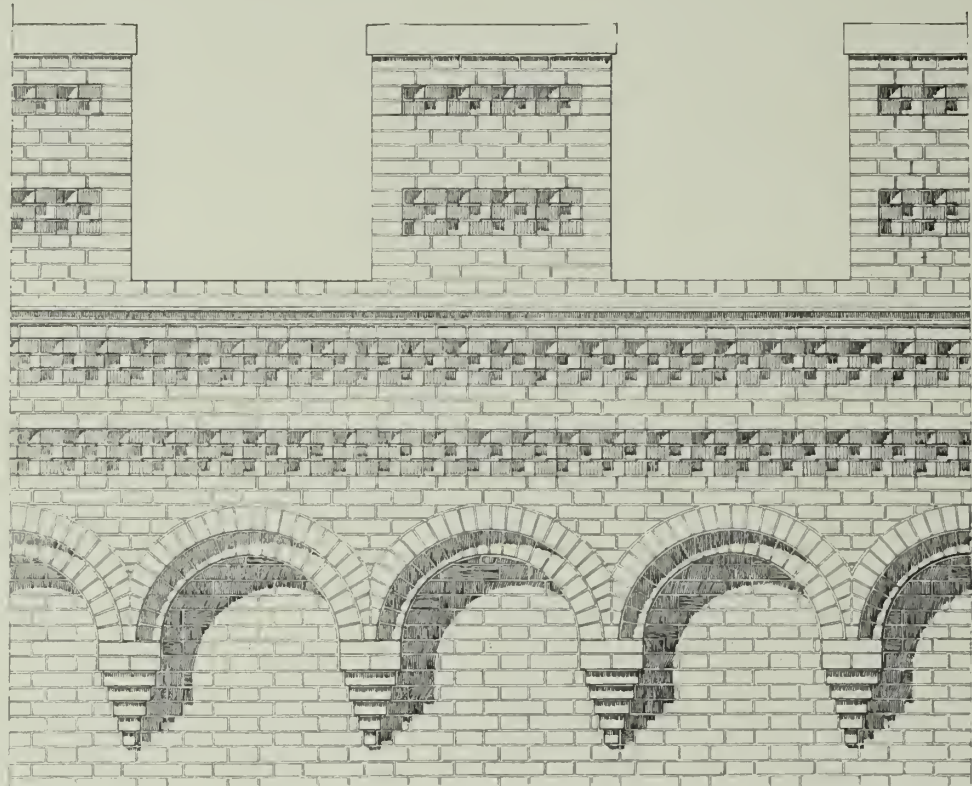
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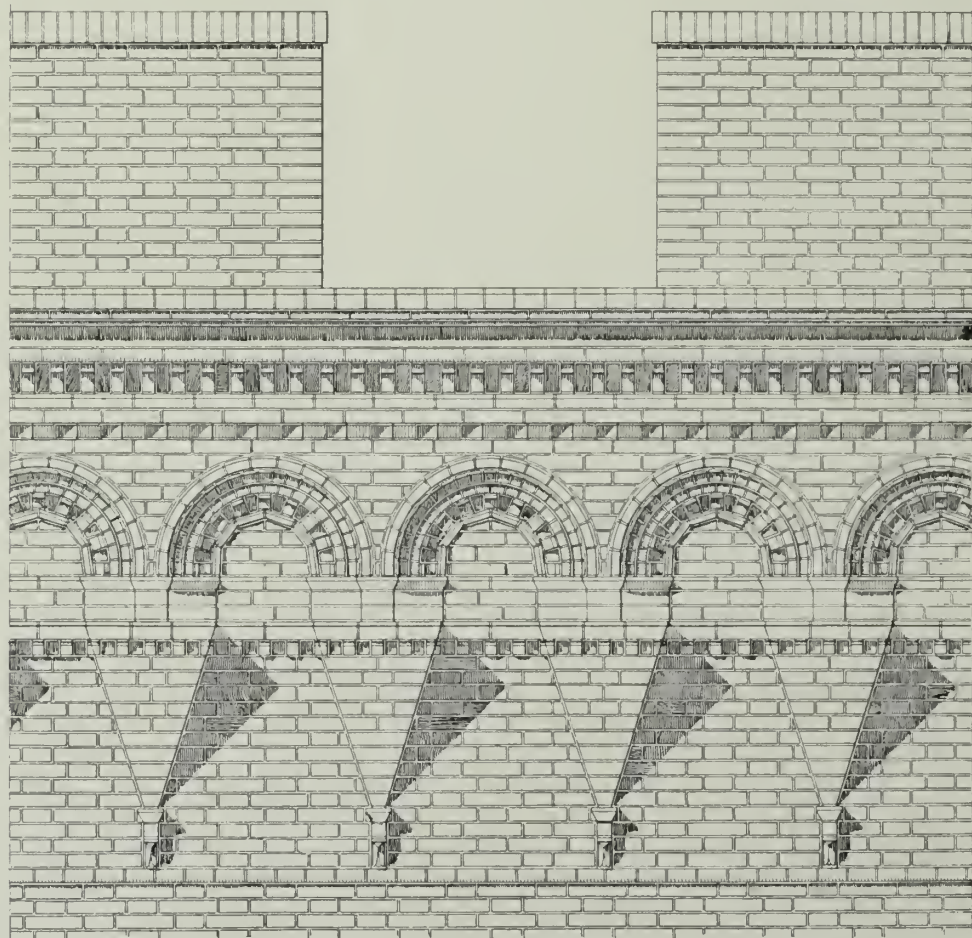
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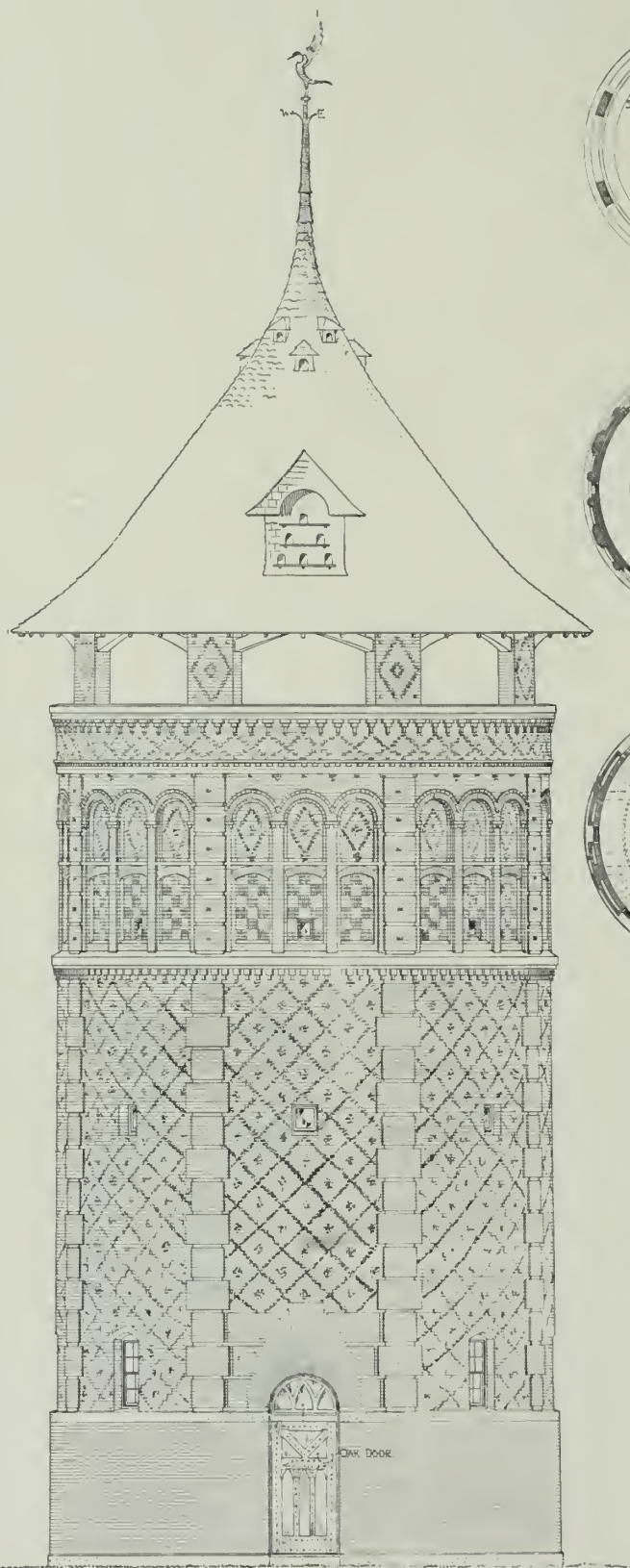
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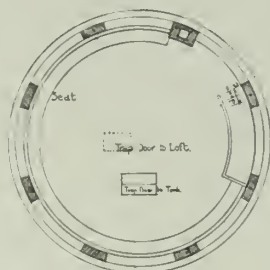
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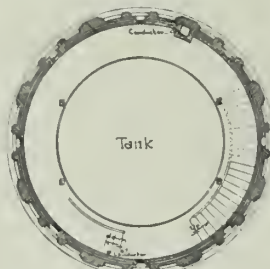
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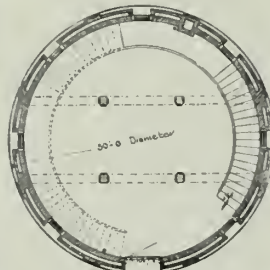
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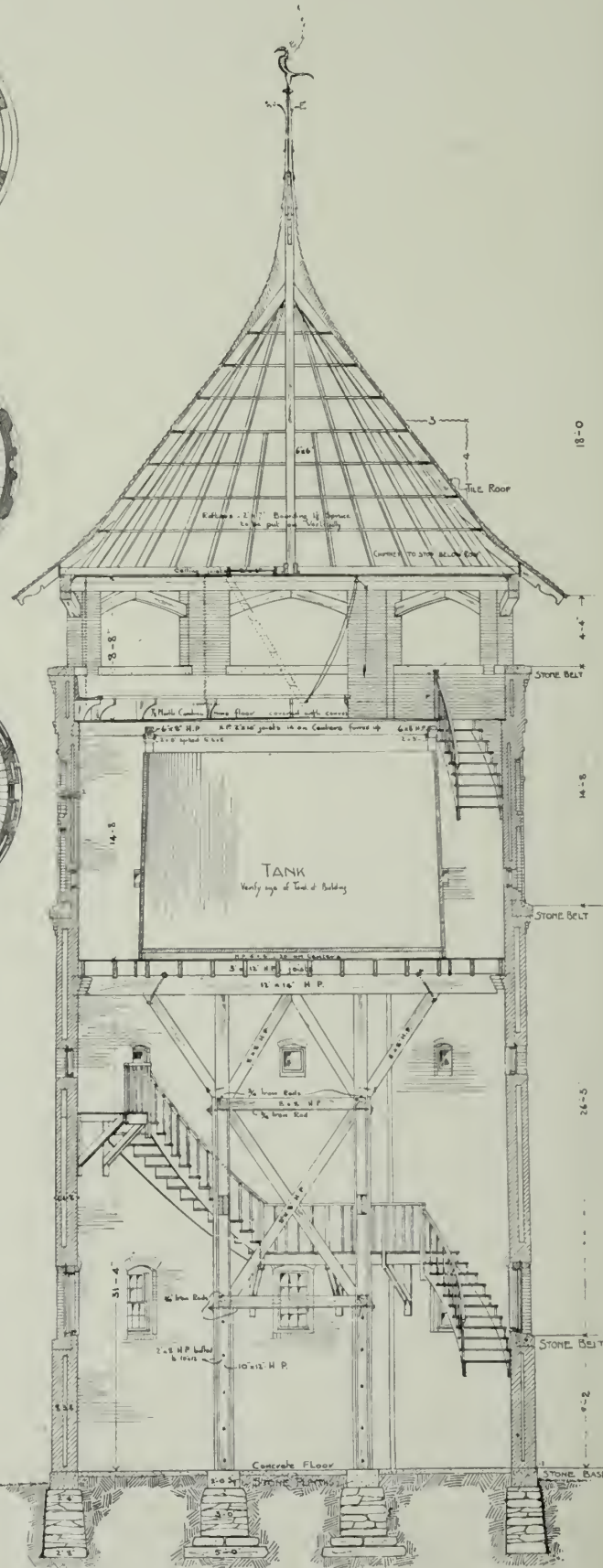
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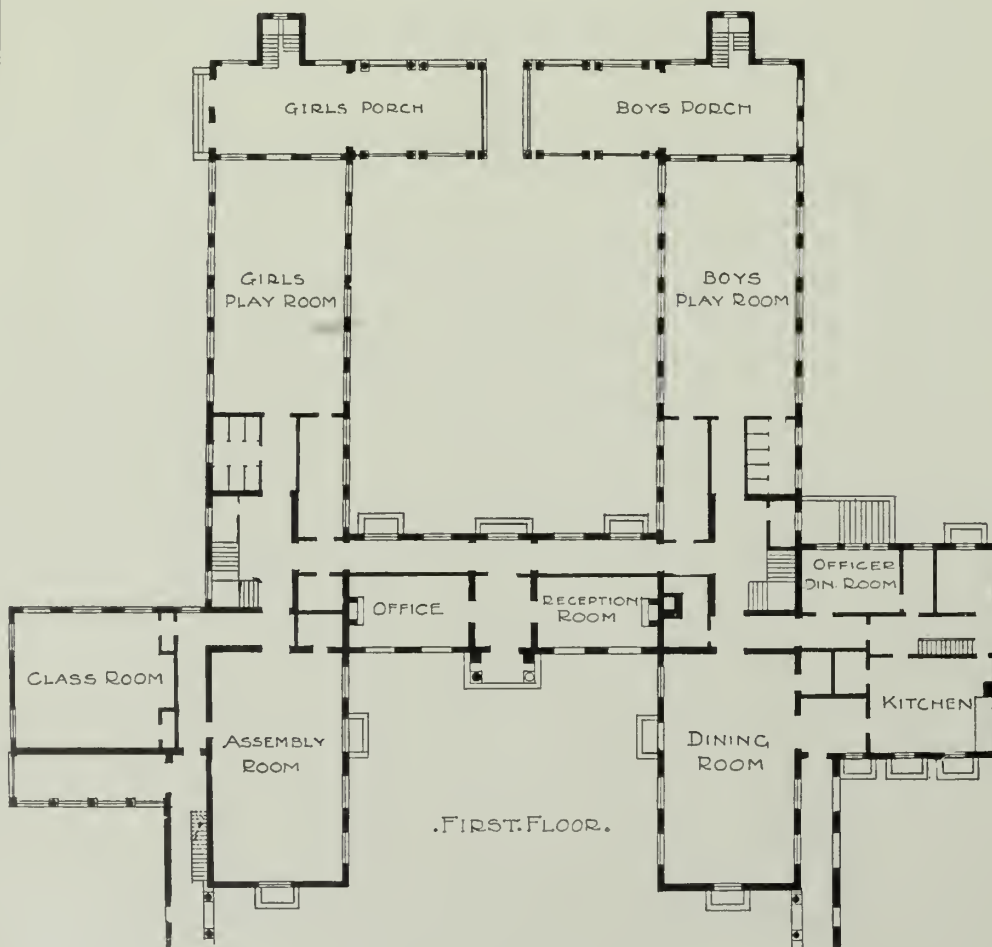
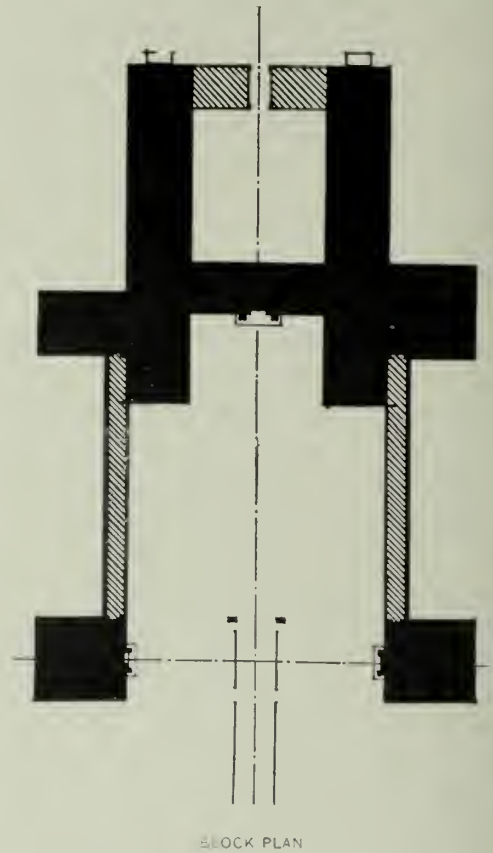
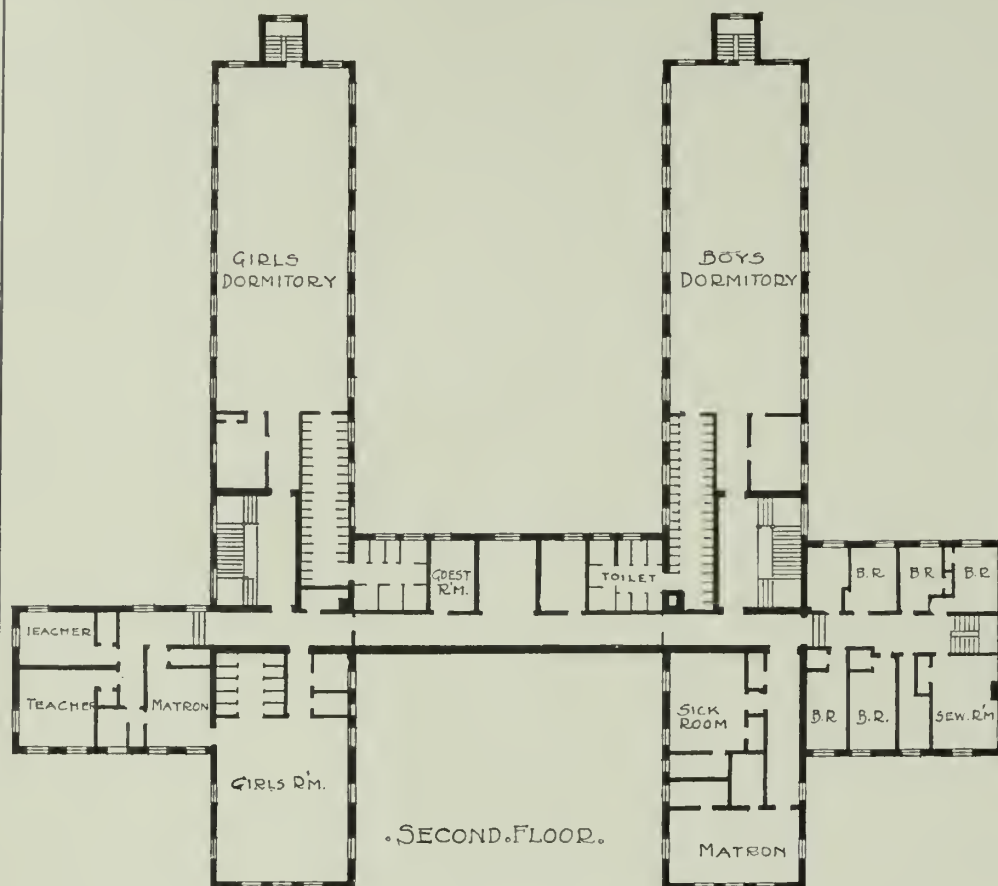


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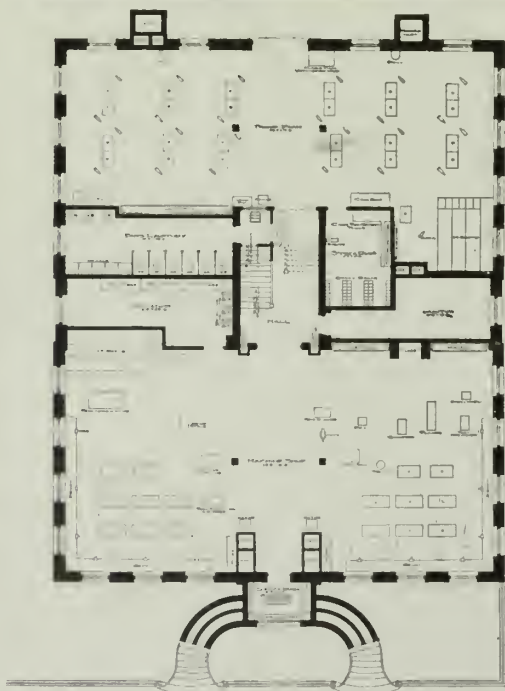
WATER TOWER AT CHAPINVILLE, CONN
STONE, CARPENTER & WILLSON, ARCHITECTS



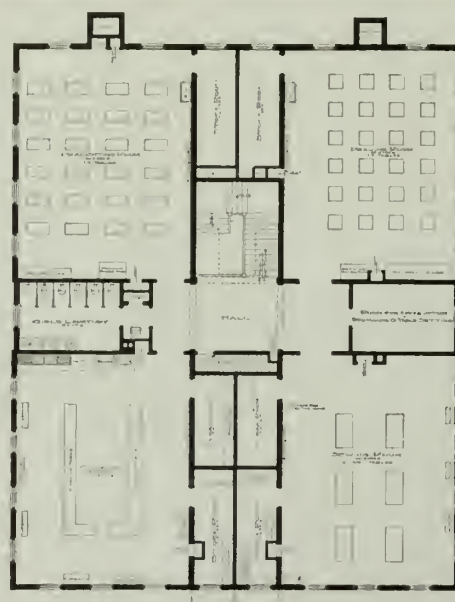
THE PHILADELPHIA
ORPHAN ASYLUM,

WALLINGFORD,
PENN.

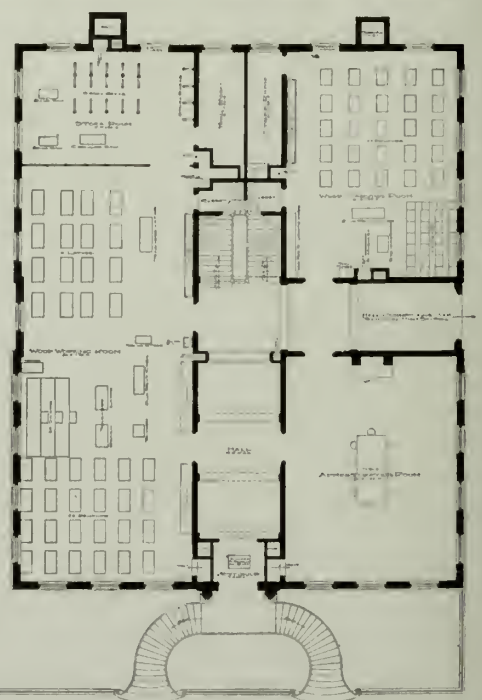
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BASEMENT PLAN.



SECOND FLOOR PLAN.
MANUAL TRAINING SCHOOL,
SCRANTON, PA.



FIRST FLOOR PLAN.

LITTLE & O'CONNOR AND EDWARD LANGLEY, ASSOCIATE, ARCHITECTS.



THE EGERTON ORPHAN ASYLUM, BALTIMORE, MD
WYATT & NOLTING, ARCHITECTS.



FRONT ELEVATION.



REAR ELEVATION.

WILLIAM L. ELKINS MASONIC HOME FOR ORPHAN GIRLS, PHILADELPHIA. PA
HORACE TRUMBAUER, ARCHITECT.



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DETAIL OF MAIN ENTRANCE.
PHILADELPHIA ORPHAN ASYLUM, WALLINGFORD, PA
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LAUNDRY BUILDING.



REAR ELEVATION.



VIEW IN THE COURT.

PHILADELPHIA ORPHAN ASYLUM, WALLINGFORD, PA.
DELANO & ALDRICH, ARCHITECTS.



FRONT ELEVATION.



THE GYMNASIUM.

MRS. DOW'S SCHOOL, BRIARCLIFF MANOR, N. Y

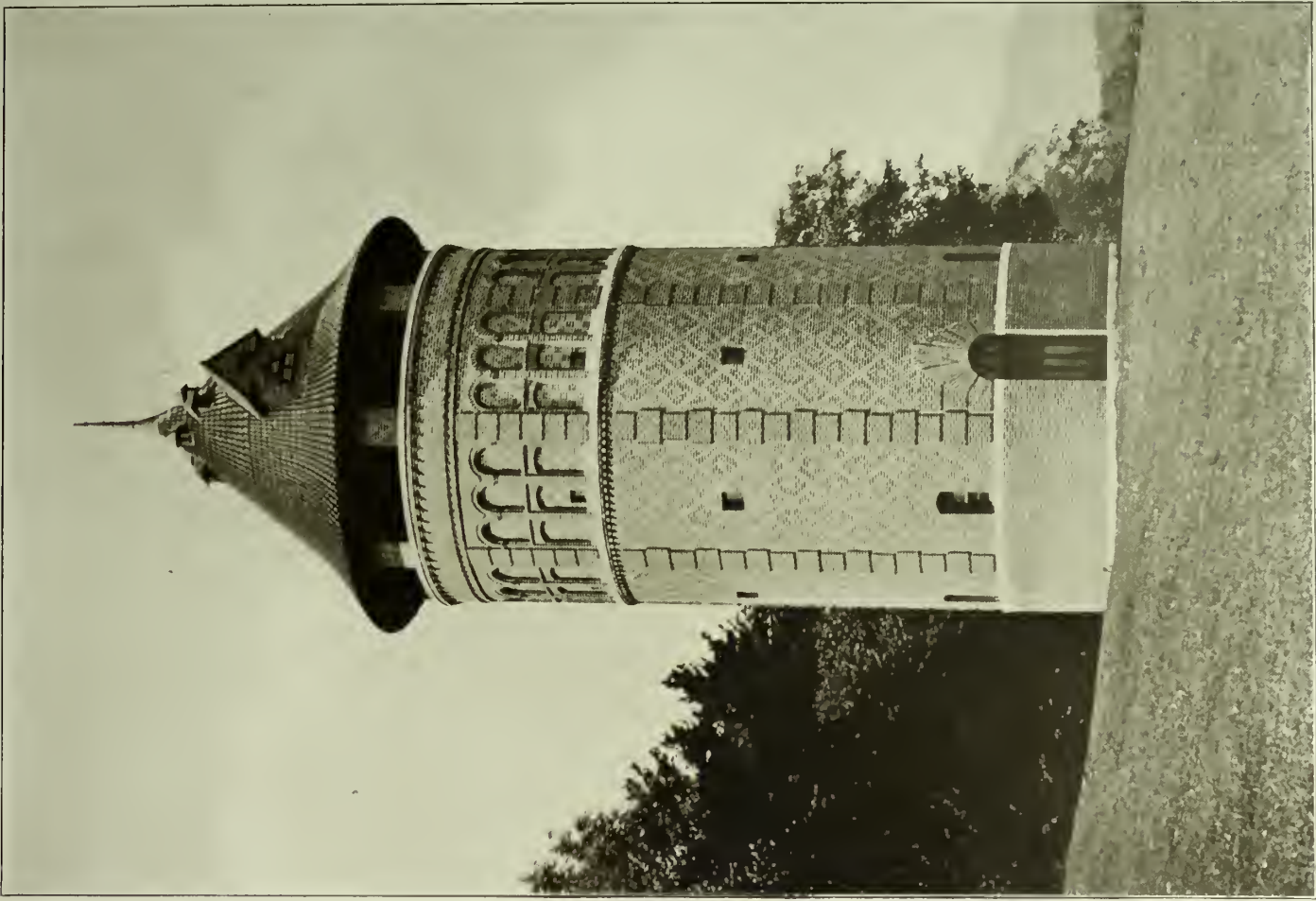
H. VAN BUREN MAGONIGLE, ARCHITECT.



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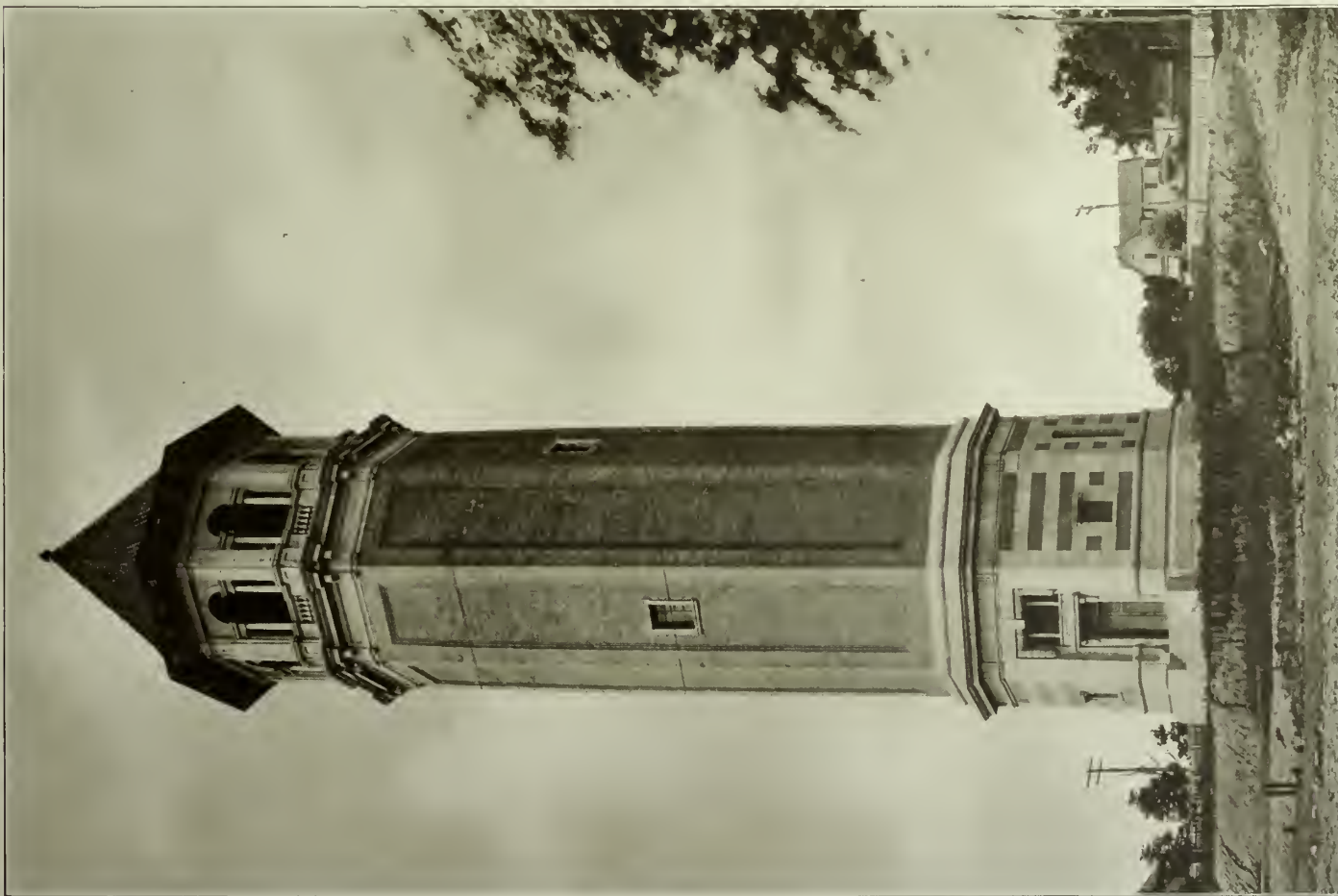
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H. VAN BUREN MAGONIGLE, ARCHITECT.



WATER TOWER AT CHAPINVILLE, CONN.

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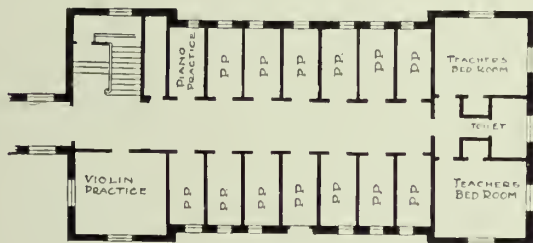


WATER TOWER AT ROLAND PARK, BALTIMORE, MD.

WILLIAM J. FIZONE, ARCHITECT.



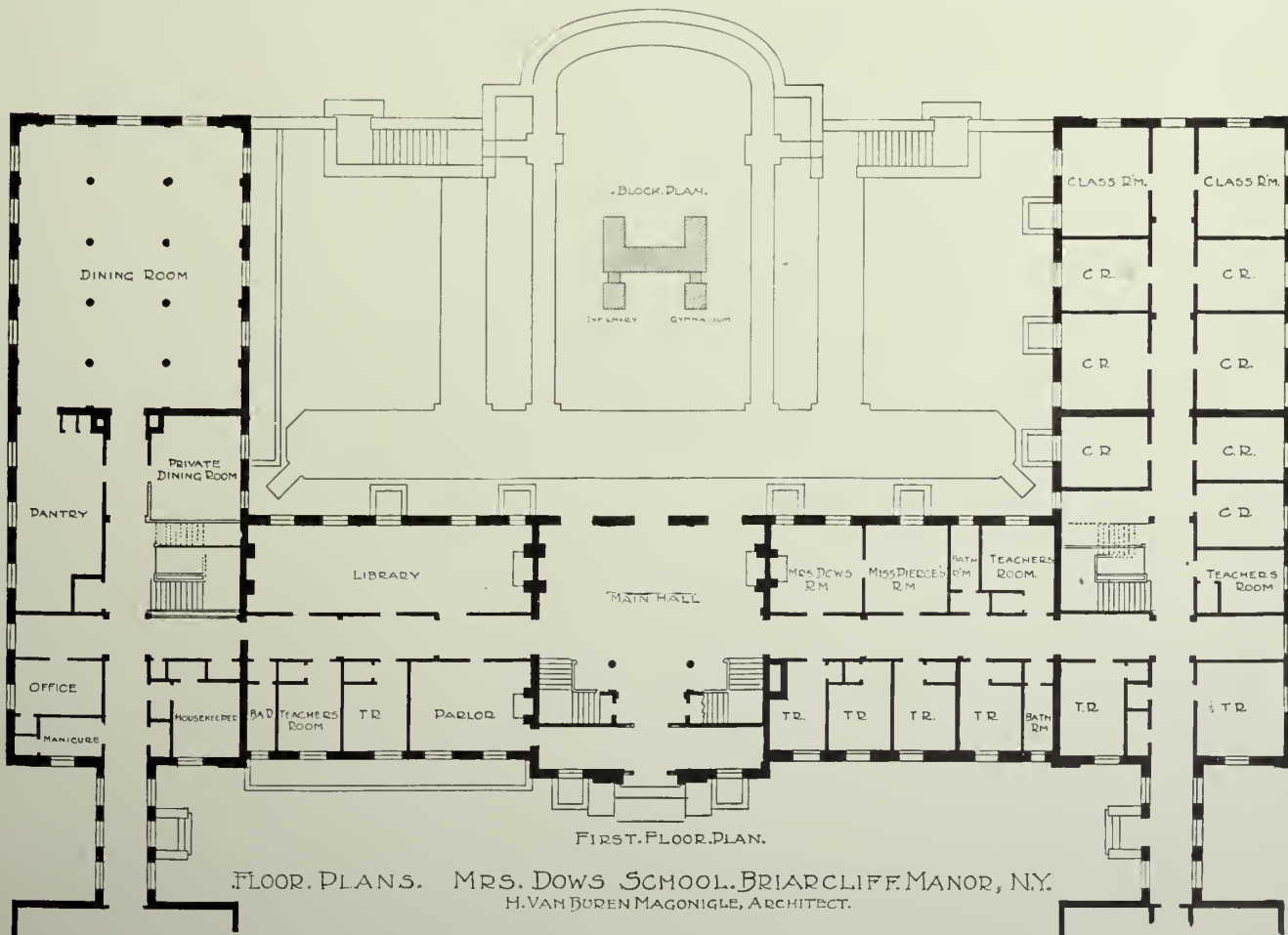
SECOND FLOOR PLAN.



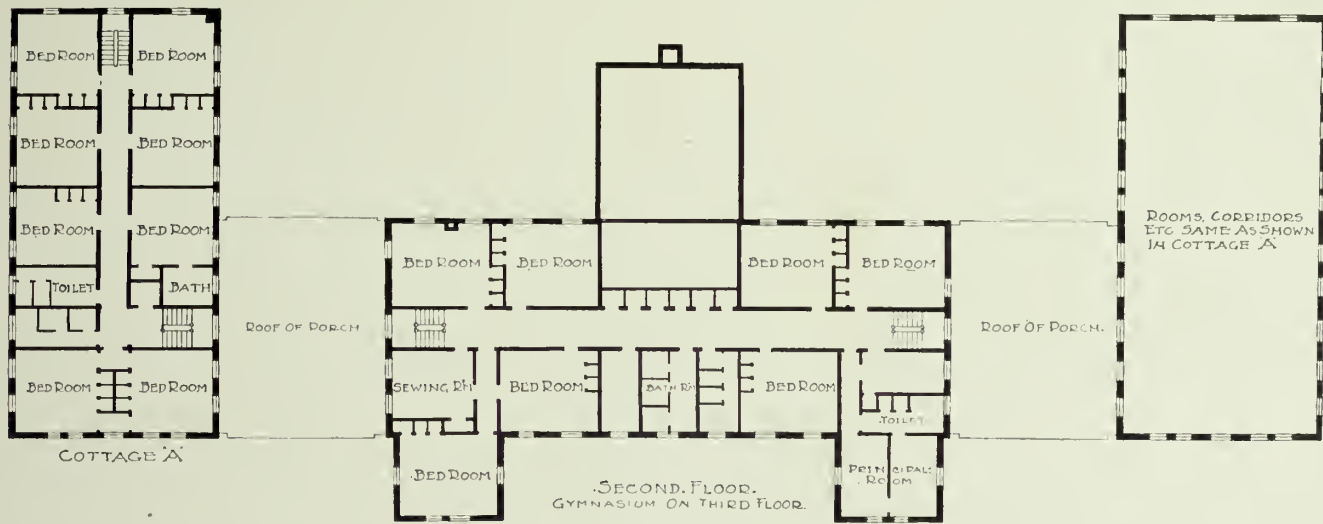
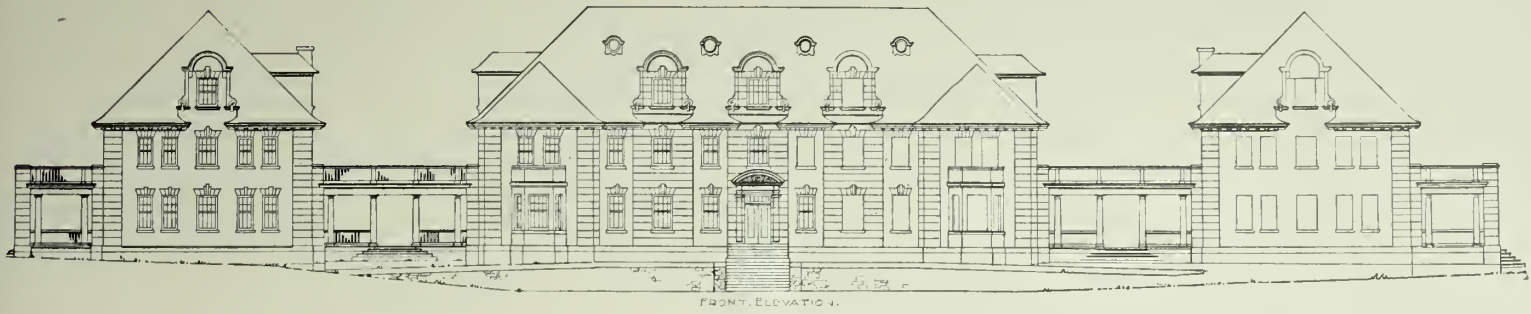
FIRST FLOOR PLAN.



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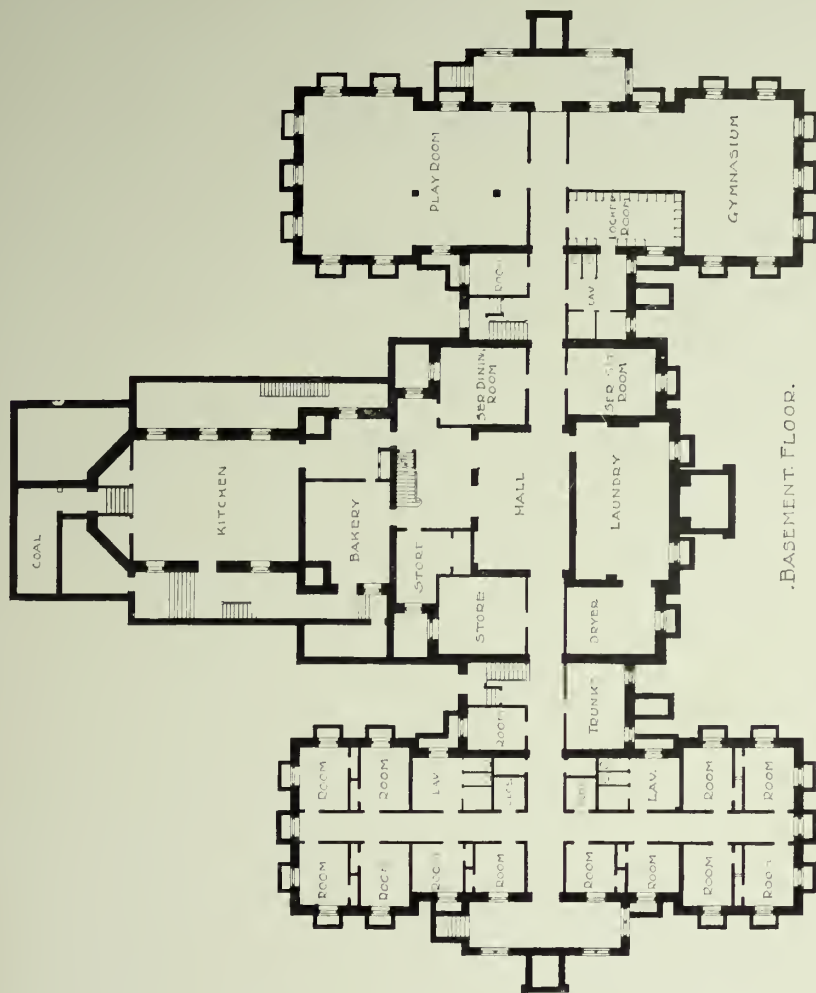


FIRST FLOOR PLAN.



EAGENTON ORPHAN ASYLUM, BALTIMORE MD
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WILLIAM L. ELKINS MASONIC HOME

FOR ORPHAN GIRLS,

BROAD STREET AND HUNTING PARK AVENUE,

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HORACE TRUMBAUER,

ARCHITECT.





THE BRICKBUILDER

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MAUSOLEUM AT NACHTSCHEWAN, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 10 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY OCTOBER 1906

THE INCREASING USE OF BURNT CLAY. □

THE question is frequently asked of us, to what extent will concrete supercede burnt clay as a constructive material. We admit a decided bias which quite naturally influences our opinion, but it is our conviction that concrete has not yet and is not likely to supercede burnt clay to any appreciable extent, and in this conviction we are fortified by many facts gathered from the broad field of current building operations. Concrete in its best form is a desirable building material for many purposes, but surely it is not adapted for all constructive work.

It must be borne in mind that building operations in this country are going on at a very rapid rate, that the volume of new work is constantly increasing and that there is a growing demand for the best of all building materials. Wood, because of its increasing cost, is more than likely to be eliminated as a possible medium. To a large extent brick and concrete must eventually take its place, and there is every reason to believe that in this increasing demand for a substitute for wood burnt clay will stand more than an equal show.

As was pointed out by many of the delegates to the Congress of Architects recently held at London, concrete is still an unknown quantity. It may be anything from one part cement to two parts gravel or cinders or one part cement to twenty parts of other materials. There are no recognized standards in concrete to-day, and we have an unprecedented record of failures in its use. The mere relative cost of the two materials will not, we believe, be a serious factor one way or the other, for there is really little difference between the cost of good concrete and of good brickwork, the odds being on one side under certain conditions, and on the other under different ones, although it is pretty safe to say that first-class concrete would be fully as expensive as brickwork. It is, therefore, merely a question of choice of materials.

Notwithstanding the unprecedented and well-directed efforts made by the concrete interests to secure a demand for their materials, and the very liberal employment of concrete by architects and builders throughout the country, it is nevertheless a fact that this year has been the largest in the matter of production and sales ever known in the burnt clay industries. Nearly all of the pressed brick manufacturers of the country have been running their factories night and day to keep up with their orders. The output of architectural terra cotta has nearly doubled.

Burnt clay fireproofing plants are doing more business than ever before in the history of this industry. Single factories are now producing as many enameled bricks as were put forth by all of the factories combined a few years ago. The use of roofing tiles has grown far beyond the experimental stage and is a thriving, growing business, while one need only follow the illustrations in the architectural magazines to appreciate how rapidly faience for both interior and exterior work has grown in favor among the best architects in the country.

The fact is, the country is so large and the demand for good material is actually so far beyond the supply in many cases that there is plenty of room for all good building materials. Brick and terra cotta will more than hold their own, one of the many reasons being that the architect is able to obtain good and lasting color schemes and enlivening texture in his wall surfaces by the use of these materials to an extent that would be simply impossible with any other material.

BERLIN WORLD'S FAIR.

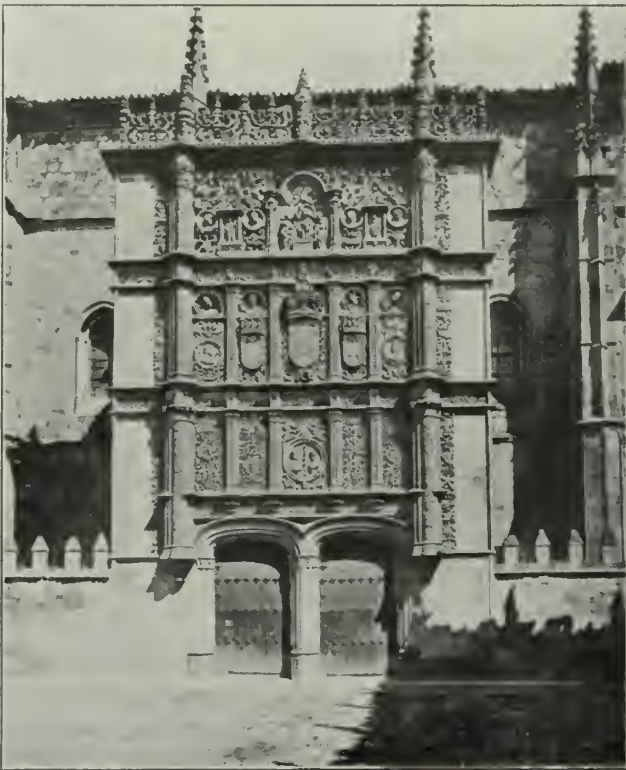
The city of Berlin proposes to have a World's Fair in 1912. There is not the slightest doubt that if the Emperor William has set his mind on this scheme it will be done and done well, and there is also no question but that the world will find a lot to study in a fair of this description held at Berlin. Probably no country in the world has made such remarkable tremendous advance in the arts and industries as has been so notable a feature of the development of the German empire. In the cement industry, from being at the very bottom of the line she has stepped to first place. Her furniture and decorations have come to occupy a very high place, as was abundantly shown at our own St. Louis Exposition, where the Germans made the best exhibit of any of the foreign countries. Germany has not held a world's fair of any moment since 1873 at Vienna, if, indeed, that could properly be called a German fair, and with the enormous development in the sciences, the manufactures and the art industries, the world will be justified in expecting some pretty fine things from the Berlin Exposition. We can certainly believe that the buildings will go up like clock work, will be delivered promptly on time and that when the Emperor opens the Exposition it will be really ready, something which could have been said about no other exposition the world has so far seen.

Suggestions for Travel in Spain.

(CONCLUDED)

BY L. MORRIS LEISENRING.

EXPENSES AND LIVING ARRANGEMENTS. — The expense of traveling in Spain is about the same as in Southern France and Italy. If one travels third class he can live at comfortable hotels at the prices following and average for actual going expenses ten pesetas a day (about \$1.50). This does not include, however, the numerous little things continually in evidence, such as fees, entrance to galleries, etc., and one wishes always to buy photos and post cards and often more expensive remembrances. One hundred dollars a month would allow one considerable purchasing power. As the peseta, with a nominal value



FAÇADE OF THE UNIVERSITY, SALAMANCA, SHOWING THE CORRECTION OF THE PERSPECTIVE BY THE ENLARGING OF DETAIL TOWARD THE TOP.

of twenty cents, is worth but fifteen cents, the traveler receives a liberal premium on foreign money. Although there is much counterfeit money in circulation, and the traveler must look sharply to his change, he is not nearly so much subject to petty knavery as in Italy. Generally speaking, it is more expensive in the south than in the north. Hotel charges are made by the day and include lodging and three meals. In Andalusia one lives well on nine or ten pesetas; in Madrid, as the English would say, "they will do you for seven"; while in Old Castile and Catalonia one is well housed and superabundantly fed for six. An arrangement can always be made if one leaves before his full day is up, and, if one meal remains to his credit, he may have instead a plentiful lunch including a bottle of wine to be eaten *en voyage*. A lunch should never be omitted when starting on a long journey.



ON THE BEACH AT TANGIER. LOADING BEEVES FOR SPAIN.

Breakfast is usually a sad affair of a roll and a cup of thick chocolate full of cinnamon, or coffee mingled with goat's milk which coagulates disgustingly. Butter is an impossibility, as it is imported from Holland. If the label on the can is dated less than two years back it is considered extremely fresh. The other meals are bountiful and are served in courses, the long late dinner being tedious to one not speaking conversational Spanish. A great many meats are served, excellent vegetables and salads and always fish. Eggs may be had in any form for the asking. Two kinds of wine are usually supplied. Though water is not much used with meals, it is generally excellent and is brought from the mountains, often at great distances. The Spaniards drink great quantities of it, and water carriers vend their wares both summer and winter. One remembers them particularly from Granada, where their drawling cry of "*Agua-agua freddo coma los nieves*," "Water cold as the snows," has so often lifted his eyes from sunburned streets to the distant peaks of the snow-clad Sierra Nevadas. After dinner coffee is taken at the cafés, where every one goes to play dominoes or pedro. Hotel proprietors are usually entirely reliable and no extras are charged. It is well, however, to have the bargain distinctly understood beforehand with him or one of his family, and to ask for a rate a peseta less than you expect to receive. Rooms are left bare of linen, so that the new arrival can see that everything is fresh. If traveling in the summer one will do well to carry a mosquito netting for use at those inns which do not provide a canopy. Even where there are no mosquitoes the early sunrise wakes into action hordes of pestilential flies. Also in warm weather a can of "black flag" or other insect powder will be found useful, for



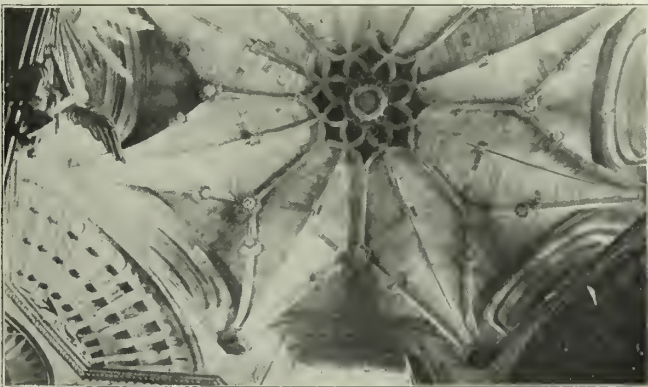
IN THE GARDENS OF THE ALCAZAR, SEVILLE.

where goats and donkeys have the *entree* of the family circle the *Pulex irritans* is not to be denied.

Business is conducted as in other Latin countries, on the bargaining system, which makes a game of the simplest exchange. This applies to the hiring of guides, horses or any special conveyance. One-half the price demanded should be offered and two-thirds paid as a general rule. All regular routes have their prices fixed, and foreigners are asked the same as natives.

A passport is said to be necessary, but is never called for. It is, however, best to have one in case of accident. It is more valuable if *visé* at a Spanish, and if one intends to visit Portugal, at a Portuguese consulate. If one wishes to leave Portugal by sea, he must have one.

