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The STUDIO OFFICE of BENJAMIN H MARSHALL at Wilmette, Illinois

By
Anne Lee

JUST A FEW MILES north of Chicago, in Wilmette, at the point where the shoreline of Lake Michigan is interrupted by the Wilmette Yacht Harbor, Benjamin H. Marshall has erected for himself a unique architectural studio.

There is nothing about the comparatively small portion of the building which faces Sheridan Road to convey a true impression of its size; nothing about the single story which rises from a knoll some twenty-odd feet above the harbor to tell its story to the casual observer, unless his imagination is stirred by the exquisite sgraffito frieze wherein appear the heads of Augustus St. Gaudens, Stanford White and D. H. Burnham (testifying to Mr. Marshall's opinion of their contribution to American art). But this adds to the charm of the studio, and serves as a prefatory surprise to the many in store for the visitor from the moment he steps inside the fifteenth century Roman gates.

Besides providing living quarters, am-

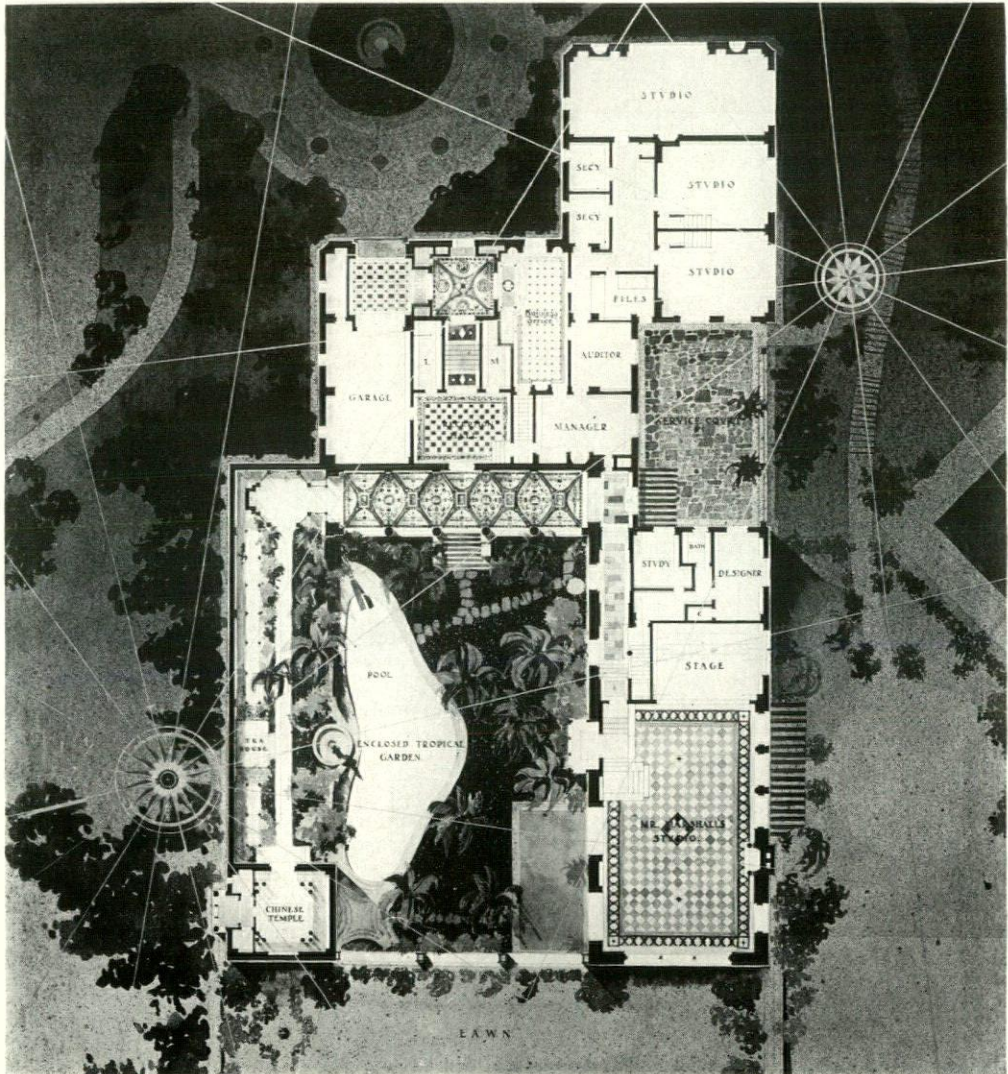
ple and splendid facilities for extensive entertaining and Mr. Marshall's own working studio, the building contains spacious quarters for the architect's staff of forty draughtsmen and clerical workers. Its beauty, its spaciousness and its tranquillity are stimulating to creative effort.

The building is fireproof, of skeleton steel construction, built of stucco with tile roofing. The salmon-tone of the frieze, executed by an artist brought from Rome especially to do that work, blends happily with the pale pink walls and the dull red tiles of the overhanging eaves. In assembling his miscellaneous objects of art and interest, treasures gathered from the four corners of the earth over a period of years with the idea of some day using them in his "ideal" studio, the creator has left an impression of his own personality. Within his walls, Mr. Marshall has captured something of the exotic beauty of the tropics; something of the mysticism of the Orient and the

exquisite charm of Egypt. These are the things which, threaded with Latin romance and Old World culture, he has woven into a fabric that has an undeniable spirit of its own; an appeal as coherently original and unique as it is reminiscent of other lands.

From the reception hall, the visitor passes through another pair of old Roman wrought-iron gates, flanked by Roman street lanterns, to stand enchanted in the loggia and gaze down upon an

enclosed garden where palms and banana trees raise their regal height; where mosses and vines grow in profusion; where the air is redolent with Spanish jasmine and other flowers; where orchids of many varieties blossom in harmony with the tropical growth, and where gay-plumaged birds flit about freely and return, at will, to the aviary concealed in the foliage. Flag-stone paths invite exploration. An irregularly shaped swimming pool, lined with turquoise tiles



Floor Plan of Mr. Marshall's Studio, Wilmette, Illinois



General View of Mr. Marshall's Studio

brought from Algiers (as were most of the ornamental tiles used in the studio), which reflects the beauty of the overhanging ferns, sparkles like a gem in its setting of living green.

Three huge windows, aggregating an opening 50 ft. square, form the end of the garden and overlook the beach, dotted with gay-striped canvas hammocks and sunshades, and an expanse of lake that is limited only by the horizon. The garden, which measures 75 x 110 ft. and is 50 ft. high, may be converted into practically an outdoor garden at will. At the pressure of an electric button the glass roof slides back and the sky becomes part of the garden itself. In the same way, the beach and lake are virtually added to it by merely pressing a button to lower the windows which operate on the principle of an automatic elevator.

At night, the garden's spell of loveliness is enhanced by subdued lights from the old lanterns reflected in the placid pool and by shadows that are deepened and elongated by the use of carefully hidden blue and green electric bulbs.

Looking up, the visitor sees an old Mohammedan wooden screen, once a harem window, which Mr. Marshall discovered in an out-of-the-way corner of Cairo. It now serves as a balcony for one of the bedrooms on the second floor.

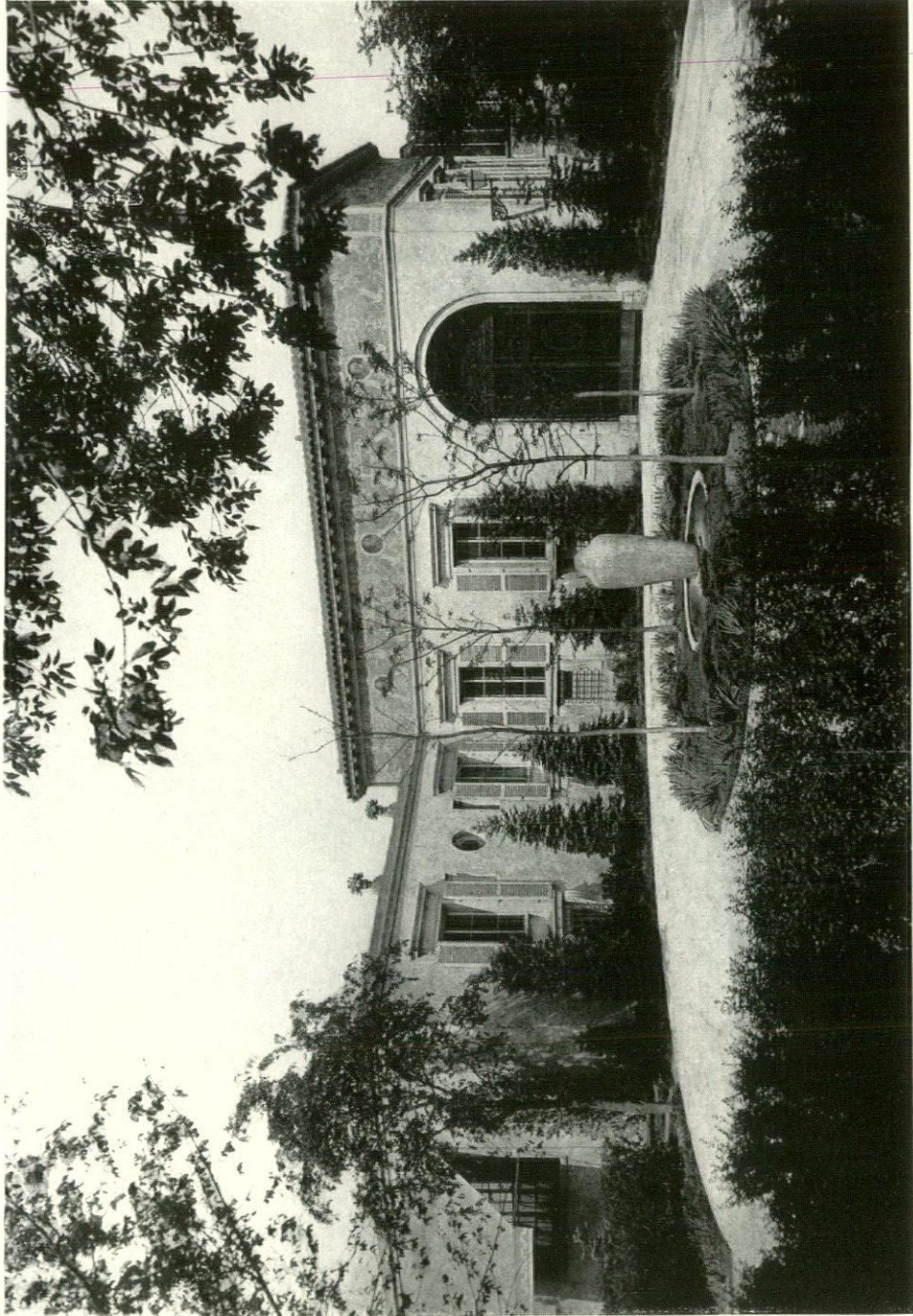
Taking one of the little by-paths, the visitor comes upon a Chinese Temple which offers a glimpse of Old China. Everything in the temple, from the Chinese pagoda and dragon portal to the exquisite carvings and embroideries and

the treasured Buddha enshrined therein, was brought from China. In true oriental fashion, the visitor enters unshod, for the floor-covering is heavily quilted satin. In a small alcove is an authentic Chinese Princess's bed brought from Peking.

At the corner of the garden, adjoining his studio, the architect thoughtfully provided a terrace where the visitor may sit in comfort and enjoy his surroundings.

Mr. Marshall's studio has little wall space. Seven large windows and a good-sized fireplace (a reproduction of one in the Doge's Palace, Venice, built of hand-carved stone), take up practically the entire length of the two outside walls. By the use of chenille hangings, elephant-gray in tone, to cover the small remaining wall space, and the use of the same material for window-hangings, an effect of a windowless room, a theatre-like effect, may be obtained. The end of the studio is occupied by a fair-sized stage, with lighting equipment comparable to that of a modern theatre. A vivid color-note is introduced by the use of a scarlet Chinese silk drop. Tables to make a banquet board for seventy-five guests are stored in the under-stage region.

Placed on easels in front of the north windows are two huge blackboards where Mr. Marshall does his designing with colored chalk. In the far corner is a fifteenth century Roman pulpit richly carved. From that pulpit moving pictures are flashed onto the silver screen on the stage. From that pulpit, too, plans and sketches are flashed onto the screen by

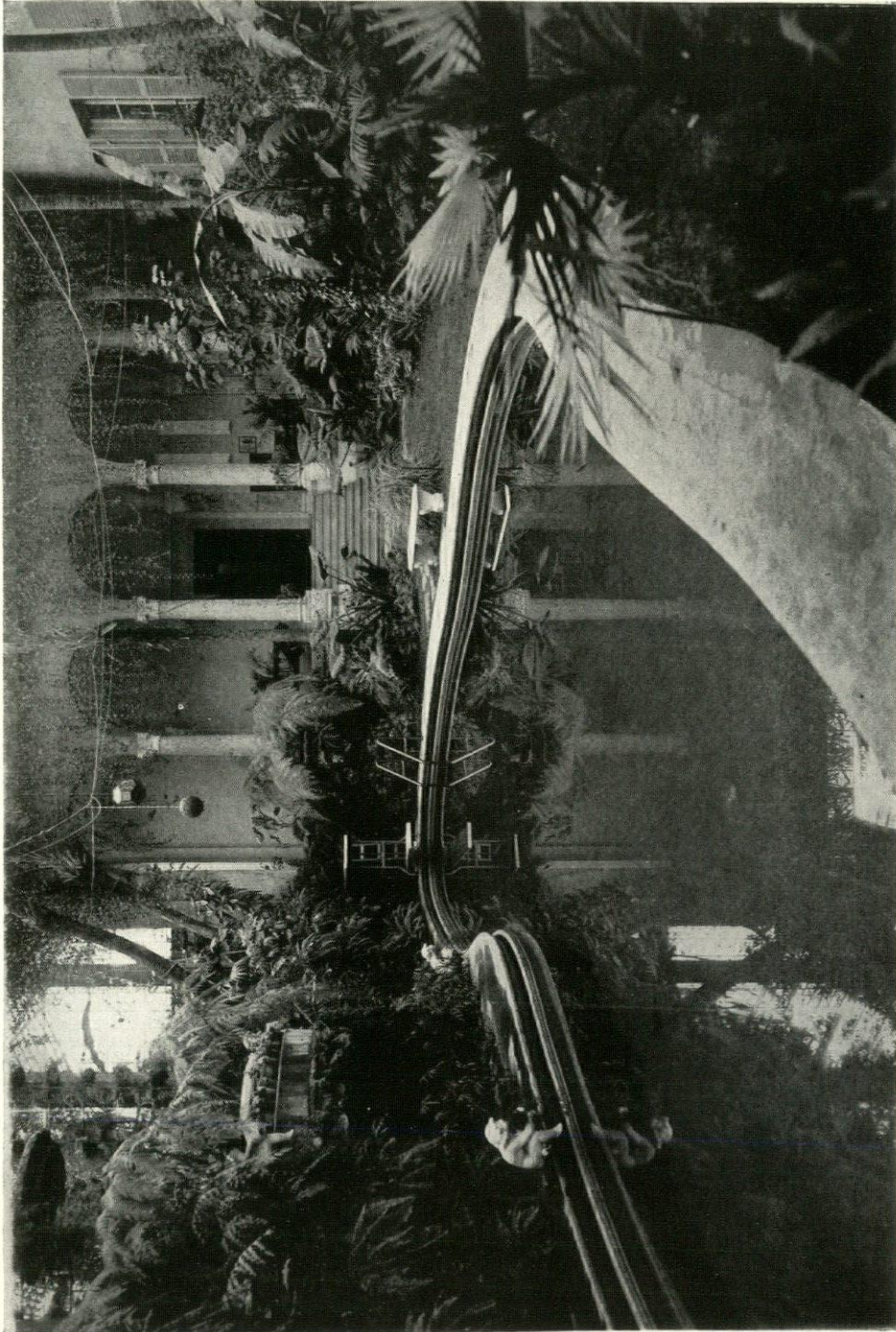


The Architectural Record

Entrance Court

THE STUDIO OFFICE OF BENJAMIN H. MARSHALL, WILMETTE, ILLINOIS
Benjamin H. Marshall, Architect

March, 1927



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Swimming Pool in the Enclosed Tropical Garden
THE STUDIO OFFICE OF BENJAMIN H. MARSHALL, WILMETTE, ILLINOIS
Benjamin H. Marshall, Architect

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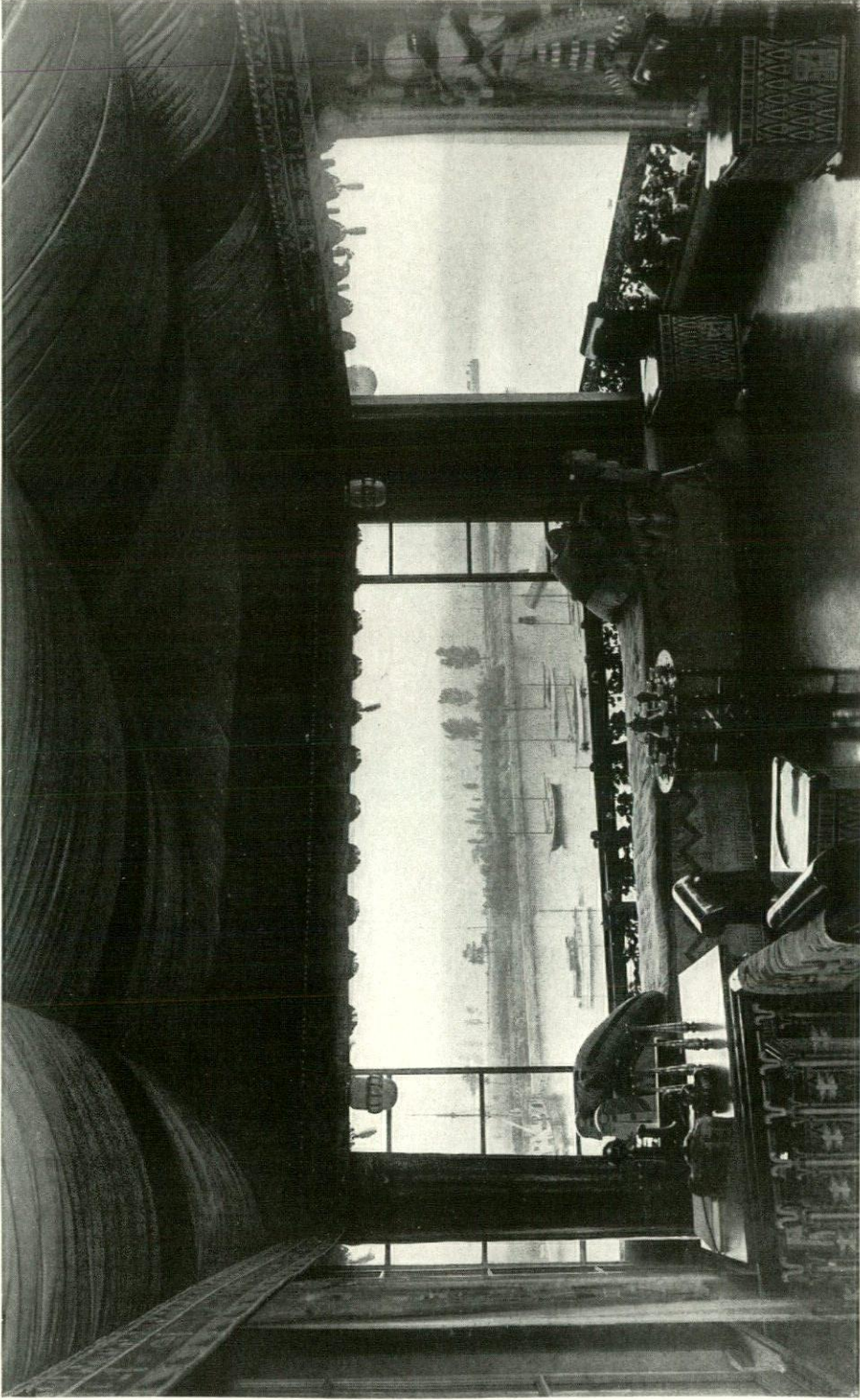
Loggia, Leading to the Tropical Garden
THE STUDIO OFFICE OF BENJAMIN H. MARSHALL, WILMETTE, ILLINOIS
Benjamin H. Marshall, Architect



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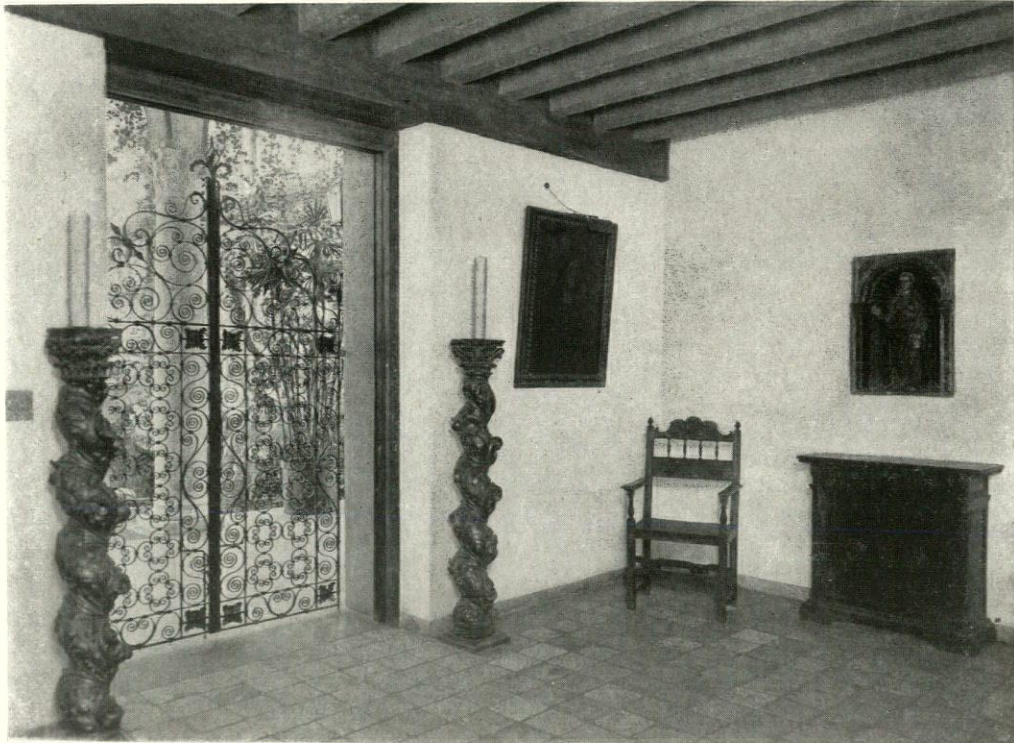
The Chinese Temple
THE STUDIO OFFICE OF BENJAMIN H. MARSHALL, WILMETTE, ILLINOIS
Benjamin H. Marshall, Architect



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Egyptian Porch, Overlooking Wilmette Yacht Harbor
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(a) The Draughting Room.

(b) Reception Hall

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THE STUDIO OFFICE OF BENJAMIN H. MARSHALL, WILMETTE, ILLINOIS
Benjamin H. Marshall, Architect

means of a stereoptic machine, for the benefit of Mr. Marshall's clients. The architect contends that the blueprint is not understood by the average layman and that lantern slides, made by simply photographing his drawings, are not only more understandable but convey a better impression to the client.

One of the interesting notes in the furnishing of this room is the use of an old French sedan chair as a telephone booth. Antique Italian chairs, modern, comfortable davenports, tables laden with magazines and books, a tiny harpsichord, one or two large paintings and several pieces of sculpture complete the studio, which is effectively lighted by huge wax tapers supported by the capitals of mediaeval carved columns.

Mention must be made of another nook before proceeding to the next floor, namely, the tiny ship's cabin under the staircase. With its unpolished woodwork, its scarlet leather upholstery and its array of beverage containers, the cabin is a favored spot. To complete the illusion that it is, in fact, a ship's cabin, a port-hole discloses the *Ambrose Lightship* riding the waves, and little room is left for doubt when a hidden switch sets the good ship in motion.

A pair of ebony doors (which once belonged to Stanford White) carved with the coat of arms of the Medici family, lead to the floor above where there are bedrooms overlooking the tropical garden, a service pantry and an excellently appointed Turkish bath.

The corner of the building overlooking both the yacht harbor and the lake rears its head above the rest and provides another floor, which is devoted to the Egyptian Porch. The cartoons and furniture for this room were designed from originals found in Luxor. Large, comfortable divans piled with pillows and a decorative scheme of red and yellow carry out the atmosphere of the Nile. But one of the foremost features of the room is the trick table which appears or disappears at will. There is no indication of its existence until a rectangular portion of the floor raises itself to the full height of the room and forms a

canopy over the table, the pillars and canopy being appropriately decorated and lighted in keeping with the Egyptian style. The entire unit operates between the Egyptian Porch and the service pantry directly underneath. The mechanism through which this is accomplished consists of a winch connected to the bottom of a counter-weight, the top of the counter-weight being connected through a series of ropes and pulleys to the four corners of a platform under the floor. The table is raised by pulling the counter-weight toward the floor and lowered by releasing the counter-weight. To facilitate final cooking preparations, the service pantry is equipped with stove, refrigerator and sink. The table is completely set before it is raised into position in the Egyptian Porch above.

From this porch there is access to the upper roof garden. Lavishness is the keynote even in the matter of roof gardens, of which there are two, a terrace-effect having been made possible by broken roof levels. A formal garden with dwarf fir trees and a lawn of "putting green" texture overlooks an informal terrace with flower beds. There one sees, too, an old wrought-iron grille which once graced a beautiful home in the French Quarter of New Orleans, and on the window is a rusty casement from an ancient Castilian palace. A glass-bottomed gold-fish pool in the formal garden serves ingeniously as a skylight for the Pompeian rotunda on the floor below which gives access to the Egyptian Porch and to the informal roof garden.

In building and equipping this unique studio Mr. Marshall, who numbers some of Chicago's finest hotels—The Drake, The Blackstone and The Edgewater Beach—and public buildings among his work, was able to interpret a dream of long standing. Though to the casual visitor the studio is now complete in every detail, to its owner, it is only well begun. In fact, Mr. Marshall confides that he never expects to finish it; that there will always be more things which he will want to add. His approaching trip to India will very likely result in a colorful addition of Indian art.

The OUTLINE of SKETCHING

By André Smith

IN THESE DAYS when everybody is outlining something or other for everybody else, when everyman's library is a three foot shelf of outlinings, when knowledge comes in gulps, I hasten (before somebody beats me to it) to give the world a brief outline of sketching.

And I offer this outline first of all to the young architect still young enough to want to sketch even if he doesn't, or won't give time to it, or intends to next year or later, when he travels. Chiefly when he travels in Europe; it is there that the idea of sketching comes to him the hardest. And very often he does sketch, and more often he does not. The reason why he does not is because sketching takes time, is not as easy as it looks, and it means carrying sketching stuff, sketch book, water colors, a camp stool for the more painstaking.

However, if sketching were made easy, took no time, and the least material burden . . . That would be different.

