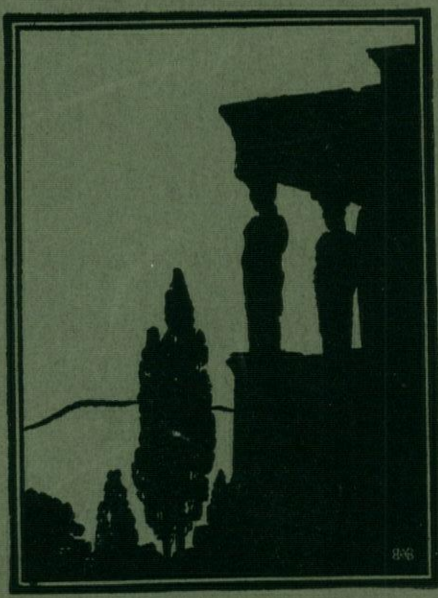
ARCHITECTURE

October 1930



The Hand Behind the Machine

BY HARRISON GILL

Hotel Rolyat, St. Petersburg, Florida

Rodeph Shalom Synagogue, Philadelphia

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Portfolio: Casement Windows

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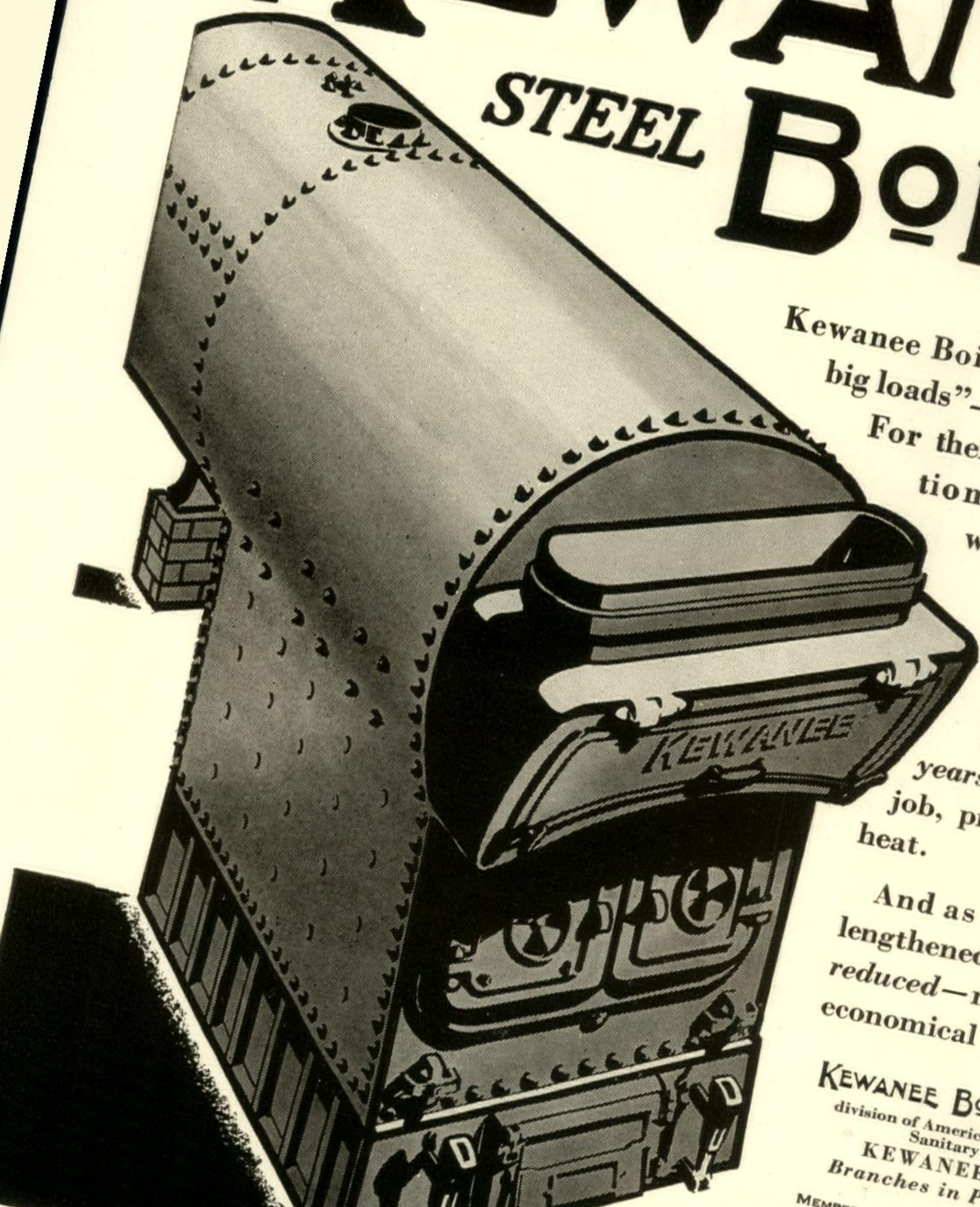
FIFTH AVENUE AT 48TH ST., NEW YORK 23 BEDFORD SQ., LONDON

ARCHITECTURE, published by CHARLES SCRIBNER'S SONS, 597 Fifth Avenue, New York, N. Y. October, 1930. Volume LXII, 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.

KEWANEE STEEL BOILERS



Kewanee Boilers are built to "Carry big loads"—even heavy "overloads." For their riveted steel construction is strong enough to withstand the worst punishment a heating boiler can get.

Countless Kewanee Boilers—*installed 40 years ago*—are still on the job, providing dependable heat.

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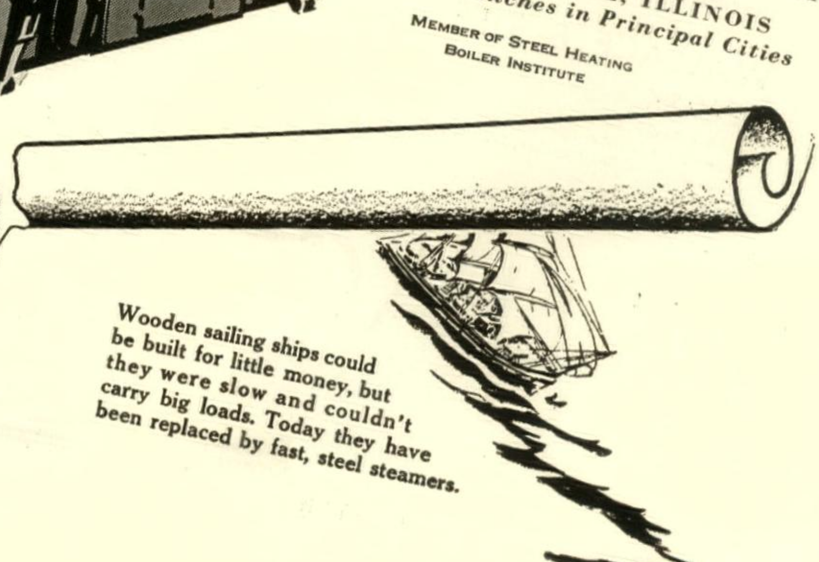
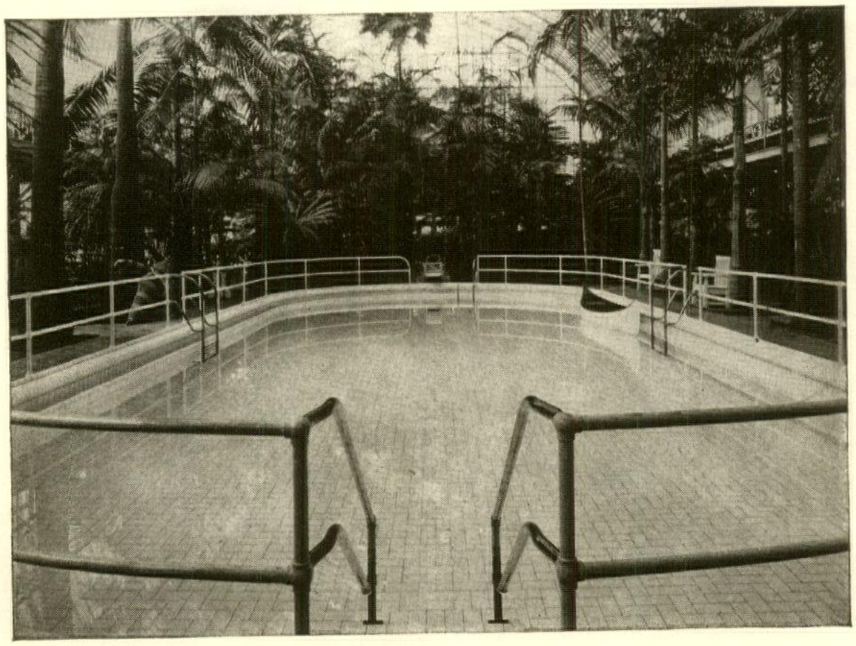
It costs less to <u>OWN</u> a KEWANEE



Wooden sailing ships could be built for little money, but they were slow and couldn't carry big loads. Today they have been replaced by fast, steel steamers.

The MODERN "Swimmin' hole" is CHLORINATED



Glass enclosed pool on the estate of E. L. Doheny, Sr., Los Angeles, California.

A W&T chlorinator keeps the water in this pool perfectly pure at a cost of less than 50¢ per million gallons.

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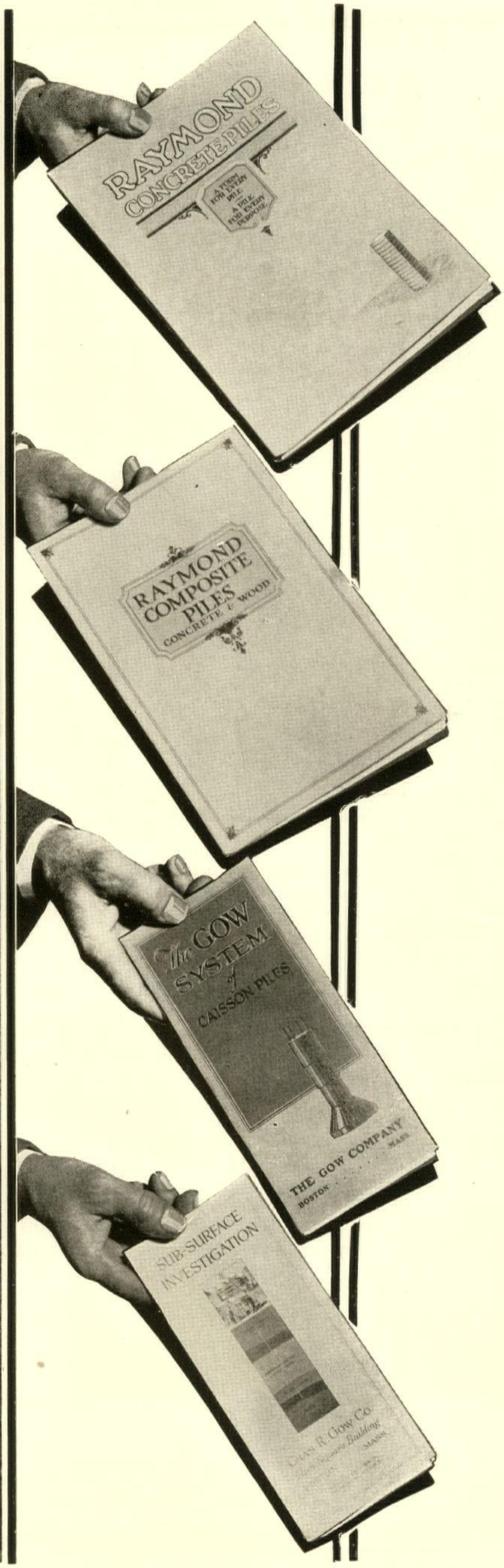

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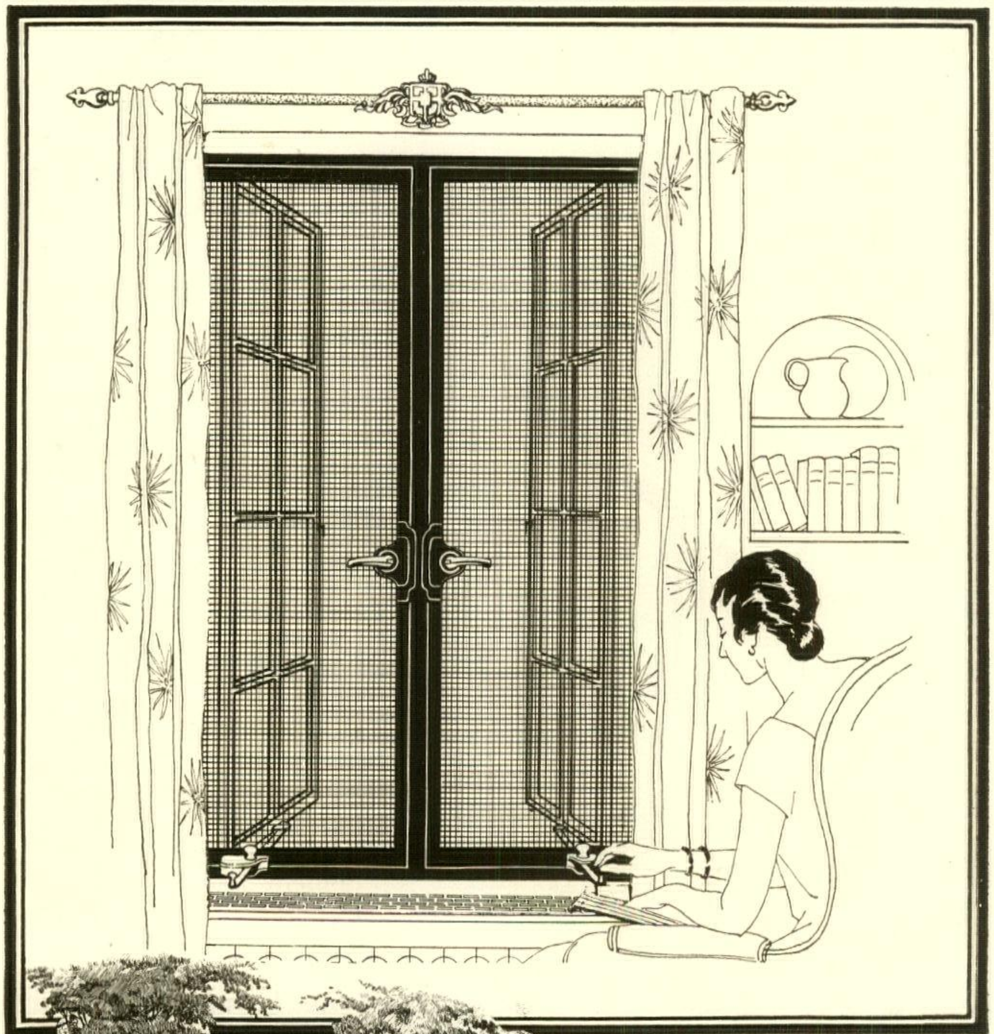

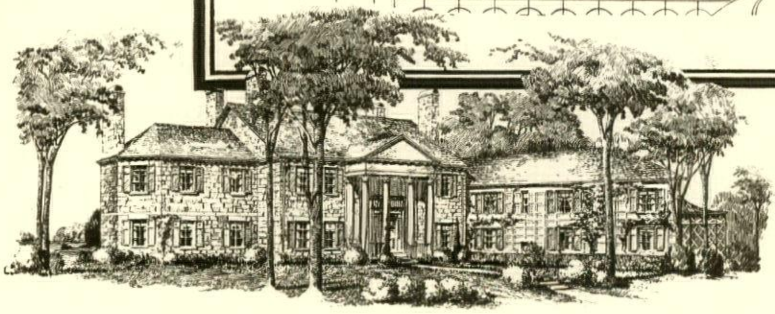

Colonial house at Saddle River, New Jersey, equipped with Fenestra "Fencraft" Casements. Aymar Embury II, Architect.

Architect AYMAR EMBURY II

chooses Fenestra "Fencraft" Casements . . . *Opened . . . Closed . . . Locked . . . without touching* Inside Screens

In selecting Fenestra "Fencraft" Casements for this Colonial house, Mr. Embury considered their unique advantages to his client, including: *screen-free* operation; and the fact that fly tightness is permanently insured by the non-warping, metal-to-metal contact of the *flat screen frames* held firmly against the *flat casement frames.*

"Fencraft" Casements are of heavy solid steel sections, with hardware of solid bronze or nickel silver in a variety of distinctive finishes. Craftsmanship of the high type you would expect from America's oldest and largest steel window manufacturer. Ask for "Fencraft" catalog.

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Fenestra

STEEL CASEMENTS (Screened)

Alberene Stone Spandrels Provide Pleasing Color Harmony with Limestone

This illustration shows ALBERENE STONE SPANDRELS at 33rd floor level of the new Newark & Essex Bank Building, Newark, N. J., *John H. & Wilson C. Ely*, Architects. *Starrett Bros. & Eken, Inc.*, General Contractors

A Natural Color that Grows More Beautiful with Age

THE perpetual beauty of ALBERENE STONE (SOAPSTONE) is assured. As years pass it weathers to pleasing tones of darker blue and green with glints of yellow.

Economical—Weatherproof

ALBERENE STONE SPANDRELS are free for all time of maintenance costs. No sand blasting, no painting, no repairs—durable beyond question. The original Soapstone trim on the exterior of Independence Hall, Philadelphia, has successfully withstood the attacks of the elements for 200 years.

See details and other information overleaf

Tower portion of Newark & Essex Bank Building. ALBERENE STONE SPANDRELS used at 32nd and 33rd floor levels—on all four elevations.

ALBERENE STONE SPANDRELS

THIN SLABS OF NATURAL STONE - BEAUTIFUL - ENDURING

Details of Alberene Stone Spandrels

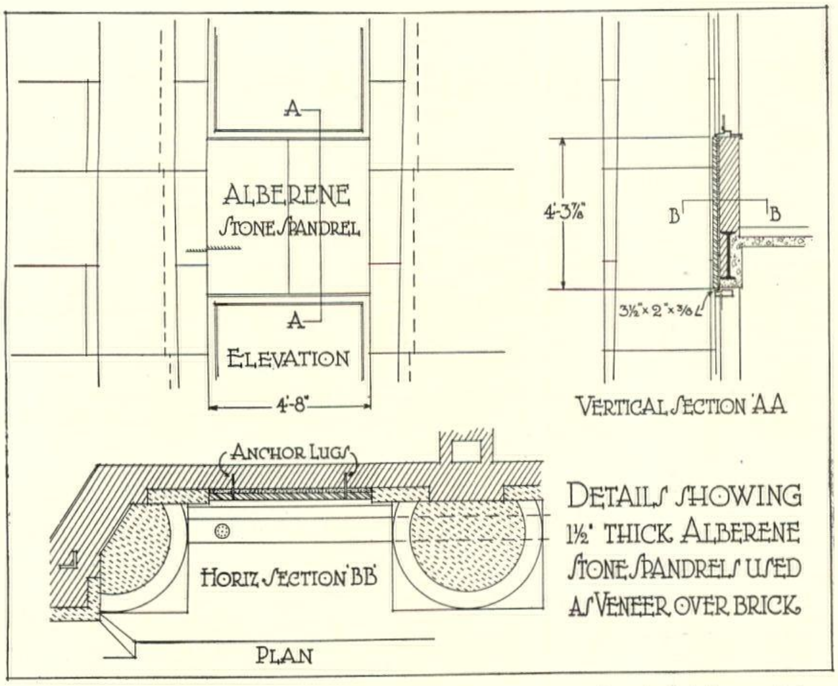

Figure 1. Alberene Stone Spandrels as installed on the 32nd and 33rd floors of the Newark & Essex Bank Building

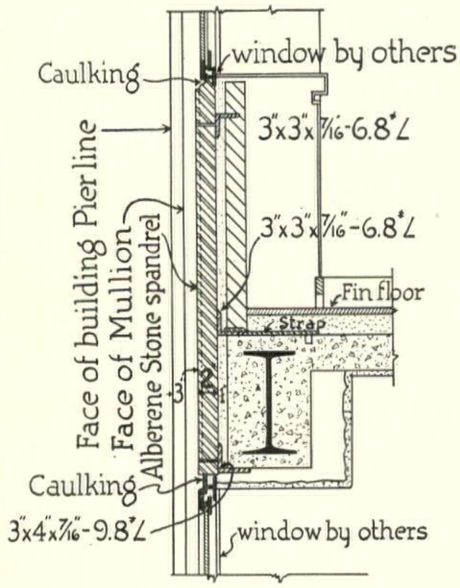

Figure 2. Another installation; in this instance the 1½″ thick Alberene spandrel is backed up with a 2″ brick wall, providing space for radiators to be recessed in the wall.

Information for the Specification Writer on Alberene Stone Spandrels

FIGURE 1 shows Alberene Stone Spandrels adapted to Single Window construction backed up with a full thickness brick wall. In this instance the Alberene Stone is merely a veneer and is used to provide a color and texture contrast to the limestone. Each spandrel is made up of two slabs (vertical center joint with the veining symmetrically matched. These slabs rest on 3½″ x 2″ x ⅜″ angles and are secured to the wall with anchor straps.

EXTRA FLOOR SPACE

Figure 2 shows how the use of Alberene Stone Spandrels with a 2″ thickness of brick leaves adequate space for radiators to be installed without using valuable floor space. The weight of the wall is also reduced.

Although Alberene Stone was considered first from the standpoint of beauty, the use of Alberene Stone Spandrels offers definite structural advantages as well.

SPECIFICATIONS

Material (*Double Spandrels*). All spandrels to be structurally sound soapstone, grade equal to Alberene Stone. Stone not to be less than 1½″ thick at thinnest point. Each pair of spandrels to be securely bolted to three horizontal angles extending 2″ beyond spandrel at each end.

Bottom angle to be 3″x4″x 7/16″, center and top angles to be 3″x3″x 7/16″. Mullion to be 3¾″x3¾″ soapstone, rebated and bolted to steel flat 3½″x½″.

Construction (*Double Spandrels*). Spandrels to be embedded in masonry 2″ on each side, angles extending 2″ farther into masonry to provide additional anchorage. Center angle to be bolted to unfinished floor by straps on 16″ centers.

(*Single Spandrels*). (a) Spandrels to be embedded in masonry 2″ on each side. (b) or, where spandrel is not embedded in masonry at sides it shall rest on 3½″x 2″x ⅜″ angle and be secured to the wall by anchor straps.

Special Cases. Where window is set with deeper reveal than face of spandrel, provide counter sill. Counter sill to be rebated for metal window frame and securely bolted to spandrel. Also provide soffit return for lintel at window head. Soffit to be bolted to under side of the 3″x4″x 7/16″ angle.

Note. *Angles are not needed with single spandrel unless of excessive dimensions requiring multiple units. Where space is not larger than 4′0″ x 4′0″, we recommend the use of single slab rather than built-up spandrels.*

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may affect the steam consumption of any heating system . . . No isolated figure of "percent saving" or of "lbs. per sq. ft." can be deemed conclusive without first considering every one of these factors . . . We have prepared a "check-list" of these 45 *variable* factors to help you check your steam consumption figures and estimates . . . Ask for a copy, or call in a Webster steam heating specialist to discuss this vitally important subject. Write Warren Webster & Company, Camden, New Jersey.

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Systems of
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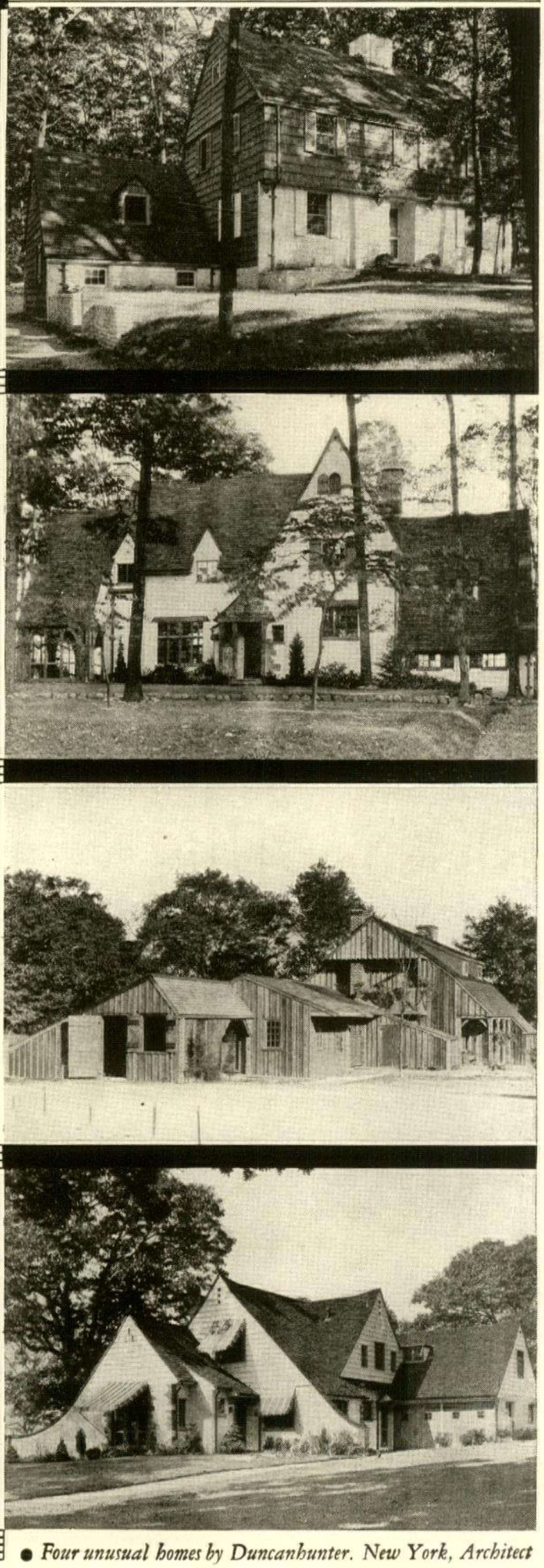
This is one of a series of advertisements discussing the factors affecting heating steam consumption. The purpose of the series is to call attention to the methods of heating steam consumption analysis, estimate and heating cost accounting developed by Warren Webster & Company to provide a reliable basis for comparing heating system efficiency. Actual detailed facts and figures of steam consumption of a number of Webster Systems of Steam Heating, prepared in accordance with these methods, are available for your examination.

4 UNUSUAL HOMES THAT ARE AS COMFORTABLE AS THEY ARE ATTRACTIVE

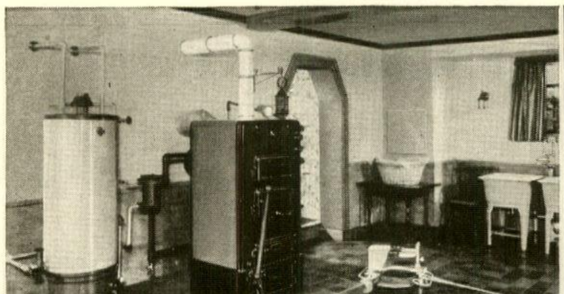


● *Four unusual homes by Duncanhunter, New York, Architect*

▼ Here are four homes that are unusual in design, unusual in construction, both outside and inside. But without comfortable, even warmth, they would be *dreary.*

▼ The architect who designed these beautiful homes describes them as "four All American jobs of all satisfaction."

▼ And the owners, who occupy them, all feel that the architect deserves their enthusiastic praise for giving them 100% American Radiator warmth. This is the same experience that architects all over the country are having—evidence that efficient heating has much to do with the final satisfaction of every owner.



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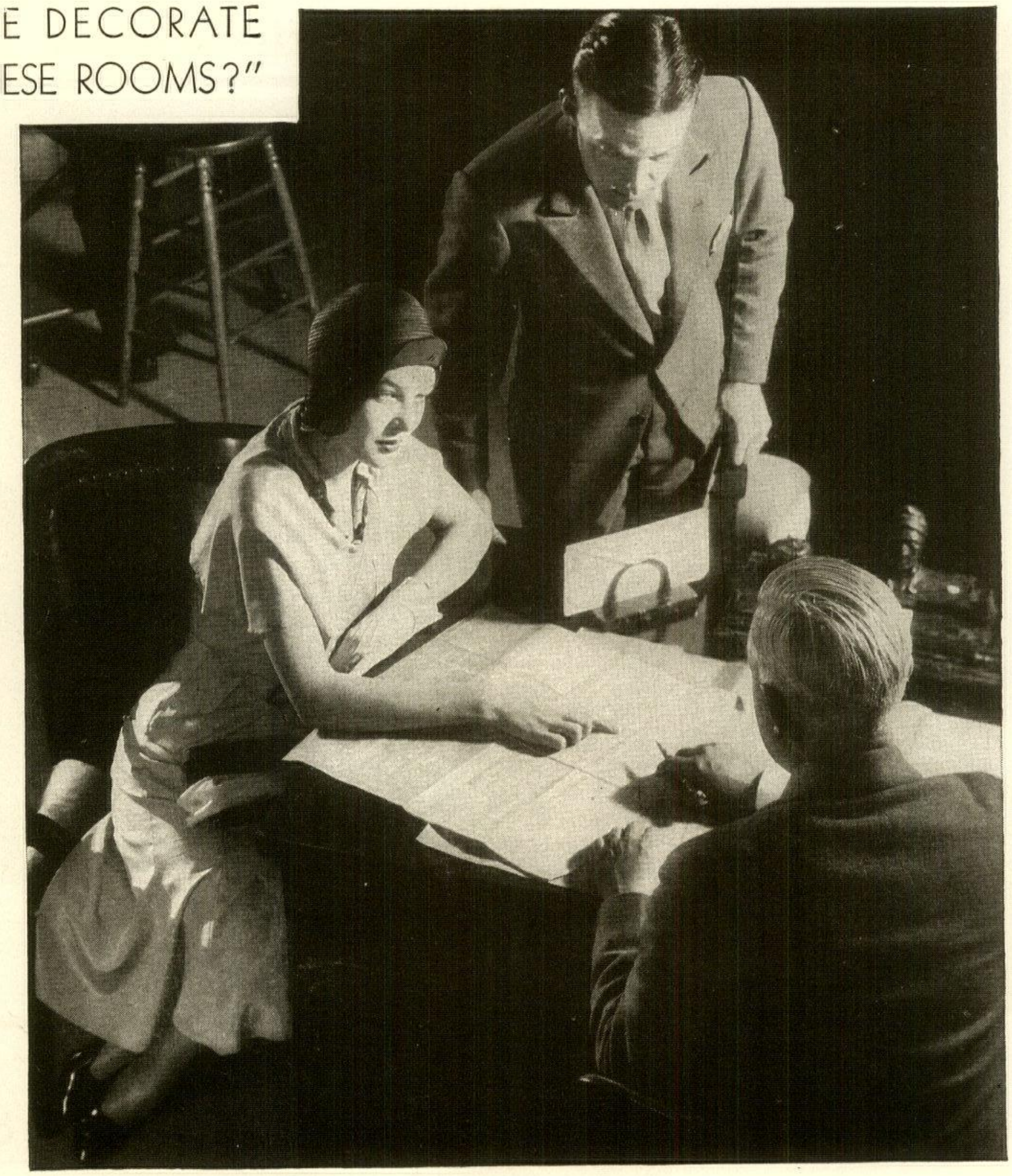
"HOW SHALL WE DECORATE THE WALLS OF THESE ROOMS?"



A NEW SERVICE TO THE ARCHITECT

Many architectural firms have established a separate Department to answer clients' questions about interior decoration. To architects who do not find it practical to do this, but who wish to keep up with this new trend and widen the scope of their service to clients to include advice on the subject of wall treatment, the cooperative service referred to here will prove of real and tangible value, although it is given COST-FREE!

Our recommendations are based on 35 years' of experience in hotels, clubs, residences—and we are guided not only by decorative requirements, but also by PRACTICAL considerations such as quality of light, size and shape of wall space, conditions of use, etc.

TODAY, clients demand of the architect special services never before considered a major part of his work. For example, they frequently wish to secure his advice on the subject of decorating interiors—and although every architect wishes to be assured that the character of his buildings will be maintained throughout, many firms do not feel justified in maintaining a special Department of Interior Decoration.

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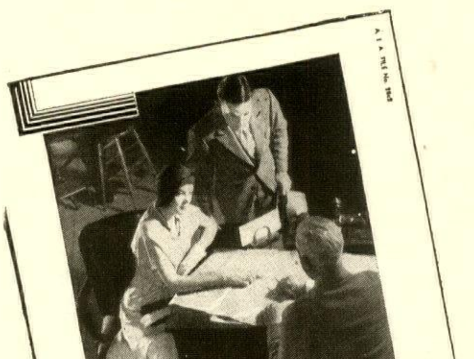

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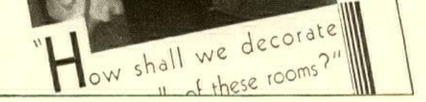

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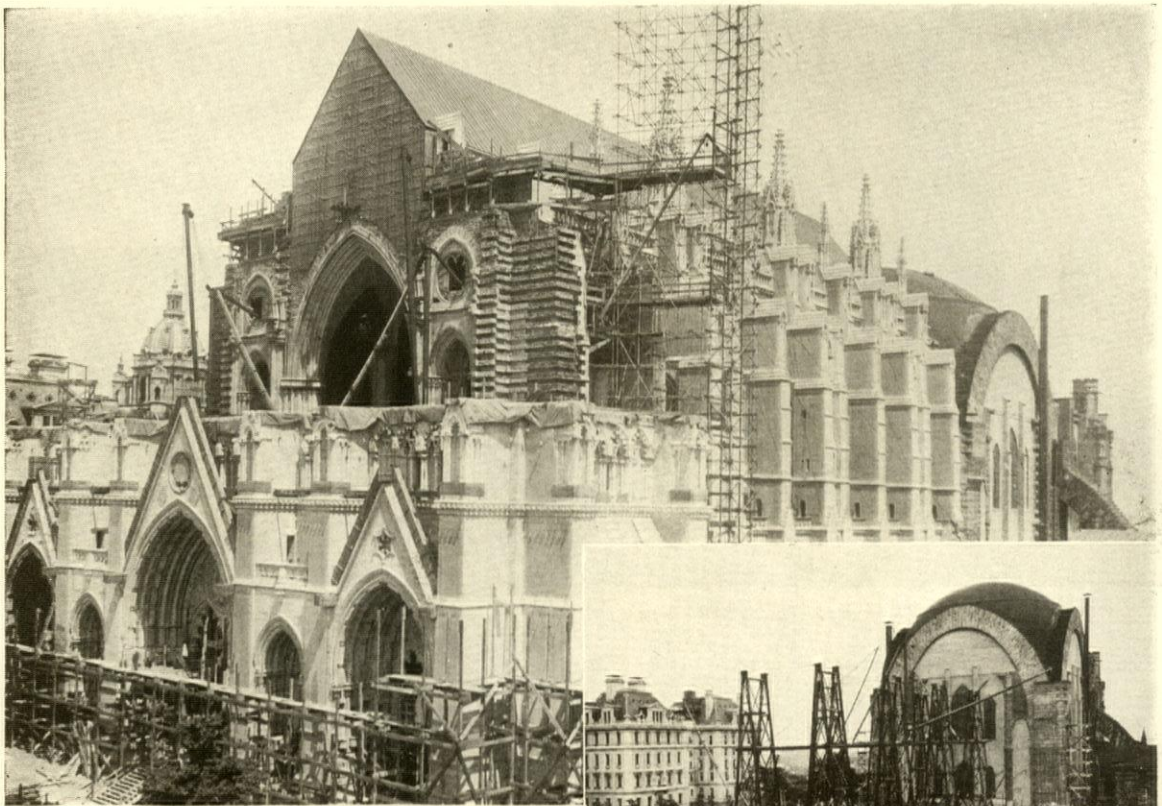

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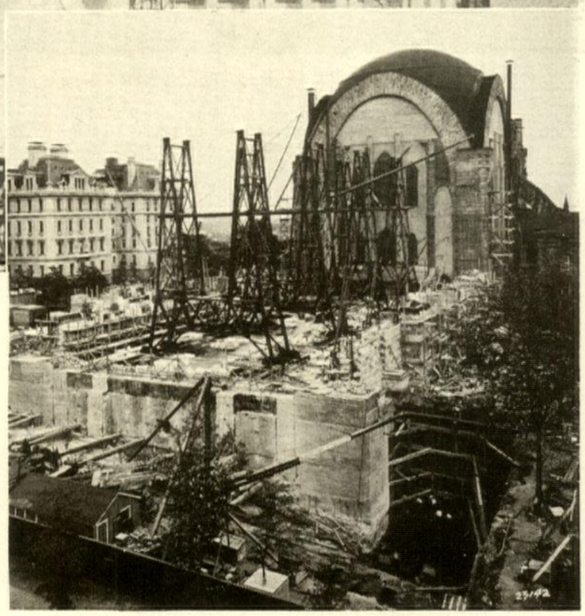


Cram & Ferguson
Architects

Jacob & Youngs, Inc.
Gen'l Contractors

Christ's, 'tis said, has practically the same ground measurements as Old Pohick. Christ's, however, has an entrance tower and spire. The Palladium window in the rear, and the proportions of the quoins are things one can scarce refrain from "making measurements."

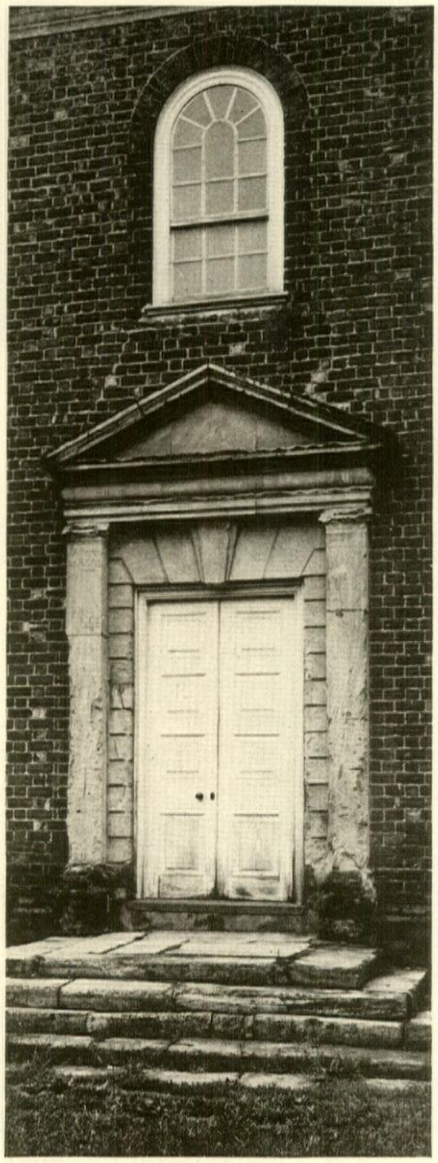
Wherein WASHINGTON Could Not Be In Two Churches At The Same Time

Being Brick Tale Telling Number XXXVI

ADMITTEDLY, Washington must have broken up his nights into bits, to have slept in all the accredited houses. But when it came to his church going, he divided his attention among two, first favoring Old Pohick, six miles from Mount Vernon, where he was long a vestryman.

With an increasing number of his friends attending church in Alexandria, his family coach was latterly on Sunday mornings found standing outside Old Christ's. Here he was also a vestryman. The spacious four sided enclosed seat he occupied is still there. As is also General Lee's. It is now a delightful custom to proffer their use for the guests of the day.

Both the bricks in Pohick and Christ's have the oversize headers, just such as we are today making "way down here in Ole Virginy," in our honest-to-goodness Jefferson Hand-Mades.



POHICK

This now called "side entrance," was in Washington's day the main one through which he always passed. Note the accent secured by rubbing the bricks around the window. All the fenestrations are so treated.

OLD VIRGINIA BRICK

Old Virginia Brick Company
Salem, Virginia

The Proper Sales Setting . . .

Inspire it with an appropriate floor

THE ultimate sale of almost any product depends largely on how well it is displayed. The architect who plans the interior of a successful showroom gives careful thought to the decorative scheme. If the room is to reflect an inviting personality that stimulates sales, then a colorful linoleum floor may be employed as the foundation for a most effective scheme of decoration. The decorative theme of the interior shown here is based on Armstrong's Linoleum (Handmade Marble Inlaid No. 83). No matter what the interior—there is an Armstrong Floor to suit the effect you wish to create.

Armstrong's Linoleum Floors perform two distinct duties as business floors. They are attractive and serviceable. In addition, they are comfortable because they are resilient. The surface is spot-proof, stain-proof, because it is Accolac-Processed. Light waxing and polishing keep it gleaming. Or where frequent washing is necessary, the surface may be renewed when needed with Armstrong's Linoleum Lacquer. Properly installed over a layer of linoleum lining felt, with seams sealed tight and trimly tailored to the walls, these floors give satisfactory service at low maintenance cost for years.

In the smart Fifth Avenue display room of the Fostoria Glass Company this Armstrong's Linoleum Floor (Design No. 83) helps to stimulate sales.

