ARCHITECTURE

April 1931

Using Terra-cotta as Terra-cotta

EUGENE CLUTE

Maginnis and Walsh

RAYNE ADAMS

Seminary of the Immaculate Conception . . . Robert J. Reiley

Mountain Brook Country Club, Birmingham . Aymar Embury II

A Long Island Country House . . Bottomley, Wagner & White

Portfolio: Altars

ONE DOLLAR PER COPY

CHARLES SCRIBNER'S SONS

FIFTH AVENUE AT 48TH ST., NEW YORK 23 BEDFORD SQ., LONDON

Aetna practices what it preaches by choosing Bigelow-Sanford rugs and carpets

The New Home Office of the Aetna Life Insurance Company and Affiliated Companies, Hartford, Conn. *(Wood Engraving by Morsson C. Hansen)*

Aetna believes in insurance. That's why Aetna turned to Bigelow-Sanford for floor coverings for the new home-office in Hartford, Connecticut. *Bigelow-Sanford rugs and carpets insure lasting satisfaction.*

Make it *your* policy to specify rugs and carpets by Bigelow-Sanford...the largest and oldest of weavers. Your nearest dealer (name on request) will gladly show you patterns for every type of installation...homes, hotels, offices, schools and public buildings of every kind.

Do you know about Bigelow-Sanford's special service to architects? For complete details, write the contract department, 385 Madison Avenue, New York.

Rugs and Carpets by

BIGELOW-SANFORD

Oldest and largest weavers of rugs and carpets

Made by BIGELOW-SANFORD CARPET CO. Inc. *Mills at* Thompsonville, Conn.; Amsterdam, New York; Clinton, Mass. *Main Sales Office:* 385 Madison Avenue, New York. *Sales Offices:* Boston · Philadelphia · Pittsburgh Atlanta · Dallas · St. Louis · Chicago · Detroit · Minneapolis · Denver · Los Angeles · San Francisco · Seattle

ARCHITECTURE, published by Charles Scribner's Sons, 597 Fifth Avenue, New York, N. Y. April, 1931. Volume LXIII, No. 4. Published monthly on the 28th of the month preceding date of issue. Entered as second-class matter, March 30, 1900, at the Post-Office at New York, N. Y., under the Act of March 2, 1879. Yearly subscription rate to members of the architectural and allied professions, $5; to all others, $10.

GEORGIA MARBLE

INTERIOR MARBLE WORK

This is an example of interior marble work furnished and erected by The Georgia Marble Co. . . . FIRST NATIONAL BANK, Atlanta, Main Banking Room: *standing marble,* Black and Gold; *walls,* Roman Travertine; *floors,* Roman and Sienne Travertine. Pringle & Smith, Atlanta, *Archts.*

Our manufacturing operations extend beyond working the marble from our nine active quarries in Georgia . . . . We take contracts for interiors (as well as exteriors) in any combination of marbles necessary to carry out the architect's design and color scheme.

THE GEORGIA MARBLE CO. • TATE • GEORGIA
NEW YORK ATLANTA CHICAGO DALLAS CLEVELAND

Announcing VELTONE *the New floor*

Elsie Sloan Farley *prominent New York decorator, chose one of the new Veltones when designing this distinctive living room. "Zanzibar" Pattern No. 2951.*

May we suggest that you hold this magazine at arm's length as you look at this picture of a Veltone floor. That will give you a better idea of the suave mellow beauty of this new, resilient flooring, as it appears when actually installed in a room.

For the unique thing about Veltone is that it manages to give a soft-carpeted effect in a modern, sanitary flooring. When laid, it is apparently seamless—an unbroken flow of harmonious colorings from wall to wall. As you can see, there are no tiles in Veltone, no violent contrasts, nothing to disturb the harmonious color rhythms.

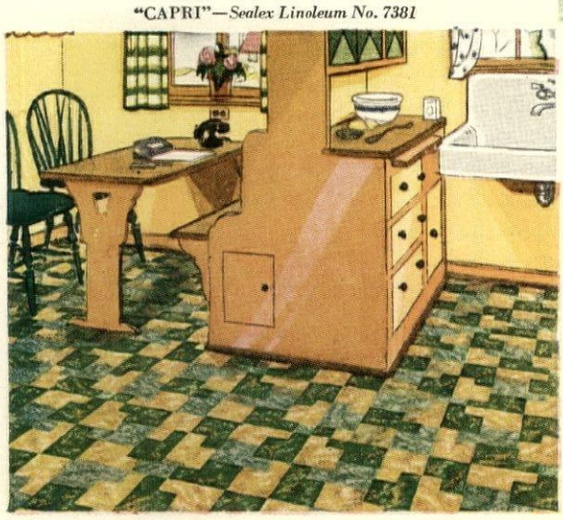
We believe that Veltone marks a turning point in floor decoration. In Veltone we offer a type of floor design that is absolutely "at home" in an American interior.

For Veltone is really homelike, always restrained. A fine background for scatter rugs in the living room or dining room. A warm, cheerful, intimate floor for the bedroom.

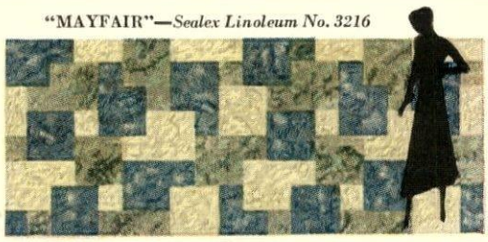
Veltone is a Sealex product, made by the makers of Sealex Linoleums. For information on Veltone and other Sealex Floors, address our Architectural Service Department.

SEALEX
REG. U. S. PAT. OFF.
LINOLEUM FLOORS

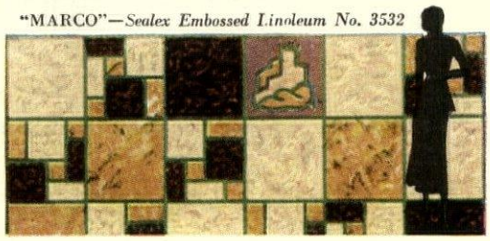
"CAPRI"—*Sealex Linoleum No. 7381*



"MAYFAIR"—*Sealex Linoleum No. 3216*



"MARCO"—*Sealex Embossed Linoleum No. 3532*



SEALEX is not just another linoleum. It is a modernized linoleum. Modernized in finish—for its surface is spot-proof, stain-proof, easily cleaned. Modernized in design, too—for whatever you desire, in color or pattern, *Sealex* has.

Designed-to-order floors in Sealex Linoleum may assume practically any design you may desire. Colors can be artfully combined—unusual symbols incorporated. Ask us for names of firms equipped to install made-to-order Sealex Floors.

CONGOLEUM-NAIRN INC.
Gen'l Off.: KEARNY, NEW JERSEY

BONDED FLOORS are floors of Sealex materials backed by a Guaranty Bond issued by U. S. Fidelity & Guaranty Co. They are installed by Authorized Contractors, located in principal cities.

LUTTON SOLAR V-BAR GREENHOUSES

LUTTON SOLAR V-BAR GREENHOUSE ON ESTATE OF C. M. DAY, JACKSON, MICHIGAN

If you are going to build a Greenhouse

It is safer to insist on one that never compromises with quality to meet a price

A greenhouse is a thing to enjoy—not to worry over. The temptation to compromise in its construction is great, but the regrets are greater. Long ago we learned that the very best that we could build into our houses would be the cheapest for our customers. The result has been that for over 25 years we have designed and built greenhouses on the leading estates in the country.

If you are about to build a greenhouse remember the fact that when you select a Lutton Solar V-Bar greenhouse, it will be the finest greenhouse that experience, skill and unswerving determination can build—a greenhouse without regrets. We are the only builders of private greenhouses exclusively. See Sweet's for details or write us direct.

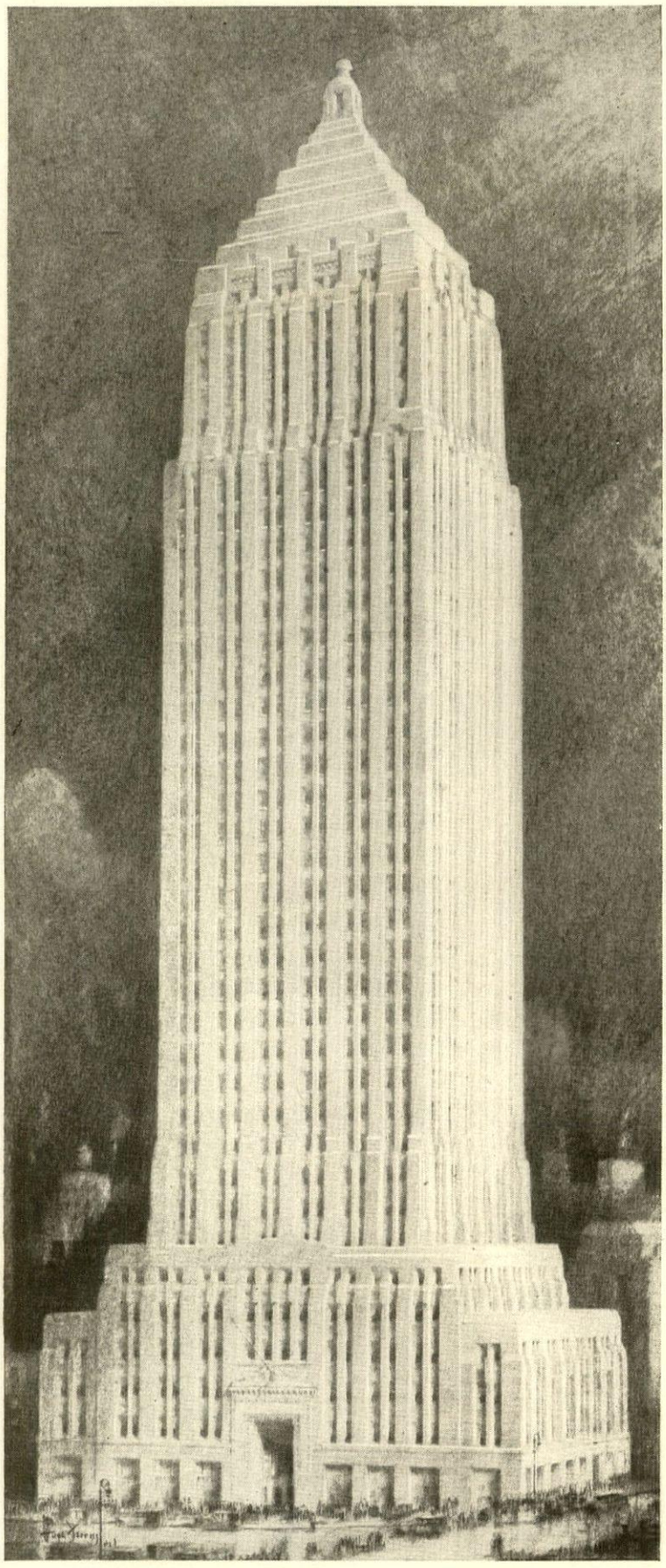
SOLAR V-BAR GREENHOUSES
REG. U.S. PAT. OFF.

Some Architects For Whom We Have Built Solar V-Bar Greenhouses

BRANDON SMITH & HAROLD O. REIF *Pittsburgh, Pa.*
HOWARD GREENLY *New York City, N.Y.*
DAVIS & LEWIS *Scranton, Pa.*
TILDEN, REGISTER & PEPPER *Philadelphia, Pa.*
ALBERT ELY IVES *Wilmington, Del.*
BECKETT & AKITT *Detroit, Mich.*
H. T. LINDEBERG *New York City, N.Y.*
EDMUND GILCHRIST *Philadelphia, Pa.*
HOWARD S. PATTERSON *New York City*
KIEHNEL & ELLIOTT *Pittsburgh, Pa.*

WILLIAM H. LUTTON CO., Inc.
E. A. WARD, PRES.
The only makers of private greenhouses exclusively.
267 KEARNEY AVE
JERSEY CITY, N.J.

GULF Building



To add new interest to the rapidly mounting sky-line of downtown Pittsburgh, will be this magnificent 575 ft. tower . . the Gulf Building, Pittsburgh's tallest, now under construction. Here again the popular C B (Carnegie Beam) Sections form the steel frame work. These modern sections bring to steel construction greater efficiency and economy. Carnegie Engineers are at your service to discuss with you the unique advantages of C B Sections.

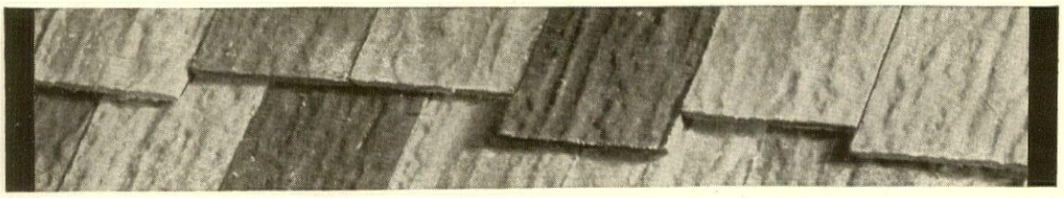
TROWBRIDGE & LIVINGSTON, Architects
EDWARD P. MELLON, Associate Architect
WEISKOPF & PICKWORTH, Engineers
McCLINTIC-MARSHALL CORPORATION, Fabricators
JOHN L. MULLEN CONSTRUCTION CO., Erectors
MELLON-STUART COMPANY, General Contractors

CARNEGIE STEEL COMPANY • PITTSBURGH

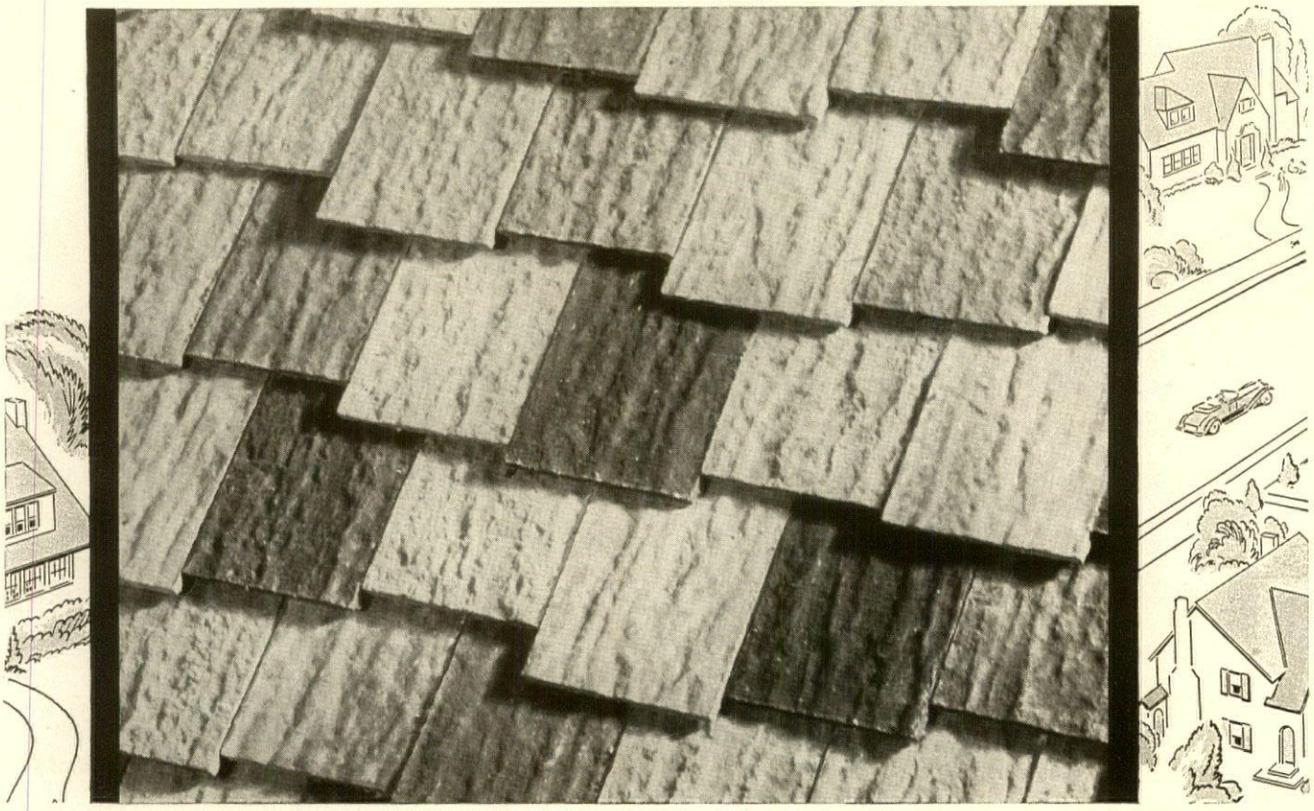
Subsidiary of United States Steel Corporation

127

CB SECTIONS



Careystone Shingles



The New • Permanent • Beautiful • Fire-proof Roof

CAREYSTONE Shingles have the appearance of rough hewn stone, smoothed by time. That is why we call them the "Shingles with the *weather-age texture.*" Made of Asbestos and Portland Cement, these shingles provide an enduring, fire-proof roof of colorful beauty. Produced by an exclusive CAREY process, they cost about the same as roofs which do not approach them in beauty and permanence.

CAREYSTONE Shingles are made in five colors: Georgian Red, Windsor Gray, Tudor Black, Bristol Green and Weathered Brown. Roofs may be laid in a wide variety of combinations, or in solid shades. All colors are integral with the shingles, not veneered or pressed on the surface.

Stocks are maintained by distributors in all principal cities, but we suggest that requirements be specified as far in advance as possible. We will gladly mail miniature samples and descriptive literature on request.

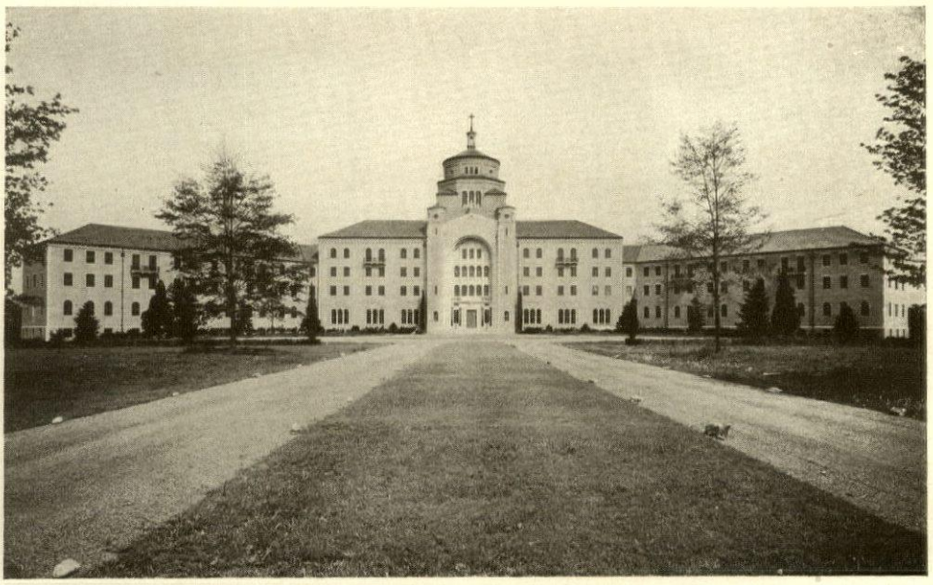
THE PHILIP CAREY COMPANY ✕ Lockland, Cincinnati, Ohio

Branches in Principal Cities

BUILT-UP ROOFS
ASPHALT PRODUCTS
ELASTITE EXPANSION JOINT
WATERPROOFINGS
ROOF PAINTS

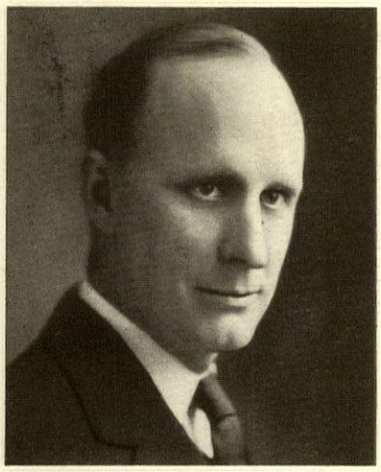
Carey PRODUCTS EST. 1873

HEAT INSULATIONS
ASBESTOS MATERIALS
CAREYSTONE CORRUGATED SIDING
ASFALTSLATE SHINGLES
BUILDING PAPERS



Brooklyn Diocesan Seminary of the Immaculate Conception, Huntington, L. I.

THE CO-OPERATION ESSENTIAL FOR A FINE BUILDING



ROBERT J. REILEY ARCHITECT OF THE HUNTINGTON SEMINARY

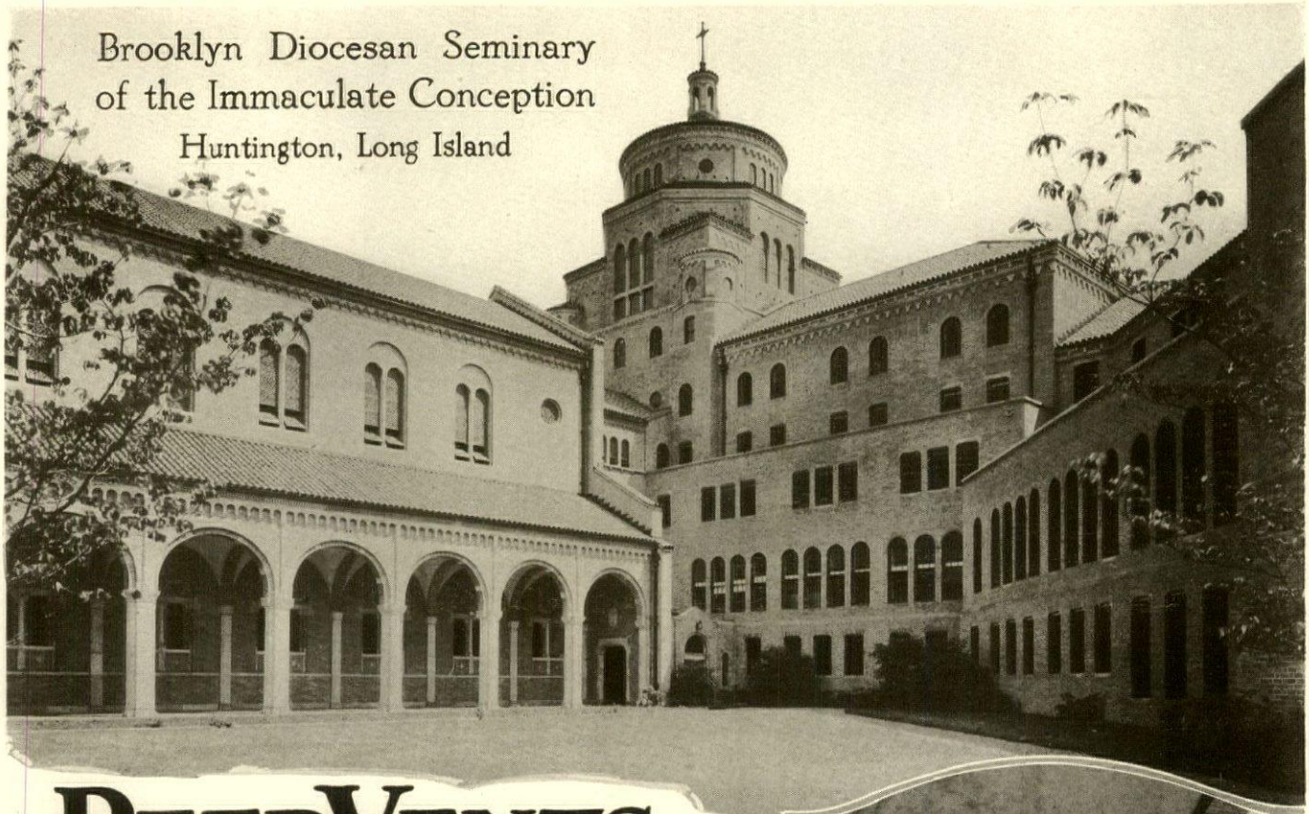
(see pages 211-221)

SAYS:

"Co-operation is the keynote of success in modern building. The day when the efforts of a single individual were responsible for an important monument is past. A building has become a vastly complicated fabric, requiring the genius of many minds and the efforts of many hands to bring to successful completion.

"Only by the cordial and hearty co-operation of all those connected with its fabrication and erection can a building rise promptly and be delivered to its owner, a perfect expression of all the valuable tradition which has come down to us through the ages, combined with the very latest product of the modern mind."

ROBERT J. REILEY.



Brooklyn Diocesan Seminary
of the Immaculate Conception
Huntington, Long Island

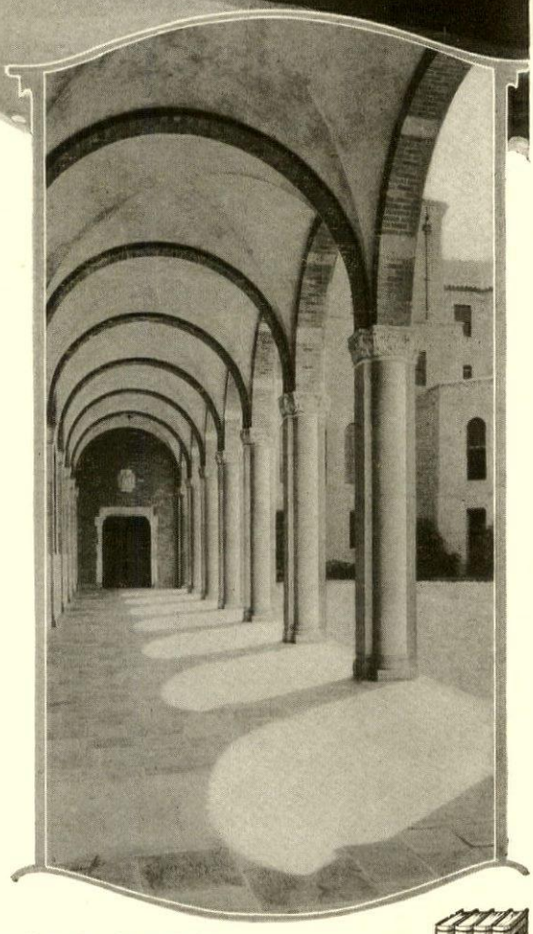
PEERVENTS

are chosen for economy and efficiency

RECORDS of efficiency, economy and durability, since the first PeerVent was installed twenty years ago, have convinced architects that they are absolutely safe in specifying PeerVents for their finest buildings. For this reason PeerVents were chosen for the Brooklyn Diocesan Seminary in Huntington, Long Island.

Based on correct principles of heating and ventilating, PeerVents ensure a more even temperature than ordinary types of heating systems. When properly installed with correctly located air inlets, PeerVents will keep the floor temperature within 2 degrees of the temperature of the breathing line. This temperature variation is often as much as 10 degrees with ordinary heating systems.

Please write if you wish to see our local resident engineer. You will be under no obligation. Also send for the Peerless Catalog.



PEERLESS UNIT VENTILATION CO., Inc.
BRIDGEPORT, CONNECTICUT
Pioneers in Unit Ventilation
Resident Engineers in Principal Cities from Coast to Coast

Architect, Robert J. Reiley, New York
Consulting Engineer, Chauncey Matlock, New York
Heating Contractor, Almirall & Company, Inc., New York

OUR CATALOGUE IS FILED IN SWEET'S

THE BROOKLYN DIOCESAN SEMINARY

(ILLUSTRATED IN THIS ISSUE)

WAS ERECTED BY

JOHN H. EISELE COMPANY, Inc.

BUILDING CONSTRUCTION

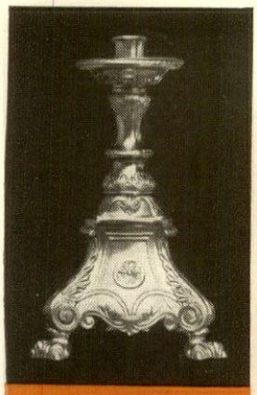
NEW YORK CITY

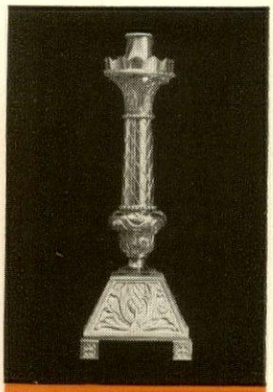
CONSTRUCTORS OF

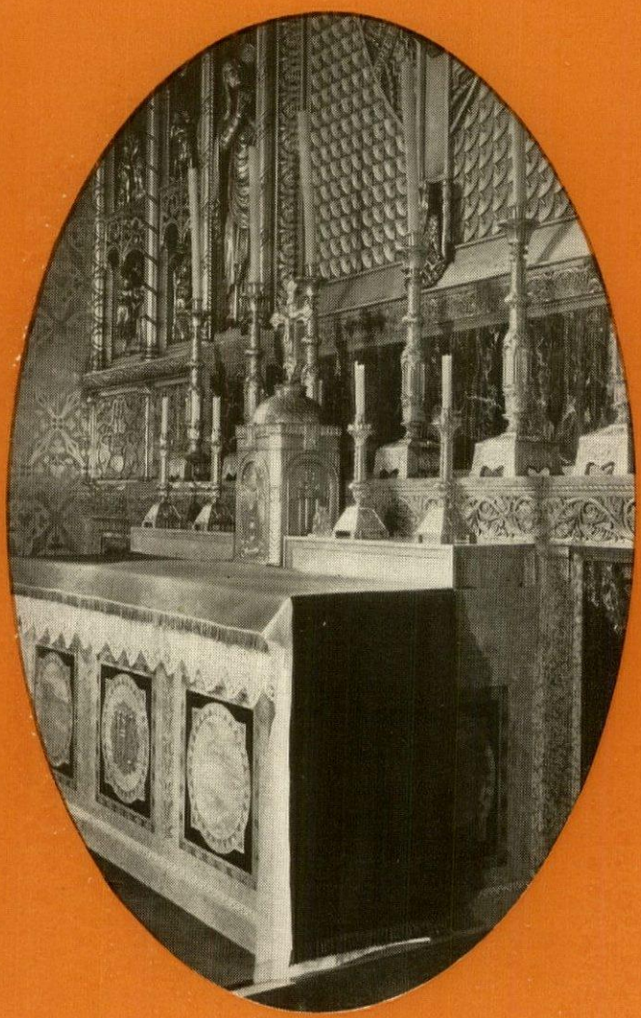
INSTITUTIONAL, BANKING AND OTHER MONUMENTAL BUILDINGS

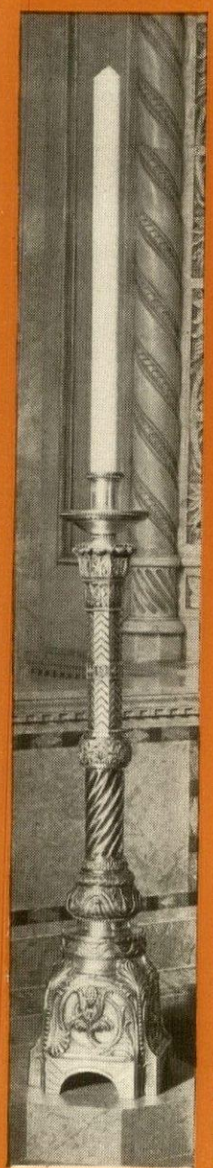
Exquisite Altar Appointments for the Seminary of the Immaculate Conception

BY GORHAM









THE architect of the Seminary of the Immaculate Conception—Robert J. Reiley—appointed The Gorham Company to execute the appointments for all its altars... tabernacles, standards, candlesticks of unusual beauty rendered in that superior workmanship which distinguishes all ecclesiastical works by Gorham.

Requests for information by architects will be given immediate consideration. The Ecclesiastical Division, The Gorham Company, Fifth Ave. at 47th St., New York City.

Wrought Iron Work for the Brooklyn Diocesan Seminary of the Immaculate Conception at Huntington, L.I. by the Ferro Studio · Inc ·

BISHOP'S HOUSE
367 CLERMONT AVENUE
BROOKLYN, N. Y.

January 26th, 1931.

Mr. Frederick W. Bergmüller,
#228 East 150th St.,
New York City.

Dear Mr. Bergmüller:

Allow me to acknowledge receipt of your very kind favor of January 14th and to thank you for the beautiful booklet containing representations of the very satisfactory grille work which you accomplished for us in our new diocesan Seminary at Huntington.

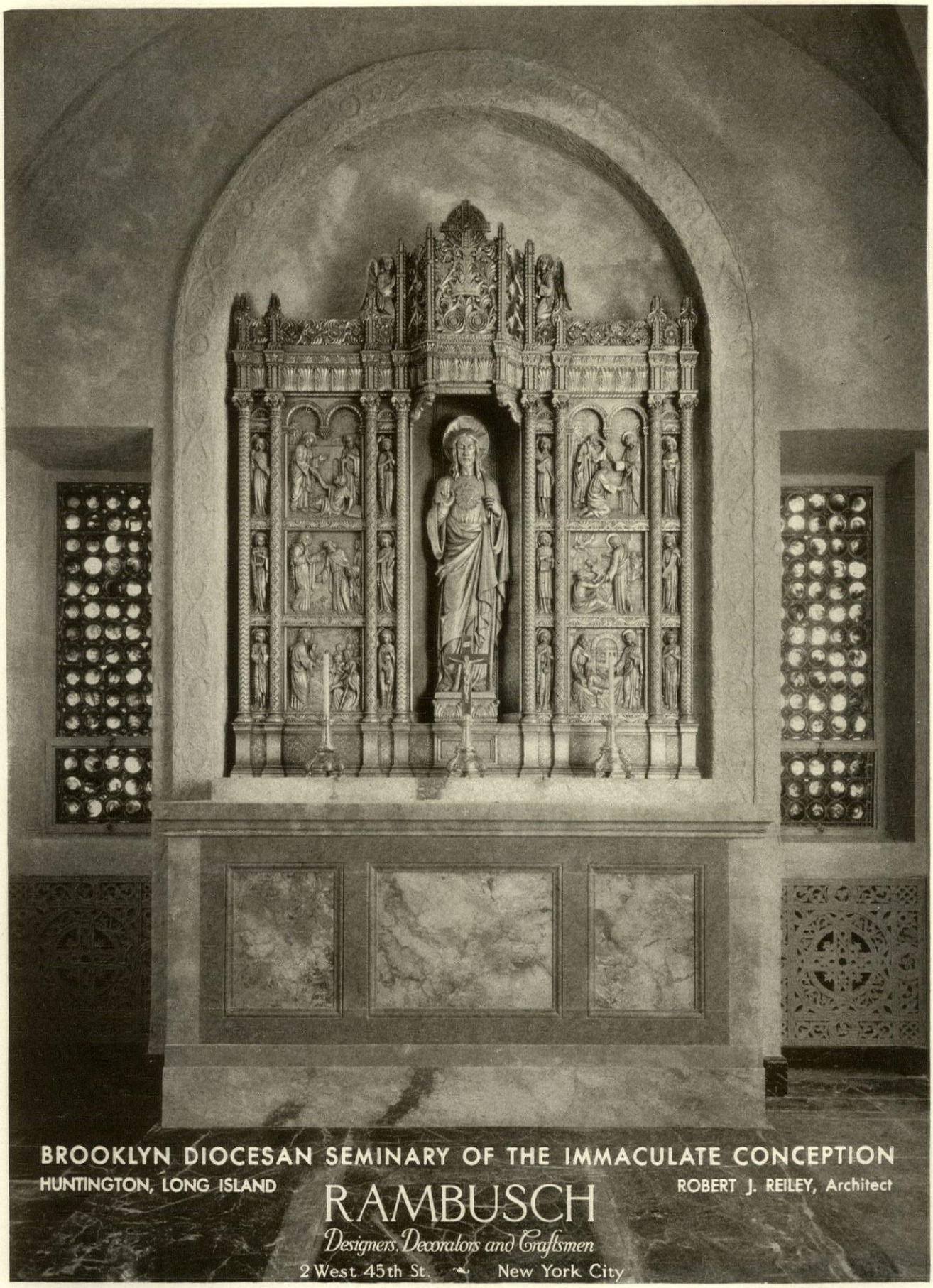
I wish you to know that your accomplishment has merited and received general expressions of admiration and commendation.

Sincerely yours,

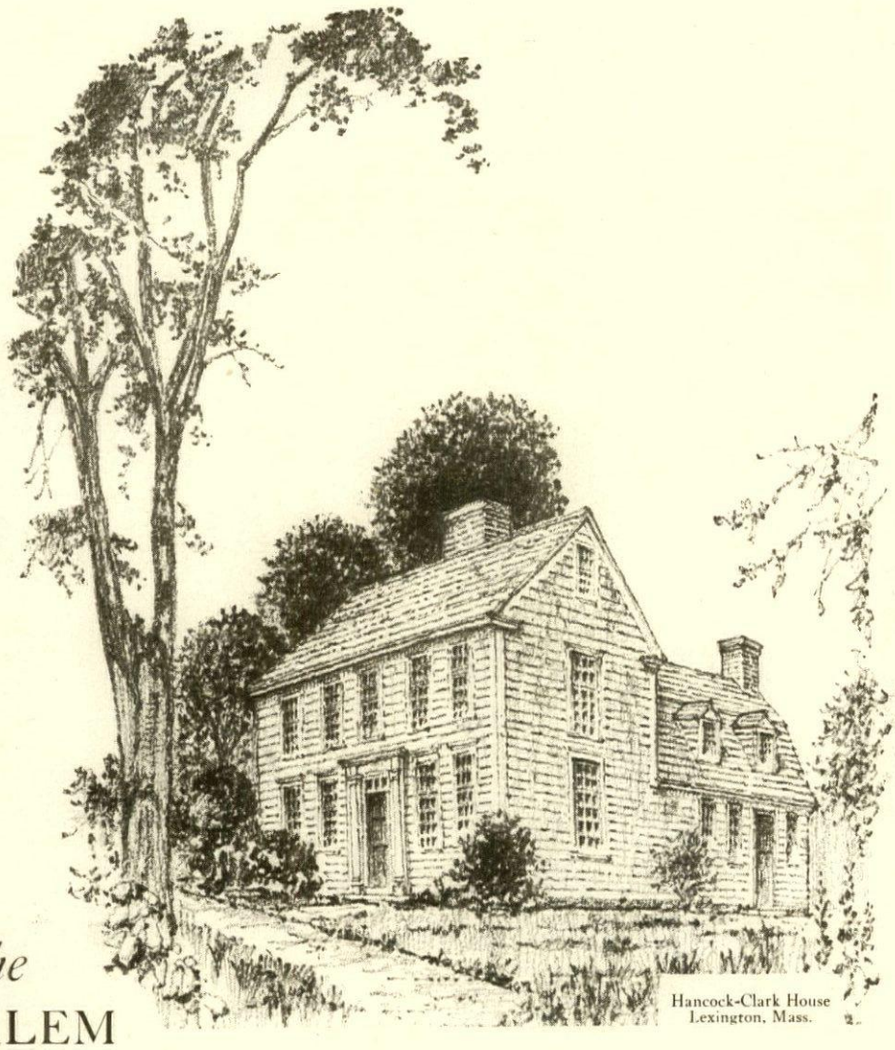
+ Thomas E. Molloy

BISHOP OF BROOKLYN.

ARCHITECTS WHO DESIRE ILLUSTRATED BOOKLET DESCRIBING THE METHODS OF MANUFACTURE EMPLOYED IN THE ABOVE WROUGHT IRON WORK WILL RECEIVE SAME ON REQUEST TO
FERRO STUDIO, INC., 228 EAST 150th STREET, NEW YORK CITY



RAMBUSCH EXECUTED THE SACRED HEART ALTAR, REREDOS, STATUE AND CHAPEL FLOOR



Hancock-Clark House
Lexington, Mass.

The SALEM *Roof . . . colonial charm re-created*

THE birthplace of John Hancock in Lexington, Mass., stands today as it did in 1698—quaint, colonial—an historical landmark of early America. The roof of this cherished historical structure was recently restored. The trustees were particularly anxious not to destroy its charming time-aged appearance and yet use every precaution to secure permanent protection.

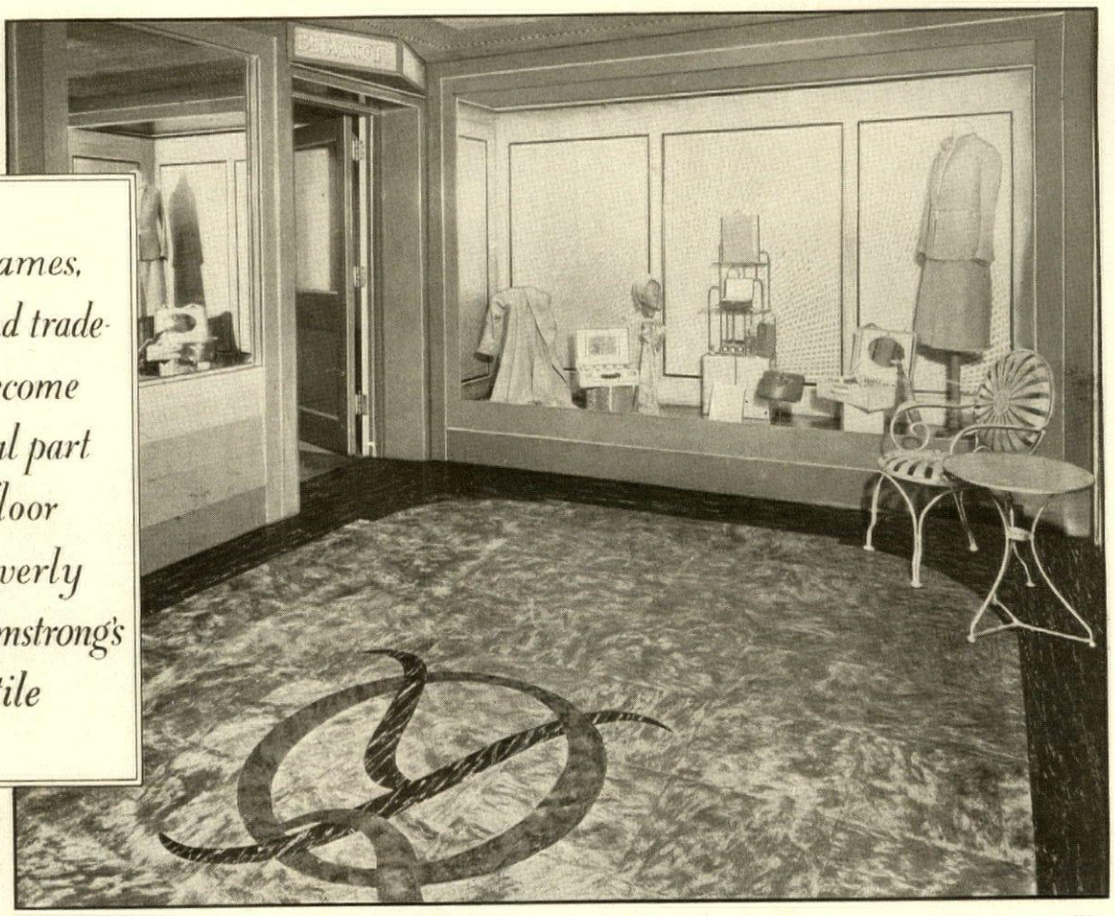
J-M Salem Shingles were selected for the roof because of their almost exact simulation of the old weathered roof which was removed, and because they insured absolute protection from fire and other destructive elements.

Developed by Walter McQuade, consulting architect for Johns-Manville, Salem Roofs are available in a wide range of colors. Forest Brown, Autumn Brown, Olive Green, Weathered Black, Weathered Gray, Touraine Red, Sea Green and Granada Red. For full information and samples, address Johns-Manville, 292 Madison Ave., New York, or 159 New Montgomery Street, San Francisco, California.

JOHNS-MANVILLE
ARCHITECTURAL SERVICE DEPARTMENT

Valuable Advertising Space Right at your Clients' Feet

Firm names, insignia and trade-marks become an integral part of the floor when cleverly inlaid in Armstrong's Linotile



Frank Post, New York decorator, designed this distinctive floor for the Young-Quinlan Company of Minneapolis. The insignia is inlaid in a floor of Tourmaline, Pearl, and Eggplant Linotile.

MODERN Floor space is costly and today's floors must do double duty if they are to pay their way. This floor of Armstrong's Linotile does even more than double duty. In the first place it's a wearable, comfortable floor, laid to last for years. Secondly its pleasant color scheme (Tourmaline, Pearl, Eggplant) makes a fitting setting for fine merchandise. And thirdly, it carries the firm's insignia, cleverly inlaid in the floor where no eye can miss it. Here floor utility and true beauty go hand in hand.

With thirty colorings and scores of sizes and shapes to choose from, the design of an Armstrong's Linotile Floor need be limited only by the architect's imagination. Any decorative plan may be followed—and color scheme cleverly matched.

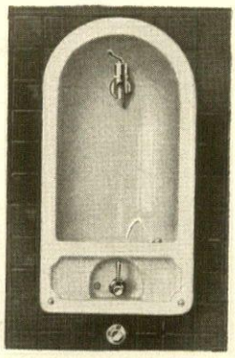
Contractors and the larger stores that carry Armstrong's Linoleum now sell Armstrong's Linotile as well. We'll gladly send you the name of your nearest Linotile contractor. And, if you'd like a more comprehensive description of Armstrong's Custom-Built Floors, we'll send you the book "Public Floors of Enduring Beauty," too. Free. Just address Armstrong Cork Co., Floor Division, Lancaster, Pennsylvania.