SKETCHING, ETC. — An official looking document is always valuable in securing permission to measure or sketch. A letter from one's university, with seal affixed and a wisp of ribbon, if possible, will do wonders. Permission to work in a church may be had from the sacristan by the aid of a small fee, but if higher sanction is necessary the cardinal, archbishop or other church functionary in charge is usually approachable for a permit to work in any church in his town. For secular buildings



CATHEDRAL, BURGOS. EXAMPLE OF THE STAR POINTED VAULTING PIERCED AT THE CENTER.

the permission of the owner or of the caretaker is usually sufficient. If one invites the Spanish official love of red tape he will spend his days in waiting for permission to do what he probably could have done before being interrupted. An amusing incident occurred in one of the cathedrals where we had secured permission to take some measurements. The longest ladder on the premises would not reach, so we engaged a carpenter to bring a longer one. A great deal of pain was caused at the church door to the sacristan, carpenter and all concerned by the fact that this ladder had not been officially blest and therefore could not enter. However, two superimposed tables and the best blest ladder available, anchored by several terror-stricken supernumeraries, finally did the work.

One will need a camera very much, as he does not find post cards and photographs here so plentiful as in France and Italy. He had best carry all the films or plates he will possibly need, as Barcelona and Madrid are the only places where he can replenish his stock, and they are not found in plenty even there. He should also carry all the sketching materials he will need.

Although the cathedrals are rightly said to be the



CUIDAD DE FRIAS, NEAR BURGOS. EXAMPLE OF AN ANCIENT HILL TOWN.

museums of Spain, the city and provincial museums, such as those at Cordova, Valladolid, Burgos and so on, should by no means be neglected. Here will be found refreshing bits of local color, the art products of the neighborhood. They are usually open only in the forenoon and after 4 P. M.; sometimes only on certain days; but the stranger can usually have entrance by application to the care-taker, to whom is due a small fee.

To say anything about what to see and where to see it is almost impossible in an article of this length.

There is comparatively little left of *Roman* work, and the general architectural student will scarcely find it worth while to go out of his way to visit the ruins of Merida and Sagunto or the wonderful bridge of Alcantara. At Italica (near Seville), Cordova, Segovia and Tarragona he will find much of it thrown in his way.

Rough remains of *Visigothic* churches and fortifications show at Cordova, Toledo and Merida. In Asturia the principal type was developed as at Oviedo and Covadonga. This type is well shown in the churches of San Pablo and San Pedro at Barcelona.

The *Romanesque* is principally in the northwest. Santiago de Compostela, Leon, Zamora, Toro, Salamanca, Avila and Segovia show varying types. The distinguishing feature in the cathedrals is the large lantern tower at the crossing, which same feature is so beautifully worked out later in the Gothic. Avila and Segovia show smaller churches with rich portals and rose windows,



THE GUADALQUIVIR AND TORRE DEL ORO, SEVILLE.



IRON BOSSES ON THE MISSION
DOORS TO THE HOSPITAL OF
VERA CRUZ, TOLEDO.

manca and Avila the late Gothic churches with square towers at the crossing are graceful both in exterior and interior effects. At Burgos the pierced work at the crown of the star-shaped vaulting of the *cimborio* and chapels is notable.

The *Moorish* style is of course seen at its best in the south. At Cordova the wonderful mosque, started in 785 A. D. and enlarged in the same style several times, is the first great monument of the Saracens. It is marred by the intrusion of a Christian church in its very heart and by the decay of its carved cedar ceiling which has been replaced by plaster vaulting whitewashed. But we can forget these things in what is left. Beautiful glass and tile mosaics show the influence of Byzantium here. The old fortress palace of Medina Az Zahra, which surpassed the Alhambra, stood three miles to the north of Cordova and is now a total ruin, having



MOATED CASTLE NEAR MEDINA
DEL CAMPO.

and at Segovia external colonnades and graceful square towers pierced with arched windows. At Gerona, Tarragona and Silos are beautiful cloisters.

For the *Gothic* again we find the north most fruitful. Earlier examples are at Tarragona, Salamanca, Lerida, Burgos and Tudela, while later developments with more foreign elements are seen at Leon, Santiago de Compostela and the cathedrals at Burgos, Toledo and Seville. The northeast shows an impressive type with extremely wide naves in the cathedrals at Barcelona, Gerona and Palma Majorca. At Sala-

borne the short life of seventy-four years. At Seville, in the charming Giralda and the Orange Court with its Puerta del Perdon, we see the only remains of the former mosque, which was replaced by the cathedral. Near by is the Alcazar, which is the best example of the interior of a Moorish palace that we have today. The colors are still vivid and the whole is in excellent repair. It was built for Spanish kings by Moorish work men. In the ruins of the Alhambra now being skillfully restored, we

find the culminating point of Moorish endeavor. A Moorish bridge and remains of several patios will be seen at Ronda. Among the ruined castles which dot the hills may be mentioned that of Gaucin, near Gibraltar. The Church of El Cristo de la Luz and the Puerta del Sol at Toledo show early types. As examples of minor residences, the Casa de Mesa and the Talliar del Moro at Toledo should be noticed.

The *Mudejar* style or late Gothic forms with Moorish decoration is very rich and plastic. It may best be seen at Seville, Toledo, Saragossa, etc. This is a style indigenous to Spain, showing delightful brickwork and flowing wall surfacing. Notice the brick towers at Saragossa and Seville, the wall treatment of the Casa de Pilatos, iron doors to the Orange Court at Seville, the church of the Transito and palace of the *Ayalas* at Toledo.

The rich *Plateresque* and *Grotesque* styles, Spain's version of the Quattrocento, are seen in all parts of the country. Their stronghold is at Salamanca; though more thoroughly Renaissance cathedrals are found at Granada, Malaga and Jaen, and the richest single example is the town hall at Seville. Examples of this rich style are particularly noticeable at Granada, Seville, Burgos, Avila, Leon and Santiago. A peculiar type of Renaissance of lacelike detail due to Moorish influence is to be seen at Valladolid in the Collegio de San Gregorio.

Of the *Cinquecento* the preëminent example is the Escorial, which, however dry in detail, is one of the most imposing groups of buildings to be seen anywhere. Moreover it is extremely Spanish in plan and mass. It is enough of a monument to glut one's appetite for this style at one gulp. The unfinished cathedral at Valladolid may be mentioned as another of the works of Herrera.

The *Rococo*, or *Churrigueresca*, and the *Baroque* are also found in all parts of the country and are much more bold and reckless than their Italian cousins. The imposing (from position) Palace of the Bourbons at Madrid



CLOISTERS — SAN ESTEBAN,
SALAMANCA.



A CORNER OF THE MARKET,
SALAMANCA.

CHURCH OF THE MAGDALEN,
SARAGOSSA.

Belem, near Lisbon, Batalha, Cintra, Alcobaca, Thomar and Coimbra. Tiles are still used on the façades of buildings, and many splendid effects are made in this way. If one has stopped at the Azores he will have seen a colonial imitation of the mother country in the tiles used there.

There is not space here to contrast the Moorish cities of Andalusia, their narrow winding streets, low, white stuccoed houses, wide doorways and bower-like patios with the gray stone Gothic of the north, where bold eaves overhang the pierced work of attic stories ;

nor to speak of the brickwork of this city and the stonework of that or of the wood carving here and the ironwork there. The reader will find all this out for himself. These few words may help him to start his tour better prepared than was the author.

A word may be said as to the bearing of Spaniards towards Americans. An old gentleman gravely told my traveling companion that we were taking our lives in our hands in touring Spain so soon after the recent

tionally and climatically suitable?

When all is said, Spain is a country which casts a spell over the traveler. He looks back on days spent there as days spent in another world. He is cold-blooded indeed who has lived there and not felt the itching of his designing hand. But whether her influence bears fruit in his work or not he will be a different man from having known her.

TOWER OF THE CHURCH OF SAN
PABLO, SARAGOSSA.

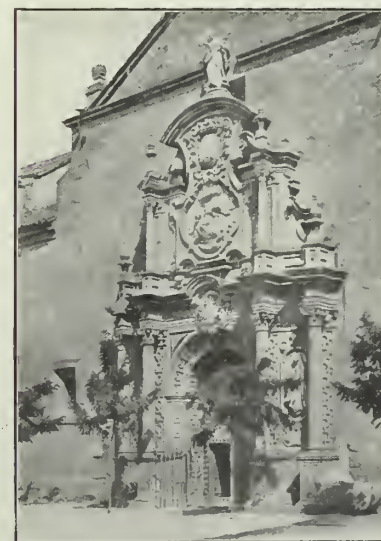
THE DESIGNING OF PUBLIC MONUMENTS.

DURING the ten years following 1876 this country built a great many public monuments, mostly to the soldiers and sailors of the Civil War. The financial depressions about 1890 interrupted the growth of these monuments but with the prosperity that this country has experienced of late years a new and plenteous crop has sprung up in many of our large states. A change has taken place, however, in the manner in which most of them have been designed. In the earlier period the memorials, as far as they were designed at all, were the creations of the sculptors, and the pedestals, the accessories, the architectural portions were in most cases slighted and generally poorly designed. There are few good monuments twenty-five years old to-day which owe their design to any architect of repute. Now it is almost the exception to find a large public monument, the design of which is placed unreservedly in the hands of the sculptor, and in a number of cases the conditions have been reversed, and it has been the architect who had charge of the whole, the sculptor appearing as an accessory. The result has been a large and interesting series of monuments, many of them designed most admirably, and enlisting the service of the best architects in the country. We have only to mention such works as the Lincoln Monument at Chicago, the Shaw and the Hooker Monuments in Boston, Mr. Magonigle's Monument to the Maine and to President McKinley, the Soldiers' and Sailors' Monument at Morningside Park, to illustrate how architecture has really taken the lead in the design of these structures.

APSE OF THE OLD CATHEDRAL AND
FAÇADE OF AN ADJOINING
PALACE, SARAGOSSA.

war. We were in nowise fearful of this, but we were not prepared for the kindness which seemed to prompt every one to go out of his way to make us understand that "bygones were bygones."

Another thought which here intrudes is of the development of Spain's lost possessions which will now be so much under our influence. Will not the architects who work in them look to Spain for inspiration as her colonies have always done? For that matter we have in our own Southwest a country with Spanish traditions. Is it not natural that architects there should study from models both tradi-

DOORWAY OF THE COLLEGE,
GRANADA.

Arrangement and Cataloguing of Photographs.

BY WILLIAM STANLEY PARKER.

THE arrangement of the various data to which an architect is constantly referring, such as foreign and domestic photographs, reproductions issued in technical publications, articles similarly published, catalogues of commercial products, and constantly increasing practical data on construction is one of the important questions of office administration. The great amount of time continually wasted in hunting up references in a poorly arranged collection could be saved with a profit at the expense of an initial outlay of time for some systematic arrangement and an occasional outlay to keep it up to date.

Moreover a mass of unused material would be made available. Any material that is worth office room is worth careful arrangement. Many an architect while carefully placing his professional earnings where they will return him the best rate of interest leaves in a heterogeneous collection of portfolios, rolls and scrap books, his collection of foreign photographs, costing perhaps hundreds of dollars, and representing an investment which is returning him no dividends at all, or only at the expense of valuable time on account of inaccessibility.

It is with the care of photographs that this article is especially concerned. Their proper arrangement and cataloguing are at once extremely important and extremely complicated. If each photograph told but one story, illustrated but one single unit of value, the problem would be different and easy; but each print offers many, some an infinite number of suggestions, and the collection demands some system which will adequately cross index it, collecting the scattered suggestions under their various heads, giving access to each print along all the lines of thought on which it bears.

We are becoming more and more in the habit, and rightly so, of turning to the card catalogue for solution of all such problems, but in this case, to my mind, the card catalogue system would be so cumbersome as to have distinct disadvantages for office purposes. No matter how carefully the collection were shelved and numbered, the using of a set of cards to find out where to look, when it was a matter of detail which might occur in a hundred different places, would cost too much time. Suppose you wanted to look over the photographs you had that might offer a suggestion for a hooded mantel. A card catalogue would tell you that there were perhaps twenty-five photographs of that nature, numbered 121, 125, 236, 873, etc. Not being able to remember all these numbers at a glance, you would take out the card and one by one find the photographs by their numbers. Or if the photographs were in books you might have two or three volumes to handle for the sake of a few pages.

If you could only connect the photograph and the catalogue physically; know that you were pulling out a photograph of a hooded mantel because of some mark easily visible on it, not merely because it was number

173, which the catalogue advertised as representing a hooded mantle; if you could only eliminate one step in the process and half the paraphernalia, wouldn't it save time? That was the point of view which suggested the system outlined below.

And let me say here that the scheme is not considered applicable to every collection of photographs. For the large collections of Public Libraries, Architectural Schools, etc., the scientifically developed card catalogue system is undoubtedly the best if not the only proper solution of the problem where the collection is not actually handled by the public or where the size demands a greater subdivision of the catalogue system. The scheme I suggest is intended for private collections of perhaps five or ten thousand, where it would be easier to glance at one hundred photographs of a somewhat more inclusive group but distinguished from the rest *instantly*, than it would be to pick out directly, through reference to a necessarily voluminous card catalogue, the ten or fifteen of that hundred that were actually important.





































In this connection, also, it may well be argued that the extra photographs handled in this manner will help to refresh one's memory of the collection in general. This point has even been cited to me as an argument against a too clear arrangement which might prevent one's seeing any photograph except the ones of immediate importance. While this is to an extent true, there are occasions where references are wanted in the shortest possible time, and these occasions are by that proof important and should not be neglected for the sake of a general knowledge of the collection.

I had early decided, on general grounds, to keep my collection of photographs standing on edge on shelves behind glazed doors, the photographs being mounted on cards of uniform size. The surface formed by the edges of the cards struck me as an available place to index the collection. All that was necessary was to represent "type" and "style" in some manner. The few general divisions of "style" could be easily represented by color, a blue or a yellow strip pasted over the edge of each card to represent Gothic or some other style. Of course the "type" could be represented by the location of the color on the edge of the card, near the top, for domestic work, perhaps, or near the bottom, for ecclesiastical. It only remained to choose what colors should represent the different styles and what subdivision of the vertical edge of the card would best cover the field of architectural work, both in general and in detail.

The colors almost selected themselves, and they seemed to me to express as naturally the different styles as colors to some people express personalities and sensations. This may be individual, and the reader may not feel them in the same way. The colors selected are as follows:

Classic,	white
Early Christian,	brown
Gothic,	yellow
Renaissance,	red
Modern,	blue

Of course the divisions are very broad and the division points arbitrary, but seem to be sufficient. If it were felt desirable the periods of transition could be easily represented by using half units of two colors, but

   		   		   		   		   		   		   																																																																																																																														
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this has not appeared to be necessary. In fact, the use of half units of different colors can be used to better advantage where there are in one photograph examples of different styles of the same type of work.

These divisions merely cover the field of European styles. The principle would apply as well to any collection of Japanese or Indian, or other work large enough to demand subdivision.

The subdivision of the edge of the card for "type" was not quite so easily done, but has gradually assumed the following order. Roughly speaking, the edge is divided into halves and the halves into thirteen divisions each. The upper half covers the field broadly, the upper four divisions applying to "Public" buildings, the next four to "ecclesiastical" work and the next five to "domestic." The lower half represents details.

The divisions arrange themselves as follows:

PUBLIC	{	Government Administration
		Schools, Libraries, Museums
		Other Public Buildings
		Palaces, Gardens, Monuments, Fountains, Bridges
ECCLESIASTICAL	{	Cathedral, Abbey, Temple, Baptistry
		City Churches
		Country Churches
		Tombs, Pulpits, Chantries, Altars, Screens, etc.
DOMESTIC	{	Royal Palaces, Large Country Estates
		City and Town Houses
		Smaller Country Houses
		Cottage and Farm Buildings
DETAILS	{	Gardens and Accessories
		Doors and Windows
		Chimneys, Gables, Buttresses, Cornices, Belts
		Loggie, Cloisters, Balconies, Porches, Balustrades
		Towers, Flèches, Spires, Belfries, Turrets, Domes
		Carving
		Fireplaces, Niches
		Ceilings, Vaulting, Pavements
		Glazing, Staircases
		Furniture
		Metal work, Brick and Terra Cotta work
		Gateways
		Paneling and mosaic or inlay work
		(Unassigned)

The subdivision of public buildings is tentative. The first group of "Government Administration" buildings seems to take one broad group, but the next two could be according to each individual's ideas or along the lines suggested by each collection. Collections vary in emphasis, and a type of building especially illustrated in any one collection might well be given the importance of a whole division, grouping a larger number of not so fully represented types under one head. It may be felt that some of these divisions of detail are very broad and embrace too many different units, but one principle on which I have worked throughout is, as I have said above, that it would be easier to look through a large group, all the photographs of which are easily found, than, by a more complicated system, to arrive at the special part of that group that was for the moment important.

An eleven by fourteen inch mount, set upright in a case, presenting the long edge for division, will allow twenty-six divisions of three-eighths inch each with one-eighth inch between. It may be that more smaller divisions would give more freedom for sub-heads, but there is visible a strip of color only as wide as the thickness of the card, and the purpose would be defeated if the bits of color were made so small as to be confused. The lines of division are drawn across

the edges of the cards, and between the big groups heavy lines serve as guides to carry the eye along without confusion.

The illustration shows a group of cards catalogued for possible subjects and combinations, showing the effect of the edges of the mounts when indexed in this way.

It seemed well to adopt colors in two cases for "type" in addition to the colors for "style," and light blue is used to represent "metal work" and "glazing," and "green" to represent "garden work."

The advantage of this visual indexing on the photographs themselves is perhaps most clearly marked by one of those "types," which is marked not only by position but also by color. For instance, any photograph bearing on the broad question of "garden work" will be distinguished by a green strip just above the third heavy line. At a glance of the eye the photographs will be detected, and if reference to either Italian or French or English examples is specially desired the collection is further reduced, with no sacrifice of time, due to a general geographical arrangement on the shelves, and one can set about the study of the photographs bearing directly on the problem without loss of time.

It may be felt at first glance that this system is complicated, but a card of reference at the side of the case will give ready reminder of what each color and each division represents, and one has only to run one's finger along the edges of the cards to find with great readiness the ones that may bear on the question in issue. As was inferred above, these may include, under a broad heading, photographs of different bearing, but the mere pulling of them part way out of the case will discover this fact at small expense of time.

The cost of any system is always an important point and one that is apt to prompt the first question of a skeptic. The cost of installing a collection in this way will be divided between two processes; the one the cost of the mounts and the mounting, the other the value of the time needed to arrange, line the edges, and stick the colored squares on to the cards in the proper places. As to the first, it may vary largely. A card is needed of sufficient thickness to make the strip of color easily visible. The card I have used is an extra No. 1 steel gray, which costs two and a half cents apiece. Of course you can mount the prints yourself if you have the time and the inclination. If you get it done for you you will pay probably from eight to twelve cents a card, according to the method and care employed. I think it is generally conceded that a print which is put on a card and then rolled flat with the usual roller will have more tendency to curl the mount than one which is laid on the card and patted down smooth and then put under a press till dry. However it may be, the flatter the cards will remain the easier will be the handling of the collection and an extra cent or two, if insuring this, will be well spent. As to the amount of labor needed to do the cataloguing it is not great. Having, in the first place, marked the subdivisions on the edges of two cards for guides the rest can be ruled off in sets of a hundred with the two guides at either side, the small divisions being ruled with pencil and the main divisions being enforced by broad ink lines. The lower half of the card while used for details should have heavier lines dividing it into groups of four or five

to assist the eye in following a horizontal course along the edges. The actual labor of putting on the colors again is a simple one. The colored papers come in sheets about eighteen by twenty-four inches and one sheet will make enough three-eighths inch squares to last a lifetime. With the different colored squares in envelopes or boxes ranged before you the only element in the work which demands any great time is the mental process of observing the various features in each photograph which demand recognition on the edge, a colored square being affixed at the proper point as each broad division or bit of detail is noted. This may be a matter of two minutes to each photograph.

Uniformity of size of mount is an essential in the working of this scheme. The usually purchased commercial sizes of photographs do not vary very greatly and the extremely large ones generally form but a small part of a collection, and may well be separately arranged. The bulk of any collection can probably be mounted on a card measuring eleven by fourteen inches. The very large margin that is often found in public collections is of little value except æsthetically, for practical use of less than none.

I found conspicuous evidence of the value of this scheme when I applied it to the edges of the leaves of a bound volume of the Brochure series, covering the monthly publications of two years. I made the group of leaves of each month's issue the unit and colored the division with water color. It was a very simple proposition. When finished, I found that there was no color applied to any month in the third unit under domestic work. In other words, there were no examples in that volume of small country houses (as I had chosen to classify them). There were several instances of village and farm buildings, but the division of "small country houses" was a blank. At a glance at the edge of this volume this was evident, and no tiresome and fruitless thumbing of the leaves was needed to disclose the fact. The one place where some examples of Gothic country churches might be found was equally easily seen, as also the few examples of metal work. The time saved from fruitless search is a more marked example than the method of obtaining an exact object.

The arrangement of the photographs on the shelves will depend on the way in which one refers to them. And there are several ways, as, for instance, (a) for a photograph of a *special* example; (b) for a photograph of *any* example of a *special type* of building; (c) for a photograph of any example of some type of *detail*.

The third case, where one looks for examples of detail, will not affect the arrangement on the shelves, for in that case reference will always be had by means of "color" and "edge division." The arrangement on the shelves will depend on whether access to the photographs is mainly desired along the first or along the second way mentioned above. If along the first, as representing some special example, then the geographical arrangement will best answer the needs, enabling one to turn at once to any city or place in which the desired example may be. If access is mainly desired along the second way, *i. e.*, photographs of *any* example of a special type of work, then the arrangement on the shelves may

well follow the general subdivisions on the edge of each card and group the various types together. Thus, dividing each country into twelve groups, marked by divisional numbered guides, the arrangement might be as follows:

- | | |
|----------------------------|----------------------------|
| 1. Public Buildings. | 7. City and Town Houses. |
| (Taking the entire group.) | 8. Smaller Country Houses. |
| 2. Cathedrals, etc. | 9. Village and Farm Work. |
| 3. City Churches. | 10. Gardens. |
| 4. Country Churches. | 11. Furniture. |
| 5. Church Furniture. | 12. Details. |
| 6. Royal Palaces, etc. | |

In this way reference to a type is easy, and reference to details is the same as it would be in any case, for while a photograph might naturally find its place under "Small Country Houses," it would still, in all probability, be of value under several detailed headings, which must always, therefore, be sought by "color" and "edge division."

The finding of any special example would mean, of course, going through the division in which it would fall. With either arrangement the photographs would be grouped by countries.

To facilitate the returning of the photographs to the shelves after using, each card has the number (1 to 12) of its division marked on one corner, and it is returned to any point within that division. No further accuracy of location is needed. Of course there would be the same number appearing on French or Italian as well as English photographs, but it would not seem necessary to mark this difference, though a rubber stamp might enable the office boy to handle them with accuracy as well as with considerable benefit to himself.

Another advantage of this system is that, while in a card-catalogued system a misplaced photograph is practically lost, in this it would only be in picking out a group of one type that there would be any trouble, and even then a misplaced card might easily be detected by the color which is sought, no matter where it might be on the shelf.

There is one further possibility of subdivision which can be applied without, I think, making too many complications. The division between interiors and exteriors may often be a convenience and can be easily expressed by a black ink line on the color strip. In the divisions covering "Church Furniture" and "Carving" this mark may be translated to mean "wood work" and form another subdivision of value in a large collection. Again, two such marks might be used to designate half-timbered work. The use of these added subdivisions is limited by the small actual size of the strip of color and the complexities which would be caused by too many designating units, which, if carried to excess, would defeat themselves and be neglected in practical use.

The value of this system of cataloguing, it seems to me, lies in the visual cross indexing of the collection on the photographs themselves without the need of reference to any other set of cards. The colors that may be chosen and the naming of the subdivisions can be varied indefinitely to suit individual ideas and collections.

The Relation between English and American Domestic Architecture.

MODERN WORK IN ENGLAND.

BY FRANK CHOUTEAU BROWN.

IT is indubitable that at the present day England has developed an insular and national type of architecture as distinctively modern as any product of France, Germany, Austria or Italy; modern, despite the fact that it is more conservatively based upon old work; and for that reason of nearer approach to lasting artistic excellence than the pronounced, bizarre and eccentric products of the newer schools in any of these other countries. It is but natural, when we consider the importance given by the Englishman to his home and home life, that the best and most distinctive examples of their architectural practice are found among the rural dwellings, both small and large, to which the British architect gives so much of his attention. In the working out of this architectural style, English designers have also been able to infuse something of its feeling into their larger public buildings—although with less inevitable success—sometimes indeed, resulting in a merely petty and finical rather than quiet and imposing effect.



FIG. 2. DOUBLE COTTAGE WITH END ENTRANCE, BOURNVILLE.

So scattered and hidden away are most of the dwellings comprising the modern domestic architecture of England that the casual traveler in that country receives substantially little idea of the strength, prevalence and character of the movement. No one who has not attempted to study on the ground the recent architecture of England—or any other country—can appreciate the difficulty of finding this executed work, with which—through reproductions—he may be tantalizingly familiar. The original structures seem, when the attempt is made to locate them, to have utterly disappeared. The Englishman's tendency to fence in and enclose his dwelling increases the difficulty in that country, and often makes it impossible to know of the new buildings erected within his hedges and parks. So some realization of the actual situation may best be obtained by visiting one of the several model towns newly built by English capital within the last few years.

Of these there are four whose names are already

familiar to American architects: Port Sunlight, Leigh, Bournville and Letchworth. The one first named, constructed in connection with "Sunlight Soap" and situated most accessibly within a few miles of Liverpool, is perhaps the best known and most thoroughly developed; while Bournville, near Birmingham, a settlement for the workmen of the Cadbury Cocoa Works, is nearly as complete. Built to conform to one general scheme of



FIG. 1. DOUBLE COTTAGE WITH FRONT AND SIDE ENTRANCE, BOURNVILLE.

arrangement, layout and architecture, these villages furnish almost ideal surroundings for the individual cottages of which they are composed.

When strewn about in a community accustomed to displaying only architecture of age and historical associations, important modern buildings are apparently unnoticed by the local residents. And this local ignorance exists even in regard to a building so monumental in size and epoch-making in style as Mr. Bentley's tremendous new Westminster Cathedral in London (very completely illustrated in *THE BRICKBUILDER* for September, 1904), perhaps almost supreme in importance among the modern architectural products of England. If its exact location were unknown the existence of this monumental structure might never be suspected by the stranger passing a stone's throw away.

The gap existing between such an enormous structure as this and the smaller residential building, is even yet not thoroughly bridged by the English architect.



FIG. 3. DOUBLE COTTAGE, BOURNVILLE, (SAME PLAN AS FIG. 1)

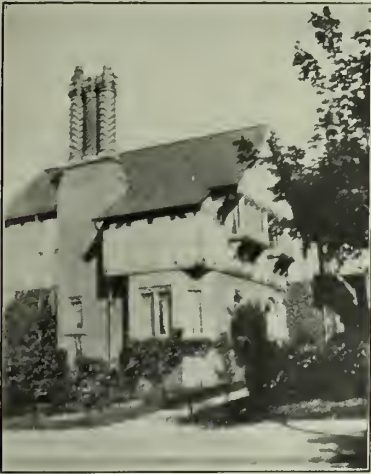


FIG. 4. BRICK AND HALF-TIMBER COTTAGE, PORT SUNLIGHT.

Wonderfully fortunate as he almost universally is in his treatment of the dwelling, and especially felicitous as he has been in this one individual instance, there yet remains the broad field and many kinds of buildings occurring between these two extremes, where the English architect is not yet invariably or even often successful. Excellent as generally are his smaller churches, yet, from the

wholly charming and original designs of this type exist, some of the best of which have already been illustrated in the *THE BRICKBUILDER* in the issue for December, 1904.

It will be acknowledged that modernity of aspect is only to be obtained through the use of familiar and "historic" materials—such as brick, stone, plaster and slate or tile. It is then evident that the effect is secured by the



FIG. 7. PLASTER AND BRICK-GABLES, PORT SUNLIGHT.

distinct modernness of its architectural treatment, as much as from its size, this Westminster Cathedral still stands alone.

Among the new English churches, the best evidence the same simplicity, refinement and restraint, and even the domesticity which are such predominating characteristics of modern English dwelling architecture. Where stone has been the selected material, the English architect has generally wisely based his building rather closely upon historic English stone originals, selecting, as a rule, those of the more domestic character, where less insistence has been placed upon the extreme Gothic characteristics of the style. It is only when these new churches have been constructed of brick that the material has sometimes prompted a design radically different than would have been possible with stone. Few historic brick Gothic churches existing as precedents, the designer has been thrown back upon a treatment natural to the material, and under the influence of the modern movement has developed his church design in much the same way as he has developed his dwelling architecture, resulting in a composition of the same intimate touch and modern feeling that is characteristic of the recent English dwelling. Many



FIG. 5. HALF-TIMBER AND STONE GABLE, PORT SUNLIGHT.

way they are used—in the greater number of materials combined, in their utilization in unhistoric ways, and always in the greater simplicity of the resulting compositions. While motives and details derived from different historic styles are still employed, the parts and principles of varying periods are blent each with the other so naively, directly and naturally, that a newness of effect is obtained even with these hackneyed and over-worked materials. And so the circle has been run and we are brought once more—though from a diametrically opposite position—to consider the value of materials and their appropriateness to modern architectural effects.

No better comprehension of the different values natural to plaster and brick may well be obtained than by the study of so suggestive a comparison as is offered by the three Bournville cottages (Figs. 1, 2 and 3), all apparently different external handlings of one general plan arrangement. The differences of treatment suggested by brick and plaster may be compared in Figs. 1 and 3, where these two materials have been used for the second story. With the brick wall of Fig. 1, the use of the arched entrance, the dormer and the central bay motive is sufficiently



FIG. 6. PLASTER AND STONE COTTAGES, PORT SUNLIGHT.



FIG. 8. BRICK BLOCK OF HOUSES, PORT SUNLIGHT.



FIG. 9. PORTION OF GROUP OF HOUSES, PORT SUNLIGHT.

Each individual may decide for himself as to what extent and exactly in what manner the change of exterior design was suggested by the change from brick to plain plaster for the second story walls; and the use of plaster, in turn, the nice accent obtained in the suggestion of half-timber construction in the two dormer gables.

The insertion of half-timber, although sufficiently obvious, was not an absolute necessity. The problem was possible of solution by the use of plaster alone, as in Fig. 2, where the restriction of the plaster surfacing to the single gable, however, quite alters the whole composition. In this cottage the plan has been slightly varied, apparently to avoid the rather heavy brick-arched entrance (Fig. 1), for which the much more attractive timbered and glazed porch at the end of the house has been substituted.

Of the three, the first, confined to one material, is a simple and pleasing composition with the modern spirit sufficiently in evidence and a distinctive dormer and bay treatment. In the third, the composition is strengthened by the greater importance of the two gables that have taken the place of the simpler dormers, more thoroughly breaking up the plain roof surface and tending to reduce the undue prominence of the end gable. In the second, with its single plaster gable and overhanging bay, the dual purpose of the house is less perfectly expressed and,



FIG. 10. "FOUR OAKS," SUTTON, COLDFIELD.
W. H. Bidlake, Architect.

obvious and reasonable. With a second story of plaster, it becomes possible to carry it over the porch in the corner on beams and timbers, giving a pleasanter, lighter treatment for this detail of the design. The continuous bay upon the first story is naturally given a flat roof, while the dormers become two small gables, relieving the plaster by the accent of the bit of timber work in the gable apexes.

with the exception of the side porch motive, this is, perhaps, the least interesting of the three compositions. The large English brick, it should be noted, has been used in these three cottages with a noticeable effect upon the scale of the building.

The natural trend of modern usage is to avoid materials of such innate historic style-suggestion as "half-timber" in favor of those of more pliability and of simpler, less obtrusive surface texture — such as brick and plaster. When the English designer employs half-timber it is with great restraint and never with such insistent monotony that it becomes tiresome to the eye; rather is it skillfully blended with other materials, and used to accent or emphasize some single portion of the design (Figs. 3 and 4), always with such restful contrast of plain wall surface or other (comparably) simpler material as to make it a pleas-



FIG. 11. HOUSE AT EDGBASTON.
Herbert Buckland, Architect.

ing, rather than a striking, note in the design. In the most successful instances of its modern employment, half-timber has been used in the simplest rectangular patterns, with a rather generous — and unhistoric — amount of plain plaster between. With a more demonstrative timber patterning, its tendency is to smack overmuch of a slavish imitation of the old half-timber manors. Yet for overhanging gables, projecting second-story bays, or merely as a relief from over-large plain surfaces of brick or plaster texture, no other architectural material is more effective than this — certainly none other blends more charmingly into a picturesque composition.

Sometimes half-timber is less convincingly used contrasted with plain stone or plaster surfaces. One Port Sunlight dwelling (Fig. 5) furnishes an instance in a rather unpleasing and over-ornate composition that would have been bettered by a simpler and freer treatment throughout; with plaster instead of stone, and with less carving on the timber work.



FIG. 12. COTTAGE, BOURNVILLE.

The combination of plain plaster surfaces with limestone (Fig. 6) or brick certainly causes a modern effect. The raking overhang of gables may be treated with a modern characteristic simplicity (Fig. 6) that verges on bareness; or the more conventional barge-board, with its suggestion of the old timbered style, may be employed (Fig. 7).

The contrast offered by Figs. 6 and 7 indicates the importance of trees, vines and shrubs in lending atmosphere and illusion to what otherwise seems a more ordinary



FIG. 13. PLASTER, BRICK AND SLATE COTTAGES, PORT SUNLIGHT.

composition. It is the lack of just such natural accessories that tends to make the block of dwellings (Fig. 8) appear bare and awkward, although a certain amount of this effect may result from carrying the brick of the front gables above the roof line to finish in a coping. The coped gable of curving contour, unless restricted to the very simplest and most obvious outlines, is apparently less pleasing—from its more historic suggestion—than the simpler gable treatment, where the roof slope itself determines the outline of the gable face (Figs. 6, 7 and 9). The more out of the usual and peculiar this curvilinear outline, the less satisfying and restful the result (Figs. 8 and 9); the straight sloping gables, with raised coping and pointed apex (Fig. 9) following the line of the roof, generally appear more consistent and pleasing than those of irregularly waving and undulating outline.

The English designer does not go out of his way to avoid a bare and abrupt gable end (Figs. 1, 2, 3, 8 and 9), often these gables forming the principal feature in his composition. Neither is he afraid of breaking through the horizontal cornice lines of his building (Figs. 1, 6 and 8). This may be an evidence of the informal Gothic spirit animating these small dwellings; causing the cornice, if it exists at all, to be of less importance in English work than it is in American practice, where we are still burdened by the classic precedent making the heavy horizontal line of the cornice so important in our Colonial work. In Professor Lethaby's house, for instance (Fig. 10), the cornice is almost altogether omitted. There is, to be sure, a "jet" with a hanging gutter to collect the roof rain-water, but where the bay windows break through this gutter there is no suggestion of cornice and they are finished with the simplest parapet cover or coping, and at the side the bay window is given stone quoins as well as coping. Other than this, the entire wall and window

trimmings are of brick used in the simplest possible manner, with a nice admixture of Gothic gable and classic window treatment. Other instances showing this disregard of a strongly defined cornice line abound in English work, indicating, in this particular if in no other, the influence of one English "historic" style of architecture.

The house designed by Herbert Buckland for himself (Fig. 11) is novel and unusual, although it presents towards the street a more formal elevation. Its unconventionalities but make it the more interesting and the simple use of plaster work, with the long sloping plain surface of the roof, unmistakably denote its modernity. Its roof treatment is related to that on the most artistic of the Bournville group here reproduced (Fig. 12). Along with the Port Sunlight dwelling (Fig. 13), this represents the best and most artistic expression of the modern English cottage type. While lacking the pretension (and probable expense) of the larger country houses, they still contain an amount of charm equal to the best of them and exceeding that of many; while as instances of the use of several materials, and for their treatment of bay windows, gables and doorways, they are of quite exceptional interest. Even the heavy dividing muntins of the wooden sash are important in securing the atmosphere of these structures.

So far we have seen that the use of plaster in large plain surfaces is generally indicative of the modern design and treatment of the building. Occasionally, half timber work after the old manner is employed; more rarely the walls are treated with slate or shingles; and often—in the use of brick—the old type of work is closely approximated. How exact this approximation actually is may only be realized by comparing these modern buildings with some of the "historic" structures already illustrated—the block of houses in Fulham, shown in Fig.



FIG. 14. GROUP OF HOUSES, FULHAM.
Walter Cave, Architect.

14, for instance, whose window openings are closely derived from Georgian models. While not a mere copy of the old work, this treatment is as exact a working out of its very form and feeling as it is desirable to realize at this later date. Equally instructive is the somewhat more Gothic composition by the same architect (Fig. 15), where similar bay forms, along with the conventional pointed Gothic gable, are used with even better effect. Again and again the best modern English work suggests



FIG. 15. VICARAGE, FULHAM.
Walter Cave, Architect.

an even closer relationship to historic derivatives in point of time than we know actually to exist, although its modernity is sufficiently proved by the added "material," if a name with so exact a meaning can be used in this connection, that is incorporated into its design.

In no particular does the modern work appear to better advantage

than in its frequent successful combination of different materials for different portions of one architectural composition. The illustrations indicate many different uses of two or more materials: such as brick and half-timber (Fig. 4), plaster and brick (Figs. 2, 6 and 7), half-timber and stone (Fig. 5), brick, plaster and half-timber (Fig. 3), and of brick, plaster, half-timber and tile or slate (Fig. 13). The use of tile or slate as a covering for perpendicular wall surfaces (similar to our use of shingles) is a treatment that is rather unusual in English work, where this texture as a wall covering is somewhat rarely employed. The examples illustrate nevertheless, the possibilities of their use—even (as in Fig. 13) with the bay window in its most American form—which should be full of suggestion to the designers of this country, where the texture of shingles almost exactly parallels the European slate in a material distinctively native and natural to us.

To sum up: the more obvious lessons to be drawn by the American from the modern English movement are, first—the use of brick in its most simple, direct and obvious employments; second—the use of plaster in large plain surfaces, especially in combination with brick and shingles and half-timber; third—the composition of any or all of these materials on various portions of the wall surface of a single structure; and last—that in these compositions half-timber is used with greatest effectiveness and success when most sparingly employed, and its most successful applications point the moral that unless beams and plaster, when used together, are very carefully studied, they are likely to give too slavish an imitation of old English timber work, which—as with any too servile reproduction of the mannerisms of a style of no modern vitality—is unfortunate and negative to the inducing of the proper modern spirit.

AMERICAN CATHEDRAL TO BE FOURTH LARGEST IN THE WORLD.

THE massive Cathedral of St. John the Divine, now building in New York, will be the fourth largest in the world. St. Peter's Rome, leads with an area of 227,069 square feet. The Cathedral of Seville in Spain follows with 124,000 square feet. The third place is taken by the Duomo of Milan which spreads over 107,000 superficial feet. St. John the Divine covers 99,500 square feet.

The Village Railway Station. II.

BY JOHN H. PHILLIPS.

ONE of the most important buildings, if not the most important, in any village or suburban town is the railway station.

The picturesque stone buildings with wide, overhanging tile roofs—the charming type developed by the late H. H. Richardson—have long been considered a model for the country railway station.

This new railway station is assumed to be in the suburbs, some twenty-five or thirty miles from the city. The road is equipped with electricity (third rail) necessitating first, the elimination of all grade crossings; second, prohibiting the crossing of tracks at the stations.

In order to reach the platforms it is imperative that passengers travel by means of subway or overhead bridge, therefore we have the two types—the subway and the overhead or elevated type of stations. I have chosen the subway type, it is the easier adapted to general conditions and street grades of the average suburb.

The property adjoining the station has been graded to meet the grade of tracks and the street crossings run beneath the tracks in the form of a bridge viaduct. The station proper consists of two wide platforms with the tracks running between. The umbrella type of shelter shed is used, the central portion only being covered with a tile roof.

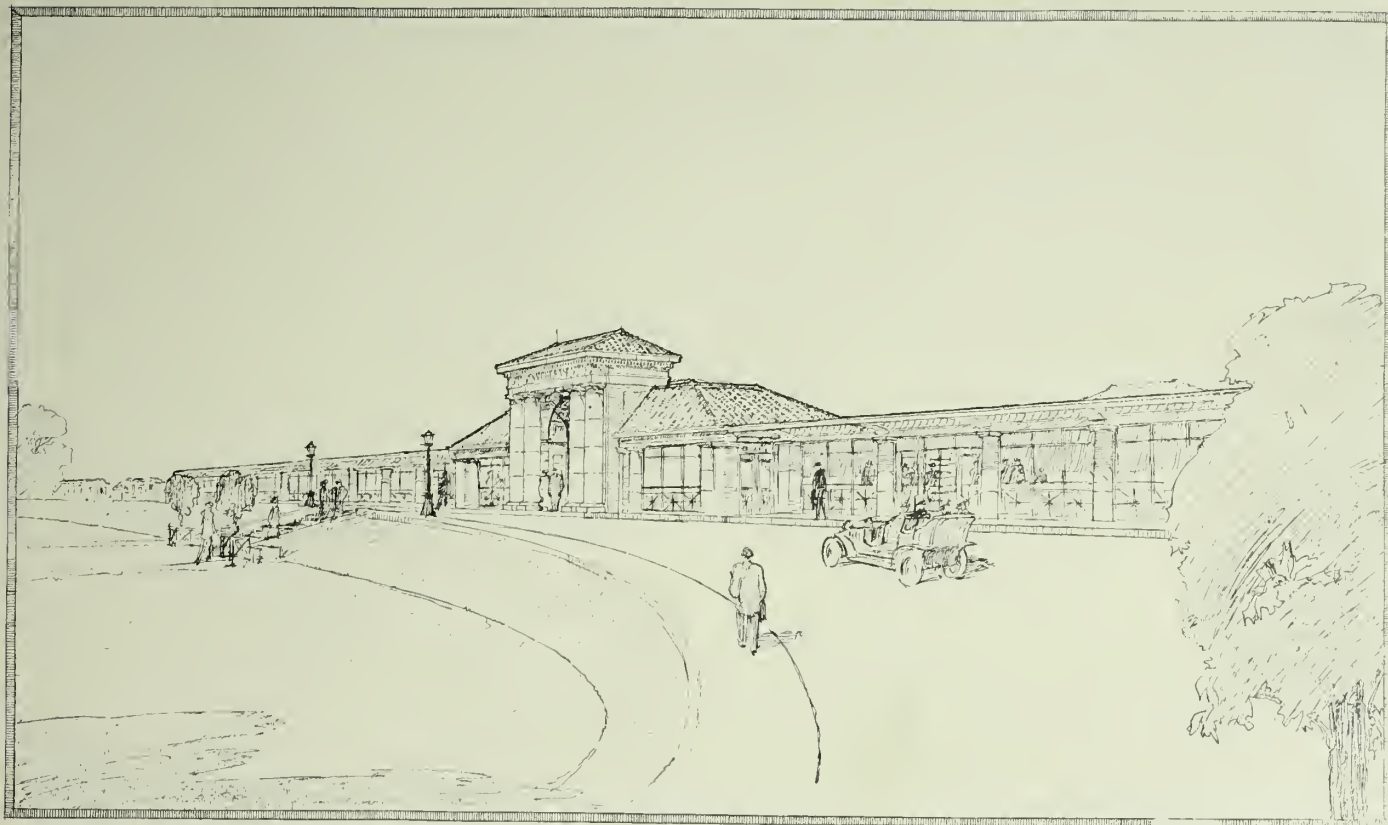
The platforms are screened in with glass and iron within eight feet of the driveways on each side of the station. This remaining eight feet of platform with the overhanging roof forms an excellent marquee for the passengers that drive to and from the trains.

A feature is made of the entrance in the form of a triumphal arch gateway. The ticket office, waiting rooms, toilets, etc., are placed symmetrically about this axis. Passengers desiring to take trains from the city, pass directly underneath the tracks through the subway to the opposite platform, thus typifying the subway station.

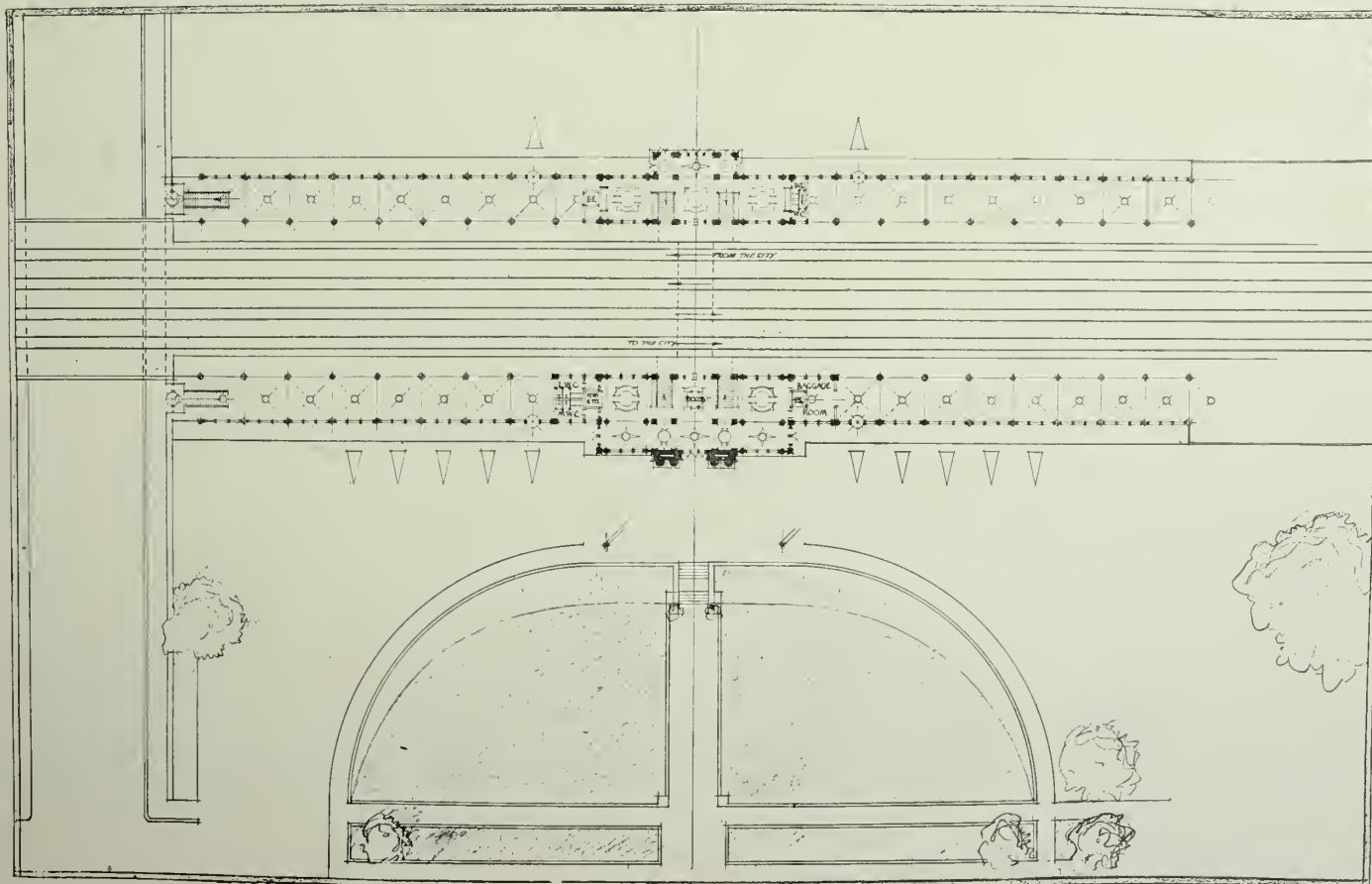
Regarding the materials of construction for the station; the Gustavino Arch is very well adapted to this type, with round terra cotta columns and heavy iron guards at base, to prevent chipping off of the terra cotta when trucking the baggage; this makes a very practical as well as an artistic treatment for the station, permitting color to be introduced to very good advantage.

The amount of baggage, being comparatively light for a station of this kind, is easily handled by being trucked through the subway to the opposite platform and elevated by means of lifts.

As to the style of architecture best adapted to this new type of station, it is well to remember that the American depot has replaced the gate of the feudal walled city and the triumphal arch. For this reason it should be placed at a focal point where, if possible, a number of streets converge, so strangers glancing down any of the radial streets may be able to see the main feature which, in the present case, is a large gateway with massive doric columns capped with a tile roof which gives dignity and at the same time harmonizes well with the style of architecture which is so much in favor to-day.



A VILLAGE RAILWAY STATION.
John H. Phillips, Architect.





PRIVATE STABLES, BROOKLYN. W. B. Tubby, Architect.



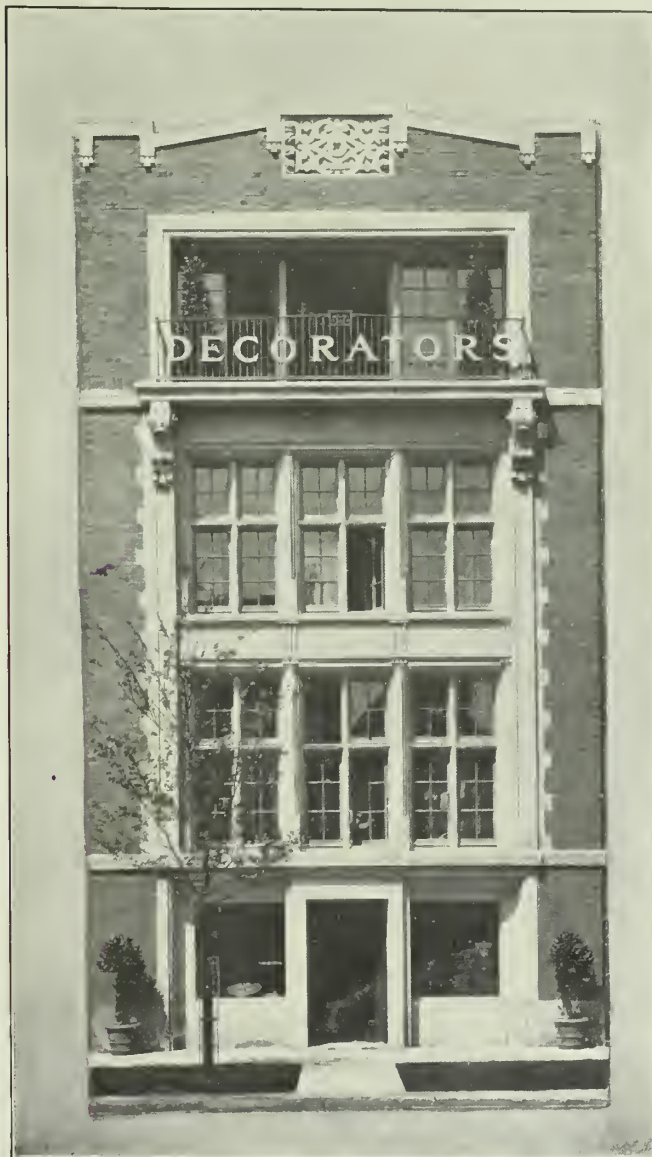
STORE AND OFFICE BLOCK, SOUTH FRAMINGHAM, MASS. Allen, Collens & Berry, Architects.



PUBLIC GARAGE, BALTIMORE, MD. Beecher, Friz & Gregg, Architects.



WAREHOUSE, CHICAGO.
Howard Van D. Shaw, Architect.



STORE BUILDING, CHICAGO.
Howard Van D. Shaw, Architect.



MERCANTILE BUILDING, BALTIMORE.
Joseph Evans Sperry, Architect.



SAVINGS BANK, BALTIMORE.
Joseph Evans Sperry, Architect.



BRANCH TELEPHONE BUILDING, ST. LOUIS.
Eames & Young, Architects.



BRANCH TELEPHONE BUILDING, GERMANTOWN, PA.
John T. Windrim, Architect.



BRANCH TELEPHONE BUILDING, ST. LOUIS

Eames & Young, Architects

Editorial Comment and Selected Miscellany

THE report just issued by the United States Geological Survey, containing statistics of the clay-working industries in the United States for 1905, shows a substantial increase in the manufacture and value of these products.

The common brick industry, the most widespread of all the clayworking industries, makes up a little over half of the brick and tile value, and forty-one per cent of all clay products. The number of common brick increased from 8,665,171,000 in 1904 to 9,817,355,000 in 1905. New York continues to be by far the largest producer of common brick, reporting over one and one-half billions, valued at \$10,297,214. The next largest producer of common brick is Illinois, which marketed 1,125,024,000 in 1905. The only other State producing over a billion common brick was Pennsylvania.