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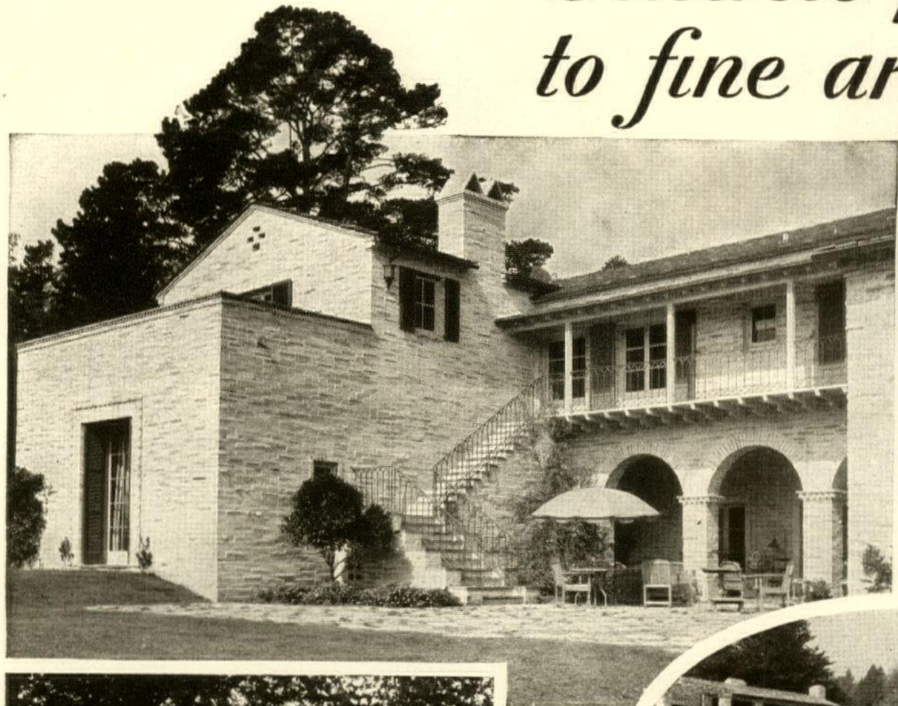
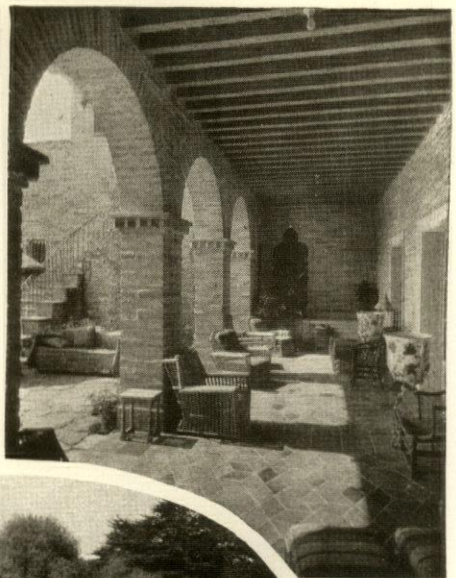
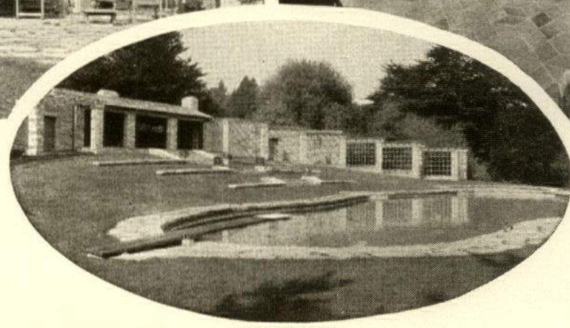
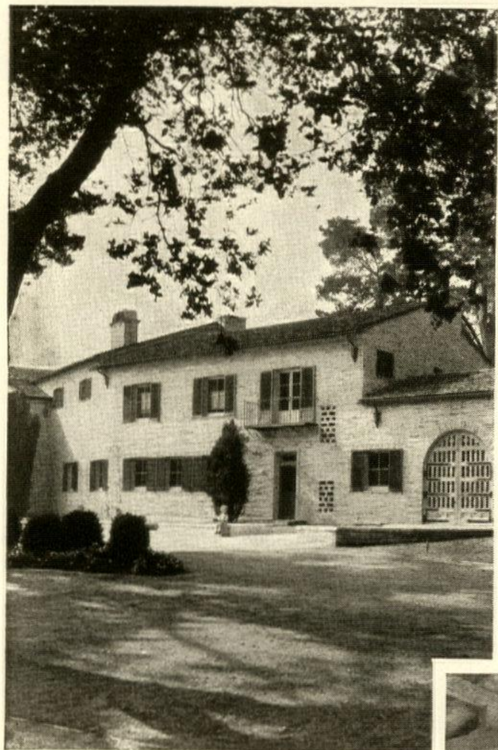
Concrete pays tribute to fine architecture



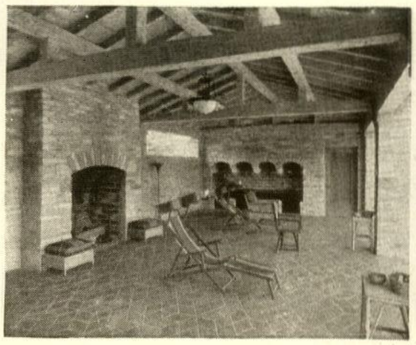


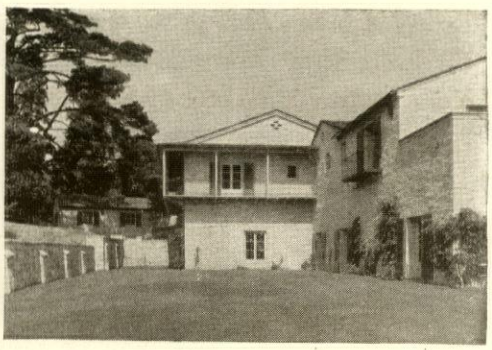




CONCRETE, in many forms, has been skillfully employed by the architect in designing this home. The exterior walls are of concrete masonry units, in slightly irregular sizes and varied colors. Building frame and floors throughout are of reinforced concrete—*one unit,* of utmost strength and rigidity. The roof is attractively tiled. So constructed, a home is *firesafe* and long enduring.

The views on this page are of a home that is distinguished in both architecture and construction—the home of Robert B. Henderson, in Hillsborough, California. Gordon B. Kaufmann, Los Angeles, Architect; Dowsett-Ruhl Company, San Francisco, Contractors





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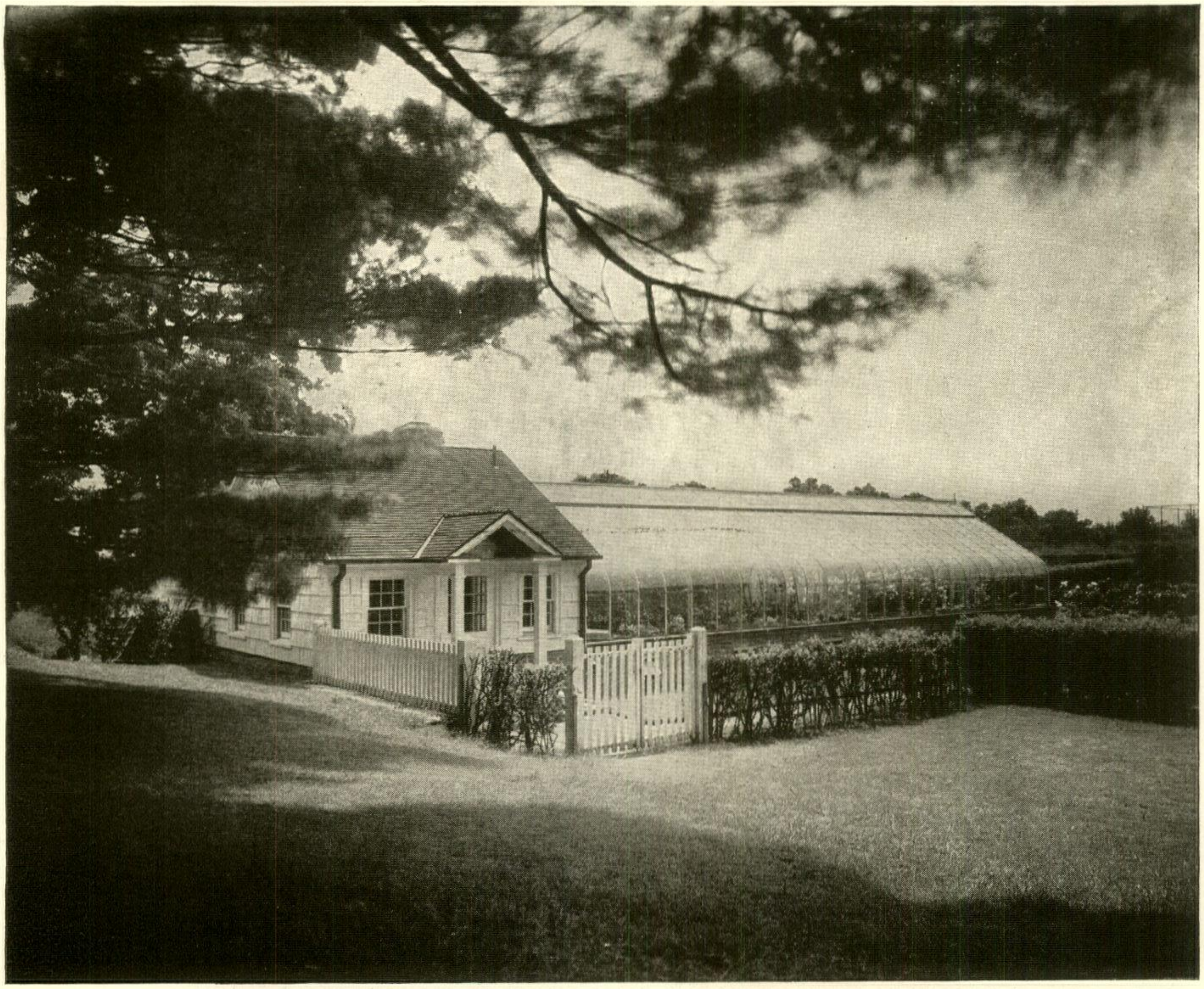

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Expect it, for you will get it—finer design, more careful finish, better growing. Results have proven it . . . Your own common sense will tell you that you will.

If you will study with care, the plans and specifications that various greenhouse manufacturers will submit to you, you will *begin* to realize why you can expect more from Lutton. Then when you go with us to see a few of the hundreds of Lutton houses on estates near you, you will be satisfied that our claim is correct.

You cannot expect other than the best from a greenhouse that for over 25 years has been identified with nationally known growers, architects and owners.

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COTSWOLD BLEND ASBESTOS SHINGLES

THE use of J-M Cotswold Blend Shingles will provide a roof dark in color tone. Their soft subdued shades of black, purple and green blend charmingly without strong contrast. Due to their harmonious color and texture these shingles permit a wide range in their use. A representative of our Architectural Service Department will gladly show you this development. Address Johns-Manville, 292 Madison Avenue, New York, N. Y.

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IT WILL BE A FAMOUS LAND-MARK

Here is a building that will become a famous land-mark on one of the important street corners of the world. It will stand here after many of its neighbors are gone. But the exterior, built of Georgia Marble, will remain sound and beautiful as long as the owners care to let the building stand.

Because Georgia Marble is practically impervious to moisture, the punishing attacks of the weather have practically no effect upon it. There are many examples of Georgia Marble work in all parts of the country that are graphic testimonies to the durability of this time tried material.

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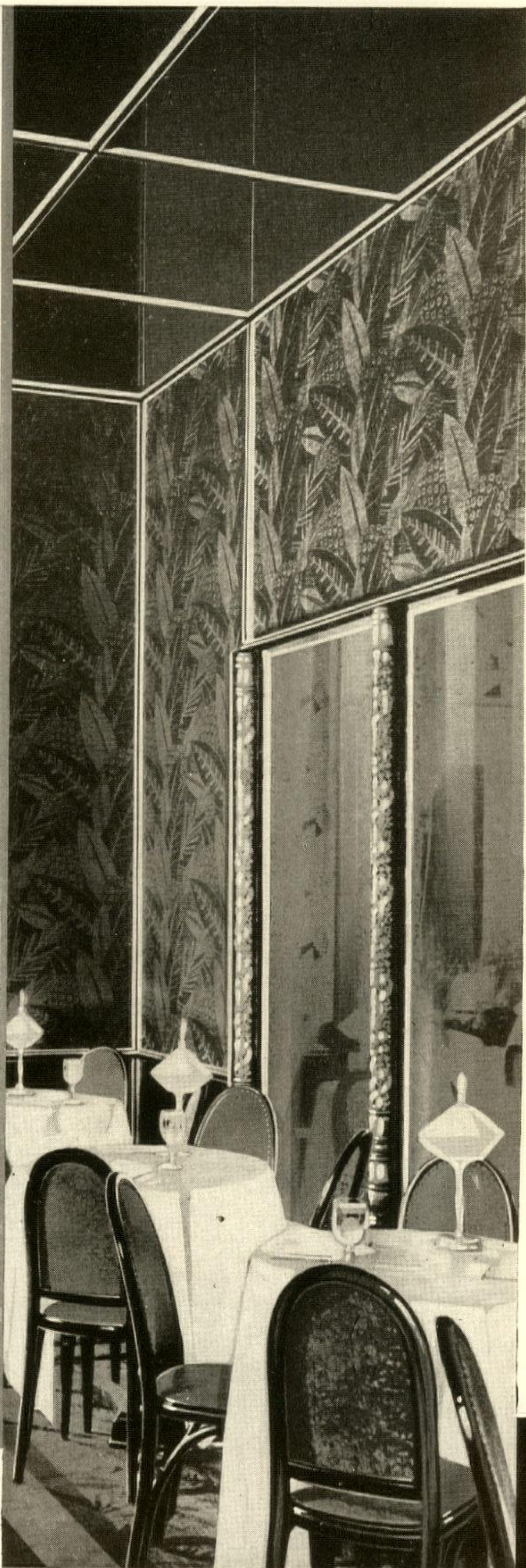
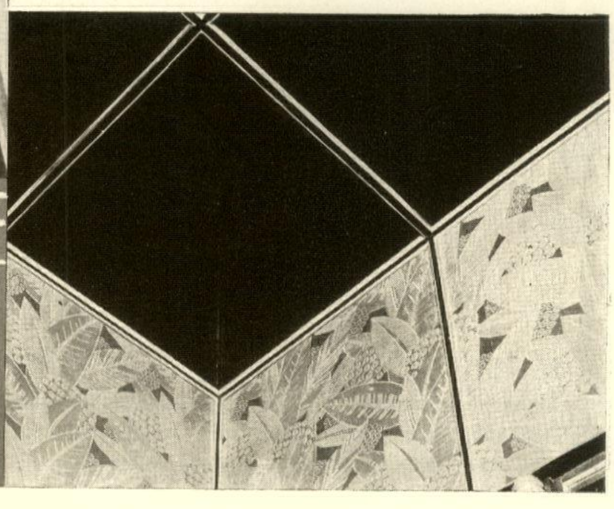


Joseph Urban, in designing the decorations for the Central Park Casino, selected Black Carrara for the low ceilings of this brilliant room.



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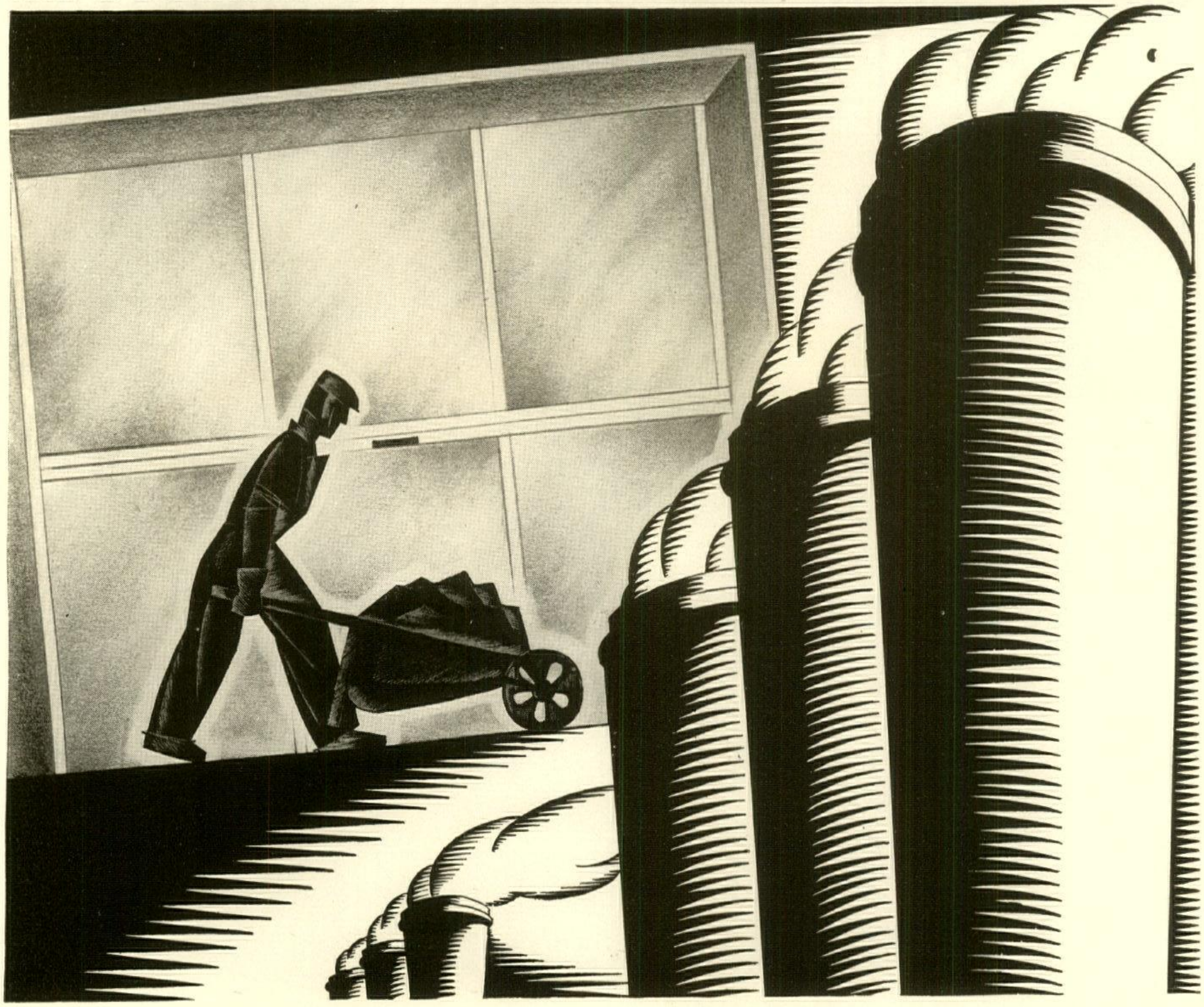

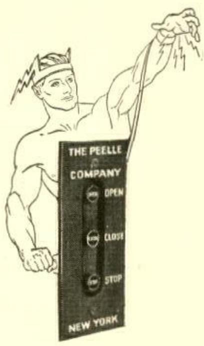

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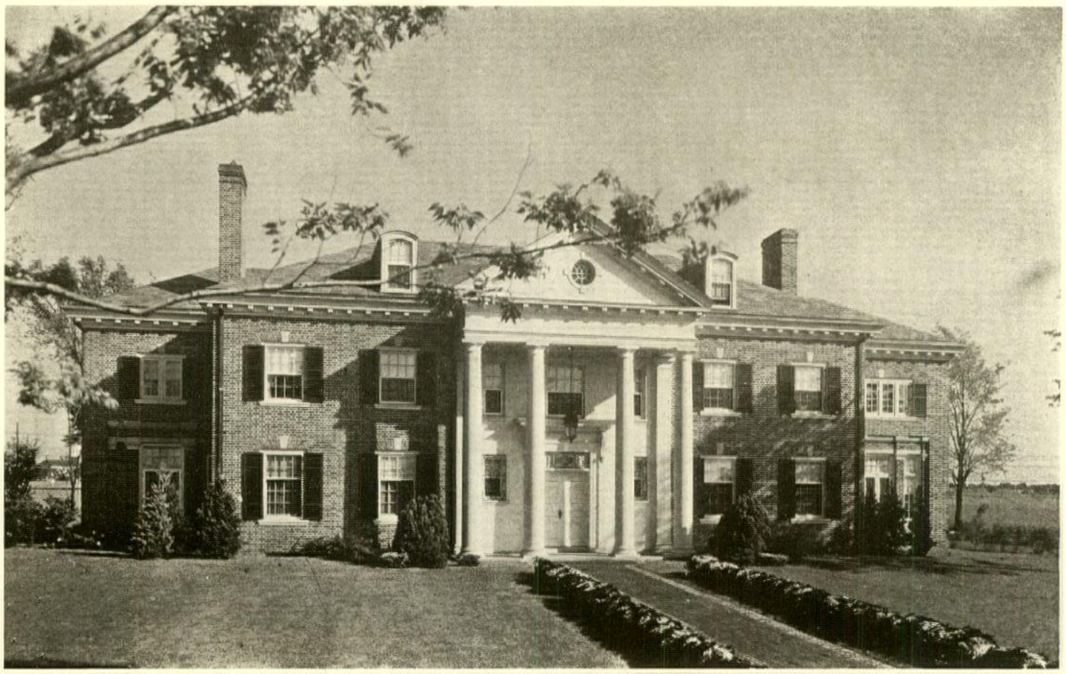

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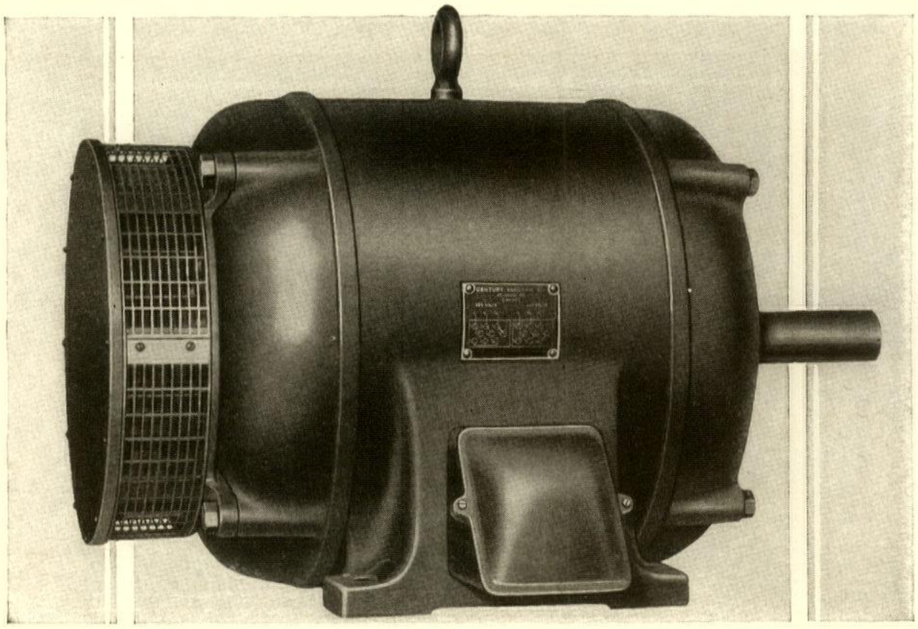

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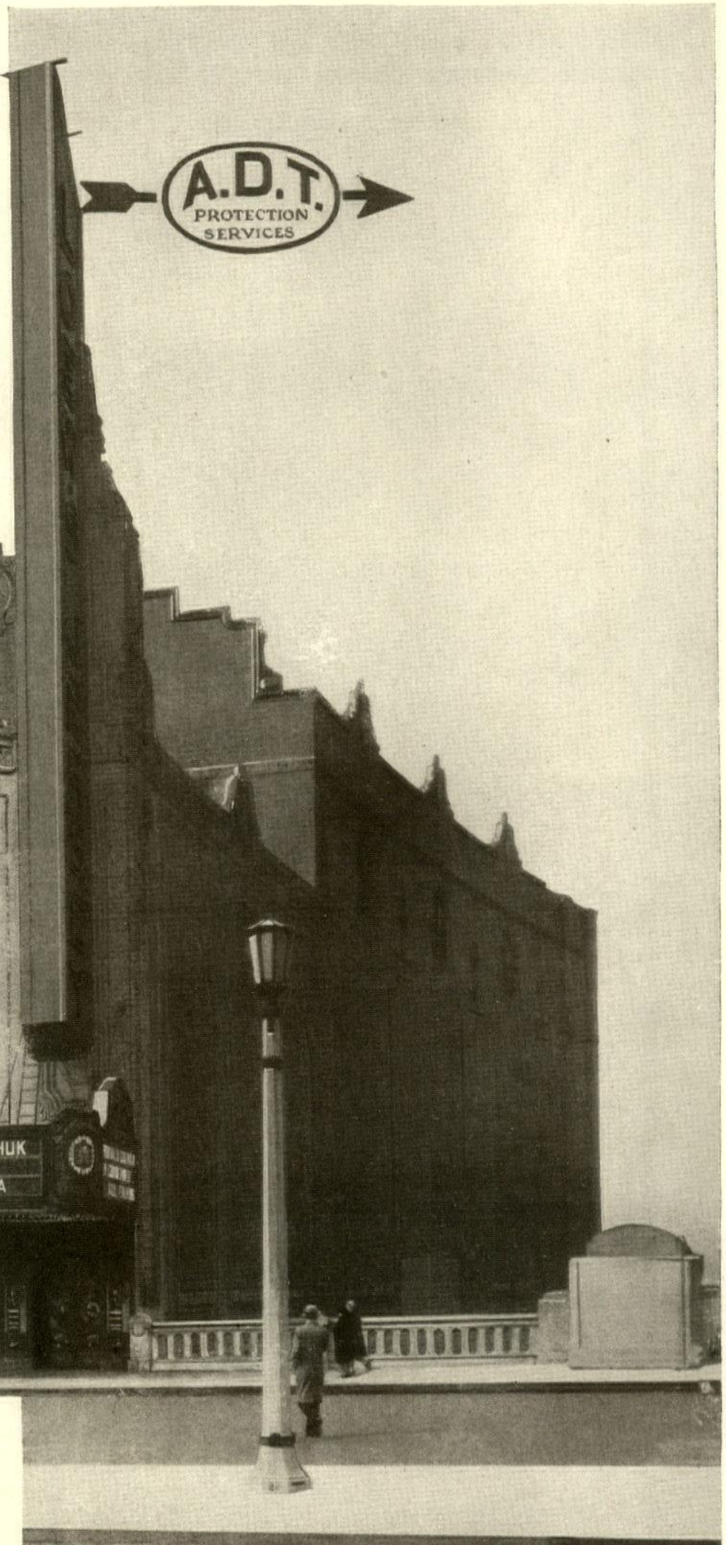

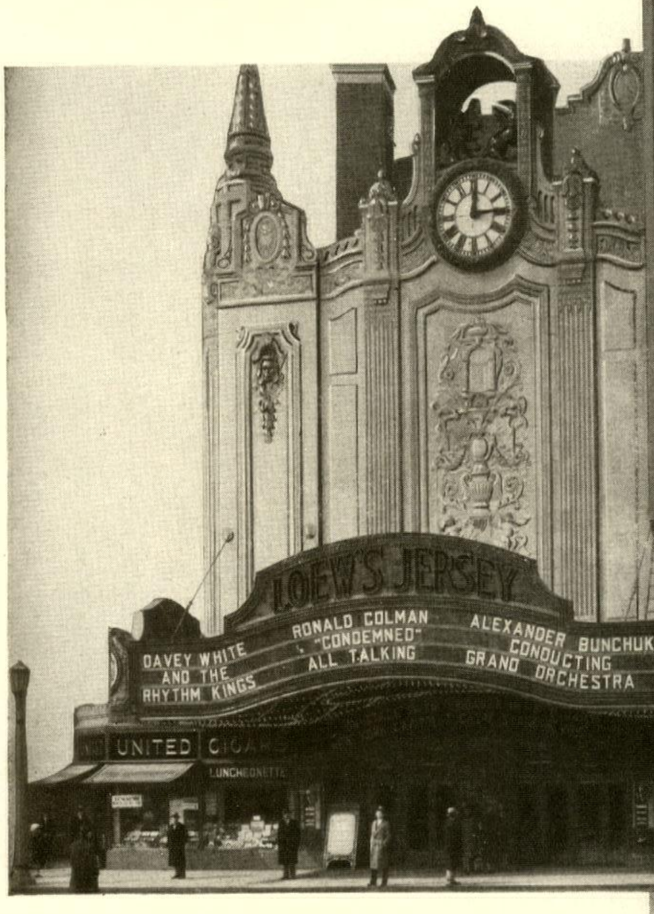

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Landmarks of Modern Protection

4725

PRODUCERS' COUNCIL MEETING IN BOSTON

THE Semi-annual Meeting of the Producers' Council will be held in Boston during the latter half of October. All members of the architectural profession located in that city and vicinity are cordially invited to attend any of the sessions, which are devoted to the discussion of important problems in meeting properly the requirements of good design and construction, joint interests of the architectural profession and producers of building materials.

ILLUMINATING ENGINEERING SOCIETY CONVENTION

A BUSINESS program devoted to matters of vital interest to the lighting industry, enhanced by recreational features reflecting the true spirit of Southern hospitality, will mark the twenty-fourth annual convention of the Society, which is to be held in Richmond, Virginia, from October 7 to 10, inclusive, with headquarters at the Hotel John Marshall. Thus for the first time the Society is to meet south of the Mason and Dixon Line and plans foretell a real "Southern" convention.

An outstanding business programme has been provided which will be more varied, more practical and more distinctly aimed toward the future than ever before. Commercial, technical, educational and æsthetic aspects of lighting are to be dealt with by men outstanding in each of these fields, augmented by entertainment and recreational features of exceptional interest, including the inauguration of a new Virginia Chapter.

GEORGE BURDETT FORD
1879–1930

GEORGE B. FORD, architect and city planner, for the past year general director of the Regional Plan Association, died suddenly on August 13, from complications resulting from an operation. Mr. Ford's death closes a career of international distinction in the field of city planning. At the close of the war he was selected by the French Government as consultant in the rebuilding of Rheims, Soissons, and other devastated cities, for which he was decorated with the ribbon of the Legion of Honor. Prior to his appointment as general director of the Regional Plan Association, Mr. Ford had been city plan consultant to the War Department and to the Regional Planning Federation of Philadelphia Tri-State District. He had been an adviser to the Regional Plan of New York and Its Environs since its inception, and in 1923 was one of a group of planners who made the preliminary path-finding study of the region and prepared maps and reports dealing with land uses and means of circulation.

Among the cities in which Mr. Ford served with distinction as planning consultant, while vice-president of the Technical Advisory Corporation, were: Trenton, Newark, Jersey City, Passaic, Elizabeth, Perth Amboy, and East Orange, N. J.; Port Chester, New Rochelle, Mamaroneck, Ossining, Tarrytown, Scarsdale, Mount Kisco, and Glen Cove, N. Y.; New Haven, Conn.; Springfield and Worcester, Mass.; Wilmington, Del.; Chester, Pa.; Cincinnati and Dayton, Ohio; Louisville and Lexington, Ky.; Richmond and Norfolk, Va.; Savannah, Ga.; and Charleston, S. C.

Mr. Ford was born June 24, 1879, at Clinton, Mass. He was graduated from Harvard University in 1899 and received his engineering and architectural training at Massachusetts Institute of Technology and Ecole des Beaux Arts, Paris, being *diplomé* in 1907.

In the words of George McAneny, president of the Regional Plan Association: "The sudden death of George B. Ford is a serious blow to the Regional Plan Association. Mr. Ford had been selected as general director because of his unparalleled experience in practical city building and his great personal knowledge of the planning problems of municipalities in the Metropolitan area. The value of his service to New York, both as engineer in charge of the original zoning and height regulation plans, and in the days of his later activity in the general planning field, can never be estimated."

PORTLAND CEMENT TESTS

REVISIONS in the Standard Specifications and Tests for Portland Cement, involving an increase in tensile strength requirements and the fixing of tolerances for the various pieces of apparatus used in testing cement, have been adopted by the American Society for Testing Materials, following a favorable vote by the society's membership in a canvass held recently.

Eleven items in all were included in the revision, of which nine were concerned with tolerances for testing apparatus. According to the original report of Committee C-1 on Cement, lack of definite information on tolerances for testing apparatus in the former standard made it practically impossible to determine whether equipment did or did not meet specification requirements.

Revisions in the strength requirements include a change in the average tensile strength at seven days for the three standard mortar briquets from a minimum of 225 pounds per square inch to 275 pounds per square inch, and a change in the average tensile strength requirement at 28 days from a minimum of 325 pounds per square inch to 350 pounds per square inch.

These revisions in strength requirements will bring the minimum values more in line with the general strength level maintained by portland cement plants throughout the country. According to the committee's report, a survey of tests by 116 plants made during the latter half of 1928 indicated that only a small percentage of the samples tested failed to meet the new standard tensile strength requirements at the seven-day and 28-day periods.

Specifications for high early strength portland cement were accepted for publication as tentative by the society's Committee E-10 on Standards, at its February, 1930, meeting. Tentative specifications are the same as the newly revised specifications for portland cement, except that a maximum sulfuric anhydride content of 2.5 per cent instead of 2 per cent is permitted and that tensile strength requirements shall be 275 pounds per square inch at one day, and 375 pounds per square inch at three days. In addition, the purchaser has the option to require a test at 28 days in which case the average tensile strength obtained shall be higher than the strength at three days.

Copies of the revised specifications for portland cement, and of the tentative specifications for high early strength portland cement, may be purchased from C. L. War-

(*Continued on page 45*)

wick, secretary-treasurer of the American Society for Testing Materials, 1315 Spruce Street, Philadelphia, Pa.

CARL E. HOWELL
1879–1930

CARL E. HOWELL, architect, of the firm of Howell & Thomas, Cleveland, died on June 17 last in California. Mr. Howell had given up active work in his firm some two years ago, and had gone to Santa Fé and later to California in the effort to recover his failing health.

Educated at Ohio State University, Mr. Howell studied drawing at the Columbus Art School. After an apprenticeship of several years in the office of Frank E. Packard, Columbus, he attended the University of Pennsylvania. Here he won several scholarships, culminating in the John Stewardson Travelling Scholarship, which took him to Europe. Upon his return he formed the partnership with Mr. F. W. Thomas. In addition to many houses, some of the better known works of Howell & Thomas are: Library and Auditorium Buildings for Ohio University at Athens, Ohio; East High School of Columbus; High Schools in Lakewood and Shaker Heights; Churches at Columbus, Canton, and Oxford; and Y. W. C. A. Buildings at Cleveland and Zanesville.

Mr. Howell was a life member of the Cleveland Museum of Art, a member of the American Academy in Rome, and a member of the American Institute of Architects.

SIR ASTON WEBB
1849–1930

SIR ASTON WEBB, former president of the Royal Academy, died in London on August 21, at the age of eighty-one years. He was one of the four men outside of the United States honored with the Gold Medal of the A. I. A.

Sir Aston, a son of Edward Webb, engraver and watercolor painter, was probably more responsible for the beautification of twentieth-century London than any other man. From the time he first became prominent in British architectural circles in the early '80s, he labored to transform London's public buildings to something resembling beauty.

In the course of his work he completely revolutionized the appearance of the Mall, designing the Admiralty Arch at one end and the architectural features which adorn the roads that skirt the white marble Victoria Memorial at the other. He was intrusted with the refronting of Buckingham Palace, which had constantly been criticised as having some of the ugliest façades in existence.

London and the provinces owe to him many fine buildings. The restoration of the Norman Church of St. Bartholomew the Great, London, was carried out by him. He completed the Victoria and Albert Museum, South Kensington, and designed the Royal College of Science and the Imperial College of Science and Technology, the offices of the Grand Trunk Railway of Canada in Cockspur Street and the French Protestant Church in Soho. When Christ's Hospital School was transferred to the country he was responsible for the new building in which the unsanitary quadrangle system was abandoned. Ingress Bell collaborated with him in this commission and also in the plans for the Birmingham Law Courts.

Sir Aston was president of the Architectural Association in 1884 and of the Royal Institute of British Architects in 1902. He was elected a Royal Academician in 1903, was knighted in 1904 and was created a K. C. V. O. in 1914 and a G. C. V. O. in 1925. In 1923 Cambridge University bestowed on him the honorary degree of LL.D.

In 1919 he was elected president of the Royal Academy, but because of failing health he was forced to resign in 1925.

THE WORKS OF CHARLES BULFINCH

IN commending to the electors of the Hall of Fame the nomination of Charles Bulfinch, architect and statesman, the Board of Directors of the A. I. A. compiled a memorandum as to his life, public service, and architectural work. The following is a list of the buildings he designed, with dates of erection:

PUBLIC BUILDINGS

Connecticut State House, Hartford....1792
First Theatre in Boston..............1794
Massachusetts State House...........1795
Court House, Dedham..............1796
Court House, Worcester..............1801
Court House, Newburyport...........1805
Court House, Boston.................1810
Court House, East Cambridge.........1810
Faneuil Hall (remodelled and enlarged) 1805
Maine State House, Augusta..........1829
Post Office and Patent Office, Washington.

INSTITUTIONAL BUILDINGS

Almshouse, Boston...................1799
States Prison, Charlestown............1805
County Jail, Boston.................1821
Penitentiary, Washington.
Jail, Alexandria.

CHURCHES

Hollis Street Church, Boston..........1788
Taunton and Pittsfield...............1789
Holy Cross Church, Boston. First Catholic Church in Boston.........1803
New South Church, Boston...........1804
Spire of Christ Church, Boston........1807
Federal Street Church, Boston........1809
New South Church, Boston...........1814
Church of Christ, Lancaster...........1816
Unitarian Church, Washington........1822
Church, Peterboro, N. H..............1825

HOSPITALS

McLean Hospital, Boston.............1817
Massachusetts General Hospital, Boston.................................1818
Navy Hospital, Norfolk.

SCHOOLS

Academy Building, Portsmouth, N. H..1809
Latin School, Boston.................1812
Hawkins Street School, Boston........1803
Mason Street School, Boston..........1816
University Hall, Harvard, Cambridge..1813
Pearson Hall, Phillips Academy, Andover............................1817
Third Building, Phillips Academy, Andover.

COMMERCIAL BUILDINGS AND BANKS

India Wharf Stores, Boston...........1805
Bank, Worcester.....................1804
Three brick banks in Boston.
Two stone banks in Boston.
Essex Bank, Salem...................1811
Three insurance company buildings, Boston.
Boylston Market, Boston.............1809

Numerous residences in Boston and vicinity.
Tontine Crescent.

PERSONAL

Marani & Lawson, architects, 38 Bloor Street West, Toronto, announce that Mr. R. S. Morris, architect, has become a member of the firm, which will now practise under the name of Marani, Lawson & Morris.

Reinhold Melander, architect, formerly of the firm of Starin & Melander, architects, announces that he has established his individual practice with offices at 611 Lonsdale Building, Duluth, Minn., and would be pleased to receive manufacturers' catalogues.

Philip Nichols Sunderland, architect, announces the dissolution of his partnership with Edmund Watson. Mr. Sunderland will continue his offices at 248 Main Street, Danbury, Conn.