Armstrong's (A) Product

Armstrong's Custom Floors

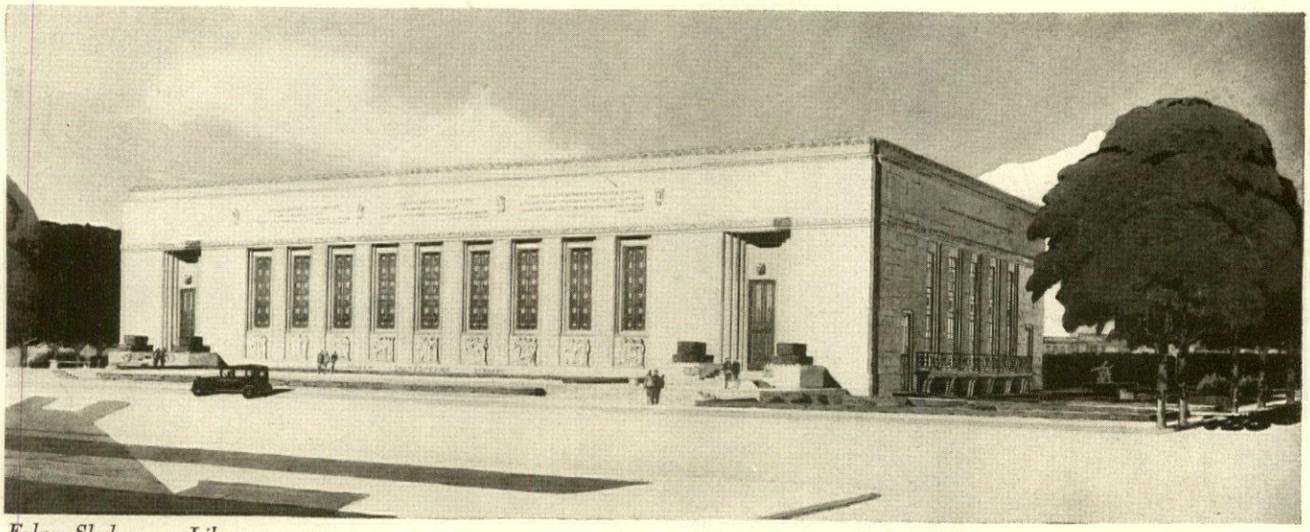
LINOTILE CORK TILE

MADE BY THE MAKERS OF ARMSTRONG'S LINOLEUM



No. 626—a heavy vitreous china recessed wall fountain, one of two types of Halsey Taylor fountains in this building.

FINE BUILDINGS DEMAND FINE FIXTURES



Folger Shakespeare Library
Washington, D. C.

Paul F. Cret, Arch't; Alexander & Trowbridge, Consulting Arch.
Standard Engineering Co., Plumber; Crane Co., Jobber

IN a building so distinguished, Halsey Taylor fountains find a natural place. They meet an architect's natural preference for artistic excellence in design, and, moreover, meet the also utilitarian aspect he must ever keep in mind. Two types—both with the usual Halsey Taylor patented features of practical automatic stream control and two-stream projector—help to safeguard visitors to this library against the dangers of contamination so often prevalent in ordinary obsolete types. The Halsey W. Taylor Co., Warren, O. *(See Sweet's—16 pages)*

This

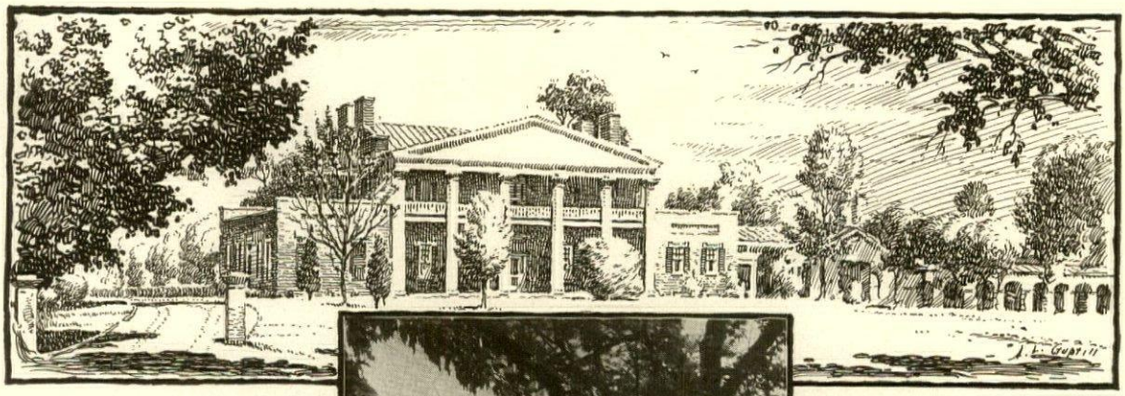
Here is an obsolete type masquerading as a sanitary fountain—water falls back on bubbler—dangerously unsanitary!

or this

And here—a Halsey Taylor fountain; stream automatically controlled and always uniform; lips need never touch projector!

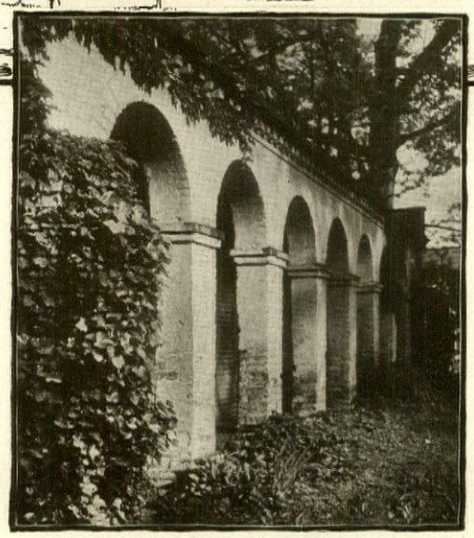
HALSEY TAYLOR

Drinking Fountains



Brentwood, home of The Rogers Caldwells, just outside Nashville, Tenn.

Thompson, Holmes & Converse, Inc., Architects.
Marr and Holman, Associate Architects.



Glimpse of the dormitory archways adjoining President Monroe's old law office at the University of Virginia, at Charlottesville, Virginia.

And Now Comes Brentwood

A Delightful Replica of the Hermitage Home of Andrew Jackson

FIRE eating. Head strong. Fact establishing Andrew Jackson. Tennessee's great contribution to the Presidency and hero of New Orleans. You who have read some of his courtship letters; and then those written to his lovely wife, know the tenderness of the heart beating beneath that rugged defiant exterior.

Like Washington, he reluctantly left his home, The Hermitage, for public service, and as eagerly returned to it. Built of brick. The hand made kind of those Colonial yester years.

And now comes Brentwood, a replica. Faithfully done in our mould-made Old Virginia Brick, giving it just the essential right coloring and time toned effect reminiscent of those years.

The servants' quarters with the covered archways, or "range" as Jefferson called them, are reminiscent of the student dormitories at the University of Virginia. About a quarter of a mile from the house are the stables, with four log cabins of the old type, for the grooms.

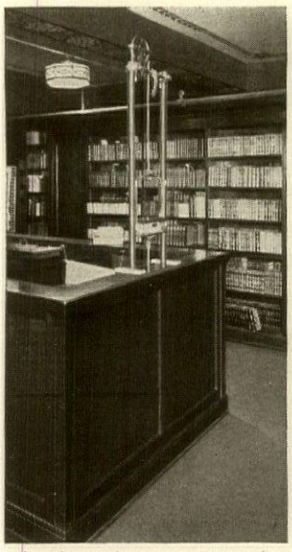
You can't exactly blame our taking a considerable passel of pride in having made the true enough old timey brick for Brentwood. Or for feeling kindly towards its architects for appreciating their unmatchable fitness for the purpose. It's having a hand in such things that makes brick making so much more than just making brick.

There is sure enough no harm in enjoying one's business.

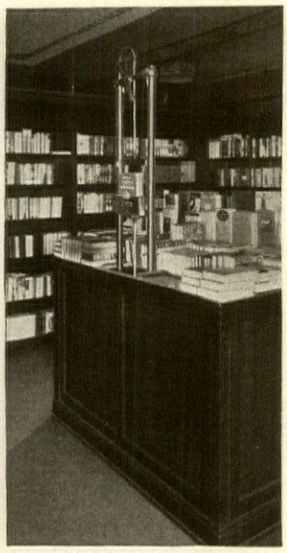
OLD VIRGINIA BRICK

Old Virginia Brick Company
Salem, Virginia

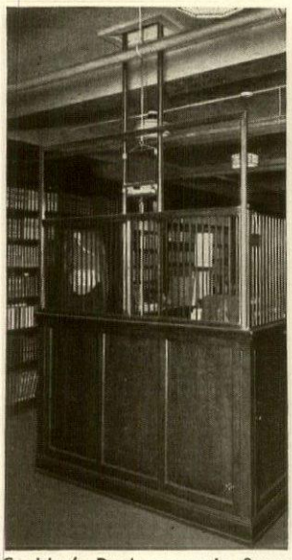
AFTER FIVE YEARS OF HARD DAILY SERVICE *these* SEDGWICK *CORRESPONDENCE AND SMALL PACKAGE* LIFTS *are still serving Brentano's without* ONE CENT *of upkeep cost*



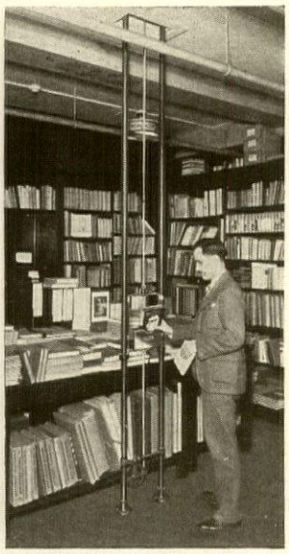
All cash purchases on mezzanine floor are speedily handled by the Sedgwick Correspondence Lift leading to Cashier's Desk on main floor.



Mezzanine floor view of Sedgwick Lift which saves considerable time in dispatching books between main floor and mezzanine for waiting customers.



Cashier's Desk on main floor showing Sedgwick Lift leading to mezzanine. Customers are more quickly served. Sales people do not have to climb stairs.



Main floor view of Sedgwick Lift used for handling books between main floor and the mezzanine. Various styles of carrier available to meet specific needs.

BRENTANO'S, internationally known book establishment, uses these Sedgwick Correspondence Lifts constantly during the day to speed sales and better satisfy customers . . . Sedgwick Correspondence Lifts are particularly suited to many types of retail and wholesale establishments, banks and small office buildings. The installation cost is moderate, and the cost of upkeep is practically nothing . . . Investigate this time-saving equipment.

New Complete Catalog — Contains much helpful data, such as blue prints, specifications, and a special chart of suggested uses of Sedgwick equipment for various types of structures. Copy gladly sent on request.

SEDGWICK
Dumb Waiters - Elevators
FOR ALL PURPOSES

SEDGWICK MACHINE WORKS

140 WEST 15th STREET · NEW YORK, N. Y.

BALTIMORE, MD.	CHICAGO, ILL.	DETROIT, MICH.	SEATTLE, WASH.
509 North Charles St.	400 W. Madison St.	1233 Griswold St.	332 Pioneer Bldg.
BOSTON, MASS.	CLEVELAND, O.	LOS ANGELES, CAL.	WASHINGTON, D. C.
120 Fulton St.	1737 E. 18th St.	722 Story Bldg.	614 11th St., N. W.

THE BULLETIN-BOARD

GEORGE G. BOOTH TRAVELLING FELLOWSHIP COMPETITION

THE George G. Booth Travelling Fellowship in Architecture will again be awarded by competition this spring. Its income is $1,200, and the competition is open to unmarried men whose thirty-first birthday comes after April 11, 1931, and who are graduates in architecture of the University of Michigan, or who have completed in residence substantially the last two years of the four-year course.

The programme is to be handed to candidates on April 11, when the preliminary sketch is to be made. The problem is to be developed during the two weeks beginning April 13. Those intending to compete should communicate with Professor Emil Lorch, College of Architecture, University of Michigan.

NEW YORK APARTMENT-HOUSE MEDAL

THE apartment-house medal of the New York Chapter, A. I. A., has been awarded to the Amalgamated Dwellings, Inc., of which Sidney Hillman is president, it is announced by Arthur C. Holden, chairman of the committee of award. Honorable mention went to the Abbot Court Apartments at Radburn, N. J.

The medal-winning buildings, of which Springsteen & Goldhammer are the architects, occupy the entire block bounded by Grand, Columbia, Broome and Sheriff Streets on the lower East Side of Manhattan. They were erected co-operatively in 1930 for members of the Amalgamated Clothing Workers, a temporary loan for promotion purposes having been made by Aaron Rabinowitz and Lieutenant-Governor Herbert H. Lehman.

General excellence in design and plan determined the award. The dwellings are six stories in height, including basement, with stores on the Grand Street front, and community rooms in the basement under the stores. A large garden is below the level of Grand Street, making the basement story desirable living quarters.

Of the automatic elevator type and provided with incinerators and roof-garden play space, the buildings were constructed under the plan of the State Housing Board so that the carrying charges do not exceed $12.50 per room per month.

The Abbot Court Apartments were erected by the City Housing Corporation, of which Alexander M. Bing is president. Andrew J. Thomas is the architect. These buildings, two rooms deep, are built around two sides of an open triangular court.

Members of the committee of award, in addition to Chairman Holden, were Theodore I. Coe, Rosario Candela, Ralph T. Walker, Eric Gugler, Arthur Loomis Harmon, John Mead Howells, Henry M. Polhemus, and Stephen F. Voorhees.

CHICAGO'S BUILDING CODE BEING REVISED

THE revision of Chicago's building code, designed to save builders 10 per cent under present costs, is practically finished, according to the Building Department of the City of Chicago. The reduction in costs is expected to come through allowance of a greater latitude in the use of materials not known in 1911, when the present building code was adopted.

Revision of the code has been carried on by a general committee composed of more than fifty architects, engineers and contractors under the chairmanship of Mr. O. W. Rosenthal, president of the O. W. Rosenthal-Cornell Co., Chicago contractors.

The new code contains several innovations, among them provision for garage space in hotels, office and mercantile buildings and a proposal for the creation of a Chicago Bureau of Standards, similar to the national bureau, to test new building materials and to make further recommendations for changes in the code.

The revised code will be drafted in ordinance form and presented to the Chicago City Council. The general committee announces that the new code will not be rushed since it is desired that ample time be given to careful study of all the provisions and proposed changes in order that a workable and satisfactory code will be drawn up which will in the end be acceptable and adopted.

HOUSING DEVELOPMENT AS AN AID TO UNEMPLOYMENT

FORMATION of large-scale housing development corporations, with a portion of the initial capital contributed by manufacturers of building materials and supplies, would diminish the number of unsanitary, poorly built residential structures in New York City and stimulate the building industry, according to Louis J. Horowitz, Chairman of Thompson-Starrett Company, Inc.

These corporations would provide opportunity to introduce instalment home buying on a large scale, Mr. Horowitz said in a statement made public by the Architects' Emergency Employment Committee, organized by the American Institute of Architects and kindred architectural societies to accelerate construction and aid unemployed architects and draftsmen.

While he believes that industrial construction must await generally better business conditions, Mr. Horowitz sees no reason for delaying residential construction along these lines.

"While we have known for a long time of the benefits which would occur in the event that homes could be purchased through the instalment plan, the same as automobiles or radios or other products, the principal drawback to large-scale development has been the absence of constructive plans for establishing the financial structures of development corporations.

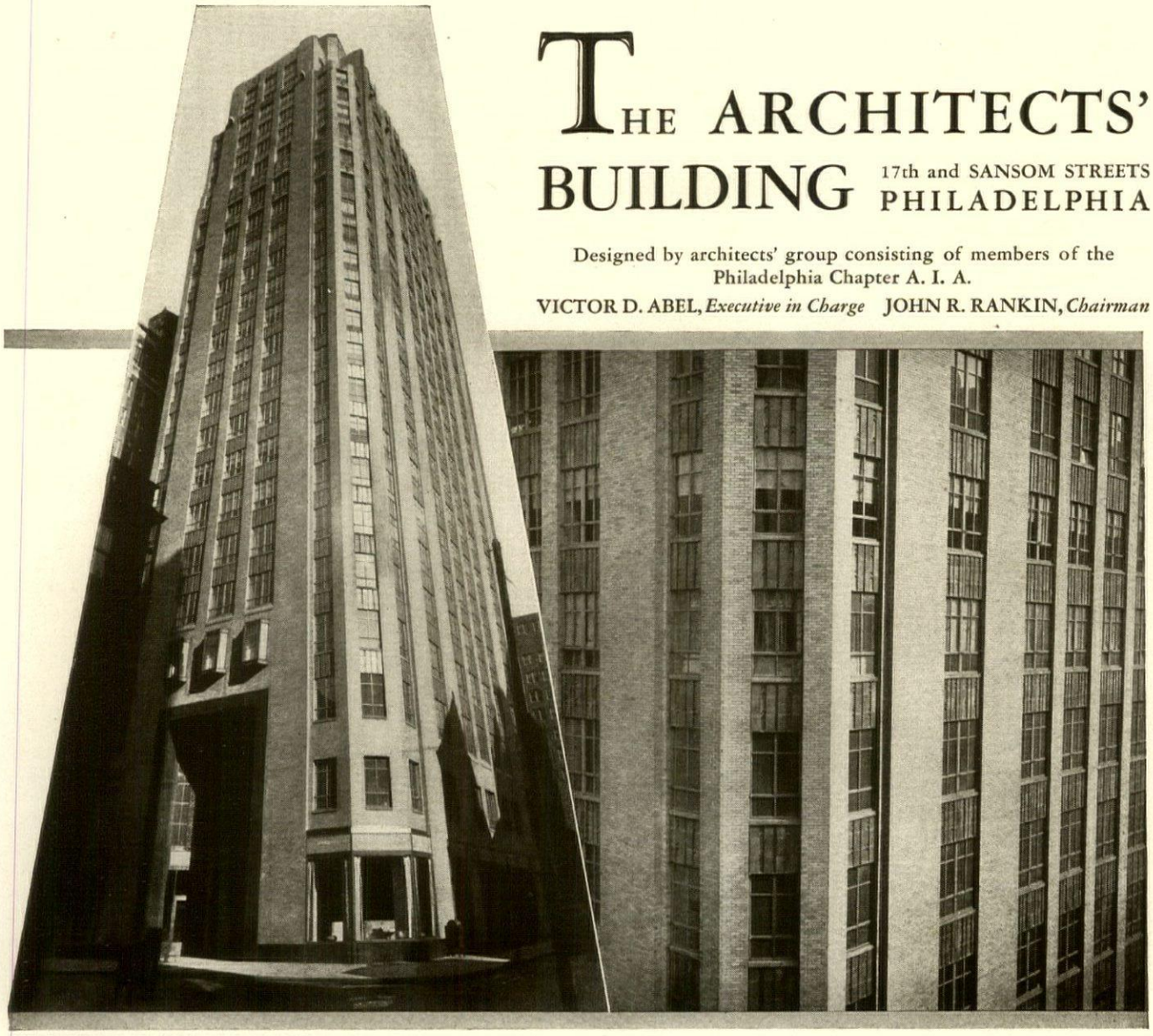
"It is my opinion that some arrangement can be made whereby the manufacturers of the various products which go into residential construction may use a portion of their resources toward a revolving fund to finance instalment buying of dwelling accommodations. By promoting new construction they would bring business to themselves.

"Through a combination of funds and scientific research which would advance economy and efficiency in building, substantial construction savings would result. These then could be passed on to the individual instalment purchasers. This is merely another way of saying that sound economics and mass production principles can be applied to home building as they have been applied, for example, to automobiles.

"Some progress has been made through the efforts of limited dividend companies in the rehabilitation of the cold-water tenement districts. But with a better understanding and appreciation of the fine work already done, it seems to me that further advances will be made in the next few years in carrying on this work on a strictly business basis.

"We should apply ourselves to

(*Continued on page 29*)



THE ARCHITECTS' BUILDING

17th and SANSOM STREETS
PHILADELPHIA

Designed by architects' group consisting of members of the Philadelphia Chapter A. I. A.

VICTOR D. ABEL, *Executive in Charge* JOHN R. RANKIN, *Chairman*

ATLANTIC TERRA COTTA

Selected to Beautify this new building for Architects

This new business home for Philadelphia architects was built by the Wark Company of Philadelphia. Atlantic Terra Cotta spandrels of brown, also brown with decorative insets of green and gold, were used throughout. The entire effect is most attractive, achieving dignity without monotony, and color without ostentation. ▣ Many buildings are entirely faced with Atlantic Terra Cotta. For it is everlasting in structure and color values. It is not affected by heat or cold. It will not crack or flake. Available in all shapes and any surface finish, and a matchless range of color including gold and silver. ▣ For lining corridors, lobbies and wash rooms, Atlantic WALL UNITS, a new *mechanically* produced terra cotta, offers interesting possibilities of use at a comparatively low price.

Consult with us about your new building requirements. Avail yourself of our long experience. Write for illustrated booklets.

ATLANTIC TERRA COTTA CO., 19 WEST 44th STREET, NEW YORK

PHILADELPHIA · NEWARK, N. J. · DALLAS, TEXAS · *ATLANTA TERRA COTTA CO., ATLANTA, GA.*

ending slums which have been a detriment to our community's health and pride. The rebuilding of the blighted areas is the principal job which lies before the construction industry in New York City."

Mr. Horowitz is one of a group of leaders in the building industry who is co-operating with the Architects' Emergency Committee, which is maintaining a free registry of designers, draftsmen, specification writers, and construction superintendents in the Architectural League Building, 115 East 40th Street.

AMERICAN SOCIETY FOR TESTING MATERIALS

AT a meeting in Washington on September 5 and 6, 1930, Committee C-1 on Cement of the American Society for Testing Materials effected a reorganization and prepared a preliminary programme of work for the coming two years.

During the past year the committee submitted to the society a tentative specification for High Early Strength Portland Cement, and an upward revision of the standards for Portland Cement. Both of these have been adopted by the society, and are now in effect.

With this new tentative standard and the revised standard in force, the committee believes that the opportunity is ripe for rather more fundamental and detailed studies of those two most widely used hydraulic cements, and of the masonry or plastic cements, whose use is growing so rapidly, than was possible with the organization under which the committee had functioned for so many years.

The outstanding feature of the new plan of committee operation places the investigations of each type of cement and the preparation of a standard under a separate subcommittee. For the present, therefore, there will be a subcommittee on Standard Portland Cement, one on Masonry Cement, and one on all High Early Strength Cements—both of the Portland and High Alumina type. Another subcommittee will have the duty of preparing the standards for methods of test.

The total membership of the committee is limited to seventy-five in order to lessen the danger of its becoming slow, unwieldy, and inefficient, but it will welcome at all times, and especially now when the subcommittees are developing new programmes of investigational work, suggestions from all those interested in the testing and using of cement. The committee would be very glad to have comments as to the types of tests which should be studied, data indicating the adequacy or inadequacy of present methods, suggestions as to specific requirements, and in fact anything that an interested party would consider of value to the committee.

The committee continues under the chairmanship of P. H. Bates, Bureau of Standards, Washington, D. C.; secretary, F. H. Jackson, U. S. Bureau of Public Roads, Washington, D. C.; and A. C. Tagge, Canada Cement Co., Ltd., Montreal, and R. B. Young, Hydro-Electric Power Commission of Ontario, Toronto, as vice-chairmen.

LANTERN SLIDES OF PAINTINGS

PAINTINGS in the Frick collection were copied last year in a series of lantern slides made by the National Studios, Inc., 226 West 56th Street, New York City. These have proven so useful to museums, universities, art clubs, teachers and lecturers, that the corporation is reproducing further prints, among them those in the private collection of Jules S. Bache.

AIDS FOR THE DEAF

THE Chicago Woman's Aid is an organization urging upon architects and builders the need for hearing aids in behalf of the large portion of the public handicapped by deafness. There are said to be ten million of these people in the United States, more than half of which no longer attend church services or amusement places because of their inability to hear. Many of them could, and would, be happy to frequent these houses if hearing aids were installed.

LIONEL MOSES
1871–1931

LIONEL MOSES, architect, who had been very closely associated with McKim, Mead & White for the last forty-four years, died on February 19, at his home in New York City. Mr. Moses practised alone during recent years, devoting himself largely to country home and miscellaneous work, including the D K E fraternity house at Amherst. During the World War Mr. Moses was Assistant General Manager of the United States Housing Corporation. He was a member of the American Institute of Architects, and of The Architectural League of New York.

LEROY S. BUFFINGTON
1847–1931

LEROY S. BUFFINGTON, architect, died in Minneapolis on February 15. Mr. Buffington completed an enormous amount of work during his lifetime, including many of his State's own buildings. Among the long list of his buildings were forty-two hotels.

Mr. Buffington was particularly well known in connection with the birth of the skyscraper idea. He went so far as to patent the idea of steel-frame construction supporting masonry walls at each story level. His idea of the "cloud scraper," as he called it, dates from 1881, and his patents from 1888. His first building of this type was erected in 1893. Uncertainty as to the priority of the steel-frame idea, together with the difficulties of defending the patent of so basic an idea, were responsible for Mr. Buffington's having derived little benefit from it in his lifetime. As recently, however, as 1929, Rufus Rand paid him one-eighth of one per cent royalties on the steel skeleton of the Rand Building—a magnanimous gesture of recognition. Mr. Buffington was an engineer as well as an architect, and a Fellow of the American Institute of Architects.

PERSONAL

Lynn Troxel and Charles Pahl, Jr., announce the formation of a partnership for the practice of architecture under the firm name of Troxel & Pahl, with offices at 201 Laird Building, Tiffin, Ohio.

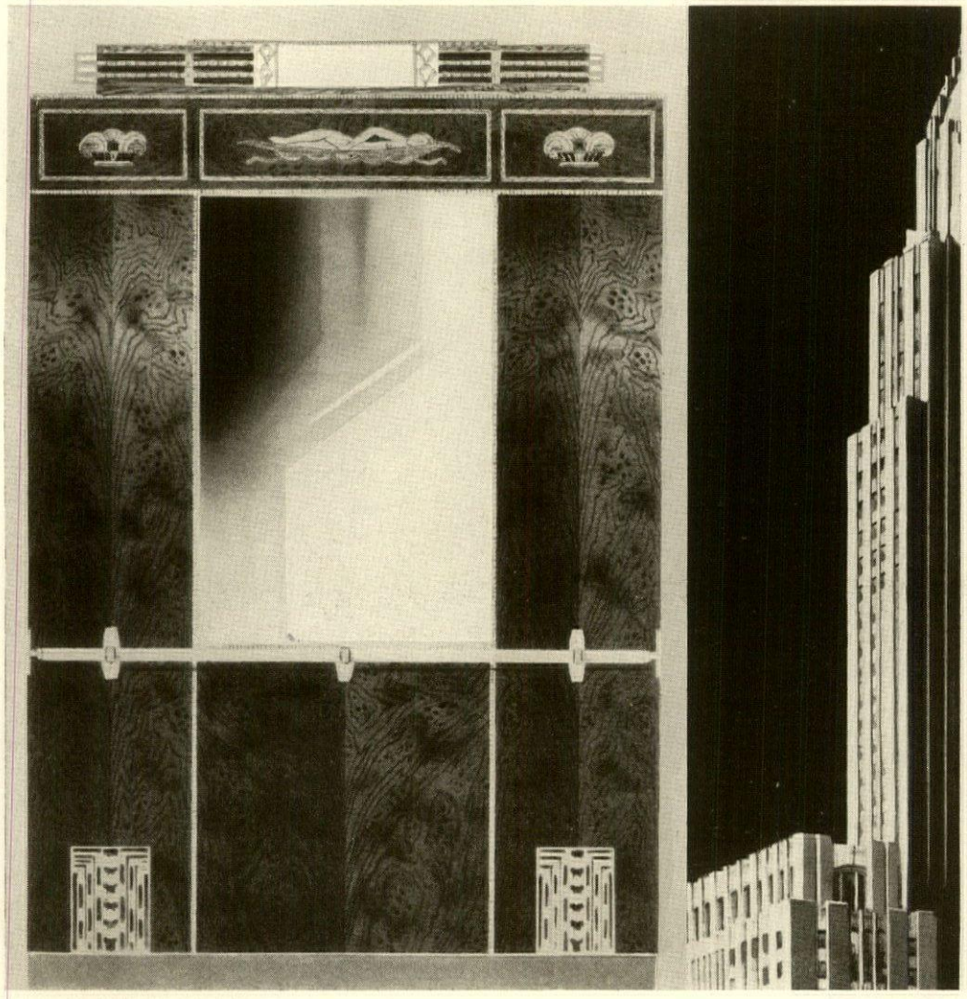
E. Floyd Redding, architect, announces the removal of his office to 820 12th Street, Denver, Colo.

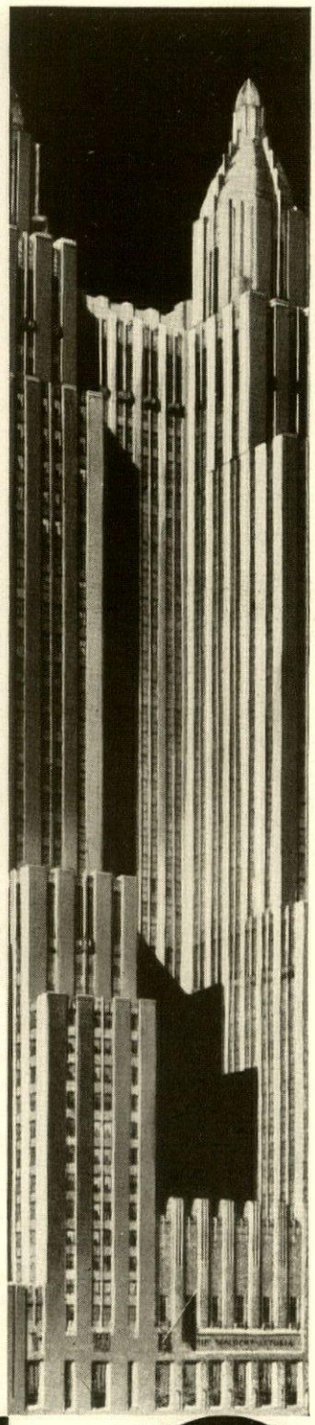
Gustave B. Bohm, architect, has moved his offices to 9943 Lorain Avenue, Cleveland, Ohio.

Kenneth W. Milnes, architect, announces the removal of his office to 2081 Richmond Terrace, Port Richmond, Staten Island, and would like to receive manufacturers' catalogues at his new address.

Klekamp & Whitmore, architects and engineers, announce the removal of their offices to 188 West Randolph Street, Chicago, Ill.

Side-panel view of original design developed by Otis for elevator cars to be installed in the new Waldorf-Astoria Hotel (at right), New York City. (Schultze & Weaver, Architects; Thompson-Starrett Co., Inc., General Contractors; Clyde R. Place, Consulting Engineer.)





VERTICAL TRANSPORTATION involves a highly complex set of problems. . . . For the architect and builder, Otis can resolve them into one. . . . In this way: Otis co-operates in the development of plans and specifications without obligation, supplying essential technical data; then, if Otis Elevators are decided upon, with *one contract* the architect and builder can settle all details of mechanical and operating equipment; cars, doors, accessories and decorations; installation; and, for a flat yearly sum, complete maintenance of all equipment. . . . Every step, from manufacture to maintenance, is performed by, and of course guaranteed by, the Otis organization.

OTIS

ELEVATOR COMPANY

339 OFFICES THROUGHOUT THE WORLD

ARCHITECTURE

REG. U. S. PAT. OFFICE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. LXIII, NO. 4 — APRIL, 1931

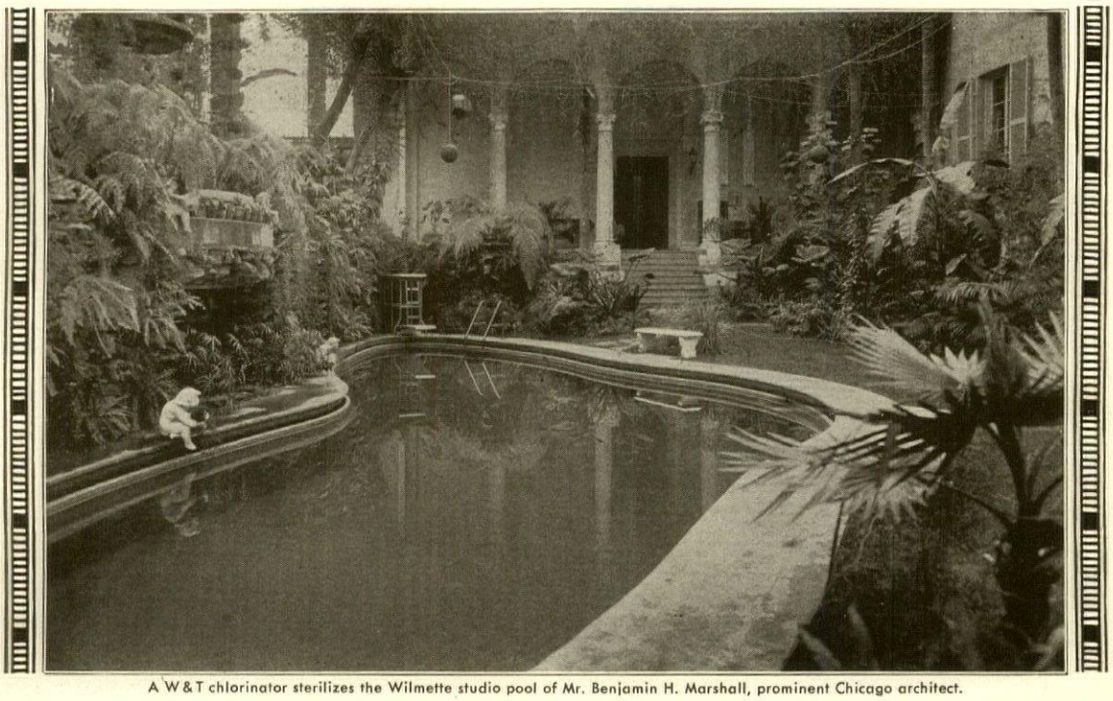
CONTENTS

ARCHITECTURE is published monthly, appearing on the 28th of the month preceding date of issue. Price mailed flat to members of the architectural and allied professions to any address in the United States, $5 per year in advance; to all others, $10; add $1 for Canadian postage and $2 for foreign postage. Single copies, $1. Advertising rates upon request. Entered as second-class matter, March 30, 1900, at the Post-Office at New York, N. Y., under the Act of March 2, 1879.

CHARLES SCRIBNER'S SONS, PUBLISHERS

ARTHUR H. SCRIBNER, *President* — CHARLES SCRIBNER, JR., EDWARD T. S. LORD, WHITNEY DARROW, *Vice-Presidents*
GEO. R. D. SCHIEFFELIN, *Treasurer* — MAXWELL E. PERKINS, *Secretary*

NEW YORK: 597 FIFTH AVENUE AT 48TH STREET



A W&T chlorinator sterilizes the Wilmette studio pool of Mr. Benjamin H. Marshall, prominent Chicago architect.

When this ARCHITECT *built his own pool he specified* CHLORINATION

Every endorsement of chlorination—by word or action—is tribute to the residual sterilizing action that insures drinking water standards for swimming pool disinfection. Chlorination is the one method successful above all others.

Just as 15,000 accurate and dependable W&T chlorinators have solved other problems of water sterilization and swimming pool disinfection, just so readily will W&T equipment solve your problem.

MR. BENJAMIN H. MARSHALL, prominent Chicago architect, has this to say of chlorination in general—of W&T equipment in particular:

"The pool is located in a glass enclosed tropical garden and completely surrounded by growing vegetation, but your equipment has at all times been able to control growths of algae which otherwise would be very prevalent. My original decision to use the chlorination process was based upon authoritative recommendations that this was the most satisfactory method of pool disinfection.

"The method and your equipment having proved eminently satisfactory and adequate, I have since been pleased to specify your equipment for several pools which I have had occasion to build in connection with my practice."

W&T *sanitary engineers will gladly talk with you about any specific swimming pool problem.*

WALLACE & TIERNAN CO. INC.

Manufacturers of Chlorine Control Apparatus

NEWARK, NEW JERSEY

Branches in Principal Cities

"Swim in Drinking Water"

A Shipyard
in Naples

From the drawing
in red chalk by

GEORGE NELSON

ARCHITECTURE

VOLUME LXIII APRIL 1931 NUMBER 4

Using Terra-cotta as Terra-cotta

By Eugene Clute

This is the second in a series of articles upon the craftsmanship of to-day, which necessarily must be subjected to a comparison with craftsmanship of former times.—EDITOR. *Photographs by Tebbs & Knell.*

PARADOXICAL though it may seem, certain inherent advantages of terra-cotta have operated to its disadvantage. The moderate cost at which it can be produced and its great adaptability have caused it to play the rôle of a substitute for other materials, the appearance of which it has been made to simulate, and its own character has not been developed in our architecture, excepting in rare instances.

Used in its true character, terra-cotta adds much to the range of expression in materials available to the architect. It may be inexpensive or as costly as the principal enrichment of a fine building may well be. It may be very simple or it may be elaborately modelled and colored in polychrome with delicate variations of hue and texture.

Textures in terra-cotta should not be imitative of any other material, but should result from the manipulation of the clay in a manner natural to the method of production. As is generally known, architectural terra-cotta is made by working clay of suitable composition in a plastic state, then burning it in a kiln to give it hardness and durability. Usually it is formed by being pressed into a mould of plaster of Paris that is reinforced when necessary to withstand the pressure. This plaster mould is cast from a model that is made in clay, as sculptures are modelled, or from a plaster model. A clay model is used ordinarily for all designs excepting those that are moulded only in profile and can be run in plaster. The clay model is usually made from terra-cotta clay, which has more character of its own than sculptor's modelling clay, inducing crisper, more vigorous modelling.

When, however, the design is not to be repeated, there is no occasion for making a plaster mould and the subject is modelled in terra-cotta clay of suitable composition and then fired. This gives the most interesting results, for there is no loss of refinement or sharpness of detail or of texture, and the artist is free to work without fear of producing too deeply undercut portions, which must be avoided when a mould is to be used. It is usually necessary to have models made for the ornament, whatever material may be used in its execution, and by this method the model becomes the detail itself.

The textures, then, that are natural to terra-cotta are those that may be produced in making the clay model, or in the moulded terra-cotta after it is formed and is no longer plastic but is still capable of receiving impressions, as from scoring or combing. Textures that are tooled in the plaster mould are less characteristic of terra-cotta, for they have the nature of carving in plaster—a harder, firmer material than clay. Excellent textures are also produced by such methods as wire-cutting, which gives a surface marked by fissures, similar to that of wire-cut brick. Textures in the nature of small-scale all-over patterns, preferably more or less irregular to avoid mechanical hardness, are desirable when the material is to be seen from such a distance that less pronounced textures would not carry.

The finishes obtainable in terra-cotta range from the unglazed finish to the glazed or enamelled finish, which is highly lustrous. Among the

Second-story windows of the West Side Y. M. C. A. buildings, New York City, in which Dwight James Baum has used terra-cotta for its own sake in the transition from stone walls to the window-frame

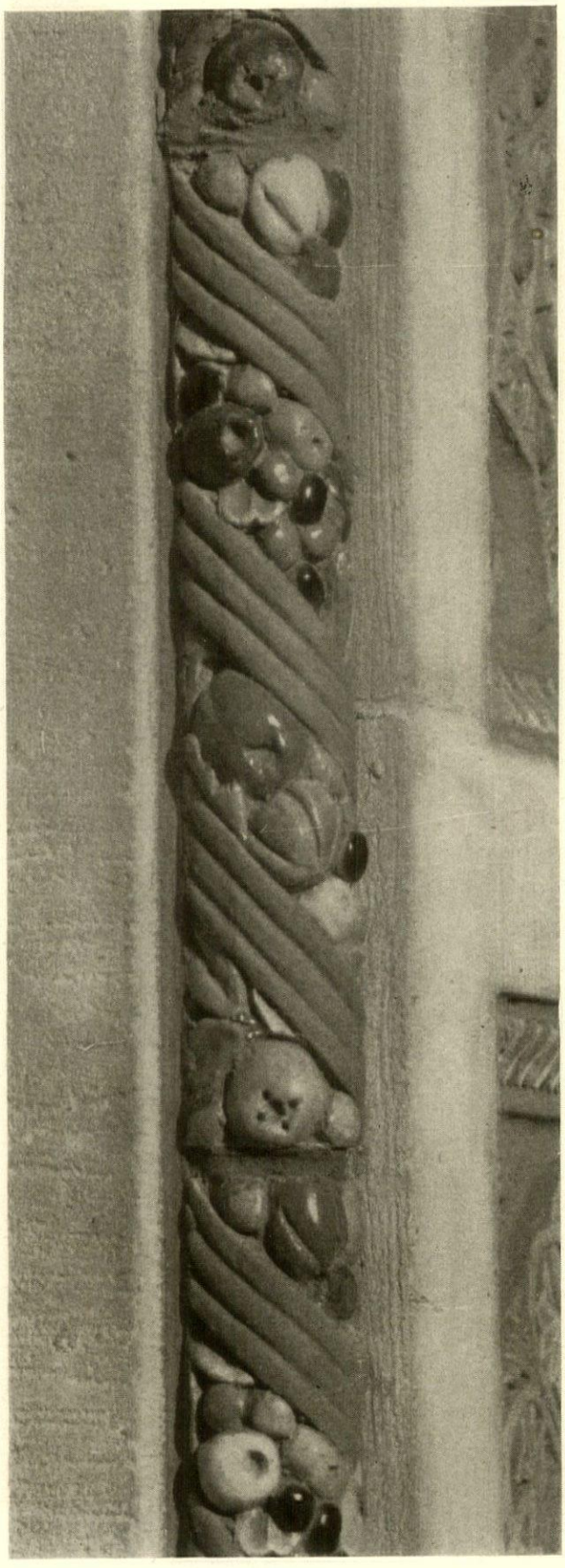
innumerable finishes are excellent mat glazes and fine fire-gilded finishes, either mat or lustrous. There are numerous special finishes including, unfortunately, many that are imitative of other materials.

The glazes upon terra-cotta, like the glazes upon china ware and pottery in general, are vitreous; that is, in the nature of glass, burned on, firmly united with the clay body, hard and durable. The glazing substances are applied either by spraying or painting them upon the modelled or moulded terra-cotta before it is fired. In the kiln, they are fused and form the glaze.

The range of colors is almost unlimited, and delicate nuances and color variations are possible. In painting the colors upon the clay they can be toned and blended, and in spraying them they can be intermingled to produce very beautiful effects. For instance, a red can be produced that, when seen at close range, is made interesting and soft in effect by the distribution of minute particles of brown and of yellow; or a green may show a bloom of blue and yellow. Any desired color combination can, of course, be worked out in the same way. The best craftsmanship in terra-cotta is developing such methods of treatment as this, characteristic of the material, rather than following the common practice of borrowing the coloration and textures of other materials.

The best present-day examples of polychromy in terra-cotta show not only the results of an appreciative study of the work of the della Robbias and of other old European masters of the ceramic arts, but of the fine old Persian work and the marvellous glazed pottery of China and Japan, from which sources many refinements have been learned. This is a field in which the artist-craftsman of the present has a

The main entrance of Mr. Baum's West Side Y. M. C. A., where terra-cotta has been used in the splayed reveal with as much recognition of its intrinsic merit as that of the marble colonnettes in the lower part



A close-up view of the polychrome terra-cotta edging the door opening in the entrance shown on page 195. The colored glazes were applied by hand

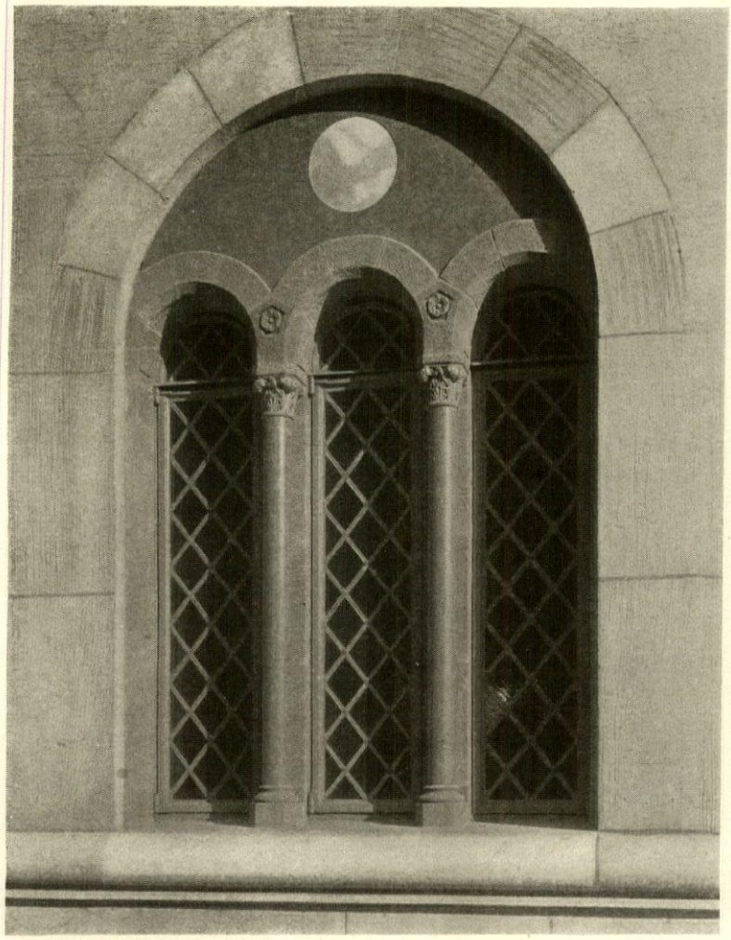
distinct advantage over the Renaissance masters of the art, for he has much better technical facilities and the finest examples of the ceramic arts of the world are available for him to study, while the older workers had but few such examples. Also, what has been learned about color in the art of painting during the intervening centuries, and the advances that have been made in the scientific study of color, contribute to his superior equipment. It is safe to say that such beautiful effects in polychromy and in the handling of textures as are now seen upon the best terra-cotta could not have been achieved before our own day.