Hence this Outline of Sketching. The sketching which I herewith advocate and demonstrate is of the fast and easy method. And the underlying idea is this: Small sketches done with big pencils. And the reasoning is this: the smaller the sketch the less space you have to cover, and the bigger the pencil (point)

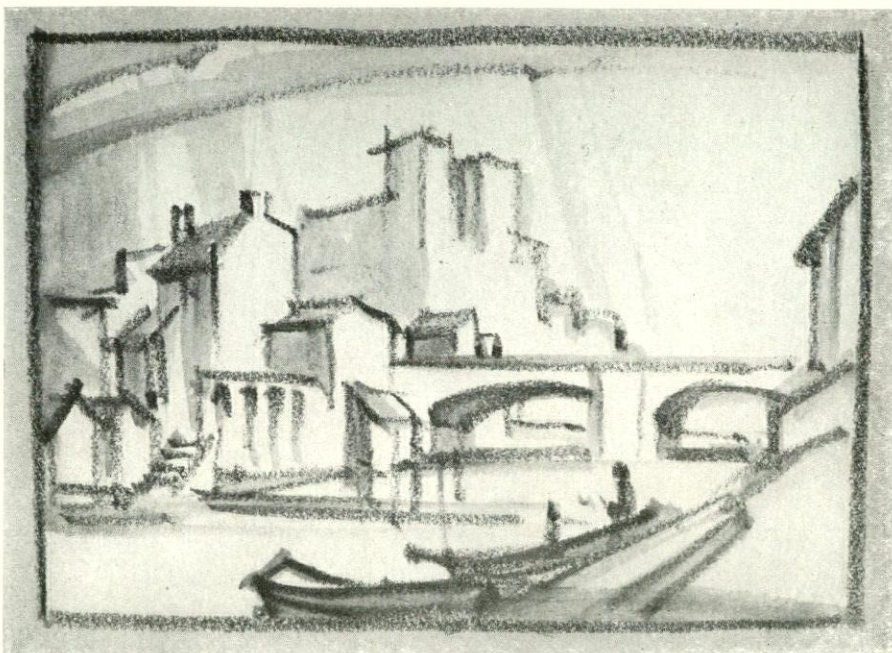
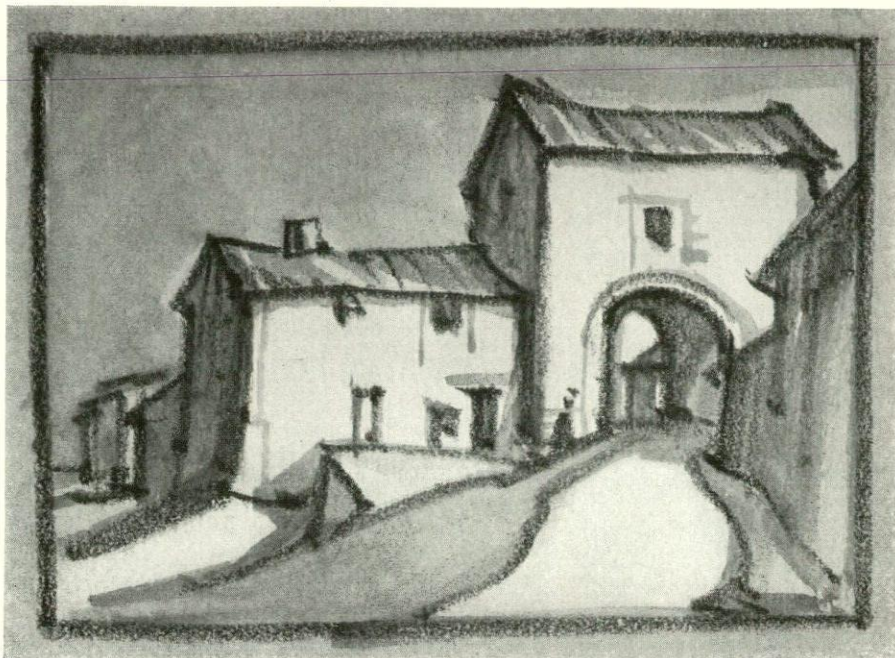
the fewer strokes you will need.

Now look at the illustrations. Five minute creations done with a soft "litho" pencil and a slight wash added afterward; a few dozen lines at the most. (They have been reproduced the exact size of the originals.)

Is snapshot sketching of this sort worth while? Certainly yes! If you don't believe it, try it. Collect for yourself the next time that you are abroad a set

of these brief notes; thirty, forty, fifty of them, concentrated records of concentrated visualizations, and see if they don't look pretty good to you when you get back home. See if they don't



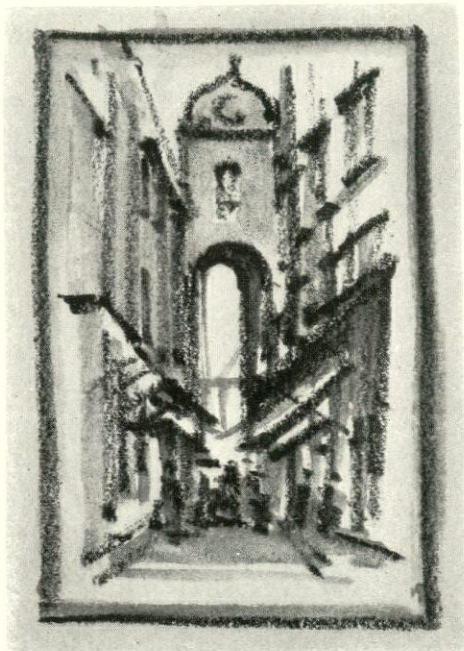


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FIVE-MINUTE SKETCHES

Done with a soft "litho" pencil and a slight wash added afterward



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FIVE-MINUTE SKETCHES

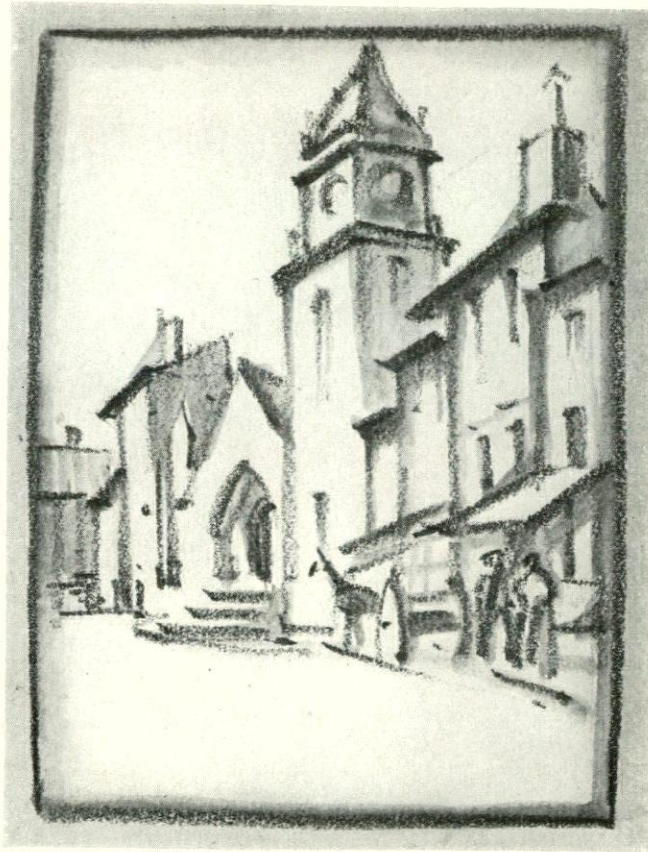
Done with a soft "litho" pencil and a slight wash added afterward

look at least a lot better than those sketches you always intended to make and never did.

And now I hesitate to make this next statement: Sketches like these *will do you good*. I am sorry, but it's true. That over-all concentrated point of view, that grabbing of the essence and the spirit of the scene that these small sketches require of the man who makes them, has an amazing way of making him see the essential mass and to ignore the unessential details. Most architects, traveling ones especially, seem to prefer details to mass. Their sketch books will prove that. They are always drawing fragments, mouldings, ornaments, a doorway, a chimney pot; almost everything but the building itself, and the street that it is in, and the rest of the town thrown in for full measure. Years later they find out that they were quite

mistaken about their selection, that they have developed their observation in exactly the wrong way. Most architects are old and grey and doddering by the time they make this discovery . . . if at all.

Hence, youth in architecture, take warning! Make yourself see big and prove it by drawing it small; get the mass and shun the details. Let one firm, confident stroke of your soft pencil mean a whole cornice, and a down stroke a window, and a few more lines a flight of stairs, and a curve an arch. What else is there in any sketch than this: A few right lines in the right place? All the rest is paper and the constant willingness of the observer of your sketch to supply the details. So let him do it; he enjoys it, and will no doubt do it better than you could. And that is all there is to the Outline of Sketching.



The MODERN CHURCH AUDITORIUM

By Thomas E. Tallmadge

AT THE BEGINNING of this century there were in every typical eastern town three distinct types of churches, and in every western town there were two—a reference to architecture, not denominations. In the East the simple and charming colonial meeting-house of white wood or red brick, with its pillared portico and its slender spire pointing to Heaven like a white finger—well brought-up and well behaved children of old Sir Christopher, each with hair neatly brushed, face and hands thoroughly scrubbed, and clad in a clean white frock. Had they not rung with the fulminating polemics of Jonathan Edwards and Cotton Mather, one would have said that colonial churches were to be seen and not heard. These were the first.

The second are the thin and awkward offspring of the Victorian Gothic. None too robust in England, they fared badly enough in the ocean trip. There are still many of them about us as they were built anywhere between 1850 and 1880. My early recollections of such a church are vivid. It was built of Milwaukee brick, and was in two high stories. The windows were high, thin, and narrow, and there was a spire of the same description. The ground floor contained the Sunday School from the vestibule of which by steep and narrow steps the walnut stairway led a winding course to an upstairs vestibule. Here the late comers, crowded together in the narrow space, awaited the end of the long prayer. The auditorium, once gained, was very high and very bare. It was entirely without architectural treatment except that the plastered walls leading up to the pointed ceiling were frescoed along the top and along the bottom with what the local decorator considered to be Gothic ornament. We wonder what made him think

so! There was a high gallery entirely around the room, supported by attenuated cast-iron columns. The chancel, in which the gallery culminated, as was proper, had received the greater part of the attention and the expense. It was a pathetic example of the inevitable failure of devotion, enthusiasm, and sacrifice, without knowledge, to create beauty. But why continue with a description which would contain an irresistible temptation to ridicule? For ridicule applied to temples which were built, particularly in the West, in the heroic days of evangelism would be little less than sacrilege. When the fate of the Union was at stake and a new empire was to be consolidated beyond the Mississippi, the people had little time for the fine arts. This old church, built in 1871, was torn down fifteen years ago.

On a near-by corner stood, and in part still stands, as it is being wrecked as I write these words, another church of another denomination and of a very different appearance, and this is our third type. Instead of the yellow Milwaukee brick, its material was red pressed brick, all the style in 1883 when it was built, and, by the way, each year at the approach of cold weather, its other time ruddy complexion broke out in an unsightly rash of saltpetre. In place of thin, narrow, pointed arches the windows were broad, squat, and had round heads. A tower with a dome-like cupola had supplanted the thin spire. In general appearance obesity had succeeded emaciation, and floridity anemia, but beauty had not appeared. This was one of the thousands of ugly ducklings hatched out under the beautiful swan mother, Trinity of Boston. It was called Romanesque, and was a product of what is called the Romanesque Revival. The interior was

as startlingly unlike its elder neighbor as the outside. Instead of long and narrow, it was short, almost square, in fact, and the pulpit, organ, etc., hardly a chancel under the circumstances, were cunningly tucked into one corner. The floor was sharply bowled, and the pews all curved as they had to be in a catcornered church. The windows were picture windows—biblical scenes done with startling realism on a grandiose scale. The woodwork was golden oak, the organ pipes much in evidence and highly decorated as were also the walls and the ceiling. One wall, however, seemed to be a huge gate or portcullis, and so it was, for by some mysterious means it would rise or fall out of sight, disclosing the whole of the Sunday School—its assembly room with its radiating classrooms arranged to accord with the latest improvements in the Akron Plan.

It is the successor to this type of church, that we in this generation call the modern church, appearing a little before the beginning of this century, that I am attempting to describe. The Romanesque Revival was given the *coup de grâce* by the World's Columbian Exposition in Chicago in 1893, but the renaissance of beauty and taste in ecclesiastical architecture was due to Ralph Adams Cram and Bertram Goodhue in the late nineties. This real revival of Gothic, together with the new method in Sunday School teaching known as the departmental system, introduced in 1907, has caused a genuine revolution in church architecture. A sky-scraper of 1926 is not more different from the cast iron front five-story office building of the seventies than is a complete church of today from its predecessors of fifty years ago. It is to this revival, then, beginning about 1900, that the modern church belongs, but architects quickly discovered that they would have to stray farther from the cloistered paths of mediaevalism than did their masters if the problems presented by the modern church were to be solved.

For instance, one of the most disappointing, not to say exasperating, things in architecture is that the form and ma-

terial of the Christian Church, glorified and sanctified during the 13th century in the Gothic cathedral, is the worst possible for the auditorium of the Christian Protestant church of the 20th century. The long-drawn nave and fretted aisles, while conducive to the greatest spiritual exaltation in a service of ceremonial, result in acute disappointment in the modern preaching and participating service, where the ability to hear and the right to see are essentials. In other words, the cruciform plan of an auditorium built in stone, especially when of great height, is the worst possible for acoustics, and the great length of nave and the intervening piers of aisle and crossing interfere with the view of chancel and pulpit thus making visibility equally difficult.

So, fortunately, perhaps, in our first consideration of the auditorium we must abandon any dream we may have had of transplanting even as a seedling either a Chartres or a Westminster Abbey. Cut off, then, from our archeological moorings, by what compass can we steer? Our chart is the simple program of requirements for a proper room in which to worship. These requirements are, briefly, a sufficient size, and not too much, to accommodate the estimated audience: a proper shape and material to insure good acoustics; an absence of interfering structure which would obstruct a good view of chancel and pulpit. Then come the more specific requirements; a determination of size and arrangement of the choir and the organ; the location of the pulpit, communion table, lectern (if there be one), and the communion rail. There are, as well, the requirements of the adjuncts of the auditorium—the narthex or vestibule; the balcony and its stairways. And then above all is the requirement of architectural beauty, fitness, and taste. The "ministry of beauty" is no idle term when applied to the building of a church. Wayward and laughing, art can become a "nun breathless with adoration," and a church which wilfully or carelessly declines the gentle aid that art can lend fights a battle against almost hopeless odds.



View through the nave of a great auditorium seating 2,000. The brilliant colored trusses and roof are by Frederick Bartlett. Windows by Charles Connick.
FOURTH PRESBYTERIAN CHURCH, CHICAGO, ILLINOIS
Cram, Goodhue & Ferguson and Howard Shaw, Associated Architects

To return to a particularization of our program. The size of the auditorium is the first consideration. Almost every church overestimates its requirements in this respect. A good rule for a new church in a growing community is to add fifty per cent. to its present church membership for expansion, and take one-half of the result as the seating capacity of the new auditorium. This same rule applies to the Sunday School, and in a healthy church it will usually be found that the numerical capacities of the auditorium and of the Sunday school are identical. An auditorium seating seven hundred to eight hundred is a "big" church, and one thousand two hundred is a maximum for any auditorium. Where the average attendance is less than four hundred the wise procedure is to have one room serve the dual purpose as auditorium for the church and assembly room for the Sunday school. In this case, of course, chairs, and not fixed pews, must be used. The chancel must be arranged to use as a stage, and the architectural adornment must not be so ecclesiastical that it will dampen the ardent spirits of the younger generation at a Saturday night party, or even deter the boy scouts from a game of basket ball.

The fashion of opening the assembly room of the Sunday school through ugly and recalcitrant doors into the end or side of the auditorium is fortunately past. This ungainly and impractical device was one of the attributes of the discredited Akron plan of the Sunday school. Gone, also, I trust forever, is the chancel in a corner of the auditorium; gone are the bowled floors; gone are the fresco decorations; gone the golden oak furniture and the florid windows; gone the decorated organ pipes.

The ideal auditorium of today in shape is very like a shoe box, about a half longer than wide and a little wider than high. If it has transepts (and they will add greatly to its beauty) they should be shallow and in width about half that of the nave. If the nave is over fifty feet in width, there should be piers an aisle's width from the side walls. These piers will, of course, support a clerestory,

which may be either high, in which case the piers and the aisles will be low, or the piers and aisles may be high with a diminutive clerestory above. An equal division is, of course, to be avoided.

The floor of our auditorium is covered usually with two different kinds of material, one on the aisles and one under the pews. The best and most beautiful material for the aisles is slate. This is cut in regular or random shapes with a natural split surface and laid on a bed of cement. The slate is not only beautiful in itself, but is nearly noiseless, and has a particular grateful feel to it. After the slate, in descending excellence, ranks cork tile, linoleum, encaustic tile, carpet, and various kinds of composition. Linoleum or cork carpet is the best material under the pews.

For the walls of the nave, stone, noble and beautiful as it is, sanctioned by centuries of glorious usage, is absolutely taboo. A very restricted use in piers or the edges of the windows may do no harm, but any considerable use of it in the exposed walls of the auditorium will ruin the acoustics. The same is true of brick, marble, or any polished hard surface. An absorbent surface is necessary, and nothing is better than humble and ubiquitous plaster, and even this material should be roughly finished and applied to lath furred out from the masonry wall. Sufficient acoustical material of one kind or another should be used so that a sound will be absorbed in about $3\frac{1}{2}$ seconds if the auditorium be empty and in $1\frac{1}{2}$ seconds if filled.

The ceiling offers the best opportunity, not only to beautify the auditorium, but to insure that every joyful noise made unto the Lord shall be heard once distinctly and not more than once. Plaster such as we have used on the walls is good, but wood or one of the patent acoustical materials is better. Any one of these substances makes it impossible, if you have any regard for the truth and any sense of humor, to employ the soaring ribs and vaults of a mediaeval cathedral. An all-wooden ceiling gives the architect every opportunity to achieve beauty and dignity. The trusses, if the



A brilliant attempt to get the most out of a small space and all of the
dignity and beauty possible in a denominational church
THE CHANCEL, FOURTH PRESBYTERIAN CHURCH, CHICAGO, ILLINOIS
Cram, Goodhue & Ferguson and Howard Shaw, Associated Architects



FIRST METHODIST CHURCH, GARY, INDIANA
Lowe & Bollenbacher, and Granger & Bollenbacher Succeeding, Architects

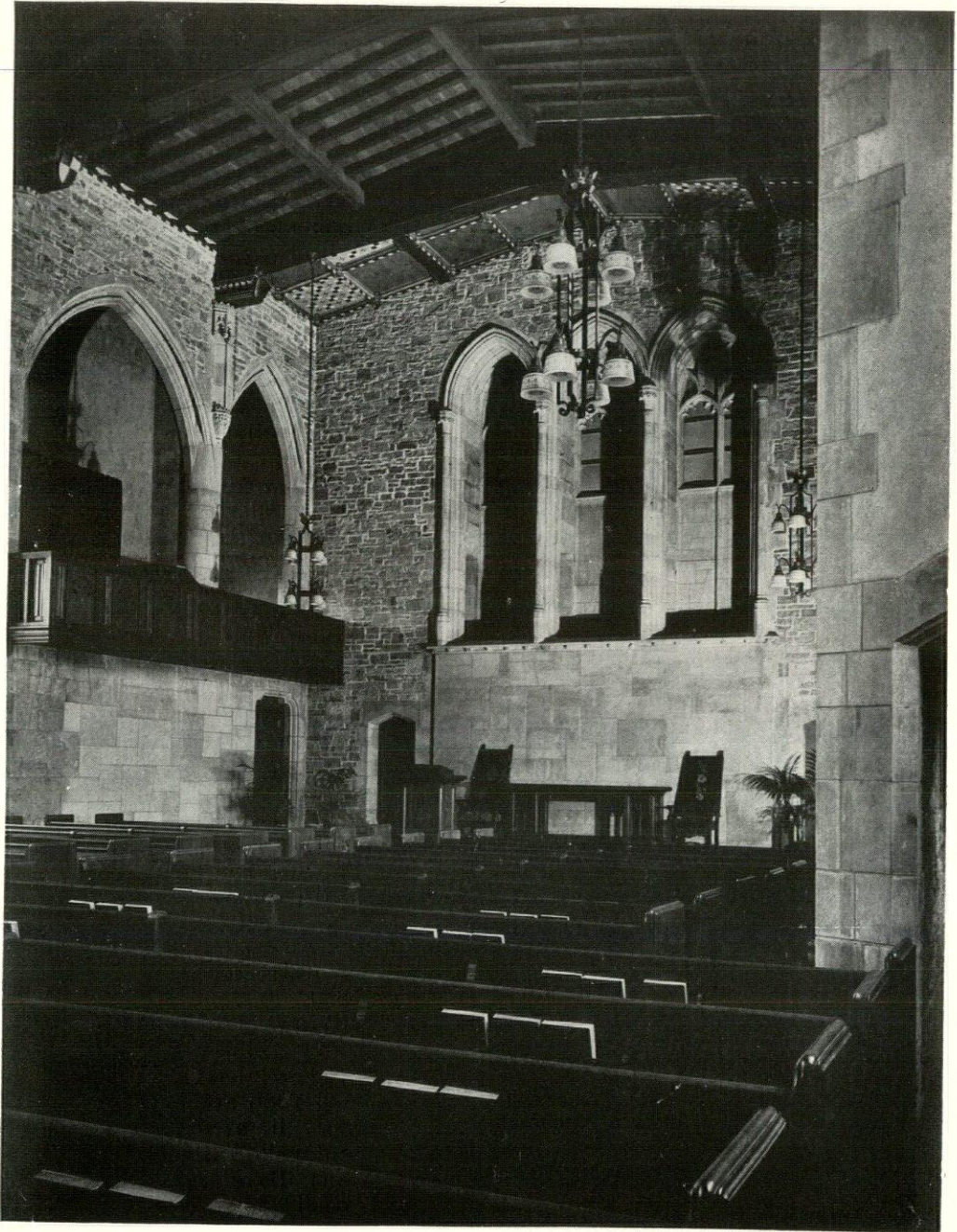


CHANCEL OF THE FIRST METHODIST CHURCH, GARY, INDIANA.
Lowe & Bollenbacher, and Granger & Bollenbacher Succeeding, Architects

span is not large, can be of wood and exposed in all their rugged strength. If steel trusses are necessary, these can extend below the ceiling line, and after being protected against fire can be covered with wood. Even if they are above the ceiling line they can be indicated with a good conscience by shallow ornamental trusses or beams of wood. Where colored ornament on the walls is almost invariably disturbing and tawdry, it can be used lavishly in a wooden ceiling, and the lustrous beauty of a San Miniato is within the reach of all. Many wooden trussed ceilings are greatly injured by complicated diagonal trussing at the crossing of nave and transepts. This should be avoided by keeping the height of the transepts below the spring of the ceiling, thus allowing the nave ceiling to run straight through without interruption to the proscenium arch of the chancel.

With walls, ceilings, and floors disposed of, the disposition of the chancel confronts us. This is a moot subject amongst the church builders. Since the days when Cotton Mather hurled his denunciations on the Sabbath breaker, the

accepted arrangement for a denominational church has been a pulpit on a platform, usually in the center; behind the platform a high screen; and behind the screen another platform for a choir or quartet with an organ in the vicinity. The communion table was almost invariably placed on the floor of the auditorium at the foot of the pulpit. Variations of course occurred, made necessary by various rituals—a baptistery for immersion must have a prominent place in a Baptist church; the Methodists must have an altar-rail in front of the communion table; the Presbyterians must have seats for the elders below the pulpit, etc.—but the scheme has remained through many generations practically unchanged. Now murmurs are being heard; dissatisfaction in some quarters is openly expressed. Vogt in his "Art and Religion" openly attacks the time-honored arrangement, and many young ministers are turning their eyes longingly to the altars and choir stalls of the Anglicans. The objections are all a tribute to the necessity of beauty in the service and fabric of the church. The old arrangement, it is



THE UNIVERSITY CHURCH OF THE DISCIPLES OF CHRIST, CHICAGO
Howard Van Doren Shaw, Architect; Henry Holsman, Associated



THE UNIVERSITY CHURCH OF THE DISCIPLES OF CHRIST, CHICAGO
Howard Van Doren Shaw, Architect; Henry Holsman, Associated

said, is neither beautiful nor reverential. The focal point is either the minister himself, or the mixed choir above his head, or the organ pipes over the choir, quite possibly all of them lacking in decorative elements. The most sacred object in its symbolism, the communion table, is below the line of sight. In the substitution of the Anglican chancel, with its antiphonal choir stalls with pulpit and lectern at either side, difficulties are encountered. The preaching is apt to suffer, as the lack of a screen and the great void of the chancel behind may detract from the resonance and carrying power of the voice. The singing may not be as effective, for, to separate a choir in two parts, and, facing athwart the congregation, have them sing into each other's faces is not the best for beauty or clarity of tone. The communion table, as the focal point, architecturally is not the equal of the altar, and it is usually inadequate without the aid of a reredos,

the function of which in this case would be entirely decorative. Furthermore, the table in the chancel offers difficulties in the celebration of the communion, especially in those congregations where the communicants approach the table. The deep chancel arrangement, as a last indictment, inevitably leads to a more elaborate ritual which may or may not, according to your temper, be a disadvantage. Nevertheless, the movement in the denominational churches in unmistakably toward the Anglican arrangement. Its undeniably greater beauty is the argument usually advanced, but there is another important advantage that it holds over the old arrangement, and that is, a wider use through its greater adaptability. The absence of the sudden and extreme jumps in level that exist in the old arrangement; from floor to pulpit platform and from there to the choir, the doing away of the high choir screen which so rigidly cut the chancel in half

and kept the congregation at a distance, render the Anglican chancel with its comparatively level floor and its wide open spaces altogether more available for the pageants, concerts and functions of a semi-religious purpose that are proper in a denominational chancel. The presence of the altar makes this wider use impossible in the Catholic, Episcopal, or Lutheran Church and it would be an ironic fate for the Anglican chancel if it should be found to be of greater value to the non-conformist than to the ritualist.

The difficult and truly important matter of the chancel having been settled one way or the other, other matters which present difficulties seem almost trivial in comparison. One of these is the lighting. Great clusters of lights that hang by long chains from the dim vaulted ceiling above are very beautiful, but they are wasteful of light, and unless each light is screened by a little cup it will shine in the eyes of some worshipper and transform attention into drowsiness, if not serenity into irritation. The better scheme is to have no exposed lights. They should be lighted by what, in short, are suspended boxes, though they may be of iron or wood, and elaborately or simply fashioned. Each contains one or more bee-hive reflectors, equipped with a powerful lamp that will throw the light down through the translucent bottom of the box. This arrangement will flood the floor with an evenly distributed light without glare of any kind. Lights under galleries and in aisles should be concealed in boxes set flush with the ceiling or some other device used to prevent glare. Behind the proscenium or great chancel arch should be a row of lights, not visible to the auditorium, which will light the chancel in any degree desired.

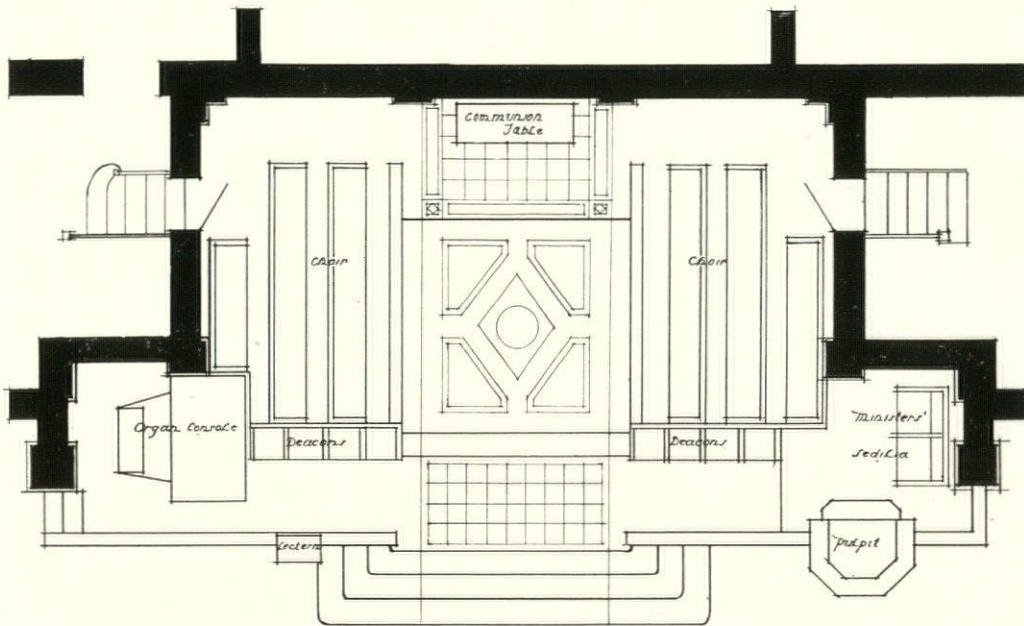
The light from without, free and unbounded as it is, presents really greater difficulties than the light within, that can be directed by human hands. Curtains are unthinkable in a church, so we must depend on glass, and this glass must be so delicately balanced in its translucency that it will cut out the glare, but admit the radiance; that will pre-

serve a soft, if not dim, religious light in bright sunshine, and on cloudy days not call for help from the electric fixtures. The glass manufacturers have done little to help the architect with this problem. We are speaking here of plain leaded glass, not highly ornamented or figured panes. We have really only two kinds of glass that are applicable. One is called Cathedral. It comes in amber shades and is beautiful in texture, but it changes only the color of sunlight without affecting to any great degree its intensity. The other is "opalescent." This glass will subdue sunlight, and recolor it, but is obnoxious in appearance, particularly when seen from the exterior. We therefore are constrained to use the Cathedral, and to devise some method of treating it. There are three methods. The first is painting. This is done on the inside, usually with mica paint and stippled. It is effective and cheap, but must be renewed every five years. This is an excellent device for temporary windows. The second is sand blasting, a procedure resulting in excellent obscuration, but often resulting in curious and unpleasant streaking. The third and best is painting and firing. The glass is thinly painted and fired; it is obscured and colored to any degree permanently, and is by all means the best. A window of this material is divided into simple rectangular leading and edged with a colored or figured border, can be built for from three to five dollars per square foot, and is beautiful and dignified in the simplest meeting-house or the mightiest fan. The ultimate aim for every church should be completely decorated windows, but in no part of the design of the building should greater caution be exercised. In the opinion of the writer there are not more than five or six firms in the United States and as many in England who are capable of producing really beautiful windows.