ARCHITECTURE

REG. U. S. PAT. OFFICE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. LXII, NO. 4

CONTENTS

OCTOBER, 1930

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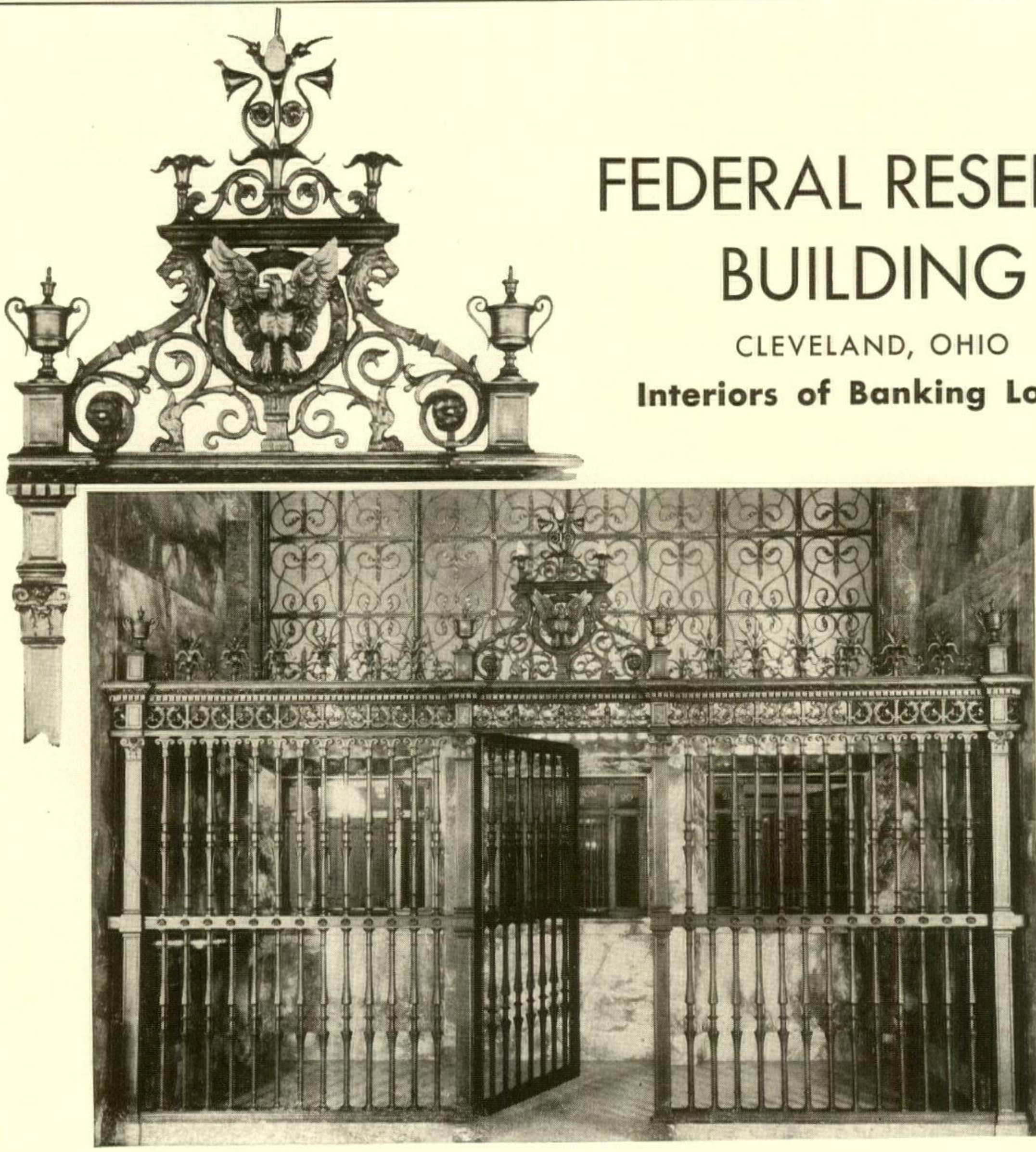

FEDERAL RESERVE BUILDING

CLEVELAND, OHIO

Interiors of Banking Lobby

The side walls and pier facings in the Main Banking Lobby of this building are of Convent Sienna Marble, the floor—Tennessee. The barrelled ceiling is richly decorated in gold and color in the Roman manner. Lobby bays between the piers are screened with Iron grilles. Each bay, a private space adjacent to the Banking Screen, is allotted to Member Banks for business transactions. ❦ ❦ ❦ The grilles were originally designed for Wrought Iron. For economy, however, the work was Cast and the desired Wrought effect obtained by a baked enamel finish—in imitation of rusty iron. ❦ ❦ ❦ The arched window openings on the outer wall, shown in the background, are screened with glazed grilles. These were produced by similar methods of handling The entire Metal equipment of this building was fabricated by Flour City Ornamental Iron Plant,

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ARCHITECTURE

VOLUME XLII OCTOBER 1930 NUMBER 4

The Hand Behind the Machine

By Harrison Gill

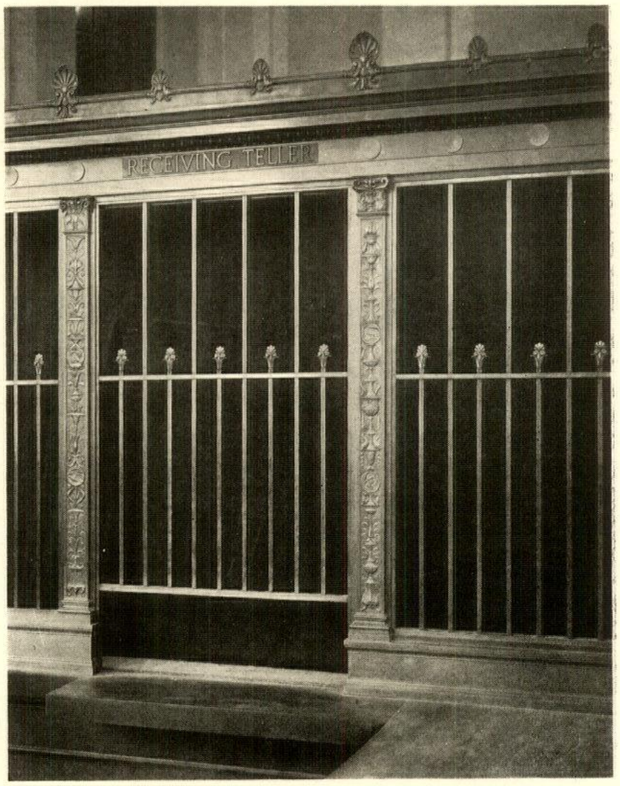
With the passing years the architect is being burdened with more and greater complexities. Many of these new phases of the work involve design in materials and by methods with which he is necessarily unfamiliar. The time seems to have arrived when these accessory fields of design must be delegated to collaborators, if such are available

LAST May at the annual meeting of the American Institute of Architects, it was reported that the time is ripe for the Institute to concern itself with the æsthetic quality of manufactured products. This was interpreted by some as referring to such products as are manufactured on a quantity basis and sold from catalogues and price lists, and they apparently failed to include all of those products which are made on special order for specific buildings. Though there are many differences in these two types of manufacturing, they also have many things in common and, in some instances, the same manufacturing organization is engaged in both types of work. In both cases the product must be fitted to the process and a constant search must be made for possible improvements. It is not very difficult to take any specific object which may have been manufactured and improve the appearance of the profiles and proportions. This act, however, involves doing exactly what we are trying to avoid in architectural design; that is, having the building designed by one mind and the "architecture put on" by another. The axiom that fundamental æsthetic design should grow out of function, and the postulate that design should be controlled by the characteristics of the medium, these are as true for all of the ornamental trades and crafts as they are for the building as a whole. It can be applied to manufacturing only by incorporating the creative intelligence of an artist who knows perfectly the purpose of the object to be made, the characteristics of the material in which it is to be embodied, and the processes which are to be used in forming it. The only solution to the æsthetic side of mass production, it seems to me, is to include such an individual in the manufacturer's organization. Every sound argument in favor of such practice is equally applicable to the specifically designed products which form the decorative features of our buildings. It is manifestly impossible for any architectural designer to acquire sufficient knowledge in every field of applied design which may be involved in the embellishment of a building.

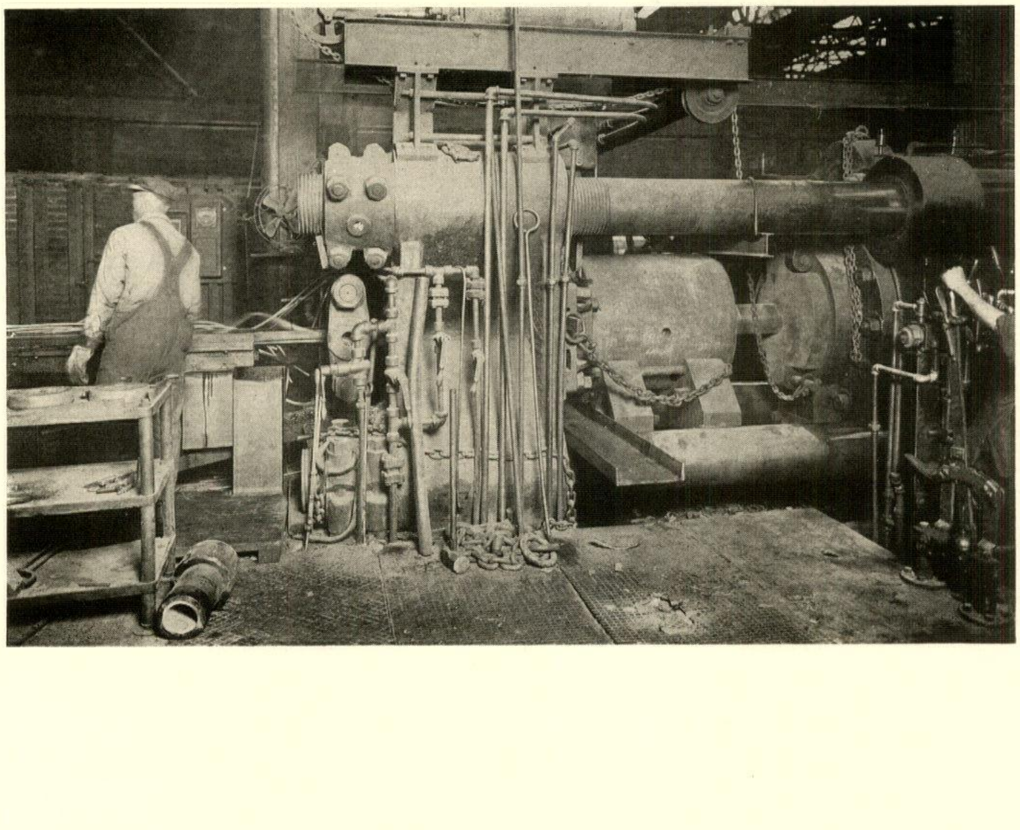
A mediæval baron had decided to build a chapel as a part of his castle. He knew that this was a complicated undertaking and involved many difficult problems. To insure the proper execution of the work he sent for a man from a near-by town who knew of such things. They discussed the various features of the edifice and the amounts which would have to be expended. The man from the town was experienced in handling such projects and had acquired a reputation for maintaining friendly relations between the various craftsmen.

A master mason was selected, who prepared various drawings indicating the plan and appearance of the chapel. Stone was quarried and the construction started. Not far away were the furnaces where clay was baked into floor tiles. The master of the tile workers made certain designs incorporating the coat of arms and badges of the baron, and then began to make the tiles which would fill the floor space which the mason had shown on his plan. A glass painter agreed upon the iconography which his patron desired, and then prepared drawings over which bits of glass were placed to form the glowing picture which no paint on wood or plaster could simulate. The saints and gargoyles emerged from the blocks of stone under the chisels of master carvers. A cunning smith forged great, scrolled hinge plates for the doors, which he felt would be in keeping with the eminence and dignity of the nobleman. A painter designed a beautiful diaper for the walls which enriched the interior and formed a colorful background for the creations of the woodcarver.

Six hundred years later a young American architect was commissioned to design a clubhouse for the local civic organization. He worked diligently on the preliminary sketches, and presented to the committee a set of beautifully rendered drawings, which were approved. After consulting various mechanical and structural engineers he proceeded with his contract drawings. The questions of construction, heating, ventilating, lighting, telephones, elevators, and radios were all solved and provided for. He interviewed dozens of salesmen and pored over the pages of catalogues, finally devising an adequate specification. Among the items described were certain features of carved and cast glass, a monumental entrance in bronze, some stair railings which he had described as monel metal. An ornamental floor for the main lobby called for composition tiles, and there was a terracotta frieze on the exterior which was to symbolize the activities of the club. Altogether it was quite a pretentious affair which would be a credit to the town, the members, and the architect himself. He had been very careful in wording the specification so as to keep all of the ornamental features under his control. As soon as the contract was let he started the scale and full-size details. A little trouble developed at this stage because the bronze contractor had not figured on the work being detailed so elaborately, and he had taken the job at such a low figure that no concessions could be made. Before the contract had been signed the monel had been omitted so as to bring the price within the appropriation, and the glass had gone the



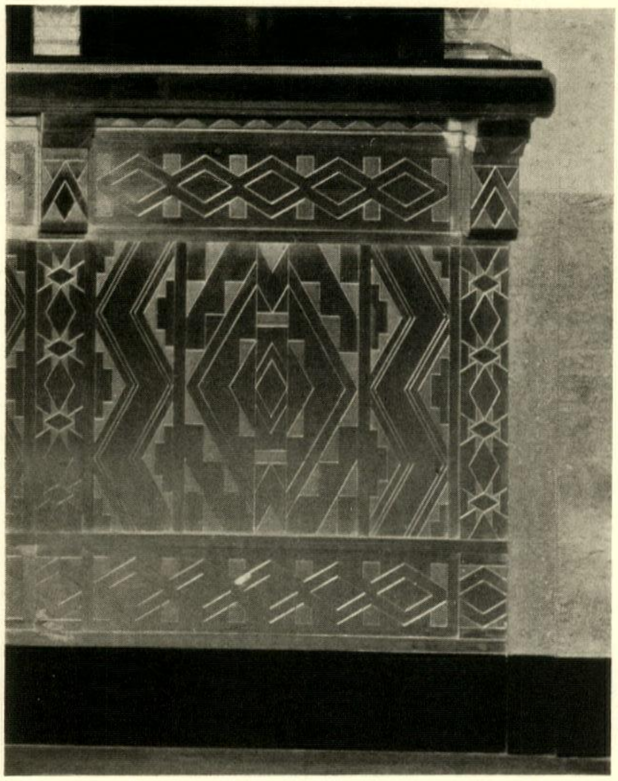
A typical banking counter-screen, such as is being produced more and more frequently in extruded metal embellished by cast work



One of man's newer machines, which extrudes molten metal through a die in such profiles as may be desired. At present we use this machine to imitate forms originating in wood or stone construction same way. The architect had kept the ornamental floor, but after it was installed it did not look as he had expected. He had used a modeller's allowance for the cast bronze and terracotta, but both of the manufacturers claimed extras for work on the plaster casts after they were delivered. However, after all of the drawings he had made had been redrawn by the various shop draftsmen so as to make them "practical," and all of the compromises and adjustments had been settled, the job was rushed through to completion.

The inadequacy of these composite descriptions is obvious; however, certain facts force themselves upon us when contemplating the modern practice of architecture. We have travelled far from the conditions of the Middle Ages. The economic and social complexity of our civilization, together with the enormous advances of science, have forced radical changes in all the professions. Any attempt to return to all the early practices of handling a building operation would be both impractical and ridiculous. The profession of architecture, which began to develop during the Renaissance, did not become thoroughly established in England or France until the later years of the seventeenth century, but it did not resemble the all-embracing profession it is to-day until the late eighteenth century. The immediate effect on the art of the nineteenth century through this complete monopoly of design is well known. After the invention of steel construction architects began to collaborate with various kinds of engineers. Beginning with H. H. Richardson, and particularly since the establishment of the American Academy at Rome, collaboration between architect, painter, and sculptor has steadily progressed.

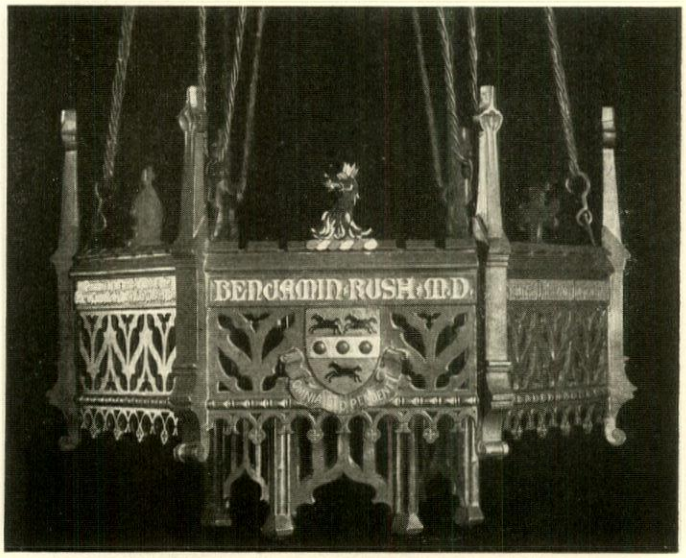
All of this close relationship between several professional men has had a healthy influence on the progress of architecture as a creative art, but one great fact has been almost consistently



A detail of a bank counter base produced chiefly by the routing machine shown below

Another of man's newer machines which transfers, by means of a pantograph, a design on a master plate to a blank sheet, routing it to the desired depth

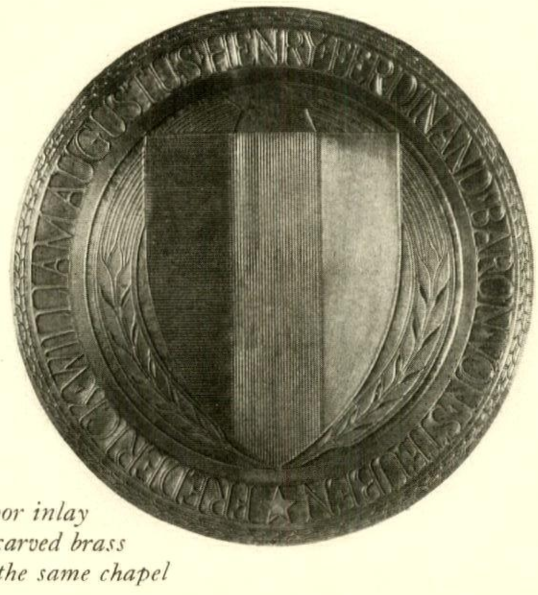
Hollingsworth Pearce of Philadelphia, designer and craftsman in metals, some of whose work is shown on this page and the next



Memorial lamp of carved lead illuminated and gilded in parts, in the Valley Forge Memorial Chapel, designed by Mr. Pearce in collaboration with Zantzinger, Borie & Medary, architects

overlooked. When the master craftsman was squeezed out of existence during the eighteenth century many of the arts died with him. The final vestige is embodied to-day in the so-called "ornamental trades." It is true that there are a few master craftsmen and artists engaged in the use of specific materials to-day, but their influence is felt in a very small percentage of the total production of the building industry, and in machine-made products it is infinitesimal. To-day intelligent design and the development of technics are far more complicated problems than during any former age, and it will require even more specialization than that of the Middle Ages if we are to make any marked improvement or progress.

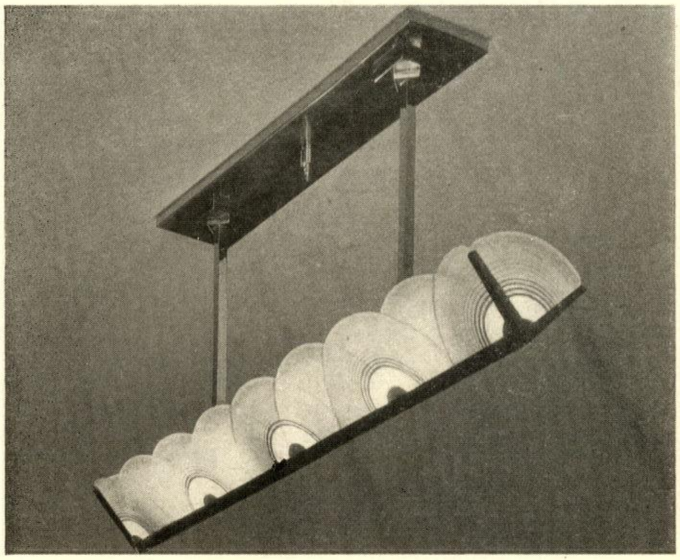
Harvey Wiley Corbett stated in 1928 that "A competent and inspired designer should be part of every manufacturer's organization. Given the proper freedom, he might well develop combinations in form and line that would surpass anything yet known. In America the opportunity for such work now surpasses that of any other period." He was referring particularly to the ornamental metal manufacturers. It might be safely stated that no drawings are ever submitted by the architect to the metal shop which can be used without radical changes in construction and very often of the design itself. The result is not a collaboration between two men of comparable artistic training, but it is a compromise between the ill-informed designer and the technical shop man without taste. It seems utterly impossible ever to expect any progress or intelligent æsthetic development in



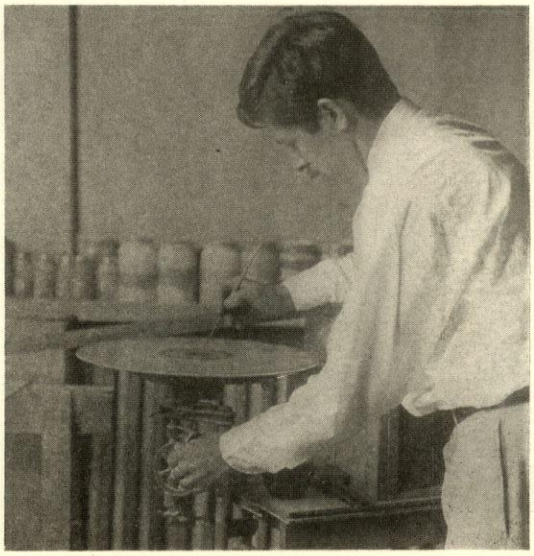
Floor inlay of carved brass in the same chapel

the use of new materials and processes so long as this condition persists in the decorative and ornamental arts.

In metal work there are many processes which have never been exploited. They cannot be utilized to the full unless the men who know these processes are given an opportunity to create in terms of these new technics. The extruding process has almost invariably been used as a cheap substitute for straight cast members, yet many things can be done with it which are impossible for the foundry. Repoussé was once a fine art. In bronze and brass it held a prominent place in architecture; in steel it was the basis of the superb creations of the fifteenth-



Lighting fixture designed by Maurice Heaton in which he used the glass discs which he is shown producing at the right



Maurice Heaton of West Nyack, N. Y., designer and craftsman in glass and metals, laying on a glaze which will later be fired

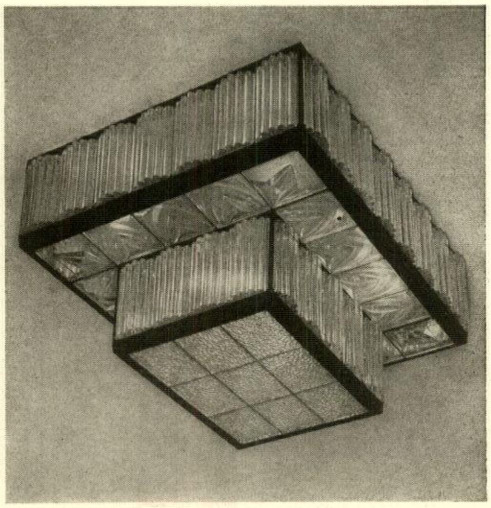
A seal of carved lead by Hollingsworth Pearce

century armorers. Yet machine stamping has never been developed because of the modern divorce of the "artistic" from the "practical." An embryonic effort to use the acetylene torch intelligently has been made by Edgar Brandt, of Paris, but his imitators have copied his mannerisms and failed to perceive in any way the epochal nature of his revolutionary methods. Only one who has an intimate knowledge of metal work will analyze and build upon the invigorating logic behind his design. To use his motives as merely another form of "precedent" is to prolong the enervating influence of eclecticism.

Machines are not new tools as such; it is only the power which is used to operate them that is new. The design of Greek vases, which reached a perfection of form never surpassed, was based on the machine process of the potter's wheel. The invention of that wheel was a wonderful time-saving advance over the more primitive method of building up the pots and jars on stationary stands. Had the invention been made ten years ago, many people would be saying: "These new machine-made vases may be all right for the cheap stores, but an art object must have the texture and irregularities of the old pots." The lathe is another machine which has been used for centuries for wood and metal. Spinning is another metal technic which has been put to many uses but not thoroughly developed as to artistic possibilities. The whole history of craftsmanship has been a constant effort on the part of the master craftsman and designer to develop processes which would eliminate imperfections of surface. One of the tragedies of modern times is the fact that the craftsman ceased to be an artist before power-driven machinery was made available. This is why machine-made things are so often mediocre in design; it is not the fault of the machine.

In the metal arts there are so many new methods of forming, as well as so many forgotten technics of the past, that it would be impossible to describe them all in a single article. To acquire sufficient knowledge to design metal work intelligently requires several years of study and practice. Among the ancient technics are forging, casting, repoussé, chiselling, inlaying, turning, cloisonné, and champlevé enamelling. Each of these has an infinite num-

Detail of a console table in "carved" (sandblasting through stencils) glass lighted from the inside edge, designed and executed by Feybusch Associates, New York

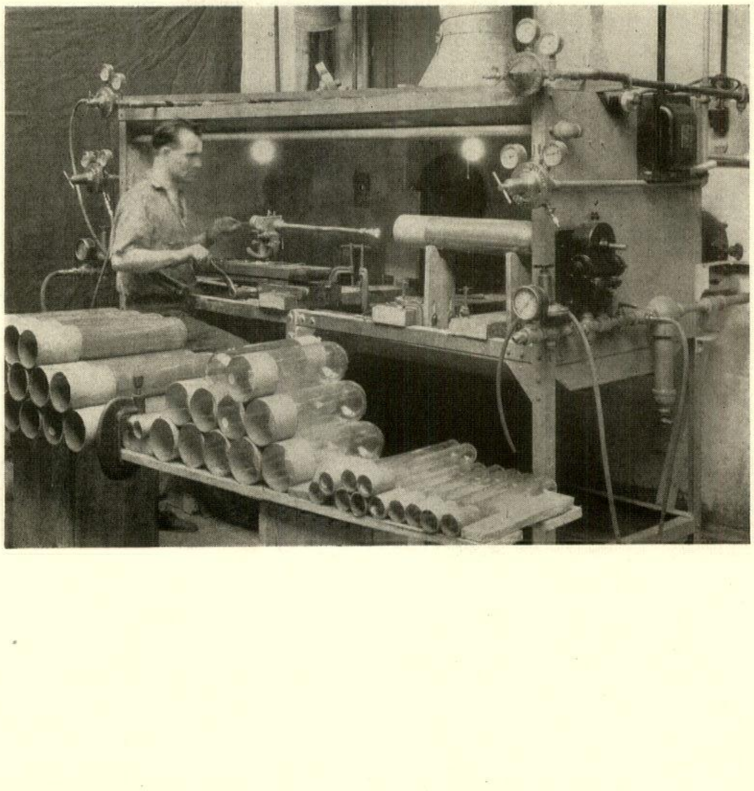


A lighting fixture of metal and "struck" glass by F. L. Keppler, New York. The surplus molten glass is struck from the mould with a cherry stick

ber of possibilities and they vary as applied to different metals and alloys. The newer possibilities, created by modern science and power machinery, include: extruding, rolling, drawing, stamping, drop-forging, machine-moulding, acetylene welding, spot welding, sandblasting, electroplating, metallic spraying, spinning, planing, milling; and all of these as applied to the many new alloys which have been developed and which react to the processes in different ways. A few of these involve the services of the sculptor, but unless he is familiar with the process his model will be utterly useless. Some of them present the problem of color, which cannot be shown on a blue print or be studied in small color samples.

The writer's intimate knowledge is confined to metals; he makes no pretense of knowing what the possibilities may be in other decorative arts, but it will be evident that the same conditions exist in many other fields. The glass industry has made many advances in casting and carving as well as combinations of forms which remain to be exploited. And there is enough lore in mediæval glasswork to keep any craftsman busy for a long time. Synthetic materials for floors and walls might be developed by specialized designers to undreamed-of creations. The art of artificial lighting is in its infancy. The projection of light, the diffusion of light, the use of colored lights and Neon tubes, together with many other possibilities, will probably form the basis of a major art if it is allowed to develop in the hands of specialists. None of these arts will ever develop so long as we continue to draw a line between the functions of design and execution.

Thousands of artists can be absorbed into our industry if the demand is created by architects and the enlightened public. In fact this movement has already begun, but it is hedged and hampered on all sides by conditions which have grown up during the last century. As long as the artist remains aloof from the crafts and the industries, the outlook will remain discouragingly bleak, but with the creative artist as an integral part of our social structure, being allowed to play a part which is honored and given recognition, then we may reasonably expect a golden age in modern times.

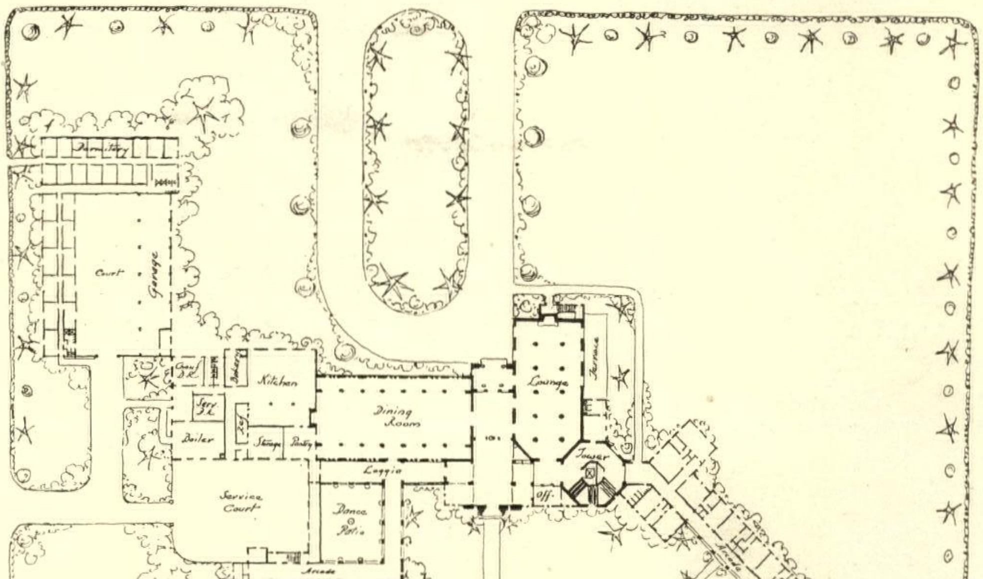


Another machine that is being drawn from commercial use into the field of design—a device, with vast possibilities, for spraying glass with molten metals

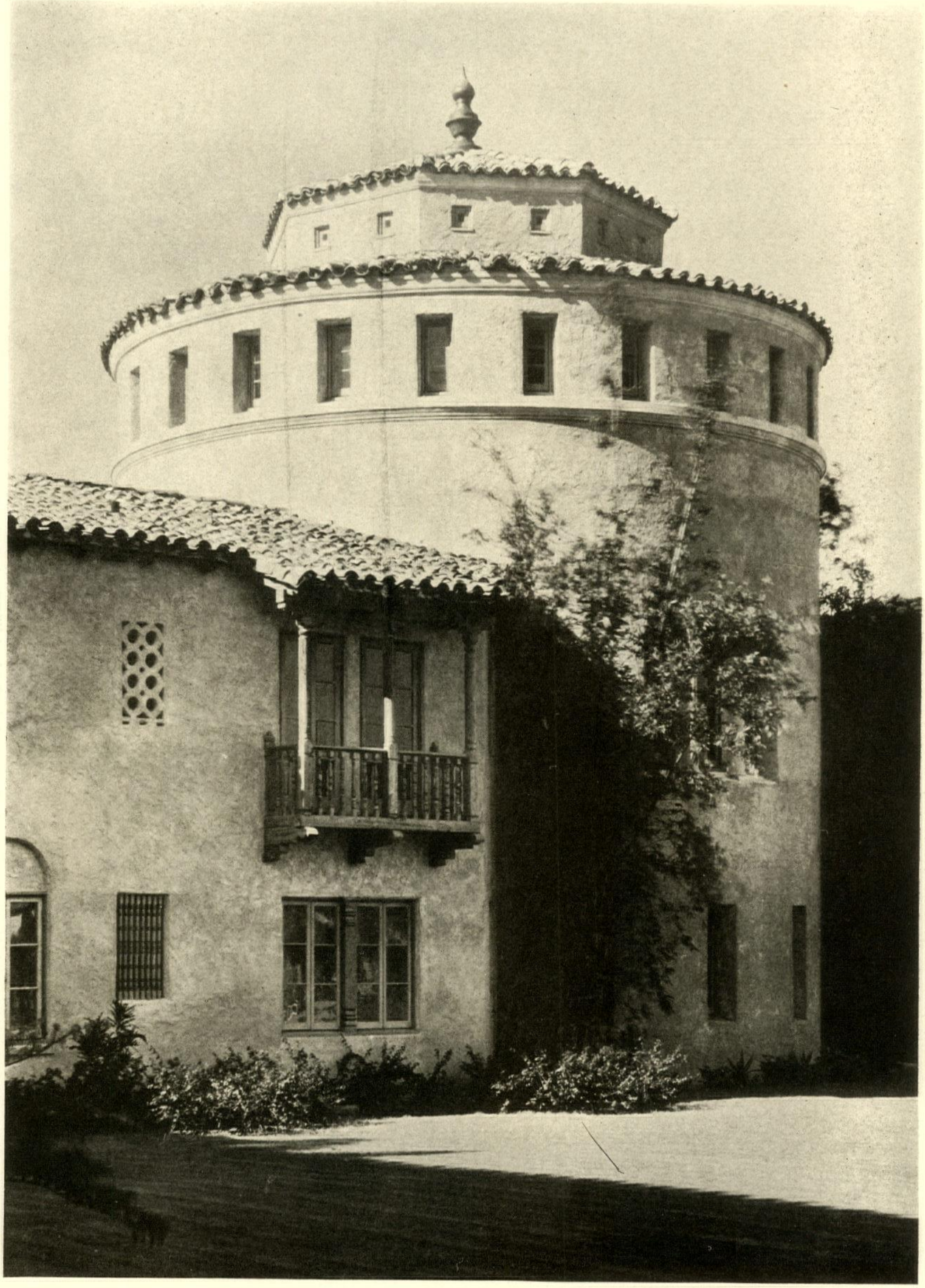
HOTEL ROLYAT, ST. PETERSBURG, FLA.

KIEHNEL & ELLIOTT, ARCHITECTS

Photographs by Richard Southall Grant

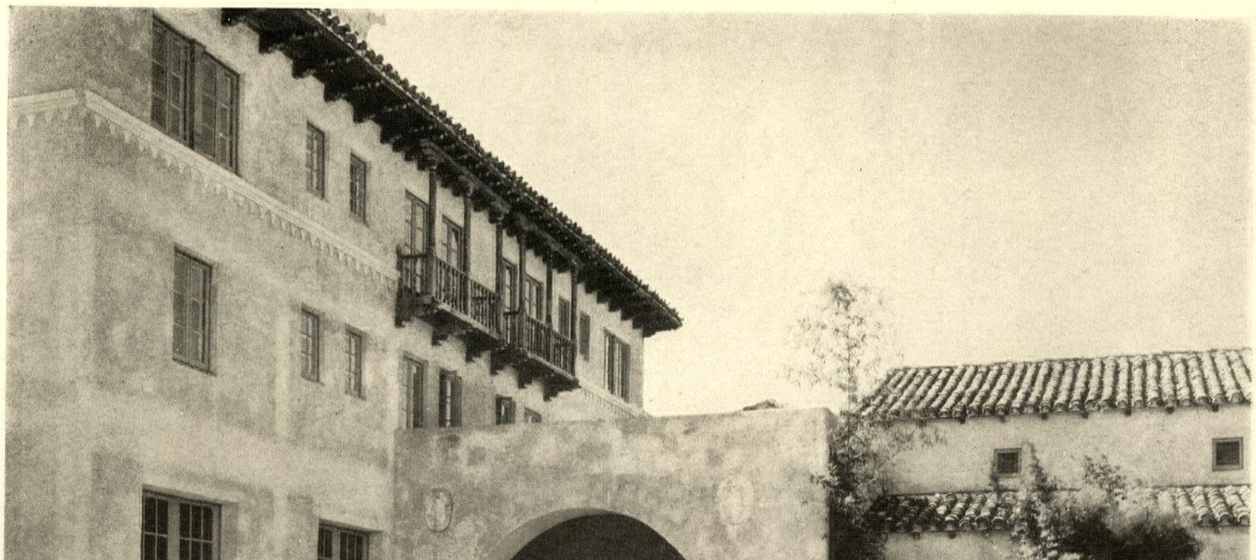


Hotel Rolyat, St. Petersburg, Fla. KIEHNEL & ELLIOTT, ARCHITECTS



Hotel Rolyat, St. Petersburg, Fla. KIEHNEL & ELLIOTT, ARCHITECTS

Hotel Rolyat, St. Petersburg, Fla. Kiehnel & Elliott, Architects



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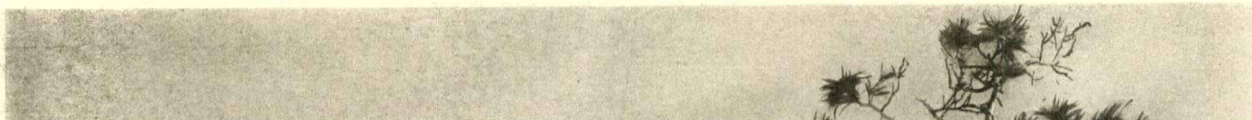

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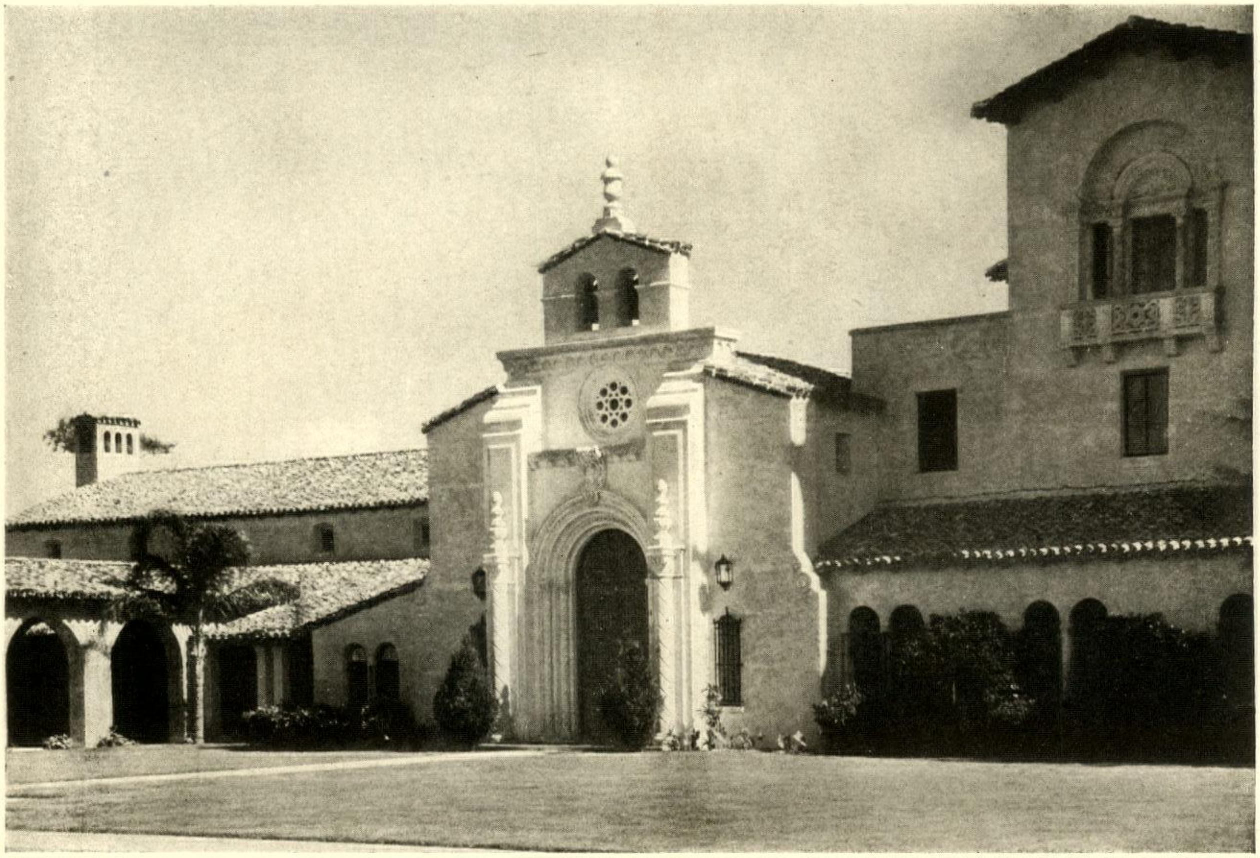

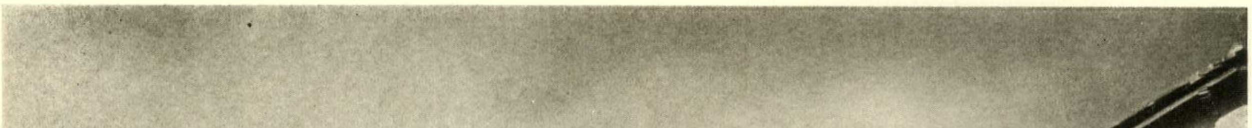

Hotel Rolyat, St. Petersburg, Fla. KIEHNEL & ELLIOTT, ARCHITECTS

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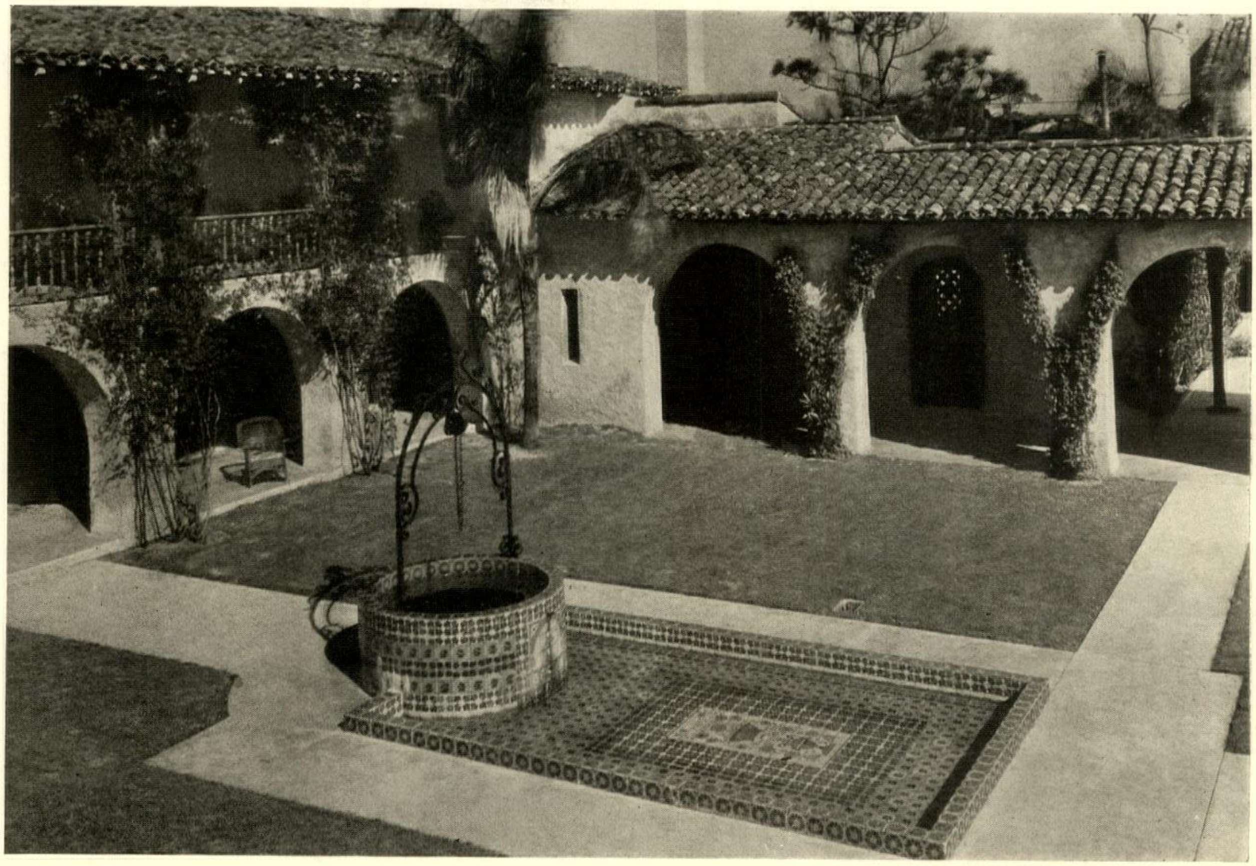


Hotel Rolyat, St. Petersburg, Fla. Kiehnel & Elliott, Architects

Hotel Rolyat, St. Petersburg, Fla. KIEHNEL & ELLIOTT, ARCHITECTS

The Basis of Greek Design: II

By Ernest Flagg

THE basic principle uncovered in the dimensions of the Parthenon (Part I in the September issue) is applied in the Temple of Theseus, but in a somewhat different way. In the Parthenon, as above demonstrated, proportions were calculated to horizontal dimensions at stylobate, and diminution for optical reasons made at top, whereas in the Theseum they were calculated to horizontal dimensions at architrave, and instead of diminution upward from base there was increase downward.