An example in point is the terra-cotta upon the new West Side Branch of the Young Men's Christian Association, New York City. Dwight James Baum was the architect, and the craftsmanship was under the direction of O. W. Ketcham. The terra-cotta on this building comes as a very pleasant relief from the predominance of mediocrity, perfunctory effort, and meaningless architectural gestures all about us. It arouses one's enthusiasm. Here is genuine work in the allied arts, not archæological, nor academic, and not marred by any forced effort to be original; and terra-cotta is used as the chief enrichment of the exterior—used intelligently, in its true character, combining the best old traditions and the best in modern practice with a knowledge of and due respect for the nature of the material and the technic of its production.

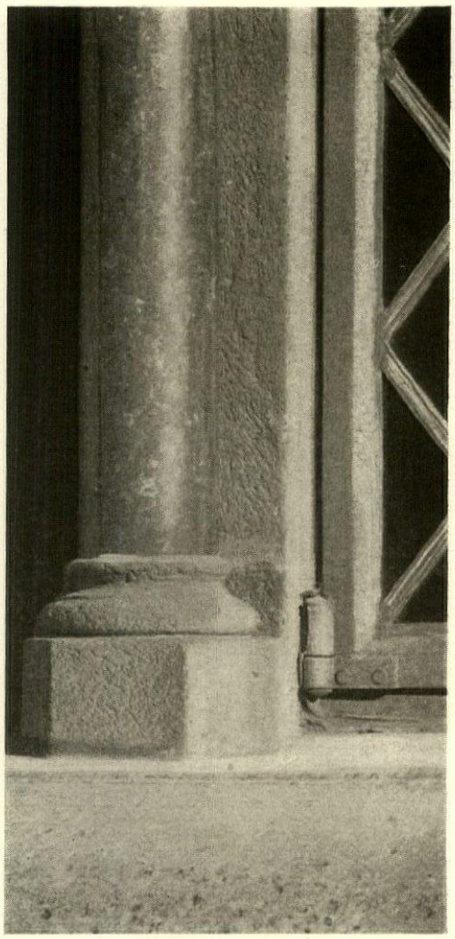
The most important architectural feature of the main front, on Sixty-third Street, is the great entrance, a tall arched portal enriched with polychrome terra-cotta set in plain, tooled stone, which acts as a foil to accentuate the loveliness of the terra-cotta. This ornament is in high relief, low relief, and in the round in different parts of this doorway and always it is admirable in scale, form, and color.

Typical of the care with which the terra-cotta upon this building has been designed and executed is the member of the doorway treatment that shows fruit motives bound by crossed bands at intervals. This decoration extends up both sides of the opening and follows the intrados of the semicircular arch. As the colored glazing substances were applied to this terra-cotta by hand, great freedom and expressiveness have been possible and, though the ornament repeats, the coloring upon the sections is varied. Various textures are used to accord with the design. On parts a gritty, dull finish has been

Detail at the springing of the arch, main entrance of the West Side Y. M. C. A., indicating the variety of color and form achieved in the terra-cotta, all of which gains greatly by reason of its setting in the limestone



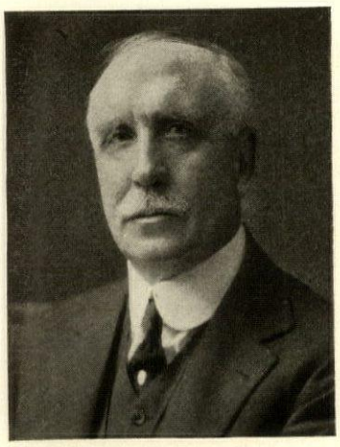
Another detail from the West Side Y. M. C. A., in which marbles and terra-cotta have both been used, and each of equal importance in the restrained decorative scheme



A close-up of the same window showing the marble colonnette, the stone sill, and the wire-cut terra-cotta

used, while other parts are accented by highlights upon a lustrous glaze. Unity between the terra-cotta and its setting of stone has been secured by the handling of colors and textures in the terra-cotta. The wide concave mortar joints, purple-brown in color, between the sections, play their part well, emphasizing the architectural and structural character of this ornamentation. This same mortar forms a line between the terra-cotta and the stone at either side of the detail, its dark color throwing the latter into greater relief and detaching it sufficiently to give crispness. The tooling of the adjoining stone in straight lines, not too regular or pronounced, affords a contrast for the curved lines and roundness of relief that characterize the ornament in terra-cotta. In the reveal of the doorway, square panels of polychrome terra-cotta, ornamented with conventional designs in low relief, are framed in plain tooled stone. This general method of treatment has been carried throughout the portal and with the same consummate artistry.

The smaller doorway at the left of the main entrance, the entrance to the Boys' Department, is similarly treated, in a simpler manner in keeping with its lesser importance. The grouped windows in the first story afford an interesting study in the combination of materials. Here terra-cotta is used for the splayed reveals just inside the opening in the stonework, and for the splays upon the stone mullions, forming a background and foil for the columns of polished marble used in pairs, one green and the other red. This terra-cotta is of a rich, warm brown color in blocks that have wire-cut faces. Both color and texture are well chosen for the place. In the crowning feature of the front, near the level of the first setback, polychrome terra-cotta has been used effectively for accent against the brickwork of rich texture and warm brown coloring.



Charles D. Maginnis, F.A.I.A.

Maginnis and Walsh

By Rayne Adams

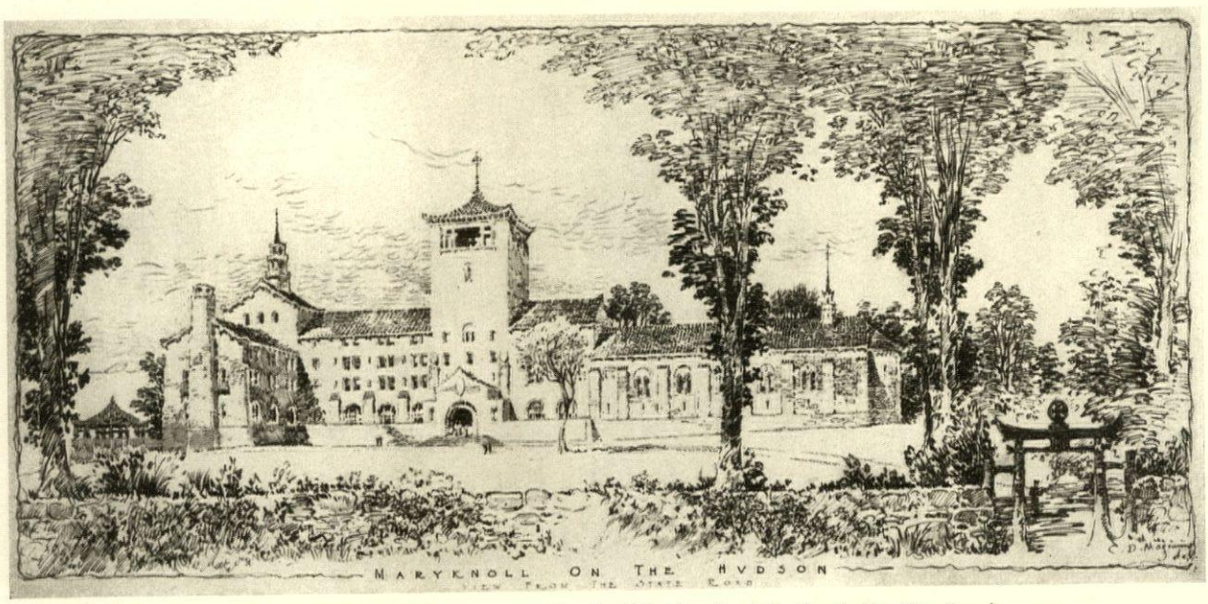
The second in a series of analytical portraits, in which Mr. Adams makes better known to us some of the outstanding figures in the architectural profession.
—EDITOR.

Timothy Walsh, F.A.I.A.

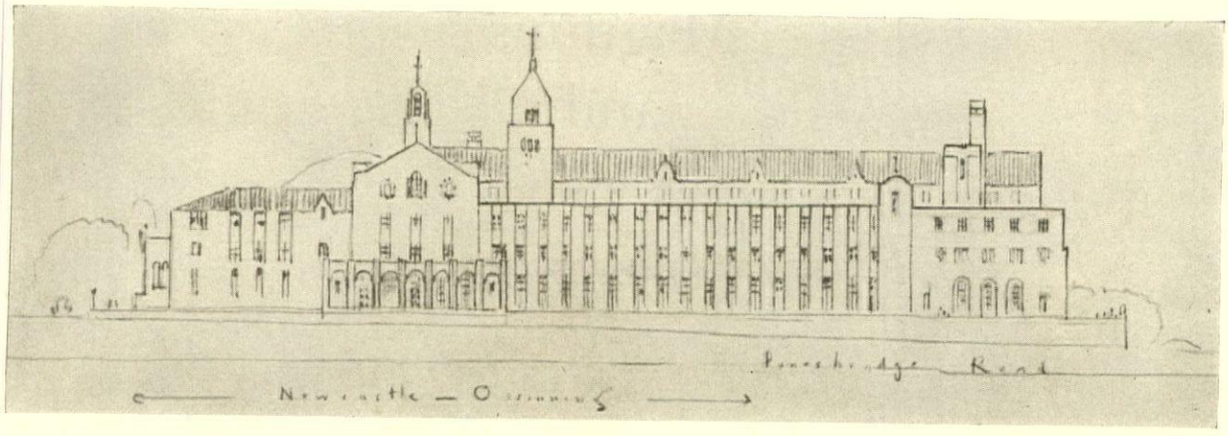
AN account, no matter how brief it be, purporting to indicate the way in which the architectural conceptions of Maginnis and Walsh are developed, should properly first call attention to the conjunction between their names. It is "and," not "or." This "and" implies something more than a cohesion of two individualities with distinct aptitudes. I must ask you to believe that while there are two minds behind the work of Maginnis and Walsh, yet there is only one; and that in spite of a likeness of aptitude and idiosyncrasy, yet there are two distinct personalities involved. It sounds a bit theological, doesn't it? Whether or not it does so sound, the word "theological" affords a particularly good stepping-stone to use as a point of departure.

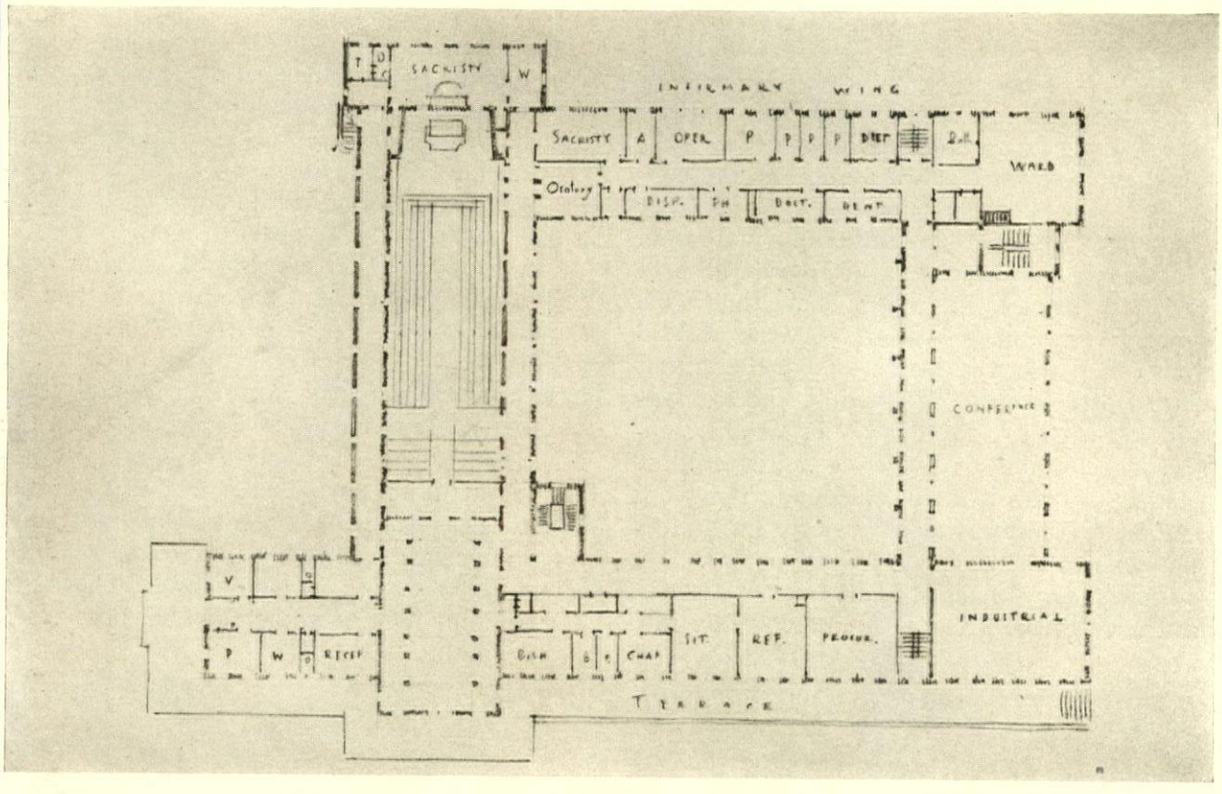
Charles D. Maginnis, as he himself records, was drawn to the Muse of Architecture by way of his interest in pen-and-ink drawing. Many years ago he published an excellent book on this subject. Taken in conjunction with his skill in the use of pen and ink, this small book gives a clew to an understanding of Maginnis's architectural predilections; it is, I am sure, the "picture" which always appeals to him.

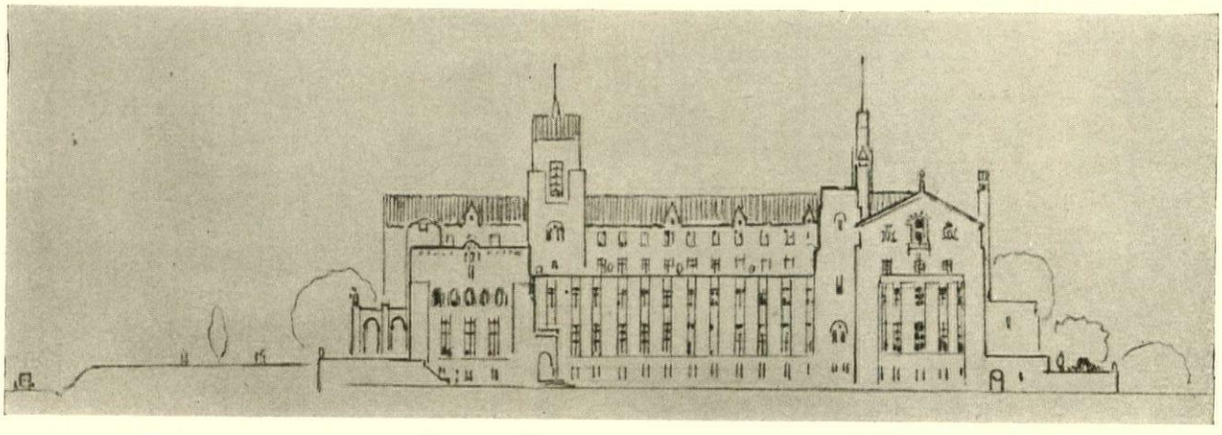
In the welter of academic discussion concerning the proper matrix in which architecture should be born, the formula that architecture is a "picture" will seem inadequate to many. I hasten to add that I do not mean to imply that Maginnis accepts this formula; I do feel, on the other hand, that it is suggestive in understanding his attitude toward architecture. For the "picture" may be one of great complication and its significance is measured in terms of one's imagination as well as his eyesight. Of course the jumping-jack of æsthetics, known as taste,



A preliminary pen-and-ink perspective by Charles D. Maginnis for the Seminary, Catholic Foreign Missions of America, Maryknoll-on-the-Hudson







First studies in pencil by Timothy Walsh, showing first floor and two elevations for the Mother House, Foreign Mission Sisters of St. Dominic, Maryknoll-on-the-Hudson

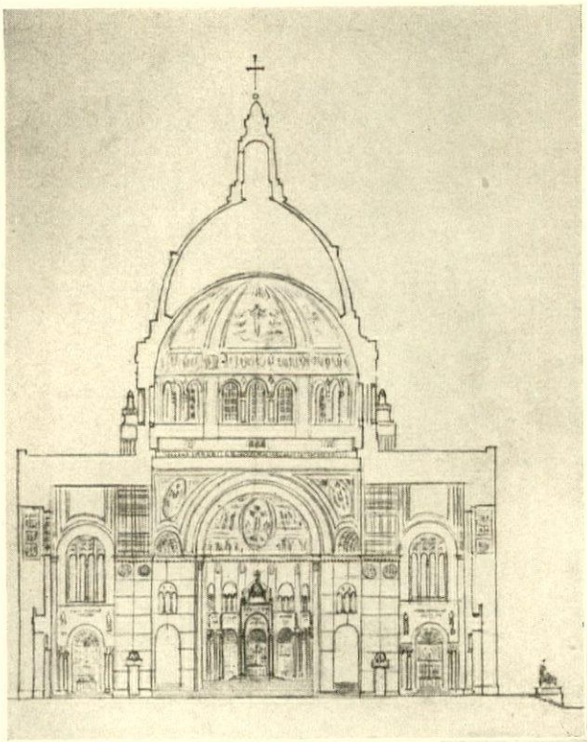
Preliminary perspective by Mr. Maginnis, made before any drawings had been started in the drafting-room. Below, Mr. Walsh's subsequent water-color study of the same problem

is always dressed in the robes of a presiding judge, and he passes upon the relative merit of all such pictures. And this jumping-jack never listens to our questions as to where he came from and where he is going.

Be that as it may, the "pictures" of ecclesiastical architecture in this country when Maginnis was a young man were generally unfit—save for those belonging to a far earlier date—to be hung in any salon. In this characteristic they did not differ from most of the architecture of that period. Interested in ecclesiastical architecture, Maginnis made a resolution to do what he could to better its estate. His aim was clear, and his resolution proved to be one of the moving causes which brought about the regeneration of ecclesiastical architecture.

At the time when Maginnis was, figuratively, putting on his armor, there happened to be another draftsman whose special abilities as a designer were developed in the stimulating office of Peabody & Stearns. Imbued with the same aspirations as Maginnis, Timothy Walsh embarked with him upon an architectural crusade, which, unlike the undertaking of Louis XI, was both decorous and effective. Catholic architecture in this country, at the time when they began their practice, was largely inspired by the Gothic work of Europe, but churches were only too commonly erected with insufficient funds, so that, quite aside from the perfunctory quality of their design, they seldom realized the admirable integrity of the European prototypes.

The innovation made by Maginnis and Walsh was so sensible that one may wonder why it was not made before their time. They turned to the Romanesque architecture of Lombardy for their inspiration. And, although they have expressed their work in other styles, I feel that it is in this first acceptance of the simple forms of



Section and front elevation of National Shrine of the Immaculate Conception, made by Mr. Maginnis at sixteenth-inch scale. See final elevation opposite

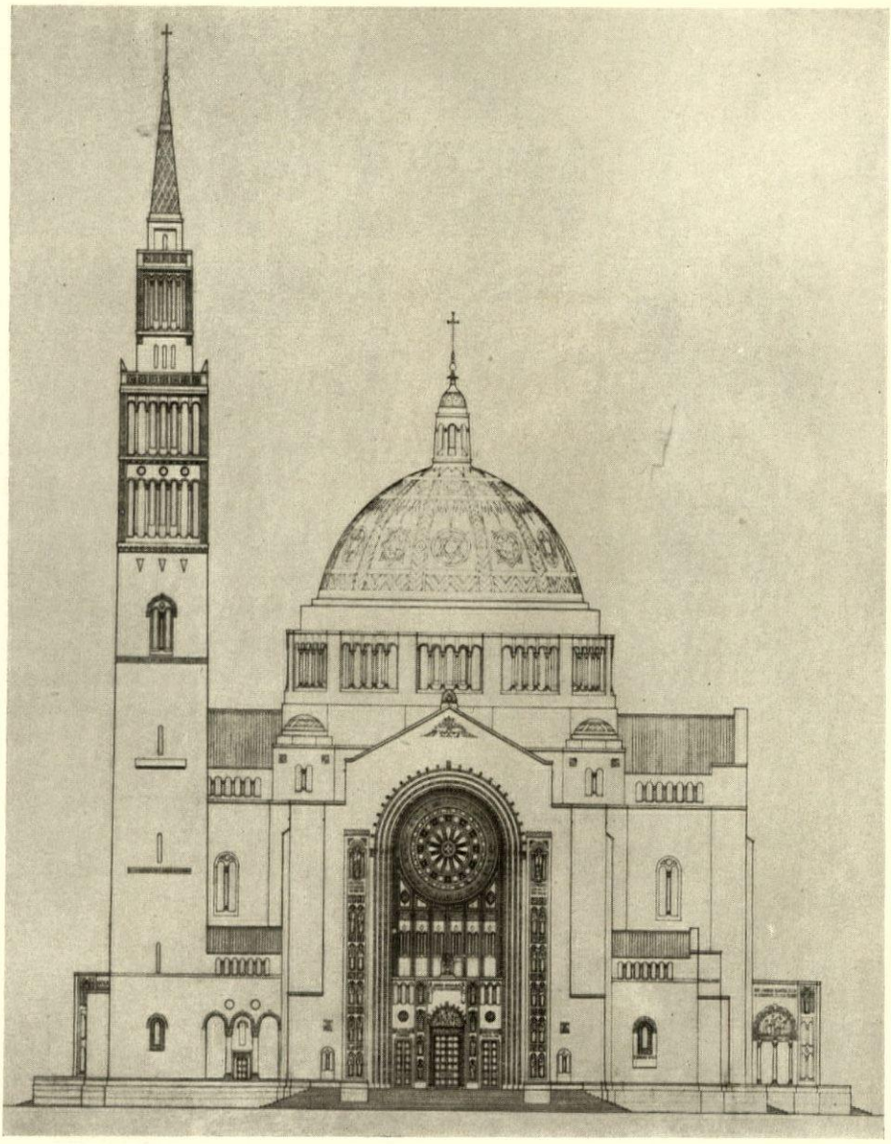
this Lombardy architecture that we may detect in some measure the method of their thinking. For this style not only lends itself to an economical expression, but it permits great freedom in the use of motifs and materials without sacrifice of character. And it permits the architect to work well within the limits of Catholic church tradition. The significance of this tradition is to Maginnis and Walsh compelling.

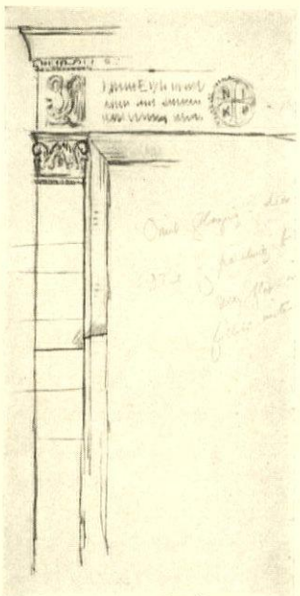
As Maginnis admits, the problem of designing a Catholic church building is half done to begin with; the essential elements of the *parti* are established. The solution of the problem calls not so much for originality of plan as for a sense of fitness in its architectural interpretation, in which an understanding of the archæological elements plays an important part. The limitations imposed by this special tradi-

tion are irksome only to those who do not accept the tradition. It is possible, in the designing of ecclesiastical architecture, that new forms may replace those now commonly accepted. Maginnis and Walsh hold the door open even to modernistic conceptions of design, though they do not themselves incline toward them, for the simple reason that these new forms are not endowed with the special significance which centuries of acceptance have given to the older forms. That there are certain fixed requirements in church design both Maginnis and Walsh feel assured. Accepting these fixed conditions, they exercise, within the limits imposed, a wide eclecticism in the expression of their architectural conceptions.

The exigencies of a large practice permit neither Maginnis nor Walsh nowadays to make many drawings. And perhaps for this reason the uniformity of character and quality in their work is all the more noteworthy. It is not so difficult for the architect to have things quite his own way provided he make all the drawings himself. The only alternative is to have disciples. Socrates wrote little, or none at all, but he had an excellent disciple in Plato.

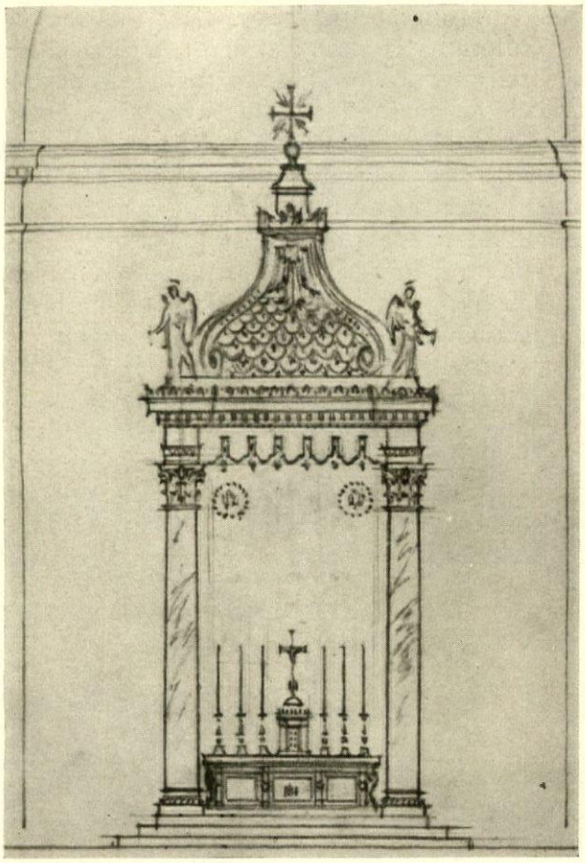
The procedure of both Maginnis and Walsh in their approach to the solution of a problem is very similar. Like most capable architects they visualize the building primarily in terms of its special requirements in relation to the surrounding conditions. Sometimes, as illustrated by the sketches on pages 200, 202, complete preliminary drawings are made by Maginnis or Walsh themselves. Often the sketches embodying the essential conception are far less complete.

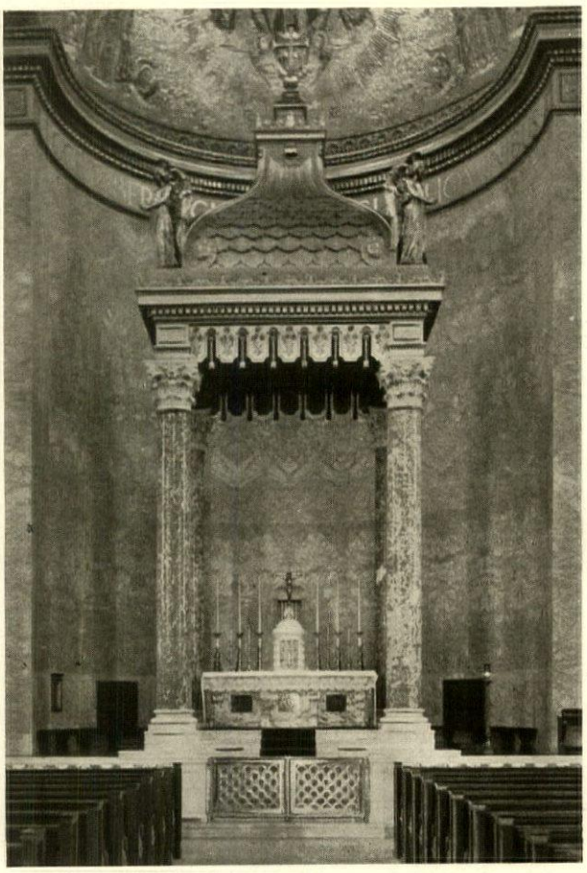




A typical sketch by Mr. Maginnis made in critical consideration of a draftsman's detail drawing

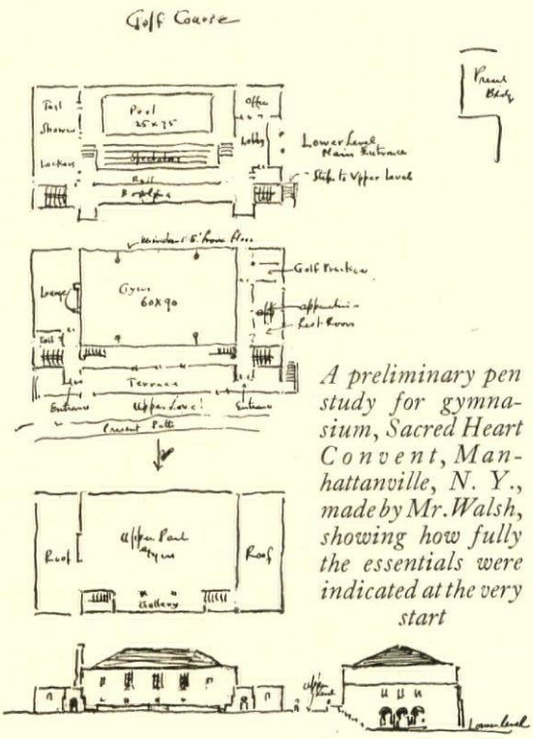
Final drawing for front elevation of National Shrine of the Immaculate Conception, Washington, D. C., made in the drafting-room as a development of Mr. Maginnis's studies shown on opposite page





Mr. Maginnis's original pencil sketch, made at eighth-inch scale, for the High Altar and baldachino, Church of the Immaculate Conception, Waterbury, Conn., together with the finished work

Sometimes no preliminary sketches at all are made. How then, you may very well ask, are these particular conceptions conveyed to the draftsmen for development? Surely they require that something tangible be placed before them. The answer is, I am sure, an interesting one. Maginnis is able, to an extraordinary degree, to convey a pictorial conception by the use of words. Those with whom he works would be the first to acknowledge it. And thus the initial plunge which the draftsman takes in developing Maginnis's original conception may be inspired by a preliminary talk instead of a preliminary sketch—and who is to say that one is not quite as interpretable as the other? That such verbal instructions can most successfully be applied to specialized problems of more or less fixed *parti* is undoubtedly true. Yet it is possible that by the use of this method Maginnis obtains from his draftsmen more assistance of an imaginative order than is obtained when the reins are too tightly drawn. Under certain conditions Pegasus has been known to walk instead of flying, as he is supposed to do.



A preliminary pen study for gymnasium, Sacred Heart Convent, Manhattanville, N. Y., made by Mr. Walsh, showing how fully the essentials were indicated at the very start

---

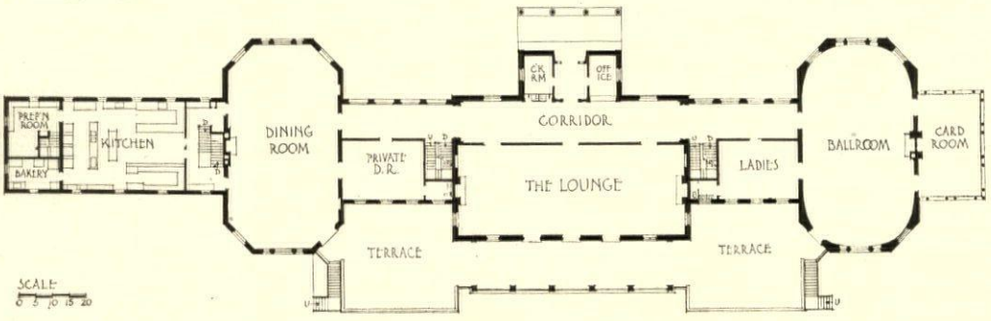
The next in Mr. Adams's series of analytical portraits, to appear in the May issue, is one of Paul Philippe Cret, recently the recipient of the Bok Prize in Philadelphia.

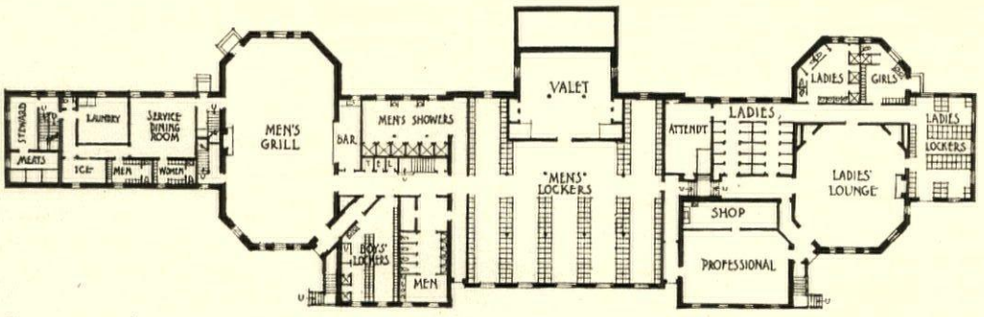
Photographs by Richard Averill Smith

Mountain Brook Country Club, Birmingham, Ala.

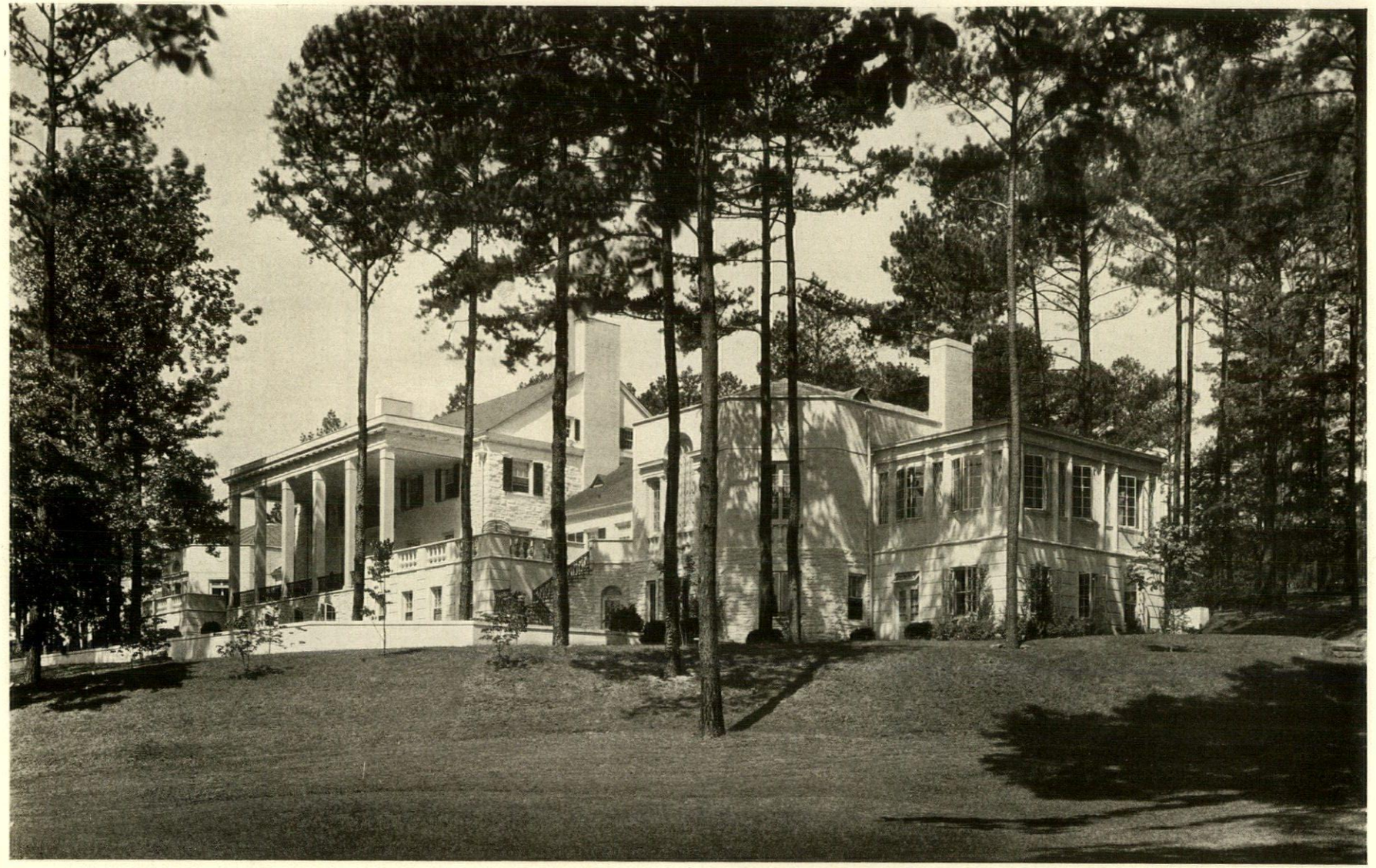
AYMAR EMBURY II, ARCHITECT; MILLER & MARTIN, SUPERINTENDING ARCHITECTS

First-floor plan



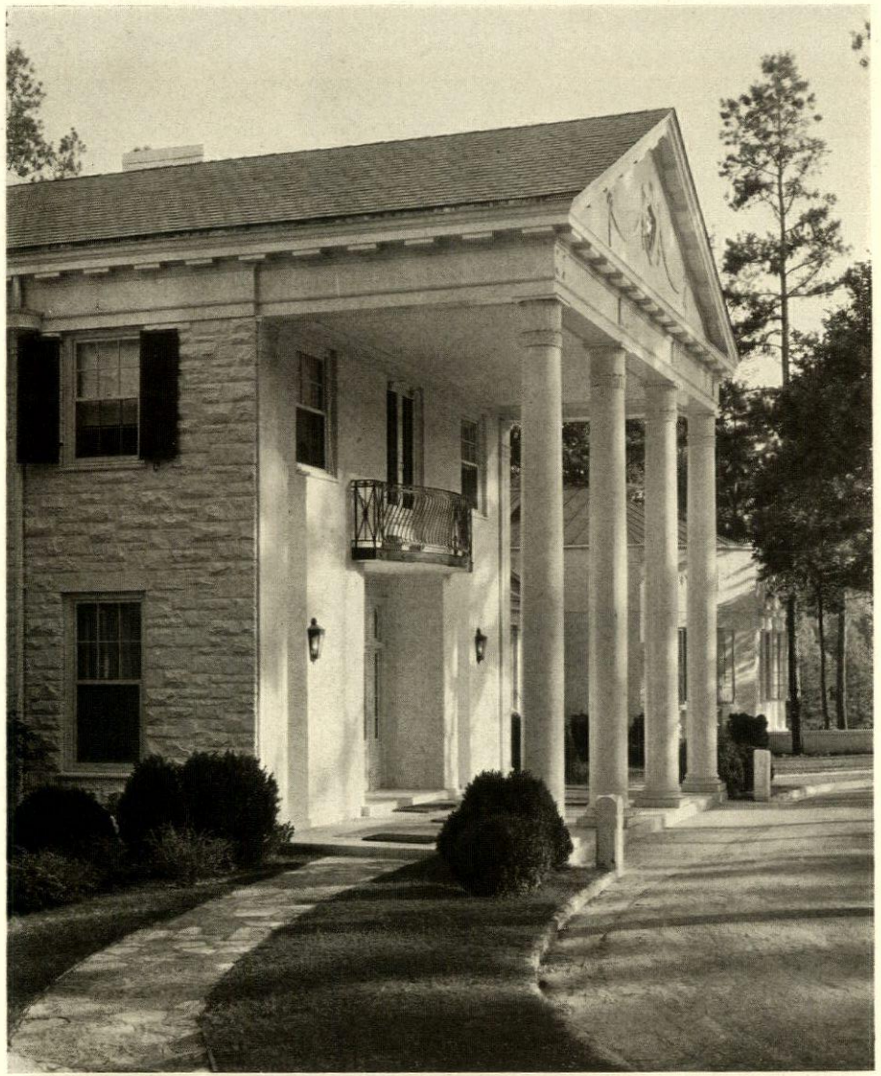


Basement plan



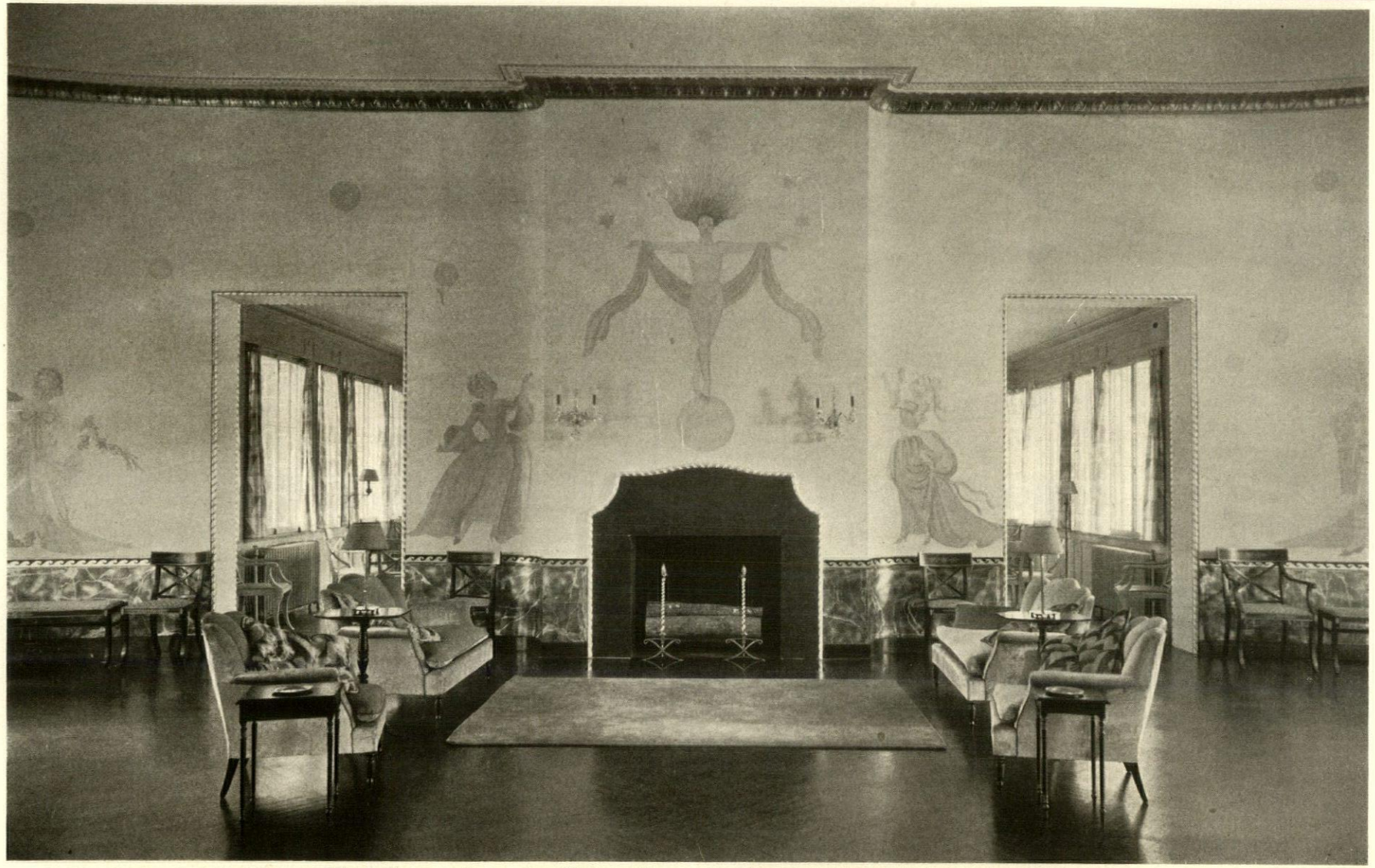
MOUNTAIN BROOK COUNTRY CLUB, BIRMINGHAM, ALA.

AYMAR EMBURY II, ARCHITECT; MILLER & MARTIN, SUPERINTENDING ARCHITECTS



MOUNTAIN BROOK COUNTRY CLUB, BIRMINGHAM, ALA.

AYMAR EMBURY II, ARCHITECT; MILLER & MARTIN, SUPERINTENDING ARCHITECTS



The ballroom; floors, deep blue; wainscot, deep blue; trim, silver leaf; cornice, gold

MOUNTAIN BROOK COUNTRY CLUB, BIRMINGHAM, ALA.

