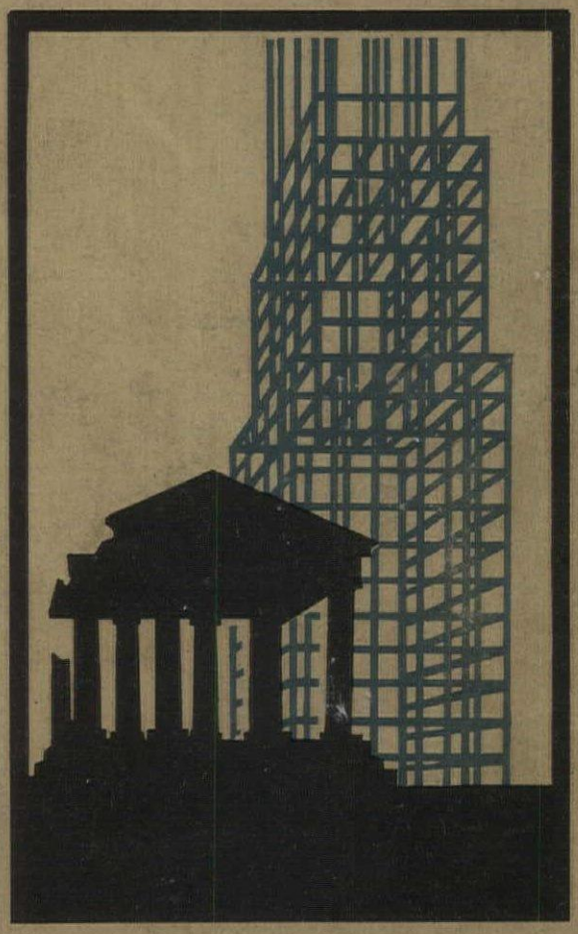
THE ARCHITECTURAL RECORD



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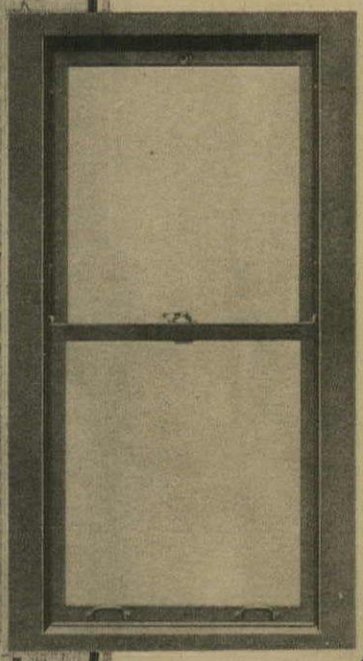
Steel Windows *that Typify and Reflect* QUALITY Construction



Steuben Club Building, Chicago, Illinois. K. M. Vitzthum & Company, Architects. Paschen Bros., Contractors.

Medical Arts Building, Cleveland, Ohio. Graham, Anderson, Probst and White, Architects. The Lundoff-Bicknell Company, Contractors.

TRUSCON DOUBLE-HUNG STEEL WINDOWS
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MODEL NUMBER 28

The high quality of Truscon Double-Hung Steel Windows Model No. 28 results from the use of flawless material and improved methods in the manufacture. Standardization and quantity production add the factor of economy. These windows are built of solid galvanized steel and have a weight of metal which insures long life and trouble-free service. Their many outstanding advantages have made them the choice of leading architects for many of America's finest buildings.

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TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO
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THE ARCHITECTURAL RECORD

Published Monthly by F. W. Dodge Corporation, 115-119 W. 40th St., New York
Truman S. Morgan, *President* Sanford D. Stockton, Jr., *Secretary* Howard J. Barringer, *Treasurer*

VOLUME 65 FEBRUARY, 1929 NUMBER 2

Yearly Subscription: United States, Insular Possessions and Cuba, $3.00; Canada, $3.60; Foreign, $4.00. Single Copy, 60c. Member, Audit Bureau of Circulations *and* Associated Business Papers, Inc.

Entered as second class matter May 22, 1902, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Printed in U. S. A.

★Concrete Commits Suicide!

(Effects of Alternate Wetting and Drying)

IN the nature of concrete, there is a very evident disposition to destroy itself because concrete is disposed to expand when it becomes wet and to contract as it dries out. No matter how well concrete has set, whenever moisture enters it there is still some chemical action between the cement and water which increases the concrete's volume. If there is no room to expand, it will naturally disrupt.

The small cracks or fissures that you have seen on the surface of concrete are the external signs of such disruption—and these, naturally, invite the further inroads of moisture. Protection in the first place is a positive necessity.

There is no guess work whatever about any of the facts in regard to concrete. It is a reliable building material if it is protected against water. If you had built a concrete wall and you went out and found a man with a sledge hammer about to break it up, you would do something about it. Yet, if you had built that wall without integral waterproofing you would have to stand by and watch it destroy itself because you could not interfere.

You would not let other people destroy your property—neither should you let natural forces destroy it. Whenever you use concrete protect it permanently with Truscon Waterproofing Paste Concentrated.

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★ *This is No. 10 of a series of non-technical explanations prepared by R. A. Plumb, General Director of The Truscon Laboratories, on the necessity for integrally waterproofing all concrete used in building.*

R. A. Plumb

General Director of
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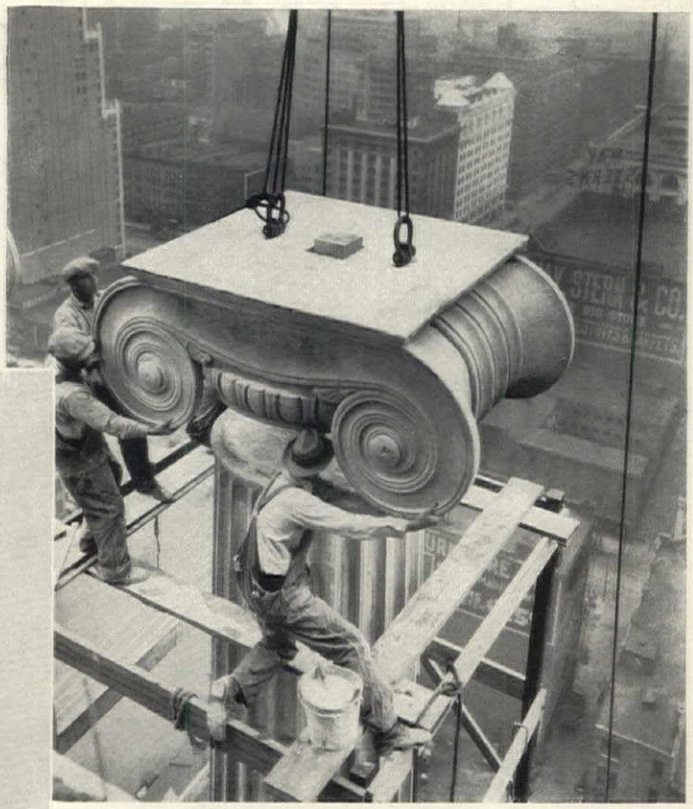

These pictures of the Civil Court House, St. Louis, Mo., in course of construction, indicate the kind of operations in which Indiana Limestone Company service has proved a factor of first importance in assuring the rapid and satisfactory completion of the job. Plaza Commission, Inc., Architects. Selden-Breck Construction Co., Builders.

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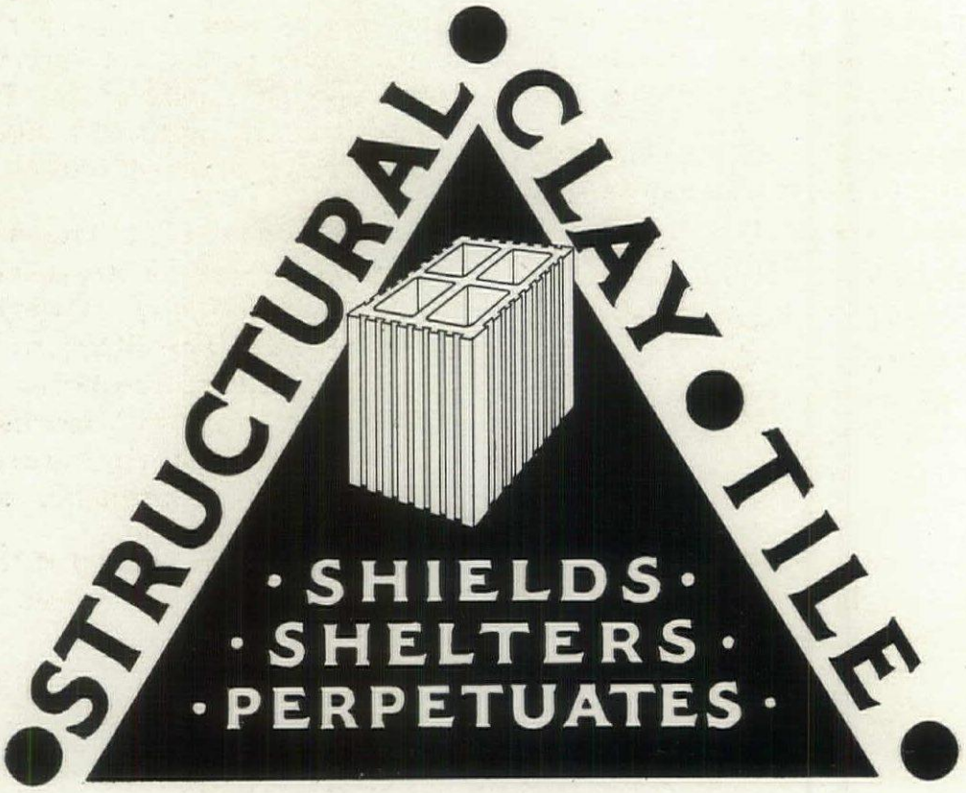

There is a place for structural clay tile in every type of construction. Homes, farm buildings, offices, public buildings, manufacturing plants, industrial service structures, and public works. If your file on this subject is incomplete, write to the Structural Clay Tile Association, Engineering Bldg., Chicago

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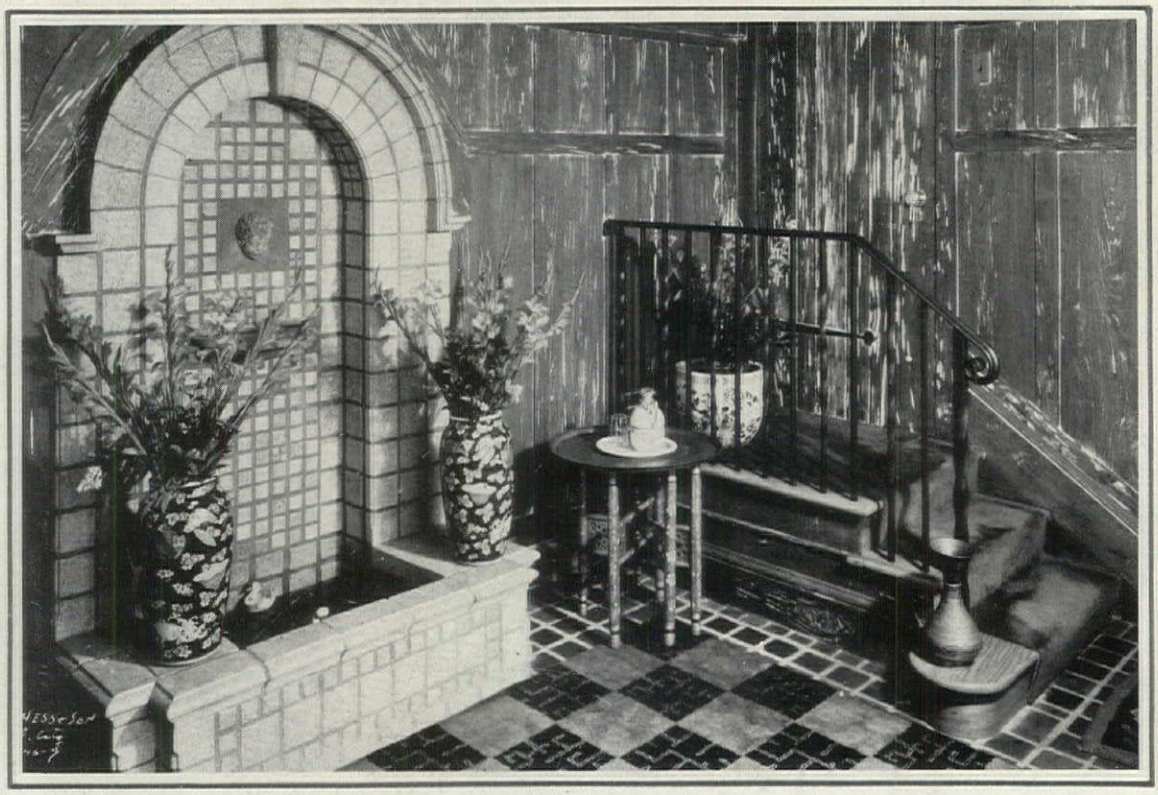

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TIDEWATER RED CYPRESS

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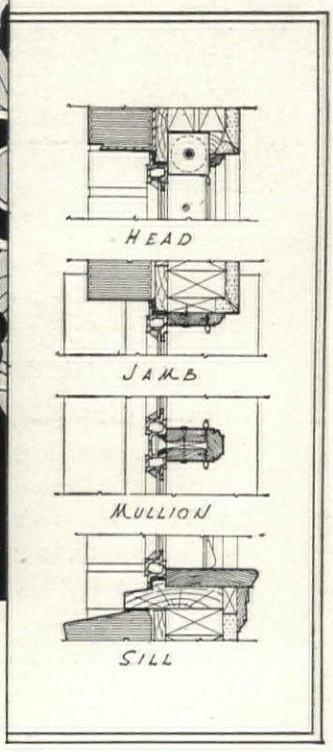
Rolscreens

TRADE MARK

Window Screens Modernized



Typical Casement Window Installation.

Art Centre Apartments, Detroit, Mich. Rolscreens are installed here with wood trim.

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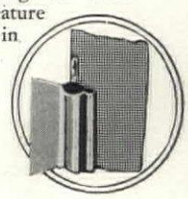
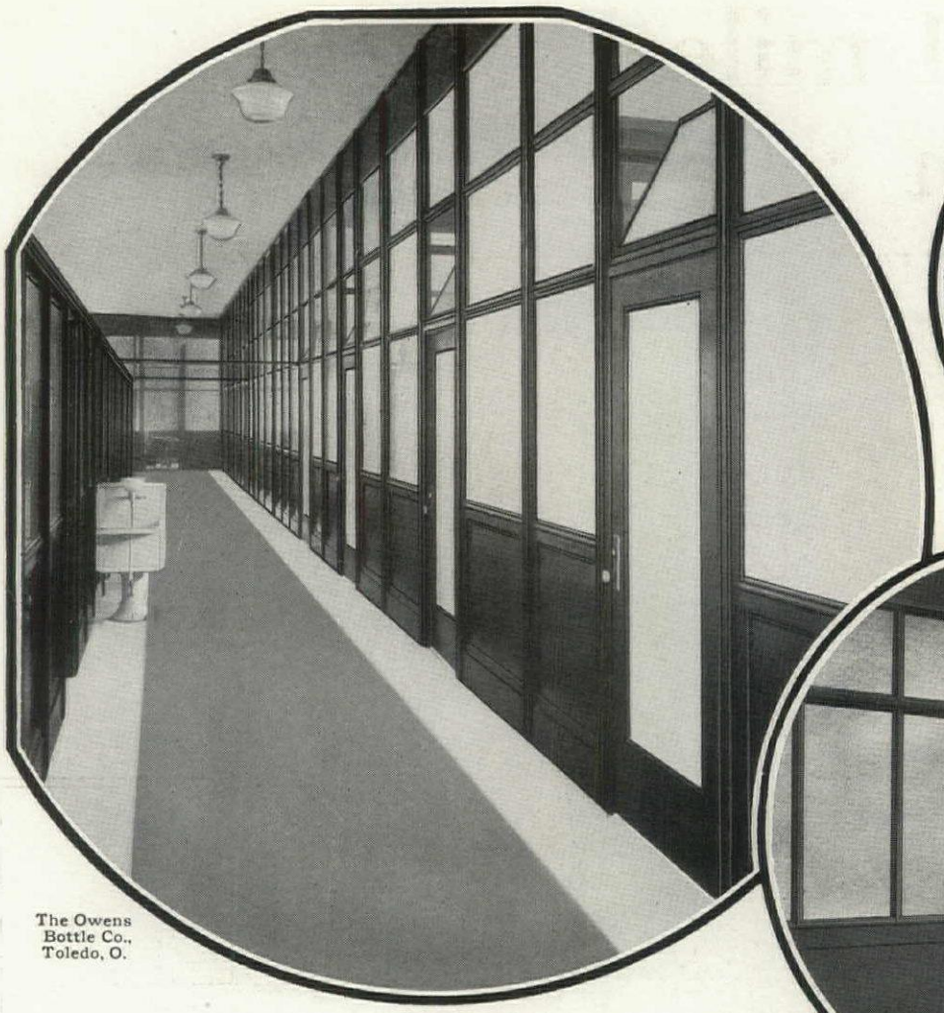
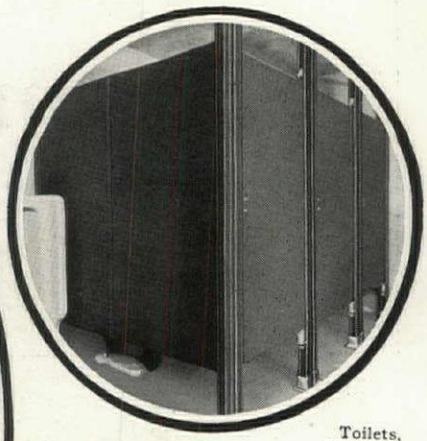
A section through guide showing lug in selvedge of screen wire which prevents screen from sagging. A "non-sagging" feature found only in Rolscreens.





The Owens Bottle Co., Toledo, O.



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Stanwin Casements
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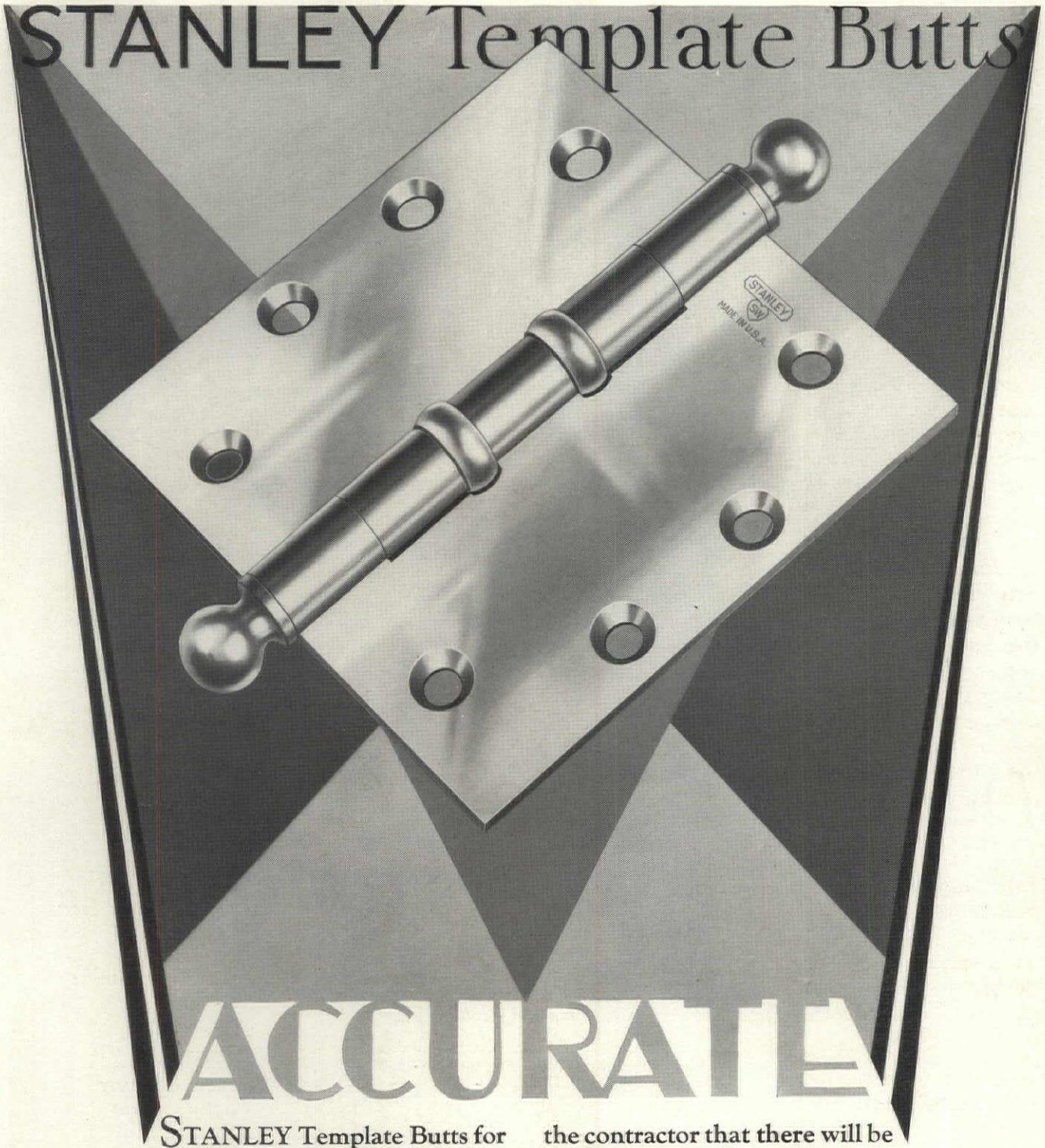
STANLEY Template Butts



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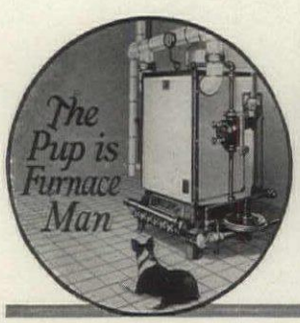

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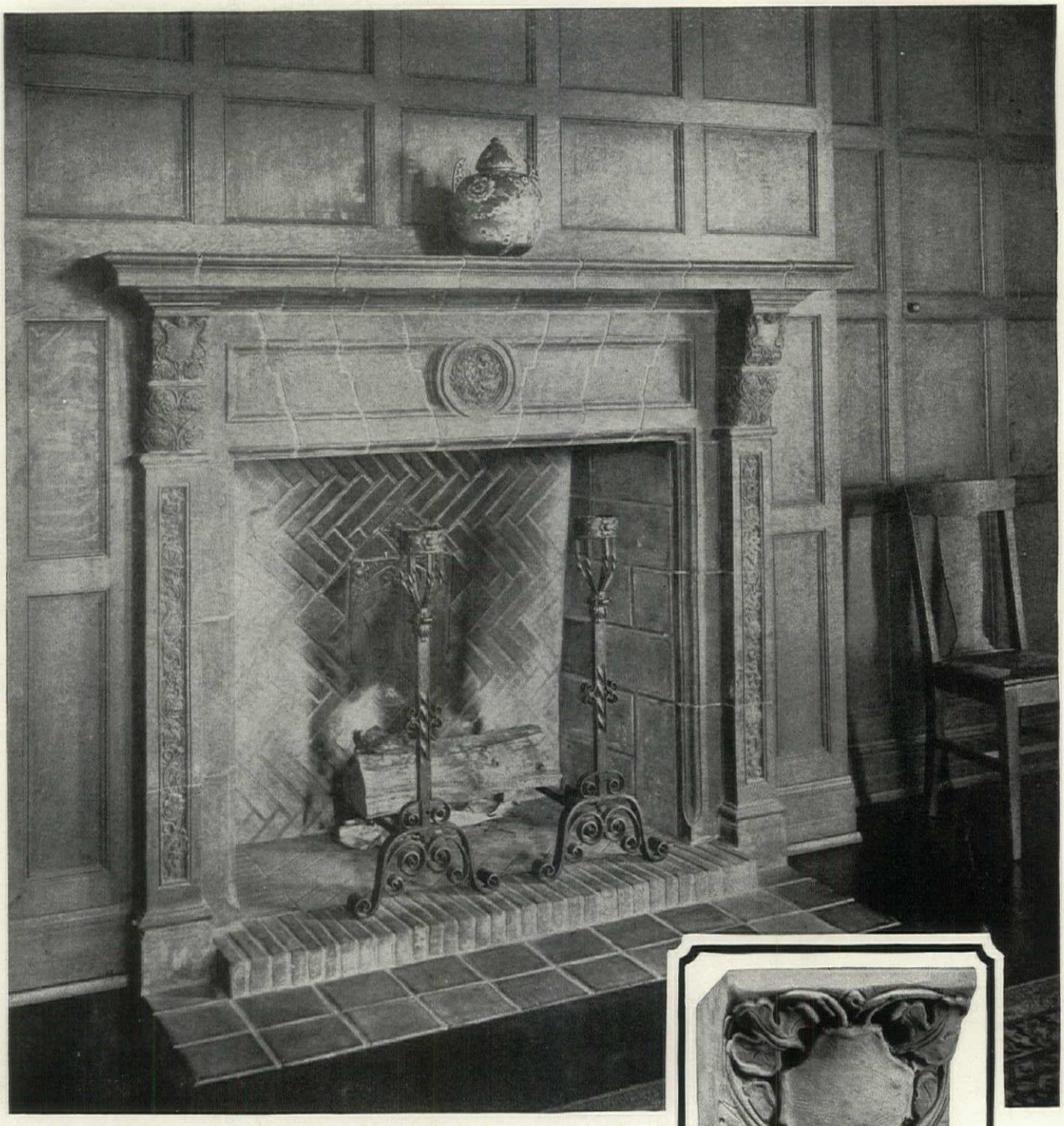

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CHICAGO, ILL.	H. H. Browne G... *A. W. Ho...*
CHICAGO, ILL.	Michi...
CINCINNATI, OHIO	
CINCINNATI	
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...ncts	
...ect & Martin, Architects	
... Garage	
...ngs, Panzer & Martin, Architects	
...nio	Terminal Garage *Samuel Hannaford & Sons, Architects*
	Eastbourne Garage* *Harry Hake, Architect*
CINNATI, OHIO	Stilmar Garage†
CLEVELAND, OHIO	Hanna Garage *Hadlow, Hick & Co. Architects*
CLEVELAND, OHIO	Rockefeller Office Bldg. Garage *Alfred W. Harris, Architect*
CLEVELAND, OHIO	Medical Arts Garage* *Graham Anderson Probst & White, Architects*
COLUMBUS, OHIO	Broadwin Apartments Garage *Otto C. Darst, Architect*
COLUMBUS, OHIO	Columbus Merchants' Garage *Meanor and Handloser, Architects*
COLUMBUS, OHIO	National Columbus Garages, Inc. *Snyder & Babbitt Architects*
DALLAS, TEXAS	Sanger's Garage *J. A. Pitzinger, Architect*
DALLAS, TEXAS	Joseph E. Washington Garage† *Coburn & Fowler, Architects*
DALLAS, TEXAS	Union Terminal Garage† *Bertram C. Hill, Architect*
DAYTON, OHIO	First Street Garage *Frank Hill Smith, Inc., Engineers*
DAYTON, OHIO	Daytonia Garage *Schenck & Williams, Architects*
DENVER, COLO.	Realty Leasing Corp., Garage† *Shankland, Ristine & Company, Architects*
DENVER, COLO.	Auto Hotel *Ireland & Parr, Architects*
DETROIT, MICH.	Detroit Garages, West Unit *Robert O. Derrick, Architect*
DETROIT, MICH.	Detroit Garages, East Unit *Robert O. Derrick, Architect*
DETROIT, MICH.	Detroit Garages, North Unit *Robert O. Derrick, Architect*
DETROIT, MICH.	Detroit Garages, Cass Unit *Robert O. Derrick, Architect*
DETROIT, MICH.	Baltimore Cass Garage *Albert Kahn, Inc., Architect*
DETROIT, MICH.	Detroit News Garage *Albert Kahn, Inc., Architect*
DETROIT, MICH.	Book Tower Garage *Louis Kamper, Architect*
DETROIT, MICH.	Nederlander Garage *C. Howard Crane, Architect*
DETROIT, MICH.	First National Bank Garage *Albert Kahn & Robert O. Derrick, Architects*
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FORT WAYNE, IND.	Yellow Taxi Garage *Charles R. Weatherhogg, Architect*
GREENVILLE, S. C.	Court & Laurens Gara... *Jame...*
HACKENSACK, N. J.	Orita... *Th...*
HALIFAX, NOVA SCOTIA	Argyl... *Pic...*
HAMILTON, ONT. C...	
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...CITY, MO.	...A. Moynahan, Co... ...rage
	...Garage† ...& Lennox, Architects
	...e Garage† ...ndlack, Architect
	...Garage ...oulis, Architect
...CITY, MO.	Interurban Cent. Sta. Co. Garage† *Wight & Wight, Architects*
...CITY, MO.	Congress Garage *Robert Gornall, Architect*
KANSAS CITY, MO.	Walnut Garage *R. H. Tanneman, Architect*
KANSAS CITY, MO.	No. 3 Federal Garage *George Fuller Greene, Architect*
KANSAS CITY, MO.	Ward Parkway Garage *E. W. Tanner, Architect*
KANSAS CITY, MO.	Phillips Bldg. Co. Garage† *N. E. Peters, Architect*
KEARNY, N. J.	Chevrolet Service *Harry H. Oliver, Architect*
LACHINE, QUE., CAN.	Lachine Motorist League Garage† *V. T. Benoit, Architect*
LEXINGTON, KY.	Lexington Ramp Garage *Churchill & Gillig, Architects*
LIMA, OHIO	Auto Hotel *Leech & Leech, Architects*
...ONDON, ENGLAND	Royal Regent Garage
LONDON, ENGLAND	Poland Street Garage *Walter W. Gibbings, Architect*
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LOS ANGELES, CALIF.	Jonathan Club Garage *Schultze & Weaver, A...*
LOS ANGELES, CALIF.	Auto Center *Noerenberg...*
LOS ANGELES, CALIF.	Carond...
LOS ANGELES, CALIF.	
LOUISVILLE	
...	
...ects, Associate Architects	
...n, Architects	
... Co. Garage	
...s, Stratton, Architect	
...ato Garage *C. O. Pfeil & C. Awsumb, Architects*	
...AEL, WISC.	Et Garage *Martin Tullgren & Sons, Architects*
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MINNEAPOLIS, MINN.	Minnesota Garage *Larson & McLaren, Architects*
MINNEAPOLIS, MINN.	Oakland Service Station *Perry A. Crosier, Architect*
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MONTREAL, CANADA	Dominion Square Garage *Ross & MacDonald, Architects*
MONTREAL, CANADA	Royal Garage *Nobbs & Hyde, Architects*
MONTREAL, CANADA	St. Maurice St. Garage† *R. E. Bostrom, Architect*
MONTREAL, CANADA	Mansion's Garage *P. G. Prince, Architect*
MONTREAL, CANADA	Forum Garage & Service Bldg.† *D. J. Spence, Architect*
MONTREAL, CANADA	Downtown Parking Terminal† *Perrault & Gadbois, Architects*
MORGANTOWN, W. VA.	Davidson Bros. Garage *Meanor & Handloser, Architects*
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MUNCIE, IND.	Torrence Garage & Salesroom
MUSKEGON, MICH.	Larson Motor Sales Garage *Edwin E. Valentine, Architect*
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NASHVILLE, TENN.	Downtown Garage§ *Stone & Tisdale, Architects*
NEWARK, N. J.	Washington Terminal Garage *Marshall N. Shoemaker, Architect*
NEW CASTLE, PA.	Shenango Motor Co. *Frank H. Foulk, Architect*
NEW HAVEN, CONN.	Downtown Garage§ *Brown & Von Beren, Architects*
NEW ORLEANS, LA.	Iberville Garage *William E. Spink, Architect*
NEW ORLEANS, LA.	Clarke's Strand Garage *Favrot & Livaudais, Architects*
NEW ORLEANS, LA.	Pere Marquette Garage *J. Scott Joy & W. E. Spink, Architects*
NEW YORK, N. Y.	Brisbane's 5th Ave. & 102d St. Garage *Emery Roth, Architect*
NORFOLK, VA.	Robert S. Johnston Garage† *Calrow, Browne & FitzGibbon, Architects*
OUTREMOUNT, QUE. CAN.	Rockland Garage *Perrault & Gadbois, Architects*
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PEORIA, ILL.	Pere Marquette Garage *Hewitt & Emerson, Architects*
PHILADELPHIA, PA.	Aldine Garage *The Ballinger Company, Architects*
PHILADELPHIA, PA.	Locust Garage *M. Haupt, Architect*
PITTSBURGH, PA.	Pittsburgh Parking Garage, West Unit *Robert O. Derrick, Architect*
PITTSBURGH, PA.	William Penn Garage *Pub... Architects*
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PONTIAC, MICH.	
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...ING, P...	
...., PA.	...k Hudson Hot... *Bois Carpenter,...*
ROCH...STER, N. Y.	...Street Garage *...Martin, Architect*
ROCH...ER, N. Y.	Kamm Tire Service *Frank Hoffman, Architect*
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...TTLE, WASH.	...ge ...maden, Architects
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WATERLOO, IOWA	Arcade Ramp Garage† *Wetherell & Harrison, Architects*
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WEST PALM BEACH, FLA.	Barco Garage *A. I. V. Wilson Company, Architects*
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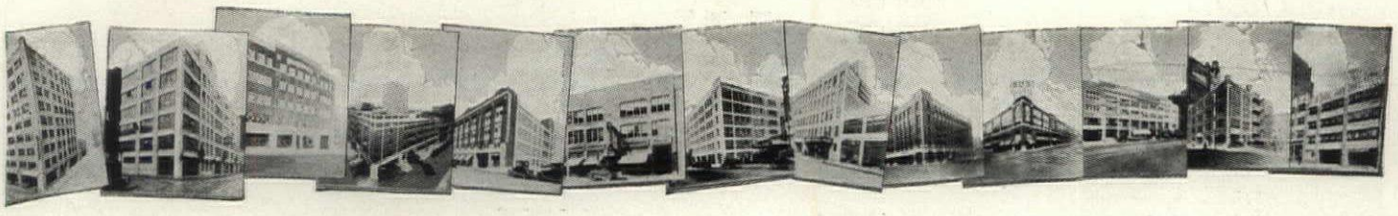
YOUNGSTOWN, OHIO	Central Sq. Garage *Morris W. Schriebel, Architect*
YOUNGSTOWN, OHIO	Youngstown Garage *Barton E. Brooke, Architect*



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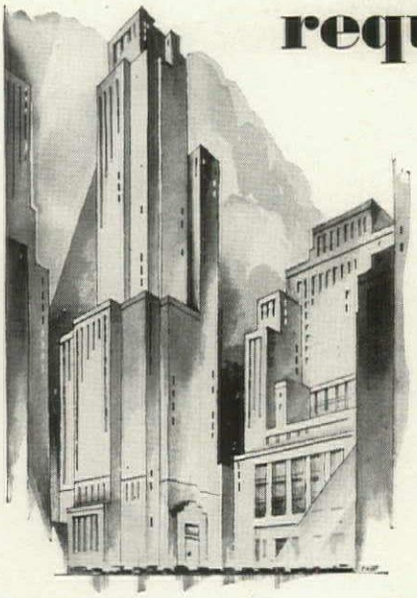

IN planning new apartment houses, hotels and other multiple residence buildings, provision for proper radio reception is becoming a necessity. New buildings not equipped in the beginning with adequate radio facilities will soon have to be rewired at a greater expense.

To meet the rapidly growing demand for high quality radio distributing systems for use in large residence buildings, the Radio Corporation of America, in conjunction with the General Electric and Westinghouse companies, has designed special apparatus for apartment houses, hotels, hospitals, sanitariums, schools, passenger ships and private residences.

The Radio Corporation of America has perfected two principal methods of wiring buildings for multiple radio reception:

1 A single antenna connected with a distribution system to radio receivers in rooms throughout the building. As many as 80 radio sets of different makes can be independently operated from this common antenna, by plugging into wall outlets—and far more satisfactorily than by the use of individual antennae. Additional central antennae may be installed, if required, for additional groups of 80 receivers.

2 Centralized radio receiving equipment to distribute broadcast programs to as many as 3000 rooms throughout a building. Equipment may be installed to transmit a single program, or to make available the choice of programs from two, three or four broadcasting stations.

The first method is ideally adapted for apartment houses, dormitories, office buildings, etc., where tenants desire to have their own receiving sets. It does away with the unsightly multiplicity of individual aerials, and the inconvenience of connecting them with distant rooms.

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Descriptive pamphlets of these two systems, and of the special apparatus designed for them, are available to architects, builders and building owners.

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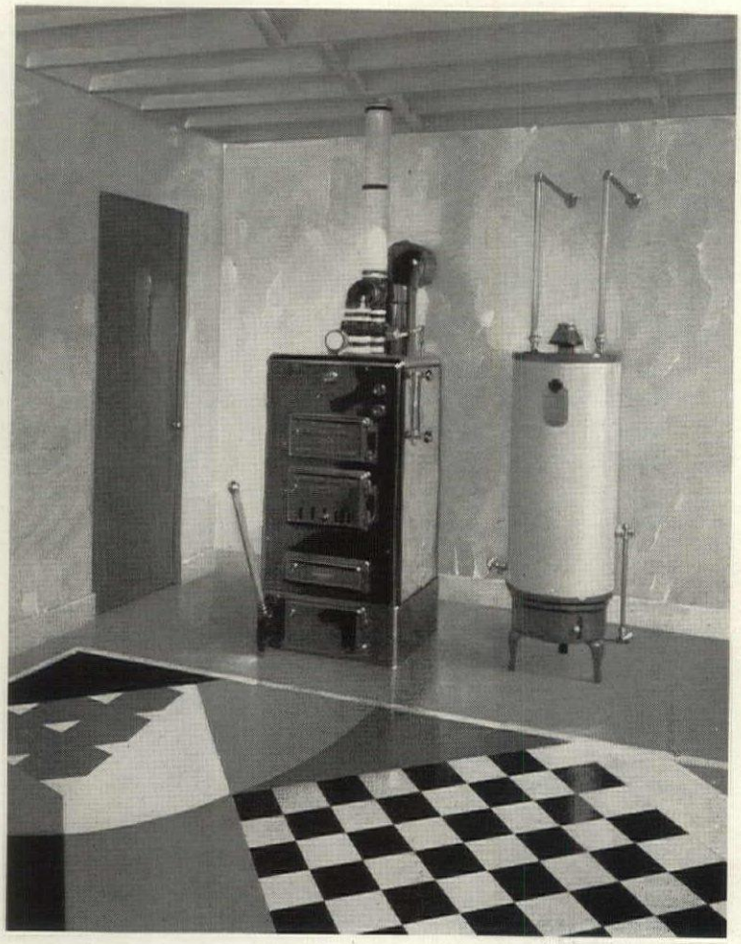

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A complete unit of four flooring strips, splined together

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Driving in the wooden slip tongue

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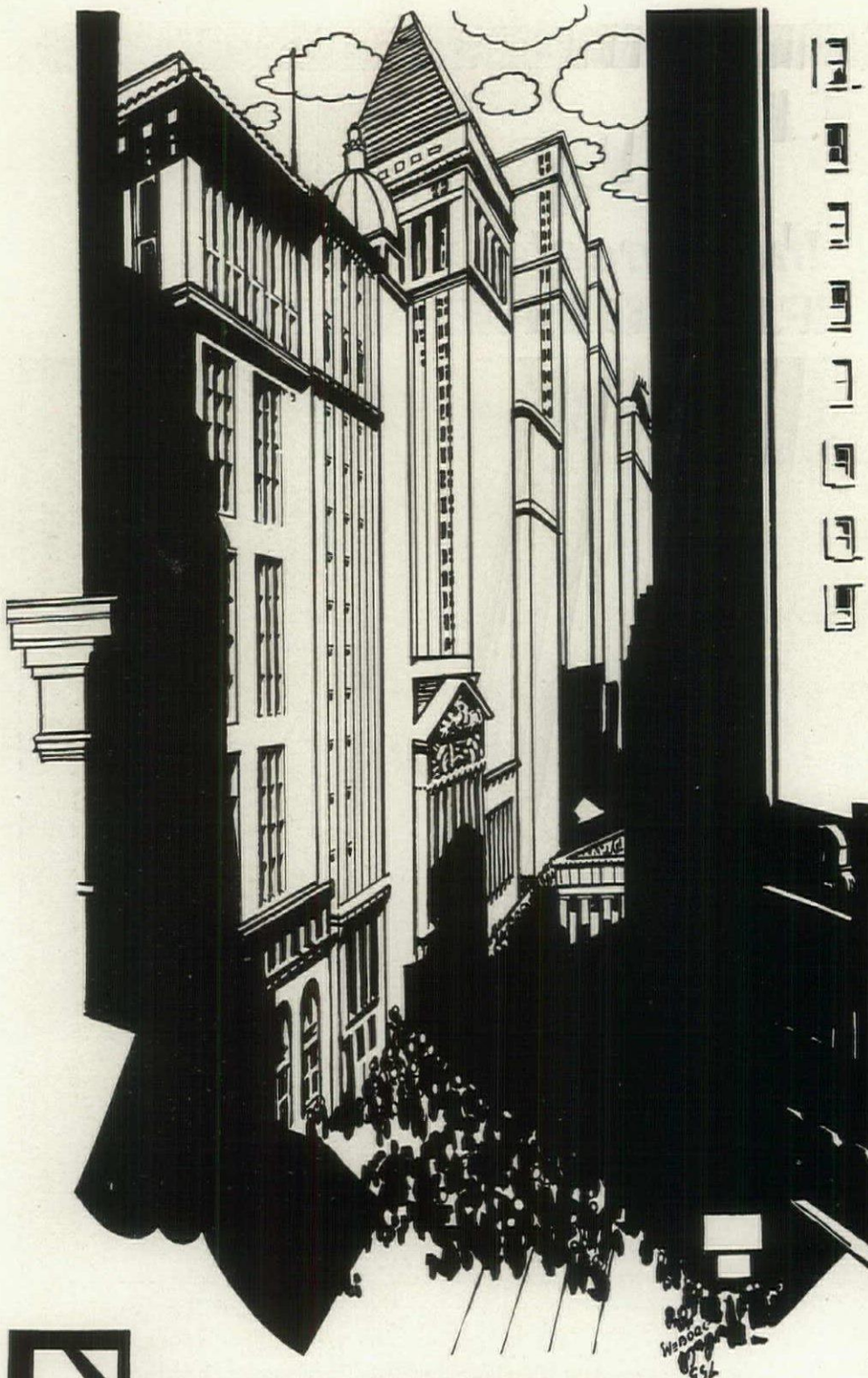

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December	34.75	April	24.25
January	39.25	May	18.25

These amounts include the gas for cooking, water heating, and laundry, or about $8.00 a month, which was the average summer-month cost. The rate is graded from 75 cents for the first 5,000 cubic feet to 50 cents, net, for 25,000 cubic feet and over, per month.

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A Heatproof Lining for Walls and Roof

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The lights and shadows of all nature's delicate tints have been reborn in Forestblends. Nature deposited these colors in the Sugarcreek clays. Fire has brought them forth in all their wondrous beauty. A patented process of manufacture gives the random texture of Forestblend. There is no other face brick with exactly the same texture as Forestblend. Certainly none can equal the flare and subtility, the depth and tone of its remarkable color range. The use of Forestblends enables the architect and builder to secure a particularly practical and beautiful color scheme for any style of architecture.

We would be pleased to send to interested contractors and architects our Bulletin 1000 or 1001 showing actual color reproductions of Finzer Face Brick. The architect, contractor or dealer can vary the color combinations to suit the customer, by simply changing the percentages of the mixture. This is a Finzer service offered without extra charge. Samples gladly furnished upon request.

THE FINZER BROS. CLAY CO.
Members, American Face Brick Association
SUGARCREEK OHIO

THE FINZER BROS. CLAY CO.
Dept. B, Sugarcreek, Ohio
Gentlemen:
Kindly send me your Bulletin 1000-1001 showing actual color reproductions of your face brick. I understand this entails no obligation.
Yours very truly,
Name .....
Street .....
City .....
State .....

Forestblend
FINZER FACE BRICK
Trade Mark Registered

THE WHITEHALL APARTMENT HOTEL, CHICAGO
Eugene H. Klaber, Ernest A. Grunsfeld, Jr., Archts. Loewenberg & Loewenberg, Associates
J. Bernard Mullen, Painting Contractor

PRATT & LAMBERT VARNISH PRODUCTS

WHATEVER is worth doing at all is worth *finishing well.* This paraphrase might well be applied to the work of the architect whose creations are the result of training, thought, study, imagination and practical experience.

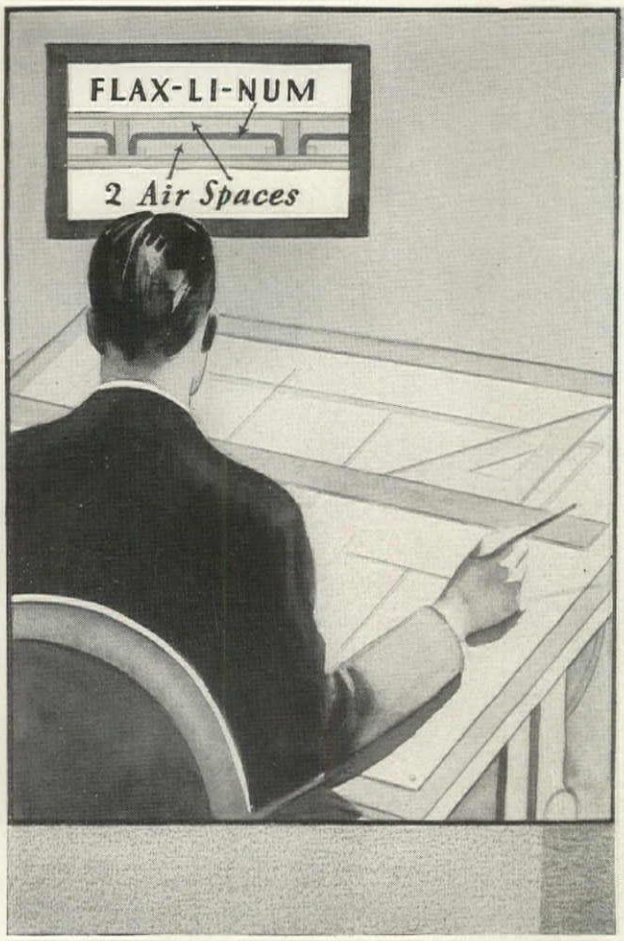
When Pratt & Lambert Varnish Products are used to beautify and protect surfaces which the architect made possible, he can rest assured that he has chosen wisely and that these enduring materials provide the finishing touch.

A total of 1,089 gallons of Pratt & Lambert products were used on the interior of the new Whitehall Apartment Hotel, 101-109 East Delaware Place, Chicago. Outstanding among these is Vitralite, *the Long-Life Enamel,* and then follow wall coatings, acid stains and fillers — all contributing to make this apartment hotel more livable and attractive.

How can we aid you? Telephone or write the nearest Pratt & Lambert Architectural Service Department.

Pratt & Lambert-Inc., 108 Tonawanda St., Buffalo, N.Y. *(Phone Delaware 6000);* 3301 38th Ave., Long Island City, *(Phone Stillwell 5100);* 320 West 26th St., Chicago, *(Phone Victory 1800).* Canada: 28 Courtwright St., Bridgeburg, Ontario.

"Save the surface and you save all" Pratt & Lambert Varnish



you can't side-step A SCIENTIFIC FACT

"THE insulating value of an ordinary air space more than about one inch in width is equivalent to about ¼ inch of insulating material. The addition of a half-inch layer of insulation in the middle of the air space in a frame wall is, therefore, the equivalent of adding about a ¾ inch layer at some other place in the wall."

In these terms . . positive and unquestionable in their authority . . the U. S. Bureau of Standards Letter Circular No. 227 sets forth the scientific principle upon which the FLAX-LI-NUM two-air-space method of insulation is based. FLAX-LI-NUM is installed between the studs to form two air spaces in the wall . . it increases its own insulating value 50% after it is in place.

These facts cannot be side-stepped . . . . Greater efficiency . . . . greater home comfort . . . and greater fuel economy are the inevitable results of the FLAX-LI-NUM two-air-space method.

May we send you a valuable manual containing full specifications and the transmission coefficients of the various types of walls and roofs?

FLAX-LI-NUM INSULATING COMPANY A R-2
St. Paul, Minnesota

Send me complete information about Flax-li-num. Also facts about the 2-air-space method.

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Flax-li-num

A CORRECT BUILDING INSULATION AND SOUND CONTROL MATERIAL

FLAX-LI-NUM INSULATING COMPANY
ST. PAUL, MINNESOTA

As clay on the potter's wheel

Door detail of house by John P. Thomas, Portland, Me., Architect

THERE are many things which, though not comely in themselves, have an intrinsic truth by which they render beauty. The potter's clay, the common brick, are of that number. The clay needs but the potter's touch, the common brick the artist's hand, to burgeon forth in grace.

That Your Work Shall Live

The bronze illustrated above is issued by the C. B. M. A. through the various district offices. It is given for installation in masonry walls whose materials and workmanship pass an Association inspection. It is at once a cornerstone and a hallmark of sound brick construction. The furtherance of better building is its sole aim and purpose. Your co-operation will assist its success.

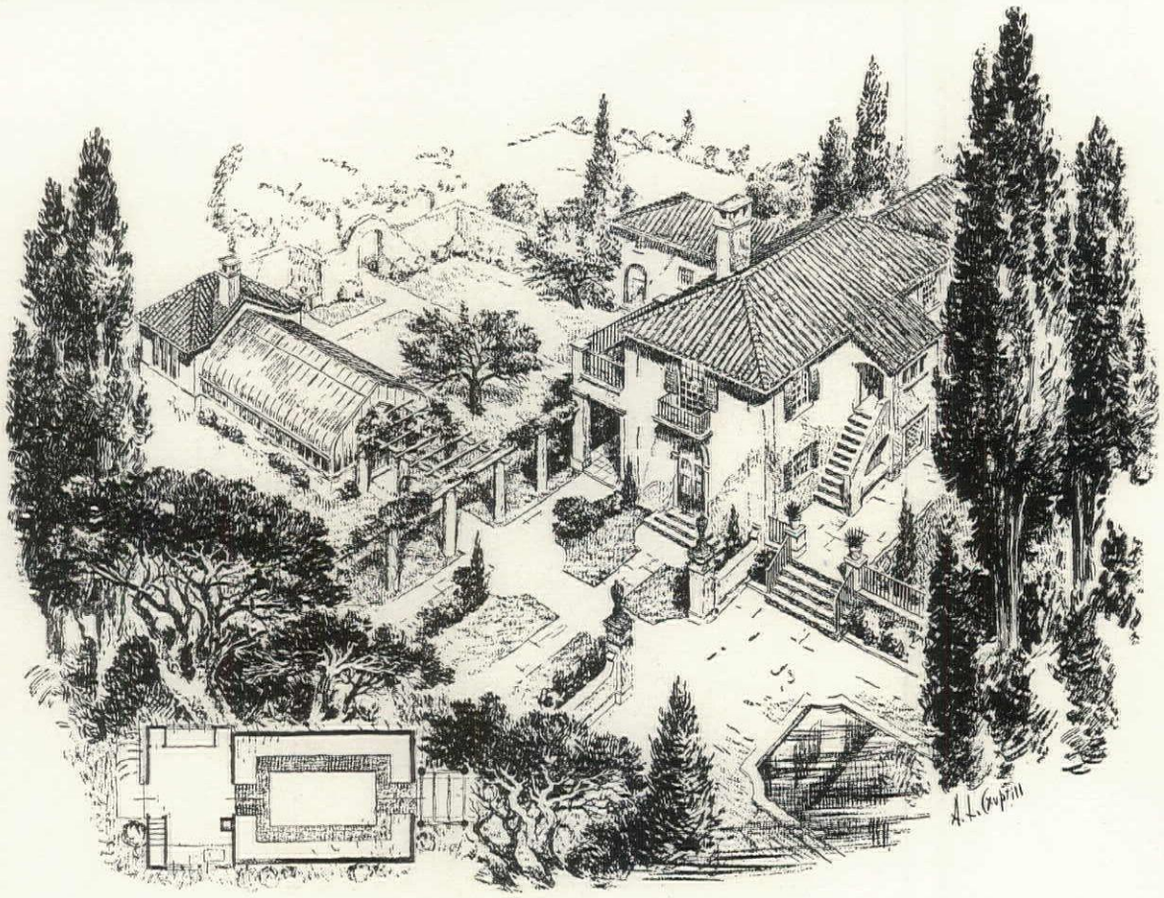
COMMON BRICK MANUFACTURERS ASSOCIATION OF AMERICA
F 2142 GUARANTEE TITLE BUILDING, CLEVELAND, OHIO

These District Association Offices and Brick Manufacturers Everywhere Are at Your Service:

Boston	11 Beacon Street	**New Orleans, La.**	727 Canal Bank Bldg.
Chicago	228 No. La Salle St.	**Norfolk**	112 West Plume Street
Cleveland—Ohio Assoc.,	2124 Guar. Title Bldg.	**Philadelphia**	1420 Walnut Street
Denver	1735 Stout Street	**Pittsburgh**	524 Fourth Avenue
Detroit	400 U. S. Mortgage Trust Bldg.	**Raleigh, N. C.,**	508 Com. National Bank Bldg.
Hartford	226 Pearl Street	**Salt Lake City**	301 Atlas Block
Los Angeles, Calif.,	634 Chamber of Commerce	**Seattle, Wash.**	913 Arctic Building
New York City	1716 Grand Cent. Term.	**San Francisco**	461 Market St.