Breadth to depth at architrave seems intended to be as 3 to 7.

Penrose's measurement for depth being (in inches)	1242.600*

* Should equal length of stylobate top (Fig. 1)		1250.76
less setback of architrave, which equals distance from it to plumb line (Fig. 2)	18.42	
Less distance at stylobate (Fig. 2)	14.34	
leaving	4.08	
For the two sides		8.16
which being deducted leaves as length at architrave		1242.60

$\frac{3}{7}$ths of which is	532.543
and breadth given as	531.972†
Discrepancy	0.571

But Penrose's statements as to breadth are not consistent.

Dimensions at first step, as stated on page 72 of his text, would make breadth at architrave more than indicated on the plates by	0.408
reducing the discrepancy to	0.163
and length would be more by	0.768
It is not practicable within the limits of this document to explain how the unit was found; suffice it to say that length at architrave was intended to equal 686 of them, amounting to	1243.375
and breadth 294, amounting to	532.875

† Should equal breadth at stylobate top (Fig. 1)	540.132
less setback as just stated	8.16
	531.972

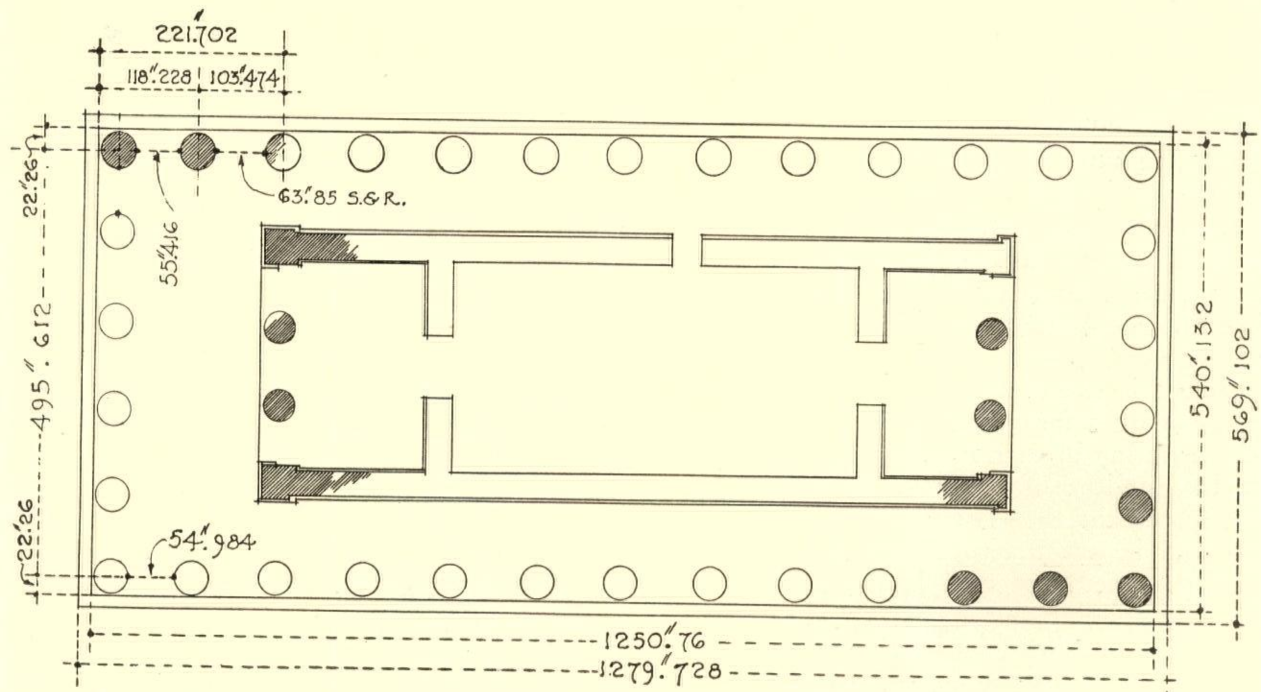


FIG. 1. *Plan of the Temple of Theseus, Athens, with Penrose's measurements transposed to inches and decimal parts thereof*

It was to these quantities that external ratios of height to breadth and length were calculated. They were as follows:

Stylobate to top of cornice, or height of order

No. 1. Height at ends to breadth as 4 to 7.
No. 2. Height at sides to length as 1 to 4.

Ground to top of cornice

No. 3. Height at ends to breadth as 5 to 8.
No. 4. Height at sides to length as 3 to 11.

Stylobate to top of pediment at ends, and roof at sides

No. 5. Height at ends to breadth as 5 to 7.
No. 6. Height at sides to length as 3 to 10.
No. 7. Whole height to breadth as 7 to 9.
No. 8. Whole height to length as 1 to 3.

This remarkable series of proportions interlock in such fashion as to leave no doubt as to intentions, each one being dependent on the others and certain features of the work, such as height of cymatium or crown moulding carried at sides but not at ends, and reduced by bevel on which it rests; height of stylobate, or base, height of pediment, roof, etc. Thus No. 2 requires greater height than No. 1 by the exact height of cymatium reduced by bevel on which it rests.

No. 3 requires greater height than No. 1 by height of stylobate.

No. 4 requires greater height than No. 2 by height of stylobate.

No. 5 requires greater height than No. 1 by height of pediment.

No. 6 requires greater height than No. 2 by height of roof, while to prove all, Nos. 7 and 8 must be equal and heights for stylobate must agree. It is of course impossible to suppose that the exact agreement of the work with all these interdependent conditions could have been accidental, nor is it too much to say that agreement is exact where discrepancies representing margin for mistakes both in building and measuring in each case amount to only a few thousandths of an inch. Moreover, the system used and the reasons for it are perfectly clear and in exact accord with the principle which governed, not only in the rest of this particular building, but apparently in all others of its class. It now remains to verify the statements just made by the measurements.

No. 1 of the list. Height from stylobate to top of cornice to breadth as 4 to 7.

Breadth as above stated	532.875
$\frac{4}{7}$ths of which is	304.500
Measurement (Fig. 3)	304.366
Discrepancy	0.134

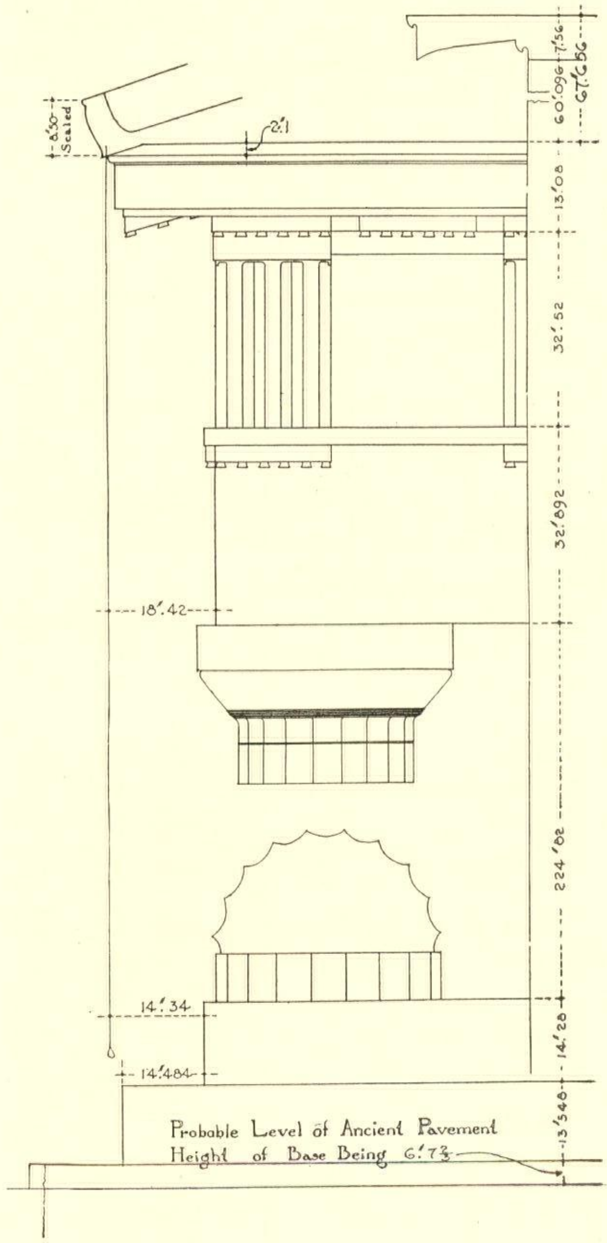


FIG. 2. *Temple of Theseus: Detail of the Order, from Penrose, with figures in inches*

No. 2 of the list. Corresponding height at sides to length as 1 to 4.

Length at architrave as above stated		1243.375
$\frac{1}{4}$th of which is		310.844
This should equal height at ends as in No. 1	304.366	
plus height of cymatium, a fragment of		

which was found and is given by Penrose at $\frac{1}{8}$ size (his plate 35). It scales 8.50 or 8.45 but does not increase height that much for it rested on a bevel cut on cornice slabs, the height of which according to S. & R. (Fig. 3) is 1.666 and Penrose (Fig. 2) 2.1, the average of which two measurements is........1.883 which, subtracted from cymatium height, leaves	6.567	
making whole height...........		310.933
Discrepancy..................		0.089

No. 3 of the list. Height at ends including stylobate to breadth as 5 to 8.

Breadth as before in No. 1........		532.875
$\frac{5}{8}$ths of which is................		333.047
Height should equal height of order at ends, measurement as in No. 1.............	304.366	
plus height of stylobate (Fig. 3).............	28.000	332.366
Discrepancy..................		0.681

No. 4 of the list. Height of order plus stylobate at sides to length at architrave as 3 to 11.

Length as in No. 2...............	1243.375
$\frac{3}{11}$ths of which is...............	339.102
Measurement....................	338.933
Discrepancy..................	0.169

No. 5 of the list. Height from stylobate to top of pediment to breadth as 5 to 7.

Breadth as in Nos. 1 and 3........		532.875
$\frac{5}{7}$ths of which is...............		380.625
Measurement equals that for No. 1.............	304.366	
plus height of pediment to cymatium (Fig. 2)...	67.656	
evidently intended for 70 Greek inches, 67.6$\frac{2}{3}$, plus height of cymatium (Fig. 2).............	8.500	380.522
Discrepancy..................		0.103

No. 6 of the list. Height at sides from stylobate to top of roof to length as 3 to 10.

Length as before in Nos. 2 and 4...		1243.375
$\frac{3}{10}$ths of which is...............		373.013
Measurement equals that for No. 5.............	380.522	
except for cymatium which projected above general roof level and whose height scales about................	8.500	372.022
Discrepancy..................		0.991

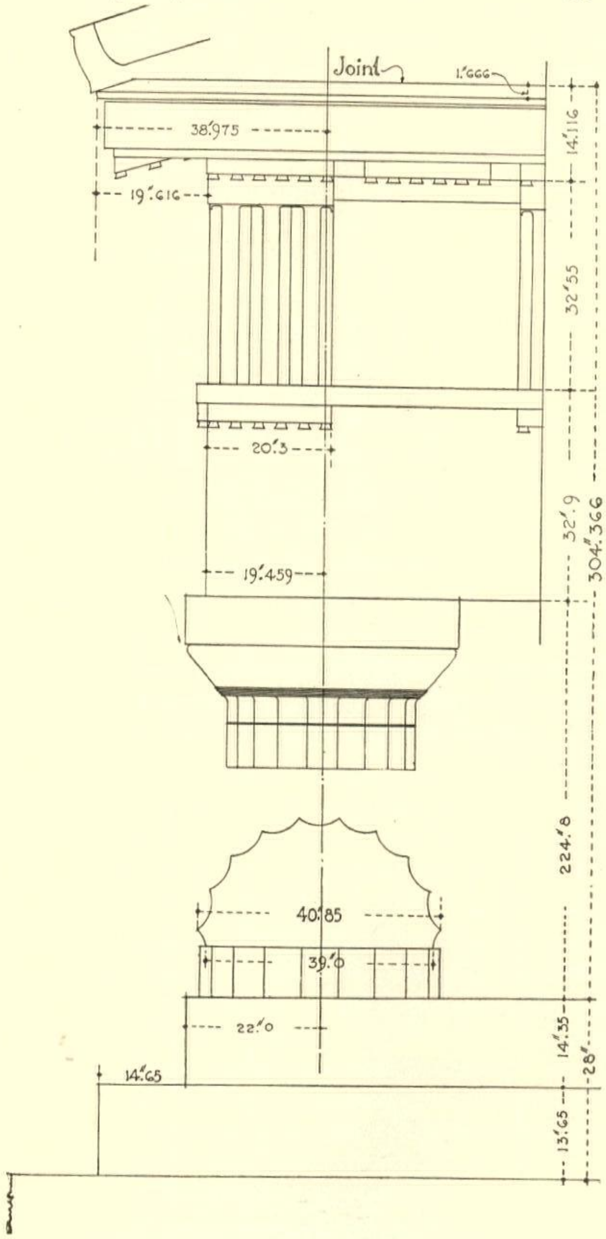


Fig. 3. *Temple of Theseus: Detail of the Order, from Stuart and Revett, with figures in inches*

No. 7 of the list. Whole height to breadth as 7 to 9.

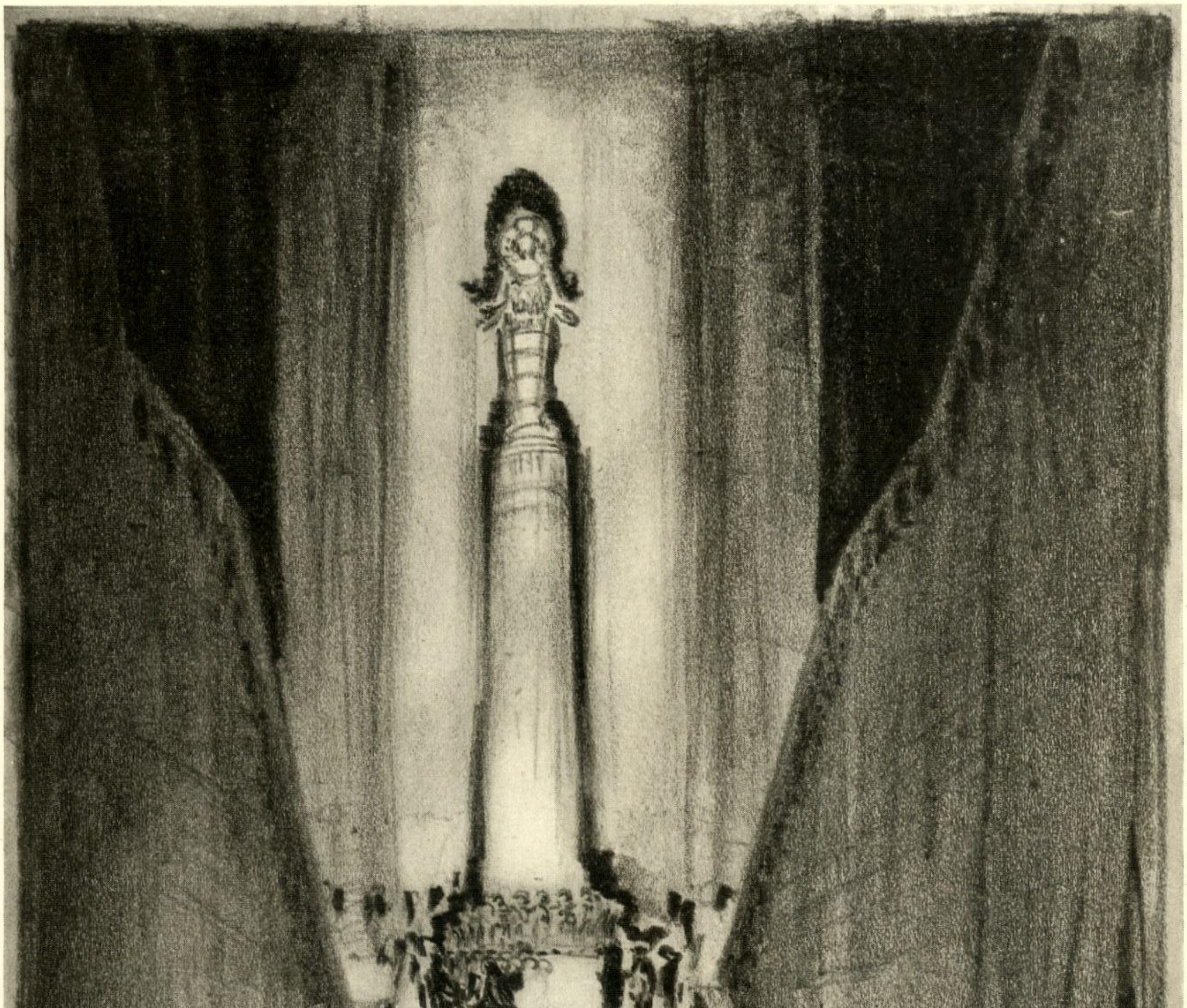
Breadth as before in Nos. 1, 3, and 5		532.875
$\frac{7}{9}$ths of which is................		414.458
Evidence here is circumstantial but within very narrow limits.		
Whole height includes that of order plus pediment as in No. 5......	380.522	
Plus stylobate (Fig. 3)...	28.000	
Plus 6 Greek inches at 0.9$\frac{2}{3}$................	5.800	414.322
Discrepancy..................		0.136

The 6 Greek inches just mentioned evidently represent the usual small base below steps still in place, as shown on Penrose's Plate 35, but whose height, owing to the disappearance of the ancient pavement, has not heretofore been known.

No. 8 of the list. Height above base to length as 1 to 3.

Length as before in Nos. 2, 4, and 6	1243.375
$\frac{1}{3}$ of which is..................	414.458
Height as in No. 7...............	414.322
Discrepancy..................	0.136

The figures here given, even by themselves, are sufficiently conclusive and afford a marvellous exhibition of accuracy both in building and measuring, but when considered in connection with the immense mass of corroborating evidence found not only in all other parts of the two buildings from which the foregoing illustrations are taken, but in the whole class to which they belong, the proof is complete, exact and overwhelming. Here then is news so old that it is new, but, whether considered as old or new, of utmost importance, for it not only sheds more light on Greek art than ever before but provides for our own use a principle without which art of that type is unattainable, yet of so simple a nature that it can be employed by intelligent artisans in the liberal arts as was done in ancient times. It provides a rule for proportion by which the designer may proceed in certainty instead of by guesswork; it establishes the ancient standards of measure, explains how the ancients could execute works of great magnitude with absolute exactness, using very little paper, makes intelligible many obscure passages in ancient writings and inscriptions and in other ways throws a flood of new light on the history of art, but above all it shows how art may be endowed with an intellectual quality lacking for almost two thousand years. Thus we are put in possession of that conception of art which was common when it reached its apogee, viz:—a quality which man in his interpretation of nature is enabled to supply from his intellect and which nature cannot give—the measure of his superiority over nature, the hallmark of his mind. It shows us that since the time of the Greeks art has only been half understood, and the proof of this revelation rests on exact mathematical data which it is as impossible as it would be foolish to deny. Real art is simple and should be as natural to man as the air he breathes and common to all his productions, but ignorance of one of its fundamental principles has made it too complicated to understand and too difficult to use.



Study of stairway motive from an impression of that in the Palace of Fine Arts, Rome

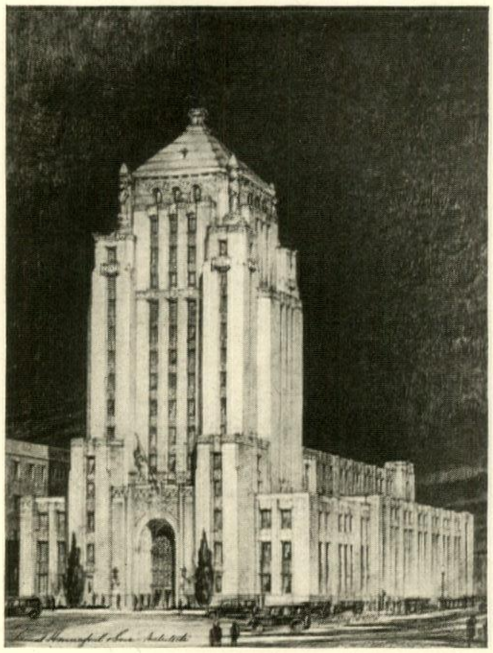
Edgar F. Bircsak
A. W. Brown Travelling Scholarship, 1929)

© 1930, by Irving Underhill, Inc., N. Y. C.

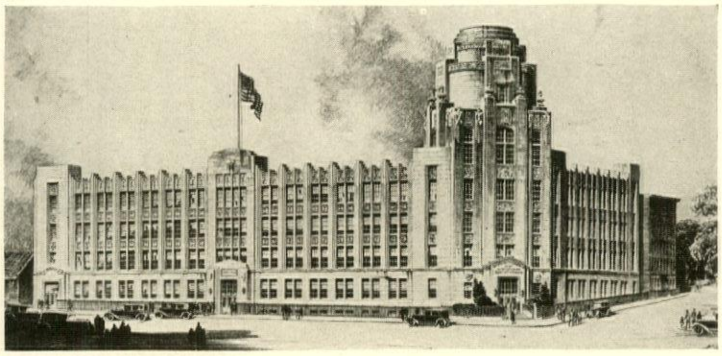
James Earl Fraser's monument to Abraham Lincoln, recently unveiled in Lincoln Park, Jersey City, N. J.

Montreal also is to have its Architects' Building, after the design by Ross & MacDonald

Architectural News



The Cincinnati Times-Star is to have this building, largely for its own use, designed by Samuel Hannaford & Sons



The changing type of school buildings — Herman Ridder Junior High School, Brooklyn. Walter C. Martin, architect, superintendent of school buildings

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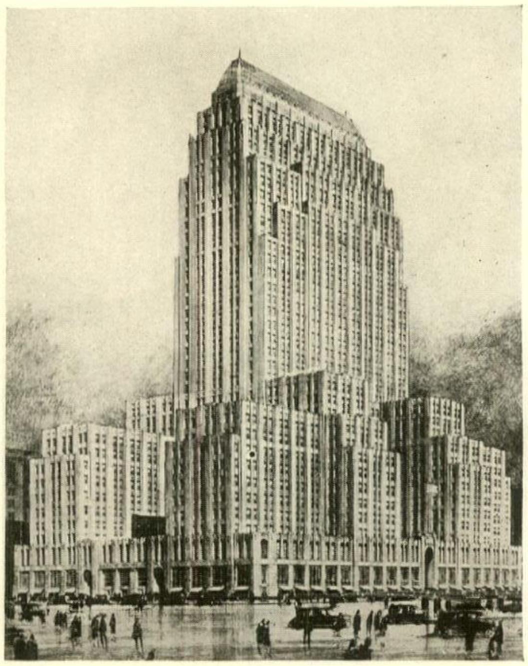
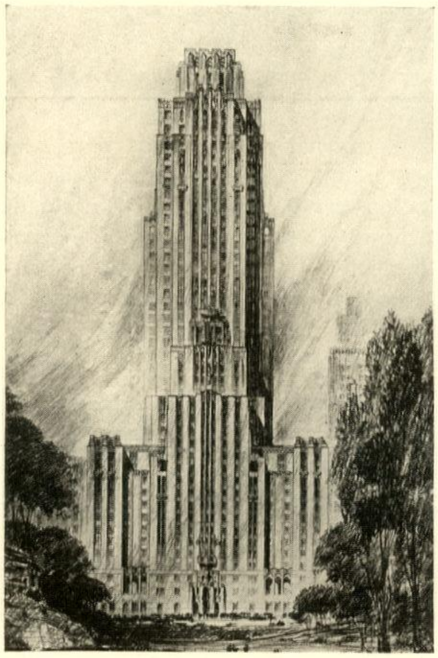
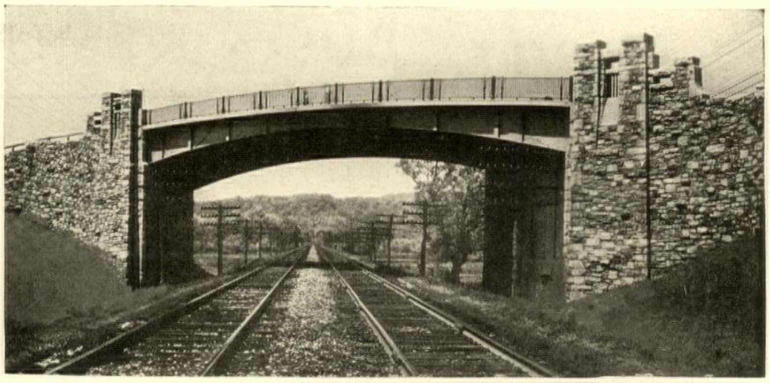
The Netherlands Legation, Washington, designed by the director of fine arts in Amsterdam



The proposed New England Building, a part of the Park Square development in Boston. Blackall, Clapp & Whittemore, architects

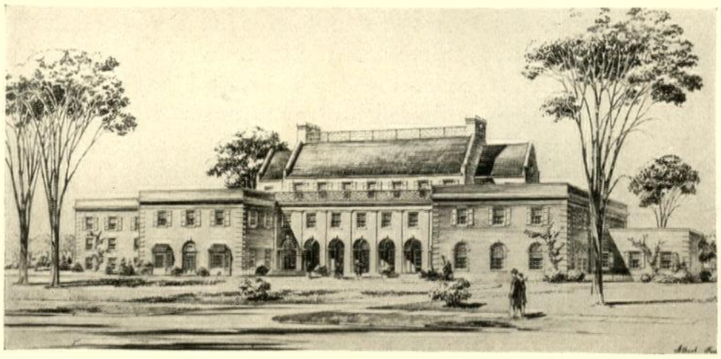


John D. Sanger's drawing for the Park Tower Hotel, Central Park South, New York. Frank Grad, architect



Winner of the short-span steel bridge prize for 1929—Bronx Parkway Extension Bridge, Mt. Pleasant, N. Y. Jay Downer, engineer

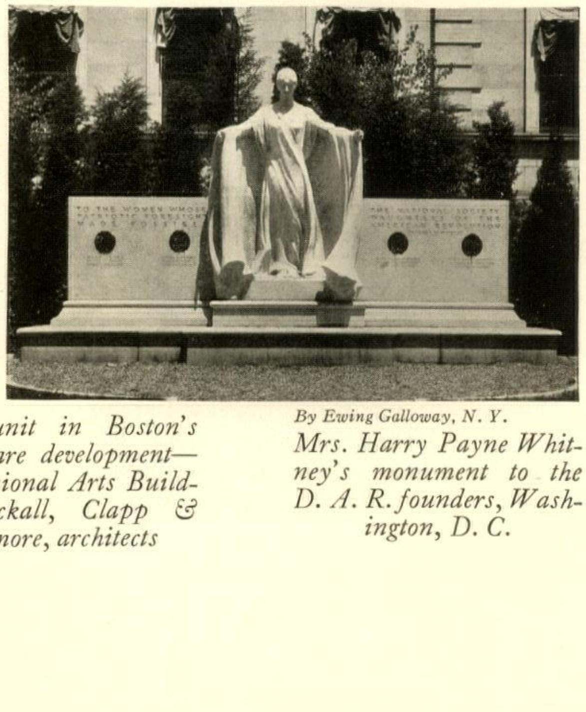
in Photographs



Henry Ford's new hotel, to be erected at the Ford Airport, Dearborn, Mich. Albert Kahn, Inc., architects

The Stewart Office and Theatre Building, home of the Lincoln University Club, Lincoln, Neb. Davis & Wilson, architects

Another unit in Boston's Park Square development—the Professional Arts Building. Blackall, Clapp & Whittemore, architects



By Ewing Galloway, N. Y.

Mrs. Harry Payne Whitney's monument to the D. A. R. founders, Washington, D. C.

BOOK REVIEWS

LIVING ARCHITECTURE. Edited by ARTHUR WOLTERSDORF. 178 pages, 7 by 10½ inches. Illustrations from drawings and photographs. Chicago: 1930: A Kroch. $4.50.

A series of essays by various architects, published under the sponsorship of the Chicago Chapter, A. I. A., and aiming to acquaint the public more clearly with the problems and methods of solution abounding in present-day architecture.

TESTS OF COMPOSITE BEAMS AND SLABS OF HOLLOW TILE AND CONCRETE. By D. E. PARSONS and A. H. STANG. 35 pages, 6 by 9 inches. Illustrations from drawings and photographs. Pamphlet binding. Washington: 1930: U. S. Department of Commerce, Bureau of Standards. 15 cents.

TENSION TESTS OF RIVETS. By WILBUR M. WILSON and WILLIAM A. OLIVER. 38 pages, 6 by 9 inches. Illustrations from drawings and photographs. Pamphlet binding. Urbana, Ill.: 1930: University of Illinois. 25 cents.

YEAR BOOK, WESTCHESTER COUNTY SOCIETY OF ARCHITECTS. Edited by LAURENCE M. LOEB. 297 pages, 6 by 9 inches. New Rochelle, N. Y.: 1930: Office of the Society. $6.50.

The first of a series of annual publications containing information as to the Society and as to the laws, regulations, and data in reference to building in Westchester County, N. Y.

AMERICAN HOUSING. By EDITH L. ALLEN. 216 pages, 6 by 7½ inches. Illustrations from photographs and drawings. Peoria, Ill.: 1930: The Manual Arts Press. $2.

The author, who is home economist in the employ of the U. S. Department of Agriculture, traces the effect of social and economic changes in American housing from the time of the colonists down to the present. The book is perhaps of greater interest to the student of sociology than to the architect.

MEXICAN HOUSES. By G. RICHARD GARRISON and GEORGE W. RUSTAY. 173 pages, 10 by 13½ inches. Illustrations from drawings and photographs. New York: 1930: Architectural Book Publishing Co., Inc. $15.

The authors are two enthusiastic architects who have noted, as have others, the fact that in most books on Mexico, the work that has been illustrated and described is the more important work of a public nature. The smaller houses and the intimate features of domestic architecture have, for the most part, been passed by, or possibly not even discovered. It is this latter classification that has engaged the camera and pencil of the authors. Their photographs are excellent, and their measured drawings and captions supplement the former with very valuable information.

NEW BUILDING ESTIMATOR'S HANDBOOK. By WILLIAM ARTHUR. 1023 pages, 4½ by 7 inches. Illustrated from drawings and photographs. New York: 1930: Scientific Book Corporation. $6.

The fifteenth edition, revised and enlarged, of this useful standard volume.

MODERN ARCHITECTURAL SCULPTURE. Edited by W. AUMONIER. 160 pages, 11 by 14½ inches. Illustrations from photographs. Printed in Great Britain. New York: 1930: Charles Scribner's Sons. $20.

A praiseworthy and eminently successful attempt to bring together between the covers of one book some of the work of sculptors of the day in collaboration with architects. M. Aumonier claims that it is merely "a collection of the work I have seen and sometimes admired in my travels at home and abroad." He displays a catholic and discriminating taste.

ACCOUNTING FOR DEPRECIATION OF SCHOOL BUILDINGS. By GEORGE STEPHEN MURRAY. 45 pages, 8½ by 11 inches. Mimeograph printing, pamphlet binding. 23 Judson Avenue, New Haven, Conn.: 1930: The Author. $1.

A technical analysis, from the point of view of the certified public accountant, of depreciation of educational buildings. A practical handbook from which boards of education and others similarly interested may set up a rational system of depreciation charges.

ENGLISH MONASTERIES IN THE MIDDLE AGES. An Outline of Monastic Architecture and Custom from the Conquest to the Suppression. By R. LIDDESDALE PALMER. 233 pages, 7½ by 10 inches. Illustrations from photographs and plans. Printed in Great Britain. New York: 1930: Richard R. Smith, Inc. $8.

The whole literature of architectural history, and particularly that dealing with structures of a religious character, is sprinkled with references to monasticism and its works, yet it has remained for Mr. Palmer to bring together this outline of the origins, characteristics, and customs of the monastic orders. He stresses in fuller detail the development in England of the churches which they served, and the buildings in which the life of the orders was carried on.

NUMBER V

IN A SERIES

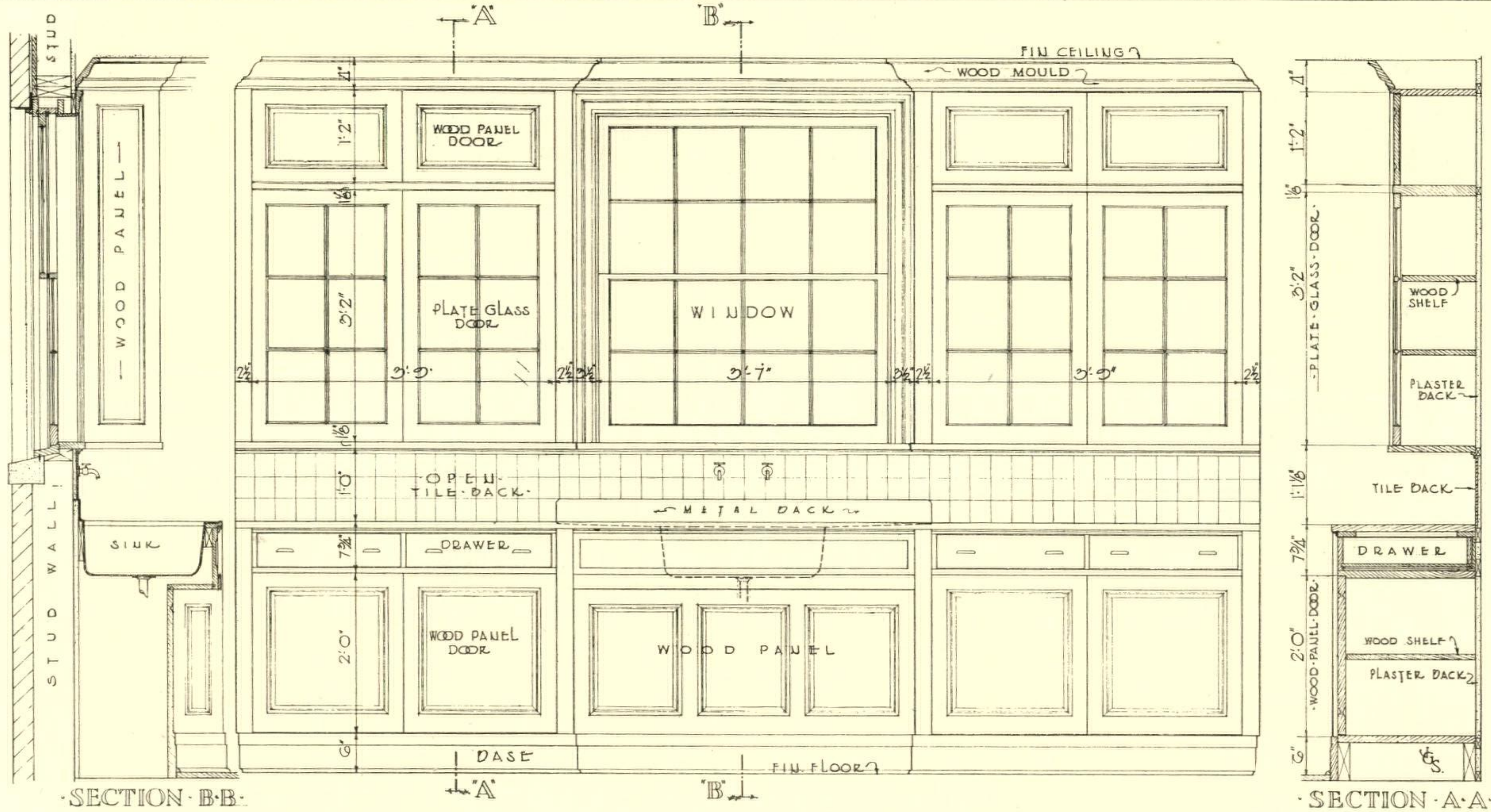
OF

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 Wood Trim.

ARCHITECTURE
CHARLES SCRIBNER'S SONS



SCALE · DETAIL · OF · BUILT-IN · KITCHEN · CUPBOARD

SCALE 0 2 4 6 8 10'

PLATE Nº 5.

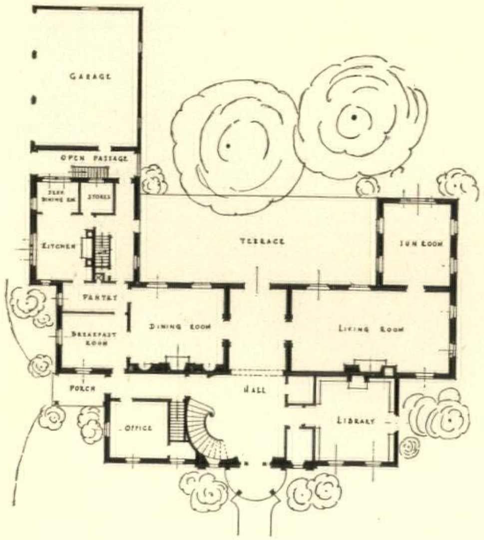
Photographs by Richard Averill Smith

HOUSE OF WILLIAM RUTLEDGE BULL, PELHAM, N. Y.

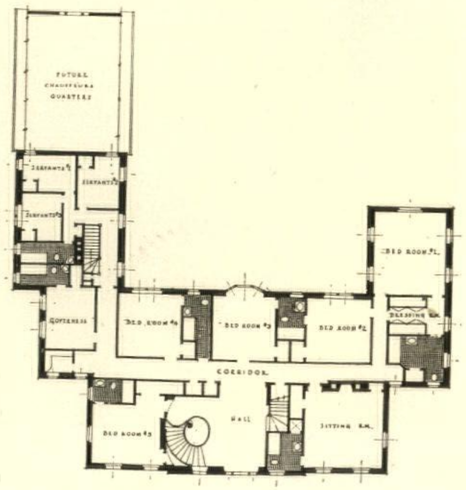
PLINY ROGERS, ARCHITECT

House of William Rutledge Bull, Pelham, N. Y.

PLINY ROGERS, ARCHITECT



First-floor plan



Second-floor plan

House of William Rutledge Bull, Pelham, N. Y.