Glass, like mosaic, to which it is similar in many respects, particularly in its use of very small pieces, does not lend itself to free or naturalistic treatment.

A great school of naturalistic glass treatment sprung up in this country forty-five years ago. Men like John LaFarge and Louis Tiffany, following the example of Burne-Jones and the Pre-Raphaelites in England, directed their great skill towards the designing of stained glass, as it was called. These windows were built principally for Romanesque churches. Splendid examples

Raphael and the color of Chartres. Unfortunately, it simply couldn't be done. The simple craftsmanship and the symbolic drawing of the twelfth century windows were so immeasurably superior to the complicated science and the sophisticated draughtsmanship of the nineteenth that the naturalistic, or picture, window has gone the way of the cupola and cast iron dog. So the windows, fol-



PLAN OF CHANCEL, FIRST CONGREGATIONAL CHURCH, EVANSTON, ILL.

Tallmadge & Watson, Architects

can be seen today in Richardson's Trinity Church, Boston. Craftsmen used the greatest ingenuity in producing colored glass that would exactly reproduce the color of flesh or of fabrics or of nature. Glass was cleverly built up in layers to get degrees of luminosity. In other words, the designer, not recognizing the limitations of his art, aimed at producing a sort of transparent picture. He would stop at nothing possible to the painter on canvas, and he would have the added glory of the radiancy of the sun. He would combine the drawing of

lowing the examples of their glorious prototypes of the twelfth century, should aim, not to be pictures, but windows—jeweled apertures through whose alchemy the glory of the sun becomes the glory of God. As the beauty of the windows is so essential to the harmony of the whole, it is wise to make the effort to install at least one window during the progress of the building and under the architect's direction. This establishes the key and strikes the first note for the future (let us hope) symphony.

The heating of the auditorium needs



The Architectural Record

March, 1927

INTERIOR OF ST. CHRYSOSTOM'S CHURCH, CHICAGO

Chester H. Walcott, Architect

Bennett, Parsons & Frost, Consulting Architects



The Architectural Record

March, 1927

INTERIOR OF ST. CHRYSOSTOM'S CHURCH, CHICAGO
(Showing Chapel)

Chester H. Walcott, Architect

Bennett, Parsons & Frost, Consulting Architects

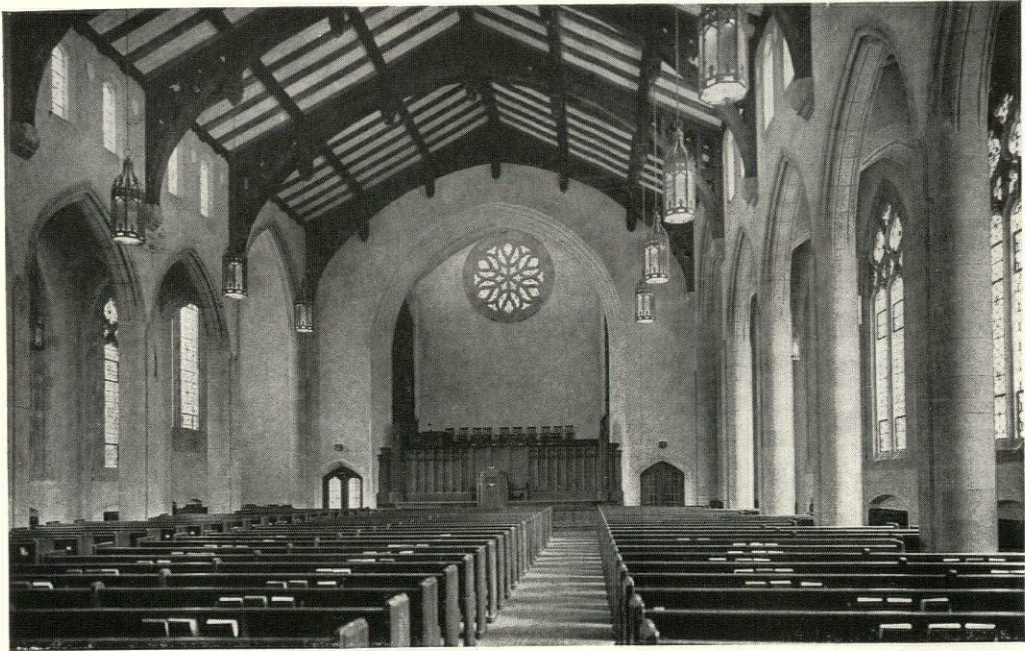
little discussion. The radiators should not be too much out of the way, preferably in shallow niches without grilles or covers in the aisles. A great deal of radiation can be exposed in the balcony, and the radiation on the main floor reduced by that amount. Some form of vapor or low pressure steam is preferable to hot water or hot air. If the runs are long or the building very large, a pump should be installed to assist the circulation.

The matter of seating requires study. In the ordinary denominational church an auditorium under forty feet in width would have a broad central aisle five feet in width and a bank of pews on either side. In one from forty to fifty feet in width there will be two aisles and three banks, with the center pews nearly twice as wide as the side pews, which must be short, as their ends abut on the side walls of the church. This is the method that results in the most economical seating. For auditoriums more than fifty feet in width there will be three banks and four aisles arranged as above, with wider side banks and aisles along the side walls. Auditoriums of this width usually have piers or columns supporting a clerestory, and if this is the case they would be located at the end, not in the middle of the flanking pews. Pews in the arrangement cited above are usually spaced 2' 8" from back to back, with a maximum length of 19' 0". A pew of this length will seat thirteen persons, although ushers are sometimes so superstitious that they will crowd in fourteen. The move towards the beautification of the chancel, however, turns the eye yearningly to the center aisle arrangement, but how can this be done with greater auditoriums? The reason for the limitation of the length of pews is, of course, the nuisance of crowding past earlier occupants. If, therefore, pews are spaced much farther apart—not 2' 8" but 3' 6", say, enough to make a narrow but practical aisle between each pew and its neighbor the lengths of the pew can be increased to any desired amount, and in addition greater comfort

insured for every one. Solid wooden pews have about driven out the old cushions, which, by the way, still have their virtues, not so much in the way of comfort as in the improvement in the acoustics by the considerable addition to the absorbent area. Pews, by the way, are built better today than they have ever been. The seats are laminated usually of elm, backs are made of heavy veneer, and the ends of two or three ply (thicknesses) of oak. Square ends instead of the old armchair design are now in vogue. In the seating of a balcony or gallery the pews installed should be of the same design and excellence as the pews below.

Along with the slow improvement of the auditorium which is being effected through the years has come the rapid rise in importance, size, and beauty, of the narthex, once called the vestibule. The modern broad narthex—and how the building committee takes to that word!—entered directly from the street, with its tiled floor, its groined ceiling, its dignified and commodious proportions, is a great advance over the old vestibule. There should always, in northern latitudes at least, be three doors between the auditorium and the cold outside—this, of course, as a protection against cold draughts.

So much, then, for the main essentials; but how about the little things, the conveniences? There must not be too many of these, nor must they be too ingenious. That traveling case you received for Christmas has so many bottles, boxes, and straps for one thing and another that in a year you will have forgotten and discarded half of them. So with a church. It must not be so complicated as to be inelastic; therefore, we discourage special little rooms for ushers, or pew committees, or other purposes, or partitions that can be thrown open for mass-meetings, or things that in general wheel or slide or fold into each other. Even toilet rooms can well be confined to the parish house. Anglican churches must, of course, have sacristies, and in every kind of church there should be ample choir



An auditorium seating about a thousand. Floors are cork tile. The ceiling is covered with an acoustical material. A carved reredos is being constructed for the rear of the chancel

ST. JAMES' METHODIST EPISCOPAL CHURCH, CHICAGO, ILLINOIS

Tallmadge & Watson, Architects



This auditorium is large size, seating over 1,200, and has side galleries.

The great organ is the predominating feature

THE FIRST METHODIST CHURCH, EVANSTON, ILLINOIS

Tallmadge & Watson, Architects

rooms with lockers and specially designed cases for music storage. These, again, are best located in the parish house, but be sure that you can lower or get at, in some way, your great ceiling lights, and don't forget to arrange to open conveni-

ently the clerestory windows, and I suppose there should be a place for the ushers to hang their hats.

Signal bells, acousticons, telephones, radios, need hardly be described, and the organ is not usually regarded as one of



The small auditorium showing an interesting and original adaptation
of Gothic and a frank expression of construction
THE RAVENSWOOD BAPTIST CHURCH, RAVENSWOOD, ILLINOIS
Pond & Pond, Architects

the architect's perquisites; nevertheless, he has to arrange for it. The organ should be given ample space. Usually one will find that the organ manufacturer will demand the earth and end by taking what he can get. The organ is most conveniently housed in two sections, one each side of the chancel. Height is of equal value with floor space, so the chambers should extend clear to the roof. The sides and top of the chambers should be furred and plas-



This indicates a marked tendency in the Methodist Episcopal Church. A general interest is manifest to have the chancel planned so that the various elements of public worship are recognized and so that each has its logical setting

THE ASBURY METHODIST EPISCOPAL CHURCH, ALLENTOWN, PA.

Jacoby & Everett, Architects

Bureau of Architecture of the Methodist Episcopal Church, Advisory

tered with hard plaster except, of course, the openings into the auditorium. The writer prefers the old organ pipes, which can be beautiful in themselves and certainly express the use of the chambers better than the anomalous grilles now so much in vogue. The organ front, however, whether it be composed of grilles or pipes, should be always designed by the architects. The architectural knowledge of even the best organ manufacturers is on a par with, or I should say, a little below that possessed by the manufacturers of tombstones—in other words, absolute zero. The console should be located always at the side with the organist facing the choir. If the console can be sunk a foot or so in the side wall or in the floor, so much the better.

Such, then, are the manifold but not

complicated requirements of the modern church, but even with a thorough knowledge of them and giving each its due consideration, we can only with confidence undertake the building of so important and so holy a thing as the house of God if we follow the golden advice of John Ruskin:

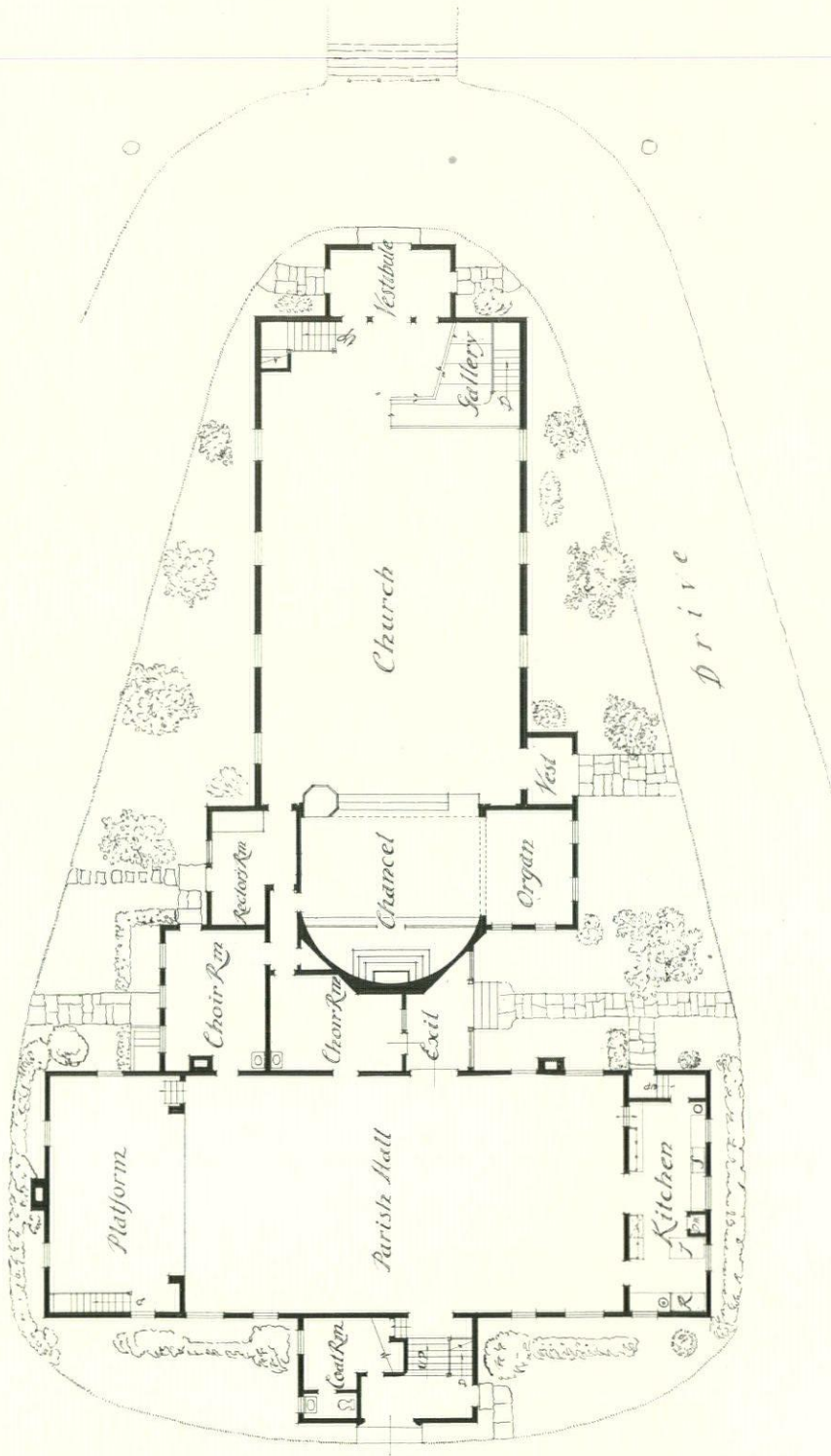
"Therefore, when we build let us think that we build forever. Let it not be for present delight, nor for present use alone, let it be such work as our descendants will thank us for, and let us think, as we lay stone on stone, that a time is to come when these stones will be held sacred because our hands have touched them, and that men will say as they look upon the labor and wrought substance of them, 'See! this our fathers did for us!'"

P O R T F O L I O
C V R R E N T A R C H I T E C T V R E



Photo. Sigurd Fischer

ZION EPISCOPAL CHURCH, DOUGLASTON, L. I.
Aubrey B. Grantham, Architect



ZION EPISCOPAL CHURCH, DOUGLASTON, L. I.
 Aubrey B. Grantham, Architect



Photo. Sigurd Fischer

ZION EPISCOPAL CHURCH, DOUGLASTON, L. I.
Aubrey B. Grantham, Architect

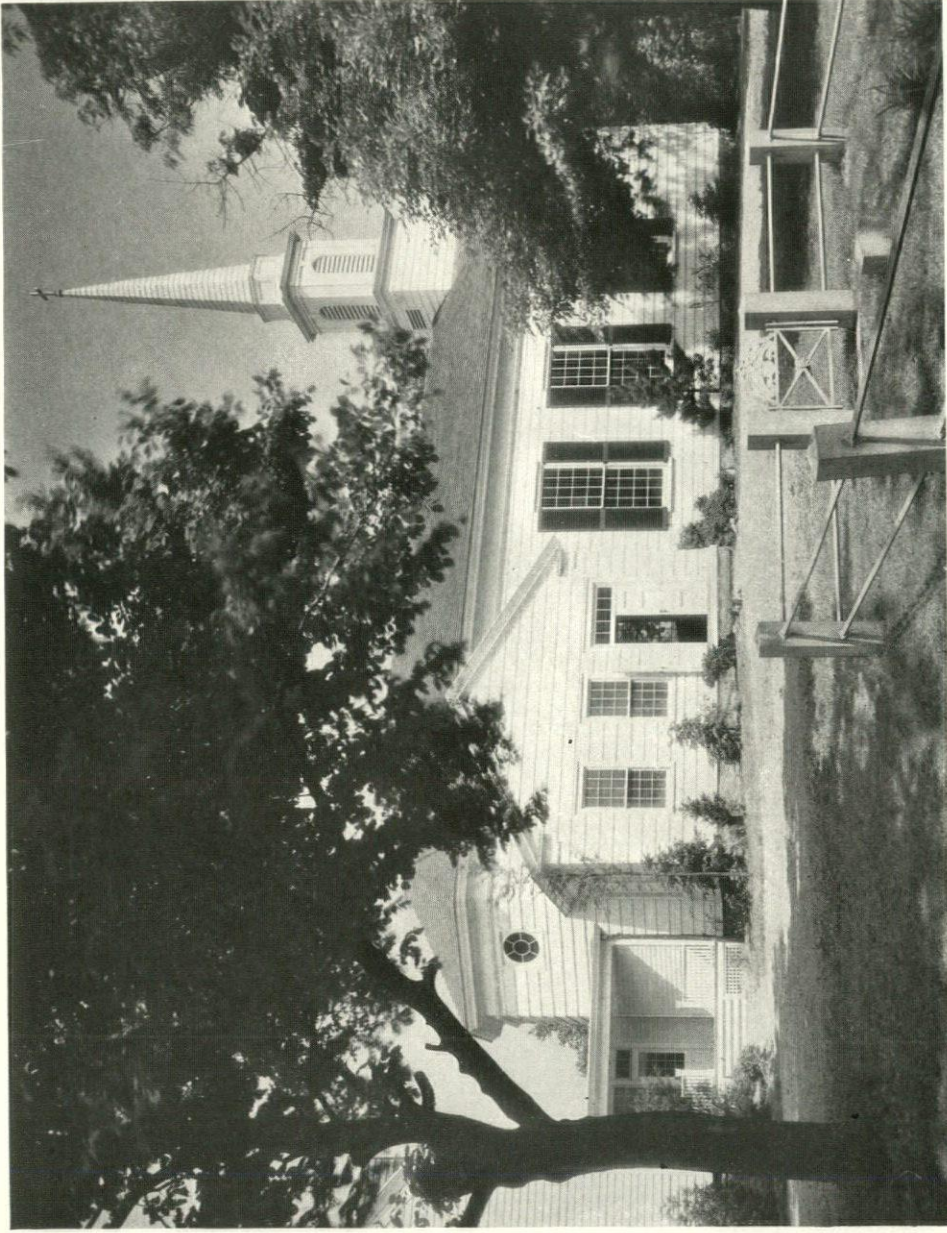


Photo. Sigurd Fischer

ZION EPISCOPAL CHURCH, DOUGLASTON, L. I.
Aubrey B. Grantham, Architect

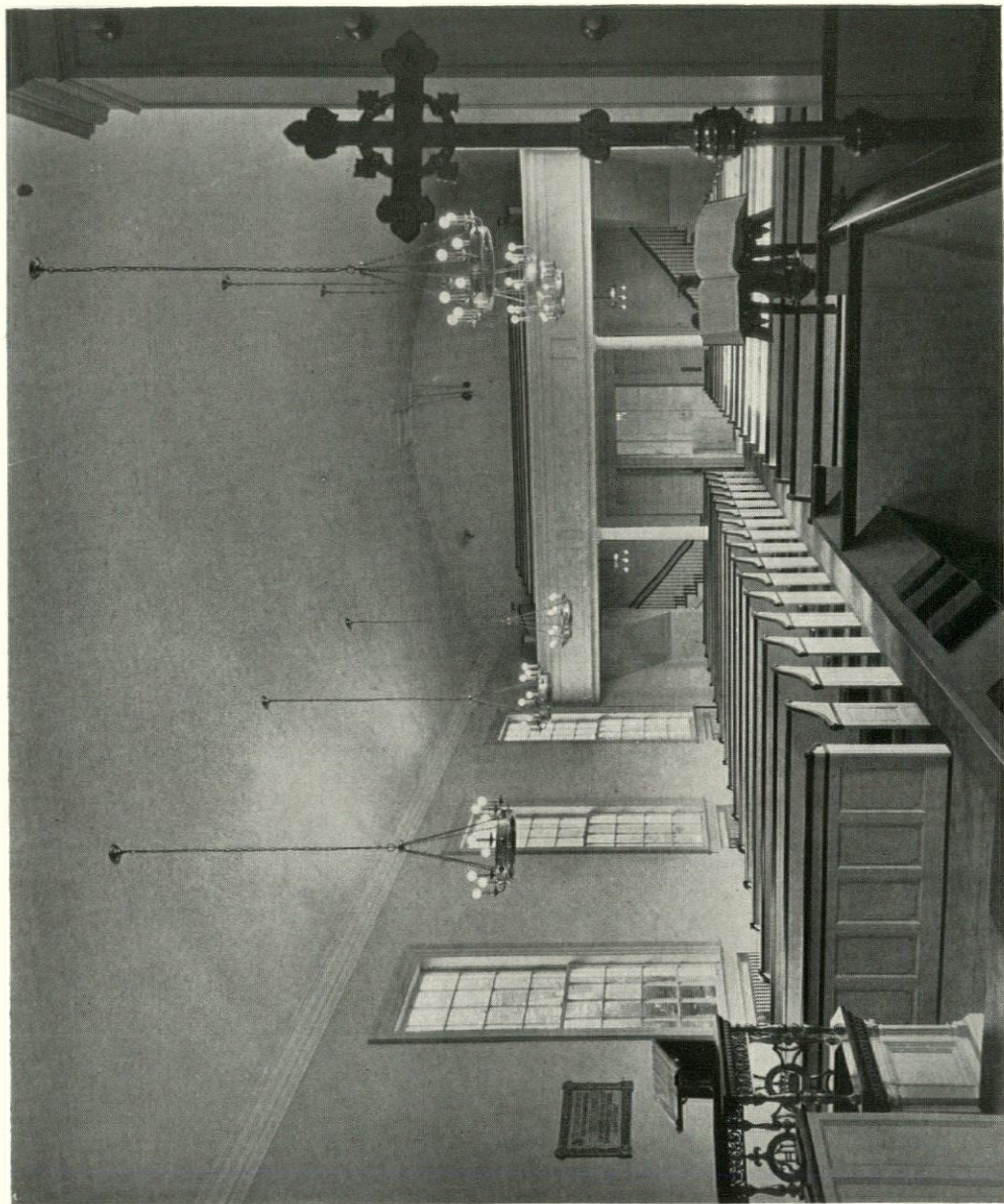
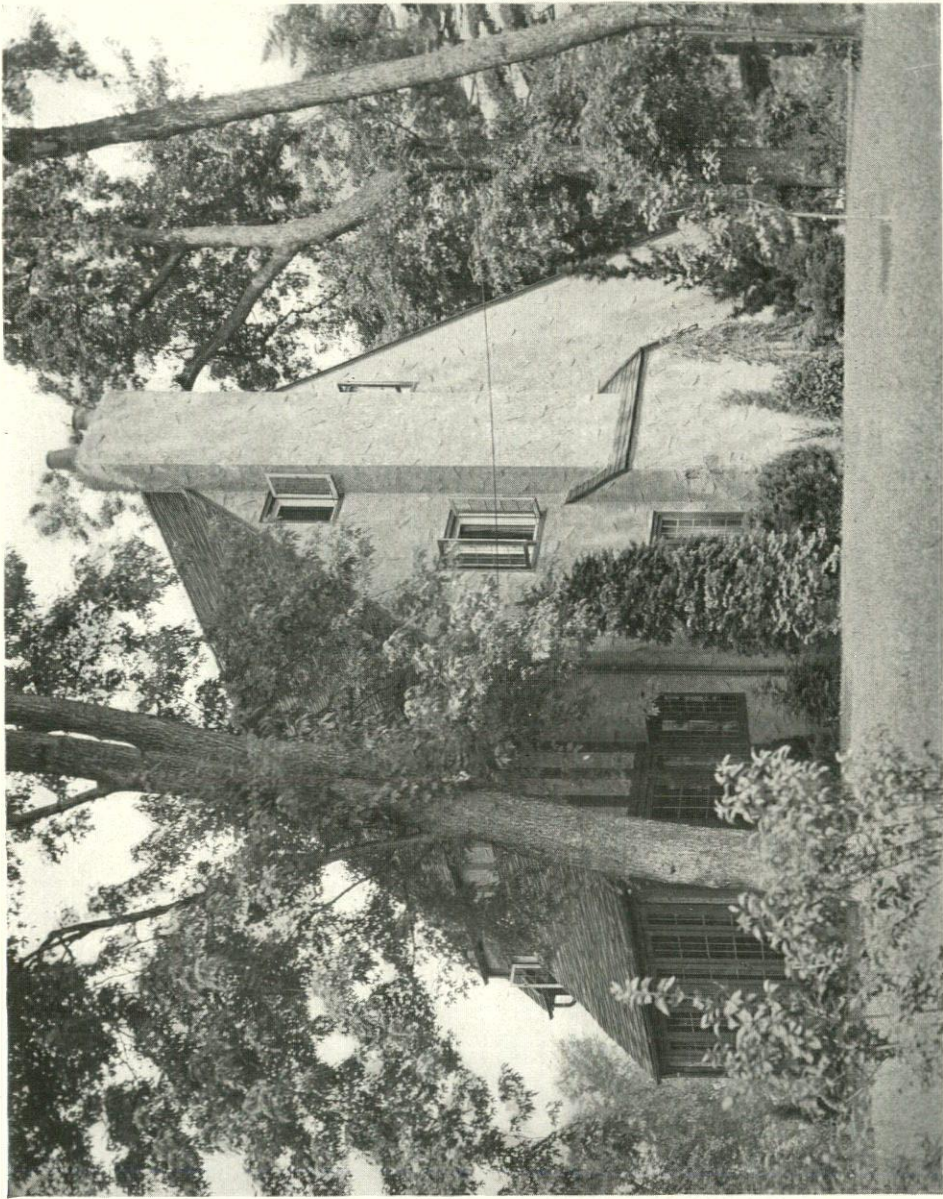


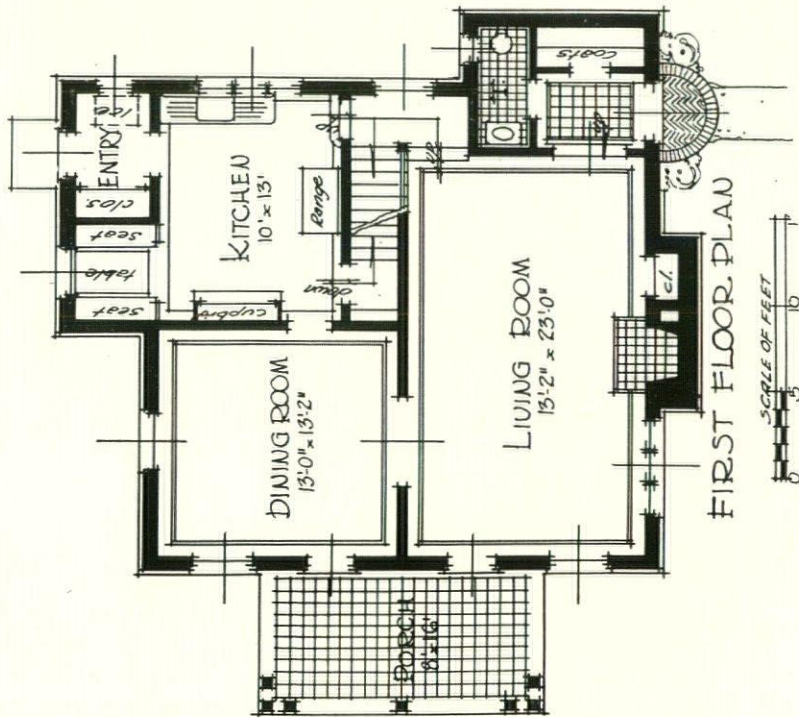
Photo. Sigurd Fischer

ZION EPISCOPAL CHURCH, DOUGLASTON, L. I.
Aubrey B. Grantham, Architect

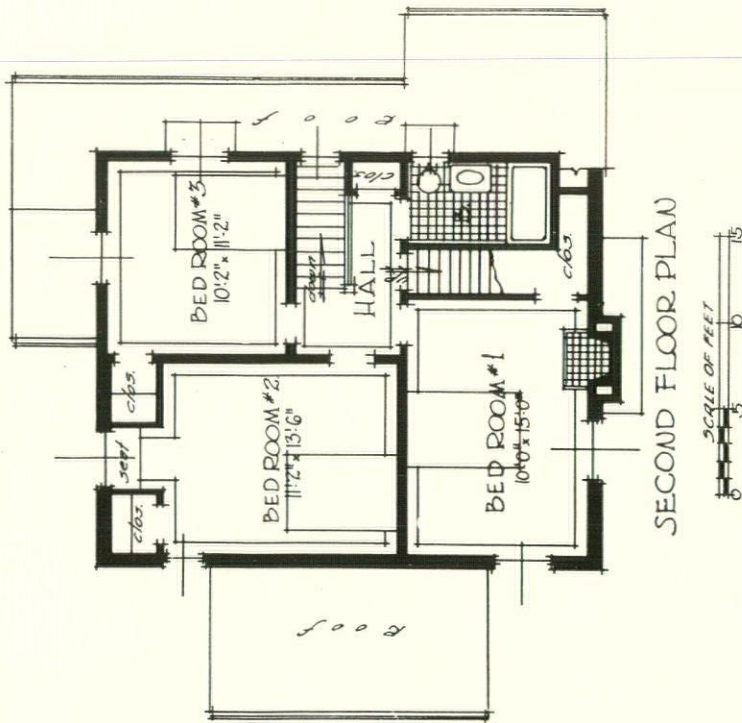


A HOUSE IN BAYSIDE, LONG ISLAND, N. Y.