AYMAR EMBURY II, ARCHITECT; MILLER & MARTIN, SUPERINTENDING ARCHITECTS

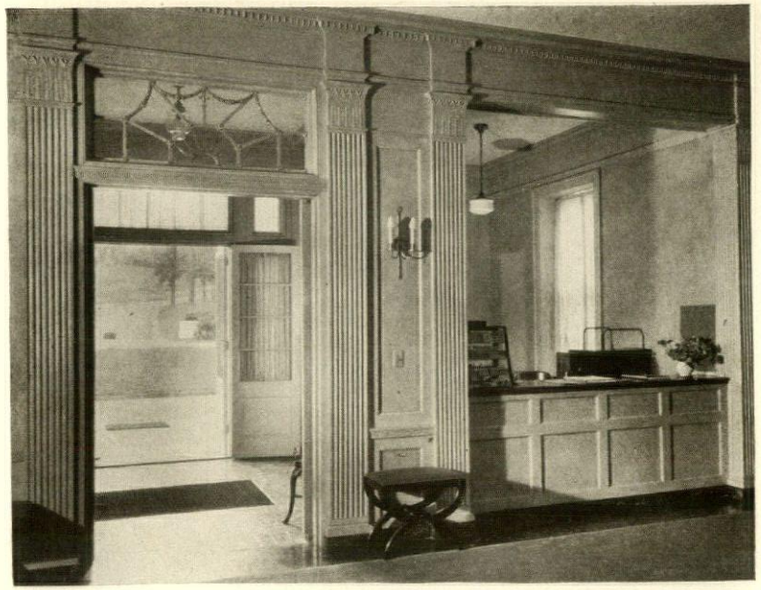
The ballroom

Dining-room fireplace

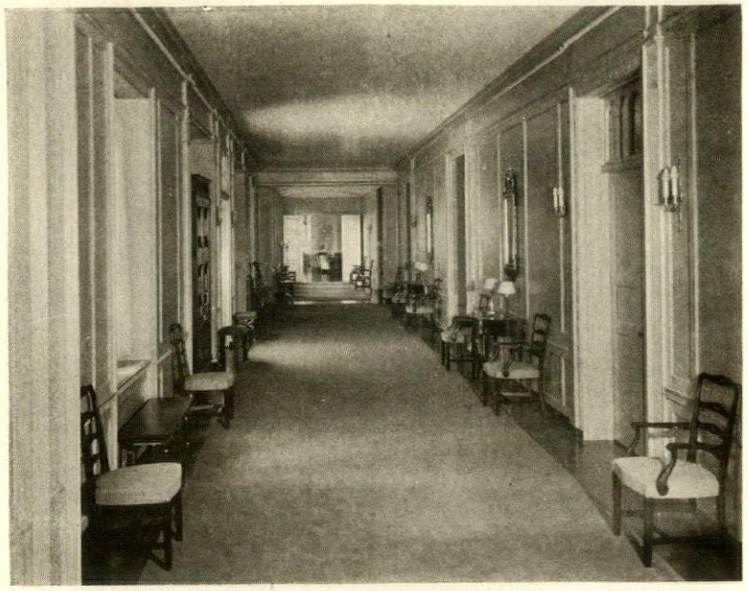
One end of the lounge

Mountain Brook Country Club, Birmingham, Ala.

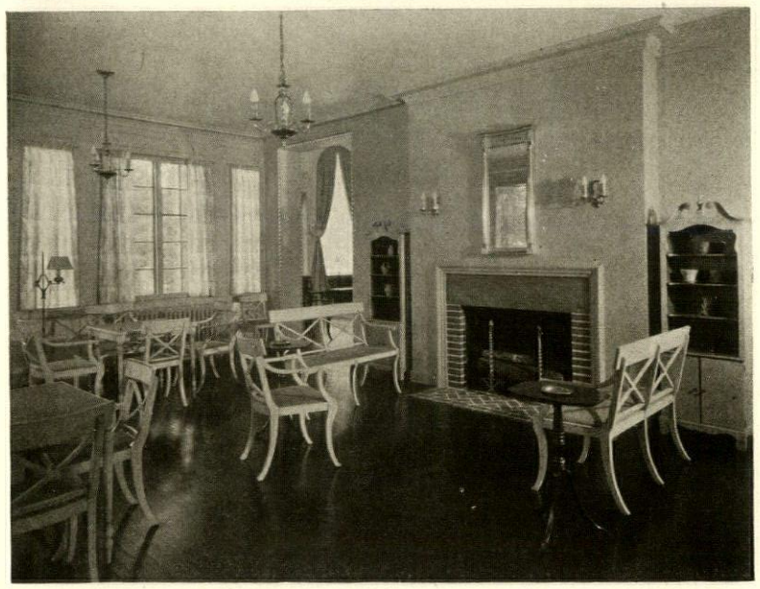
AYMAR EMBURY II, ARCHITECT; MILLER & MARTIN, SUPERINTENDING ARCHITECTS



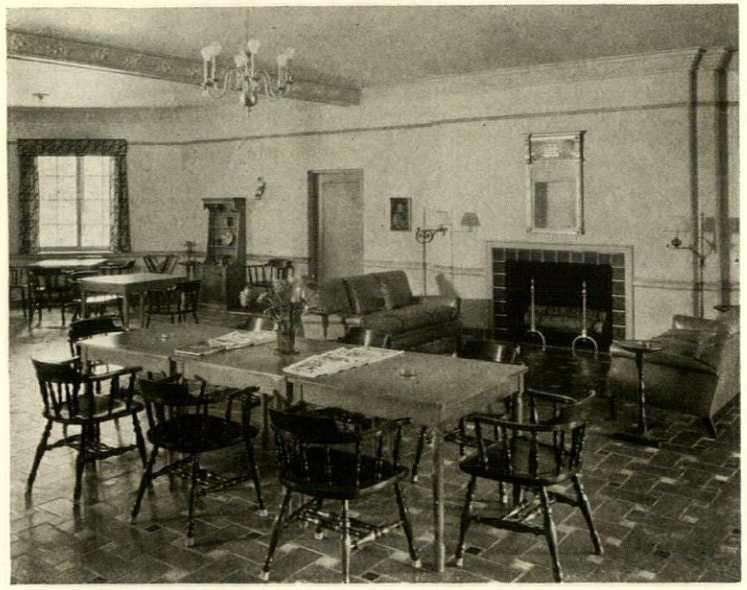
Entrance and office



The corridor



The card room



Men's grill

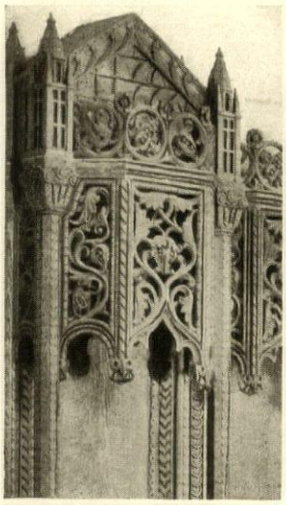
MOUNTAIN BROOK COUNTRY CLUB, BIRMINGHAM, ALA.

AYMAR EMBURY II, ARCHITECT; MILLER & MARTIN, SUPERINTENDING ARCHITECTS

The Seminary of the Immaculate Conception

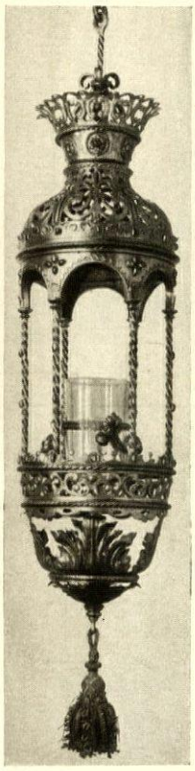
HUNTINGTON, LONG ISLAND — ROBERT J. REILEY, ARCHITECT

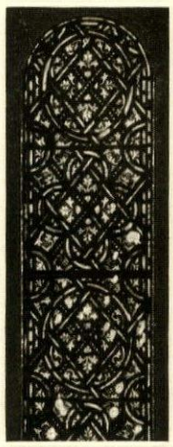
By Joseph Johnstone Ott



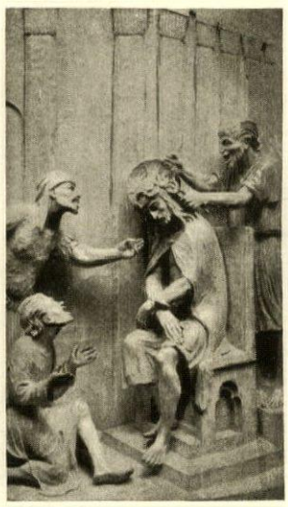
Details of choir stalls; executed by William F. Ross & Company

Portions of sanctuary windows; executed by Charles J. Connick





Left, sanctuary lamp; executed by Edward F. Caldwell & Company



Wood carving on main altar; executed by Irving & Casson—A. H. Davenport Company

THE Seminary of the Immaculate Conception is the divinity school of the Catholic diocese of Brooklyn, and offers a six-year postgraduate course in philosophy and theology. Students remain in residence except during the summer months, and at that time the building is used by the clergy who gather together from various parts of the diocese for conferences. The number of students is limited to two hundred and fifty, and living accommodations, together with religious, educational, and recreational facilities, are provided.

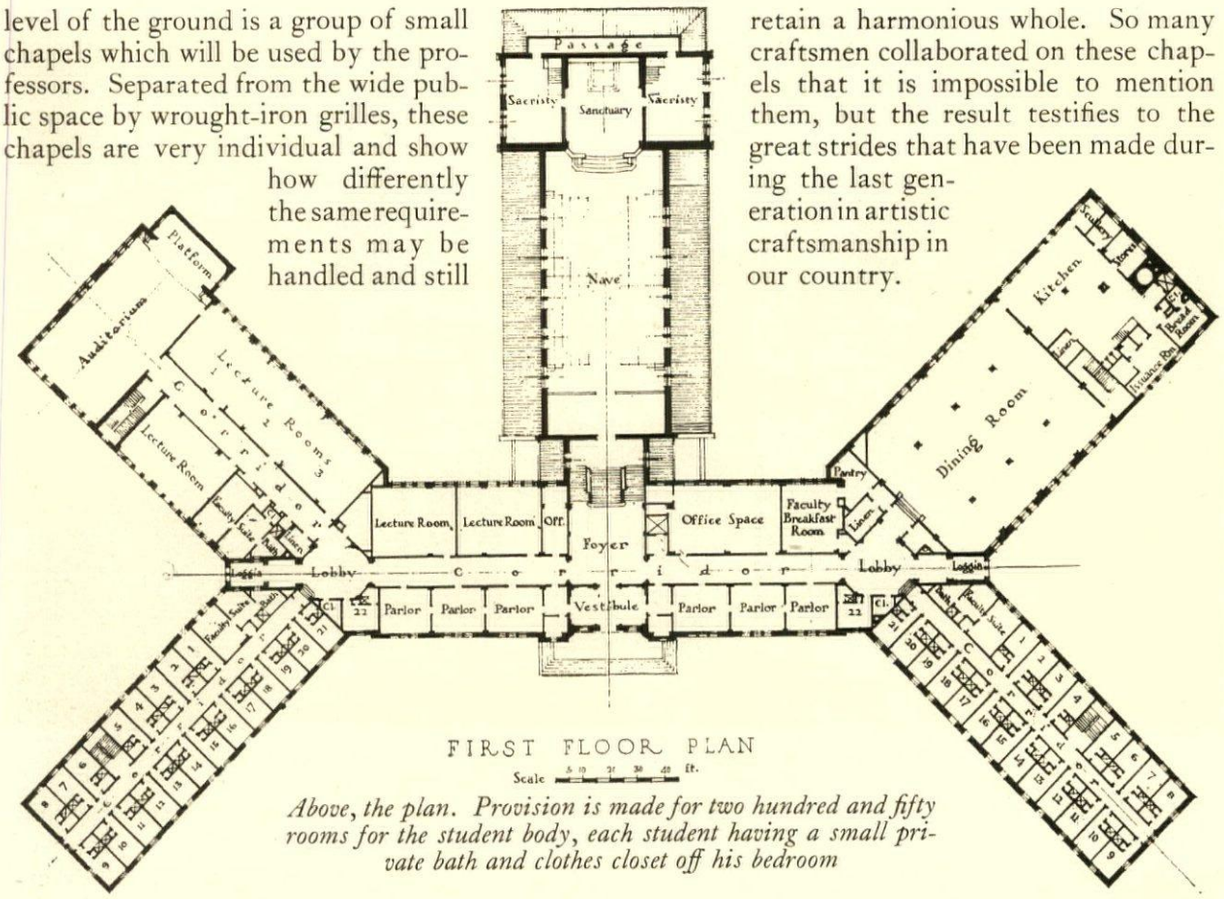
A general glance at the exterior reveals a large composition in the centre of the main façade framing the principal entrance executed in richly carved limestone. On closer inspection we see that this vigorous carving is full of interesting symbolism. Immediately around the door is a vinelike ornament into which are worked various flowers, symbolical of the virtues, and above is the coat-of-arms of the Right Reverend Thomas E. Molloy, S.T.D., Bishop of Brooklyn, due to whose initiative, zeal, and perseverance the building was erected.

The materials used on the exterior are light-colored bricks, shading from buff to salmon, with some limestone interspersed with them, and red tiles on the roof. On the interior the floor construction is of steel and concrete. As the Chapel is the centre of the life of the building, Mr. Reiley expended on it the greatest care in the hope that it might be an inspiration to youth and by its beauty raise the heart to God. It is reached by a wide flight of steps leading from the central foyer and, on entering, one is in the space provided for visitors. This space is separated from the choir by a beautiful wrought-iron grille (see March issue) in the manner of the wonderful *rejas* of the old Spanish cathedrals.

In the choir are the stalls for the faculty and the students who have received minor orders. These stalls rise in five tiers on either side of a wide central aisle. The high backs of the stalls have afforded place for carving out of solid blocks of wood the Stations of the Cross, a series of fourteen scenes from the life of Christ, starting with the trial before Pilate and ending with the burial in the tomb. The professors' stalls are emphasized by projecting canopies and the rector's stall is still further enriched. The sanctuary is raised a few steps, and on the left are the Bishop's throne and the chairs for the deacons of honor. But the great central feature which arrests the attention of the visitor is the altar, filling the entire end of the sanctuary.

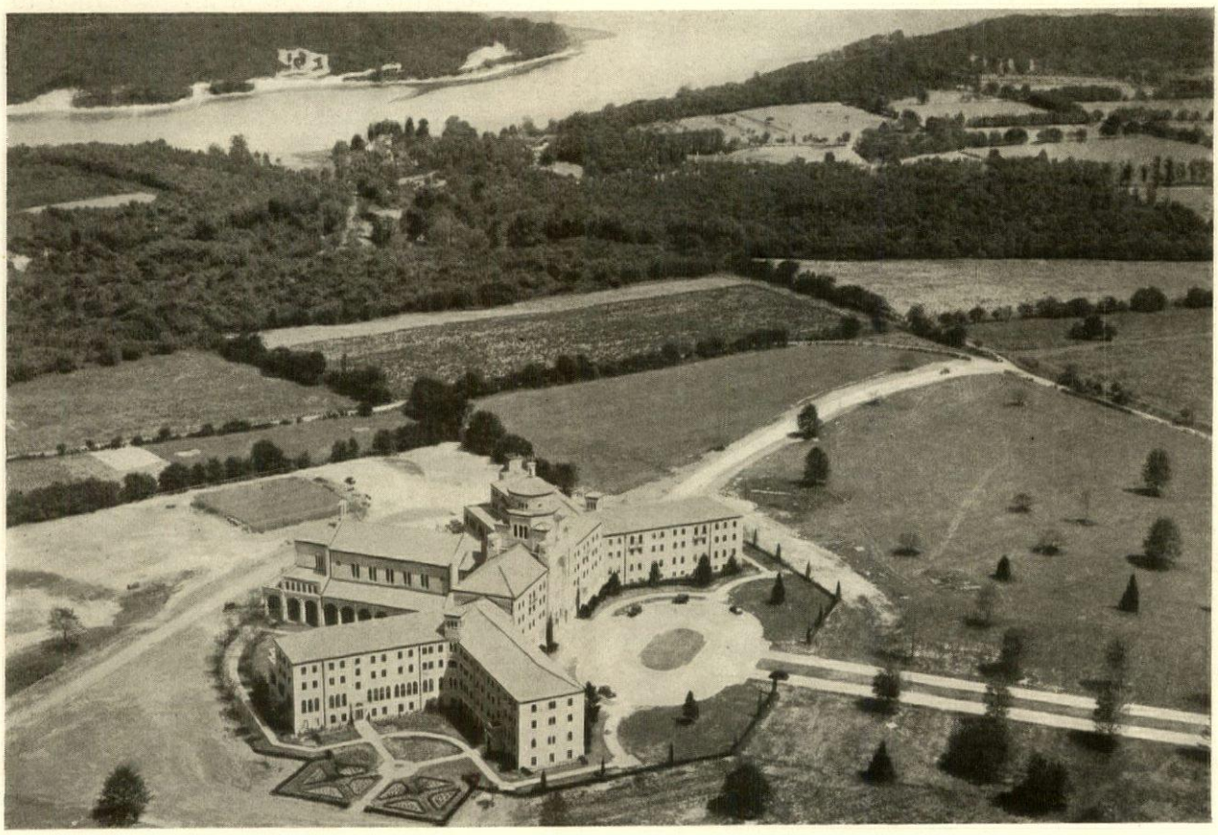
Under the main Chapel and directly on the

level of the ground is a group of small chapels which will be used by the professors. Separated from the wide public space by wrought-iron grilles, these chapels are very individual and show how differently the same requirements may be handled and still retain a harmonious whole. So many craftsmen collaborated on these chapels that it is impossible to mention them, but the result testifies to the great strides that have been made during the last generation in artistic craftsmanship in our country.



Above, the plan. Provision is made for two hundred and fifty rooms for the student body, each student having a small private bath and clothes closet off his bedroom

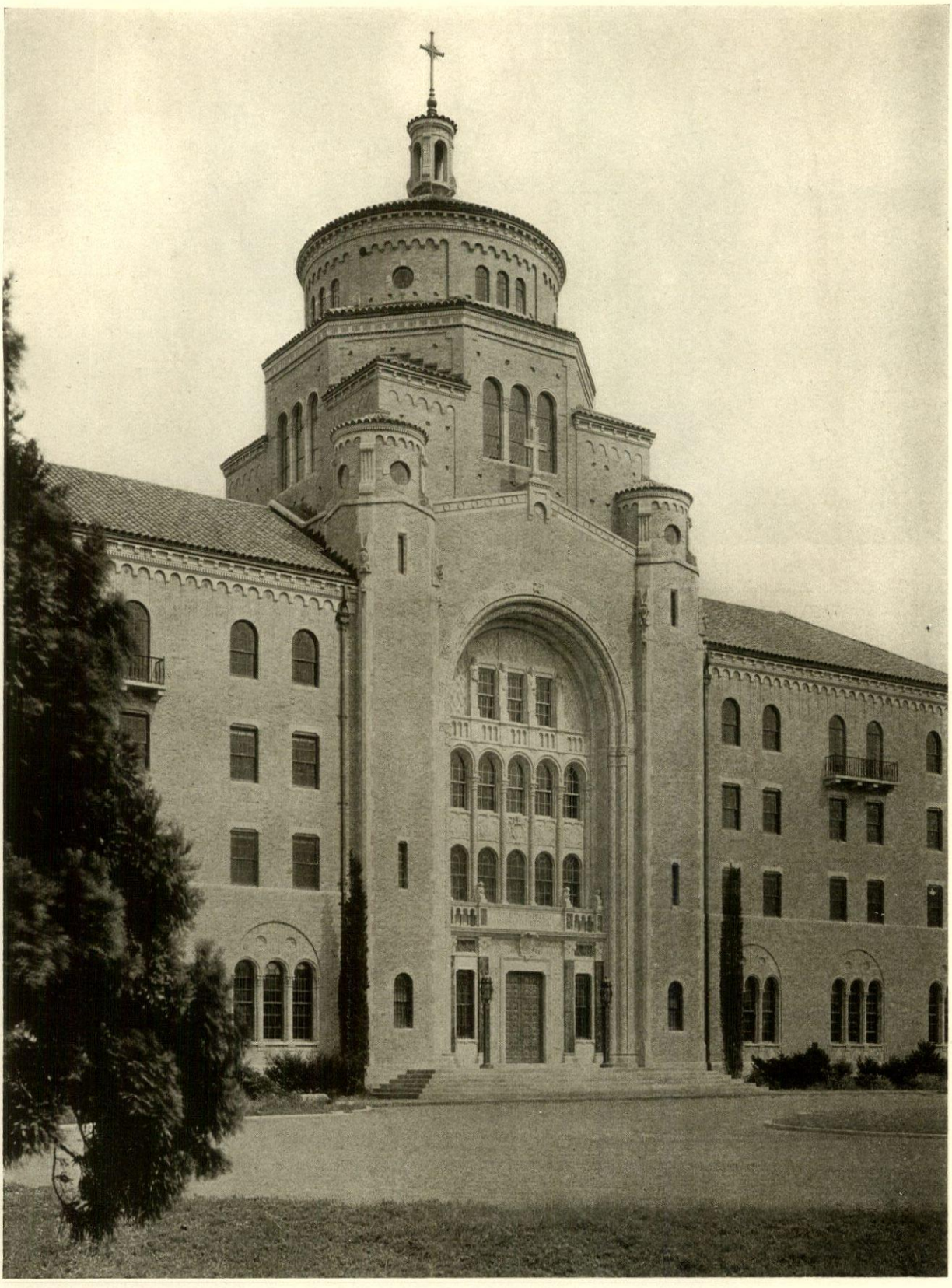
Airplane view of the Seminary, showing one of the many bays off Long Island Sound in the distance



Photograph by Fairchild Aerial Surveys, Inc.

The main approach. Over the doorway is the inscription, "Virgini deiparae immaculatae dedicatum," above which are angels symbolizing Piety, Courage, Patriotism and Knowledge, with the papal coat-of-arms and shields of the nation, state, diocese, and seminary

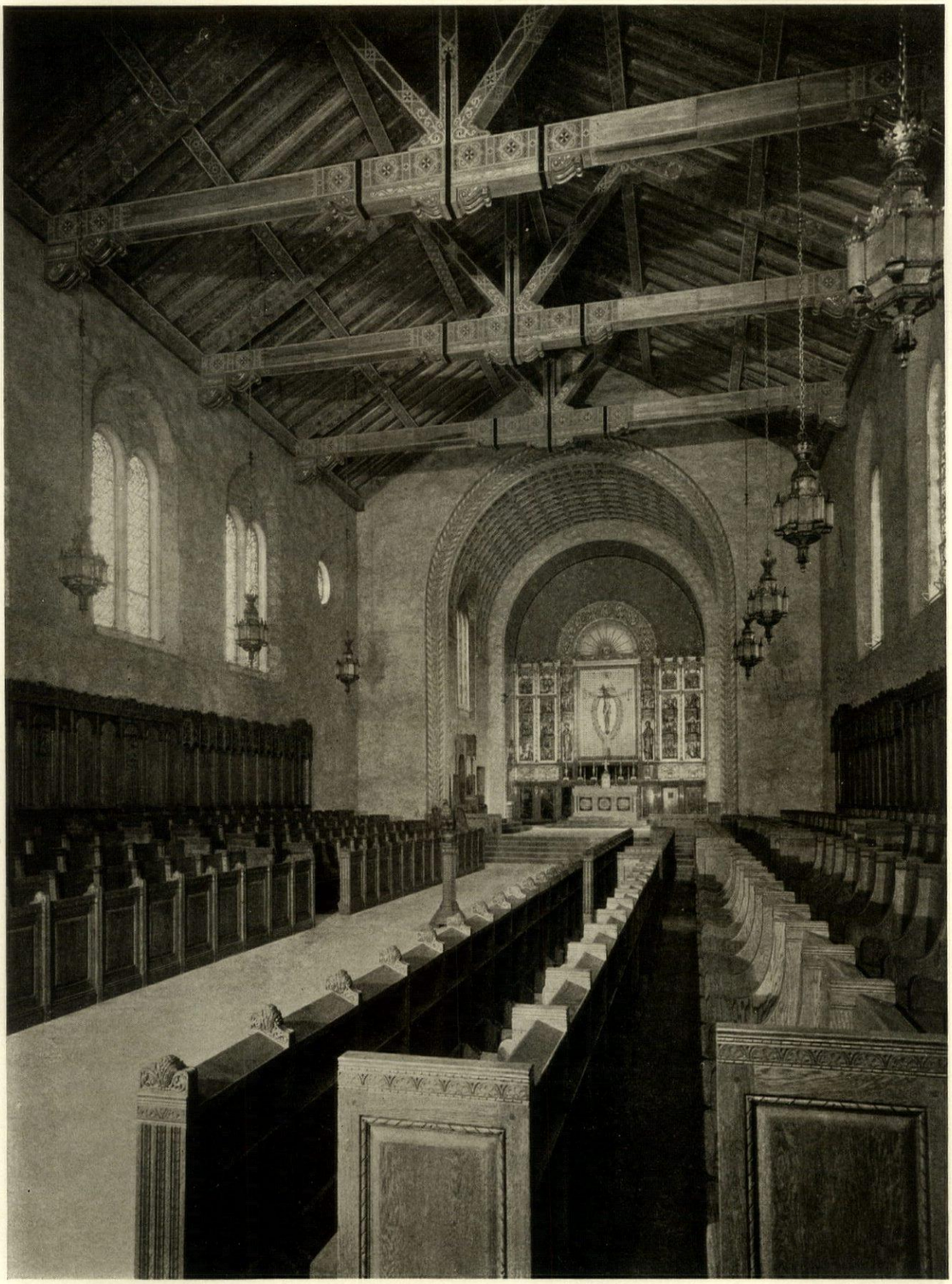
Around three sides of the Chapel wing extends a cloister, affording much of the familiar old-world charm inherent in a vista of receding arches



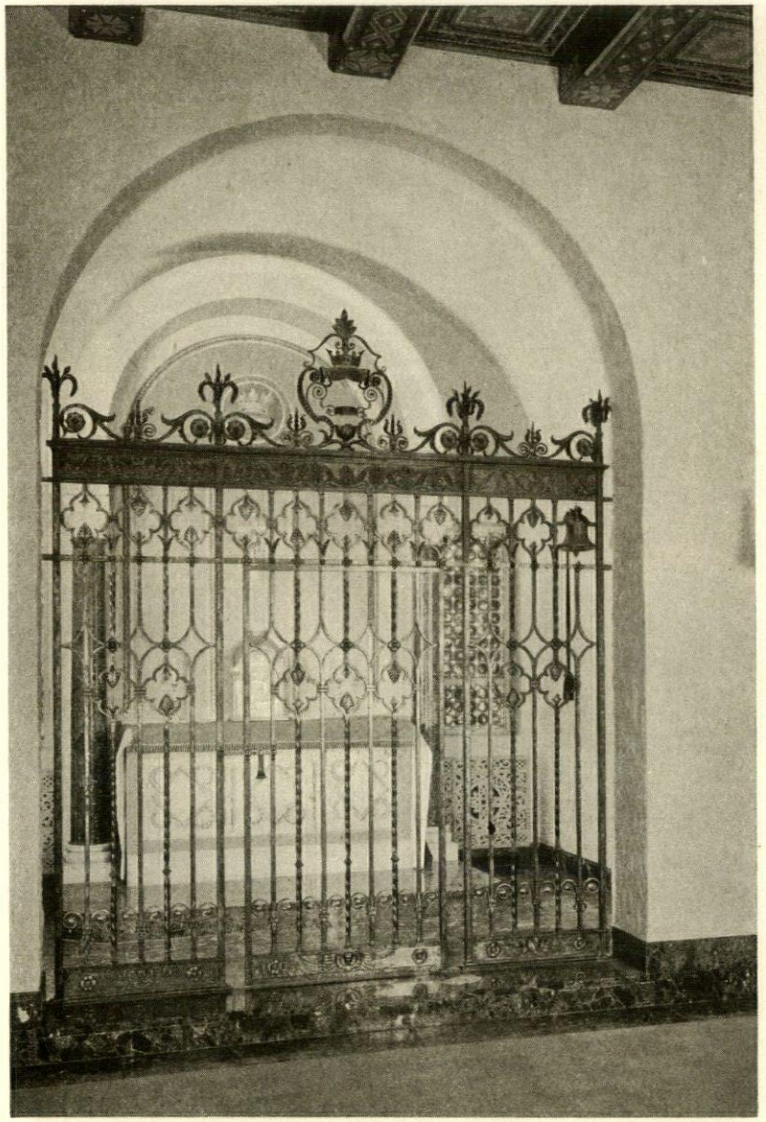
A detail of the main entrance and the dominant central tower. In line with the fourth-story windows are four statues, about seven feet high, representing the four evangelists, while higher up on the corners of the piers are the evangelists' corresponding symbols

In the arcade extending around three sides of the Chapel wing, the brick is rather light in color, shading from buff to salmon. Limestone is the dominating material here

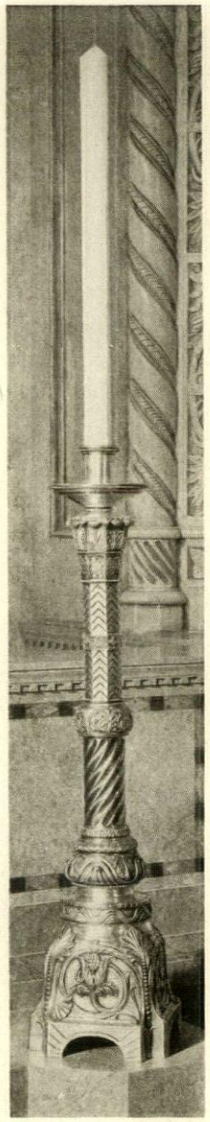
The Chapel, looking toward the entrance and the space reserved for visitors. In the choir are stalls for the faculty and for the students who have received minor orders. Wrought-iron screen executed by Ferro Studio, Inc.; the oak was carved by William F. Ross & Company



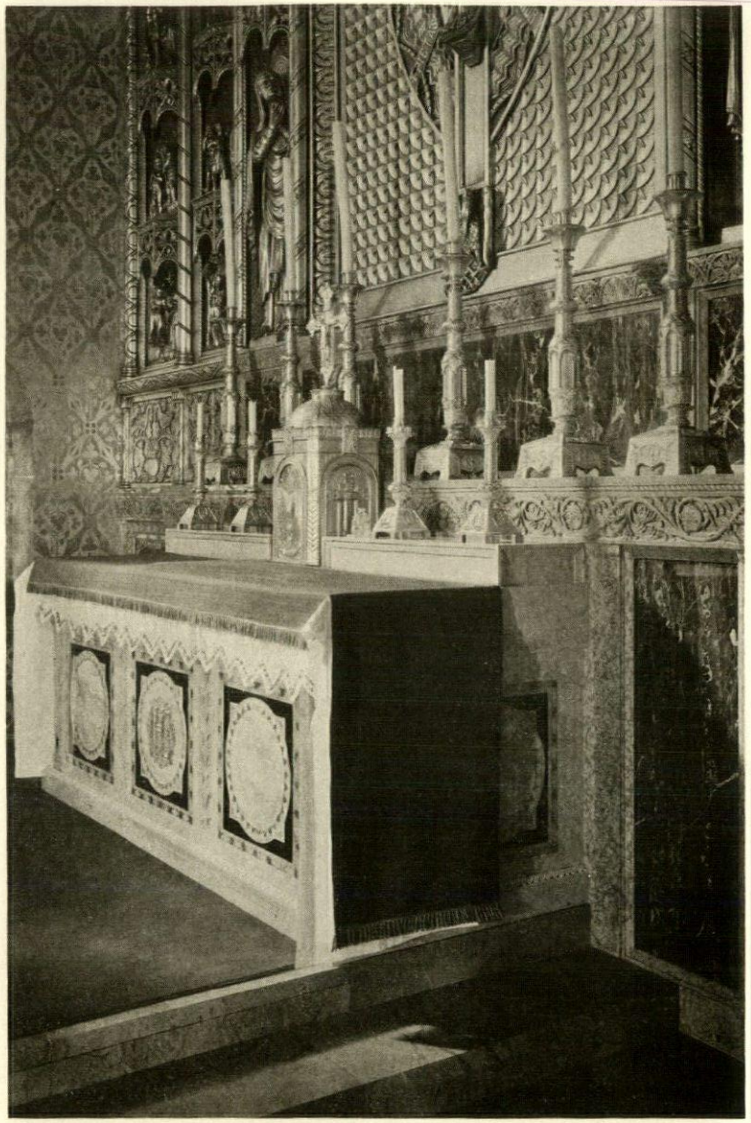
The Chapel, looking toward the altar. The canopied seats are for the faculty; in the sanctuary itself, rising a few steps, is the bishop's throne on the left, with seats for the deacons of honor



One of the wrought-iron gates (executed by Ferro Studio, Inc.) separating the minor chapels from the wide public space on the main axis below the main Chapel, on the ground level. There are twelve of these minor chapels—see pages 220–221



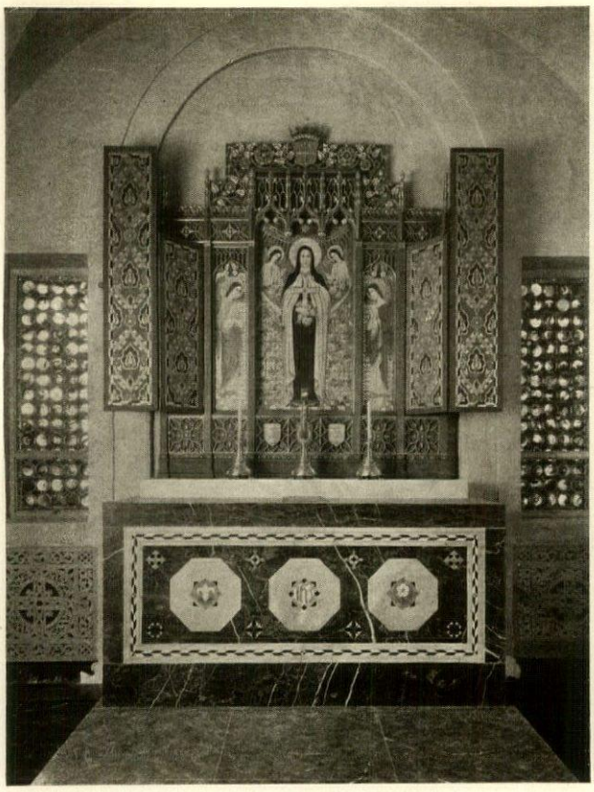
Sanctuary candlestick; executed by The Gorham Company



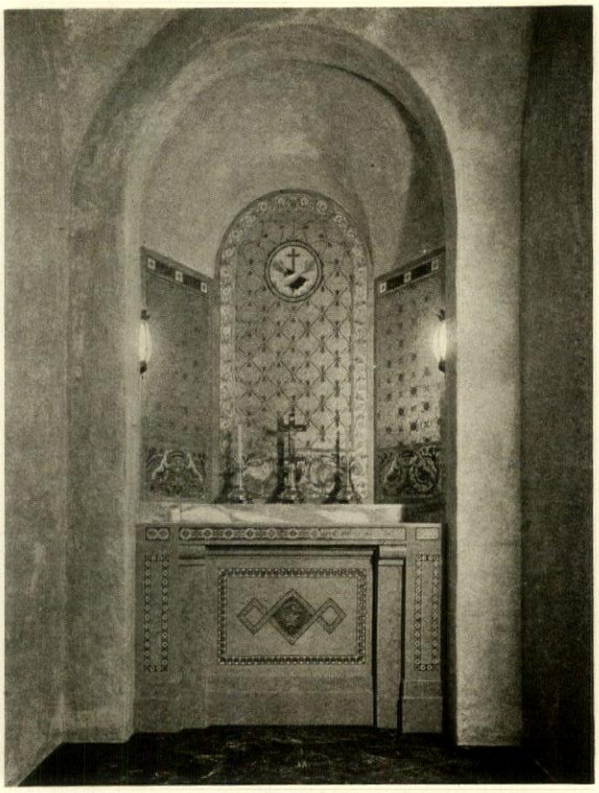
Detail of the altar in the Chapel. The crucifix and the whole reredos above the marble are of carved wood covered with gold leaf; executed by Irving & Casson—A. H. Davenport Co. Marbles of the altar cut by McGowan & Connolly

The statio below the main Chapel, from which open at both sides the small chapels used by the professors; see illustrations on the next two pages

The dining-room which, with its adjoining kitchen and accessories, occupies the whole of a wing



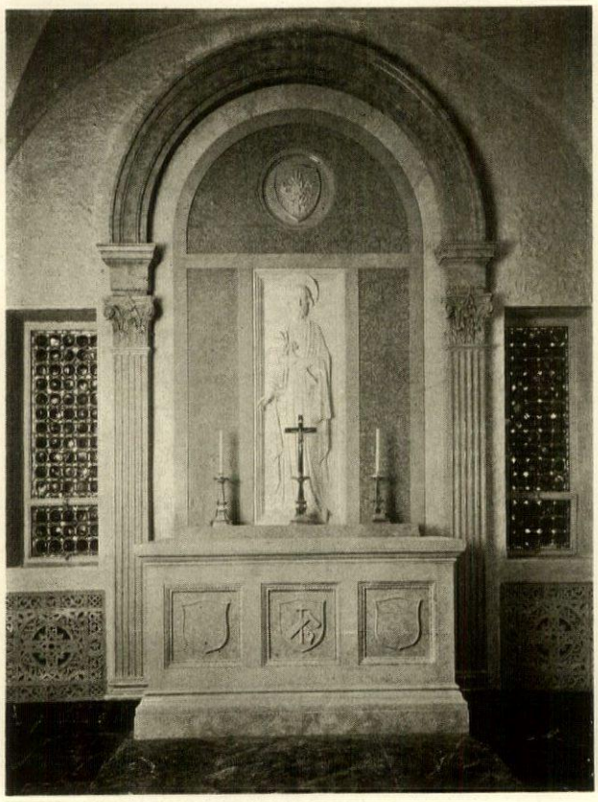
Shrine of St. Therese, The Little Flower



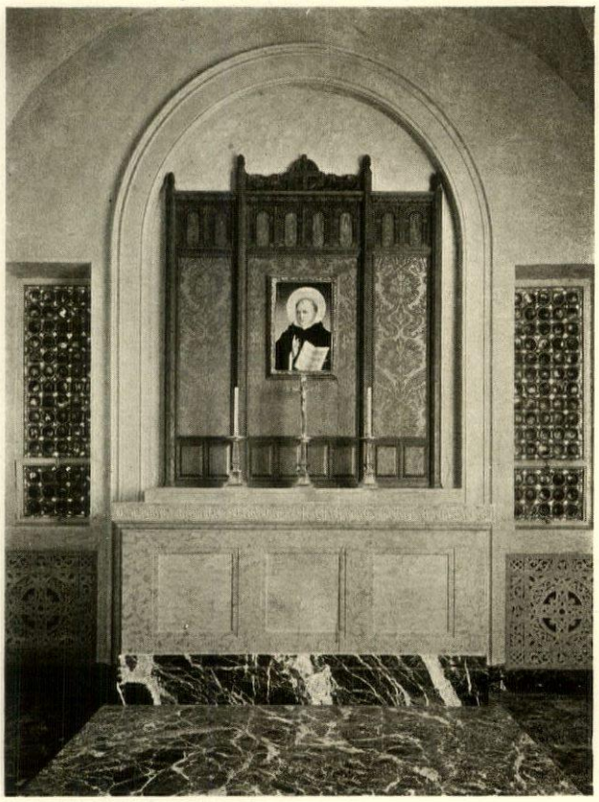
Shrine of St. Francis

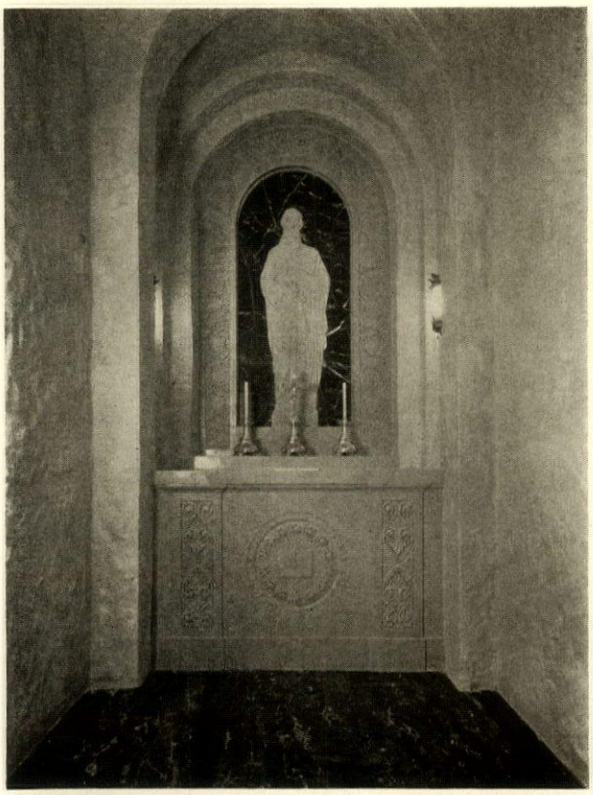
Some of the minor chapels built on the ground level below the main Chapel, and utilized by the faculty

Shrine of St. Joseph

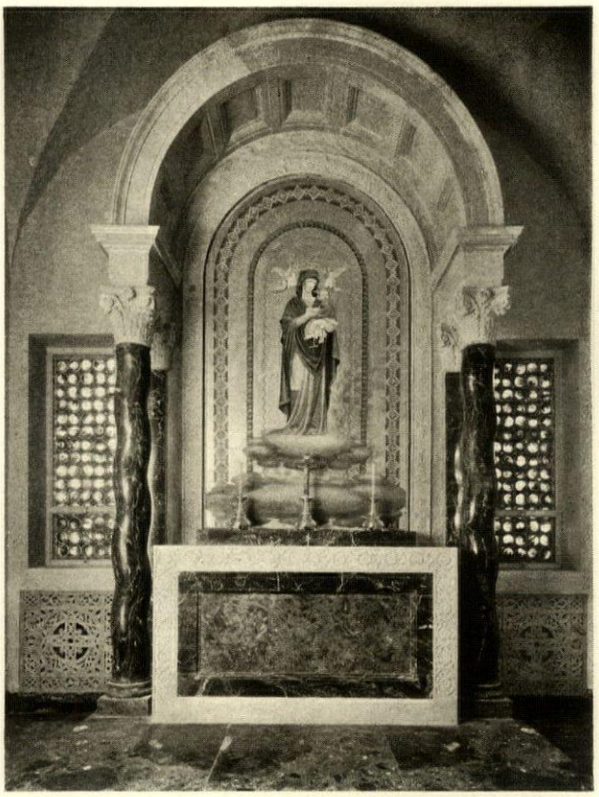


Shrine of St. Thomas Aquinas





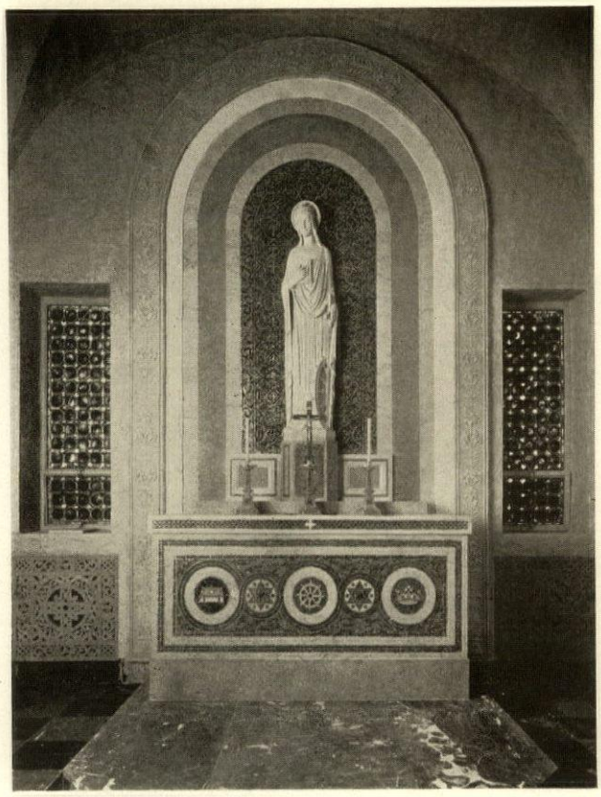
Shrine of St. Paul



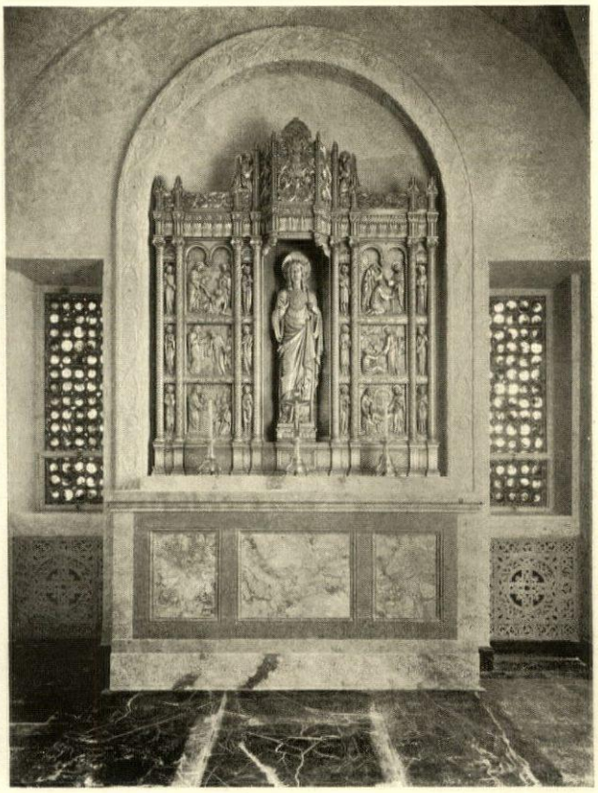
Shrine of Our Lady of Perpetual Help

Some of the minor chapels built on the ground level below the main Chapel, and utilized by the faculty