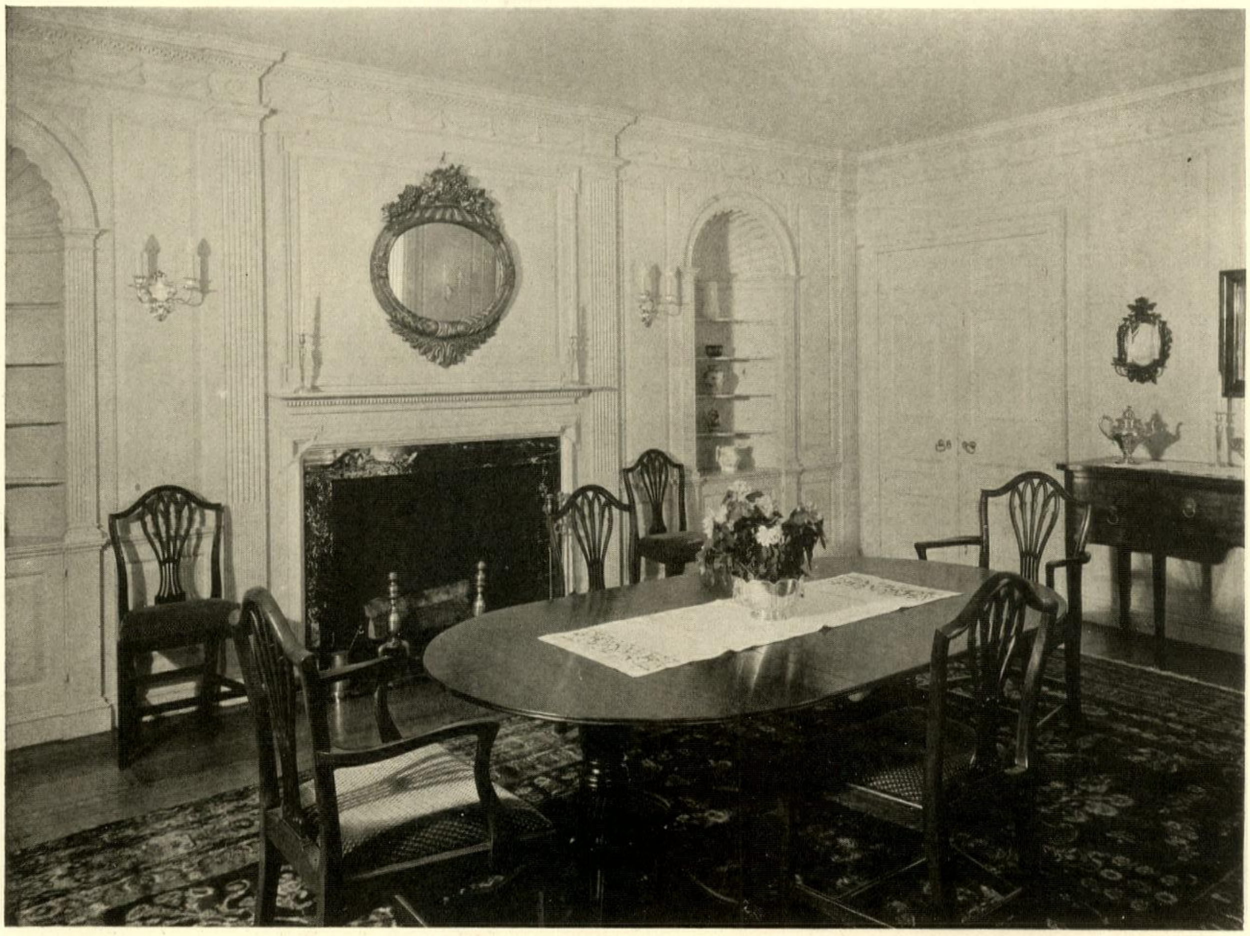
PLINY ROGERS, ARCHITECT

The hall

The garage wing

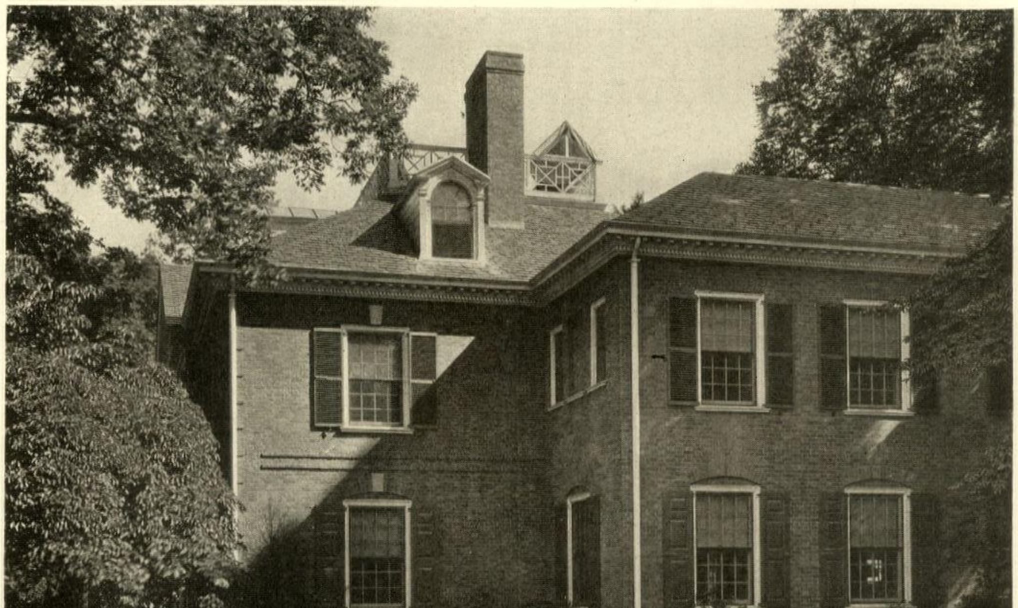
HOUSE OF WILLIAM RUTLEDGE BULL, PELHAM, N. Y.

PLINY ROGERS, ARCHITECT



The dining-room

A corner detail



HOUSE OF WILLIAM RUTLEDGE BULL, PELHAM, N. Y.

PLINY ROGERS, ARCHITECT

The terrace entrance

House of William Rutledge Bull, Pelham, N. Y.

pliny rogers, architect

Photograph by Kenneth Clark

Combined living-room and dining-room in the home of E. S. Sparkman, Washington, Conn. The floor is of pine, painted dark blue and waxed; lower walls medium blue; upper walls light blue; back of shelving, deep pink; the chintz patterns carrying blue and pink flowers. Richard H. Dana, Jr., architect

Photograph by Kenneth Clark

Breakfast-room in Yester House, the home of Mrs. G. D. Webster, Manchester, Vt., where her collection of rare old glass is ideally shown by transmitted light, each bay holding glass of one color. The floor is of gray, the furniture light yellow maple. Richard H. Dana, Jr., architect

Some Pitfalls in Supervision

By W. F. Bartels

III. CONCRETE

WHEN the architect appears on the job to superintend the concrete work he will remain cool, calm, and all-seeing—only if he is an "old stager." Between the discordant grinding of the mixer, the confusion of reinforcing rods, spirals, and stirrups and the primeval forest of upright supports, he is not unlikely to feel at a loss to cope with the situation. If an experienced superintendent could conduct an explanatory tour it would be the ideal means through which to become intelligently versed in concrete construction. That being impractical for most of us, these notes may serve as a partial substitute. We shall omit any discussion of concrete theories, tests, and uses, and consider only the essentials in superintending. For convenience let us divide the three main uses of concrete: (1) grout, (2) reinforced concrete, (3) cinder-concrete arches.

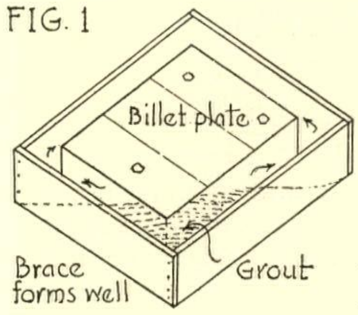
Grout, which is a rich mixture of cement and sand thinned with water, was used in the past chiefly for filling the voids of stonework. To-day grout has an even more important mission. When billet plates, those great slabs of steel to support the columns of a building, are set, they are grouted. When the concrete pier is finished, the billet plate is placed on top of it, raised an inch or inch and a half by means of wedges, or, on the larger ones, by means of adjusting bolts. A form is then built around the pier just slightly higher than the top of the billet plate. After being rechecked for position, level, and elevation, the plate is ready to be grouted.

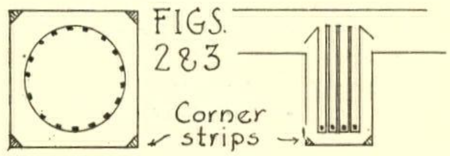
The grout generally is a 1 : 2 or 1 : 3 proportion of cement to sand. It should be well mixed and of a consistency to allow a free flow. The cement should be one which has not only been used previously, but which has also been tested by a cement technician. Sand should be clean and sharp with not more than 6 or 7 per cent of loam. A simple way to test the approximate loam content is to put a handful in a glass or bottle, adding water and then shaking. On being allowed to settle, strata of sand and loam will be observed. Certain sands have a tendency to make the grout "dead"—that is, the sand will settle and tend to separate from the cement. This is at once noticeable and resembles sand and water dumped out of a bucket, in that the water drains away from the sand very rapidly. In most cases this tendency probably does not affect the strength of the grout if it can reach its set under ideal conditions, but with the flow which is necessary and the time taken to grout properly, it is best avoided.

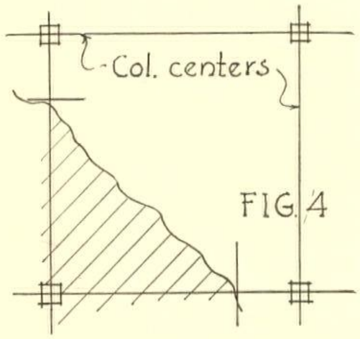
Care must be taken, when starting, to see that the grouting of the billet plate is begun from one corner and gradually worked to the corner diagonally opposite (Fig. 1). This is necessary to remove air pockets beneath the plate. Heavy wire may be used for pushing the concrete along, and where the billets are high enough from the top of the concrete pier a rope may be put underneath and pulled back and forth. This will help distribute the grout evenly and eliminate air pockets. The grout is then brought up to the level of the top of the billet. So important is this work, since this grout carries the entire column load, that it is deserving of the superintendent's closest personal supervision. Grillages are treated in the same manner but present less likelihood of air pockets.

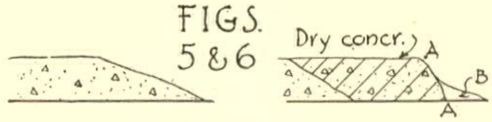
Reinforced Concrete: Cleanliness is essential in concrete. Indeed, in many cases concrete depends for its strength on cleanliness. Forms should be freshly swept before concrete is poured. Handholes—those small removable boards located in the lower part of forms for removing the dirt from the forms—should be provided and used. The reinforcing rods should be thoroughly cleaned before being put in place if any rust or scale is in evidence. The stone or sand aggregates should never be anything but clean. Even though concrete be of the right mixture and properly puddled, it cannot be expected to form a sharp right-angle edge. It is therefore advisable that the specifications require and the superintendent insist on a 1″ x 1″ strip being sawed diagonally and nailed in the corners of column and beam forms, as shown shaded in the accompanying diagrams. Needless to point out, the corner strip in the column forms must be nailed in place before the four sides are nailed together.

It often happens, when the "shoring" and









wood forms for a floor slab have been in place for some time in the sun, that the boards will shrink and open up wide crevices. Unless this is remedied, when the concrete is poured all the vital cement aggregate will drip through, leaving only coarse gravel and stone. In case the reinforcing rods are not yet in place, a simple remedy consists in tacking building paper over the entire form. If the rods are already in place there is no alternative but the expensive operation of cutting laths into lengths which fit between the vertical supports on the under side of the forms.

Once water is added, concrete should be poured immediately. If this is distributed by means of a chute, the latter should be first washed down with water. The slope should not be more than 1 in 2, nor so slight that the composition of the concrete at the end of its journey is different from that at the start. Concrete should never be allowed either to flow or drop in such a manner that the aggregates become separated. It should have aggregates of such size that they will flow around the reinforcing rods without getting caught between them and the forms, so as to cause chokage. All the while the concrete is being poured, the mass should be constantly and thoroughly stirred or puddled by means of a spatula, a length of 2 x 4 or, if the rods of a column are very close together, a smaller-sized rod. The coarse aggregates should be kept away from the side of the forms and care taken not to disturb the positions of the reinforcing rods or spirals, which should be firmly wired. In a wall all the wood separators—short lengths of wood placed between the sides of the forms until ready for pouring—should be knocked down and retrieved with a nail on the end of a pole.

It is strongly advised to check the width between forms as they are being constructed, so that the wall when completed is of the required dimensions, otherwise a 12-inch wall is likely to be at least an inch less in thickness. When pouring concrete in a wall form it is very important that only about two to three feet in height should be poured at one time, lest the weight of the wet concrete make even the strongest form bulge out of shape, if not actually wreck it. After a few hours, when the mixture is partially set, another two to three feet can be added. When it is decided to stop pouring a large slab, the line at which the stop is to be made should be determined by the designer. Generally, if it can be at the quarter point between columns it will be satisfactory, as shown in plan in Fig. 4. The break should not be a gradual one as in Fig. 5, but the last batches of concrete should be drier or stiffer and so tempered that a short vertical edge will be formed as at *A—A* in Fig. 6. Any particles at *B* should be removed and the concrete at *A—A* roughened and thoroughly wetted before pouring is started again.

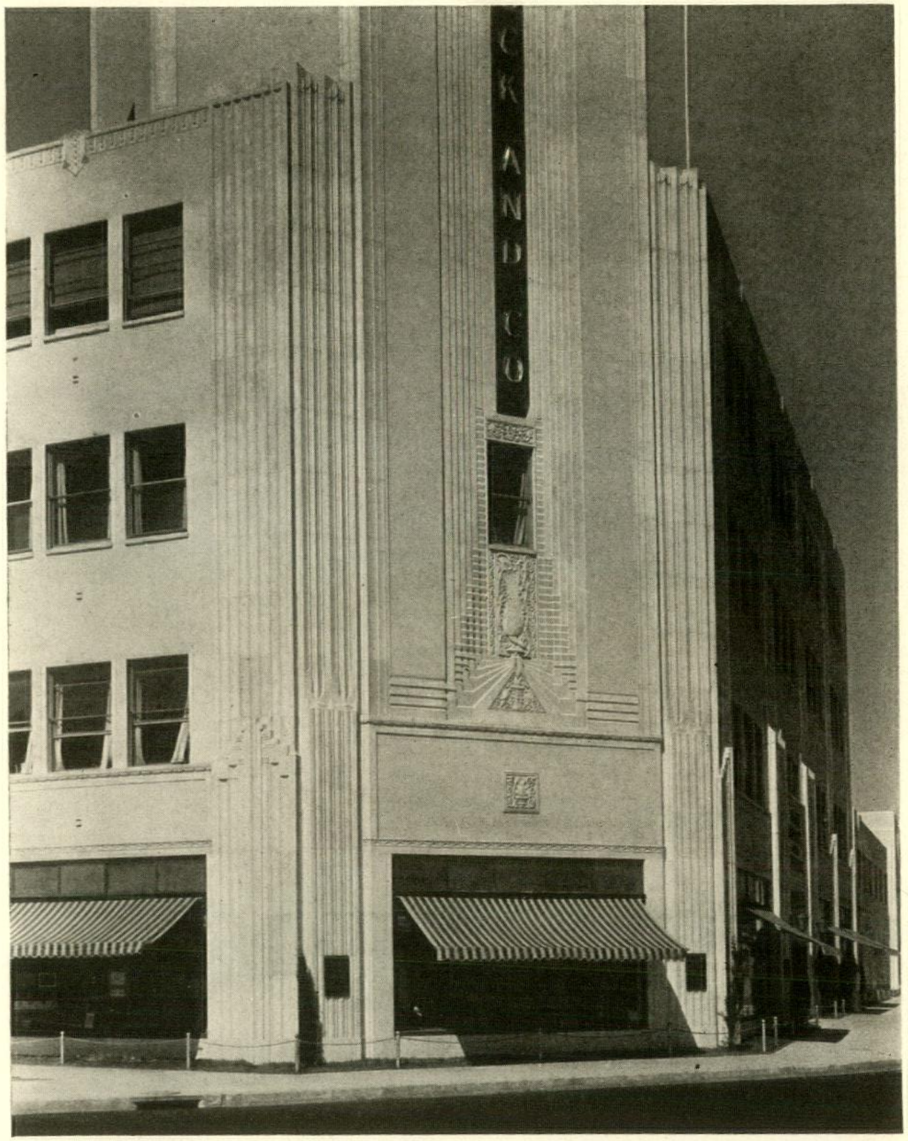
Great care should be taken in pouring concrete in cold weather. If near the freezing point the aggregates should be heated before mixing. Too much heat, however, has a tendency to reduce the strength of the concrete. Neither should the opposite problem of concrete be overlooked, that of extremely hot weather. In this case all poured concrete should be sprinkled with water regularly for several days so that it does not dry too quickly. This "curing" will be of great benefit to it.

Authorities differ on the length of time to leave concrete forms in place. It is safe to assume that they should be left up as long as possible. In no case should columns and slab forms be removed under three days, and beam and girder guide forms under one week. It must not be forgotten that these carry much weight above in forms and new materials.

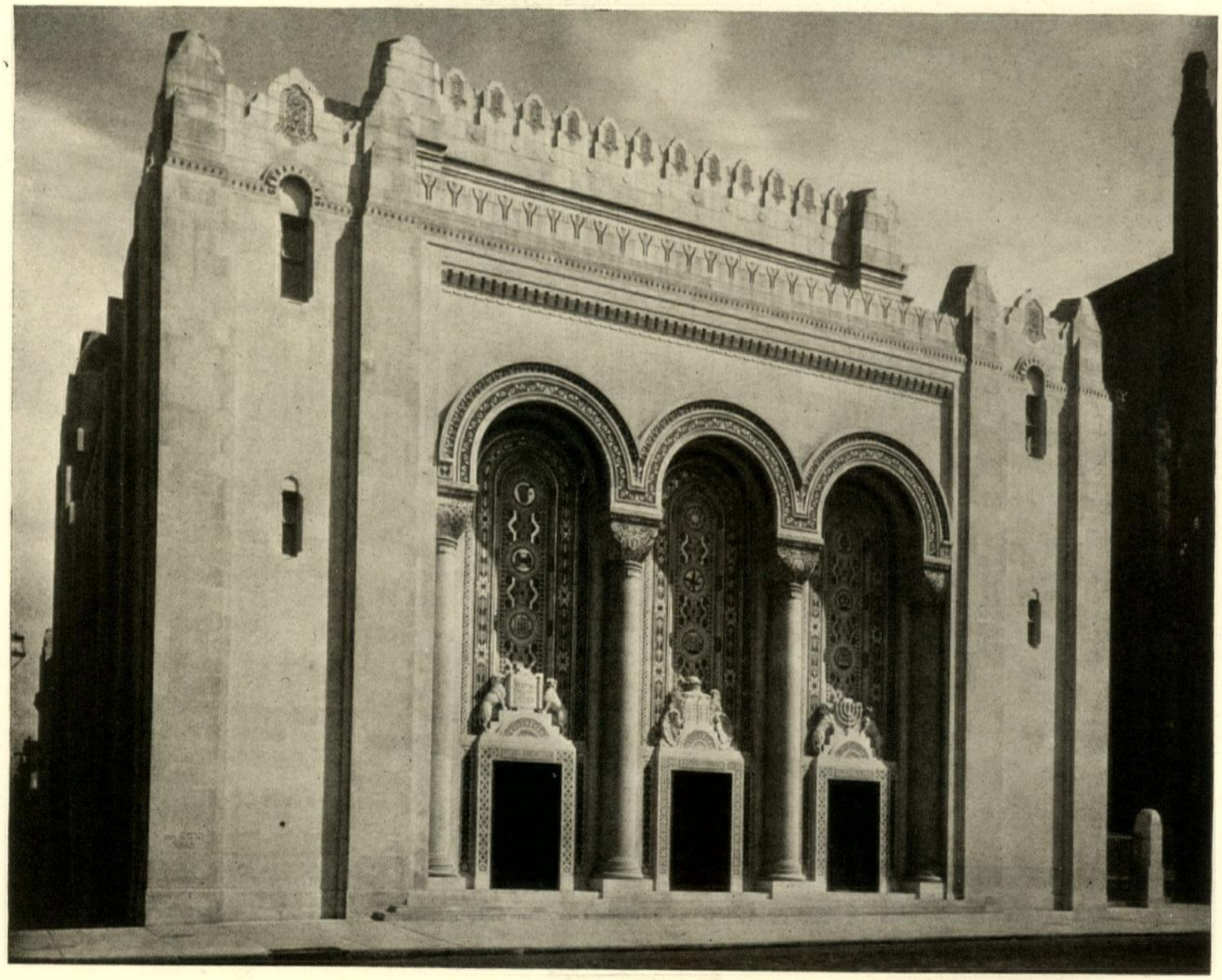
In Mr. Bartels's first article (August) he wrote of Steel-tube Piles; in the second (September) of Piles and Rock. Cinder Concrete Floor Arches will follow in November.

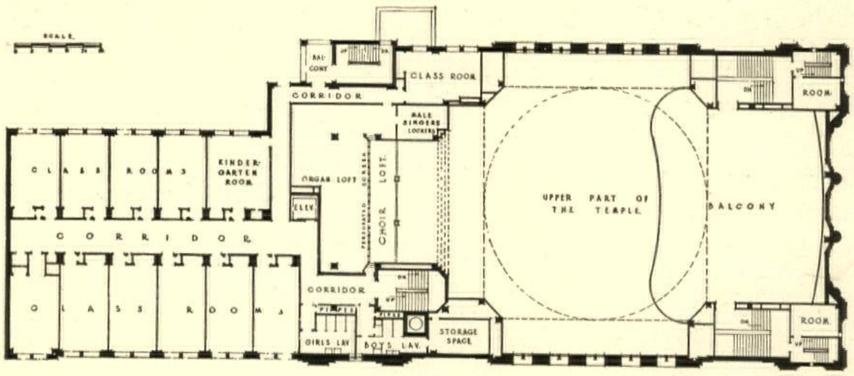
Photographs by Richard B. Hoit

STORE OF SEARS, ROEBUCK & CO., MIAMI, FLA.
NIMMONS, CARR & WRIGHT, ARCHITECTS

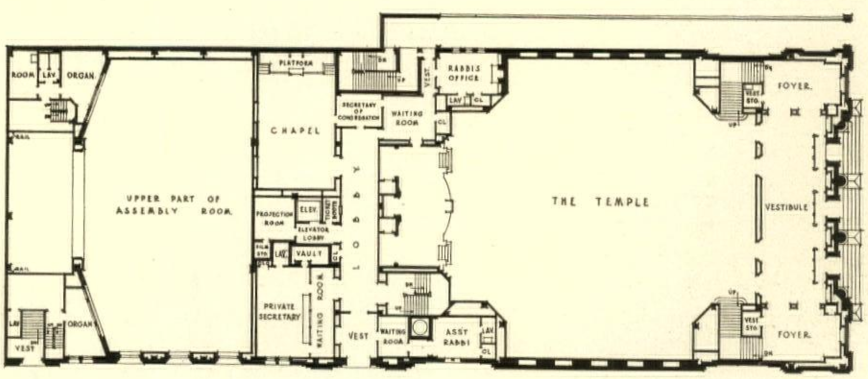


Store of Sears, Roebuck & Co., Miami, Fla. nimmons, carr & wright, architects



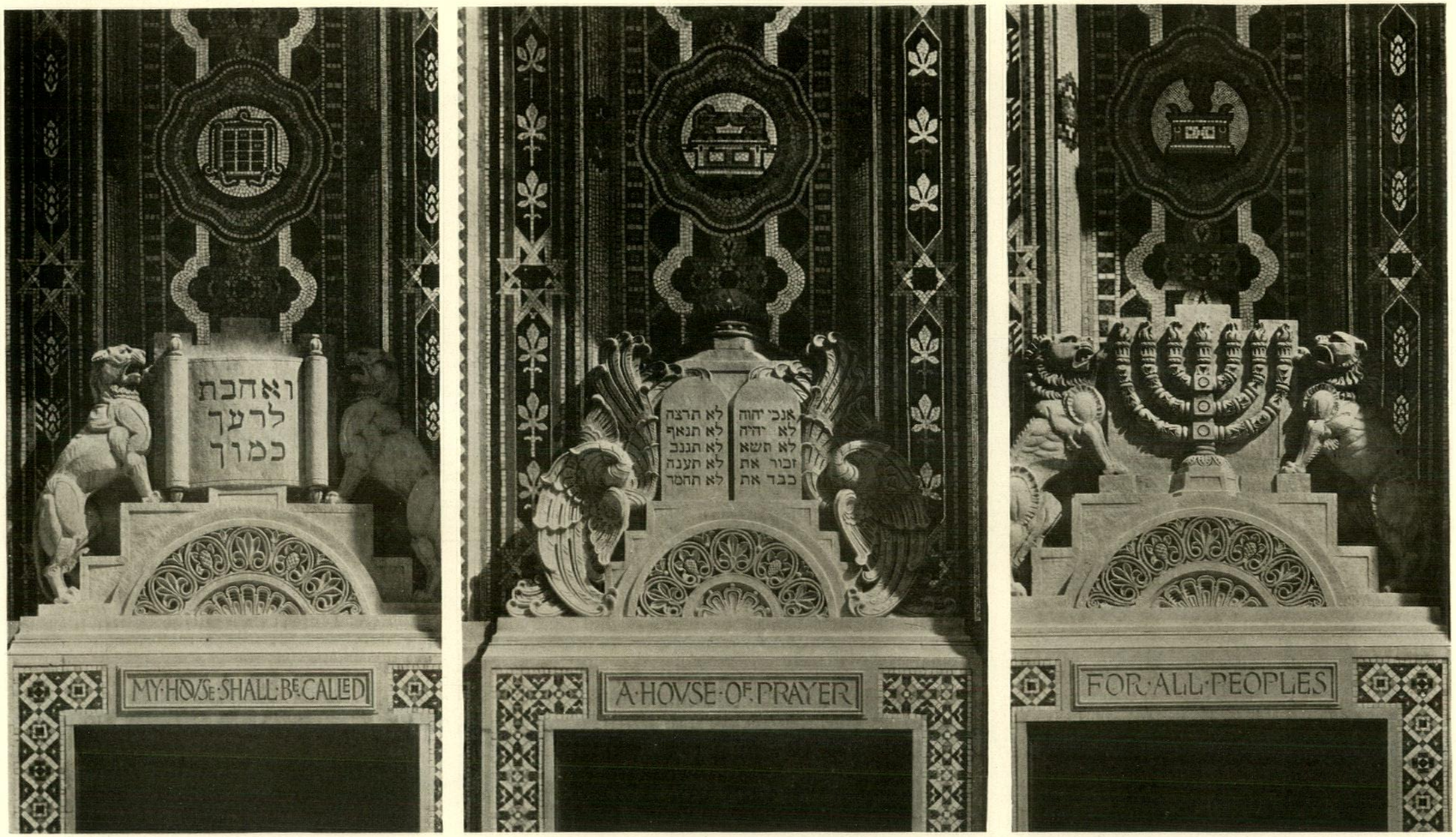


Second-floor plan



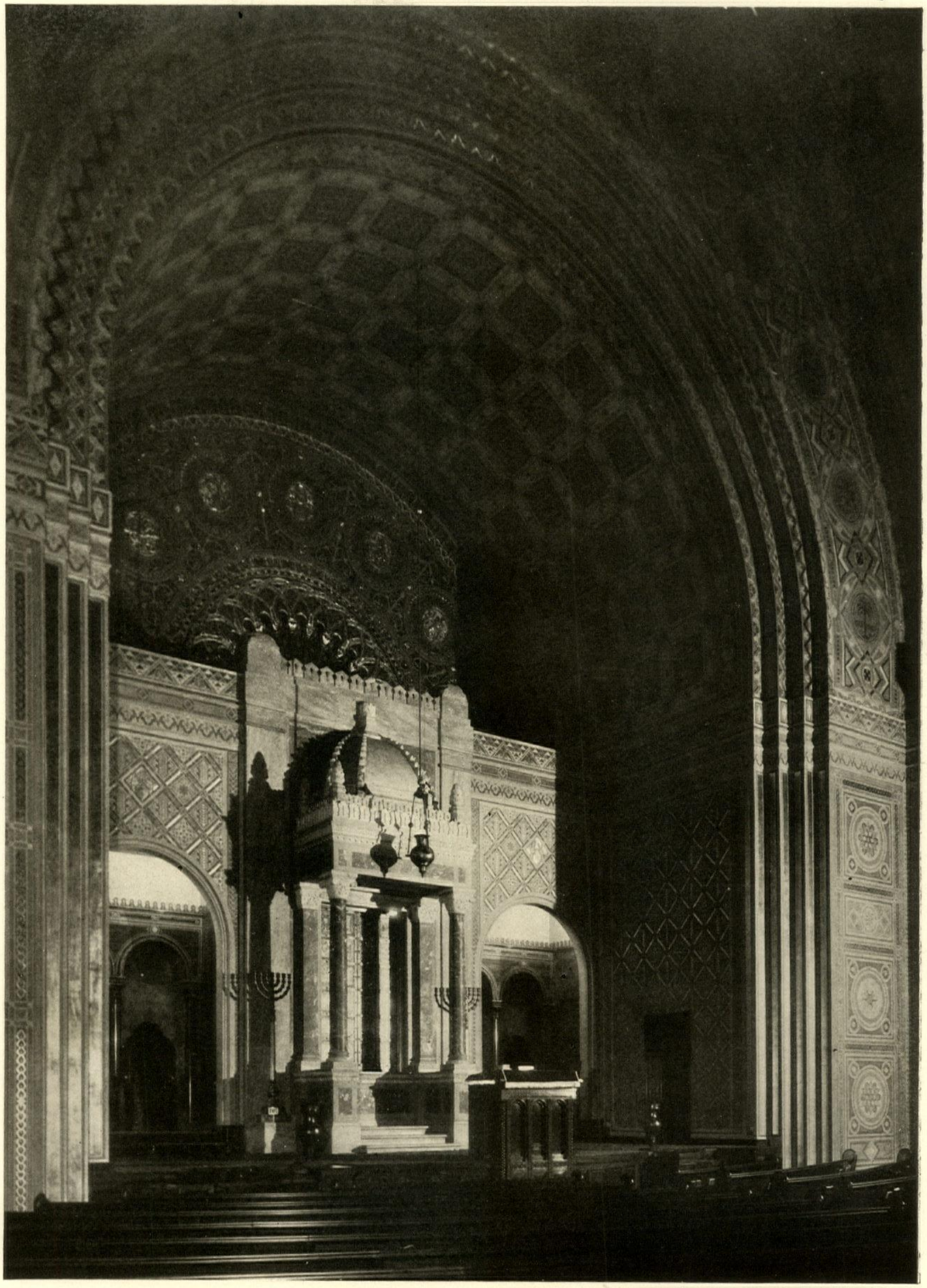
First-floor plan

RODEPH SHALOM SYNAGOGUE, PHILADELPHIA, PA. SIMON & SIMON, ARCHITECTS

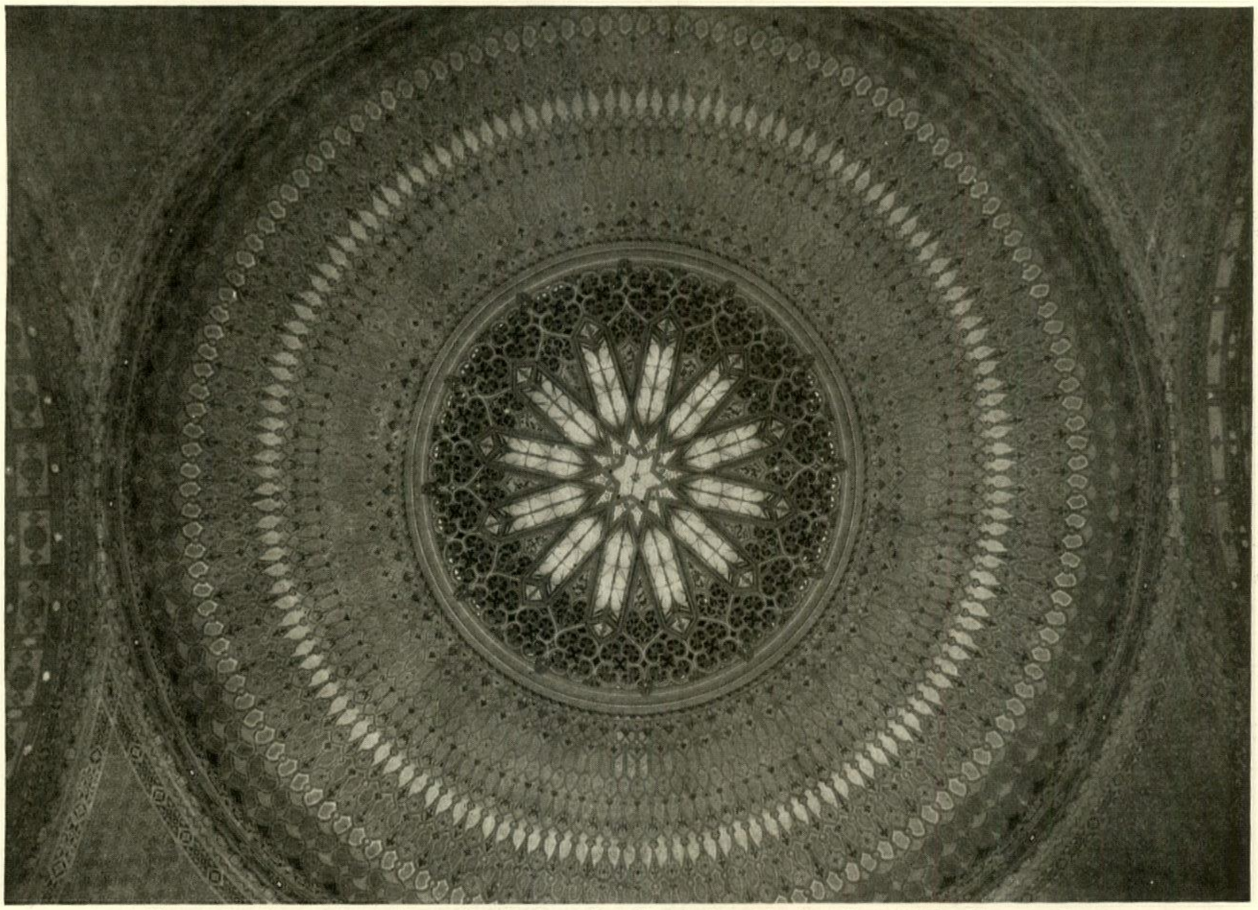


Details of the three main entrances on Broad Street. Limestone and mosaic panels in rich color have been used to express the richness of Judaic symbolism, the triple portal set between the broad and undecorated planes of the corner pylons

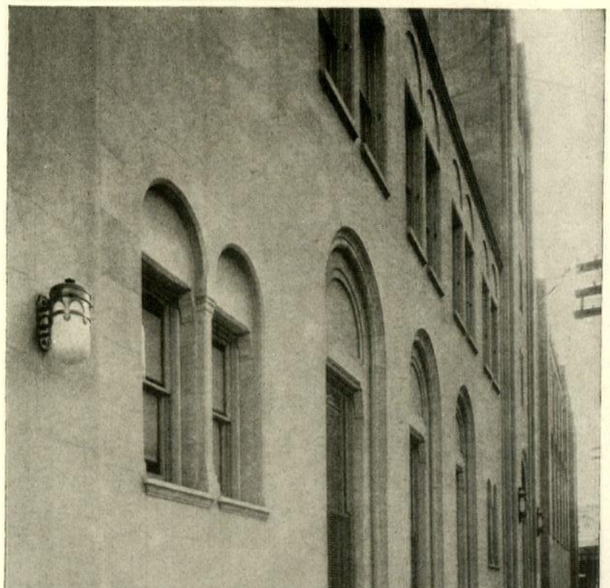
Rodeph Shalom Synagogue, Philadelphia, Pa. SIMON & SIMON, ARCHITECTS

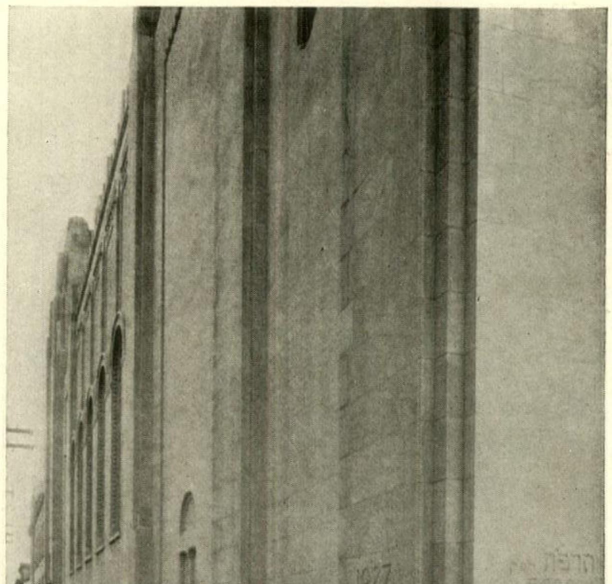


Rodeph Shalom Synagogue, Philadelphia, Pa. Simon & Simon, Architects
The eastern end of the Temple, and the Ark. Nicola d'Ascenzo collaborated in the decoration



Above, the dome of the Temple. Below, details of the side façade on Mt. Vernon Street





RODEPH SHALOM SYNAGOGUE, PHILADELPHIA, PA. SIMON & SIMON, ARCHITECTS

The Editor's Diary

Monday, July 28.—Julius H. Barnes says of America: "It has to-day the distinction that here one-fifteenth of the world's population performs one-half of the annual labor of the world."

Tuesday, July 29.—Called on Clarence S. Stein and talked with him regarding progress that is being made in suburban housing projects, particularly Radburn. Mr. Stein, while admitting that we are under the necessity of discovering more economical ways of building these houses, points out the fact that, after all, the cost of construction is but one of several factors contributing to the ultimate cost. In some recent work, for example, the cost of construction as compared with the asking price to the ultimate owner was not a great deal over 50 per cent. Among the other factors, of course, are the cost of land, financing, share in public space, selling cost, carrying charges until the property is sold, and the public utilities. The cost of the latter is a considerable item, particularly when these utilities have to be carried under ground over considerable areas in the development. One interesting point that Mr. Stein's experience, both in Sunnyside and in Radburn, teaches, is that by giving the prospective buyer full measure overflowing in value, the cost of selling is reduced, and through prompt sales the carrying charges are reduced.

Wednesday, July 30.—The *London Times* says that there is now every prospect that the great Roman Catholic Cathedral for Liverpool will be built on the Brownlow Hill site. Sir Edwin Lutyens has already submitted the preliminary plans, calling for a massive structure crowned with a dome under which, and from the surrounding arches, ten thousand persons will be able to see the high altar. The cathedral is to be neither Gothic nor literally classic. The length of the building will be 680 feet over all, 530 feet inside from narthex to apse; the width across the transepts will be 400 feet; across the nave and aisles, 250 feet. The choir is to be sunk in a circular well in order that it shall not obstruct the view of the high altar. The narthex is to be open night and day.

Thursday, July 31.—Henry Ford says that while one out of every five families has an automobile, only one out of ten families has a bathtub—which aligns him with the growing number of those who realize that some way has got to be found to bring housing and its accessories within the reach of more people. In this connection Clarence Stein was telling me the other day that in his most recent housing project he has gone one step farther in the matter of standardization. While the plans and elevations of the houses in a group are variable, the plan and all details of kitchen and bath are precisely alike. Moreover, the bath is precisely in the same position over the kitchen in each case. As a result, all of the piping can be cut beforehand, in the shop, and easily fitted together on the job.

Friday, August 1.—The details of telephone service in modern hotels, such as the new Waldorf in New York, comprise one of the amazing achievements of modern science. This hotel, for example, is to have a telephone personnel of 108, working in three shifts of eight hours each—an equivalent of the number required in a telephone central office for a city of 25,000 population. Among the modern developments in the effort to gain greater comfort and convenience, each room will have one permanent extension and two telephone outlets bridged from this with an additional portable instrument. Besides the telephone equipment proper, Schultze & Weaver are providing an elaborate telephone-typewriter installation for the dissemination of messages throughout the building, providing a written-word form of communication for the two groups known as "paging and message" and "on arrival, change and departure." At any one of the master stations it will be possible to send messages of this kind to any or all floor clerks and bell captains simultaneously through the operation of one key.

Saturday, August 2.—A correspondent writes *The Architects' Journal* of London: "Is there any fixed proportion which governs the depth of a cornice crowning a building without an Order, and how is it arrived at?" And the editor replies: "In the Italian, and particularly the Florentine, palaces, the proportion does not seem to have been definitely fixed by any rule before Palladio, as the following examples show: Strozzi Palace, Florence, 2/29 (cornice to total height); Pandolfini Palace, Florence, 2/29; Gondi Palace, Florence, 2/32; Farnese Palace, Rome, 2/34; Palladio's rule was to make it 2/29. But several modern examples are deeper, and a good rule is to divide the total height of the building into 25 parts and allow 2 parts for the cornice." From which I take it that tradition and the architecture of the books is still very firmly seated in the English saddle.

Monday, August 4.—A. E. Horst, president of the Associated General Contractors of America, pointed out in a radio address to-night that while President Hoover's plan for stimulating public building has been well executed, there has been a marked decline of more than half a billion dollars in residential building as compared with 1929.

Tuesday, August 5.—America seems rapidly to be becoming, as the ad writers would have it, air-conscious. We are coming to demand air within our buildings that is conditioned and cooled in the summer as well as conditioned and warmed in the winter. It is adding just one more complexity to those piled upon the architectural profession. Fortunately, with this demand there is developing a group of engineers who design air-conditioning and air-cooling equipment just as the heating engineers design their own aids to the comfort of life.

Wednesday, August 6.—Hal Marchbanks, the eminent authority on printing, was the guest of the architectural editors at luncheon to-day. Since he is particularly free from inhibitions as to the expression of his opinion when asked, he told us freely what he thought of the appearance of our various professional journals. Like all those who really know printing and its traditions, Mr. Marchbanks has all the reactions of a bull to a red flag when confronted with various misguided efforts to make typography spotty, decorative or merely different. Type matter, in the final analysis, is an attempt to convey thought. Anything which makes it difficult to read, bizarre in effect or overemphatic in its contrast of black-and-white, is merely a clouding or even complete defeat of this main purpose.

Thursday, August 7.—Lunched with Chester Holmes Aldrich at The Coffee House, and found him somewhat distracted over the many difficulties of making architectural drawings and specifications in New York for work that is to be executed in such widely scattered locations as Paris, Belgium, England, and Venice. In addition to the regular staff of draftsmen and specification writers, Delano & Aldrich have had to establish a metric-system division. Plans at the scale of one centimetre to the metre are almost indistinguishable from plans at the scale of one-eighth-inch to the foot. Local ordinances, however, contribute largely to the difficulties of building abroad—for example, the French law which requires that every dwelling shall have a fireplace in every room. One of the joys of such work, however, is the discovery that in Venice one can put up a building in Istrian marble more cheaply than one can build the same structure of wood here.

Friday, August 8.—The house in which George Washington was born, on the Wakefield plantation, overlooking the Potomac River in Virginia, was destroyed by fire on the Christmas Eve of 1780. There have been conflicting theories as to what the house looked like, and even as to the materials of which it was built. One theory, based upon some old sketches, maintains that the original was a small, unpretentious, wooden dwelling. Another theory, which now seems to have won acceptance in the Wakefield National Memorial Association, is that the birthplace was one of the brick manor houses of the period. Under the direction of Edward W. Donn, Jr., of Washington, the house is to be rebuilt as nearly as possible like the original. Already a primitive brick-making plant, such as was frequently established near a proposed mansion, is turning out hand-made bricks from the local clay, 4,000 a day, under the direction of an ancient negro and his little crew, the main power for the "mill" or mixing-box being furnished by a patient circling horse. Architectural students of a future generation, unless they watch their steps, are going to be caught measuring up some of our twentieth-century restorations in the belief that they date back a century or two behind us.