The greatest per cent of increase in all clay products is that of front brick, the production of which jumped from 334,351,000 in 1904 to 541,590,000 in 1905, a gain of 24.69 per cent. The average price was raised, too, increasing the gain in value to 27.84 per cent. Pennsylvania was the leading State in this product, and the average price in that State was \$12.81. The next largest producer was Ohio, with an average price of \$12.01. New Jersey was third in quantity, but beat the leading States in average price, the price there being \$15.86. Illinois, which came fourth, only realized an average of \$11.44 for her front brick. On account of this the value of the Illinois product was exceeded by Missouri and by Virginia. The percentage of front brick in relation to the total of brick and tile products, was raised a little, it now being 5.84 per cent, or 4.75 per cent of all clay products. In 1904 these percentages were 5.25 and 4.24.

Architectural terra cotta, which showed an increase during the year of nearly a million dollars, or 21.81 per cent, and is now 4.11 per cent of the brick and tile products. This industry is more concentrated than any other, that is, there are fewer of them in any given State. In fact, the reports say



ABATTOIR OF THE NEW YORK BUTCHERS' DRESSED BEEF COMPANY, 39TH STREET AND 11TH AVENUE, NEW YORK.

Horgan & Slattery, Architects.

Face and Enameled Brick used in Exterior and Interior supplied by Carter, Black & Ayers, New York.

that only four States show more than three industries. New Jersey is the leading State and furnishes nearly one-third of the entire amount. New York has second place, Pennsylvania third.

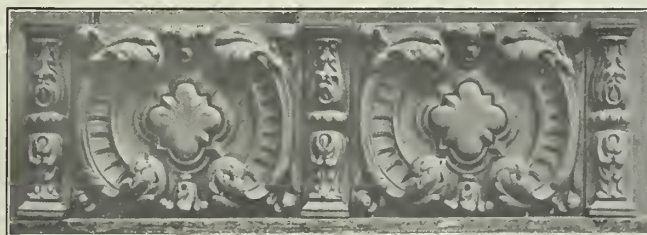
FITNESS IN DECORATION.

ONE of the most charming qualities of the Italian decorative work is its personal and local quality. The artists of the fifteenth century did not go far afield to seek subjects to depict upon the walls of their palaces and public buildings. Instead, they chose the exploits of their own rulers, warriors and great men, so that the decorations of the Italian buildings to a very considerable extent depict the history of the times in which they were built. We are unfortunately too prone in this country to disregard any such procedure. In the Boston Public Library there is one attempt to immortalize Sir Harry



DETAIL BY TEMPLE, BURROWS & MCLANE, ARCHITECTS.

The Northwestern Terra Cotta Company, Makers.



DETAIL BY MULLIKEN & MOELLER, ARCHITECTS.

New York Architectural Terra Cotta Company, Makers.



NEW YORK STATE SEAL.
Geo. L. Heins, Architect.
Brick, Terra Cotta & Tile Company, Makers.

Vane. Otherwise all the motives are foreign; the mythical search of a crusader, the nightmare-like development of antique and horrible religious mysteries; the gods of Greece and Rome find there a place, but nothing even remotely related to American life and history. In the Congressional Library at Washington, so far as we can recall, there is not a single decoration of any sort which has the slightest bearing upon America. From the standpoint of pure art it matters less what the subject be than the manner of its presentation and its relation to its setting, but the country is the loser by failing to utilize more fully the themes of our own life. This fact has been appreciated by only a few of our best decorators. The work in the Minnesota State Capitol, Turner's decorations in the DeWitt Clinton High School, New York,

and Blashfield's work in the Iowa State Capitol, are all inspired by American themes, and though the classic forms of antiquity may lend themselves more readily to decorative purposes, and though our artists may not yet have learned how to treat modern life in a decorative spirit, yet in the long run and for the future art, will be the better for retaining at least a semblance of local color and tradition. We will venture to say that more people have thoroughly and keenly enjoyed the historical paintings surrounding the rotunda in the capitol at Washington than will ever be able to take in and comprehend the Sargent decoration in Boston, largely because the Washington works are of our time, our life and our country, and can be understood by every one who sees them, even though their artistic quality is in some respects below criticism.



NEW YORK STATE SEAL.
H. J. Hardenbergh, Architect.
Conkling-Armstrong Terra Cotta Company, Makers.



ROOF OF UNITED STATES CUSTOM HOUSE, BALTIMORE, MD.
Hornblower & Marshall, Architects.
Roofed with 6x9 Promenade Tile, made by Ludowici-Celadon Co.

Captain Fitzgerald M. O'Lalor, a member of the Boston Fire Department, has adapted a device to form part of the ordinary fire door so common in all city buildings which would seem to be possibly of great assistance to firemen fighting the flames. In each fire door he would construct a metal slide which can be operated from either side to leave an opening sufficiently large to admit the passage of one of the large fire nozzles. This would at once allow firemen to bring a stream to bear upon the interior of a room while the door itself would protect them from the direct action of the flames. It would also, to an extent, obviate the necessity of breaking down the door to get at the fire, a procedure which is usually followed by the first fireman who arrives on the spot. He also suggests the placing of several traps in the first floors of warehouses, thus making it possible to get at a fire in the basement without cutting holes in



RAILWAY STATION, PERU, IND.

W. S. Kaufman, Architect.

Roofed with American "S" Tile, made by Cincinnati Roofing Tile and Terra Cotta Company.

the floor. Both of these devices are thoroughly practical and should be incorporated in the construction of every large warehouse or factory as they entail an extremely slight additional cost and would give the firemen immediate control over a blaze.

IN GENERAL.

George Alexander Wright and B. J. S. Cahill of San Francisco, and George Rushforth of Stockton, Cal., have formed a co-partnership for the practice of architecture. Offices 2277 California Street, San Francisco.

The architectural terra cotta used in the Abell Building of Baltimore, Delano & Aldrich, architects, illustrated in this issue of THE BRICKBUILDER, was manufactured by the Excelsior Terra Cotta Company.

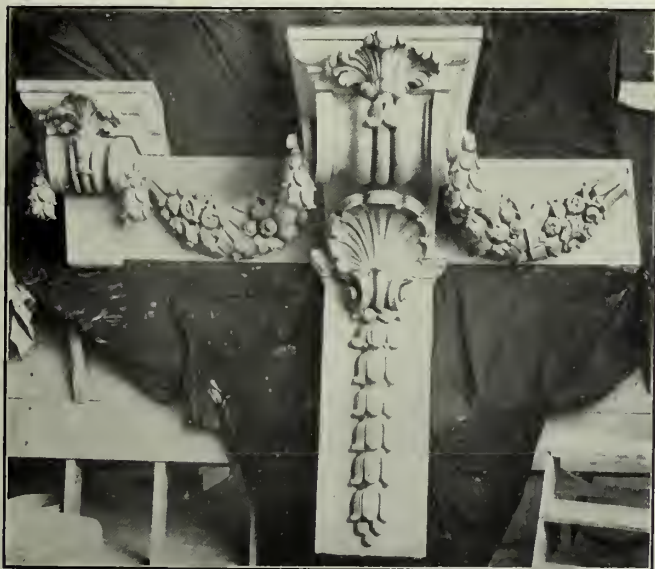
Edwin Bennett's Roofing Tiles have been selected for the new library at North Andover, Mass., Guy Lowell, architect, for the new pumping station at Wilmington, Del., a new garage at Baltimore, and the new Carnegie

DETAIL BY WILLIAM STEELE & SON, ARCHITECTS.
Excelsior Terra Cotta Company, Makers.DETAIL BY HELMLE & HUBERTY, ARCHITECTS.
Atlantic Terra Cotta Company, Makers.

the Crerar Library in Grant Park be carried out to lead to Chicago being an art and literary center.

ARCHITECTURAL DRAUGHTSMAN and designer, age thirty, sober, reliable, speaks German, fluent conversationalist, good perspective artist in color and ink, rapid worker, fifteen years in best offices in this country, desires permanent engagement or partnership where above qualifications will be appreciated. New York preferred. Address Designer, Care THE BRICKBUILDER

ARCHITECTURAL DRAUGHTSMEN WANTED — Good paying positions for competent men in a terra cotta factory located near New York City. State age, training and references. Address "T. C.," care THE BRICKBUILDER.



DETAIL BY NEW JERSEY TERRA COTTA COMPANY.

Competition for a Bank Building

First Prize, \$500 Second Prize, \$200 Third Prize, \$100

COMPETITION CLOSSES JANUARY 7, 1907

PROGRAMME

THE problem is a One Story Bank Building. The location may be assumed in any city or large town of the United States. The site is at the corner of two streets of equal importance. The lot itself is perfectly level. The building is to occupy an area of not over 5,000 square feet, its shape being a square or a rectangle of any desired proportion.

Above a base course of granite (not over 2 feet high) the exterior and interior of the building are to be designed entirely in Architectural Terra Cotta, employing colored terra cotta, in at least portions, of the walls. The color scheme is to be indicated either by a key or a series of notes, printed on the same sheet with elevations and plan, at a size which will permit of two-thirds reduction.

The following points must be considered in the design:

- A. Frank and logical expression of the prescribed material.
- B. Rational and logical treatment of the architectural problem.

In awarding the prizes the intelligence shown in the constructive use of terra cotta and the development or modification of style, by reason of the material, will be taken largely into consideration.

It must be borne in mind that one of the chief objects of this competition is to encourage the study of the use of Architectural Terra Cotta. There is no limitation of cost, but the designs must be suitable for the character of the building and for the material in which it is to be executed.

The details should indicate in a general manner the jointing of the terra cotta and the sizes of the blocks.

DRAWINGS REQUIRED:

On one sheet, two elevations (front and side) drawn at a scale of 4 feet to the inch, and on the same sheet the floor plan at a scale of 8 feet to the inch. Also the color key or notes.

On a second sheet half-inch scale details of main entrance, windows and cornice, and any other portions of the building necessary to interpret the design. Also a section showing the best view of the interior at a scale of 4 feet to the inch.

The size of each sheet (there are to be but two) shall be 24 inches by 36 inches.

The sheets are not to be mounted.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales to be on all drawings.

Every set of drawings is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawings are to be delivered flat at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., charges prepaid, on or before January 7, 1907.

The prize drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others. Those who wish their drawings returned may have them by enclosing in the sealed envelopes containing their names ten cents in stamps.

The designs will be judged by three well-known members of the architectural profession.

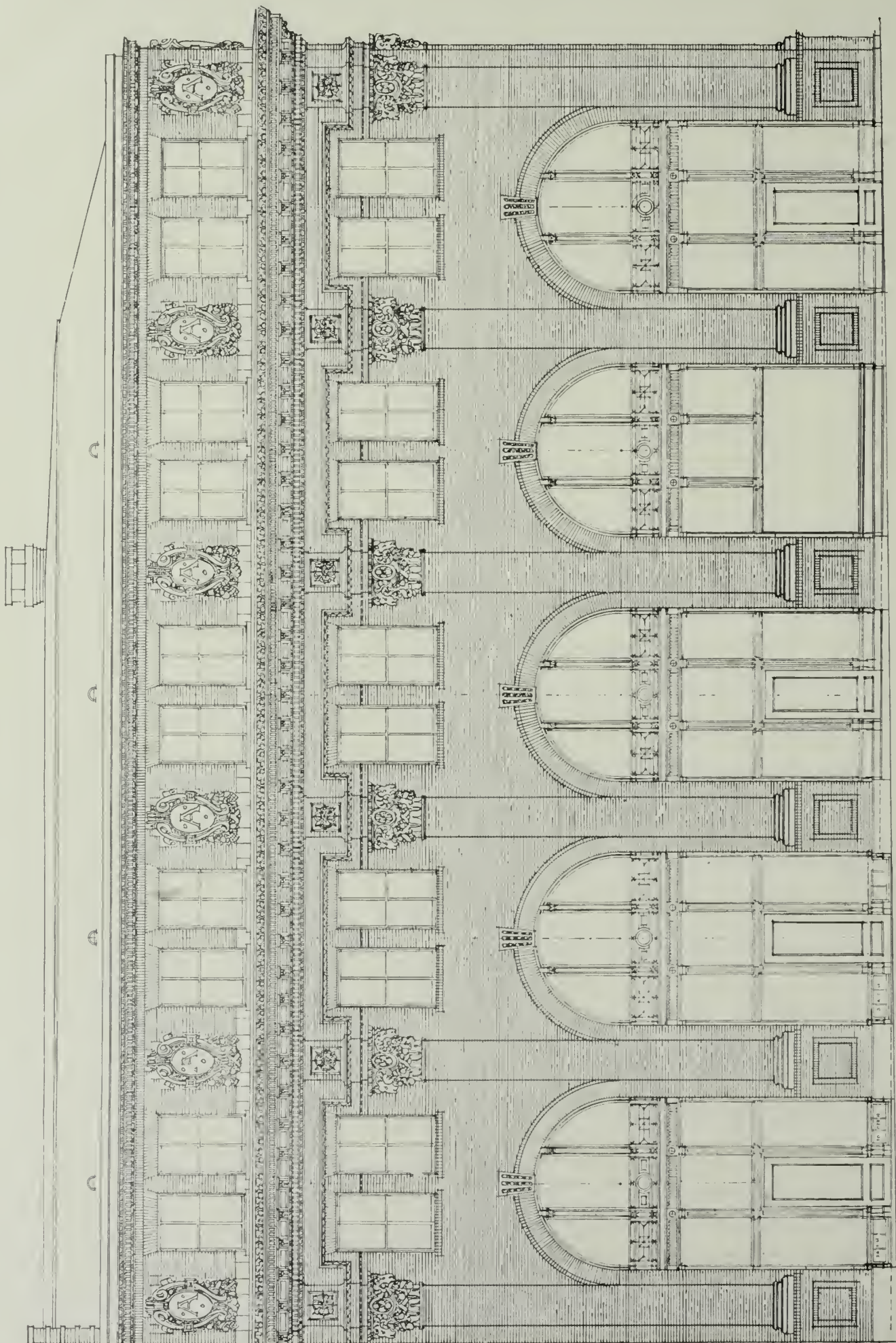
For the design placed first in this competition there will be given a prize of \$500.

For the design placed second a prize of \$200.

For the design placed third a prize of \$100.

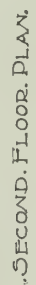
We are enabled to offer prizes of the above-mentioned amounts largely through the liberality of the terra cotta manufacturers who are represented in the advertising columns of THE BRICKBUILDER.

This competition is open to every one.

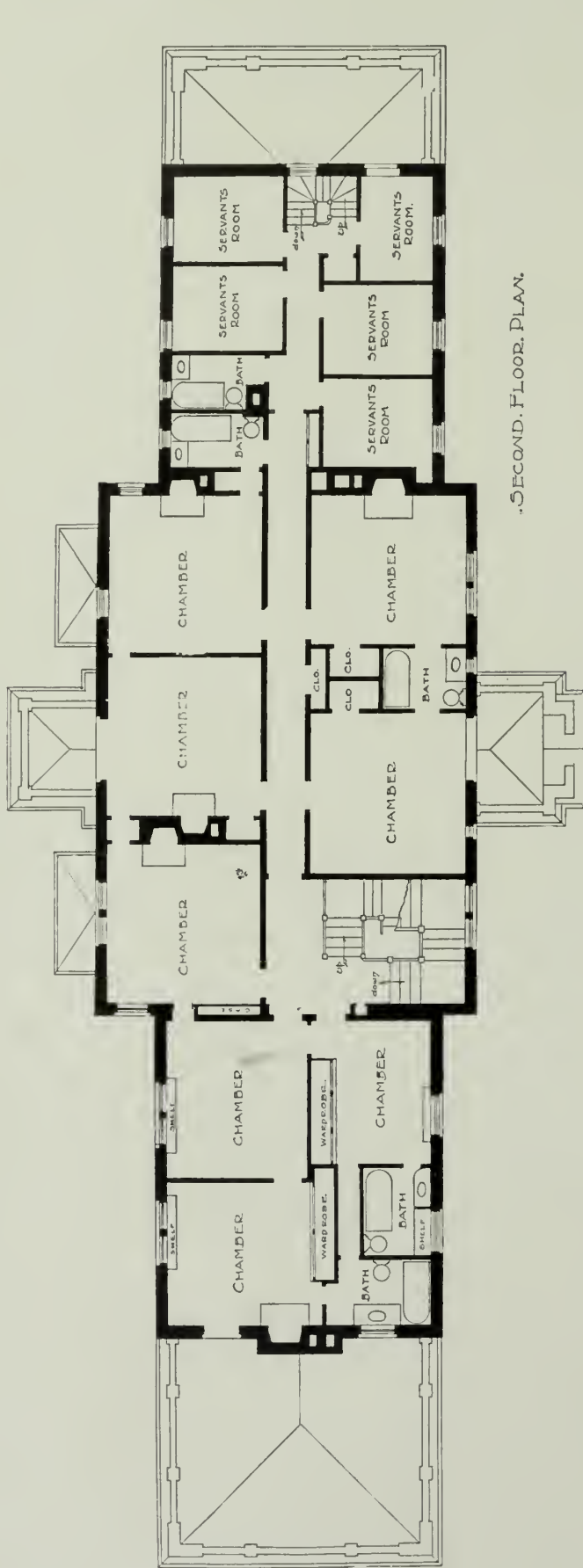


FRONT ELEVATION, ABELL BUILDING, BALTIMORE, MD.

DELANO & ALDRICH, ARCHITECTS.



HOUSE AT NEEDHAM, MASS.
JAMES PURDON, ARCHITECT.



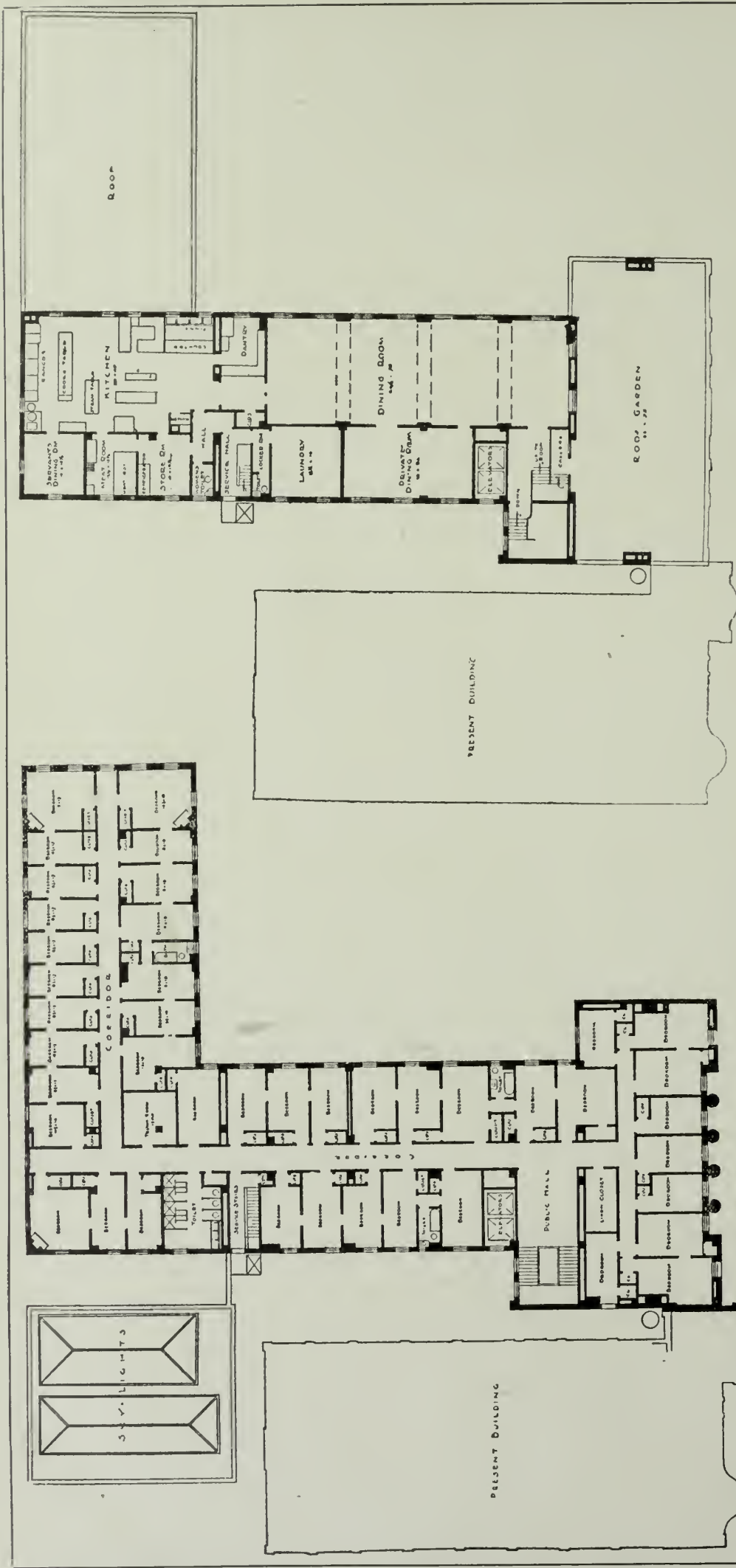
SECOND FLOOR PLAN.



FIRST FLOOR PLAN.

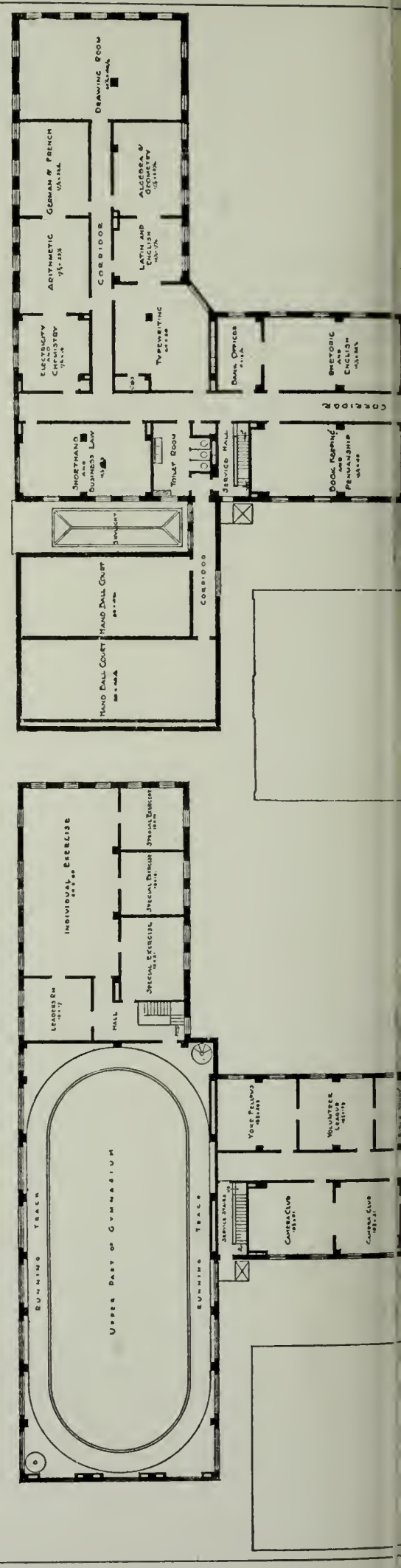
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HOUSE AT NEEDHAM, MASS.
JAMES PURDON, ARCHITECT.



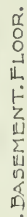
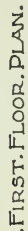
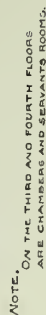
SIXTH FLOOR PLAN

FOURTH AND FIFTH FLOOR PLANS





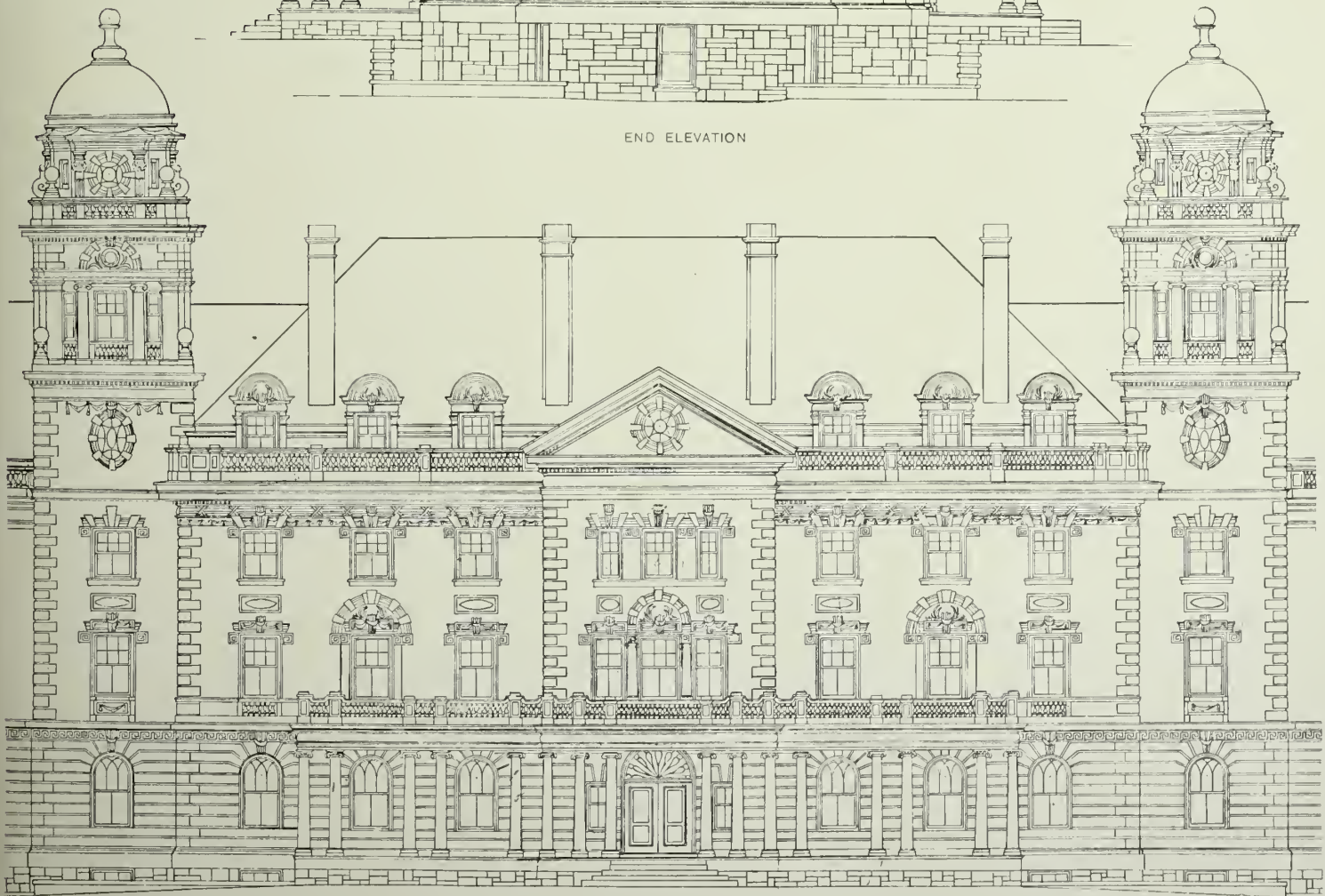
YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, WASHINGTON, D. C.
HARDING & UPMAN, ARCHITECTS.



MIRIAM OSBORN HOME FOR OLD LADIES, HARRISON, N. Y.
BRUCE PRICE & DE SIBOUR, ARCHITECTS.



END ELEVATION

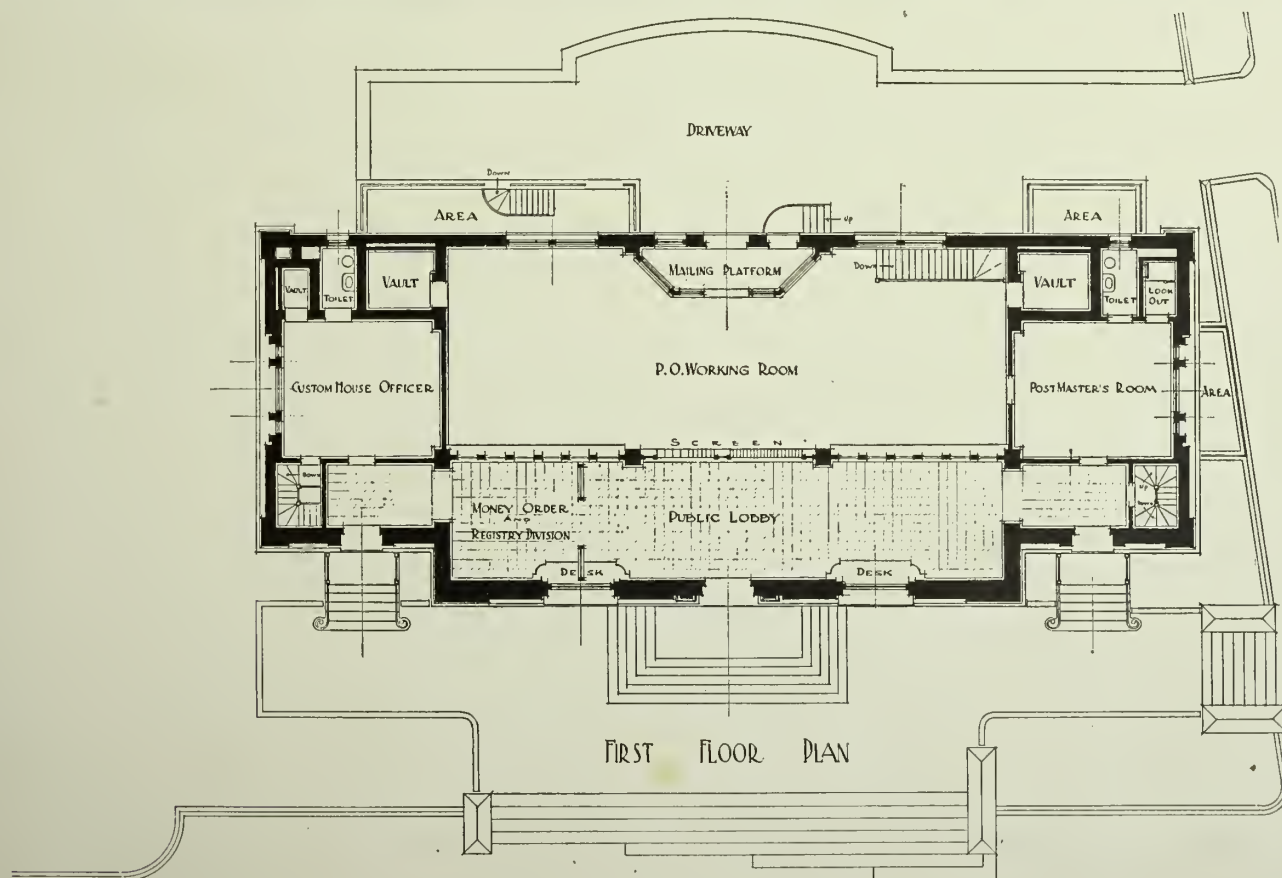


CENTRAL BAY, FRONT ELEVATION

MIRIAM OSBORN HOME FOR OLD LADIES, HARRISON, N. Y.

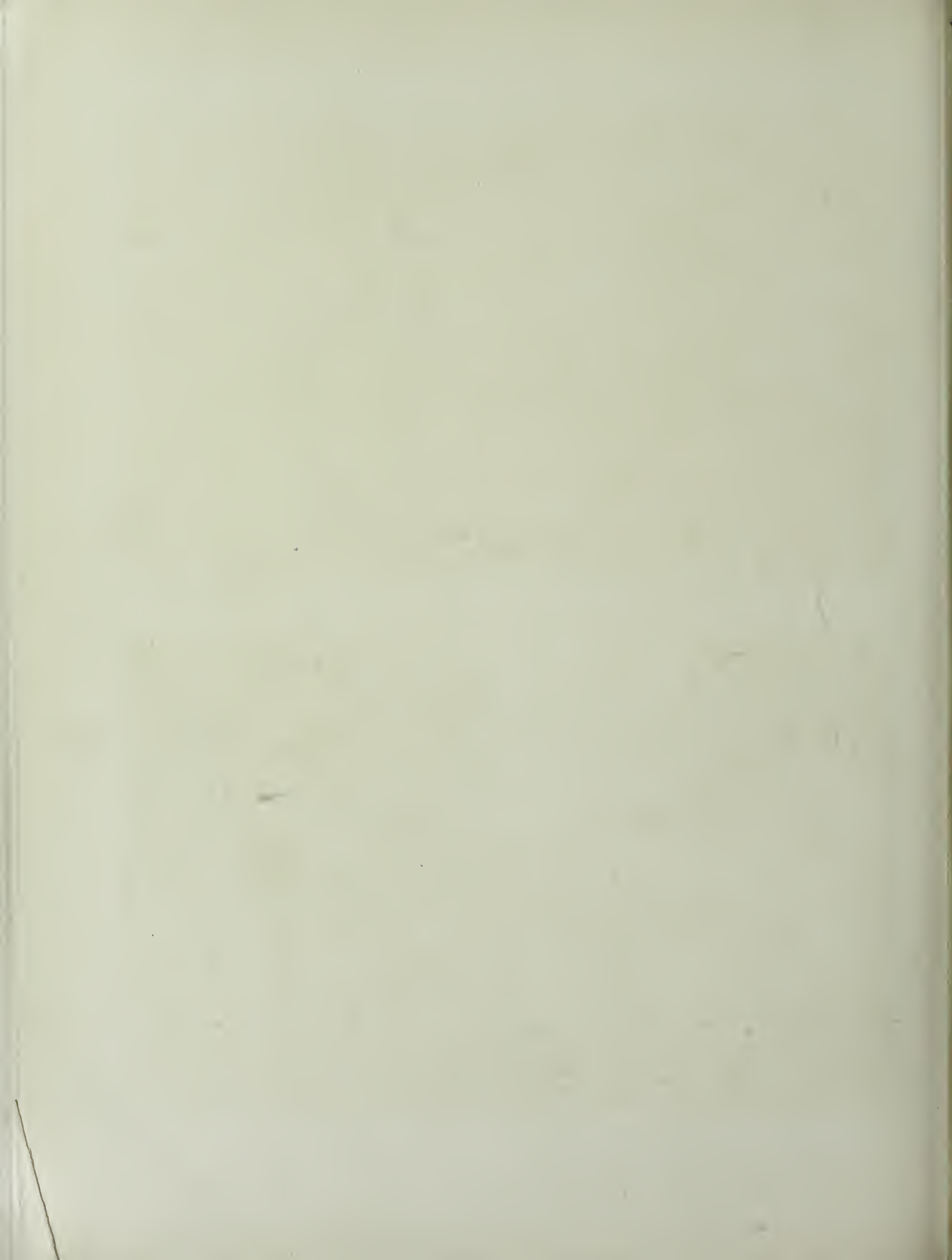
BRUCE PRICE & DE SIBOUR, ARCHITECTS.





POST OFFICE AND CUSTOM HOUSE, MARBLEHEAD, MASS.

PETERS & RICE, ARCHITECTS.





HOUSE AT NEEDHAM, MASS.
JAMES PURDON, ARCHITECT.





WASHINGTON PARK WAREHOUSE, CHICAGO
ARGYLE E. ROBINSON, ARCHITECT.



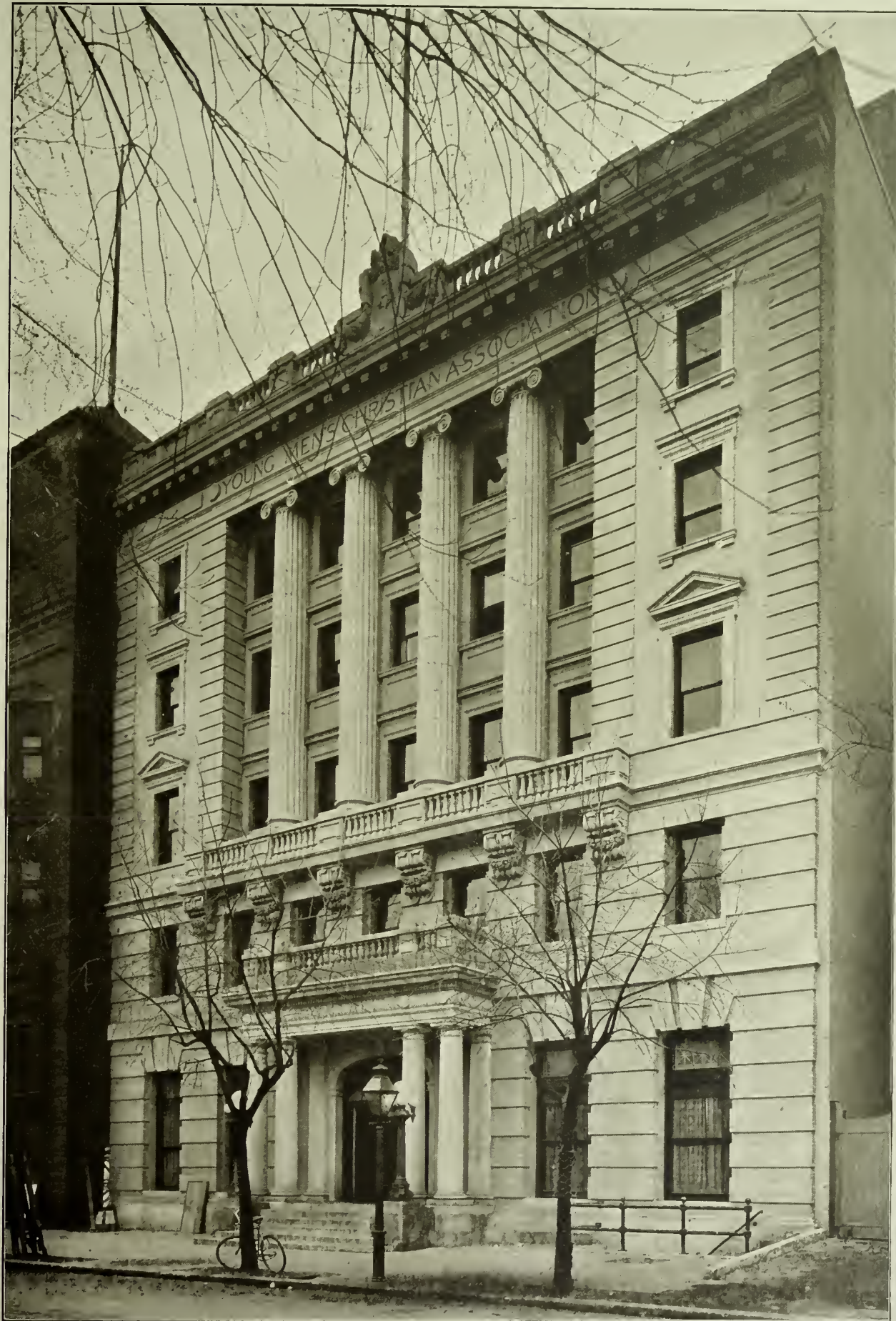


PUBLIC GARAGE, ST. LOUIS. MAURAN, RUSSELL & GARDEN, ARCHITECTS.



BRANCH TELEPHONE BUILDING, ST. LOUIS. MAURAN, RUSSELL & GARDEN, ARCHITECTS





YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, WASHINGTON. D. C.

HARDING & UPMAN, ARCHITECTS.



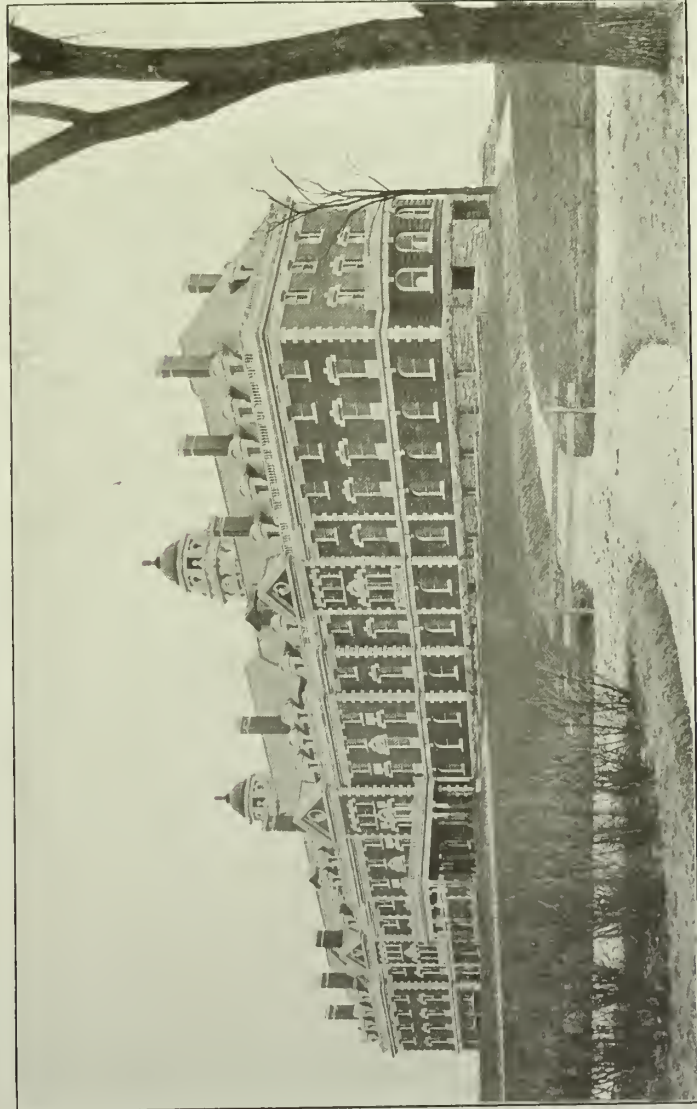


THE ABELL BUILDING. BALTIMORE, MD.

(FOR STORES AND OFFICES.)

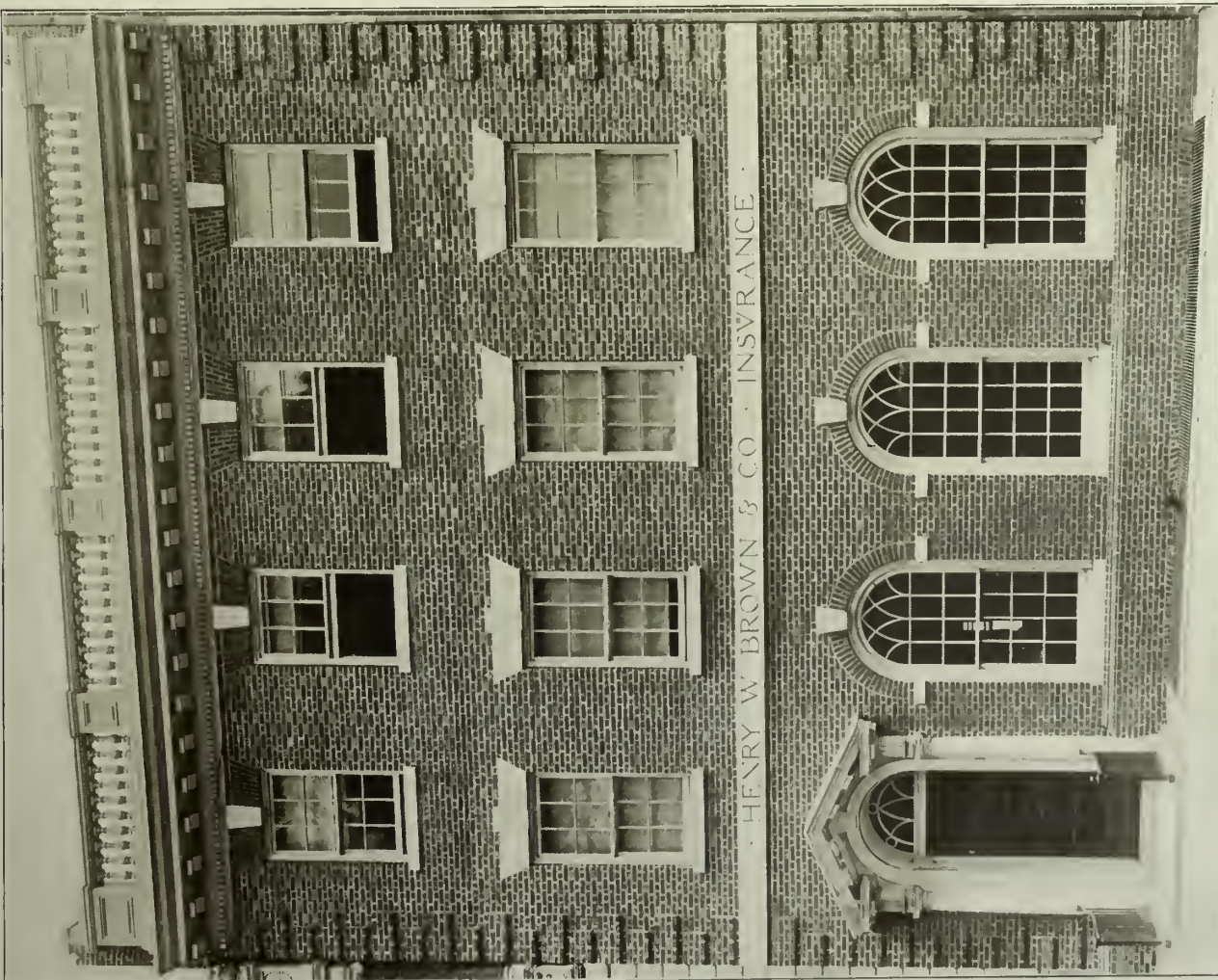
DELANO & ALDRICH, ARCHITECTS.



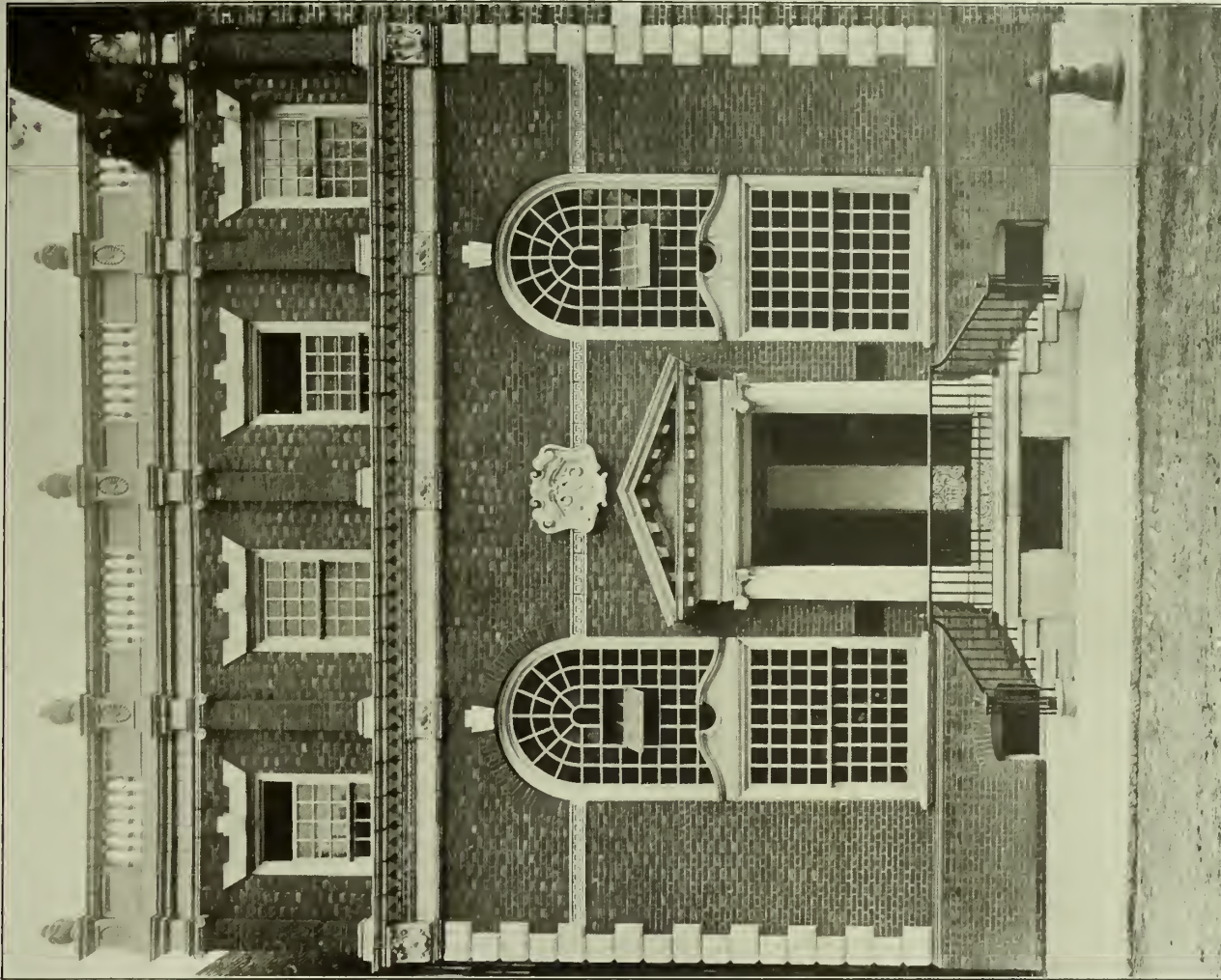


MIRIAM OSBORN HOME FOR OLD LADIES, HARRISON, N. Y.
BRUCE PRICE & DE SIBOUR, ARCHITECTS.





INSURANCE OFFICE BUILDING, PHILADELPHIA, PA.
CLINTON GARDNER HARRIS, ARCHITECT.



INSURANCE OFFICE BUILDING, PHILADELPHIA, PA.
GEORGE T. PEARSON, ARCHITECT.



THE BRICKBUILDER

VOLUME XV

NOVEMBER 1906

NUMBER 11

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“ Terra Cotta	II and III	Fireproofing	IV
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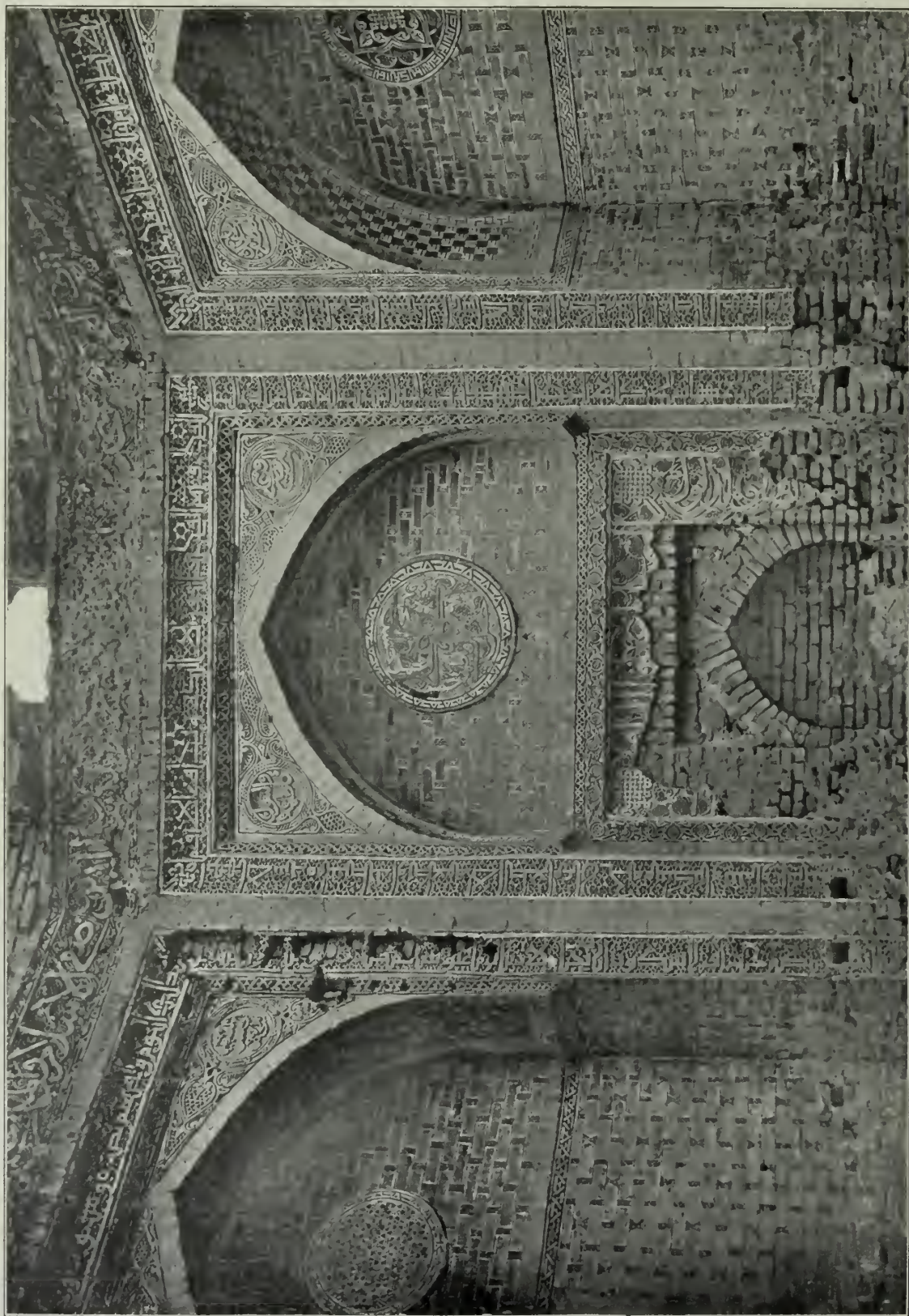
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INLAID DECORATION IN A GRAVE TOWER AT KUM, PERSIA.