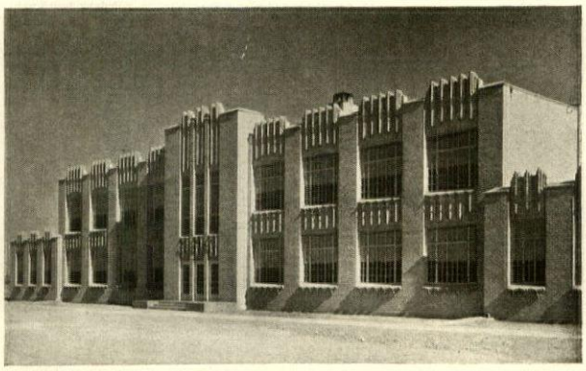
Shrine of St. Catherine of Alexandria



Shrine of the Sacred Heart

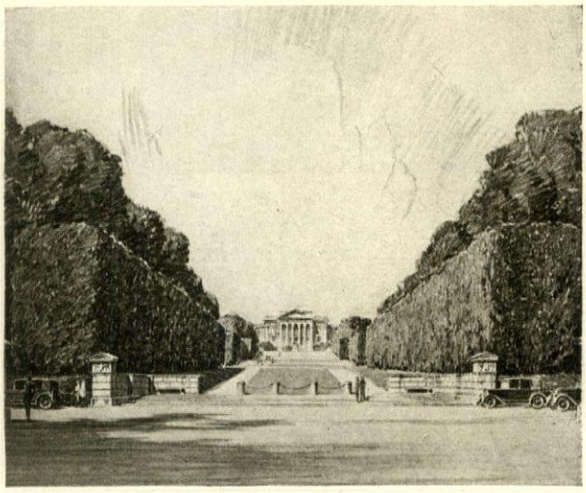


The New York Hospital-Cornell Medical College Association's new Medical Centre on the east side of New York City, covering three blocks. Coolidge, Shepley, Bulfinch & Abbott, architects



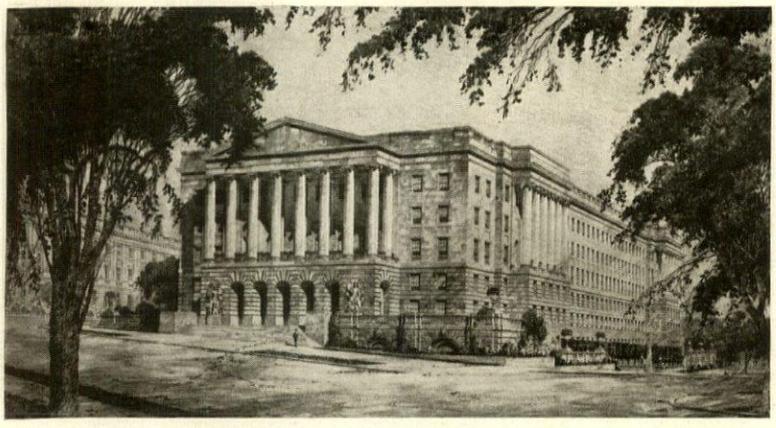
A high-school building recently completed at Ovid, Colo., composed entirely of brick in a single color. T. H. Buell & Company, architects

Architectural News

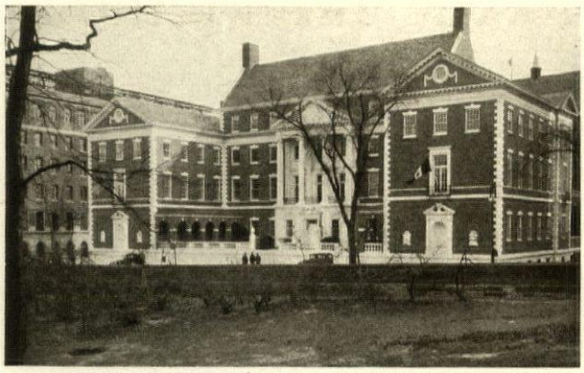


The Approaches (from automobile road) to the Tomb of the Unknown Soldier, Arlington National Cemetery. Lorimer Rich, architect

The new Art Gallery and Auditorium, American Academy of Arts and Letters, New York City. Cass Gilbert, architect, closely followed the façade of the facing building by McKim, Mead & White

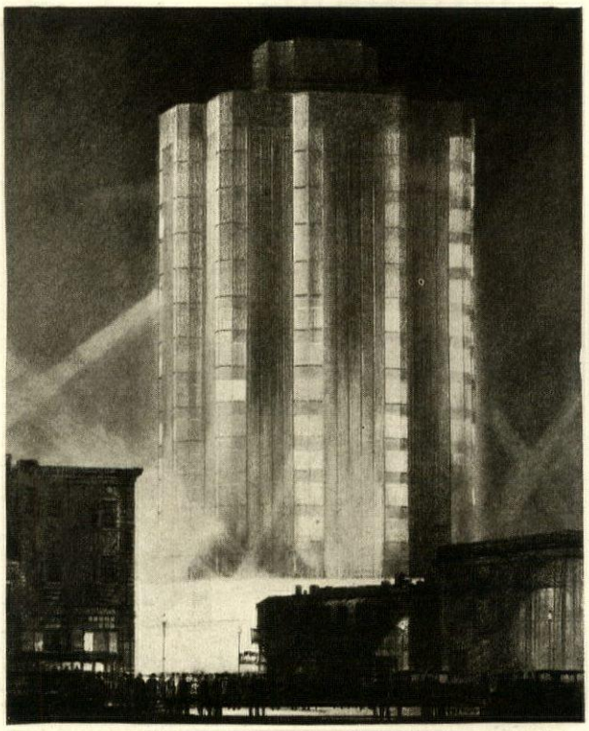


New office building for the House of Representatives, Washington, D. C. David Lynn, Architect of the Capitol; The Allied Architects of Washington, consulting

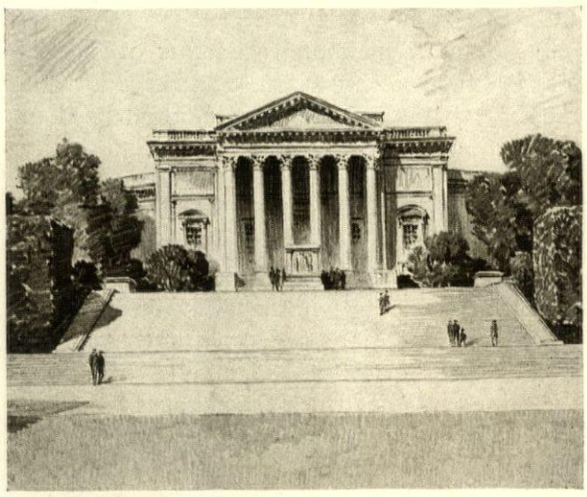


The Museum of the City of New York, facing Central Park from Fifth Avenue. Joseph H. Freedlander, architect

in Photographs

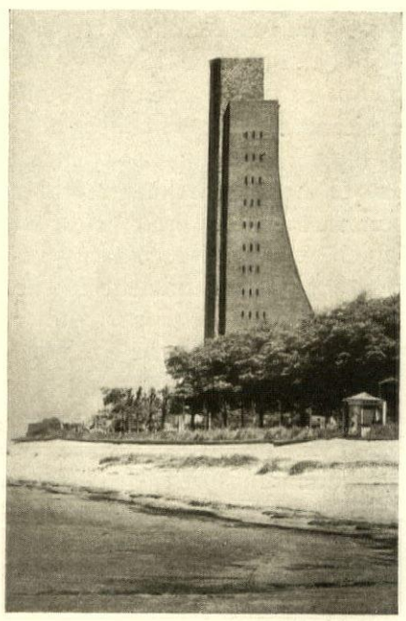


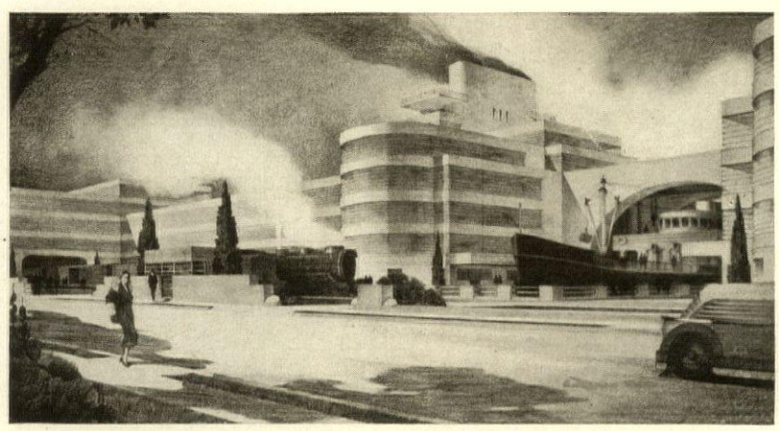
The proposed Edmond Meany Hotel, to be erected in Seattle, Wash. Robert C. Reamer, architect



The Approaches (closer view) to the Tomb of the Unknown Soldier, Arlington National Cemetery. Lorimer Rich, architect

The Marine Memorial at Kiel, the first and most important section of which has now been completed. G. A. Munzer, of Dusseldorf, architect. The complete scheme calls for a large ceremonial space to accommodate ten thousand people





The proposed industrial section of the Hackensack Meadows development—railroads, ships, and highways converging—under the Regional Plan of New York

Adaptability of Certain Ancient Methods to Modern Use

By Ernest Flagg

THE object of the present series of articles is to show what benefits may be drawn by us moderns from methods used by the ancients during hundreds or perhaps thousands of years as revealed by measurements of the remains of Greek temples and other works.

They are of two kinds, artistic and economic, or of beauty and convenience. Even if there were no benefits to be had, the revelation would be of great interest and value for the light it sheds on the history of art, but that side of the matter does not come within the present purview. The measurements show with mathematical precision the systematic use of the simplest of all possible proportions and how they were obtained by the use of building units and modules.

It is this thought which has led me, putting aside all other interests and considerations, to devote my whole time and energies during the past six years to this work—a course I shall pursue to the end. To learn the principle which governed when art reached its culmination is a task worthy of any effort and any sacrifice—if sacrifice it can be called to occupy oneself in a matter fraught with such unbounded satisfaction and import.

It is needless to dwell on this aspect of the case, for the mere statement of it is sufficient. The object now, as stated, is to explain how the system can be applied to modern architecture, and the economic benefits to be derived from it. To explain in detail how it was used by the ancients can only be done by numerous examples, a process far beyond the bounds of the present undertaking but which it is hoped to accomplish in my forthcoming book, entitled "The Recovery of Art." In the first three articles of this series examples were given from certain temples which, although necessarily restricted in number, should be sufficient to satisfy any reasonable person of the truth. They represent but the merest fraction of the evidence in hand, which will be presented in due time. Suffice it now to say that similar conditions are found in all other parts of the structures mentioned and in all other buildings of their class which I have had an opportunity to study.*

* Further elucidations of the use of these proportions in ancient structures may be found in a smaller work already published, entitled "The Parthenon Naos." Price, $10. Address A. Ohman, 111 East 40th Street, New York City.

Along with high artistic interests is an economic side of the matter, which lies chiefly in commensurability and the convenience and profit to be had therefrom. It is this side of the subject which will receive most attention in the present work.

Following the method heretofore used—viz: to illustrate by very humble examples—it is proposed now to explain in detail the methods applied to the design and construction of the little house here illustrated. Although small, the building is purposely somewhat varied in outline and mass, the better to make a more complete demonstration, for methods which will apply to such a structure will certainly apply with greater ease to a simpler one.

The first, even among economic considerations, is proportion, for the commercial value of beauty is great. Then the method used in making the plans will be considered, and finally standardized details, *i. e.*, all the various parts which go to make up the structure.

Now as to the proportions, one may not be able to design a masterpiece of any kind, but the chances for so doing will certainly be better if harmonious dimensions are systematically used than if discords are employed, and if proportions are obtained by guesswork the chances are all in favor of discord.

The accompanying illustrations represent the preliminary study from which working drawings are made. The paper is ruled in squares, each representing a building unit of 45 inches, which, as explained in a previous number, is one which I have found very convenient to use for such houses. This building unit is divided into three parts of 15 inches, and the part also serves as the module of proportion, for, as it equals the wall thickness, it fits evenly into all horizontal dimensions, and vertical dimensions can easily be so adjusted that it will fit evenly into them also. These preliminary drawings are made freehand, and it is only necessary to bear in mind that each square equals three parts and that the part is used as a module. For the working drawings the paper is ruled to represent both units and parts, as shown in Fig. 1, which illustrates the rulings at full size of a small part of one of the sheets. It is at an eighth-inch scale, *i. e.*, each of the larger squares represents 3 feet 9 inches at an eighth inch, but a quarter inch or any other con-

venient scale may be used instead if desired. The sheets which I use are 38 units wide and 49 long. A single sheet, measuring 24 inches by 19 inches, usually answers for working drawings —plans, elevations, and sections—of an ordinary house costing from ten to fifteen thousand dollars. The ruling is done with ink which, though faint, has a little yellow in it which brings out the lines clearly on blue prints.* As no figuring is necessary, drawings may be at a smaller scale than otherwise.

But to return to proportions, it will be seen from the drawings (Figs. 2, 3, 4, and 5) that they are as follows:

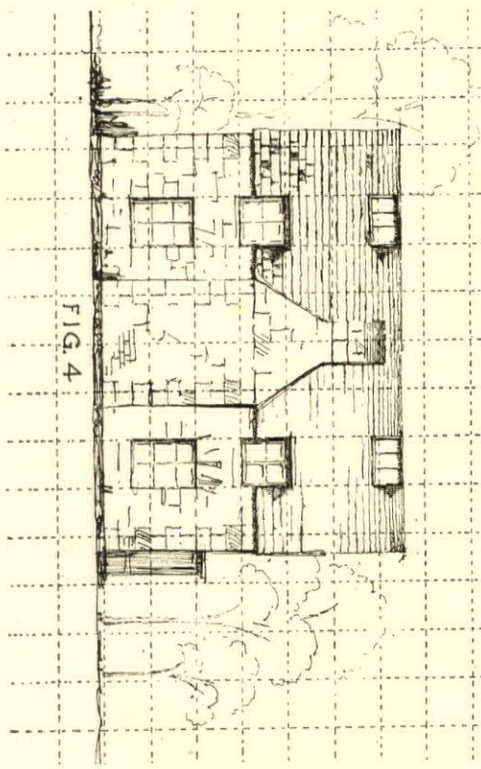


FIG. 4

Outside (Fig. 3)

Whole mass, 16 modules high by 32 long, proportion as 1 to 2.
Main part below roof, 10 modules high by 14 long, proportion as 5 to 7.
Garage front and entrance, 8 modules high by 14 long, proportion as 4 to 7.

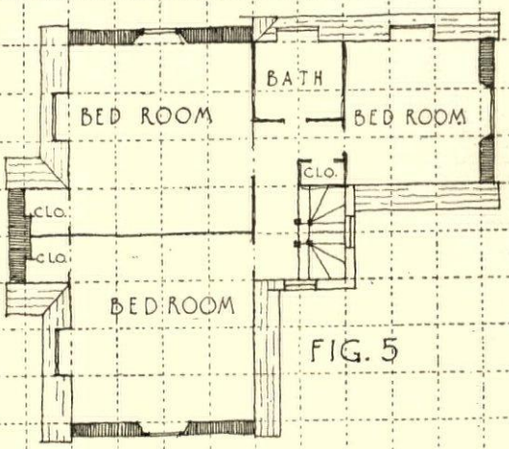


FIG. 5

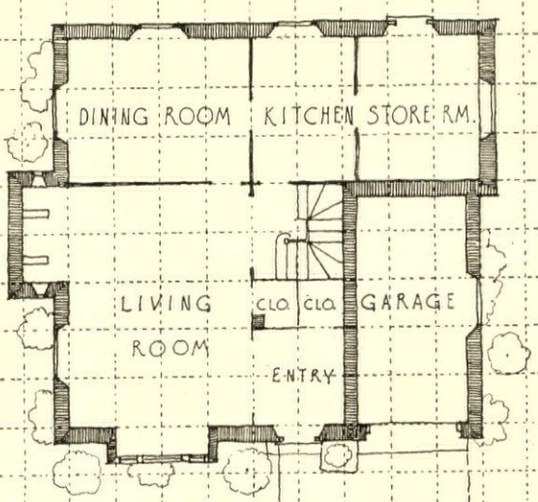


FIG. 2

FIG. 3

Preliminary studies for a house, made on paper ruled in squares, each side representing the unit of 45 inches

*It is very convenient to have properly ruled paper and cloth on which to make drawings of the kind described. I hope that in time it will be carried in stock by dealers, but in the meantime sheets may be had at cost from A. Ohman, 111 East 40th Street, New York City.

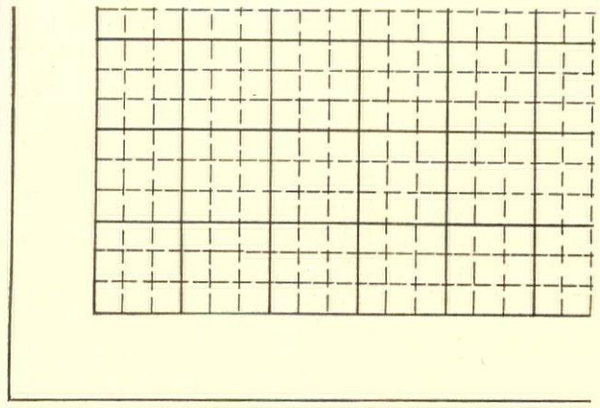


Fig. 1. *Corner of ruled sheet for working drawings; each large square represents 3 feet 9 inches at eighth scale*

(Fig. 4)

Whole mass, 19½ modules high by 26 long, proportion as 3 to 4.
Central feature below roof, 8 modules wide by 10 high, proportion as 4 to 5.

Inside (Fig. 2)

Living-room, 12 modules wide by 15 long, proportion as 4 to 5.
Living-room, 6 modules high by 12 wide, proportion as 1 to 2.
Living-room, 6 modules high by 15 long, proportion as 2 to 5.
Dining-room, 9 modules wide by 12 long, proportion as 3 to 4.
Dining-room, 6 modules high by 9 wide, proportion as 2 to 3.
Dining-room, 6 modules high by 12 long, proportion as 1 to 2.

Windows, Doors, etc.

Lower windows, 3 modules wide by 5 high, proportion as 3 to 5.
Upper windows, 3 modules wide by 4 high, proportion as 3 to 4.
Bay window projection, 8 modules wide by 8 high, proportion as 1 to 1.
Garage doors, 6 modules high by 7 wide, proportion as 6 to 7.
Outside doors, 3 modules wide by 6 high, proportion as 1 to 2.

Such simple proportions the eye grasps subconsciously, just as the ear grasps harmonious sounds. The hearer of melodious sounds may know nothing of the means employed to produce them, yet be captivated by the music, so too the observer of harmonious dimensions may know nothing of the means used to produce them yet be charmed by the harmony, the truth of which has been demonstrated through the ages by the universal admiration of Greek art, in which the temples prove that this principle governed. It will be seen that all of the above-mentioned proportions are in what we have called primary relationship of the first degree, that is to say, ratios expressed by a single digit on each side. To impress the mind, proportions must be simple, for it goes without saying the simpler they are the easier for the mind to grasp and the more impressive the result. It has already been shown that the ends of the Parthenon had the proportion of 1 to 2, executed with such exactness that discrepancy in the measurements from this proportion is only sixty-six thousandths of an inch.

Thus it appears that the more monumental the feature the greater the desire of the Greek artist to simplify proportions. It is not, however, always practical to use proportions of the first degree, and those of the second degree were also used by the Greeks, but sparingly. These are they which are expressed by a single digit on one side and two on the other, as for instance 3 to 11, 8 to 13, etc. It is manifest, however, that such ratios are of comparatively little value, for they are too complicated for the eye to grasp easily. If the ratio goes beyond the second degree, as 13 to 15 or 19 to 23, it is of course utterly useless, being entirely beyond comprehension.

There are surprisingly few ratios of the first degree, and of those few several are of little value. While there are 81 ratios between 1 to 1 and 1 to 9, most of them are duplicates. When these are thrown out only the following remain:

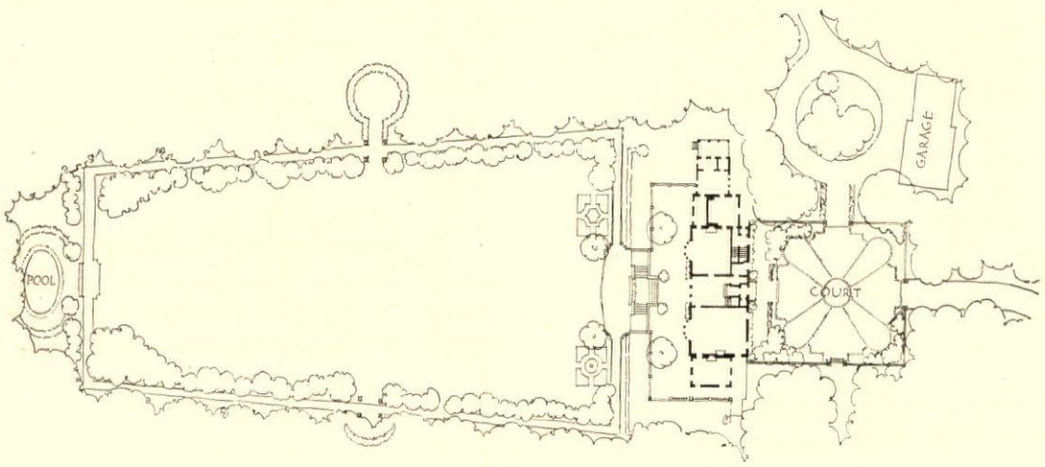
1 to 1	1 to 6	2 to 3	3 to 5	4 to 9	6 to 7
1 to 2	1 to 7	2 to 5	3 to 7	5 to 6	7 to 8
1 to 3	1 to 8	2 to 7	3 to 8	5 to 7	7 to 9
1 to 4	1 to 9	2 to 9	4 to 5	5 to 8	8 to 9
1 to 5		3 to 4	4 to 7	5 to 9	

As these were the chief notes in Greek design, they are worthy of the most profound study. When they are applied the object has a quality of beauty not otherwise attainable, for by their use it becomes endowed with an intellectual quality which only the mind of man can give.

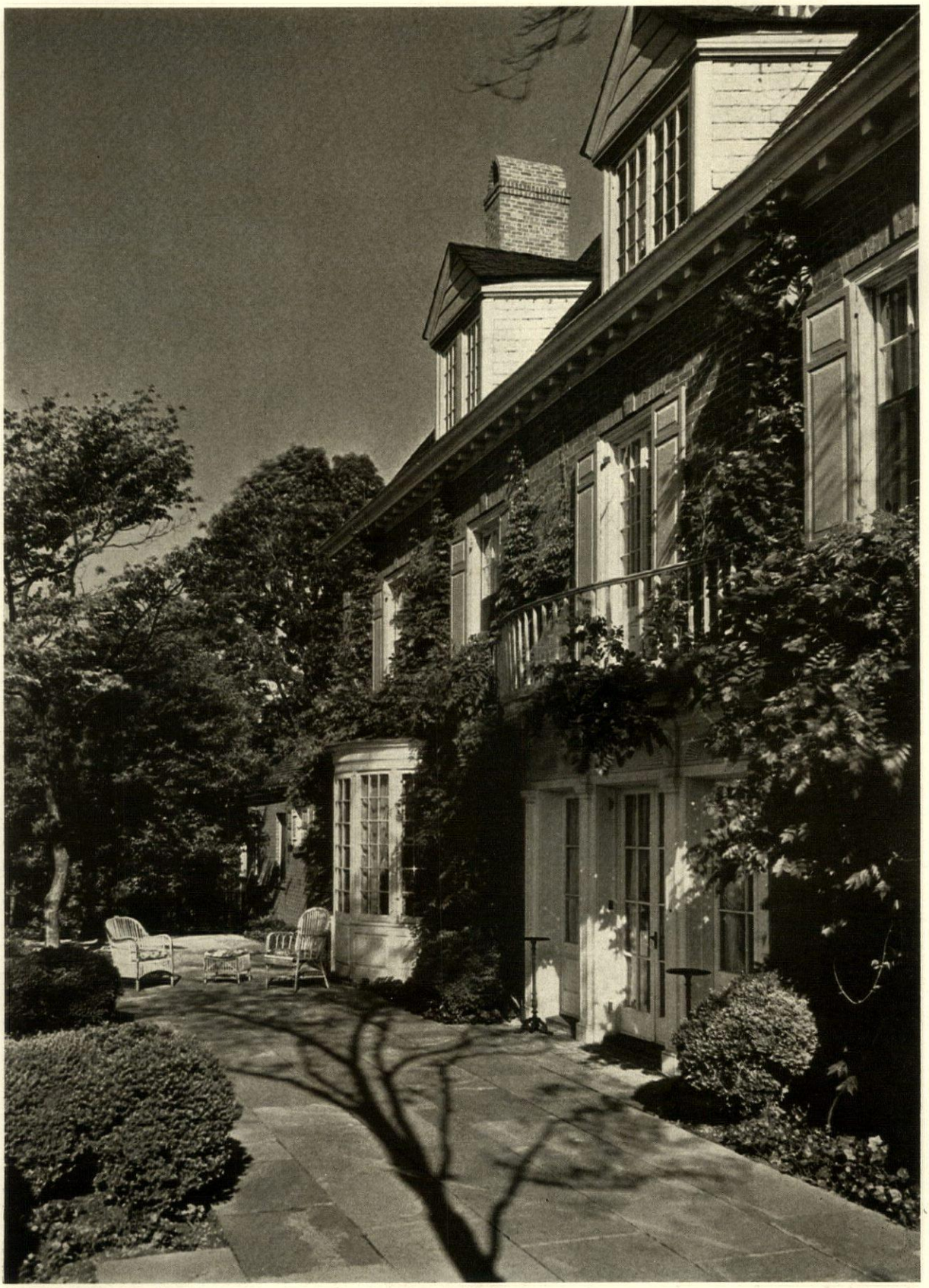
Photographs by Samuel H. Gottscho

House of Norman de R. Whitehouse
Brookville, Long Island

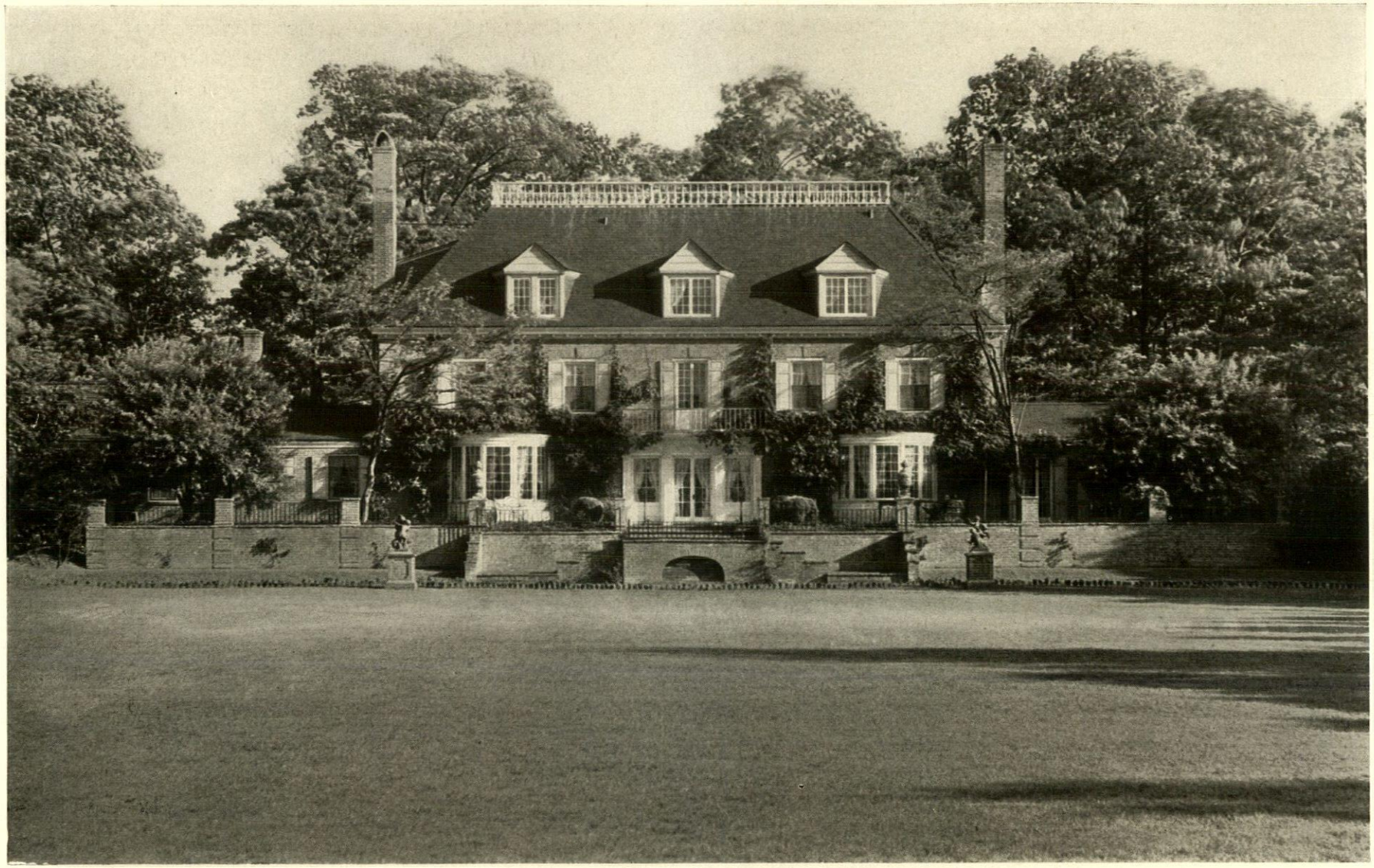
BOTTOMLEY, WAGNER & WHITE, ARCHITECTS



HOUSE OF NORMAN DE R. WHITEHOUSE, BROOKVILLE, LONG ISLAND
BOTTOMLEY, WAGNER & WHITE, ARCHITECTS



House of Norman de R. Whitehouse, Brookville, Long Island
BOTTOMLEY, WAGNER & WHITE, ARCHITECTS



The garden front

HOUSE OF NORMAN DE R. WHITEHOUSE, BROOKVILLE, LONG ISLAND. BOTTOMLEY, WAGNER & WHITE, ARCHITECTS

End of the library

The dining-room

House of Norman de R. Whitehouse, Brookville, Long Island

BOTTOMLEY, WAGNER & WHITE, ARCHITECTS

From library to hall

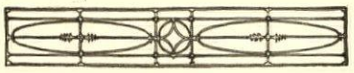
Dining-room fireplace

HOUSE OF NORMAN DE R. WHITEHOUSE, BROOKVILLE, LONG ISLAND. BOTTOMLEY, WAGNER & WHITE, ARCHITECTS

NUMBER XI
IN A SERIES
OF
WORKING DRAWINGS

By Jack G. Stewart

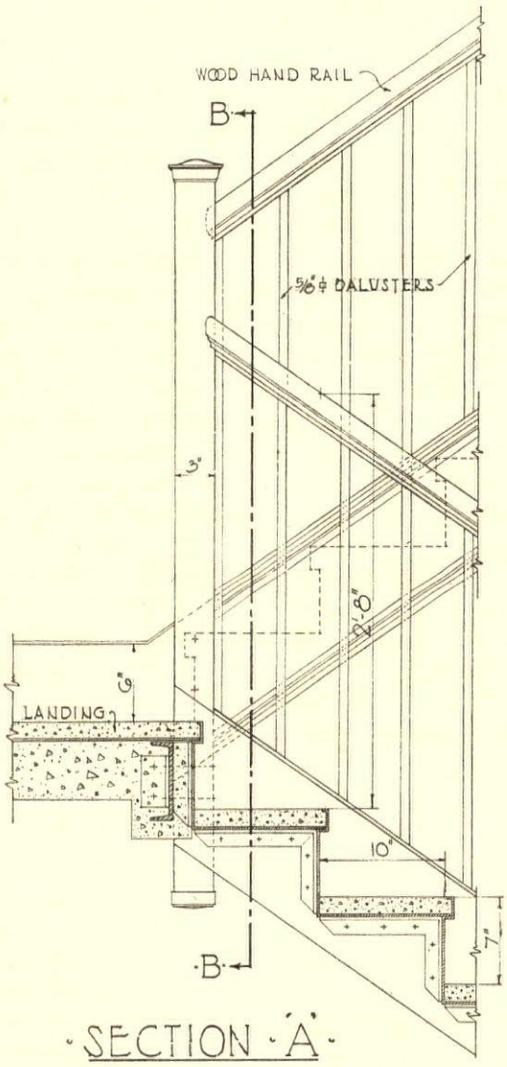
This series, in which one drawing will appear each month, is designed to cover the smaller practical problems that confront the architect in his day's work. The subjects chosen are those which, while not uncommon, call for some experience and knowledge of approved solutions. Next month the subject is Elevator Construction.



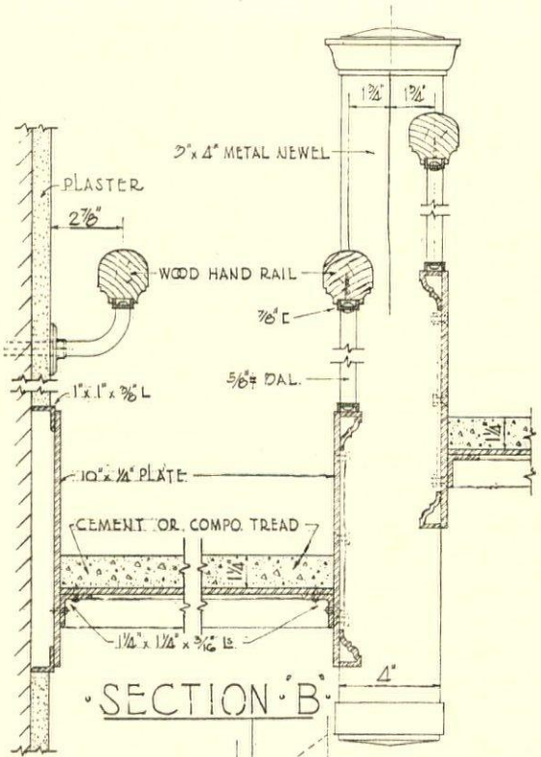
ARCHITECTURE
CHARLES SCRIBNER'S SONS

PREVIOUS SUBJECTS IN THIS SERIES

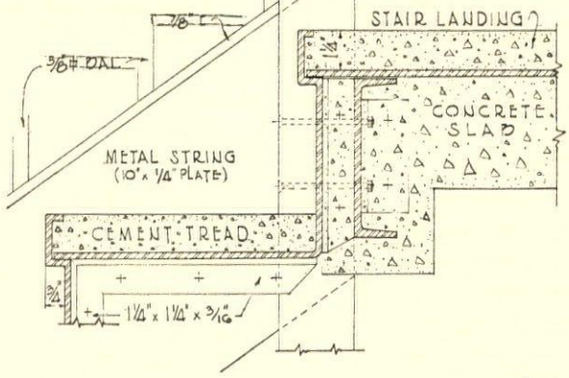
I. Flagpole Holder on an Exterior Wall
II. Radiator Enclosures
III. Cigar Sales Counter
IV. Woodwork in a Library
V. Built-in Kitchen Cupboard
VI. Various Trims and Mouldings
VII. Telephone Booth
VIII. Men's Toilet
IX. Window Spandrels
X. Circular Stair for a Residence

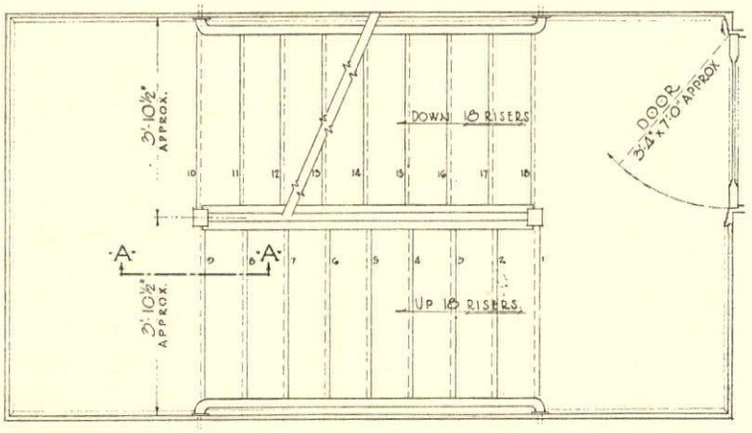


SECTION · A ·

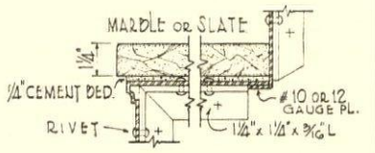


SECTION · B ·

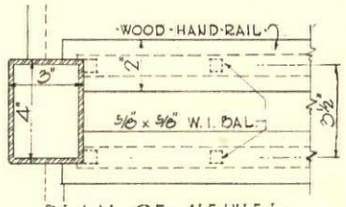




PLAN · OF · STAIR ·



· TREAD · DETAIL ·



PLAN · OF · NEWEL ·

· DETAIL · OF · METAL · STAIR · CONSTRUCTION ·

· SCALE · 0 6" 1'0" 0 5' 0" 1" 2" 3"

· PLATE · № · 11 ·

Some Pitfalls in Supervision

By W. F. Bartels

IX. PLASTERING

IT is generally presupposed by the superintendent that the plastering will automatically be well done, and that his criticism of the final white coat will be sufficient. As a matter of fact, the final result is the sum total of all work and materials from the first coat to the last. Also it must be remembered that over 70 per cent of the cost of plastering is paid for labor, so that it can readily be appreciated how much time and effort must be spent on supervision in order to obtain the quality of first-class workmanship.

Furring, which may be one of several types, is desirable in order to secure the successful interior plastering of exterior walls. It provides an air space which prevents the transmission of heat, cold or dampness. Successful insulation against cold during a severe winter saves sufficient in fuel to repay the cost of furring. Furthermore it prevents the walls from "sweating," a source of annoyance to the tenant and the maintenance man. To the former it means a damp, chilly wall, to the latter a constantly recurring bill for redecorating.

Wood furring is generally applied by merely nailing vertical strips directly to the masonry wall (in non-fireproof houses). It is obviously shortsighted to put the responsibility for a perfect plastering job on a few nails hammered into an occasional joint; a preferable method is to use a plug, expansion screw, or some other approved method of fastening. It is good practice to have one furring strip at the top, running horizontally, in order to prevent too much air circulation.

When clay tile or gypsum blocks are used as furring, they should be well anchored by clips which have been built into the outer wall. In this matter of clips the superintendent must keep a vigilant eye to see that these clips or anchors come very near the joints in the furring. Unless they do, in all probability they will not be used. When a wall is to be flush between piers or columns the lath or mesh should not be abutted at the pier or column but should be carried across the face.

In furring with metal lath or wire mesh, the supports should be examined to ascertain whether they are adequate and the mesh properly fastened to them.

Damp-proofing is not furring and is not comparable to it. However, its cost, due to ease of application and saving of labor, material, etc., makes its use quite common. Damp-proofing is applied by trowel or brush, or otherwise is sprayed on with a hose and nozzle under pressure. The latter two produce a shiny, smooth surface. A dull, sticky surface may be obtained with a trowelled coat, but its composition differs from one which may be brushed or sprayed. Certain trowelled emulsions must be avoided, because they are very likely to peel from the brickwork, with disastrous results for the plaster. Some plasterers maintain that they can plaster on any damp-proofing, while others insist on trowelled surfaces having finely imbedded gravel, in order to provide a bond for the plaster. However, a written guaranty from the damp-proofing and plastering contractors, to the effect that the plaster will not fall off due to the damp-proofing, is to be recommended.

Since grounds should finish flush with the plaster, their thickness will govern the combined thickness of the several coats. They should be securely fastened, since bases, picture moulds, and panelling, when used, are fastened to them.

Great care should be used in the installation of corner beads, for the plasterer must of necessity follow them, plumb or not plumb, and slanting or wavy corners may result—plus annoyance at a poor job.

Wood lath should be well nailed and the vertical joints broken every seventh lath. The ceiling lath should run in one direction. No lath, either on wall or ceiling, should have supports more than 16 inches apart. The distance between abutting laths at their ends should be ¼-inch, and the space between parallel laths should be about 5/16-inch. This enables the plaster to form a key in back of the lath.

Where wood lath meets brickwork it should be joined by a piece of wire lath, or cracking will result later. Similar care should be taken with upper corners where there are to be coves for which the lathing is not properly blocked out. Where plumbing pipes are run in the partitions of kitchens and baths, it will generally be found that the gypsum or tile will be badly cut up, if it does not disappear entirely. In all probability the pipes run flush with the face of the partition, with their hubs or sleeves sometimes projecting.

The most satisfactory job is obtained when wire mesh covers the entire area of pipes and hubs to avoid subsequent cracking.

Wire lath and mesh should be pulled taut and securely fastened. Where either is used for hung ceilings it must be wired at intervals sufficient to hold it close to the small angles and channels. These in turn are held by supports, in the "arches" or floor construction, which are about four feet apart lengthwise. In the case of hung ceilings it is well to make certain that all soil and water pipes running above the hung ceiling are insulated, to obviate danger of condensation dripping down on the plaster.

Plasters in general are made of either lime or gypsum. These materials in turn are made by heating limestone (mostly calcium carbonate) and gypsum (largely calcium sulphate) to a high temperature. The finished product arrives at the job in paper bags, and is labelled according to its content. Since the manufacturer is anxious to have his material used, he can always be depended upon to explain the constituents of his product, the proper method of using it, and under what conditions it can be best used. This of course is not altruism on his part but merely good business, since having it used successfully will increase the sale.

The inert ingredient of plaster, namely sand, should be clean and free of loam. It should not contain salt, because this would likely unite with chemicals in the plaster and cause trouble later. Likewise the water used should not be brackish but clean and pure—good enough to drink.

The first plaster applied to walls is generally termed the scratch coat; the next, the brown coat; and last, the white or finish coat. What is called the bond coat is a special plaster used generally on the bottom of concrete arches to form, as its name indicates, a bond for the subsequent coats. It should be allowed to set but not to be fully dry before the next coat is applied. The brown coat is generally applied directly to the bond coat, except on the beam soffits, where it is customary to follow the bond coat with the white coat.

The scratch coat is the first coat where wire lath, wood lath or mesh is used. Its job is to hook fingerlike parts around the lath to form a firm base for the next or brown coat. It is this hooking around or keying which supports the plaster. Hence if the spaces between the lath are too small it cannot get in. If they are too large the plaster will be unable to hold its own weight and will drop off. If the plaster is too dry it is difficult to force it in far enough to form a good bond. With wood lath it should form a good key. In wire mesh it should be so pressed in as practically to cover the mesh in the rear. To enable the scratch coat to do all this and cling tenaciously, there is mixed with it a fibre of some kind. After the scratch coat is applied it should be roughened up or scratched on the surface to form a key or bond for the brown coat which follows.

The brown coat, which is next applied, has a good proportion of sand, but care should be taken to see that it is not all sand. It should be trued up with a straight edge and then floated smooth, ready to receive the white coat. Where there are brick, tile or gypsum-block walls the brown coat may be applied directly to them. Of course, the brick walls must be straight and true and free of large projecting lumps of cement, and the tile blocks used must be properly scored or keyed, otherwise the brown plaster will not cling to the smooth tile. At times "doubled up" work may be permitted. This consists of putting on the scratch coat and then applying the brown coat on top of it immediately. Of course, this method saves taking down and putting up scaffolds, but great caution should be exercised in allowing this on wood lath. On mesh it should not be permitted at all, because the scratch coat is not stiff enough to hold the brown coat until it is dry and the mesh cannot carry it properly.