Tuesday, August 12.—My home town of Huntington is all stirred up over the possible destruction of an old grist mill first operated in 1752. The mill wheel is driven by the incoming and outgoing tides, and was originally used to grind grain. For many years it has stood idle and almost unnoticed. However, an architect bought it for $12,000 for its magnificent hand-hewn timbers. When he started to tear it down, the town awoke. The D. A. R., S. A. R., Boy Scouts, Chamber of Commerce, and unattached citizens arose in their wrath and protested. A truce has been declared through the architect's agreement to take other timbers of equal size and comparatively equal age in place of the mill timbers if such can be found—which seems doubtful.

Wednesday, August 13.—After having for several years urged in these pages and elsewhere the election to the Hall of Fame of Charles Bulfinch, I am delighted and relieved to see heavy reinforcements being brought up by the A. I. A. The Institute's Board of Directors has sent to each elector a summary of Bulfinch's achievements, pointing out his many qualifications for this honor, not alone as an architect but as a statesman as well. It is just this sort of official recommendation, on the part of those who should know whereof they speak, that brings about these elections. All of the arts and professions are represented in the Hall of Fame excepting architecture. Bulfinch's name and bust should be among our immortals, and the chances are that they soon will be. Incidentally, a list of his architectural achievements is worth setting down—see page 45 of the Bulletin Board.

Thursday, August 14.—The Diary seems to be involved in a controversy between two of our very good friends, Royal Cortissoz and Raymond Hood. Cortissoz, writing in *The Architectural Forum*, quotes my report of Hood's lecture at New York University, wherein he said (or so I understood him) that when all the practical considerations of a problem, specifically the Daily News Building, had been met—the needs of the client supplied, the plan economical, the building well constructed—the architect's work was at an end; no further attempt need be made to make it beautiful nor to put ornament upon its essential skeleton. It seemed to me at the time that in Hood's desire to stress the importance of practical considerations, he used the common aid of exaggeration. In fact, in the Diary for February 27, recording Ralph Walker's talk, in which he said that architecture must do two things—satisfy man's physical needs and his mental needs, I pointed out that this was in disagreement with Hood's contention and added, "though I think he believes nothing of the kind." Hood answers Cortissoz in the same issue of *The Forum* by saying that if he made such a statement it was not what he intended to say. Great care and study evidently was applied to the Daily News Building's appearance after the practical considerations had been met. Any one can see that; such a building doesn't just grow. There was a very definite effort made to satisfy æsthetic as well as practical needs, but it did not take the stereotyped form of depositing ornament here and there like icing from the pastry cook's funnel.

Friday, August 15.—An interesting competition that has just been held is one for the selection of an architect for the proposed chapel and assembly hall for Girard College, Philadelphia. The other buildings are Neo-Grec, permitting, it would seem, a particularly satisfactory development in simple rugged masses, and the suggestion of a classic antecedent. Thomas, Martin & Kirkpatrick, of Philadelphia, have won it; Harry Sternfeld, associated with Zantzinger, Borie & Medary, was placed second; and Raymond Hood, Godley & Fouilhoux, third. The other members of the notable group contesting were: Paul P. Cret, Harvey Corbett, Frederick C. Hirons, Charles Z. Klauder, Robert D. Kohn, Charles Butler and Clarence S. Stein, McKim, Mead & White, and Egerton Swartwout.

Saturday, August 16.—Motored up the so-called "College Highway" through western Connecticut and central Massachusetts. With the exception of a house here and there, particularly at Simsbury, Mass., and, of course, Old Deerfield, this motor highway is far inferior in architectural interest to the Connecticut Valley route. At Amherst, Mass., there are two outstanding buildings of recent construction: The Lord Jeffery, an inn owned and run by the Amherst alumni, and The Jones Library, both by Putnam & Cox of Boston.

Monday, August 18.—This country's needs in the matter of building homes for the multitude have been recognized by President Hoover. He announces a White House Conference "to undertake the organization of an adequate investigation and study on a nationwide scale of the problems presented in home ownership and home building, with the view to the development of a better understanding of the questions involved and the hope of inspiring better organization and removal of influences which seriously limit the spread of home ownership, both town and country." It's a long sentence but a splendid purpose. The conference will meet during the latter part of September under the chairmanship of Secretary Lamont of the Department of Commerce, with Dr. John N. Gries as executive secretary. The President's first appointment to the committee is William Stanley Parker of Boston, representing the American Institute of Architects and the architectural profession.

Tuesday, August 19.—Major Robert W. Gardner lunched with me and brought with him some drawings bearing upon his new theory of how the Greeks designed. After having been shown Ernest Flagg's findings so recently, it is rather staggering to find another and quite different theory that seems an amazing coincidence if it is not convincing proof. Major Gardner disagrees with Mr. Flagg in the contention that the secret of Greek design was lost throughout the Middle Ages, believing that it was closely guarded by the guilds and passed on from generation to generation with decreasing frequency. Vitruvius may have been trying to hint at it without disclosing the principle to the public. Major Gardner believes he has evidence that Sir Christopher Wren knew it, also Macomb, who applied it in the design of New York's City Hall. It would be interesting to have a grand conference at which each man could elucidate his own theory of Greek design and dispute the findings of others. Whatever the outcome, this much seems to me certain: No system of establishing proportions in a design can be of the slightest value without the human factor, and that factor, in order to produce something of beauty, must be an artist.

ARCHITECTURE'S PORTFOLIO OF

CASEMENT WINDOWS

THE FORTY-EIGHTH IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

Forthcoming Portfolios will be devoted to the following subjects: Fences (November), Gothic Doorways (December), Banking-room Check Desks (January), Second-Story Porches (February), Clock Towers (March), and Altars (April). 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

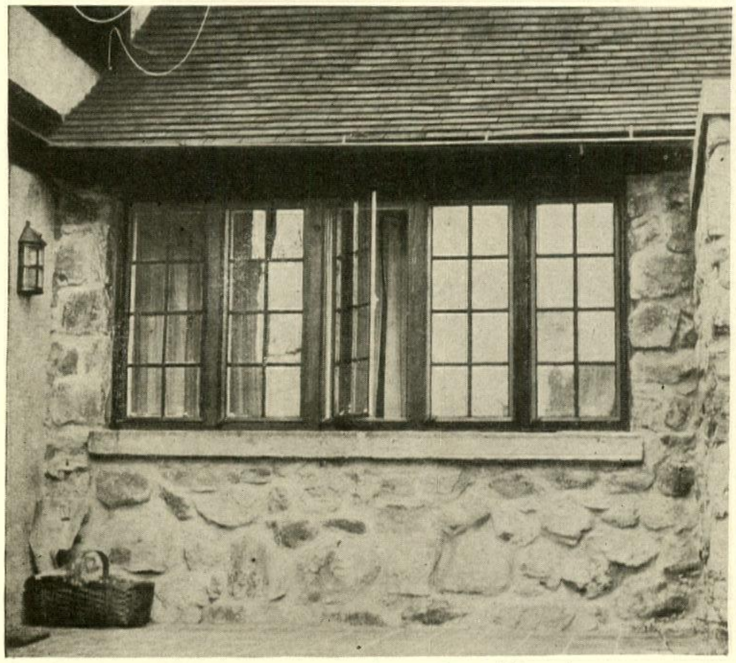
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

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

SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS

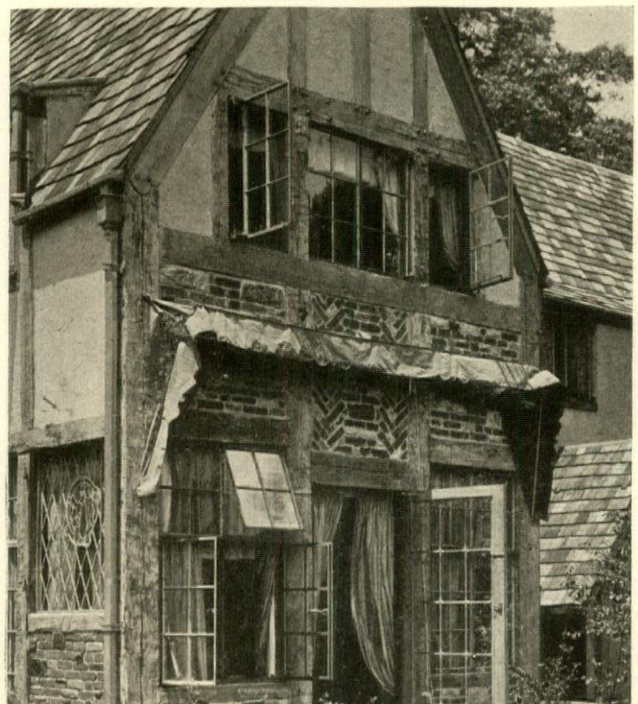


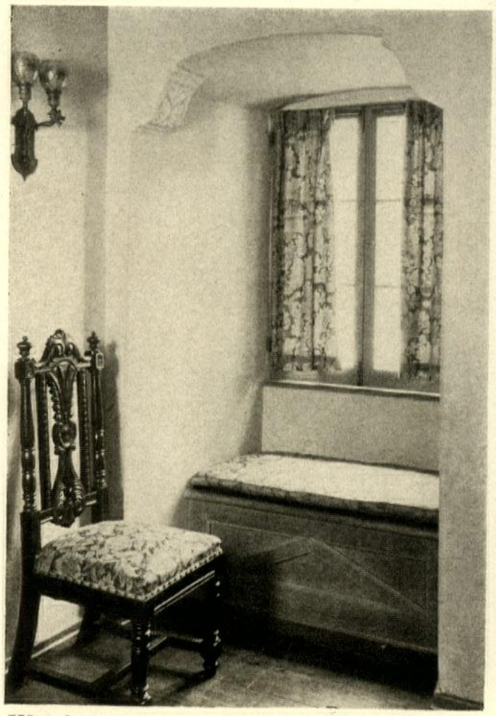
Steel casements opening out, with wood mullions in a stone wall. Charles S. Keefe

Wood casements opening out, with roll screens inside. Edward S. Hewitt

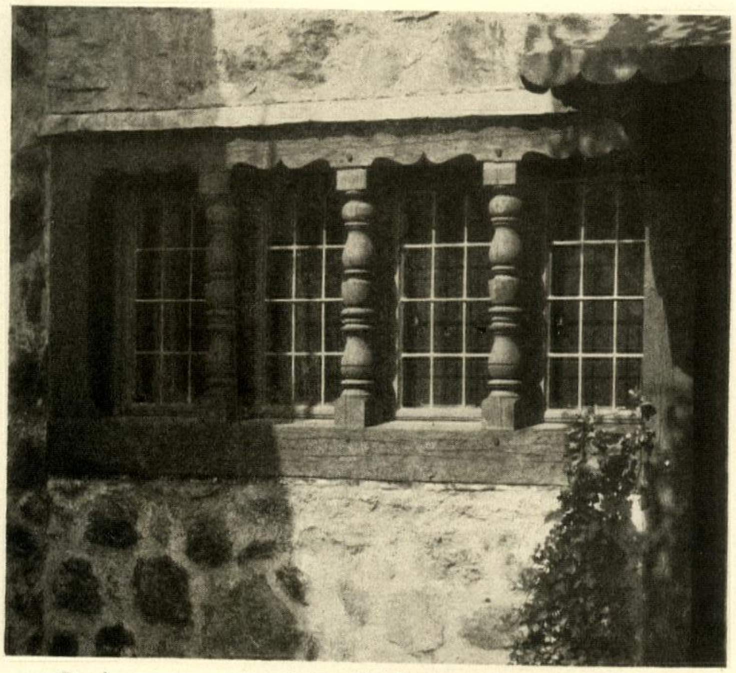
Steel casements grouped without mullions, lower sections opening

Steel casements following closely the English half-timber prototype. Walter Pleuthner



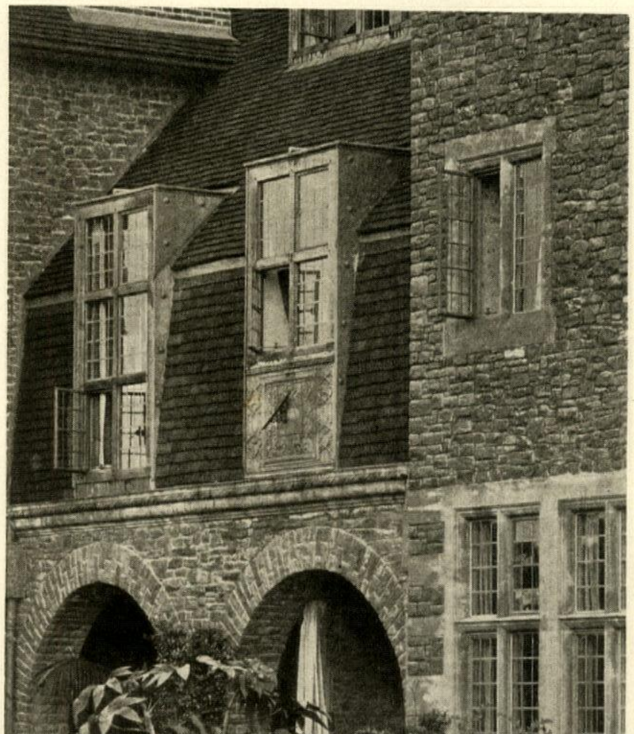


Wood casements opening in, with draperies on sash. Marshall P. Wilkinson

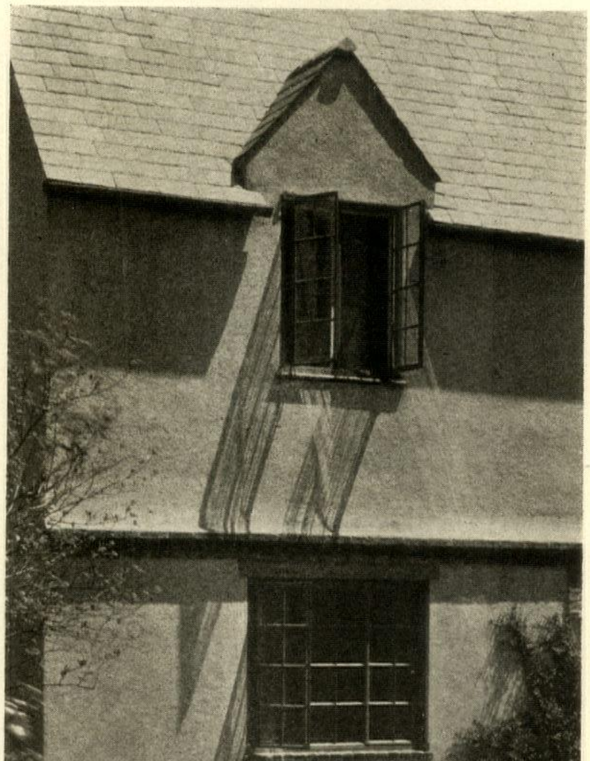


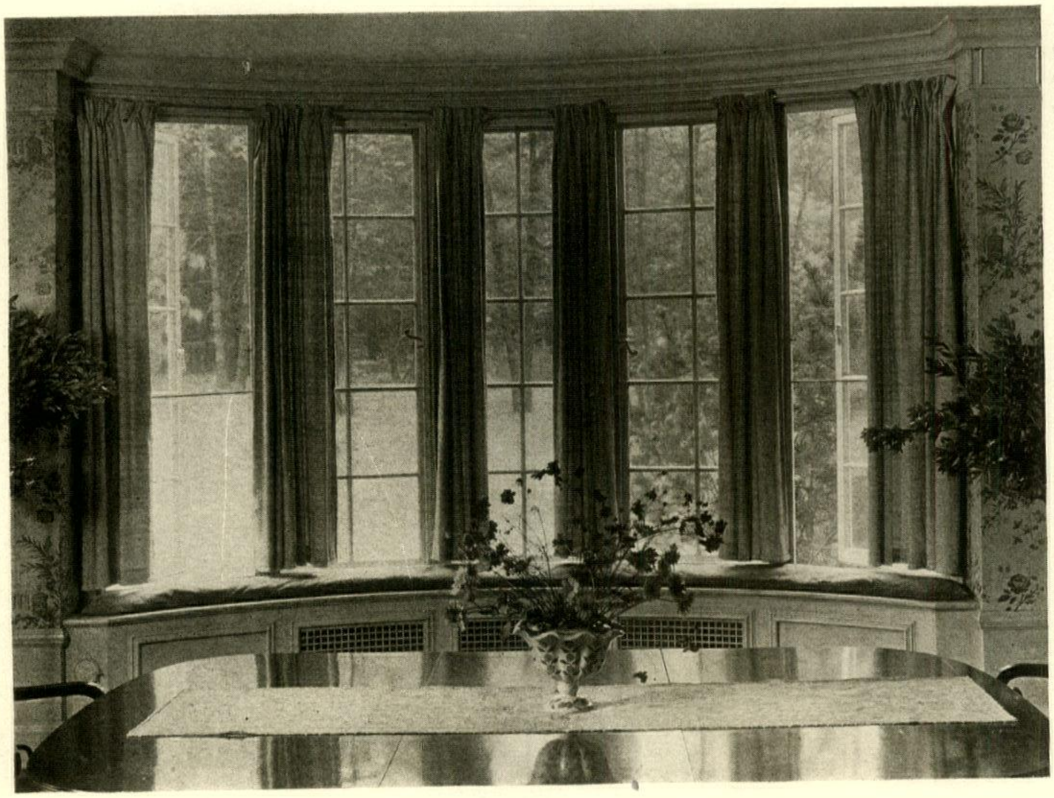
Steel casements in heavy timber frame with lead flashing. Benjamin Wistar Morris

An unusual arrangement in Great Roke, Whitley, England. Buckland & Farmer

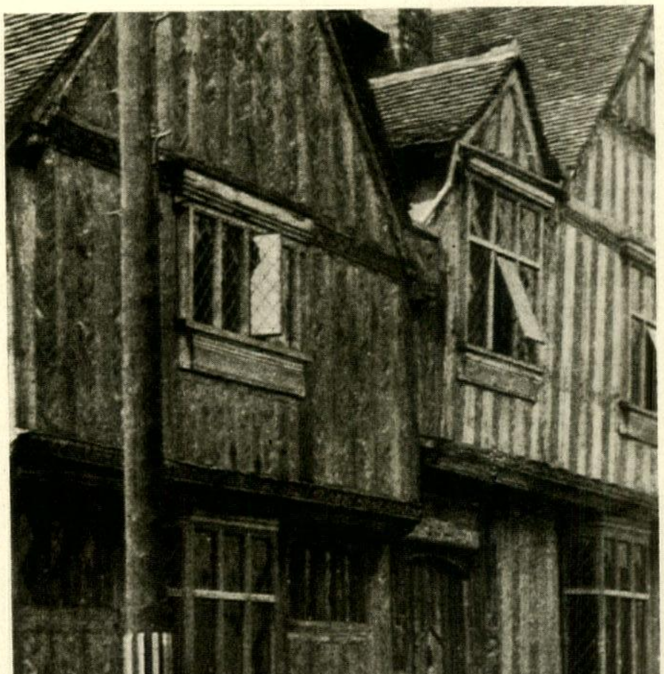


Steel casements in a wall of stucco on hollow terra-cotta tile. Aymar Embury II

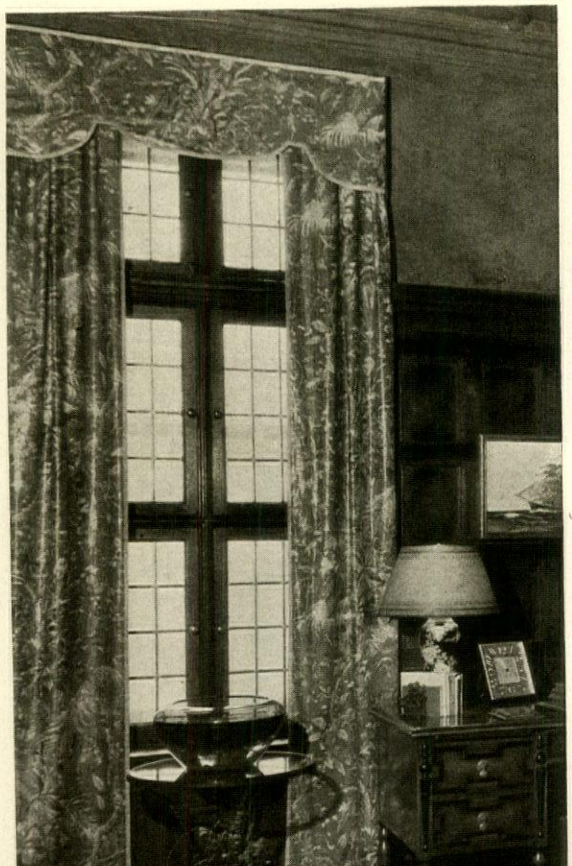




Wood casements opening out, draperies on continuous rod inside. Charles Holden

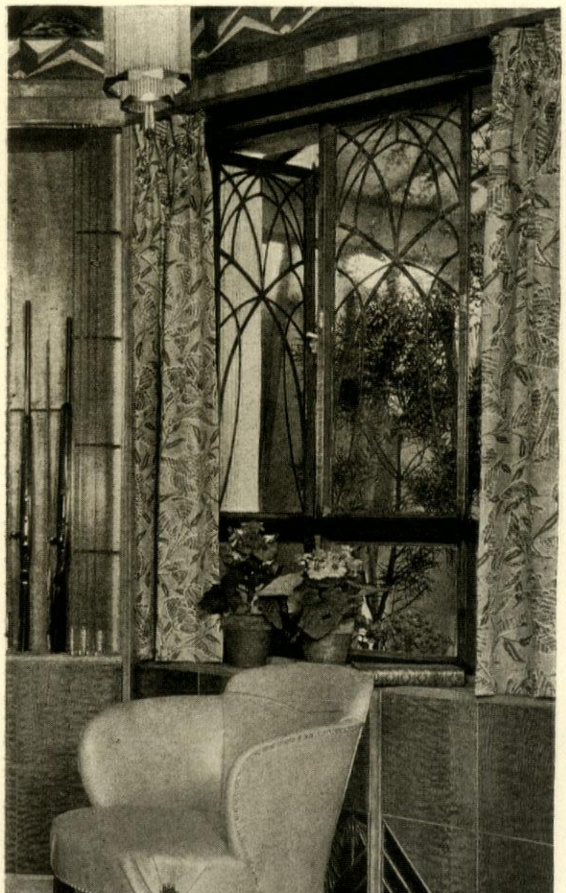


Leaded casements in typical English timber work with herring-bone brick nogging in Lavenham

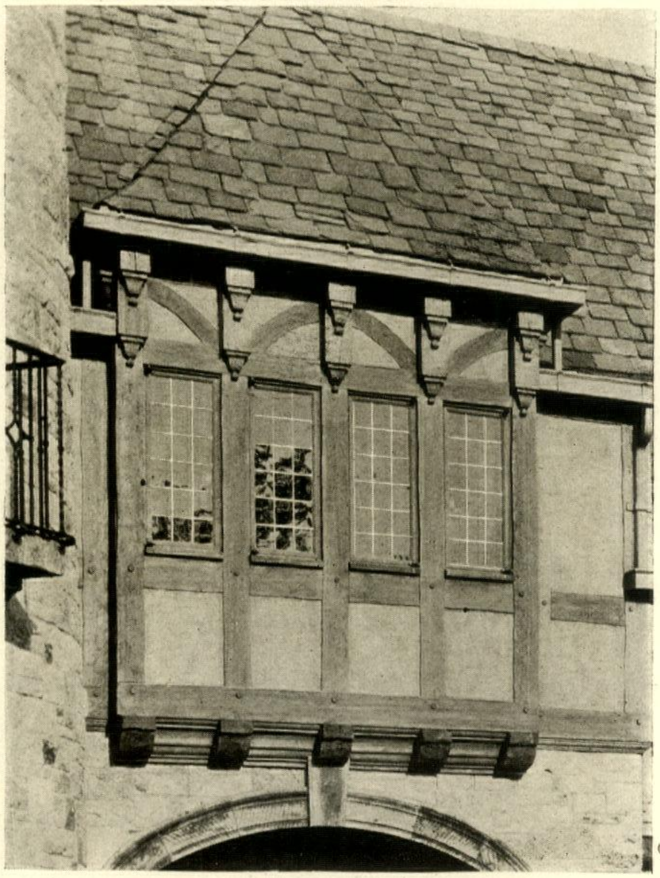


Leaded wood casements opening in, in three sections, with boxed draperies. Harold W. Vassar

Steel casements opening out. Shades and two sets of draperies are used inside. McKim, Mead & White

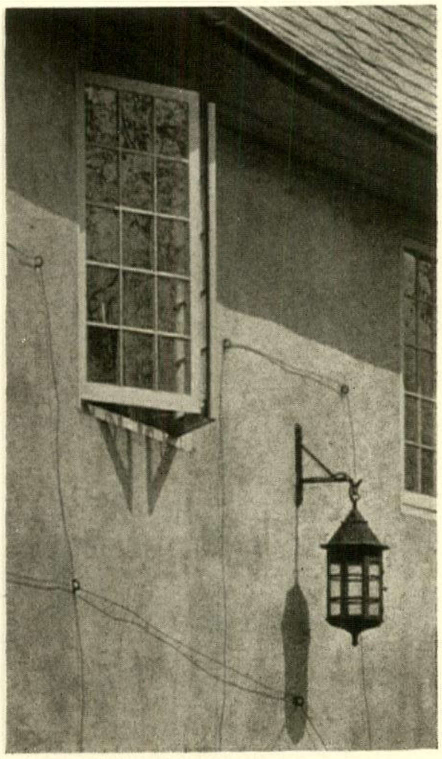


Decorative leading in sashes opening out over a ventilating lower section. Ralph T. Walker



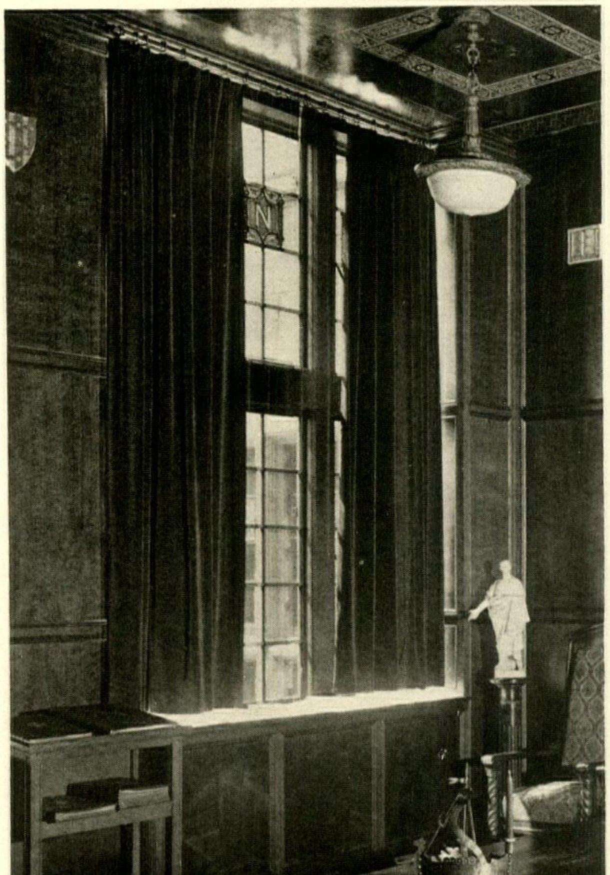
Leaded wood casements in a half-timber bay. Lundeen, Hooton, Roozen & Schaeffer

Steel casements, upper sections hinge at top. Leslie Oliver

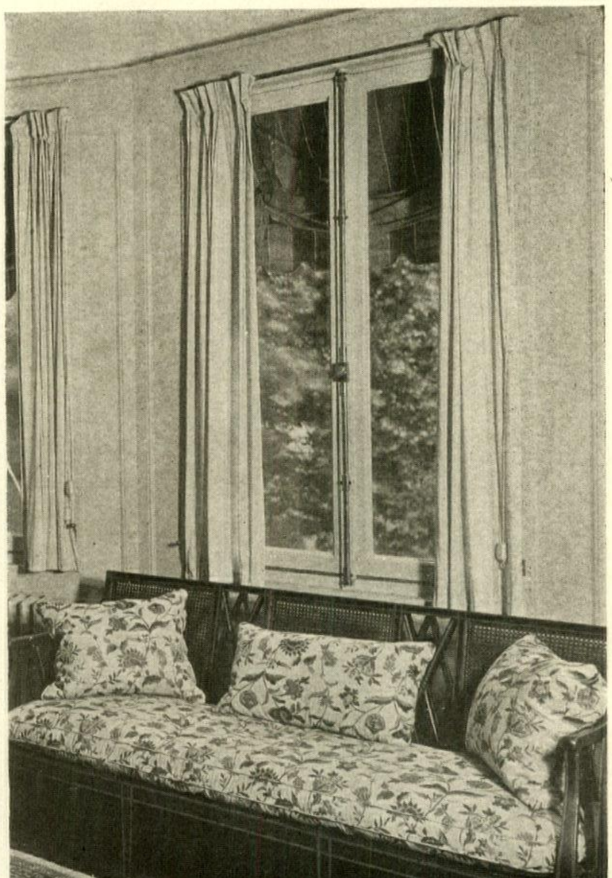


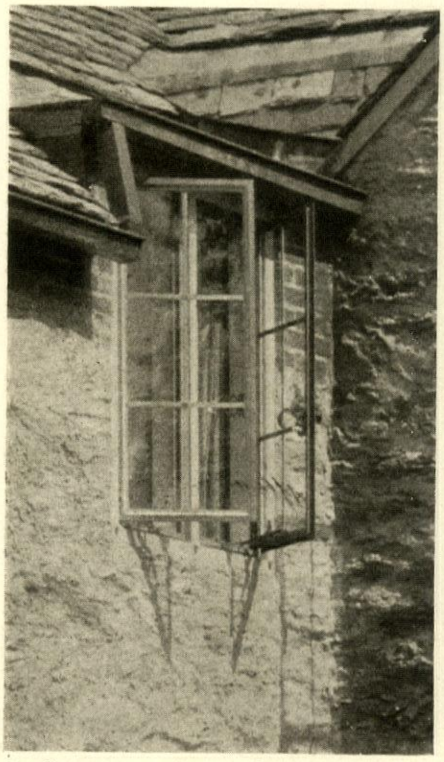
Wood casements in a wood-frame wall stuccoed. Park & Morgan

Leaded glass medallion in steel casements with double inside draperies. James Gamble Rogers; Childs & Smith



Wood casements without muntins opening in, to avoid awnings. Louis Hessler, Inc

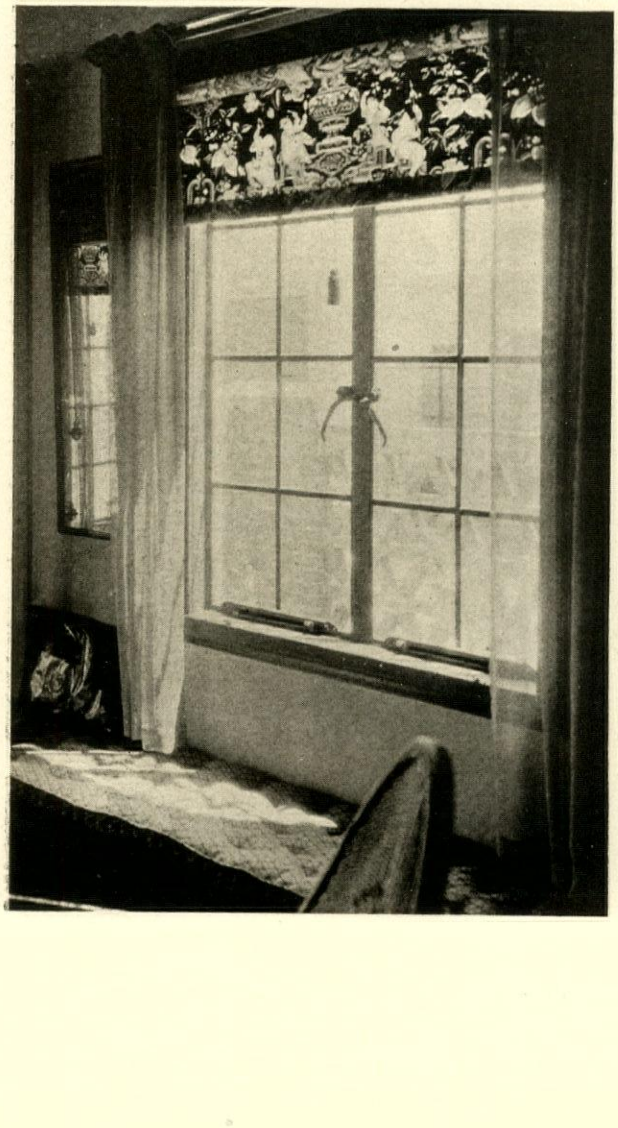




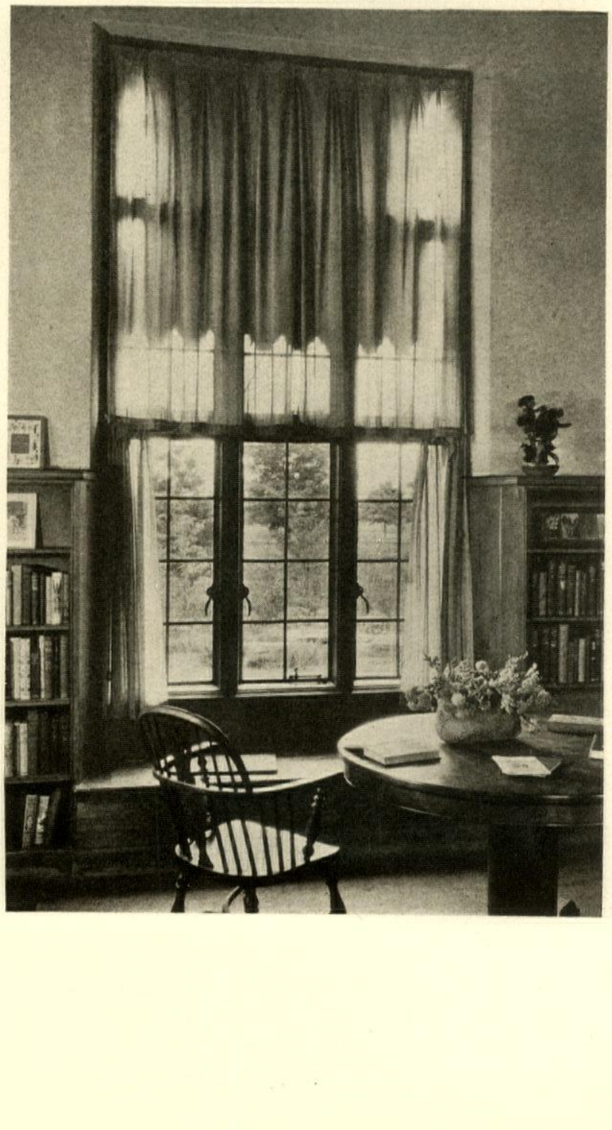
Steel casements in wood frames in a stone wall. Edmund B. Gilchrist

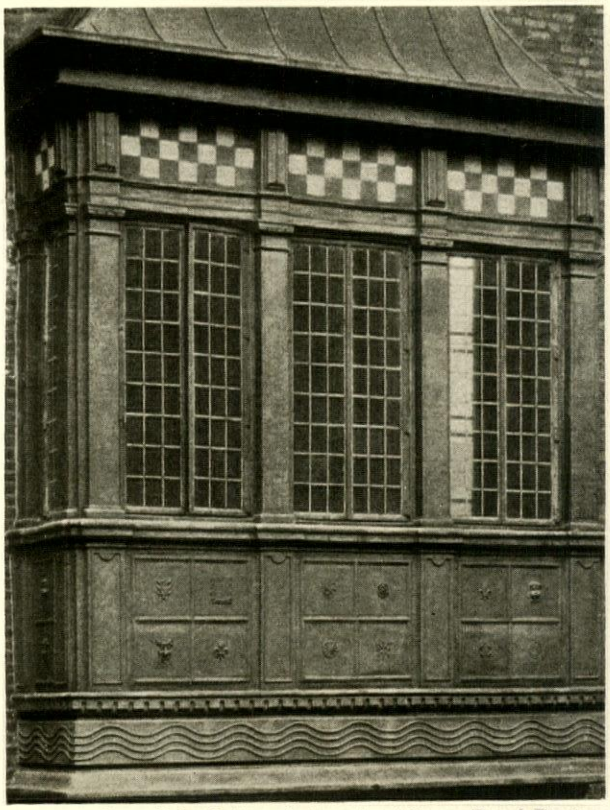
Double tier in steel, all opening out, with heavy mullions and horizontal divisions. Taylor & Levi

Steel, opening out, with glazed chintz shades and draperies inside. Henry F. Withey

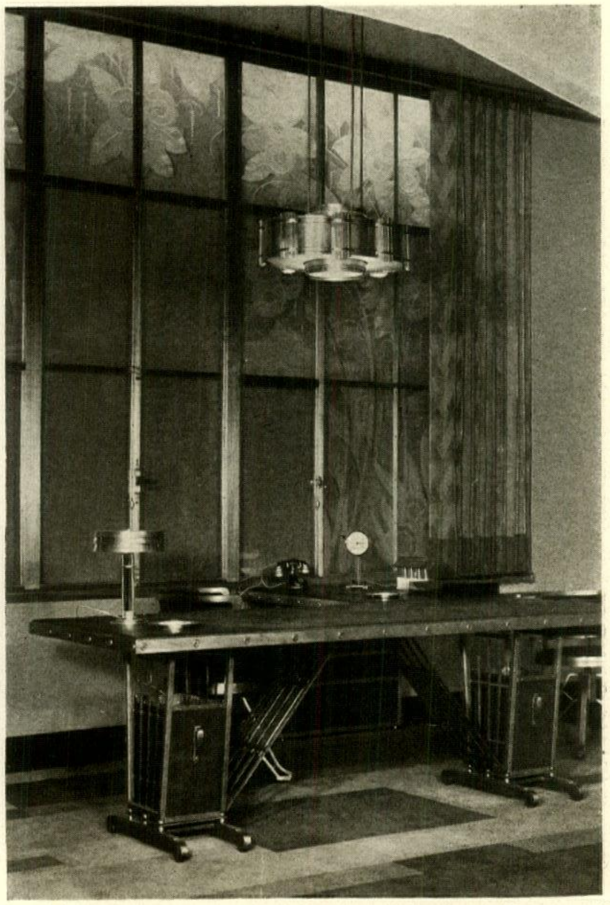


Steel, opening out in three tiers, the upper two sections draped separately. Peabody, Wilson & Brown



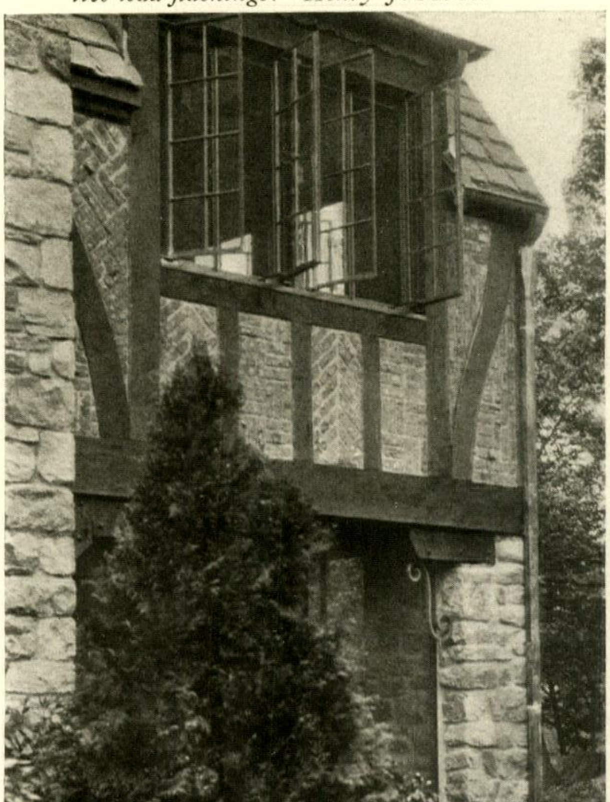


Unusually tall leaded sash in a lead bay. Paul P. Cret

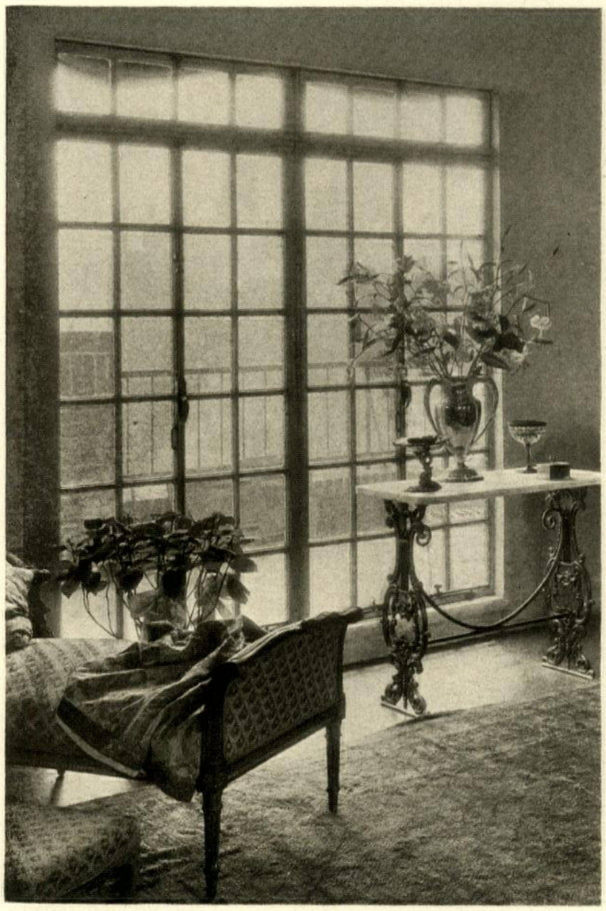


Etched glass in extruded bronze frames. Raymond Hood

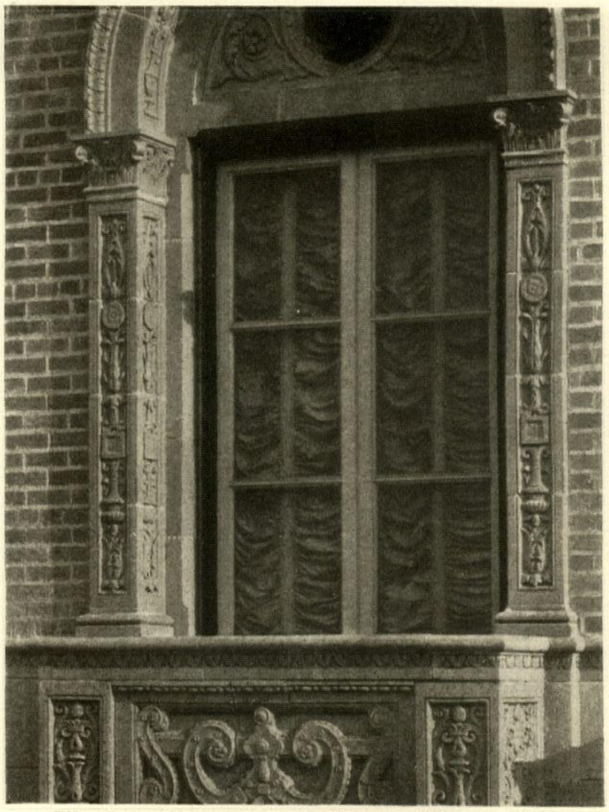
Steel casements in a half-timber bay with decorative lead flashings. Henry J. McGill