BRICK
beauty forever

A new book, "The Technology of Brick and Brickwork," has just been completed. It presents all the data of design. Write for a copy. It is free.



Placing The Detached Greenhouse

Being Number One of a Series of Twelve

FOR the owner who likes his greenhouse near at hand, yet who prefers it detached from his residence, you may find a link-up making use of pergola or colonnade a happy solution.

In this example the greenhouse "belongs" yet is in no way obtrusive. It takes its place as a logical part of a homogeneous scheme. The size of the glass enclosure, 18′ x 25′, is large enough to be practical, yet small enough to be consistent with the residence, which reflects in its design a merging of motives of the smaller Italian villa and farmhouse.

By "glass enclosing" the pool in the foreground, a well-balanced effect would still be had, and the pool would be made available for use all-the-year-'round.

LORD & BURNHAM CO.

FOR FOUR GENERATIONS BUILDERS OF GREENHOUSES

Irvington, N. Y. New York Philadelphia Chicago Boston
Buffalo Cleveland Denver Kansas City St. Louis
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Toncan window frames and sash installed in 1911 in the famous Grand Central Palace in New York City are still in good condition. Architects: Warren and Wetmore. Builders: James Stewart & Co.

Defeating Time
with Rust-Resisting TONCAN IRON

ONLY time can tell the life of materials used in the construction of buildings. Rust and corrosion, arch enemies of sheet iron, require years to complete their activities. Therefore, to determine the best material to use, it is necessary to employ accelerated tests to speed up time. True, such tests will not determine the exact life in service, but they will indicate the comparative value of ferrous metals in resisting rust and corrosion.

Results of accelerated hydrochloric acid tests—one of the accepted methods widely used — definitely prove the superiority of Toncan Copper Mo-lyb-den-um Iron. They show that this Super-Iron lasts many times as long as comparable metals and in fact is the long-lasting ferrous metal in its class.

Consequently, leading architects are now specifying durable Toncan Iron for sheet metal work of every structure they design. It is used for gutters and downspouts, ventilators, cornices, ventilating ducts, metal lath, window frames and many other important building parts.

Write for our new book on sheet iron. It contains practical information of value to every architect.

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CENTRAL ALLOY STEEL CORPORATION, MASSILLON, OHIO

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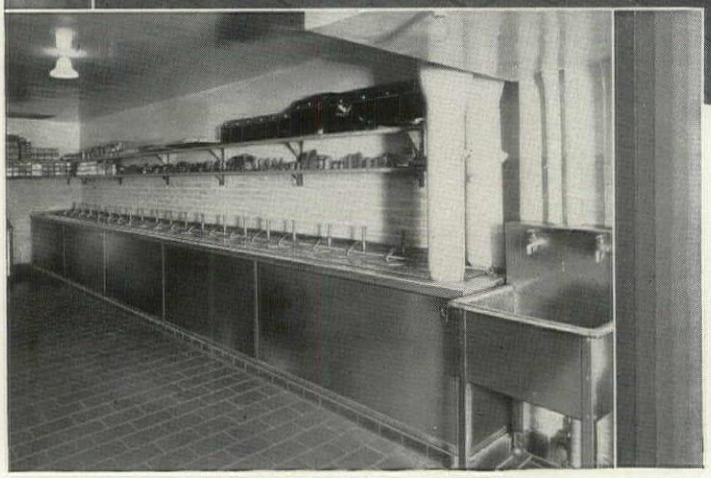
WORLD'S LARGEST AND MOST HIGHLY SPECIALIZED ALLOY STEEL PRODUCERS

Jewett Refrigerators are Famous for the Company They Keep . . . . . .

In a Jewett book of much practical information—which we invite you to write for—you will find a roll call of Jewett installations that is evidence of the fact that Jewett refrigerators are indeed famous for the company they keep.



THE matchless beauty of a Jewett installation is equalled only by its inbuilt quality. Through and through these refrigerators are built to a standard that eclipses all competition

THE JEWETT REFRIGERATOR COMPANY
Established 1849 BUFFALO, N. Y.

Branches: New York, 16 East 40th St.; Chicago, 228 North LaSalle St.; Boston, 11 Beacon St., Atlanta. 245 Spring St. N. W.; Cleveland, 2036 East 22nd St.; Montreal, 10 Cathcart St.; Toronto, 45 Colborne St.

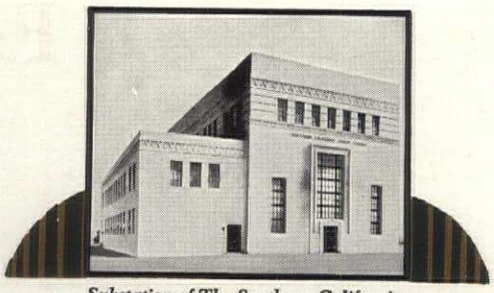
Refrigerators of unquestioned quality for

Hotels *Hospitals*

Clubs *Fine Residences*—

and every type of building or institution.

JEWETT
REFRIGERATORS



Substation of The Southern California Edison Co., at Compton, Calif., Brown Colormix Floor installed throughout.

Strength can be Beautiful

POWER houses as designed today are not mere shelters for heavy machinery. They are show places employed to generate respect and reputation as well as energy.

That is why COLORMIX, which makes concrete more enduring as well as more beautiful, is so widely used for power house floors. Its tile-like gloss and warm colors are ideal for any structure, private or public, where the traffic is heavy, yet appearance is a vital consideration.

THE MASTER BUILDERS COMPANY

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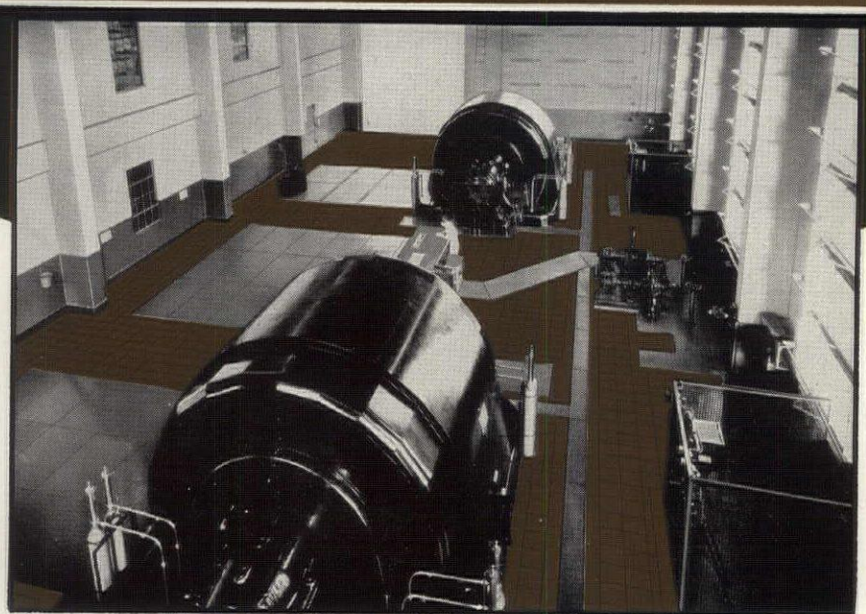
COLORMIX FLOORS



Interior View of Above Substation

COLORED HARDENED CONCRETE

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P-A-X
PRIVATE AUTOMATIC EXCHANGE

Not merely an automatic telephone, but a perfect system of interior communication designed and built to the finest engineering standards and of the same type of equipment that has been adopted for public exchange service the world over.

CERTAINTY

GUESSWORK, even in trivial details, has no place in modern business. Only through constant definite knowledge, can the production and operating economies necessitated by present day competition be maintained. The absolute certainty with which information is obtained, instructions transmitted, and general routine handled with the aid of Strowger P-A-X, is but one of the factors which has made it supreme in the field of automatic interior telephony. In every line of industry, both great and small, it has become the world's standard of comparison. Strowger engineers will gladly give you facts and details pertinent to your business.

STROWGER AUTOMATIC
Communication, Control and Signalling Systems

Strowger Automatic Equipment includes Public Automatic Telephone Systems . . . . P-A-X (Private Automatic Exchange) . . . . Watchman Supervisory Systems . . . . Tele-Chec Systems (for Theaters) . . . . Industrial Fire Alarm Systems . . . Supervisory Control Equipment for Industrial and Commercial Devices, and Railway Signalling and Communication Systems.

Engineered, Designed and Manufactured by

Automatic Electric Inc.

Factory and General Offices: 1033 West Van Buren St., Chicago, U. S. A.

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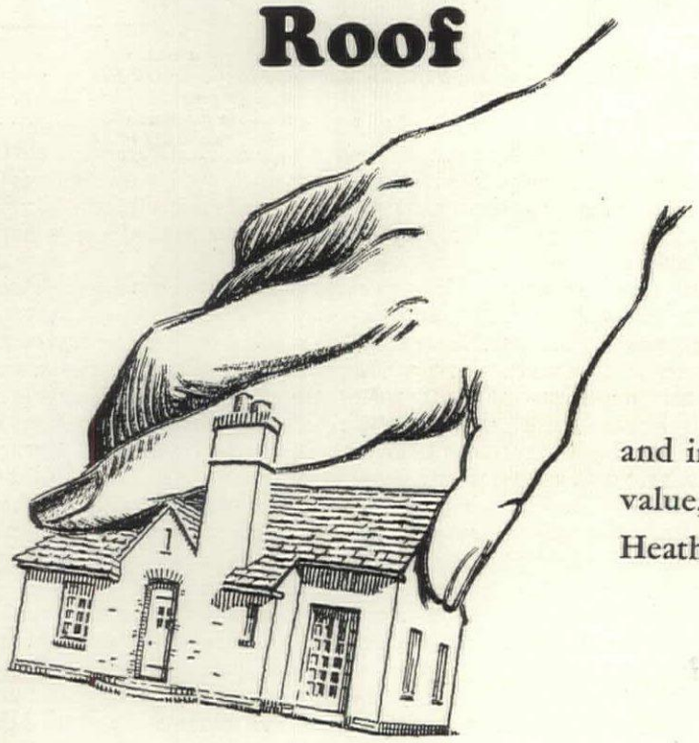
Yes, you can lift a house by its Sheldon Slate Roof



Any moderate-price residence may be raised to a higher level, a higher class, in beauty, in value, and in *permanence* of beauty and value, by means of Sheldon's Heather Combination.

That is a roof of comparatively low cost, but possessing all the qualities that make a Sheldon Slate Roof one of "eternal beauty." See it in natural colors on page A-495 of Sweet's; or we'll be happy to send you that page and the other pages showing Sheldon Slate Roofs in colors. For that, and for *anything* else in connection with the use of slate, we hold ourselves at your service.

F.C. SHELDON SLATE Co.

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Atlanta, Ga.
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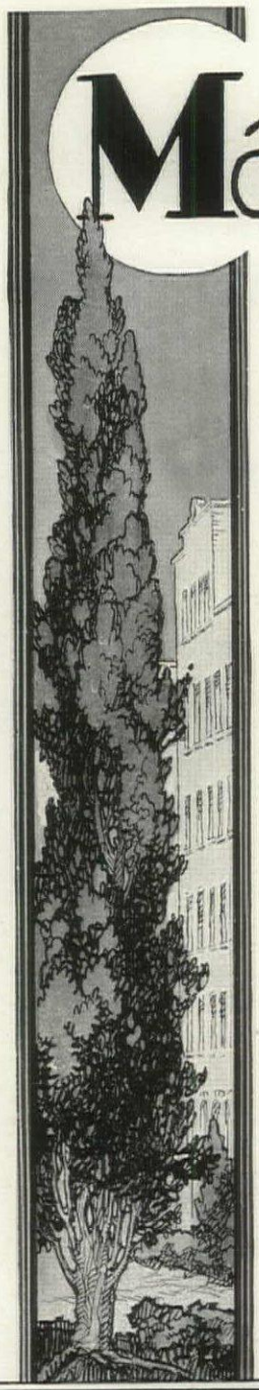


Marshall Field

WILL BE HEATED THROUGHOUT *With*

A totally different housing project

THERE is being erected in the City of Chicago a totally different housing project fostered by the Estate of Marshall Field, and known as The Marshall Field Garden Apartment Homes. That its name is well chosen will be apparent when it is learned that a beautifully landscaped park, larger in area than a city block, occupies the center of the space enclosed by the buildings. Chicago is proud of this new non-profit venture in housing—and justly so.

How shall one set out to describe this huge undertaking? Its very scope almost takes one's breath away. It covers an unbroken area of two city blocks, and provides homes for more than six hundred families. Its apartments will rent for an average of but $15 per room per month, and yet will have every convenience that modern science can devise for the comfort and convenience of the tenants. Among these is a Dunham Differential Vacuum Heating System, which will warm every room uniformly and comfortably.

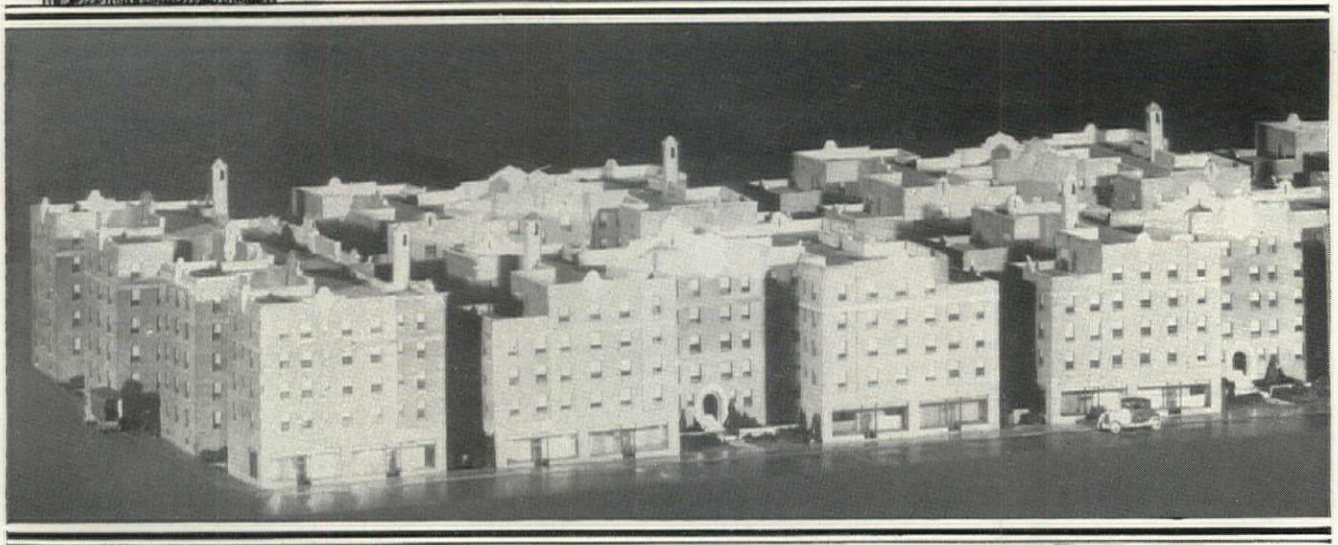
The Marshall Field Garden Apartment Homes occupy a site on Chicago's Near North Side selected by housing experts after a most careful survey of the city's available locations. Each room in each building will have outside light and air. The rooms are unusually large. Kitchens are fully equipped with cabinets, gas ranges, mechanical refrigerators, combination sinks and wash tubs, and dumb waiters. All buildings have concrete base soundproof floors, and are fireproof throughout.

A park, a playground and an indoor playroom for the children to romp in, a first aid room for the proper care of their hurts and bruises, a rest room for tired mothers, an auditorium for meetings and parties, a music room, and glass enclosed sun-porches on the roof of each building, are some of the advantages in store for the lucky tenants of this unique project. And the entire cost of more than five millions of dollars is destined to earn a return of but 5% on the invested capital.

Where else in the world will you find anything quite like these new Marshall Field Garden Apartment Homes? Do you wonder that Chicagoans look upon this project with pardonable pride?

Over eighty sales offices in the United States, Canada and the United Kingdom bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city. An engineer will counsel with you on any project.

C. A. DUNHAM CO.



Garden APARTMENT Homes

The Dunham Differential Vacuum Heating System

U. S. Patent No. 1644114. Additional patents in the United States, Canada and Foreign Countries now pending.

A totally different heating system

A SOLUTION of the housing problem for so many hundreds of families such as the new Marshall Field Garden Apartment Homes provides, without a solution of the heating problem upon which largely depends the health, comfort and physical well being of the tenants, would have been a short-sighted policy. And so you will find that the Trustees of the Marshall Field Estate wisely provided a Dunham Differential Vacuum Heating System as the very finest heating equipment their untiring research had revealed.

Steam will be generated under high pressures, for operating certain mechanical equipment, in a central boiler plant which will be entirely separated from all apartments and located about a block away. A medium pressure steam main will run in a tunnel from the boiler house to the building line where it will divide and run in both directions completely surrounding the ten buildings.

A take-off is made to each building where the main pressure is reduced to two pounds, the maximum required to heat the buildings in the most severe weather. The Dunham Control Valves then reduce this steam to the desired vacuum required to heat the apartments under the prevailing weather conditions. The control valves are adjustable from the boiler room, so that the engineer has control over each building at all times.

This sub-atmospheric steam, temperate as a tropic breeze, never too hot, yet always of sufficient warmth to keep every room at precisely the right temperature for good health and solid comfort, is distributed in each building by basement mains feeding upward to radiators on all floors.

It will not only provide a maximum of healthful, comforting heat, but will effectively prevent the overheating of any room or building, and greatly reduce the ills due to excessively high temperatures, too-dry air which has been robbed of its proper humidity, and chill drafts caused by windows opened to cool off overheated living quarters.

The degree of vacuum carried in the distributing system will determine the radiator temperature and the amount of heat given off to the room. This vacuum is under the control of the operating engineer in the boiler-room and he is thus able to control the temperature in all apartments.

It is significant that the heating of this internationally famous housing project was entrusted to the Dunham Differential Vacuum Heating System, and is further proof of the demonstrated comfort, economy and satisfaction of this system of heating following its installation in approximately 500 leading buildings since its announcement two years ago.

DUNHAM BLDG. 450 East Ohio Street CHICAGO

MARSHALL FIELD GARDEN APARTMENT HOMES

Architect: Andrew J. Thomas, New York
Associate Architects: Graham, Anderson, Probst & White, Chicago
Consulting Engineer: Sullivan A. S. Patorno, New York
Chief Engineer of Marshall Field Estate: Charles J. Lehn.
Heating Contractor: Charles E. Evans & Co., Chicago
General Contractor: O. W. Rosenthal-Cornell Co., Chicago

GEORGIA MARBLE

SWANNANOA COUNTRY CLUB, NEAR WAYNESBORO, VA.
NOLAND & BASKERVILLE, *ARCHITECTS*

This imposing building is in the Blue Ridge Mountains. The club building and garden walls, fountains, terraces, pavillions, and pergola, all of white Georgia Marble, were erected some eighteen years ago . . . The fine state of preservation of the building and the surrounding marble details after eighteen years of exposure to the elements, is one of many examples which prove the superior weathering quality of Georgia Marble . . . Its exceptional durability is due to its impervious character, a quality which is recognized by many eminent architects and sculptors.

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NEW YORK	ATLANTA	CHICAGO	DALLAS	CLEVELAND

Authentic Plaster Ornament

LIVING ROOM OF DR. WARREN SMADBECK — M. L. OVERTON, DECORATOR

Reproduction of ceiling from Crewe Hall, Cheshire, Circa 1600

CREWE HALL, Cheshire, is justly famous as one of the most splendid examples of the late Elizabethan or Early Jacobean houses. After passing through the hands of many owners, it is still remarkably well preserved.

The ceiling reproduced above, originally in the grand stairway hall of the old house, has won the universal admiration of architects for its wonderful plan and rich detail.

The *Second Book of Old English Designs* is now ready for distribution to recognized architects and decorators.

Jacobson now in Atlanta

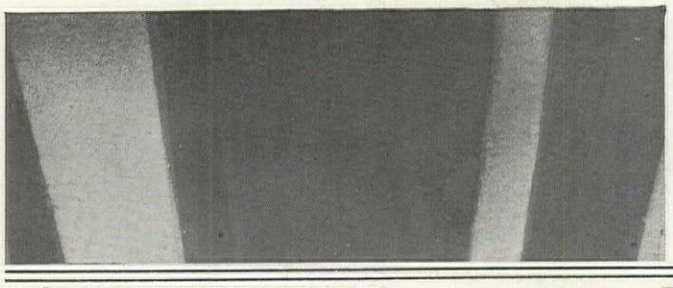
Jacobson & Company announce the formation in Atlanta of a subsidiary, *The Jacobson Plastering Corporation*. In the contracts with which the Atlanta Company is favored, it is their sincere desire to maintain the same high quality of workmanship which has always been associated with the Jacobson name.

Invitations to bid on the better grade of plain and ornamental plastering work are earnestly solicited from Southern architects and contractors. The Atlanta office, 1128 Candler Building, is fully equipped to estimate promptly and accurately all jobs submitted.

JACOBSON & COMPANY

239-241 East 44th Street—New York

Atlanta—THE JACOBSON PLASTERING CORPORATION, 1128 Candler Bldg.



The Koppers Building
Pittsburgh, Pa.

Graham, Anderson, Probst & White—Architects
Mellon-Stuart Company—Contracting Engineers
McClintic-Marshall Construction Co.—Fabricators
Bass Construction Company—Steel Erectors

And again Carnegie Beams were selected

"A man is not without honor save in his own country" has been disproved in Pittsburgh, the home city of Carnegie Beams. The magnificent Koppers Building is one of many imposing structures now under construction in this city of steel, in which these beams form the framework. Here, as well as all over the country, architects, engineers and builders have been quick to recognize the many advantages offered in this modern series.

The Carnegie Beam Series offers two unique features. First, the flanges are of uniform thickness without taper—a factor which permits of simple connections and facilitates fabrication and erection. Second, a complete series of 10″ and 12″ sections are included, designed for column purposes, in which the various weights have a constant depth. In tier or apartment house construction, constant depth is especially valuable. The details of splices, girders, floor beams, spandrels, stairwells, elevator shafts, etc., for one floor are identical for successive floors. The economy afforded by this uniformity presents an opportunity for substantial savings. The new Carnegie Beams merit your investigation.

Our handbook "Carnegie Beam Sections" will acquaint you with complete details. We will gladly send a copy at your request.

1951

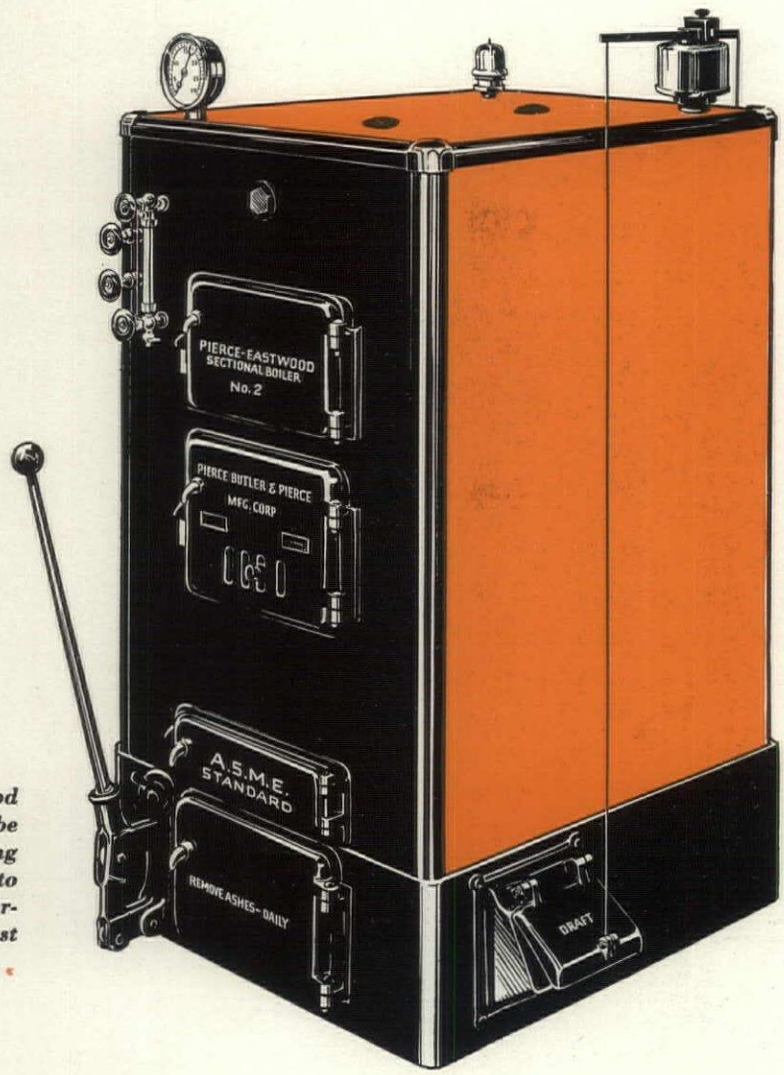
CARNEGIE STEEL COMPANY

Subsidiary of UNITED STATES STEEL CORPORATION
CARNEGIE BUILDING ··· *PITTSBURGH, PA.*

NOW! THE NEW PIERCE-EASTWOOD SECTIONAL BOILER

OUTSIDE—Modern! Jacketed! In Colors! Thus, the New Pierce-Eastwood Sectional Boiler meets the modern demand for *beauty!*

INSIDE—real Heating Economy! Combining time-tested and proven principles of scientific boiler design, the Pierce-Eastwood, a new line of push-nipple boilers, represents the achievement of years of research and experience in the development of *efficient* heating equipment.



The New Pierce-Eastwood Sectional Boiler will be furnished in sizes ranging from 400 feet of rating to capacities meeting the largest requirements for cast iron boilers.

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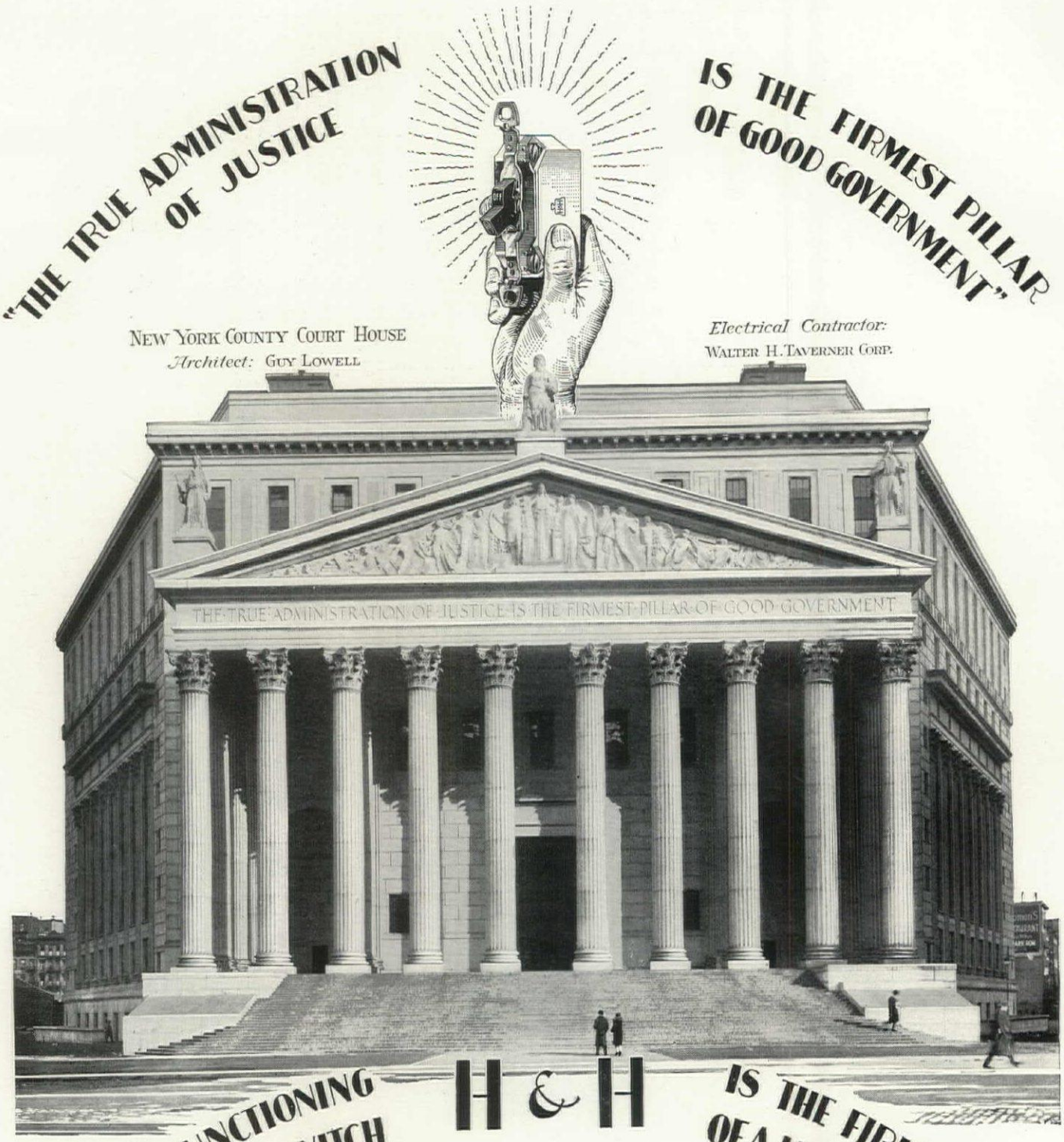
41 East 42nd Street **New York, N. Y.**
***Western Distributors*—The Kellogg-Mackay Company, 1351 W. 37th Place, Chicago, Ill.**

PIERCE-EASTWOOD
BOILERS AND RADIATORS

"THE TRUE ADMINISTRATION OF JUSTICE IS THE FIRMEST PILLAR OF GOOD GOVERNMENT"

NEW YORK COUNTY COURT HOUSE
Architect: GUY LOWELL

Electrical Contractor:
WALTER H. TAVERNER CORP.



THE TRUE FUNCTIONING OF AN H&H SWITCH

H & H

IS THE FIRMEST PILLAR OF A LIGHTING SYSTEM

The New York County Court House may be said to symbolize the permanence of Justice, the majesty of the Law, the solidity of American Institutions. As in other court houses, architecturally distinguished, H&H Switches control the lighting and symbolize the permanence of the architect's work.

Let us send you "Catalogue T," listing these switches with complete Wiring Device references.

THE HART & HEGEMAN MFG. CO.

HARTFORD, CONN. MAKERS OF ELECTRIC SWITCHES SINCE 1890

NOISE WITHOUT

QUIET WITHIN

That is the assurance of

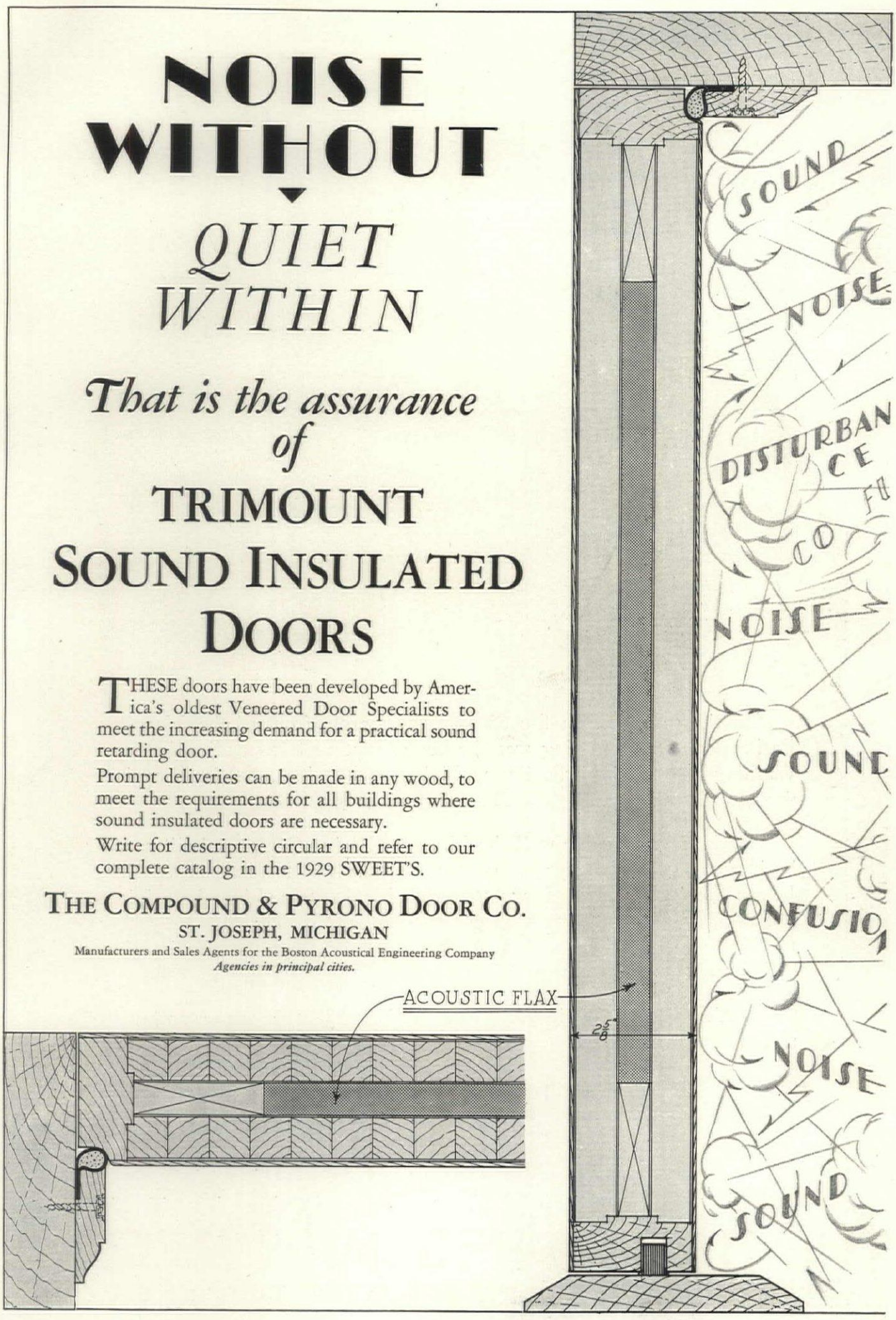
TRIMOUNT SOUND INSULATED DOORS

THESE doors have been developed by America's oldest Veneered Door Specialists to meet the increasing demand for a practical sound retarding door.

Prompt deliveries can be made in any wood, to meet the requirements for all buildings where sound insulated doors are necessary.

Write for descriptive circular and refer to our complete catalog in the 1929 SWEET'S.

THE COMPOUND & PYRONO DOOR CO.
ST. JOSEPH, MICHIGAN
Manufacturers and Sales Agents for the Boston Acoustical Engineering Company
Agencies in principal cities.



(Above) Marble Front of Macullar Parker Building, Boston, as it looked after the historic fire of 1872—a site which is now occupied by the Men's Store of the William Filene Sons' Co.

A Marble Fire Wall

(Below) Filene Men's Store, Boston

In the great Boston fire of 1872 the marble front of the Macullar Parker Company building was the only structure left standing between Washington Street and the Boston Light. It served as a barricade against the batteries of flame.

Back of that marble wall the Macullar Parker Company built a new business home. A few years ago the property was sold to the William Filene Sons' Company. It was remodeled and enlarged but the original stone—after seventy-five years of service—was reset in the new front. Other marble to match it was brought down from the Vermont quarries, thus enabling Boston to retain an old landmark.

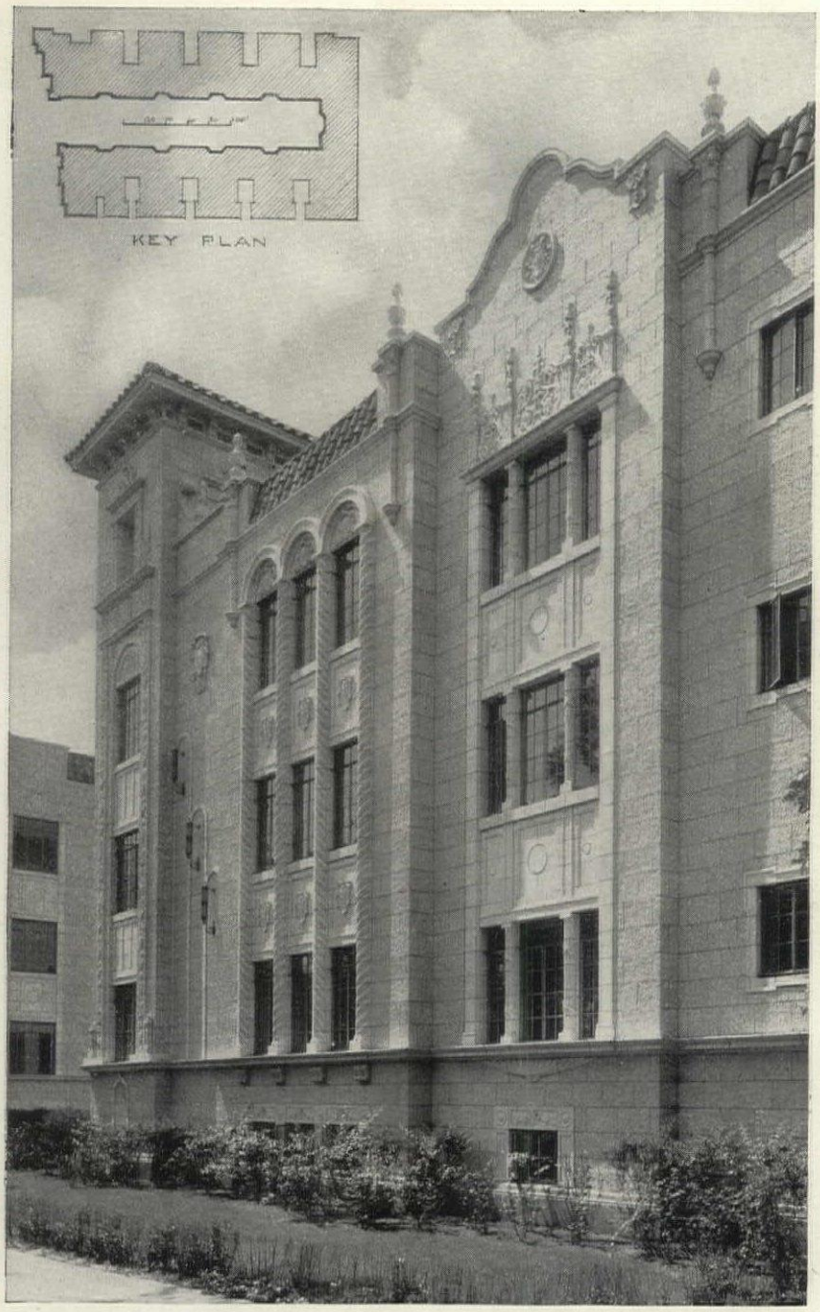
Entirely apart from its beauty, marble is worth all it costs as an investment in permanence.

Vermont Marble Company—Proctor, Vermont

Branches in the larger cities

See Sweet's Architectural Catalogue for Specifications and other Data

VERMONT MARBLE

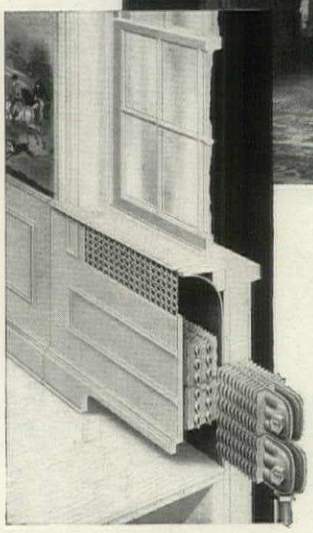


NORTHWESTERN TERRA COTTA

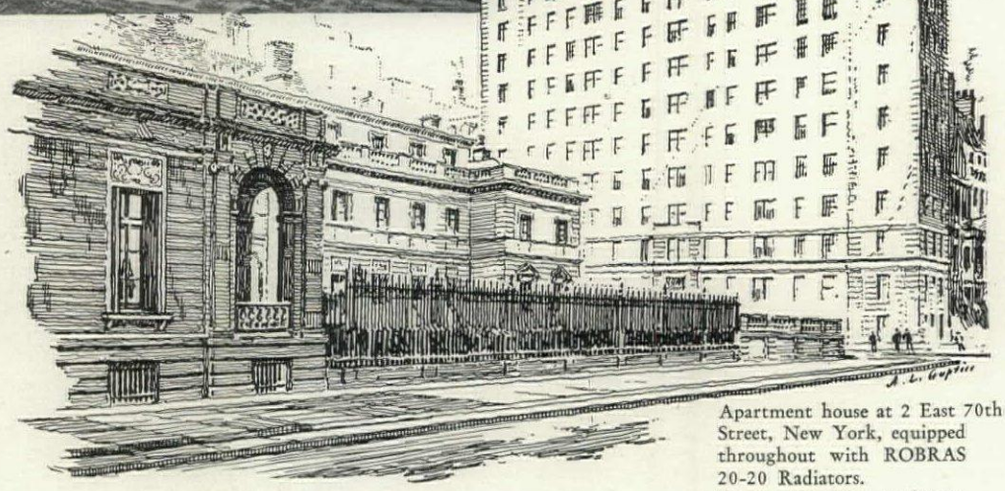
used from sidewalk to skyline in facade of these distinguished apartments, Ridge Avenue, Chicago. Capraro & Komar, Architects. Key plan shows extent, terra cotta facing. The ashlar, of rugged texture, is light, grey-green color in mottled finish. Base emerald green; tower panels variegated. Window, and other trim, of ivory color, mottled finish, smooth texture. Unusual demand for space, these buildings, is due to brightness and charm of architectural treatment—rich in color, unique in texture, permanent in beauty.

THE NORTHWESTERN TERRA COTTA COMPANY

DENVER. ST LOUIS. CHICAGO CHICAGO HEIGHTS



Method of installing ROBRAS 20-20 Radiators in four-inch recesses under the windows.



Apartment house at 2 East 70th Street, New York, equipped throughout with ROBRAS 20-20 Radiators.
Rosario Candela, Architect.
E. A. Kingsley & Co., Steamfitters.

ROBRAS 20-20 Designed To Be Accepted As *THE* Concealed RADIATOR

Why is it so accepted?

Because it was designed with the problems of the architect in mind. Realizing that the architect is loath to change his plans to fit in "units" of given dimensions, we assemble the ROBRAS 20-20 Radiators to order, to fit in almost any shaped space.

There are nine section lengths, from eighteen to seventy inches. They are rated from five to twenty-five square feet per section. If a single section is used, it is only eight inches high and two and one-quarter inches deep. If sections are added laterally, each of the sections adds only one and one-half inches to the original width. This is because the fins of each section interlink.

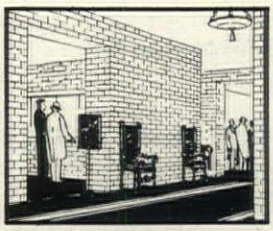
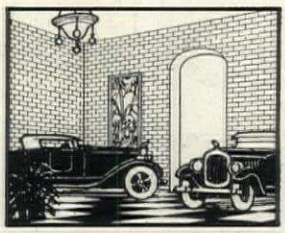
ROBRAS 20-20 Radiators are usually ordered two tiers high, two sections deep, and of the length nearest to the space available. Thus, they fit easily under a window and in the standard studding.

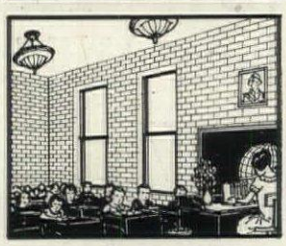
Additional information on these radiators can be had from your A.I.A. File, from Sweet's, or from inquiry direct to us. If you do not have our Engineering Data Sheet, we suggest that you allow us to send it to you.

ROME BRASS RADIATOR
CORPORATION
ONE EAST FORTY-SECOND STREET - NEW YORK, N. Y.

HAVE YOU USED NATCO VITRITILE?

IT'S THE VOGUE



Month by month, in ever-increasing numbers, people are discovering the many virtues of Natco Vitritile. Recognizing the possibilities it possesses of contributing new and striking effects. Welcoming the opportunities it affords for outstanding economies in construction, and permanent freedom from high maintenance.

Combinations of the various shade blends, which range from light cream buffs through yellow and orange buffs to a rich brown, are particularly harmonious, practical, and pleasing. All units are true to shape, without warpage or surface imperfections. Corrugated wrappings protect from damage in transit.

Natco Vitritile is a structural unit, for use in both exterior and interior load-bearing and non-structural walls and partitions. It is furnished in a multiplicity of shapes and sizes, with one or both faces glazed, and kerfed or split for furring.

If you haven't already used Vitritile, investigate its possibilities; *it's the vogue.*

NATIONAL·FIRE·PROOFING·COMPANY

General Offices: **Fulton Building, Pittsburgh, Pa.**

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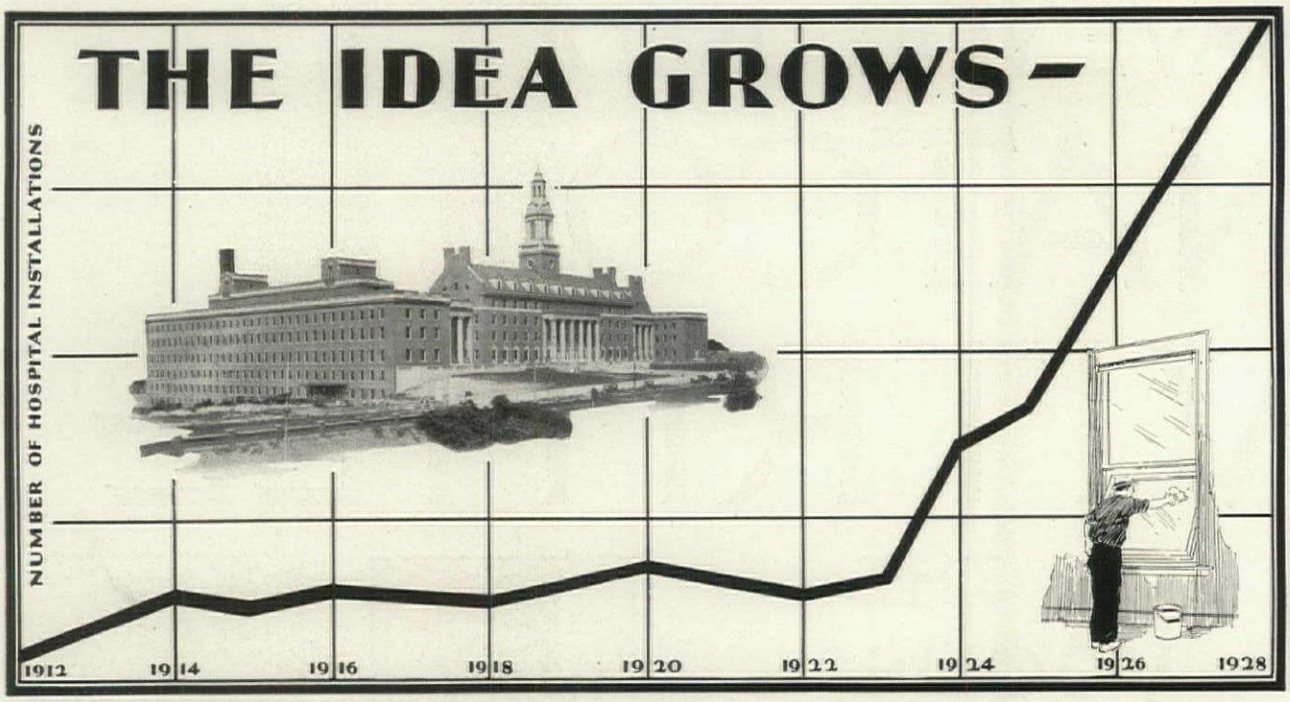
NATCO
THE COMPLETE LINE OF STRUCTURAL CLAY TILE

TURN TO "SWEET'S"



NOW—12,245 Windows in 41 Large Hospitals Have Williams Reversible Window Equipment

WILLIAMS Reversible Window Equipment has been serving a large number of hospitals for a great many years. Note the increased volume in the past few years as shown in the chart. It is enabling these hospitals to make a substantial saving annually in cleaning costs because it allows all cleaning to be done from inside the room. A recent test at Mt. Sinai Hospital, Cleveland, O., shows that Williams Reversible Windows are cleaned in 40% less time than is required to clean ordinary windows of equal size. Williams Equipment also provides an easily controlled system of draftless ventilation.

You are invited to write us or any of the hospitals listed below, for further information.

(Partial list of Williams equipped hospitals)

Lakeside Group	Cleveland, Ohio
Mt. Sinai Hospital	Cleveland, Ohio
St. Lukes Hospital	Cleveland, Ohio
Charity Hospital	Cleveland, Ohio
City Hospital	Cleveland, Ohio
St. Anne's Hospital	Chicago, Ill.
St. Bernard's Nurses Home	Chicago, Ill.
Women's & Children's Hospital	Chicago, Ill.
Jeannes Hospital	Philadelphia, Pa.
Home For Incurables	Philadelphia, Pa.
Children's Hospital	Philadelphia, Pa.
Lying-In Hospital	Philadelphia, Pa.
Children's Hospital	Akron, Ohio
St. Thomas Hospital	Akron, Ohio
City Hospital	Akron, Ohio
St. Therese Hospital	Waukegan, Ill.
St. Johns General Hospital	Pittsburgh, Pa.
General Hospital	Braddock, Pa.
Jameson Memorial Hospital	New Castle, Pa.
Providence Hospital	Beaver Falls, Pa.
St. Marys Hospital	St. Louis, Mo.
St. Marys Hospital	Rochester, N. Y.
Mt. Mercy Hospital	Buffalo, N. Y.
Hospital of Good Shepherd	Syracuse, N. Y.
St. Francis Hospital	Charleston, W. Va.
St. Margarets Hospital	Hammond, Ind.
Mercy Hospital	Gary, Ind.
St. Marys Hospital	Madison, Wis
St. Francis Hospital	LaCrosse, Wis.
St. Saviours Hospital	Portage, Wis.
St. Marys Hospital	Columbus, Wis.

For 25 years manufacturers and installers of reversible window equipment

THE WILLIAMS PIVOT SASH CO.

WILLIAMS REVERSIBLE WINDOW EQUIPMENT
Clean Your Windows from the Inside

East 37th St. at Perkins Ave., Cleveland, Ohio

Start right

Visualizing your building from the plans before you, think awhile on the panelboard question. All makes of panelboards are not alike and cannot give the same service.

Decide now the length of good life without maintenance you want the panelboards to have. Choose now your service requirements and consider safety. With (FA) Panelboards and switchboards you can *know* these things, yet their high quality standard will not add to your costs.

A good start is an (FA) estimate giving the right price first, promptly. A price that is based on known costs, a full value for your panelboard dollar.

Send for the nearest (FA) man who can help you on panelboard and switchboard details.

Frank Adam
ELECTRIC COMPANY
ST. LOUIS

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Tulsa, Okla.
Montreal, Que.
Toronto, Ont.
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Winnipeg, Man.

Automatic Stream Control

This in No. 605, an attractively designed wall-type Halsey Taylor fountain with automatic stream control, used throughout the Missouri Pacific Building, St. Louis. (E. M. Tucker, Architect; Mauran, Russell & Crowell, Associate Architects.)