The white coat is at once the most difficult to apply and the most trying to superintend, as well as the most rarely well done. It is generally made of lime putty as the principal ingredient, made from quicklime (lump-lime) by slacking it in water and letting it stand until the mass is entirely cool. Great heat is generated on adding water to the lime, hence enough water must be added and the mixture well stirred or some of the lime will "burn." Hydrated lime is probably more frequently used now in the cities because it takes far less time to slack. Hydrated lime is only quicklime to which sufficient water has been added to combine with it chemically. It has the advantage of being usable in twenty-four hours, while the lump-lime sometimes has to stand a week or more. In no case should lime putty be used while it is still warm. When the putty is ready to be used it is put on the plasterer's board where it is mixed by the plasterer with plaster of Paris (calcined gypsum).

In the next instalment Mr. Bartels concludes the subject of Plastering and takes up Flooring.

The Editor's Diary

Monday, February 2.—Alfred M. Granger has temporarily taken up his abode in Vienna, and writes to his Chicago friends:

"We have been in Vienna just one week, but begin to feel quite at home. Our crossing on the *Statendam* was smooth and delightful. I got off at Plymouth; spent nine days in England visiting Liverpool to see Sir Giles Gilbert Scott's great cathedral, which, when finished, will be much the largest church of England's cathedrals in Great Britain.

"Its situation is superb and the plan original and most interesting, but I was disappointed in the ornament, because to me it seemed greatly out of scale.

". . . There is an imperial grandeur about London that no other city possesses and its modernization is so much more dignified and harmonious than what is being done in Paris. With its many trees, squares and gardens it always impresses me as a friendly home-loving city. Not violent like New York.

"Was only in Paris one week, and it poured rain all the time. Paris is being Americanized in the worst American manner, and to-day the Champs Elysees looks at night like Broadway and is given over to automobile salesrooms. On the left bank of the river Paris still is French and beautiful.

"Le Corbusier was not in town when I called, but I met his partner, Jeanneret, saw some of his houses and his scheme for tearing down vast sections of the city, wiping out all the old landmarks and rebuilding in the modern manner. One can only hope and pray it may never be done. There is a great idea back of what these men are doing, but these developments should be carried out on the outskirts of the city, as is done in Vienna, and not wipe out the past. None of the modern work of Paris can in any way compare with what is being done in Chicago."

Thursday, February 5.—"Shall we live in horizontal or vertical cities?" was the title of a debate to-night at The Architectural League—a joint meeting of the New York Chapter, A. I. A., and The League itself. Henry Wright and Frederick L. Ackerman were announced as speaking for the horizontalists, Ralph T. Walker and Raymond Hood for the verticalists, but it was very difficult for the hearers to know which particular side any speaker was arguing upon. As Richmond Shreve remarked near the end of the evening, it all sounded very much like a Wickersham Report.

The trouble was that Ralph Walker, though arguing for the vertical city, lives in a one-story country house, and Henry Wright, stressing the need for horizontalities, lives in an apartment. The kernel of the evening's discussion was expressed by Lee Simonson when he pointed out that the basis of the whole matter was proper ownership or control of land so that widespread plans could be made and carried out without the jeopardy of land speculation.

Saturday, February 7.—The "bricks" thrown at federal and municipal architectural bureaus seem to be coming more thickly these days. One of the most recent is contained in a survey made by the A. I. A. on the subject of school buildings, under the chairmanship of William J. Sayward. "There seems to be a very general practice of furnishing stock plans without further service to rural communities for the small type of school building of not more than two, three, or four rooms." This service is no doubt well justified. In the case of larger buildings, however, special architectural service becomes of value to the community. The "brick" itself, however, reads as follows:

"Probably the most illuminating example of departmental control of architecture is that of the Federal Government, under the Office of the Supervising Architect of the Treasury. While this department turns out a consistently uniform product, probably above the average from the standpoint of design and construction, it is notably true that it furnishes very little inspiration to the communities which have Federal buildings.

"Methods of design and practice, except in buildings of large size and character, have become so standardized as to be a dead level in architectural achievement, and incidentally there is little or no saving in cost of production. If this be true of the Federal Government, how much more must it be true of the 'architectural bureau' of the lesser community?"

Monday, February 9.—Met Charles Butler and Hobart Upjohn at lunch for a meeting on the Institute's activities in architectural education. A change in college entrance requirements opens up a new field of opportunity for instilling into the high-school and preparatory-school students some fundamentals of art appreciation. Instead of requiring a hard-and-fast list of subjects for entrance examination, the colleges are shortening the list of required subjects with permission to the applicant to ask for examination on any other subject in which he may have been interested enough to prepare himself—textile design, art appreciation, handicrafts, or whatnot. The opportunity for architectural education, therefore, is widened so that for the first time the curricula of these secondary schools can be made to include regular or incidental instruction or lectures on such things as an appreciation of architecture. Incidentally, the time seems ripe for such instruction in that the public's interest in architecture seems rarely to have been keener.

Tuesday, February 10.—Albert Kahn, whose office in Detroit is one of the largest in the country, says that he finds it of great value to have a considerable number of his men interested in the firm financially. This interest is in several forms. First, the firm carries, for a considerable number, life insurance for the benefit of their families on the ten-year-endowment plan. If a man leaves within the first five years, the paid-up value reverts to the firm. After five years, the policy is his. Second, the firm is incorporated, and about twenty-five of the men were permitted to buy preferred stock in proportion to their salaries. The stock is guaranteed to pay 15 per cent, though up to this year it has regularly paid 20 per cent. The stock is purchased by borrowing 50 per cent of the cost from the banks with the firm's endorsement. The other 50 per cent the firm carries without interest until the bank's indebtedness has been liquidated. Thereafter, the man pays the firm. The stock is redeemable at par upon a man's leaving, but in case of death, dividends are continued for two years. Preferred stock bonuses are distributed occasionally as a reward of special merit, with the understanding that the stock reverts to the firm in case the employee leaves within five years. Mr. Kahn says that the result of all this has been that their important men have stayed with the firm, many for ten, fifteen, and twenty years; two or three, even twenty-five years.

Wednesday, February 11.—America is rapidly becoming color conscious according to Professor Lukiesch, who spoke under the auspices of some of the engineering societies to-night. Incidentally, the auditorium holds eight hundred fifty. It was foreseen that there might be more applications than this for the lecture, so he had kindly agreed to repeat it on two nights. The fact is, however, that there were seven thousand applications for tickets. Professor Lukiesch bases his theory of a growing interest in color upon the fact that we receive 83 per cent of our impressions from the outside through our eyes. Eleven per cent more comes through our ears, and the rest through the other senses. The psychological effects of color are only begin-

ning to be understood, and even now are capable of dispelling much of the monotony of life.

Friday, February 13.—At The League to-night Dr. Francis S. Onderdonk, of the University of Michigan, passed on to his audience some of his enormous enthusiasm for ferro-concrete and its effect on architectural style. He laid great stress on the fact that ferro-concrete is a liquid stone which should logically take flowing, curved form rather than the box-like masses so frequently resulting from our dependence upon wood centring.

Monday, February 16.—It is amusing to stand off, in one's mind, at about the year 4000 A. D., and look back over the history of lighting. From the dawn of civilization up to 1783, mankind depended for his artificial light upon fats, oils, and resinous woods. In that year oil-burning wick and chimney were invented by a Swiss mathematician. Then in 1820 Dr. Kugler invented gas. Sixty years later came the electric light, which we have now had for fifty years. Is it not curious to realize that the design of our lighting fixtures is still largely imitative of oil lamps and gas burners? Looking back from 4000 A. D., the effect of gas pipe upon design in the art of illumination must inevitably appear very short-lived.

Thursday, February 19.—David Coyle and I went to the dinner and evening meeting of the Illuminating Engineering Society, where Kenneth Murchison, Philip Cusachs, William F. Lamb, and Harvey Wiley Corbett spoke on many things. Mr. Lamb brought out the absurdity of our piling so much weight upon our steel-frame buildings—not being able apparently to rid ourselves of the masonry structure idea. Just as we perceive this clearly, and are beginning to strive to make our tall steel-frame buildings express their thin shells, David Coyle points out the fact that quite possibly it is the weight itself in these high slender structures that makes them endurable for the tenants. The sway of a tall slender steel-frame building would not be greater in extent if the structure were lighter, but the acceleration of this sway would be much greater. The question is, how much movement will we accept in our high offices? The very slow movement of the heavily weighted frame seems not to bother us. The quick, whiplash movement of a thin, light structure may be unendurable. So, just as we are beginning to think that we are all wrong in building heavily weighted steel-frame structures, we come to the astonishing fact that perhaps this is the only possible solution, for physiological reasons.

We shall know a lot more about this within a year or two, for Coyle is about to make some experiments in the effect of various such movements on human consciousness.

Monday, February 23.—There are signs that this country is beginning to be architecture-conscious. To-day in Philadelphia there was awarded the annual Bok Prize of ten thousand dollars to that person who, "living in Philadelphia, its suburbs, or vicinity, shall have performed or brought to its culmination during the preceding calendar year an act, or contributed a service, calculated to advance the best and largest interests of the community of which Philadelphia is the centre"—Paul Phillipe Cret, architect.

Tuesday, February 24.—The A. I. A. has come out once more with unmistakable emphasis against the issuance by an architect of a monograph supported by the advertisements of contractors and material dealers. A very able discussion of the principle, or lack of principle, involved in this practice, prepared by the Chairman of the Committee on Practice, appears in the December *Octagon*.

Thursday, February 26.—It is a good sign of our growing concern as a people, with architecture, that possibly three hundred persons met to-night at The Town Hall Club to enjoy a protest against architecture that has yet not come into being. Lee Simonson introduced Alexander Woollcott, who presided, and he in turn introduced Lewis Mumford. The burden of the latter's argument was that, since Frank Lloyd Wright is known not only in this country but internationally for his creative genius, the country had a right to expect that he have something to do with the coming World's Fair. Those who are controlling the destinies of the Fair, however, have believed that Wright is so much an individualist as to be unable to form part of a team in the design of a work which, to their minds, necessitates close teamwork. Mr. Wright himself was introduced by Mumford, and, as usual, spoke most interestingly upon what the Fair might have been if, as he claims, its design were not squeezed into the strait-jacket of what is nothing more than a continuation of eclecticism. In place of choosing among the historical styles of the past, which architects have been doing for many generations, he feels that they are now merely choosing the latest manifestation of style—the Modern, and are following the patterns and incidental motives of this style without knowing anything of its fundamental basis. "You cannot take classic motives, wash them behind the ears, and make modernism of them." After an evening of direct attack upon the design of the Fair, in which Douglas Haskell also joined, it was suggested that Raymond Hood, one of the Fair's architectural commission, might say a word in rebuttal. He contented himself with making two rather telling rejoinders; first that, since freedom of thought and action seems to be one of the main desiderata of those who seek a new and better architecture, it might reasonably be supposed that such freedom would be granted to those in whose hands the task had been placed. Second, if this whole question were going to be debated, he could have wished that the shock troops brought up in Mr. Wright's behalf might have included some individuals outside of the literary world, whose knowledge of architecture by direct contact could have been more in evidence. The encouraging thing, however, is that, in the utmost good humor, those whose opinions are apparently so radically opposed, could come together without bitterness, and with the sole thought of securing better architecture in coming generations. Incidentally, we are moving apace when Raymond Hood can be accused to-day in a public meeting of the crime of eclectic design.

Friday, February 27.—Seven or eight hundred people crowded the new auditorium of Joseph Urban's New School for Social Research to-night to hear Frank Lloyd Wright on modern architecture. He put his audience to the hardest possible test—reading from his manuscript for an hour and a half. When it was over a crowd of his hearers, hungry for more, gathered around him on the stage to ask questions and to learn more of his philosophy of life and his conception of architecture. A masterly summation of what architecture has been, is, and what it might be if we measure up to our opportunities. Wright symbolized the grasp of this art by the human hand, the thumb representing the fundamental conception of architecture as enclosed space rather than a hole in a cliff or something behind a pictorial façade. The four fingers represent four accessories which should help us to achieve the possibilities that lie before us: glass, which obviously would have turned upside down the architecture of any previous age, as it will that of our own; steel, the material giving us strength in tension as well as in compression, making possible forms no longer bound by the piling of stone upon stone, or beam upon post; the third finger representing that which the characteristics of our multitudinous materials give us, and which to achieve architecture must control form and feeling—structures of wood must be woody; of stone, articulated masonry. Finally, the fourth finger, integral ornament, giving us something more than bald functional construction, something more than the flat planes and hard lines of the machine, something that satisfies a higher desire than that for shelter and convenience, the need for beauty.

CONTACTS

DEVOTED TO A BETTER UNDERSTANDING OF THE BUSINESS SIDE OF ARCHITECTURE AND ITS RELATION TO THE INDUSTRIES

What Price Alternate Bids?

By Harry H. Bond, Jr.

Sanitary Engineer for Starrett & Van Vleck, Architects, New York

THE financing, planning, construction, and operation of the modern building costing in excess of $3,000,000 is an undertaking of enormous responsibilities. While the management of the skyscraper is in itself a business of considerable proportions, its construction and maintenance may be looked upon as the combined results of many businesses. The service offered by the large commercial building is a correlated organization of the service of many widely different products.

In the final analysis, the skyscraper owes allegiance to two groups. First, to that group of stockholders whose subscriptions have made its existence possible. Theirs is the investment and to them must be returned a fair realization on that investment. Second, to those concerns and individuals who inhabit its shops, offices, and halls, and who are entitled to a full measure of the service for which they are paying. Any breach of this contract, whether it is written or implied, is a destructive thrust aimed at the very foundations of the building industry.

The product of the skyscraper is service. Building service does not mean the discomfort of cold or overheated offices and halls, cluttered corridors due to repairs of inferior equipment, eye-strain and accidents due to poorly planned lighting, or lengthy, waterless intervals due to the initial use of short-lived piping materials.

The successful life, which is that period when office or shop space is in demand, of any large commercial building, may be measured in the life of the key materials of which it is constructed. This is not a new thought; it is an old fundamental principle with which architects, consulting engineers, general contractors, sub-contractors, building committees, and the manufacturers of building materials are all familiar. Yet, in spite of the grave importance of material selection and application we find a most uneconomic practice in modern building becoming an every-day occurrence.

It is the purpose of this article to call attention to this practice in order to promote its correction and to make all of us who are interested in the building field more conscious of our responsibilities and the responsibilities of our associates.

Taking pipe as an example, because of its importance to any building, and because it has been made one of the most frequent sufferers, let us consider this departure from good engineering procedure.

Every architect, engineer, and contractor realizes the importance of a correct piping installation because of its location behind walls and in other inaccessible places where replacements and repairs are expensive. Why then, if every one who is engaged in the construction of large commercial buildings is familiar with correct and incorrect piping practices, should we hear that the specifications for an important building, written by one of our most brilliant architectural and engineering houses in New York City, were allowed to be changed to the extent that a fairly expensive piping material was installed in the non-corrosive vacuum sweeper lines and a much cheaper material in the corrosive lines?

The plumbing and construction bids were found to run higher than the estimates. A separate sub-contract for the vacuum-sweeper system was found to run well within the estimates. The situation resulted in the building committee's accepting cheaper piping materials than those recommended for the plumbing system, and letting the vacuum-sweeper system stand as specified with unwarranted material expense. Here is a building which has wrought-iron pipe in its vacuum-sweeper lines where less expensive steel pipe is eminently proper, and steel pipe is used in some other lines where steel pipe should never be used. Is it a wonder, then, if such practices are common occurrences, that in a very short time many buildings show staggering pipe maintenance costs?

To illustrate what I mean by staggering costs, a building in the West a short time ago had a failure in an unimportant pipe line because of the original installation of improper piping materials. The total cost of the pipe in the line, even with the proper materials installed, would have been less than $100, yet the cost of tearing out the failed line and making replacements was over $1,500. Within a comparatively short time another line, exactly similar, in a different part of the building failed and the process of renewal had to be repeated, at a similar cost.

Specifications calling for alternate bids are probably the most damaging and far-reaching of the evils that have crept into the architects' and engineers' offices with such a marked hindrance to the proper selection and application of materials. In drawing up the specifications for some of our largest buildings, consulting engineers, as well as engineers in architects' offices, write plumbing, heat-

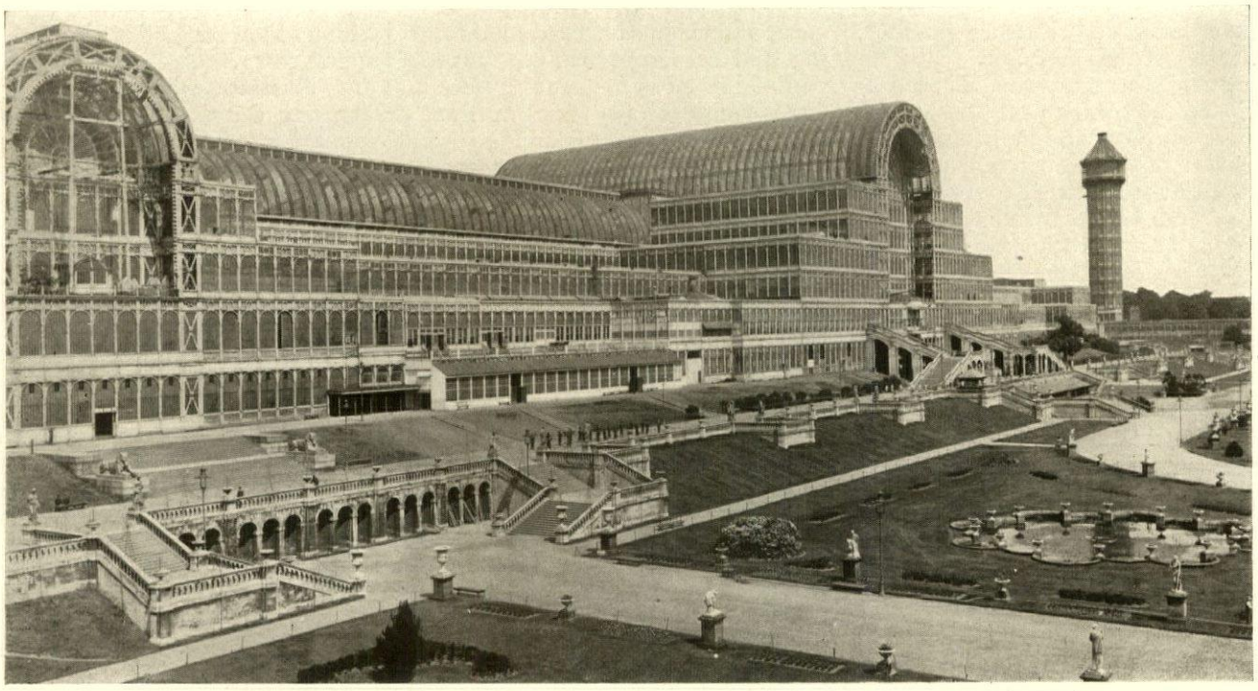
ing, and air-conditioning specifications calling for wrought-iron pipe and asking for alternate bids on steel pipe, or calling for brass pipe and asking for alternate bids on wrought-iron pipe. Sometimes this practice is adopted to provide the engineer with a loophole in which he can seek refuge in case the bids run higher than the estimates. In other instances, building committees have been known to insist that alternate bids be requested in specifications for the same reason. In either case, the engineer is shirking a plain engineering duty. His knowledge of piping materials and their application to the problem at hand, and of the false economy that is secured through the initial use of cheap materials, should be sufficient to convince every one concerned that his selection of piping materials will result in the greatest saving and should be followed minutely if satisfactory results are desired.

Perhaps another reason for the application of this practice to piping materials may be found in the pressure of daily business which prevents the engineer who writes the specification from gaining a sufficient knowledge of piping materials and their proper uses. Too much importance cannot be attached to the need of such knowledge. The selection of the proper piping material is as much of an engineering job as the specification of the weight and thickness of beams.

The engineer who is not satisfied with a mediocre knowledge of pipe, but who familiarizes himself thoroughly with the requirements of the operating condition before writing any specifications, has learned that there is a specific application in every building for many kinds of pipe. He recognizes that brass, wrought iron, and steel pipe are the right materials only when they are used in the right places. This engineer has also learned that his experience with other piping materials under similar conditions and in the same vicinity is a reliable guide to proper selection. In cases where he is working under strange conditions he knows he is justified, because the stakes are high, in asking the help of a pipe manufacturer's service engineer in analyzing the surrounding conditions, including the water, and in applying this information to his selection of materials. He also takes into consideration the effect of any water-treating equipment that is to be included in the specifications. Only after weighing the relative effect of all conditions can he make his selection of piping materials with the full knowledge that the best possible pipe will be used in each operation. The writing of specifications calling for alternate bids never enters his mind, because he is in a position to justify his choice of materials from an engineering view-point to the satisfaction of any building committee. And, finally, he is never confronted by an angry owner a few years after a skyscraper has been completed who cannot understand why such a good engineer allowed such a poor piping system to be installed in his building. Truly man's memory is short!

While this article has been concerned mainly with piping, it presents an example that is typical of the misdirection of sound engineering knowledge in the writing of some specification sheets. We have too many sick buildings. For the general good of the industry, it would be well if we took a little more care and thought in the writing of the prescription for their construction.

Let us remember that specification sheets should not be utilized merely as the battle-fronts of building owners and contractors versus costs.



In these days when our talk is of glass and steel as an embodiment of much that is modern, it is interesting to look back at Joseph Paxton's Crystal Palace, designed by a gardener, erected in Hyde Park, London, 1851, subsequently re-erected in Sydenham, and ridiculed almost uninterruptedly since.

ARCHITECTURE'S PORTFOLIO OF

ALTARS

THE FIFTY-FOURTH IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

Forthcoming Portfolios will be devoted to the following subjects: Garage Doors (May), Mail-Chute Boxes (June), Weather-Vanes (July), Bank Entrances (August), Urns (September), and Window Grilles (October). Photographs showing interesting examples under any of these headings will be welcomed by the Editor, though it should be noted that these respective issues are made up a month in advance of publication dates.

Subjects of Previous Portfolios

1926–27

DORMER WINDOWS
SHUTTERS AND BLINDS
ENGLISH PANELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

1928

BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

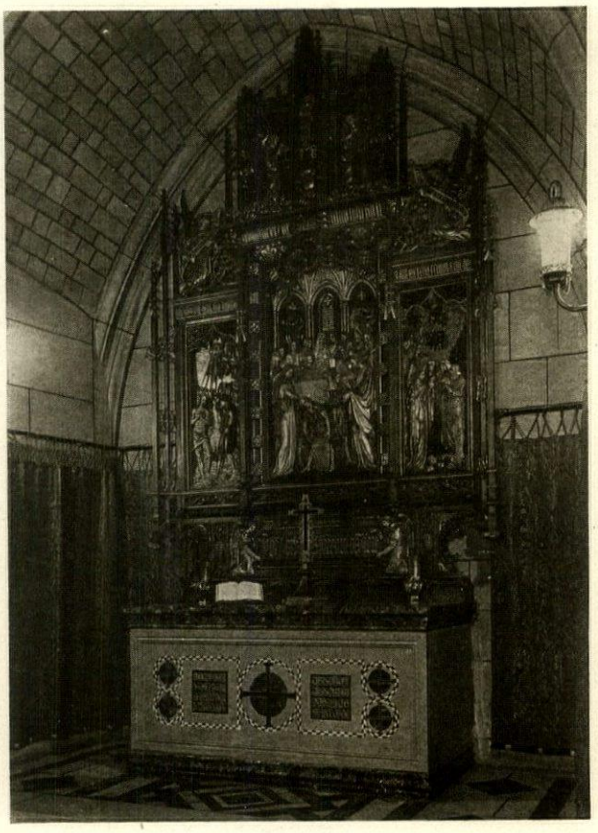
1929

DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

1930–31

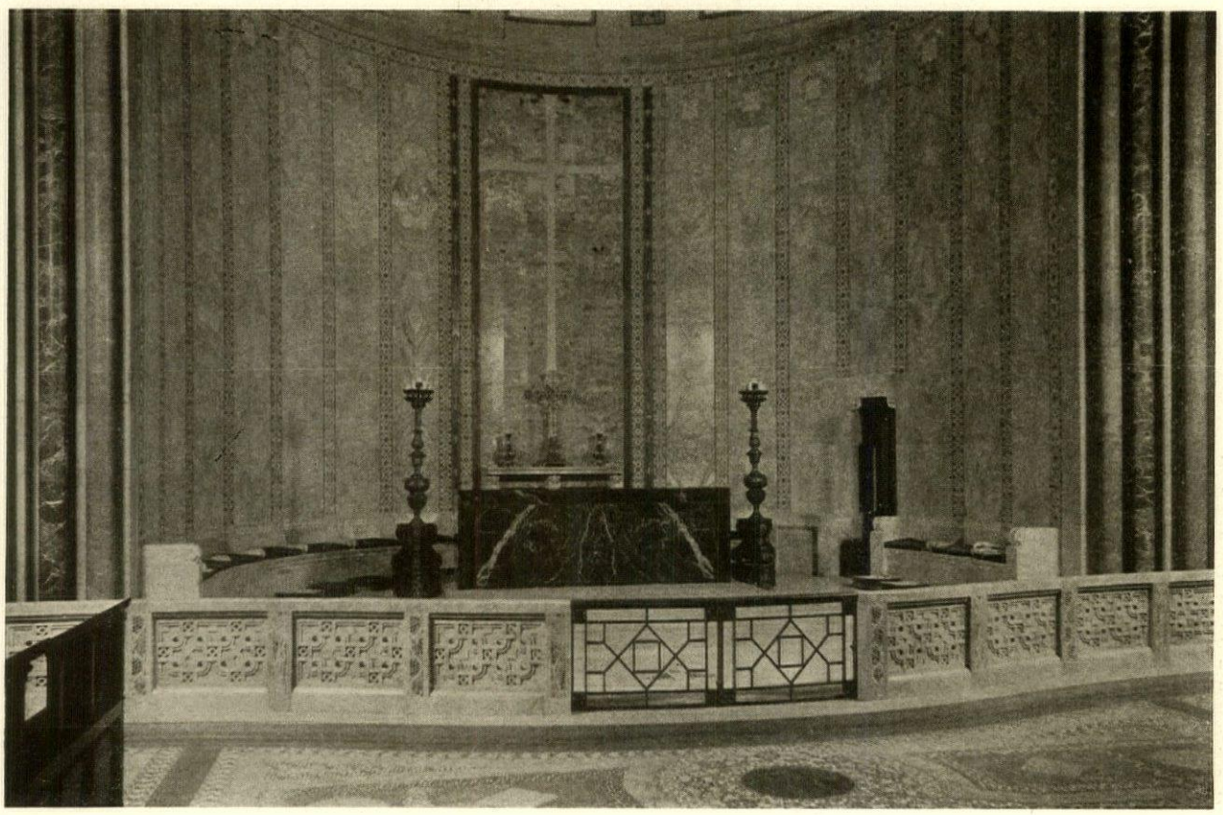
SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS

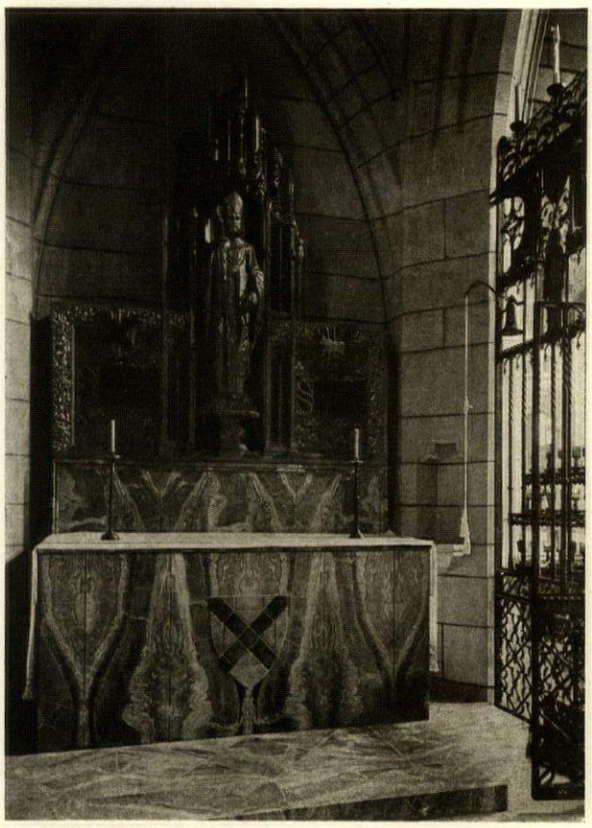
St. Mark's, Mt. Kisco, N. Y.
Bertram G. Goodhue



Chantry in St. Thomas's, New York City
Bertram G. Goodhue

St. Bartholomew's, New York City
Mayers, Murray & Phillip

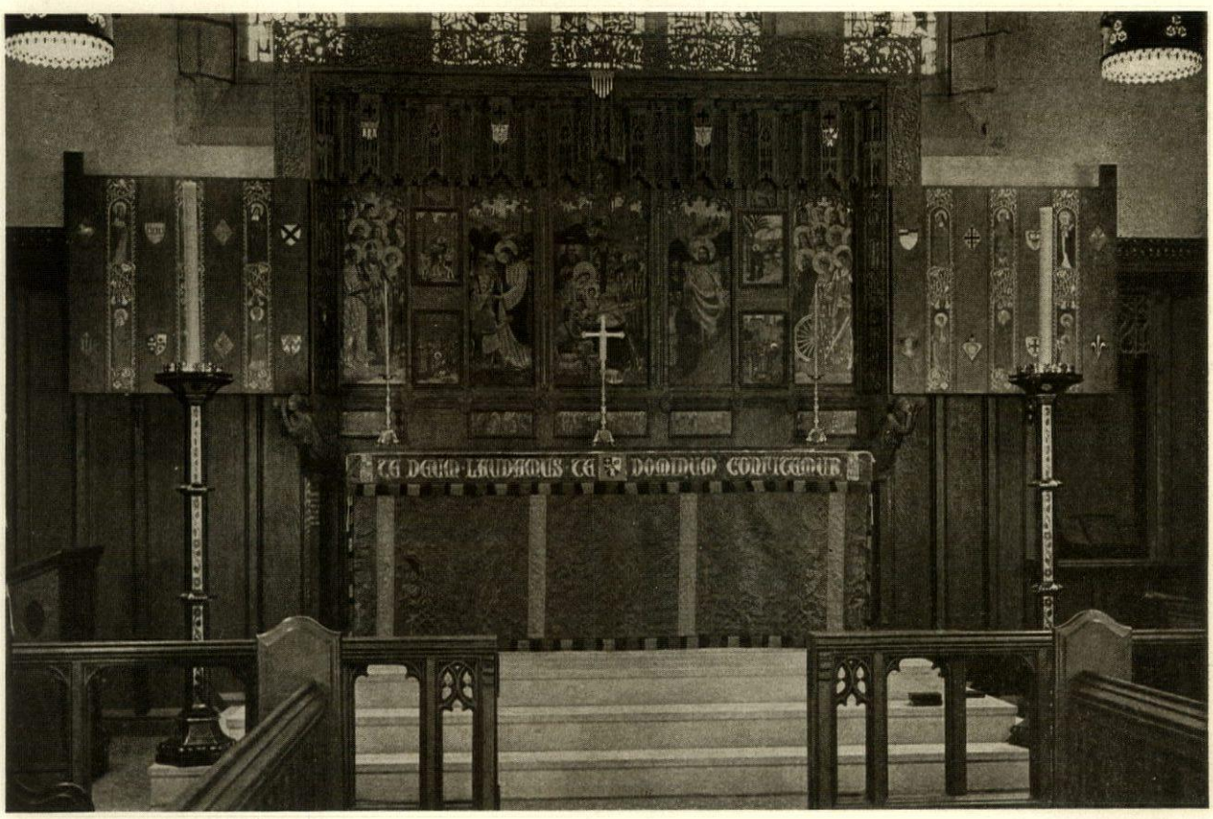


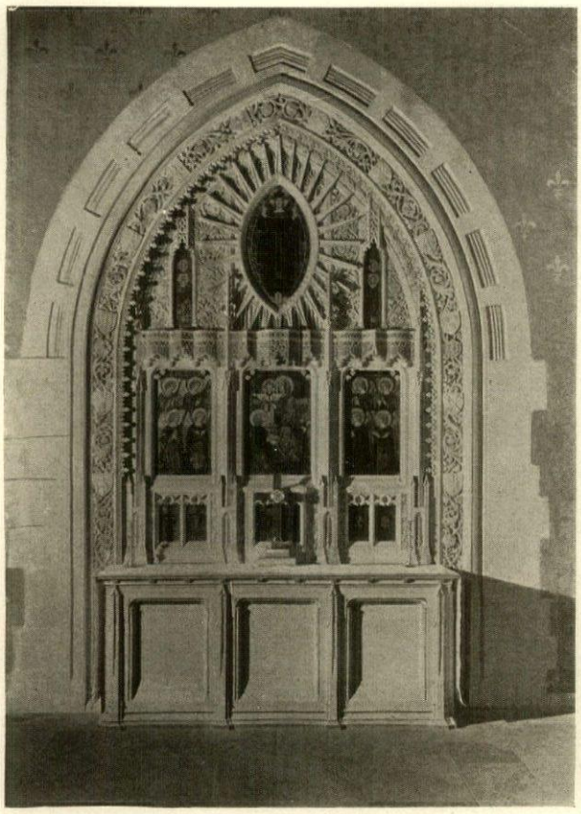


St. Joseph's Chapel, Church of St. Vincent-Ferrer, New York City. Bertram G. Goodhue

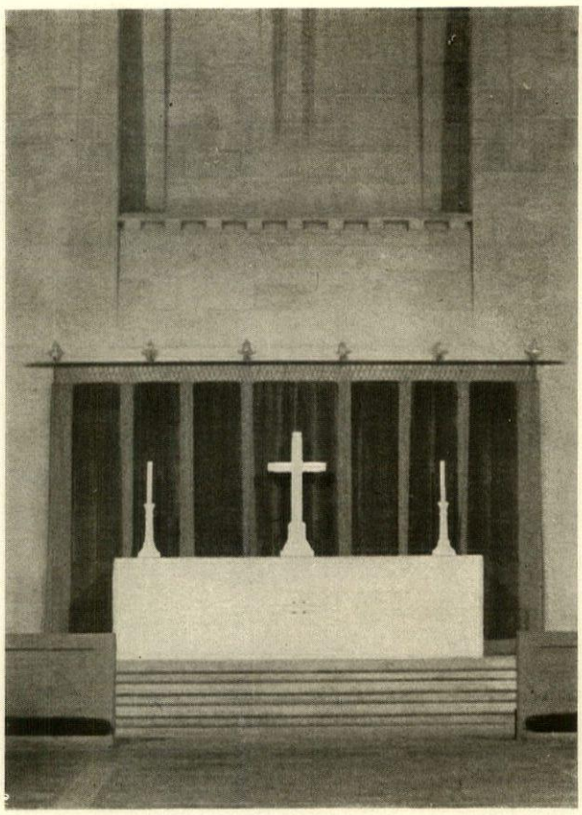
Church of the Ascension, New York City Stanford White

St. Martin's, Providence, R. I. Bertram G. Goodhue



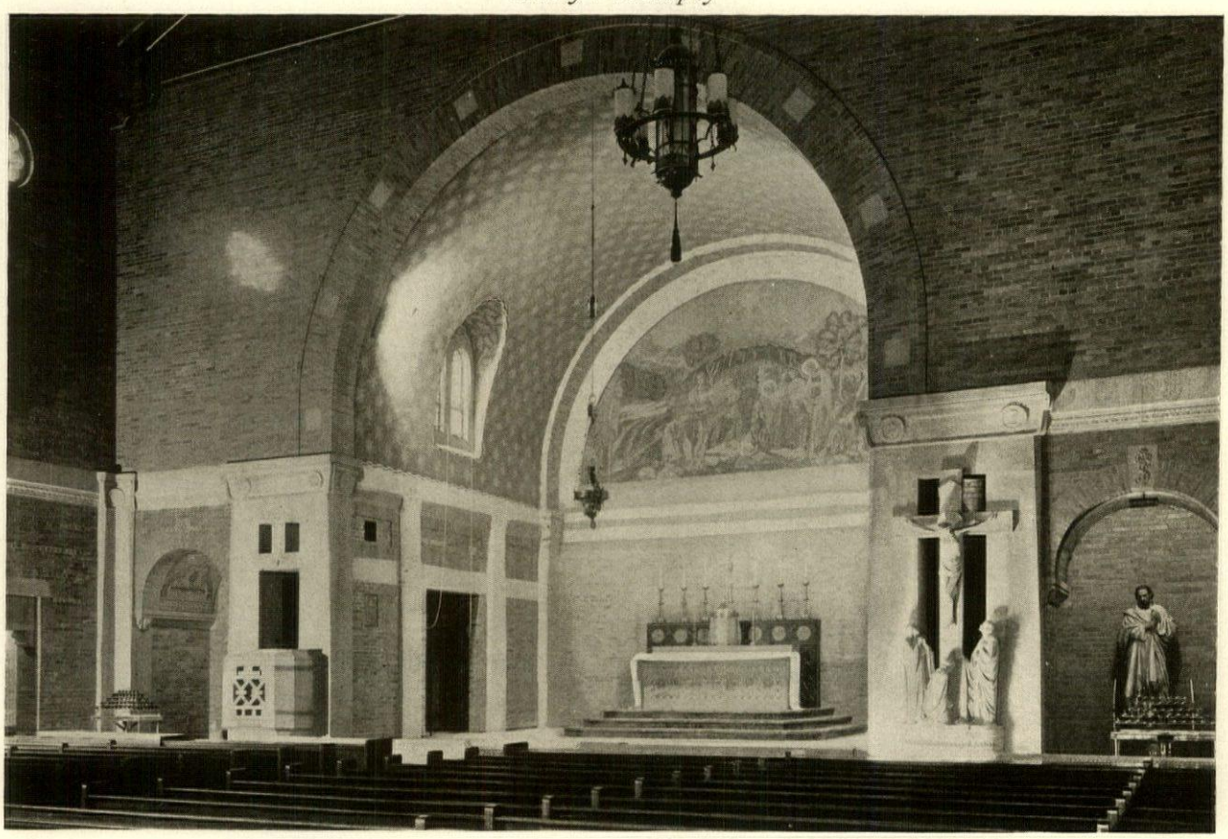


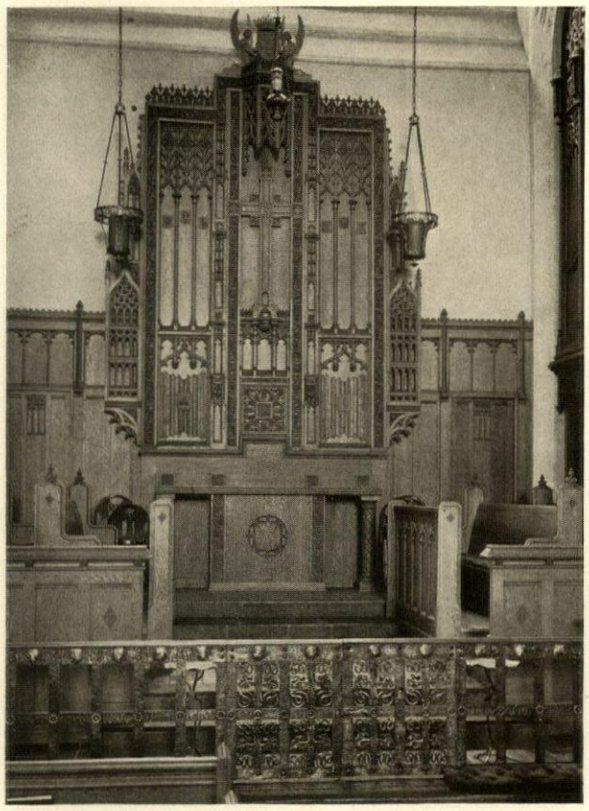
Chapel of the Beloved Disciple, Church of the Heavenly Rest, New York City. Mayers, Murray & Phillip



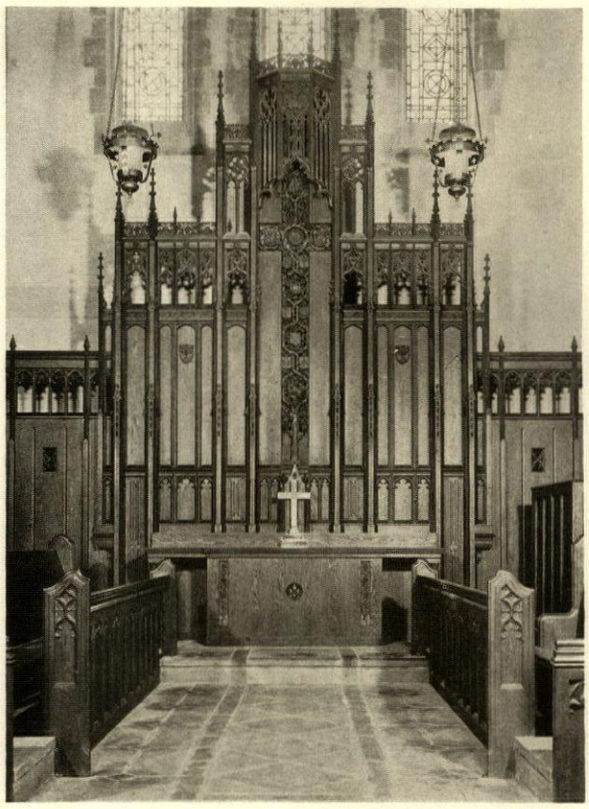
Church of the Heavenly Rest, New York City
Mayers, Murray & Phillip