Centre wood window fixed. W. Pope Barney



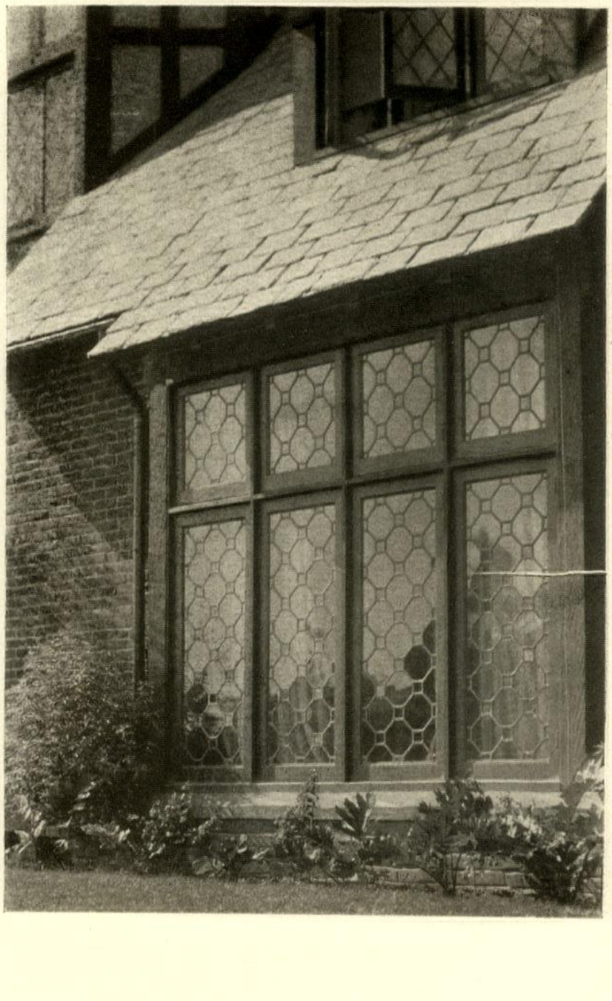
Steel casement doors with fixed transom under awning



Wood sash in a terra-cotta frame. Halpin & Jewell

Large wood casements with single chintz draperies. Edward S. Hewitt

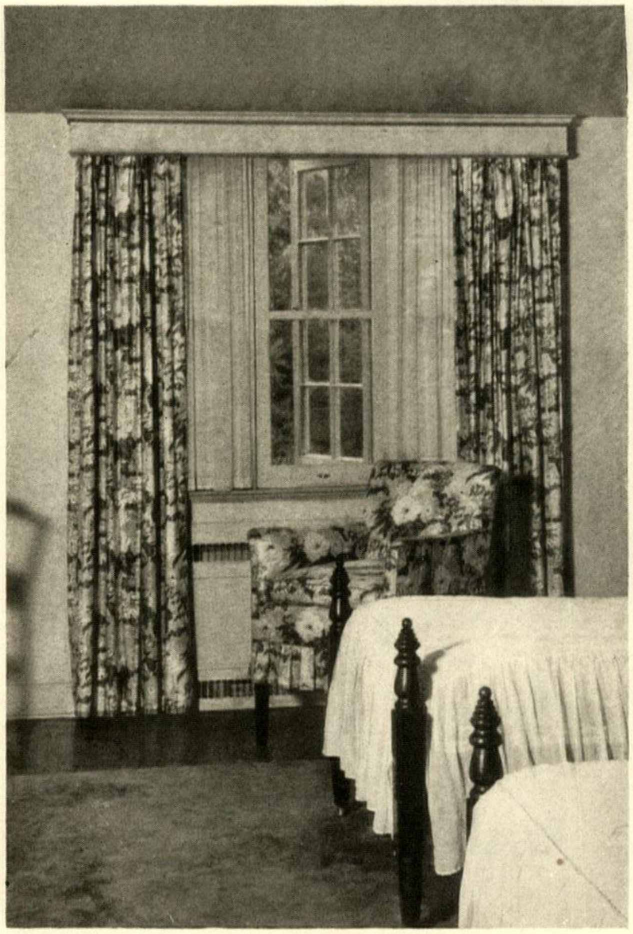
Leaded glass in double tier of wood sash. Charles M. Hutchison



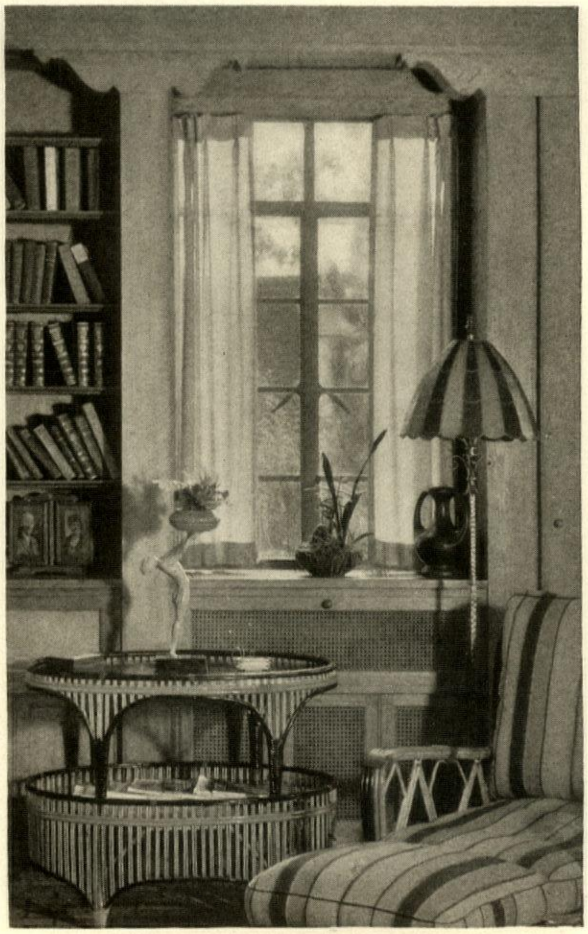
Wood casements, opening in, with single chintz draperies. Jerauld Dahler

Steel casements with rough plaster and no trim. Kenneth Albright

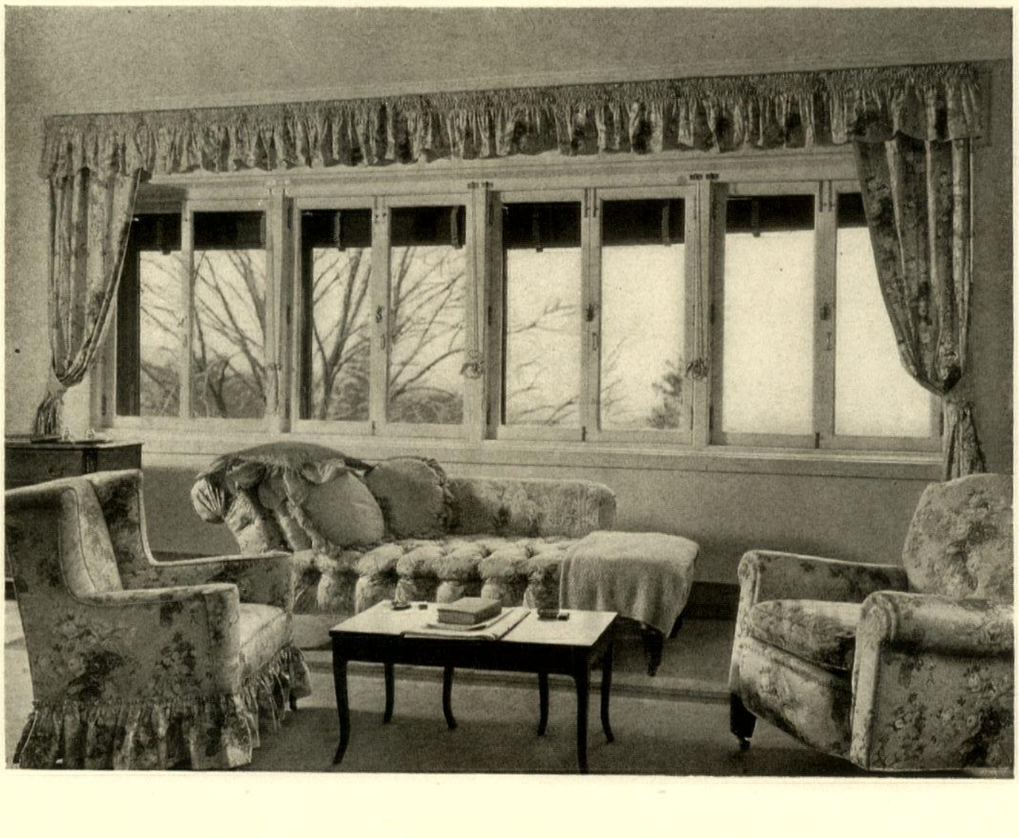
Woodcasementdoors in a pine-sheathed wall. J. H. Phillips



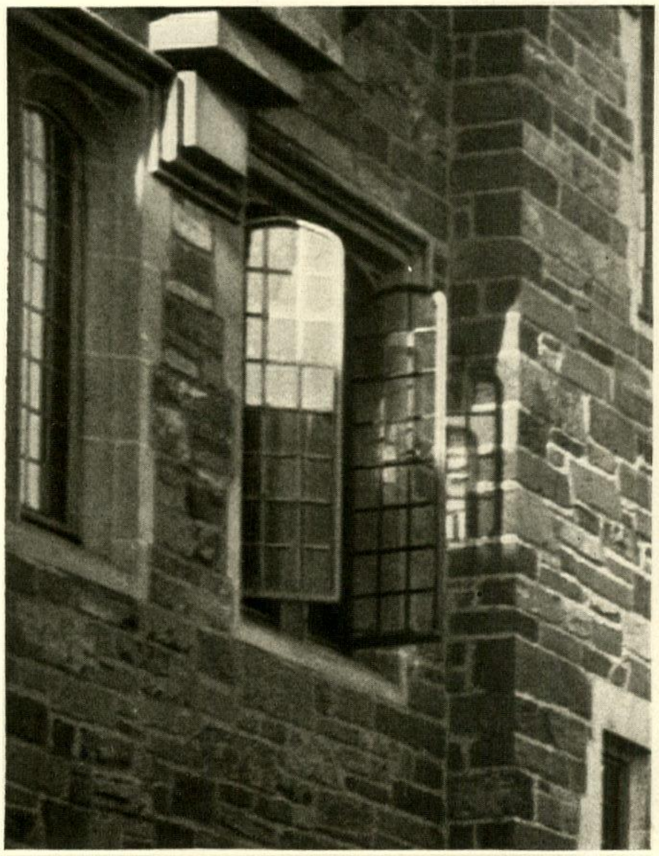
Wood casements, with wood frame screens inside, and boxed head for draperies. Ethel A. Reeve, Inc.



Steel casements with a wood interior. Frederick G. Frost



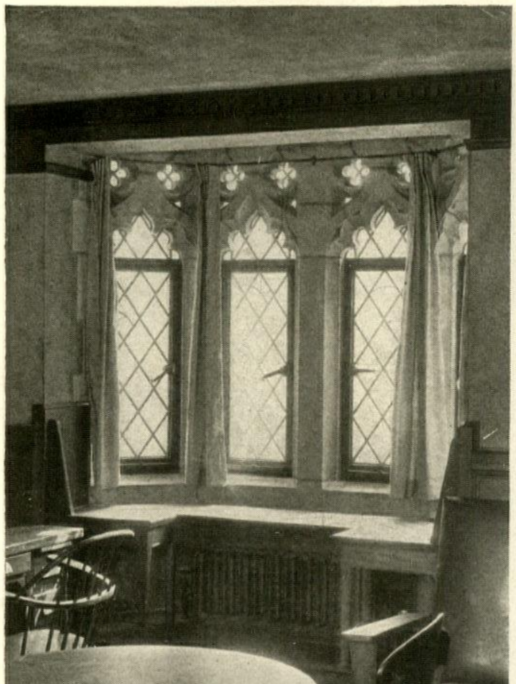
Double sash with Venetian blinds between. Nancy McClelland, Inc.



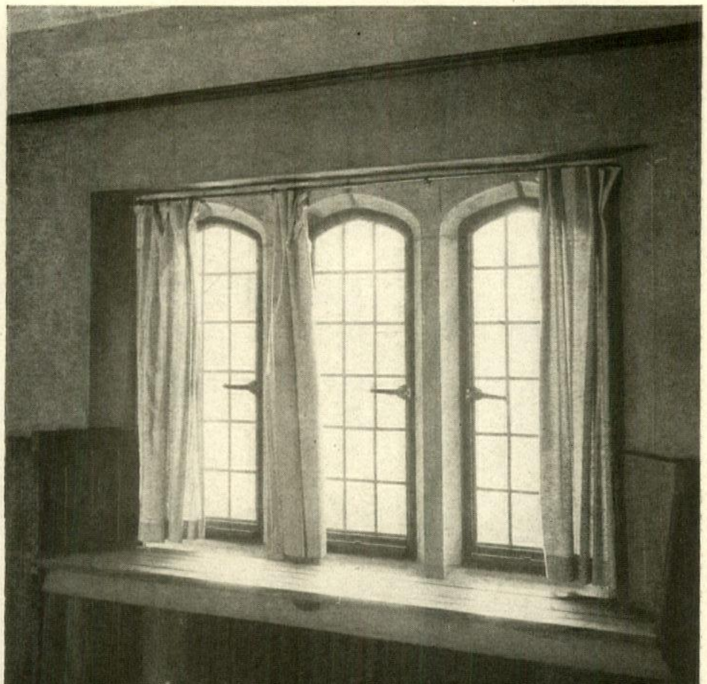
Tudor-arched casements, leaded, in cut-stone trim. Cram & Ferguson

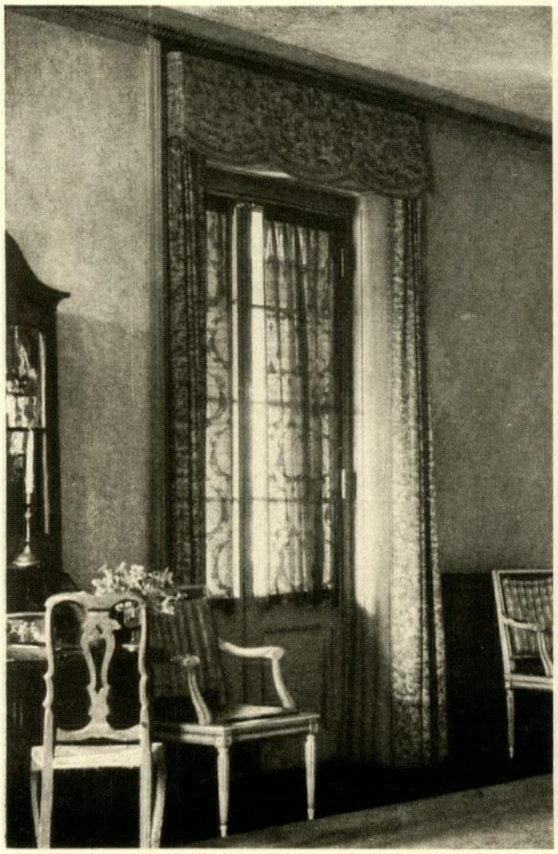
Three tiers in a curved bay, with three lines of inner draperies. York & Sawyer

Leaded sash in stone tracery. James Gamble Rogers

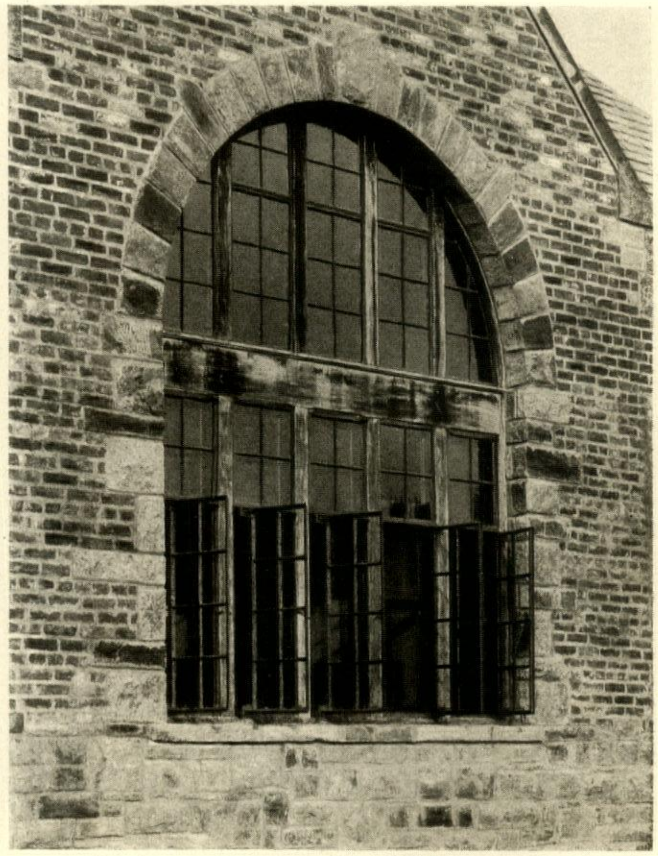


Leaded sash in Tudor-arched openings of stone. James Gamble Rogers



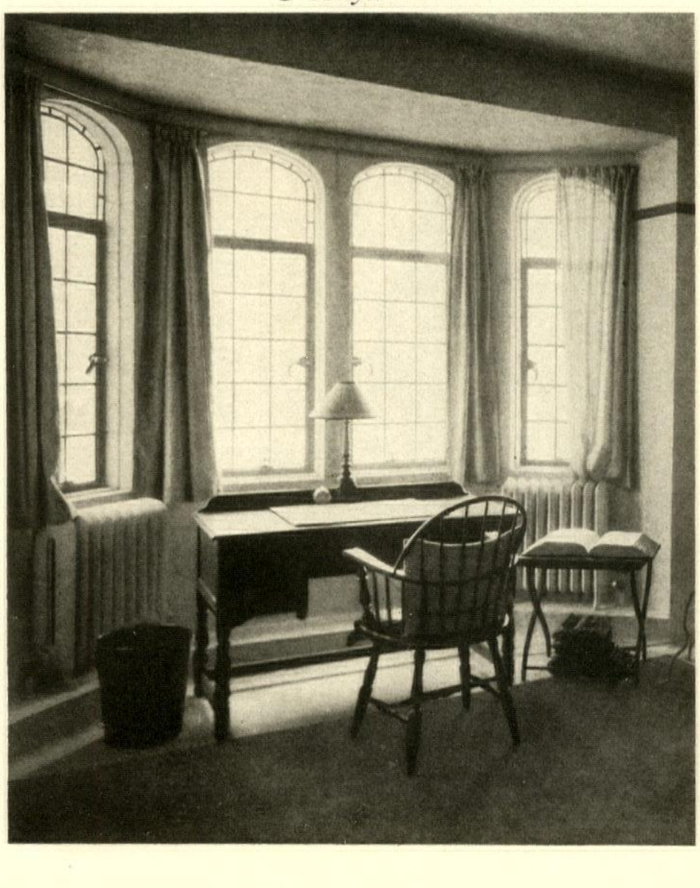


French doors opening in, with double draperies. Peabody, Wilson & Brown

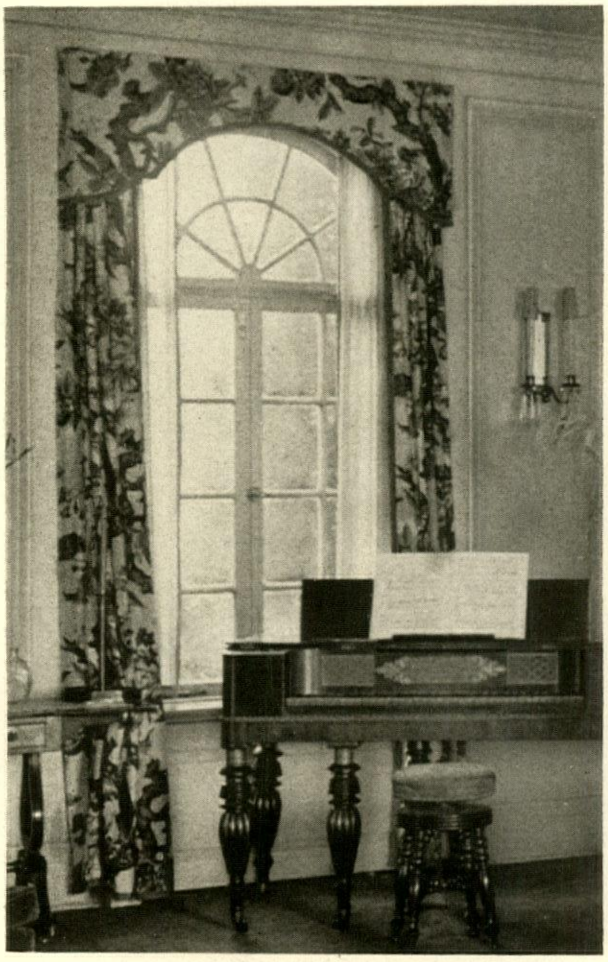


Steel casement group in wood frame and stone trim

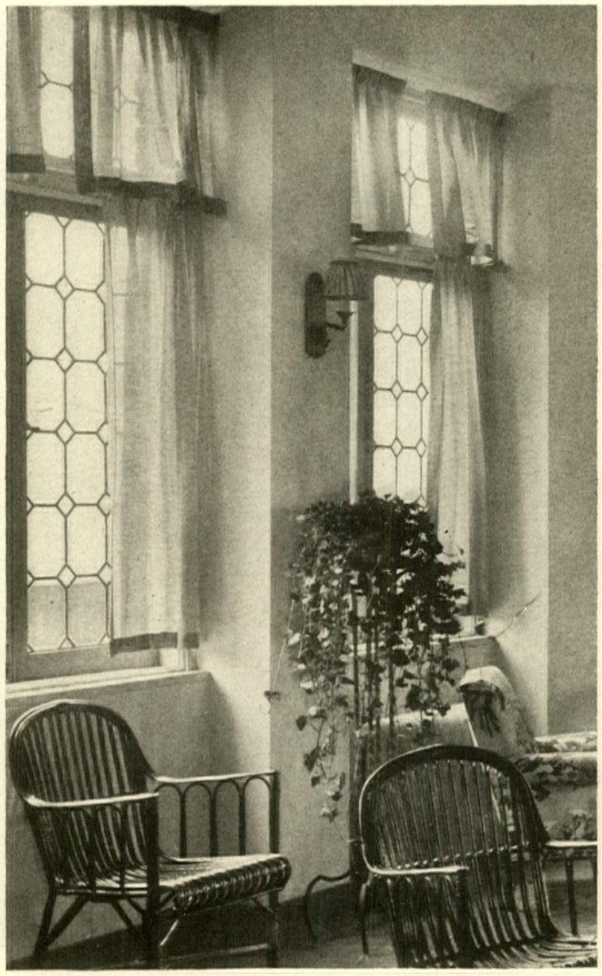
Leaded casements with transom tops, screens inside. York & Sawyer



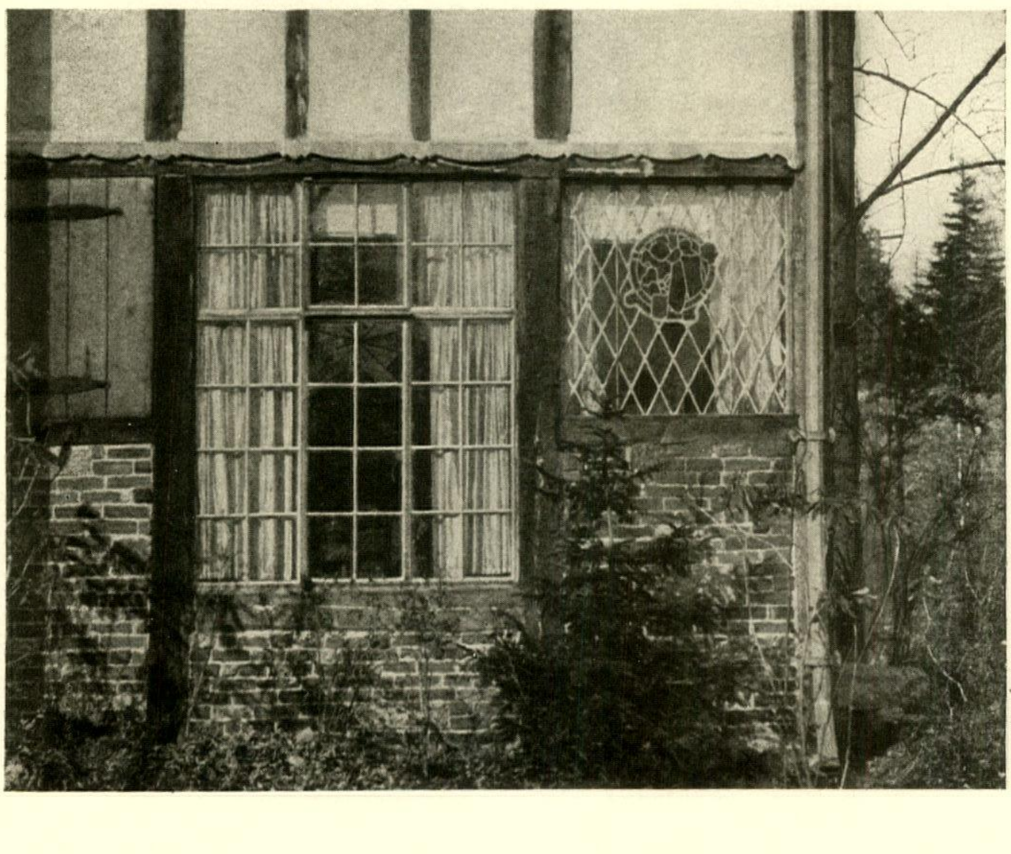
Wood casements opening out, with inside over-all screens. Jerauld Dahler



Draperies cut to arched head of wood casements opening in

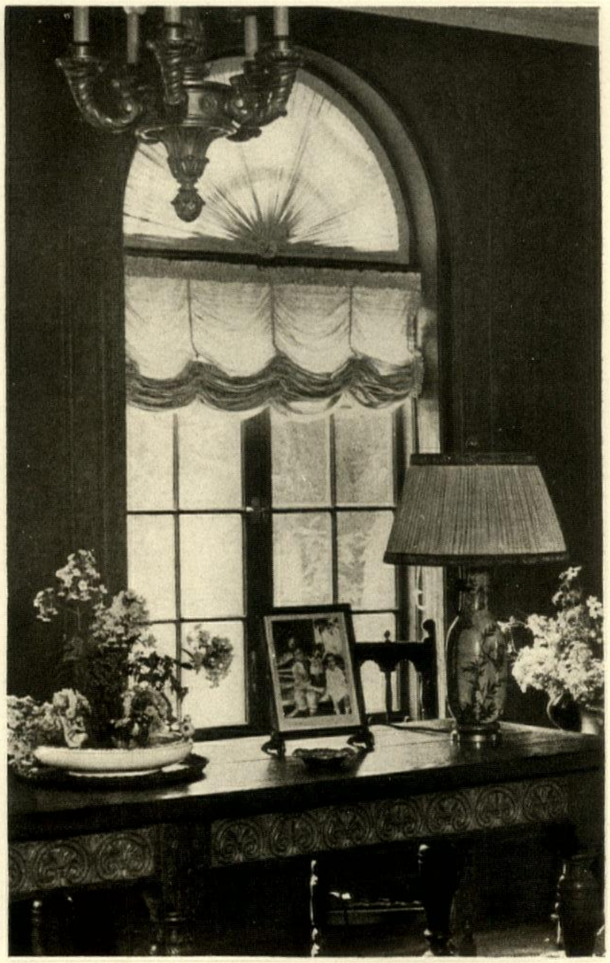


Leaded wood sash opening out, with transoms separately draped. Arthur C. Harmon

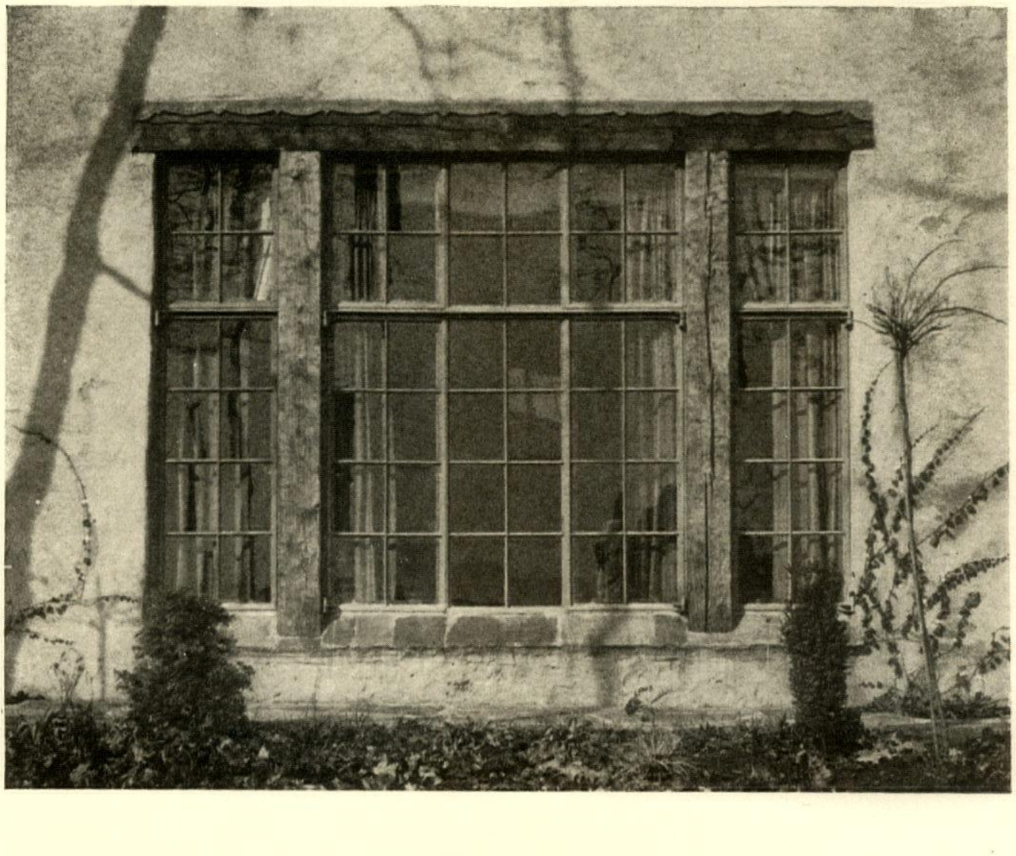


Steel and leaded sash in a timber wall, with decorative lead flashing. Walter Pleuthner

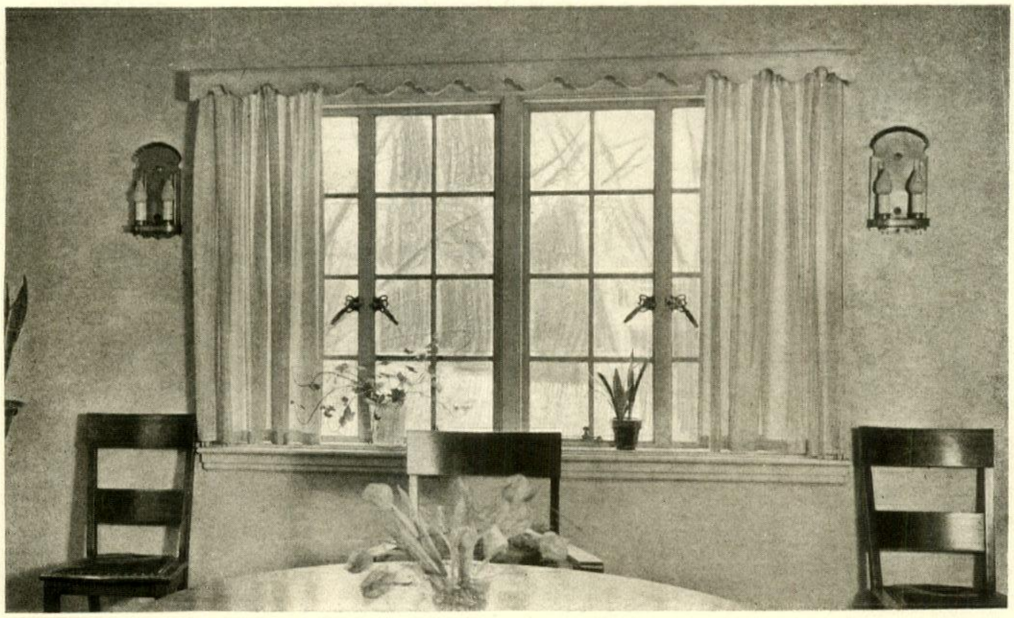
Steel, opening out, with transom and roll screens. Kenneth Albright



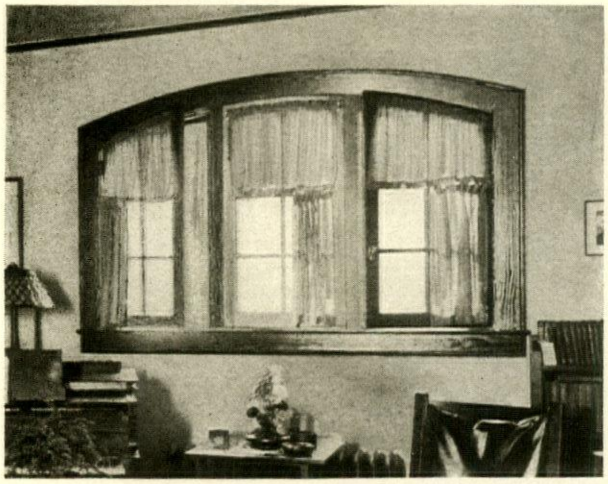
Wood casements opening out, with draped ("Princess") shades. Aymar Embury II



Steel, with timber mullions and lintel protected by decorative lead flashing. Walter Pleuthner



Steel, opening out, with scalloped wooden head for draperies. Lawrence C. Licht



Wood, opening in, sash bearing their own double draperies. Tooker & Marsh

Sash opening out by adjusters through screen frames. Wood mullions and transom division. F. A. Moore

Steel casements, painted white, with wood mullions and alternate sash fixed. Beck & Tinkham

CONTACTS

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

Floors for the Factory

By Bronson R. Magee

Contract Engineer, The H. K. Ferguson Company

THE floor is usually the most important part of any building. The equipment of business and of production rests on it. Workers stand and walk on it. Materials are transported over its surface.

Careful adaptation of the floor to its use is of utmost importance. Its wearing surface must be designed to endure, if possible, throughout the life of the building. Repairs are expensive, not only because of the difficulty of renewal, but because floor repairs always hinder production.

Other points to consider in the choice of a floor are safety and comfort of employees, quietness and ease of cleaning. A floor embodying all these properties would indeed be ideal.

Because the cost of the floor represents such a large share of the total cost of the building, it is often the target of attempts to economize. There is no part of a building in which "cutting" results more surely in disappointment and expense. A good durable floor paves the way to successful operation.

In a single-story industrial building the main floor is placed directly on the ground or fill. This limits the floor construction to a few proven types. They consist of two parts: first, a structural sub-floor which is not damaged by moisture and is designed to carry the expected floor loads; second, the floor finish which functions as a cushion and wearing surface.

Concrete is the best sub-floor material for most purposes. A fairly rich mix is damp-proof without aid of special treatment. When there is a possibility of settlement of the ground or fill supporting the sub-floor, the concrete is reinforced with wire mesh or reinforcing bars. A five-inch thickness will carry loads up to one thousand pounds per square foot if the ground beneath is unyielding. Loads up to two thousand pounds are being carried safely in warehouses storing steel sheets and cast-iron radiators.

A monolithic cement finish on the concrete sub-floor is the cheapest in first cost and is largely used in machine shops, warehouses, garages, etc. If it is properly laid and cured it will not dust and will wear satisfactorily.

Liquid floor hardeners are often added to harden the surface and prevent dusting. Fine chips of extremely hard inert material are often trowelled into the surface. Metallic hardeners are also resorted to but are not used where acid conditions prevail or where the presence of even minute quantities of iron are harmful to the process, as is the case in the manufacture of pottery or glass.

The most common objection to a concrete floor is that it is cold and causes leg weariness. This difficulty is often met by placing wood panels around machines, work benches, etc.

Where water or oil is likely to be spilled on the floor, the surface should be given a non-skid finish with a wood darby, or by the addition of carborundum chips. Acids have a destructive effect on concrete and ammonia salts tend to roughen the surface.

Some engineers prefer a one-inch or one-and-one-half-inch concrete finish over the concrete base, consisting of cement, sand, and fine aggregate. A number of patent processes have been developed for placing this type of floor finish. The bond with the sub-floor, the mix, and the water content must be controlled in accordance with rigid specifications. The concrete should be compacted, the water which comes to the surface must be absorbed, and the trowelling done at the right time. The completed floor must be carefully cured. If any of these elements is lacking the result will be a poor floor.

Wood block floors were developed on the well-known principle that the end grain of timber presents the greatest resistance to wear. The blocks are usually impregnated with creosote oil as a preservative and are laid in hot pitch which anchors them to the sub-floor and seals out moisture.

Care should be taken to buy wood blocks of uniform size and thickness, made only from seasoned yellow pine lumber, except as mentioned later.

Wood blocks were originally manufactured in plain rectangular shapes. It was difficult, however, to get the pitch between the blocks so as to form a secure bond. Two types of blocks have since been developed to correct this difficulty; one type has grooves cut into the sides of the block and the other has projecting lugs which act as spacers. The grooved blocks are for use in dry interiors and the lug blocks are for wet interiors or exterior use.

The spaces between the blocks provided by the lugs permit expansion of the blocks under moist conditions. The general use of the groove and lug blocks has permitted a general reduction in the thickness of the blocks formerly specified. A two-inch wood-block floor on a substantial concrete sub-base is sufficiently durable for ordinary manufacturing use and costs little more than other good floors which may prove short-lived.

Where odor of any nature is objectionable, as in food industries, blocks treated with odorless oil may be obtained. The filler may also be eliminated and the blocks fastened together by a proprietary method which furnishes a clean wearing surface required in many industries.

In light manufacturing plants where a light-colored reflecting surface is essential, the blocks may be sanded smooth and covered with shellac to preserve their original color. Wood blocks are also made of oak for use under especially heavy duty, as in aisleways or about heavy machinery. For especially fine surfaces, blocks of redwood are used and are sanded smooth, waxed, and polished.

In order to obtain an absolutely smooth surface with wood blocks, the concrete sub-floor should be given a steel-trowelled surface. For ordinary purposes, a sidewalk finish is sufficiently smooth.

Another, but more expensive, type consists of two-inch wood blocks attached by dovetailing to a one-inch sub-floor and damp-proofed with paraffin oil for interior use. These blocks are milled to a uniform finish similar to that of a maple floor. The blocks come to the job attached to the sub-floor strips and are laid directly on the building floor base with wood splines between each row of blocks. They are attached by means of lateral nailing.

This floor is designed to give a smooth non-slip surface and has been used principally in main trucking aisles, elevators, loading-platforms, freight cars, etc.

Maple floors are used in light manufacturing plants of the multistory type. They should not be laid over a concrete sub-base resting on the ground unless a damp-proof coating or membrane is used to prevent moisture from reaching the flooring from below. Dampness in unprotected wood will cause it to warp, buckle, and eventually rot. Air spaces should be left between the sub-floor planks and around walls or other fixed boundaries to permit ventilation and expansion.

Maple floors are well suited to the requirements of light manufacturing where little moisture is present. They do not damage tools or finished machine parts that fall upon them. They also provide good anchorage for light machinery and are warm and resilient underfoot.

Where it is necessary to economize it is possible to obtain a very satisfactory floor by laying maple over three-inch planks which are spiked to four-by-four sleepers imbedded in cinders. This type of floor, however, should not be considered permanent, as moisture from below will attack it in time, causing the timbers to rot.