One of many in St. Louis

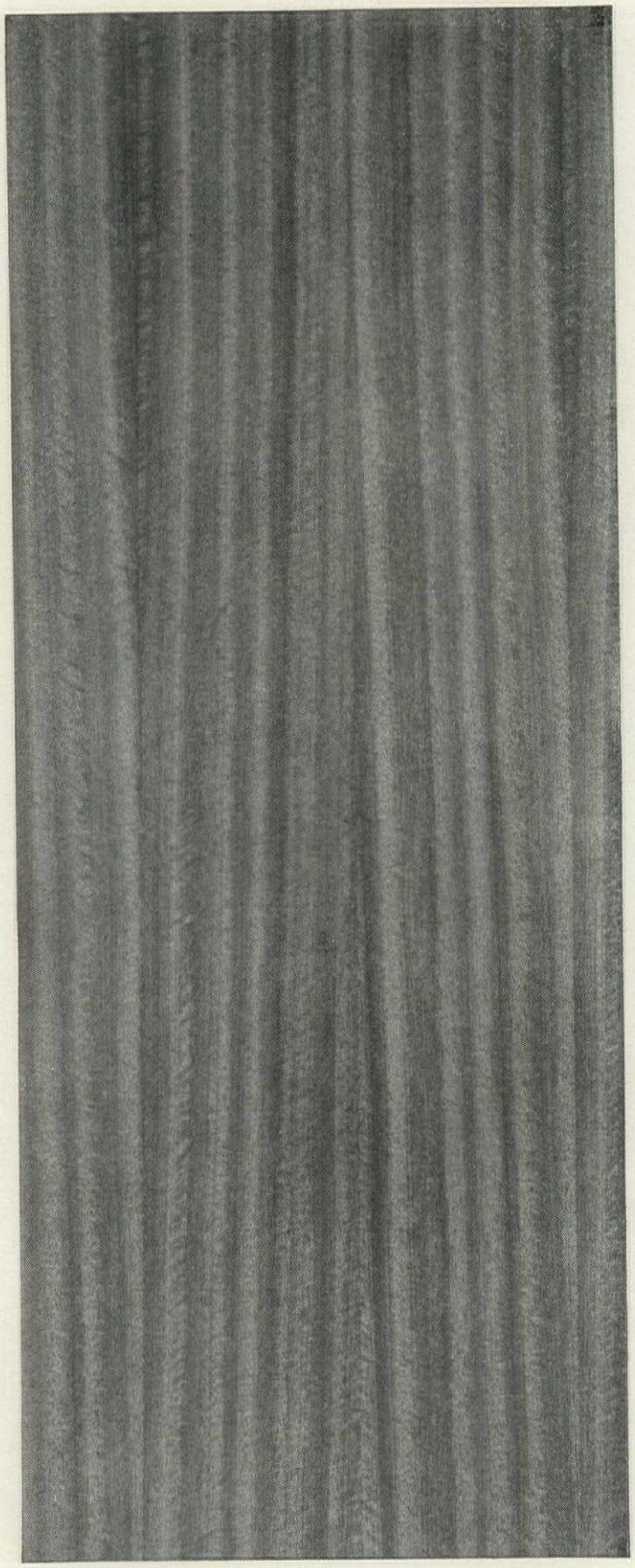
The two-stream projector is the distinguishing feature of Halsey Taylor fountains. It assures a practical drinking mound, while automatic stream control provides uniform height of steam regardless of pressure variation.

In the noteworthy plaza development in St. Louis are many distinguished buildings that are gradually transforming the sky-line of this Southwest metropolis. Among them is the Missouri Pacific structure, a splendid example of set-back architecture. The architects, with paramount regard for sanitation, selected Halsey Taylor fountains for this building. *The Halsey W. Taylor Co., Warren, Ohio.*

HALSEY TAYLOR

Drinking Fountains

THE SPECIFICATION FOR SANITATION



How would you design a door of this beautiful hardwood? Its natural shades are rich dark red, or light red. The narrow ribbon grain is typical of the finer mahogany. Philippine Laminex, although used for years in cabinet wood, has only recently become available for building. On the Pacific Coast, today, it is proving a sensation

WHAT

These Awards in Cash

$500.00 for the clearest concept of tomorrow's door design (winner of this prize not eligible for additional award in the following competition)

* * *

$150.00 for the best new door design for a home

$50.00 for the second best door design for a home

* * *

$150.00 for the best new door design for a commercial building

$50.00 for the second best door design for a commercial building

Conditions of the Competition

The Jury of Awards: Mr. William Zorach, sculptor, New York; Mr. Henry S. Churchill of Thompson & Churchill, architects, New York; Mr. Howard Raftery of Frazier & Raftery, architects, Chicago. There will be no appeal from the decisions of this Jury. If, however, two contestants are deemed equally worthy of any award, both will receive the full amount of that award.

Prize Payments: The Wheeler, Osgood Company will pay the winners immediately after receiving the Jury's judgment.

Requirements: Designs must be for interior doors and of a nature fitted to the use of Philippine Laminex. Door trim in this competition considered a part of the door design.

Drawings may be in line or wash, or both. Indicate all scales graphically.

To preserve the anonymity of drawings, each is to be signed with a nom de plume or other identifying device which is also to be written on the outside of a plain white envelope containing the competitor's name and address.

Drawings may be sent flat or rolled and are to be addressed to The Wheeler, Osgood Company, Dept. of Design, Tacoma, Washington.

The competition closes at midnight, April 30, 1929, at the above address. No entries received after that time can be considered.

Designs awarded prizes become the property of The Wheeler, Osgood Company for publication or any other use. Other drawings will be returned to the senders if requested and return postage is included.

TOMORROW'S DOOR!

ARCHITECT IN AMERICA CAN BEST ENVISION IT?

$500.00 *will be awarded him, $900 in all to winners of a competition on designs for interior doors of beautiful Philippine Laminex*

HERE is a competition worthy of your thought. Announced last month, it has caught the attention of architects, designers and editors all over the country.

Embracing door design as conceived today, it holds the greater interest of speculation upon the interior door of tomorrow.

And that is not idle speculation. Door proportions, door designs even now are radically changed for "modern" homes. Surely we may expect something new in future office buildings that may pyramid a hundred stories above the city streets.

And so we seek now the door of tomorrow, inviting architects everywhere to put down their ideas of it.

A New Wood to Work With

In this competition you have, too, the inspiration of working with a new wood—the wood of tomorrow, Philippine Laminex.

Used for some years by cabinet makers, put into wider uses only recently by Pacific Coast architects, Philippine Hardwood is just now being made available to architects and builders everywhere.

Displaying the narrow ribbon grain of fine mahogany, in either light or dark red natural shades, yet costing considerably less than mahogany heretofore used, Philippine Laminex will charm you with its beauty and will impress you with its practicability.

It is to reveal the magnificent possibilities of this wood that this competition is being held.

As pioneer importers of Philippine Hardwood, as the largest door manufacturers in the world, we cordially invite you to share in those discoveries.

Your better knowledge of Philippine Laminex will doubtless lead you into its specification for some local job, give you the honor of introducing it into your community.

But, more than that, we would like you to share in the creation of a Philippine Laminex door that will establish a new note in the beauty of its conception, in the purity of its design.

For the best such design we shall pay $500.00 in cash.

Winning that prize, you will not be eligible for award in the two following classifications, but failing in competition for the grand prize, you may win $150.00 for the best new door design for a home or $50 for the second best design. Or you may win $150.00 for the best new door design for a commercial building or $50 for the second best design.

The rules are simple, established only in fairness to all contestants. Notable judges have been selected. There is time for you to study the problem thoroughly if you start now.

Ask a local millwork dealer to show you Philippine Laminex or send the coupon for a free sample and descriptive literature. Do it today.

THE WHEELER, OSGOOD CO. Largest door manufacturers in the world. Creators of the famous LAMINEX DOORS of Fir and Laminex products of PHILIPPINE HARDWOOD.

These four beautiful Philippine Laminex doors are already carried in stock by many retail lumber and millwork dealers. Built the famous Laminex way, they will not swell, shrink, or warp

The Wheeler, Osgood Co.
Dept. G-29, Tacoma, Washington.

I think I will enter your competition for new door designs. Please send me a free sample of Philippine Laminex and descriptive literature.

Name.....

Firm.....

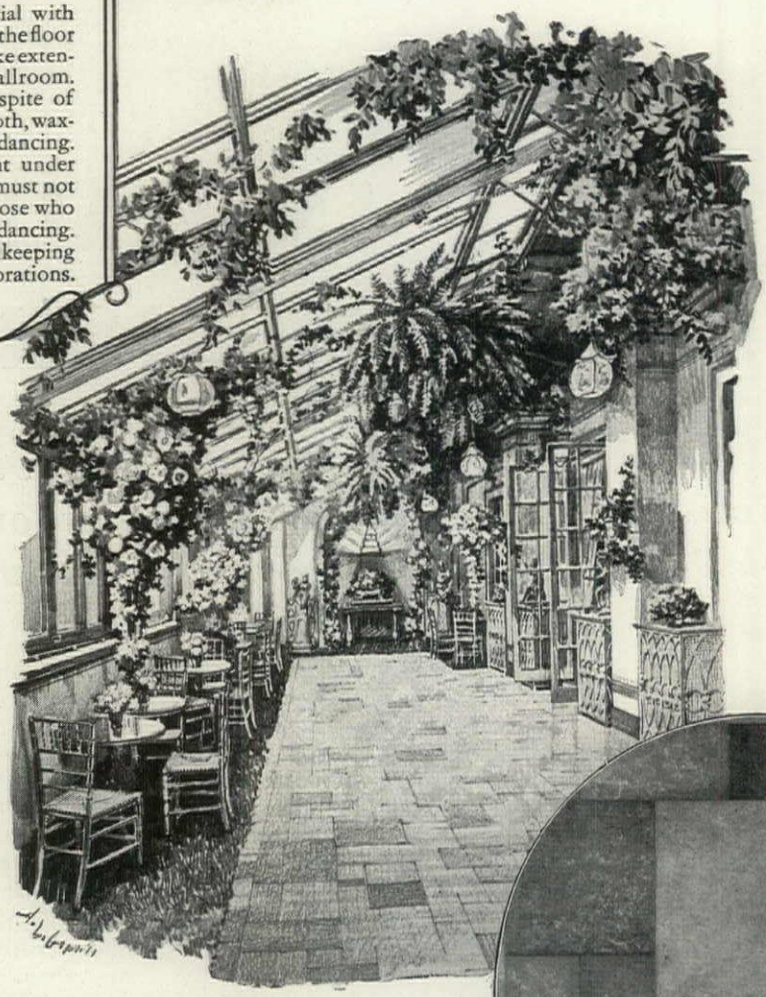
Address.....

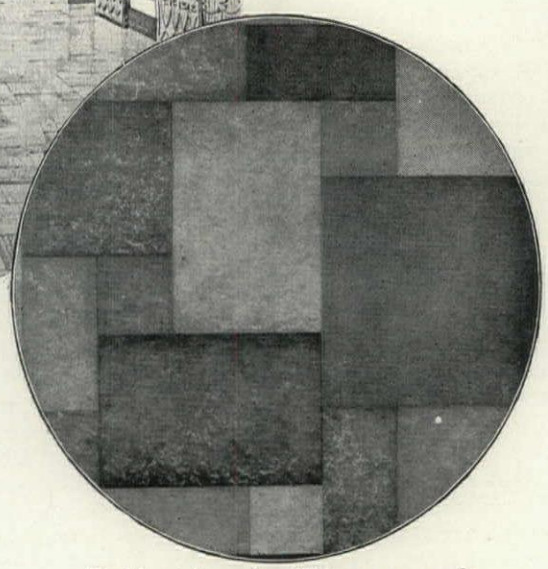
City.....*State*.....

ZENITHERM

Stating
Problem XIII

Required: A material with texture suitable for the floor of a conservatory-like extension to a private ballroom. Material must, in spite of texture, take a smooth, waxed finish suitable for dancing. It must be resilient under foot. The material must not be cold beneath those who are resting from dancing. Must, above all, be in keeping with luxurious decorations.





Zenitherm in random "T" pattern as used in apartment of Condé Nast, Esq.

The PROBLEM *Solved*

SUCH requirements for the Park Avenue Apartment of Condé Nast, Esq., were easily met by Zenitherm. Its resiliency under foot, combined with its stone-like texture, made it the most suitable material for the use to which it was put.

The floor was laid of gold, drab, olive, and natural Zenitherm in a random "T" pattern. It is richly inconspicuous, fitting in perfectly with the decorative scheme. It is comfortably warm under foot, a fact much appreciated by Mr. Nast's guests who rest from dancing at the little tables beneath the windows. Zenitherm has a wide color range and a most pleasing texture. It is long wearing, fire resistant and not affected by water or weather. It is an excellent insulation against heat or cold. It comes in fourteen standard colors. Other colors can be made up to architects special order. Samples of colors and a booklet describing interesting installations are available to those who send us their names.

A. G. H. Dumont, President

ZENITHERM COMPANY, INC. *General Offices* **NEWARK, N.J.**

110 East 42nd St., New York City
612 North Michigan Ave., Chicago, Ill.
11 Beacon St., Boston, Mass.
55 New Montgomery St., San Francisco

AN APARTMENT IN TRUE ENGLISH STYLE

by

ROBERT DE GOLYER

SET deep in the Bedford limestone facade—Fenestra Casements accent the modified Tudor Gothic style of this distinguished new Chicago apartment building. They give the exterior the stately charm of an old English manor; add sunlit beauty and supreme comfort to the interior.

Because they are built of narrow, solid steel bars, Fenestra Casements provide more light in the same sized window opening, or the same amount of light in a smaller sized window opening. This is a tremendous advantage in the conservation of wall space so necessary in most apartments.

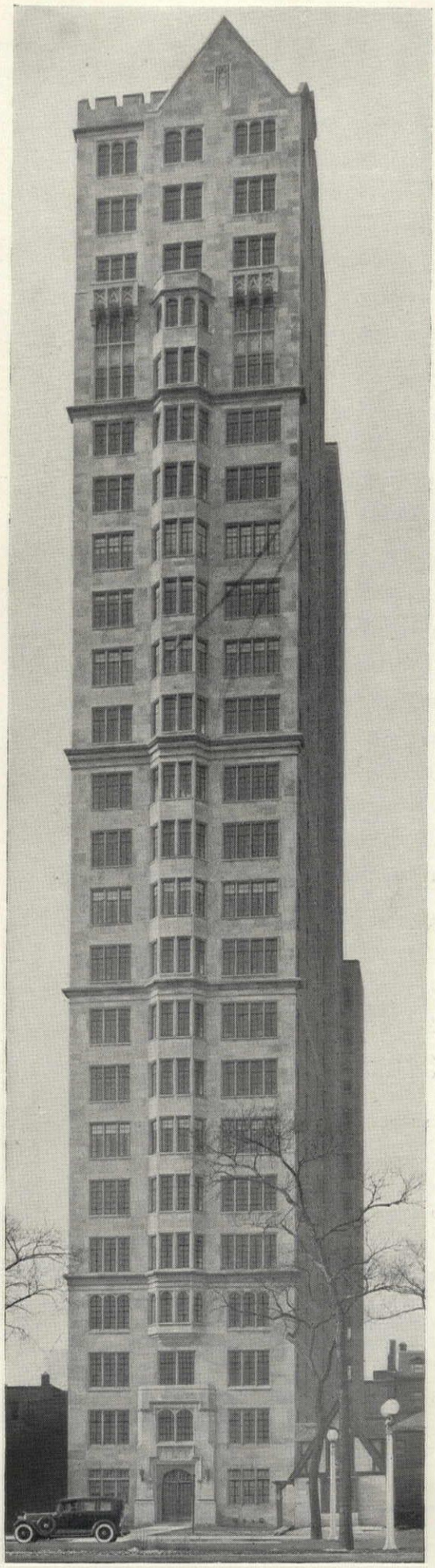
More light, better control of ventilation, easy washing from within and inside screens which protect the draperies are only a few of the reasons why discriminating architects specify Fenestra Casements. These all steel windows open wide at a finger touch yet close snug against cold and storm—all without warping, shrinking, sticking or rattling. They offer unlimited possibilities for attractive decorating effects.

Fenestra Casements simplify the architect's design problem, too. For they lend themselves to endless interesting groupings. And that is a wonderful advantage in developing a satisfying elevation for a twenty-four story building such as this.

To give the architect every possible aid, the complete Fenestra Blue Book has been included in Sweet's catalogue.

DETROIT STEEL PRODUCTS COMPANY
2303 East Grand Boulevard, Detroit, Michigan
Factories: Detroit, Mich., and Oakland, California. Convenient warehouse stocks.

Fenestra
casement windows



An apartment building at 1430 Lake Shore Drive, Chicago.

Robert S. De Golyer & Company, Architects.

MEYER STEELFORMS ON FOSHAY TOWER!

TOWERING thirty-one stories above Minneapolis' street level, the new Foshay Tower proclaims again the efficiency and economy of Meyer Steelforms.

In erecting this great structure, 120,000 square feet of these sturdy, easily-removed steelforms were used.

Architects and contractors specify Meyer Steelforms with full confidence that the reinforced concrete work will be adequately executed. Depend on them and Ceco Super-Service next time. Call our nearest office or write 1141 North 11th Street, Omaha, Nebraska.

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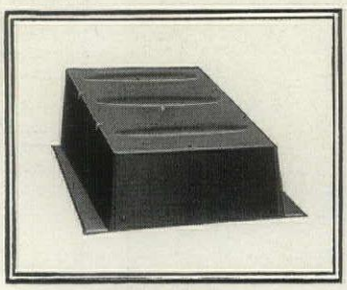
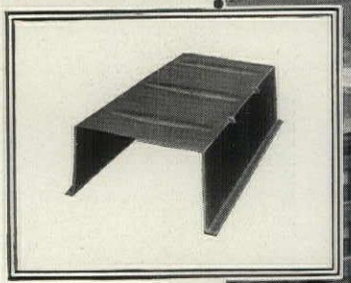
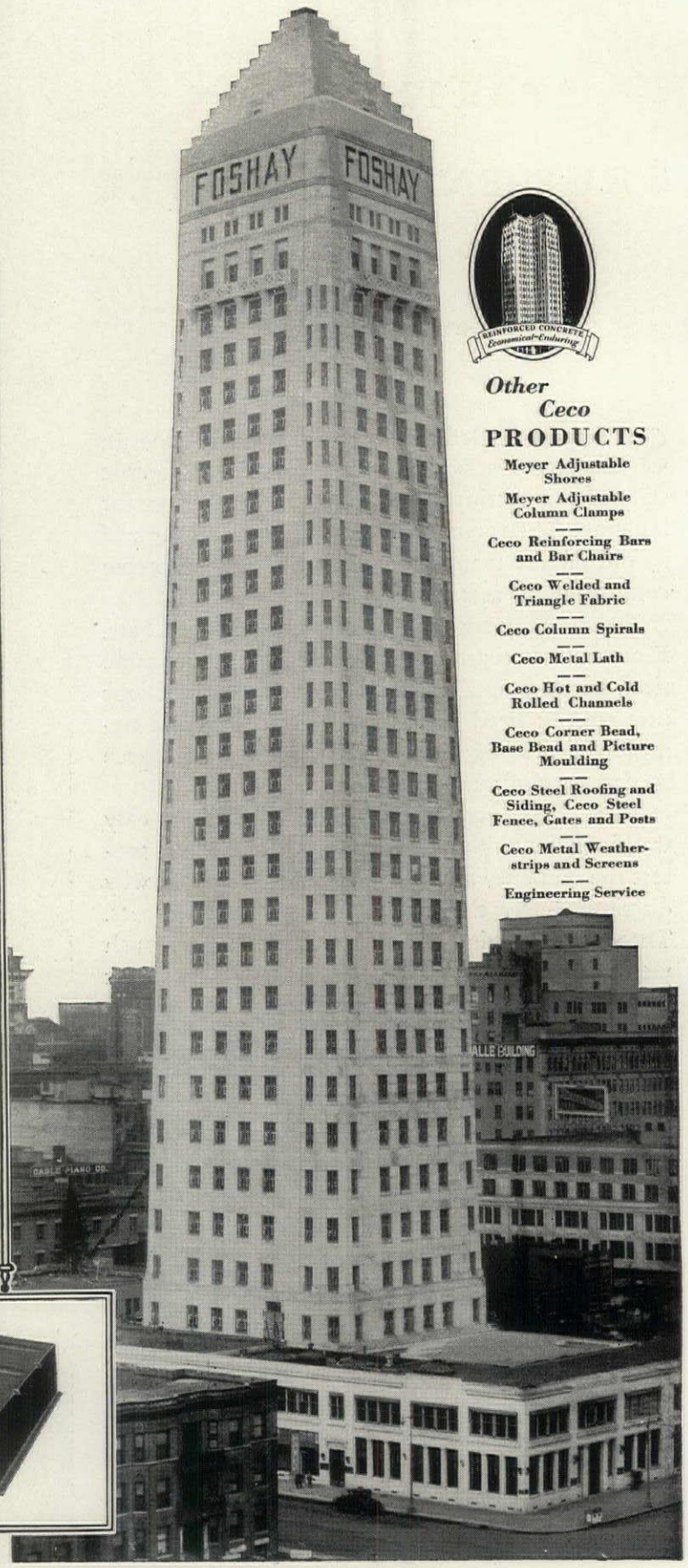


Above—MEYER Endform

Below—MEYER Intermediate Form





Other Ceco **PRODUCTS**

Meyer Adjustable Shores

Meyer Adjustable Column Clamps

Ceco Reinforcing Bars and Bar Chairs

Ceco Welded and Triangle Fabric

Ceco Column Spirals

Ceco Metal Lath

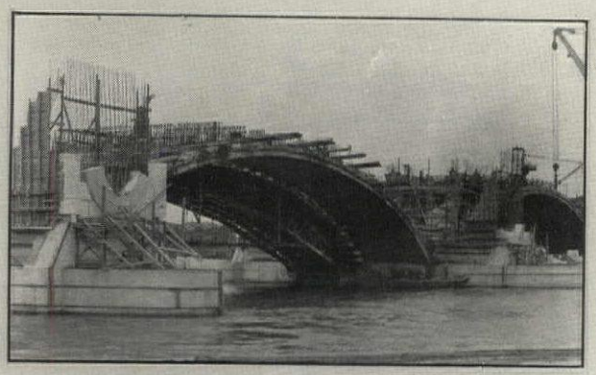
Ceco Hot and Cold Rolled Channels

Ceco Corner Bead, Base Bead and Picture Moulding

Ceco Steel Roofing and Siding, Ceco Steel Fence, Gates and Posts

Ceco Metal Weatherstrips and Screens

Engineering Service



Three views of the Arlington Memorial Bridge at Washington, D. C. being built by the Federal Government at a cost of $15,000,000. McKim, Mead and White, architects. Entire facing of masonry arches, parapet, and the architectural features of the bridge's plaza and approaches will be of granite. Views from top of page to bottom, show detail of granite piers, general view of bridge and storage of granite at the site.

Because of the extraordinary care with which this work is being done it is estimated that four and one-half years will be required to complete the main bridge. The specifications state that the class of work usually found in bridges will not be acceptable "and require that all granite be set within five one thousandths of a foot of true line and grade."

National Building Granite Quarries Association, Inc.

31 State St., Boston, Mass. H. H. Sherman, Secy.

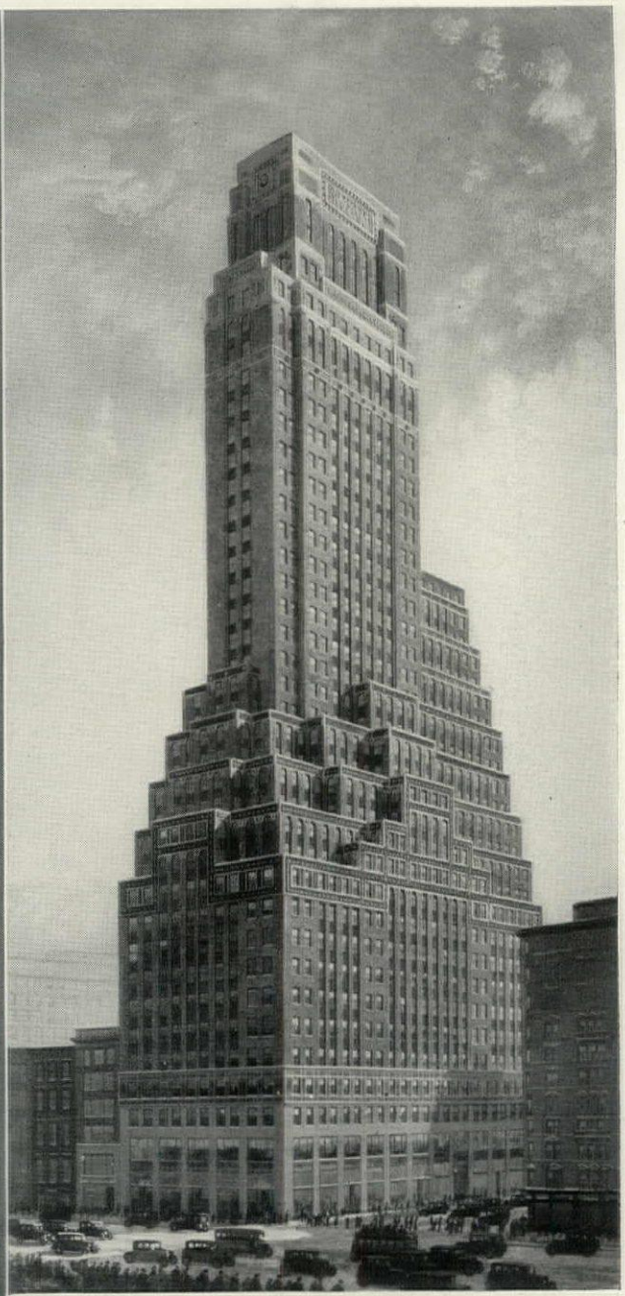
STUDIES IN GRANITE

On request a complete folio of these Granite Studies will be reserved for you

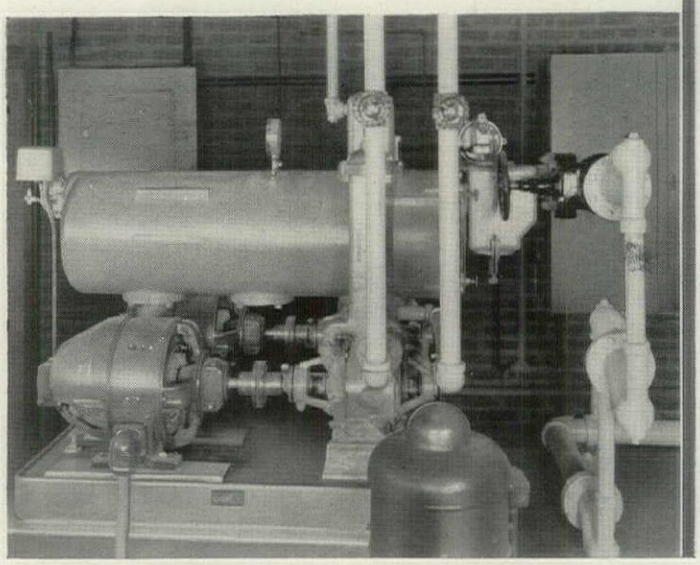
When the ~ Fred F. French *Companies built their own home*

WHEN the Fred F. French Companies built the Fred F. French Building at 551 Fifth Avenue, New York, a Jennings Vacuum Heating Pump was specified on the return line of the heating system.

The size E duplex unit was installed, suitable for 65,000 sq. ft. equivalent direct radiation. Since only one separating tank for the wet returns is needed, the space occupied by the Jennings duplex equipment is hardly more than that required for a single unit.



Fred F. French Building, 551 Fifth Avenue, New York, N. Y. Financed, designed, constructed and managed by the Fred F. French Companies. Clyde R. Place, consulting heating engineers; Baker-Smith & Co., heating contractor.



Jennings Return Line Vacuum Steam Heating Pump, duplex type, size E, serving the Fred F. French Building.

Jennings Pumps

THE NASH ENGINEERING CO 13 WILSON ROAD, SOUTH NORWALK CONN.

ARCHITECTS' ANNOUNCEMENTS

McKim, Mead and White, architects, 101 Park Avenue, New York City, announce the admission to partnership of James Kellum Smith.

Van F. Pruitt and Louis A. Brown, Jr., announce the formation of the partnership of Pruitt and Brown, architects, 342 Madison Avenue, New York City.

R. C. Hugenin, formerly supervising architect of the state of Montana, has associated with George H. Shanley, architect, Great Falls, Mont., and Fred F. Willson, architect, Bozeman, Mont., under the name of Shanley, Willson & Hugenin, architects and engineers. Mr. Hugenin will be in charge of the firm offices in the Administration Building, 111 North Montana Street, Butte, Mont., where he wishes to receive manufacturers' samples. Mr. Shanley and Mr. Willson will continue the offices at Great Falls and Bozeman as before but under the new firm name.

Carl E. Segerberg and Michael J. Hoffmann, architects, have formed a partnership under the firm name of Segerberg & Hoffmann and will maintain an office in the Washington Building, 438 Main Street, Middletown, Conn.

Fred C. Medicus-John H. Samuels, A.I.A., Limited, announce the removal of their architectural offices from 211 Chapel Place to 216 Mahoning Bank Building, Youngstown, Ohio.

William E. Fisher and Arthur A. Fisher, architects, announce the removal of their offices to 827 Denver National Building, Denver, Colo.

Announcement is made of the dissolving of the partnership of Philip Lindsley Small and Charles Bacon Rowley. Mr. Small will continue the practice of architecture under the name of Philip Lindsley Small and Associates at 1508 Terminal Tower, Cleveland, Ohio. Mr. Rowley has opened an architectural office in the Keith Building of that city.

Word has been received of the death of John W. Columbus, architect, of Paintsville, Ky. The firm, John W. Columbus & Son, architects and contractors, will be discontinued.

Clarence M. Nutting, architect, has moved from 29 Marshall Street to Hazian Building, 4 West Avenue, South Norwalk, Conn.

David J. Witmer and Loyall F. Watson, architects and engineers, announce the removal of their offices to Suite 903, Architects Building, Los Angeles, Calif.

Homer H. Knodle, commercial artist, has opened a studio in Fort Wayne, Ind., for the preparation of renderings, perspectives and plaster models for the architectural profession exclusively.

Beckett & Akitt, architects, have changed their address from 406 Temple Building to 930 Michigan Theatre Building, Detroit, Mich.

Lewis J. Sarvis, architect, announces the removal of his offices from 63 East Michigan Avenue to Suite Four in the Bromberg Building, East Michigan Avenue at Monument Square, Battle Creek, Mich.

Carl Reger, architect, announces the removal of his office from the West Virginia Utilities Building to the Titus Building, High and Fayette Streets, Morgantown, W. Va.

Howard Greenley, architect, formerly of 129 East 54th Street, New York City, has virtually retired from active practice in architecture and requests that manufacturers remove his name from their mailing lists.

Edward A. Nolan, architect, announces the removal of his office from 310 Thomas Building, Midland, Tex., to 207-8 Security Building, Phoenix, Ariz. Manufacturers' samples are requested.

Cyril Bennett and Fitch H. Haskell, architects, announce the removal of their offices to 311 First Trust Building, Pasadena, Calif.

George P. Turner and Edward D. Slater announce the formation of a partnership for the practice of architecture, under the firm name of Turner and Slater, architects. Offices are at 1212 Martin Boulevard, Birmingham, Ala.

The address of Arthur C. Munson, architect, has been changed to 312 Westlake Park Building, 2024 West Sixth Street, Los Angeles, Calif.

Bayard M. Smith, architect, of 914 College Avenue, has moved to 513 Construction Industries Building, Dallas, Tex.

The correct address of Theodore Brent, engineer, is Room 80-B, Hotel Roosevelt, New Orleans, instead of Mississippi-Warrior Service, 321 Customhouse, New Orleans, La.

Brandon Smith, R.A., announces his association in partnership with Harold O. Reif for the continuation of Mr. Smith's architectural practice at 429 Penn Avenue, Pittsburgh, Pa. Mr. Reif will devote himself to the executive administration of the firm.

L. Kopczynski, C.E., has moved his industrial architect and engineering office to 729 Colonial Building, 100 Boylston Street, Boston, Mass.

Herbert M. Greene, of the Herbert M. Greene Company, architects, announces that he has taken into copartnership, for the practice of architecture, his former associates, Edwin Bruce LaRoche and George Leighton Dahl, under the firm name of Herbert M. Greene, LaRoche & Dahl, with offices in the Construction Industries Building, Dallas, Tex.

Oman & Lilienthal, architects and engineers, have moved from the Garrick Theatre Building, to new studios and offices, Suite 1410 Tribune Tower, Chicago, Ill.

A CLEMCO DESK

Close-up Detail Illustration of "CLEMCO" DaVinci Desk Front.

Office of Mr. Melvin Traylor, President of the First Trust & Savings Bank, Chicago. Showing the "CLEMCO" Da Vinci Suite as Installed by Marshall Field & Company, Chicago. Architects: Graham, Anderson, Probst and White. General Contractors: Leonard Construction Company.

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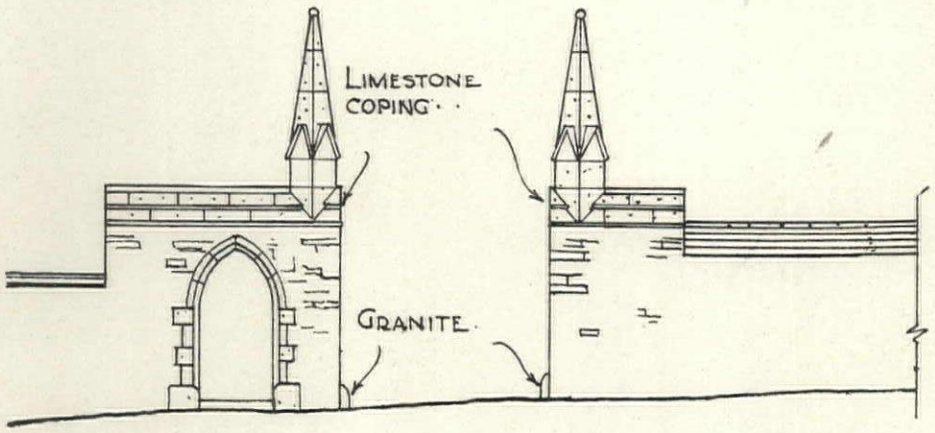
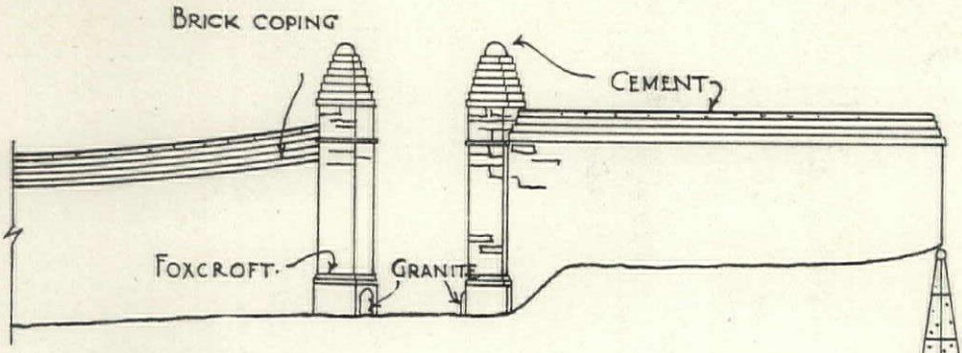
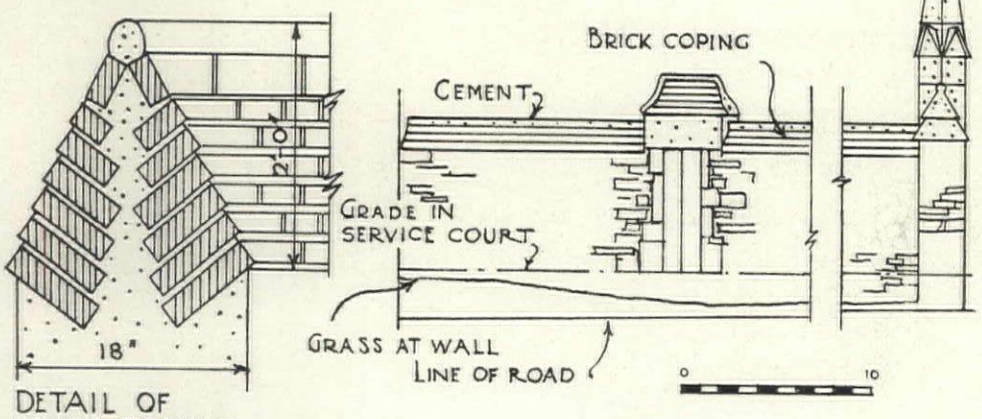
A CLEMCO DESK

WALL DETAILS

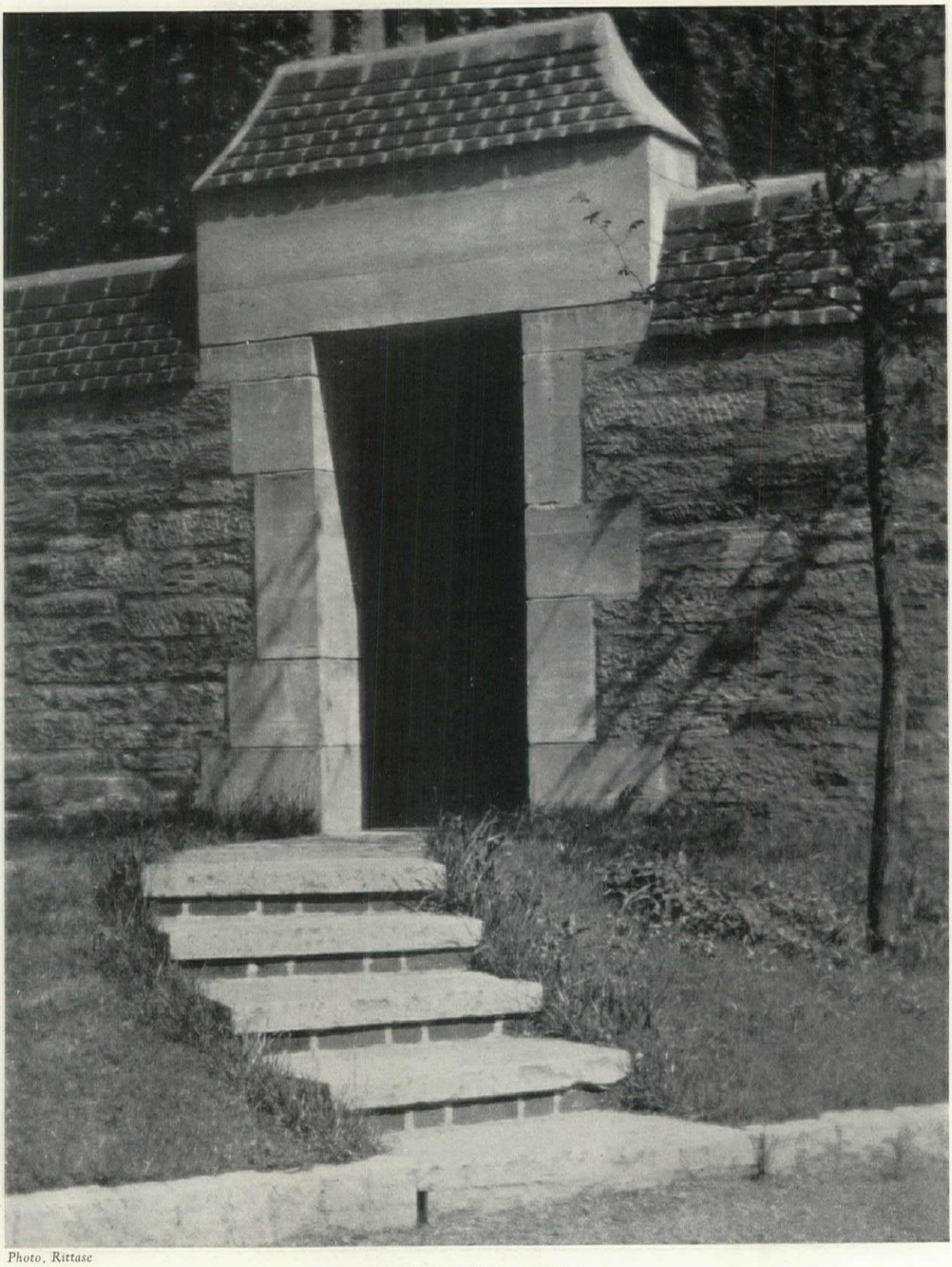
GOODHART HALL
BRYN MAWR COLLEGE
PENNSYLVANIA







DETAIL OF BRICK COPING



Photo, Rittase

GATE TO SERVICE COURT

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS

THE ARCHITECTURAL RECORD

AN ILLUSTRATED MONTHLY MAGAZINE OF ARCHITECTURE & THE ALLIED ARTS & CRAFTS

VOLUME 65 FEBRUARY·1929 NUMBER 2

GOODHART HALL

ITS DESIGN AND MATERIALS

MELLOR & MEIGS, ARCHITECTS

DESCRIPTION BY ARTHUR I. MEIGS

All buildings have a function to fulfill but Architecture is the aesthetic fulfillment of that function. Yet, functions vary as the poles asunder, as, for example, a church spire differs from a chimney stack, and while we may apply an unlimited amount of architectural ornament to the chimney stack, yet we cannot make it the same as the church spire.

Architecture, like Sculpture, must be modeled and arranged until it achieves *shape*.

As a church spire is to a chimney stack, so may we consider collegiate architecture to commercial architecture—with which we are all too familiar. If the former fails to be aesthetic, if it fails to have shape, harmony, and inspiration, it fails to be architecture.

In this building, the principal element is the Great Hall, which dominates the scheme within and without. Around and against this the other elements are arranged: the Foyer to the south, the Students' Wing to the north, the Stage Entrance to the east, and to the west, the Music Wing, pushing against the main mass from below and holding it from slipping from its position. These lesser architectural elements buttress the main architectural element, precisely as the stone buttresses on the outside brace the great flying arches which are within, and these in turn support the roof with its stone flèche which dominates all. So it builds up from the ground to its pinnacle and accent.

A stone flèche held aloft in the air grips the imagination more than one made of a lighter material, because, consciously or unconsciously, the mind and the senses seek for its support. And the support is there, namely, the double stone arch in the center of the interior. So we find that the whole building works towards the support of its highest point.

Nothing is more stirring in architecture than its silent stresses and strains. And when we walk along the Music Walk on the west side of the building we are passing through them, and when we enter, we are sitting under them.

The four flying arches in the interior, the doubled flying arch in its center, and the stone flèche, high above all, constitute the architectural heartbeats of the whole.

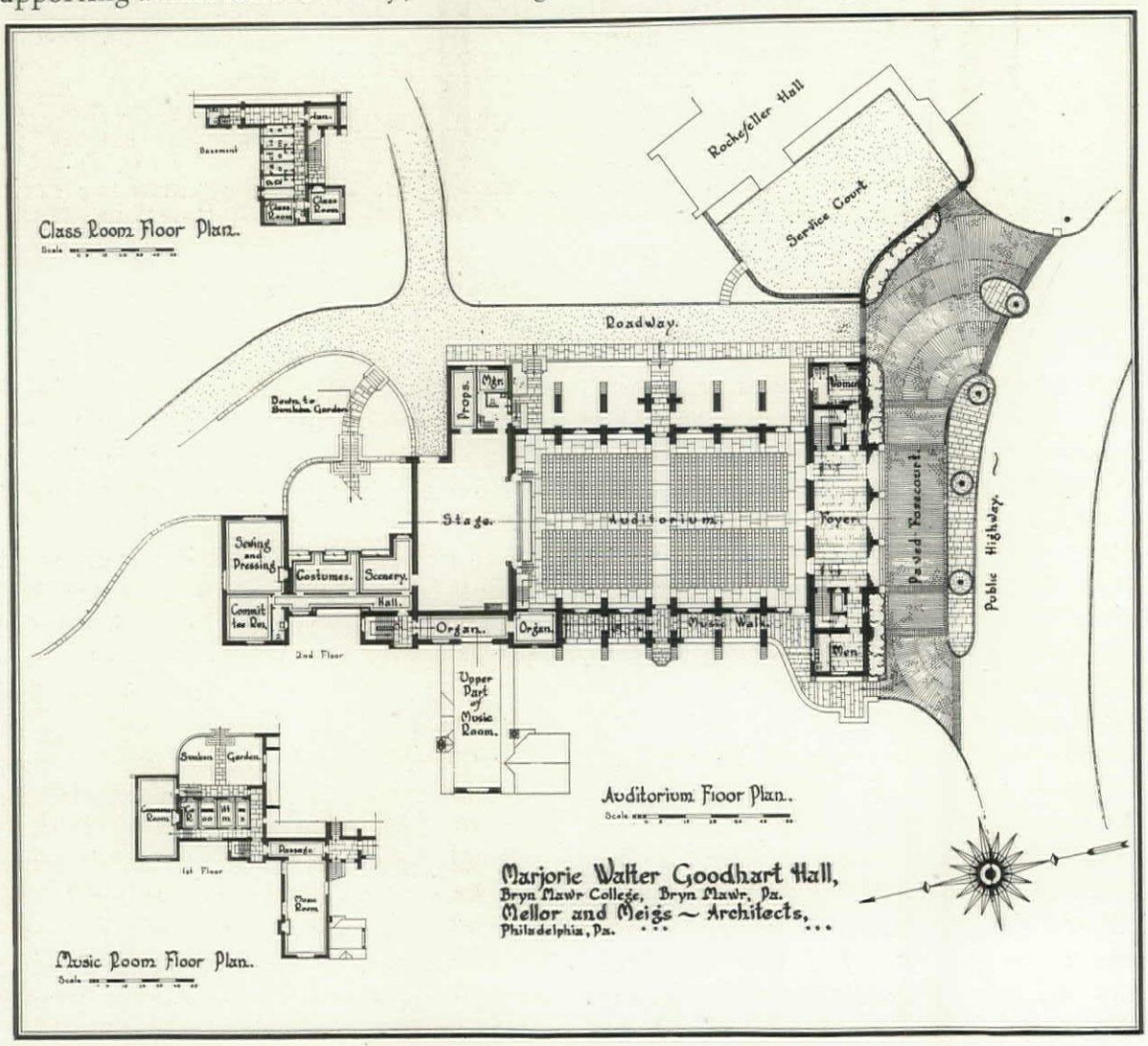
The above was written after the signing of the contract and before the turning of the first sod; and a friendly architect made the friendly comment that perhaps the written word might prove to be the best thing about the whole building.

There were two main sources of inspiration: one, the Ponte del Diavolo in Italy, and the other, a barn in France. The Ponte del Diavolo is a triple arched medieval bridge spanning a torrent stream, with its main arch flying high above the water and supporting a nine foot roadway, ascending and descending a steep incline from the banks to the crown of the arch, which is so thin that it looks as if it might break but doesn't. The barn is the typical shape with the low walls and the great roof.

Everything else flowed along in the wake of these two main ideas, and, in order to give them emphasis, the bourn was set to strip the building of detail as far as it was possible and to use only the simplest and sturdiest of materials.

Stone, Iron, Wood.

Goodhart Hall is built almost entirely of these three and their relatives. The ashlar itself is what is commonly known as Chestnut Hill stone, except that it comes from the Foxcroft quarry three miles from



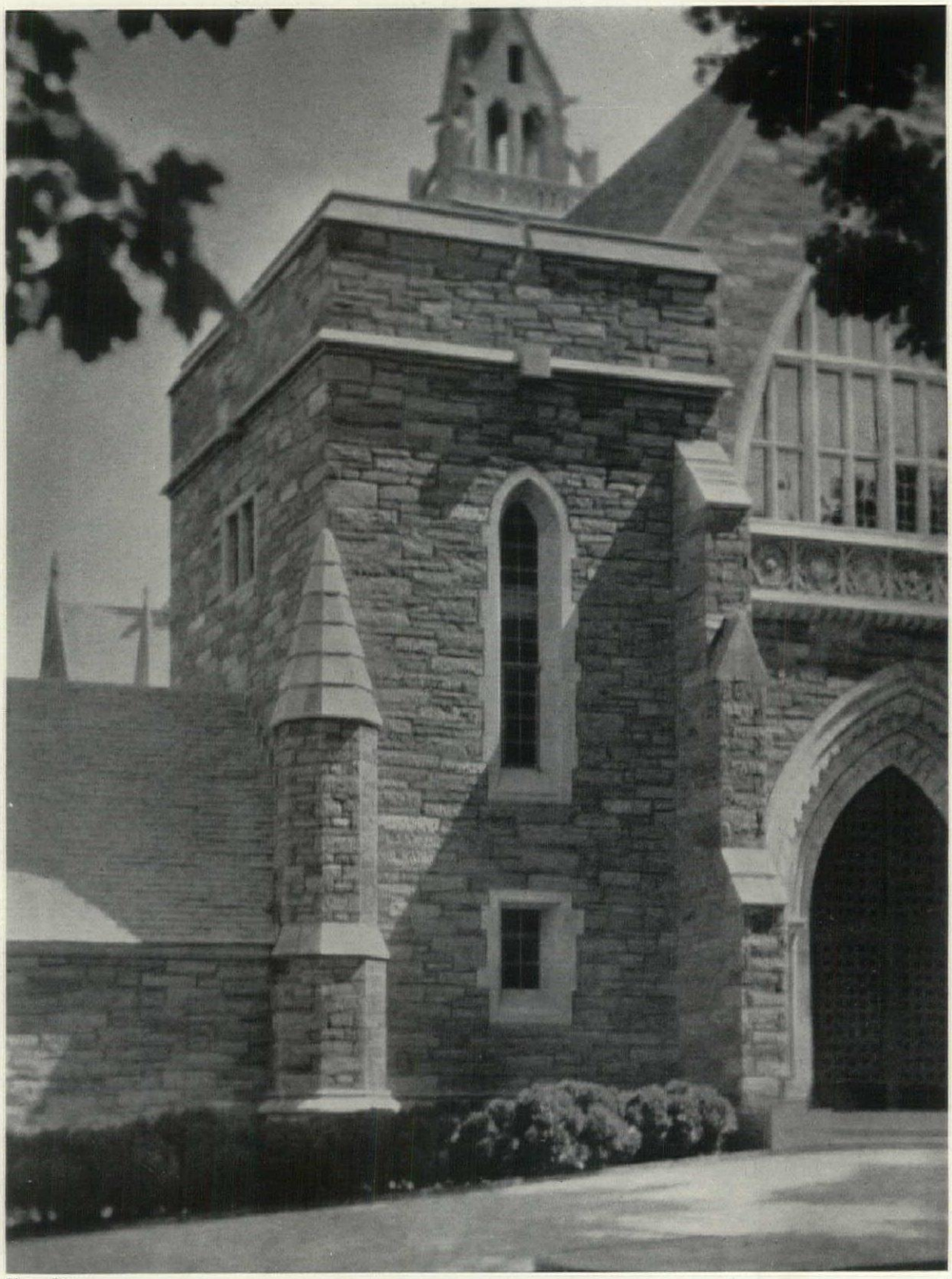
Photo, Rittase

VIEW FROM THE SOUTH EAST
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

Bryn Mawr and fifteen from Chestnut Hill. The environs of Philadelphia are rich in this material and the veins extend a long way. Limestone trimmings, a slate roof, flagstone walks and floors in abundance, and a Belgian block pavement spread like a stone carpet in front. Inside, more flagstone floors, concrete and mason dashing; all of the stone family. Almost all the interior walls are covered with mason dashing, which is no more than cement plaster applied by the mason with a trowel, and of its own natural color, namely a yellowish gray, produced by the cement and the bright yellow Jersey gravel. Everything enumerated above except the slate is put on or laid up by the mason.

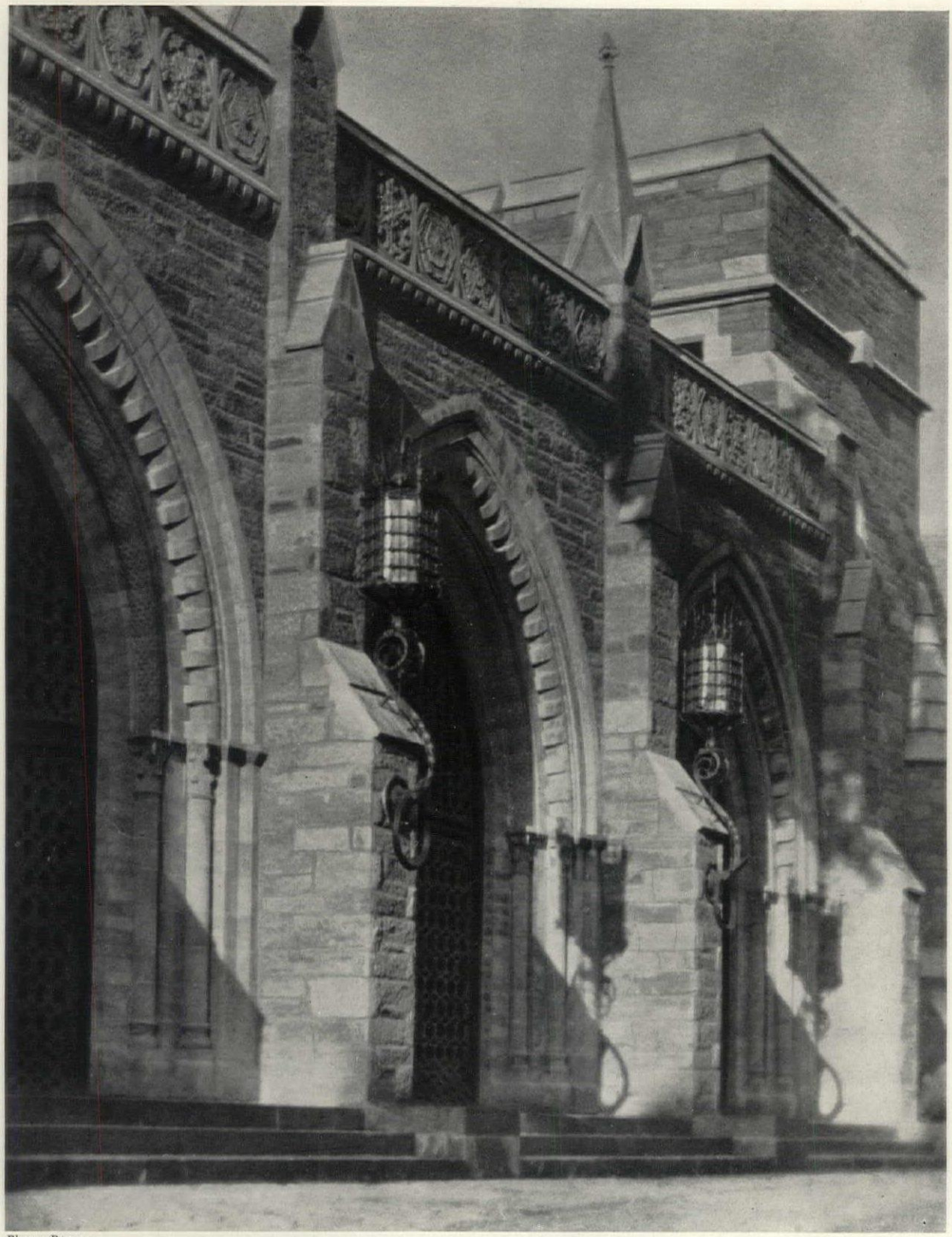
Pink granite Belgian blocks greet us on our arrival, and so modest and retiring are they that we might forget to notice that we are stepping on them, but were they absent, we should miss their color and texture. Unobtrusively, they tell the motorist which way to go, and they play a part practically and aesthetically as important as do the foundations structurally.