THE BRICKBUILDER

VOL. 15 No. 11 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY NOVEMBER 1906

Commercialism in Art.

IT is quite probable that in no country in the world has architecture been so influenced by commercialism as in the United States. It is therefore a question of interest as to what effect this commercialism has had upon architecture as a fine art. In its answer lies a good deal of the prospect of the future, for surely commercialism will never cease as a factor in our business activity. By commercialism we mean the subordination of matters of architectural design to mere expediency of dollars and cents. This may or may not be a sacrifice of art. It frequently is such, but more frequently it means a sacrifice of the architect's peculiar desires. We all feel at times that we could do a little better, could be a little more successful in our work, if we were not obliged to consider the cost, or if our clients would only step one side, put off all questions of cost, and give us *carte blanche*. It is extremely doubtful, however, if such freedom would conduce to the best kind of growth. Development does not count along the lines of the things, the paths, the functions, with which we are most familiar, and which we are conscious of having mastered, but, rather, success comes from our failures, from our attacking and attempting the problems which are new to us, from reconciling hostile elements and bringing conflicting interests into harmony and appropriateness. Looked at in this light and measured by the results, we are inclined to believe that commercialism, so far from threatening the death of art in this country, has been the direct cause of some of our strongest and most vigorous growth. It constitutes a species of ferment which keeps the body architectural from becoming stale or from mummifying. Perhaps the most notable illustration of this is afforded by our modern office buildings, the so-called sky scrapers. These present a problem which is primarily utilitarian, in which the business element always predominates and which from first to last has been controlled by commercialism. Whether the results be the best that could be accomplished may well be questioned, but certainly no other country in the world, no other nation has solved the problem in anything like as satisfactory a manner as it has been solved in this country. In the process of studying these buildings a keen alertness has necessarily been developed by our architects. The spirit of emulation has made each watch the other and be open for every possible advantage and saving, so that the designing of these tall structures, the results of which at first were so crude

and so uninteresting, has become a science as well as an art and has profoundly affected the manner in which a design is studied in other lines. Unlimited opportunities have never been good for any one. We need the restrictions and restraints in order to keep us reasonable and sane, and the very commercialism that sometimes oppresses us so cruelly is constantly working out for the good of the profession. If it does nothing more, it certainly develops a spirit of competitive coöperation which cannot fail to be of value to our national architecture.

In the process of our national development it is inevitable that the spirit of commercialism should interfere with individual successes. There will be opportunities lost because of the short-sighted financial policy of those who control the purse strings. There will be artistic conceptions curtailed and often ruined because of the wrong emphasis placed upon puerile practical requirements. But on the other hand, the spirit of commercialism is what has called into being our marvelous architectural development to-day. If it were not for the profit that our buildings have been made to pay the business districts of our cities to-day would be as uninteresting as they were in the dreary times of the vernacular. The speculative builder has made our suburbs hideous in places, but the speculative builder has also placed within the hands of some of our architects opportunities such as no previous generation could have imagined, and besides all the evil which commercialism might inflict upon our artistic development, it must be acknowledged that there is a great deal in enlarged opportunity, increased power, and a material development which has made the artistic success a reality. We have to take the good with the bad, and whether it be that the bad is less offensive than we imagine or that the bad is turned to a good purpose, the fact remains that commercialism has kept alive architecture in this country and has brought victory and strength into the profession, preventing it from developing either the academic dullness of German art or the monotonous mediæval spirit of England. The United States to-day is the foremost architectural country in the world, measured by its attempts and by its positive achievements. There is no other land where the opportunities are so great nor, on the whole, so well improved. We owe this to the spirit of commercialism which has gone side by side with marvelous prosperity and has made good conditions better, giving the architect a free hand where before he was only a struggling draughtsman, and opening up all sorts of unheard of opportunities.

Modern English Suburban Houses.

YOU may search the world over, but in house design you will not find anything more delightful than the best English examples. Houses more commodious, more carefully appointed, more luxuriously fitted up with warming and ventilating appliances and hot water supplies—such houses, maybe, you will find elsewhere, but no houses more pleasing to the eye, no houses which rest so quietly on the country-side, no houses which have about them such an air of contentment and mellowed comfort. Therein is the essential quality of English domestic architecture. Such houses, however, are not to be found anywhere and at any moment, for commerce and industry have swept away much of the old work, and in its place have arisen dead formalities or the showy



HOUSE AT LEICESTER.
Everard & Pick, Architects.

mixtures brought into being by the *nouveau riche*. We can pass by those years when the all-important consideration was to have a grand-looking mansion, whether the interior fitted in with the exterior or not. Those were the years when it was thought proper to swallow up nearly the whole of the space with reception rooms, while the living-rooms were squeezed in as best might be. Truly that was not the most admirable phase of English domestic architecture; indeed, about those grandiose erections there was no domesticity at all; they were artificial conceptions, the very antithesis of real house design. For such latter we must turn to an earlier period or to a later one. Half a century ago it would have been futile to search among town examples, but now one can see the good work that is being done in the suburbs, clearly showing that, while in the large buildings, architects have picked up again the thread of English Renaissance, in the smaller houses there has been a reversion to the quiet, unpretentious work which is so satisfying. There are, it is true, some dreadful legacies, say those

of the early nineteenth century, when architectural design was as sluggish as it could be, or those perhaps more disconcerting legacies of mid-Victorian years, by-products of Gothic, ill-digested and nauseating. Nor can we overlook the fact that the latter distraction is not by any means finished with, for our fancy-loving builder continues to sprawl the same sort of thing in the suburbs, persisting in his trefoils and quatrefoils, his lumpy leaves and strange birds, and all the rest of the things which the handy carver will strike out of stone at so much a dozen. Nevertheless, admitting this, it cannot be gainsaid that English house architecture is well on the road to its best ideals, and there can be found in every town new houses with much of the old feeling about them.

Now the architect who is designing a country house has difficulties enough to face, but with the suburban house he has still more; the chief of these arising out of the usually restricted nature of the site and the limitations of cost. In the majority of cases, suburban houses are erected more or less as a speculation, and there is no money to throw away on those expensive embellishments which are sometimes so effective in houses built for clients with a long purse. What sins, indeed, may not be covered up with expensive material! And speaking of material, it is worth while noting the frank use now made of bricks. It was once the mistaken idea that if a house could not be built of stone, it was best to make it look like stone, by a plentiful use of stucco—the most deadly uninteresting surface texture imaginable. Brickwork had to hide itself behind such a skin, but the stucco had a distressing way of cracking from top to bottom in all directions, falling off in patches which were most unsightly and could not be satisfactorily doctored. That was probably the chief cause of stucco going out of vogue. What a saving blemish! For good brickwork then had a chance, and now is very extensively seen in suburban houses, together with plain, painted woodwork, which has largely ousted another vicious fancy, *i. e.*, graining. Since we are discussing domestic architecture, it may be said, without fear of contradiction, that England furnishes by far the most interesting examples of the use of brick. The myriads of small brick houses, charming in their simplicity, which are found in nearly all of England's countryside, have excited the admiration of foreigners generally who have had occasion to travel either on or off “the beaten track.” The best of these are not of modern origin. Nevertheless, it may be said of the work of to-day, especially in the better class of house-building, that English architects are showing an understanding in the use of brick which is worthy of the study of all architects. Undoubtedly rough-cast is very frequently used, but it has an infinitely superior surface to stucco, and, moreover, it affords a most serviceable outer skin on houses in exposed situations—in the country especially. Accompanying this article are some examples of suburban houses around London. In the Wimbledon district a great number of such houses have been erected. Those here shown are representative of the best of them. There is no necessity to describe the houses in detail, because the illustrations clearly show the exterior treatment and the materials employed. Surbiton is



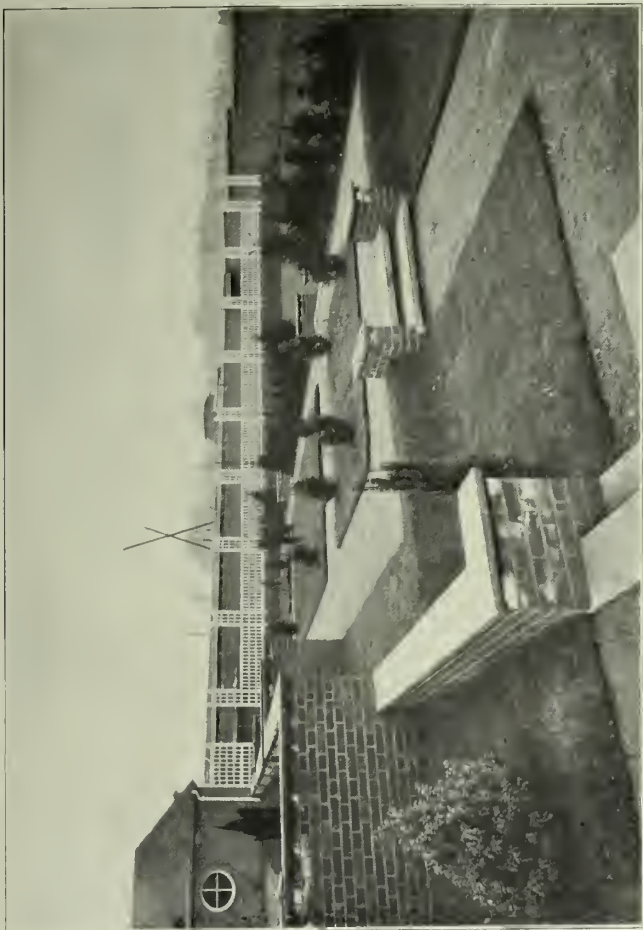
HOUSE AT LEICESTER.
Everard & Pick, Architects.



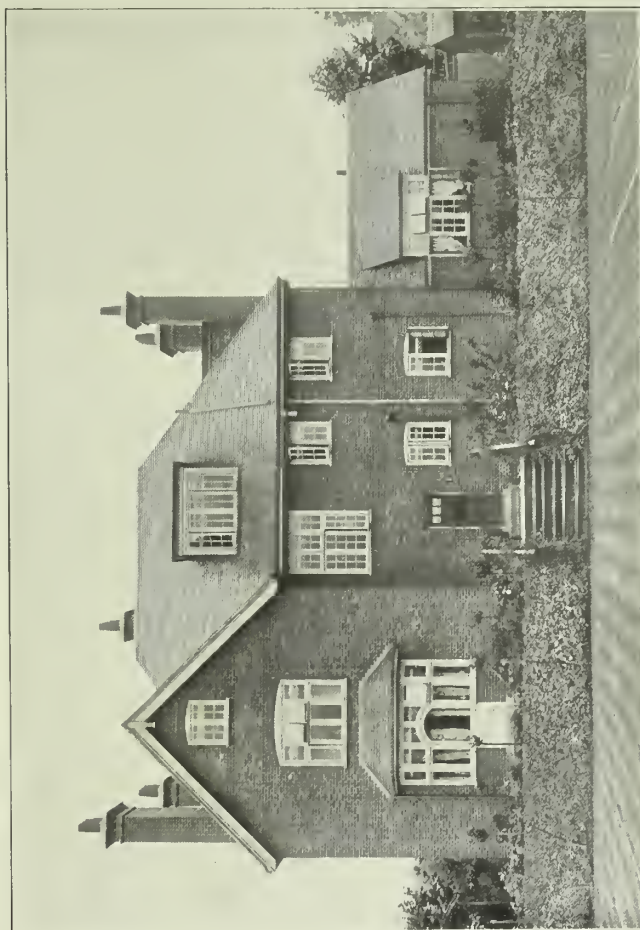
GARDEN FRONT, "OAKHILL DRIVE," SURBITON, LONDON.
Walter E. Hewitt, Architect.



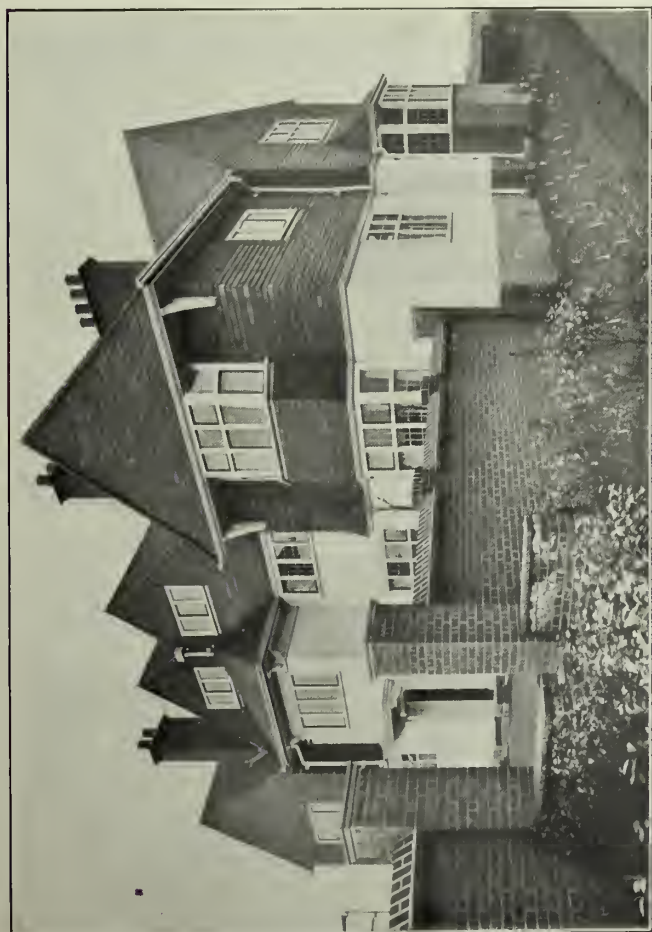
HOUSE AT WIMBLEDON, LONDON.
Hubbard and Moore, Architects.



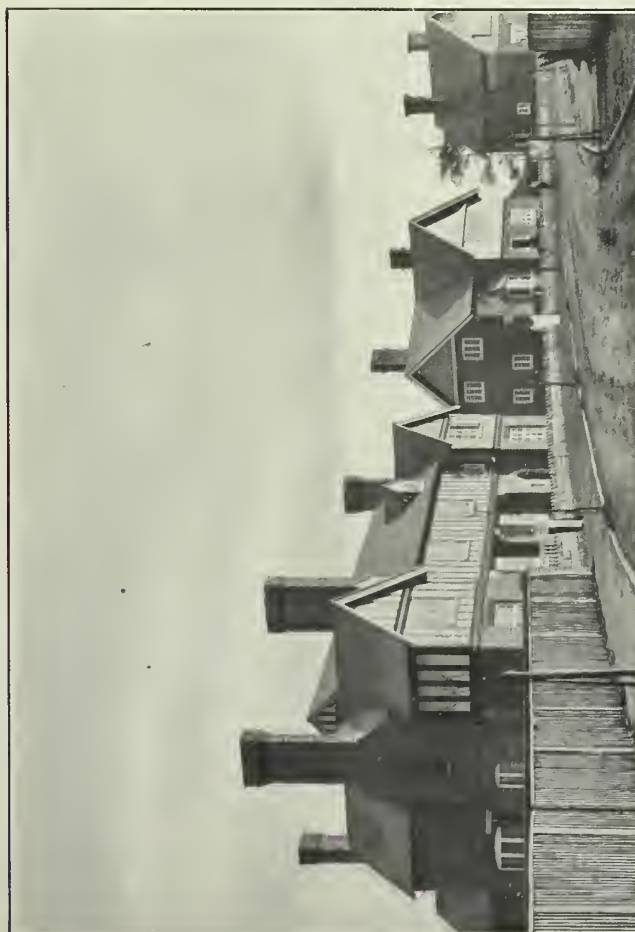
THE GARDEN. HOUSE AT EALING, LONDON.
P. Morley Horder, Architect.



"ATHERSTONE," SURBITON, LONDON.
Walter E. Hewitt, Architect.



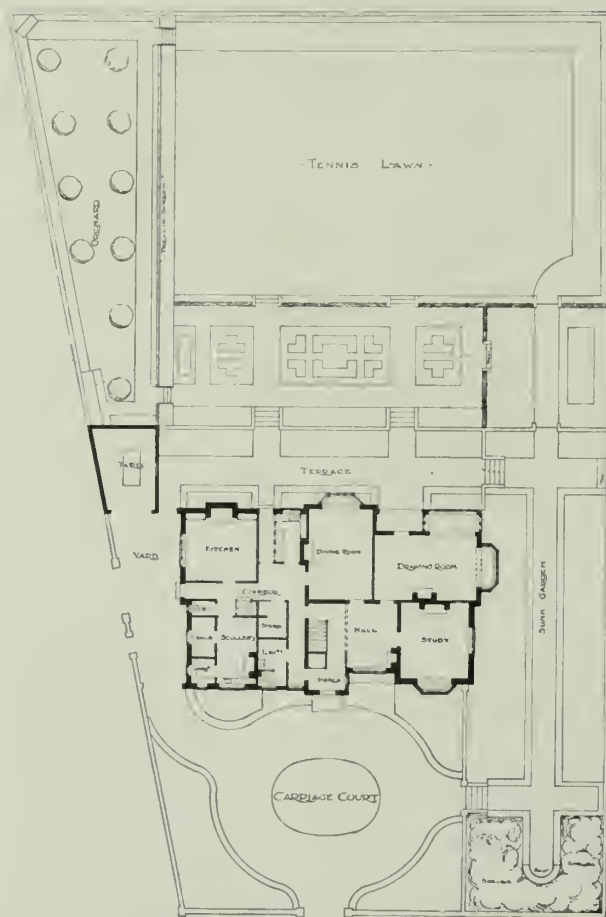
HOUSE AT EALING, LONDON.
P. Morley Horder, Architect.



HOUSES AT KINGS HEATH, BIRMINGHAM.
Bateman & Bateman, Architects.

another London district where many excellent suburban houses have been erected recently. Quite big houses are to be found in both these districts, set down in fairly good-sized pieces of ground, well screened from the road and making as much effort as possible towards being a country-looking place.

Hampstead is another suburb of London where a wonderful amount of good building has been done, not only in large houses for the wealthy class who favor this district, but also in smaller houses for people of moderate incomes — houses which, though being of necessity



PLAN, HOUSE AT EALING, LONDON.
P. Morley Horder, Architect.

in rows or semi-detached, are free of those unrefined treatments which have attached a stigma to "suburban villadom." These houses at Hampstead have been under the direction of careful and tasteful owners. Mr. Willett especially has carried out some most successful schemes — small colonies of good, red brick houses, all differing in design, but harmonizing well together.

Mr. Willett has developed many other districts of London, and it is to be regretted that there are not more far-seeing builders who appreciate the worth of good architects, entrusting the design to them instead of to some practitioner whose paramount claim is that he is ordinary and cheap.

It will be noticed that the majority of the accompanying illustrations are of houses around London. I give two examples, however, from the provinces — some suburban houses at King's Heath, Birmingham, by Bateman & Bateman (sturdy houses with good chimneys); and a house at Leicester by Everard & Pick, this latter being included to show the large type of house to be found in some suburbs.

A Village Railroad Station. III.

BY N. MAX DUNNING.

IT would be difficult to cite an instance where the demand on the part of the public for better architecture has been more conscientiously met than in the case of the great railroad corporations throughout the country, in the improvement of their stations. There was a time when the railroad station and its immediate vicinity was the most defacing blot on the average town. The trend now is to make these stations themselves attractive and convenient, and also to make the surroundings beautiful, giving the towns to which they form the gate of entry the advantage of a complimentary first impression on the part of visitors, and impressing favorably the thousands who go through on the trains toward other destinations.

There can be little doubt that the benefits from these depot improvements are twofold at least. They add greatly to the attractiveness of a railroad and unconsciously encourage people to travel more; in this sense they would seem to prove the theory on the part of some and strengthen convictions on the part of others that there is a definite commercial value to art.

But, in a broader way, these improvements made by a quasi public corporation encourage other improvements in a town, and in many instances the building of a handsome station, with its little garden spots and approaches, has been the beginning of an era of civic enthusiasm that has transformed towns from their unkempt, ill-lighted and ill-paved condition into places where there could be some joy in living.

It very often requires only a slight impetus to start a community on the way of great improvement, and the new "Depot" very often furnishes just this impetus.

The station, which is the subject of this article, however, is to become a part of what is already predestined by THE BRICKBUILDER to be a "Model Village," and the author of this design realizes fully the responsibility that rests upon him in attempting to design a station that will be in artistic value commensurate with the other splendid buildings for this village that have been hypothetically erected before.

The requirements have been classified in the following manner: Inasmuch as this is a suburban village of some three thousand inhabitants made up of the families of men who have their business in the near-by city, the station should provide a general waiting room where men and women may mix if they so desire, and also provide a retiring room for women and a smoking room for men.

There should be a carriage entrance and a direct walk leading up to the entrance vestibule and directly into the ticket office and telegraph booth.

For the confirmed "Commuter," however, the walks leading directly to the station platform would be always the most used. A monthly visit to the ticket seller is about the extent of this man's use of the station. For him the greatest virtue in a station plan is the directness with which he can get to the platform, in order that he may take time at home to finish his morning meal and still get the "7.15 in."

The only entrance to the depot from the track side is



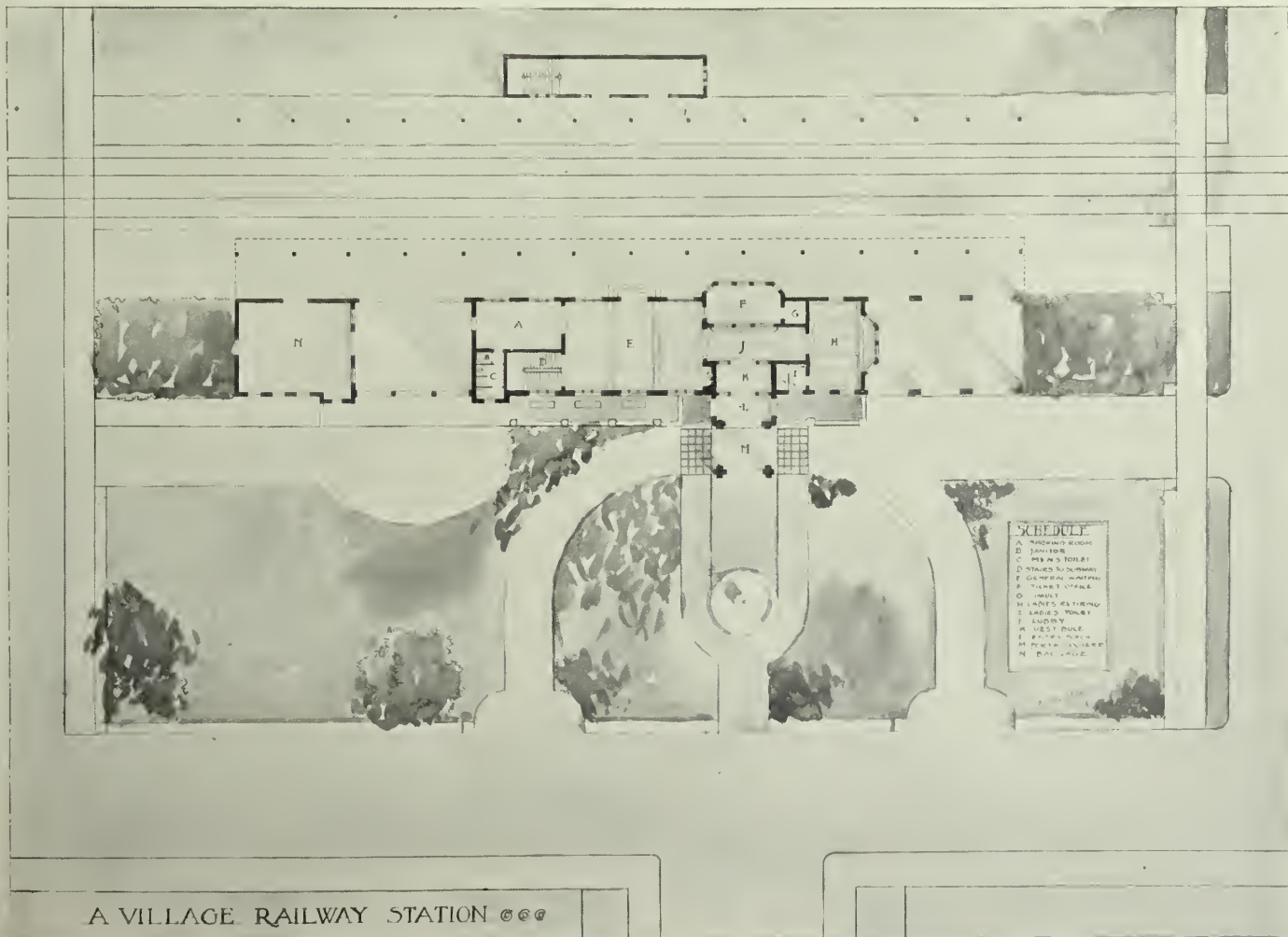
through the doors into the general waiting room and the only entrance from the park side through the vestibule, bringing both entrances under the control and observation of the agent in charge.

It is intended that the building be of brick of a brownish red color, and broad surfaces have been maintained, relieved by pattern work in brick and trimming in terra cotta of a slightly lighter shade. The broad band above the spring line of the arched waiting room windows is to be of terra cotta with a very flat ornamentation and intro-

ducing very low colors either in diaper pattern or at random.

The roof should be of a green clay tile and the metal work of copper and black iron. The terrace work and fountain should be of terra cotta, embellished with garden pottery.

The long, low building seems best to emphasize the long sweep of the tracks and the only accents are the tower which recognizes the axis of the avenue and the gable over the span of the baggage platform.



Arrangement of Photographs and Magazine Plates.

BY WILLIAM STANLEY PARKER.

NOTE. In publishing this series of articles it is our desire to present the various methods of keeping photographs and magazine plates that are in actual use in architects' offices. We do not expect, however, that the writers will be able to interview *every* member of the profession in each locality and it is our hope that any one who has developed a system of keeping this sort of material, which has not been discovered by this investigation, will give us the privilege of presenting it to the readers of THE BRICKBUILDER.—*Editors.*

PHOTOGRAPHS.

INVESTIGATION in Boston of the different methods adopted by practising architects for the arrangement and filing of photographs and magazine plates seems to show that, at least with photographs of foreign examples, there is no one cure-all for the problem. The points of view are so different, the methods of reference to the data, the specialization of styles, the personal equations all vary so much that what may appeal to one man fits badly or not at all the requirements of another. There is, however, very good reason for such a dissertation as is proposed in this series of articles; for few architects are found who are wholly satisfied with their system, however complete; few who do not find some lack, some blind-spot in their method. Perhaps in these reviews they may find an answer to their needs in the method of some contemporary, who, in one of those periods of leisure which are apt to come to those in the profession, has had time to evolve a solution of the vexing problem.

Let us consider "Photographs" first. They comprise a very broad field, if we interpret the word liberally. Leaving out of consideration for the moment all "Magazine Plates," which we will consider as a class by themselves, we might, with reason, group together as a single class of data all photographic reproductions of whatever sort, whether they be direct prints from the negative, such as the photographs we buy abroad, or process reproductions of a print, such as book illustrations. In this way we would include, therefore, not only the separate photographs that we collected on our own travels but our books on architecture, which are largely reproductions of what some one else has at one time collected and for one reason or another grouped together and reproduced for our benefit.

It is clearly necessary, however, to divide our collection of "Photographs" at the outset and leave our books as they are. They are and will continue to be of service to us to the extent that we are familiar with them. For their orderly arrangement and to assist our reference, a card catalogue may well serve, but back of the catalogue must be an intimate knowledge of the library, if one would get the fullest benefit from it.

The photographs will cover the work of the past only, for the work of the present is so fully covered by modern technical publications that it will fall under our second division of "Magazine Plates." But even here a complication arises because of the many photographs of old examples that are being reproduced now in the magazines, for they rightly belong with other illustrations of old work and offer another complication to the man who is looking for a comprehensive logical system.

The problem, then, as to photographs, is reduced theoretically to the arrangement of the separate prints of old work collected from time to time and the plates of old work reproduced in magazines. No one seems to have attempted, however, to connect these two in practice. No matter how the photographs themselves are arranged, the plates, although complimentary in value for reference purposes, are kept with the other plates which represent modern work.

As to the residuum of photographs, then, which comprises merely the separate prints, there is a wide difference of opinion as to method of arrangement. This is traceable partly to the difference in manner of reference and partly to other practical considerations. There are three methods I have found used.

First, the prints mounted on the leaves of albums.

Second, mounted or otherwise fastened to leaves and held together in groups either by a cord passing through eyelets, or by the more modern loose-leaf binder.

Third, mounted on cards and kept detached in groups.

By the first method the photographs are irrevocably fixed in place in whatever order may originally have been chosen, but it is claimed by those who favor this way that individual prints are not lost as they would be if they were on separate cards.

By the second method the photographs can be rearranged at any time and also any single print or set of prints can be removed from the binder and used separately. This of course gives the possibility of loss when once a plate is removed.

By the third method the collection is made up of separate units, any one of which is available by itself, unencumbered by a weighty volume or the need of any release from a temporary binding. Those who favor this plan acknowledge the chance of loss but see in the arrangement a flexibility and an ease of handling which make them willing to take the chance.

The manner in which one refers to his photographs has a distinct effect naturally on the arrangement which he prefers. Broadly speaking, there seem to be two different points of view in this regard. The one of the man who refers to his collection for some particular example which has a bearing on the subject in hand and which he remembers by name, as, for instance, St. Paul's Cathedral or the Campanile at Siena; the other, of the man who seeks for suggestion along some line, some type of work, such as country houses or city churches, some class of detail, such as plaster ceilings or Gothic balustrades, not knowing in exactly what building he may find it.

The first man naturally demands a geographical arrangement, whether card catalogued in detail or not, and I have found him generally satisfied with bound volumes, that is to say the first method. The second man demands an arrangement based rather on types of work. If he prefers to keep his photographs bound up in volumes, for safety, he is forced, perhaps reluctantly, to spend more time in his search, for he must pass over all his photographs geographically in order to find the examples of detail which he seeks, for I have found no instance of a collection bound in a definitely fixed order that was arranged by "type," that is, ecclesiastical work grouped together, domestic work together, and so on. Indeed, it is hardly conceivable that one would care to do that. It seems quite logical, therefore, that the men who generally refer to photographs in this way lean towards a more elastic arrangement and favor either the loose-leaf binder or the separately mounted detached photographs, that is, the second or third method. The photographs can then be arranged by "type," but at any time be temporarily assembled geographically or vice-versa.

Of those who advocate separate mounts none seem to have done more than make a first grouping of the photographs either typically or geographically, if we except the firm which has seen fit to adopt the system of cataloguing described in a previous number of THE BRICKBUILDER.

It is quite possible there are valuable examples which I have not unearthed, but the trend of opinions and conditions among the thirty odd firms of which I have knowledge leads me to feel that the possibility is remote.

Only one of that number, having arranged his collection primarily, has catalogued it in detail, including his books as well as other photographs and prints. This catalogue, however, is solely along the lines of geographical division and while it allows him to find readily all his illustrations of any one building it gives no cross line of attack, by the way of "type," for instance; but as he does not demand this in his use of his material it is complete for his purposes.

MAGAZINE PLATES

With "Magazine Plates" the problem is quite different. Instead of a more or less fixed collection, which grows only at such intervals as the owner travels abroad, we have a constantly increasing mass of material which demands incessant attention. It sweeps in on us each month like a flood, and unless we entrench ourselves behind some system which shall act as a breakwater, to shatter the waves into orderly ripples, we find ourselves knee-deep in an accumulation of unassorted data, thirsting for examples we cannot find and moaning to ourselves, "Water, water everywhere and not a drop to drink."

There is an old conundrum which asks "How can you learn Book-keeping in three words?" and the answer is "Never lend them." If we apply this question to "Plate-keeping," the answer may well be "Throw away most." This seems to be the almost unanimous opinion as to the first step in the process. A comparatively small, carefully selected group is far more valuable than an elephantine collection which contains all those plates which the over-cautious mind feels "may come in handy

some time." The physical properties and actual cost of the material, which differ so greatly from those of a photograph collection, define largely the form of arrangement. The plates lack the stability of the mounted photographs, but it would never occur to one to mount them, of course, on account of expense; they cannot, therefore, be stood up on shelves and arranged as mounted photographs can be. The collection is constantly growing and whatever the groups into which it is divided, each must be capable of indefinite expansion. A set of fixed albums, therefore, does not apply.

In actual practice, I have found the same method, fundamentally, in almost every case, where there was any method at all. The desirable plates having been culled, they are subdivided according to type of work with further subdivisions of locality, construction, etc., each division being kept intact either by some form of portfolio or folder, in which the plates are all separate, or by some form of temporary binding in which the plates are fastened in sets.

Here, again, we find the same two points of view expressed as in the case of photographs. The man, who, having found the desired plate, wants to use it by itself, keeps it loose in some folder; the man who, having selected the plates he considers of real value wishes more surely to prevent their loss, binds them in sets which are less easily misplaced than a single sheet. There can be no argument between the two men as to which is the best system. It is idle to suggest to the man who wants to go north that the road to the south is less muddy. It is a matter of choice to fit individual opinions.

Each point of view is worked out in several different ways. In one case, I found the loose-leaf binder, with its split rings and stiff covers, used to group the plates into the form of books, each plate being reinforced in some way on the binding edge to prevent tearing, where the holes are punched for the rings to pass through. About eighty plates can be put in each binder with the name of the group marked on the back of the binding, so that, with the binders standing in rows on a shelf, any one can be easily found.

Another way that has been developed is to fasten to the edge of each plate a binding of cloth reinforced with a strip of thin card. These bindings are inexpensive and commercially available. Through holes punched in this strip of card the plates are bound together with paper covers by means of metal clips. Each group is numbered on the cover and the subject indexed in a card catalogue with reference to the number of the group. The groups are hung in numerical order on iron rods fastened at right angles to backs of cupboards, the rods being about one and one-half inches on centers, rings on the binding clips sliding over the rods. The depth of the cupboard is sufficient to take the length of a plate. With this scheme only the edges of the groups are in view, the number on each cover being seen by a slight moving of the edge. This arrangement makes a card catalogue necessary to the use of the collection. Each of these methods takes up considerably more space per plate than any of the systems in which the plates are not bound together.

According to my investigations, the number of firms that bind the plates together in some way or other is to the number that prefer to group them together loosely,

about as two is to seven. Some of these latter merely slip the plates into shallow drawers, some put them in brown paper folders on shelves, some in portfolios of one kind or another, but the majority, not only of those who prefer this general arrangement, but even of all those who have any method at all, put their plates in vertical files. With this arrangement divisional guides mark the various groups and subdivisions and any division can be easily removed for scanning and replaced in its proper position. This system is as compact as is possible, perfectly flexible and expansive. In one case, I found the divisional guides numbered, and reference was had by means of a small card catalogue. The advantage seems somewhat doubtful, for reference is more indirect than where the name of the group and of each sub-division is marked on the top of the divisional guides. If the drawer is deep enough to insure the tops of the divisional guides being always visible above the sometimes unruly plates, then direct reference to the groups, which would be arranged alphabetically, would seem the simplest way.

CONCRETE AGAIN.

THE official report on the collapse of the Amsden Building, at South Framingham, Mass., by which twelve workmen were killed and others injured, lays the cause to the failure of the concrete foundation piers. These supported iron columns on which rested the first floor. The piers were so built that their lower ends stood in fifteen inches of water. On examination the concrete was

The plates are marked in some way, either by the title or the number of the folder in which they belong.

This system, as is true of all the variations of the loose sheet type, has an advantage over the other type in that there is less work required in the constant filing of new plates: a mark on the plate and the dropping of it into its folder is all that is needed.

It is interesting to note that while with photographs some preferred to refer to them geographically, they did not follow the same line with plates, but referred to them by type and grouped them accordingly.

It is quite evident, from such survey of Boston offices as I have been able to make, that here at least there is no revolution in progress. Few men have developed any special system, the large majority has sought the easiest way out of the difficulty. And that is significant of the truth that the way out *must be* easy. No complicated scheme will survive the test of practice. Whatever way be adopted it must be possible to keep it up at small expense of time and thought.

found to be almost as soft as when placed in the wooden boxes. It appeared as if cast into the form from a height, which caused a separation of the sand, cement and gravel.

The next step is to fix the blame. Was the concrete poorly mixed? Was there water in the forms? Could springs have opened under each foundation? Was there proper inspection by the architects? Was the builder competent?



THE EAST FRONT, HORHAM HALL, ESSEX, ENGLAND.

The Village Cottage. II.

BY HUBERT G. RIPLEY AND A. J. RUSSELL.

THE candlestick-maker's father was a Russian who got away to England "between two days" at a time when few of his companions were so lucky. After a year or two, to get his breath again, he married a stolid daughter of Kent, settled down to his old trade in brass and copper, and brought up a fine family in peace and forgetfulness. His eldest son he called Orloff, and taught him the high lights and shadows of his art, — principally high lights. Now, Orloff was, of course, convinced that he was a better craftsman than the old man, but he was generous; so, rather than set up for himself in England and make a pauper of his father by taking away all his trade, he embraced his parents and his brothers and his sister — he had only one — and sailed for Boston.

With the trials of Orloff in his early days in Boston we are not concerned, but with his days of prosperity we have much to do. He soon found that making Russian brass and copper work in Chelsea and selling it on Boylston Street was not unprofitable; and besides, as his father had been an organizer before him, so Orloff, too, found it worth while to regulate the business of his competitors. So he formed a trust, sold out his foundry, and retired to a suburb to begin his troubles; for Mrs. Orloff, whom he had married early, now saw her way to "mingle with the Face Cards." And properly to mingle she must have a house, just a modest little house. That is what she said, and Orloff believed her and let her bring the rising young architect of the town — there is always one — to tea. Thus did Orloff put his foot in it; but not his house, not yet, but soon.

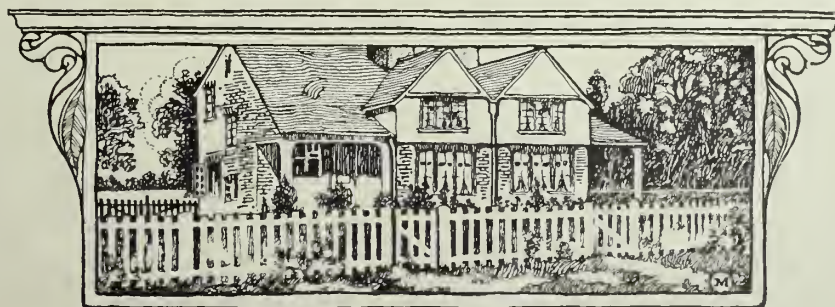
Orloff let them have their own way, — the R. Y. A.,* Mrs. Orloff and the daughter of the house, hereafter to be known as the only child. Orloff made but one condition, the house must remind him of Kent, the place he had known enough to leave. The O. C.,† who had, in the course of her education, been on a real self-conducted tour to Italy and the Orient, and had once taken her coffee on the Terrace at Amalfi, felt that no house would be complete for her without a Pergola and a dressing-

room. In vain did Orloff protest that personally he had no desire to sit among the bugs. The O. C. made it clear to him, without raising her voice, that there were other places he might sit, — the back stoop, the cellar and the conservatory, where his pipe smoke might, for once, do some good, were among the localities she suggested. She also hinted that a young lady in white, with a pink parasol and lavender shadows on her face, where the grape leaves intercepted the sunlight, was a pleasant thing to have in the front yard, if only for decorative purposes; and Orloff knew he was beaten. As to the dressing-room, he also gave in, though he wondered half aloud why any girl should want a dressing-room when she had her own room and the hall upstairs and also kept the bathroom door locked all the hours in the morning when everybody else wanted to use it. This brought the O. C. to the question of another bath of her own. She was glad to have Father lead up to it so aptly. But it was no use. Orloff appreciated too well the value of good brass and what it had done for him to be willing to have any more of it than absolutely necessary hidden away in the walls in the basely-corrupted form of water-pipes.

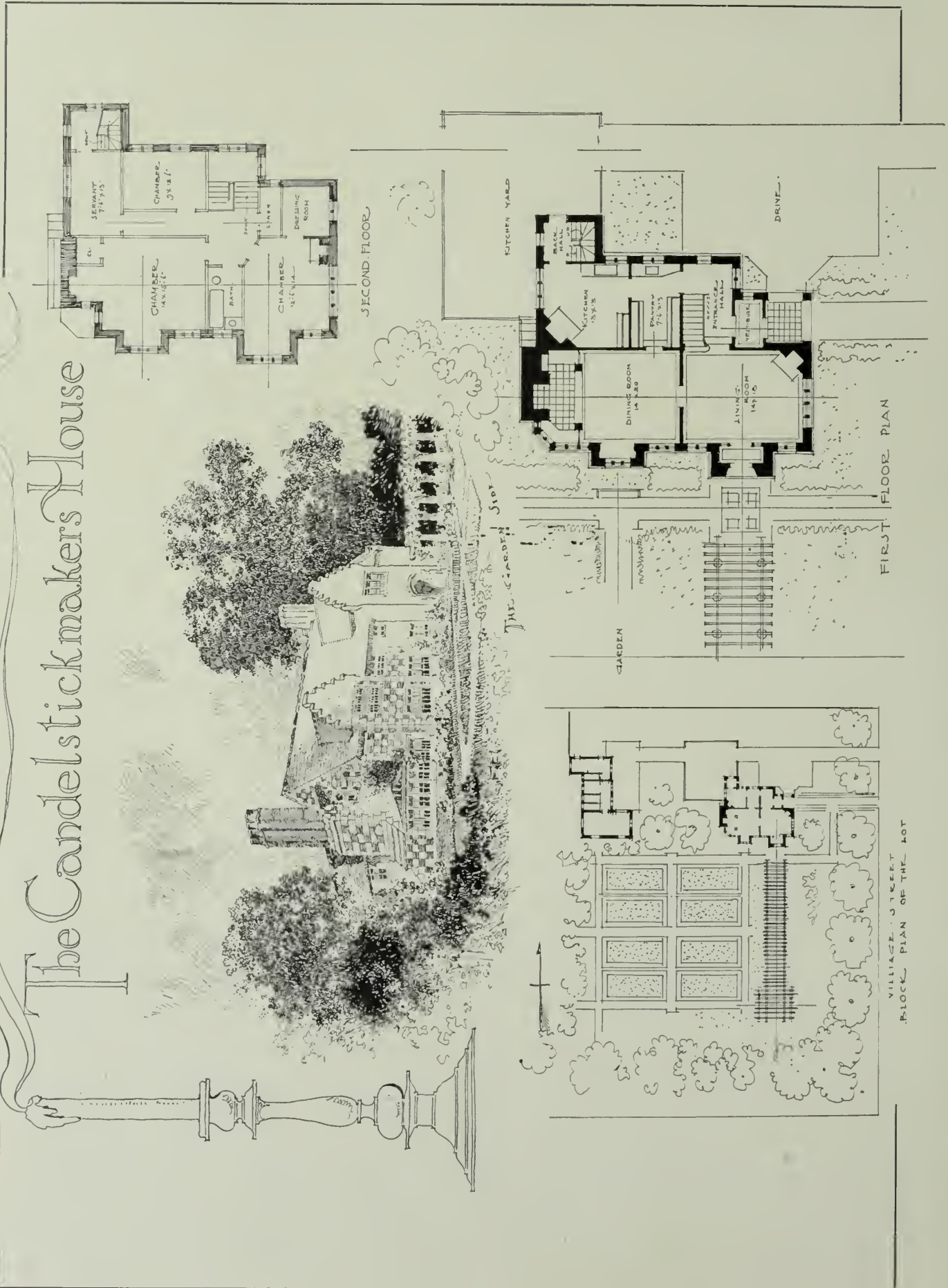
In the end they came to some sort of an agreement, except, of course, the R. Y. A. — they never do agree to what clients want; it isn't professional. The house was finished. There was a place to sit, a place to eat, two places to wash the dishes and a place to watch young plants unfold their souls. There were real bricks on the walls and terra cotta, too, and real regularly irregular slates on the roof. A stable for the horse and the cow — they wouldn't let the old man keep a pig — "It's so common, you know," said the O. C. — and Orloff was easily induced to smoke in cellar the almost all the time that he wasn't doing the plants good in the conservatory, with the doors to the dining-room tight shut, with metal weather strips besides. On the whole, they like the house; even the Face Cards like it. Do you?

* Rising Young Architect.

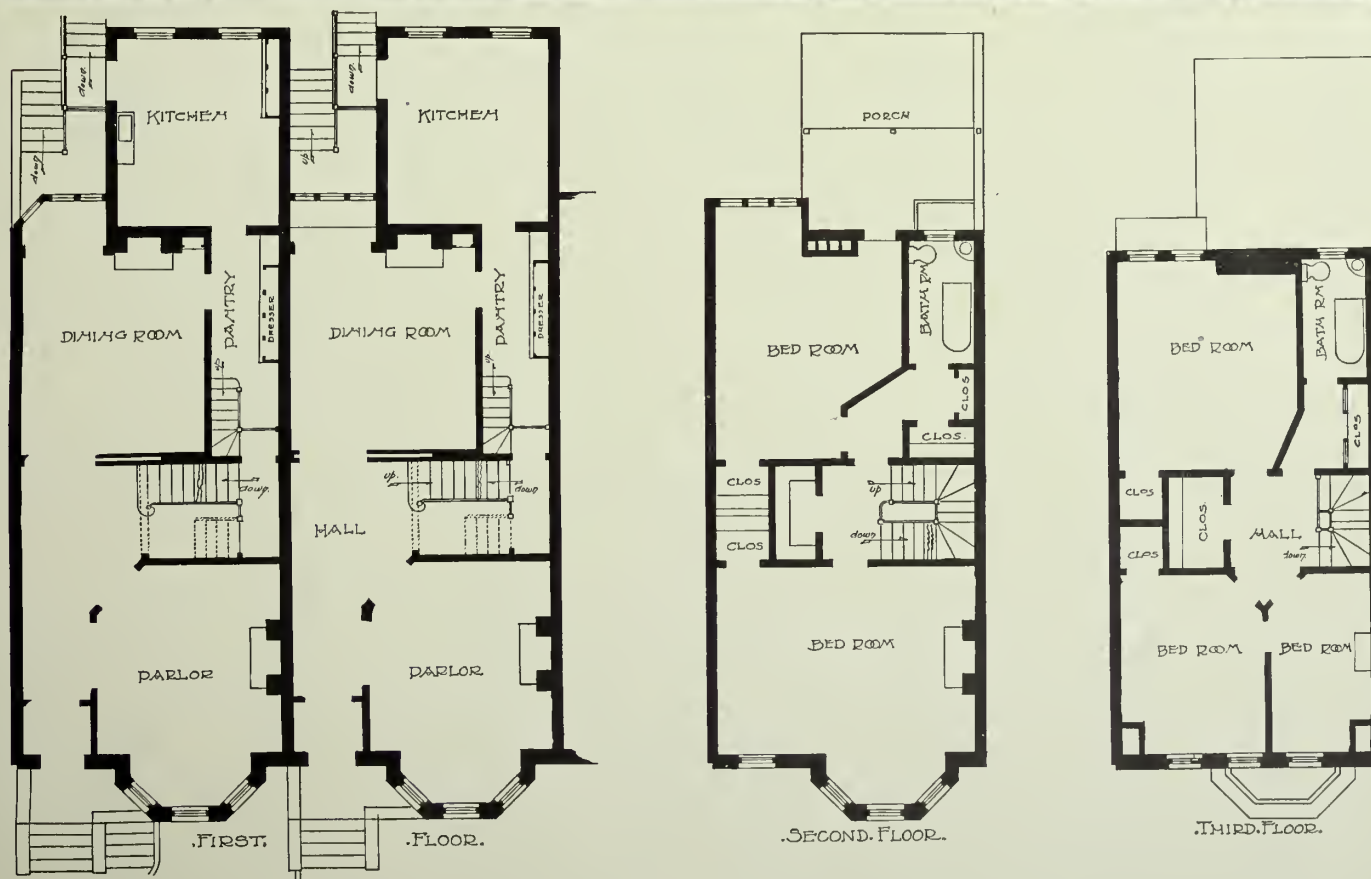
† Only Child.