Another type of hardwood wearing surface that appears to have considerable merit consists of accurately dimensioned blocks of oblong shape which are laid flat over a concrete sub-base in a herringbone pattern. The surface of the concrete slab is water-proofed with an adhesive bituminous membrane. The under surface of each block is coated with the same material and is driven into place without nailing. The surface of the floor is then sanded to a smooth finish.

Three types of asphalt mastic floors are being used in industrial plants. The original development was a hot asphalt concrete laid in a one-inch minimum thickness on a concrete or wood base. The second development was the mastic block corresponding in size to the wood block. The last and more recent development is the asphalt plank.

The old and the new—Trinity Church, New York, silhouetted against No. 1 Wall St., the latter by Voorhees, Gmelin & Walker

The one-inch mastic floor is made of a mixture of natural asphalt with a binder of cement. The percentage of asphalt is varied to give a soft under portion and a hard wearing surface.

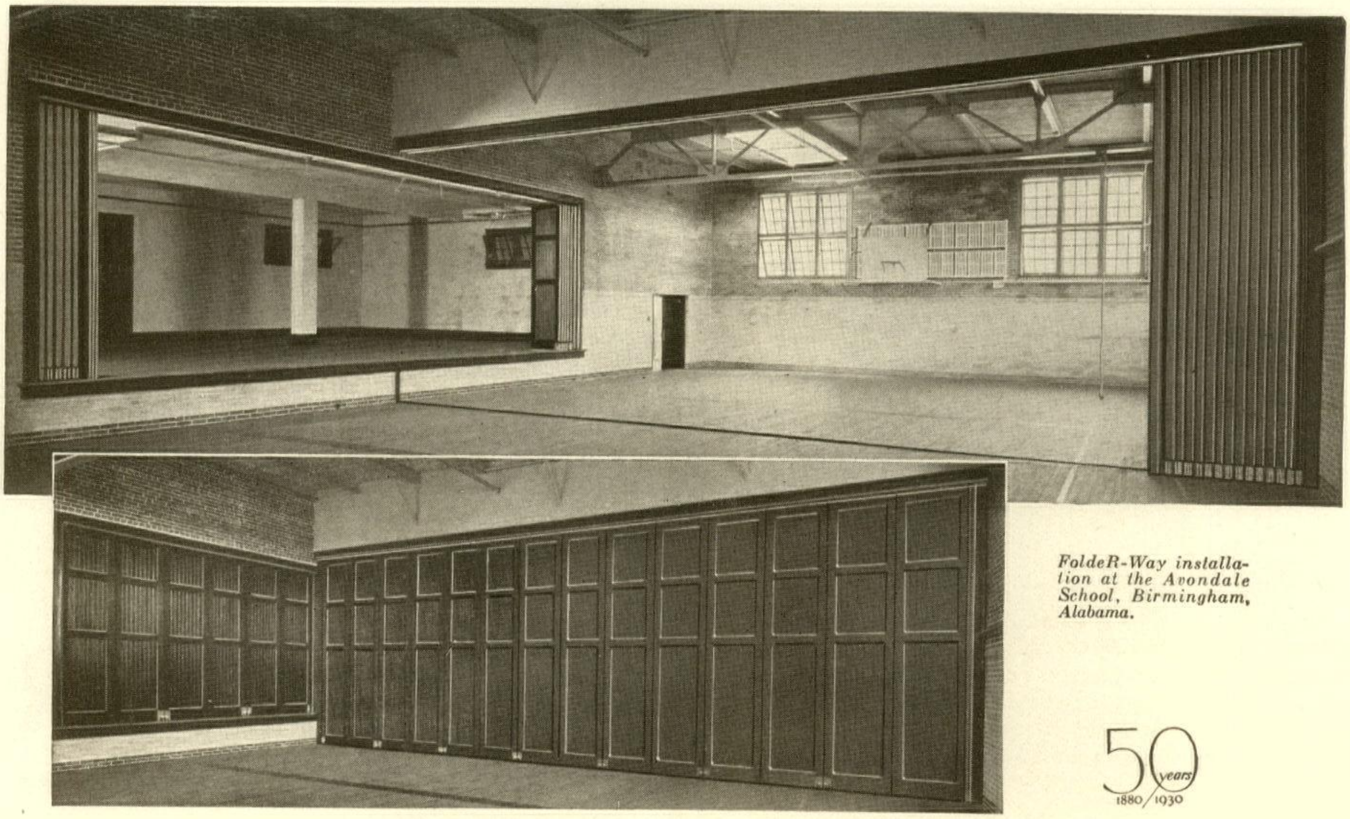
The mastic floor is intended to withstand heavy trucking. It is sufficiently resilient to afford comfortable working conditions for the workmen and is moisture-proof. It should not be used where cutting or transformer oils occur, as the mastic dissolves under these agents. It also shows indentations under heavy storage. Mastic softens when temperatures exceed 110° F., a condition which makes trucking difficult.

Asphalt blocks are an improvement over asphalt mastic laid in a mass, for they eliminate cracking and sponginess. All other limitations for mastic floors hold for this type.

An asphalt plank floor is lighter than any flooring except wood, is easily and quickly applied when laid over concrete, and is adapted to use in trucking aisles.

One of the important factors in the life of a floor is provision for expansion. Some engineers maintain that in a building that is held at a fairly constant temperature, expansion and contraction of concrete floors are so small as to be negligible. Experience shows, however, that when small cracks appear they fill up with dirt and sweepings. When even a small amount of expansion occurs the edges of the cracks spall off, making a starting place for serious wear.

Since conditions vary so widely in various plants and industries, it is impossible to outline any set of conditions that will apply uniformly. The experienced engineer approaches the problem of the choice of a floor with careful consideration for every factor and designs the floor to meet the actual working conditions. Any method short of this is an invitation to constant worry and expense.



FoldeR-Way installation at the Avondale School, Birmingham, Alabama.

50 years 1880/1930

Gymnasium divisible 3 ways with FoldeRWay partition doors

Here FoldeR-Way makes possible a three-way division of gymnasium and "gallery" space. A sliding-folding partition cuts the "gym" itself in half or throws both halves open into one great sporting arena. The raised "gallery" for spectators may be partly or entirely open, permitting a view of the whole gymnasium or of either half; or this elevated space may be completely closed off for separate gatherings.

FoldeR-Way equipment is used in hundreds of unique arrangements which utilize every foot of floor space and make for the maximum of convenience in various school activities.

The outstanding features of FoldeR-Way installations are absolute silence and ease of operation. One man can quickly move the largest of FoldeR-Way partition doors. Maintenance expense is negligible; adjustments simple and infrequent.

When it comes to figuring on big openings or little ones, consult an R-W engineer; doorways are his specialty. Write today for R-W catalog.

The beauty and smooth operation of R-W Compound Key Veneered doors are lasting. Sagging, warping, swelling, shrinking are practically eliminated by tongue and groove method of applying veneer. These famous doors are now made exclusively and sold only by R-W for FoldeR-Way partitions.

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Beauty and Strength

.. combined in Anchor-Weld Railings and Gates

TO be attractive a fence must become a component part of the general picture. Anchor-Weld Iron Fences harmonize with all types of architecture and truly complement any landscaping plan.

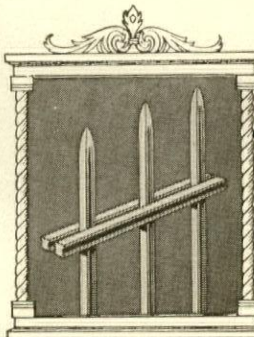
At every one of the four points where an Anchor picket touches one of its supporting rails the two are inseparably joined by electric welding under tremendous pressure. No uncertain pins or caulks to rust out and loosen. No unsightly rivets or braces to mar the appearance. Anchor-Weld Railings retain their alignment and appearance permanently.

Anchor-Weld Railings and Gates are made in both plain and ornate styles. Direct factory representatives and erecting service are available in 75 cities, and the Anchor catalog will be mailed on request.

ANCHOR POST FENCE COMPANY
EASTERN AVENUE and KANE ST., BALTIMORE, MD.

Consult Sweets Catalog or your local classified phone directory for address of the nearest Anchor office.

Anchor Flange-Welding .... the secret of the beauty and strength of Anchor Iron Fences.



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Electrically Flange-welded
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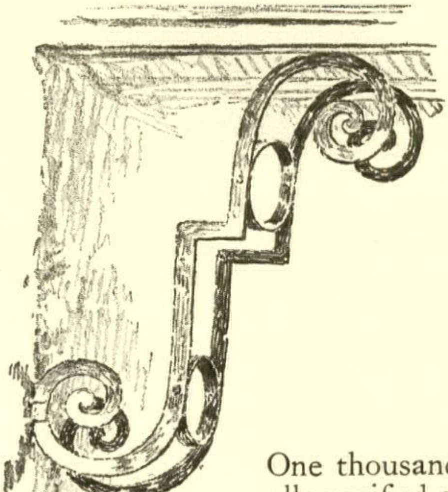

Reduced from an illustration of a balcony bracket

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One thousand illustrations accurately executed from examples personally verified and inspected by the author and here reproduced by a facsimile process, admirably preserving the lovely texture of old iron-work.

Rare originals in public and private collections, examples in farmhouses and old dwellings throughout New England, Pennsylvania, and the Southern States, have been judiciously selected. Measurements are given where feasible and in making the drawings proper proportions have been considered. This book is essentially practical, furnishing the collector, architect, iron-worker, designer, and interior decorator valuable information and material suggesting a multitude of ideas relating to the design of iron-work. Three volumes (10 x 12⅞ inches). Complete, $35.00

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Coined in Paris to express originality plus taste, the word "chic" has come to mean many things to many people. In London, swagger; in America, pertness; in Japan, genuineness. The original and last meanings are the ones contained in the undoubted chic of Crane bathrooms. Always, originality and taste are found in Crane fixture designs and decorative suggestions; genuineness in the service given. Planning an elaborate bathroom for a fastidious client or a compact one for a cottage, you will find the new ideas at Crane Exhibit Rooms of real value. Often, it may be advantageous to bring your client with you, guiding his choice of fixtures. Many architects find it profitable to make regular visits to these Exhibit Rooms to keep in touch with latest trends and offerings.

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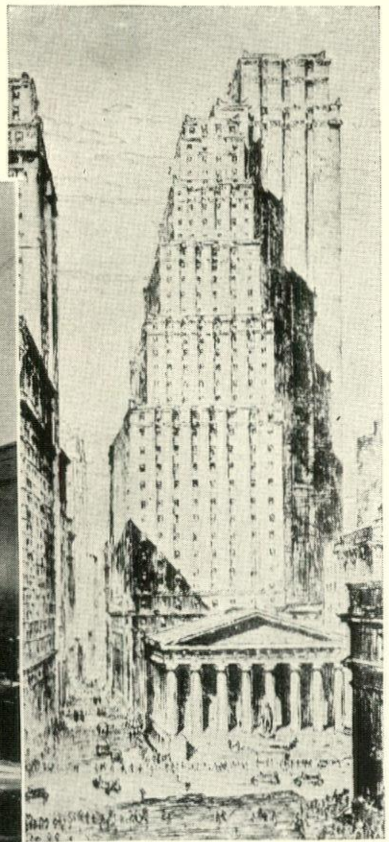

ABOVE: *An etching of the Chase National Bank Building, New York.* LEFT: *Interior showing W. & J. Sloane Battleship Linoleum.*

★

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We maintain a service department to assist architects in planning or specifying linoleum floors. This service is at your disposal without charge. Write for copy of Architects Data Book and ask for a representative to call if you wish advice on specific problems. Address: Architects Service Department, W. & J. Sloane, 577 Fifth Avenue, New York City.

THE Chase National Bank, New York merged recently with the Equitable Trust Company, thereby becoming the largest bank in the world, with assets of $2,800,000,000.

In the downtown offices of the Chase National Bank, 12,800 square yards of W. & J. Sloane *double-waxed* Battleship Linoleum are used.

More and more frequently architects' specifications call for W. & J. Sloane Linoleum, both because of its inherent quality and because of its wide range of colorful patterns.

W. & J. Sloane Linoleum is made with a natural fine-textured finish, the result of extra-processing in the grinding and mixing of raw materials and extra pressure in the calenders. It is then *double-waxed at the plant* by an exclusive Sloane process.

When you specify W. & J. Sloane Linoleum you assure your clients of the finest money can buy. It comes to the job double-waxed, is easy to handle and is ready for use the instant it is laid. Examine this superfine finish before you write the specifications. We will gladly send you quality samples.

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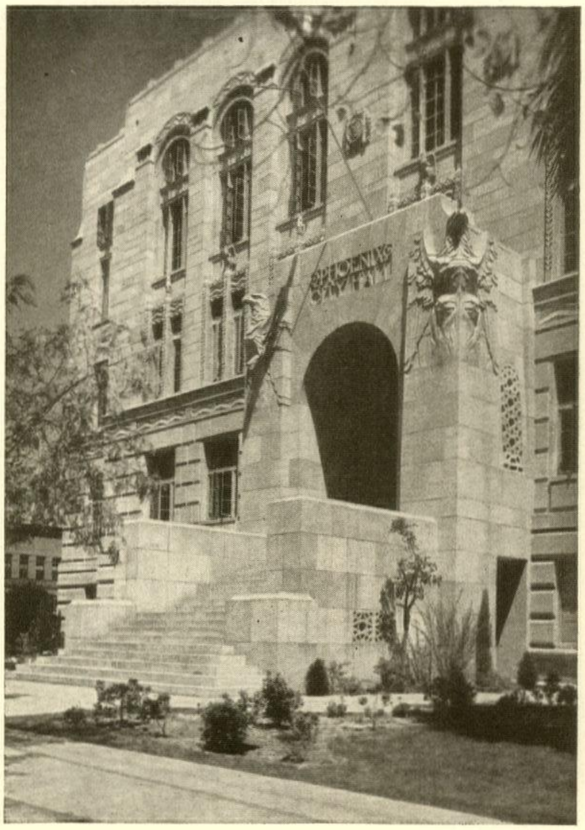
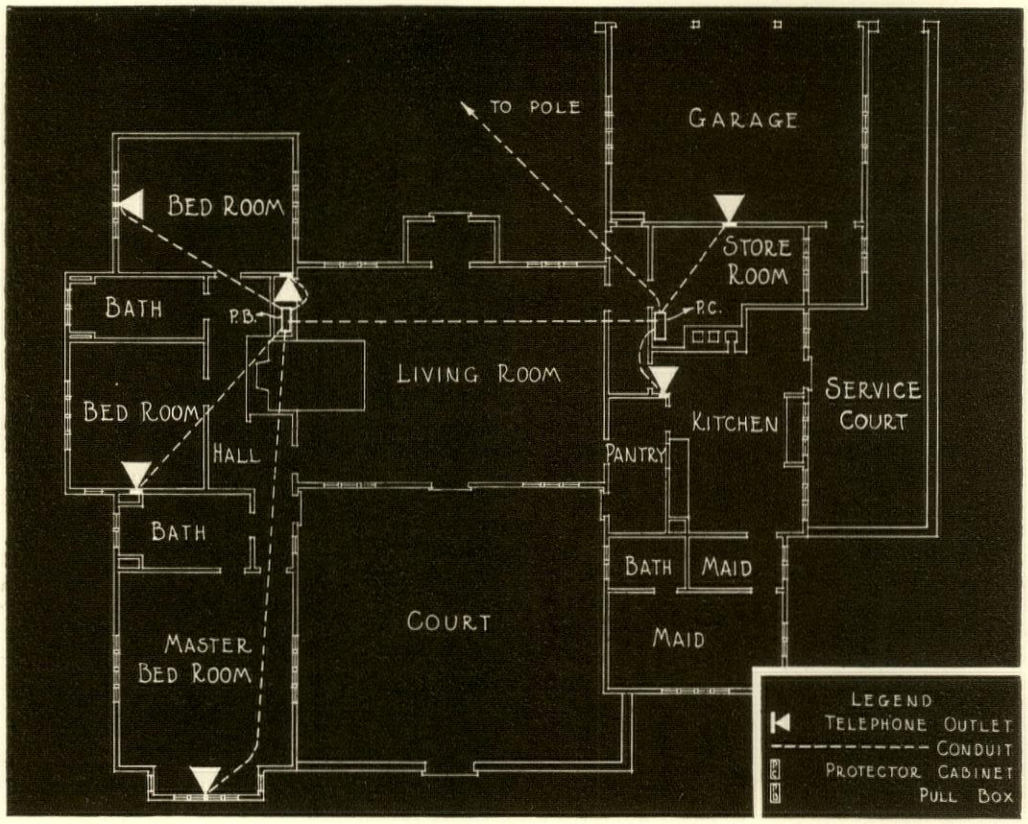


A monument which could be achieved only in TERRA COTTA which affords opportunity to employ color texture and monumental sculpture.

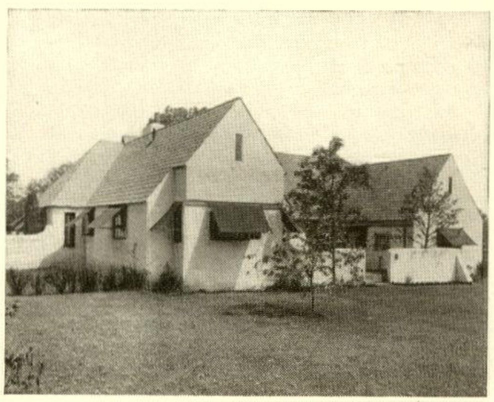
NATIONAL TERRA COTTA SOCIETY
230 PARK AVENUE NEW YORK

Maricopa Co. Court House, Phoenix City Hall, Phoenix, Arizona. Edward F. Nield—Rescher & Mahoney, *Associated Architects.*

The modern Home provides for both Present and Future Telephone needs



Complete telephone convenience is provided in the residence of Dr. George W. Hawley, Bridgeport, Connecticut, by six telephone outlets, including one in the garage. The telephone wiring is carried in conduit hidden in the walls and floors. FRED C. JOHNSON, Architect, *Bridgeport.*



PROVISION for complete telephone convenience is an important and attractive feature in the design of the modern residence. Telephones throughout the house, placed where they will save steps and time, greatly increase the comfort and livability of the home, and help to simplify household management.

Planning in advance for the telephone arrangements has many advantages. It provides conduit, concealed within the walls and floors during construction, and telephone outlets in all the important rooms. This gives improved appearance, guards against certain types of service interruptions and provides a flexibility of telephone service that is most desirable.

Although at first only such outlets as may be needed immediately are used, the others are always available for possible rearrangement of the service to take care of the growing requirements of the family.

Your local Bell Company will gladly help you plan the telephone arrangements for new and remodeled residences. It will also arrange for conferences to explain to your clients the telephone equipment which serves different household needs. No charge is made for this advisory service. Just call the Business Office.

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"Advertising has made this country as progressive as it is to-day. It is the guiding star for mass production that has made it possible for the great middle class to live like kings. Advertising might be compared to lighthouses, the guiding light over poor business to a better day, and if we follow that guidance whole-heartedly we shall have very little to worry about."—V. B. RUSSELL.

COLOR AND TEXTURE

They knew a thing or two about roof character when the architects of the restoration of Williamsburg, Va., decided on the Mohawk Asbestos Shingle. The former Colonial beauty and simplicity is retained, but the Williamsburg type shingle is weatherproof and fireproof. Color, nature's gift, and its complement, texture, combine to make the "Roof Everlasting" a harmonious shelter.

TERRA-COTTA

In the new business centre of Cleveland there are three notable buildings whose distinctive feature is the delicately detailed terra-cotta ornamentation. The Federal Seaboard Terra Cotta Corporation has contributed to the success of this group in producing exceptionally large units for spandrels, and other decorative details, closely following the architects' design. The company is ready to make construction sketches, give estimates and provide samples for color and texture selection for exterior or interior work.

THE LIGHTING BOOK

Thomas Edison received one of the first copies. The presentation was made at East Orange by the head of the New York office of Curtis Lighting, Inc. Mr. Edison was impressed by the illustrations, the descriptive information and the general beauty of the book. Five hundred public libraries and several thousand architects have also received copies. It is a valuable possession, beautifully printed and bound.

HOMES OF CONCRETE

This is a picture-book with just enough text to serve as an introduction and get the idea across. Reproductions of photographs and plans of houses from the $4,000 bungalow to the $12,000 residence, show how adaptable concrete masonry really is. Full details about construction will be gladly supplied by the district offices of The Portland Cement Association.

RIB SLAB CONSTRUCTION

The Bellefontaine Bridge & Steel Co. will send you a set of sheets explaining all the advantages of the Sereff system of self-sustaining reinforcement for concrete construction. These include loading tables and specifications. The system eliminates external supports, shoring and centering—an economy of time, labor and materials.

CATALOGUES WANTED

Catalogues of building material and equipment for residential work only, for use in architectural drawing classes of Oklahoma City public schools, will be appreciated. Address A. E. Phillips, Security Building, Oklahoma City, Okla.

RED TOPS

Capitol Red Top Boilers have been on the market for some time in the A and B Series. The U. S. Radiator Co. has now introduced the C Series, which completes the line of square-jacketed boilers—giving the largest size for every type of fuel.

ROOFS

Specifications for Ruberoid Roofing in various constructions and applications are useful to the architect. The forms are classified and may be had on request.

FACTORY FINISHED

Cromar Oak Flooring is entirely finished at the factory, and no other labor is necessary except to nail it down. It looks well without the added expense and has wearing quality.

WOOD GUTTERS

A newly organized company recently purchased the "Improved O. G. Fir Gutter" business formerly conducted by E. M. Long & Sons. A large and well assorted warehouse stock will be carried, and Mr. Long will continue his policy of sales and distribution. The new company is called Fir Gutter Co.

THERMAL UNIVENT

The modern school classroom equipped with Thermal-Univent System of Ventilation will maintain a thermal balance at all times with direct reference to the room temperature. It will automatically run a scale from maximum heating to maximum cooling, and it represents the highest development of school ventilation. It is the desire of the Herman Nelson Corporation to acquaint architects and engineers with the science and application of fresh air through the new booklet on "School Ventilating Practice."

NEW QUARTERS

The entire eighteenth floor of the Park Lexington Building, New York, has been taken as offices for the Bakelite Corporation. Bakelite has been used extensively in the construction, decoration and furnishing, and gives excellent demonstration of a hundred applications of phenol resinoid materials in modern interior work.

CHANGES IN WALLACE & TIERNAN PERSONNEL

F. G. Merckel, for the past eight years manager of Wallace & Tiernan Company's Chicago office, has recently been appointed sales manager of Wallace & Tiernan Products, Inc., and will move to the company's head office at Belleville, N. J.

C. O. Bruden, formerly assistant manager, will assume the duties of the position vacated by Mr. Merckel.

W. A. Hockett, manager of the Indianapolis district office, has been transferred to the company's home office at Newark, N. J., and will have charge of Wallace & Tiernan Company's foreign activities.

E. F. Kinney has been appointed district manager to succeed Mr. Hockett.

Chas. H. Eastwood, formerly in charge of Wallace & Tiernan Company's foreign sales, is now in charge of advertising and publicity for Wallace & Tiernan Company and Wallace & Tiernan Products, Inc.

CHURCH SERVICES

The Spencer Heater Company is co-operating with *The Christian Herald* in urging the construction of better church buildings through the employment of competent architects. The Spencer Company is ready to furnish a service that no one sees or hears, but which is always welcome to the congregation. This very attractive booklet pictures a dozen beautiful churches whose usefulness and comfort are due in part to proper heating facilities.

INTRODUCING IN-CEL-WOOD

Cornell Products has brought out a new insulating board. It has several unusual features that insure its success. High strength, light weight and low thermal conductivity are combined in this board. Ship lapped edges reinforce the joints and reduce heat leakage.

TIME

Electro-Magnetic Precision Clocks give perfect time for all time. They not only provide accurate and dependable time but act as master clocks to regulate all other timepieces. It is connected to the electric current and operates without further attention. The clock face is attractive in design and appearance.

A FINE FRONT

To enhance commercial buildings and facilitate better displays, Kawneer store fronts are a means of building a substantial increase in sales. They are fabricated in exact accordance with architects' designs. Kawneer Company has a new catalogue showing types for every conceivable form of merchandising.

IMPERIAL PORTFOLIO

Numerous leaflets and folders on roofing and floor tiles are inclosed in a portfolio issued by the Ludowici-Celadon Company. Descriptive notes, illustrations and specifications acquaint the architect with the extensive line produced by this well known manufacturer.

AMBASSADOR BRIDGE

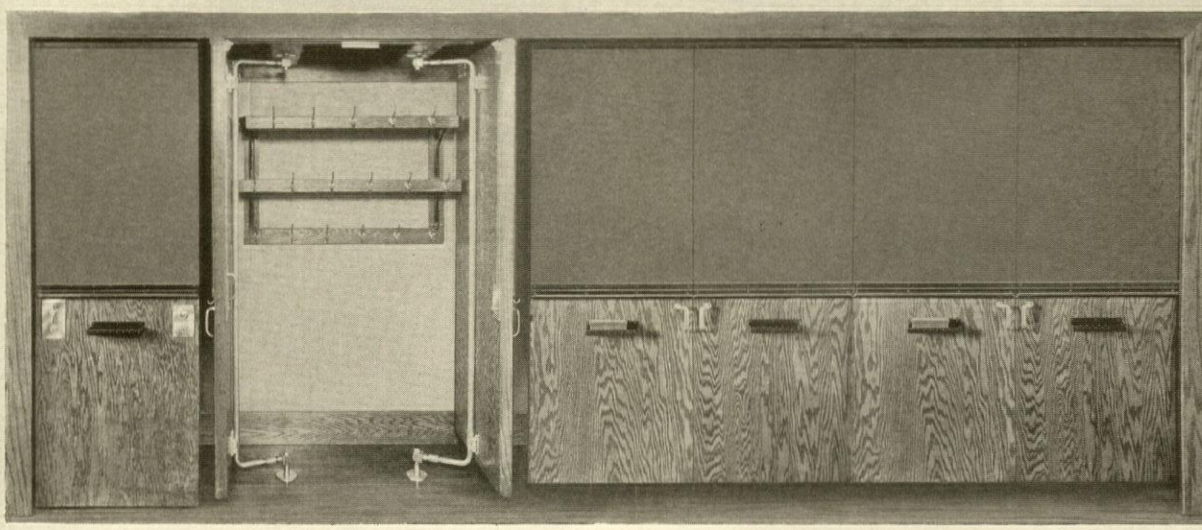
McClintic-Marshall has printed a beautiful monograph—a review of the construction, as told by a photographic record, of the progress of the famous "Ambassador" vehicular bridge spanning the Detroit River from the city of Detroit to Windsor, Canada. It makes an interesting story.

YACHT RACES

The *Enterprise* was newly finished with Ripolin Holland Enamel in preparation for the big race. The *Shamrock* had a beautiful rich coat of Sea Green Ripolin. They both looked like winners, but the International Cup went to *Enterprise*. The Glidden Co., of Cleveland, are sole manufacturers of Ripolin in America. The material is generally recognized in marine and airplane industries.

PUBLIC BUILDINGS

Terra-cotta is found to be suitable architectural material to meet the requirements of good design and enduring construction of public buildings. An exceptionally beautiful booklet from the National Terra Cotta Society sets forth in text and illustration many examples of impressive buildings in which terra-cotta is successfully used wholly or in part.



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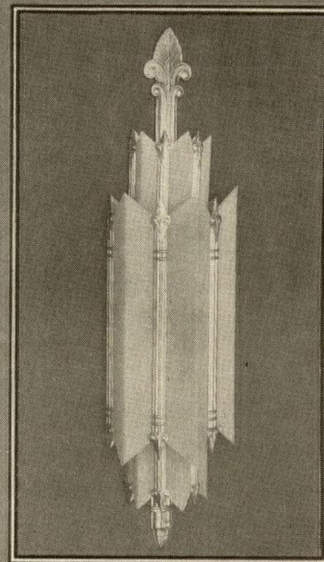

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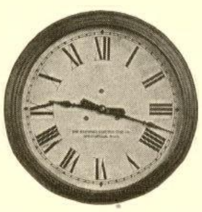

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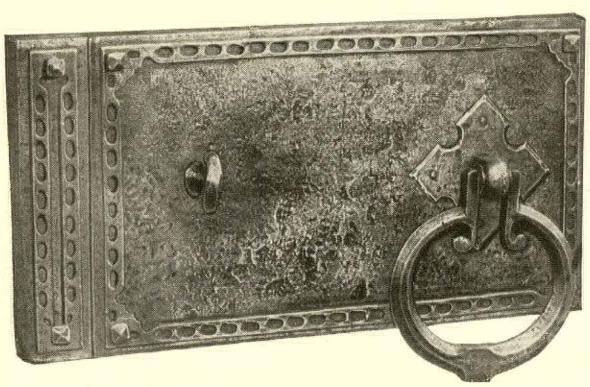

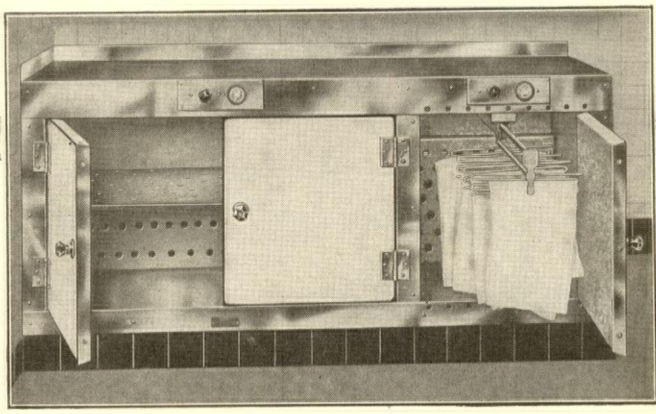

If a cook's thanks mean anything—

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Electric Plate Warmer and Towel Dryer

Doors are of double construction, filled with asbestos. Space between the walls is thoroughly insulated. That also keeps the exterior cool.

Has a three-heat switch. Cannot overheat. A thermostatic cut-off can be furnished to disconnect current automatically if left on accidentally. Pilot light shows whether current is on or off.

Has a beautiful finish. Trim is heavily chromium plated and polished. Doors are vitreous porcelain when white finish is desired. Will not crack or turn yellow. Shelves are removable for cleaning.

Heating elements last indefinitely, but if accidentally damaged, they can be easily and inexpensively replaced. Built in many models.

Approved by National Board of Fire Underwriters.

Both owners of homes and proprietors of clubs and hotels know that the head of the culinary quarters comes mighty near to being sovereign of the house. An architect is pretty safe to serve the owner's best interests by putting additional conveniences in the service department.

Even the most competent cook or chef has trouble enough to keep his artistic triumphs from ruin when there is a delay in serving. And when food gets cold, the chef's enthusiasm is apt to cool, too, and cause him to quit his job.

Prometheus Electric Plate Warmer keeps things hot until served at a minimum cost.

Indeed, a cook's thanks may mean much, both to his employer and to his employer's architect.

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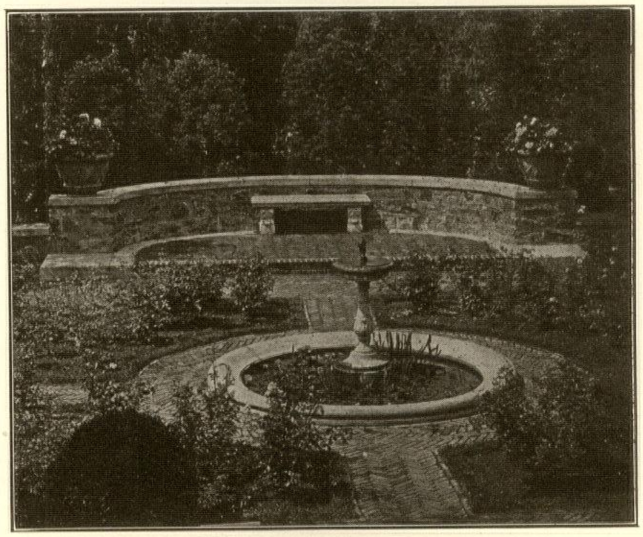

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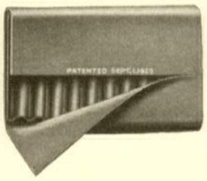

Insures Facades Against Cracked or Broken Facing Blocks

RAND TOWER, MINNEAPOLIS
Holabird & Root, Architects

THE Cowing Joint is installed in the columns and weight carrying mullions at a mortar course. Its purpose is to relieve pressure thrown on the facing material by compression of steel, temperature changes, vibration and wind stresses. Experience has proved that these severe stresses, unless relieved, will crush and break the stone, terra cotta or marble.

Where the Cowing Joint is installed at each story height the building is completely insured against cracks and spalls, the mortar joints are protected from crushing and the maintenance cost of tuck-pointing is eliminated. The facade is in no manner weakened because the Cowing Joint carries the normal weight of the facing material and compresses only enough to relieve the stress.

See "SWEETS" Catalogue

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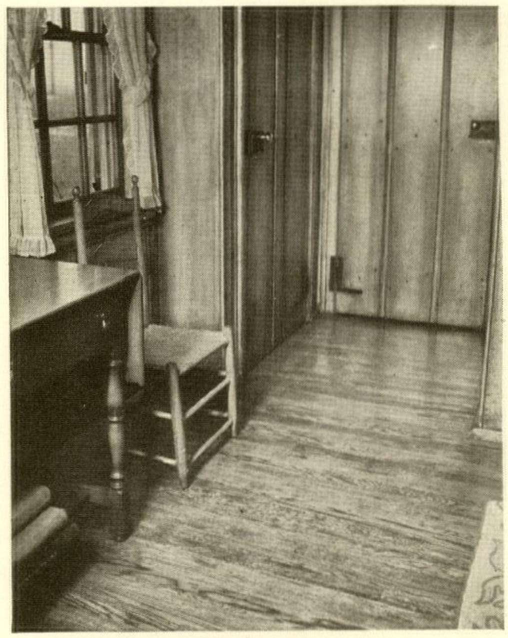


Whatever style you would build—Colonial, or English, or French Provincial—floors of oak agree exactly with the rooms and their furnishings. Photograph by courtesy of Colonial Village, Wayne, Pa.

Where fine furnishings must be considered . . . specify
OAK FLOORS

IN MOST of the homes in Colonial Village good taste dictated the use of oak for floors. The burnished russets and the golden browns of this dependable wood would be the most handsome setting for the quaint old ladder-backed chairs, pie-crust tables and elegant high-boys which would undoubtedly be among the furnishings of the future residents.

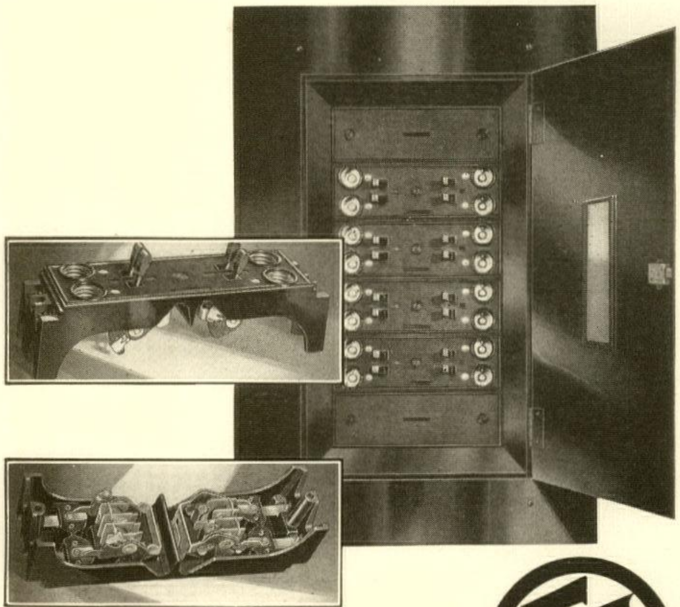
And yet, even had this been the "French Village," the "English Village" or one of any other style, its wise designers would probably have chosen floors of oak. For, centuries of building history have proved to architects and decorators that oak is not only the most flattering background for all styles of furnishings but also the most durable and economical material for floors. In point of view of good design, original cost and future upkeep, it is the soundest sort of specification that an architect can make. . . . Oak Flooring Manufacturers Association of the United States, 1840 Sterick Building, Memphis, Tennessee.

SEE OUR Catalogue in SWEETS

OAK FLOORING advertising is being continued on an increased scale during 1930. Look for our advertisements in *House & Garden, House Beautiful, Good Housekeeping, Better Homes and Gardens, The Literary Digest, Ladies' Home Journal* and *Small Home.*

THIS MASTER TRADE-MARK *is stamped on the under side of all Oak Flooring produced by members of the Oak Flooring Manufacturers Association of the United States. It is complete protection for you. Every piece is air-seasoned and kiln-dried, then milled, and thoroughly inspected and accurately graded, insuring high quality.*

OAK F M A U S A



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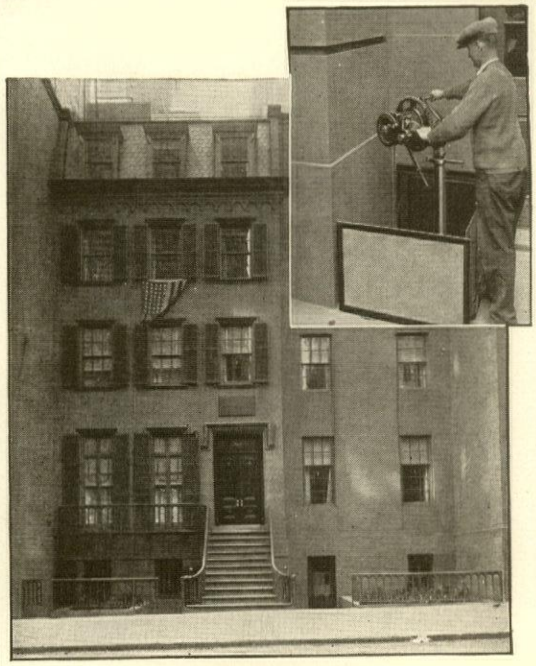

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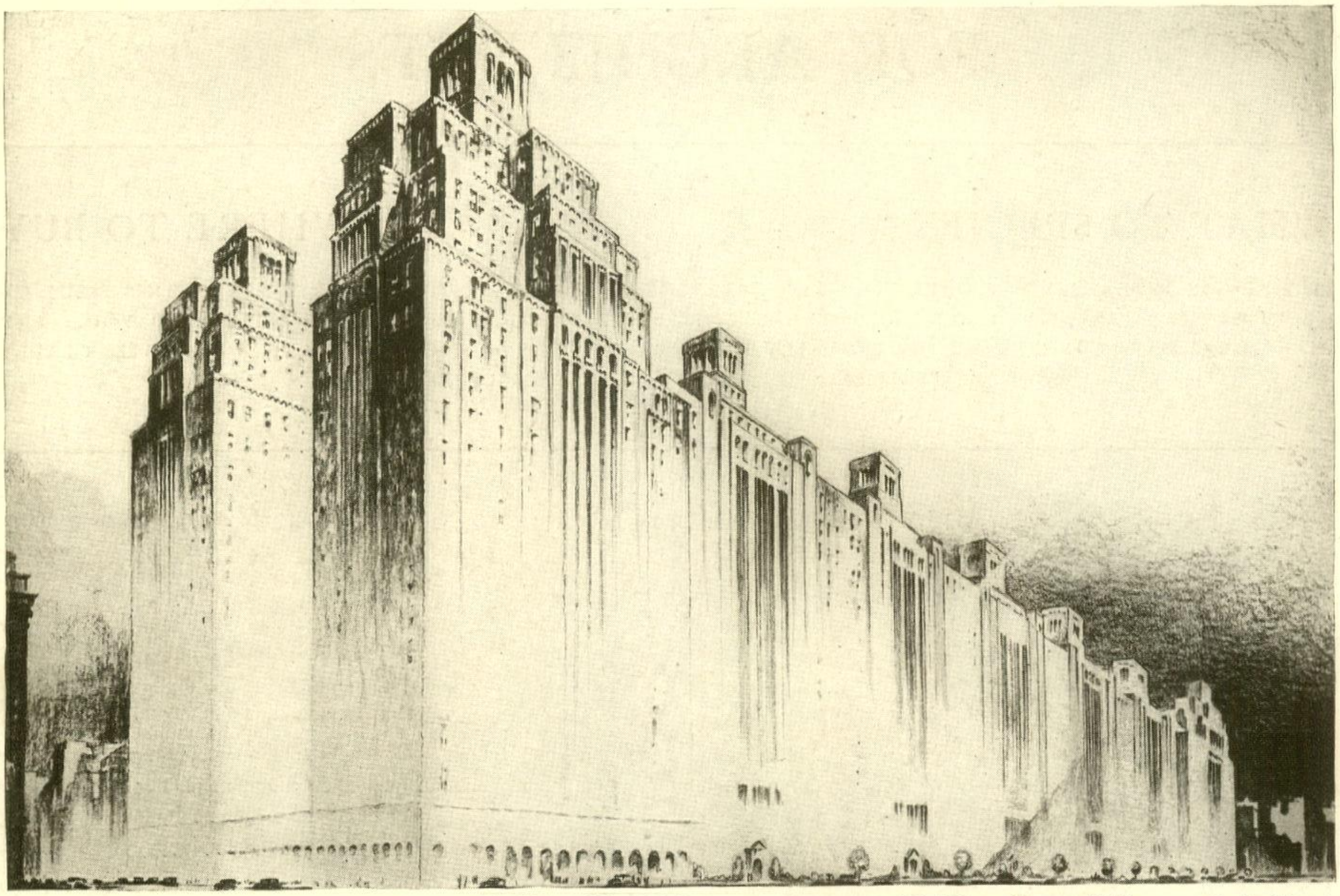

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