Next comes the concrete, a mixture of stone and iron concealed. These arches are not really arches, but in truth, curved concrete beams in the shape of an arch. They thrust at the bottom, but if it were not for the thousands of pounds of reinforcing iron in their cores they would break up through the roof at their thinnest point. One main thing about the surface, and that is, that it had to remain untouched after the removal of the forms, bubble holes, honeycombs and all. This being assumed in the beginning, the forms were of dressed



Photo, Rittase

WEST STAIR TOWER
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



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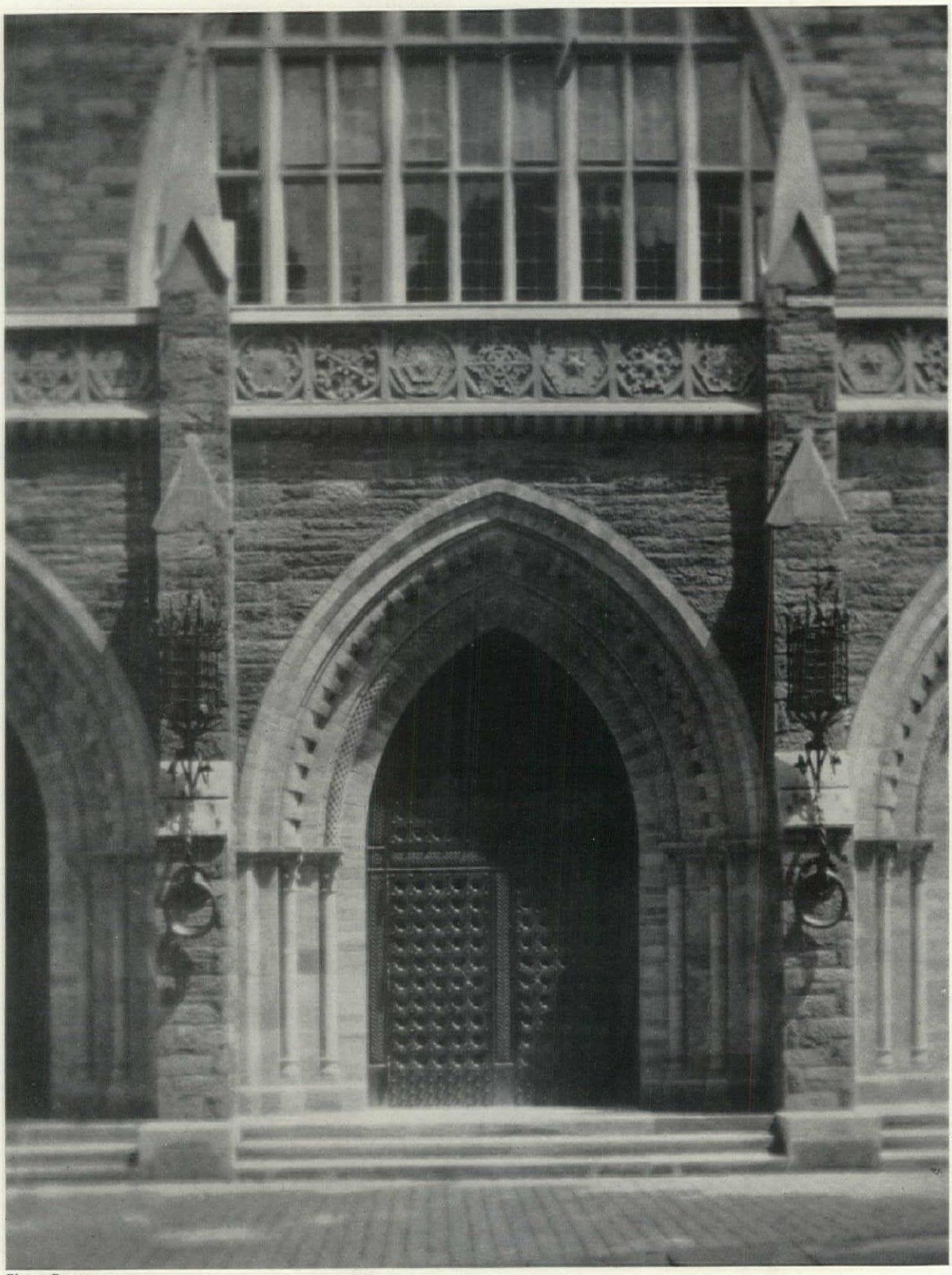
MAIN ENTRANCE DOORS
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



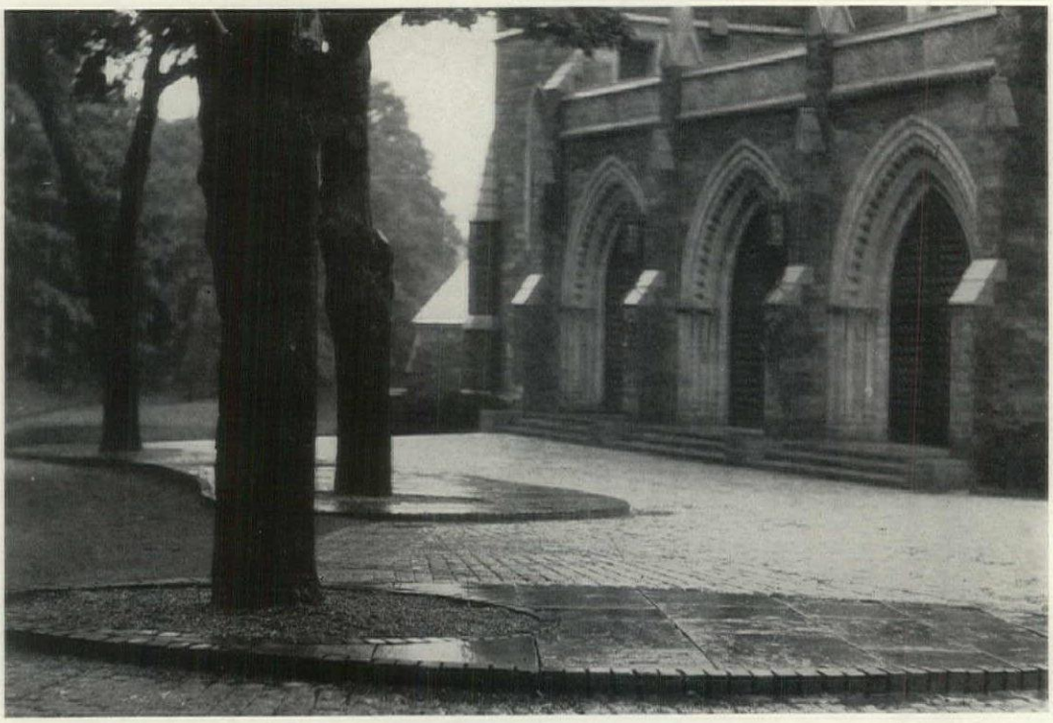
Photo, Rittase

CENTRAL DOOR AND FROST CRYSTALS
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

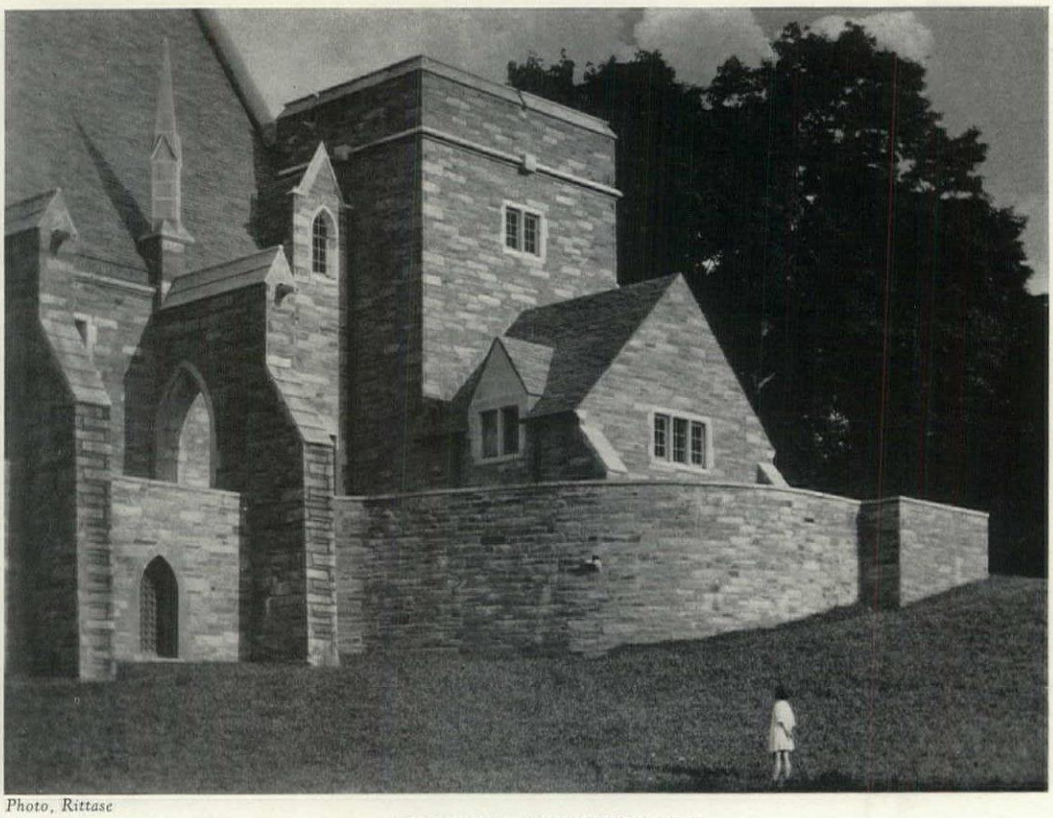
EAST SIDE

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS



FRONT ENTRANCE



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BEGINNING OF MUSIC WALK

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS

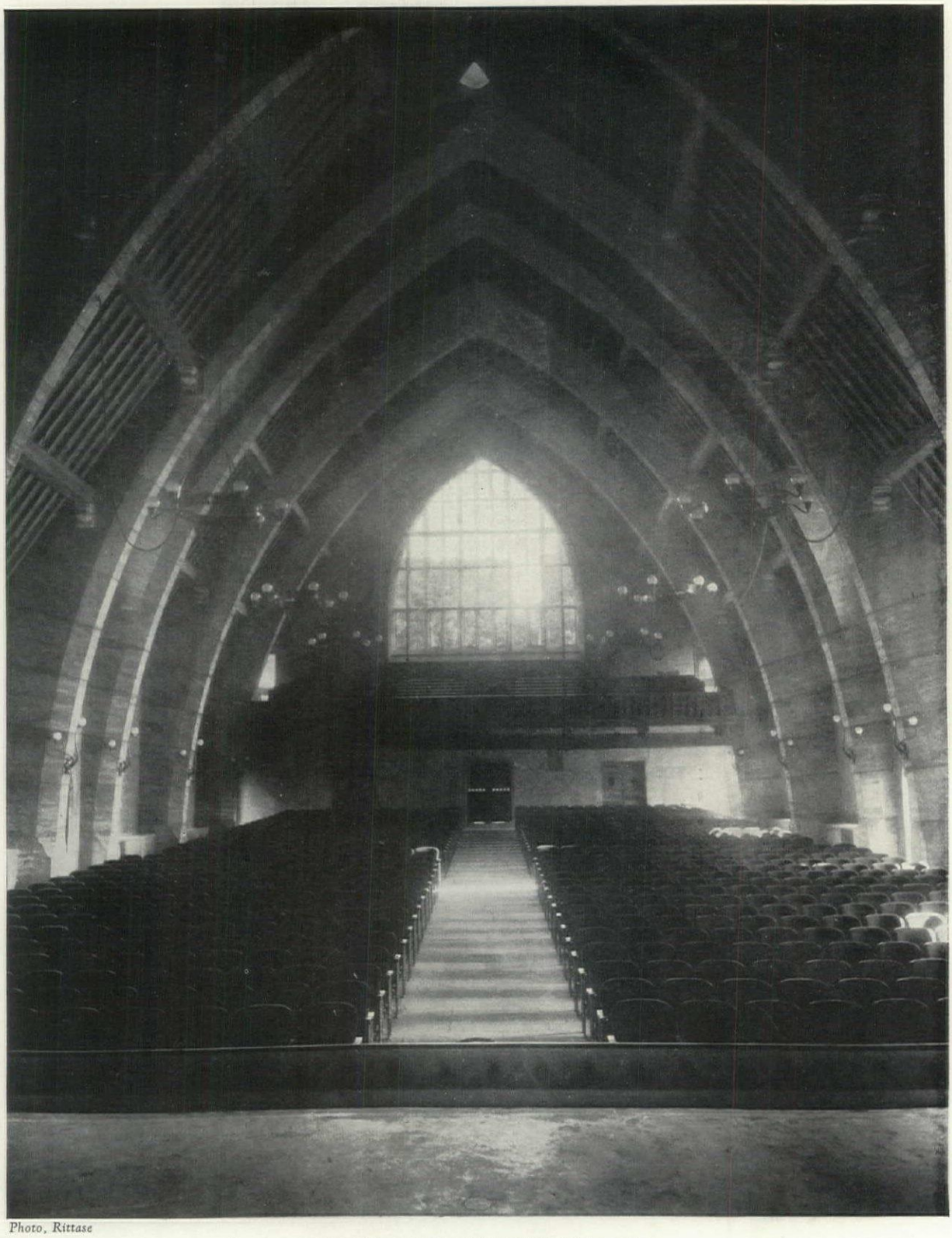
Photo, Rittase

VIEW FROM NORTH WEST

NORTH SIDE

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS



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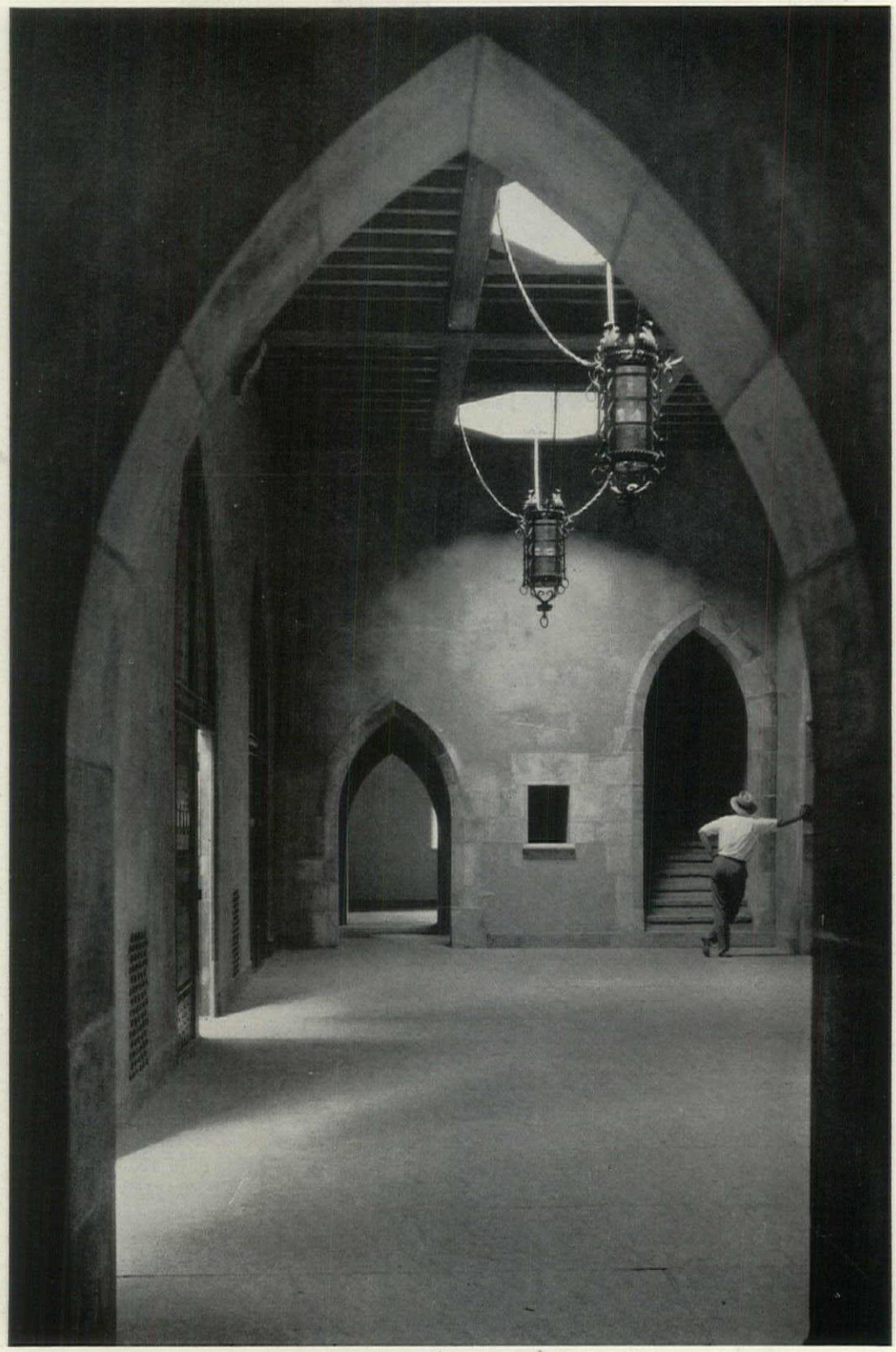
VIEW OF AUDITORIUM FROM THE STAGE
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

Photo, Rittase

VIEW OF AUDITORIUM FROM THE BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



THE FOYER
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

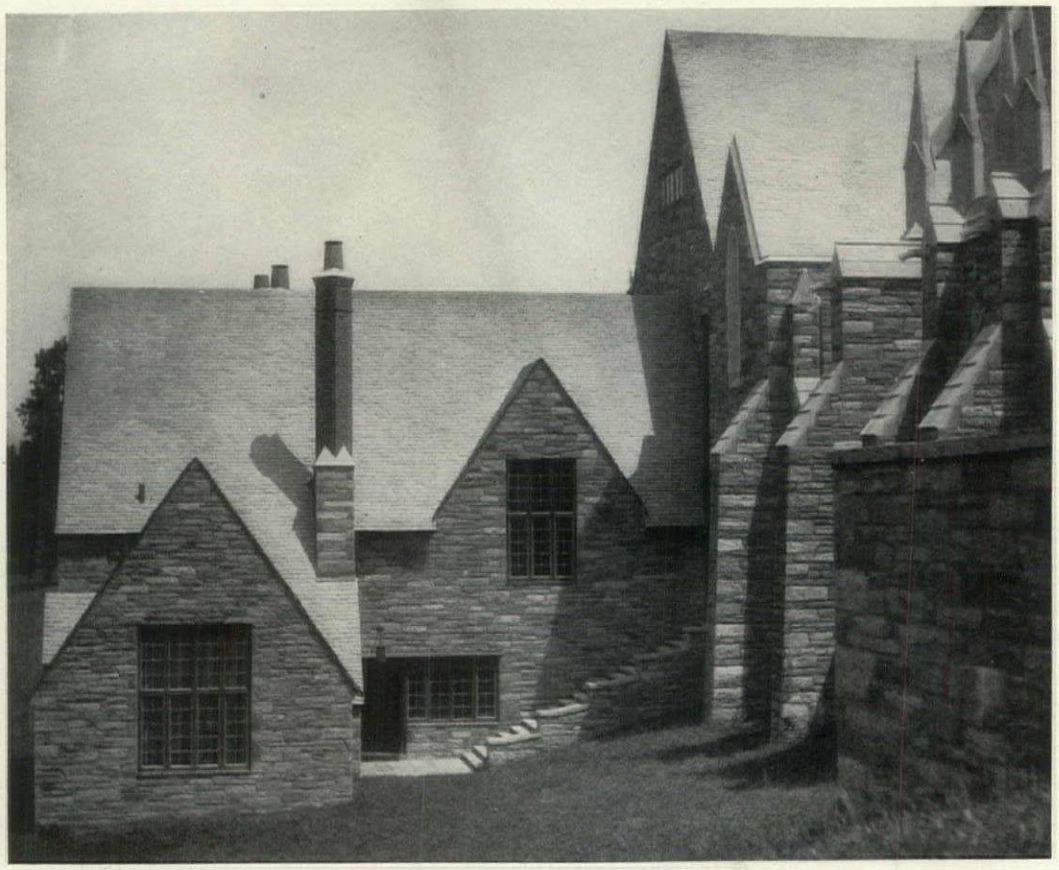
UNDER THE BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

lumber with their joints running radially.

After concrete comes wood, and there is not much of it, but what there is, is stout and strong. Yellow pine for the roofs and balcony and oak for the doors.

Finally, we come to the iron, left to the last on purpose. Two huge twisted iron ropes hold up the balcony. Rivets, bolts and bosses hold the doors together; hinges the wrought iron work of one Mr. Samuel Yellin, master craftsman, to achieve a craftsman's purpose. We cannot have a design consisting only of accents, no matter how fond we may be of them; nor can we have nothing but plain surfaces and backgrounds. We must have both, and the two must be inter-related.

What does architectural design boil



VIEW FROM NORTH WEST
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

carry them, shoot bolts, pulls and thumb latches operate them; and so on through the stair-rails and lamps and brackets of many different descriptions. And why were all these surfaces of stone and concrete, plaster and wood left so plain and unobtrusive? Why indeed, other than to allow down to but to have a want, to find an idea to fit it, to clothe and build the idea in materials, and to seek to make the materials harmonize, to apportion to each material the job that it is fitted to do, and to try to leave all the materials comfortable and happy in the end?

PORTFOLIO
OF
CURRENT ARCHITECTURE

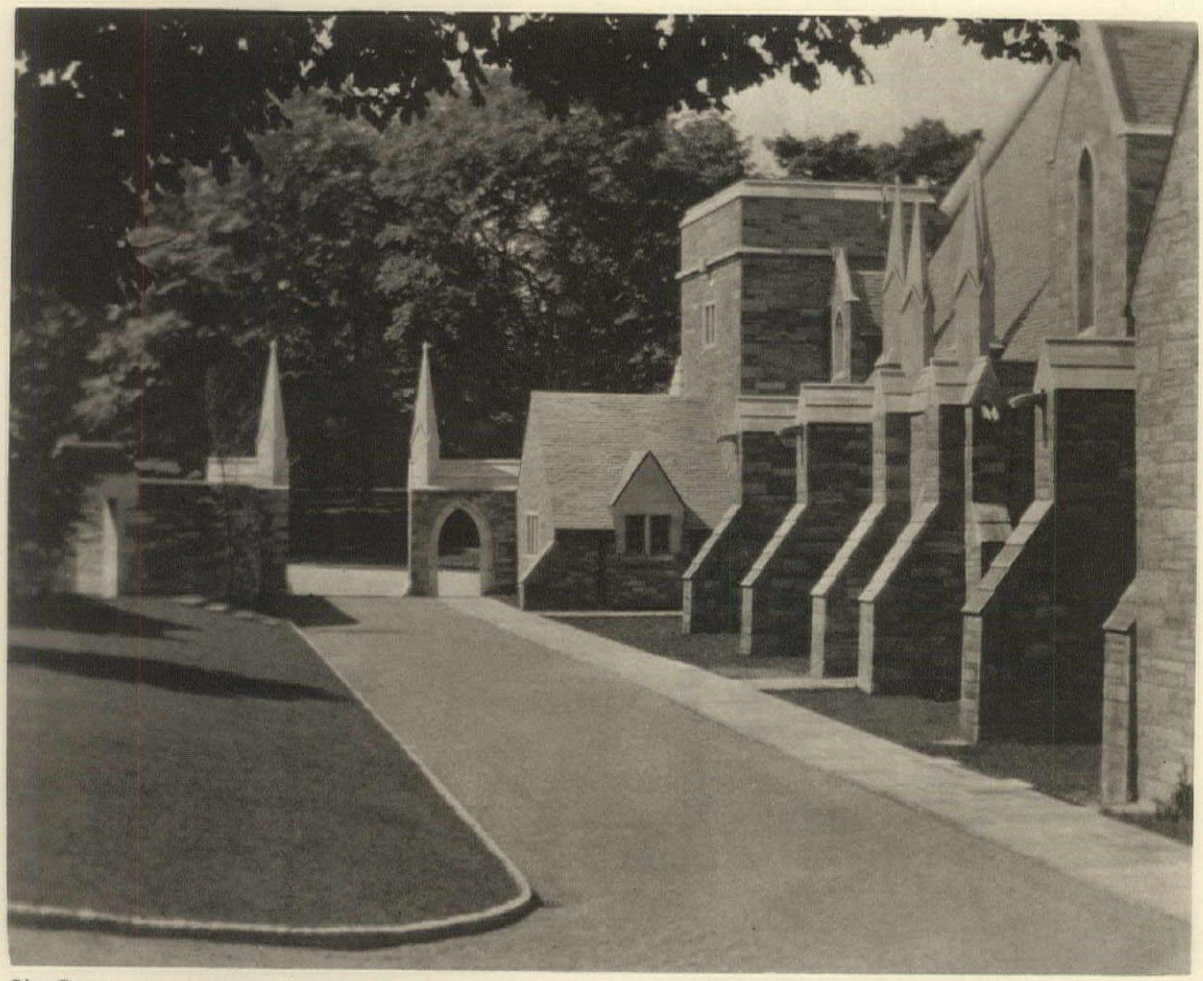
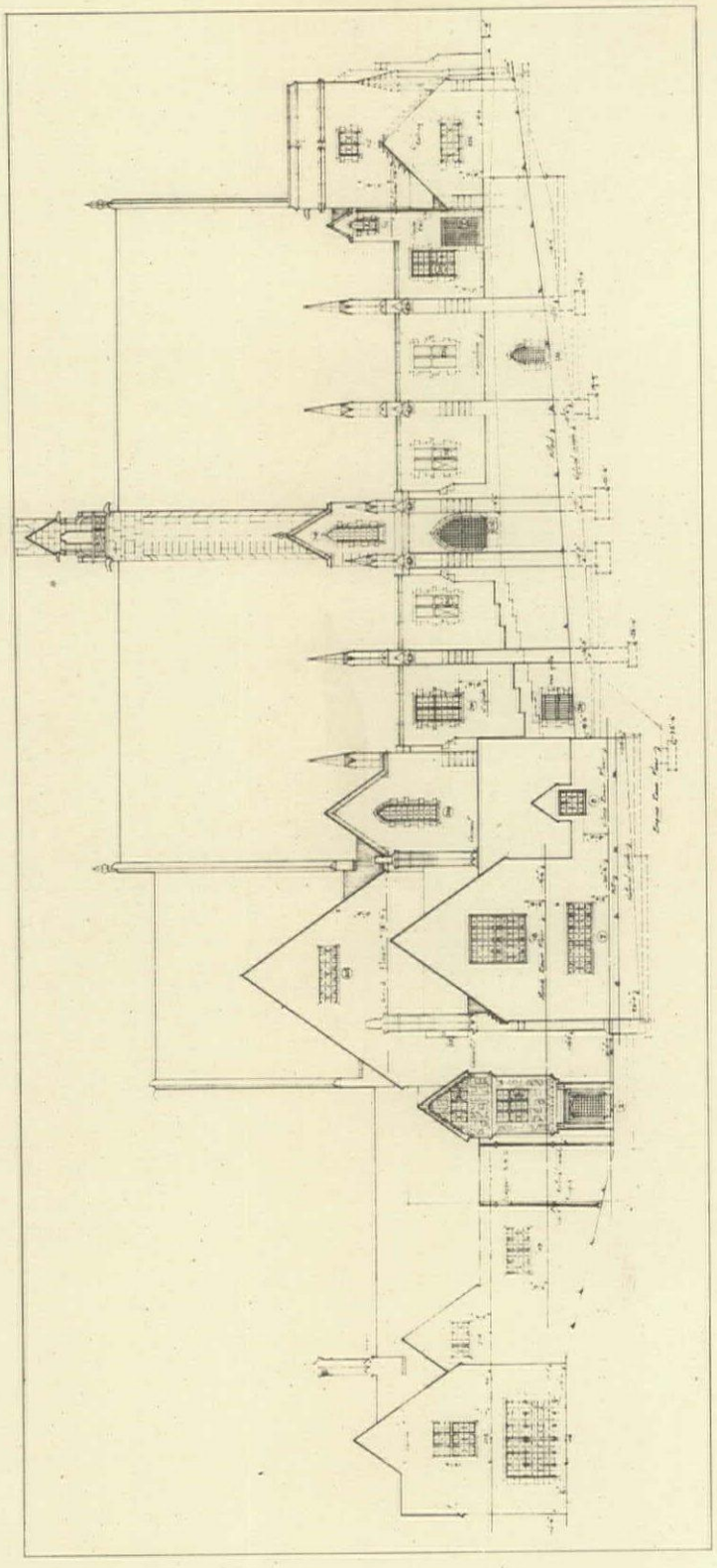
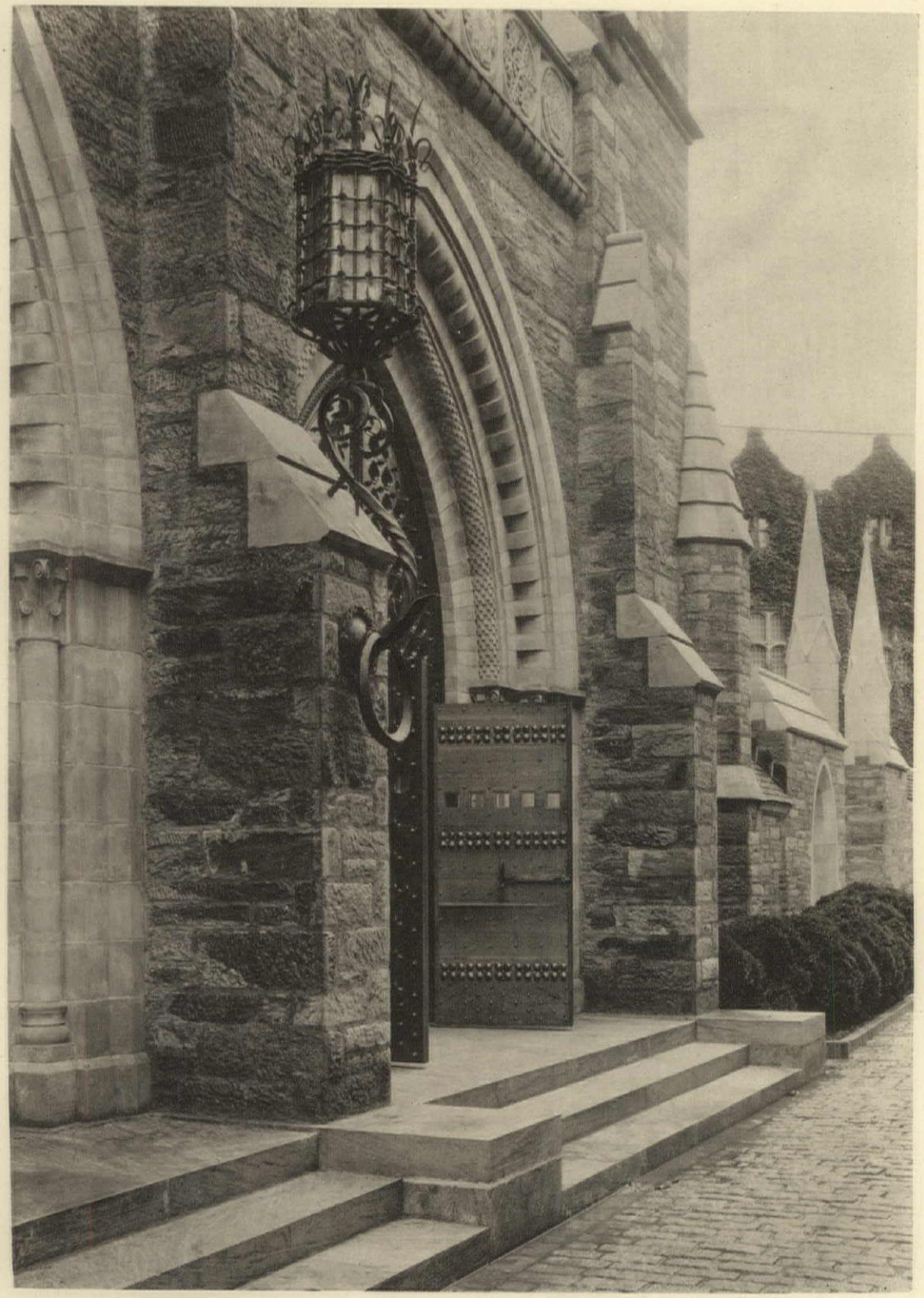


Photo Rittase

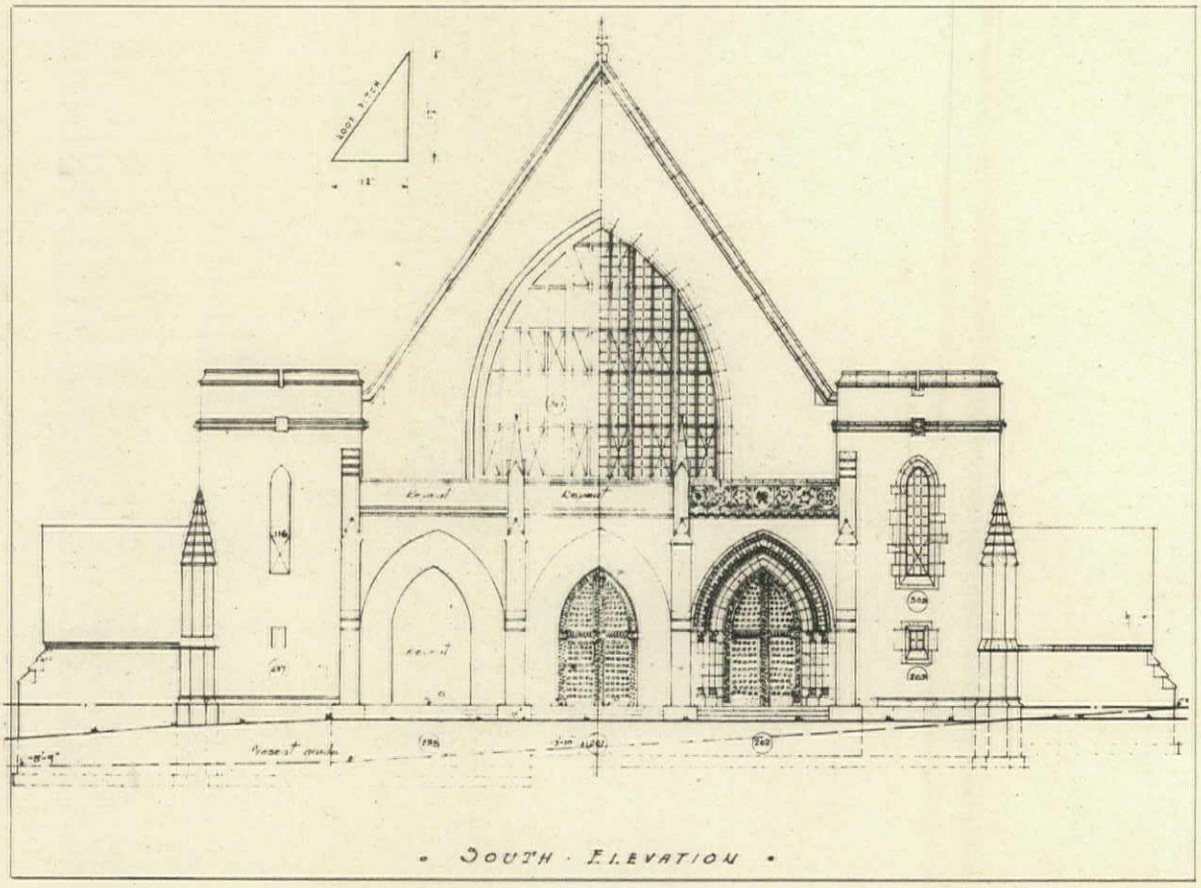
Buttresses on East Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



West Elevation
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Main Entrance to Auditorium
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

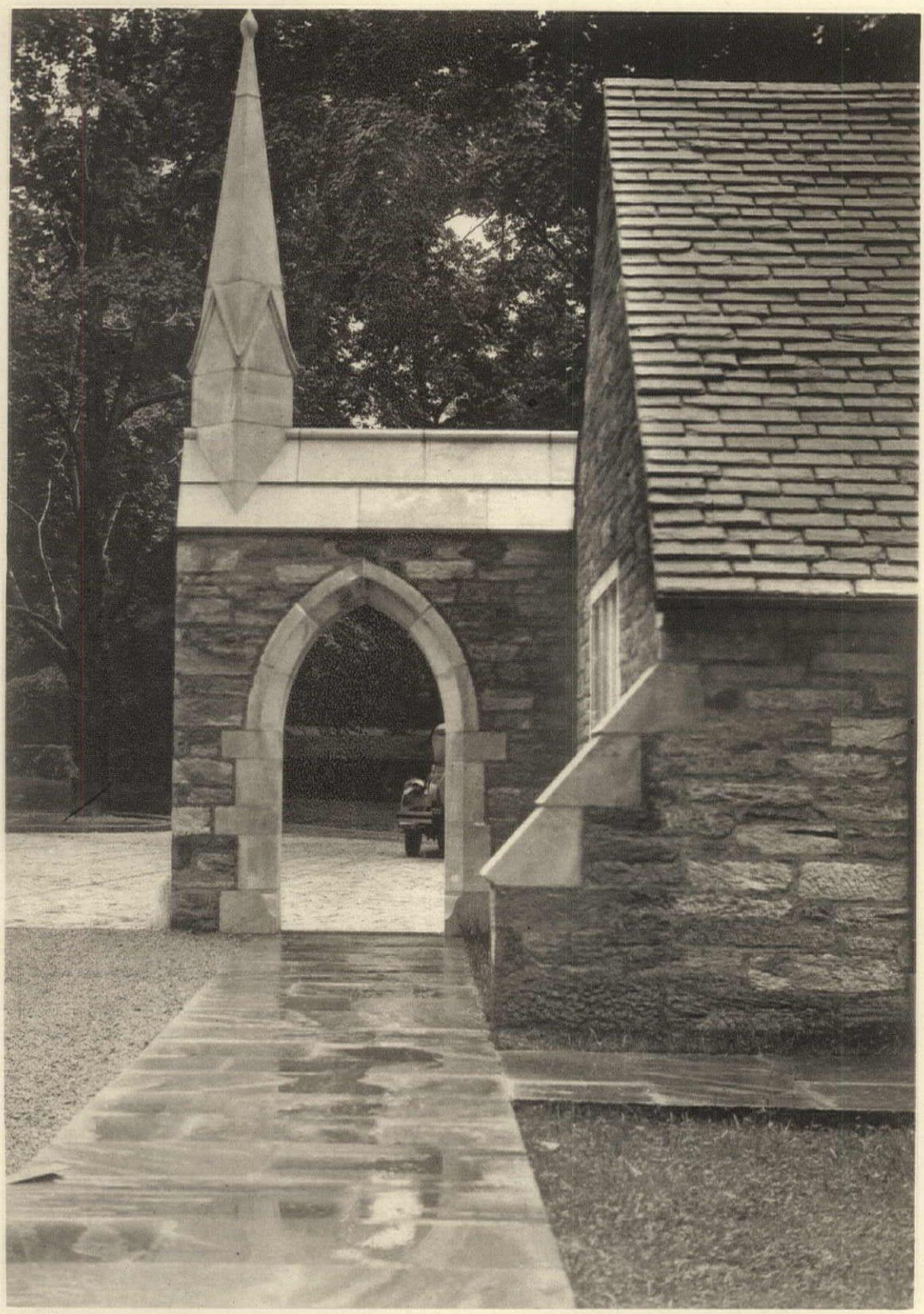
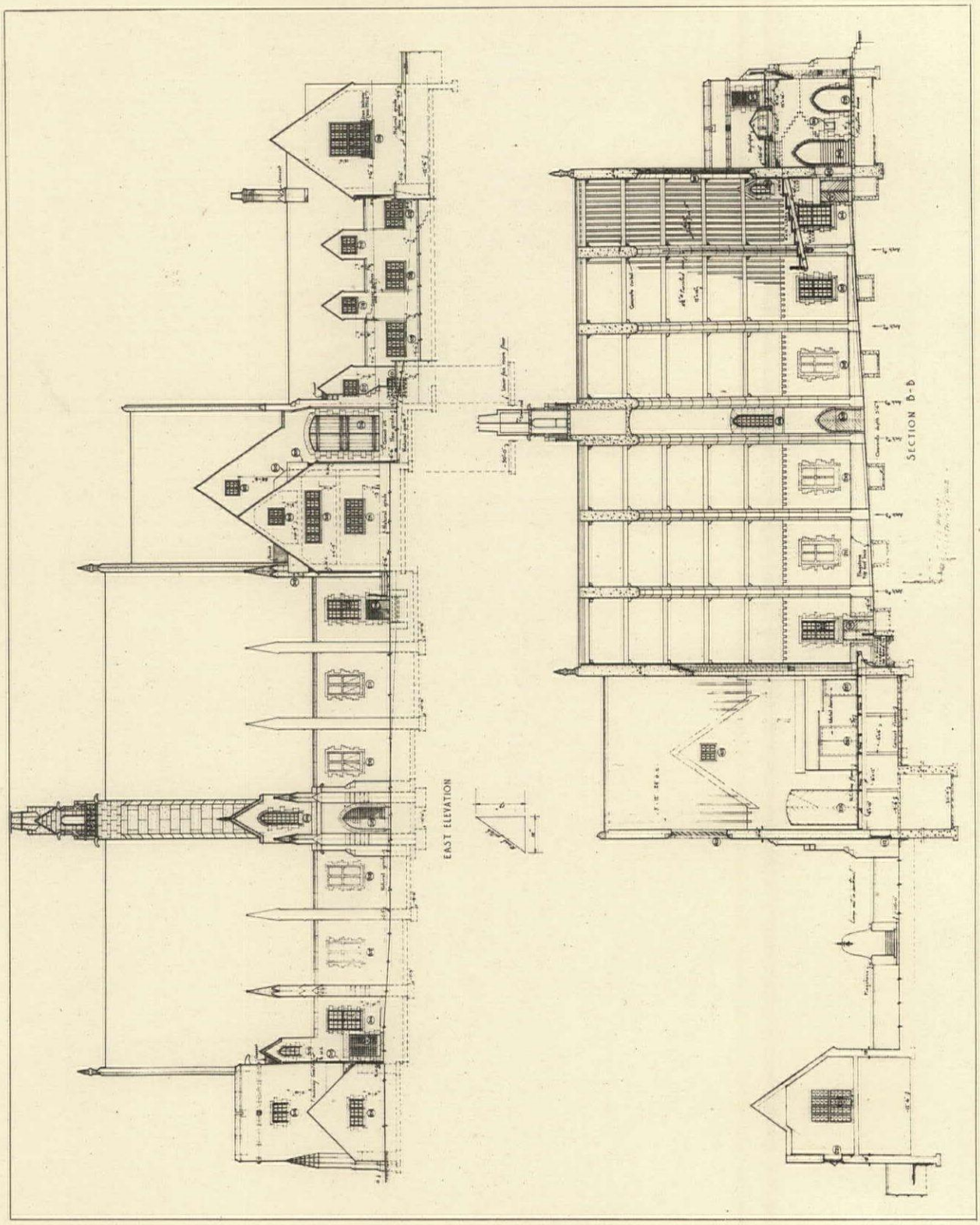
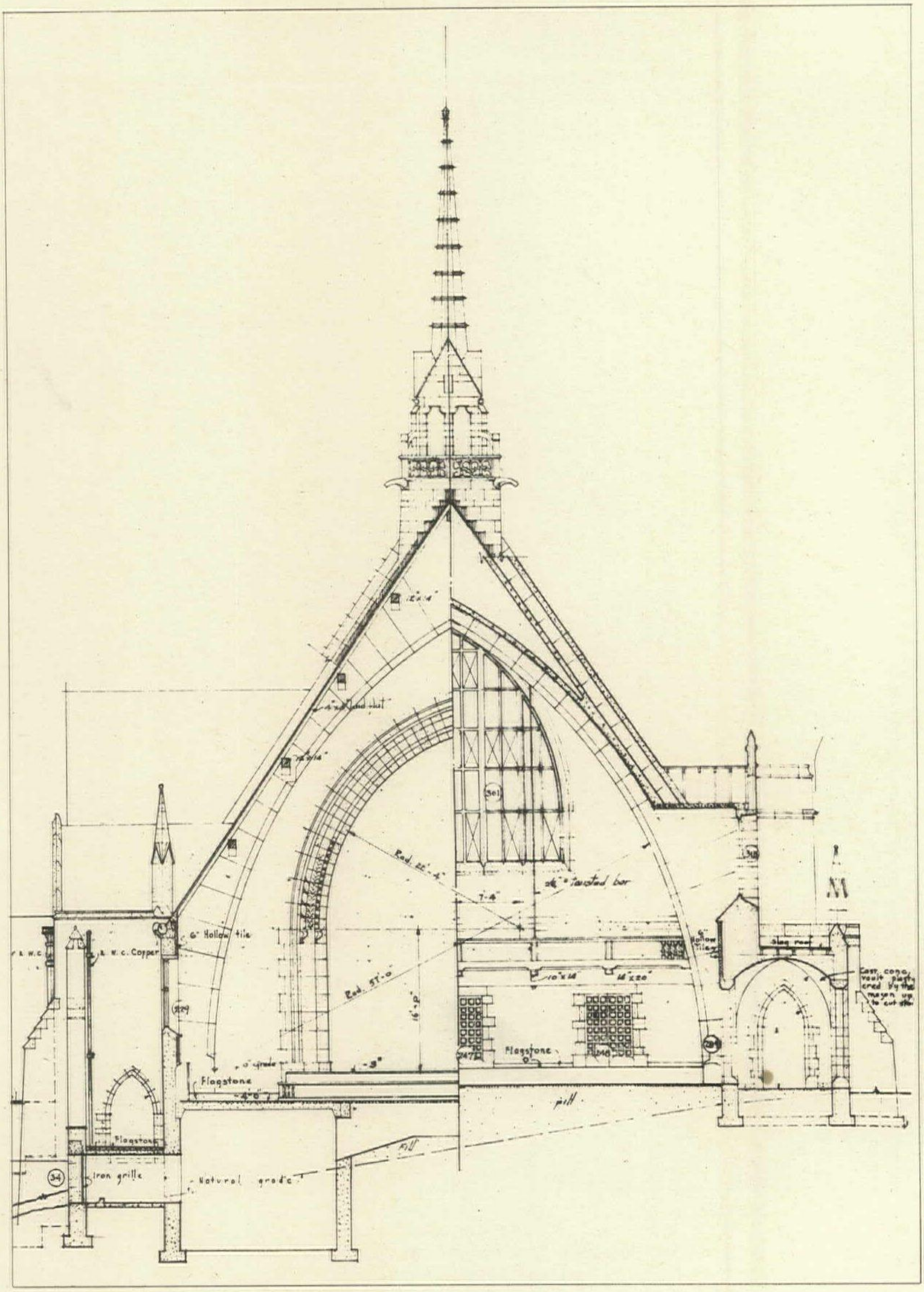


Photo Rittase

East Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS


EAST ELEVATION
SECTION B-B

The Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



6" Hollow tile
Rad. 22'-4"
twisted bar
Rad. 57'-0"
Flagstone
Flagstone
Flagstone
fill
Iron grille
Natural grade

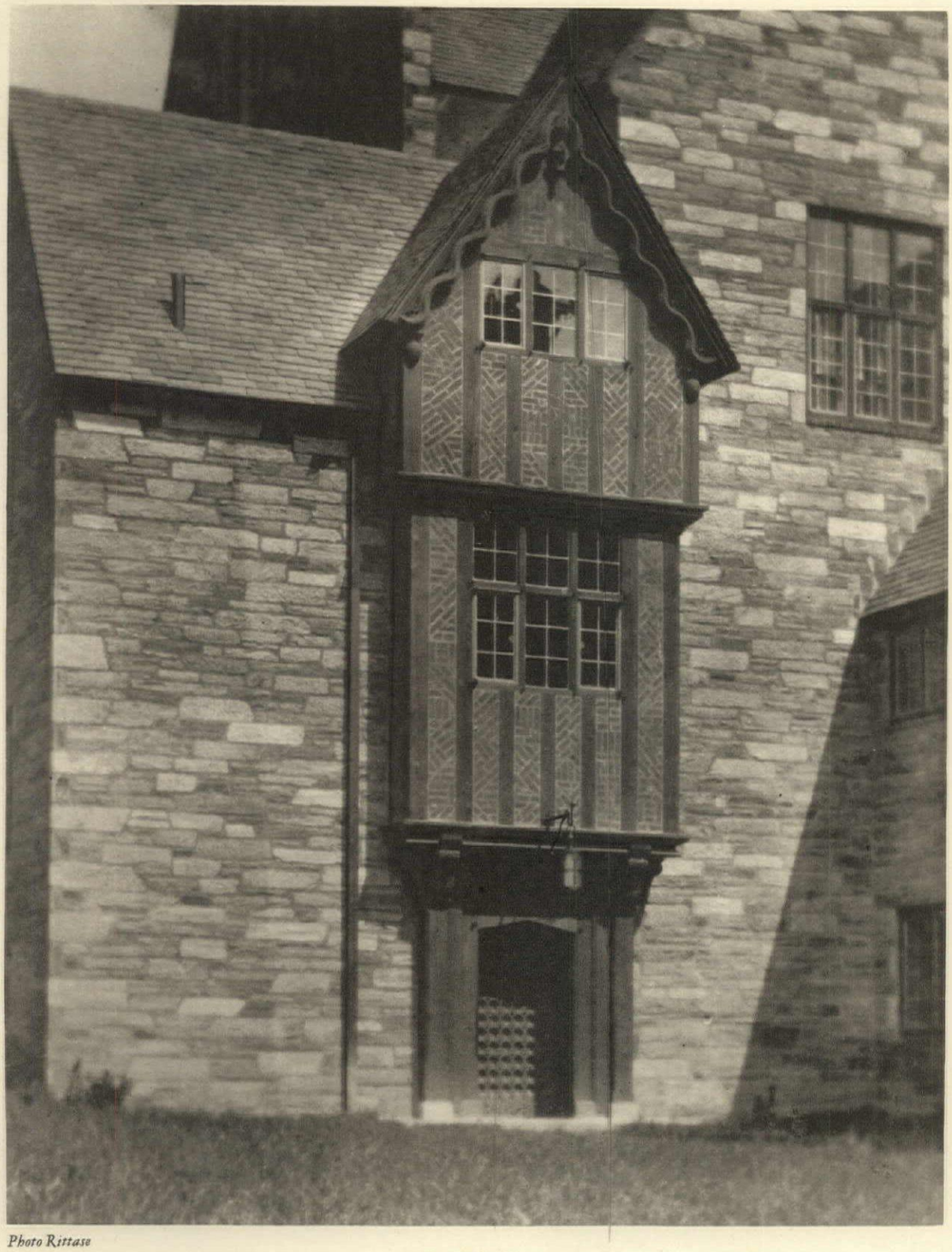
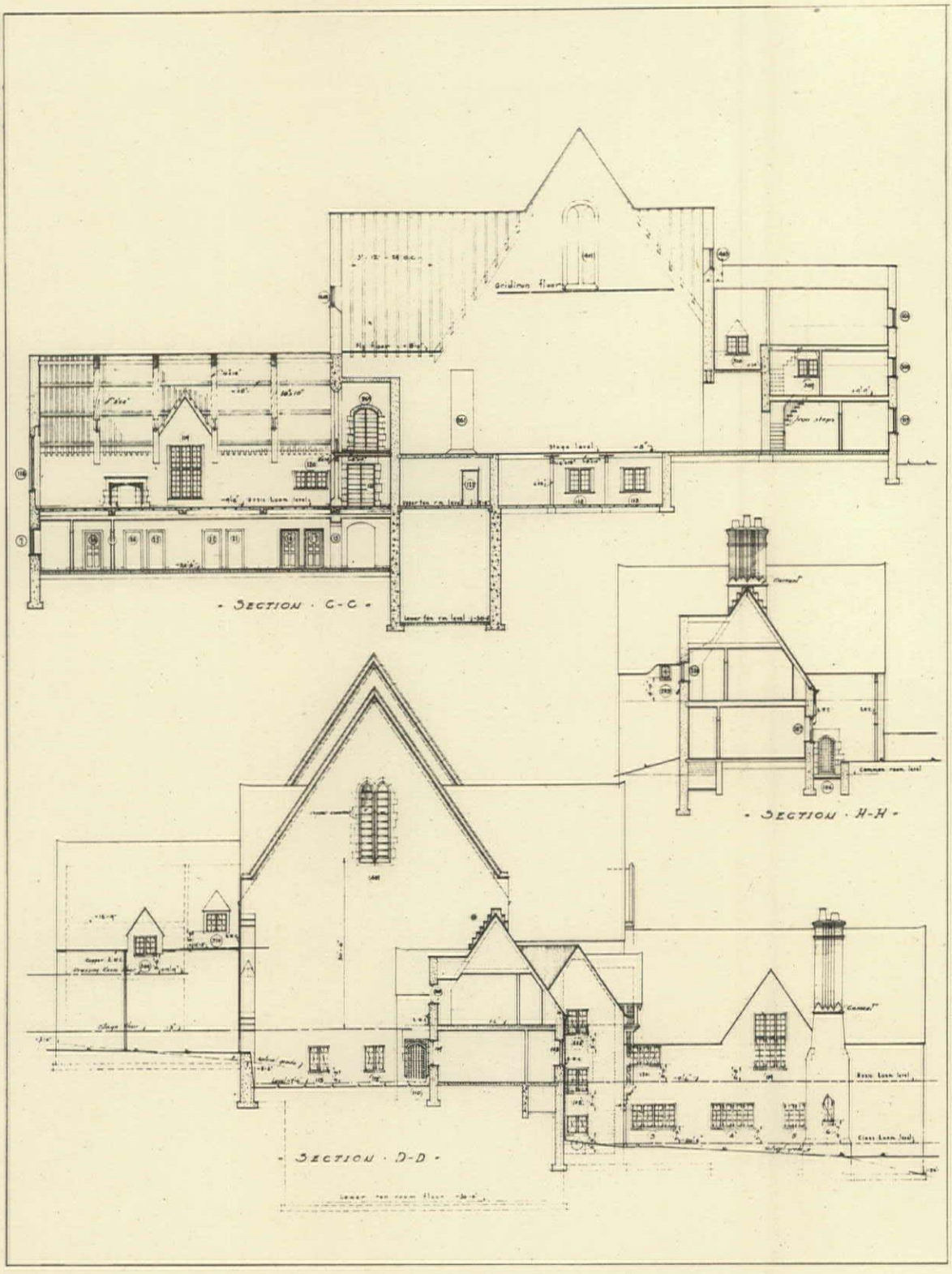