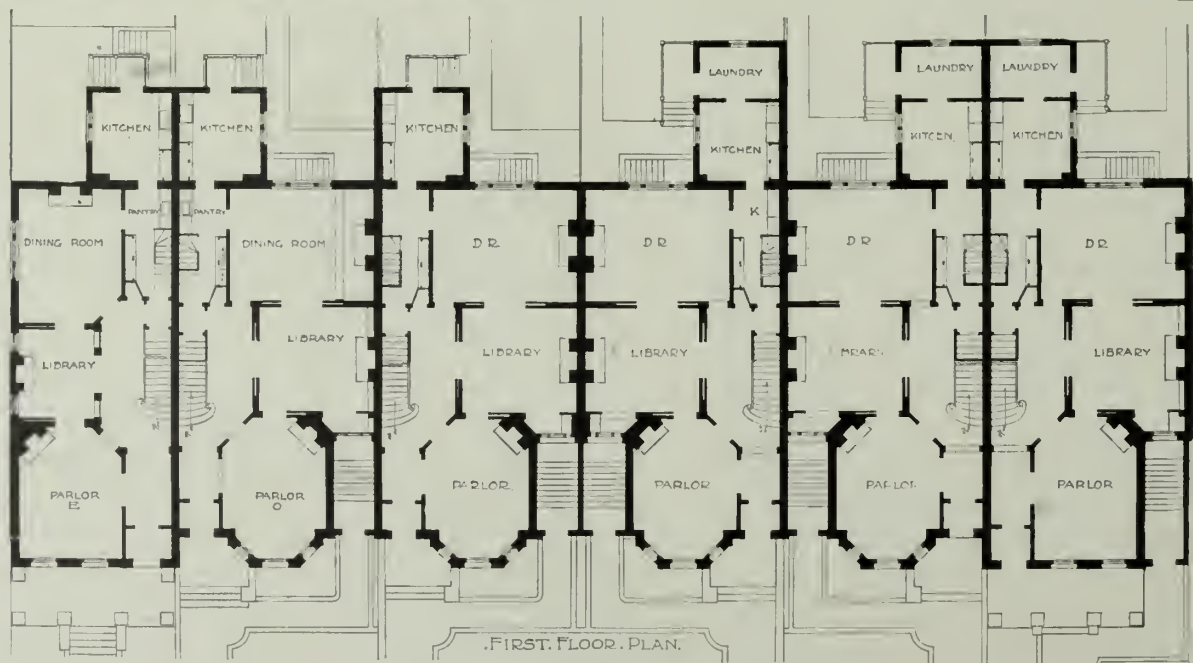
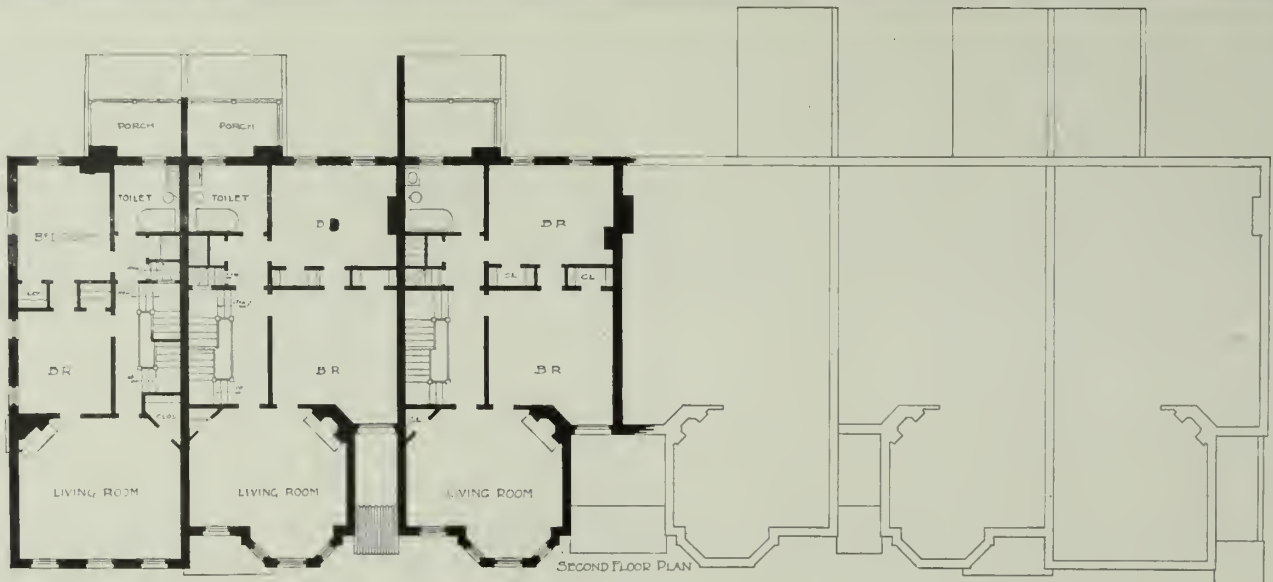
The Candlestickmakers House



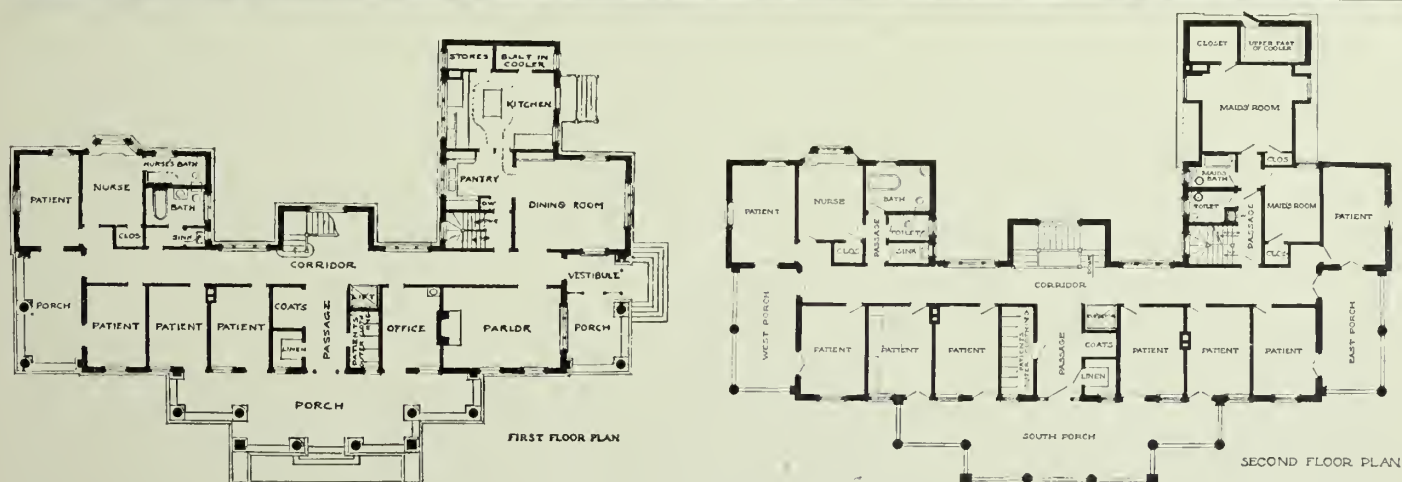
THE VILLAGE COTTAGE.
Hubert G. Ripley, Architect.



A ROW OF HOUSES, WASHINGTON, D. C.
Wood, Donn & Deming, Architects.



A ROW OF HOUSES, WASHINGTON, D. C.,
Wood, Donn & Deming, Architects.



A Small Hospital for the Treatment of Tuberculosis at Saranac Lake, New York.

SCOPES & FUESTMANN, ARCHITECTS.

WHILE the hospital is a purely local institution, designed especially to meet peculiar requirements, it has, nevertheless, certain features which would naturally commend themselves to those who have under consideration the erection of small hospitals for the treatment of tuberculosis, and more especially may this hospital serve as something of a model when it is known that its plans have stood the test of competition, and that they have had the personal supervision of those who have been pioneers in this country in the open-air treatment of pulmonary tuberculosis.

The site is admirably adapted for the building, being sixty feet above Saranac Lake and commanding a good view of the surrounding country.

One of the chief objects of this design was to introduce as much sunlight as possible into the patients' rooms and still retain good ample porch area.

Rooms ten feet by thirteen feet six inches have been provided for twelve acute and eight convalescing patients. The twelve rooms for acute cases, which are confined to the first and second floors, open directly on to spacious, covered porches (one hundred square feet being allowed each patient). Each room has two windows, one of which is wide enough to admit a bed being wheeled through. These windows give good ventilation, together with ample sunlight, which is one of the chief points in designing a building of this nature.

The eight rooms on the third floor will be used for convalescing patients who will be able to use the lower porches for their out-door cure.

The plumbing is separated from all corridors by two doors. The entrance is well placed, giving all patients the privacy which is desired.

Materials for Hospital Floors.

BY HENRY CARLETON.

FOR a great many years the hospital floor has been the subject for much discussion and experiment, but as yet it is doubtful whether a "perfect floor" has been discovered. Inquiry among those who have had long and varied experience in building hospitals has not resulted in establishing the fact that there is to-day a type of floor which meets satisfactorily all requirements. Nearly every kind of material is used, from wood to the patented systems, and while nearly all fulfill, in a degree, the different requirements, — some to a greater extent than others, — there is no one material which is satisfactory in all respects.

A "perfect floor" for a hospital must be non-absorbent, fireproof, germ proof, sound proof, free from liability to crack, uniform in color, non-stainable by acids, easily kept clean and bright and pleasing to the eye.

The sun rooms, parlors, offices, nurses rooms, etc., are not called upon to withstand all the requirements above mentioned, but such rooms as the operating room, morgue, laboratories, etherizing room, sterilizing rooms, kitchens, drug rooms, dispensary, corridors, etc., are subjected to conditions which make a "perfect floor" absolutely necessary.

In the older hospitals we find wood, terrazzo, lead, tile and marble used. In the modern hospitals, tiles of new composition, glass, rubber and many styles of well made monolithic floors.

On the market are innumerable "perfect floors," in tile form. Besides these there are the monolithic floors, laid in plastic state, which are made up of sawdust, asbestos, cork, etc., in most cases with cement and sand as a base. Terrazzo in its many forms must also be included in this list, together with many kinds of blind-nailed wood floors.

It must be conceded that a properly made monolithic floor which will not contract or expand, and which will meet the other requirements, would be the ideal floor for hospitals.

If wood is to be used for the wards, the best quality, clear rift, southern hard pine, strictly free from defects, tongued and grooved, thoroughly kiln-dried, blind nailed, and, if possible, laid in winter, makes an admirable floor. Rock maple, birch and rift-sawed Georgia pine, if bone-dry, make good flooring, but have a tendency to curl, twist and shrink lengthwise. Teakwood blocks, laid on end, have been used in England with some success. Teakwood is not difficult to tool and contains an oil which renders it imperishable. As it resists dampness, heat and cold, there is an absence of swelling, shrinking or warping.

All wood floors must be thoroughly rubbed down, waxed and varnished, and experience shows that this treatment must be given floors under constant wear, too often to make them practicable. Besides, wood is an organic material, and as such is a harbor and breeding place for germs, and thus is not sanitary, making it unfitted and unsuited for a hospital floor. Notwithstanding this, there are many architects and hospital superintendents of large experience in the building of hospitals who to-day prefer to use wood for floors in preference to all other materials, simply because there is, as has been

stated before, no one material which meets all the requirements.

Floors of terrazzo have been used, but it has little to recommend it except cheapness. It wears fairly well and feels good under foot, but the smaller pieces of marble work loose, leaving depressions which fill with dirt and are impossible to clean. If terrazzo is to be used, it should be separated by four inch to six inch strips of good Tennessee marble, otherwise unavoidable cracks will zigzag across the room.

Vitrified tiles, in the innumerable makes, shapes and sizes, form a floor which is beautiful, clean and perfect in itself, but requires too many joints, which absorb grease and dirt. There can be no question concerning their value for wall treatment. Here the joints can be made fine, and as there is no burden put upon them the liability to chip and loosen is too remote for consideration.

Lead was used in a western hospital with good sanitary results, but its use is to be avoided on account of its looks and lack of adaptation to good construction.

There are many forms of interlocking rubber tiles, for which the makers have many claims. They have been used extensively and to a large degree have given satisfaction. They are practically noiseless and wear well, and are made in a variety of agreeable patterns.

The plastic floors, composed of sawdust, asbestos, etc., with cement as a base, show stains, disintegrate and present a worm-eaten appearance. If the material cemented together was of the same durability, so it would wear an even surface, a flooring of this character would be an ideal one.

Taylorite flooring, which is similar in composition to the above mentioned, seems to be the best of these floors. It is laid in plastic form and in standard colors; is fireproof and can be nailed, sawed or drilled.

The composition known as the Crown Sanitary Flooring, has been used with good success in many hospitals. This floor has a fine feeling to the feet and is not slippery. The manufacturers make claim that their floors are fireproof, and non-absorbent. From samples the writer thinks that the material would soon wear down and small fissures would appear in the surface which is undesirable.

Compressed squares of cork have been used for floors of corridors, offices, etc., and show good durability. They are sound proof, claimed to be non-absorbent, but are hard to clean and repair, and in flushing and washing down are likely to swell and warp.

For operating rooms, morgues, lavatories, etc., a flooring known as Novus Sanitary Glass has most of the requisites for a good floor. Its disadvantages are few. Its honed surface has the appearance of white statuary marble, and it can be laid in any size and thickness. A cove is made six inches high and twenty-four inches long, which makes very few vertical joints, which heretofore has been a disadvantage. The well-known tendency of glass to chip at the edge seems likely in this case, but the manufacturers claim, with their perfectly ground joints, to have obviated this. Under the operating table this glass has been painted a dark red on the under side which does not show stains.



THE BUCKINGHAM BUILDING, WATERBURY, CONN. McKim, Mead & White, Architects.



AUDRAIN BLOCK, NEWPORT, R. I. Bruce, Price & de Sibour, Architects.

Editorial Comment and Selected Miscellany

THE CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS.

THE approaching convention of the American Institute, to be held in Washington, January 7, 8 and 9, promises to be a very interesting occasion. It will be the golden Jubilee convention, and special efforts are being made to render the occasion memorable in many ways. Two years ago the Institute held a most remarkable dinner, at which were present the dignitaries in science, art and religion whose names are most prominent throughout the country. A year ago the Institute wisely refrained from even trying to emulate the former notable affair, but this year official Washington will not only be represented, but national architectural bodies of the world, as well as national kindred organizations in sculpture and painting, have been invited to send delegates. The architectural schools throughout the country, which have increased so surprisingly in number and efficiency, will come in for a full representation. The American Institute was the first attempt to encourage architectural study, and as such it preceded, by a number of years, the founding of the Massachusetts Institute of Technology, which was the first regularly organized architectural school. At this convention, also, the Institute will make its first public recognition of distinguished services in architecture by the award of a gold medal. The name of the proposed recipient of this honor is supposed to be a secret, but the distinguished Englishman who will be the guest of honor on this occasion is well known to every architect conversant with the recent successes in English architecture. So much of interest is proposed for the meetings of the Institute that the sessions will be confined entirely to the business, the celebrations, the reading of regular reports and the general discussions, there being no papers presented.

FIREPROOFING CONCRETE.

AFTER having been heralded so loudly by its persistent champions as a panacea for all structural



CHRISTIAN SCIENCE CHURCH, GRAND RAPIDS, MICH.
S. S. Beaman, Architect.
Built of Light Gray Standard Brick, furnished by the Columbia Brick
and Terra Cotta Co., F. H. McDonald, Agent.



FIGURE FOR A TERMINAL POST.
Executed in Terra Cotta, by The Winkle Terra Cotta Co.

and fire resistive woes, it is rather amusing to see the propositions bravely put forth that reinforced concrete should be protected against fire, and especially that the fireproof material selected should be terra cotta. Captain John S. Sewell is quoted in one of the recent architectural publications as advising that reinforced concrete should be treated as a structural material, superior in many respects to steel, but one demanding protection from fire. The logical line of development is reinforced concrete covered with terra cotta. He suggests using terra cotta in place of a good deal of the wooden centering which becomes such a serious item of expense in the execution of reinforced concrete. We heartily concur with what he suggests. Our experience has shown repeatedly that concrete was never intended to successfully resist excessive heat, and its structural value is apt to be ruined by even an ordinary fire, although it may last sufficiently to protect the steel within it. But if we are to cover our reinforced concrete with terra cotta why not go back to first principles, omit the concrete entirely and revert to steel beams and columns, which can be tested and examined in every detail before they are used, and protect them with the only material which can successfully pass through a severe fire, namely, porous terra cotta.

A recent issue of one of the popular magazines presented a very optimistic picture of the future of concrete and quoted the wail of one of the trades unions, to the effect that unless something was done immediately to stop the rapid development of concrete the poor brick layers would be out of a job and would be driven to starvation. We believe they need have no apprehension on this score. Good concrete has come to stay and is getting better and more usable every year. Its flexibil-



DETAIL BY W. R. WALKER & SON, ARCHITECTS.
Standard Terra Cotta Works, Makers.

believe, very largely displace wood in the not far distant future. It will also serve as an inexpensive substitute for many forms of stone, but we cannot see any evidence that it is at all likely to supplant burned clay.

ARCHITECTS' LIENS.

AS the laws stand to-day in most of our states, the architect has a pretty poor chance to recover his commission if he is so unfortunate or so unwise as to have dealings with a client who is deliberately dishonest. The architect is the last person connected with a building operation to receive his pay. A period of never less than thirty days and sometimes three or four months, elapses after the building is entirely completed, before the accounts can be settled up, the final commissions estimated, and the architect be in a position to legally claim final payment. His only recourse then is by suit at law, and if he is dealing with a tricky client the chances of recovery are almost imperceptible. Every mechanic has the right to put a lien upon a building in connection with which he has been employed to any extent whatever, and this lien right does not expire until his work is entirely completed. The architect has no such right. After giving his best thought and attention to the building, closing up all the accounts in the owners' interests, his request for final payment is not infrequently met with the cool statement that there is no money left and that therefore he cannot have any. If he

ity, the speed with which it can be put in place and its absolute strength recommend it as a substitute for many materials. It will, we

shows his proper indignation he is told he must do nothing, but must bear it as best he can. It is not right that the

professional man should be so at the mercy of his clients, and the lien law ought to be extended so as to afford the same protection to architects and engineers that is now accorded to every mechanic. The protective associations which have been formed in some cities, especially in Paris, have done a great deal to defend the architects and to win for them their legal rights, but if an architect could tie up an owner for non-payment in the same way the contractors can now, there would be far less opportunity to cut down the cost of a building by not paying the architect.



DETAIL BY JAMES KNOX TAYLOR, ARCHITECT.
American Terra Cotta & Ceramic Co., Makers.



PANEL FOR REREDOS, TRINITY CHURCH,
COLUMBUS, OHIO.

F. L. Packard, Architect.
Colored Mat Glaze Tile by the Rookwood Pottery Co.

are offset by gains in other leading cities aggregating 3 per cent. The principal gains for October as compared with the corresponding month of 1905 are: Atlanta, 75; Bridgeport, 108; Chicago, 6; Chattanooga, 150; Detroit,

BUILDING OPERATIONS FOR OCTOBER.

OFFICIAL reports from some fifty leading cities received by *The American Contractor*, New York, compiled and tabulated, show that building operations continue decidedly active. A gratifying feature of the situation is the circumstance that the present prosperity and bright prospects are wide-spread, all sections of the country sharing in them. While some distinct losses are recorded, as compared with the reports for the corresponding month of last year, notably in New York, these

65; Harrisburg, 41; Indianapolis, 25; Los Angeles, 37; Milwaukee, 49; Mobile, 71; Nashville, 34; Philadelphia, 120; Portland, 132; St. Louis, 80; St. Paul, 36; Seattle, 418; Toledo, 98; Tacoma, 172; Washington, 36. It appears from these figures that the Pacific coast is in a condition of



ENGINEERING BUILDING OHIO STATE UNIVERSITY.
J. N. Bradford, Architect.
Roofed with American "S" Tile made by The Cincinnati Roofing Tile and Terra Cotta Co.



DETAIL BY HILL & STOUT, ARCHITECTS.
South Amboy Terra Cotta Co., Makers.

as follows: Buffalo, 34; Cincinnati, 66; Louisville, 20; New York 30; Pittsburg, 23; Spokane, 35. Though less new business is projected in New York, it is still very large, while all contracts representing the investment of vast sums, are being carried into effect. When the high price of labor and material is taken into account, the showing made is quite remarkable. The outlook is excellent and it is quite clear that the present building movement has not yet reached a climax, as might have been expected.

NEW PUBLICATIONS.

BUILDING DETAILS, PART ONE, consisting of ten drawings, redrawn with the greatest care from the architects' working drawings of executed work, and verified with the work as executed.

These details are published with a view of giving the profession exact data of executed work for reference when

decided prosperity from a building standpoint, while St. Louis continues to maintain the building pace at which she has been going during the past few years. The chief reported losses are

value, saving both time and money when working out similar problems.

They are accurately drawn to scale, the diagrams at one-half inch to the foot and the details at three inches to the foot (one-quarter full size) and in addition have the principal dimensions figured.

The different kinds of materials are clearly indicated and the hardware and other accessories shown or noted.

The plates are sixteen inches by twenty-two inches in size. Frank M. Snyder, 2754 Broadway, New York. Price \$1.50



DETAIL BY PRICE & McLANAHAN, ARCHITECTS.
Conkling-Armstrong Terra Cotta Co., Makers.

IN GENERAL.

Morrison H. Vail, architect, of Dixon, Ill., who represented the Illinois Chapter, A. I. A., at the International Congress of Architects, London, has been elected an honorary member by the Société Royale des Architectes, d'Anvers, Belgium.

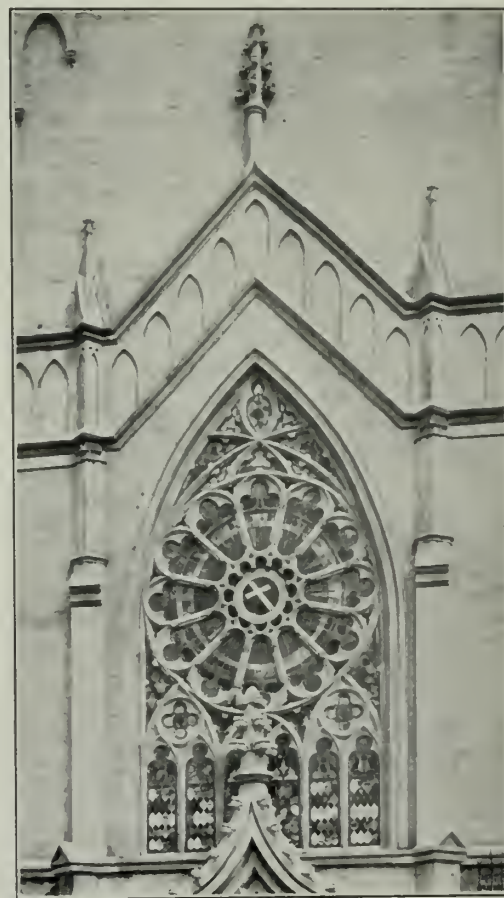
Mottu & White, architects, Baltimore, have removed their offices to the Professional Building, Charles Street.

Hugh S. Magruder, architect, Baltimore, has removed his office to 11 East Pleasant Street.

The house at Bristol, Conn., Davis & Brooks, architects, illustrated in this number, was roofed with tile made by the Ludowici-Celadon Company.



DETAIL BY C. B. J. SNYDER, ARCHITECT.
Atlantic Terra Cotta Co., Makers.



ROSE WINDOW, CHURCH OF ATONEMENT,
NEW YORK CITY.

Henry Anderson, Architect.
Tracery made by Excelsior Terra Cotta Co.



CAPITAL BY GEORGE A. RICH,
ARCHITECT.
New York Architectural Terra Cotta
Co., Makers.

The Henderson house, Washington, George Oakley Totten, Jr., architect, is trimmed with architectural terra cotta, made by the Conkling-Armstrong Terra Cotta Company.

The trim for the new City Hall at Marlborough, Mass., Allen & Collens and J. Lawrence Berry, architects, is of terra cotta, made by the Excelsior Terra Cotta Company.

Shawnee Brick, made by the Ohio Mining & Manufacturing Company, will be used in the new Y. M. C. A. building and the Eccentric Club building at Gloversville, N. Y., also the Baldwin Seminary at Staunton, Va.



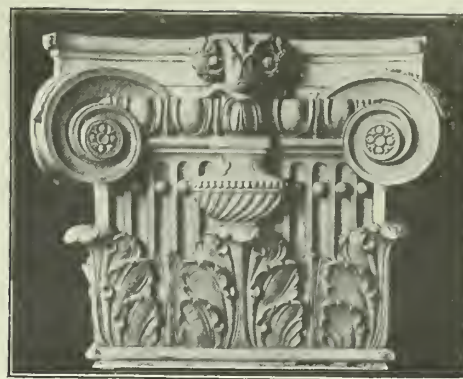
U. S. CUSTOM HOUSE, BALTIMORE, MD.
Hornblower & Marshall, Architects.

Roofed with 6x9 Promenade Tiles made by Ludowici-Celadon Co.

Fifteen gate houses for the American Pipe Manufacturing Company of Philadelphia will be roofed with graduated tiles, made by the Edwin Bennett's Roofing Tile Works. These gate houses are located in different parts of Pennsylvania.

The Buckingham Building at Waterbury, Conn., McKim, Mead & White, architects, is built almost entirely of architectural terra cotta, made by the Atlantic Terra Cotta Company.

To quote a prominent New York architect, "It is necessary to make a tour of New York every two weeks in order to keep up with the progress of the building art." As a



CORINTHIAN CAPITAL MADE BY THE NEW
JERSEY TERRA COTTA CO.



DETAIL BY ROOT & SIEMENS, ARCHITECTS.
The Northwestern Terra Cotta Co., Makers.

matter of fact, the buildings actually under way to-day would in themselves make a city of no mean proportions, and one of the greatest architectural beauty. In public buildings, such as schools, libraries, civic buildings, bridges, etc., New York has \$200,000,000 worth now under way.

ARCHITECTURAL DRAUGHTSMAN WANTED — A first-class architectural draughtsman can secure permanent employment at good salary. Address Fred Soderberg, Union Savings Bank Building, Oakland, California.

Architectural Reprint Publications

WE take pleasure in announcing that we will have ready for distribution in January, 1907, a complete "REPRINT EDITION" of "MONUMENT COMMÉMORATIF," by A. Guilbert — same size as original. Price in paper \$1.25 to subscribers, \$1.75 to others, or \$2.50 in specially designed half buckram portfolios.

Also that we have portfolios ready for Cesar Daly, Vols. I and II and Le Tarouilly, Vol III.

In Volume VII, No. 1, Feb., 1907, we will begin a "REPRINT" of "FRAGMENTS ANTIQUE," by D'ESPOUY, which we will complete in Vol VIII.

We have Prentice's "Later Renaissance Architecture in Spain" (new edition) at \$5.00 in portfolio, and Batty Langley at \$2.50. Send for circulars.

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Send for my special catalog of Xmas books for the architect, which lists 50 titles, each containing 25 to 100 exquisite reproductions of color renderings, and 50 leading books on architecture and gardens. Also a few books of interest to the young draughtsman.

M. A. VINSON

1115 CITIZENS BUILDING

CLEVELAND, OHIO

The Brickbuilder

Competition for a Bank Building

First Prize, \$500 Second Prize, \$200 Third Prize, \$100

COMPETITION CLOSING JANUARY 7, 1907

PROGRAMME

THE problem is a One Story Bank Building. The location may be assumed in any city or large town of the United States. The site is at the corner of two streets of equal importance. The lot itself is perfectly level. The building is to occupy an area of not over 5,000 square feet, its shape being a square or a rectangle of any desired proportion.

Above a base course of granite (not over 2 feet high) the exterior and interior of the building are to be designed entirely in Architectural Terra Cotta, employing colored terra cotta, in at least portions, of the walls. The color scheme is to be indicated either by a key or a series of notes, printed on the same sheet with elevations and plan, at a size which will permit of two-thirds reduction.

The following points must be considered in the design :

- A. Frank and logical expression of the prescribed material.
- B. Rational and logical treatment of the architectural problem.

In awarding the prizes the intelligence shown in the constructive use of terra cotta and the development or modification of style, by reason of the material, will be taken largely into consideration.

It must be borne in mind that one of the chief objects of this competition is to encourage the study of the use of Architectural Terra Cotta. There is no limitation of cost, but the designs must be suitable for the character of the building and for the material in which it is to be executed.

The details should indicate in a general manner the jointing of the terra cotta and the sizes of the blocks.

DRAWINGS REQUIRED :

On one sheet, two elevations (front and side) drawn at a scale of 4 feet to the inch, and on the same sheet the floor plan at a scale of 8 feet to the inch. Also the color key or notes.

On a second sheet half-inch scale details of main entrance, windows and cornice, and any other portions of the building necessary to interpret the design. Also a section showing the best view of the interior at a scale of 4 feet to the inch.

The size of each sheet (there are to be but two) shall be 24 inches by 36 inches.

The sheets are not to be mounted.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales to be on all drawings.

Every set of drawings is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawings are to be delivered flat at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., charges prepaid, on or before January 7, 1907.

The prize drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others. Those who wish their drawings returned may have them by enclosing in the sealed envelopes containing their names ten cents in stamps.

The designs will be judged by three well-known members of the architectural profession.

For the design placed first in this competition there will be given a prize of \$500.

For the design placed second a prize of \$200.

For the design placed third a prize of \$100.

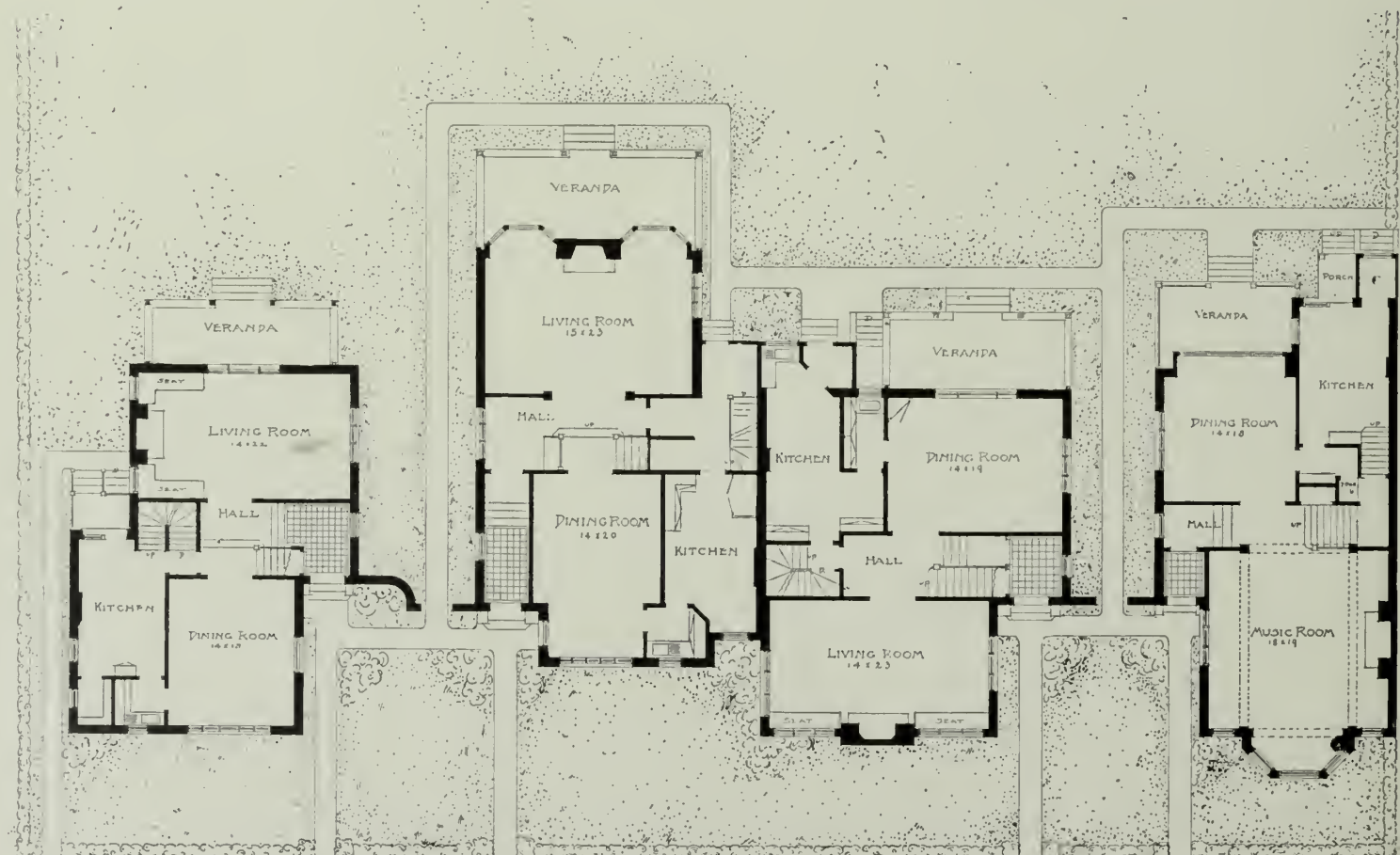
We are enabled to offer prizes of the above-mentioned amounts largely through the liberality of the terra cotta manufacturers who are represented in the advertising columns of THE BRICKBUILDER.

This competition is open to every one.

ROGERS & MANSON.



SECOND FLOOR





— SECOND FLOOR PLAN —

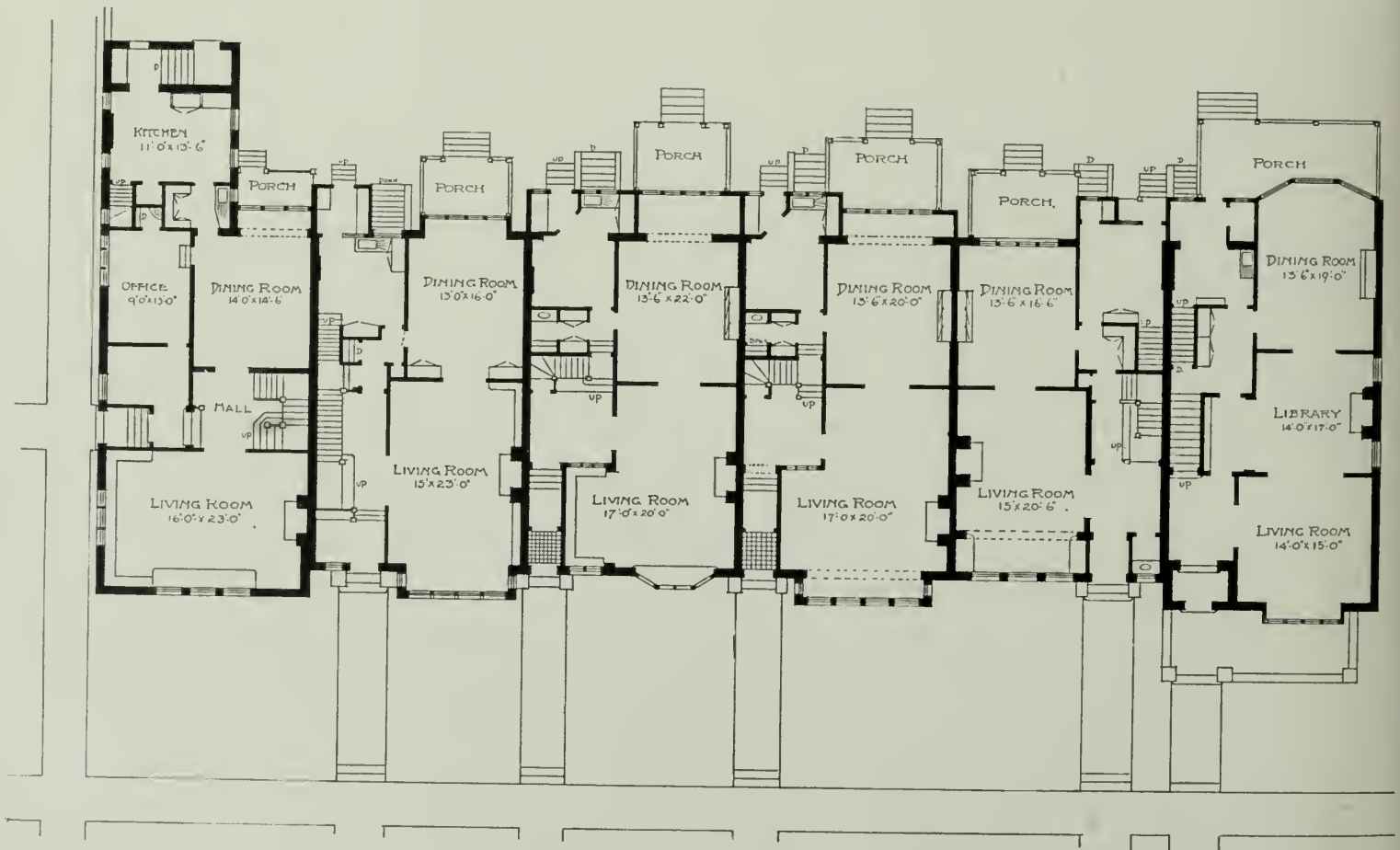


— FIRST FLOOR PLAN —

FLOOR PLANS, GROUP 2.
ROW OF HOUSES AT CHICAGO. MANN & MACNEILLE, ARCHITECTS.



SECOND FLOOR





GROUP 1: PLANS SHOWN ON PLATE 141.



GROUP 2. PLANS SHOWN ON PLATE 142.
TWO ROWS OF HOUSES AT CHICAGO.
MANN & MACNEILLE, ARCHITECTS.



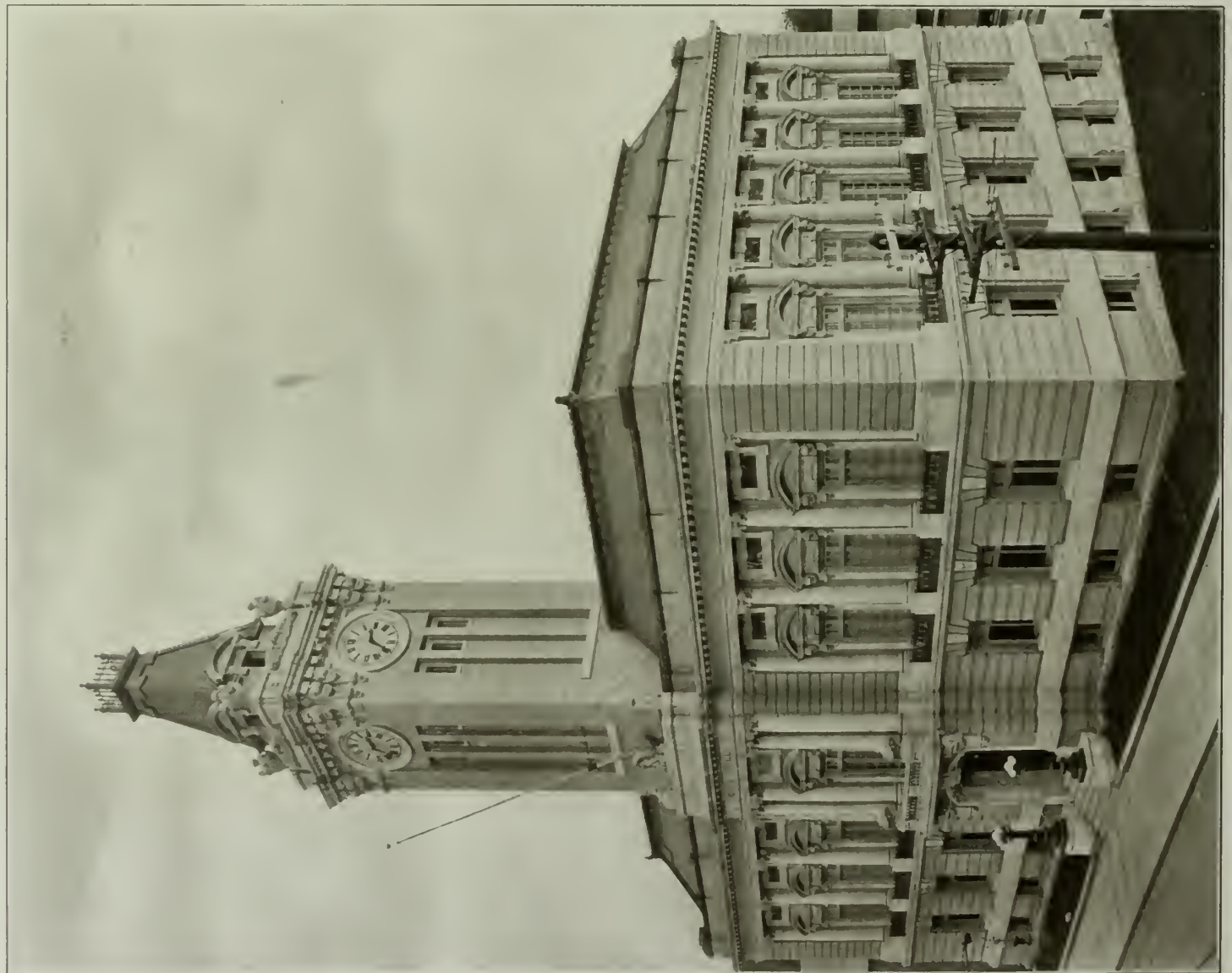
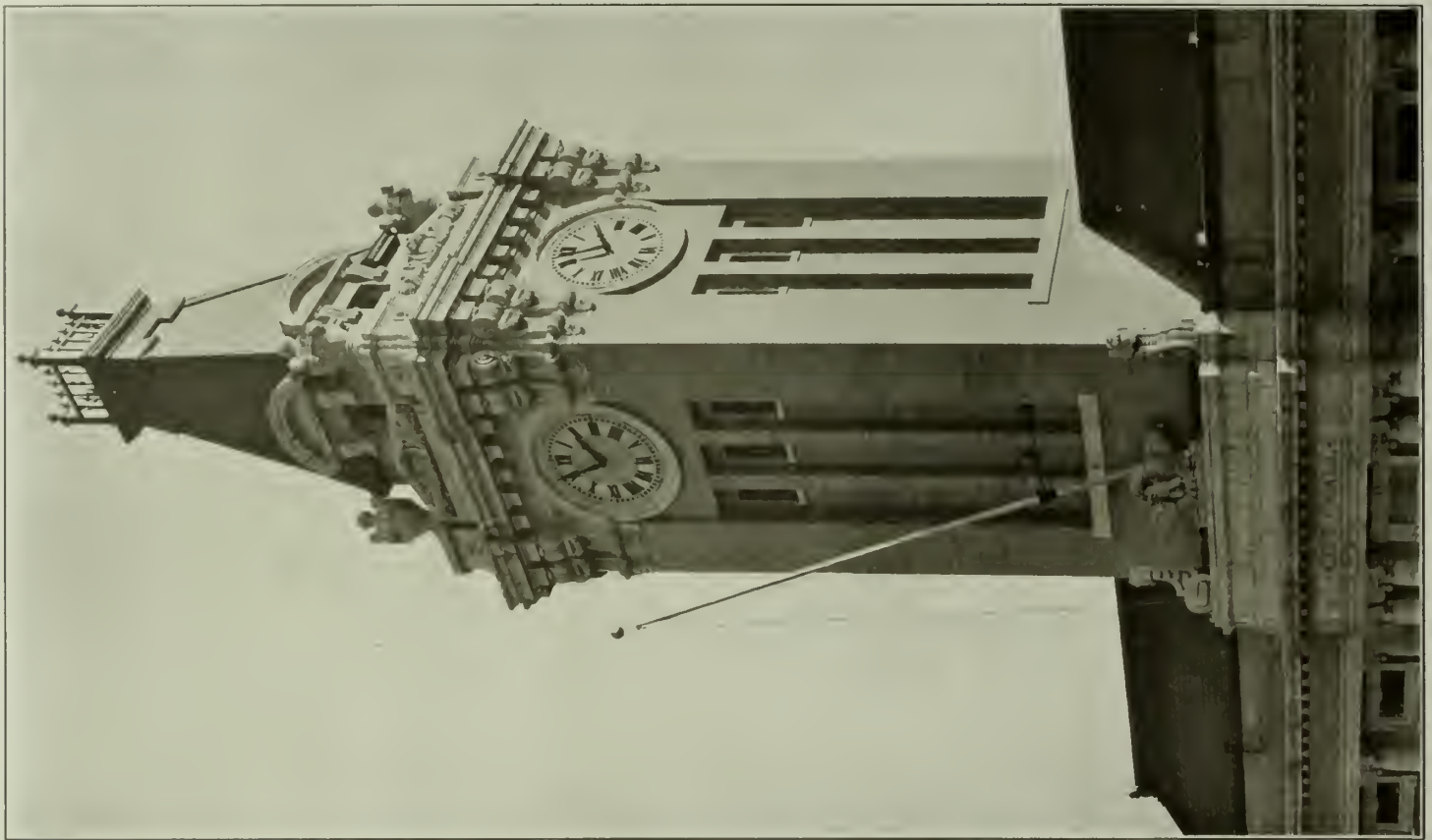
GROUP 3. PLANS SHOWN ON PLATE 143.



REAR OF GROUP 3. SHOWING COMMUNITY YARD ARRANGEMENT.
ROW OF HOUSES AT CHICAGO.
MANN & MACNEILLE, ARCHITECTS.



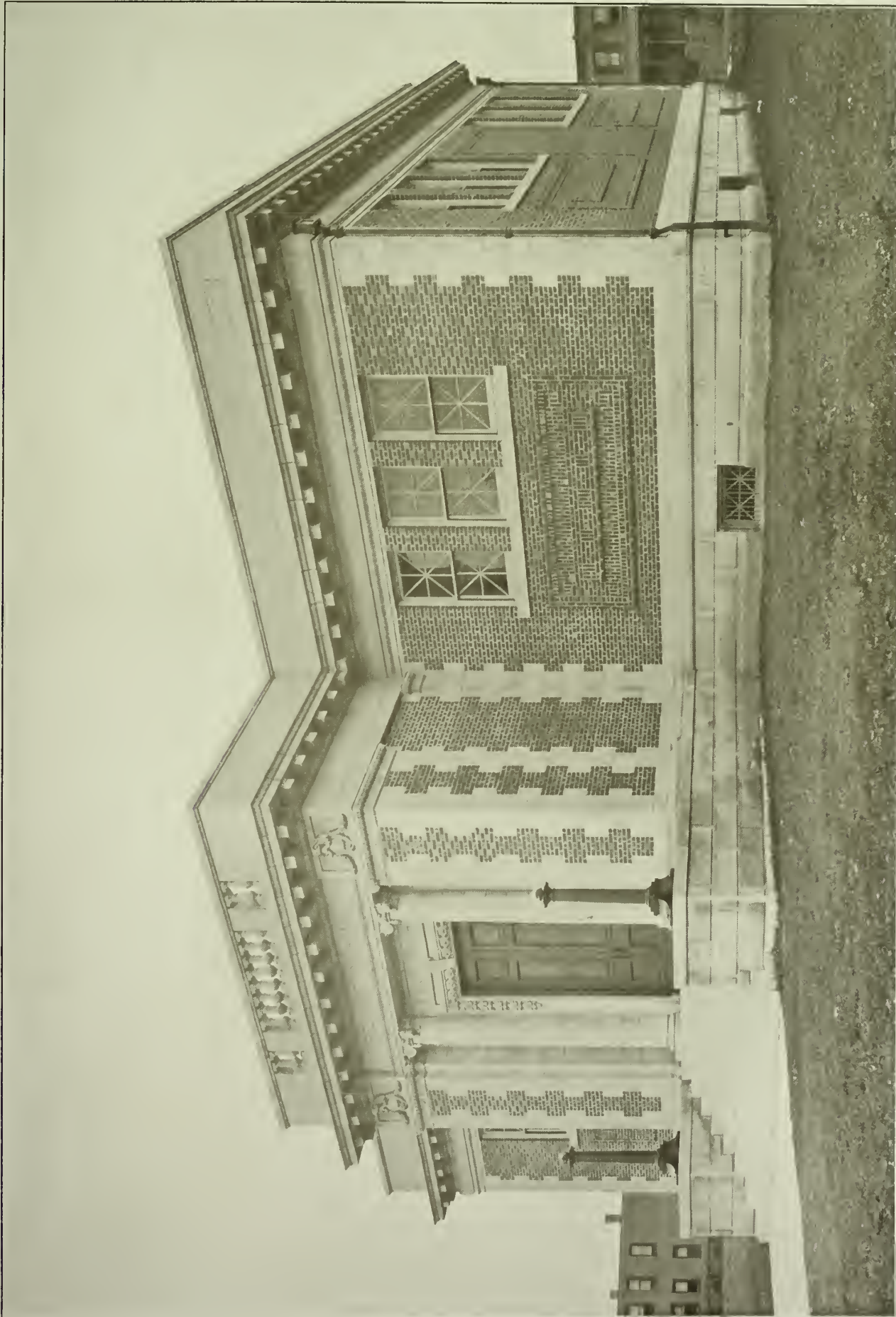
TWO DOUBLE HOUSES. BROOKLYN, N. Y.
KIRBY, PETIT & GREEN, ARCHITECTS.



NEW CITY HALL. MARLBORO, MASS.
ALLEN & COLLENS, AND J. LAWRENCE BERRY, ARCHITECTS.

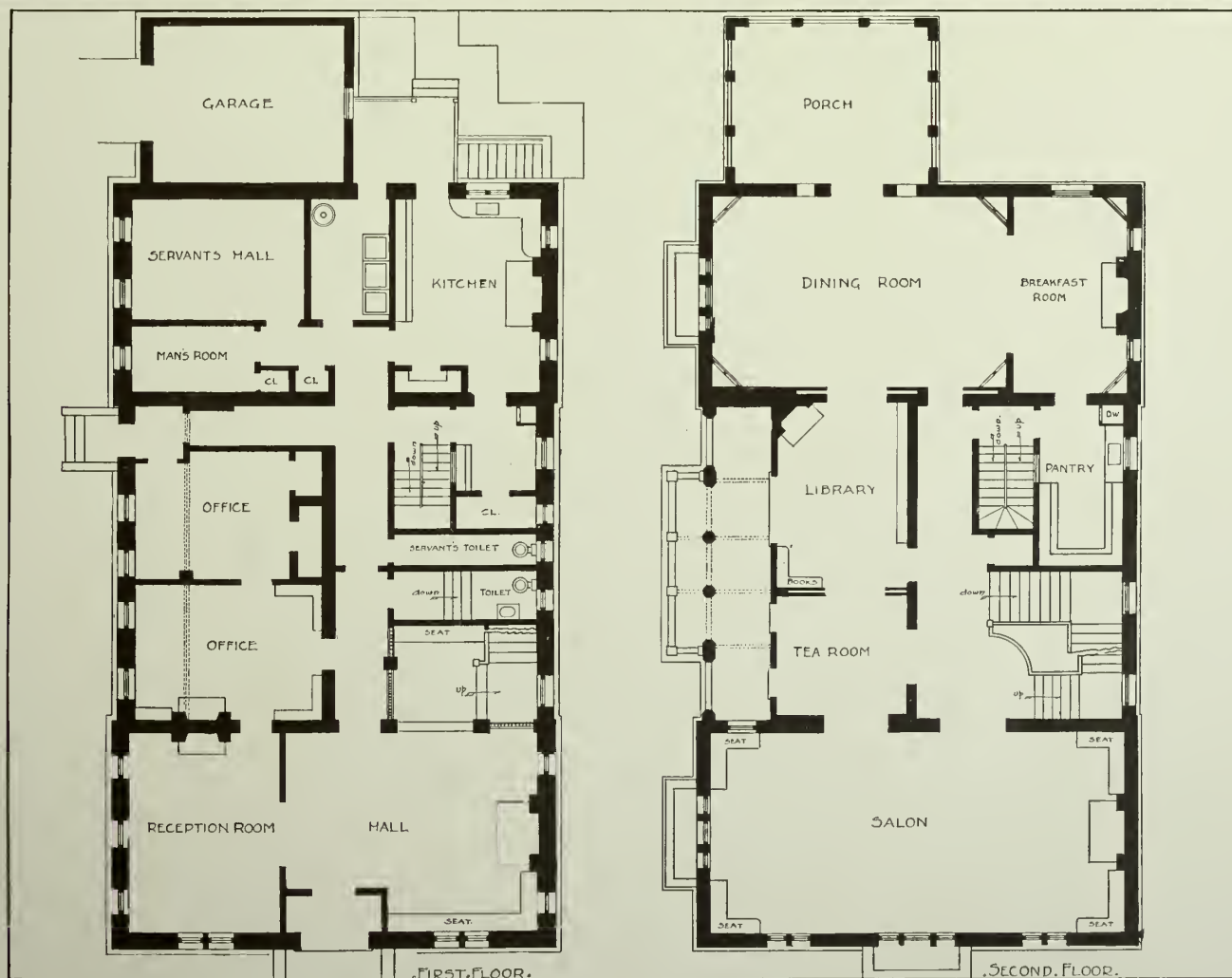


DETAIL OF FRONT
NEW CITY HALL, MARLBORO, MASS.
ALLEN & COLLENS AND J. LAWRENCE BERRY, ARCHITECTS.



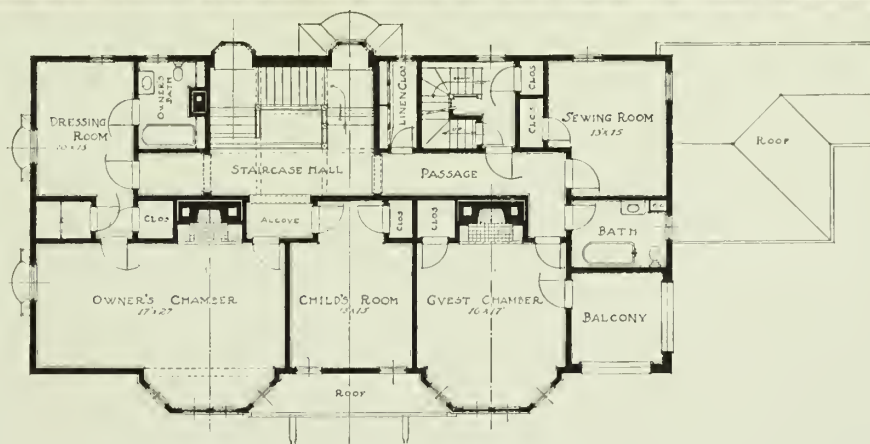
CARNEGIE LIBRARY, TACONY BRANCH, PHILADELPHIA.
LINDLEY JOHNSON, ARCHITECT.