Church of the Holy Child Jesus, Richmond Hill, N. Y.
Henry V. Murphy



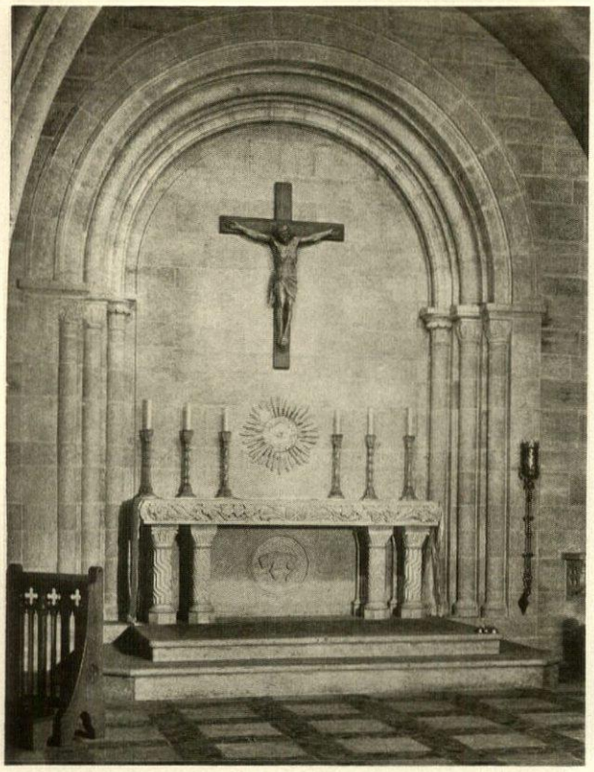


Hyde Park Community M. E. Church, Cincinnati, Ohio. Granger & Bollenbacher

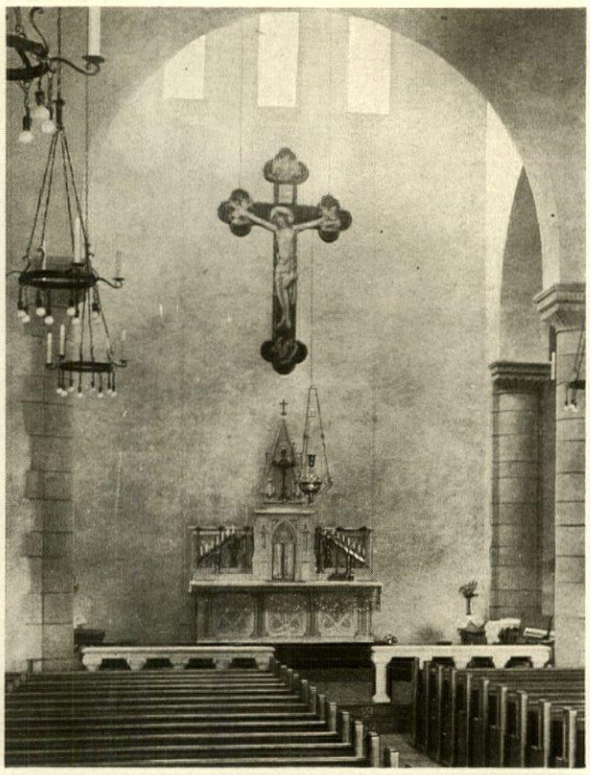


Wilmette M. E. Church, Wilmette, Ill. Granger & Bollenbacher

The City Church, Gary, Ind. Granger & Bollenbacher

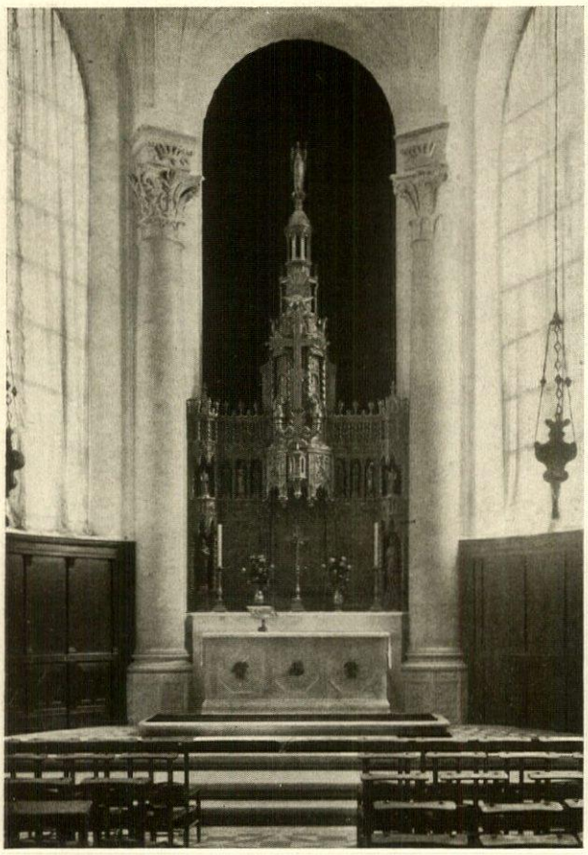


Chapel, St. Louis House of Retreats, Whitehouse, Mo.
O'Meara & Hills

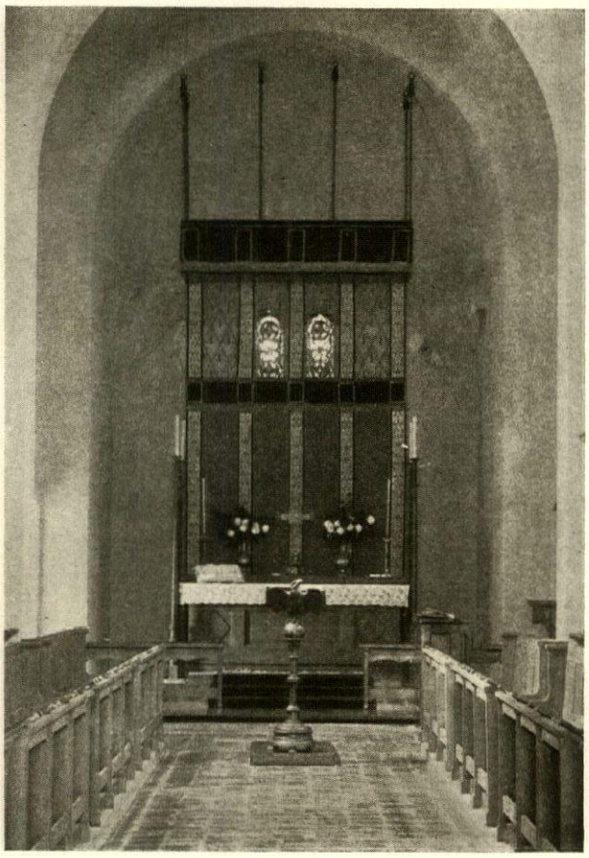


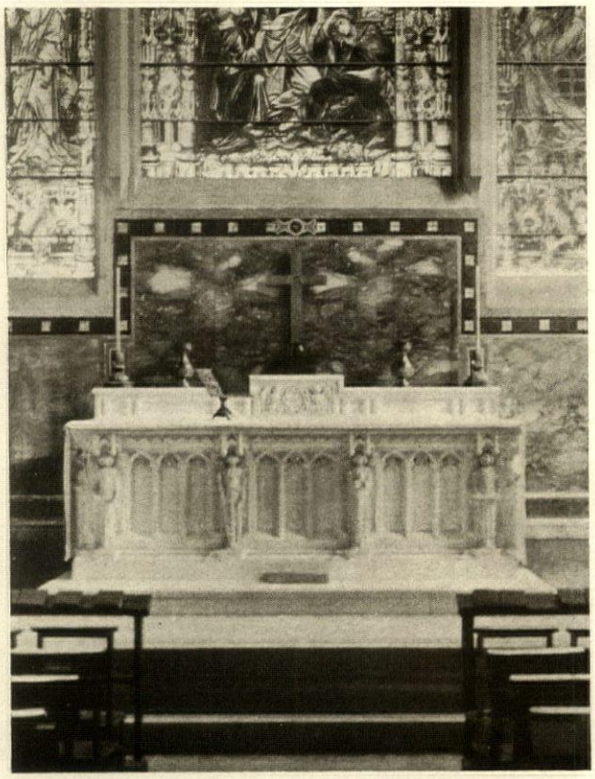
St. Brigid's, Westbury, Long Island
F. Burrall Hoffman

St. Ambrose Chapel, Cathedral of St. John the Divine, New York City. Carrère & Hastings



St. Mary's Chapel, Bishop's School for Girls, La Jolla, Calif. Carleton Monroe Winslow

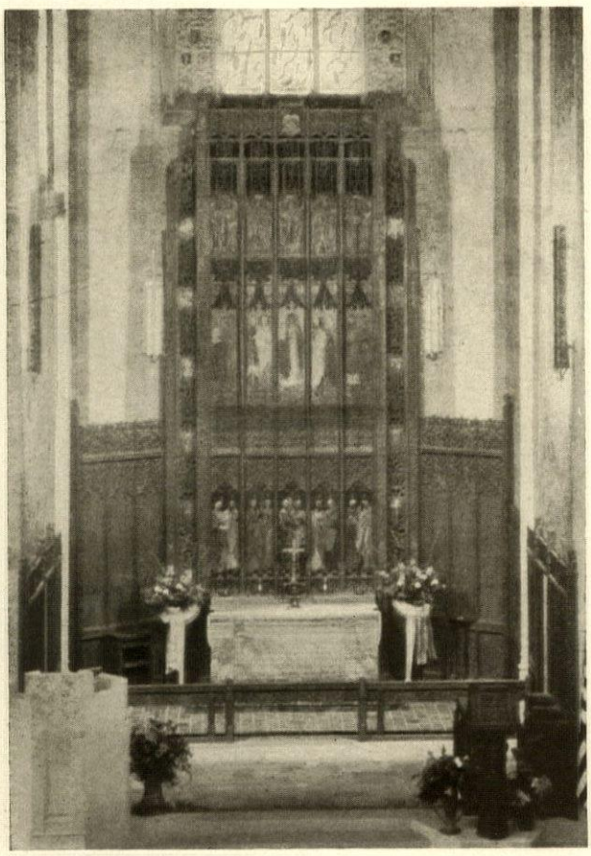




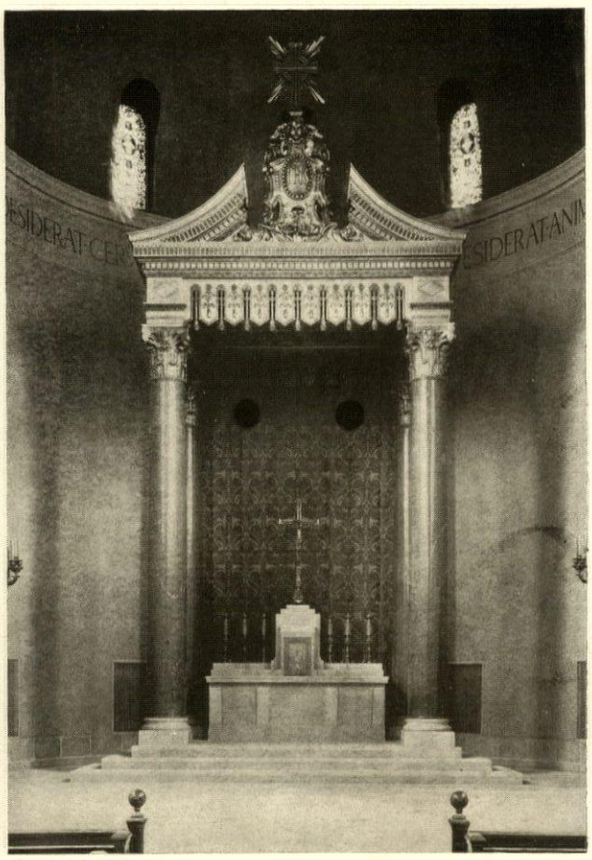
St. Xavier's Chapel, Cathedral of St. John the Divine, New York City. Heins & La Farge

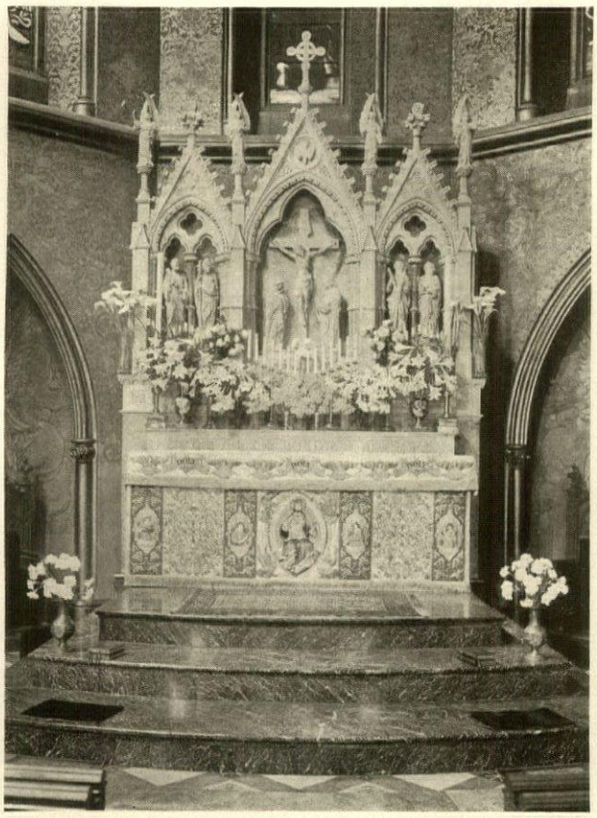
St. Mary of the Angels, Hollywood, Calif. Carleton Monroe Winslow

Trinity Lutheran Church, Detroit W. E. N. Hunter Company



Holy Cross Chapel, Worcester, Mass. Maginnis & Walsh





Trinity Chapel, West 25th Street, New York City
Hobart Upjohn

Church of the Paulist Fathers, New York City
Austin D. Jenkins, with Jenney, Mundie & Jensen

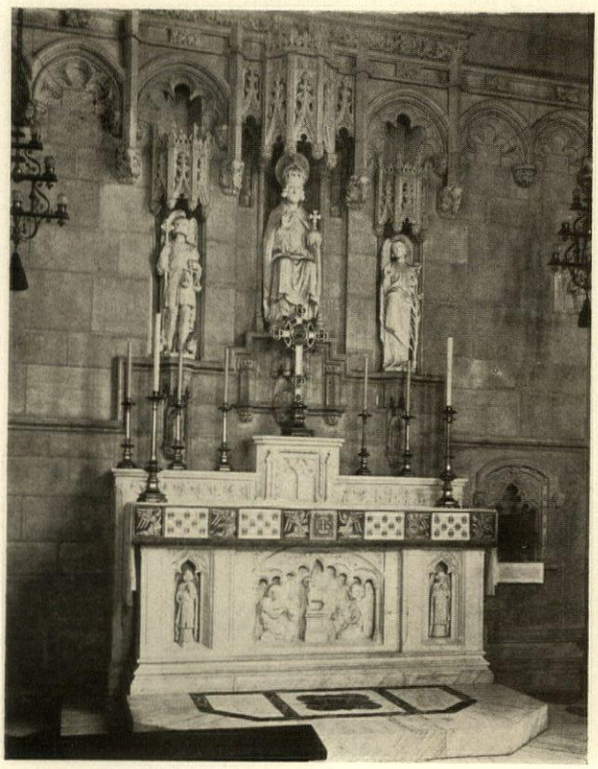
Russian Altar, St. Augustine's, New York City
F. deLancey Robinson

Chapel, St. Augustine's, New York City
Wilson Potter

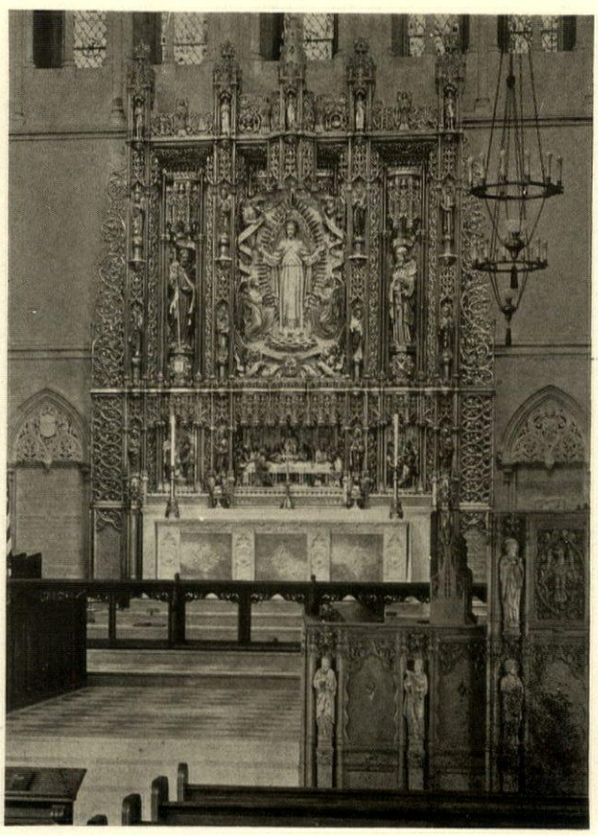
All Angels, New York City
John B. Snook Sons

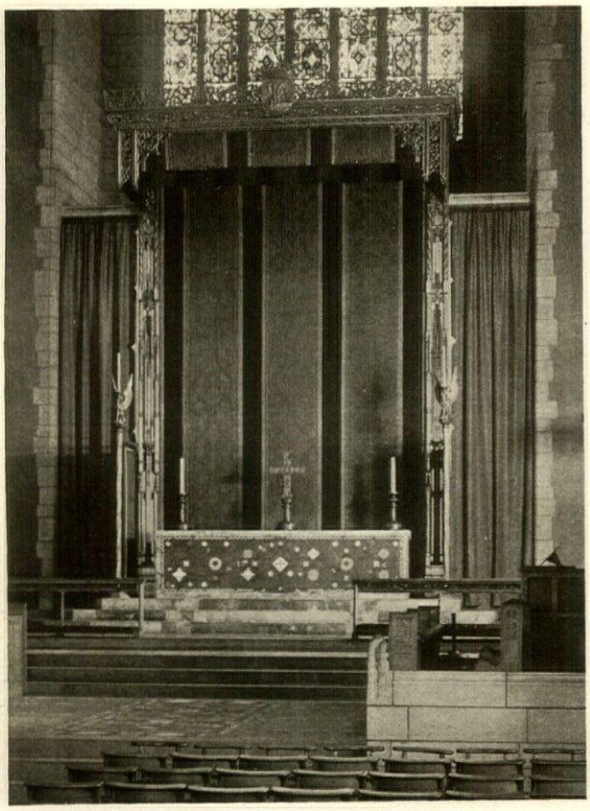
Trinity Church, New York
Richard Upjohn

All Souls Memorial Chapel, Trinity Church, New York City. Thomas Nash

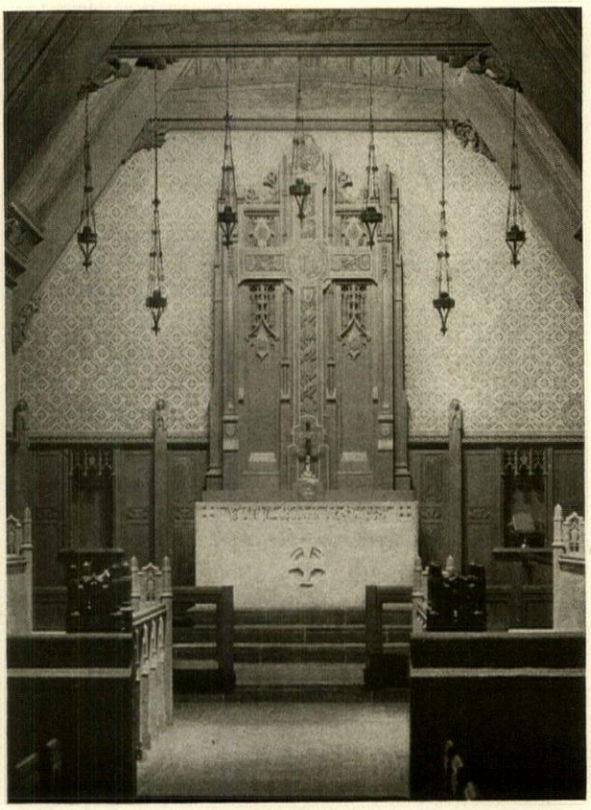


St. James's Church, New York City
Cram & Ferguson



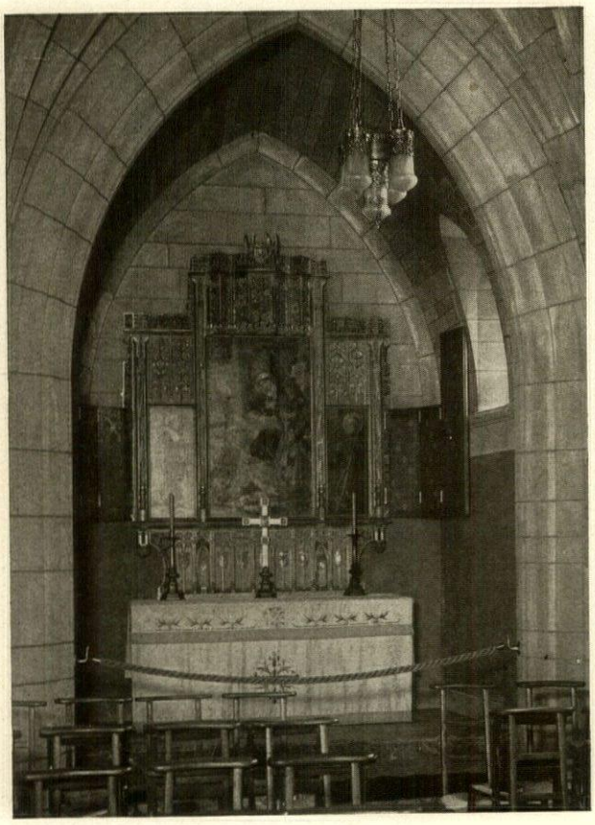


Chapel of the Intercession, New York City
Bertram G. Goodhue

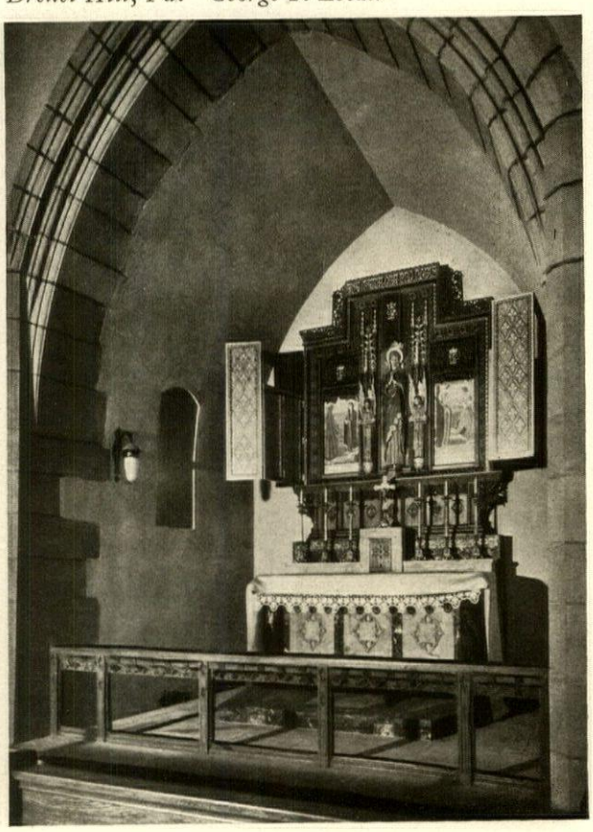


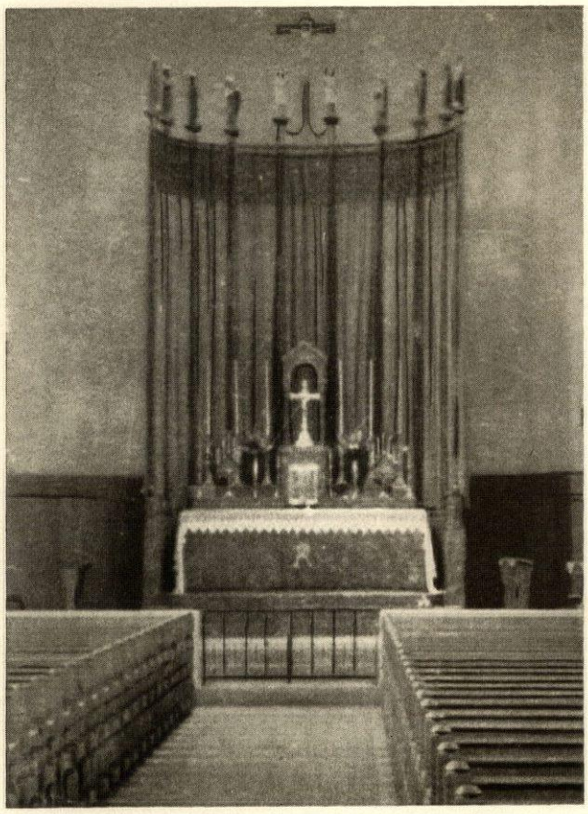
Trinity Church, Moorestown, N. J.
Walter T. Karcher & Livingston Smith

Side Chapel, Chapel of the Intercession, New York City. Bertram G. Goodhue

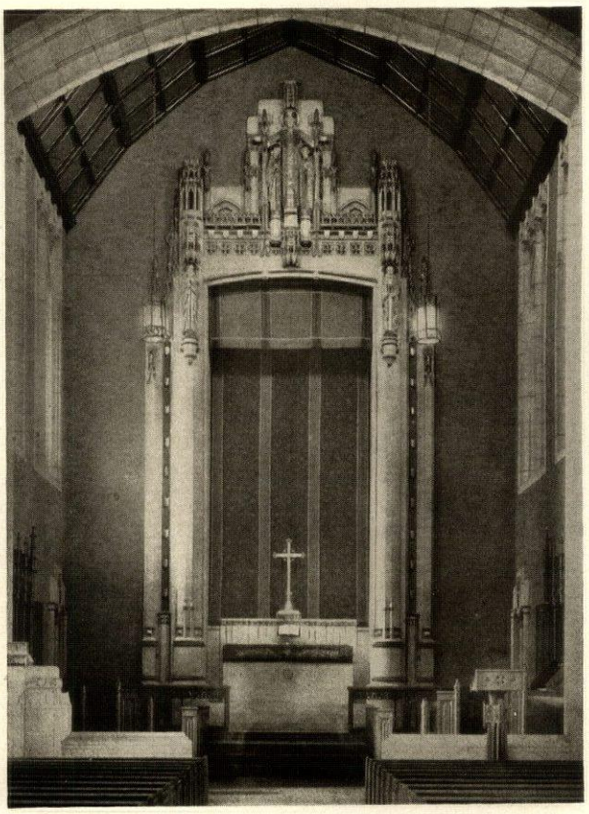


Blessed Virgin Mary Altar, St. Andrew's, Drexel Hill, Pa. George I. Lovatt



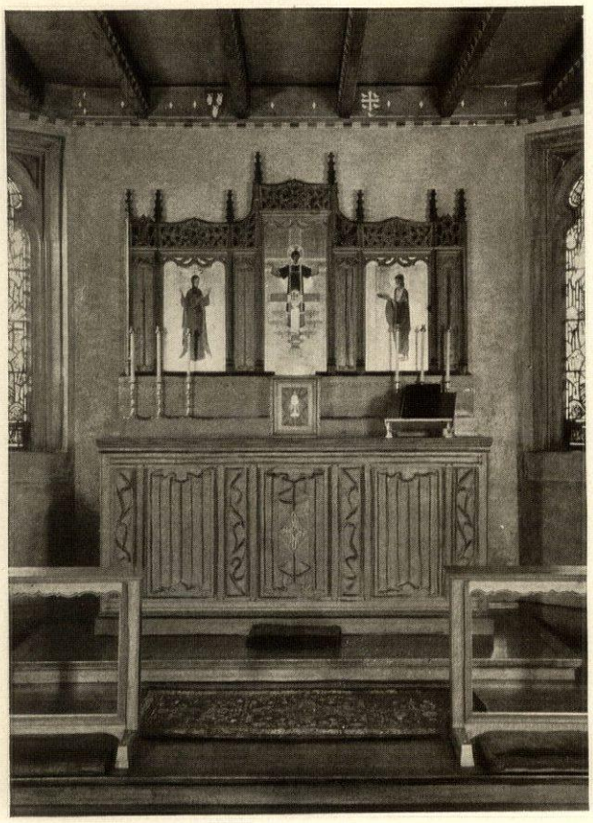


Church of the Most Precious Blood of Our Lord, Philadelphia. George I. Lovatt

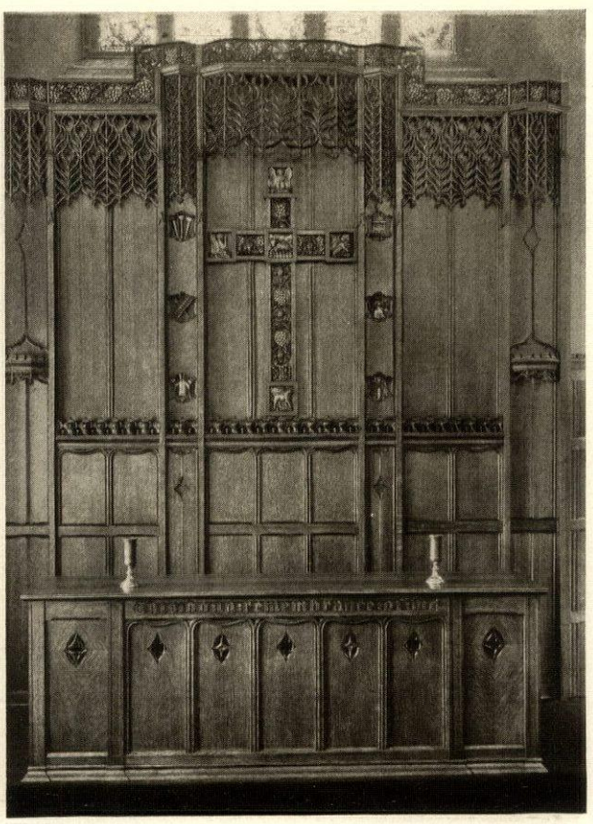


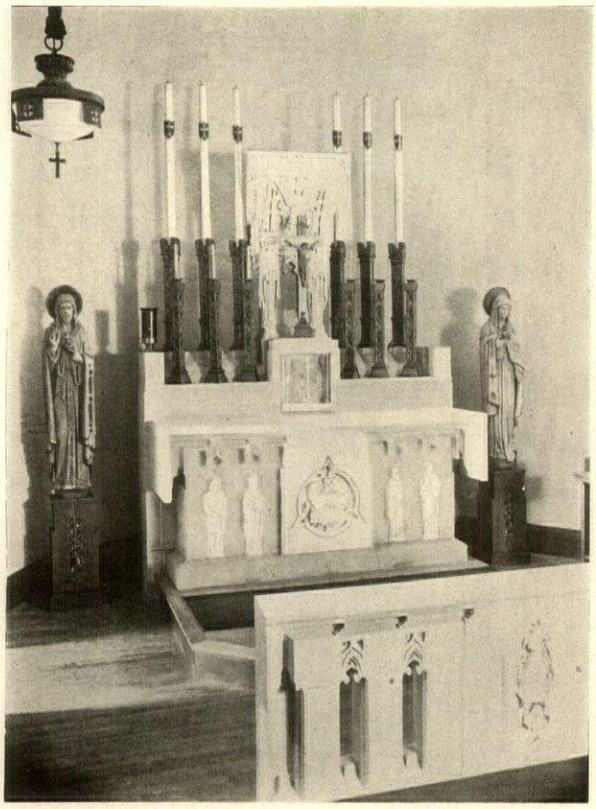
Christ Lutheran Church, Hazleton, Pa. Thomas, Martin & Kirkpatrick

Chapel Altar, Cincinnati, Ohio. Stanley Matthews, architect; Thomas T. Waterman, designer



Trinity Reformed Church, Akron, Ohio Fulton & Sons; Paul Jorey, woodcarver

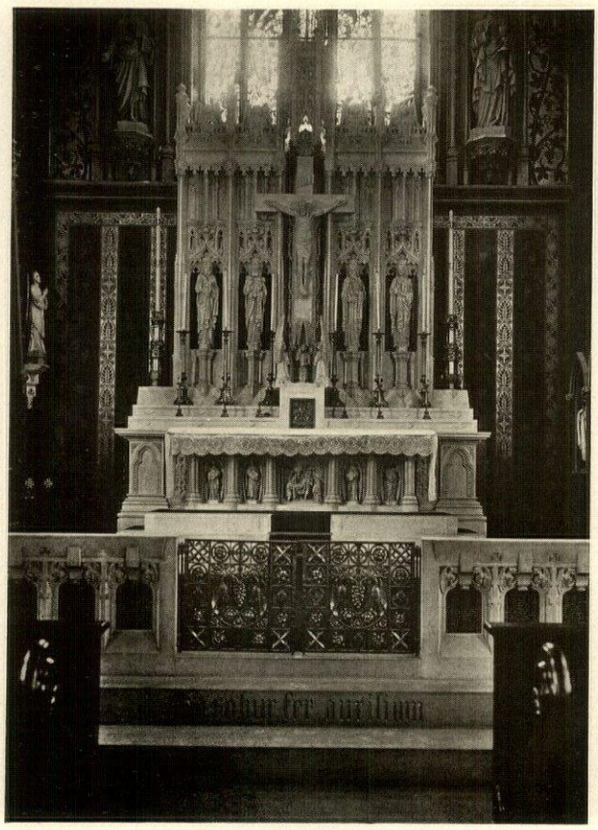




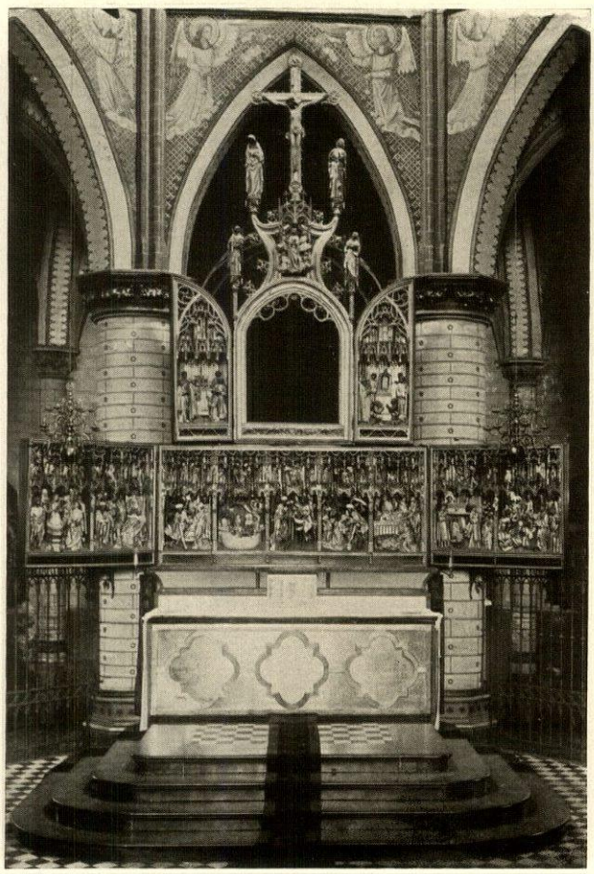
Donnelly Memorial Chapel, St. John's Convent, Swampscott, Mass. Matthew Sullivan

St. Stanislaus', Troy, N. Y. Edward W. Loth

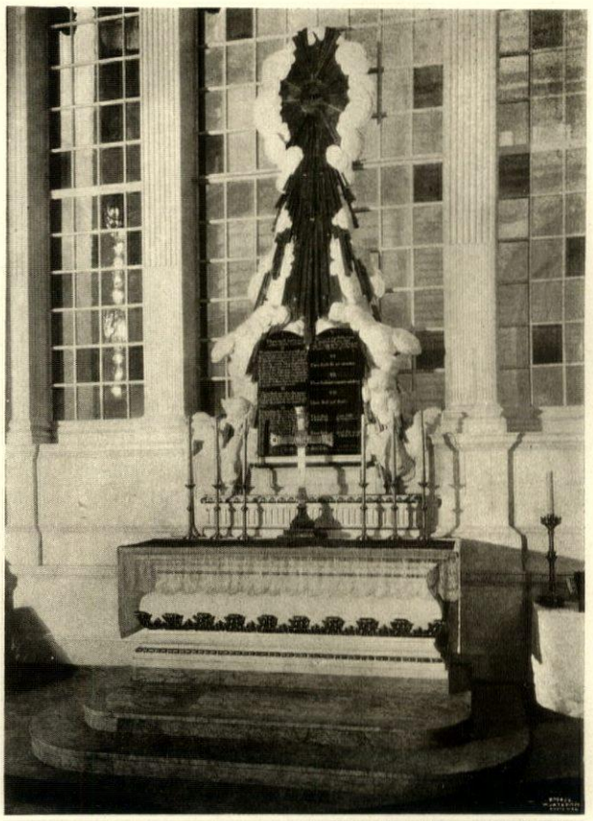
St. Mary's, Taunton, Mass. Matthew Sullivan



St. Dympny, Gheel, near Antwerp

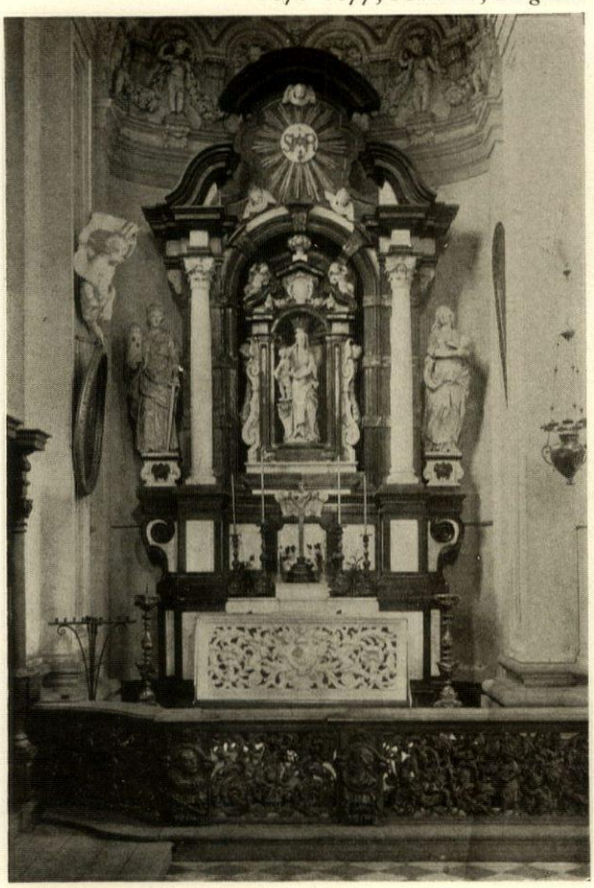


St. Catherine's, 1524–1546, Hoogstraeten, near Antwerp

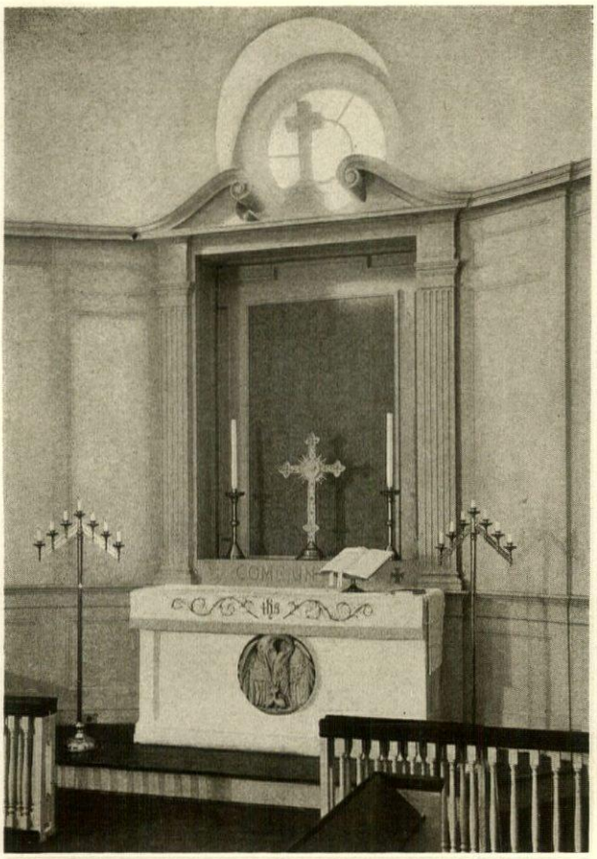


St. Paul's, New York City
F. deLancey Robinson

Side Chapel, Church of St. Peter and St. Paul, 1670–1677, Malines, Belgium



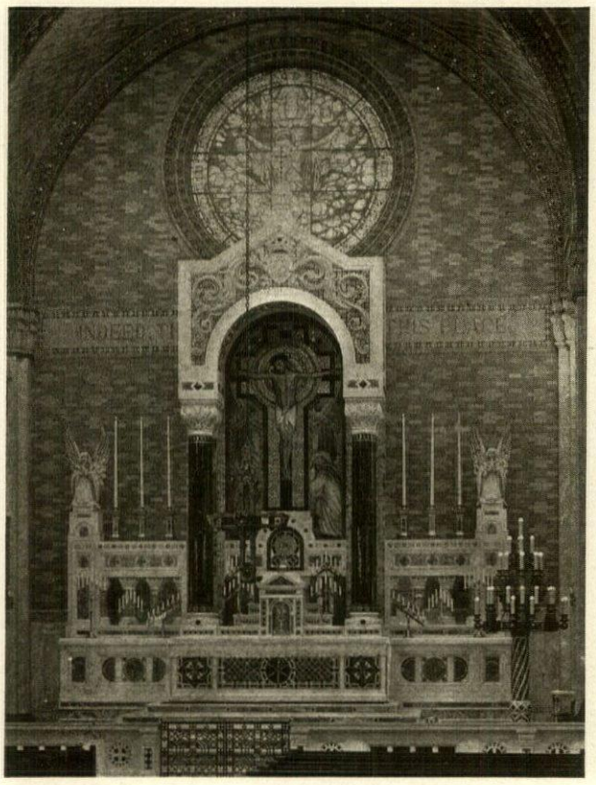
Church of the Blessed Sacrament, Walpole, Mass.
Matthew Sullivan



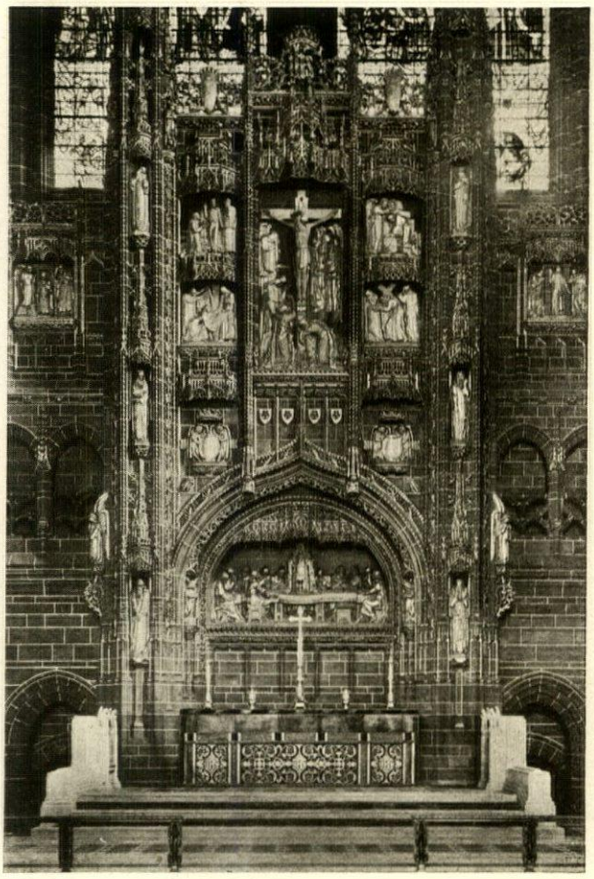
Zion Episcopal Church, Douglaston, Long Island
Aubrey B. Grantham

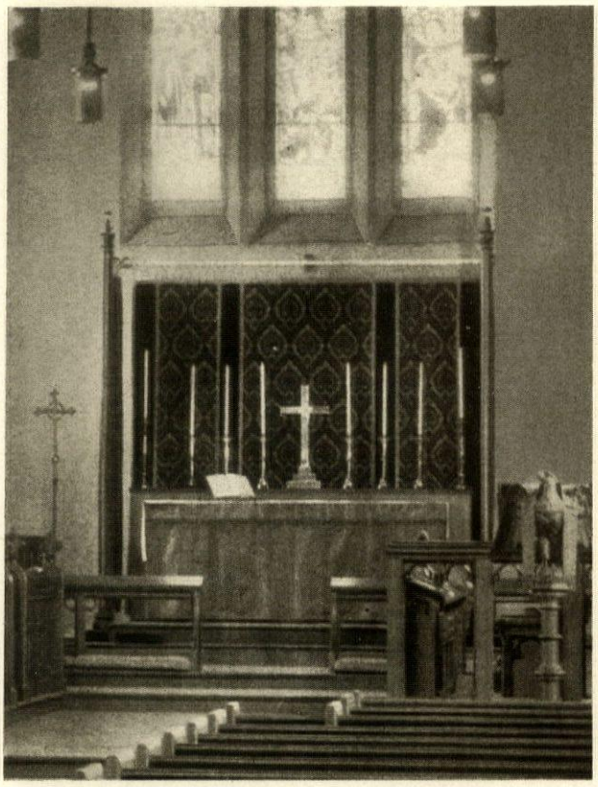
Church of the Transfiguration of Our Lord, Philadelphia, Pa. Henry D. Dagit & Sons

St. Francis de Sales Church, Philadelphia, Pa.
Henry D. Dagit & Sons



Liverpool Cathedral. Sir Giles Gilbert Scott

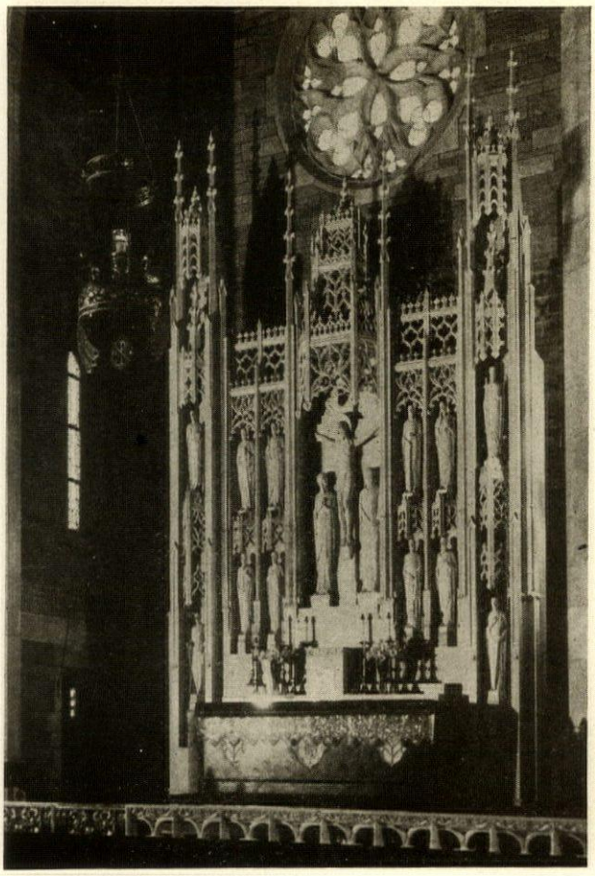




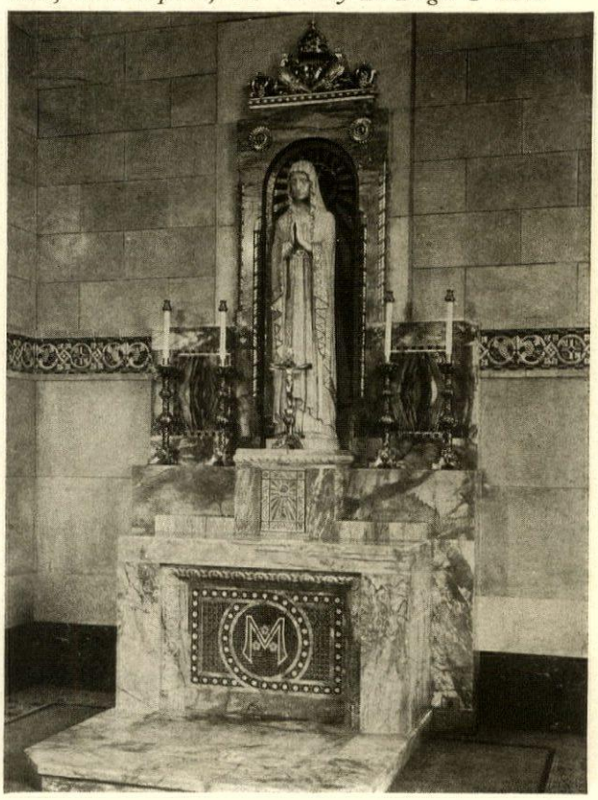
St. Paul's Episcopal Church, Yonkers, N. Y.
Cram & Ferguson