Photo Rittase

Stair Gable
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Detail Drawings
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

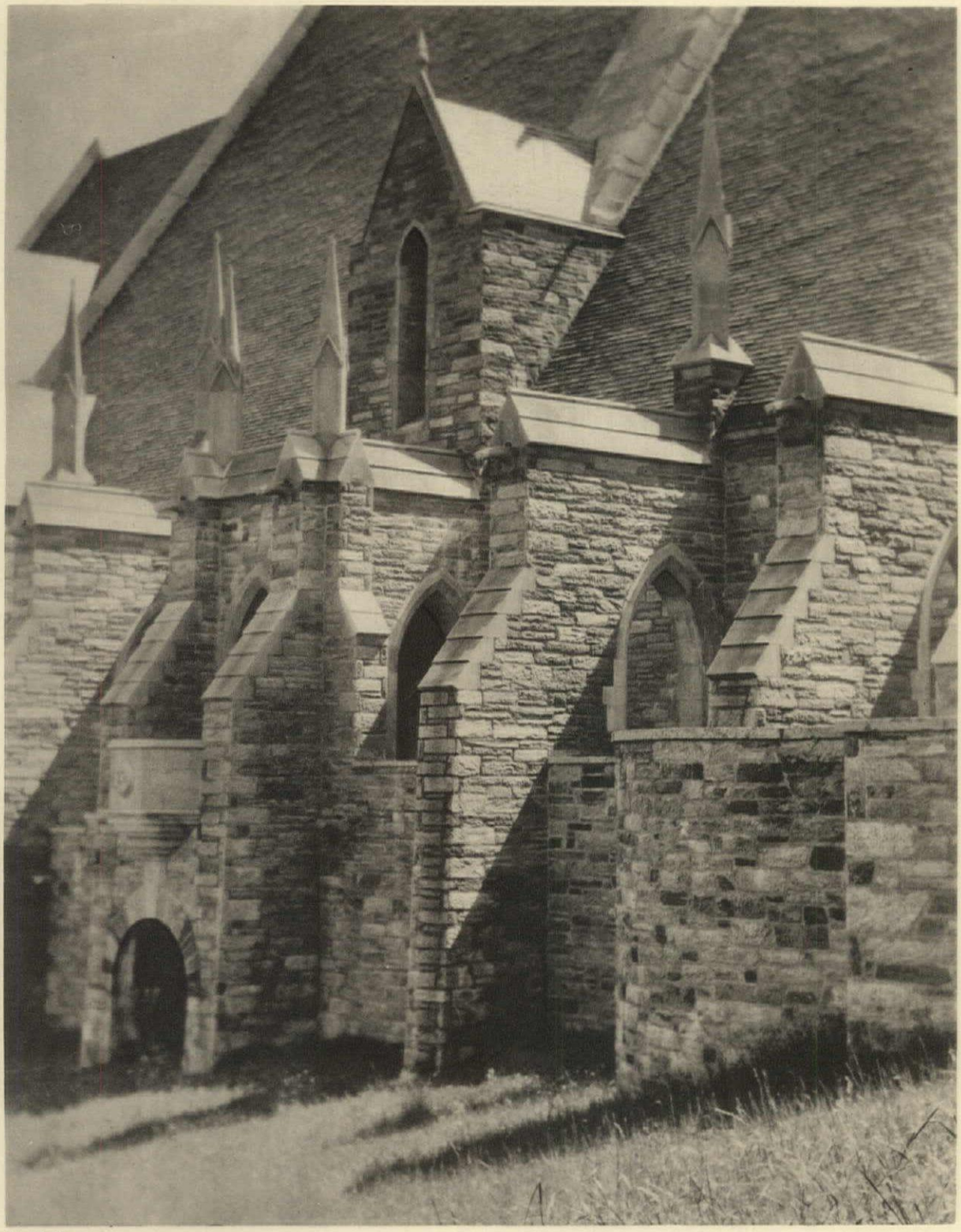
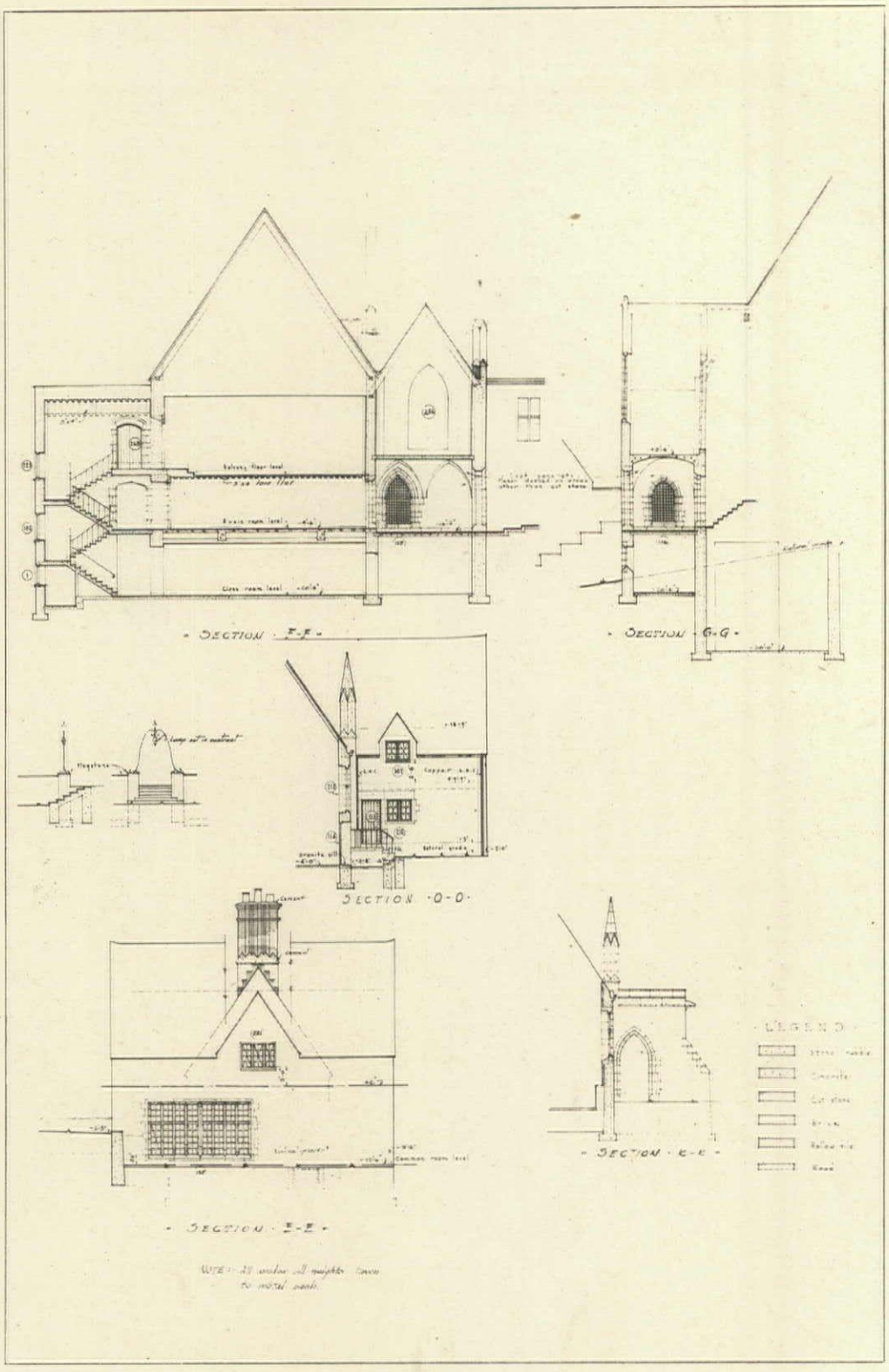


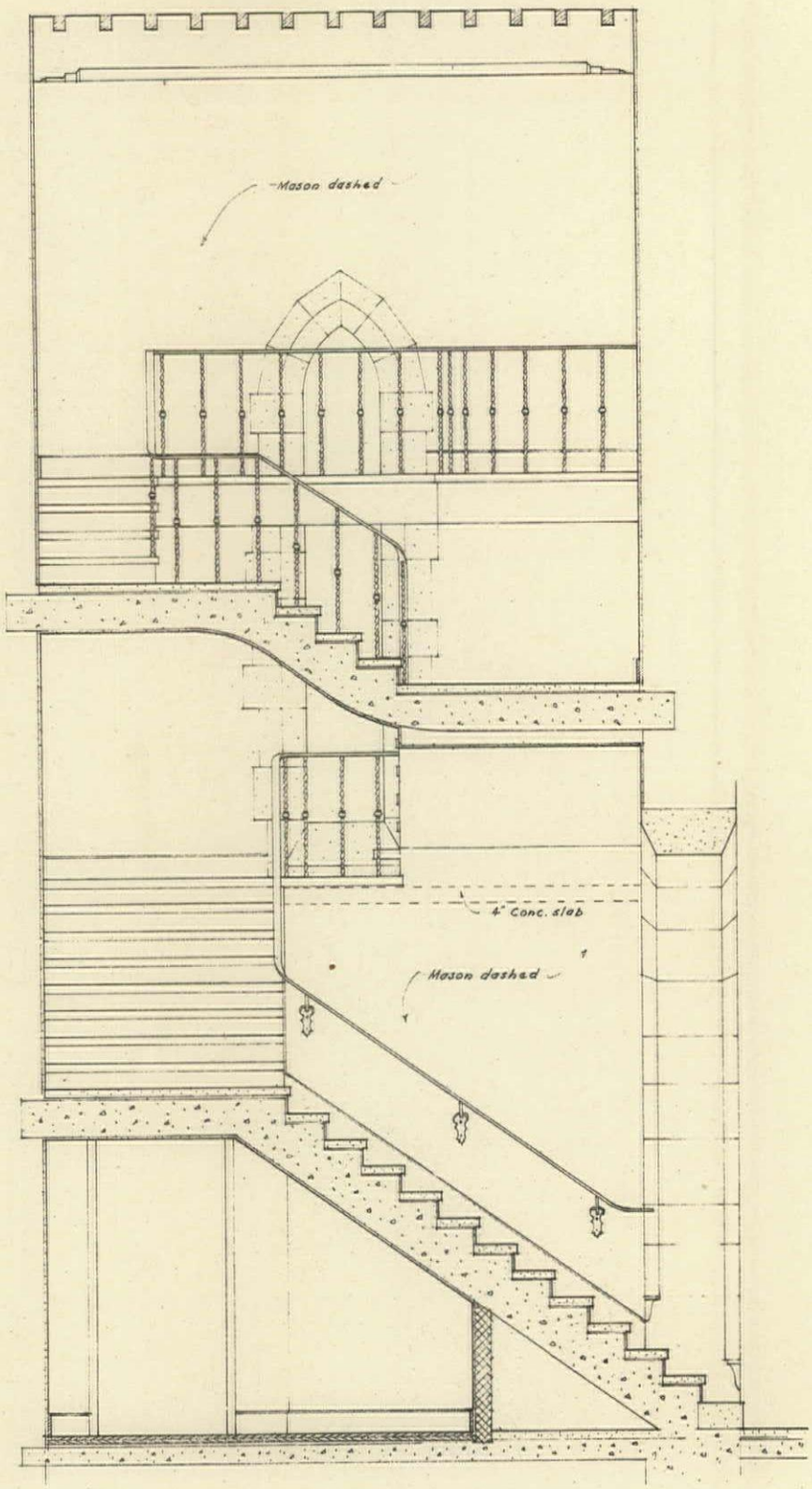
Photo Rittase

Balcony on Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Detail Drawings
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

View from beneath the Organ Chamber
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



SECTION B-B
DETAIL OF STAIR HALL
MARJORIE WALTER GOODHART HALL
BRYN MAWR COLLEGE ~ PA
MELLOR, MEIGS & HOWE ~ ARCH'TS
PHILADELPHIA ~ PENNA

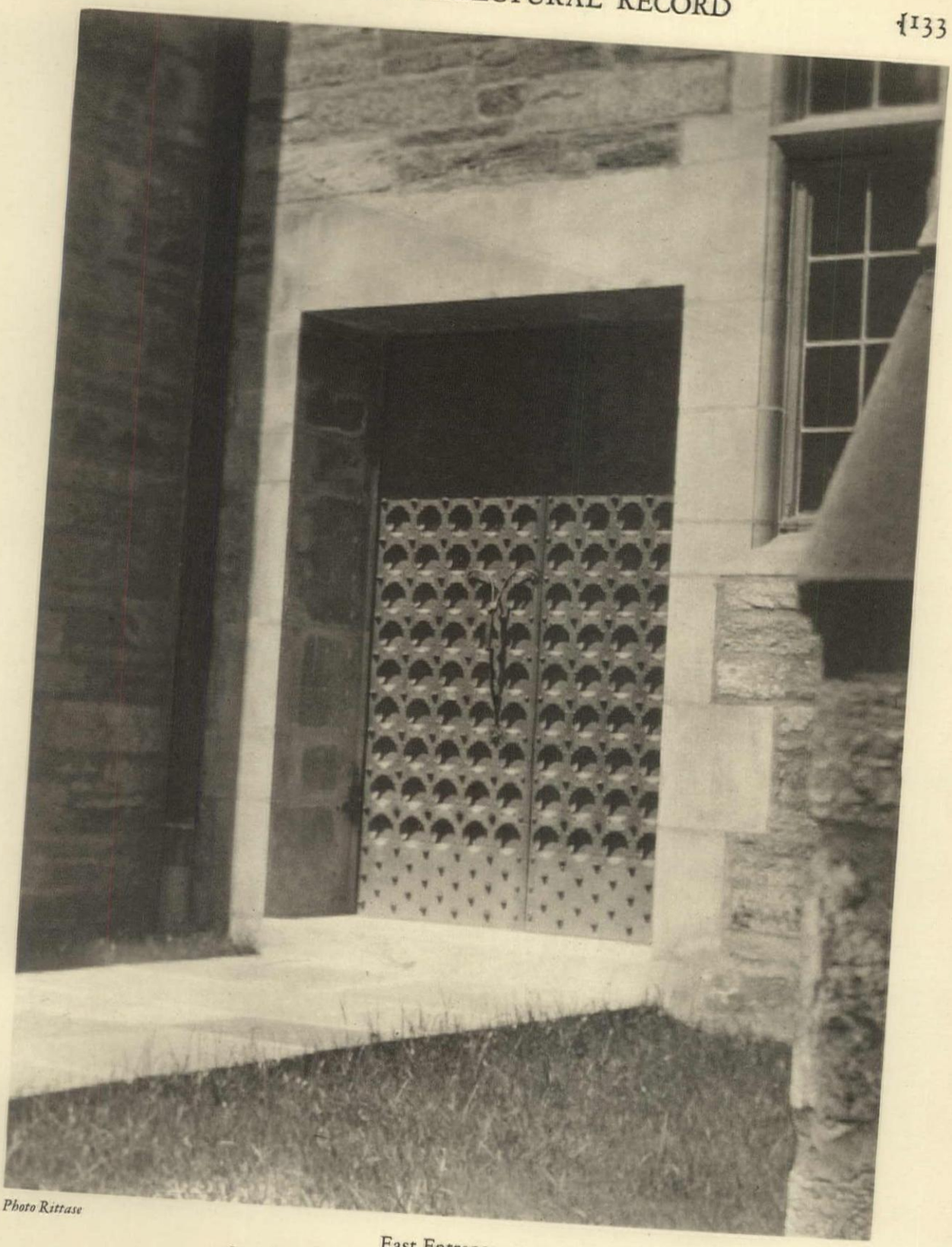
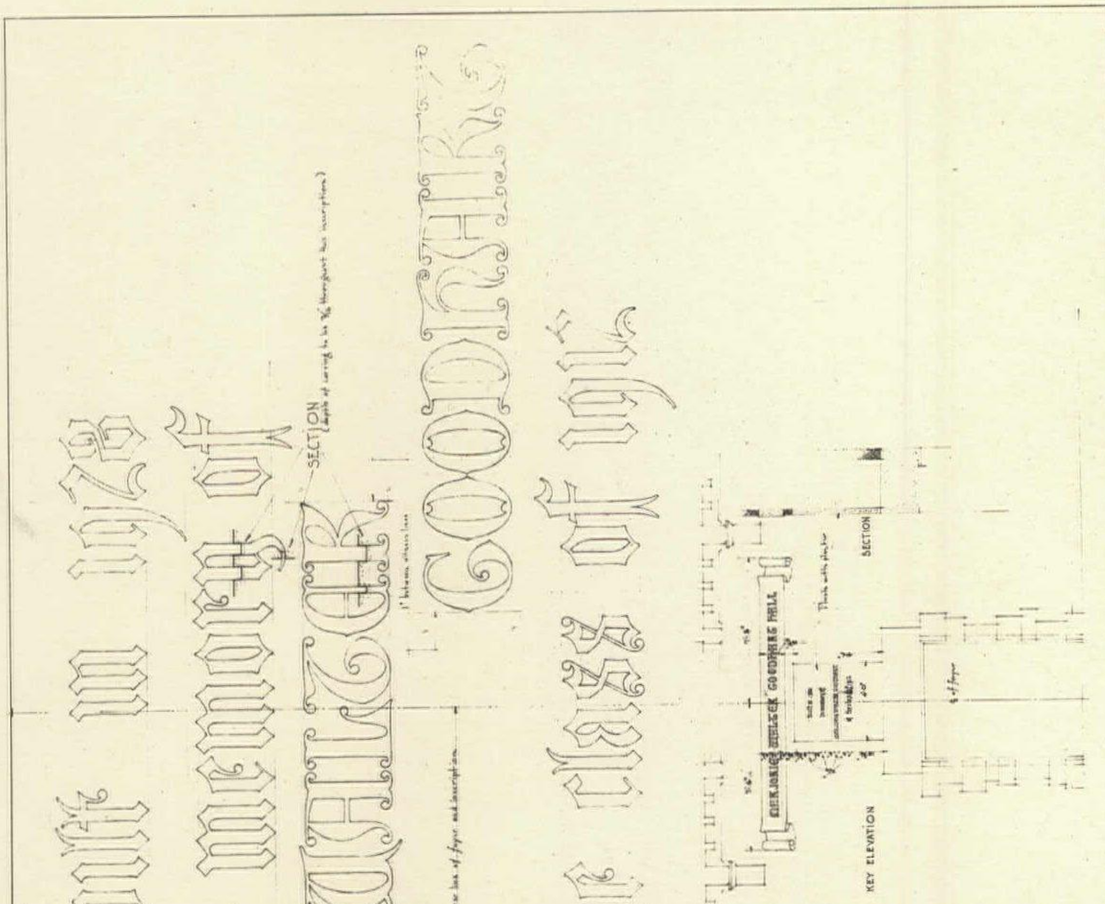


Photo Rittase

East Entrance
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



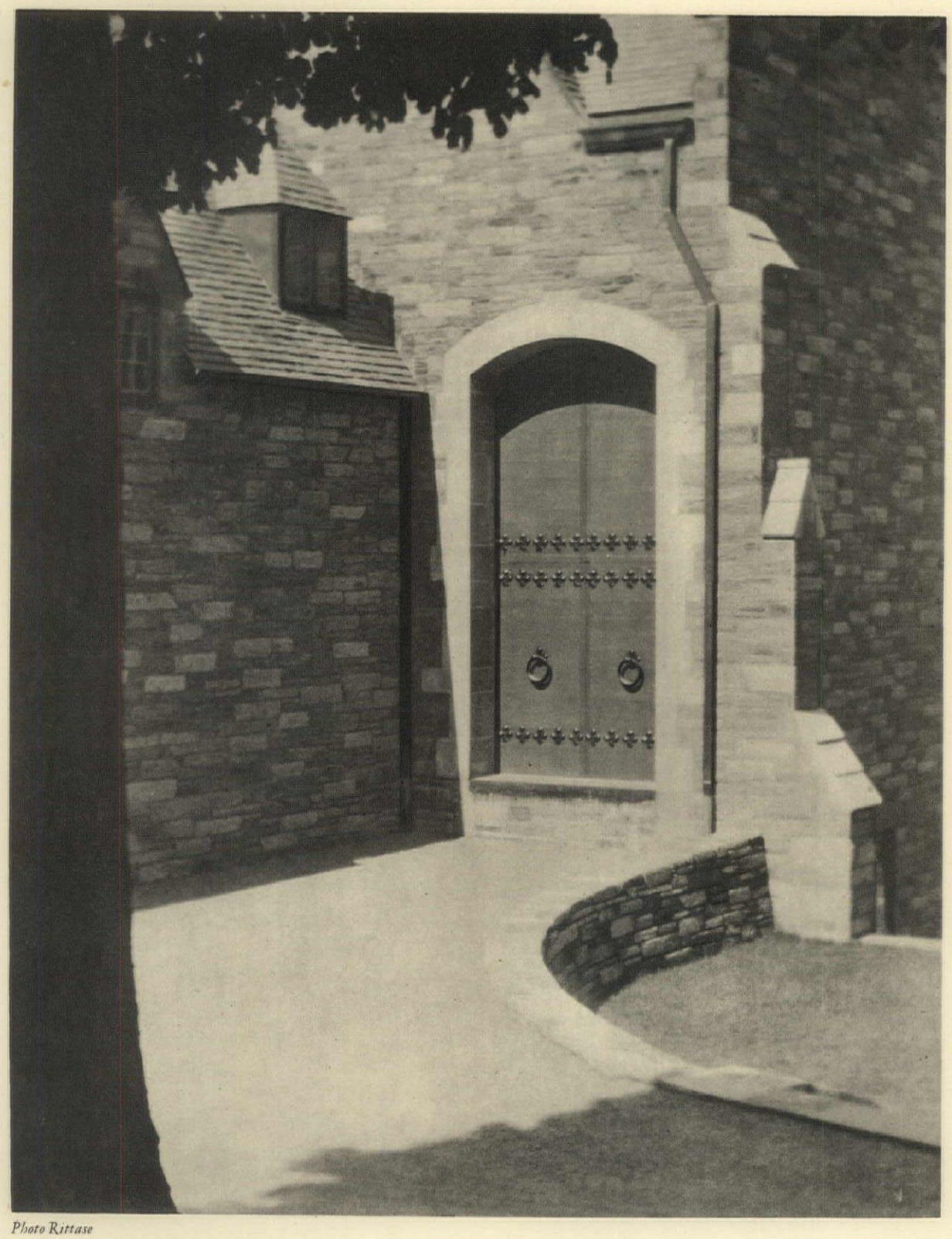
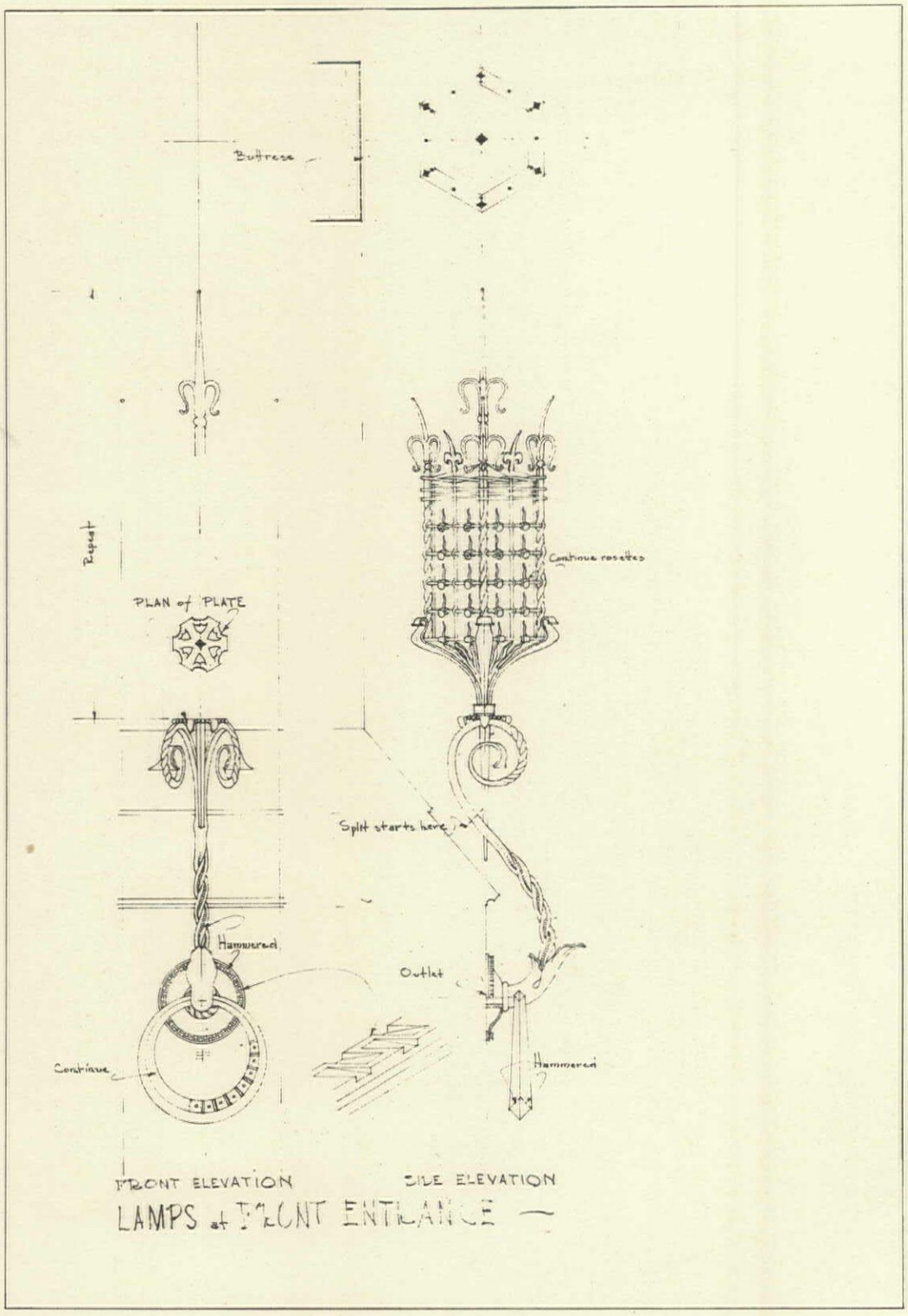


Photo Rittase

Stage Scenery Door
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Detail Drawing of Lamp
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Photo Rittase

Green Room Entrance
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

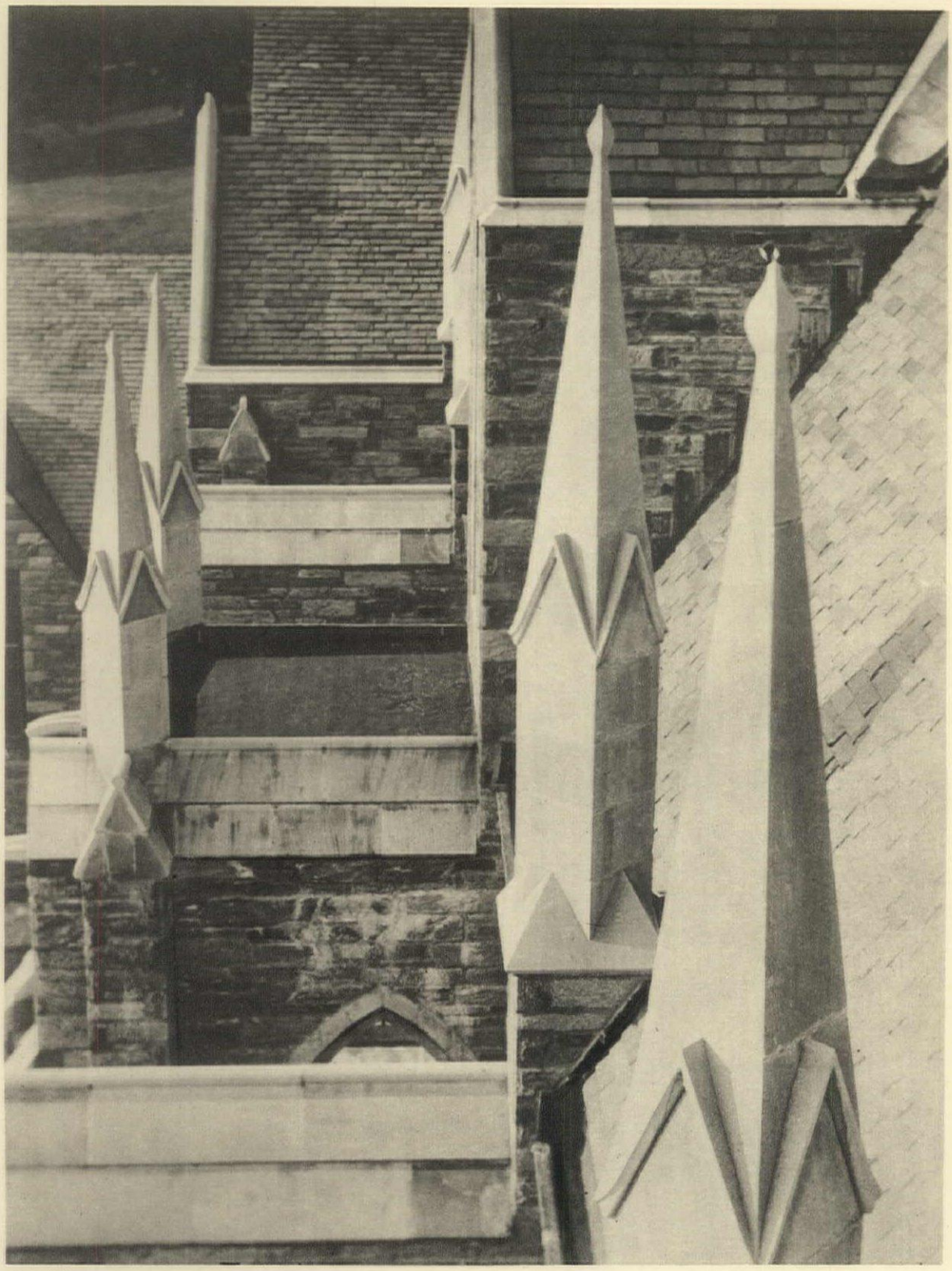
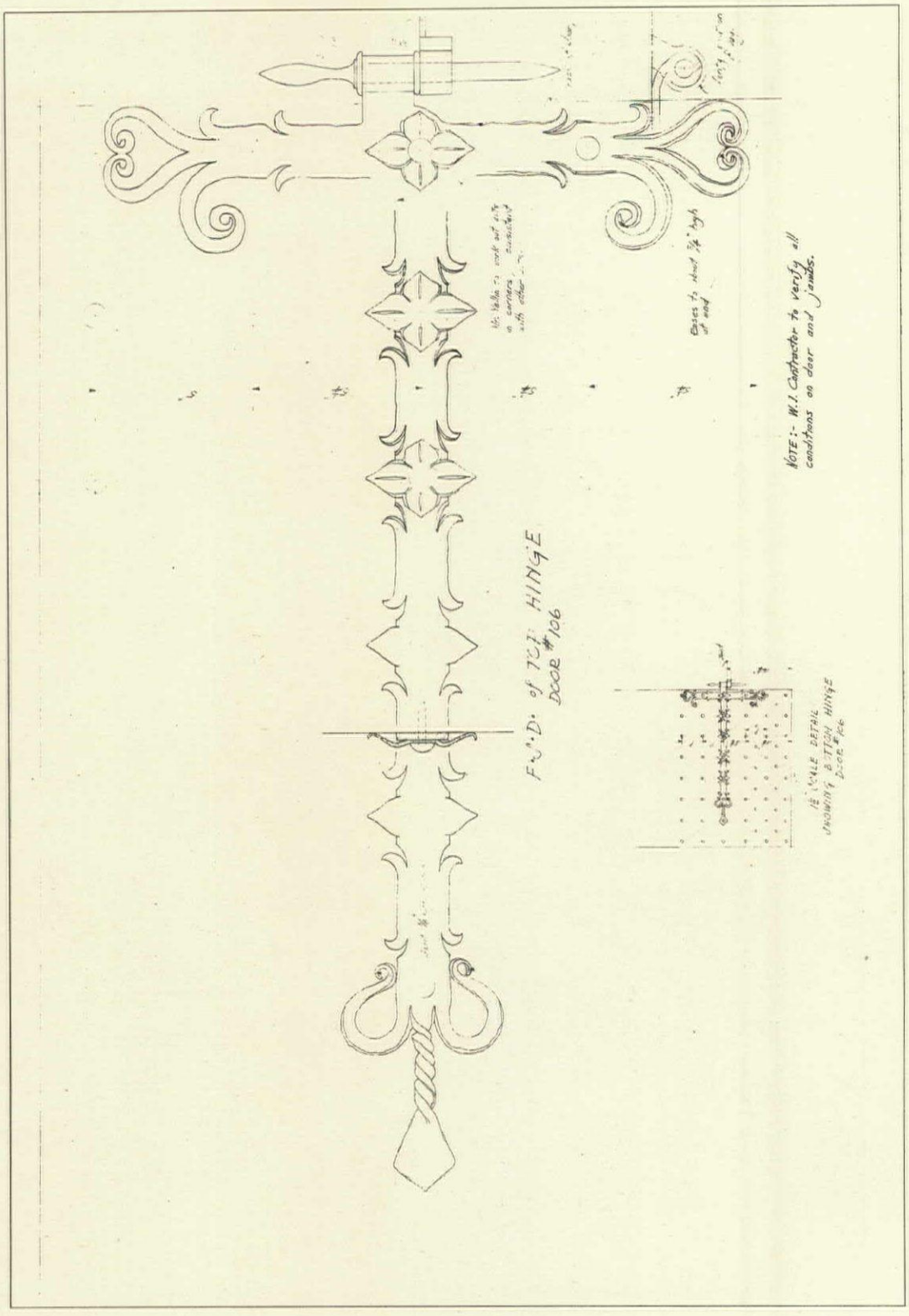


Photo Rittase

Pinnacles
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Hinge Detail
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Photo Rittase

The Flèche
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

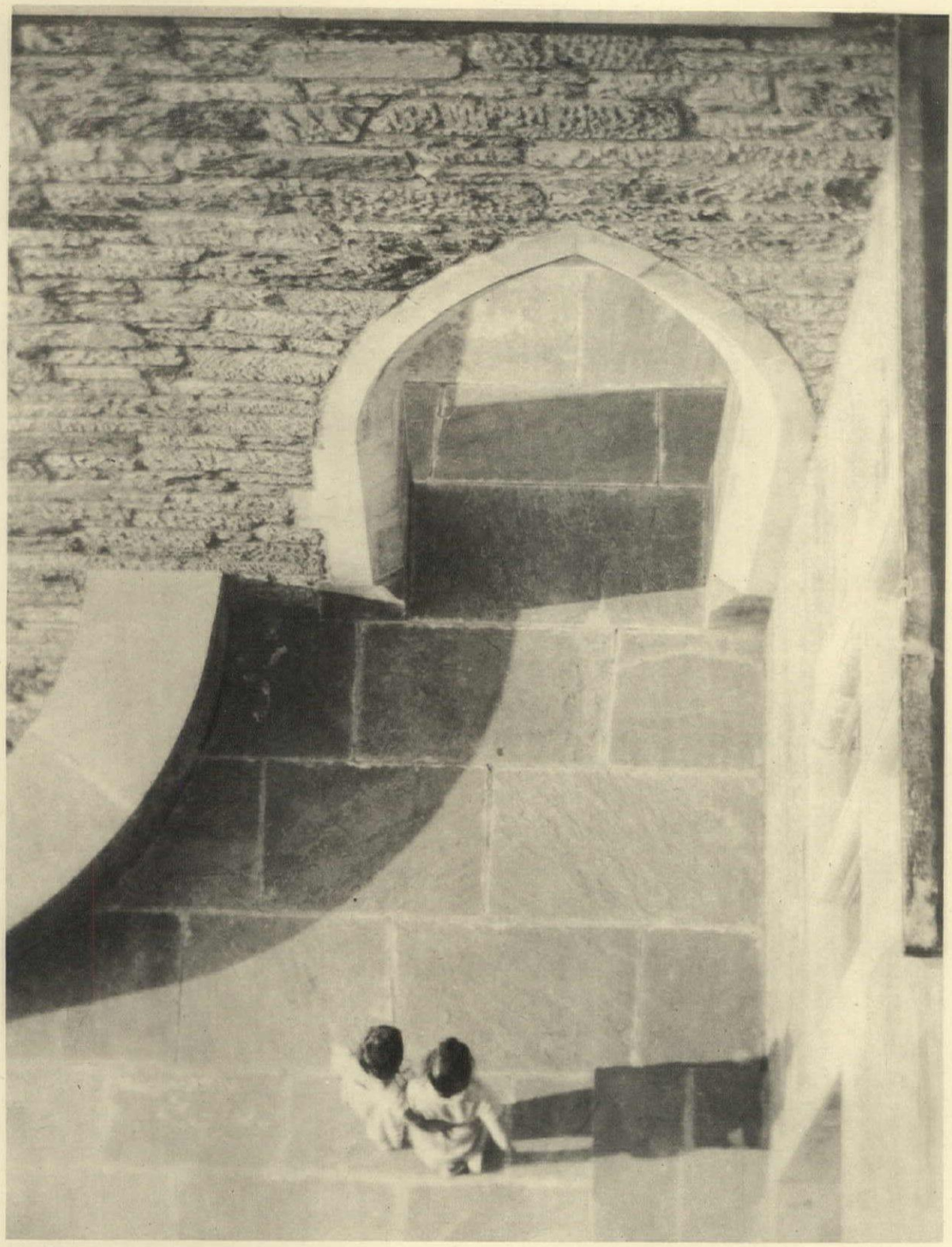
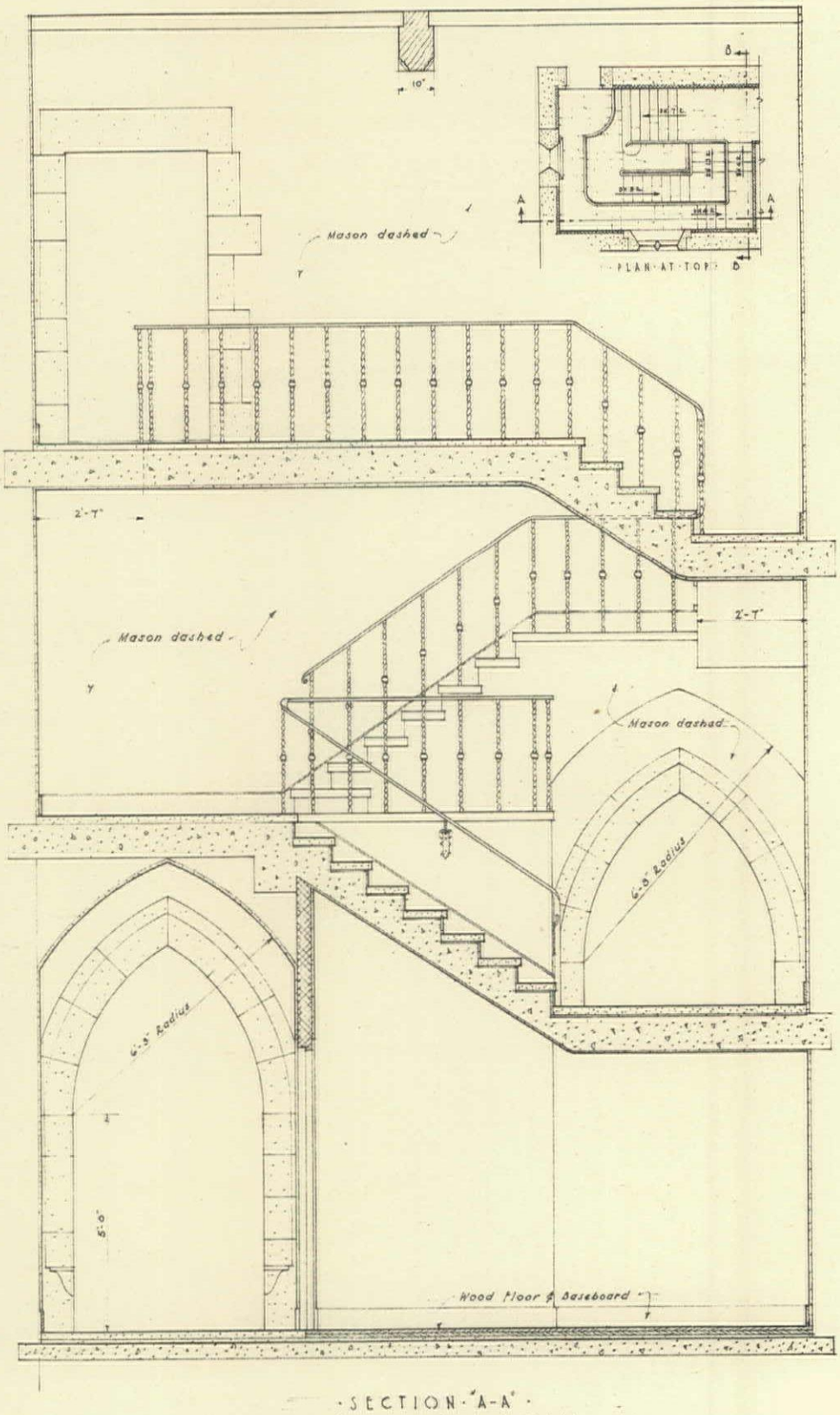


Photo Rittase

Bird's Eye View of Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Photo Rittase

Deck over Foyer
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

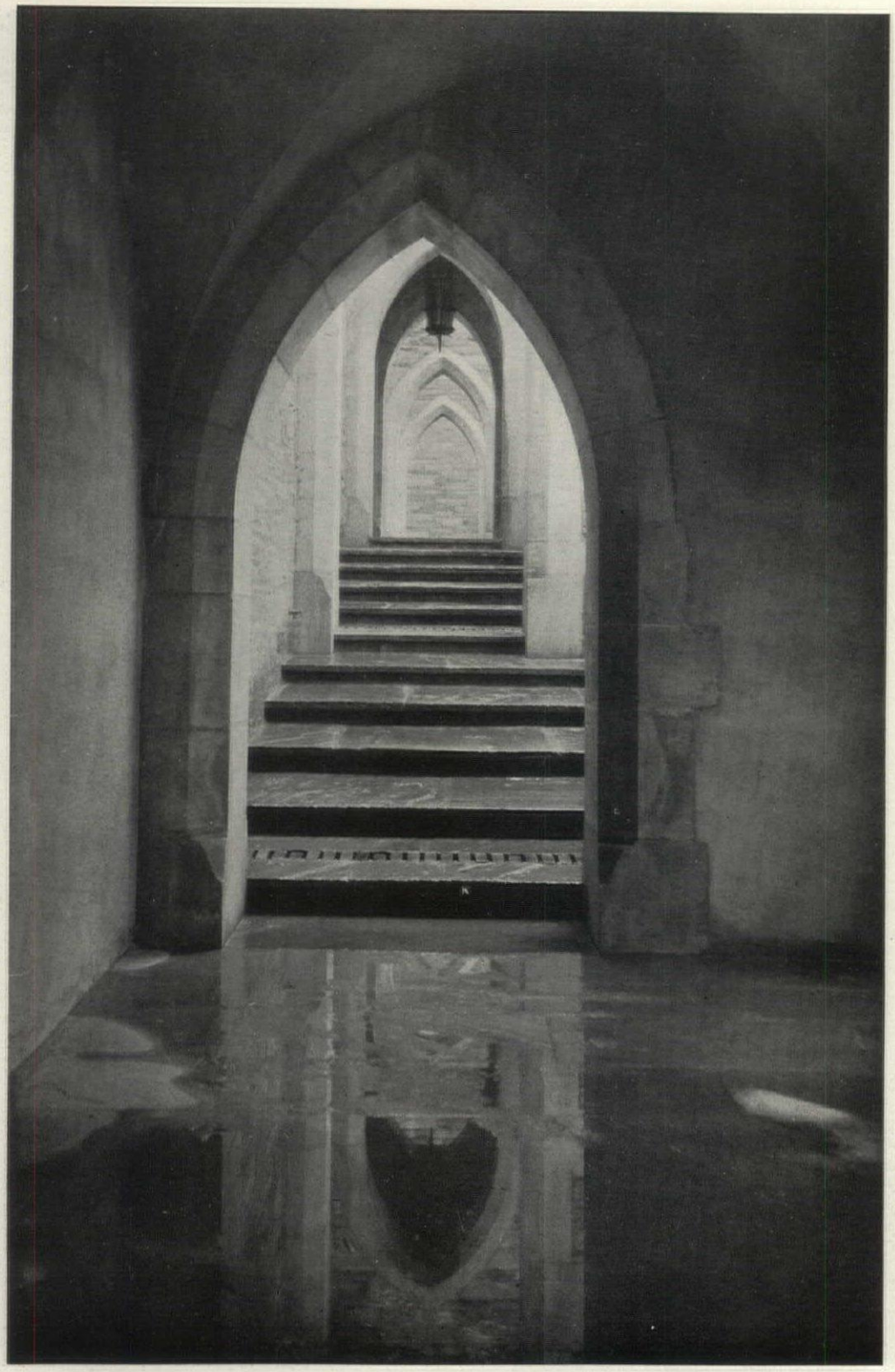


SECTION "A-A"
DETAIL OF STAIR HALL
MARJORIE WALTER GOODHART HALL
BRYN MAWR COLLEGE ~ PA.
MELLOR, MEIGS & HOWE ~ ARCH'TS
PHILADELPHIA ~ PENNA.

Stairway and Balcony
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Photo Rittase

Common Room Fireplace
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



THE ARCHES OF THE MUSIC WALK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

DOOR FROM AUDITORIUM TO MUSIC WALK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

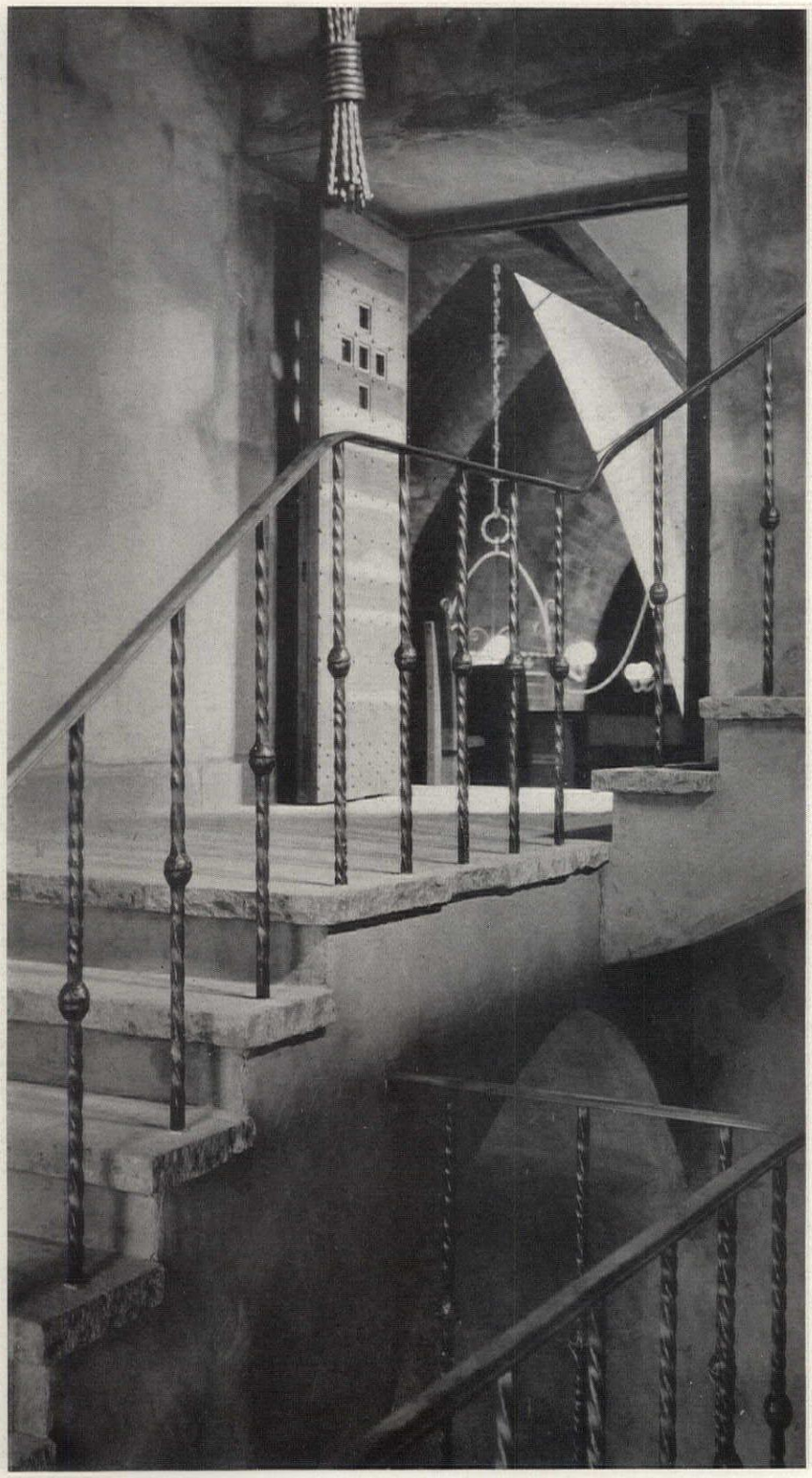
Photo, Rittase

ORCHESTRA PIT AND STAIRS TO STAGE

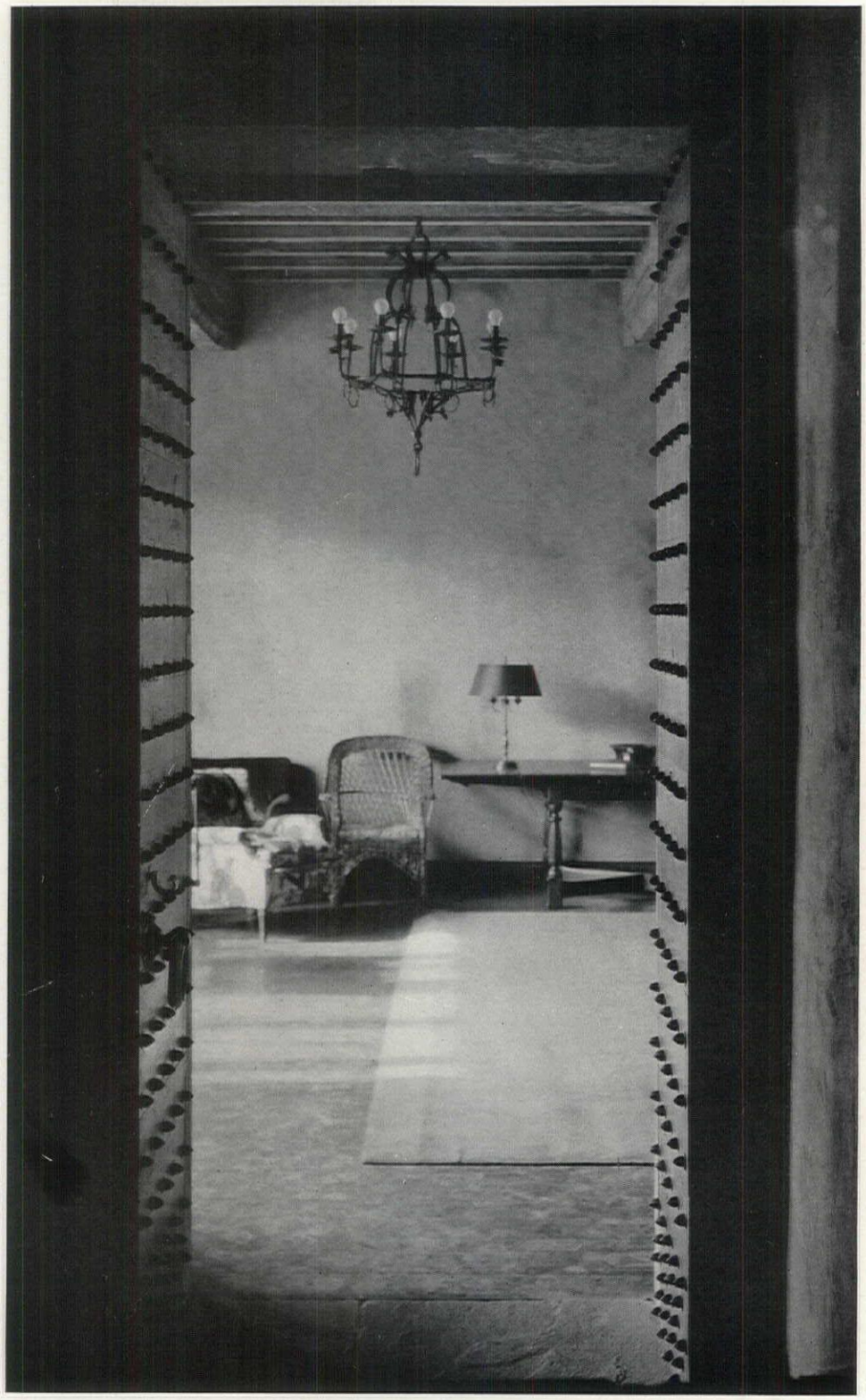
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS

GARGOYLES SEEN THROUGH A WINDOW
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



STAIRS TO BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



ENTRANCE TO COMMON ROOM
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

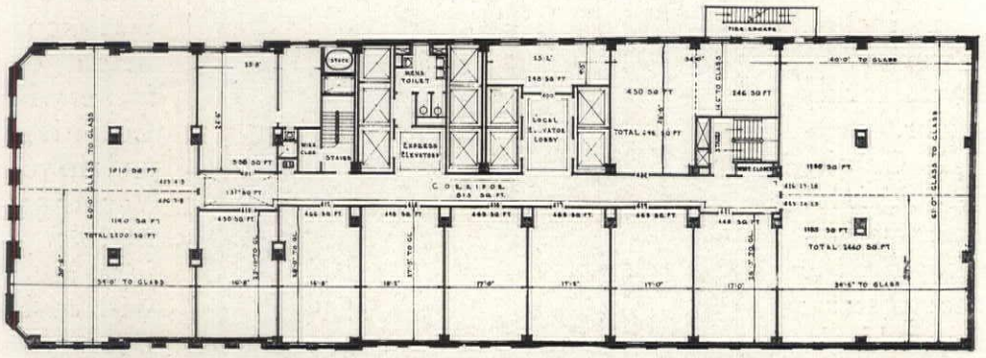
333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS

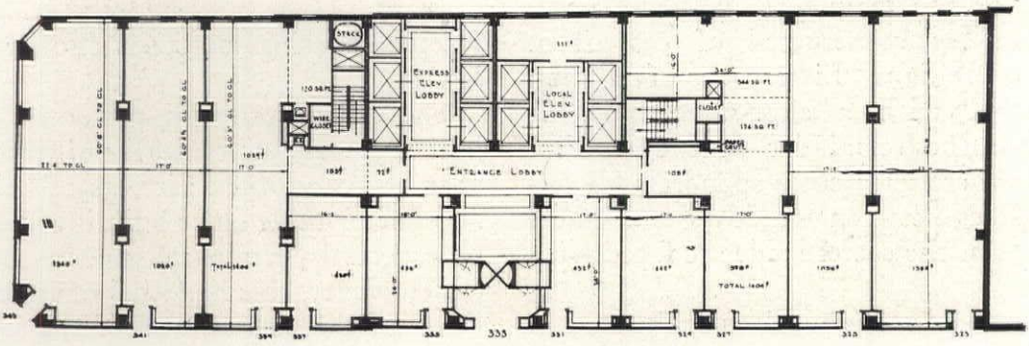
THE OPEN site of the 333 North Michigan Avenue Building gives it a striking prominence which the architects have emphasized by placing a tower on the plaza end. The axial relation of the plot to the bridge opposite and the limited width on Wacker Drive, determined by Michigan Avenue on the west and by Beaubien Court on the east, give a sentinel quality to the structure.