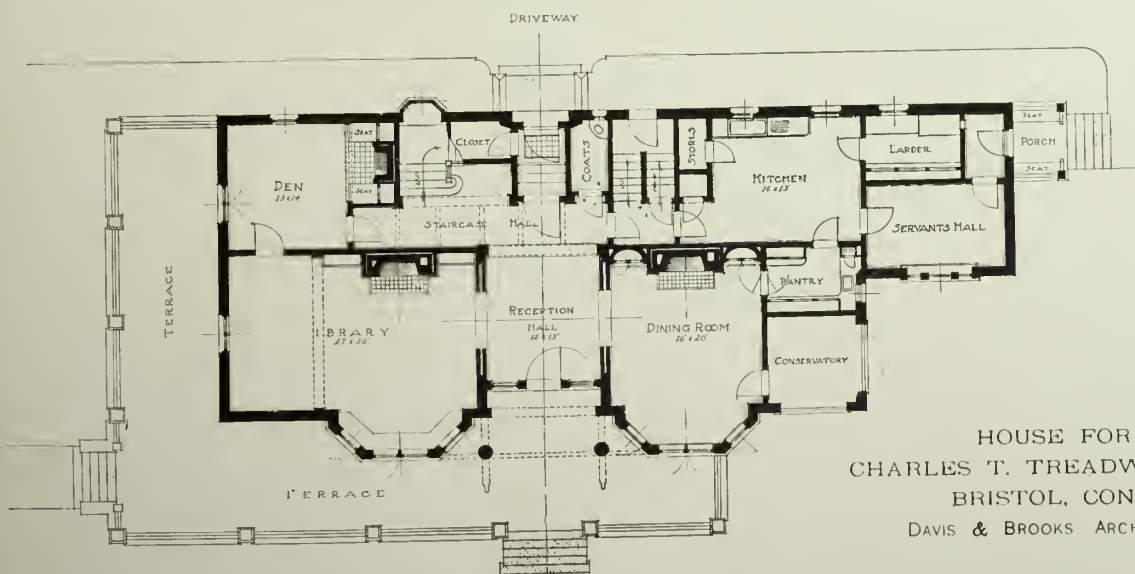


HOUSE FOR HON. J. B. HENDERSON, WASHINGTON, D. C.
GEORGE OAKLEY TOTTEN, JR., ARCHITECT.



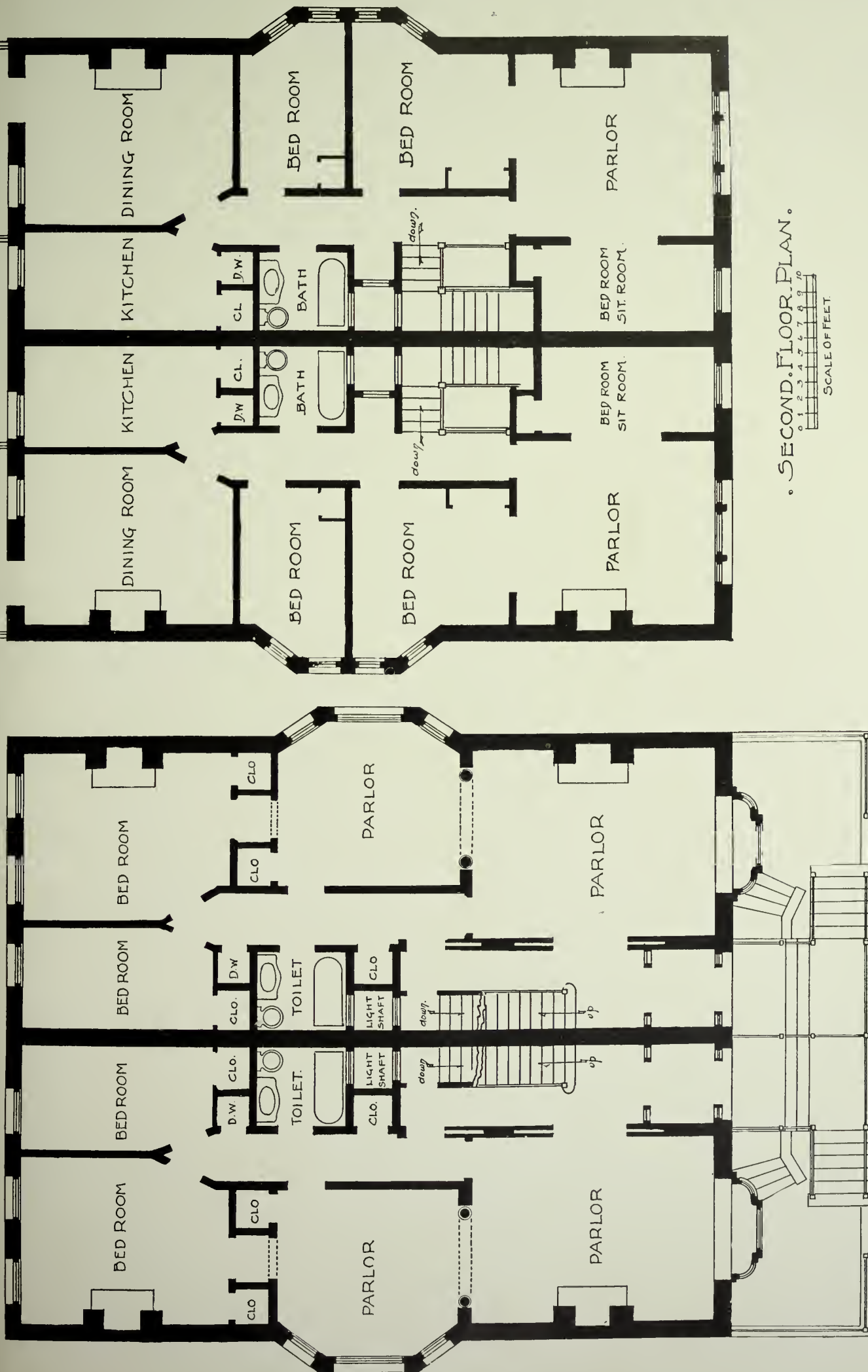


PLAN OF SECOND FLOOR



PLAN OF FIRST FLOOR

HOUSE FOR
CHARLES T. TREADWAY, ESQ.,
BRISTOL, CONN.
DAVIS & BROOKS ARCHITECTS.



FIRST FLOOR PLAN.

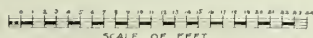
SECOND FLOOR PLAN.



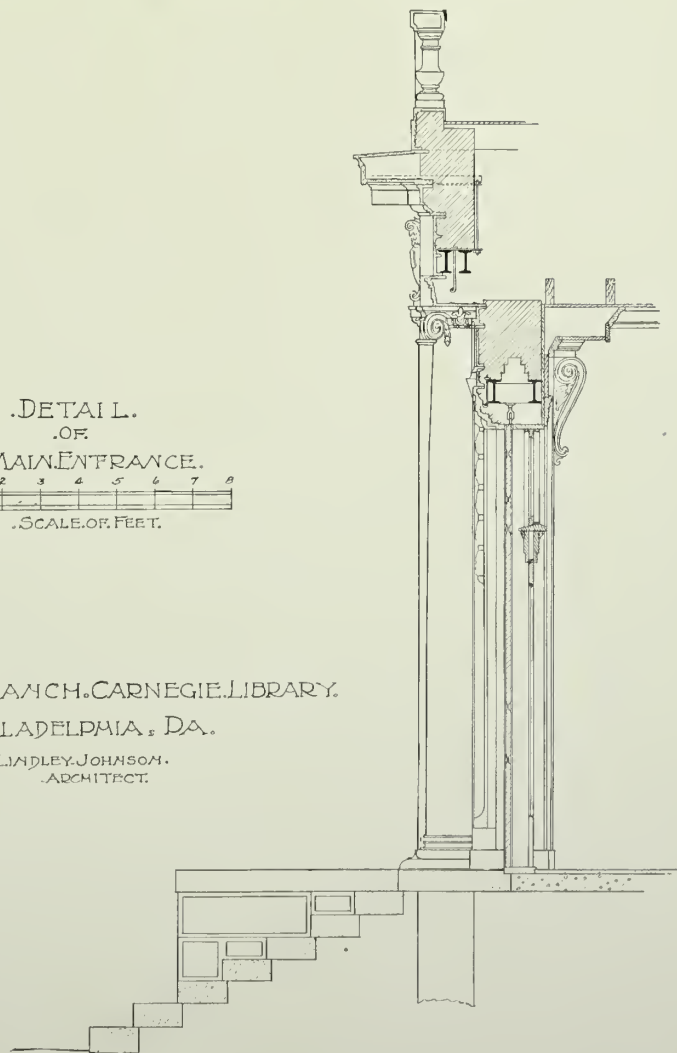
FLOOR PLANS TWO DOUBLE HOUSES, (SAME FOR BOTH), BROOKLYN, N. Y.

KIRBY, PETT & GREEN, ARCHITECTS





• LINDLEY JOHNSON.
ARCHITECT.





This architectural floor plan illustrates the second floor of a building, featuring a symmetrical layout around a central corridor and a central staircase. The plan includes the following rooms and areas:

- Top Section:**
 - Three **OFFICE** rooms on the left side.
 - A large **COMMITTEE ROOM** on the right side.
 - A **TOILET** and a **VAULT** located between the top-right rooms.
- Middle Section:**
 - A central **CORRIDOR** and a **LOBBY** area.
 - A **RETIRING ROOM** on the left and another on the right.
 - A central staircase area with a diamond-patterned floor.
- Bottom Section:**
 - Two **COAT ROOM**s flanking a central **COMMITTEE ROOM**.
 - Two large chambers: the **COUNCIL CHAMBER** on the left and the **ALDERMANIC CHAMBER** on the right, both containing multiple desks and chairs.
- Entrance:** A **BALCONY** is located at the bottom center of the plan.

The plan is labeled **SECOND FLOOR** at the bottom.

This architectural floor plan depicts the First Floor of a building, likely a city hall or government office. The layout is symmetrical around a central vertical axis. At the top center is a large staircase. Below it, the plan is divided into several sections. On the left side, from top to bottom, are two Private Offices, a Vault, a Treasurer's office, a Public Space, a City Clerk's office, another Vault, and two more Private Offices. The central section features a large Auditor's office, a Public Space, a Waiting Room, and a Coat Room. On the right side, from top to bottom, are a Public Space, a Water Commissioner's office, a Vault, a Water Registrar's office, a Public Space, a Collector's office, a Vault, and two Private Offices. The bottom center contains a large Assessor's office. The plan also includes several restrooms labeled 'MENS', 'WOMEN', and 'TOILET'. The entire floor is labeled 'FIRST FLOOR' at the bottom.

PRIV. OFFICE

PRIV. OFFICE

VAULT

AUDITOR

TREASURER

VAULT

PUBLIC SPACE

PUBLIC SPACE

CITY CLERK

VAULT

WAITING ROOM

COAT ROOM

PRIV. OFFICE

PRIV. OFFICE

MAYOR

STAIRS

MENS

WOMEN

TOILET

PUBLIC SPACE

WATER COMMISSIONER

VAULT

WATER REGISTRAR

PUBLIC SPACE

VAULT

VAULT

COLLECTOR

ASSESSOR

PRIV. OFFICE

PRIV. OFFICE

FIRST FLOOR



THE BRICKBUILDER

VOLUME XV

DECEMBER 1906

NUMBER 12

PUBLISHED MONTHLY BY ROGERS & MANSON

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BOSTON, MASSACHUSETTS

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STANFORD WHITE

THE BRICKVILDER

VOL. 15 No. 12 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY DECEMBER 1906

Stanford White—His Work.

BY C. HOWARD WALKER.

THERE are in all architectural achievements, conditions necessary for conspicuous success which make great results rare indeed. There must exist the artist with the appreciation, the subtle mind and the skill to express his desires, with the creative faculty associated with discriminating choice, with the grasp of idea accompanied by delicate sense of relative proportion which place him in each of these respects as eminent in his art. But these are of little avail if he lacks the aid, supplementary as it may be to the intrinsic merit of the artist, of opportunity for expression, of stimulating demand for his performance. And even the union of skill and opportunity seldom attains results which leave nothing to be desired, or to the perfection of expression which is felt in the Greek sculptures and in the Renaissance. For any work of architecture is affected, not only by the will of the architect, but also by the exigencies of many other factors, the economies of conditions, the predilections and prejudices of patrons, and finally by the enervation that insidiously creeps in upon all artists, because of the deadly slowness of realization compelled by the lapse of time in the process of building. There are many who have visions, few to whom they come true; many whose conceptions are wonderful, but whose achievement hesitates before the end. Enthusiasm which is maintained throughout, a general concert pitch which never falters, despite the sordid sequence of minutiae, these are qualities which go far to make any achievement distinguished.

It is this tireless enthusiasm which makes possible the ability to control contradictory forces, to impress the individuality of the artist upon his work, to perfect his expression despite all opposition. It is rare, then, that a man is to be found, who is preëminently an artist, who can and does express himself, and whose enthusiasm never ceases, and who so molds his opportunities that they appear to have been without thorns, and who adequately completes his ideas.

Such an one was Stanford White. He associated with a keen appreciation of architectural proportions a sense of appropriate ornament and of decorative light and shade, and his designs so apparently carry conviction of mastery that to all appearances he was allowed free play to his imagination. And imaginative they are, whatever may

have been the source of the original suggestion. It has been said of him that his decorative sense was one of his strongest faculties, and if just proportions adequately clothed with ornament produce decoration, the contention is well made. He was in a peculiarly fortunate position. In a city where the accumulated wealth of the country was constantly seeking means of expression, with patrons who had little need to count cost, and whom he dominated by his fertile inventions, he had a background of the centuries of the great architecture of the past at hand, and an enthusiasm which carried everything before it. It is apparent that the man and the time had met. And it is all the more amazing that with his versatility of ideas, his love for detail, for intricate schemes of ornament, for multiple combinations of metals, of marble, of textiles, and of painting and sculpture, that each factor so admirably falls into its place in an organic and satisfying whole. His ornament may be luxuriant but it is not tortuous, his means of expression may be many, but the result is not confusing. The mutual relations of many elements are so admirably handled that the achievement seems the most obvious, natural thing which could have occurred, not the accomplishment of skill. This is the utmost test that can be applied to a work of art, that neither the machinery nor the *Deus ex machina* are manifest. And it is so rare, so unusual that when it occurs its recognition is seldom announced, pervading satisfaction taking the place of the assertion of its virtues. In a time and place where architecture *raisonné* is wearing its stigmata upon its forehead, it is refreshing to see architecture which does not produce the effect of effort, which is satisfied to exist in beautiful lines and form, without proclaiming noisily why each line and form was adopted.

It should, perhaps, be considered merely a part of Mr. White's appreciation of proportions that his sense of scale of moldings and of foci of ornament is so manifestly fine. Search his work as you may, there will be found none of the over accenting of axes, the spotting of heavy shadows for the sake of effect, which is so prevalent in a *rendu*, in a paper architecture. He realizes his materials and also realizes that cast shadows are deceptive and constantly vary in intensity and width, and that forms have

mutual relation other than shadow relations. Refinement in moldings is a characteristic of his buildings, but this refinement is not accompanied by thinness or by any lack of virility. Surfaces are firmly held, shadows clean, strong and accurate. A veritable Orientalist in his delight in decorated surfaces, he restrains these carpets of detail and creates them as foils to broad, simple walls. But beneath all other qualities of his art, lies, apparently, a very just recognition of the languages of architecture, those languages which are known to the world at large as styles. In whatever language he speaks, he acknowledges its grammar and its syntax to such an ex-



THE CULLOM MEMORIAL AT WEST POINT.

tent that he has been accused of being merely imitative. In that sense we are imitative in speaking English. It is perfectly apparent in Mr. White's work that he thoroughly understood that pronounced styles did not permit radical change in their expression, and he no more thought of perverting their language than he would have thought of halving the height of an Ionic column in relation to its entablature. His discriminative sense was used in making the appropriate choice of a style for a building, and that style once selected, it was to its combinations that his efforts were devoted. And a very keen appreciation of the flexibility and of the inexorable characteristics of the different styles is manifest. He allows himself, for instance, much more freedom with the Spanish than with the Italian Renaissance. His eclecticism is very marked, and he seems to be equally at home in any style, comprehending thoroughly the individual qualities of each. The gamut is wide, extending from the Greek orders to Georgian and colonial work, excepting that no example of Gothic work is to be found.

Whether the opportunity was lacking or that the Gothic styles were unsympathetic to him, in any events the most of his work is in the classic styles. And a very remarkable series of buildings attest his knowledge of those styles. For instance, there is the Detroit Bi-centennial Memorial in Greek Doric, the Cullom Memorial at West Point in Greek Ionic with the simplicity of a Greek Stoa, the Knickerbocker Trust on Fifth Avenue and 34th Street, an adaptation of the Roman Corinthian of the Temple of Jupiter Stator. The porch of St. Bartholomew's in New York is one of the most interesting pieces of his work, as it so admirably unites the details of the Byzantine of the East and the Romanesque of the North, — styles, which by centuries and by place are so far separated, but which are children of one parent and closely resemble each other. The details of this porch are very beautiful. Mr.

White's affection for Italian Renaissance led him to adopt the varieties of that style to many purposes, whether it was simple Tuscan, as in the entrance to the Villard House; Roman, as in the Metropolitan Club; Parman, as in the Parkhurst Church, or Venetian in the Tiffany Building. In each there was a thorough sense of the qualities of the phases of the style and an ability to associate motives and variations with consummate skill. For instance, in the Metropolitan Club, frankly Roman as it is in mass and quality, there are touches of Umbrian detail, and the Tiffany Building, with the motif of the Vendramin, has Sienese balustrades. His eclecticism was therefore intelligent and skilled and led him to assemble styles, forms and details with great success. Perhaps one of his frankest adaptations is that of the little Veronese loggia of Fra Gioconda to the exigencies of the Herald Building in Herald Square. The Madison Square Garden, which was one of his favorite works, is a fine rendering of Spanish Renaissance, much more refined in detail than its prototype. Here, again, is a union of variations of Renaissance, the general conception being Spanish in suggestion, but the development of detail distinctly Italian in its delicacy. More recently several houses in Georgian Classic attest his appreciation of that style, a style prone to be heavy in other hands, but never in his, for there is none of his work to which that adjective could be applied.

The New Lambs' Club has an entrance and colonnade above, with greater delicacy of detail than was possible under the Georges, and the house, 12 W. 56th Street, is very beautifully proportioned. The little château with its terraces is again indicative of thorough appreciation of the qualities of style. Apart from his great skill as an



COURT ENTRANCE, METROPOLITAN CLUB.

architect, Mr. White had an ability to assemble all sorts of furniture, tapestries, etc., giving each its just relation to its neighbor and its place in the whole scheme of tone and color which is granted to but few to possess. The fitting and furnishing of beautiful rooms was one of his favorite occupations. A few of these rooms are shown in the illustrations and give ample testimony of his skill. His work throughout is full of sense of delicacy, of proportions, of form and of color, with a great eclecticism of taste and an ability to impress his idea, to express it and to take advantage of his opportunity in which he was indeed fortunate.

Stanford White as those trained in his office knew him.

BY J. MONROE HEWLETT

AS time goes on the influence of the executed work of Stanford White in the development of the architecture of this country must inevitably become increasingly apparent; but to those whose fortune it has been to work under his direct supervision and so partake of the inspiration of his personality and gain some insight into his mental processes, the influence of the man himself will always transcend that of the achievements he has left behind him. His tremendous enthusiasm in his work invariably communicated itself to all who were engaged with him upon any given problem; and the rapidity with which he reached a conviction as to what he was trying to do in any given case was equalled only by his tenacity in adhering to that conviction and refusing to be satisfied until the result was brought absolutely into line with his mental picture. From this it resulted that he never ceased studying his work until its actual construction prevented further study; and though words of commendation from him to those working under him were few and far between, yet, when won, they were so spontaneous and sincere as to carry absolute conviction to the mind of the recipient and prove an incentive to redoubled effort.

The practice of architecture consists so largely in the effort to bring about an harmonious adjustment between æsthetic ideals and practical conditions seemingly inimical to them, and the tendencies to regard the latter and ignore the former are frequently so difficult to resist, that the example and personal influence of those rare spirits who, amid the stress of vast achievement, have adhered consistently to their ideals and have maintained undimmed their joy in the production of beauty, should be treasured as a thing of inestimable worth.

Our modern systems of architectural education perhaps lay too much stress on the production of designs as the principal feature of the architect's work. No one who has ever worked with Stanford White in the development of an architectural or decorative scheme and the supervision of its execution can have failed to realize that in his mind the execution of the design exceeded in importance the production of the design itself. To work with and under him was to appreciate as never before the fact that the building, not the drawing, is and should be the architect's chief concern; and that no vigor of conception or beauty of composition in the finished work, can compensate for the absence of that fragrance which results from the embodiment in it of knowledge and love of the refinements of form, color and texture.

It too often happens that the influence of an artist of ability is evidenced for the most part by the imitation of his mannerisms and eccentricities. In every part of the country there are to-day men practising architecture who have been subjected for a time to the personal direction of Stanford White; but in his case the tendency of this direction has been away from mannerism rather than towards it, because its basis was a broad knowledge and appreciation of all forms of Art, and the habit of never ceasing, until the last stroke of work is done, the effort to eliminate from it every kind of ugliness. Therefore, it is safe to say that his influence will not be a passing one, but even as that of the French school has been the most powerful factor in the orderly development of our architectural education, so that of Stanford White is and will continue to be preëminent in the creation and preservation of standards of good taste and refinement in our architecture and decoration.

BY F. L. V. HOPPIN

PERHAPS of the many who came into personal contact with him, none are better equipped to judge of his genius and ability than those who had the privilege of being for many years his students and his draughtsmen, for he was quite at his best when engaged in the heat of his work, and beset by the intricate problems of plan and design which, by his very progress of creation, he constantly encountered, but his versatility was marvelous, and had Stanford White

seriously undertaken to be a painter or a sculptor, there cannot be a shadow of doubt that he would have been among the foremost artists of his day.

His great knowledge of drawing and perspective enabled him to give instant expression and form to his conceptions through the medium of his well-trained office force.

For many years he found a rich field for his ability in the erection of numberless country houses, and it is to him in a very large measure that a desire for more substantial and architecturally beautiful residences of this nature was created. His frequent visits in Europe, and especially in Italy, in the early years of his practice, gave him a sense of proportion and a versatility of expedient in designing that was remarkable, and he and his firm soon became the exponents of the Italian Renaissance in this country, and their devotion to classic lines in all their work was consistent throughout and from which style they rarely departed.

His nature was an impatient one, yet generous to a



KNICKERBOCKER TRUST.

fault, his manner often brusque and harsh, yet did he realize that he had given hurt to any one he would go to infinite pains to relieve the distress he had caused.

He sometimes fell into the common error of over-ornamentation in his exteriors, and frequently in his interiors, impelled by his innate sense of color and combination of values, would daringly mix his epochs which, carried out by another hand, would have been ludicrous and bizarre in the extreme, but which, almost invariably, were peculiarly charming, and in some instances magnificent.

He was extremely optimistic by nature, and enthusiastic to a degree, which latter he invariably conveyed to all about him whether clients, draughtsmen or builders, and in his unflagging spirits and enormous vitality would accomplish a vast amount of work. He had a wonderful memory and grasp of detail, and his knowledge of precedents and where to lay his hands upon them, whether in his library or elsewhere, was of the greatest service to him, and most remarkable. He was intensely keen in his work, his attitude towards his clients was very convincing, his enthusiasm for his conceptions was tremendous in its courage of conviction whether in small or large undertakings, invariably.

He was a born leader and instinctive superintendent, for he always had the instant sympathy and coöperation of the builders and workmen, who cheerfully at all times catered and responded to his directions and impulses, whether they considered them vagaries or otherwise. He was possessed of a charming sense of humor, and was a most delightful companion.

His place in the world of art will always be most unique and individual and his influence and that of his colleagues has been a most distinct factor in the development of American Architecture and Decoration.

BY ALBERT RANDOLPH ROSS.

STANFORD WHITE—for how many things of beauty is this name the exponent, and what an aristocrat in the art of architecture and adornment was the man! For his intensely interesting and remarkable personality I only wish I could fittingly express my admiration.

I shall never forget the first time I saw him, many

years ago, at his old office in No. 52 Broadway, where I was sitting with my heart in my boots waiting to see Mr. Mead, with the hope of being taken into their office as a draughtsman. Swish! bang! went the outer double swing doors; swish! bang! went the inner swing doors, and in much less time than it takes to tell there shot across my vision a lithe, fierce-mustached giant with a big hat on a head of close-cropped blond hair standing straight out in every direction. That was Stanford White, and was generally characteristic of the immense nervous vitality that enabled him to accomplish such an incredible amount of work that would have sent most men into nervous prostration. But there were times, however, when this mad haste abated. At the end of the

short winter days when the office lamps were lighted and all but a few of the faithful draughtsmen had gone to their homes, and the worry of the day's routine was over, in the most affable frame of mind, softly whistling to himself, he found the time and inclination to carefully review his work and put the finishing touches to his conceptions. Those were indeed happy times. Then were he and his two associates in their best vein; then did McKim "go fishing," as he was pleased to call pouring over old volumes of Roman masterpieces, and then did they admire or aid with criticism each other's work.

His designs were conceived spontaneously and he was little bothered by precedent or the formal principles of architectural planning. In directing his draughtsmen he expressed his thought always with a pencil rather than by discussion. After covering,

oftentimes, yards of tracing paper with alternative suggestions for work under consideration, he would eliminate all but two or three of the most pleasing and turn the matter over to his draughtsmen to "do something" which he would either reject at sight or, if this "something" was found favorable, used it as the basis of future study.

Unlike the influence of his patron Richardson, in whose office I believe he received his architectural training, the study of his work or even an attempt to follow in his footsteps will make for the advancement of our architecture and her allies.

Men with such high and pure ideals in art are few indeed, and the many beautiful things he has conceived and left us will most fittingly commemorate this big, versatile, impatient and kindly man.



THE LAMBS' CLUB.

BY PHILIP SAWYER.

WHAT was Stanford White's contribution to the work of the firm which, well in the lead when he joined it, twenty-five years ago, is still alone in the scholarly character, the decorative beauty, the variety of the work which it produces?

What has been his part in developing the individuality of the design of this remarkable group of men which produced thoughtful, studied work a generation back and which preserves its enthusiasm and designs with freshness and spontaneity to-day?

Other firms do good work, produce notable buildings, and we acclaim them; but who else from such a charming beginning as the Casino at Narragansett Pier has gone on to develop such a range as that which includes the façade of the Boston Public Library, the approach to Columbia College, the Madison Square Garden tower, the detail of Mr. Morgan's library?

Who else builds at one time a railway station with the dignity and the scale of Rome; a church, which is a decorative study in colored terra cottas, in marbles, in polished granite, and in pictured brick; a utilitarian structure with the beauty of the Gorham Building, or such a quaint and home like house as the Colony Club?

While so many of us are tired and our work perfunctory, at the end of ten years' practice, McKim, Mead & White show in their design, the vitality and light-heartedness of perennial youth.

And it seems to me that this was in part Mr. White's contribution. He was an engine for energy, promising recklessly impossible things, and causing every one he came in contact with to accomplish them.

Never tired, never indifferent; you might find him hammering for the porter, hatless, his hands full of papers, at seven in the morning, and leave him striding up and down the deserted office at seven in the evening, while it was always likely that he would shoot in at any hour of the night, throw off his coat, and, pouncing upon a lone draughtsman, begin working upon a new problem, on the assumption, apparently, that sleep is unnecessary and night non-existent. Office hours meant nothing to him nor to any one identified with the work in which he was interested.

To work for him was at first a fearful experience, later an inspiration; a terse statement of the requirements, a few hieroglyphics and, we're off! on an endurance run, which, last it for days, or weeks, or months, never cooled.



To him, an artist, architecture meant color first, and form and texture next, and proportion afterward, and plan last of all. To handle material fitly, to adjust it to a new use, to devise its characteristic detail, to combine it with others consummately, to employ all that is beautiful in the old with all that is practical in the new; these things were a constant pleasure to him and to all who know and enjoy his work. I wonder how many, even among architects, appreciate how much the appearance of our cities—varied with light bricks and terra cottas—owes to his single initiative.

Quick to recognize ambition and capacity, he gave great latitude to a man of proved ability, generous credit for good work done, and he showed an habitual indifference to one's previous failures; a constant assumption that you were just the man for the job and capable of anything, which brought results from the unlikely material.



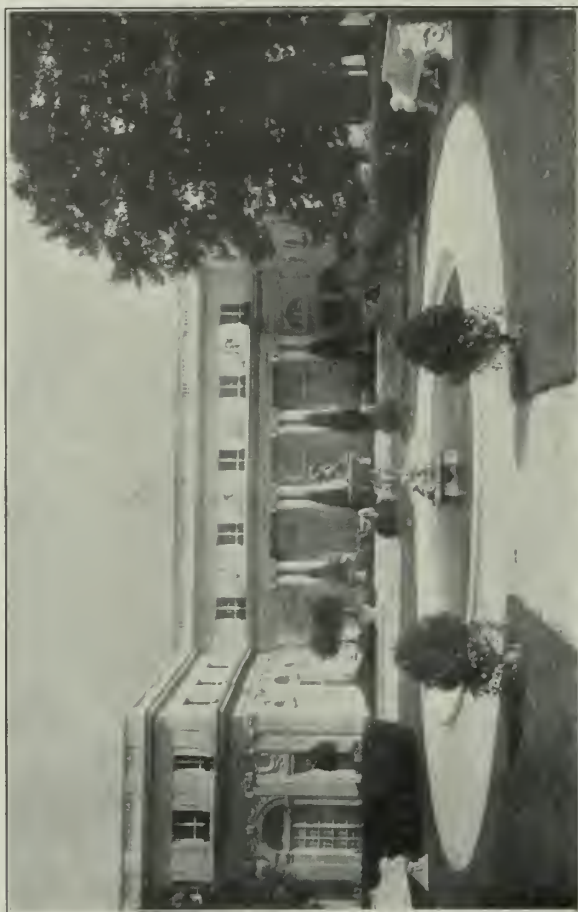
A CITY HOUSE

Full of originality, seething with ideas, he had that rare sense which prevented him from adopting anything new, merely for its newness. It must also be better intrinsically than any possible adaptation of the old if it were to win.

An experimenter always, the result was oftenest in the direction of some old beauty revived, new to the use and time, but centuries old in inspiration and of seasoned good.

In the important works of his life, a member of a firm, it is impossible (and undesirable) to attempt to sort out the work for which he was chiefly responsible. Even the personal characteristics enumerated are somewhat composite in their character, and are, some of them, truer of the firm than of any one of its members.

But whatever estimate may finally be made of the architectural work of our lifetime, we may be sure that the name of McKim, Mead & White will stand alone above their contemporaries, and that to this preëminence one of the most vital individualities of our time has contributed his share.



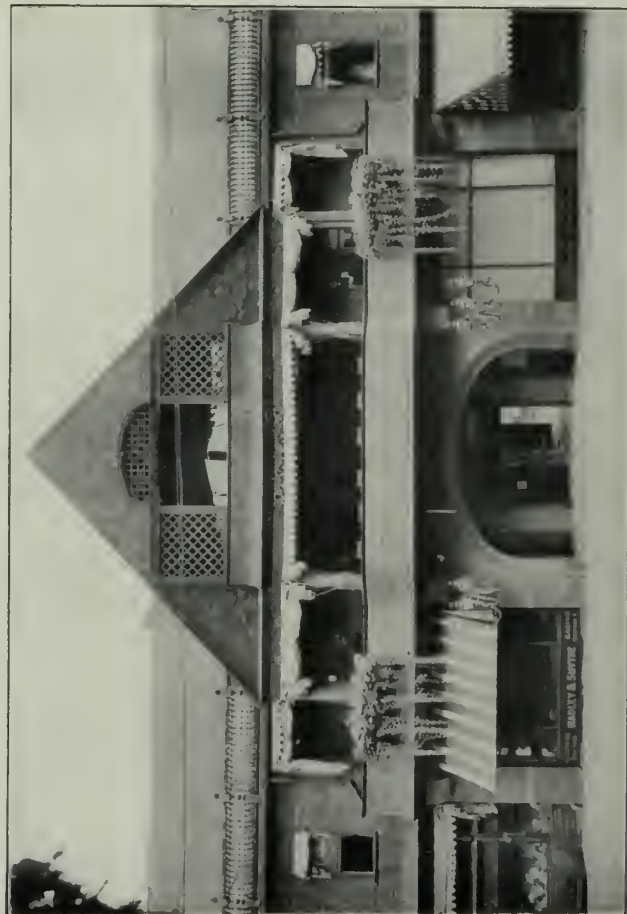
THE OLDREICH HOUSE, NEWPORT, R. I.



THE MACKAY HOUSE, ROSLYN, N. Y.



THE OSBORN HOUSE, MAMAKONECK, N. Y.



THE CASINO, NEWPORT, R. I.



DESIGN FOR A BI-CENTENNIAL MEMORIAL FOR DETROIT.



NEW PORCH, ST. BARTHOLOMEW'S CHURCH.



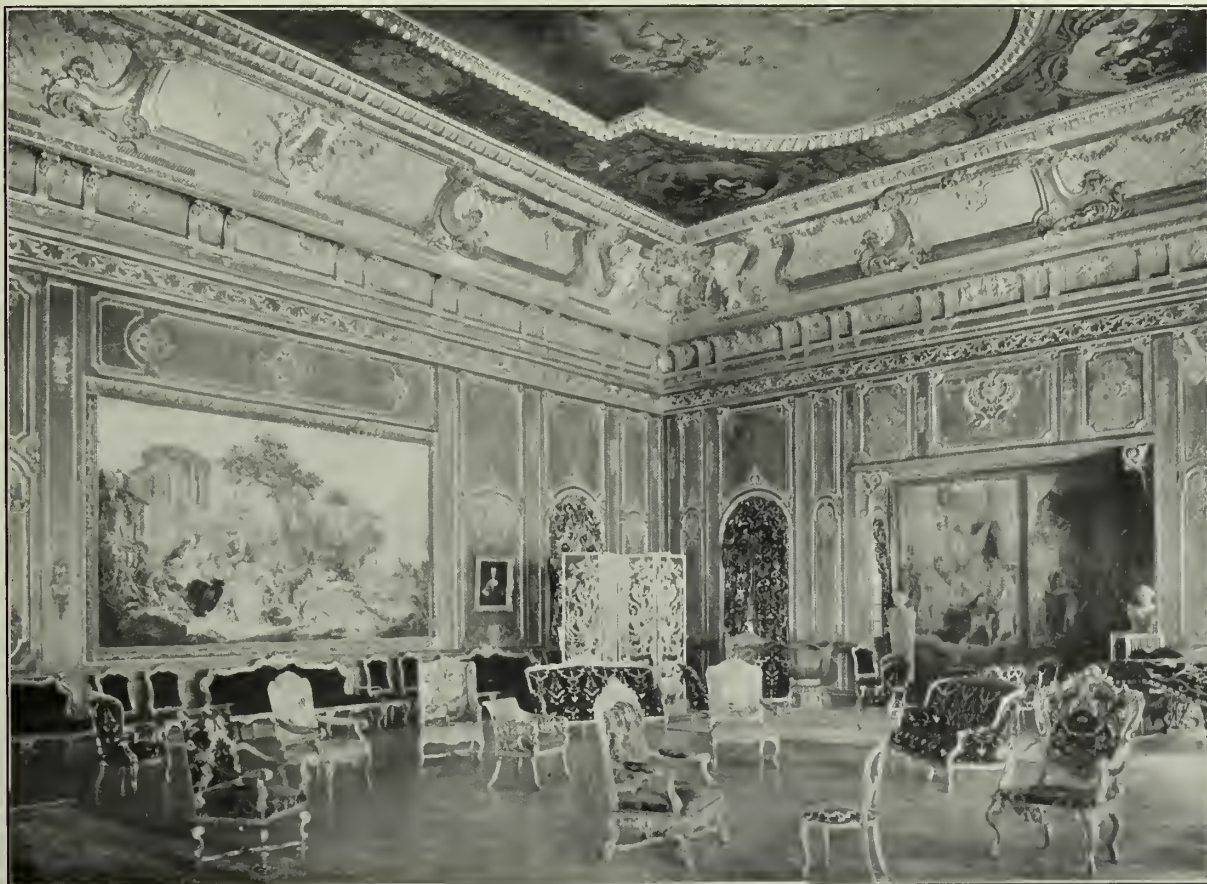
THE HERALD BUILDING.



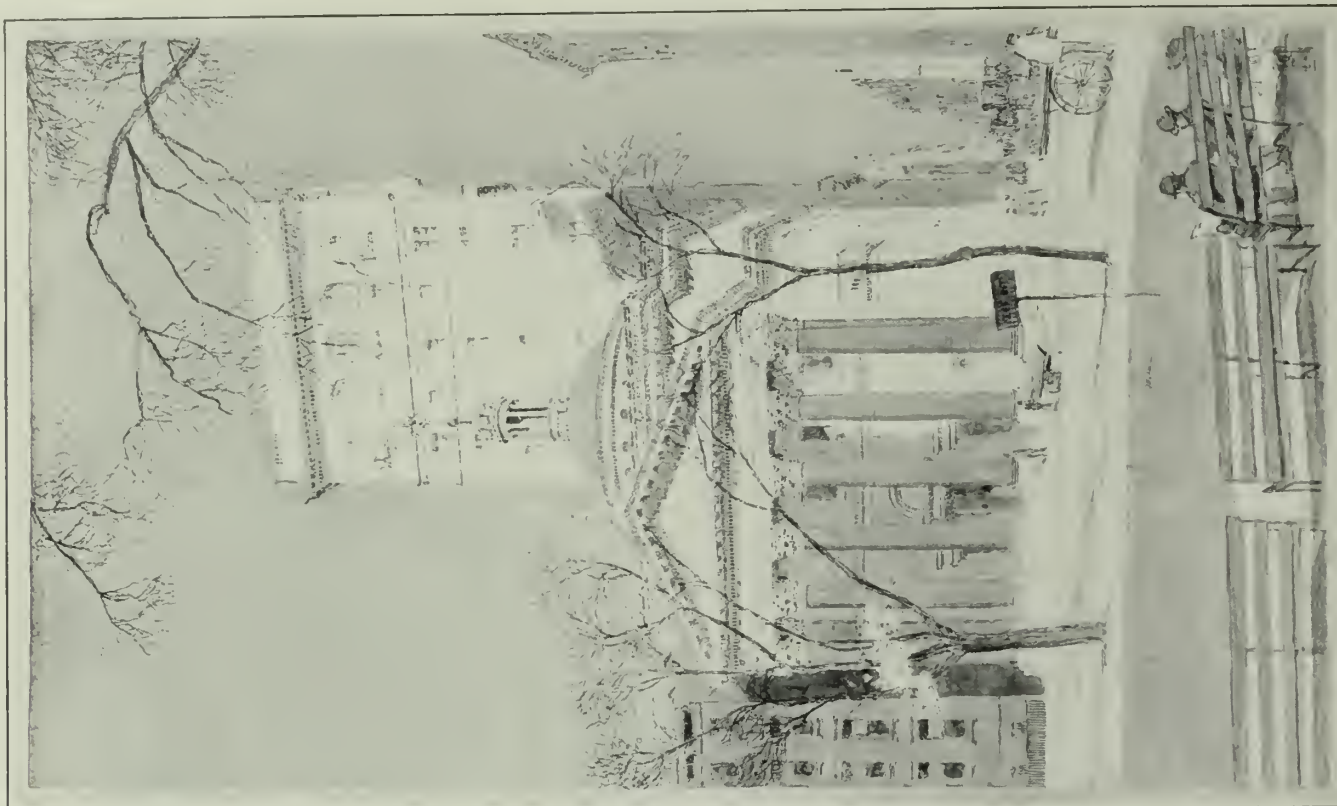
FOYER HALLS IN PRIVATE RESIDENCES.



A DINING-ROOM IN PRIVATE RESIDENCE.



A SALON IN PRIVATE RESIDENCE.



Drawing by Birch Burdette Long.
MADISON SQUARE PRESBYTERIAN CHURCH.



Drawing by Birch Burdette Long.
THE METROPOLITAN CLUB.



Drawing by Birch Burdette Long.

THE NEW PRESBYTERIAN CHURCH AND THE GARDEN TOWER.
LOOKING UP MADISON AVENUE.

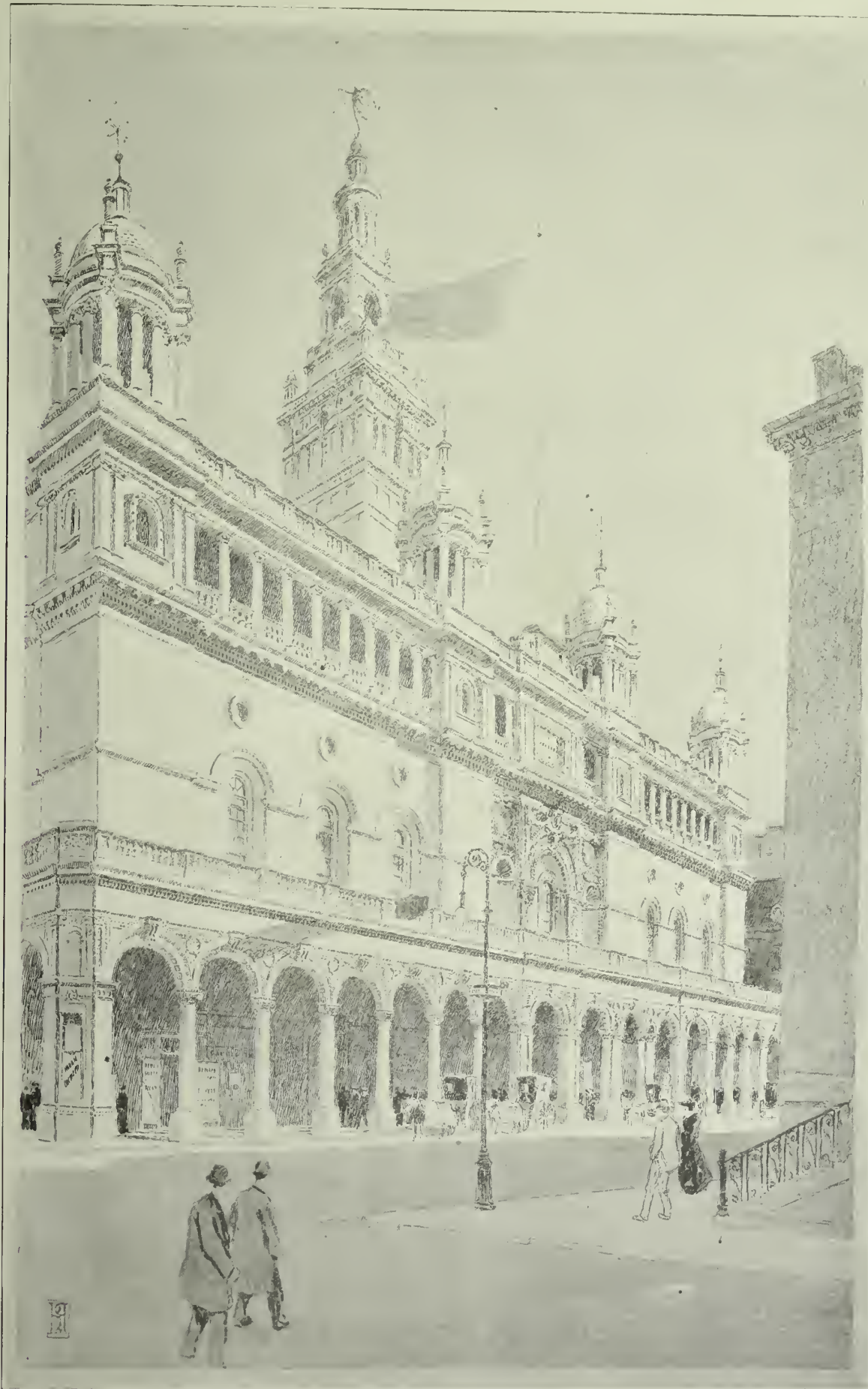


Drawing by Birch Burdette Long.
THE GORHAM STORE.



Drawing by Birch Burdette Long.
THE TIFFANY STORE.

LOOKING DOWN FIFTH AVENUE

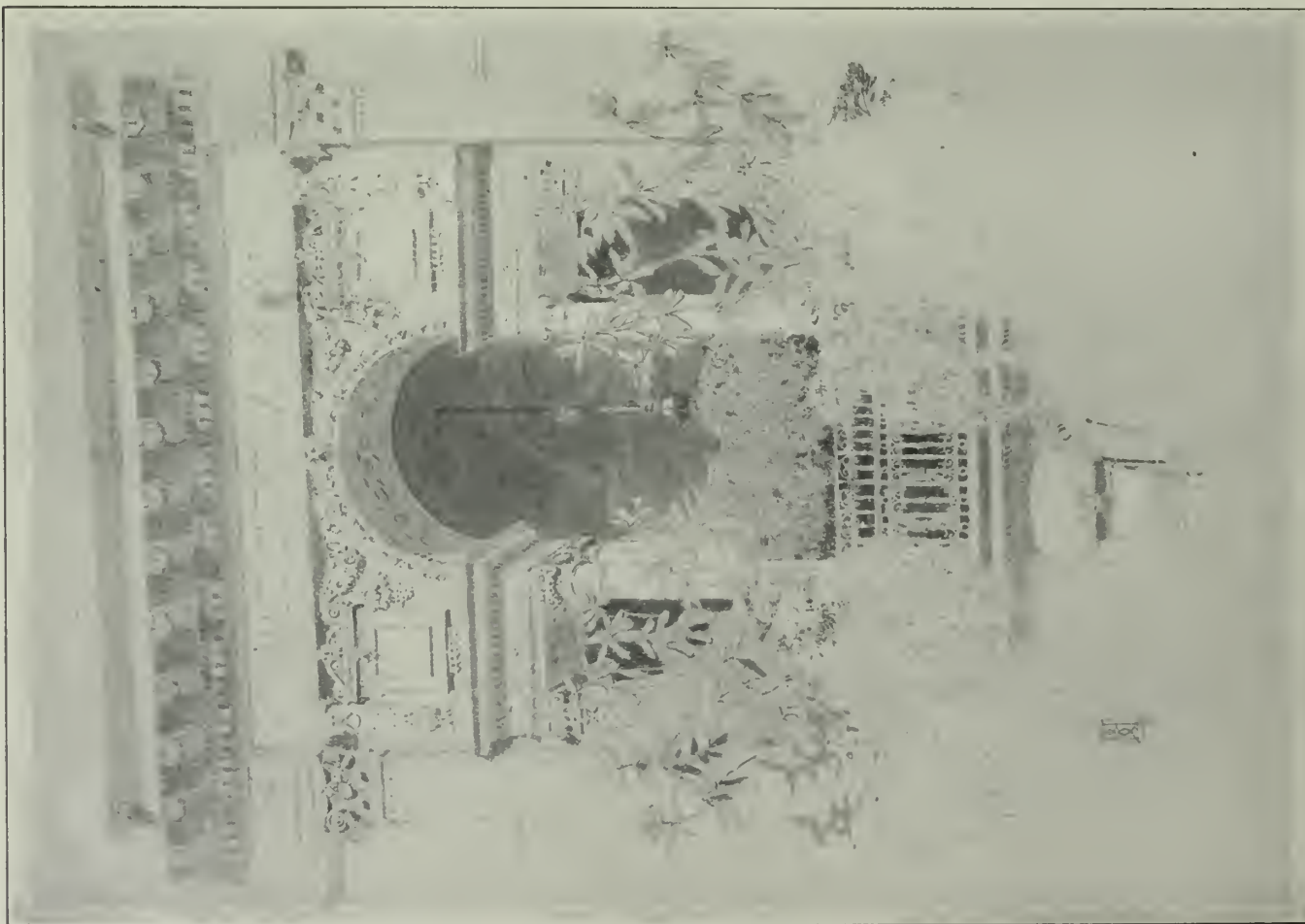


Drawing by Birch Burdette Long.

MADISON SQUARE GARDEN.



Drawing by Birch Burdette Long
THE COLONY CLUB.



Drawing by Birch Burdette Long.
LOGGIA OF THE CENTURY CLUB.



Drawing by Birch Burdette Long.

THE HERALD BUILDING.



Drawing by Birch Burdette Long.

NEW YORK UNIVERSITY.

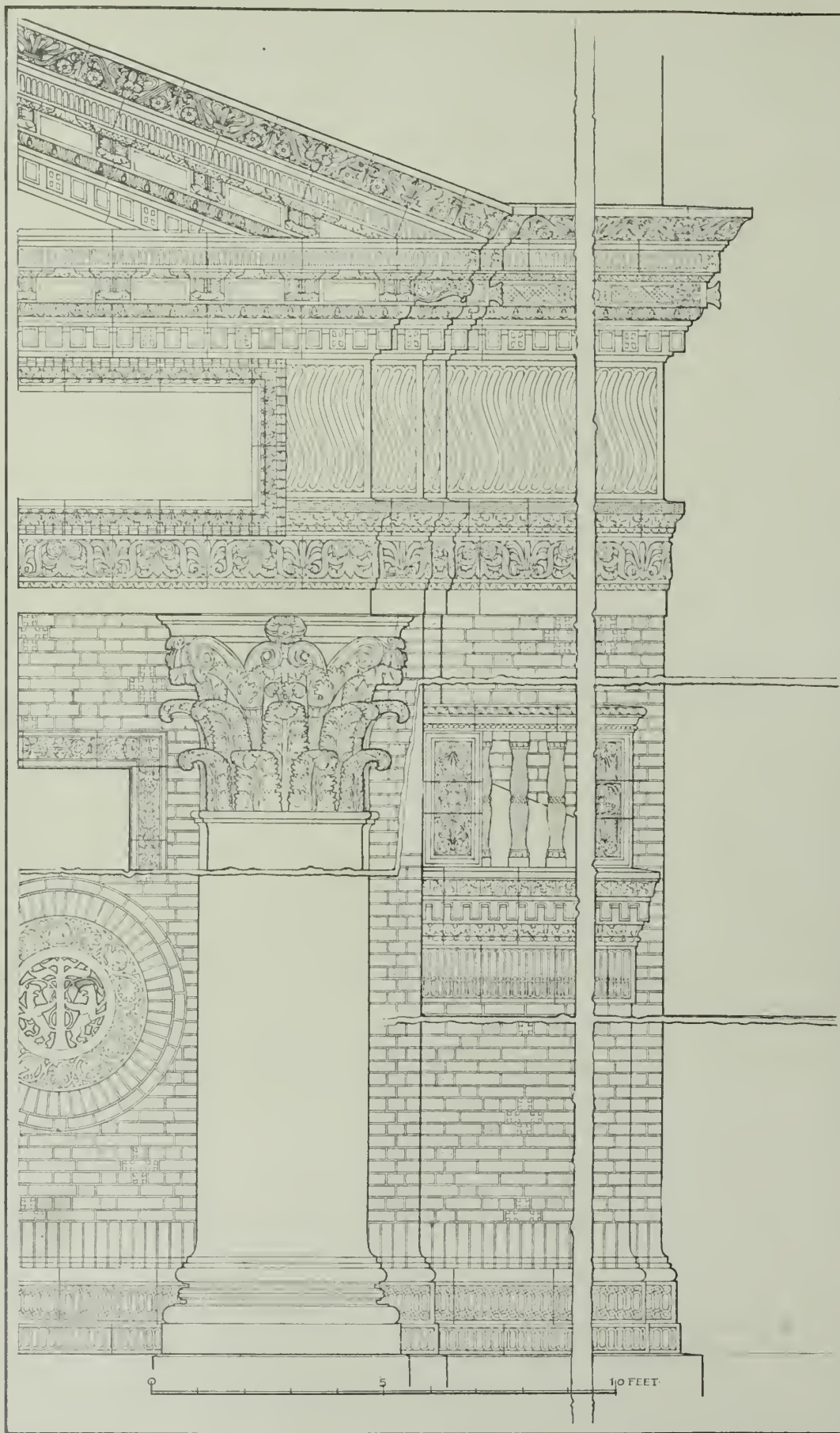


Drawing by Birch Burdette Long.
UNIVERSITY OF VIRGINIA.



Drawing by Birch Burdette Long.

THE WASHINGTON ARCH.



DETAIL OF MAIN ORDER, MADISON SQUARE PRESBYTERIAN CHURCH, PHILIPP MERZ, DEL.

The Columbia University Chapel.

HOWELLS AND STOKES, ARCHITECTS.

BY WILLIAM H. GOODYEAR.

THERE are some matters of fact relating to church architecture which become dull commonplaces when published in an architectural journal, so much so that one almost hesitates to mention them in such a publication. But these same commonplaces are far from familiar to the non-specialist public; even to a very intelligent portion of it. And it is to this intelligent public that the architect must look for encouragement when he has done an unusually good thing. It is from this public that his patrons are drawn. It is on this public that his existence as an artist and his daily bread as a business man depend. With the kind permission of *THE BRICKBUILDER*, I shall therefore assume that this article may come to the notice of various persons who are interested in the new Chapel of Columbia University, without being specialists or experts in architecture or in architectural criticism. I shall assume that the photographs and drawings to be published with this

Commonplace No. 1: The important Romanesque and Gothic Cathedrals of mediæval times were almost universally designed as vaulted buildings, and the external characteristics of the mediæval Gothic style, especially, are only to be explained by reference to this fact.