R. C. Hunter & Bro., Architects

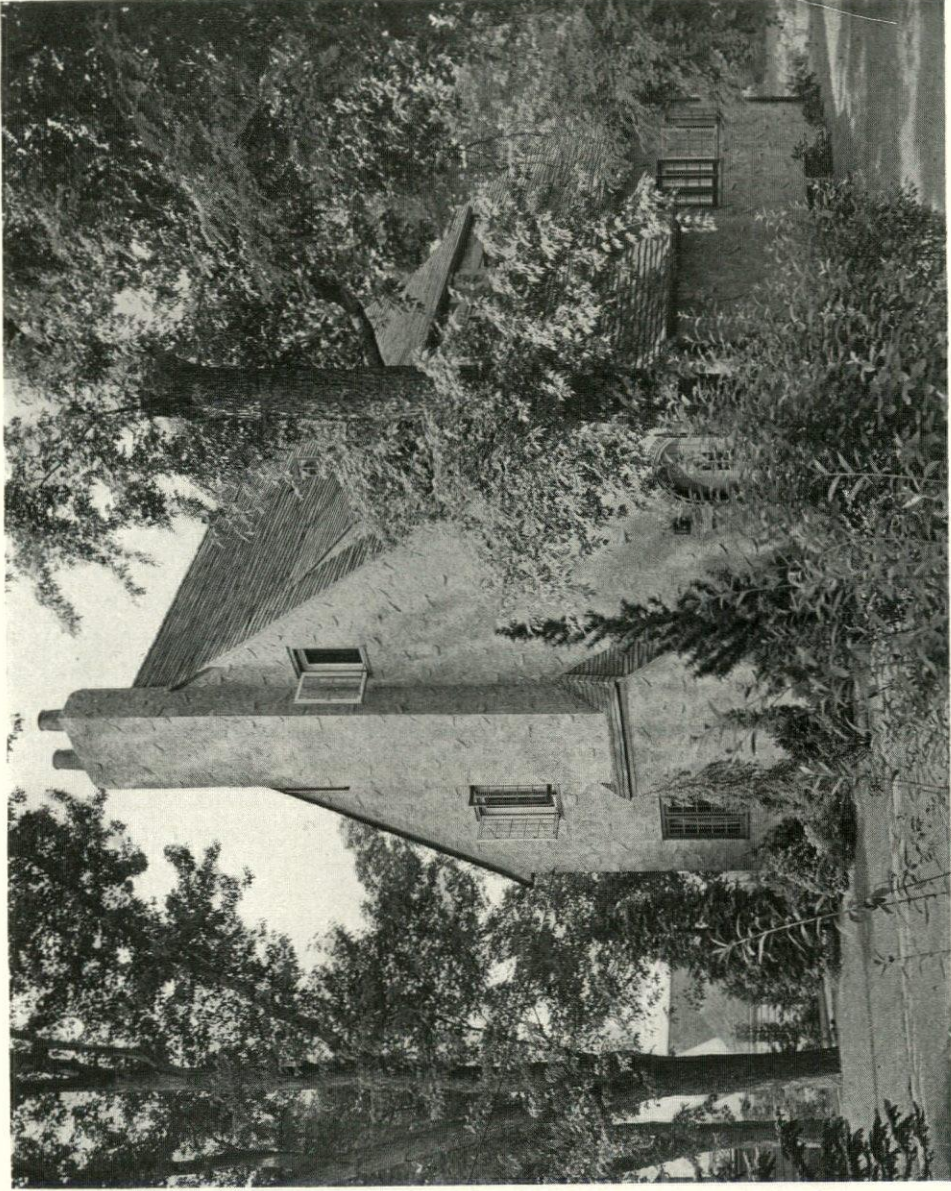


FIRST FLOOR PLAN



SECOND FLOOR PLAN

A HOUSE IN BAYSIDE, LONG ISLAND, N. Y.
 R. C. Hunter & Bro., Architects



A HOUSE IN BAYSIDE, LONG ISLAND, N. Y.

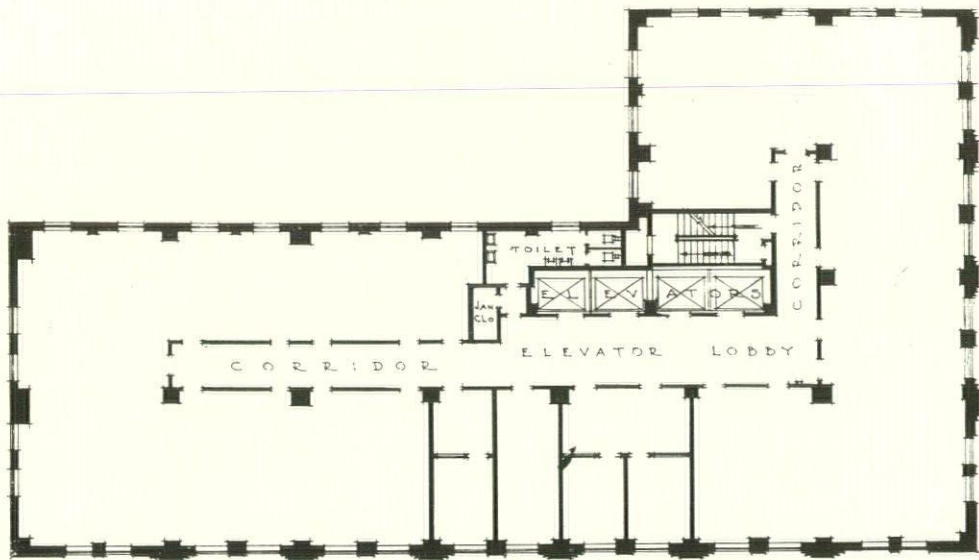
R. C. Hunter & Bro., Architects



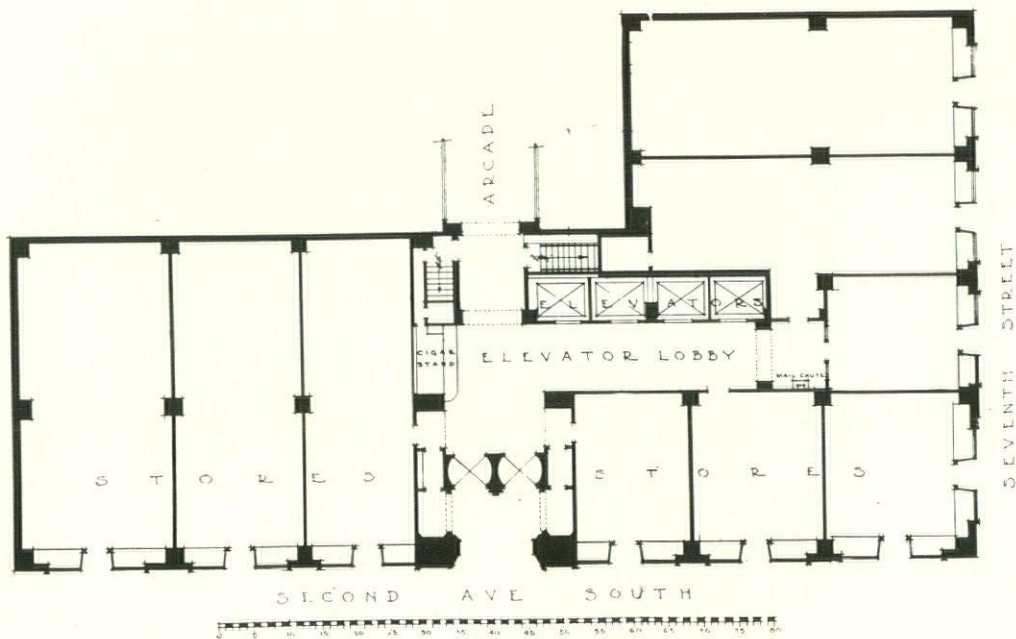
RESIDENCE OF J. P. MANNING, ESQ., BOSTON, MASS.
McLaughlin & Burr, Architects



THE BAKER BUILDING, MINNEAPOLIS, MINN.
Larson & McLaren, Architects

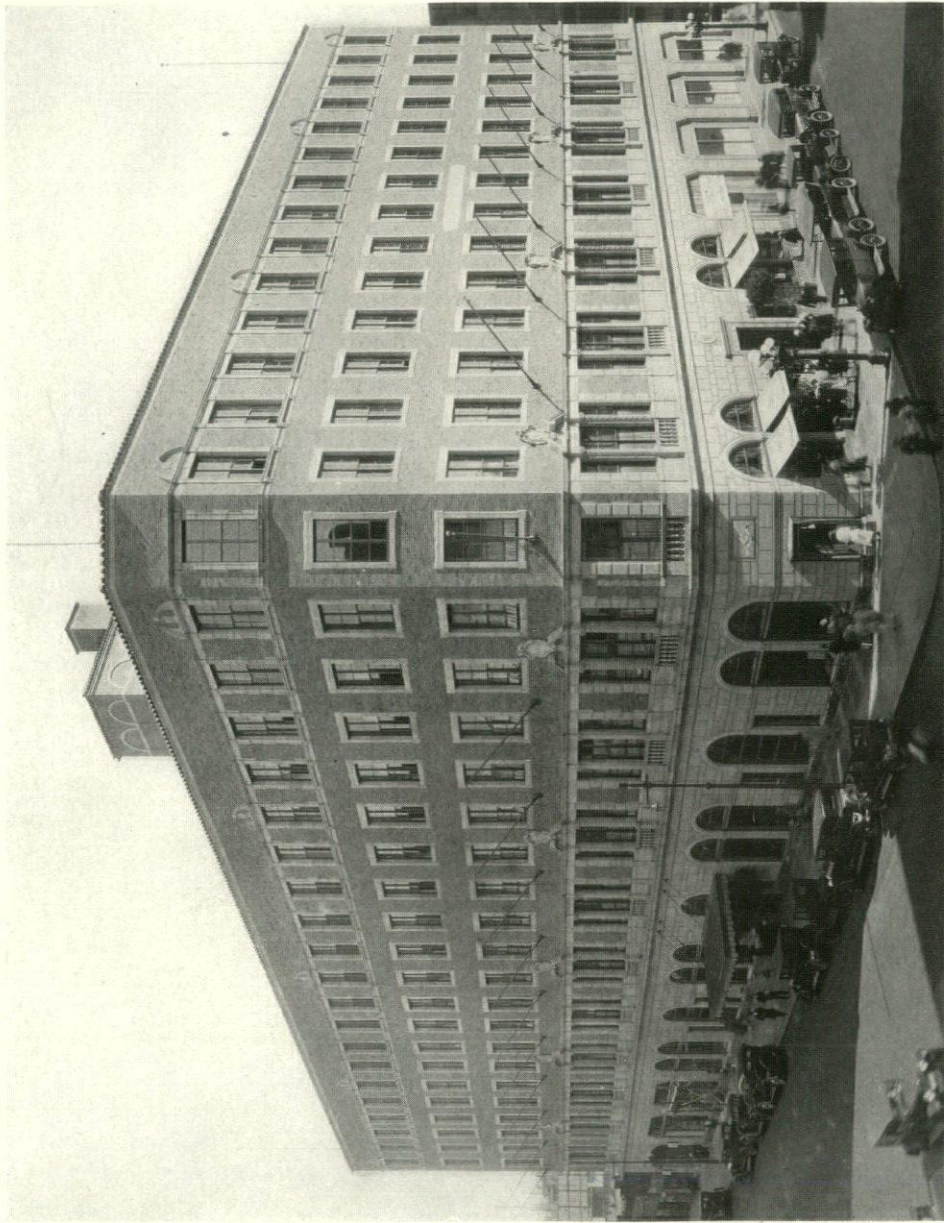


A Typical Floor Plan



First Floor Plan

BAKER BUILDING, MINNEAPOLIS, MINN.
Larson & McLaren, Architects

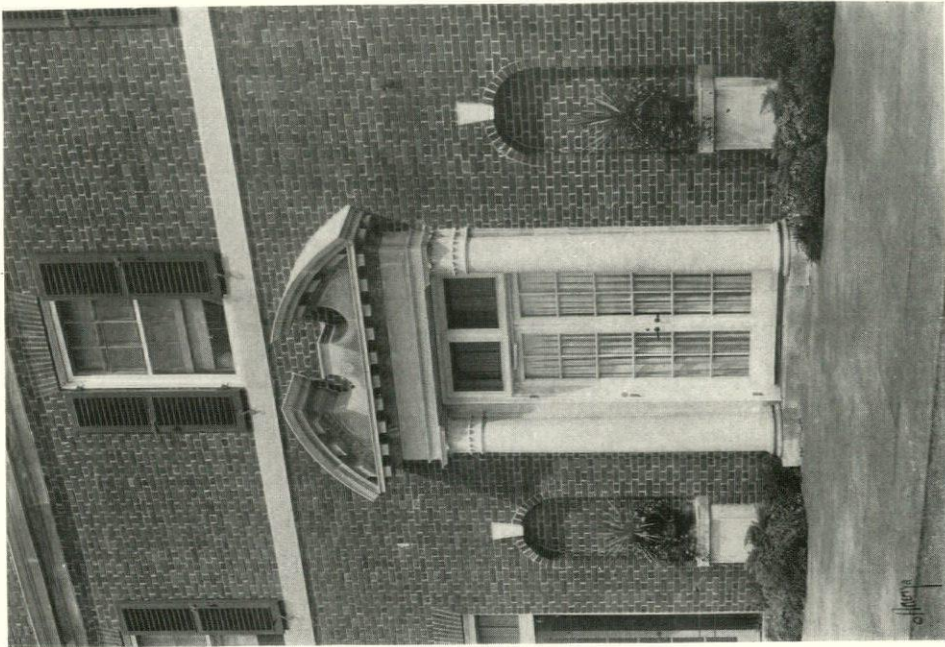
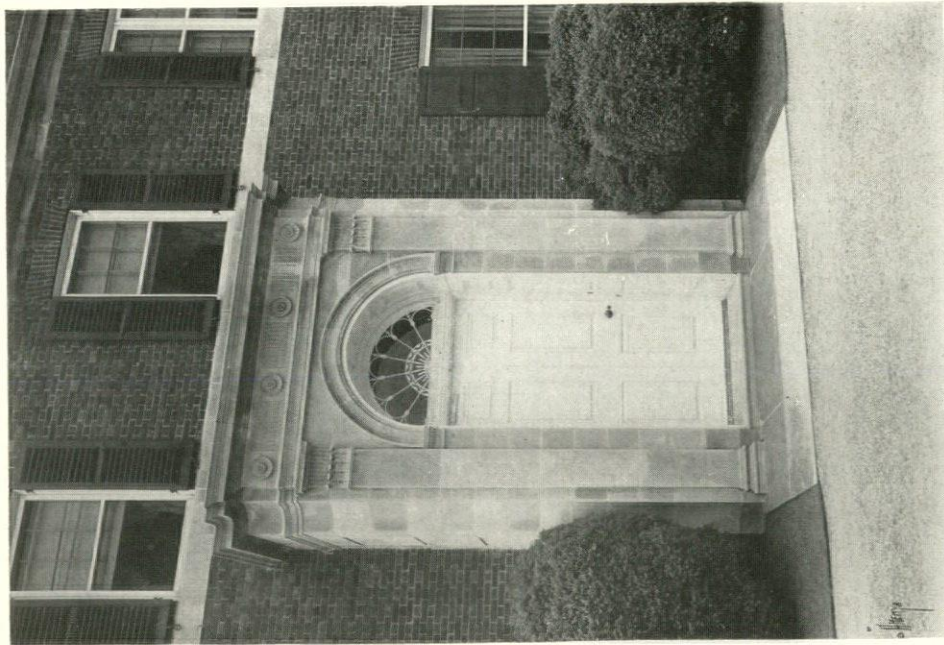


YOUNG QUINLAN BUILDING, MINNEAPOLIS, MINN.
Frederick L. Ackerman, Architect. Magney & Tusler, Associates

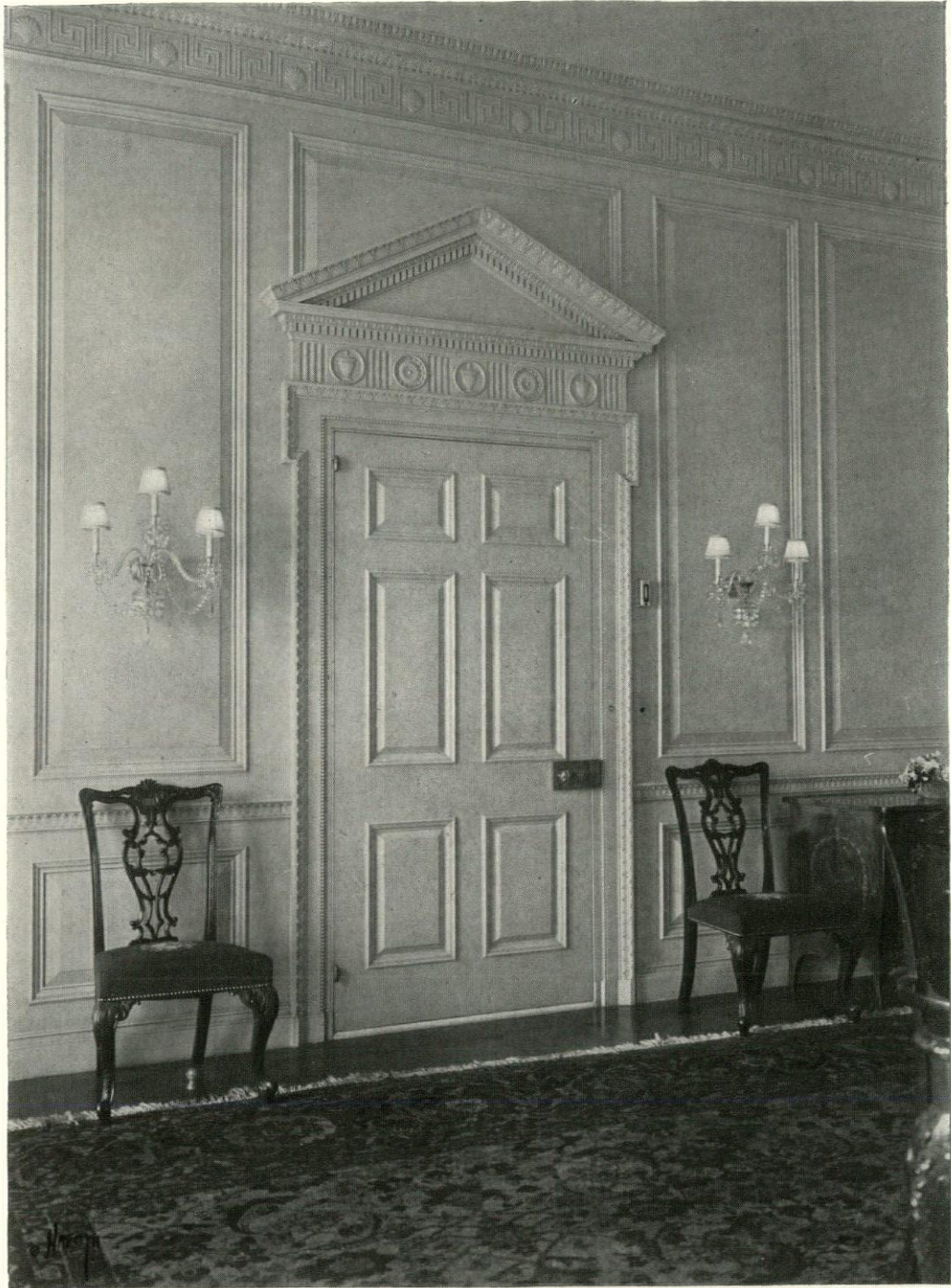


RESIDENCE OF S. Z. MITCHELL, ESQ., BROOKVILLE, LONG ISLAND
James W. O'Connor, Architect

W. O'Connor

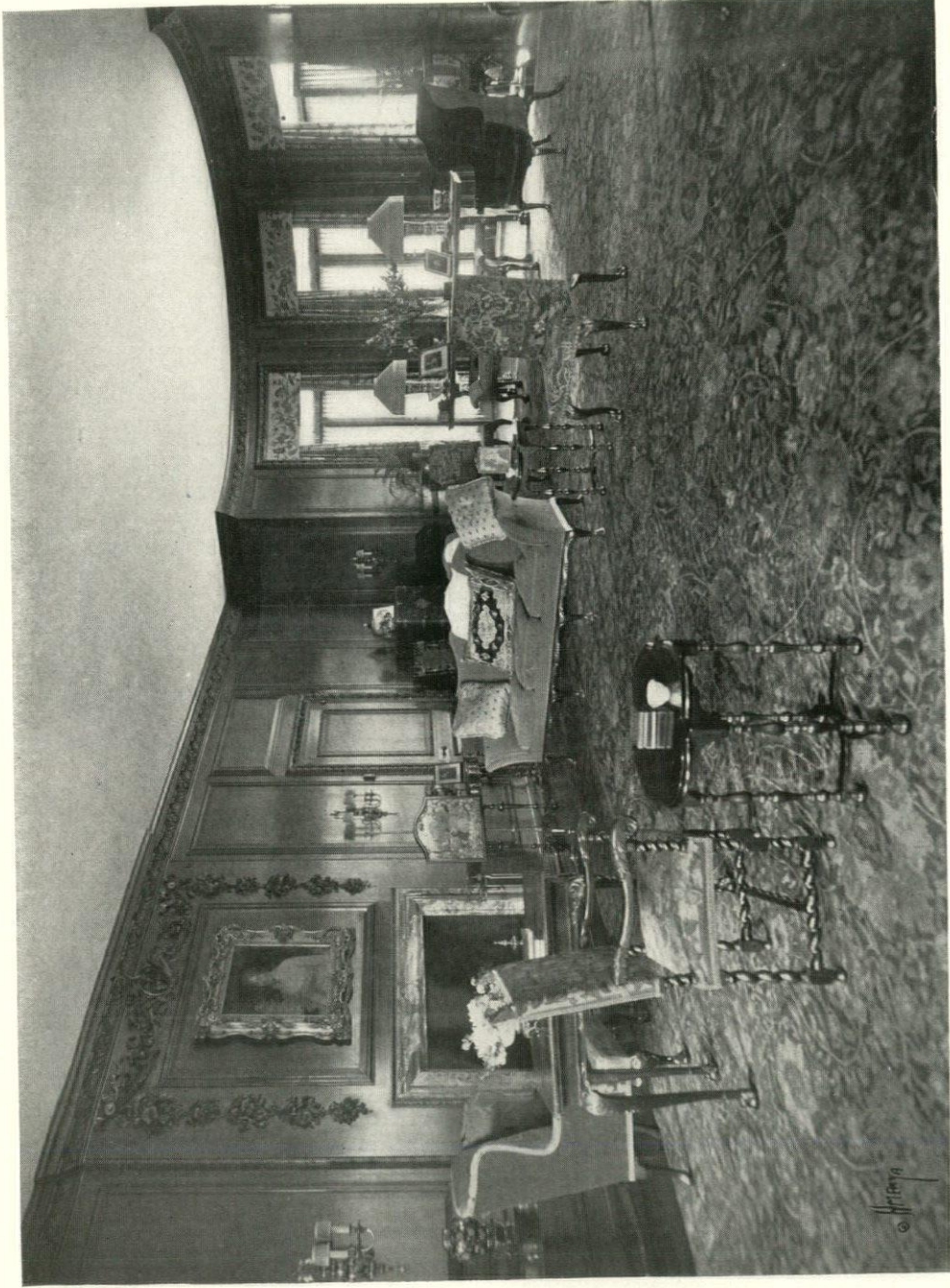


RESIDENCE OF S. Z. MITCHELL, ESQ., BROOKVILLE, LONG ISLAND
James W. O'Connor, Architect



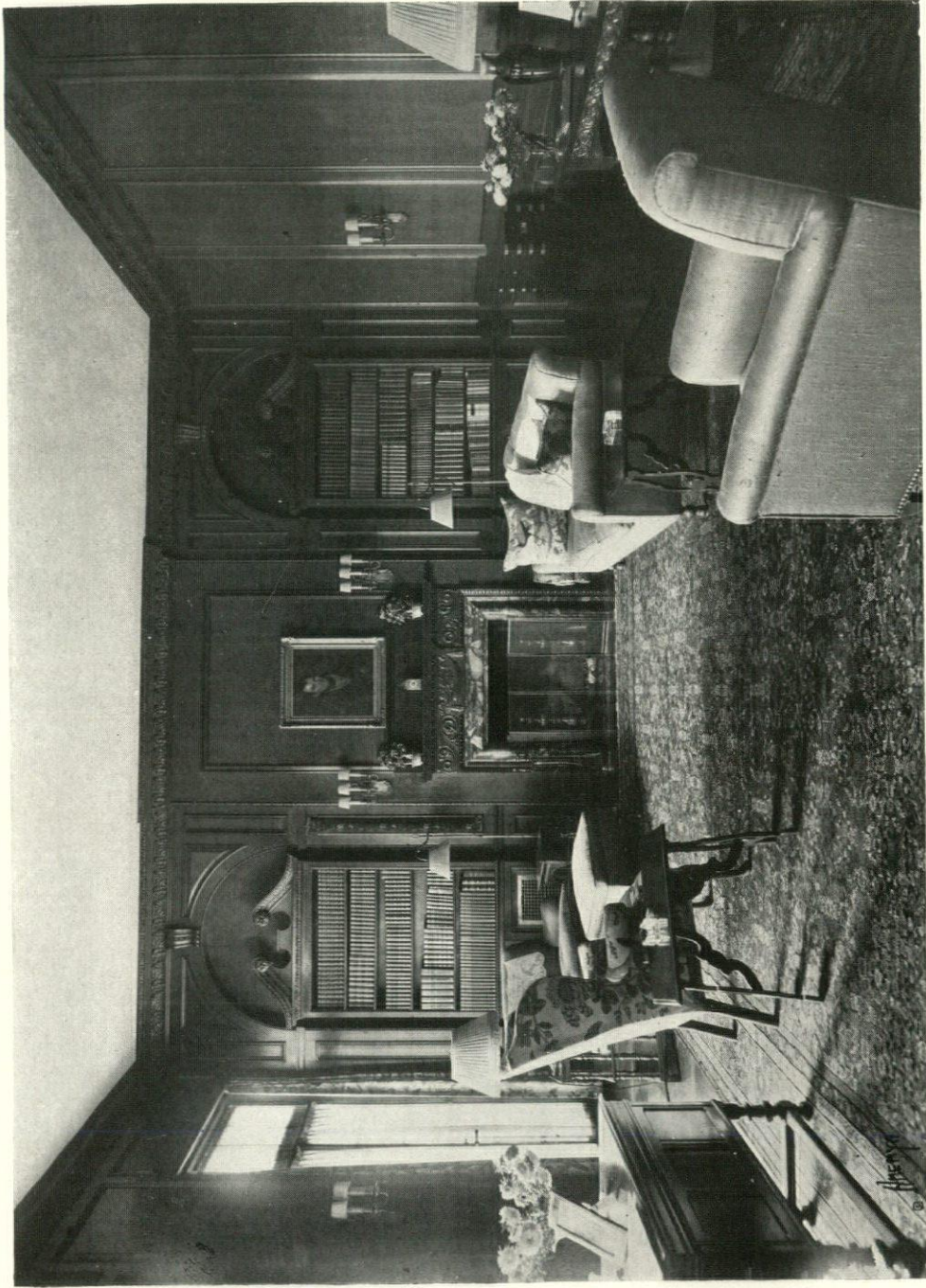
RESIDENCE OF S. Z. MITCHELL, ESQ., BROOKVILLE, LONG ISLAND
James W. O'Connor, Architect