Because of the relatively small area, 62 by 200 feet, economy of space demanded even greater consideration than is usual for buildings of its type; therefore the entrance and the elevator lobbies were placed in the center of the length to permit the most flexible and economical subdivisions with a minimum amount of corridor space. And because of the possibility of an eastern addition the elevators were located on that boundary in order that they might be continued in the new part.

The lot area is 12,300 square feet with the renting area of a typical floor ranging from 9,400 to 9,700 and comprising slightly over 77 per cent of the whole. The total renting area is 273,600 square feet. The tower occupies one-fourth of the ground. Column spacing is approximately 17 feet throughout, allowing subdivided offices of eight feet in width. There are four local elevators running to the twelfth floor and



TYPICAL FLOOR PLAN (LOWER ELEVEN FLOORS)



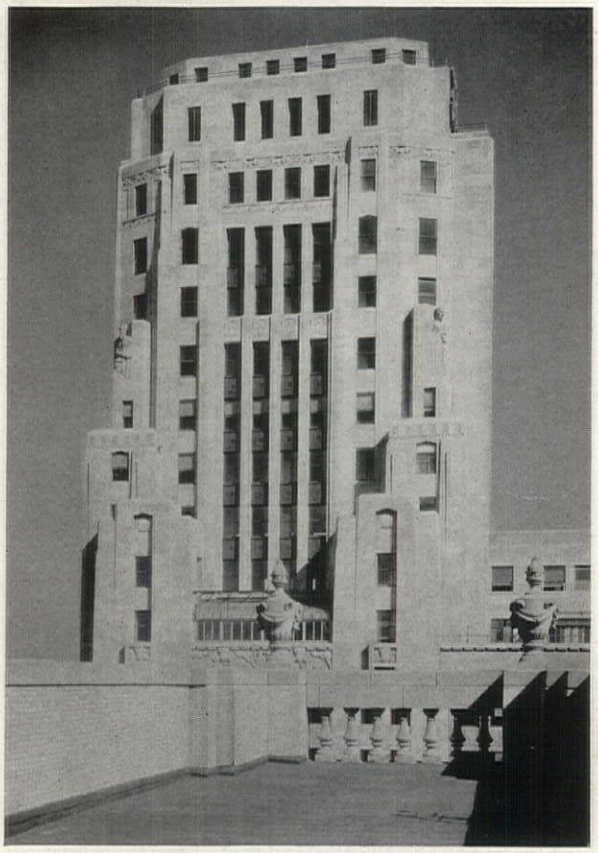
PLAN OF ENTRANCE FLOOR

BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

six express elevators to higher floors.

The major block of the building rises twenty-four stories above the upper Michigan Avenue level (260 feet) and the tower extends eleven stories higher, reaching a total of 426 feet. The first three stories are devoted to shops and the remainder to offices. On the lower level of the avenue is a storage floor serving the shops above. Under this is a large undivided floor for club purposes and a two-story boiler room, forming a total depth of 43 feet below the upper avenue level. The first story height is 13 feet 6 inches, the second is 11 feet 6 inches, and the third, 11 feet 2 inches. Typical stories are 10 feet 10 inches floor to floor.



DETAIL, UPPER PART OF BUILDING
333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROOT, ARCHITECTS

Oriental Granite from Rockville, Minnesota, was used as a facing for the base of the structure; the colors are black, purple, mauve, gray, and pink. The show windows and outer frames of the main entrance are constructed of cast iron. Bedford Indiana Limestone of a buff color and with a shot-sawn finish is used for the remainder of the exterior except where terra cotta spandrels fill certain spaces between windows and where portions of the eastern side are faced with brick.

The carved stone work is sculptured in a modern manner, flat, sharply incised, and cut back of the wall face with the crisp, chiseled lines throwing shadows which can be distinctly seen from a distance. In the carvings at the sixth floor the growth and history of Chicago are symbolized.

In the entrance and elevator lobbies are floors patterned in Traitel Terrazzo, and the entire walls are covered with large slabs of Greek Verde Antico. Bronze is employed for the frames of the show windows, elevator doors, grilles, mail box and chute, stair railings, mouldings at the cornice line and at intersections of corners, and for the panelled grilles on the ceilings, which are of ornamental plaster. The typical corridors have the same flooring as the main lobby, are wainscoted to a height of 7 feet 2 inches with Vermont Colonial Marble, and have a base of Vermont Cipilon Marble. Their ceilings are of plaster with coved cornices. Doors, transoms and trim are of mahogany. The office floors are finished with a smooth cement to receive covering materials chosen by the lessees.

The design problem presented in this building was not radically different from that of many others; it was to be merely another rentable office building. Therefore no especially original composition resulted. However, this handling of the exterior lines, of the masses, and of the set-backs required by the zoning ordinance, is one more natural interpretation of present-day practical construction.

Photo, Tebbs & Knell

BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

Photo, Tebbs & Knell

ENTRANCE DETAIL

BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

Photo, Tebbs & Knell

ENTRANCE CORRIDOR

BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

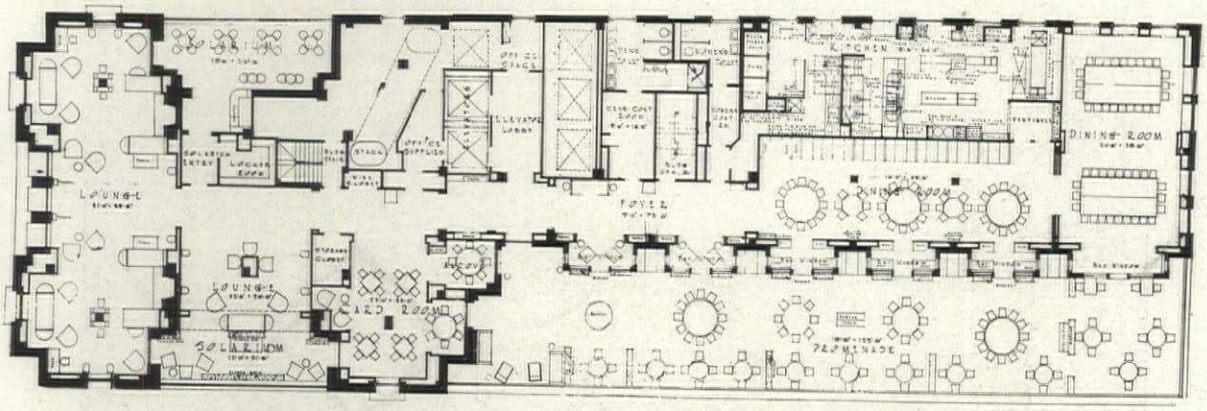
Photo, Tebbs & Knell

CONFERENCE ROOM IN OFFICE OF MESSRS. HOLABIRD & ROOT
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

THE TAVERN CLUB

AT

333 NORTH MICHIGAN AVENUE, CHICAGO



PLAN OF TAVERN CLUB ON TWENTY-FIFTH FLOOR OF BUILDING

Photo, Fuermann

SMOKING ROOM

CARD ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

Photo, Fuermann

THE DINING ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

Photo, Fuermann

LOUNGE AND READING ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

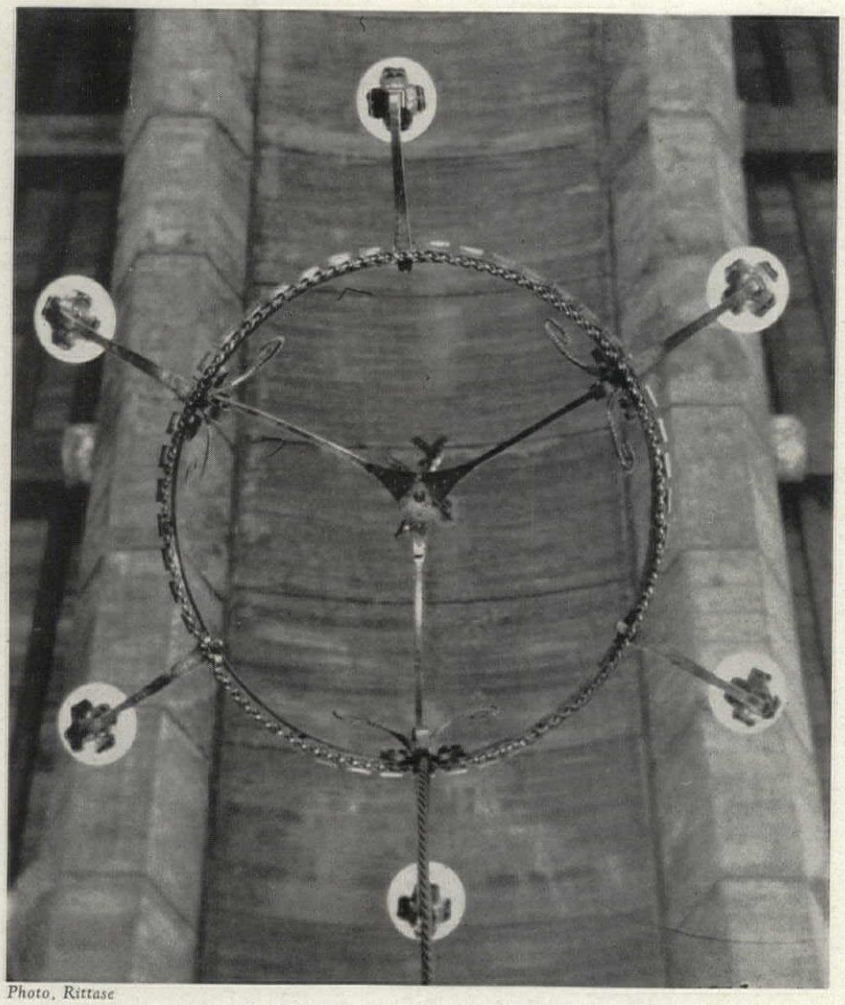
Photo, Tebbs & Knell

MANTEL IN LOUNGE

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

ALLIED ARTS
AND
CRAFTSMANSHIP



Photo, Rittase

MAIN CHANDELIER FROM BELOW
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
SAMUEL YELLIN, IRON CRAFTSMAN

Featuring

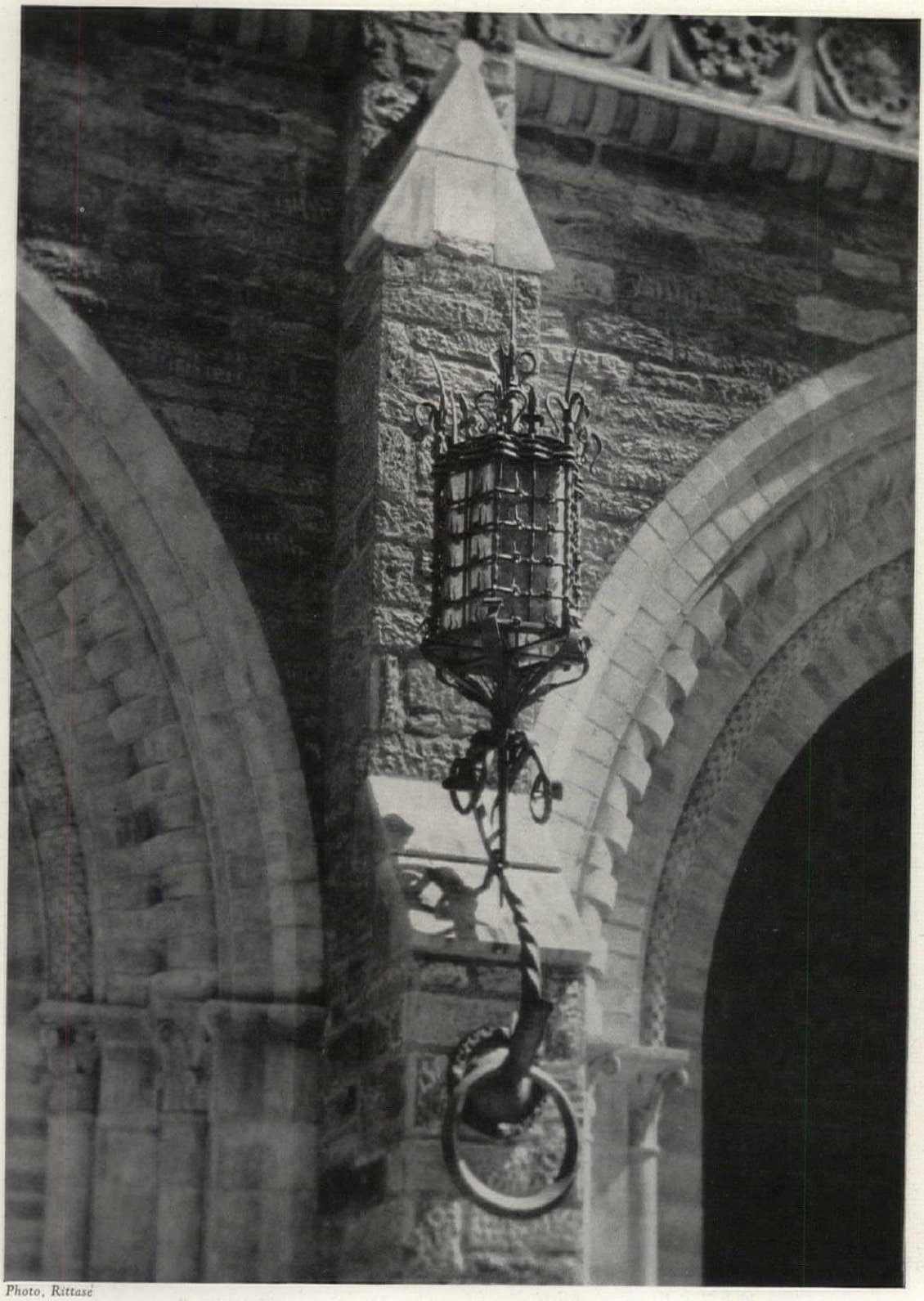
GOODHART HALL, BRYN MAWR COLLEGE

Photo, Rittase

LAMP FOR SUNKEN GARDEN

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN

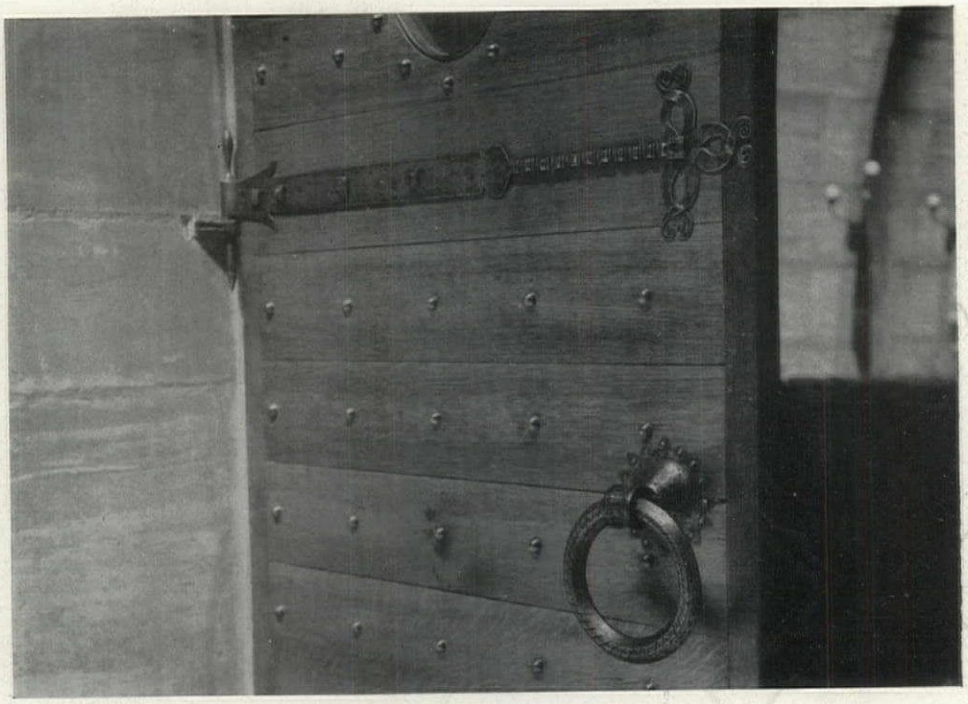


Photo, Rittase

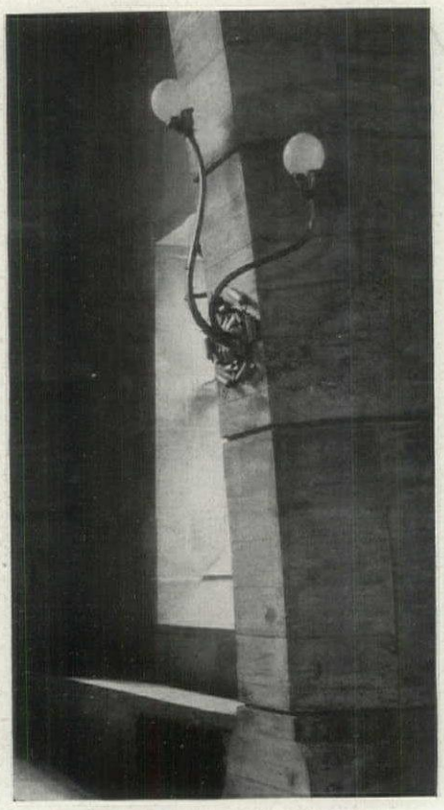
MAIN ENTRANCE LANTERN

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

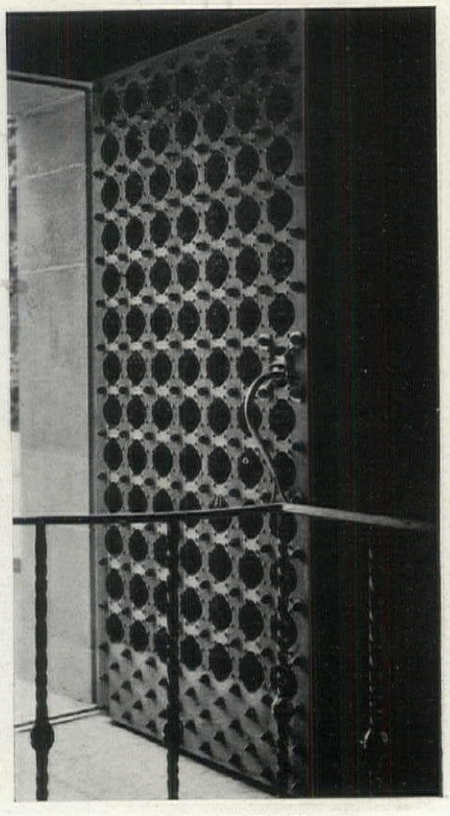
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN



HINGE AND HANDLE FOR FOYER DOOR



SIDE BRACKET IN AUDITORIUM

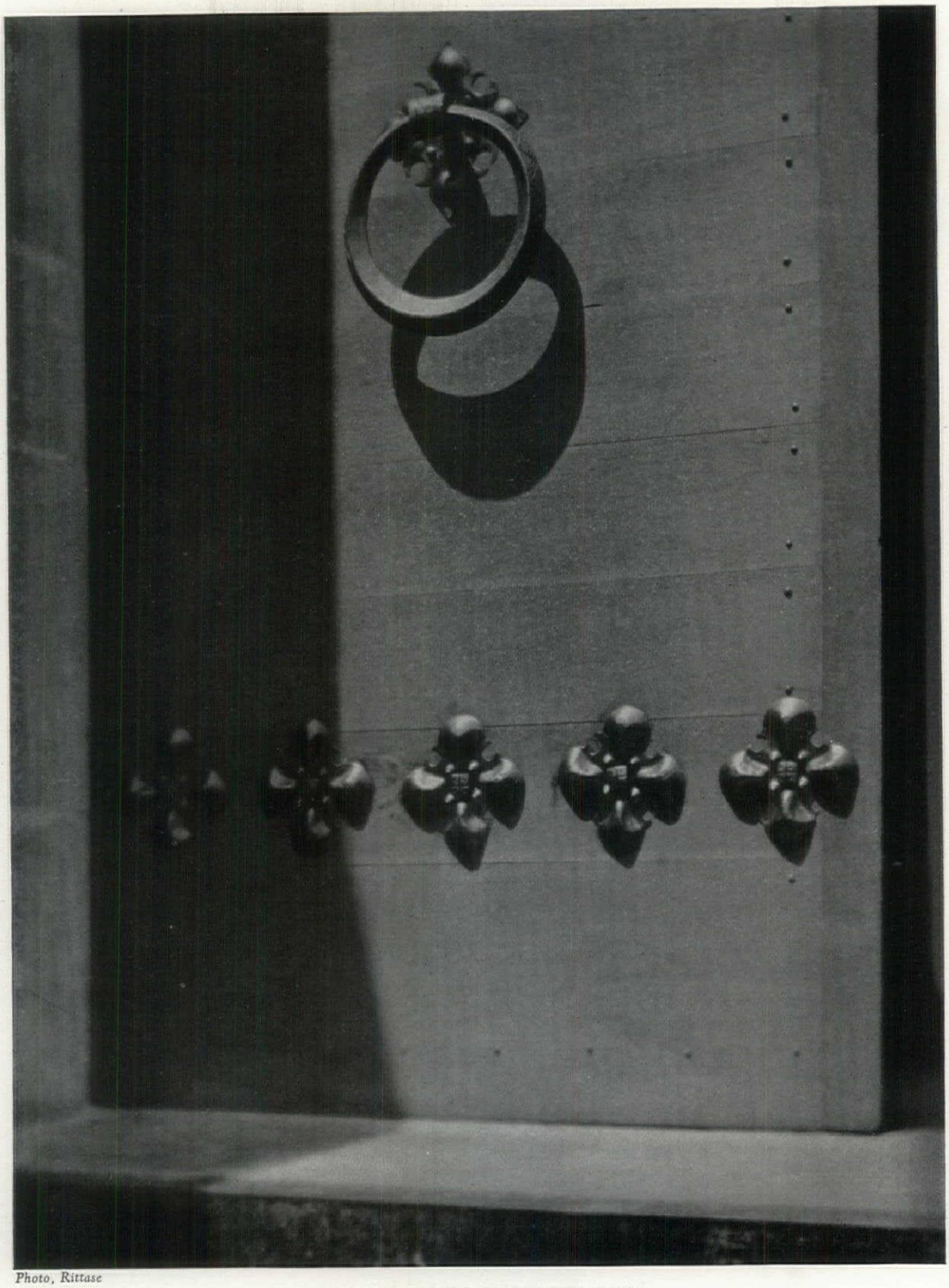


DOOR TO DECK

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN

ORNAMENTAL IRONWORK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN

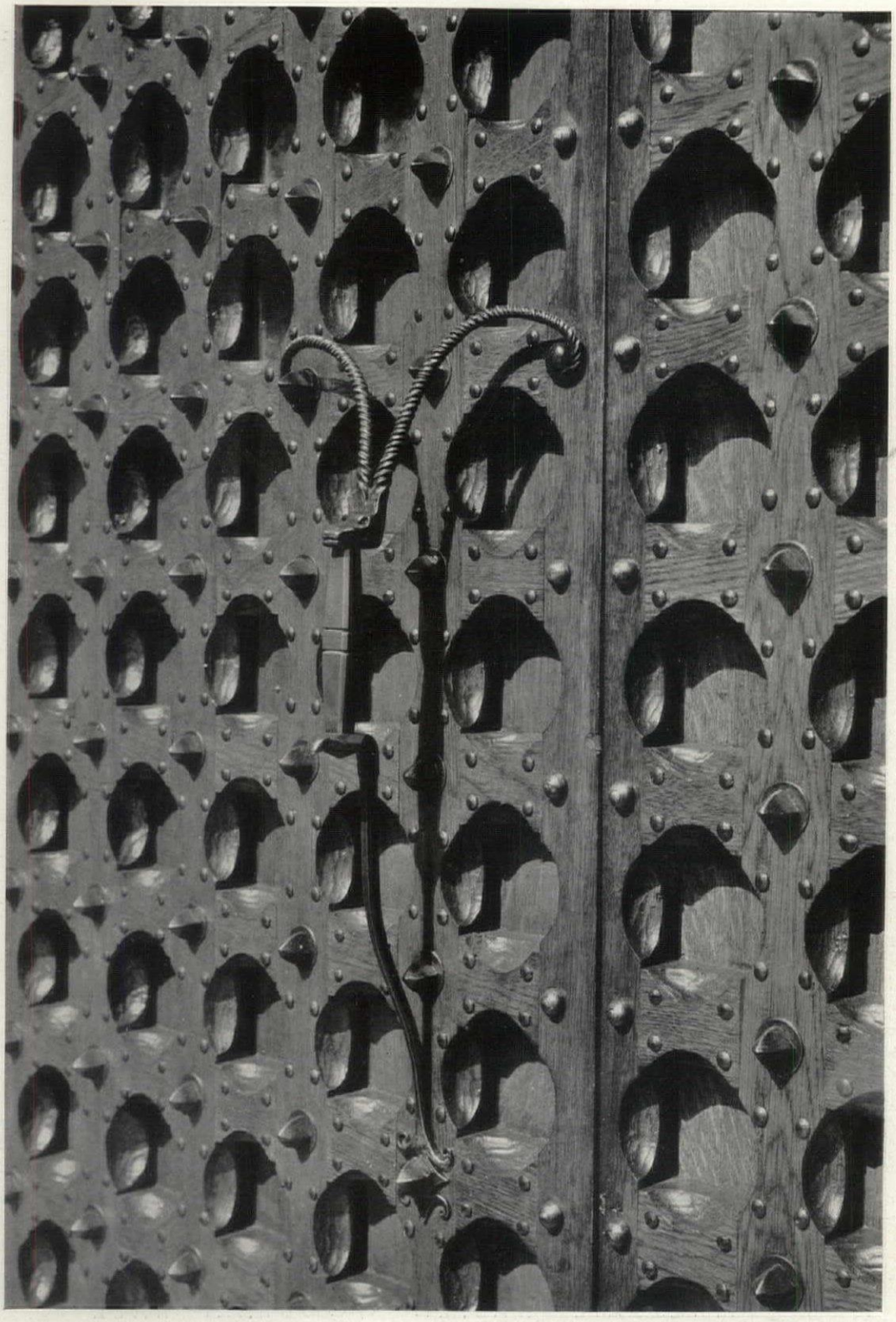


Photo, Rittase

RING AND BOSSES ON SCENERY DOOR

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

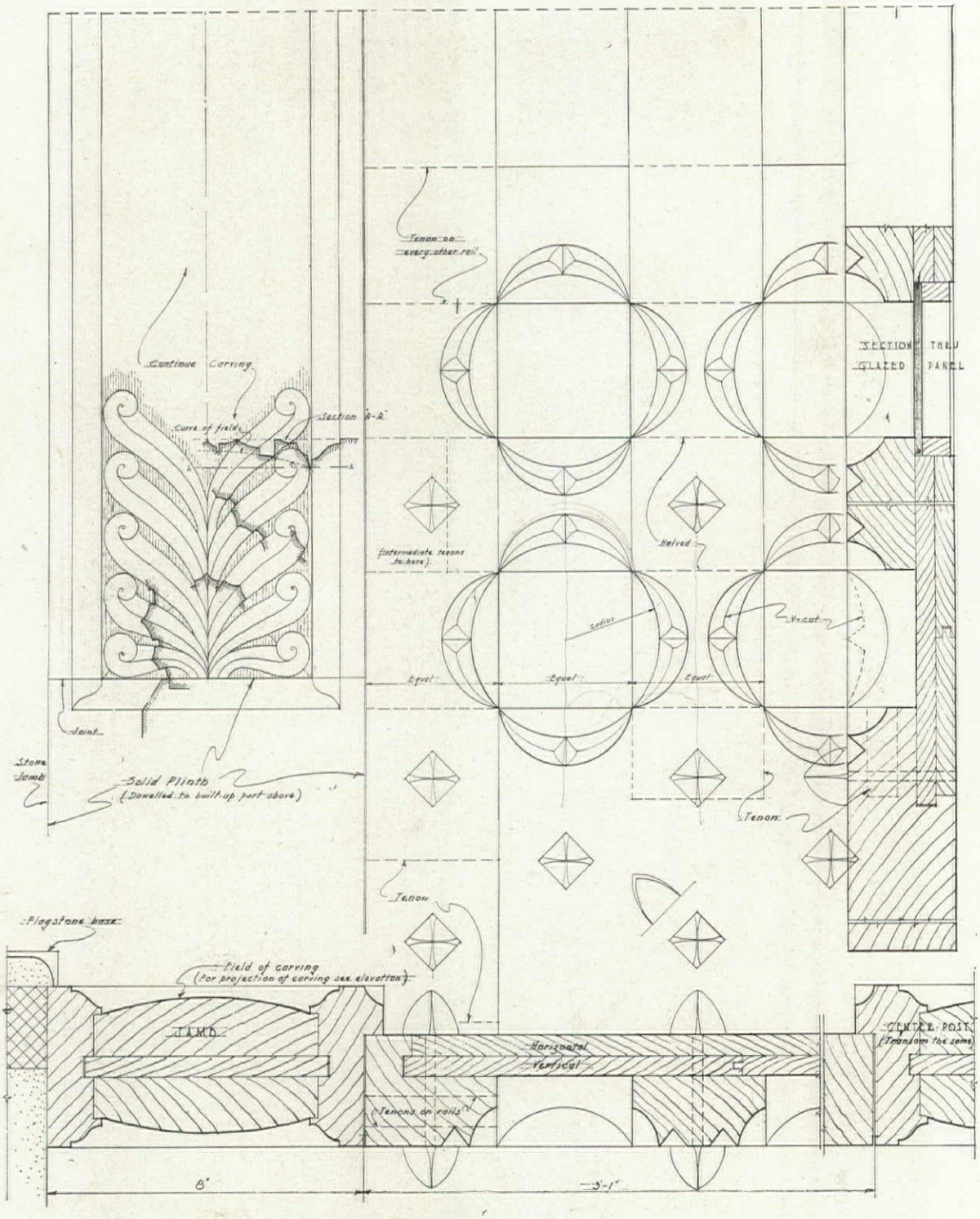
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN



WOOD AND IRON DOOR

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN



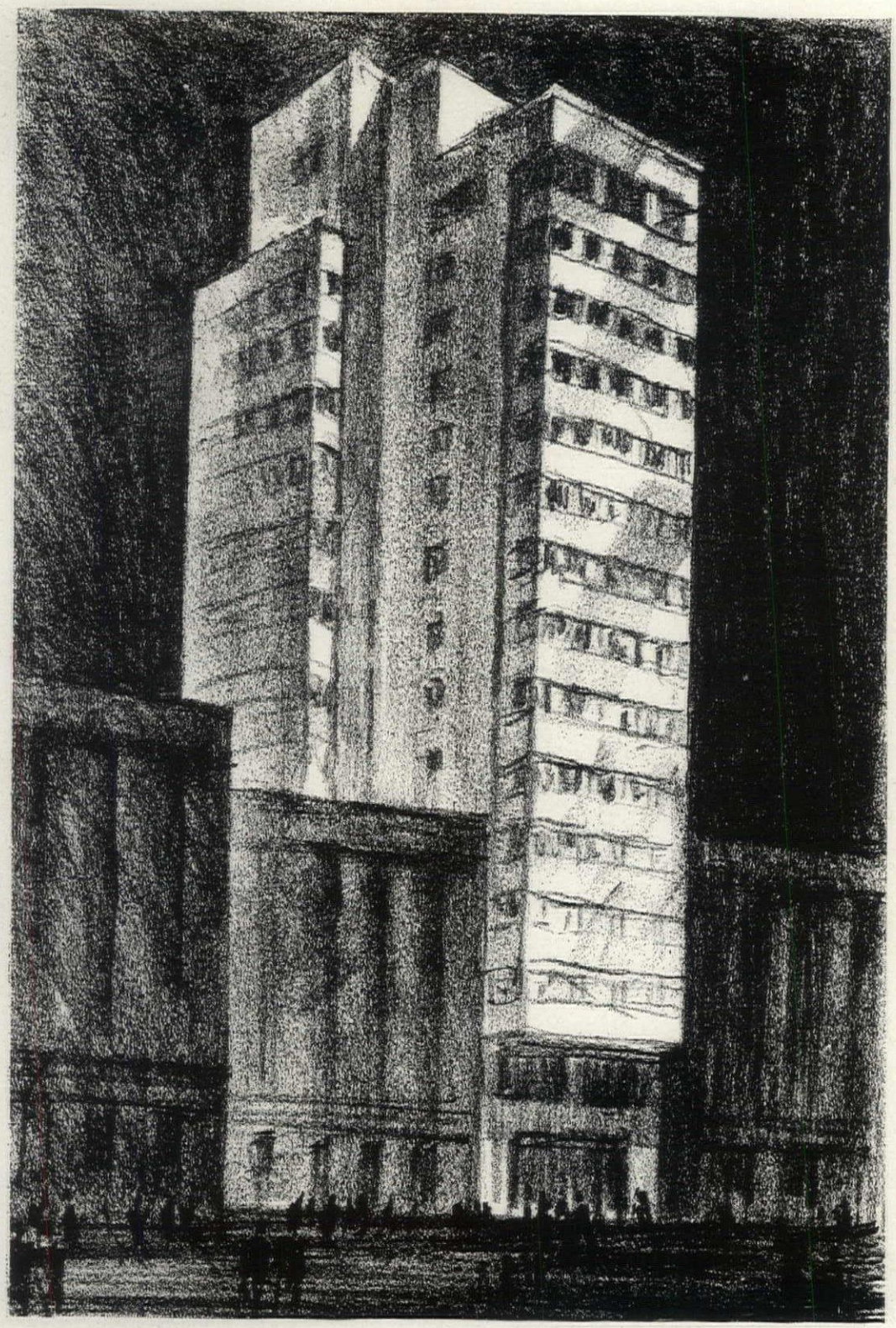
· DETAIL · OF · MAIN · ENTRANCE · DOORS ·

· MARJORIE · WALTER · GOODHART · HALL ·

· BRYN · MAWR · COLLEGE ~ PA

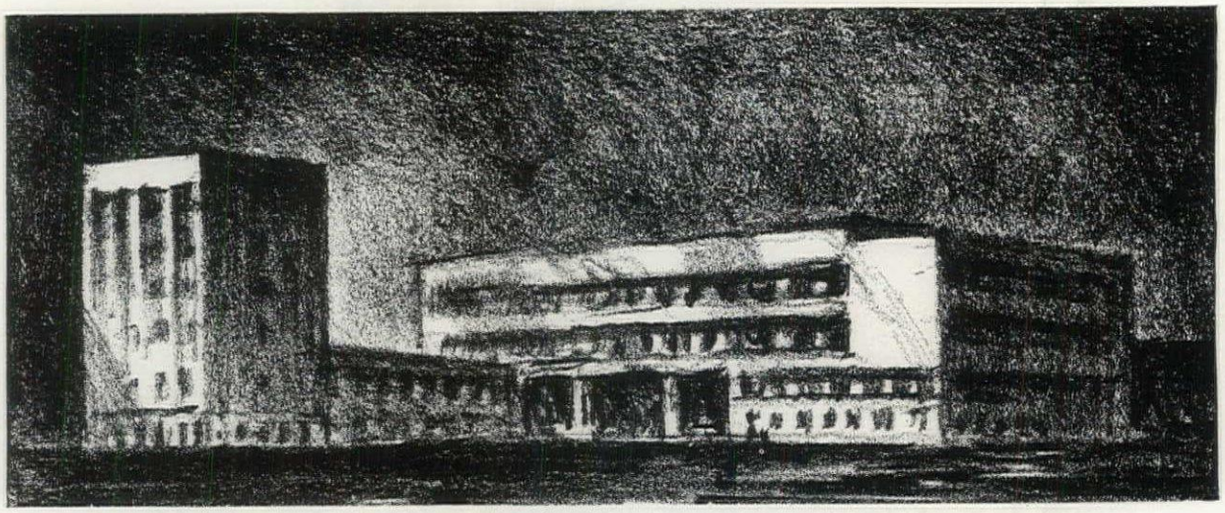
· MELLOR, · MEIGS · & · HOWE ~ ARCH'TS ·

PHILADELPHIA ~ PENNA.



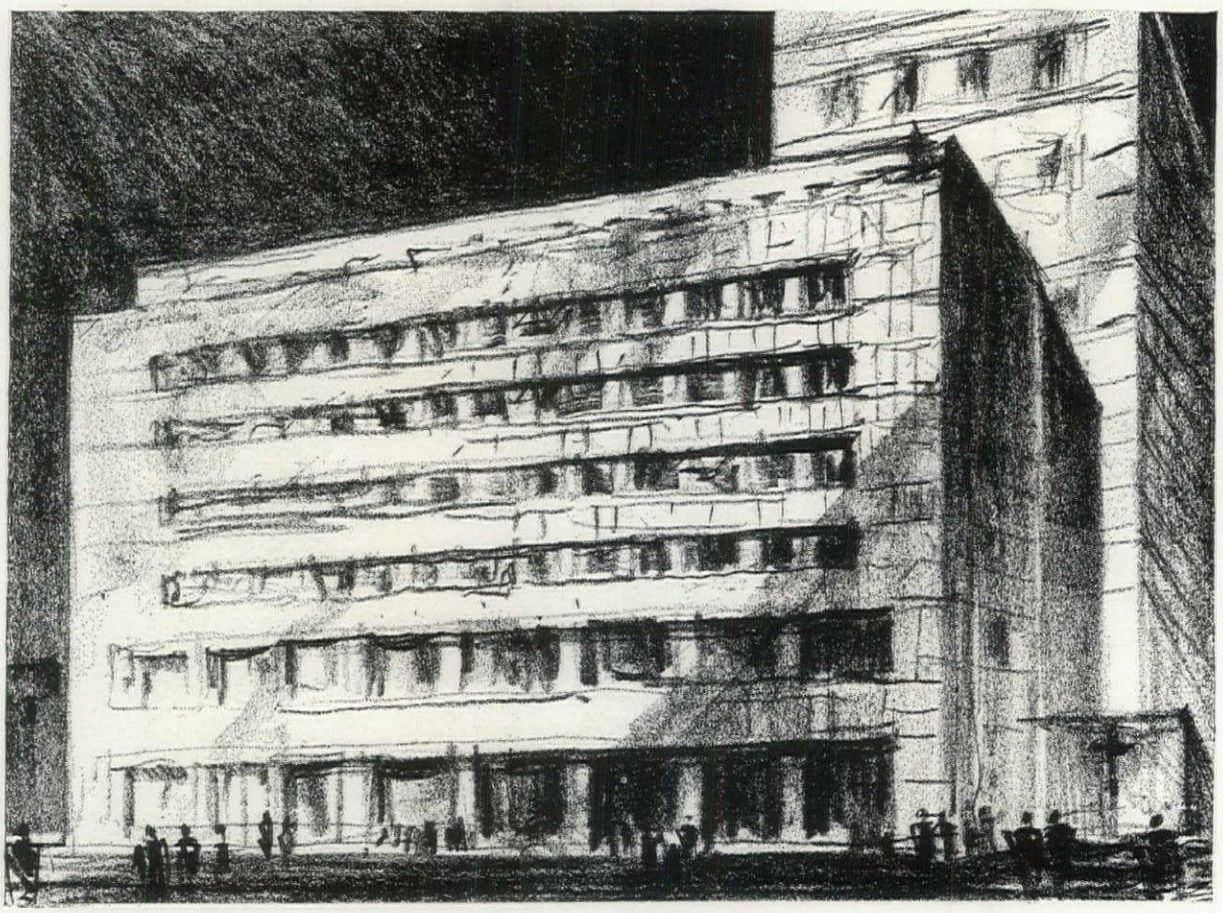
A SEVENTEEN-STORY APARTMENT BUILDING
STUTTGART, GERMANY

Sketch by Francis Keally



A MODERN BUILDING IN DESSAU, GERMANY

CEMENT CONSTRUCTION

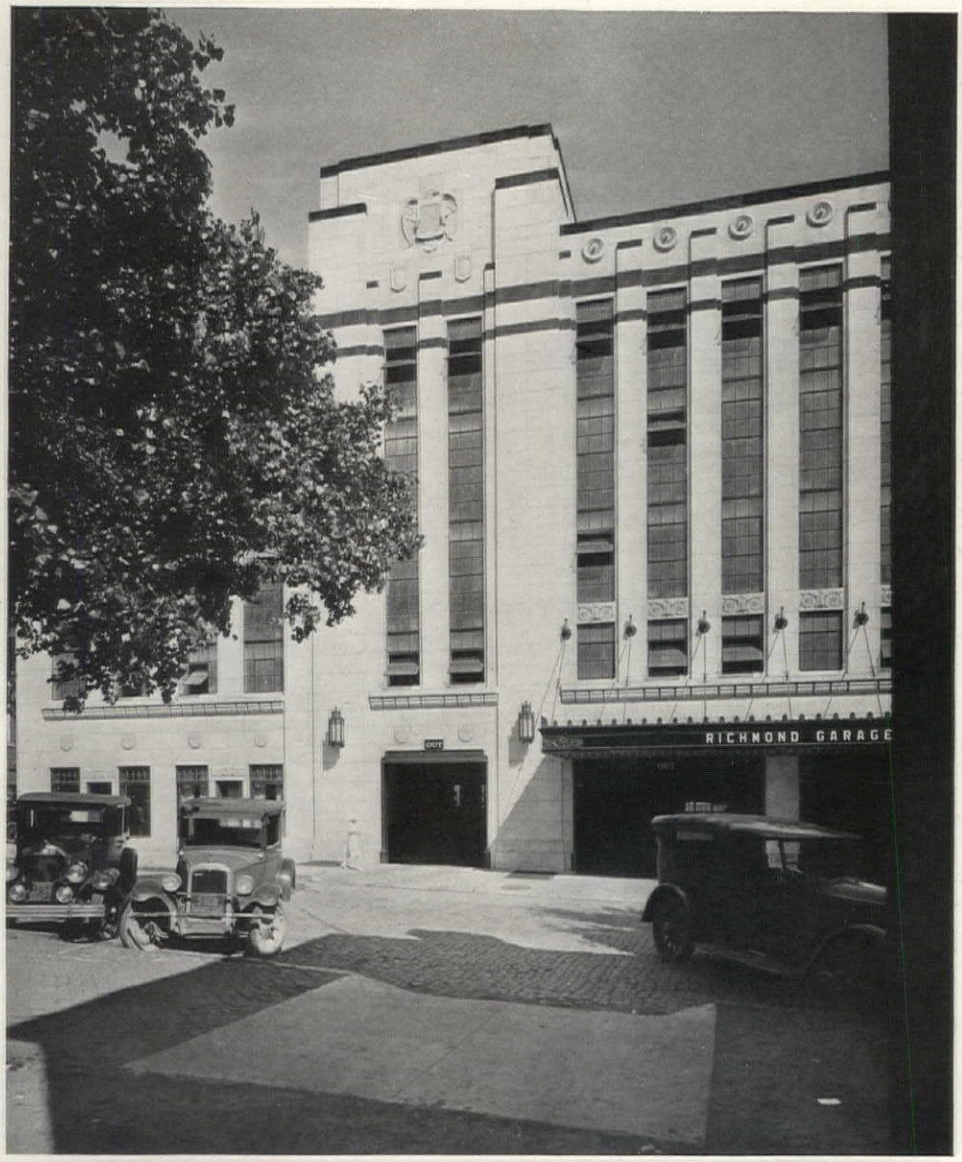


NEW COMMERCIAL BUILDING, STUTTGART, GERMANY

BUILT OF LARGE BLOCKS OF TRAVERTINE

Sketches by Francis Keally

TECHNICAL NEWS AND RESEARCH



RICHMOND GARAGE, RICHMOND, VA. (DOUBLE SPIRAL RAMP)
LEE, SMITH & VANDERVOORT, ARCHITECTS

Featuring
GARAGES

GARAGES

(Standards for Design and Construction)

Compiled by the Editorial Staff of The Architectural Record, with collaboration from E. P. Goodrich, consulting engineer; G. W. Rand, engineer for Ramp Building Corporation; H. L. Woolfenden, mechanical engineer; Horace L. Smith, Jr., engineer Auto Ramps Corporation of Richmond; Arthur Brace, Construction Engineering Department of the Tide Water Oil Co. and others.

The appropriate and characteristic expression for garage design will be attained by architects without conscious effort. Ferro-concrete construction with the demarcation of floor levels, steel sash and the omission of cornice and base will endow the garage with frankness and modernity.

There should be no applied ornament and the surface treatment where concrete is used should be no other than that suggested by the nature of the material.

The garage may well attain a new and distinctly expressive form, indicating its practical function. "Modern architecture of our time seeks to devise form and motives from purpose, construction and materials. If it is to give clear expression to our feelings, it must also be as simple as possible."

COMMERCIAL GARAGES

I. Independent Commercial Garages

(A.) ECONOMIC FACTORS.

The commercial success of the public garage depends upon proper balance between construction cost and efficiency of layout. To aid in determining this relationship and to ascertain other factors which will influence the design, the architect should first make an analysis of the conditions in the district where it is proposed that the garage be built. The "Outline for Garage Survey" indicates the scope of such a study.

The effects on design, of the facts brought out by this survey, are discussed below.

1. Lot Cost in Relation to Building Height. To show a normal profit on the investment, for buildings up to and including 6 stories in height, the lot cost should not exceed cost of building. (This is a rule of thumb and serves only as an approximate basis for analysis.) The relation of lot cost to cost of building may be expressed in the form of an equation in which

L = cost of lot in dollars per square foot.
B = cost of building in dollars per square foot per floor.
X = minimum number of stories for reasonable profit.

For buildings up to and including six stories, the items above when reduced to a formula are

$$\frac{L}{B} = X$$

For buildings in excess of 6 stories in height the following equation is used:

$$\frac{L - (B \times 6)}{B \div 2} + 6 = X$$

To illustrate the use of these formulae, assume cost of lots at $7.50, $12, and $25 per square foot. Also assume a construction cost of $2.50 per square foot of floor. The minimum height of the building will be found as follows:

$\frac{\$7.50}{\$2.50} = X$ Since the value of X is found to be 3, therefore 3 stories is the minimum height for garage with the land cost indicated.

$\frac{\$12}{\$2.50} = X$ The value of X is 4.8. Therefore 5 stories is the minimum height for garage with this land cost.

$\frac{\$25}{\$2.50} = X$ The value of X is 10 which is in excess of the story height that can be figured with this formula. The other equation should therefore be used.

$\frac{\$25 - (\$2.50 \times 6)}{\$2.50 \div 2} + 6 = X$ Value of X is 14, therefore, this is the minimum height for a garage with this land cost.

2. Peak Load. Sixty per cent of total capacity of a garage may arrive within a half hour in the morning or in the evening at theatre time. Speed in handling cars as they enter the garage during the rush period is of the utmost importance. (A delay of five or ten minutes may cause the client to use another garage (possibly less centrally located) provided the additional walking time is less than the waiting time at the garage with inadequate arrangement and facilities.)

The first floor checking and the interfloor method of travel (ramp or elevator) must be capable of handling the probable peak, as shown in survey, without delay.

A one-way ramp system with easy grade and turns will care for 20 to 30 cars a minute. An elevator of average speed will complete an up and down trip in

GARAGE SURVEY*

This analysis of an architectural problem should be made by the architect in order to determine those economic factors that govern garage design in a specific locality. This study should determine the type of building, number of stories, and character of design.

Cost of Land per Square Foot $..... Building Cost per Square Foot $.....

TYPE OF STORAGE	PROBABLE AVERAGE NUMBER CARS PER DAY				RENTAL RATE	DRIVEN BY		CLASS OF RENTALS		
	Day	Night	Peak Load ½ Hour Period	During ½ Hour Morning Peak ..A.M. to ..A.M.		Owner	Chauffeur	Minimum	Average	Luxury
a. Monthly day storage from offices and stores.										
b. Monthly twenty-four hour storage from apartments and permanent residents in hotels, apartment houses and private residents.										
c. Monthly night storage of salesmen's cars, commercial cars and trucks.										
d. Transient day storage from stores, office buildings, hotels, lunch clubs and theatres.										
e. Transient evening storage from hotels, theatres and public halls.										
f. Overnight storage from hotels and commuters.										
g. Dead storage in off-season. *(Trucks not included in this study.)										
Totals.....										

NOTE: Many parking garages have a twenty-four hour turnover of from two to four times the total capacity of the garage, while subsidized garages having free parking space will sometimes have a turnover of from six to eight times their total capacity.

from one to three minutes, depending on height of building, method of parking, etc.

3. Number of Chauffeur-driven Cars. It is now necessary in large city garages to provide a lounging room for chauffeurs, equipped with games and with reading tables. The number of chauffeur-driven cars will indicate the size and character of chauffeur quarters.

A call system should be installed in waiting rooms and parking floors in order that chauffeurs may receive communications from owners.