Commonplace No. 2: In modern architecture the practice of vaulting churches was not revived at the time when the mediæval styles were revived as regards the external traits which originally presupposed a vaulting practice. The exterior traits of ancient Gothic were revived as far back as 1825, and a continually increasing number of churches after that date copied these traits, but did not copy the vaulting practice which explained these traits and made them necessary. Forty years ago there was not a single vaulted church in the United States and in much more recent years the number of vaulted churches has been so extremely limited that a



FROM THE ROOF OF THE LIBRARY.

text will convey all desired information to the expert, and I shall assume that the text itself, which is scarcely needed for their advice or instruction, may still be of service to the cause of good architecture; provided that it comes to the notice of several distinctly important classes of laymen, viz.: first, those who are interested in Columbia University; second, those who are specially interested in the new Chapel of the University; and third, those intelligent persons who are interested in a good thing for its own sake, in whatever field or department of human activity that good thing may happen to be found.

This much by way of preface to the following commonplaces:



VIEW FROM MAIN ENTRANCE.

list of them would still derive an important fraction of its examples from churches that are as yet unfinished.

Commonplace No. 3: Although vaultings have been rarely used in modern practice, they have been constantly imitated by shams in plaster or cement, so much so that the presumably intelligent public is in the habit of accepting the sham as a rational and wholly unobjectionable performance. The intelligent public has lost track of the idea that the sham once had a constructive original which has been constantly copied in form during the past eighty years, but which has very rarely been copied in fact.

Commonplace No. 4 is a notable commonplace to *THE BRICKBUILDER*, but I fear that a considerable portion of

the intelligent but non-specialist public may still be ignorant of the remarkable history of the Guastavino system of vaulting and dome construction. In 1881, Mr. R. Guastavino came to America from Barcelona in Spain, where he had revived, especially in the construction of fireproof factories, an ancient method of Saracenic and Byzantine dome and vaulting construction, which had been practised at a still earlier date by the Persians and by the Assyrians.* This system is called by Mr. Guastavino the "Cohesive System," as distinct from the "Gravity" system, which opposes to the thrust of the

units of construction, is absolutely and entirely eliminated. The success of the Guastavino system in the United States has been wholly due, in the first instance, to its wholly practical availability, and especially to its economically practical availability, for fireproof construction in utilitarian buildings, just as in the neighborhood of Barcelona it had been widely employed for economical reasons in the construction of fireproof factories by Mr. Guastavino. Consequently the Guastavino vaults and domes have been, up to very recent date, almost universally used in association with iron and steel beams and



LOOKING UP INTO DOME.

keystone arch a sufficient, and, consequently, a very substantial and very expensive resistance. In the Cohesive System very thin, flat tiles are laid in successive courses over a light centering, and with broken joints, in thin layers of Portland Cement. The very rapid setting of the cement binds the construction into a solid mass, in which the force of thrust is very remarkably minimized, and in which the tendency of the keystone arch vaulting, or keystone dome system, to disintegrate into its original

* It is certain that a cohesive system was employed by the Assyrians, but I do not assert that any intimate knowledge of their methods is now extant.

bands, according to the accepted methods of American fireproof construction in brick or terra-cotta.

Let us now assume that an architectural firm is desirous of reverting in church construction to the vaulting and dome system of the great historic periods, as a matter of fact and not as a matter of sham, and that, as contrasted with the enormous expense and great engineering difficulties (for present practice) of the "gravity" system of the Middle Ages, it is able to construct fireproof and artistically beautiful tile vaultings and domes, at about one-half the expense of a timber ceiling and timber roof construction.

It would be inevitable, under such conditions, that the forces of good taste and of progress in ecclesiastical architecture should join hands with some such type of construction as the Guastavino system of cohesive domes and vaultings of tile and Portland Cement, eliminating from the design the use of metal beams, or rings, and using self-sustaining vaults and domes as they were originally built in ancient church construction.

We are thus able to rise above the plane of commonplace in calling attention to this artistically beautiful church, which is vaulted and domed in harmony with mediæval practice, as regards the fact that the vaults and domes are self-sustaining, and which is also fireproof,

thrust and resistance in a problem of construction to which he is wholly unaccustomed and with which he is tolerably certain not to have any artistic sympathy. For though the problem is one of mechanical construction, it is only the artist who can sympathize with the wish to meet the problem without the use of metal. Conditions have not changed in this particular since Mr. Guastavino wrote, in 1893: "Suppose an architect intends to build a structure with a combination of domes, as in either the Cathedrals of Santa Sophia, in Constantinople, or Zamora, in Spain, and sends plans of it to the Building Department for approval in one of our large cities. He will find it a most difficult matter to obtain a permit to build this



INTERIOR OF DOME AT LEVEL OF UPPER GALLERY, SHOWING WINDOWS BY MAITLAND ARMSTRONG.

as a mediæval cathedral in Europe almost invariably was not, on account of its timber roof above the vaulting.

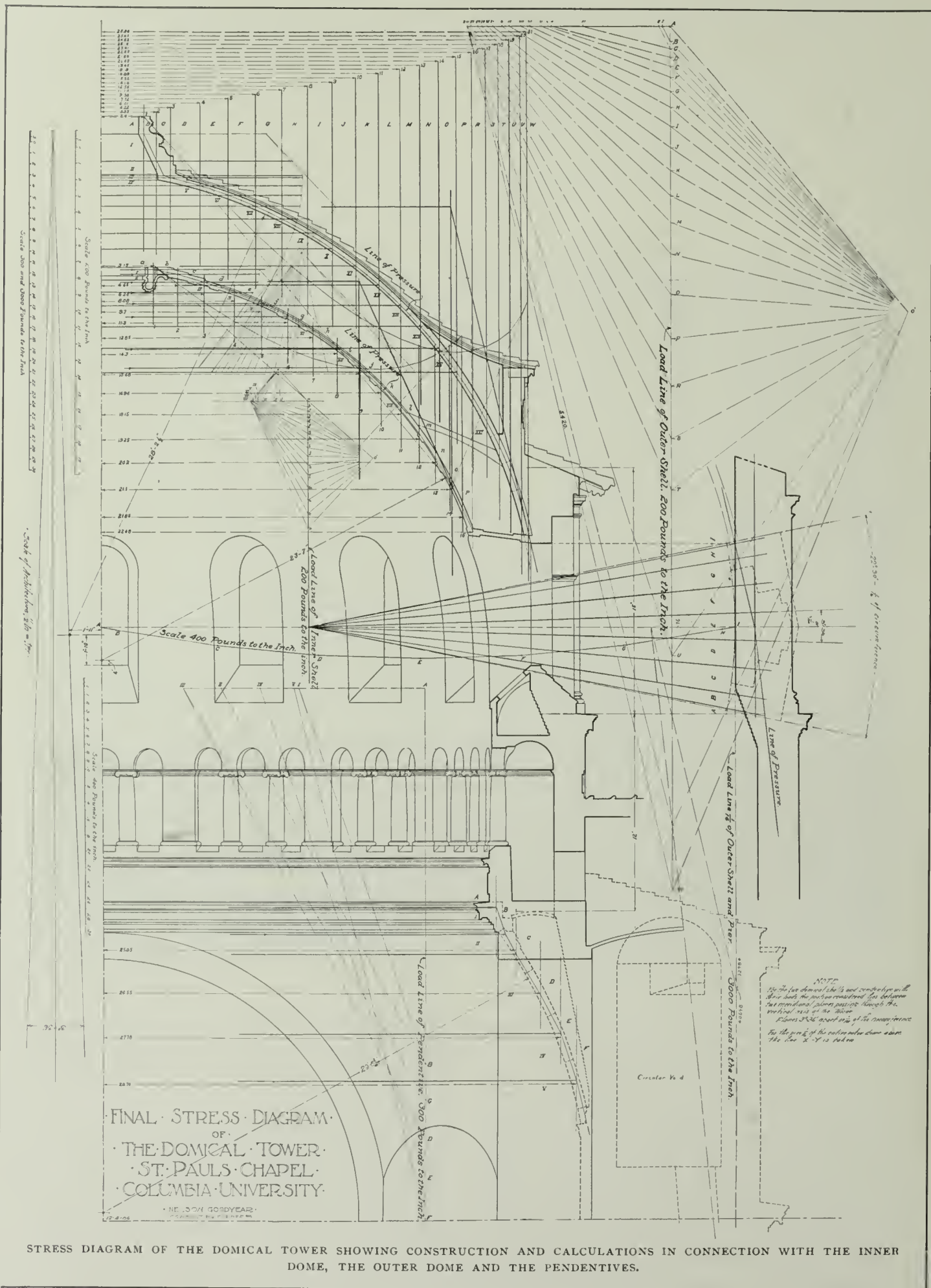
The dome of the Columbia University Chapel has a diameter of forty-eight feet and a height of ninety-one feet. This Chapel would appear to be one of the very earliest completed churches in the United States (if not the first) which is vaulted throughout the entire construction and in which a truly constructive central dome and its supporting arches are designed to be, and actually are, self-sustaining. Even in this dome three steel bands have been inserted, but only to comply with the regulations of the New York Building Department and not because they are needed. It is easier for an inspector to order in the metal bands than to figure out the forces of

structure and in consequence he will have to make an imitation of the outside and inside artistic lines by a false construction."*

The alternative chosen in this case was, however, to figure out the needed amount of supports in brick masonry and to build them, and then to obey the rules of the Building Department, which were wholly irrational in the given instance.

In view of such building regulations it would be well that the patrons of architecture, as well as architects themselves, should understand both the conscientious standpoint and the artistic superiority of the designer

* Essay on the Theory and History of Cohesive Construction. Ticknor and Company, 1893, p. 95.





ORNAMENT IN TERRA
COTTA ON TRANSEPT
WINDOW MULLIONS.

who wishes to be true to the conditions of the material in which he is visibly and apparently working. It would be well that the public should understand that the public is the real obstacle to the triumph of constructive truth in architectural design, for what the patron does not ask or desire the architect can rarely furnish.

It is to be hoped, therefore, that the architectural profession will serve its own best interests by approving this effort to build vaulting and domes in which metal is not needed as regards design (unless frankly exhibited as in the supports of the transept galleries).

From another but closely related point of view, this same chapel marks a departure in church architecture in America, in the sense that the entire interior color scheme and decorative treatment are obtained solely and wholly in the constructive materials. Here again a note has been struck which will meet the sympathetic approval of every true artist in the United States.

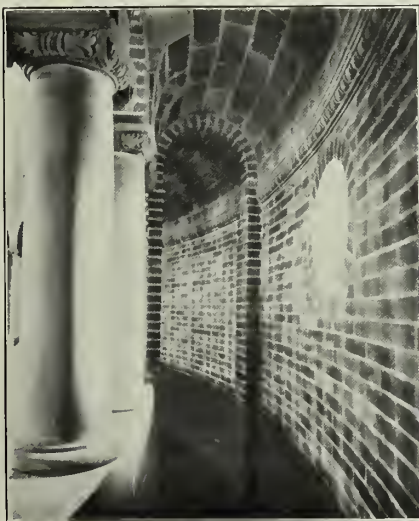
The architects have relied for the color effect of their walls on the over-burned brick of their actual construction. To the masons themselves was left the task of obtaining the broken effect in color which is always superior to a uniform shade. They were encouraged to select in a partly hap-hazard and partly calculated

be appreciated. It is much assisted by the employment of a deep purple color in the pointing, and this color in the cement was the result of careful experiment. To the artist the knowledge that the color effect of the chapel interior is obtained in the actually constructive material can certainly not be indifferent. Neither can this knowledge be indifferent to the practical economist, and such an economist is frequently, as here, the best of all artists.

Although it is the ambition of the architects not to obscure or disguise these surfaces by subsequent overlay of fresco or mosaic, it is far from their purpose or mine to contend that a brick interior should never be thus decorated. In the case of a chapel built for a University, generosity in the line of such subsequent decoration is sometimes easily awakened, and it is highly natural and proper that unusually large sums should be spent on the interior adornment of such a building. For this very reason, however, it is to be hoped that this brick interior effect may not be effaced. What our country needs is good ex-



ONE OF A PAIR OF BRONZE
LAMP STANDARDS PLACED
AT EITHER SIDE OF MAIN
ENTRANCE.



GALLERY BELOW DOME.



STAIRWAY TO LOWER GALLERY.



STAIRWAY TO DOME.

method such a variety of natural tones of the brick as would obtain the desirable results of broken color. In the rose-colored tiles of the dome and of the pendentives and vaultings the color effects obtained by the predetermined irregular association of the lighter and darker tints of rose are beautiful. The effect must be seen to

ample in high places and in influential centers. Let it be remembered that for one church that can be decorated in fresco or mosaic there must be a thousand that can never rise above a plaster overlay that ought not to be put on. What is needed now is an example showing these thousand churches that they can save the

expense of this plaster and of a probably tawdry color scheme and at the same time obtain an infinitely better result in color without it. Let the Columbia University Chapel then remain as it is in this particular. Let it be in other matters an example of the generosity of its donors, but let it be in this matter "a light in the wilderness" to those poorer churches which can never afford fresco and which ought not to waste money on plaster and on bad art. It is eminently the province of a University to show that economy may be a means to good art, and in this especial particular the natural brick and tile surface is the means to a much better art than has heretofore been found, as a rule, in the church interiors of the modern world.

Terra cotta relief ornament has been used in the interior for the framing of the main door, for the base molding, and in very rich and beautiful detail, which is reminiscent of the Della Robbia designs, for the archivolts of the great arches supporting the dome. Here, again, the ornamental details are not applied or attached, but are constructive ornament, not only in the sense that they emphasize constructive lines but in the sense that they are physically portions of the constructive material of the arches. The symbols of the four

in the soffits of the great arches, where is found the use of the pilgrim's shell, the fig and its leaf, the vine, the poppy, the cross and the pax. The fruit and leaf work may be closely traced to models of Lucca della Robbia and Mino da Fiesole. The archaic vine motive forming the base mold of the interior was inspired by a piece of chased metal in the Spitzer Collection.

In the furnishings and fittings of the Chapel there has been much reserve. They are characterized by the sobri-

ety and simplicity which have led the architects to emphasize the constructive materials and constructive forms of their building. On the other hand no expense, and, what is better still, no conscientious effort, has been spared to obtain perfection of material and workmanship in these details. The carving and Tarsia work of the pulpit, reading desk, choir stalls and organ cases are the work of Coppedè of Florence, one of the best known wood carvers of Italy, as the result of a competition organized by the architects in Italy, in which the three leading wood carvers of that country, respectively active in Siena, Rome and Florence, took part. The style of the detail in the choir stalls and pulpit has that combination of simplicity, vigor, richness and reserve which repre-



SHOWING THE CONSTRUCTION OF THE OUTER DOME.



BONDING THE TERRA COTTA BLOCKS WITH THE BRICKWORK OF THE GREAT ARCHES.

Evangelists in terra cotta are placed in powerful designs at the crowning of these four arches and unite them with the great ring of the dome.

The only break in the brick and tile surface of the interior is a frieze of Benou marble under the light cornice which marks the springing of the arches. This frieze is carried entirely around the church and harmonizes in its delicate coloring with the brick and terra cotta of the interior.

Most of the ornament in the chapel, both inside and out, is symbolic, relating to scriptural subjects, as, for instance, the different designs of rosettes and other panels



BUILDING THE BRICK PENDENTIVES.

sents the best period of Italian wood carving, about 1500. The motives in the wainscoting of the choir and in the choir stalls are inspired by the woodwork in the sacristy of Santa Croce in Florence. The design of the organ cases deserves special praise on account of its structural fitness and because of the unusual purity of its composition.

The forms of the bronze chandeliers are carefully adapted to the modern requirements of electric lighting, while the bronze open work rail of the galleries reveals the successful effort to preserve a general unobtrusiveness and lightness of effect in this otherwise generally disastrous feature of a modern church.

Even the lock and the key of the main door are works of art, but here the antiquarian collector has taken the place of the designer. This particular tribute to old Italian work is graceful both in thought and in fact.

The pavement of the chapel again reveals the taste which does not forget details; for its large and simple patterns are defined by inlaid bands of mosaic, consisting of fragments of old porphyry and serpentine also brought from Italy.

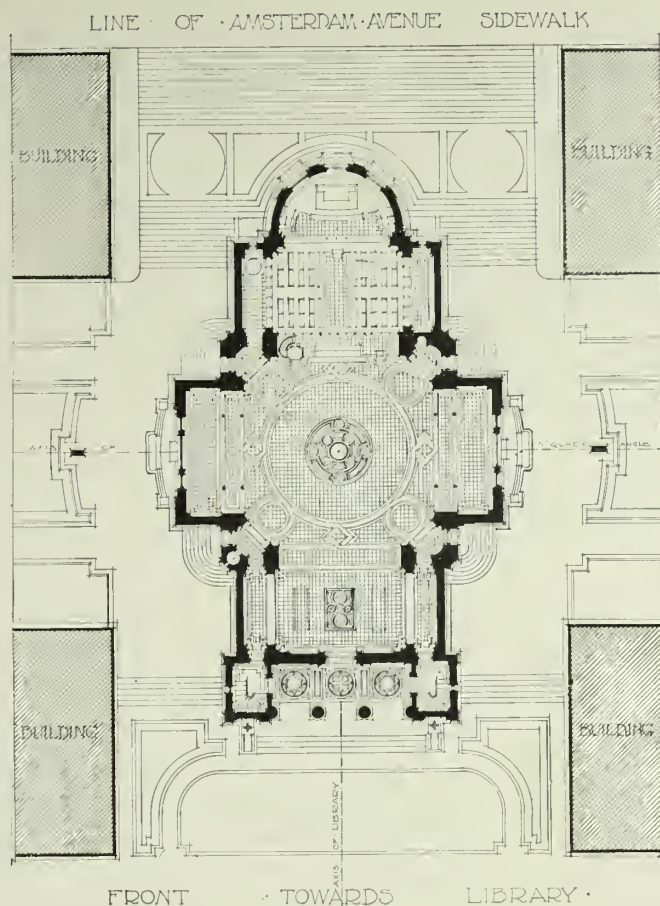
Not the least important feature of this chapel interior is the absence of pews. Exactly why no church interior is wholly satisfactory which is furnished with these appendages may not be quite easy to put in words. The fact is there and patent to all who choose to give a thought to it. Even the recent Catholic churches in northern countries have rarely had the good taste to revive this first condition of the beauty of an old continental cathedral.

The windows of the church include three in the apse, which are filled with stained glass by John Lafarge. A single subject, St. Paul preaching at Athens, fills all three lights. Few modern stained glass windows can have found so beautiful a setting and contrast as these obtain from the color of the brick walls around them. The sixteen windows in the upper part of the dome, by Maitland Armstrong, are memorials of distinguished alumni of the university, many of them historic personages.

"The present transept windows are temporary, and it is hoped that the spaces will be filled by memorial windows. It has been suggested that the window in the north transept shall represent the great teachers of the New Testament and shall be a memorial of the Rev. Dr. Samuel Johnson, the first president of Kings College (1754-1763), and that the window in the south transept shall represent the great teachers of the Old Testament and shall be a memorial of President Barnard (1864-1889)."

So far we have allowed the plans, photographs and drawings to describe the Chapel itself, and we are tempted to adhere to this method.

* Quoted from a printed account of the inscriptions and windows in the Chapel.



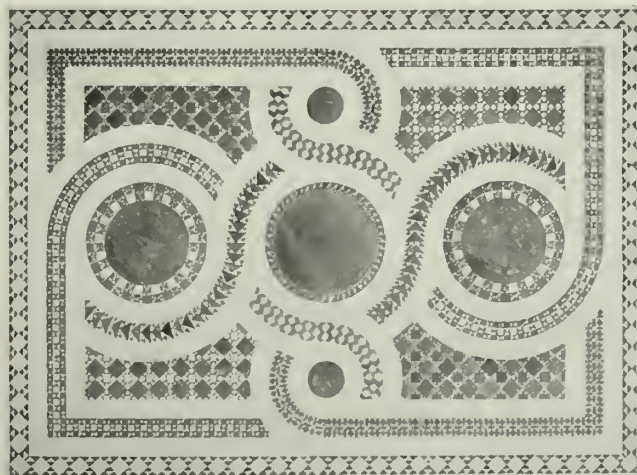
GENERAL PLAN SHOWING RELATION OF CHAPEL TO ADJACENT BUILDINGS.

terior height is ninety-one feet, as already mentioned.

The dome supports a simple terra cotta lantern, and its weight, of some eight tons, was an important element in the problem of thrust. In order to reduce the weight of the lantern the voids in the terra cotta were filled with cement, in which layers of hollow glass balls were embedded. This ingenious device reduced the weight by nearly a ton, without appreciably diminishing the strength.

As shown by the section, the dome consists of a double shell, in order to avoid dampness and the condensation of moisture. The shells are twenty-seven inches apart at the base, increasing to six feet above, by a rise in pitch of the exterior dome. The inner shell has a thickness of from three and one-half to two and one-fourth inches, the lower third laid in three courses, with two courses higher up. The outer shell has a thickness of six and one-half inches below, decreasing to a thickness of five inches above, laid in five courses below and four above.

The total weight of the entire dome construction down to the gallery floor is 1043½ tons. Of this weight only 171½ tons bears on the interior pendentives. This is



OBLONG PANEL OF COSMATESQUE WORK FROM PAVEMENT OF NAVE.



EVANGELIST OVER EAST ARCH (TERRA COTTA).

the weight of the inner shell and its supporting members. It is an interesting feature of the Guastavino system that this inner shell weighs only 68½ tons. The weight of the outer dome and supporting walls down to the gallery floor is 872 tons. This weight is carried by exterior independent pendentives (see diagonal section). The weight of the outer shell alone is only 104½ tons and the weight of the outer shell with its roof and lantern is 263½ tons.

The construction of the walls is also in two shells, in order to avoid interior dampness. The architects have furnished the following technical account of the walls.

"Owing to the unusually exposed position of the Columbia buildings, it was felt that every precaution should be taken which would tend to protect the interior of the chapel from leaks and dampness."

"The usual method of applying an envelope of waterproof material to the inner surface of the brick-work was rejected;

"1. Because the life of all such waterproofing materials is limited, the principal ingredients being essential oils which evaporate in time;

"2. Because the interior of the church was to be finished entirely in brick, so that the waterproof envelope would have to have been overlaid with the veneer of interior brick, which could not have been bonded in any satisfactory way to the masonry.

"As no satisfactory or permanent system of exterior surface waterproofing has yet been devised, a system of hollow walls seemed the only permanent solution possible, and this, in modified form, was finally adopted."

"The exterior wall, which averaged twenty inches in thickness, was built with vertical toothed ribs spaced about four feet apart. The entire interior surface, including the toothed ribs, was then coated to a thickness of about five-eighths inches with chemically waterproofed hydrolithic cement. The interior curtain wall of finish brick, four inches in thickness, having toothed reinforcing ribs corresponding to those in the exterior wall, was then built. This left a series of hollow



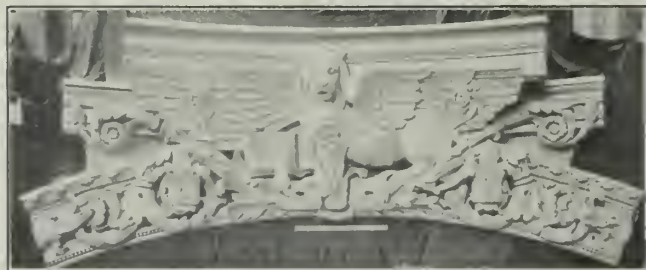
EVANGELIST OVER SOUTH ARCH (TERRA COTTA).

chases about four feet wide and four inches deep extending from the base molding three feet above the floor to the main cornice. When the latter was set, a course of bricks corresponding to the panels and immediately below the cornice was left out, and through the apertures thus formed the interior spaces of all bearing walls, where great strength and solidity were important, were filled up flush with the top with a very rich liquid grout. In order to resist the hydrostatic pressure of the liquid cement before setting, the curtain wall had been anchored to the exterior wall by copper clamps placed at eighteen-inch intervals. Experiments on test sections showed that the adhesion of the grout to the adjacent surfaces of the exterior and interior wall was so perfect that, after having set for forty-eight days, the experimental section, when broken up with a sledge hammer, showed no cleavage between the adjacent surfaces. In this way a monolithic wall was produced, having in its interior a continuous, unpierced, permanent, waterproof layer."

"In certain portions of the chapel, notably back of the organ chambers, where even slight condensation would have been objectionable, and where the height of the walls was not sufficient to call for increased strength, the grout fill was omitted. The interior air spaces are drained and ventilated."

The cost of the structure complete has been about \$260,000, exclusive of the stained glass, choir wood carvings and organ.

The most interesting item of cost, from an economic point of view, is that of about \$17,500 for dome and vaultings, including the substructure vaultings, and the stairways. Thus this cost is only six or seven per cent of the cost of the structure. It is difficult to see how architects of future churches can resist the temptation to indulge in so reasonable a luxury as a fireproof roof and ceiling which enables them also to revive the constructive forms of mediæval or Renaissance building. The exterior of the chapel is a logical and unpretentious development of the interior construction, with the addition of a fine

A PILASTER
IN CHOIR.
CARVED
BY
MARIANO
COPPEDE,
FLORENCE.

EVANGELIST OVER NORTH ARCH (TERRA COTTA).



EVANGELIST OVER WEST ARCH (TERRA COTTA).



ROSETTES IN SOFFITS OF GREAT ARCHES (TERRA COTTA).

portico. The richest bit of exterior ornament is the elaborate leaf carving on the limestone frame of the main entrance. The finest exterior effect is obtained from Amsterdam Avenue looking toward the choir, and here the building is slightly and agreeably reminiscent of the related view of Santa Maria delle Grazie in Milan.

The stress diagram (see illustration) computing the thrusts of the dome is the work of Nelson Goodyear, consulting engineer for the architects. In justice both to Mr. Goodyear and to the Guastavino firm, it should be stated that this diagram represents the forces of thrust according to the gravity system and does not include the considerable additional element of safety which inheres in the cohesive system. This appears to be a very sensible method of enlarging the margin of safety for the experimental stage in the construction of self-sustaining domes. In spite of this wide margin of safety, it will be noticed that the piers supporting the great arches are

not especially massive and that they are pierced below by openings and lightened by niches.

For those familiar with graphic diagrams, the cohesive strains will be apparent in the stress diagram, and the cohesive resistance has been carefully computed, and is definitely known, although it is reckoned as a margin of safety.



DETAIL IN TERRA COTTA.

Let us finally not forget the university to which the chapel belongs and the religious service to which it is dedicated. No water can rise above its source. No architect can rise very far above the character of his clients. If this chapel de-

serves praise as an honest bit of American art, surely the donors and the trustees of Columbia University come in for their share.

As a religious building, let us hope that the students of Columbia University will learn religion from it, as well as in it. Nor have we any doubt that the serious mind may profit in that way.



VIEW FROM GALLERY.



THE ORGAN.

Editorial Comment and Selected Miscellany

WITH SOCIETIES AND CLUBS.

THE Boston Architectural Club held its Annual Exhibition at the Boston Public Library, November 5 to 24, inclusive. Considerable new and interesting work was exhibited, a very large percentage of it being by Boston firms. Although the catalog was of the usual type, it was well gotten up.

The Thirteenth Annual Exhibition of the T Square Club, Philadelphia, was held under the auspices and in the galleries of the Pennsylvania Academy of the Fine Arts, December 1 to 30, inclusive.

The management endeavored to give to the Exhibition an educational character in the broadest sense of the term. They hoped to attract not only the profession, and those more intimately connected with it, but the



HOUSE AT WASHINGTON, D. C.
Wood, Donn & Deming, Architects.
Roofed by Edwin Bennett's Roofing Tile Co.

public generally, to whom the subject matter of an exhibition is perhaps not directly attractive. They were able to obtain exhibits bearing on matters of much interest to the public in many different ways. To still further advance the cause, the Academy and the T Square Club asked the National Society of Mural Painters, the National Sculpture Society and the American Society of Landscape Architects to associate themselves in the Exhibition, with a view to showing the executed work of the allied arts in connection with the drawings of the architects.

The exhibition came at a time peculiarly propitious in two ways: first, the great interest which has been aroused the country over in the movement for municipal improvements both in the way of the opening of great boulevards and the beautifying of these with monumental structures; second, because at this time of great prosperity, vast sums are being expended commercially and in the improvement of transient facilities and the housing of government and municipal offices.



ORCHESTRA HALL, CHICAGO.
D. H. Burnham & Co., Architects.
Fireproofed by National Fireproofing Co.

Very many drawings and photographs of some of the most interesting work being carried on throughout the country were exhibited. The collection included contributions from nearly all of the large cities and better known architectural firms. Particularly interesting were the drawings exhibited by a number of renowned French architects.

On the whole, the societies connected with this exhibition are to be congratulated upon the results obtained. It was an effort to make it possible for the public of our cities to be enlightened on many subjects which have only recently become of importance to us, and it is to be hoped that the public will take advantage of such opportunities to see what architects and artists are doing for the country.

The Twenty-Second Annual Exhibition of the Architectural League of New York will be held in the building of the American Fine Arts Society, 215 West 57th Street, from Saturday, February 3, to Saturday, February 23, inclusive.



REPRODUCTION OF DELLA ROBBIAN PANEL IN COLORS.
F. Joseph Untersee, Architect.
Excelsior Terra Cotta Co., Makers.

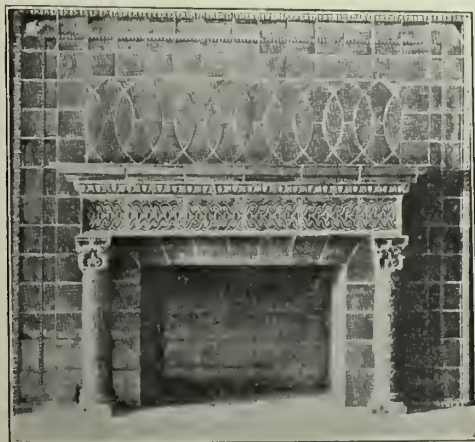


CARTOUCHE MADE BY NEW JERSEY TERRA COTTA CO.

The annual meeting of The Gargoyles of New York was held on Tuesday evening, December 18. A dinner at the Hof Brau Haus preceded the meeting. The object of this Club is the promotion of social intercourse and fellowship among its members, and the study of the Fine Arts for mutual benefit and improvement.

THE NEW MADISON SQUARE CHURCH

THE problem was to erect a creditable church building in a spot backed by a fifteen-story skyscraper, with the possibility of a similar building on one side and a six hundred foot tower across the street. This problem Mr. White not only overcame, but he also wrested artistic success from apparent defeat.



MANTEL EXECUTED IN DULL GREEN FAIENCE BY HARTFORD FAIENCE CO.

The annual dinner will be held on the evening of Friday, February 1, at 7 P. M.

The last days for the reception of exhibits are as follows: drawings and mural decorations, January 5; all other exhibits, January 23. Exhibits discharged, February 25.



DETAIL BY FRANK S. LOWE, ARCHITECT.
South Amboy Terra Cotta Co., Makers.

churches, and yet is not so lively as to offend. Cruciform in plan, with the arms of the cross projecting but slightly beyond the square mass, the structure maintains its dignity, owing to the dome and an impressive portico, the columns of which outweigh in scale anything in the immediate vicinity.

The church is built of a very delicate shade of buff brick and glazed terra cotta upon a base of white marble. In order to differentiate the edifice from its neighbors it was decided to use color more liberally than had been employed in other buildings hitherto erected in this country. The six columns of the portico, each thirty feet high, are of pale green granite. The capitals of the columns are Corinthian, the color



DETAIL FOR A CHURCH, WESLEY L. BLETHE, ARCHITECT.
Conkling-Armstrong Terra Cotta Co., Makers.

scheme being blue, white and yellow. All other ornamental features reveal a delicate and appropriate use of the same shades and of green. As in many Syrian and Roman churches the dome is tiled, showing an alternating pattern of green and yellow, the green serving as a background. To sustain and enrich the effect the dome is surmounted by a golden lantern. Within as well as without manifold efforts have been made to escape from the somber atmos-



TENNESSEE TRUST BUILDING, MEMPHIS.
Shaw & Pheil, Architects.
Faced with Hydraulic-Press Brick Co.'s No. 503 Gray Brick.



SMALL DOME ON A COUNTY COURT HOUSE.
William Kauffman, Architect.
Terra Cotta made by The Northwestern Terra Cotta Co.

phere of the average church. The auditorium, with its wide vestibule and low galleries, is in no sense ornate. The prevailing colors, shading downward from the dome, will be in harmony with the exterior. The pews and all the woodwork are in Quaker oak, a soft, silvery gray wood. Just back of the pulpit there is a small window that is a gem in design and workmanship. It was a gift of the congregation to Dr. Parkhurst to commemorate the twenty-fifth anniversary of his term as pastor.

This church is undoubtedly the best modern example of the use of colored terra cotta in the exterior walls of a building, and demonstrates the possibilities that are inherent in this material. The delicate detail has been



DETAIL BY JAMES R. WHITE,
ARCHITECT.
Brick Terra Cotta and Tile Co.,
Makers

effectively produced by perfect modeling and the use of quiet rich colors. The work was executed by the Perth Amboy Terra Cotta Company. The bricks used in the exterior walls are of special make. A pattern effect is obtained by the introduction of a Maltese cross in a certain number of the brick. They were furnished by Sayre & Fisher Company. The dome is covered with green and yellow tiles set in pattern which produce a rich and beautiful effect, harmonizing thoroughly with the general color scheme of the building. These tiles were furnished by the Ludowici-Celadon Company.

THE NEW COLUMBIA CHAPEL.

The architectural terra cotta,

used principally in the interior treatment of this chapel and which is so well described in the article by Professor Goodyear, was furnished by the Atlantic Terra Cotta Company. The brick throughout the building was furnished by Sayre & Fisher Company, and the roofing tile by the Ludowici-Celadon Company.



DETAIL BY PILCHER & TACHAU,
ARCHITECTS.
New York Architectural Terra Cotta Co.,
Makers.

IN GENERAL

Arthur G. Dole and Otto H. Wiegand, architects, have formed a co-partnership: offices 127 Tri-State Building, Fort Wayne, Ind. Manufacturers' catalogues and samples solicited.

The South Amboy Terra Cotta Co. will supply the architectural terra cotta which will be used in the following new buildings: St. Phillips Church, Bedford Park, Bronx, New York, Geo. H. Streeton, architect; Three Fire Houses, Brooklyn, Walter E. Parfitt, architect; Apartment Houses, Brooklyn, Frank S. Lowe, architect; Stuyvesant Theatre, New York, George Keister, architect; Church of the Comforter, New York, Bannister & Schell, architects; Church at Union Hill, New Jersey, George D. Lugosch, architect.

WANTED—Four architectural Draughtsmen of experience Permanent positions. State age, experience and salary wanted.
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WANTED—Superintendent to take charge of Terra Cotta factory on Pacific Coast, manufacturing about one hundred tons per month. Must be high-class man, capable of making estimates, and superintending manufacture. Applicants please state experience; give references, and state salary expected.

Address Pacific Coast, care THE BRICKBUILDER.

A New Book for Every Architect

A History of Architecture

By
RUSSELL STURGIS, A. M., Ph. D.
The leading architectural critic of America

An illustrated history in three volumes. Volume I treats of the little known periods of Egyptian, Babylonian, Assyrian, Western Asiatic, Greek, Roman and Italian architecture, bringing the subject down to about 1000 A. D. Volumes II and III cover the period from the 10th century down to the present day.

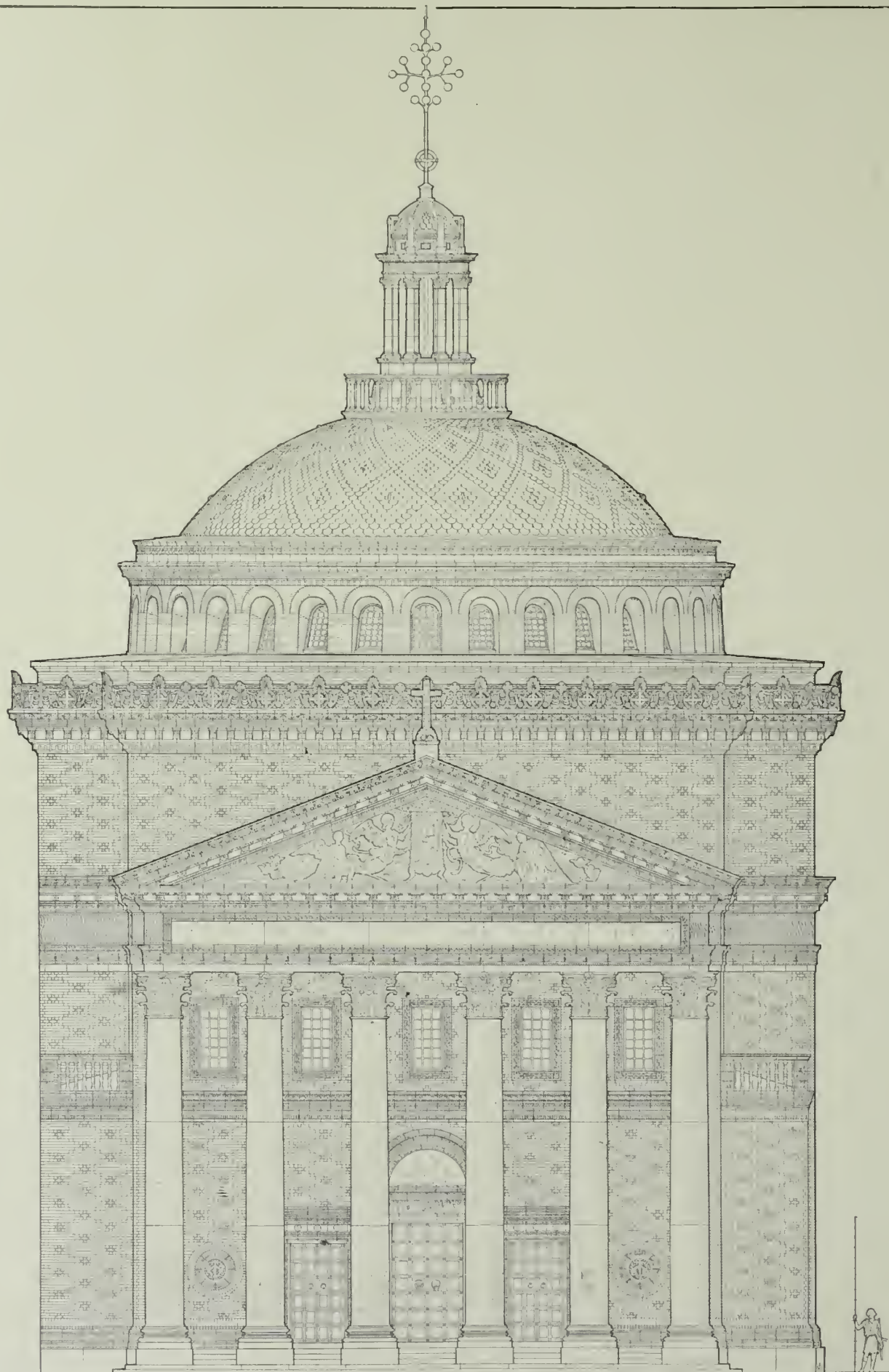
This new architectural work treats the subject very exhaustively, and will contain about 1,500 illustrations in half-tones and drawings. Coming from the pen of Mr. Sturgis, the volume will have the weight of authority and will prove of infinite value both to the architect and the student.

Volumes II and III are now in preparation and will be ready for distribution in April and September, 1907, respectively.

Volume I, octavo 7 x 11, 500 illustrations in half-tones and drawings, now ready. Bound in cloth gilt top, \$5.00, carriage paid. Half morocco, \$7.50, carriage paid.

M. A. VINSON

BOOKS ON ARCHITECTURE, DECORATION AND ILLUSTRATING
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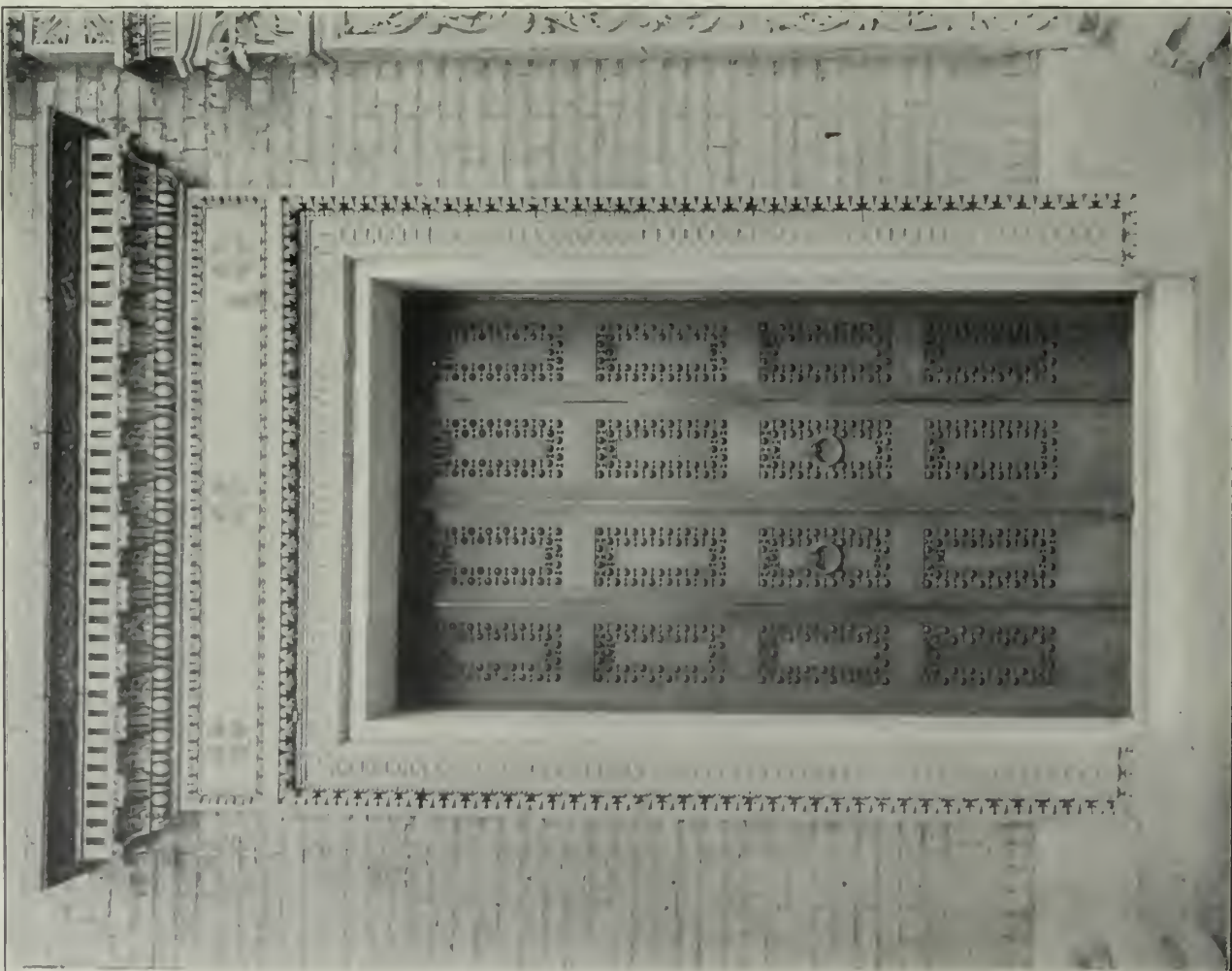
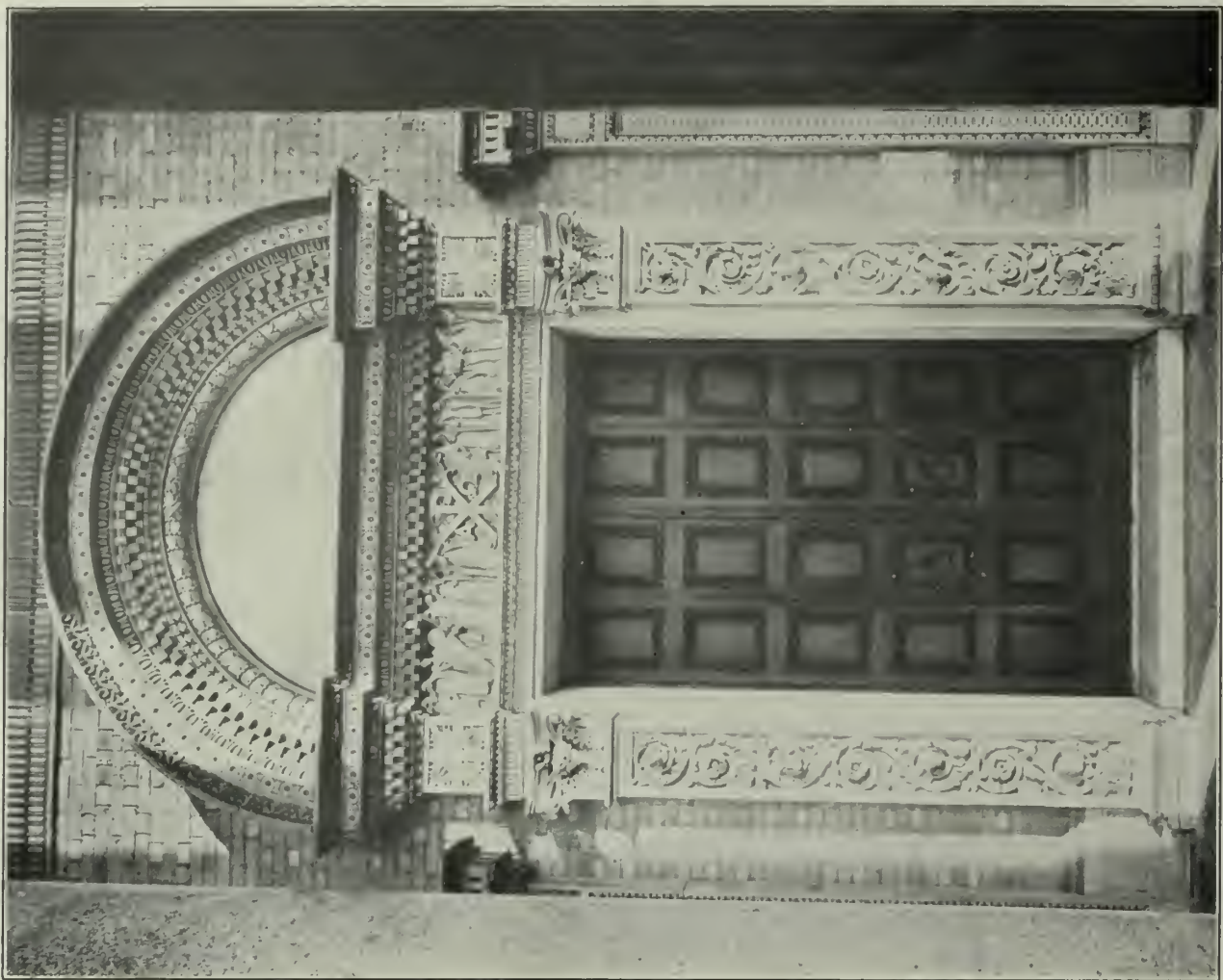