1911
1912

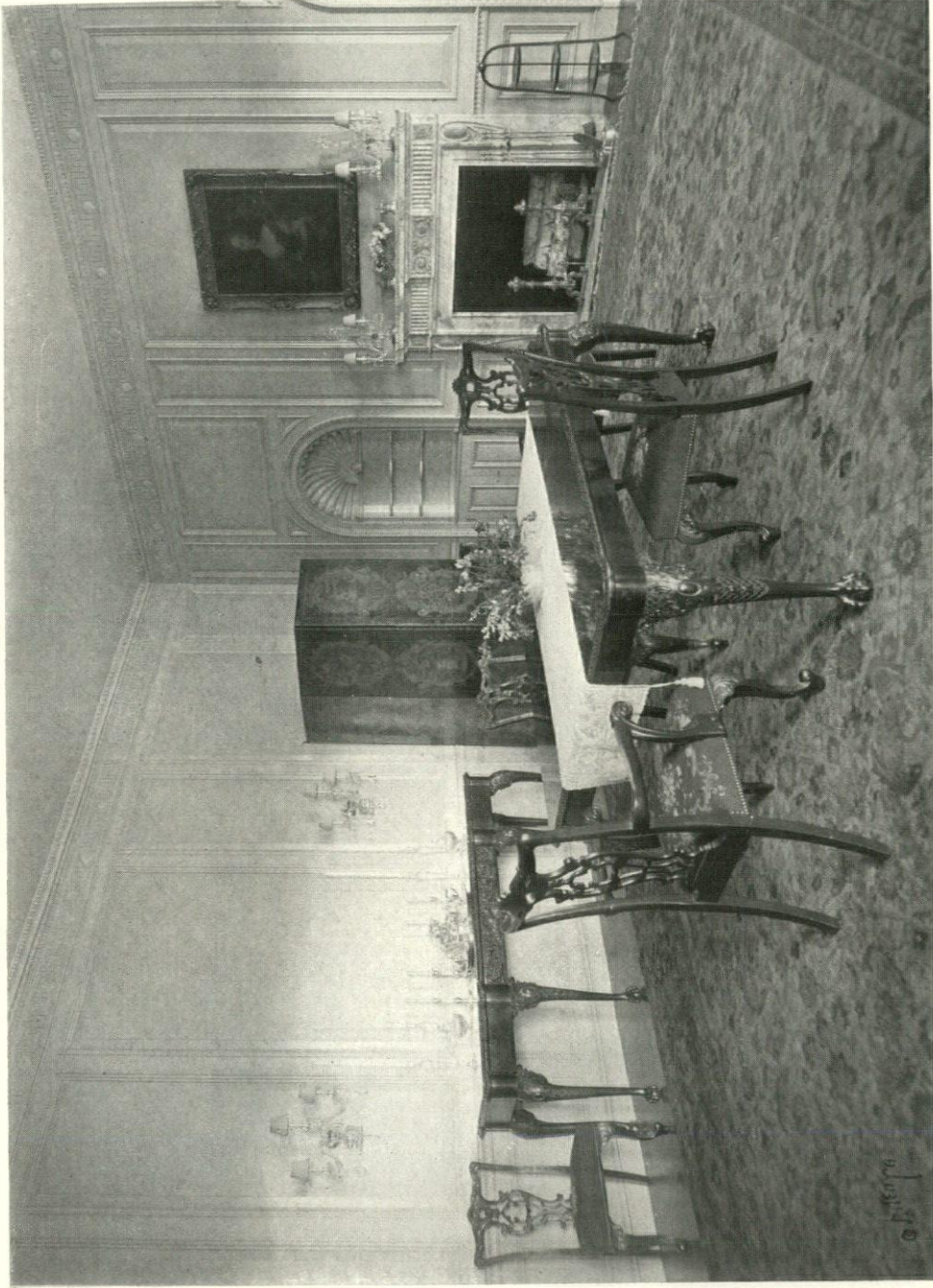


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James W. O'Connor, Architect

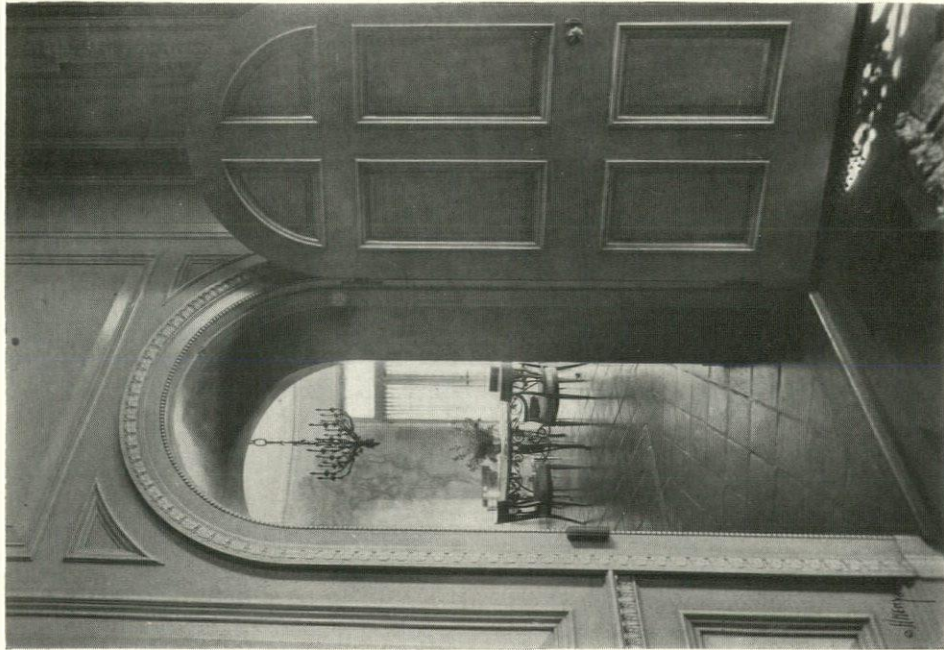
© 1919
H. H. H. H.



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James W. O'Connor, Architect



RESIDENCE OF S. Z. MITCHELL, ESQ., BROOKVILLE, LONG ISLAND
James W. O'Connor, Architect

NORTH ITALIAN BRICKWORK

By
Myron Bement Smith

PART III. THE SANTA STEFANO GROUP IN BOLOGNA

IN THE LOWER CORNER of the *Piazza di Porta Ravennana*, in Bologna, is a street café that serves an excellent breakfast and also furnishes a thrill of the sort that comes on the average of but once in a lifetime. From the center of the *Piazza* and far too near the table for comfort, rise the two leaning towers of Bologna. The *Asinelli*, thin and wavering, reaches up over three hundred feet and leans, fortunately, away from the café. But the *Torre Garisenda*, though but half as high, is twice as heavy and stretches out so far from perpendicular that it hangs on the point of decision whether to stand or to precipitate itself down over the restaurant directly beneath it. The brick enthusiast, after speculating on the cohesive virtues of the mortar that has held the brick of the *Garisenda* some eight hundred years from obeying the impulse of gravity, is more than likely to make breakfast a shorter ceremony than usual and set off across the square to examine the towers from a different angle. If he has chosen the natural direction or has followed the guide book, which is sometimes more reliable, he should be close to the arcade of the *Mercanzia* (Plate III). The narrow street to the left leads a short distance through arcaded façades of Renaissance town houses and then turning sharply opens out into another *Piazza*, that of *Santo Stefano*. Directly opposite is that group of eight buildings from which the Square is named. If he knew it not before, then always will the brick enthusiast remember that *Santo Stefano* is the shrine of sainted brickwork. At the end of three days of examination, sketching, measuring and photograph-making in and about these churches, the admiration for them will have reached such a certainty of permanent devotion that no other monu-

ments can ever usurp *Santo Stefano's* place as first and loveliest of brick buildings.

To begin with, there is the *Chiesa del Crocifisso*, a Gothic façade with a twelfth century pulpit corbeled out from the corner (Fig. 2). To the left is the older polygonal baptistry, now the *Chiesa San Sepolcro*, (Fig. 1.), said to date, in its present form, from the tenth century when it was rebuilt from the ruins of an earlier edifice destroyed by the Huns. The restoration work done in 1880 is perhaps the most painstaking and successful of any to be seen in Italy. The entire structure has been gone over, yet with proper regard and respect for the spirit of the first builders. The materials used in replacing the destroyed portions match the originals with a fidelity that almost eludes detection.

The mosaic work of the walls of *San Sepolcro* is executed in brick of various tones, ranging from yellow through orange to deep reds and reddish brown. The brick is of a variety of surface textures, sand and water struck, (Fig. 7), smooth and pitted. It is combined in patterns with creamy white marble, sandstone and dark green porphyry. Figures 1, 5, 7, 8 and 25 of this article and Fig. 9, of Part I, indicate the range of patterns used but do not give, unfortunately, the splendid effect of the colors. The corbel cornice above is shown in Figures 4 and 13. The lantern that crowns the larger mass is pierced by a double window (Fig. 10), and topped with a geometric corbel course (Fig. 14), that contrasts well with the semi-circular motif used below. The walls of the lantern are laid out in an all-over pattern of brick mosaic, (Fig. 6), in shades of orange and deep red.

To the left of *San Sepolcro* is the Bas-



Fig. 1. *San Sepolcro*
from the Street



Fig. 2. Twelfth Century Pulpit
on *Chiesa Del Crocifisso*

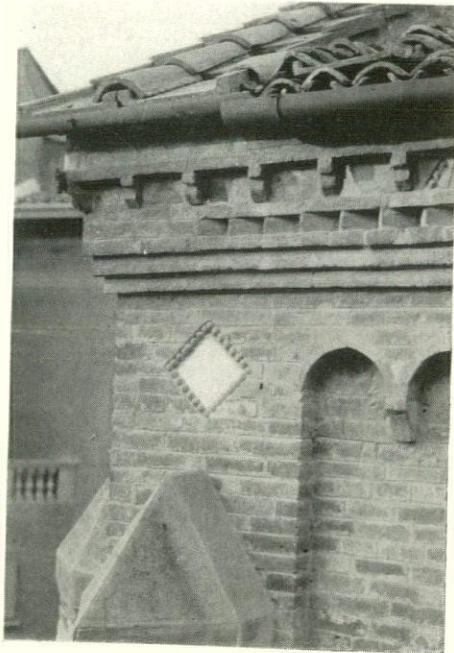


Fig. 3. Cornice and Buttress Caps,
SS. Pietro e Paolo

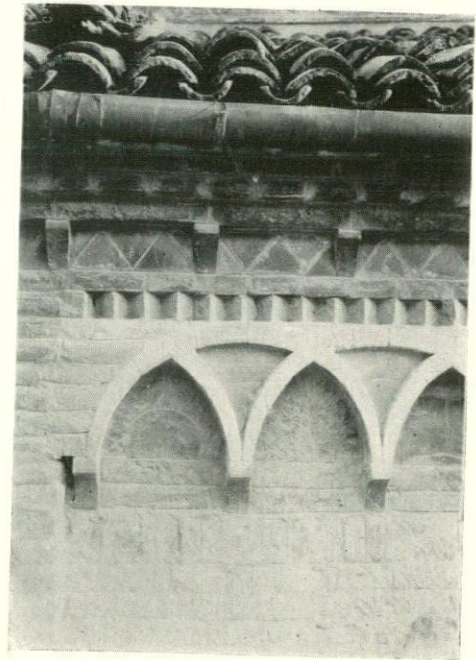


Fig. 4. Cornice Detail from
San Sepolcro

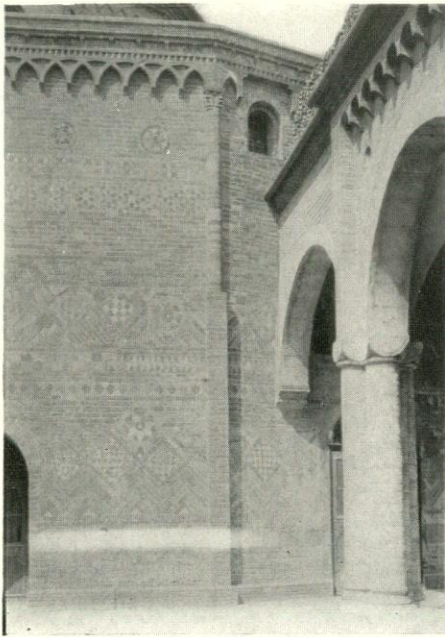


Fig. 5. Rear Wall of *San Sepolcro*
and Portion of *Atrio Di Pilato*

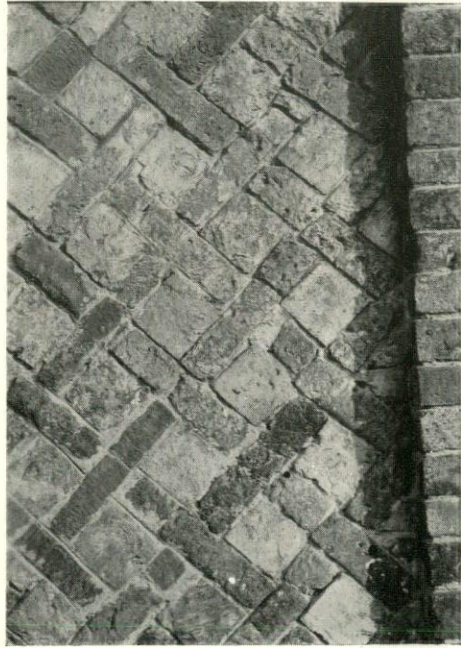


Fig. 6. Detail of Pattern Work in Lantern Walk,
San Sepolcro



Fig. 7. Pattern Work in Rear Wall,
San Sepolcro

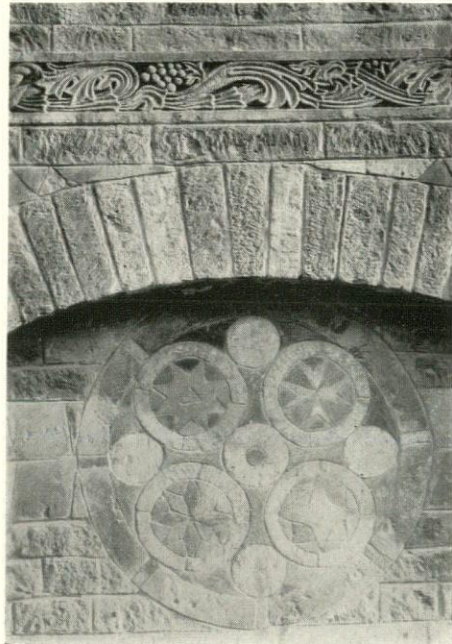


Fig. 8. Arch and Tympanum in Front Wall,
San Sepolcro

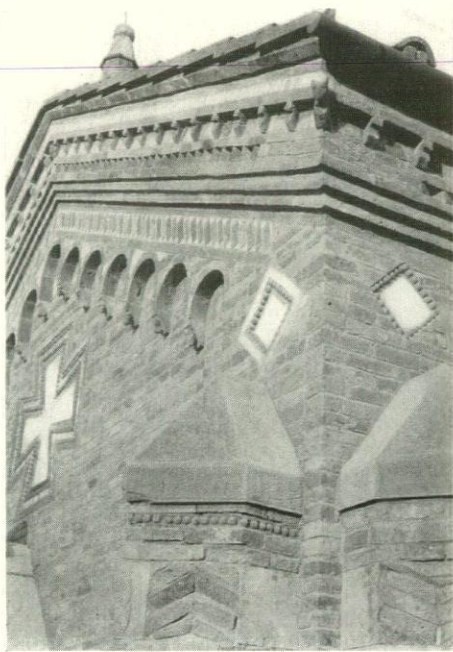


Fig. 9. Angle of Cornice,
SS. Pietro e Paolo

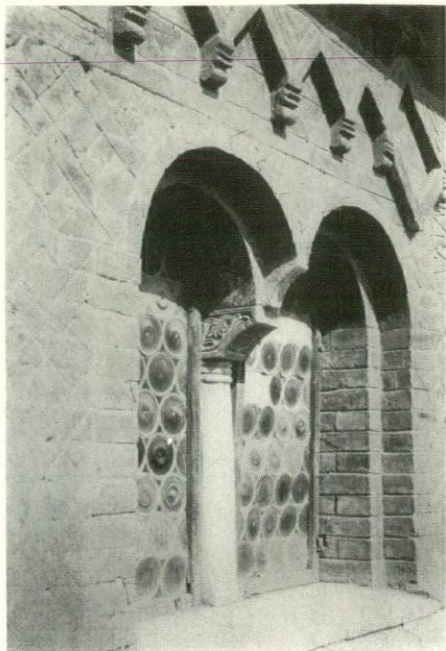


Fig. 10. Window in Lantern,
San Sepolcro

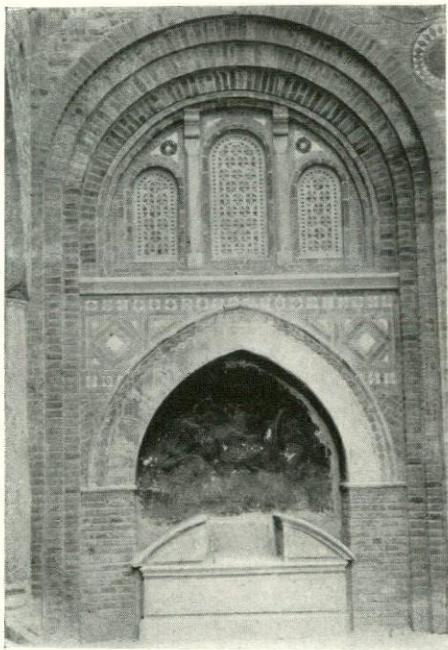


Fig. 11. Exterior Detail,
Chiesa Della Trinita



Fig. 12. Side Entrance
SS. Pietro e Paolo

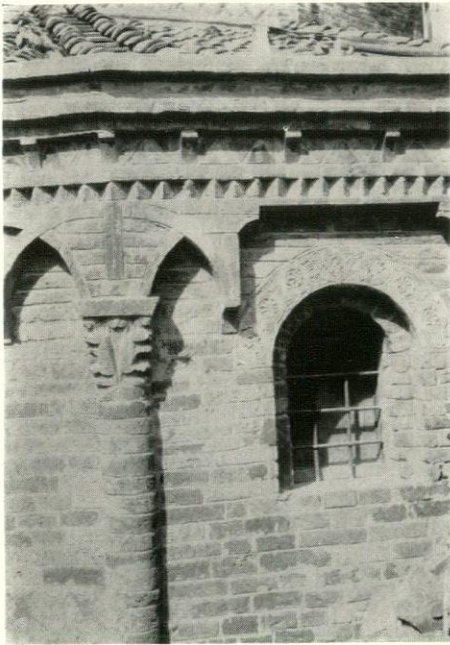


Fig. 13. Detail, *San Sepolcro*

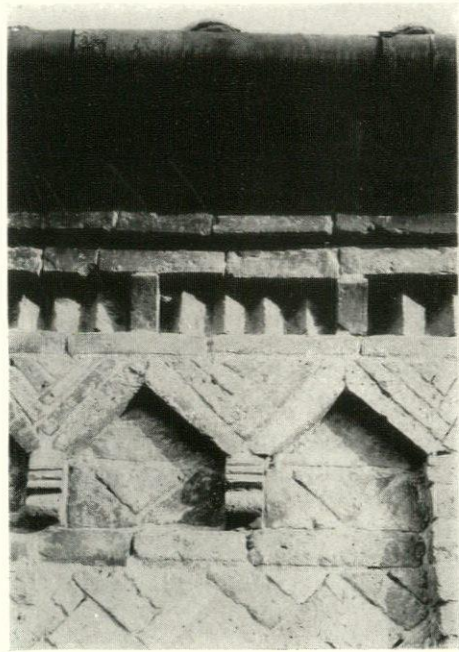


Fig. 14. Lantern Cornice, *San Sepolcro*

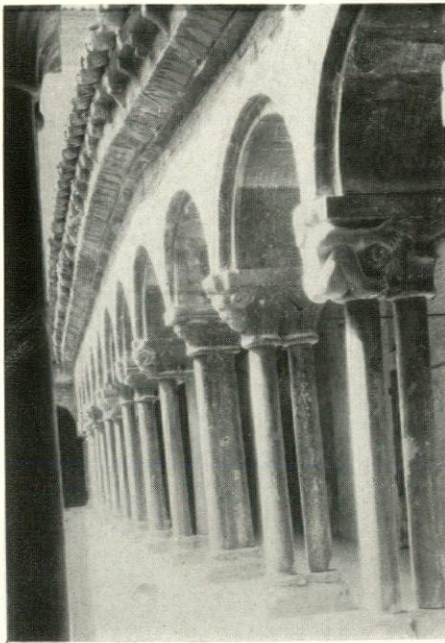


Fig. 15. Cloister, *Santo Stefano Group*,
Bologna

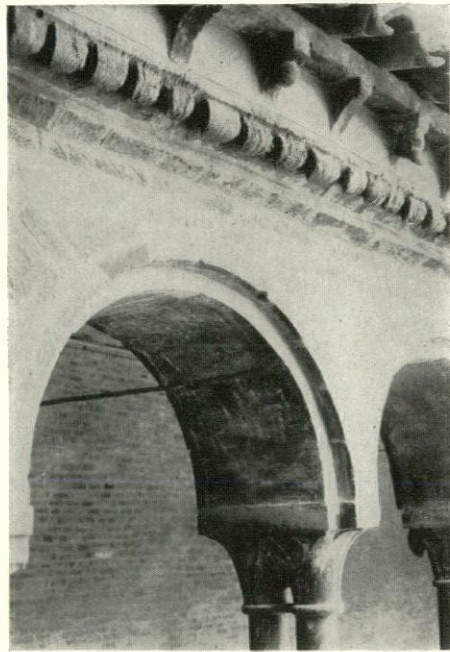


Fig. 16. Detail of Cloister, *Santo Stefano Group*,
Bologna



Fig. 17. *Palazzo Tacconi*,
Via Santo Stefano

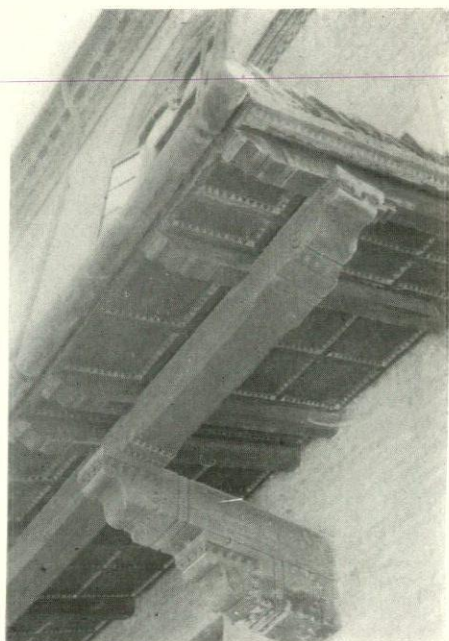


Fig. 18. Detail of Stoop,
Palazzo Ghislieri, now Hotel Brun



Fig. 19. Detail of Loggia,
Palazzo del Podestà



Fig. 20. Minor Entrance to
Palazzo Comunale

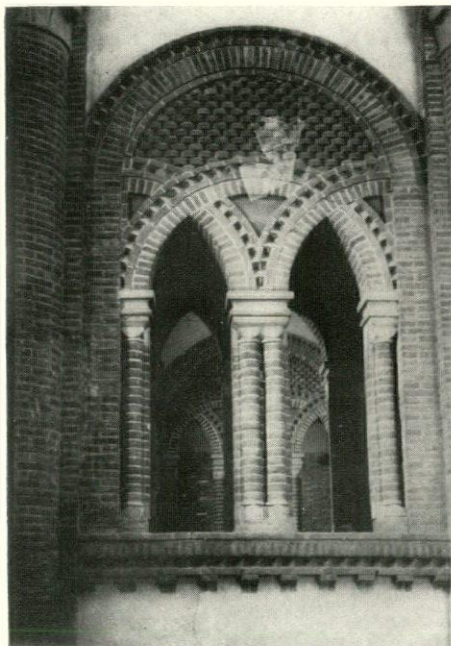


Fig. 21. Interior detail, openings in transept

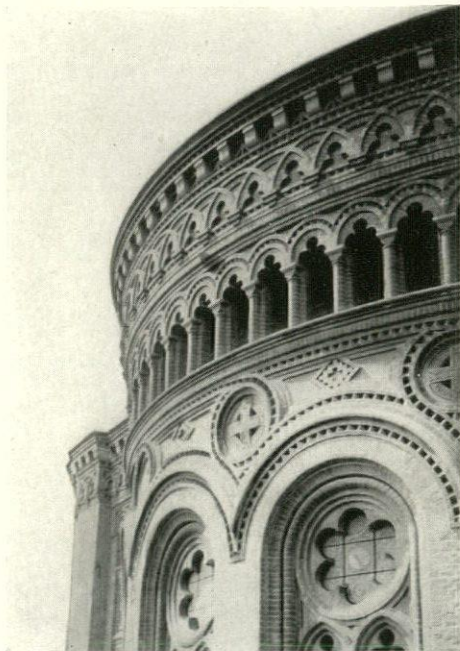


Fig. 22. Exterior detail, crowning motif of apse

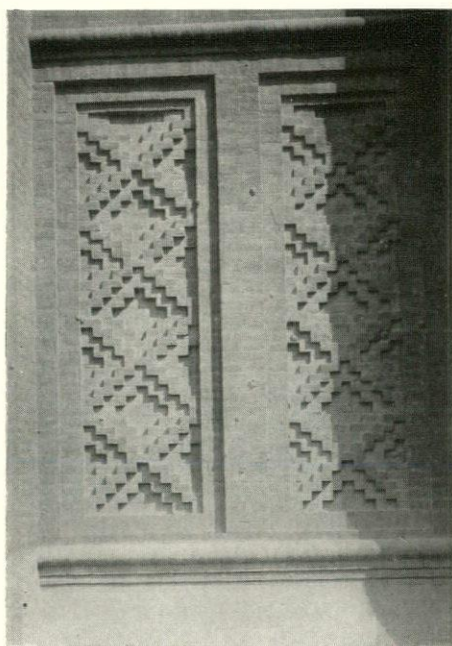


Fig. 23. Detail of panels, exterior

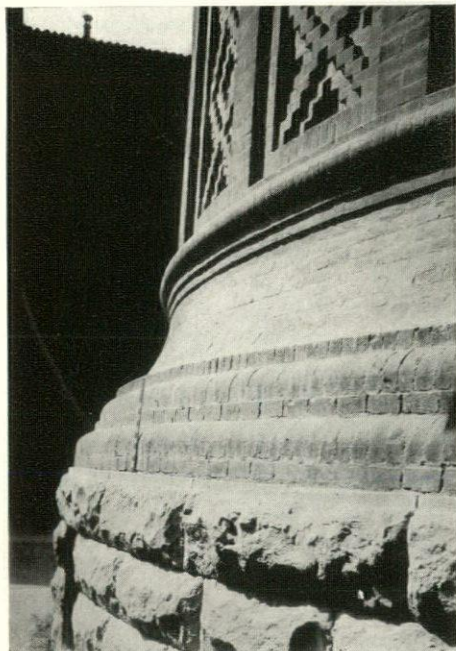


Fig. 24. Base course of apse

Church of the Sacred Heart, Bologna. Edoardo Collamarini, Architect, c. 1910
The Architectural Record