4. Class of Rentals. The survey should indicate whether the minimum rental with some slight inconvenience will be preferable, in the client's opinion, to average rental with greater convenience, or higher rental with luxury features. The class of clients catered to will influence:

a. The Maximum Height of Garage in which a ramp system may be profitably operated. For example, two ten-story ramp garages were erected in different districts in Chicago. In both cases, for owner-driven cars, the rent on the tenth floor was $11 per month, as compared with $22 on the second floor. In one district the upper floors rented quickly on account of the lower rent-paying ability of clients. In the other district, however, clients preferred lower floors at the higher rate.

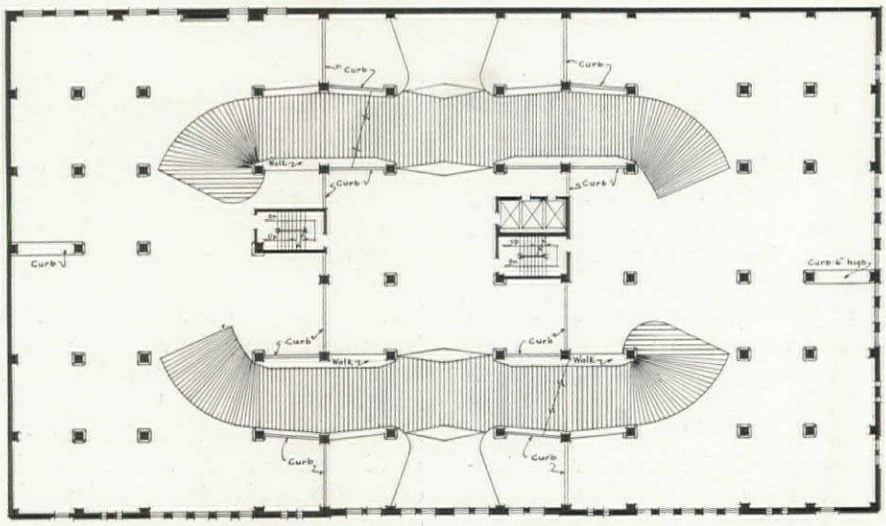
b. The Choice of Ramp Systems. Interfloor travel systems separated from the parking aisles, such as the elliptical system in the Commodore-Biltmore Garage, New York City, and in the Fisher Building, Detroit, require more space than does the *d'Humy* staggered floor ramp system. The use of the former may be justified where low rents are of minor importance. In the double spiral ramp system of Richmond, the entire separation of ramp and parking aisles permits greater safety, speed and convenience of interfloor travel and lessens the distance to be traveled by at least 50 per cent as compared with straight or staggered floor ramps.

c. The Width of Parking Space. This should be 6 feet 9 inches wide for average rental, and 7 feet for dependent garages providing free short time parking. Size of columns on lowest floors may make it advisable to reduce this width, but in no case should parking spaces be less than 6 feet 8 inches. Width in excess of 7 feet is a luxury and should not be considered unless there is indication that patrons will be willing to pay for such additional space.

d. Depth of Parking Space. A 15 foot deep parking space and 20 foot aisle are sufficient for most cars, but for the more wealthy clientèle a deeper space should be provided, at least on some floors.

e. Enclosed Stalls. Completely enclosed, individ-

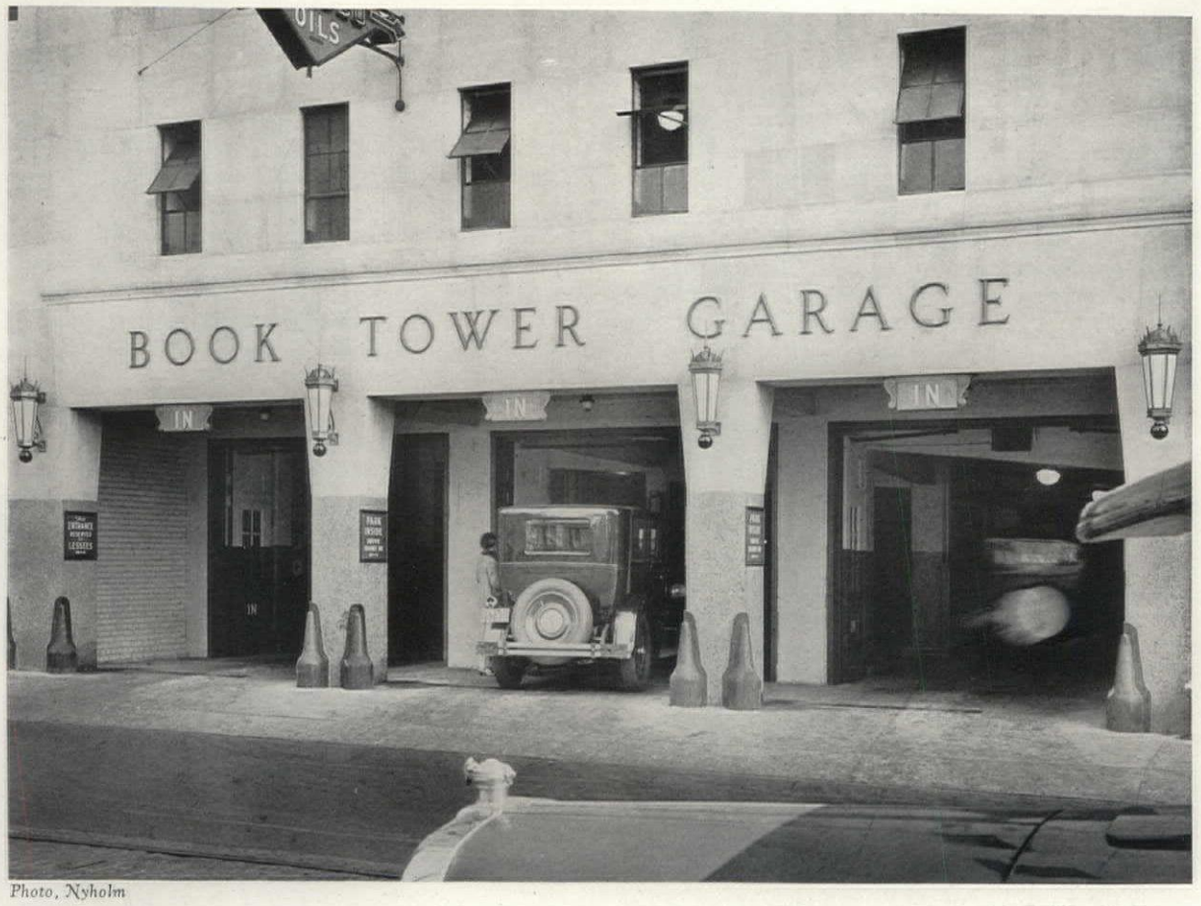
Photo, Nyholm



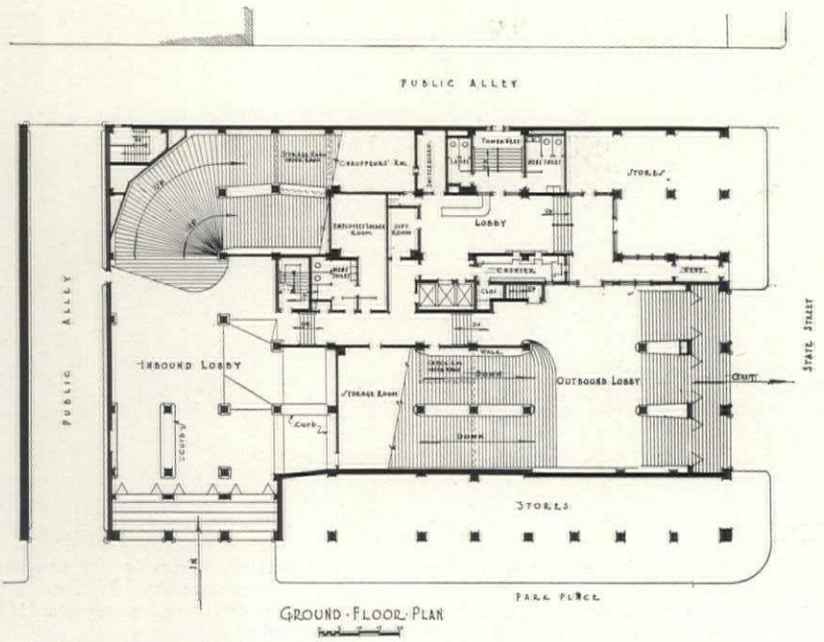
·TYPICAL·FLOOR·PLAN·

BOOK TOWER GARAGE, DETROIT (d'HUMY RAMP)

LOUIS KAMPER, INC., ARCHITECTS



Photo, Nyholm



ENTRANCE TO BOOK TOWER GARAGE, DETROIT

LOUIS KAMPER, INC., ARCHITECTS

ual parking stalls may be used when catering to clients willing to pay for the utmost convenience.

5. Competition. Consideration should be given to present and future competition. Existing garages in the neighborhood should be studied as to rates, service, class of convenience, types of chauffeur quarters, etc. Future competition should be considered from the following angles: Is there cheaper land in the same district? May a higher building in this neighborhood give lower rent? May lower cost buildings be erected? May more efficient and convenient buildings be subsequently erected? May free or subsidized parking be furnished by stores, office buildings, or city?

Considering future competition it will probably be found advisable to erect a building of lowest cost compatible with efficiency and convenience even though a more elaborately appointed type would produce a good profit at the time of erection.

Because the parking garage business is still in its infancy, commercial garages must necessarily be extremely efficient from the economic standpoint if they are to compete with future buildings of improved character and with subsidized garages which will rapidly increase in number within the next few years.

(B.) PLANNING FACTORS.

The aim of good planning is maximum parking compatible with efficient interfloor travel.

1. Floors. a. Typical Parking Floor. In planning parking floors, it is well to start with a sketch scheme giving the maximum number of parking spaces possible, ignoring elevators, ramps, and service rooms. The essential structural features should then be added so as to interfere as little as possible with car spacing.

(1) Single and Double Parking. The ideal car storage plan requires that every car space should have frontage on an unobstructed aisle. There are, however, conditions which make it advisable to introduce double parking, that is, one row of cars standing directly behind another row. The necessity for doing this is dictated by the size and proportions of some building plots. Double parking should never be greater than 25% of the capacity of any floor and when possible it should be cut down to 15% or less.

(2) Parking Space. (a) Table of car sizes. (Ramp Building Corporation.)

(b) 6 feet 9 inches width per car is sufficient parking width under average conditions. Width in excess

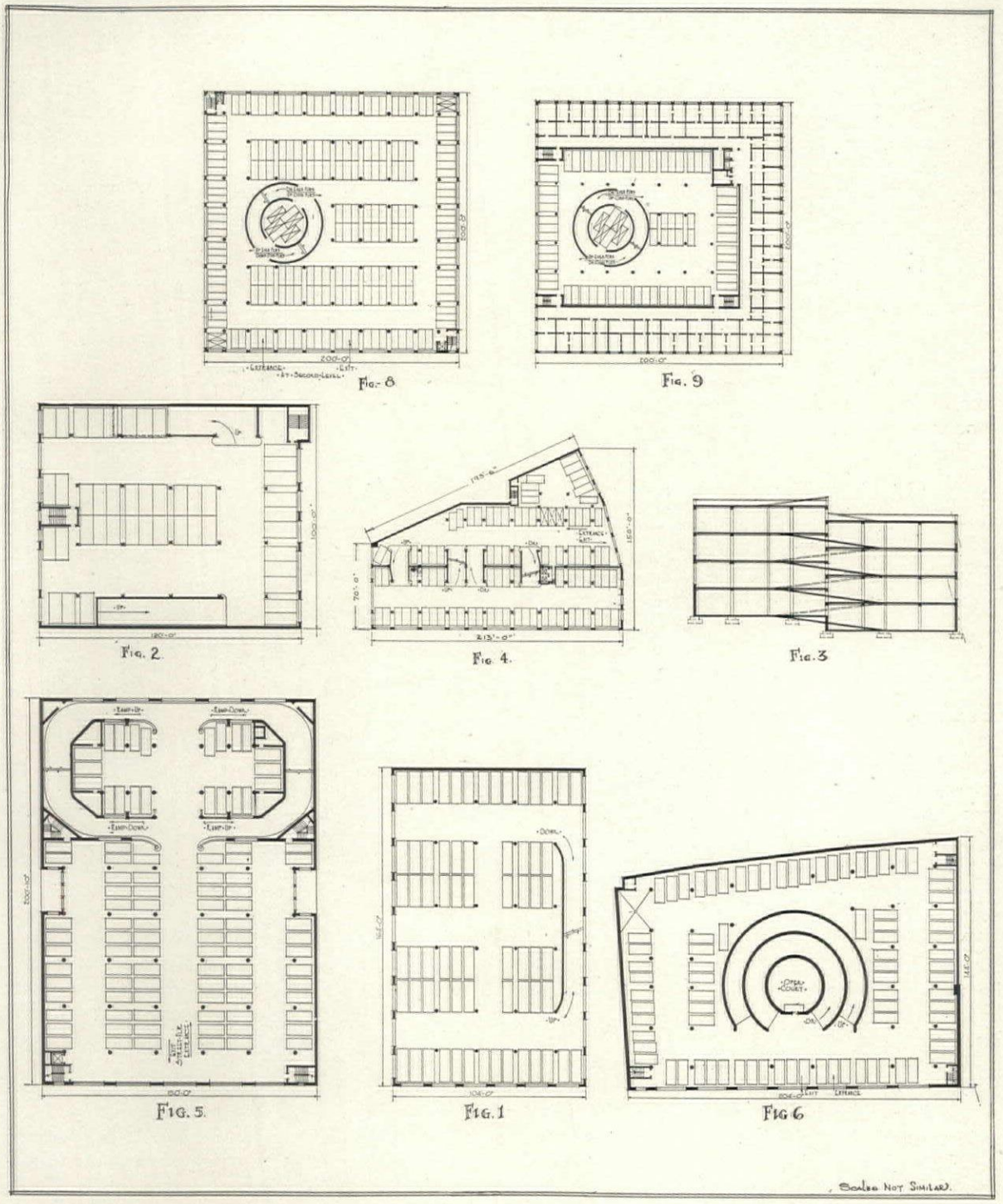
MOTOR CAR DIMENSIONS (1929)

	(L.)	(W.B.)	(F.)	(R.)	(W.)	(H.)	(C.)	(T.D.)
Chevrolet	13′– 2½″	106½″	22″	30″	5′– 7″	6′– 0″	12″	43′–0″
Graham-Paige	14′– 0″	111″	26″	31″	5′– 6″	6′– 0″	9¼″	42′–0″
Ford	12′–11¼″	103½″	21¼″	30½″	5′– 7″	6′– 0¼″	12⅜″	34′–0″
Erskine	13′– 5½″	109″	22½″	30″	5′– 5″	5′– 8 9/16″	11″	36′–0″
Pontiac	13′– 6⅝″	110″	23⅝″	29″	5′– 6½″	5′– 8¾″	.....	38′–8″
Oldsmobile	14′– 0″	113″	20″	35″	5′– 9″	5′–10″	12¼″	41′–6″
Dodge	14′– 0⅞″	110″	24¼″	34⅝″	5′– 5½″	5′–11″	10¾″	47′–0″
Nash	14′– 1″	112″	25″	32″	5′– 7″	5′–10″	12″	40′–0″
Hupmobile	14′– 5⅝″	114″	23⅛″	36½″	5′– 7″	6′– 4″	10¼″	40′–0″
Oakland	14′– 5¾″	117″	24¾″	32″	5′– 7″	5′–10″	.....	40′–0″
LaSalle	14′– 7″	125″	23¾″	26¼″	5′–11″	5′–11″	12¼″	41′–4″
Studebaker	14′– 7½″	113″	25″	37½″	5′– 9″	6′– 0¼″	11″	41′–0″
Buick	14′– 8¼″	115¾″	25″	35½″	5′–10 7/16″	6′– 2⅞″	13″	39′–4″
Marmon	14′–10″	114″	24⅝″	39⅜″	5′– 8¼″	5′– 9½″	11″	40′–0″
Hupmobile	14′–10″	120″	22½″	35½″	5′– 7″	6′– 4″	10¾″	47′–0″
Auburn	14′–11 11/16″	120⅛″	24¼″	35 5/16″	5′–10″	5′–10½″	9⅞″	40′–0″
Dodge	15′– 2⅜″	120″	23⅞″	38½″	5′–11″	6′– 1″	11¼″	51′–0″
LaSalle	15′– 4″	134″	23¾″	26¼″	5′–11″	5′–11″	12¼″	41′–4″
Marmon	15′– 4″	120″	24⅝″	39⅜″	5′– 8¼″	5′–10¼″	11″	42′–0″
Buick	15′– 6¾″	120¾″	25½″	40½″	5′–11 7/16″	6′– 3 5/16″	12¾″	45′–2″
Franklin	15′– 8″	128″	27″	33″	5′– 8″	6′– 2″	11″	41′–6″
Packard	15′– 9 9/16″	126½″	24 7/16″	38⅝″	5′– 9⅜″	6′– 2″	10″	44′–0″
Auburn	15′– 9 11/16″	130″	24¼″	35 5/16″	5′–10″	5′–10½″	9⅞″	40′–0″
Pierce Arrow	16′– 0″	130″	27″	35″	5′–10″	6′– 2″	12½″	43′–0″
Graham-Paige	16′– 5½″	135″	25½″	37″	5′– 9½″	6′– 2″	11¼″	49′–2″
Studebaker	16′– 6⅞″	131″	28″	39⅞″	5′– 9″	5′–11 5/16″	10½″	47′–6″
Nash	16′– 7″	130″	27″	42″	5′–10½″	6′– 0″	13½″	50′–0″
Lincoln	16′– 7½″	136″	24″	39½″	5′–10″	6′– 5″	14″	50′–5″
Pierce Arrow	17′– 4″	138″	27″	43″	5′–10″	6′– 8½″	12⅝″	44′–6″
Cadillac	17′– 9¼″	140″	28″	45¼″	6′– 1″	6′– 1½″	12¾″	50′–1″
Packard	17′–11 7/16″	145½″	24 7/16″	45½″	5′–11⅝″	6′– 3½″	10⅝″	52′–8″

NOTE: Information supplied by automobile manufacturers. Where makes are repeated, figures are for smallest and largest models. (L.) length; (W.B.) wheelbase; (F.) distance from center of front hub cap to front extremity; (R.) distance from center of rear hub cap to rear extremity; (W.) width; (H.) height; (C.) distance from ground to underside of running board; (T.D.) turning diameter (diameter of smallest walled-in circle in which the car will make a complete turn.)

Comparison of the 1929 figures with those of 1928 shows an increase in wheelbase with a corresponding increase in length, a slight tendency toward higher cars, but a definite decrease in turning diameter for the longer models.

Courtesy Ramp Building Corporation



GARAGE FLOORS WITH VARIOUS RAMP SYSTEMS

Fig. 1. Straight single-way ramp.

Fig. 2. Two-way straight ramp.

Fig. 3 and 4. Section and plan of staggered floor, (*d'Humy* patent.)

Fig. 5. Elliptical ramp (Commodore-Biltmore Garage.)

Fig. 6. Concentric spiral ramp (Eliot Street Garage.)

Fig. 8. Double spiral ramp (Richmond Garage.)

Fig. 9. Ramp garage in core of office building.

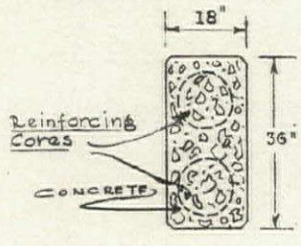
of 7 feet is extravagant except in parking garages having a very high turnover.

(c) 15 feet depth with a 20 foot aisle width is generally sufficient. Cars of maximum length may be parked at ends of aisle where the projection into aisle causes less inconvenience, or a certain part of the parking area may be made deeper to accommodate the larger cars.

(d) The three car bay has generally been found to be most satisfactory. It should have a space of 20 feet 3 inches in the clear between columns, but this space may be reduced on the first few floors to 20 feet if necessary to allow for additional column size. (Free short time parking garages require 21 feet in the clear.) One advantage of the three car bay is that when the garage is not running at capacity, two cars may be placed between columns, allowing very ample space to maneuver cars; and two trucks may be placed in the space provided for three cars.

(e) Interior columns should be elliptical to conserve space. (See sketch below.)

(3) Parking Guides. Concrete curbs are sometimes placed in parking bays to serve as guides for cars. These have proved unsatisfactory as they make it difficult to park a car and are likely to scrape the tires. Curbs are desirable at sides of ramps and driveways and should be painted with diagonal striping to increase their visibility. Floor grooves have proved unsatisfactory because they collect grease and dust. Lines painted on the floor are not recommended as paint soon wears off. Cast iron traffic buttons have proved fairly satisfactory as markers. These permit truck or two car parking yet clearly indicate the capacity car spaces.



MODEL OF DOUBLE SPIRAL RAMP IN RICHMOND GARAGE, VA.

(4) Stall Numbers. Stall numbers painted on the floor or walls are a disadvantage. If numbered, a customer who rents space by the month expects the same stall each time. Not having stall numbers permits the overselling of parking space by approximately 25%.

b. Entrance Floor. (1) Garages should have only one point of entrance and exit.

(a) It simplifies the checking in and out of cars and reduces to a minimum the chance of a car being stolen.

(b) It increases sales in the "accessories" department, which may be located so that all those entering or leaving the building will pass through or near it.

(c) It permits the provision of only one information desk and one waiting room with toilets.

(d) The greatest loss of heat in a garage building in winter occurs when the large doors are opened. With a single entrance this loss is reduced.

(e) The cost of installing and the expense of operating garage doors are reduced.

(2) The Garage Entrance should be located as far as possible from a street intersection because if placed near it, the waiting lines of traffic will at times prevent exit of cars from garage.

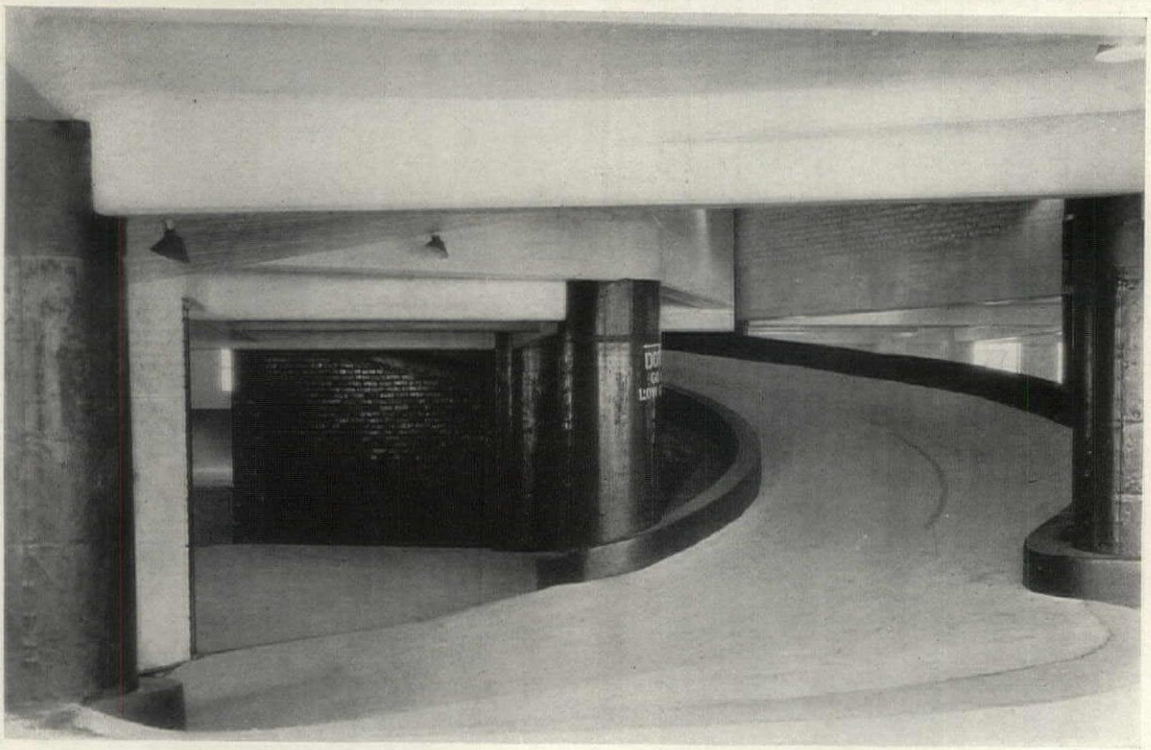
(3) The filling station should be adjacent to the garage entrance. (See arrangement on page 193.)

(4) Three or more driveways should be provided so that two may serve incoming traffic and one outgoing in the morning; in the evening this would be reversed.

(5) Waiting rooms should be placed to the right of cars going out so that passengers will not need to cross the driveway.

(6) Traffic markers as used for safety zones are satisfactory for division of these roadways.

(7) Provision for Merchandising. Although the natural tendency might be to install service facilities



(ABOVE) GENERAL VIEW (BELOW) ENTRANCE TO SPIRAL RAMP

RICHMOND GARAGE, RICHMOND, VA.

LEE, SMITH & VANDERVOORT, ARCHITECTS

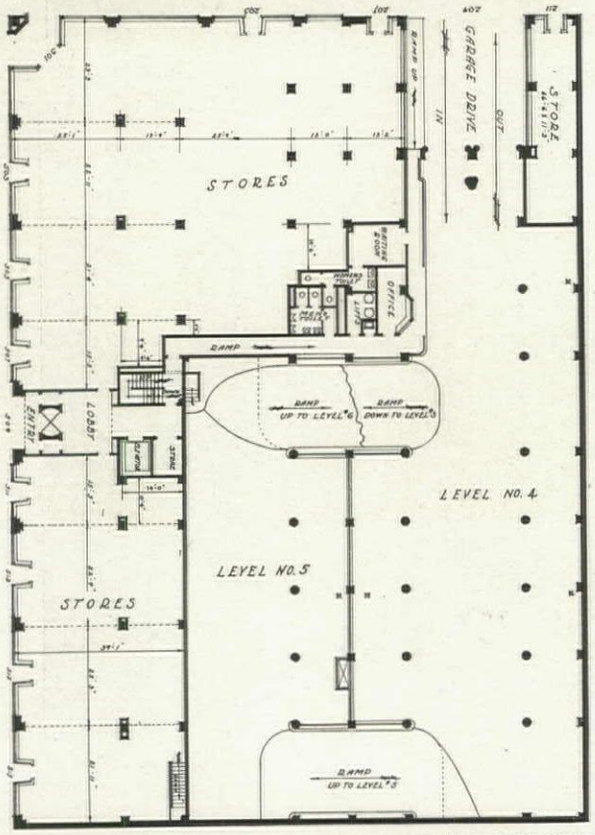
for washing, greasing, brake adjustments, and so forth, in the basement, these facilities should be located on the entrance or second floor where they will exert a constant sales effect through power of suggestion.

A "tire and accessories" salesroom should be located adjacent to waiting rooms and gasoline pumps, in order to serve both the filling station trade and garage parking patrons.

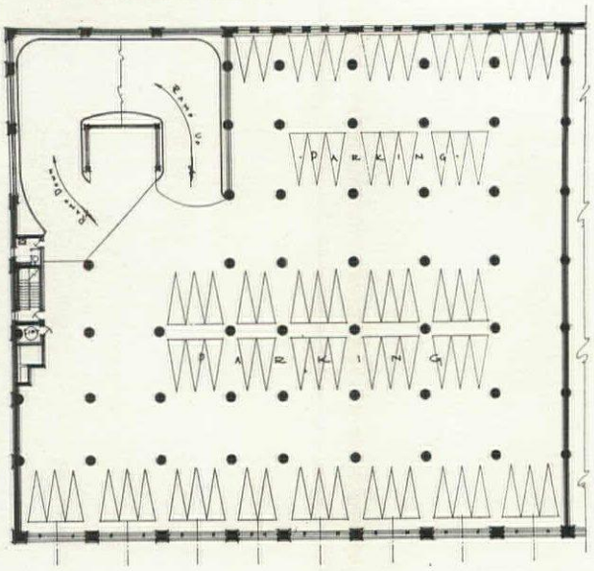
Merchandising should be restricted generally to automobile accessories, although show cases may be provided for tobacco, candy, etc., which sometimes show a small profit.

The importance of merchandizing is indicated by the statement of a garage operating company that in the early stages of their business, 80 per cent of the gross income from garages operated by them was from parking and 20 per cent from merchandizing; while now 30 to 50 per cent of the gross income is from parking and 50 to 70 per cent from merchandizing.

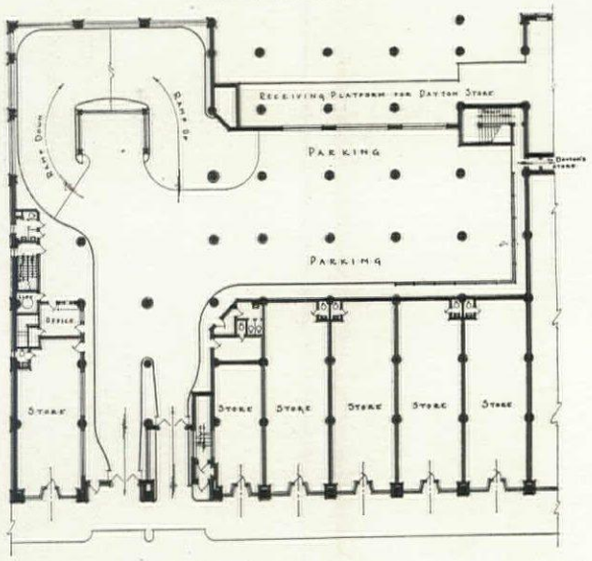
c. Roof. (1) Provision should be made for roof parking, not only because the additional parking space may prove a source of income, but also when a ramp or elevator is installed running to the roof, the problem of adding floors at a later date is simplified.



PARKING GARAGE FOR A DEPARTMENT STORE
FRONTENAC BUILDING, MINNEAPOLIS
LARSON & McLAREN, ARCHITECTS



SECOND FLOOR PLAN



FIRST FLOOR PLAN

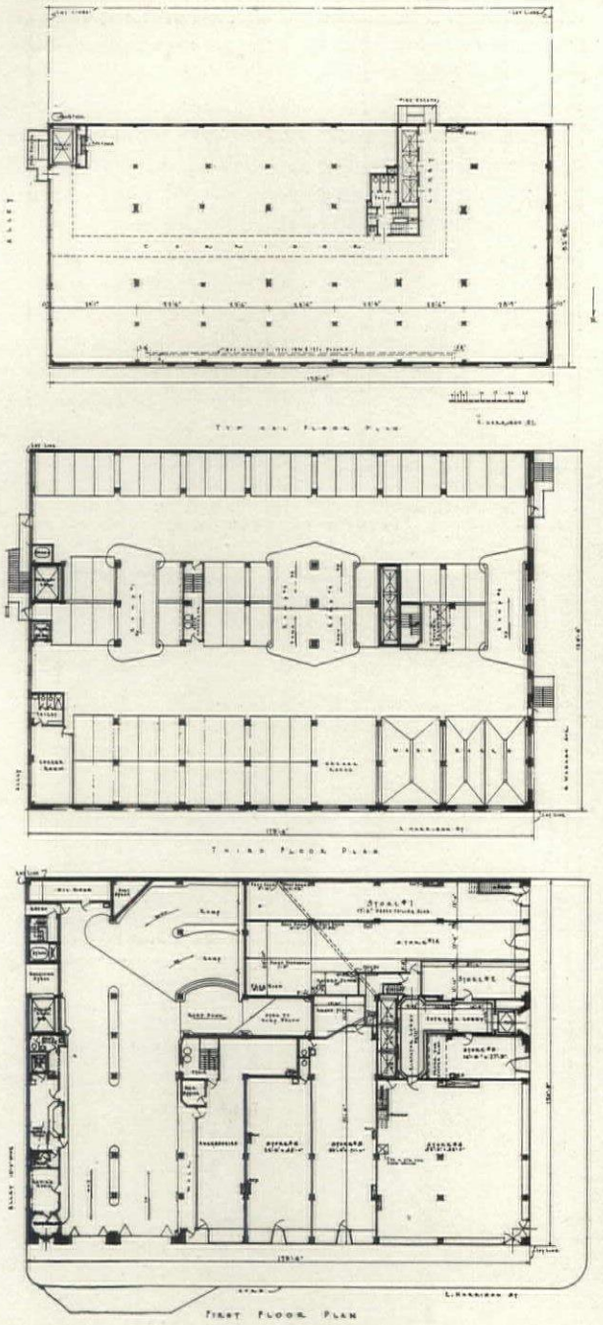
DAYTON GARAGE, MINNEAPOLIS
LONG & THORSHOV, INC., AND LARSON & McLAREN
ASSOCIATED ARCHITECTS

(2) Roof deck should be covered with special floor as described under Construction Data. (See page 191.)

2. INTERFLOOR TRAVEL. a. Ramps. (1) The *straight single-way ramp* (Fig. 1., page 183) has an efficiency of 46 per cent and requires 242 square feet per car.*

(2) The *two-way straight ramp* (Fig. 2.) has an efficiency of 38 per cent and requires 290 square feet per car.

*Computation of efficiency and square feet per car is made in this study on a basis of a parking floor, 100 x 200 feet.



EXAMPLE OF OFFICE BUILDING WITH GARAGE ON LOWER FLOORS
BUILDING FOR THE MICHIGAN BOULEVARD CORPORATION, CHICAGO
ALFRED S. ALSCHULER, ARCHITECT

shown in Fig. 4. This ramp system has an efficiency of 51 per cent and requires 218 square feet per car.

(4) (Fig. 5.) The *elliptical ramp* used in the Commodore-Biltmore Garage, New York, has an efficiency of 40 per cent and requires 278 square feet per car.

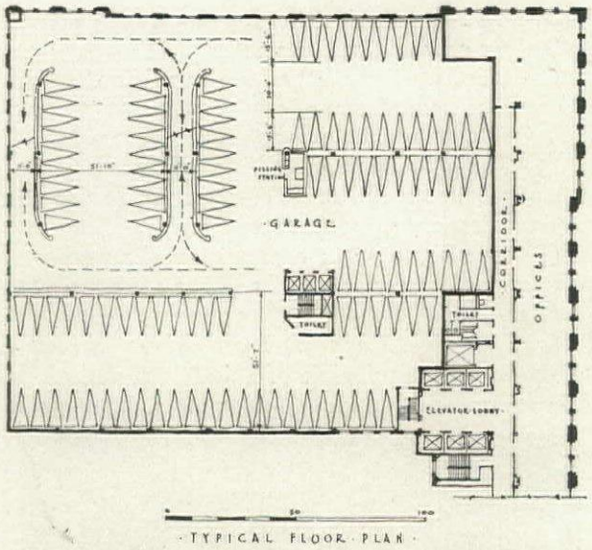
(5) The *elliptical ramp* used in the Fisher Building, Detroit, (page 188) has an efficiency of 40 per cent and requires 278 square feet per car.

(6) (See Fig. 6.) The *concentric spiral ramp* has an efficiency of 43 per cent and requires 260 square feet per car.

(7) (See Figs. 8 and 9.) The *double spiral ramp* is designed on the principle of a double thread screw, the up traffic driving on one thread and the down traffic using the other thread. Both ramps use the same space that would be required for a single circular ramp of the same diameter. The double spiral ramp has an efficiency of 45 and requires 243 feet per car.

(3) The *staggered floor* system (Figs. 3 and 4.) controlled by *d'Humy* patents differs from other systems in that the building does not have continuous floors. The building is divided by a vertical plane, the floors one side of the plane being a half story higher than the floors on the other side. The floors are connected by short straight ramps. This feature is shown in Fig. 3. A floor plan of the staggered floor type is

It will be noted that the above methods have varying degrees of separation of interfloor traffic from parking aisles. The extent to which this separation of traffic should be carried will depend, as pre-



FISHER BUILDING GARAGE, DETROIT
ALBERT KAHN, INC., ARCHITECTS

viously stated, on height and area of building, volume of peak load, and other economic factors.

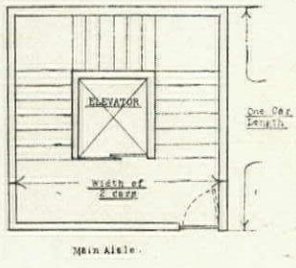
For the average multifloor garage with capacity up to 350 to 400 cars the one-way single roadway ramp is sufficient. In buildings where the capacity is 450 or 500 cars, ramps 20 feet wide (three-car spaces) work out very satisfactorily. Ramps of this width will enable small and medium size cars to pass on them, but make it necessary for larger cars to pass in the aisle between the ramps.

In buildings with a capacity of over 500 cars, a system of double ramps is desirable, permitting continuous movement of cars travelling in both directions.

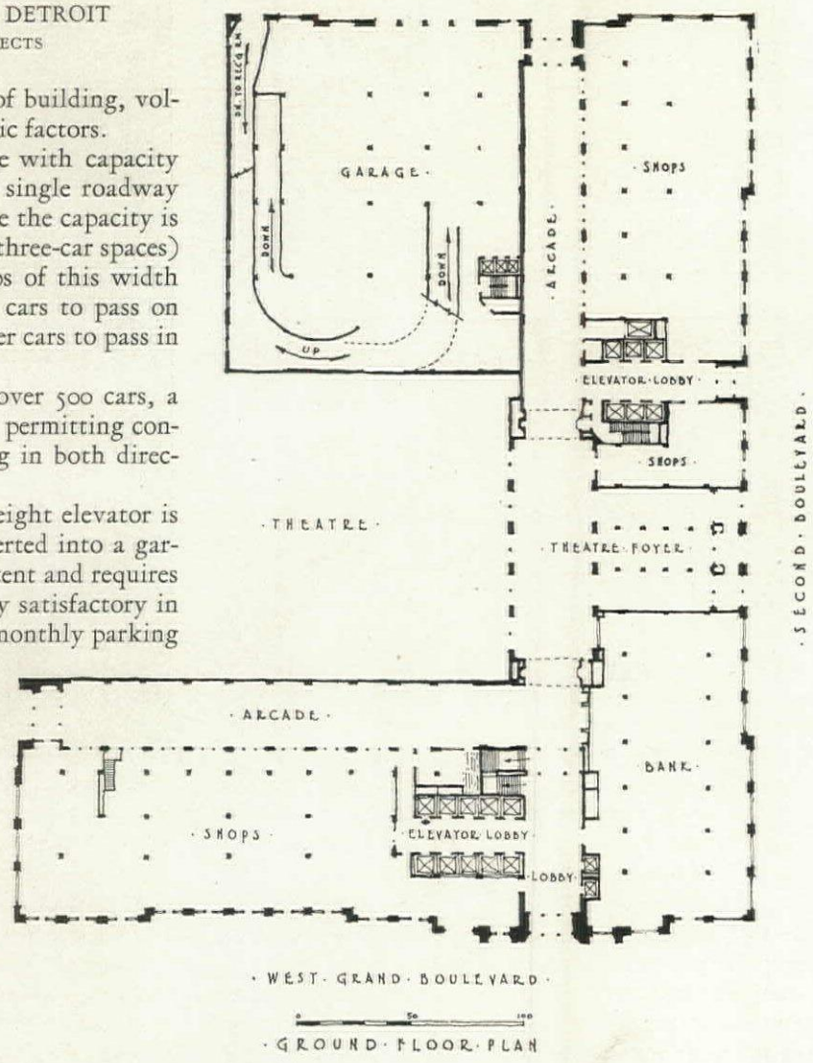
b. Elevators. (1) The ordinary freight elevator is often used when a building is converted into a garage. It has an efficiency of 53½ per cent and requires 208 square feet per car. This is fairly satisfactory in buildings of small area, catering to monthly parking and having a small peak load, but is unsatisfactory where peak load is heavy.

(2) Power Parking elevator as installed in the recent Kent Garage, New York City, obtains an average of 68 per cent of floor coverage. Cars are parked on two sides of the elevator with the aid of an electric parking machine. This method with two or more cars parked in a row requires some shifting to bring cars to elevator.

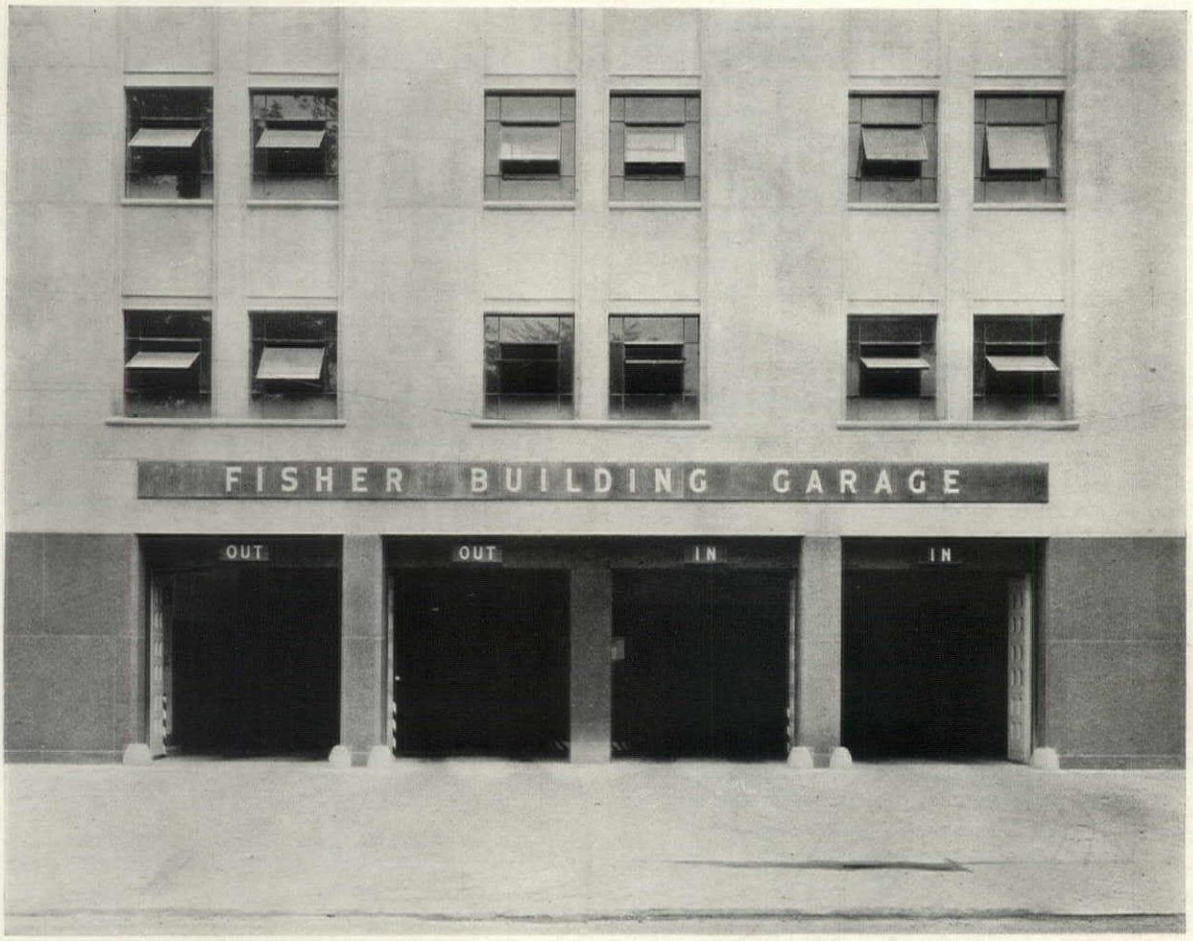
(3) The four-way parking elevator obtains a maximum use of floors with practically all cars as live storage. The elevators are two storied, the cars on upper and lower floors facing at right angles. The cars run in tracks and are loaded and unloaded by a gravity system. It is estimated that this type will have an incoming capacity of six cars per elevator per minute and an outgoing capacity of about three cars per minute. This plan has a floor efficiency of 59½ per cent and requires 187 square feet per car.



Passenger elevator and stairway (under normal conditions) should be located in one corner of the building. The illustration on the left is an efficient combination of stair and elevator occupying a two-car bay.



FISHER BUILDING WITH GARAGE, DETROIT
ALBERT KAHN, INC., ARCHITECTS



ENTRANCE, FISHER BUILDING GARAGE, DETROIT
ALBERT KAHN, INC., ARCHITECTS

(C.) CONSTRUCTION FACTORS.

1. Ramps. a. A 12 to 15 per cent grade is recommended. In no case should the grade exceed 20 per cent.

b. The surface of the ramp should be made rough with a "wood float" finish.

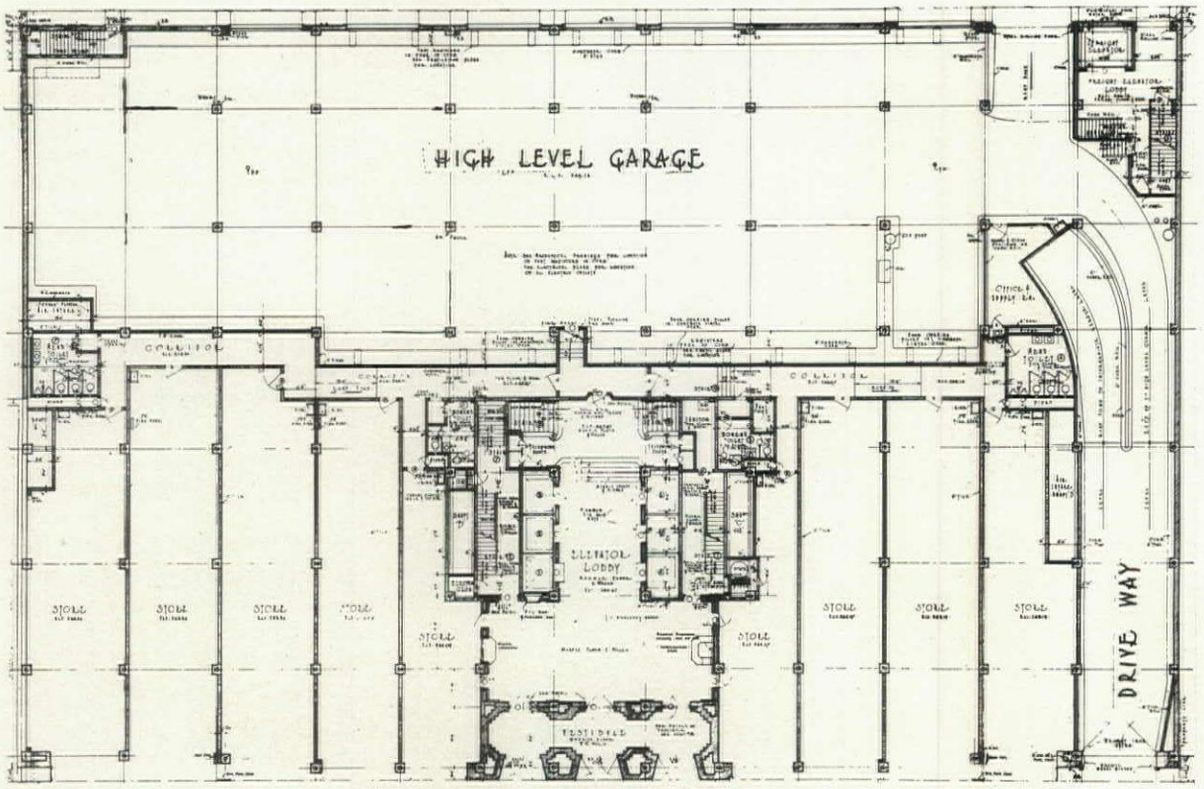
c. The ramp may extend into the aisle two or three feet, the floor being raised slightly to meet the slope of the ramp. In designing the concrete it is often possible to obtain the desired slope by raising the floor beam at its juncture with the ramp. The intersection of ramp slope with the floor should be at right angles to the slope.

d. Ramp walls should be omitted in order to give better vision for the driver, thereby reducing danger of collision. When fireproof doors are required by fire regulation at each floor level, then the open ramp is only possible if the building is divided by a fire wall at right angles to the ramp. This fire wall may easily be incorporated with the staggered floor system and with varying success with other types of ramps.

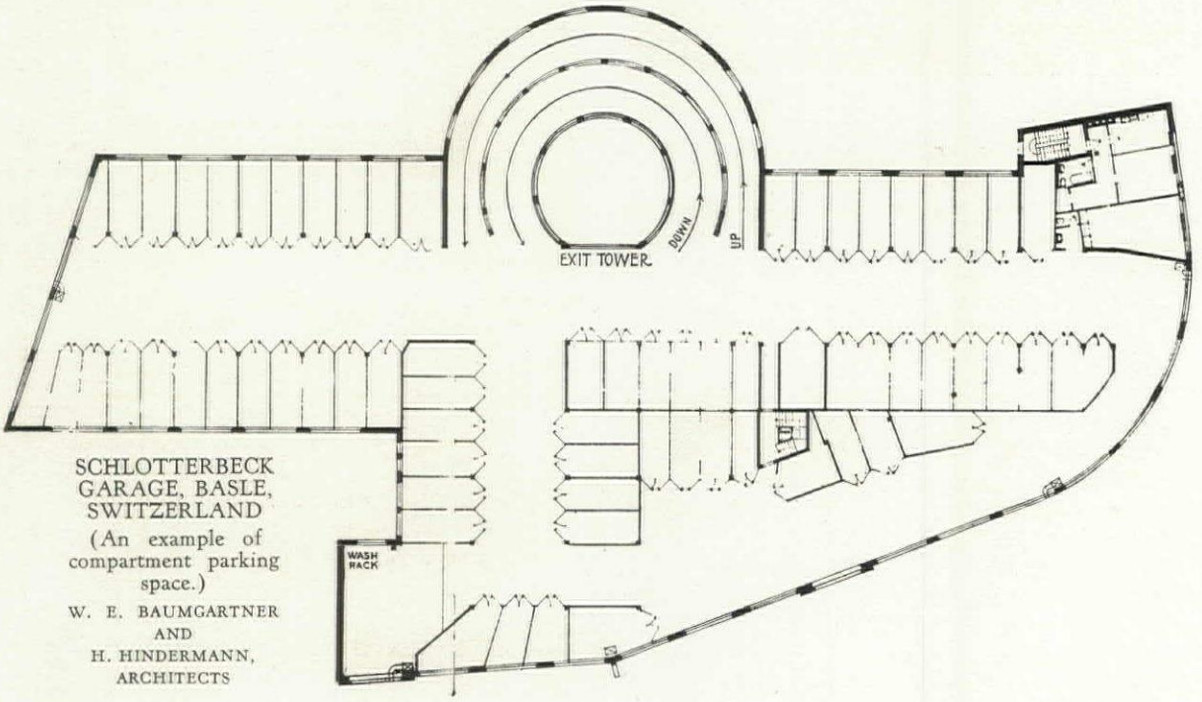
2. Fire Hazard and Insurance. An insurance rating bureau should be consulted in order that advantage may be taken of the various fire prevention practices in construction, so as to reduce the insurance rate.

3. Live Floor Load. The building code requirements of various cities show a variation in live-load requirements of from 50 to 250 pounds per square foot. A live load factor of 100 pounds per square foot for a passenger car and light truck garage is both safe and economical. For a heavy truck garage the figure should be raised to 150 lbs. per square foot.

4. Floor Treatment. a. Dust proof. Concrete garage floors which "dust" easily offer a serious problem to garage operators, as it is almost impossible to keep the parked cars clean under such conditions. An expert concrete finisher can produce a hard "dustless" floor without the use of surface floor hardeners. In cases where expert workmanship is not available,



AN OFFICE BUILDING WITH GARAGE CONVENIENCES
(CLIENTS' CARS ARE PARKED FREE FOR ONE HOUR)
BUILDING FOR THE TITLE INSURANCE AND TRUST CO., LOS ANGELES
JOHN PARKINSON AND DONALD B. PARKINSON, ARCHITECTS



SCHLOTTERBECK GARAGE, BASLE, SWITZERLAND
(An example of compartment parking space.)
W. E. BAUMGARTNER AND H. HINDERMANN, ARCHITECTS

KENT ELEVATOR GARAGE WITH MECHANICAL PARKING, NEW YORK CITY
JARDINE, HILL & MURDOCK, ARCHITECTS

it is advisable to apply a surface floor hardener.

b. Waterproof. A well built slab floor *should* be sufficiently water tight for all purposes in a garage building. Certain precautions, however, are advisable and waterproofing may be necessary. The seepage of water through a slab floor is caused by unsealed cracks which develop after seasoning or by poor or porous bonding between successive day's pourings. Should cracks develop after seasoning they should be cut and cleaned out to leave a V joint ½ in. wide and ¾ in. deep. This joint should be poured full of *Vault Light Cement*.

The entire floor, where possible, should be poured in one day or, where the building is large, a V joint of the size noted above should be left between the end of one day's work and the beginning of the next. This joint should be filled with the above mentioned seam composition. Caution: Seepage has occurred where one day's pour is joined to that of following day. No construction joints should be permitted within 20 feet of a drain.

Waterproof asphalt finish should not be used for garage floors as it is affected by oils and greases.

(Note: Snow is the principal source of water in garages and in climates with heavy snowfall it is advisable to provide floor drains for the removal of the melted snow.)