• FRONT ELEVATION •
 • MADISON SQUARE PRESBYTERIAN CHURCH •
 • SCALE 1/4 INCH EQUALS ONE FOOT •

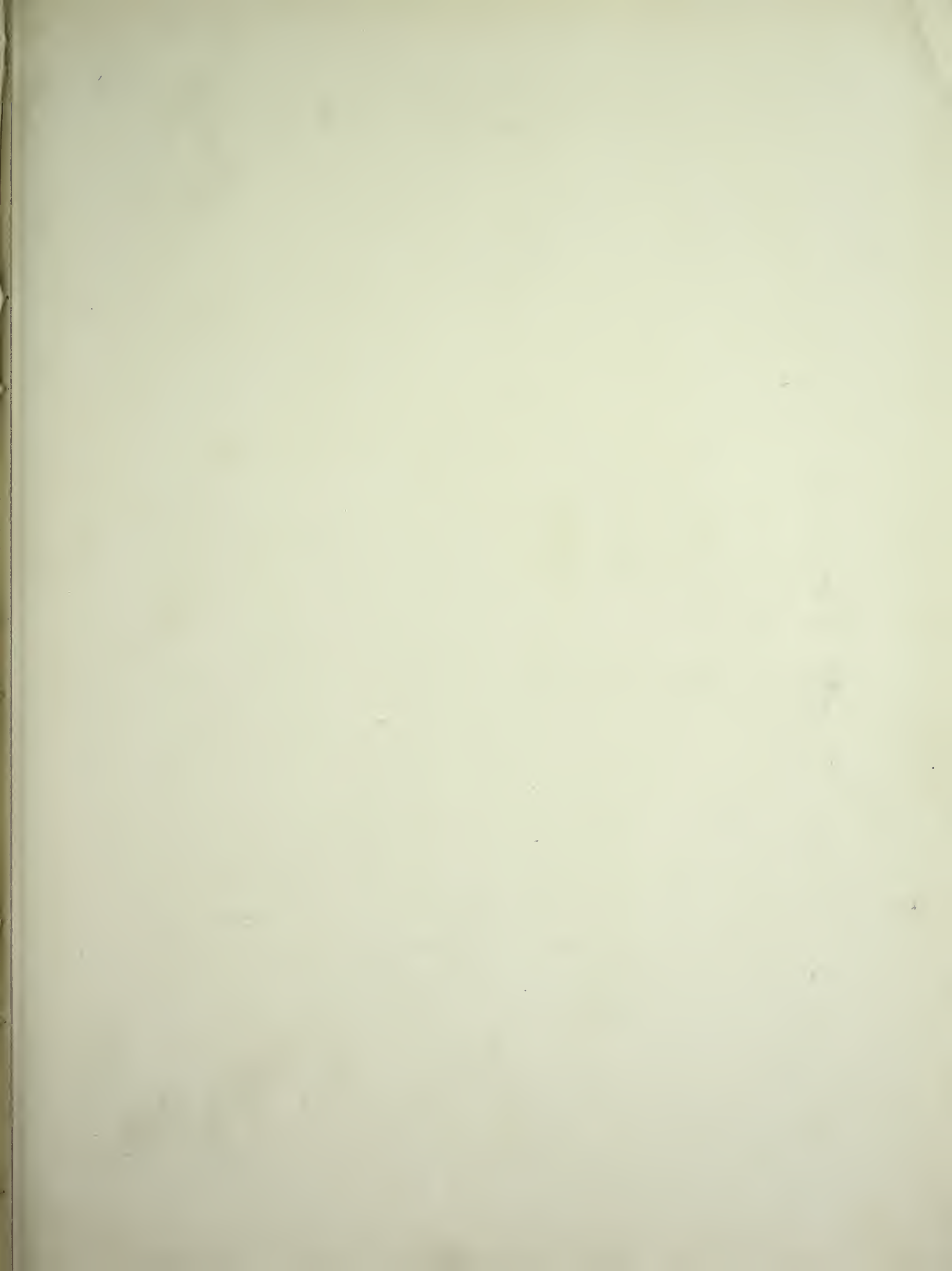
• MCKIM, MEAD & WHITE, ARCHTS •

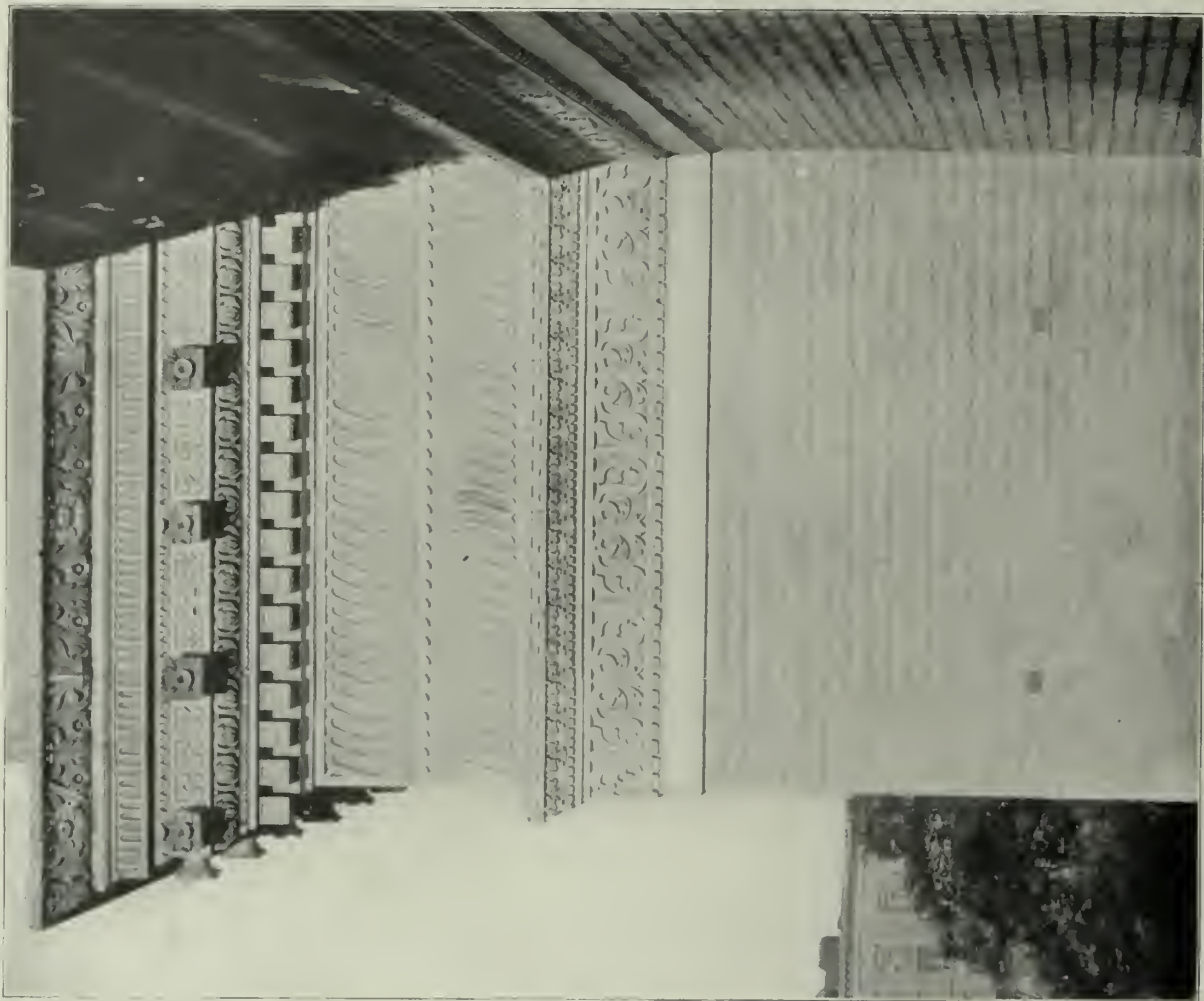
• 160 FIFTH AVE. NEW YORK •

DRAWING BY PHILIPP MERZ



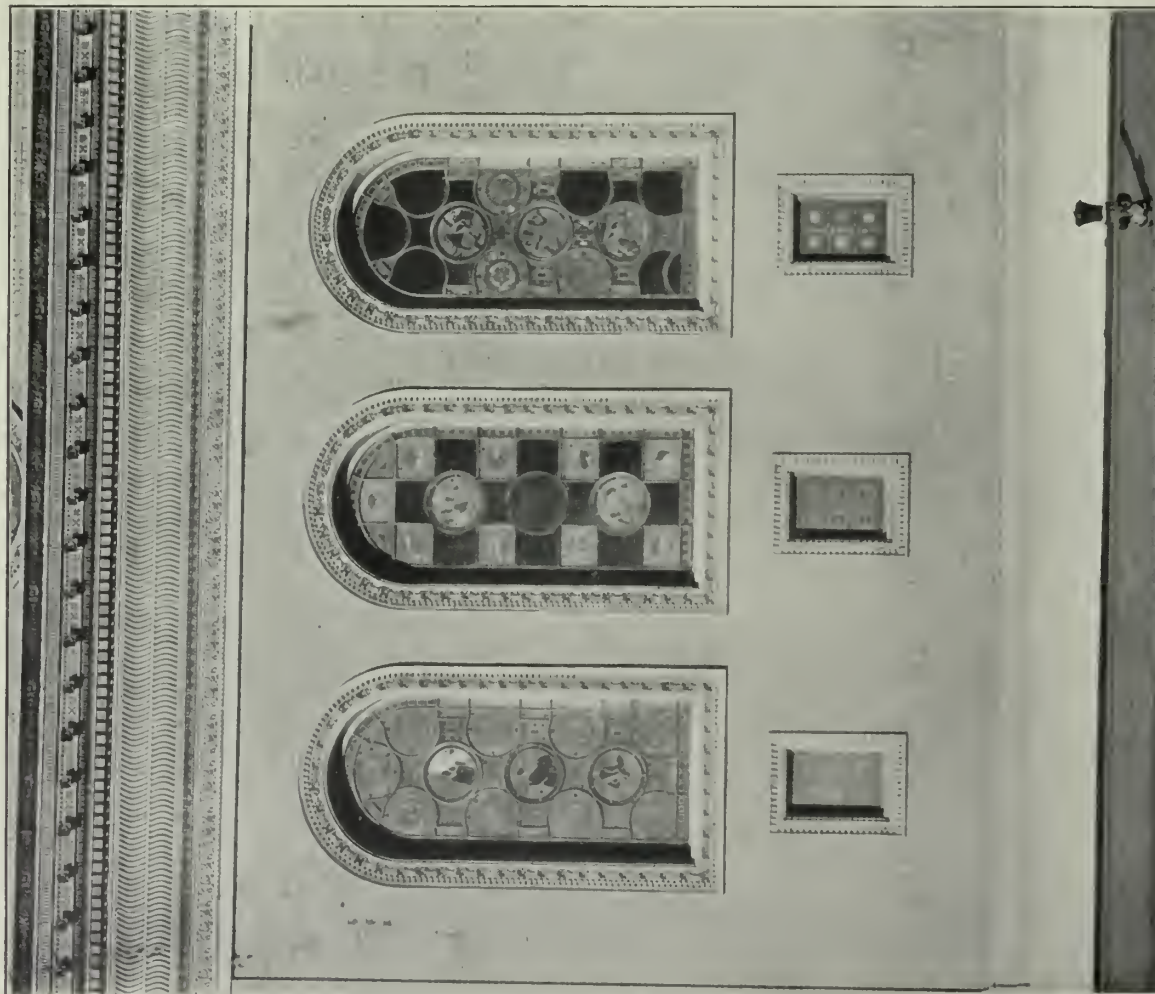
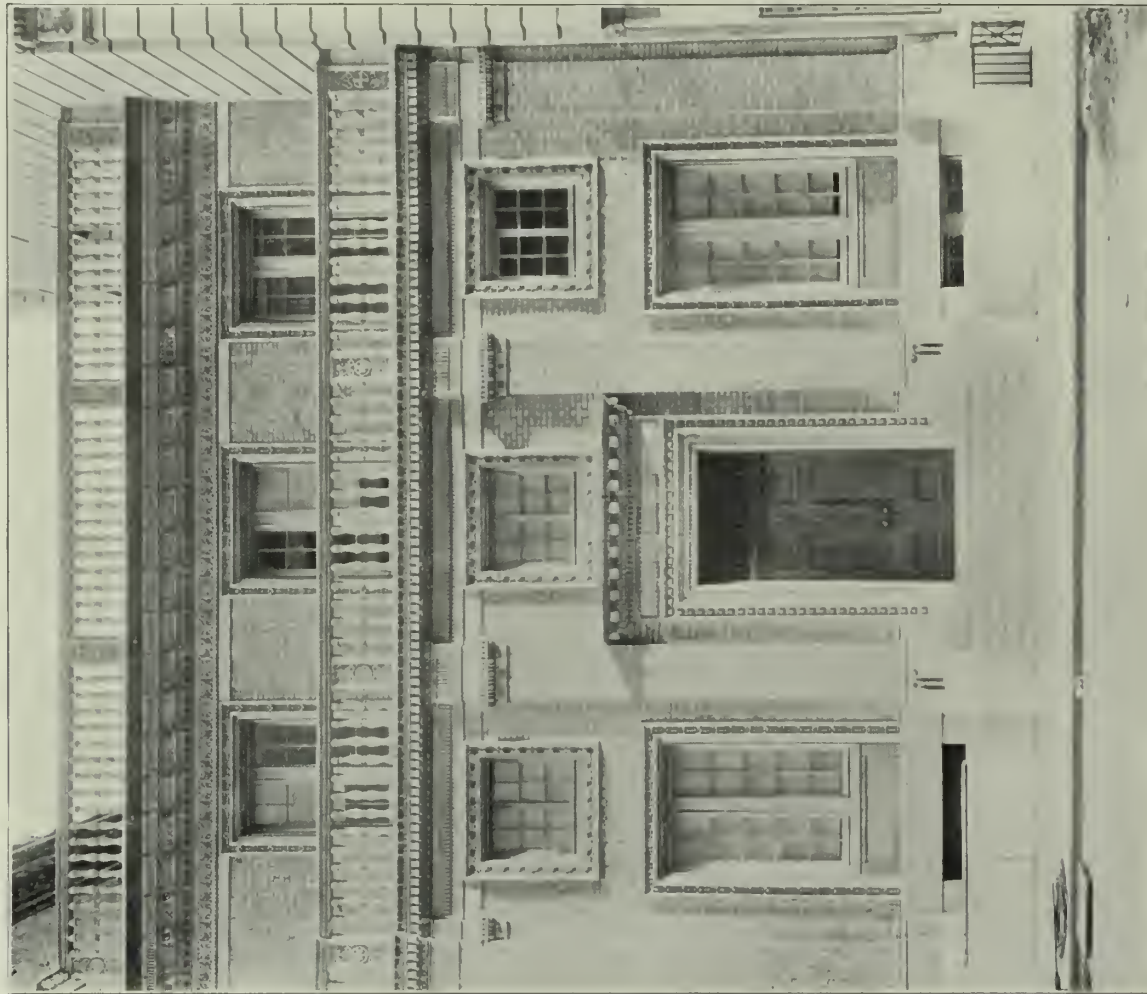
DETAIL OF TWO OF THE THREE MAIN ENTRANCE DOORS.
(RELATIVE SCALE NOT PRESERVED IN ILLUSTRATIONS)
MADISON SQUARE PRESBYTERIAN CHURCH, NEW YORK.
MCKIM, MEAD & WHITE, ARCHITECTS.



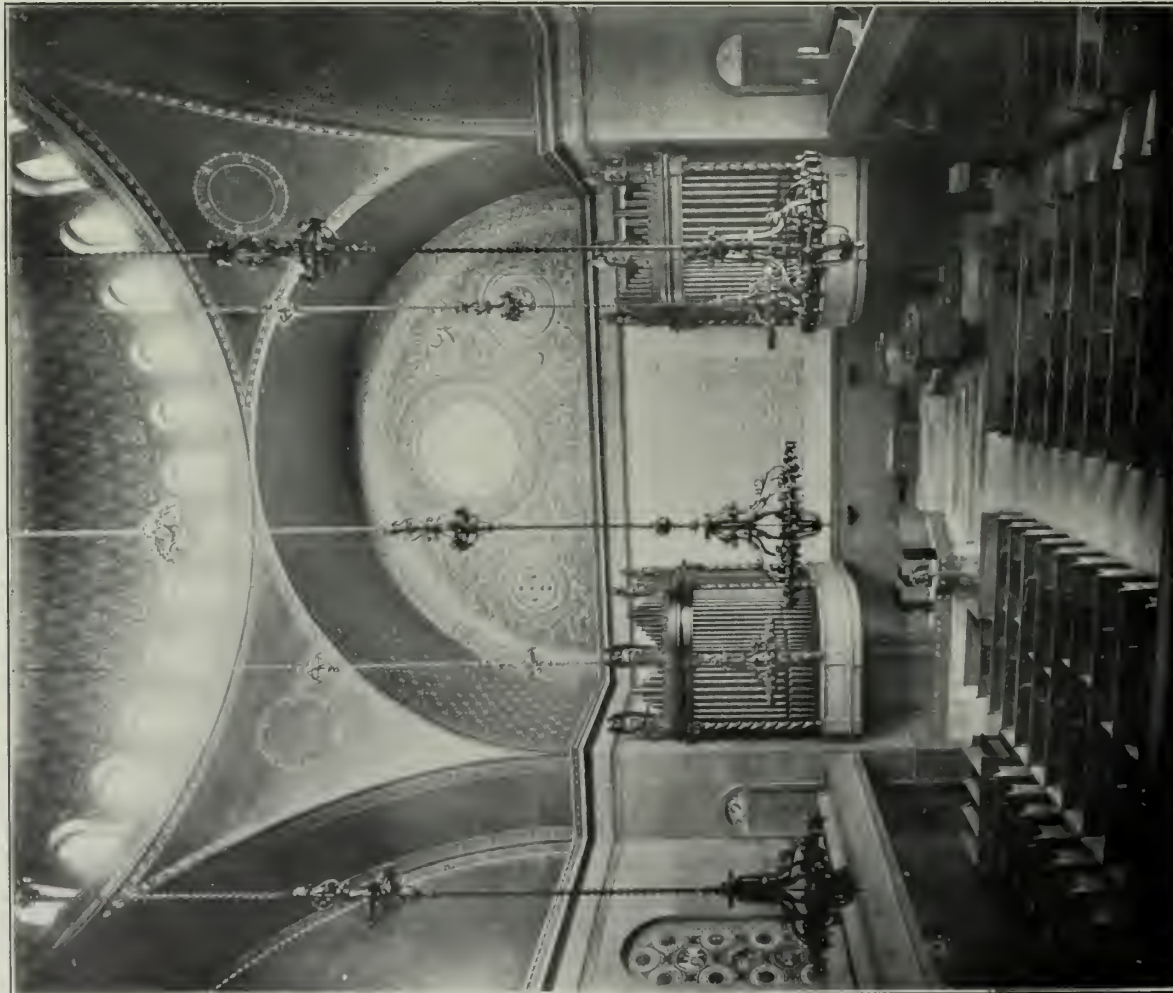


DETAIL OF CORNICES.

MADISON SQUARE PRESBYTERIAN CHURCH, NEW YORK.
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DETAILS OF SOUTH SIDE.
MADISON SQUARE PRESBYTERIAN CHURCH, NEW YORK.
MCKIM, MEAD & WHITE, ARCHITECTS.

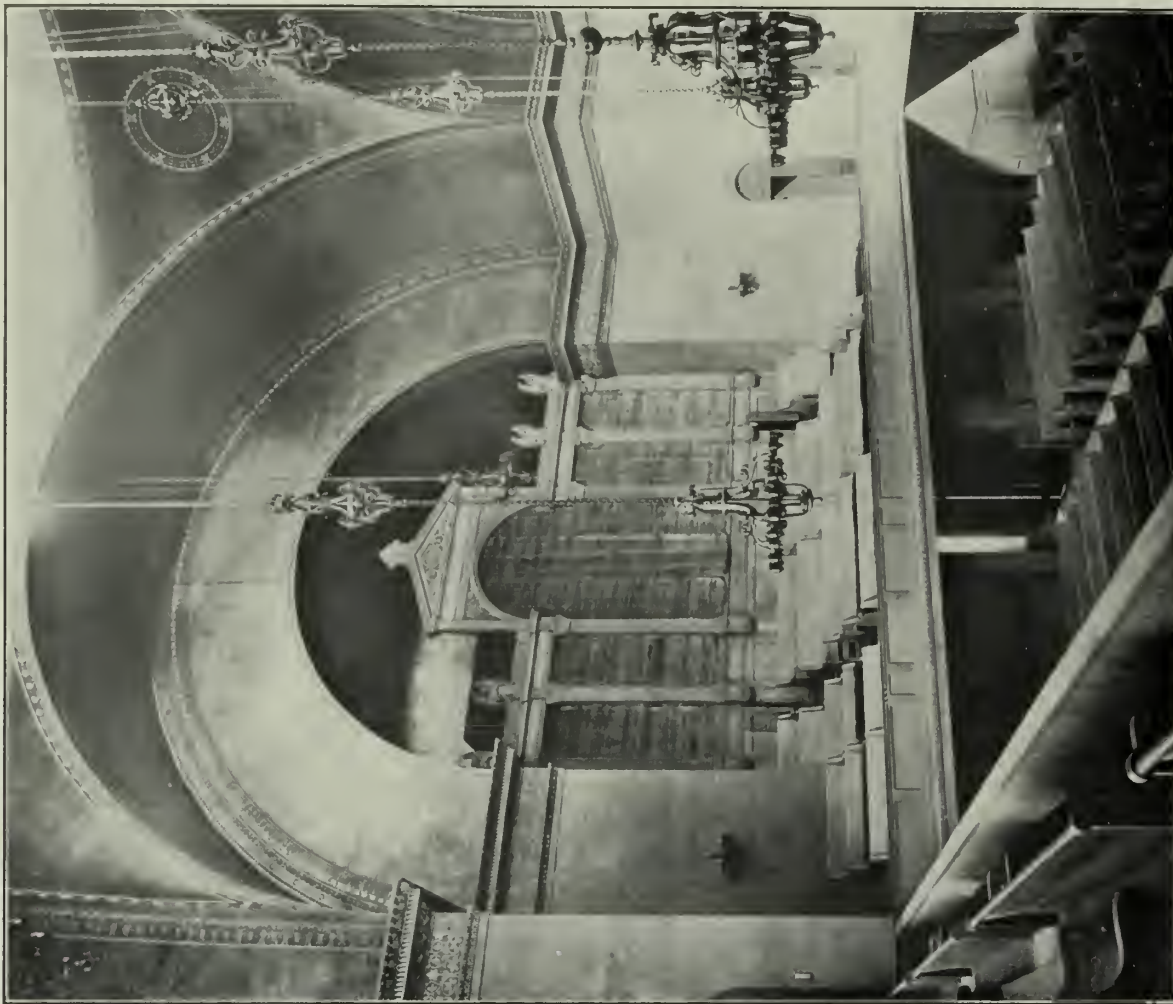


LOOKING TOWARD ALTAR.

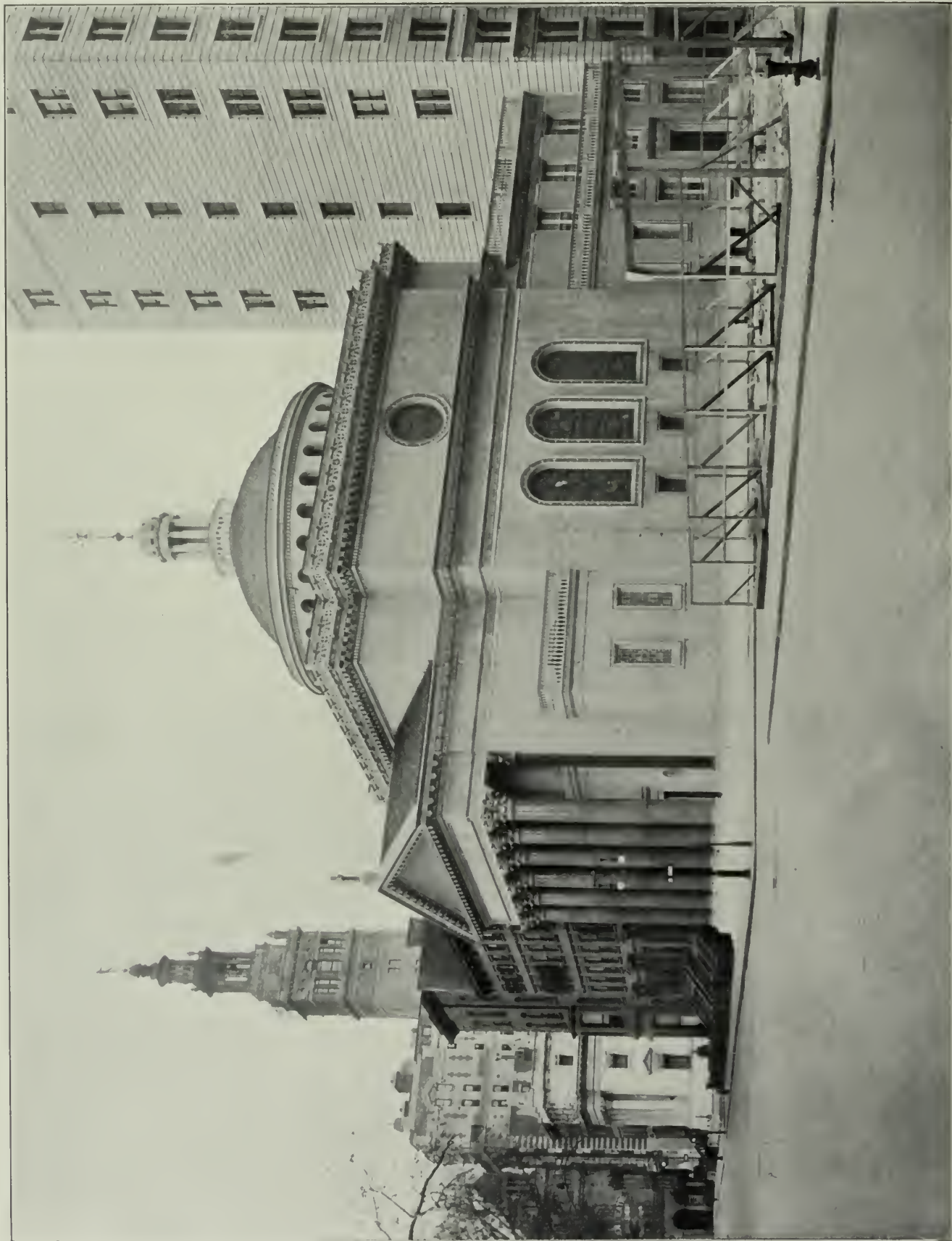
THE ORGAN PIPES ARE IN THREE CASES, AS SHOWN, AND OPERATED FROM A PORTABLE CONSOLE.

MADISON SQUARE PRESBYTERIAN CHURCH, NEW YORK.

MCKIM, MEAD & WHITE, ARCHITECTS.



LOOKING TOWARD GALLERY ORGAN.



MADISON SQUARE PRESBYTERIAN CHURCH, NEW YORK.
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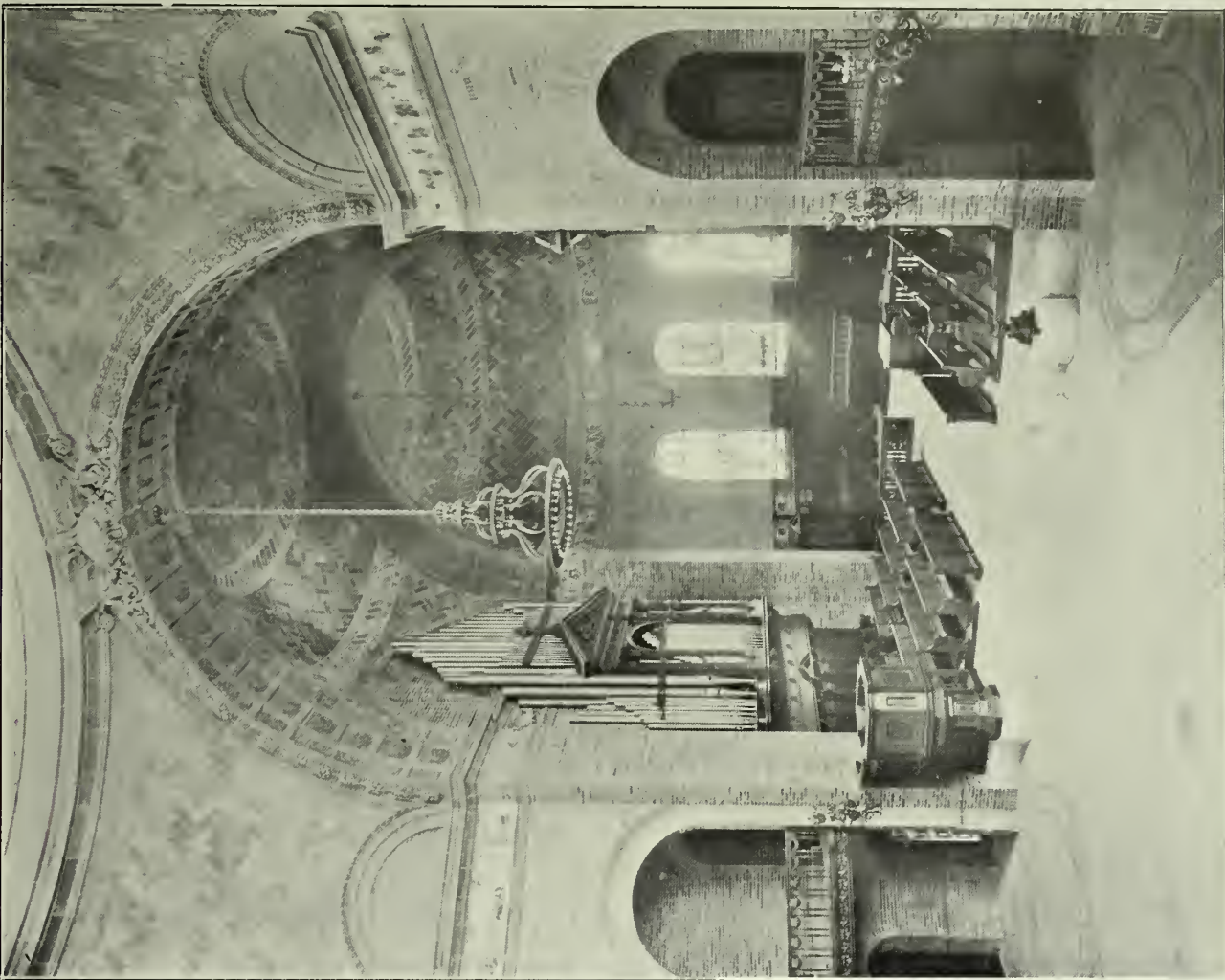


FRONT PORTICO.
MADISON SQUARE PRESBYTERIAN CHURCH, NEW YORK
MCKIM, MEAD & WHITE, ARCHITECTS.

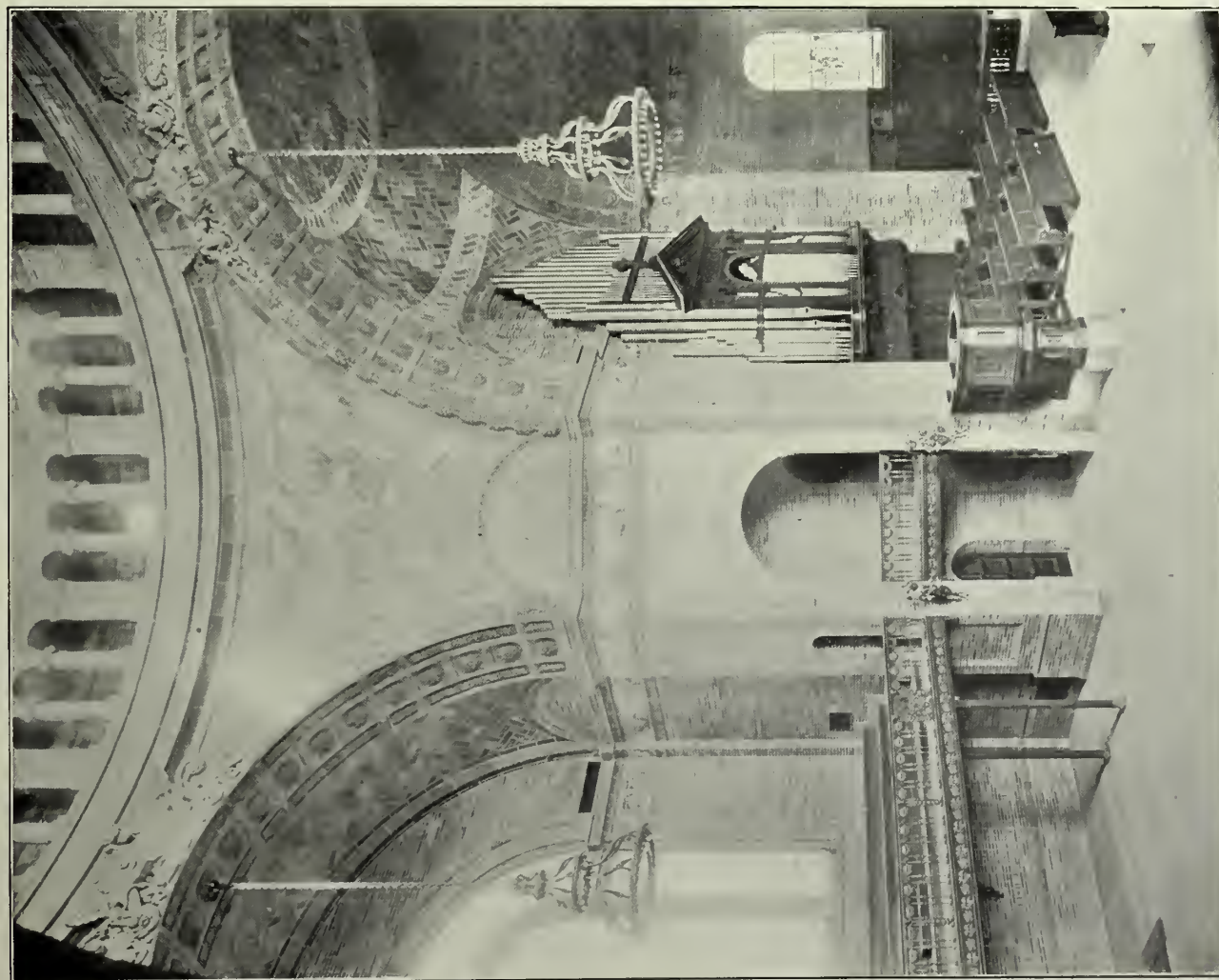


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LOOKING TOWARD APSE.



LOOKING TOWARD TRANSEPT.

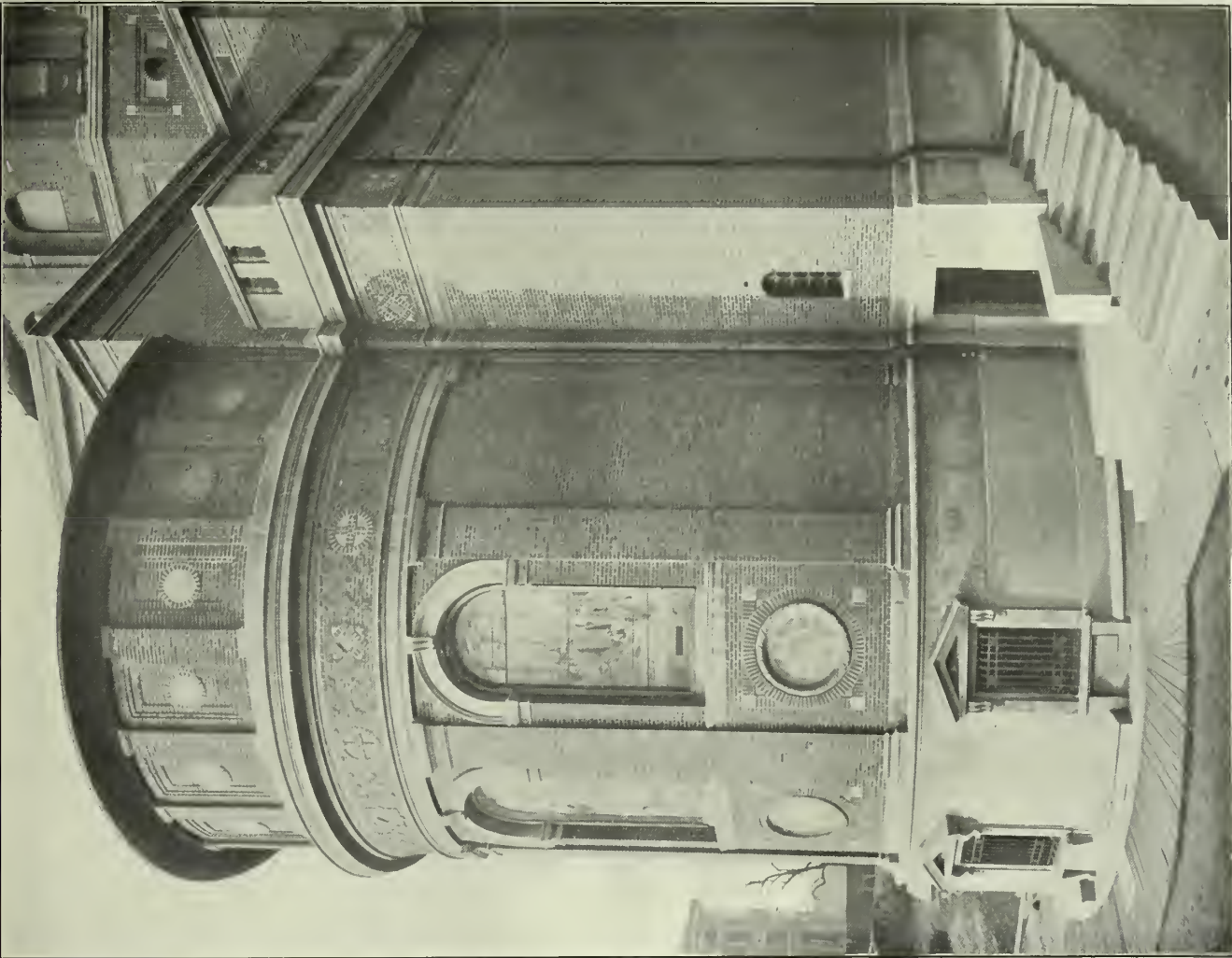
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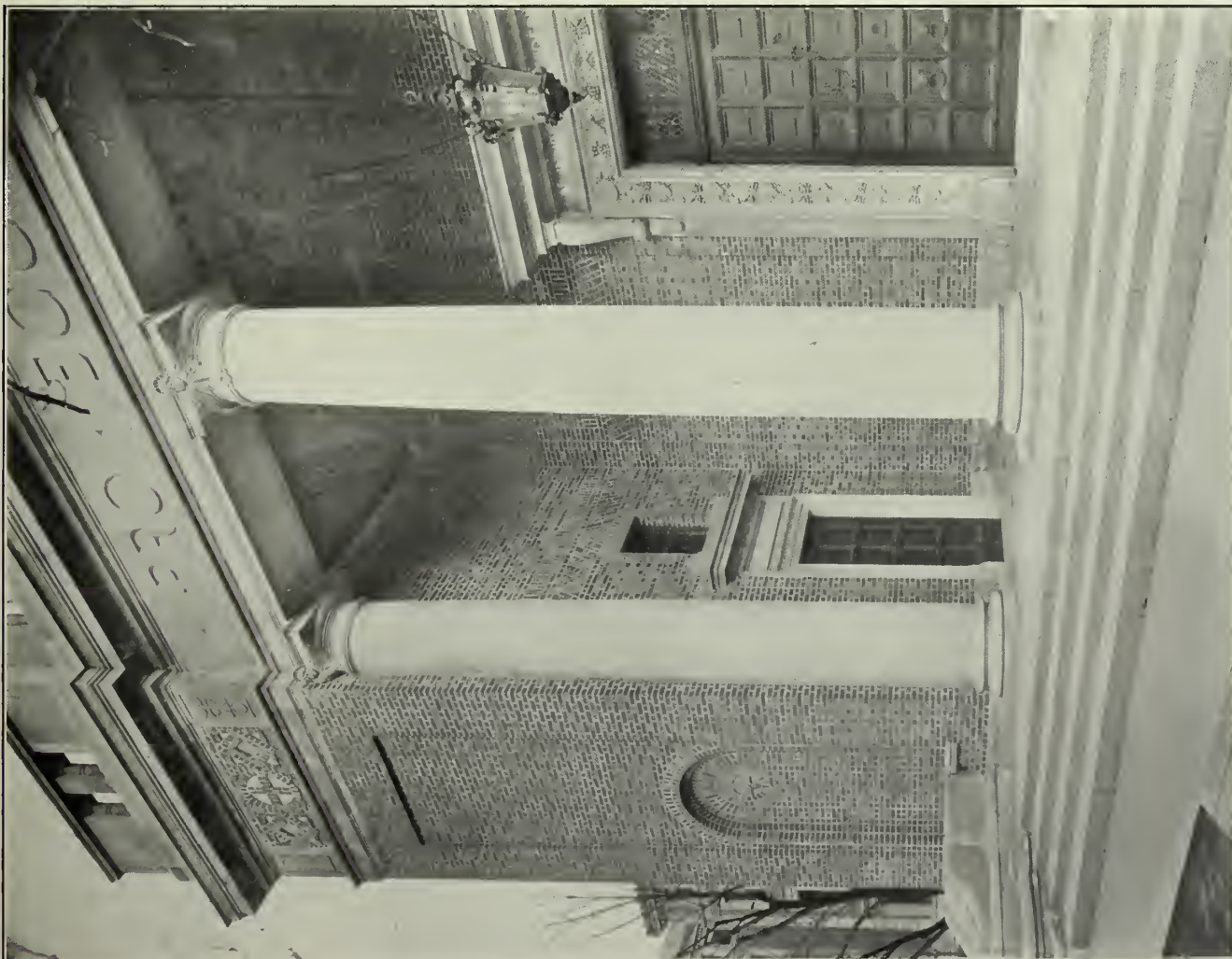


DETAIL OF DOME.

THE COLUMBIA UNIVERSITY CHAPEL, NEW YORK
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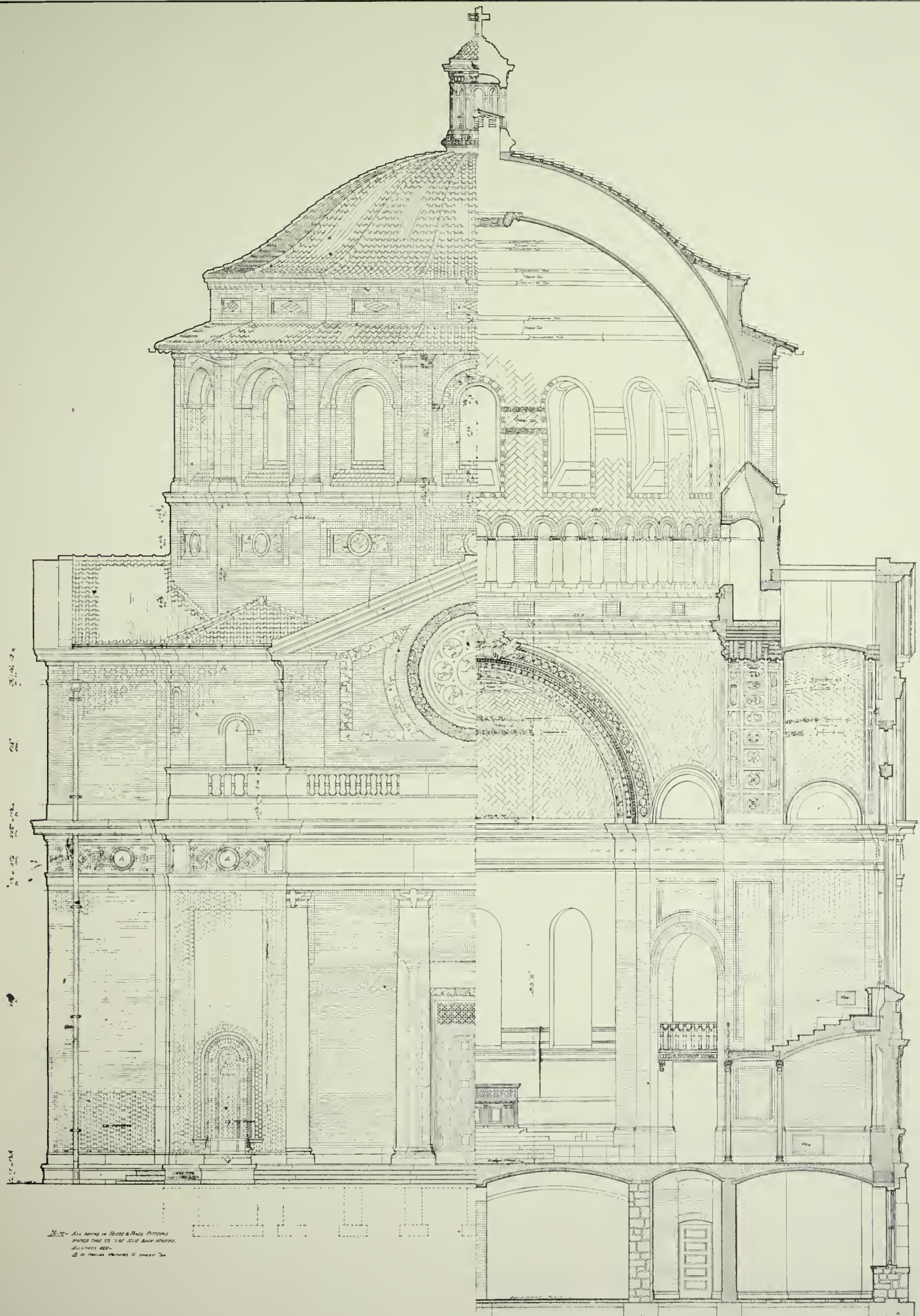


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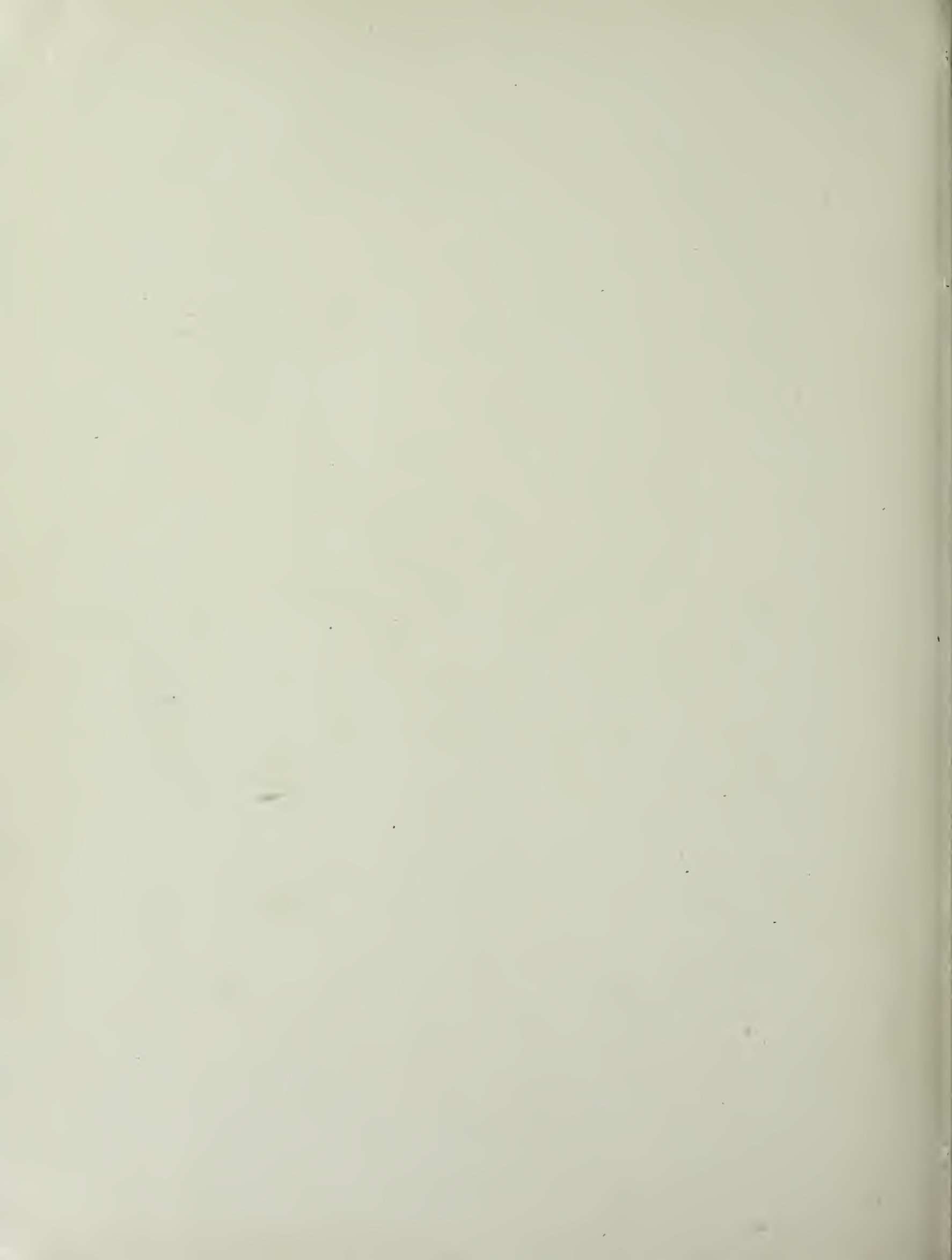
DETAIL OF PORTICO.

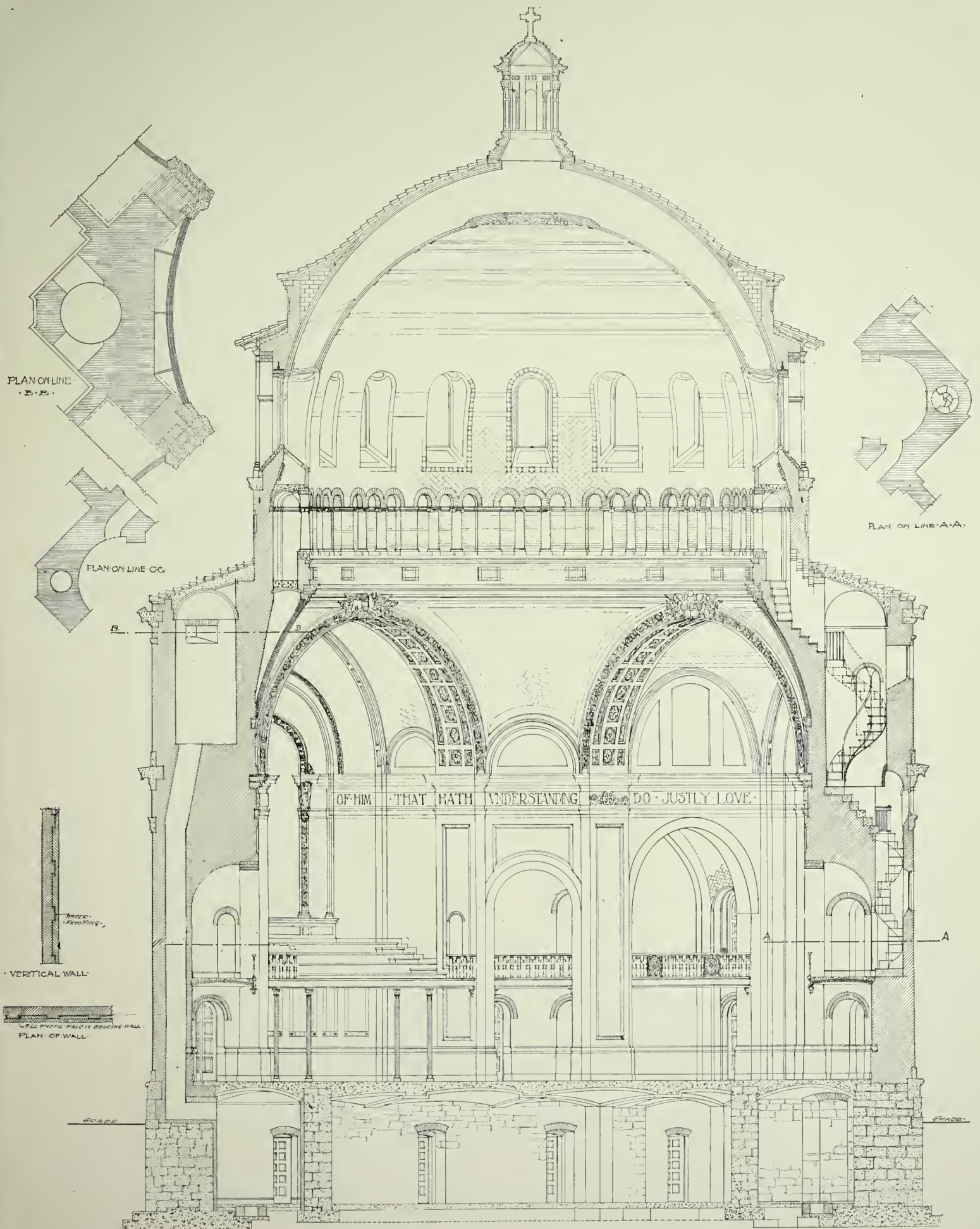
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NOTE - All masonry in this and other sections
shown this is to show the masonry
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HALF ELEVATION AND CROSS SECTION.
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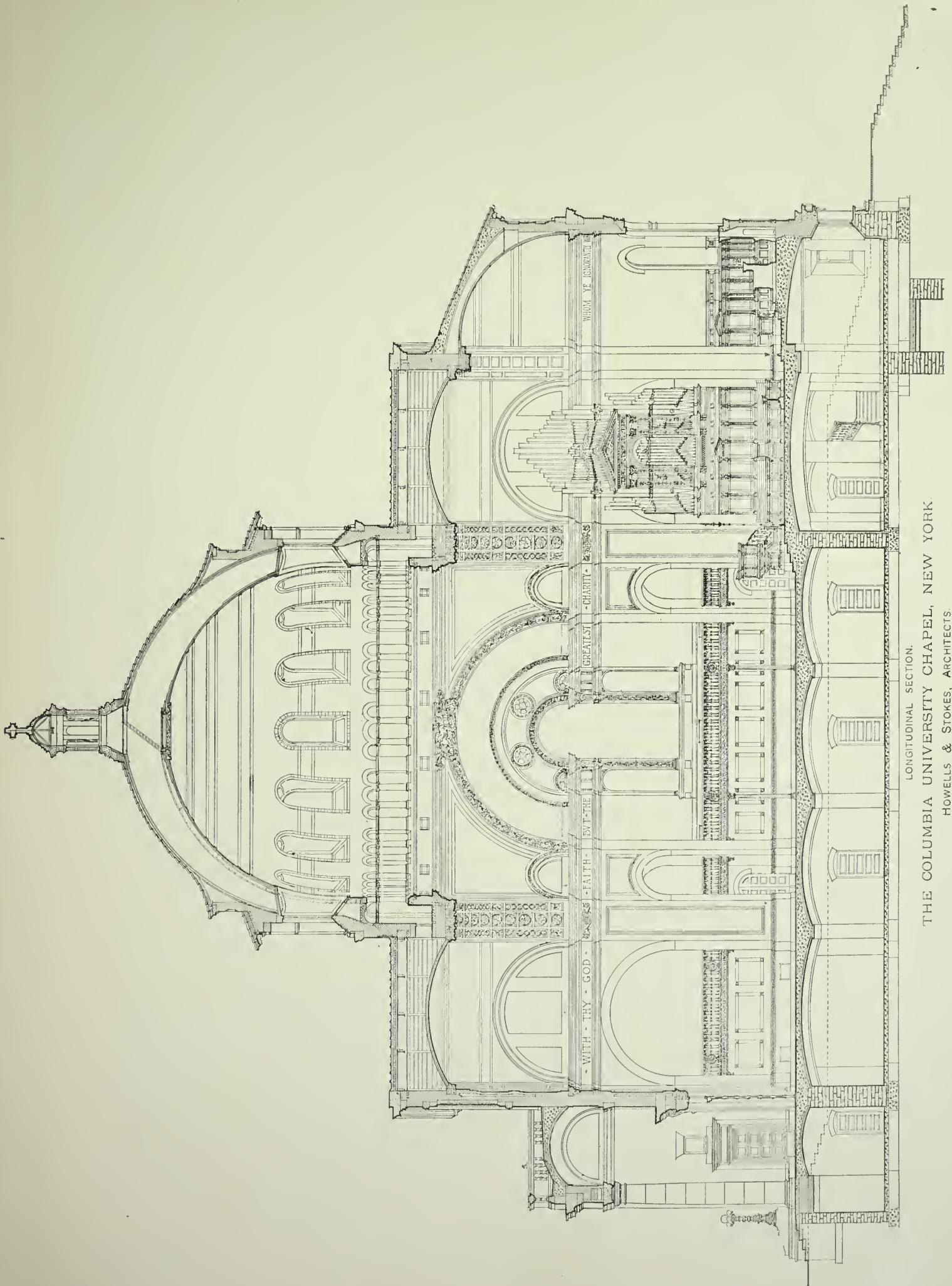


DIAGONAL SECTION SHOWING CONSTRUCTION OF PENDENTIVES, STAIR TO DOME GALLERY, ETC.

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LONGITUDINAL SECTION.

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