March, 1927

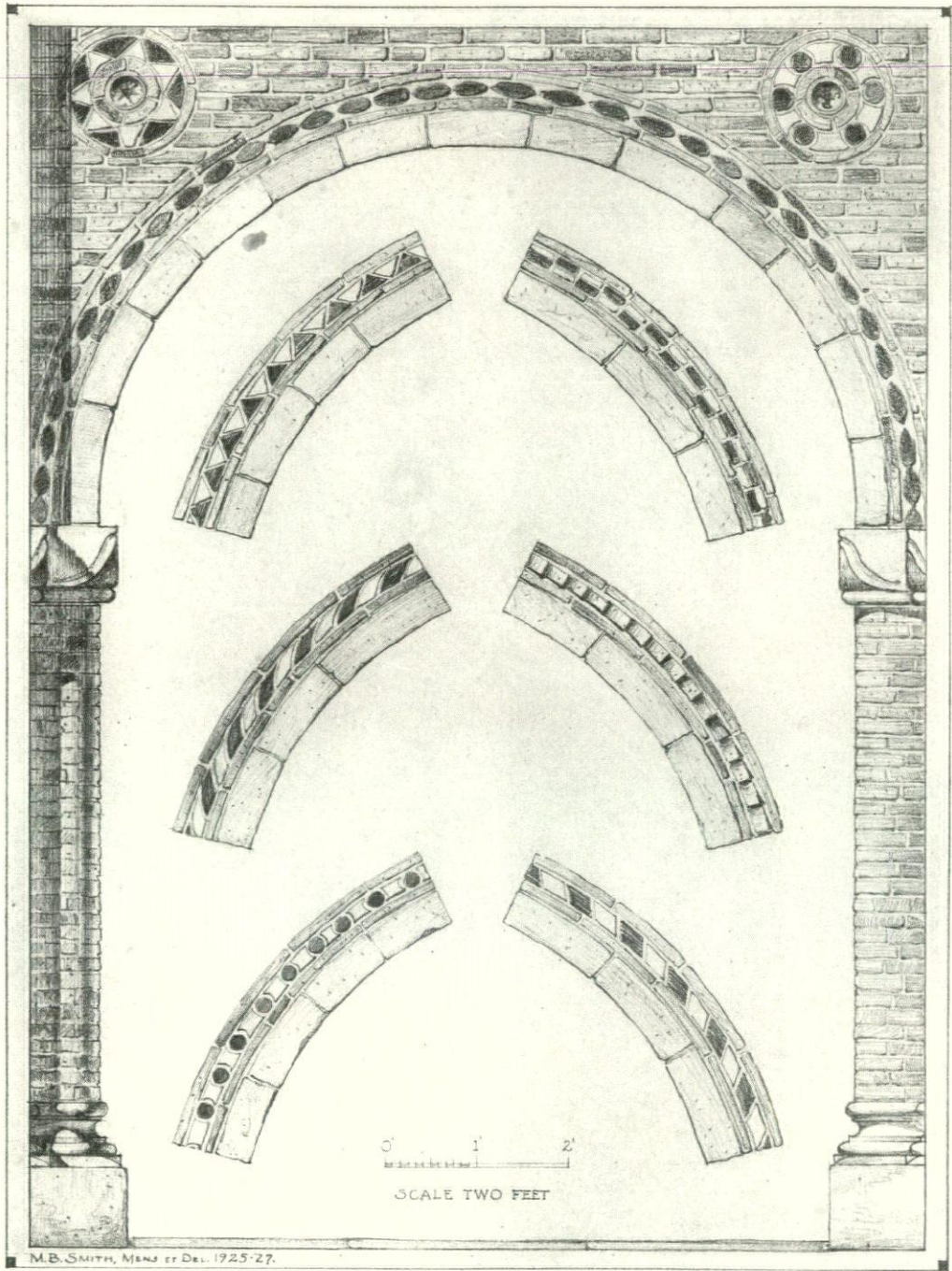
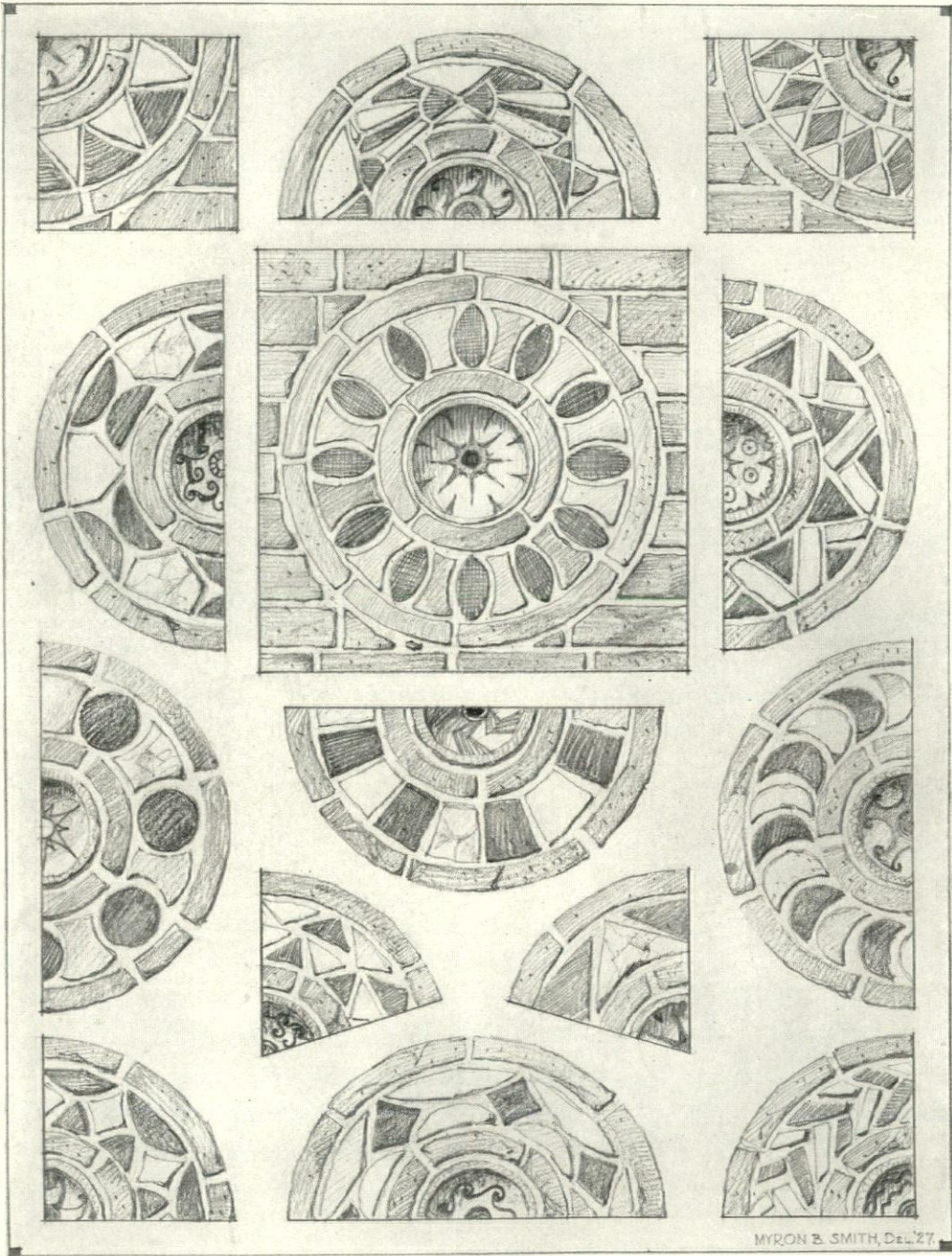
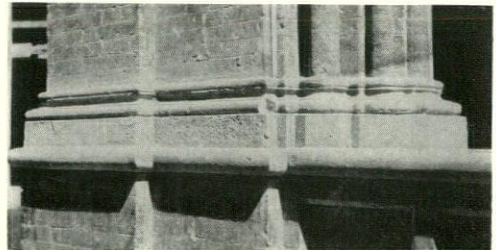
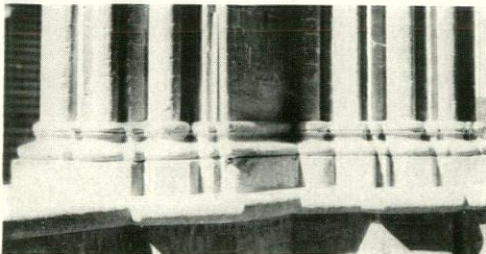
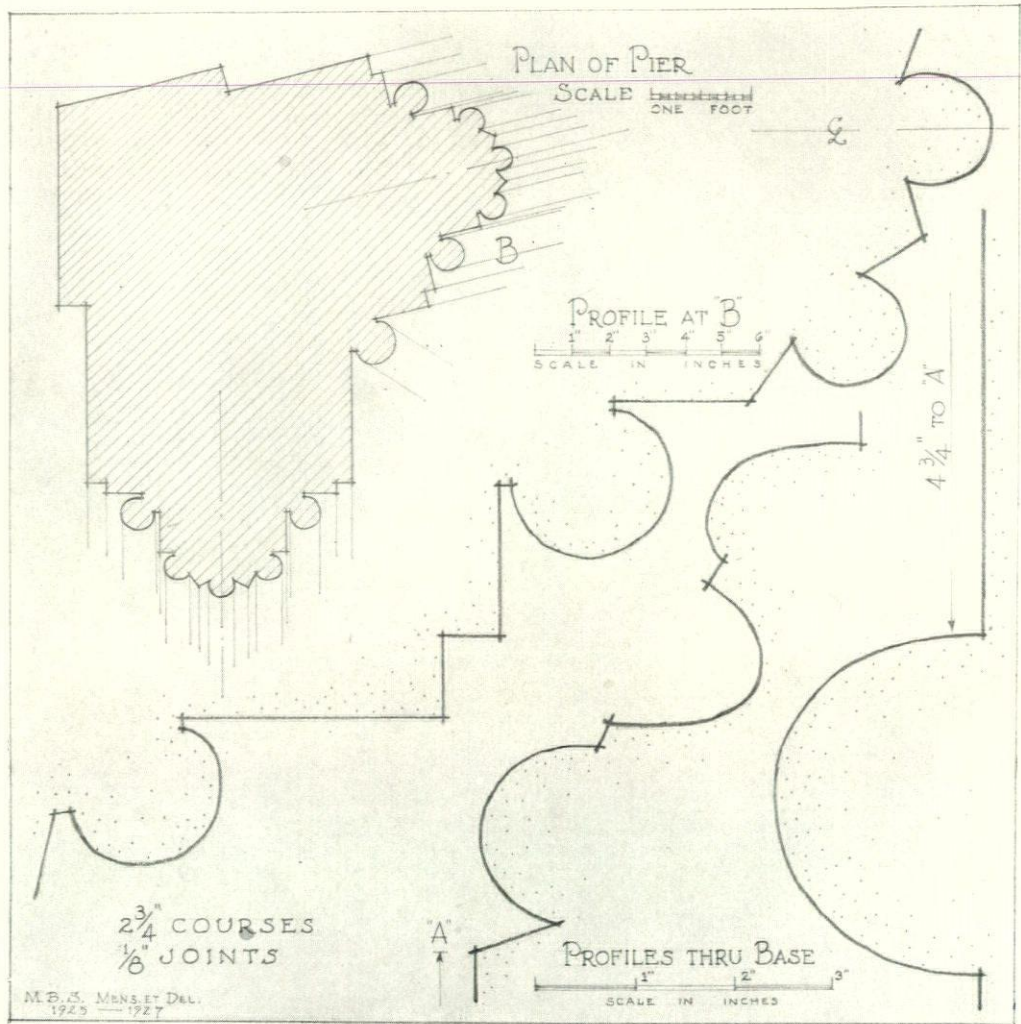


Plate I. Archivolts, *Atrio Di Pilato*, Santo Stefano Group, Bologna
NORTH ITALIAN BRICKWORK, PART III



MYRON B. SMITH, DEL. '27

Plate II. Rosettes from Spandrels, *Atrio di Pilato*, Santo Stefano Group, Bologna
NORTH ITALIAN BRICKWORK, PART III





The Architectural Record

March, 1927

Basilica of *Santi Pietro e Paolo*, Bologna
Rebuilt 1019 and restored 1880-85
NORTH ITALIAN BRICKWORK, PART III

ilica of *Santi Pietro e Paolo* (page 267), an eleventh century church that was restored at the same time as its neighbor. The suggestion of antiquity has been sacrificed, on the exterior, for nicety of workmanship. It is to be doubted if the Lombard builders of that century were wont to use the care in pointing joints as is illustrated in Fig 3, nor did they ever lay a gable with the precision of that shown in Fig. 9. The interior with its alternate columns and piers, many with antique classic caps in various stages of mutilation, is more successful and probably is less re-touched. The side door is shown as Fig. 12.

The inner court around which these buildings group is the arcaded *Atrio di Pilato*. The massive clustered piers that support the inner arches are headed with cubical caps, (Fig. 5). The rosettes that occur in the spandrels above are illustrated as Plate II. The centers are saucer-shaped majolica inserts, highly glazed and decorated in colors to harmonize with the brick and marble pattern work. The archivolt is treated with various designs in gesso, stone, brick and marble as shown in Plate 1.

At the rear of the court is the *Chiesa della Trinita*, restored recently by Edoardo Collamarini of Bologna. Fig. II illustrates one of the three arches of the façade. To the right are the cloisters of a former Celestine monastery that is dated about the eleventh century. The two illustrations, (Figs. 15 and 16), give a good idea of the upper range of arcades. The arches are of brick, with extrados of the same material arranged in patterns.

The under part of the cornice, (Fig. 15), shows remnants of paint that at one time picked out the pointed motif in various colors.

The new church of the Sacred Heart, built about 1910 by Edoardo Collamarini, is the most interesting modern construction in Italy. The plan follows that of *S. Sophia in Constantinople*, while the decorative elements are freely adapted from Byzantine and Lombard precedents. Due, perhaps, to the lack of color variation in the bricks the effect of the decoration is inclined to be metallic.

Figs. 21-24 illustrate interesting details. As an example of craftsmanship in brick this church has no rivals in recent work on the peninsula.

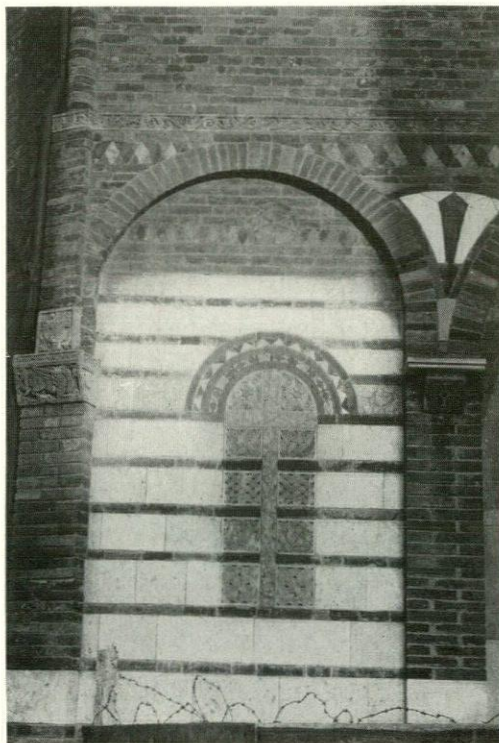


Fig. 25. Detail from street façade, *San Sepolcro*, Bologna.

A BIBLIOGRAPHY of ARCHITECTURAL SPECIFICATIONS

By *Wilfred W. Beach*

PART III (Continued from our February issue)

27. HARDWARE

THE PRINCIPLES OF IRON FOUNDED. By R. G. G. Moldenke, 517 pages, with specifications on hardware. *The McGraw-Hill Book Co.* \$4.00

29. PLUMBING

PLUMBING PLANS AND SPECIFICATIONS. By J. J. Cosgrove, 1910; 273 pages; cloth 5½ x 8½; many ills. Pages 61 to 122 give complete plumbing specifications and comments. *Standard Sanitary Mfg. Co., Pubs., Pittsburgh.* \$3.00

SEWAGE DISPOSAL FOR FARMS AND SUBURBAN HOMES; 19 pages; paper 5 x 7¾; 18 ills. and details, with specifications for septic tanks and tile drains. *Eastern Clay Products Assn., Pubs., Philadelphia.* Gratis

SEWAGE PURIFICATION AND DISPOSAL. By J. J. Cosgrove, 1909; 222 pages; cloth 5½ x 8½; illus. Shows "method of constructing various types of sewage purification plants . . . together with a description of materials best suited to the purpose." *Standard Sanitary Mfg. Co., Pubs., Pittsburgh.* \$3.00

SEWERAGE. The Designing, Construction and Maintenance of Sewerage Systems and Sewage Treatment Plants. By A. Prescott Folwell, C. E.; 447 pages; cloth 6 x 9; 80 figs. Chap. 10 is on specifications and contracts. *John Wiley & Sons, Inc., Pubs., New York* \$4.00

SEWERAGE AND SEWAGE TREATMENT. By Harold E. Babbitt, M.S.; 531 pages, cloth 6 x 9; 186 figs. ". . . includes an exposition of the prin-

ciples and methods for the designing, construction and maintenance of sewerage works; and also for the treatment of sewage." Contracts and specifications are discussed. *John Wiley & Sons, Inc., Pubs., New York* \$5.00

(STANDARD SPECIFICATIONS FOR CEMENT-CONCRETE) SEWER PIPE; 1924; 11 pages; paper 6 x 9; 4 figs. *Am. Soc. for Testing Materials, Pubs., Philadelphia.* 25c

(STANDARD SPECIFICATIONS FOR CLAY) SEWER PIPE, 1924; 11 pages; paper 6 x 9; 2 plates of details. *Am. Soc. for Testing Materials, Pubs., Philadelphia.* 25c

(STANDARD SPECIFICATIONS FOR) DRAIN TILE; 1924; 16 pages; paper 6 x 9; 4 Figs. *Am. Soc. for Testing Materials, Pubs., Philadelphia.* 25c

HANDBOOK FOR PLUMBERS ON HOUSE SEWERS AND HOUSE DRAINS; 1924; 25 pages; paper 5 x 7¾. Contains specifications on vitrified tile pipe and laying. *Eastern Clay Products Assn., Pubs., Philadelphia* Gratis

SANITATION, WATER-SUPPLY AND SEWAGE DISPOSAL OF COUNTRY HOUSES. By Paul Gerhard, 1884; 240 pages; cloth 4 x 6; ills. Contains rules and regulations useful in specifications. *D. Van Nostrand Co., Pubs., New York.* \$3.00

(MODERN) PLUMBING ILLUSTRATED. By R. M. Starbuck, 1926; 407 pages; cloth 6 x 9; 70 plates. "A very comprehensive work. . . ." *Norman W. Henley Pub. Co., Pubs., New York.* \$5.00

RULES FOR LAYING CAST-IRON WATER PIPES IN FACTORY YARDS, 1910; 5 pages; paper 4¾ x 7¼.

Associated Factory Mutual Fire Ins. Co's., Pubs., Boston Gratis

STANDARDS FOR FIRE EXTINGUISHERS, Rev. to date; mimeo; L. L. paper binders 8½ x 11, incl. STANDARDS FOR: Five-Gallon Hand Pump Fire Extinguishers, 18 pages incl. 6 BP's. Tanks for Chemical Extinguishers, 5 pages. 2½-Gallon, Loose Stopple, Soda-Acid Extinguishers, 7 pages. Construction and Test of Rubber-Lined Fire-Hose for Chemical Fire Extinguishers and Chemical Fire Engines, 8 pages. Construction of Play Pipe, 4 pages. Compression Type Nozzle for 33-Gallon Wheeled Soda-Acid Extinguishers, 2 pages.

Underwriters' Laboratories, Pubs., ChicagoEach 50c

STANDARDS FOR HOSE, Rev. to Date; mimeo; L. L. paper binders 8½ x 11; incl. STANDARDS FOR:

Construction and Test of Unlined Fire Hose (Flax Line) and Description of Procedure in Work of Examining Hose under these Specifications, 31 pages; 4 ills. Construction and Test of Cotton-Jacketed, Rubber-Lined Fire Hose, 11 pages. Construction of Rubber Hose for conducting Gasoline, 5 pages. Construction of ¾, 1 and 1¼ inch Cotton-Covered Rubber-Metal Hose for Conducting Gasoline, 7 pages; 2 ills. Construction of 2½ inch Couplings for Rubber-Lined Fire Hose, 8 pages including 4 plates. Construction of Hose Couplings for Hose for Conducting Gasoline or other Hazardous Liquids, 8 pages. Hose Racks and Reels, 3 pages.

Underwriters' Laboratories, Pubs., ChicagoEach 50c

FIRE PREVENTION AND FIRE PROTECTION as Applied to Building Construction. By Joseph K. Freitag, B.S., C.E., 1921; 1038 pages; flex. 4¼ x 7; many ills. Contains several speci-

cations on various phases of fire-proof construction, fireproofing, fire prevention and fire protection.

John Wiley & Sons., Inc., Pubs., New York\$5.00

HANDBOOK OF FIRE PROTECTION. By Everett U. Crosby, Henry A. Fiske and H. Wallace Forster, 1924; 928 pages; flex. 4¼ x 7; 170 ills. ". . . to meet the needs of students of fire prevention and protection, of field men generally, . . ." Contains rules for automatic sprinklers and other means of fire prevention and protection.

D. Van Nostrand Co., Pubs., New York\$4.00

REGULATIONS Recommended by the National Fire Protection Assn.:

For Safeguarding Dry Cleaning and Dry Dyeing Plants, 1925; 14 pages.

For Fire Dept. Hose Connections for Sprinkler and Standpipe Systems, 1924; 6 pages; 10 ills.

For Storage and Handling of Photographic and X-Ray Nitrocellulose Films, 1925; 7 pages. For Installation of Pulverized Fuel Systems, 1924; 16 pages.

For Pulverizing System for Sugar and Cocoa, 1924; 12 pages. For Outside Protection, Private Underground Piping Systems, Supplying Water for Fire Ex-

tinguishment, 1925; 20 pages; 26 ills. For Prevention of Dust Explosions in Flour and Feed Mills, 1924; 6 pages.

For Installation of Sprinkler Equipment, 1925; 26 ills; 68 pages. For Prevention of Dust Explosions in Terminal Grain Elevators, 1925; 7 pages.

Foregoing in paper 4 x 6¼.

Nat'l Board of Fire Underwriters, Pubs., New YorkGratis

For Construction and Equipment of Hose Houses for Mill Yards; 1905; 24 pages; 14 ills.

Governing Dip Tanks, Hardening and Tempering Tanks, Flow Coat Work, Spray Booths, Japanning and Enameling Including Ovens, Foam

Extinguisher Systems, 1922; 68 pages; 10 ills.

Governing Foam Extinguisher Systems, 1922; 22 pages (from above 68). Governing Production, Storage and Handling of Nitro-Cellulose Motion Picture Films, 1922; insert detail plate. For Installation and use of Internal Combustion Engines. (Gas, Gasoline, Kerosene, Fuel Oil) also Coal Gas Producers (Pressure and Suction Systems, 1922; 13 pages. For Installation, maintenance and Use of Municipal Fire Alarm Systems, 1922; 35 pages. For Installation of Rotary and Centrifugal Fire Pumps and for Electrical Driving and Gasoline Engine Driving of Fire Pumps, 1921; 102 pages; 20 ills. For Installation and Use of Signaling Systems Used for the Transmission of Signals Affecting Fire Hazard, 1920; 43 pages. For Installation of Standpipe and Hose Systems, 1917; 32 pages. For Protection against Lightning, 1916; 31 pages 18 ills. For Storage, Handling and Use of Pyroxylin Plastic in Factories Making Articles Therefrom, 1922; 40 pages; 15 ills. For Supervision and Care of Valves Controlling Water Supplies for Fire Protection, 1921; 11 pages.

Foregoing in paper 3½ x 5¼.

Nat'l. Board of Fire Underwriters, Pubs., New YorkGratis

AUTOMATIC SPRINKLER PROTECTION.

By Gorham Dana, S.B.; 443 pages; cloth 5 3/8 x 8¼; 349 figs. "The book can be used both as a text for persons studying sprinkler protection, and as a reference for those familiar with the subject."

John Wiley & Sons, Inc., Pubs., New York \$3.50

STANDARDS FOR AUTOMATIC SPRINKLERS, Rev. to date; 82 pages mimeo; L. L. binder 8½ x 11; 15 ills. and charts. I, Standard Test Apparatus; II, Standard Methods of Examination and Tests; III, Standards of Design, Construction and Test Performance;

IV, V, Factory Inspection Service, \$1.00

Additional STANDARDS, Rev. to date; mimeo; L. L. binders 8½ x 11, give STANDARDS FOR:

Concrete Inserts, 2 pages. Centrifugal Pumps, 8 pages; 1 ill. Pumps and Air Compressors for Sprinkler System Service, 5 pages. Non-Recording Spring Pressure Gauges for Use in Connection with Automatic Sprinkler Equipments, Open Sprinkler Equipments and Standpipe Equipments, 30 pages; 8 ills. Fitting for Use in Sprinkler Work, 12 pages incl. 8 BP's of details; I, Long-turn Fittings; II Short-turn Fittings. Angle Hose Valves, 6 pages; 3 ills. Straightway Hose Valves, 6 pages; 2 ills. Type Swing Check Valves, 7 pages; 1 ill. Inside Screw Indicator Valves, 11 pages; 4 ills. Inside Screw Valves for Underground Work, 9 pages; 4 ills. Outside Screw-and-Yoke Gate Valves, 11 pages; 4 ills. Alarm Valves, 38 pages: I, General Information; II, Examinations and tests; III, Design, Construction and Test Performances; IV, V, Factory Inspection Service.

Gravity Tank Expansion Joints, 37 pages.

Underwriters' Laboratories,

Pubs., Chicago Each 50c

RULES FOR INSTALLING SPRINKLER EQUIPMENT, AUTOMATIC AND OPEN SYSTEMS, with Supplementary Suggestions Regarding Water Supplies and General Protection, 1923; 92 pages; paper 4¾ x 7¼; 51 ills.

Associated Factory Mutual Fire Ins. Co.'s, Pubs., BostonGratis

RULES FOR DRY-PIPE SYSTEMS OF AUTOMATIC SPRINKLERS, with Descriptions and Directions for the Operation of the More Common Types of Dry-pipe Valves and Accelerating Devices, 1925; 11 pages; paper 4¾ x 7¼; 72 ills.