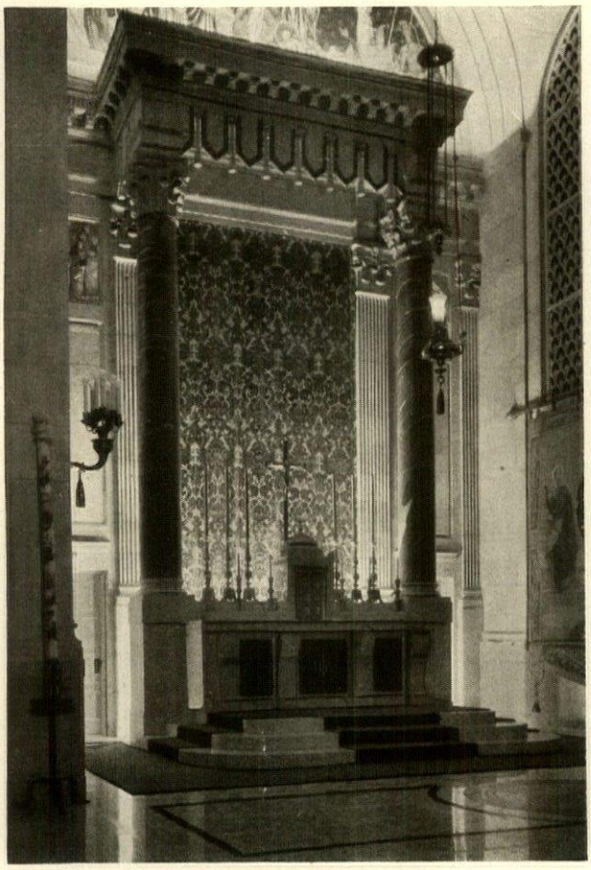
St. Madeleine's Chapel, Germantown, Pa.
Henry D. Dagit & Sons

Holy Cross Church, Germantown, Pa.
Henry D. Dagit & Sons

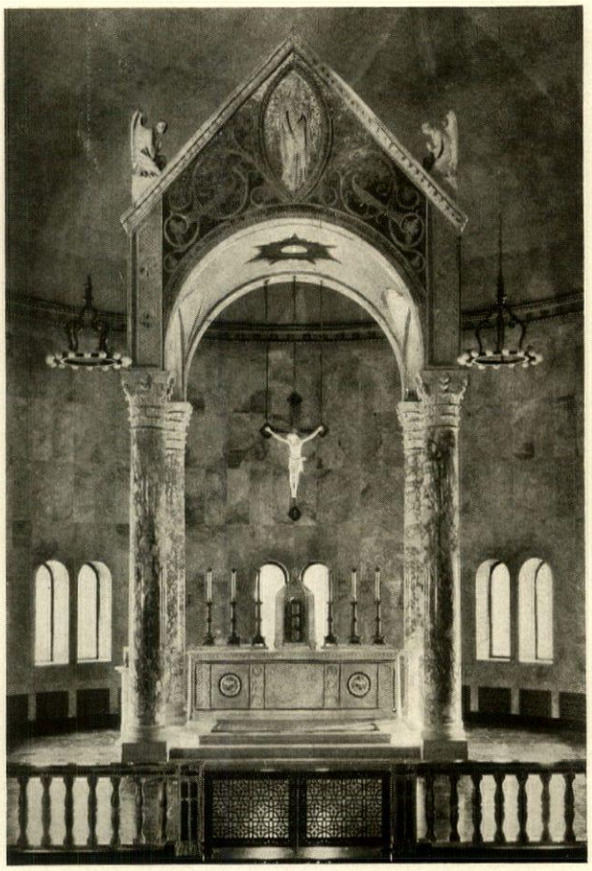


Blessed Virgin Mary Altar, Church of the Transfiguration, Philadelphia, Pa. Henry D. Dagit & Sons





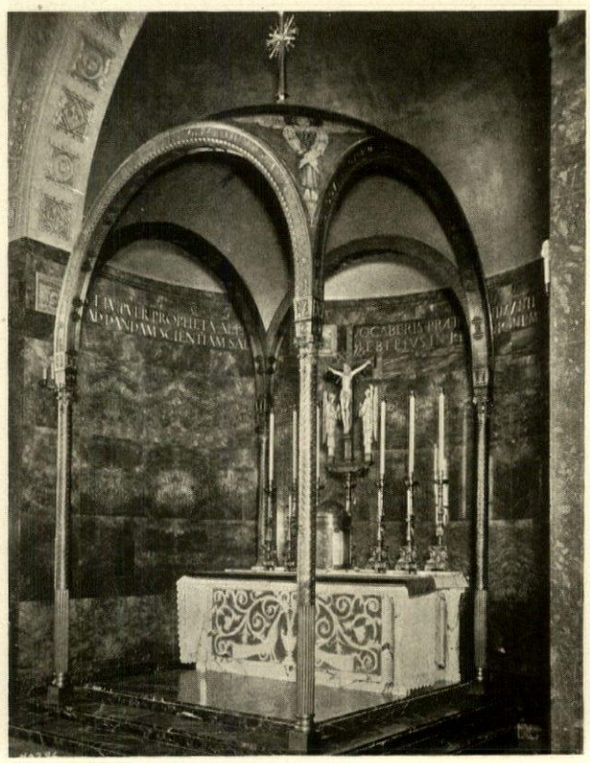
Wernersville Chapel, Wernersville, Pa.
Maginnis & Walsh



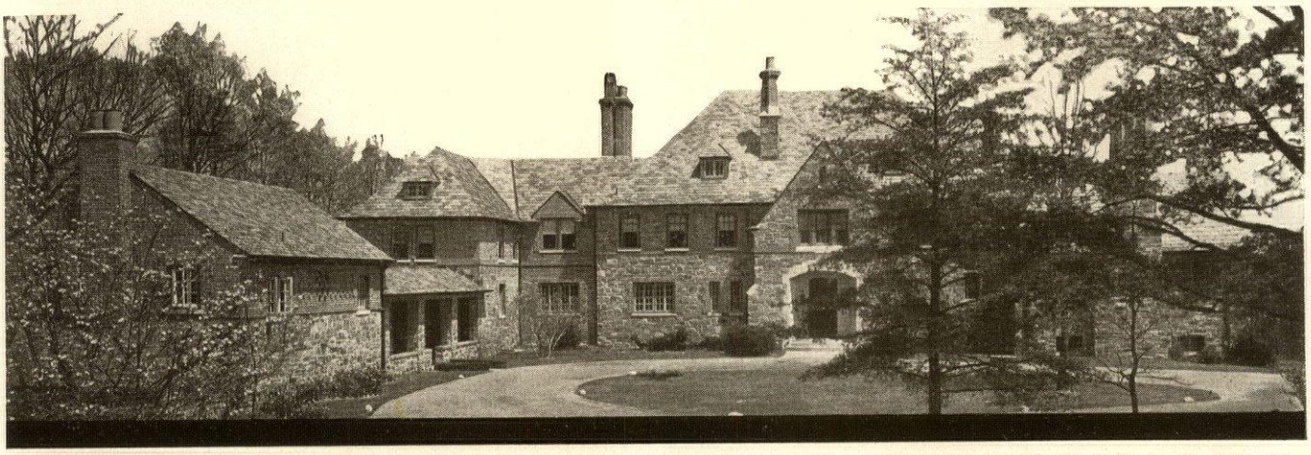
Trinity College Chapel, Washington, D. C.
Maginnis & Walsh

Detail of the altar shown above
Maginnis & Walsh

Nazareth Hall, St. Paul, Minn.
Maginnis & Walsh



MANY MODERN HOMES PROVIDE COMMUNICATION FROM ROOM TO ROOM OVER REGULAR BELL TELEPHONES



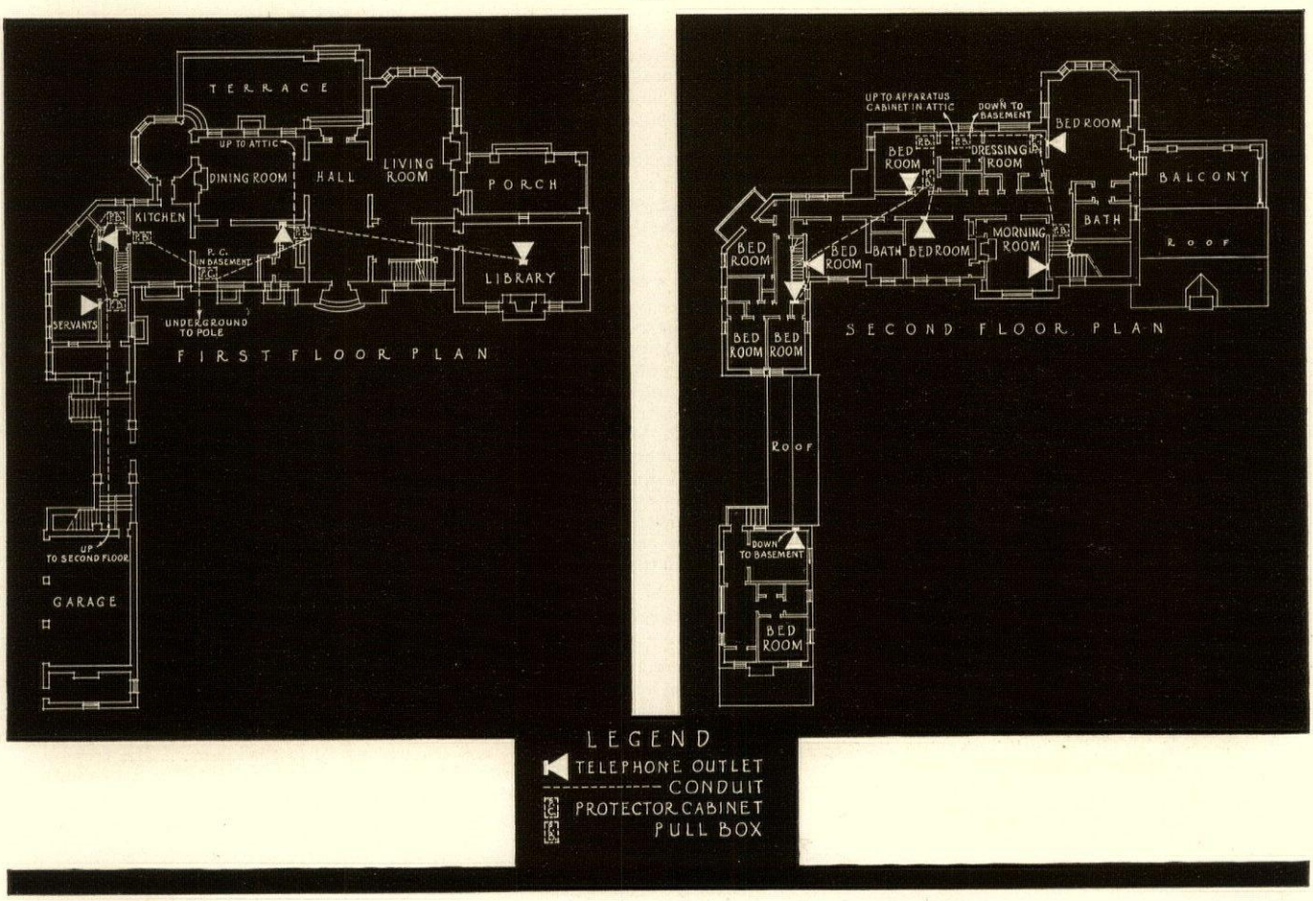
A 750-A intercommunicating system and eleven telephone outlets provide complete telephone convenience in the residence of Mr. Merle Thorpe, Rockville Pike, Montgomery County, Maryland. Appleton P. Clark, Jr., Architect, Washington, D. C.

Today most well-planned homes, whatever their size, include *enough* telephones as a matter of course. Conveniently located in all important rooms, they save time and steps and energy for every member of the family, every day.

In larger homes, it is often desirable to be able to talk from room to room . . . from boudoir to kitchen . . . from library to garage . . . as well as to the world outside. Where such a need exists, it is easily met by one of several available intercommunicating systems employing regular Bell telephones.

For efficient and satisfactory results, all telephone arrangements, and particularly intercommunicating systems, should be planned in advance. By specifying telephone conduit throughout the house, it is possible to place outlets wherever they are most convenient and to move the instruments easily as requirements change. All unsightly wiring is concealed and there is greater freedom from service interruptions.

To architects everywhere, the telephone company offers expert advisory service in the matter of providing for many types of equipment. You'll find such assistance valuable on projects you are planning. There is no charge. Just call the Business Office.



ARCHITECTURE'S SERVICE BUREAU FOR ARCHITECTS

ARCHITECTS AND EVERY ONE INTERESTED WILL FIND HERE THE LATEST AND MOST UP-TO-DATE INFORMATION ON BUILDING EQUIPMENT AND ACTIVITIES IN THE INDUSTRY. THESE PUBLICATIONS MAY BE HAD BY ADDRESSING ARCHITECTURE'S SERVICE BUREAU FOR ARCHITECTS, 597 FIFTH AVENUE, NEW YORK. OUR SERVICE BUREAU WILL OBTAIN ANY OTHER CATALOGUES OR DATA YOU REQUIRE.

FACTS

"In our business life, facts alone should guide us. To make available in simple form the facts about his products is the duty of every manufacturer."—*The Power Specialist.*

WHO GETS THE STEAM?

Placing the charge for lost steam is the difficult task of the plant manager. With the Brown Flow Meter it is possible to get an accurate, automatic record of all the volume units and to determine how many pounds of steam, gallons of water, barrels of oil, cubic feet of air or gas were delivered during any part of the day or night. The Brown Electric Flow Meter works on the inductance bridge principle.

WEYERHAEUSER FOREST PRODUCTS

Better home building construction in 1931 is predicted by F. K. Weyerhaeuser as a result of the introduction of a new precision structural lumber, the latest addition to the 4-Square line which was put out, in parcel form, three years ago. The new product is known as "4-Square Guide Line Framing."

A WELCOME CATALOGUE

The new Corbin catalogue contains an enlarged line of hardware especially suited to homes and buildings of other types. Architects will find a comprehensive assortment from which to make selections and reliable data on which to base specifications. The book includes all the approved specimens of Colonial and Early English hardware in vogue in the seventeenth and eighteenth centuries, adapted to modern building. There is a unity in construction and purpose of all pieces in each design, usually found only in expensive hand-wrought hardware. Copies of the catalogue will be sent to architects desiring it.

NEW ADDRESS

The Architects Building in Philadelphia is attracting many business concerns in the building trades. Conkling-Armstrong Terra Cotta Company has opened new offices in the building.

VITA GLASS IN INDUSTRY

A healthy atmosphere can now be created for the factory as well as the home and office. The medical profession looks upon the ultra-violet rays of the sun as one of the greatest aids in attaining health and vitality. The Campbell Industrial Window Company is sufficiently interested in the value of the ultra-violet rays to provide Vita Glass for all their windows at practically no increase in cost.

THE STOKERETTE

The Fire-King Stoker Company has completed a new automatic heating equipment, designed for exclusive use in warm-air furnaces, and offers the home-owner the unusual advantage of burning pea-coke, the cheapest and cleanest fuel.

VALUABLE PAMPHLETS

"Lumber and Its Utilization" is the title of a construction information series issued at frequent intervals by the National Lumber Manufacturers Association. The text and illustrations are authentic and dependable.

MATCHED BEAUTY

A brand new series of related plumbing fixtures and fittings, all conforming to a common principle of design in keeping with the modern trend toward harmony in building and home furnishing, is announced by Kohler of Kohler. The first of the series to be introduced is the Metropolitan set. All the new fixtures are offered at popular prices and are available in six colors.

CINDER CONCRETE BLOCKS

The Straub Cinder Unit has made a remarkable record in the South. The *News* for February tells a great story about successful building operations in the Southern States. At the Eighth Annual Convention of the National Cinder Concrete Products Association in January efforts were made to more completely standardize the product, increase efficiency in serving architects and contractors, and in making the public better acquainted with the nature and advantages of Straub Cinder Units.

BURNED CLAY BRICK

Architects are receiving the second instalment of plates, "Contemporary Detail in Common Brick." This beautiful portfolio is being sent out by the New York and New Jersey Common Brick Association. New sets of sheets will be added as worthy examples are selected.

DUNHAM CONCEALED RADIATION

The C. A. Dunham Company of Chicago announces the recent development of a concealed radiator of improved design, that has many features of interest to architects. The new radiator is of radically different construction, and was finally built only after exhaustive research to determine just what qualities are most desired. It is especially adapted for use with the Dunham Differential Vacuum Heating System. However, the solid construction and permanence make this concealed radiator excellently suited for use with any heating installation.

STEEL DECK FORMS A CURVED ROOF

The curved or dome type of roof frequently is used for auditoriums, gymnasiums, theatres, and other public buildings, and the properly insulated steel deck roofing, with its elimination of condensation and its superior weather-resisting qualities, has many advantages for that type of building. When the Paramount Theatre at Fort Wayne, Ind., was erected, a Holorib steel roof deck was designed for this building, and by estimating the rate of increase of the distance between the purlins, it was possible to lay out the entire job and have the sheets cut to the exact length necessary.

PROTECTION AND INSPECTION

The contents of a booklet—just off the press—by the Pittsburgh Testing Laboratory will prove interesting reading to architects, engineers, and contractors. It discusses the scope and responsibility of the professional inspection of large building operations and compares results with independent inspections made by Pittsburgh Testing Laboratory that renders a service of unbiased reports.

MODERNISTIC BLOCK FLOORING

A new company enters the field with a new product in wood flooring. The National Wood Products Co. is promoting a wood block called Evanite that is suitable for almost any domestic, commercial, or industrial flooring job. They come in standard thicknesses and sizes. The blocks are milled from specially air and kiln dried selected wood, joined by a new type of interlocking joint, and treated with transparent Pen-O-Treat wood preservative. They are laid in Cushionite Mastic composition, which retains its elasticity indefinitely. Many patterns may be worked out for specially designed floors.

SUPPLY LINE PLUMBING INSTALLATIONS

Two circulars sent by Kelso Company present the Kelso Closet Bowl and Simplified Quick Calculation of Correct Water Pipe Sizes. Back syphonage can only be caused by the piping system, hence the cure is in the piping system—not in the fixtures. If you are interested in the engineering of the Kelso line, write for information.

THE ROOF

The designer working with present-day materials encounters his greatest difficulty in the roof. He finds it almost impossible to obtain the old qualities of color and texture by the use of new material, even of a type similar to the original. Salem Roofs lose nothing in beauty and charm. The Johns-Manville Corporation developed this Salem shingle under the guidance of Walter McQuade, Consulting Architect. It has the advantage of being fire-proof, durable, capable of color variation and combination, and of irregular texture and thickness.

PARTITION HANDBOOK

The Associated Metal Lath Manufacturers, Inc., have been highly commended by eminent authorities for the fair presentation of the subject of acoustics in the chapter devoted to sound insulation. Every chapter in the new Handbook has been prepared with great care and precision—the result of five years' research and investigation in many parts of the country. Complete working diagrams and specifications covering each step in the construction of metal lath partitions in all classes of buildings are included.

STOPPING MOISTURE IN MASONRY WALLS

Seepage or moisture within masonry soon disintegrates the mortar, disrupts the walls and necessitates constant and expensive repairs. Cheney Interlocking Wall Flashing runs entirely through the wall but does not break the bond. It forms a positive mechanical key-bond in every direction within the mortar bed. The booklet sent to architects gives specifications and details.

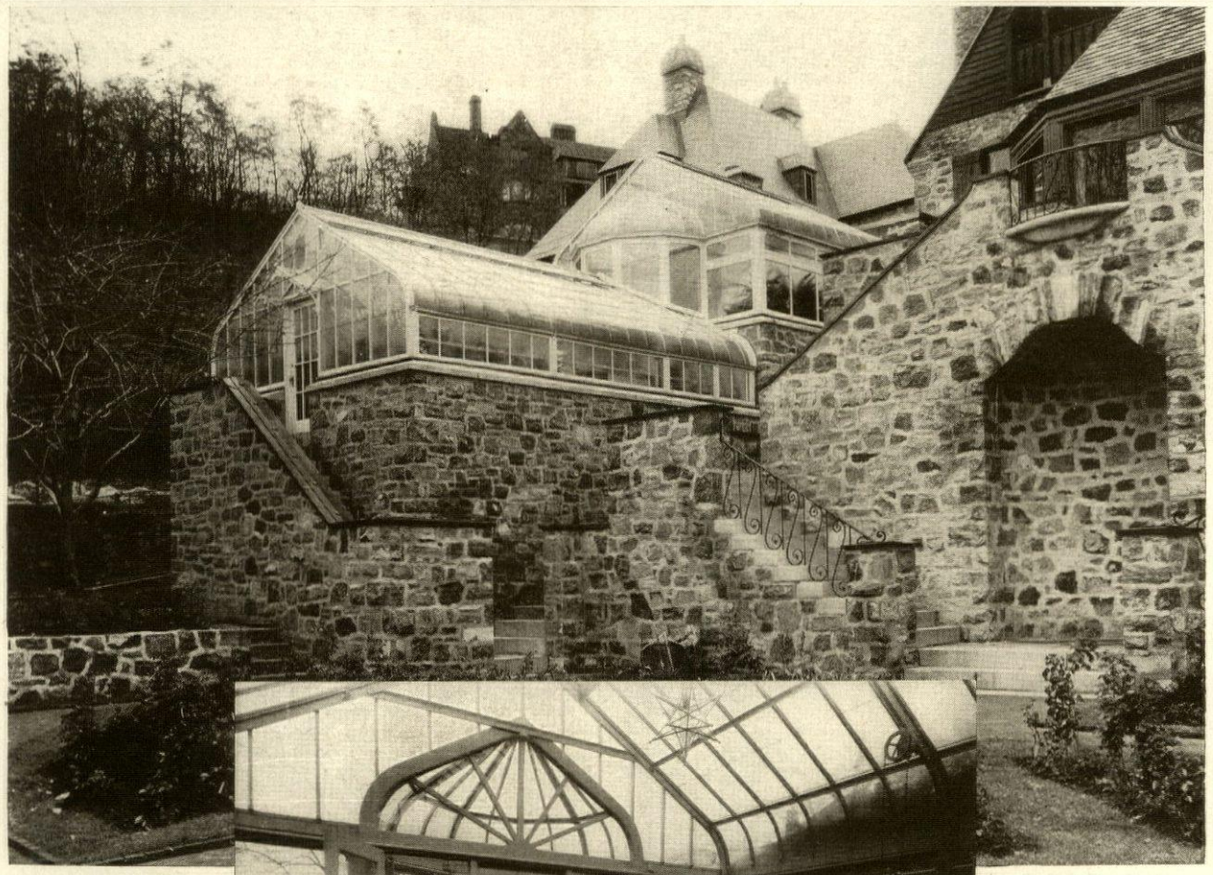
TIME AT HARVARD UNIVERSITY

The Telechron time-keeping equipment has just been installed in one of the new building groups. Dillon Field House, near the athletic stadium, also has a four-dial tower clock, and the stadium itself has a ten-foot spectators' clock, to indicate the progress of football games. The famous old buildings of Harvard are to be completely equipped and controlled from a pilot clock and manual control switch in the new Geography Building.

DETAIL FROM ARCH—MAIN ENTRANCE, WEST SIDE Y. M. C. A., N. Y. DWIGHT J. BAUM, ARCHITECT

MANUFACTURING processes and knowledge capable of too close an approach to mechanical perfection are probably responsible for the distressing condition in which the terra cotta industry finds itself today. The material, if not used directly as an imitation of something else, is nearly always treated with so-called special finishes, which generally represent nothing in particular and might be produced with as good effect in plaster, stucco, paint or any one of a dozen other materials. To the craftsman there is genuine happiness in laboring for an architect with those rare qualities of good taste and good sense that allow the craftsman to lavish upon his ware every resource to produce something really excellent in its complete expression of the traditional and natural characteristics of the material in which he works.

GLASS GARDENS



Frederick G. Todd, L. A.

T. Galt Durnford, Architect

A Problem Solved by Montreal Architects

ON a slope of Mount Royal, the outstandingly beautiful residential section of Montreal, John H. Molson, Esquire, has linked his conservatory and greenhouse, which latter is placed on a lower level.

This locating of the glass garden directly adjoining the residence, is, as you know, an English custom, quite generally followed in Canada.

In the meeting of exceptional conditions such as this you will find our cooperation helpful. Its soundness is based on a broad experience of over four generations, in building all kinds of glass-overs.

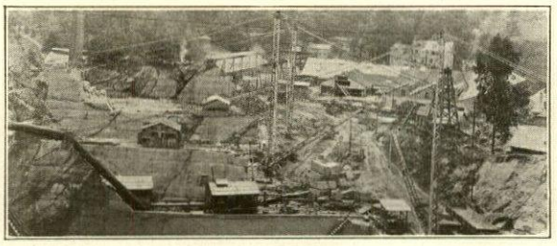
No one is so well equipped to handle this special work as Lord & Burnham Co.

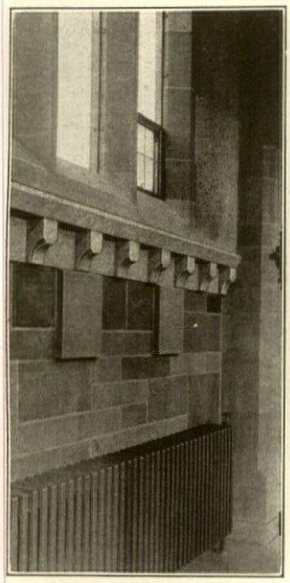
New York Philadelphia
Denver Detroit
Buffalo Montreal

Lord & Burnham Co.
IRVINGTON, N. Y.

Chicago Boston
St. Louis Cleveland
St. Catharines Toronto

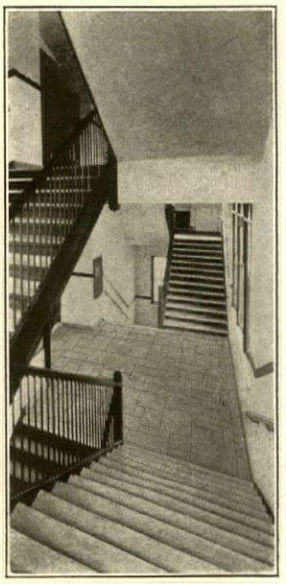
For Four Generations Builders of Greenhouses



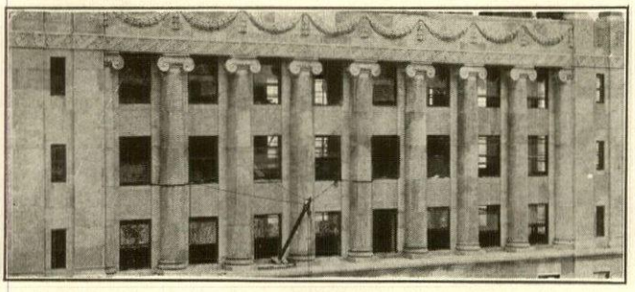


TRIM

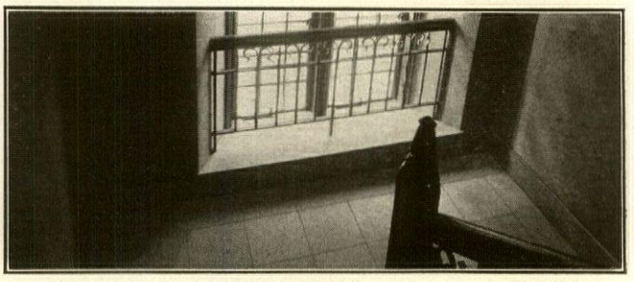
The unique qualities *of* SOAPSTONE make it an interesting material with which to work



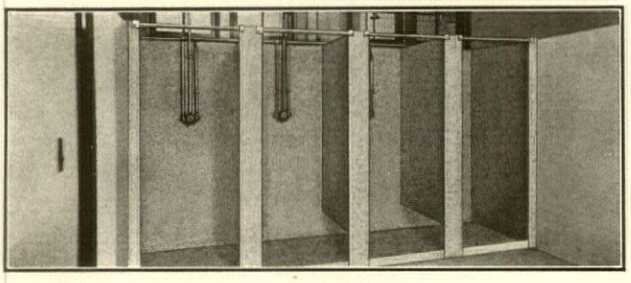
TREADS



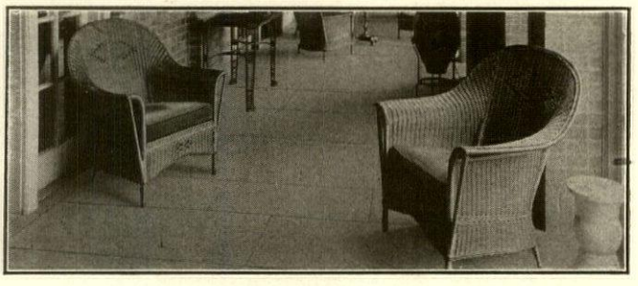
SPANDRELS



SILLS and STOOLS



SHOWER STALLS



FLOORING

The Tennessee marble quarries and mills of the Ross and Republic Marble Company have been acquired by the Virginia Alberene Corporation, and the business will be continued as the Ross-Republic Marble Corporation. Alberene Stone Company continues to act as Sole Selling Agent.

WE solicit inquiries for samples from architects who are not familiar with the various textures and finishes of soapstone, because we believe that this natural non-stratified material has possibilities as an architectural medium that will not be known until its qualities are familiar to all architects.

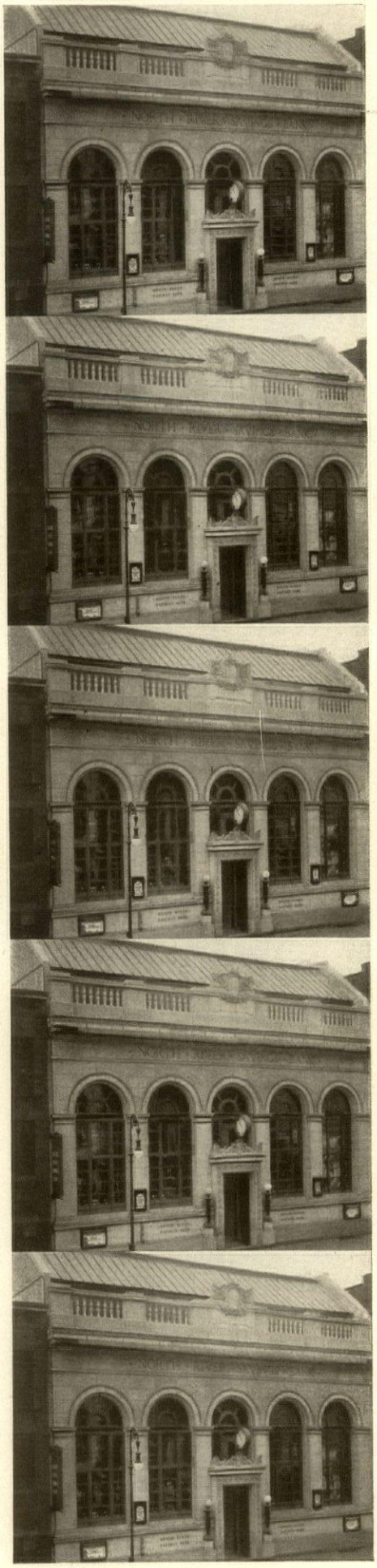
With knowledge of properties, colors and textures, we are confident that creative minds will see artistic and economic uses as yet unknown.

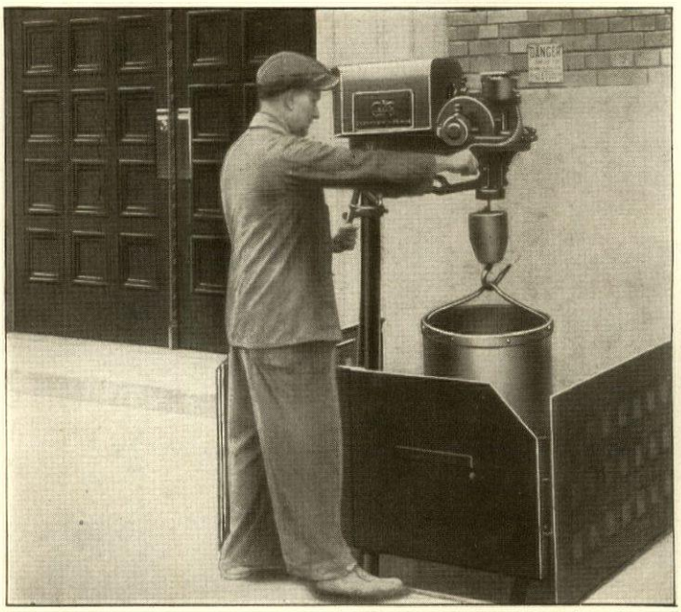
ALBERENE STONE COMPANY, 153 W. 23rd Street, New York. Branches in Principal Cities. Quarries and Mills at Schuyler, Virginia.

ALBERENE STONE

THE VIRGINIA SOAPSTONE OF DIVERSIFIED UTILITY

Complete data and plates in full color showing Alberene Stone in conjunction with marbles and other building stones make the brochure "Architectural Alberene" of interest.





Model E Electric Hoist as used in bank buildings. Note how sidewalk opening is fully protected

619 BANKS

now remove ASHES, GARBAGE, RUBBISH *with* G&G TELESCOPIC HOISTS

BANK architects and bank officials have selected the G&G Telescopic Hoists time after time because a necessary work is accomplished with the least possible expenditure of time, labor and money. The positive safety assured by this equipment has also influenced its selection. Accidents cannot happen when the sidewalk opening is fully enclosed and safeguarded by G&G Sidewalk Doors and Swing Guard Gate.

Banks are just one of many classes of buildings in which G&G Telescopic Hoists are used for removing ashes, garbage and rubbish. The list includes hotels, hospitals, clubs, office buildings, schools, churches, garages, etc.

Our engineers will be glad to cooperate in the selection of the hoist equipment best adapted to a specific purpose. Electric and hand operated models available for all needs.

The G&G ELECTRIC REG. U.S. PAT. OFF.
Telescopic Hoist
With Automatic Stop and Gravity Lowering Device

See our Catalog in Sweet's Archt'l. Catalog—1931 Ed., pp. D6342-49
In Canada see Specification Data. Agents in Principal Cities

GILLIS & GEOGHEGAN
540 West Broadway New York, N. Y.

ZENITHERM
for Auditoriums

IN auditoriums, churches, theatres—wherever the dignity and beauty of marble would be appropriate—Zenitherm offers similar *decorative advantages* and *permanence* at a material saving.

Zenitherm is a fabricated material which closely resembles some fine Italian marble in appearance. It wears like stone . . . is practically indestructible . . . yet is *sawed, nailed* and *worked like wood.*

Zenitherm is quiet and comfortable underfoot—is warm to the touch—and possesses desirable acoustic properties. Zenitherm may be used *indoors* or *out.* Age and weathering only serve to toughen and harden this "man-made" marble.

See Zenitherm's 21 attractive color tones in Sweet's Catalogue B-3007-14, or write us for full information.

COMMISSIONERS:
Wm. Horlick, Jr., Pres.
Jos. Cooper, Vice Pres.
M. E. Walker
P. T. Stoffel
J. V. Rohan
Geo. Herzog
Silas H. Whaley

MEMORIAL HALL COMMISSION
OF
RACINE, WISCONSIN
(WM. H. ARMSTRONG, Mayor)

CITY MEMBERS:
A. J. Eisenhut, Treas.
F. J. Becker, Sec'y
Miss Edna Christensen
(Bldg. Sec'y - Jackson 486)

September 10, 1930.

Zenitherm Company of Illinois,
612 N. Michigan Avenue,
Chicago, Illinois.

Gentlemen: Attention: Mr. C. W. Shiplock

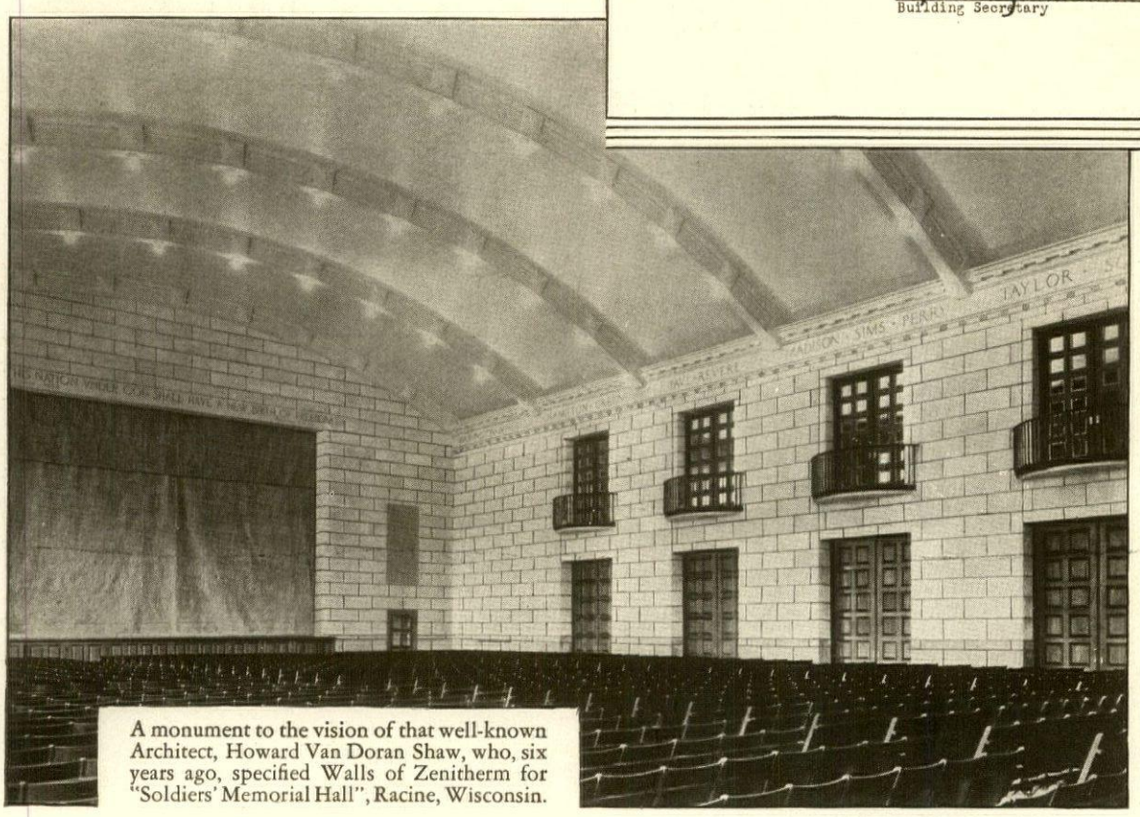
Your letters of August 30th and September 6th at hand.

The delay in answering your letters has been due to the writer's absence from the city.

We certainly are very well pleased with the acoustic value of Zenitherm. In fact, many of the most prominent artists that have appeared here have remarked about the acoustics in our auditorium. We have letters on file from some of the best orchestras that have played here for dances, also from the Marine Band, stating that our auditorium is one of the finest in regard to acoustic properties and architectural plan that these people have played in.

Then, too, it is surprising the number of tourists from all over the United States that stop and visit our building. One of the first things they notice is the beauty of our auditorium, and especially the walls which are covered with Zenitherm.

Very truly yours,
RACINE MEMORIAL HALL
Edna Christensen.
Building Secretary



A monument to the vision of that well-known Architect, Howard Van Doran Shaw, who, six years ago, specified Walls of Zenitherm for "Soldiers' Memorial Hall", Racine, Wisconsin.

ZENITHERM
(For Walls and Floors)

ZENITHERM COMPANY, INC., KEARNY, N. J.
110 EAST 42ND STREET, NEW YORK, N. Y.

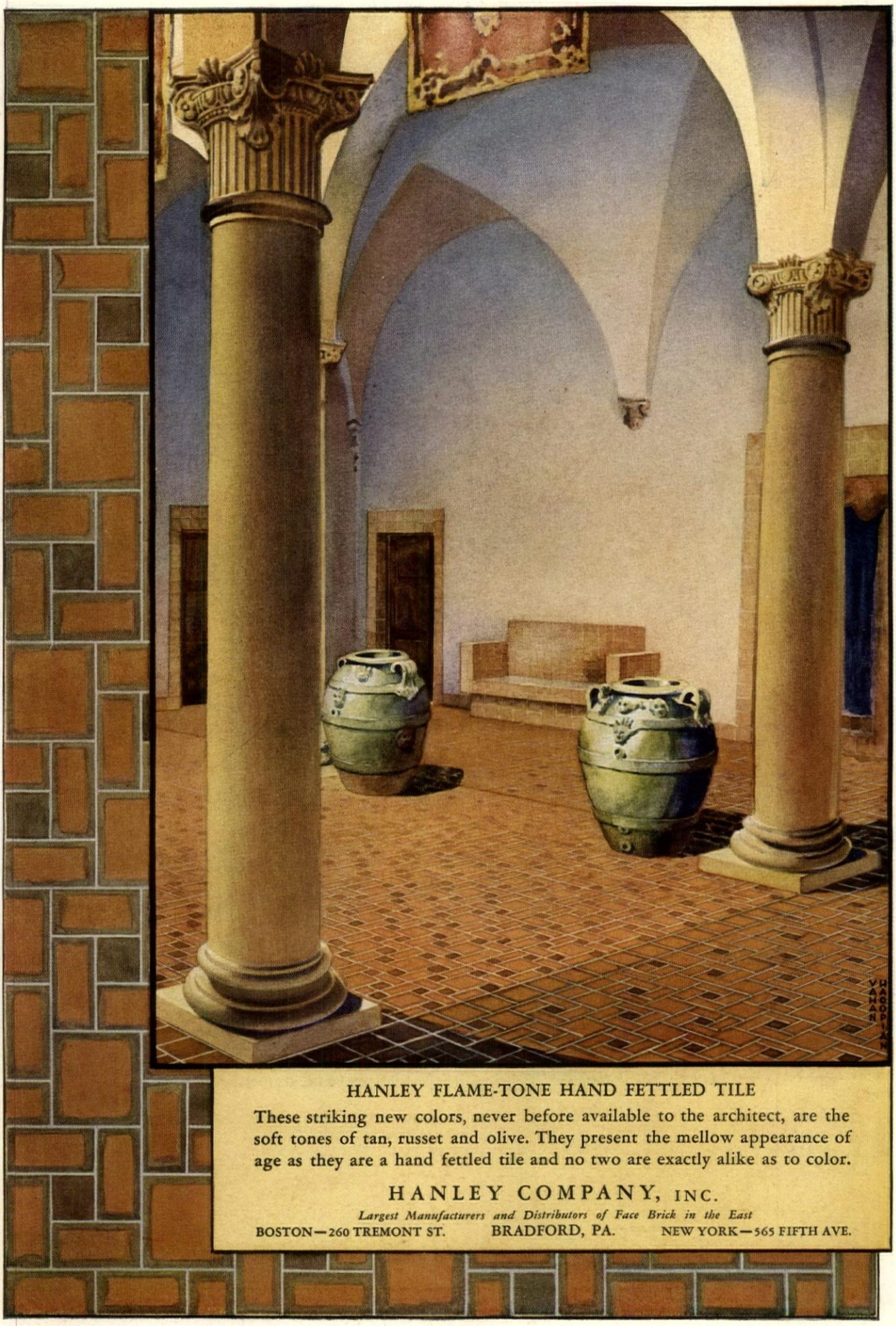
PHILADELPHIA · CHICAGO · BOSTON · SAN FRANCISCO · DETROIT

ADVERTISERS' INDEX

WHAT TO SPECIFY *WHERE TO BUY*

IF YOU ARE INTERESTED IN OBTAINING THE CATALOGUES OF ANY OF THE ADVERTISERS IN THIS ISSUE OF ARCHITECTURE (AS LISTED BELOW) LET ARCHITECTURE'S SERVICE BUREAU SEND THEM TO YOU. ANY ADDITIONAL DATA CONCERNING THE INDUSTRY THAT THE READERS OF ARCHITECTURE REQUIRE WILL GLADLY BE COMPILED FOR THEM BY OUR SERVICE BUREAU.

REFER TO PAGE 34 FOR ANNOUNCEMENTS OF THE MOST UP-TO-DATE PUBLICATIONS OF MANUFACTURERS.



HANLEY FLAME-TONE HAND FETTLED TILE

These striking new colors, never before available to the architect, are the soft tones of tan, russet and olive. They present the mellow appearance of age as they are a hand fettled tile and no two are exactly alike as to color.

HANLEY COMPANY, INC.

Largest Manufacturers and Distributors of Face Brick in the East

BOSTON—260 TREMONT ST. BRADFORD, PA. NEW YORK—565 FIFTH AVE.