- Associated Factory Mutual Fire Ins. Co.'s, Pubs., Boston*Gratis
- SPECIFICATIONS—UNDERWRITER STEAM FIRE PUMPS, 1926; 58 pages; paper $4\frac{3}{4} \times 7\frac{1}{4}$; 19 ills., 4 charts.
Associated Factory Mutual Fire Ins. Co.'s, Pubs., BostonGratis
- SPECIFICATIONS — CENTRIFUGAL FIRE PUMPS, Also Rules for Electrical Driving, Gasoline Engine Driving and steam Turbine Driving of Fire Pumps, 1926; 63 pages; paper $4\frac{3}{4} \times 7\frac{1}{4}$; 11 ills., 4 charts.
Associated Factory Mutual Fire Ins. Co.'s, Pubs., BostonGratis
- SPECIFICATIONS — VALVES, INDICATOR POSTS AND HYDRANTS, 1925; 55 pages; paper $4\frac{3}{4} \times 7\frac{1}{4}$; 14 ills.
Associated Factory Mutual Fire Ins. Co.'s, Pubs., BostonGratis
- SPECIFICATIONS FOR GRAVITY WATER TANKS AND STEEL TOWERS, 2 Vols., 1925; paper $4\frac{3}{4} \times 7\frac{1}{4}$; Vol. I, Structural Details, 42 pages; 1 table; Vol. II, Piping, Fittings and Heating Systems, 92 pages; 12 ills., 12 tables.
Associated Factory Mutual Fire Ins. Co.'s, Pubs., BostonGratis
- SPECIFICATIONS: FIRE HOSE, COUPLINGS, PLAYPIPES AND HOSE HOUSES, 1922; 38 pages; paper $4\frac{3}{4} \times 7\frac{1}{4}$; 14 ills.
Associated Factory Mutual Fire Ins. Co.'s, Pubs., BostonGratis
- REGULATIONS for the INSTALLATION and USE of STEAM PUMP GOVERNORS and AUXILIARY PUMPS recommended by the National Fire Protection Assn., 1908; 12 pages; paper $3\frac{1}{2} \times 5\frac{1}{4}$; 3 insert plates.
National Board of Fire Underwriters, Pubs., New YorkGratis
- REGULATIONS for the MANUFACTURE and INSTALLATION of STEAM FIRE PUMPS recommended by the National Fire Protection Assn., 1922; 66 pages; paper $3\frac{1}{2} \times 5\frac{1}{4}$; 17 ills.
National Board of Fire Underwriters, Pubs., New YorkGratis (See also other Publications of The
- National Board of Fire Underwriters, on Pages 270, 271).
- REGULATIONS Recommended by the National Fire Protection Assn: For Installation, Maintenance and Use of Emergency Gas Shut-Off Valves, 1924; 8 pages. For Installation and Operation of Acetylene Equipment, 1924; 27 pages. For Installation and Operation of Gas Systems for Welding and Cutting, 1925; 21 pages.
Foregoing in paper 4 x 6 1/4Gratis
For Installation, Maintenance and Use of Piping and Fittings for City Gas, 1920; 48 pages; paper $3\frac{1}{2} \times 5\frac{1}{4}$.
National Board of Fire Underwriters, Pubs., New YorkGratis
- STANDARDS FOR CONSTRUCTION AND PERFORMANCE OF ACETYLENE GENERATORS FOR LIGHTING, Rev. to date; mimeo; L. L. paper binder $8\frac{1}{2} \times 11$; 38 pages.
Underwriters' Laboratories, Pubs., Chicago50c.
30. HEATING AND VENTILATING
- AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS GUIDE, 1925-26, Containing Design and Specification Data Useful in the Planning and Construction of Modern Heating and Ventilating Installations—Prepared from the Society's Transactions—Investigations of Its Research Laboratory—and the Practice of Its Members, together with a Manufacturers' Catalog Data Section Containing Essential and Reliable Facts Concerning Modern Equipment—and a Consulting Service Section for Engineers—also the Roll of Membership of the Society. Vol. 4; 576 pages; cloth 6×9 ; 94 Figs. and other ills. ". . . putting a large amount of highly technical heating and ventilation data . . . into readily usable form. . . ."
Amer. Soc. of Heating and Ventilating Engineers, Pubs., New York \$3.00

(TENTATIVE SPECIFICATIONS FOR CONSTRUCTION AND PERFORMANCE OF FUEL OIL BURNERS FOR DOMESTIC USE, Rev. to date; mimeo; 18 pages; L. L. paper binder 8½ x 11. *Underwriter's Laboratories, Pubs., Chicago* 50c

HANDBOOK FOR HEATING AND VENTILATING ENGINEERS. By James D. Hoffman and Benedict F. Raber; 402 pages; flex. 4 x 7; 151 ills. "Has many valuable practical points." Chap. XVIII: Specifications. *McGraw-Hill Book Co., Inc., Pubs., New York*\$4.50

HEATING AND VENTILATING BUILDINGS. By Rolla C. Carpenter, M.M.E.; 598 pages; cloth 6 x 9; 290 figs. "It presents generally the information found necessary by contractors and engineers for the design, erection and operation of heating plants." *John Wiley & Sons, Inc., Pubs., New York*\$3.50

HOUSE HEATING WITH OIL FUEL. By P. E. Fansler, E. E. Sec. Ed. 1926, 63 pages, with charts and illustrations. "Presents in concise form the meat of the available information on the various phases of the problem of oil burners as a source of heat for homes." *The Heating & Ventilating Magazine, Pubs., New York*\$1.00

(REGULATIONS FOR THE CONSTRUCTION AND INSTALLATION OF) OIL BURNING EQUIPMENTS and for the Storage and Use of Oil Fuels in Connection Therewith, 1925; 28 pages; paper 4 x 6¼. *National Board of Fire Underwriters, Pubs., New York*....Gratis

PRACTICAL STEAM, HOT-WATER HEATING AND VENTILATING. By Alfred G. King; 551 pages; 396 ills.; 81 tables. "... for the use of heating contractors, engineers, architects and steam fitters." *Norman W. Henley Pub. Co., Pubs., New York*\$4.00

STEAM BOILERS: Their Construction, Care and Operation, with Questions and Answers. By C. F. Swingle, M. E., 305 pages; leatherette 4¼ x 7; 170 ills. "A complete modern treatise on boiler construction, settings and operation." *Frederick J. Drake Co., Pubs., Chicago*\$2.00

STEAM BOILERS, THEIR THEORY AND DESIGN. By H. de B. Parsons, B.S., M.E., 377 pages; cloth 6 x 9; ill'd. Chap. VII is on materials and specifications. *Longmans, Green & Co., Pubs., New York*\$4.00

REGULATIONS FOR THE INSTALLATION OF BLOWER AND EXHAUST SYSTEMS, 1924; 20 pages; paper 4 x 6¼; 6 ills. Recommended by National Fire Protection Assn. *National Board of Fire Underwriters, Pubs., New York*....Gratis

31. ELECTRICAL WORK

CODE FOR ELECTRICAL APPLIANCES, Rev. to date; 549 pages; L. L. cloth binder 6 x 9; many ills., details, charts. Sec. 1, General Information. Other sections (not numbered) give STANDARDS FOR: Rubber-Covered Wires and Cables; Armored Cables and Cords; Cartridge Enclosed Fuses; Cabinets and Cutout Boxes; Knife Switches; Soldering Lugs; Renewable Cartridge Enclosed Fuses; Electric Ranges; Flexible Non-Metallic Tubing; Rigid Conduit; Snap Switches; Electric Signs; Panel Boards; Cutout Bases; Flexible Cords; Ground Clamps; Fixture Wire; Heater Cord. *Vol. 1, Complete in binder* ..\$10.00 *L. L. single sections in paper binder (Sec. I incl. with each)* 1.00 Additional Standards, Rev. to date; L. L. binder 8½ x 11; mimeo; ills. and charts (not numbered) give STANDARDS FOR: Circuit Breakers (Air Break Type); Control Appliances (Resistance Type); Control Appliances (Trans-

former Type); Metal Raceways for Surface Wiring; Wooden Raceways for Surface Wiring; Transformers (Not Oil-Immersed Type); Motion Picture Cable and Stove Wire; Christmas Tree Lighting Outfits; Industrial Control Equipment; Slowburning and Slowburning Weatherproof Wires; Cleats, Knobs, Tubes; Insulating Joints and Studs; Toy Transformers; Varnished Cloth Wires; Electric Light Plants; Bell-Ringing Transformers; Rubber-Sheathed Cords; Flexible Metallic Conduit; Electric Bells;

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Foregoing prices include revision service.

Underwriters' Laboratories, Pubs., Chicago

HANDBOOK, ASSOCIATED MANUFACTURERS OF ELECTRIC SUPPLIES; 1924; 230 pages; 17 bulletins in paper binder 6 x 9; index; Some information for specification writers; chiefly for trade.

Associated Mfrs. of Electric Supplies, Pubs., New York. Gratis

"NATIONAL ELECTRICAL CODE," Regulations for Electric Wiring and Apparatus, 1925; 182 pages; paper 4 x 6¼; 2 details.

National Board of Fire Underwriters, Pubs., New YorkGratis

RADIO INSTALLATION RULES, 1925; 8 pages; paper 4¾ x 7¼.

Associated Factory Mutual Fire Ins. Co.s, Pubs., Boston ..Gratis

REGULATIONS FOR ELECTRIC RAILWAY CAR HOUSES AND CARS, 1925; 23 pages; paper 4 x 6¼.

National Board of Fire Underwriters, Pubs., New YorkGratis

SLATE FOR ELECTRICAL USES. (See under SLATE.)

SPECIFICATIONS FOR OVERHEAD CONSTRUCTION MATERIALS, 1924. Report of Overhead Systems Committee. Technical National Section; 63

pages; paper 8½ x 11; 50 plates of details.

Nat'l Electric Light Assn., Pubs., New York45c

STANDARDS FOR BURGLARY PROTECTION, Rev. to date; mimeo; L. L. paper binders; 8½ x 11; incl. STANDARDS ON:

Central Office Burglary Protection for Mercantile Establishments, Mercantile Vaults, Safes and Bank Vaults, 15 pages. Mercantile Local Burglar Alarm Systems, 7 pages. Bank Vault Local Burglar Alarm Systems, 4 pages. Hold-Up Alarm Systems, 3 pages. Relocking Devices for Vault Doors, 3 pages.

Underwriters' Laboratories, Pubs., Chicago.....Each 50c

32. REFRIGERATION

POWER PLANTS AND REFRIGERATION (Vol. II of Mechanical Equipment of Buildings). By Louis A. Harding, B.S., M.E., and Arthur C. Willard, S.B.; 759 pages; flex. cloth 6¾ x 9; many ills. "Covers every phase of power plant design, especially as they relate to buildings, and the design and operation of refrigeration apparatus." Chapter 4 has specifications on boilers.

John Wiley & Sons, Inc., Pubs., New York\$6.00

SANITARY REFRIGERATION AND ICE MAKING. By J. J. Cosgrove, 1914; 340 pages; cloth 5½ x 8½; illd. "... a treatment of this important subject which is graphical rather than mathematical, practical rather than theoretical. . . ." Contains information for specification writing.

Standard Sanitary Mfg. Co., Pubs., Pittsburgh\$3.00

34. POWER PLANT

STEAM POWER PLANT ENGINEERING. By G. F. Gebhardt, M.E.; 1057 pages; cloth 6 x 9; 642 figs. Has typical specifications. "An exhaustive treatise covering every phase."

THE ARCHITECTURAL RECORD.

John Wiley & Sons, Inc., Pubs.
New York\$6.00

39. ACOUSTICS

ACOUSTICS OF BUILDINGS. By F. R.
Watson; 152 pages; cloth 6 x 9;

72 figs. Discusses sound absorption,
reverberation, acoustic corrections,
vibrations, acoustic control of venti-
lating apparatus, etc.

John Wiley & Sons, Inc., Pubs.,
New York\$3.00

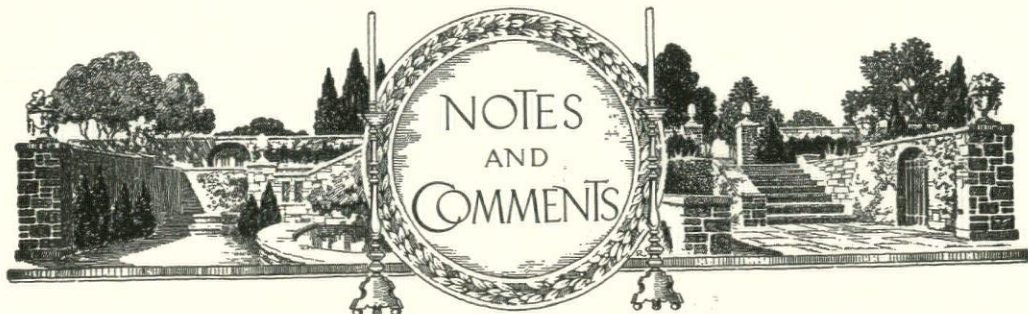
APPENDIX

ADDRESSES OF SOCIETIES AND ASSOCIATIONS PUBLISHING WORKS MENTIONED IN THE
FOREGOING BIBLIOGRAPHY

- American Concrete Institute, Harvey Whipple, Secretary,
1807 E. Grand Blvd., Detroit, Mich.
- American Face Brick Association, R. T. D. Hollowell, Secretary,
130 N. Wells St., Chicago.
- American Institute of Architects, Edw. C. Kemper, Executive Secretary,
The Octagon, Washington, D. C.
- American Society of Civil Engineers, G. T. Seabury, Secretary.
33 W. 39th St., New York.
- American Society of Heating and Ventilating Engineers, F. C. Houghton, Secretary,
29 W. 39th St., New York.
- American Society for Testing Materials, C. L. Warwick, Secretary-Treasurer,
1315 Spruce St., Philadelphia.
- American Specification Institute, G. C. Coughlin, Manager,
160 N. La Salle St., Chicago.
- Arkansas South Pine Bureau, B. Greaves, Secretary,
Little Rock, Ark.
- The Asphalt Association, J. E. Pennybacker, Secretary and General Manager,
441 Lexington Ave., New York.
- Associated Factory Mutual Fire Insurance Companies, H. O. Lacount, Manager.
184 High Street, Boston (9), Mass.
- Associated Manufacturers of Electrical Supplies, Frederick Nicholas, Secretary.
30 E. 42nd St., New York.
- Associated Tile Manufacturers, M. A. Illing, Secretary,
Beaver Falls, Pa.
- Association of American Steel Manufacturers, J. O. Leech, Secretary,
Carnegie Steel Co., Pittsburgh, Pa.
- California Redwood Association, R. F. Hammatt, Secretary-Manager,
24 California St., San Francisco.
- California White & Sugar Pine Association, C. S. Smith, Secretary,
Call Bldg., San Francisco.
- Common Brick Manufacturers Association, R. P. Stoddard, Secretary-Manager,
2121 Guaranty Title Bldg., Cleveland, O.
- Contracting Plasterers International Association, Edward McDonnell, Secretary,
605 Lincoln Bldg., Detroit, Mich.
- Eastern Clay Products Association, H. T. Shelley, Secretary-Manager,
906 Colonial Trust Bldg., Philadelphia.
- The Gypsum Industries, H. J. Schweim, Ch. Engr.,
844 Rush St., Chicago.
- Illinois Society of Architects, H. L. Palmer, Financial Secretary,
160 N. LaSalle St., Chicago.
- Indiana Limestone Quarrymen's Association, Edgar Lunn, Secretary,
Bedford, Ind.
- The Mahogany Association,
1133 Broadway, New York.
- Maple Flooring Manufacturers Association, Geo. W. Keehn, Secretary.
1045 Stock Exchange Bldg., Chicago.

THE ARCHITECTURAL RECORD.

- National Board of Fire Underwriters, Summer Ballard, Secretary,
76 William St., New York.
- National Building Granite Quarries Association, H. H. Sherman, Secretary.
31 State St., Boston, Mass.
- National Electric Light Association, A. J. Marshall, Secretary,
29 W. 39th St., New York.
- National Fire Protection Association, F. H. Wentworth, Secretary,
40 Center St., Boston (9), Mass.
- National Hardwood Lumber Association, Frank F. Fish, Secretary-Treasurer,
2008 Strauss Bldg., Chicago.
- National Lime Association, W. R. Phillips, Secretary,
918 G St., N. W., Washington, D. C.
- National Lumber Manufacturers Association, Wilson Compton, Secretary and Manager.
Transportation Bldg., Washington, D. C.
- National Paving Brick Manufacturers Association, E. E. Duff, Jr., Secretary,
Engineers Bldg., Cleveland, O.
- National Slate Association, W. B. Hays, Secretary,
791 Drexel Bldg., Philadelphia.
- North Carolina Pine Association, J. M. Gibbs, Secretary,
National Bank of Commerce Bldg., Norfolk, Va.
- Northern Hemlock & Hardwood Manufacturers Association, O. T. Swan, Secretary,
Oshkosh, Wis.
- Northern Pine Manufacturers Association, W. A. Ellington, Secretary,
Lumber Exchange Bldg., Minneapolis Minn.
- Northern White Cedar Association N. E. Boucher, Secretary,
Lumber Exchange Bldg., Minneapolis, Minn.
- Northern White Cedar Shingle Manufacturers' Association, O. T. Swan, Secretary,
Oshkosh, Wis.
- Oak Flooring Bureau W. L. Claffey, Secretary,
326 W. Madison Street, Chicago.
- Pacific Lumber Inspection Bureau, F. W. Alexander, Secretary-Manager,
5554 Stuart Bldg., Seattle, Wash.
- Plate Glass Manufacturers of America, P. A. Hughes, Secretary,
First National Bank Bldg., Pittsburgh, Pa.
- Plywood Manufacturers Association, M. Wulpi, Commissioner,
10 N. Clark St., Chicago.
- Portland Cement Association, W. M. Kinney, General Manager,
33 W. Grand Ave., Chicago.
- Rail Steel Bar Association, F. G. Carroll, Secretary,
111 W. Jackson Blvd., Chicago.
- The Sand-Lime Brick Association, John L. Jackson, President,
Saginaw, Mich.
- Southern Cypress Manufacturers Association, E. W. McKay, Secretary.
507 Carondelet, New Orleans, La.
- Southern Pine Association, H. C. Berkes, Secretary and Manager,
New Orleans, La.
- Southern Sash, Door & Millwork Manufacturers Association, C. B. Harman, Secretary,
1621 Candler Bldg., Atlanta Ga.
- Structural Service Bureau, A. L. Ferguson, Secretary,
112 S. 16th St., Philadelphia.
- Underwriters' Laboratories, D. B. Anderson, Gen. Manager,
207 E. Ohio St., Chicago.
- West Coast Lumbermen's Association, R. B. Allen, Secretary-Manager,
6644 White-Henry-Stuart Bldg., Seattle, Wash.
- Western Pine Manufacturers Association, A. W. Cooper, Secretary-Manager,
510 Yeon Bldg., Portland, Ore.
- Western Red Cedar Association, F. S. Fulwiler, Secretary,
Payton Bldg., Spokane, Wash.
- Wholesale Sash & Door Association, N. L. Godfrey, Secretary,
1210 Steger Bldg., Chicago.



Studying the Client

The architect whose practice is in the commercial field knows that the nature and requirements of his clients' business must be carefully analyzed before the first sketches are made, but too often in residential work the site and the client's pocketbook are all that receive more than passing consideration.

This lack of preliminary study may explain why many home-builders change their architects when starting to build a second time. The first house may have been beautifully adapted to the site and charming in appearance and plan; the construction may have been almost perfect and the cost still within sight of the original appropriation. The casual observer would say that the owner was unreasonable when he went elsewhere for the designer of his second home, but research would probably show that the first architect had not solved his problem by giving him a home that met his individual requirements and suited his taste.

We are sometimes told that an owner "will grow up to his house" and possibly he will if he is young enough. The chances, however, are about even that he will get another architect and start again as soon as he can sell without a loss.

Client study, which probably originated before the practice of architecture became a profession, is receiving increasing attention today from architects who are successful in the designing of these rather complicated plants, either large or small, that are known as private residences.

The fact that the site lends itself to such and such a type of house is interesting if true but only from an architectural point of view and as such may govern the external design of the house. The study does not start here. It starts first of all with the personality of the individual client for whom the house is to be built.

This study is so varied that no set rules will cover the field and each architect must develop his own method. Some architects

prefer the golf course or similar contacts while studying their clients, others can obtain more information from general conversation with the client in the reception room of their own office. Whichever method the architect adopts, it should be varied to meet the client in his own environment and the observation must never be evident.

Only a limited number of clients really know just what they do want beyond the number and kind of rooms in the house. They bring their problem to the architect to be solved by his experience and it requires much perceptibility and personal research to determine what will meet their requirements.

An architect may design a beautiful house for a total stranger but he can no more design an individual home for a client whom he has not studied than a doctor can prescribe for a patient whose case has not been diagnosed.

Regardless of the classified style of architecture which the architect may select for the house, the arrangement and detail may vary the atmosphere of the home anywhere from rigid formality to the most restful informality. The restfulness would be entirely lost on a client whose tastes were strictly formal, while the man desiring an informal home would never settle down in comfort in a house designed to suit the former.

Only careful analysis will show the architect the difference between what the client wishes and what the client believes that he wishes, but the former can usually be definitely established by a close study of the latter. Every expressed wish of the client must be very carefully considered to see whether it is something that he requires for his future happiness or whether it is a passing desire influenced by what someone else has. The thing that is a passing fancy may later bore the client to death if incorporated in his home and the architect will be blamed for its presence.

The client of literary tastes will find his library a place of friendly atmosphere, but



THE CITÉ UNIVERSITAIRE, PARIS

the client whose interest in literature does not extend beyond perusal of the daily papers and a few magazines, would find the most luxurious library a useless possession. While he might never be conscious of the cause, its shelves of unread books would annoy him with the unspoken mockery of an expensive possession unappreciated. A comfortable smoking room or an informal card room would probably produce a more restful atmosphere for this man. If he were interested in hunting or sports a trophy room would give a distinctive touch to his home in harmony with his tastes.

A music room may be featured in the home of a client who has musical talent but to put a music room in a house simply to give tone or because a friend has one is usually a waste of valuable floor space.

The show-place and its cheaper imitation with all front and no back have passed with other relics of their age and an enlightened clientèle are now building houses in which to live. The stereotyped collection of rooms does not take into consideration the diversified personal interests or mode of living of different individuals. It is the result of conforming to local precedent and of hesitation to eliminate some unnecessary feature which one usually finds in the homes of others. It is this consideration of individual require-

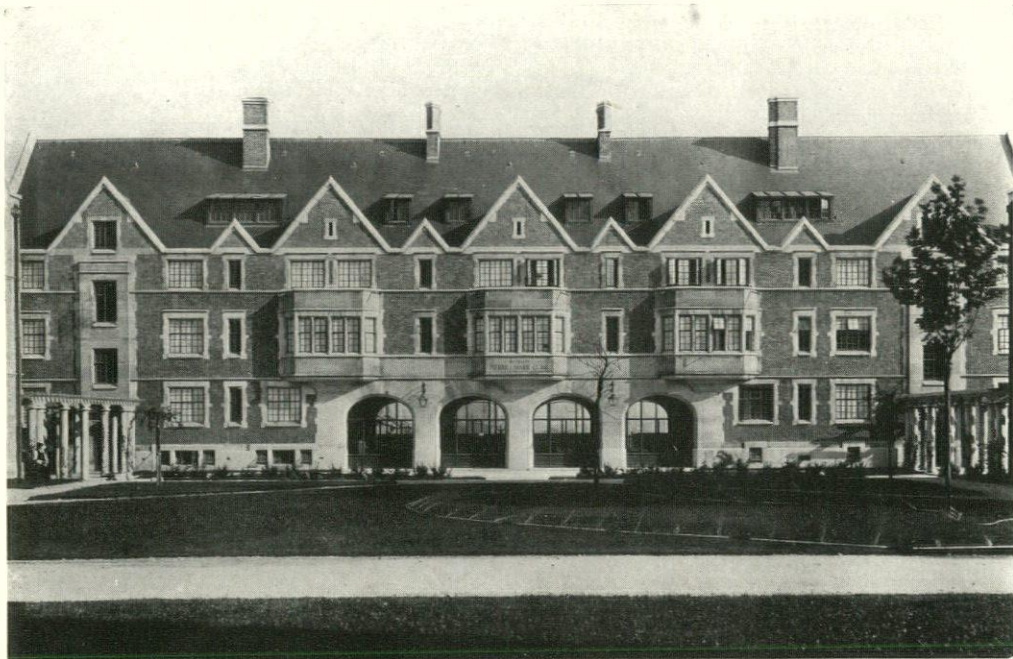
ments that distinguishes the home designed for a certain client from the houses built for speculation and planned to meet the wishes of the average purchaser.

Although the pronoun used herein for the client is in the masculine gender no architect will be misled by its use and he must also appreciate that the word client is considered to include the client's wife in all matters where her interests occur.

The success of the finished house will often depend on the elimination from the program of all things unessential to design and comfort. The architect can decide the former for himself but the latter can only be determined by a careful study of the client's requirements and personality. The general plan will arrange itself around these requirements while the atmosphere of the home must be built up about the client's personality.

It is in the interest of both client and architect, therefore, that the latter should seek to learn something of his client's personality. With such knowledge obtained beforehand and a given ability to design on the part of the architect, the result will be a well designed house in perfect harmony with its environment—and home to that individual client for whom it was built.

AUBREY B. GRANTHAM.



COMMUNAL RESTAURANT, CITÉ UNIVERSITAIRE, PARIS

The Cité Universitaire, Paris

One of the most interesting architectural developments in France is the new *Cité Universitaire* that will shortly complete the first year of its existence.

This *Cité* owes its foundations to the generosity of M. Emile Deutsch de la Meurthe, who three years ago gave the University of Paris the magnificent donation of ten million gold francs in order that students might be able to work amidst healthy surroundings. The Government was so sympathetic with the proposal that it gave the University valuable building land with an area of some thirty hectares on the site of the old fortifications of Paris, close to the Park of Montsouris, from which it is separated by the Boulevard Jourdan. Here there are already in residence upwards of two hundred French students of both sexes. A hostel for Canada is almost completed. One for Belgian students is already commenced, and plans have been made for similar hostels for the Argentine and for Italy. The Government of the United States, after considering the question, decided not to build a separate hostel, but to help American students in Paris in other ways. Great Britain also, for various reasons, has up to the present taken no action.

The architect of the central building is M. Lucien Bechmann, who decided that as a University bases its teaching upon the experience

and knowledge of past generations, so it is desirable that the style of architecture should be inspired by the past.

The illustrations show how well he has carried out his ideals. There are seven different blocks of buildings. Several of these are united by pergolas that during the summer are ablaze with roses. The combination of brick and stone around the green lawns is particularly happy. M. Bechmann has provided picturesque gable ends, water towers and bow windows, all of which harmonize together, although the different buildings are used for different purposes. There is a certain amount of discreet sculpture work: at the entrance the two seals of the ancient University of Paris, above the doors the University laurel, and perched on the vane at the top the owl of Minerva.

The most important building is in the centre with a clock tower designed to encourage the students to be more punctual than is sometimes the case in France! Here there is a large hall for fêtes and dances, libraries and reading rooms, and in the basement a spacious gymnasium. There is more than a suggestion in this building of the well known church at Honfleur, and the Normandy style of architecture admirably suits a building that has both academic and residential associations. In time there will be a magnificent view over a great park that was formerly reserved for the line

of fire from the fortifications, and therefore is covered at present with temporary wooden huts, that could be quickly pulled down in case of military necessity. As the fortifications are now being destroyed as obsolete, the huts will be removed and the ground will be preserved as an open space, and another lung for Paris.

Those who advocate today the provision of more open spaces in our industrial cities must envy many of the towns on the continent which are thus surrounded by an open belt owing to old-time fortification. At Strasbourg, Nancy, Lille and many other French towns the sites of the ancient fortifications have now become *cités jardins*.

The interiors of the buildings in Cité Universitaire also present many points of interest. There are three hundred and fifty rooms in all that can be used as bedrooms by night and workrooms by day. Students take all their meals with the exception of *petit déjeuner* in the communal restaurant or elsewhere. Special care has been taken to give variety by selecting different wall papers and coloring to the rooms.

In most cases there are two, and sometimes three, windows in each room, opening outwards in the English fashion, for the modern Frenchman recognizes the value of fresh air possibly a little more fully than his ancestors. The furniture is very simple, but well designed. There is a writing table, a low bookcase, two hard chairs and a bed that can be used as a settee. In the case of the men's quarters there are shower baths on each floor as well as a wash basin with cold water in each bedroom. The women students occupy a room fitted with an alcove in which there is a basin installed with hot as well as with cold running water. The cost of each room is less than forty francs a week.

The architect states that the whole of his buildings are distinctively French in style and that in Normandy, Touraine, Gascony and Alsace may be found "the grandparents of his hostels." At the same time there is much in the layout and in the plans that is reminiscent of

the spirit of certain colleges of Oxford. For these and many other reasons architects will be well advised to take the next opportunity to see this new development in Paris.

B. S. TOWNROE.

Forestalling Confusion of Names on Construction Materials

Popular elections in the United States, within the decade, have attested how potent is the appeal of the slogan: "Less government in business." Yet, whatever the revolt, there remains one form of benevolent paternalism by Federal authority that stands forth unchallenged. Indeed, there increases the while public esteem for the instrumentality by which official Washington seeks to prevent "confusion in trade."

Deeper analysis shows that increasing applause for Federal censorial effort is prompted not so much by the consequences of increasing competition in business as by latter-day dependence on the mediums of commodity identification. Architects in particular are bound to be sensitive to the new fashion. For they, beyond all other



Interior of one of the new buildings in Cité Universitaire

groups in the community, are encouraged,—yea, commanded by this new cult, to specify by brand rather than by formula. If not the architect himself, at least his clients will insist upon "buying brands."

The layman is prone to assume that it was only with the creation, not so many years since, of the Federal Trade Commission, that the Congress of the United States set up its first agency in the administrative branch of the government repressive of unfair competition or unfair trading. In reality the precautionary impulse was indulged much earlier. Perhaps the legislators who, several score years ago, fashioned the first trademark law visualized their new system of certification but vaguely, if at all, as a means of insurance against chaos in commodity designation. Nevertheless, that has come to constitute its chief function.

In its superficial aspects no activity of the

Federal government appears more purely one of routine than the registration of trade-marks and the copyrighting of labels at the U. S. Patent Office. Officials have been at pains, time and again, to emphasize that enrollment at this depository of the symbols of good-will confers no property rights that the prior user of a merchandise mark does not enjoy without the formality of registration. Entry at the Patent Office ostensibly does little more than summon an authoritative voice to bear witness to dates and facts. The certificate of registration might be compared, within limits, to a policy of title insurance.

Only in theory, however, does there obtain this attitude of detachment which fixes the status of the Trade-Mark Division of the Patent Office as a mere recording device. That might be a true appraisal if the process of registration were strictly mechanical. But it is selective. Thanks to the complexity of modern production and distribution, the selective obligation has increased apace until it involves technicalities in every line of commerce and nice distinctions and discriminations between arbitrary, fanciful mediums of identification and the trade-terms which are the heritage or common property of an industry. Herein the approach to the task of forestalling confusion of markings.

In the case of construction materials, as with all other articles of manufacture, the responsibility of the trade-mark censors for prevention of mistake and deception is born of dual duties. First, the Examiners of Trade-Marks are, by law, called upon to refuse the registration of any mark that is a duplicate of, or dangerously similar to a mark already registered for use on goods of the same class. Interlocking with this first restraint, and only slightly less potent as a preventive of confusion, is the obligation laid upon the keepers of the trade-mark register to refuse entry to descriptive words, geographical terms, surnames not distinctively written, printed or displayed, etc. The purpose in this last is to withhold what would pass as the sanction to monopoly from words and devices which belong in the common vocabulary and must be free for use at will to describe any merchandise to which they are appropriate.

Surveying in panorama what has been, and is being accomplished day by day in discouragement of name confusion, one marvels that it has been possible to progress so far. For there is no force to compel the commodity brander to offer his trade-mark for registration and thereby submit to this Federal system of name allocation. No more

does the Federal government take the initiative in prosecution when there is imitation or infringement, the consequences of which must be confusion.

The sentimental factor is born of the tradition which musters considerably more than 100,000 trade-marks in a Federal roll of distinction, including thousands of marks which have been reregistered after twenty years of use. The practical urge is represented, for example, by the knowledge that unless registration has been obtained at Washington, as a prelude, no citizen of the United States may obtain registration in a foreign country. No more may he exclude from entry into this country foreign products which, with or without piratical intent, bear the mark which he has adopted as his distinguishing business badge.

Even as the task of thwarting trade confusion has tensed for the Federal supervisors through sheer multiplication of number of trade-marks, so have there been disclosed new intricacies by reason of the versatility of modern manufacturing effort and the consequent overlapping of what were, at one time, distinct spheres. Industrial consolidations, determination to devise production programs that will keep factories in continuous operation irrespective of season, the recruiting of families of "unrelated" as well as "related" products,—all these influences and other contributors to diversification have combined to render it more difficult to draw the name boundaries that are designed to prevent confusion in trade.

Such success as has attended governmental effort in this quarter is due in no small degree to the development latterly of a refinement of policy. The foundation stone of Federal policy was found in straight-away discouragement of the use on parallel or directly competitive goods of a new mark which would be likely to be mistaken for a familiar or old-established mark.

The latter-day propensity of the Federal mentors to discount trade confusion by preventing erroneous assumptions as to the source or origin of goods has brought in its train a fresh problem, viz., determination of what constitutes the logical and rightful limits to the expansion of a business. The government proceeds, continually, on the assumption that the trade-mark system should hold no privileges for the large enterprise that should not be enjoyed in proportionate measure by the small business. With the one, as with the other, therefore, the question of the ultimate dimensions that a business may attain under its preempted brand

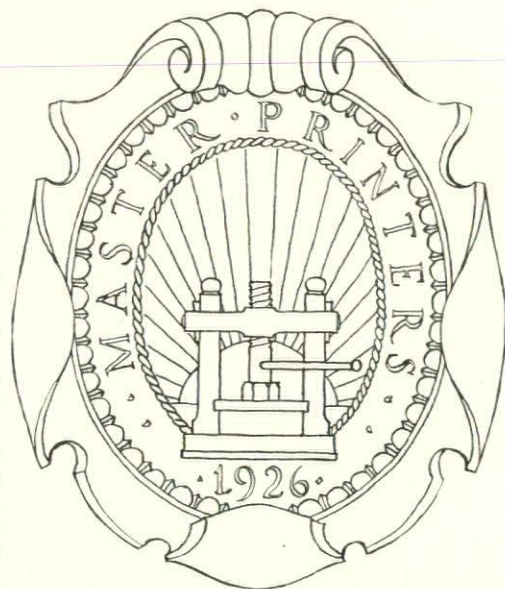
or name becomes significant. In determining what sphere shall be reserved to the use of an approved trade-mark, Federal authority is called upon to determine not only what goods are kin in purpose, physical characteristics, etc., but also what goods are naturally associated in the minds of purchasers through proximity in the channels of distribution. Thus, on occasion, there has been recognition of the right of the manufacturer of a mechanism to extend his activities to the production of accessories and supplies for his main line. Similarly, Federal authority assumes that extra precautions against trade confusion are warranted if goods under brands of undue resemblance, are sold in the same stores or in the same departments of retail stores.

From the standpoint of the architect one of the most important correctives of trade name confusion is that whereby the government has set its face against the use or acceptance as trade-marks of inscriptions that are in reality grade-marks, character-marks or quality-marks. Patent Office administrators and the Federal courts have formally acknowledged that under certain circumstances a symbol may serve simultaneously as a grade-mark and a trade-mark,—indicating style or composition at the same time that it points to a given seat of production. Such instances of dual message-bearing are comparatively rare. More numerous are the temptations to encourage the consuming public to accept as trade-marks what are essentially stock-marks. This last the government cannot condone. To do so would, on the one hand, restrict the vocabulary of specification and, on the other hand, contribute to the doubt and confusion growing out of the indifferently-appreciated fact that only words which are suggestive, and never those which are downright descriptive, are eligible as trade-marks under the nation's basic law of registration.

WALDON FAWCETT.

Sculptor's Work on the Delaware River Bridge

An article on the Delaware River Bridge in our January issue included, on Page 11, cuts of the sculptured cartouches on the anchorage towers which bear the seals of Philadelphia, Camden, the State of New Jersey and the Commonwealth of Pennsylvania, respectively. Unfortunately, the name of the sculptor, Léon Harmant, was omitted from the caption. Credit should also have been given to Mr. Hermant for his design of the figure of Winged Victory shown on Page 90 of the same issue.



Design for Seal for the Master Printers Building, New York

A competition recently took place for an "original, decorative design, symbolic of the printing craft and suitable for cutting in stone, moulding in bronze, working in stained glass and adaptable for enlarging or reducing for printing purposes."

The first prize was awarded to A. C. Frank, a draughtsman in the John Russell Pope Company, New York, whose design we reproduce above. This design will be carved in stone over the doorways of the Master Printers Building and will be used on the bronze elevator doors, in the stained glass windows of the library and clubrooms of the building, and on stationery.

Princeton Architectural Prizes, 1927-1928

The School of Architecture, Princeton University, announces a Competition in Design to be held May 20-May 31, 1927. Two prizes of \$800.00 each will be awarded to the winners, the purpose being to place at the disposal of experienced draughtsmen of unusual ability, the advantages to be found in the School of Architecture, the Department of Art and Archaeology and the Graduate School of Princeton University. Winners are exempt from tuition fees.

Application blanks, which should be filed before April 18, and information concerning the Competition may be obtained from the Secretary, School of Architecture, Princeton University, N. J.



Georgian Details of Domestic Architecture*

Mr. Yerbury's book consists of 150 plates, and is intended "to supplement the written histories with a reference book comprising illustrations alone," mainly of details of English domestic architecture from the beginning of the eighteenth century to about 1830, "when the elegance so characteristic of the buildings of the preceding hundred years began to give way to the stolid forms of the industrial age."

Bloomsbury is perhaps the richest district of London in eighteenth century architecture, Bedford Square and Bedford Place the best examples of the harmonious building of the period. Aside from these, and the photographs of the private suites in the Bank of England, most of Mr. Yerbury's examples are from villages and country towns. The architect and his studied designs are obvious in the London and Bath houses, but in the villages and country towns it is fairly certain that the local people—owners, builders or estate foremen—were the designers. They were influenced by prevailing fashions and by resembling types in certain districts—bay windows were almost universal in sea coast

towns—but the greatest interest of these details is the evident care exhibited, and the endless variety. No two façades are really alike. Doorways, and especially fanlights, vary indefinitely, and even the same motif is ingeniously played on with an insistent individuality.

Horace Walpole, returning from a tour of

the continent in 1741, remarked how much better "middling people" were housed in England than on the Continent. And a distinctive feature of the eighteenth century English domestic architecture was the "neatness" of the "middling" house, that is, the simplicity and correctness of proportional values. The impulse to rehousing among moderately well-to-do people dates from the Restoration. The new houses, compared with the old, were well lighted. The new ideals were lightness and uniformity. It was the era when, in literature as well as in architecture, correctness, good sense and the classics, became controlling ideas. Decorative detail became simpler and



From Georgian Details of Domestic Architecture

more restrained, much as the poetry of Dryden and Pope was a revolt or a reformation from the verbal curiosities of the earlier seventeenth century poets. The prose of Addison is something like a Georgian house, cool, clear and moderate. It is characteristic of the

**Georgian Details of Domestic Architecture*. Selected and photographed by F. R. Yerbury. Houghton, Mifflin Co. \$10.00.







Illustration from *Georgian Details of Domestic Architecture*

growing appreciation of spaciousness that Samuel Pepys pulled down a partition between his narrow hall and a room "to make my coming in more pleasant." The new feeling was for more light in the house and a sense of things formal but refined. It was an era of tall windows. Mrs. Delany, in 1759, speaks of having her window sashes "new made in the narrow way, which makes them much pleasanter," the new taste being for tall slight framed windows that let in more light and looked less heavy. "Elegance" and "elegant" are words that have since come to be used in a certain derogatory sense, but in the eighteenth century they were words of praise only, as their French counterparts are still. They were the current words to express the idea of grace, lightness, refinement, good form, and were applied to architecture as well as to social appearance and behavior.

Mr. Aldous Huxley in his recent book of travels called "Jesting Pilate," is appalled by the architectural horrors of Bombay. Most of the public buildings date between 1860 and 1900. One of them is supposed to be "Venetian Gothic," another "French Decorated of the fifteenth century." The Uni-

versity Library and the General Post Office are various kinds of Gothic. The Telegraph Office is Romanesque, the Railway Station, "Italian Gothic with Oriental modifications." The Hotel Majestic and the Hotel Taj Mahal, appear to be in some way wildly Mohammedan. "In self defense," says Mr. Huxley, "I drove to the Town Hall, which is a quiet late Georgian affair, and has an air of calm and quiet decency. Among so many architectural cads and pretentious bounders, it is almost the only gentleman." This "calm and quiet decency" was the Georgian achievement.

To look like a gentleman, to have an air of calm and quiet decency, is excellent. But after all, it does not exhaust the possibilities of human ambition in society or in art. An architecture which expresses poise, but not driving energy, does not express this era of ours. Later generations than the Georgian have thought it inadequate to their states of mind, and have gone after strange gods. But in this connection it is interesting to note in Mr. Yerbury's photographs that English local builders displayed an extraordinary individuality and inventiveness quite within the precision of the style. This can be illustrated most clearly by a comparison through Mr. Yerbury's plates of some one feature, such as the fanlights.

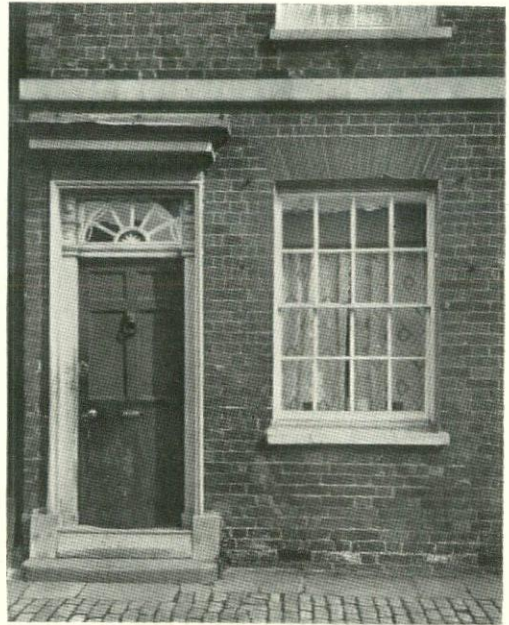


Illustration from *Georgian Details of Domestic Architecture*

English Georgian and American Colonial are essentially the same. One's impression is that the Colonial builders were less inventive in respect to these details than the English Georgian. It is antecedently probable that they would be. At any rate English Georgian detail in "middling" houses is a rich field for American architects who are "going in" for the Colonial.

ARTHUR W. COLTON

Old Architecture of Southern Mexico. By Garrett Van Pelt, Jr., A.I.A. Cleveland: J. H. Jansen. 1926. 1st ed. 125 pp. 110 plate illustrations. $9\frac{7}{8} \times 14$ in. Cloth. \$10.00.

The introduction consists of a brief but stimulating guide to old Mexico. At the conclusion, the author says, "We can embark for New York, having completed a most comprehensive survey of a civilization transplanted from Spain about 1521, developing with an amazing rapidity and producing architecture of a very fine distinction, essentially Spanish, yet because of environment, materials and the acquirement of vast wealth, at once extraordinarily individual."

The Brass Industry. By William G. Lathrop. 1926. Revised ed. vii. 174 pp. Ill. (bibl.) $5\frac{3}{8} \times 7\frac{1}{2}$ in. Cloth, \$2.00.

A study of the origin and development of the brass industry in the Nangatuck Valley, and its subsequent extension over the nation.

Building Superintendence and Estimating. By Editorial Staff, International Correspondence Schools. (International Library of Technology 454.) Scranton, Pa. International Textbook Co., 1926. 3rd ed. viii. 418 pp. Ill. $5\frac{3}{4} \times 8\frac{7}{8}$ in. Cloth, \$3.75

Text book on building superintendence, estimating and calculating quantities, and contracts.

Architects' Blueprints and Specifications. By Wm. S. Lowndes and David B. Emerson. Scranton, Pa. International Textbook Co., 1925. 1st ed. x. 90 pp. Ill. $5\frac{1}{2} \times 8\frac{3}{4}$ in. Cloth. (International Library of Technology No. 448.) \$6.00.

Concerned (says the title page) with reading architects blue-prints, specification writing and specification writing memoranda.

Roman London. By Gordon Home. New York: George Doran Co. 1926. 1st ed. 260 pp. Ill. $5\frac{1}{2} \times 8\frac{1}{2}$ in. Cloth. \$5.00.

A history of London during the Roman Period. "The first attempt," says Mr. Home, "to give a full and connected history of London during the period when Britain formed a part of the Roman Empire." Contains much interesting data on Roman and British construction methods.

Old Germantown. By Herbert Pullinger. Introduction by Charles F. Jankins. Philadelphia, Pa. David McKay Co., 1926. 1st ed. 57 pp. Ill. $5\frac{1}{2} \times 8\frac{1}{4}$ in. Boards. \$1.50.

Historic spots in Germantown, Pa., described and pictured with reproductions of etchings by the author.

A Background to Architecture. By Seward Hume Rathbun, M.A. New Haven, Yale University Press. 1926. 1st ed. xx. 395 pp. Ill. $5\frac{1}{2} \times 8\frac{3}{4}$ in. Cloth. \$4.00.

"We should gain," says the author, "some broader vision of what architecture is, visualize the part it has played in the general development of civilization and discover, if we can, some fundamental laws to guide us in our judgment of the work which surrounds us today as well as of that which remains from the ages of the past. To make these things clear in a simple way is the present aim."

The Cathedral Churches of England. By A. Hamilton Thompson. New York: The Macmillan Co., 1925. 1st ed. xvi. 235 pp. Ill. $5\frac{1}{2} \times 8\frac{3}{4}$ in. Cloth. \$3.40.

A successful attempt to provide some account of English cathedral churches as institutions rather than individual structures. A general description is given of architectural features and development.

RECENT PUBLICATIONS

issued by manufacturers of construction materials and equipment.

[These may be secured by architects on request direct from the firms that issue them, free of charge unless otherwise noted.]

Paints and Varnishes. "Architectural Specifications." Complete specifications and descriptions of all du Pont paint and varnish products including Duco, house paint, metal paint, shingle stains, flat wall paints, floor paint, enamels and wood finishes. Color sheets included in each classification showing the line of finishes. E. I. du Pont de Nemours & Co., Inc., Architectural Division, 35th and Grays Ferry Road, Philadelphia, Pa. $8\frac{3}{4} \times 11\frac{1}{4}$ in. 55 pp.

Blasteel Metal Products. Description and advantages of Spearpoint floor clips, Blasteel stair nosings, Blasteel beveled brass binding strips, security brass binding bar and Blasteel bull nose floor joiner. Details and method of installation and general use. Blasteel Mfg. Co., 9198 Finance Bldg., Kansas City, Mo. $8\frac{1}{2} \times 11$ in. 4 pp. folder. Ill.

Marble. A. I. A. File No. 22f. "Sani-Onyx, a vitreous marble for your walls." Description of material and use in building. Practical examples of usage, in bathroom, kitchen, dining room, breakfast room, etc. Marietta Mfg. Co., 16th St., & Sherman Drive, Indianapolis, Ind. $8\frac{1}{2} \times 11$ in. 32 pp. Ill.

Shower Bath Doors. Description of manufacture of C & S Shower Doors in the various styles. Stock sizes. Crist & Schilkin Co., Inc., 500 37th St., Pittsburgh, Pa. $4\frac{1}{2} \times 7$ in. 12 pp. Ill.

Dishwashing Machinery. "Cleaning Dishes at less Cost." Ease of operation and advantages of Crescent Dishwashing Machines. Method of working and typical installations. Installation and equipment data. Price list. Crescent Washing Machine Company, New Rochelle, N. Y. 6 x 9 in. 48 pp. Ill.

Sash, continuous. Every phase of industrial steel sash layout and erection. Particulars regarding windowalls, continuous monitor sash, mechanical operators, partitions and doors. Specifications. Plans and details of construction and installation. Detroit Steel Products Co., C-2264 East Grand Boulevard, Detroit, Mich. A. I. A. File No. 16el. 8½ x 11 in. 76 pp. Ill.

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Windows. 1926-7 edition. "The Blue Book of Steel Windows," dealing with every phase of steel window usage including industrial, architectural and residential. Plans of the various units with details of construction. Installation details. Detroit Steel Products Co., C-2264 East Grand Boulevard, Detroit, Mich. A. I. A. File No. 16el. 8½ x 11 in. 128 pp. Ill.

Air Filters. Bulletin No. 2223. Advantages of American Blower Air Filter. Description and method of use. Applications and installation data. American Blower Co., 6004 Russell St., Detroit, Mich. 8½ x 11 in. 12 pp. Ill.

Shower Bath Shields. Illustrations of the various C & S Shower Shield models, open and closed. Diagram of glass shower shield. Crist & Schilkin Co., Inc., 500 37th St., Pittsburgh, Pa. 4½ x 7 in. 8 pp. Ill.

Oil Burning. A. I. A. File No. 30gl. "Oil Burning, What it is and How to use it for Heating." Comparison of true heating value and advantages of heating with oil. Installation, operation and cost particulars of oil burning equipment. American Oil Burner Association, 350 Madison Ave., New York, N. Y. 8½ x 11 in. 8 pp.

Heating. Catalog No. 466. Industrial heating with "Buffalo" Unit Heaters. Particulars of the various types and applications. Diagrams and tables of temperature rise, etc. Installation particulars. Buffalo

Forge Co., 490 Broadway, P. O. Box 985, Buffalo, N. Y. 8½ x 11 in. 24 pp. Ill.

Doors, Rolling. A. I. A. 16-D-13. Cornell rolling doors, steel rolling shutters and doors, underwriters labeled rolling fire doors and shutters. General description of the various types. Details of construction with full dimensions and specifications. Typical installations. Cornell Iron Works, Inc., 71 Marion St., Long Island City, N. Y. 8½ x 11 in. 32 pp. Ill.

Safety Switch Condulets. Bulletin No. 2093. Description and advantages of various types. Full particulars and details of power, voltage, price, etc. Crouse-Hinds Co., Syracuse, N. Y. 3½ x 6¼ in. 8 pp. Ill.

Condulets. Folder No. 43. Plug receptacle and safety switch condulets. Description of various units with advantages and typical installation. Crouse-Hinds Co., Syracuse, N. Y. 6 x 11¼ in. Ill.

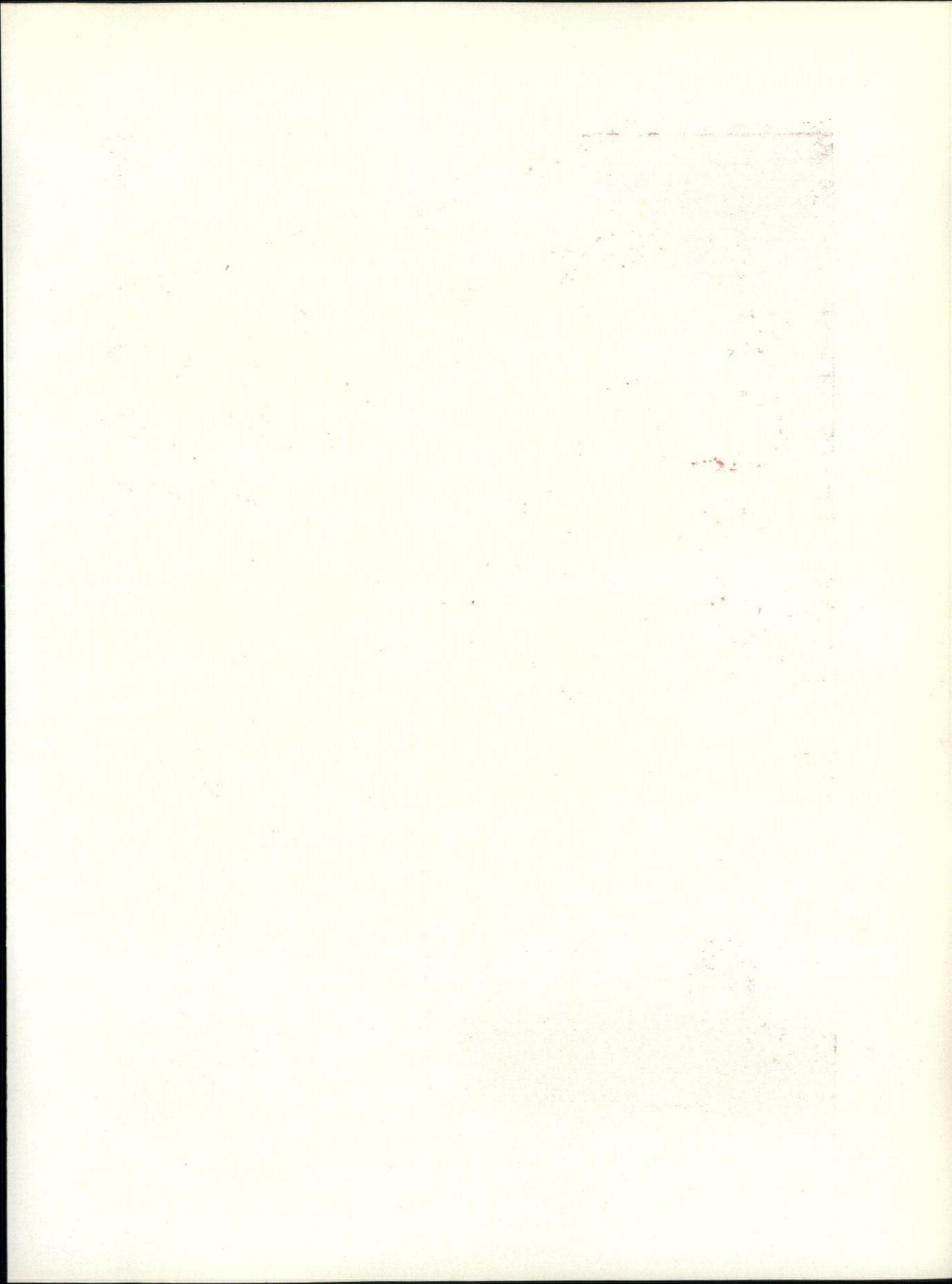
Insulation. The building contractor's book on Armstrong's corkboard for the insulation of residential buildings. Tables of fire tests and heat-retarding effects. Instructions for erection; details and methods of installation with explanatory diagrams. Armstrong Cork & Insulation Co., 161 24th St., Pittsburgh, Pa. 7¾ x 10¾ in. 32 pp. Ill.

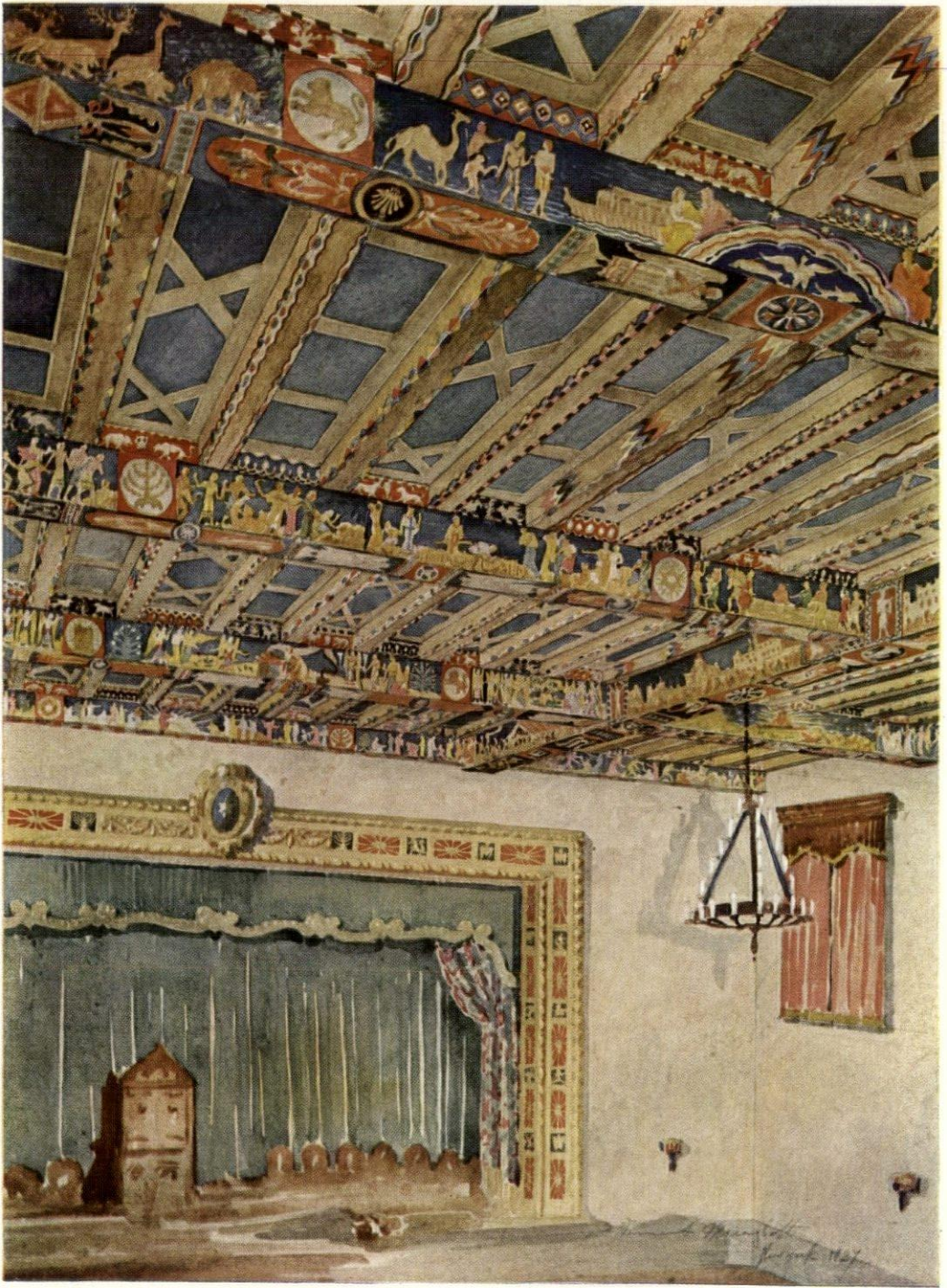
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Flooring. Grading rules for maple, beech and birch flooring adopted August 25, 1926, and copyrighted by Maple Flooring Manufacturers Association, 1058 Stock Exchange Bldg., Chicago, Ill. 3¾ x 6¼ in. 12 pp.

Electrical Products. Bulletin No. 107. "Bull Dog Fusenters." (Fuse Centers.) Description, use and price of various types. Wiring devices with diagram and complete information. Mutual Electric & Machine Co., 7610 Jos. Campau Ave., Detroit, Mich. 8¼ x 10½ in. 12 pp. Ill.

Plastering. "Better Plastering for Modern Homes." The advantage of a first class plastering job; types of plaster bases and their merits. Causes and remedies of plaster defects. Fire Prevention. Suggestions for the home builder. The National Council for Better Plastering, 1305 Madison Square Bldg., Chicago, Ill. 8½ x 11 in. 32 pp. Ill.





CEILING IN MAIN AUDITORIUM, TEMPLE HOUSE OF THE UNION TEMPLE, BROOKLYN
Arnold W. Brunner, Associates, Architects; Vincent Maraghatti, Mural Decorator
Formula for priming which permits painting directly on concrete
devised by Nathan C. Johnson, Consultant on Chemistry of Concrete