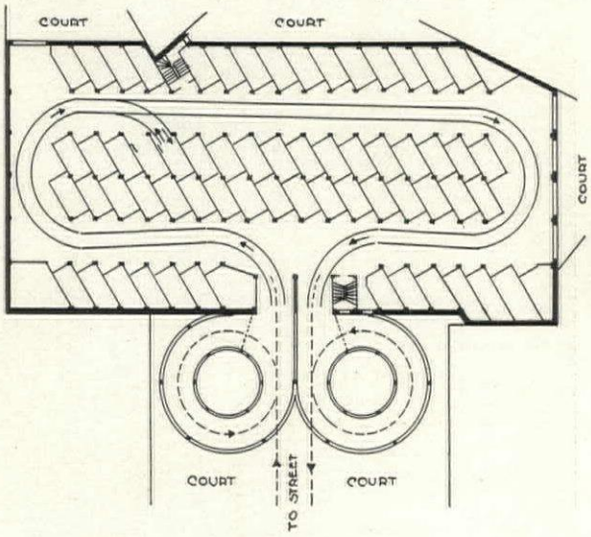
5. Roof Treatment. A roof used for parking should be surfaced with approved asphalt paving blocks laid over waterproofing and in asphalt. These paving blocks do not in themselves constitute a system of waterproofing because of joints but serve as protection for waterproofing underneath.

Or a 3″ thick concrete slab may be laid over the usual five ply waterproofing felt applied with hot tar. The slab should be constructed in sections not exceeding 5 feet in each direction and separated from each other and from the parapet wall by quarter-inch joints filled with a suitable ¼″ expansion joint or some approved seam composition. Before applying the concrete slab finish, the surface of the felt should be covered with a heavy layer of hot tar.

(D.) EQUIPMENT—GENERAL.

1. Heating. In garages there is a large heat loss from frequent opening of entrance doors. Since there are no interior partitions, air currents through entrances or windows will make it very difficult to heat the windward side of the building but by using unit heaters and ventilators it is possible to meet the heating requirements.

The two pipe steam system, sufficient to raise the temperature to fifty degrees on the coldest days, should be used for the car storage part of the building. A hot water or steam heating system should be



GARAGE WITH DIAGONAL PARKING AND RAMPS IN SEPARATE TOWERS
(An Uneconomic Parking and Interfloor Travel System.)

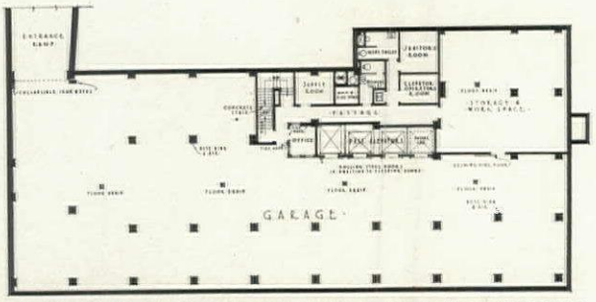
provided to heat the offices and waiting rooms.

If direct radiation is used the location of radiators is of prime importance. Placing radiation on the ceiling is satisfactory from a car storage viewpoint but decidedly inefficient as a method of heating. When radiators are placed on walls under the windows they are in danger of damage and should be protected against breakage by heavy guards.

Buildings with a ramp system are provided with extra radiation on lower floors because of the openness of construction and on account of heat loss from the entrance. Only limited radiation is required for the upper floor because of heat that rises from below.

2. VENTILATION. Garages used exclusively for parking and having ample window space, need no ventilating equipment except in the basement. If a part of the garage is to be used for making minor repairs, such as timer or carburetor adjustments which will require running the engine, provision should be made for installation of an exhaust vent with flexible connections for attachment to exhaust of cars.

If a central ventilating system is provided and the



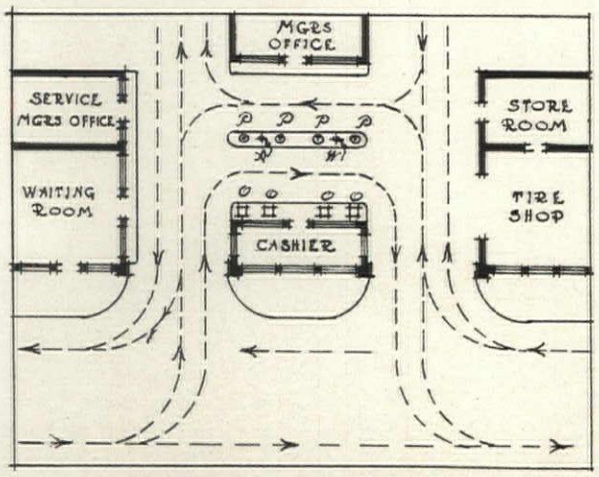
BASEMENT PARKING SPACE FOR OFFICE BUILDING
WILSHIRE MEDICAL BUILDING, LOS ANGELES
JOHN PARKINSON AND DONALD B. PARKINSON, ARCHITECTS

DETROIT NEWS GARAGE, DETROIT, MICHIGAN
ALBERT KAHN, INC., ARCHITECTS

ventilating shaft is located in the center of the building, away from the windows, most efficient ventilation is secured in the summer by placing the louvers at the ceiling. The gases emitted by the motors are hot and will immediately rise to the ceiling. In winter, however, the natural circulation in the building will be upward at the windows across the ceiling toward the center of the building and thence downward and along the floor to the louvers in the shaft at or near the floor. Provision should also be made for exhausting a small quantity of air near the ceiling.

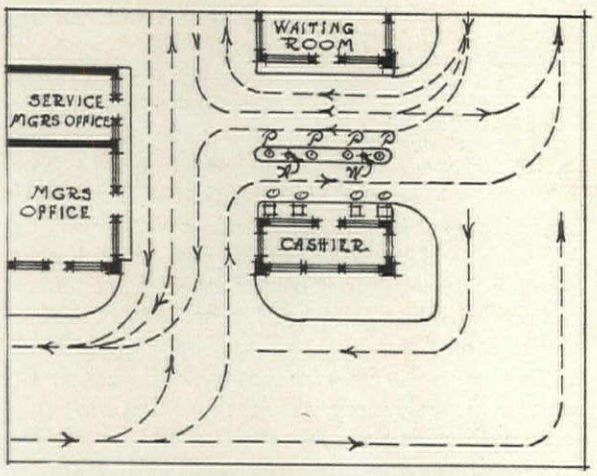
3. Lighting. Lighting for ramps should be on separate circuit from floor lights and controlled from first floor so that they may be turned off when not needed. Lights should be arranged so as to give an even lighting for entire floor, about two candle power per squarefoot. Concentration of light on aisles and correspondingly less at rear of parking space adds to difficulty in parking. Lights should be equipped with pull cords so that they may be extinguished when not needed.

Wall plugs should be installed at convenient points to permit attachment of "trouble shooting" light cord. Special attention should be paid to installation of flood lights above and below wash and grease racks.

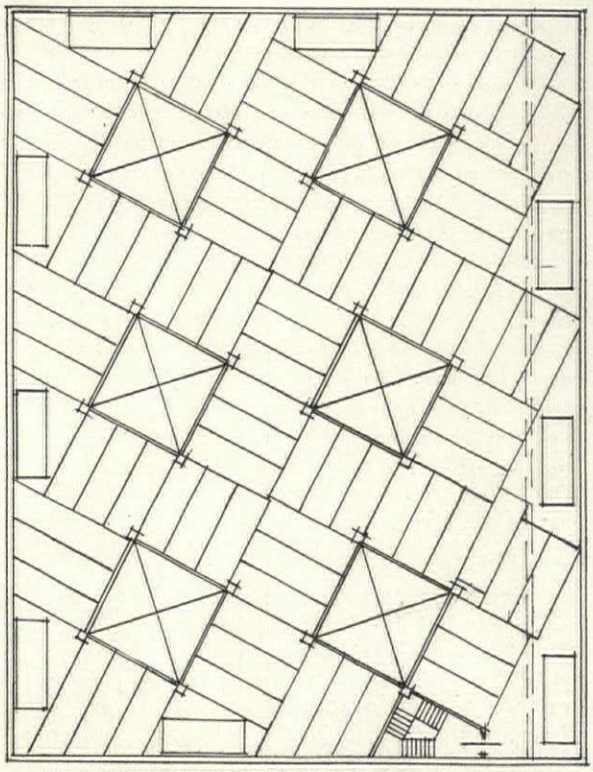


AN APPROVED ARRANGEMENT OF SERVICE STATION TO GARAGE ENTRANCE

PREPARED BY ARTHUR BRACE OF THE TIDE WATER OIL COMPANY'S CONSTRUCTION ENGINEERING DEPT.



AN ARRANGEMENT OF SERVICE STATION IN GARAGE SITUATED ON CORNER OF BLOCK



PLAN OF FOUR-WAY ELEVATOR PARKING GARAGE. A PATENTED ARRANGEMENT

(E.) SPECIAL EQUIPMENT.

1. Garage Doors. Garage exterior doors should open automatically or be mechanically operated. The overhead door is satisfactory for private garages but may be a source of accident in parking garages, due to restriction of upward vision, preventing view of door not fully open.

2. Electric Call System. Garages should be equipped with electric call systems for communication between owners and chauffeurs or attendants. Telautographs are often used and are a convenience in transmitting orders to various floors. They are especially valuable as they preserve a record of orders.

3. Gasoline Supply. Gasoline should be supplied at the entrance and should also be piped to all floors as it is often more convenient to supply cars with gasoline on their storage floors, and thus avoid congestion at the street exit. In a large garage it is imperative to have at least one gasoline outlet on each floor.

4. Compressed Air. Outlets for compressed air should be provided at all floors.

5. Service Equipment. Equipment such as brake testing apparatus, wash racks, grease racks and vulcanizing equipment should be installed on the first or second floors.

6. Dirt Shoots. It has been found convenient to install a dirt shoot, with openings at all floors, for removal of floor sweepings.

7. Lockers. Lockers of ample size should be installed in waiting rooms and chauffeurs' quarters.

II. SUBSIDIARY GARAGE

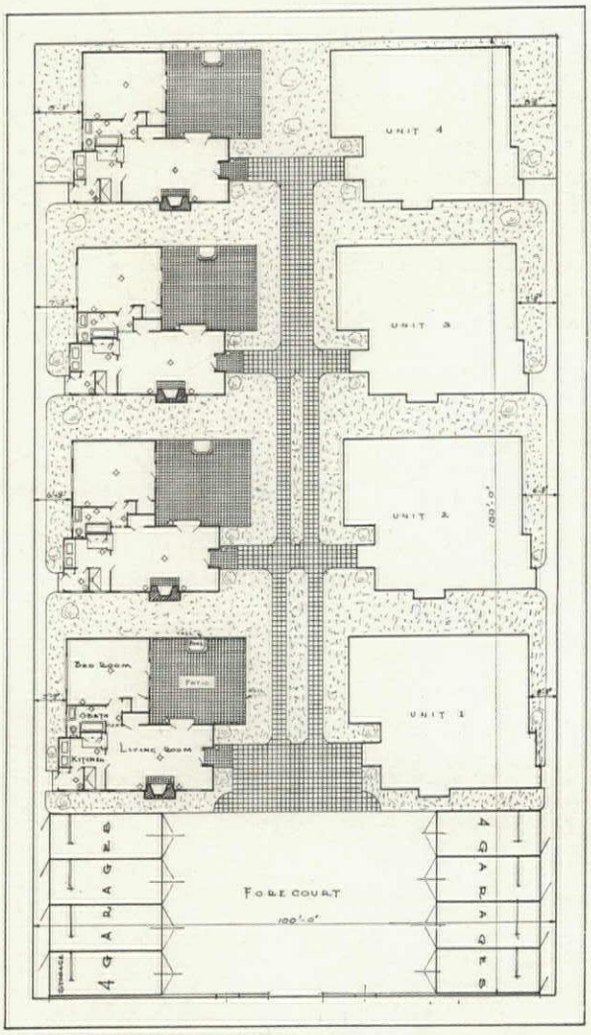
Garage facilities provided in connection with department stores, office buildings, hotels and apartment houses, are generally subsidized. They are maintained to attract trade and as a convenience to patrons.

With the following exceptions the economic, planning, construction and equipment factors are approximately the same as for the independent garage.

The need of minimum cost building and of maximum parking space is less imperative than with the commercial garage. This is particularly true of a garage in connection with a store which is maintained as a convenience, and to attract customers. Store owners might well expend additional sums on improved appearance and convenience of garage entrances.

The aisles, car bays, and ramps should be very ample to facilitate their use by inexpert drivers and to increase speed of service.

Location. Free parking space when provided, should, where possible, be located in the basement or in the rear of building. When this service is added to an existing building, the garage facilities should be provided in an adjoining structure.



SMALL HOUSES IN LOS ANGELES, ARRANGED IN RELATION TO FORECOURT WITH GARAGES

CHRISTINE STERLING, DESIGNER

When rental parking space is provided, a garage may be attached to the main building, but the present tendency is toward the use of the lower floors of the building served. Such floors, especially when the building is located on a narrow street, are less desirable for office use than the upper floors on account of street noises and lack of sunlight.

When land cost is high it is preferable to use the core of the building for parking space with offices in the perimeter. (See Fig. 9 on page 183.) Here, probably, will be the solution of garage location in city buildings.

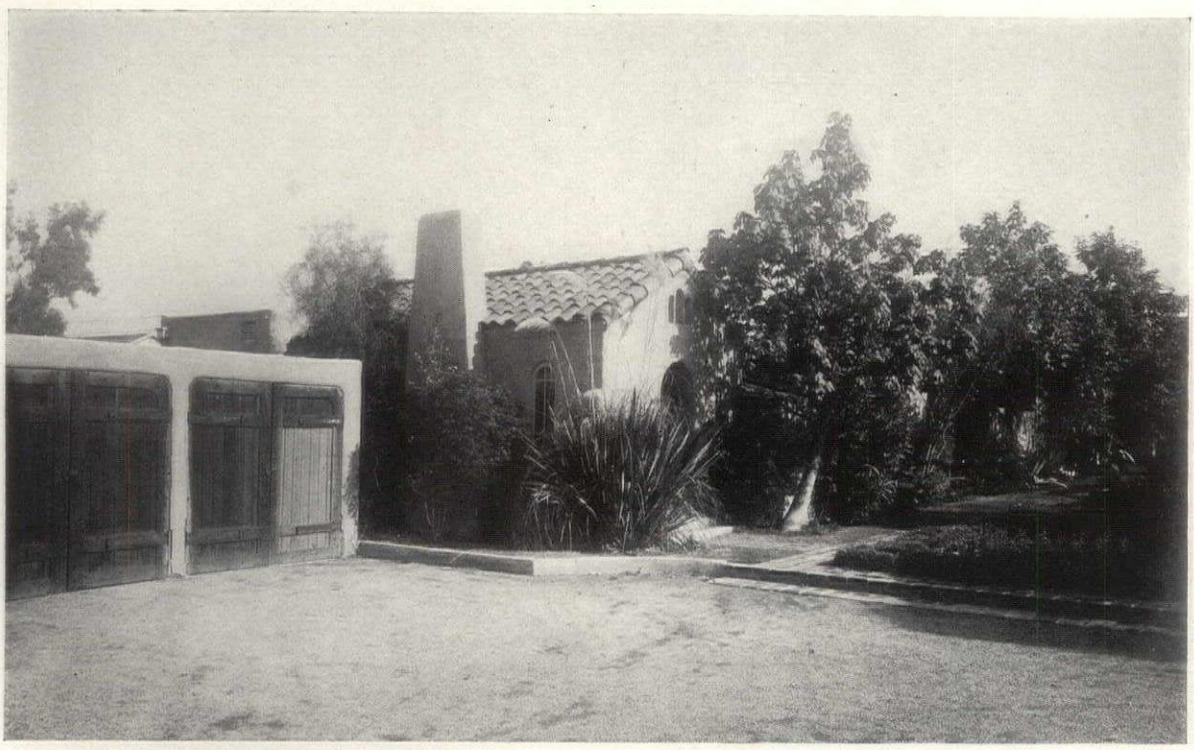
Apartment House Type. Residential districts are generally zoned against parking garages. An independent parking garage may depreciate the value of adjoining property in an apartment district but if built as part of and to serve an apartment house alone, there would not be depreciation.

Two contrasting opinions are here quoted:

"The Board of Trustees of the Village of Hastings-on-Hudson, New York, by virtue of section 89 of the village law ordain and enact . . . that there shall be provided on the same plot with any multi-family dwelling, a gravelled or paved parking area sufficient in size to accommodate one car for each family housed. . . ."

On the other hand, the Supreme Court of Pennsylvania in a decision handed down May, 1928 (Ladner vs. Siegel, 142 Atl. 272), held "that a public garage, though not a nuisance in itself, can become such when conducted in a residential neighborhood, regardless of how it may be carried on.

"In the case before the Pennsylvania courts the question arose with regard to the building of a public garage which it was proposed to construct in the center of a block to provide garage facilities for the cars of the occupants of apartment houses which it

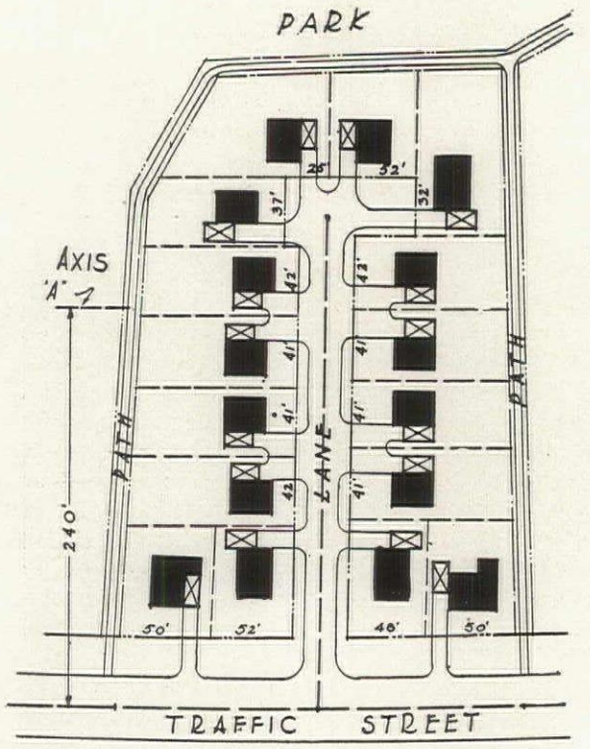


SMALL HOUSE WITH GARAGE, LOS ANGELES (See Plan on Page 194)

CHRISTINE STERLING, DESIGNER

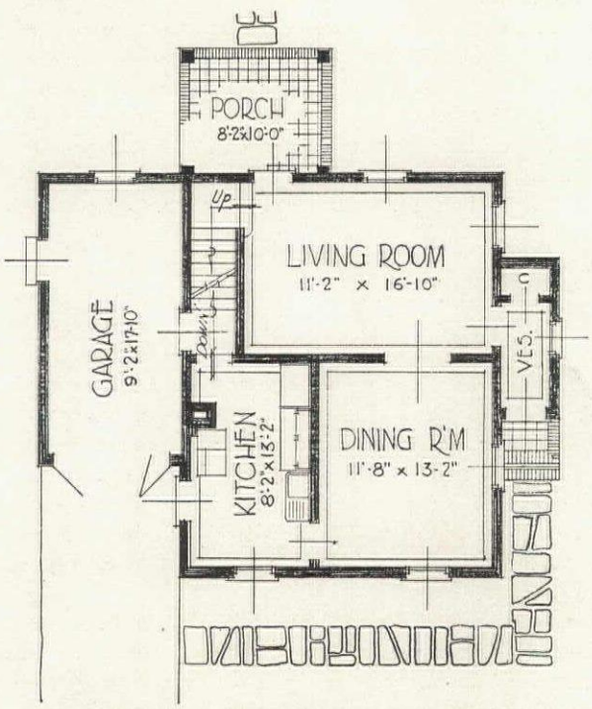
SPECIFICATION CHECKING LIST

1. GENERAL
   - Size, height and character of building determined by survey.
   - Entrances and exits placed as far as possible from street intersections.
   - Provide space for cars waiting to be checked on entrance floor.
   - Check zoning, building and fire ordinances.
   - Garage construction to comply with regulations of National Board of Fire Underwriters.
2. FLOOR TREATMENT (Concrete)
   - Entire floor poured in one day.
   - Floor surface hardener.
   - Waterproofing for floors and walls.
   - Surface cracks sealed with vault light cement.
   - Floor drains for removal of snow water.
   - Drains for wash racks.
3. HEATING AND VENTILATING
   - Unit heaters and ventilators for garage proper.
   - Steam or hot water for offices and waiting rooms.
   - Fan ventilation for basement.
   - Attachable exhaust vents where repairing is done.
   - Fan ventilating system where windows are insufficient.
4. LIGHTING
   - Separate circuit lighting for ramps.
   - Light control at each floor.
   - Wall receptacles in each bay and at all columns for "trouble shooting" light cord.
   - Flood lighting above and below wash and grease racks.
5. SPECIAL EQUIPMENT
   - Exterior garage doors automatic, operating at side.
   - Electric call system or Telautograph.
   - Gasoline supply outlets at each floor.
   - Compressed air at each floor.
   - Dirt shoots at all floors.
   - Lockers in waiting rooms, washrooms and chauffeurs' quarters.
   - Electric signal for car calls and for indicating parking space occupancy.



GROUPING OF HOUSES WITH ATTACHED GARAGE ON PRIVATE LANE "A TOWN FOR THE MOTOR AGE," RADBURN, N. J.

CLARENCE S. STEIN AND HENRY WRIGHT, ASSOCIATED ARCHITECTS



HOUSE WITH ATTACHED GARAGE AS BUILT AT RADBURN, N. J.

was planned to build on the four sides of the block. The contention was made that inasmuch as buildings for the accommodation of their motors is a requirement which the Court must recognize and that therefore the general rule forbidding the erection of a public garage in a residential district should not apply to cases of this character.

"The Court, however, decided against the public garage owner partly because the contemplated apartments had not yet been erected and there was not yet apparent to the Court, any need for such service."*

*"Housing," N. Y. C. December, 1928, p. 293, 294.

PRIVATE RESIDENTIAL GARAGE

I. LOCATION.

A. At Rear of Lot. It has been the custom to locate the residence garage at the rear of the lot. This necessitates separate heating apparatus in cold climates, and is inconvenient. Where there is no alley the drive from the street to the rear of lot often interferes with the satisfactory treatment of the grounds.

B. Garages on Court Adjacent to Street. A plan has been developed with garages on a forecourt and houses at rear (see page 194), which, by providing a minimum driveway, saves development cost, and gives the residents greater privacy than where garages are at the rear.

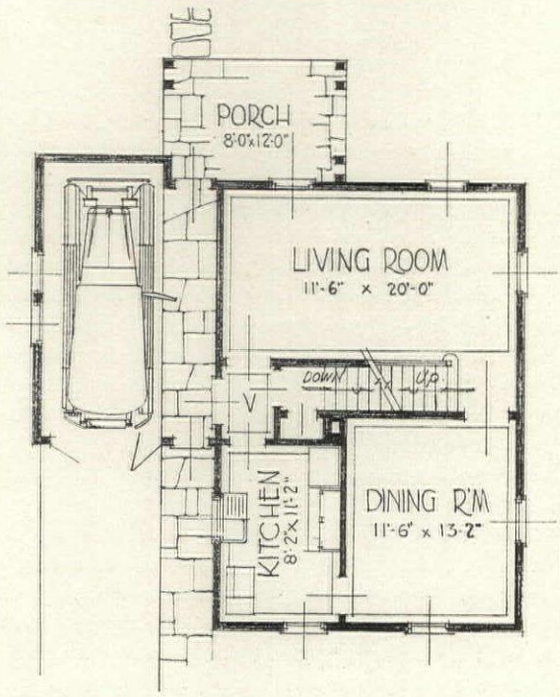
C. Garage Attached to House. Garages attached to dwellings are not an undue fire risk if reasonable precautions are followed. The garage floor should be non-combustible. The garage should be separated from the rest of the building by unpierced partitions, and ceiling constructed to meet the one hour fire test. Walls, windows, and doors must be fire resistant. A single self-closing fire door leading from garage to house may be used. "As a minimum requirement, walls may also be constructed of wooden studs spaced 16 inches center to center, with metal lath attached outside and inside. The outer lath is to be plastered and back-plastered with Portland cement stucco, and the inner lath plastered with ¾ inch Portland cement or gypsum plaster. For interior partitions separating garage from dwelling, ¾ inch Portland cement or gypsum plaster on metal lath, on both sides of studs is satisfactory."

There is an increasing tendency to attach the garage to the house. This has been a development that has followed the changed attitude toward the motor car. The automobile was at first housed in a detached garage, perhaps on the same principle which led the first designers of cars to make them with dashboards and whip sockets. But the discovery that a garage was not a stable has made it a common practice to include it in the house and express it externally.

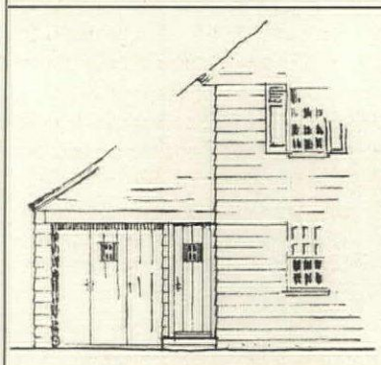
In the "House for the Motor Age," shown on the opposite page, we offer a solution to the house garage problem.

A HOUSE FOR THE MOTOR AGE

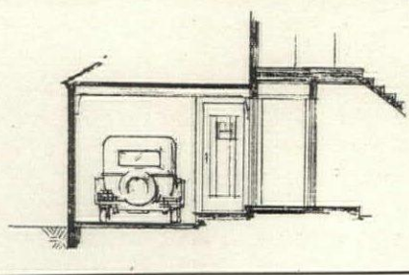
The house plan with garage incorporated as a part of the house, illustrated and described on this page, is suggested as a logical step beyond the house plan adopted for Radburn and for the average moderate size dwelling. When we enter the garage of our proposed scheme, we, in reality, enter the house. There is a single entry which leads directly to all divisions of the house.



A HOUSE FOR THE MOTOR AGE



GARAGE AND HOUSE ENTRANCE



SHOWING RELATION OF GARAGE TO ENTRY

On the opposite page is illustrated a house plan for Radburn, New Jersey. The Radburn Development has been called "A Town for the Motor Age." This novel town planning eliminates the street that passes the door step and represents the application of twentieth century technology and scientific street location to town building. It has permitted the placement of homes so as to front on open lawns and gardens. All *through* motor traffic is cared for on boulevards. Residences are on dead ended private lanes which, while giving access to houses and private garages, cannot be used for general traffic. The very large block units add greatly to privacy and attractiveness and also permit the residents to walk to stores, schools, etc., with practically no street crossings. Not only is this plan far superior to the ordinary street and block system but the saving in installation of streets and public utilities more than pays for the interior parks and paths.

The house plan for Radburn, page 196, provides garage accommodation beneath the house roof. Access to the house from the garage by a circuitous pathway to an entry at the opposite side of the house, is open to question. Aside from the inconvenience of a round-about pathway, the necessity for a vestibule far removed from the garage may be debated. Guests will park their cars in the garage driveway, off from the private lane. It will therefore be most convenient to enter the house directly from the garage. It is obvious that when guests are not to be considered, the kitchen doorway will, in reality, be the place of entrance.

Should we not accept the garage as the logical place of entrance? With the "house for a motor age" illustrated on this page, the garage is widened to permit an adjoining walk. The vestibule off the garage leads to the living room, kitchen or basement stairway. (The service feature is not different from many apartment houses.) The saving in expense for other outside door vestibules, grading, stone paving, weather stripping and heat losses, can be applied to making attractive the combination of entrance and garage doors.

An alternate scheme which should, perhaps, receive consideration of the designer, would be to further recess the garage beyond the centre of the house so as to permit entrance from a small porch at juncture of garage and house.

THE PLACE OF THE GARAGE IN CITY PLANNING

BY ERNEST P. GOODRICH

THE place of the garage in City Planning is one of the most troublesome of all planning problems. Recent tendencies in well considered zoning ordinances, however, point to the prospect of a satisfactory solution.

In zoning work, garages may be divided into four classes: (1) private garages for the use of one or more families living on the same lot upon which the garage is built; (2) parking garages within an office building for the use of tenants or their clients; (3) public garages whose main function is parking of cars for tenants or clients of near-by buildings; and (4) so-called public garages devoted primarily to the repair of motor vehicles.

The recent trend in zoning ordinances has been to exclude from business districts garages devoted primarily to repair and to permit them only in zones of light or heavy industries. Although some zoning ordinances prohibit private or public parking garages in business districts, it would be better to encourage their proper location and use in districts where traffic density and street width necessitate entire prohibition of parking.

In single family residence districts there is a tendency to have the garage located within the walls of the main building, either at ground level, below building grade or as a projecting wing of the building, instead of on the rear corner of the lot as was the prevailing custom up to the last few years. In two-family houses and for dwellings there is a similar tendency to keep the back yards open by placing a garage within or adjacent to the residence structure. This has resulted from a demand for heated garages but the by-product of greater yard openness is no less important as a social factor.

With respect to the garages incident to apartment houses a more serious problem and a wide difference of opinion exist. Serious opposition develops whenever it is proposed that garage space be provided underneath multi-family dwellings. The imperative need to provide suitable garage space limited to storage of private passenger cars for tenants of such multi-family apartment structures leaves only one course open, namely: to provide such space on the same lot with multi-family structures. Where the slope of the ground permits, this can be accomplished by construction of storage garages, one-half the height of which is under ground. The problem of draining away gasoline and oil vapors makes it necessary to slope the garage floor and place the exits so that there shall be proper drainage of air to lessen the explosion and asphyxiation hazard. In flat country this hazard necessitates the construction of the garage entirely above the ground. Where the roof of such a garage is flat and terraced or surfaced so as to provide a recreation or parking area it seems proper to count such surface area as part of the side or rear yard.

Incidentally, one of the most recent zoning ordinances provides that on the same lot as any apartment house there shall be a paved or gravelled parking space of sufficient area to accommodate one car for each family housed and that such parking area shall not be leased but reserved for the tenants of the apartment house and their guests.

Of course it goes without saying that all public garages and all private garages incident to multi-family dwellings should be capable of meeting the Board of Fire Underwriters' standard one hour fire test. Also that one or two-car garages in connection with private homes, two-family or group houses should be of fire resistant construction when within the walls or adjacent to the house.

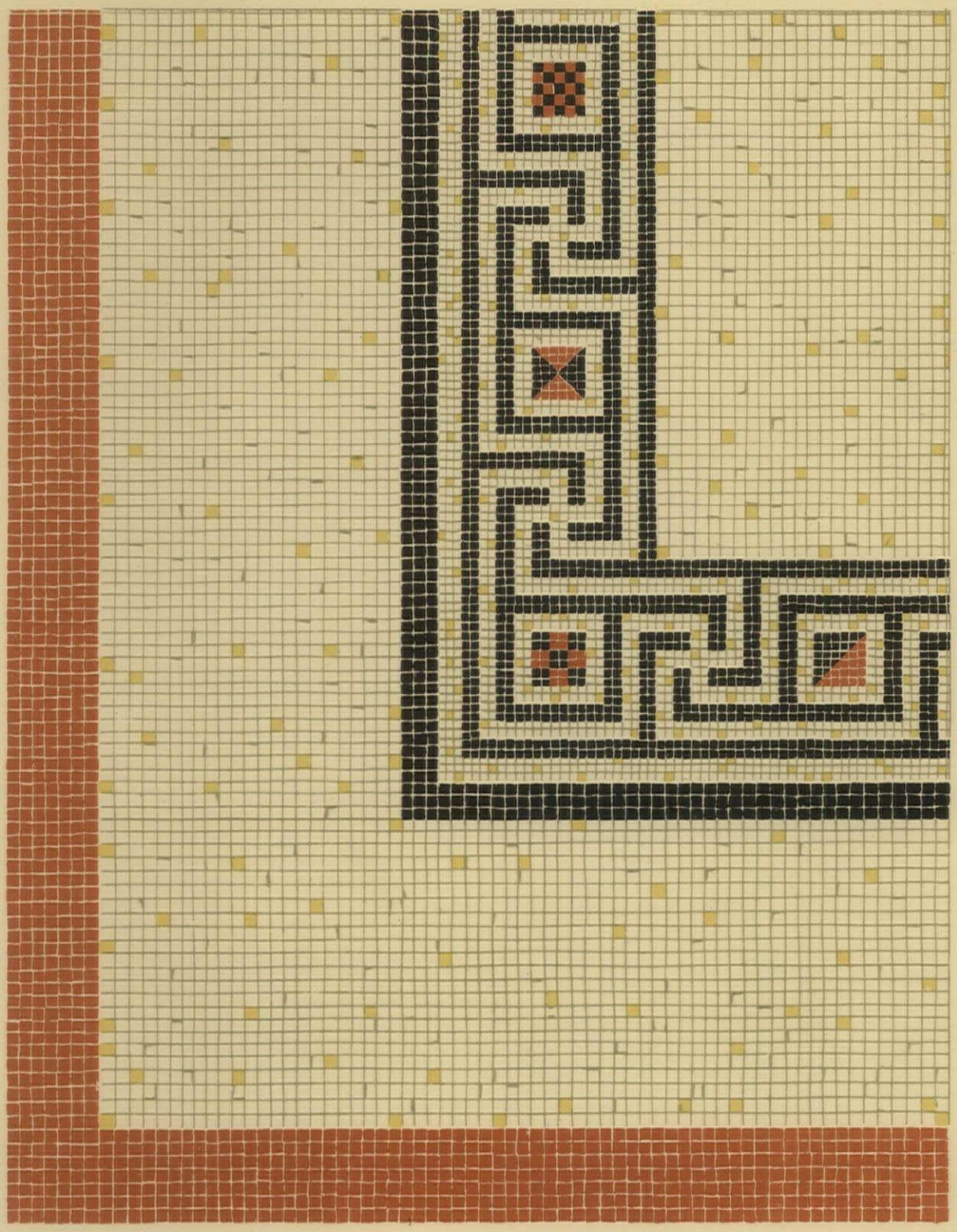
Owners of office buildings in our large cities now realize that the provision of garage parking space attached to or within the building for the use of tenants and their clients is an important inducement in renting. (Provision of such parking space may not be essential if the office building is close to an efficient public parking garage but as these are often overloaded, it is probably the better policy to provide garage parking space in connection with all buildings.) This garage space may be provided partly under ground and partly in the rear, or the entire central dark portion of the building may be utilized for parking purposes.

Entrance and exit from these parking garages should be placed as far as possible from street intersections in order that cars waiting for the traffic signal will not block cars coming from the garage.

The foregoing observations represent the general trend which appears to be a sound one. Though a long way from being generally adopted, these tendencies provide a fairly satisfactory answer to the question of where garages should be located in city planning schemes.

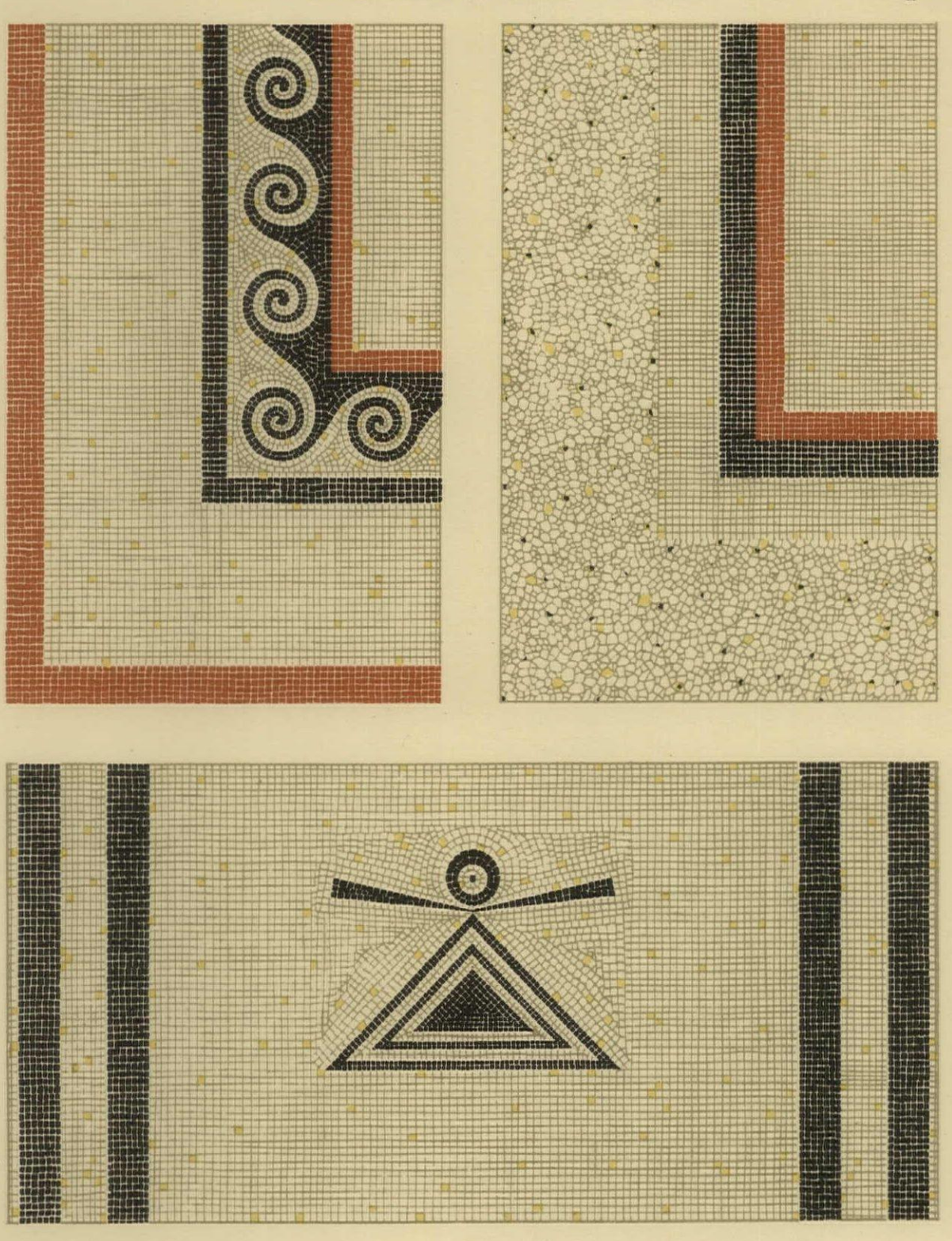
A CORRECTION

In the January issue of The Record, page 80, we called attention to the use of burlap to obtain a rough concrete surface suitable for the application of tile. We omitted mention that this chemically treated burlap is Contex fabric, a product of the Loc-Crete Company, 51 East Forty-Second Street, New York City.



MOSAIC FLOOR IN DELOS ISLAND_GREECE
CORNER DETAIL_ SCALE 1/5

ARCHITECTURAL RECORD SERIES.
POLYCHROME FLOORS
ANDRÉ LECONTE, MES ET DEL.



MOSAIC FLOOR IN DELOS ISLAND_GREECE
SCALE 1/10

ARCHITECTURAL RECORD SERIES.
POLYCHROME FLOORS
ANDRÉ LECONTE, MES ET DEL.

NOTES AND COMMENTS

CALIFORNIA ARCHITECTS LOOK AHEAD

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS held its first convention in San Francisco early last fall. I don't know how many states enjoy similar societies, nor to what extent those that do, may have organized them on similar lines. At any rate, there are possibilities here which deserve a passing word.

In one respect the new Association achieves the rare distinction of absolute unanimity. It embraces every one of the twelve hundred odd registered architects in the State of California! The constitution adopted provides that a person is a member by virtue of his certificate to practise architecture granted by the State Board of Architecture, unless he tenders a written resignation. As anyone too indifferent to participate is unlikely to take the trouble to write a resignation, it is safe to assume that all architects in the state are members, willy nilly. There may be a question as to what will be the effect of carrying the certain amount of dead matter that is sure to accrue. In view of the plan of organization, this does not promise to become a serious charge on the Association. Besides, it must be remembered that even a socially dead architect is subject to resuscitation under proper incantation. If chances were to be taken, the organizers judged the presence of a few useless members a safer risk than the exclusion of one possibly valuable one.

It will thus be seen that the new Association, by its all-inclusive membership, is not competing with the two California chapters of the American Institute of Architects. It is working hand in glove with the latter body, as well as with the official State Board of Architecture, to both of which it promises to be a valuable adjunct. In fact, the technique, if not the ideals, of big business has been adopted in the principle of interlocking directorates. That is probably as near as architecture can get to exorbitant profits.

But however unanimous the membership, the actual deliberations of the convention proved less so. This is only as it should be. Even running a steam roller must become monotonous with nothing but a vacant highway to run over. As an index of the seriousness of the occasion, the entire state was represented from Alturas to San Diego. This may not mean much to an outsider until it is explained that a space of some seven hundred miles as the crow flies is involved, or perhaps the distance from New York to Charleston, South Carolina.

The first specific task the Association sets itself is amendment to the State law regulating the practice of architecture. Although nobody can style himself "Architect" in California today without a certificate granted on official examination, at the present time the intention of the law is freely circumvented by such facile subterfuges as "Tom Jones, Architecture and Building," "Dick Smith, Architectural Designer," or "Harry Brown, Non-certificated Architect." Defects in the law leave the State Board of Architecture unequipped to prosecute these evasions, and render conviction uncertain when a case is pressed. What good, we ask, is a law without teeth? The new California law regulating the practice of architecture promises to be one of the best in the country when this job of legal dentistry shall have been accomplished.

The subject of public education came up in the convention. Personally I look forward to the Association's embarking upon a comprehensive campaign, to which its organization by central committees and completely distributed network of regional advisers eminently fits it. The public is a tremendous thing to educate, and the amount of education it needs is appalling. Yet, in the last analysis, architects as a body are at its mercy. Painters can pile pictures behind the piano, and poets and musicians can fill the bureau drawers with manuscripts, but architects can build nothing but what clients will pay to put up. And clients, of course, are no more than special cases of the public—and not always the high points, either. The longer missionary work is deferred, the longer public salvation is postponed. Mr. Myron Hunt made the statesmanlike suggestion of catching them young and off their guard, by sponsoring lectures and even courses to be introduced into the high schools of the state.

Mr. H. Roy Kelley read a spirited paper deploring the devastation of the speculative builders. Mr. William I. Garren supplemented Mr. Kelley's eloquent indignation with a few cool and arresting figures compiled from the records of the San Francisco Building Department. Skipping many interesting and significant details for the bare core, it seems that, during the last year, some twenty-five per cent. (in dollars) of the building done in San Francisco was designed and supervised by architects. The figures for Los Angeles prove to be no better, and there is every reason to believe that those for the many smaller communities would turn out considerably worse. And yet, I reflect, California is producing an architecture which is attracting nation-wide recognition for quality and character. If this can be done hitting on only one cylinder, as it were, it is interesting to speculate on what may be accomplished after the State Association of California Architects has had a chance to exercise a reasonable influence in boosting public

appreciation and checking incompetent practice.

IRVING F. MORROW

CORRECTION

It is regretted that an error occurred in the caption which appears on Page 525 of the December issue of The Record. Credit for the bronze sundial at Cranbrook School, Bloomfield Hills, Michigan, should have been given to Paul Manship, sculptor, and not to Geza Maroti as stated under the illustration.

COLOR IN EARLY AMERICAN ARCHITECTURE

THE ARTICLE on color in early American building that appeared in the last October issue of The Record inspired several letters from architects experienced in the remodelling of colonial houses. Mr. Horace Wells Sellers, architect of Philadelphia, contributed the following important data:

. . . "I have found in our Pennsylvania farmhouses and also in buildings in the city erected during the 18th and early decades of the 19th century, the use of both light gray and often of a light shade of brown or tan on the woodwork, especially in the interior.

"In the farm-houses and minor rooms of more pretentious dwellings I have reason to believe that whitewash or bare plaster was often used in various shades, some which might be designated as terra cotta, or what I believe corresponded to the term 'Venetian red' sometimes described in early specifications. With such stronger colors I recall the black border baseboard height on the walls or at least the skirtings where they existed, painted black.

"In regard to wall painting, I have detected the use of pigment in delicate pastel light shades of various colors and in fine woodwork of the early 19th century, panelling and stiles and rails of wainscoting, finished in very simple shades of pearl and rose. In fact until the latter decades of the 18th century I question if in this neighborhood untinted white paint was used to any great extent although the colors employed were warmer and lighter than I have noted in modern attempts to restore such original conditions.

"I have noted, for example, mantels carrying ornament in low relief which needed the application of white paint or extremely light tints of color to maintain the effect of light and shade that the bas reliefs call for and which in the hands of the modern restorer is quite lost under the application of different shades of blue, green or gray.

"There is a tradition here that in the early city dwellings where wainscoted walls were used at a period when competent plasterers were difficult to secure, the cedar or pine commonly used was left unfinished exactly as I noted recently in old houses in England that I had occasion to visit.

"I remember some years ago in restoring an old house in New England where walls had layers of paper applied showing the progress of the art from 1800 to the present century that under it all was disclosed an attempt to imitate wall paper by color applied to the plaster. . . ."

ARCHITECTURAL LEAGUE EXHIBITION

THE ANNUAL EXHIBITION of The Architectural League to be held at the Grand Central Palace, New York City, April 15-27, occurs at a time that will be convenient to those architects who attend the Convention of The American Institute of Architects at Washington, D. C., April 23-25 and who may include New York in their itinerary. It is not generally known that the exhibits will not be confined to architects and craftsmen members of the New York Architectural League. Any architect may submit photographs and drawings to the Jury of Selection for acceptance or rejection. There is an entrance fee required of $5.00 from each exhibitor.

The inclusion of a special group of paintings by contemporary American artists as a part of the Architectural and Allied Arts Exposition has been arranged by the Arts Council of the City of New York. This exhibition is considered as a step in the Arts Council's plans for the establishment in New York of a Museum of Contemporary Art. The hundred artists to be represented will be chosen from lists of names to be sent to the Council by artists, art collectors, art executives, art instructors and art writers. If the reader of this announcement belongs to any of these groups he is requested to send a list of names of those living American painters whom he considers important.

REGIONAL CONFERENCES OF THE AMERICAN INSTITUTE OF ARCHITECTS

THE REGIONAL CONFERENCE of the Middle Atlantic District of the American Institute of Architects was held last November in Carpenters' Hall, Philadelphia. This Hall is a surviving link between the days of medieval craft guilds and our period of professional architectural practice. One of the objects of the Carpenters' Company, says Robert Stead, who reported the Philadelphia conference, was to "obtain instruction in the Science of Architecture." Carpenters' Hall possesses an unusual library including besides many rare architectural works of the eighteenth century, a collection of Carpenters' Price Books which list and illustrate details of public and private buildings. This material may well serve as an authentic guide in the reconstruction of eighteenth century architecture.

The Regional District meeting of the American Institute of Architects for the Western Mountain States was held at Seattle, Washington, in January.

THE ARCHITECT'S LIBRARY

BOOK REVIEWS

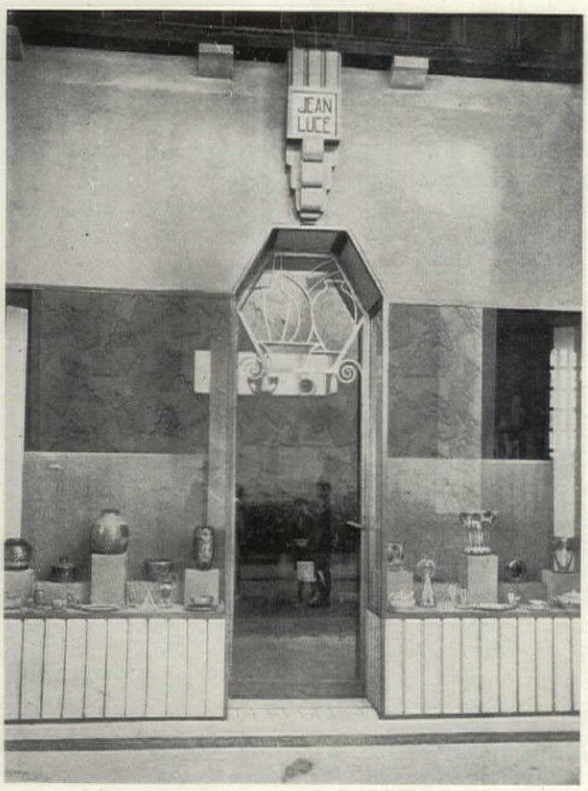
MODERN FRENCH ARCHITECTURE

ROBERTSON, HOWARD, AND YERBURY, F. R., Eds.

Examples of Modern French Architecture. 100 pl. Scribner's. $10.00.

THE VOLUMES and articles on modern architecture now and again appearing in the several countries, Sweden, Holland, Germany, France, etc., are a little inclined to see national initiative and peculiarities too exclusively. In turning from volume to volume, one frequently finds the same characteristic successively called Swedish, Dutch, German, French, or American. Differences there are of course, but the main phenomenon before us is becoming common to all these countries, and the main element in it is a radical change in appearance growing out of a radical change in structure, which in turn had grown out of a new kind of building material, namely, structural steel and reinforced concrete.

Among national differences the modern American seems to be structurally the most daring and decoratively rather conservative, and French *architecture moderne* to run true to the national temperament in attempting to "follow through" with its logic. Why hide steel frame and reinforced concrete, it asks, by camouflage? What have these modern buildings to do with the ancient Orders? "*Architecture moderne*," says the writer of a recent article, "has straight lines; it is angular, geometric, and tends to follow cubic proportions. On the exterior an interest in the structure is created by a balance of mass, rather than a variety of intricate ornamentation that *per se* means nothing—In most cases there has been an honest attempt to follow out the lines of construction rather than the old style of masking everything behind a false front—With the elimination of the Orders went the elaborately carved doorways and windows, and, what was of greatest import, the cornice as the crowning motif of the building."



EXHIBITION SHOP FRONT
SÉZILLE, ARCHITECT
From *Examples of Modern French Architecture*

It seems that frontal pilasters on a steel frame building do look rather silly; that the outside surface and appearance of such buildings will eventually show the influence of the substance behind them more completely than they have yet; hence that the appearances of the *architecture moderne* may be more or less prophetic for us. The new materials have a tensile strength that stone has not; hence it is prophesied that a lintel age is upon us and the arch will disappear.

The first group of the Robertson and Yerbury plates presents the Lyons Stadium, which suggests the Yale Bowl but is far more architectural and apparently smaller. The Bowl is simplicity itself but the Lyons Stadium is a composition. Le Raincy Church (Pl. 28-30) has been frequently photographed, and comments upon it have often been to the effect that it is too restless for a church. But it may be that peace has something to do with custom. Possibly a Gothic church would look restless to a Greek, and perhaps in some sense it is. Aspiration is a form of restlessness, but one has not thought it inappropriate to a place of worship. Le Raincy Church may be restless without aspiration, but at any rate it is a definite something.

Some of the features of the new architecture in America do not appear in any of these French plates. In many tall buildings American architects seem tending to substitute flat vertical lines of different color, instead of pseudo-structural members such as buttresses and pilasters, with the vertical recesses between them to carry the eye upward; and this seems to open the way to polychrome fronts. The French plates of commercial buildings and dwellings show no tall structures. These undecorated surfaces

and rectangular lines run naturally to an extreme austerity. Architects to whom extreme austerity is not attractive endeavor to escape from it in various unexpected ways, which sometimes perhaps are in effect more eccentric than harmonious. Many of the house interiors seem unhouse-like (see pl. 45). But one can see everywhere an intention to argue logically from the facts of structure, and discard any tradition which the argument does not lead to or include.

This collection of plates does not claim to trace the development of modern French architecture, or to represent it. It is a volume of photographic impressions, and it succeeds in conveying an impression. Some peculiarities look like passing fashions, but the general impression is more like the beginning of a style. Some of the work presented is restrained and evolutionary, some of it frankly radical and revolutionary. Architecture is slower than other forms of art to reflect the tendencies of an epoch. Messrs. Robertson and Yerbury find the signs of change reflected not so much in the great public buildings, as in shops, homes, hotels, cafés; for these have no self conscious eye to posterity; they are buildings for today. Large and important work in the modern manner hardly exists as yet in France, except on the drawing board. The bulk of the illustrations are therefore from shop fronts and private houses, and these are by far the most radical and experimental.

ARTHUR W. COLTON

ART STUDIES

ART STUDIES

Medieval Renaissance and Modern. 1927.Cambridge. Harvard University Press. (Fifth Year).

THE ANNUAL publication of *Art Studies* by members of the departments of Fine Arts of Harvard and Princeton, is, outside the classical field, the most important American contribution to the scholarship of art. With its distinguished international advisory council and such foreign contributors as Monneret de Villard, Diehl and Oursel, combined with American scholars of established position and younger men and women at the opening of their careers, it offers every year a rich and usually well balanced variety of contents illustrated with excellent plates.

Important as are the iconographical articles and those on painting and sculpture, the present review can only touch on those dealing with architecture. Oursel's article on "La Genèse Monumentale de l'Eglise Abbatiale de Vézelay" gives a full account of the relation between ecclesiastical politics and architecture in Burgundy at the end of the eleventh and beginning of the twelfth century and an admirable explanation of the disparity in style between Vézelay and the great church at Cluny. Monneret de Villard's briefer article insists upon the coherence in style of the art produced about the Mediterranean during the first millennium of our era regardless of the religion temporarily in control. Although he does not say so, Monneret de Villard's *Arte Sàsánide* is the same as Spengler's *Magian Art* and the suggestions he offers for advancing our knowledge of that culture stress how central in point of history it was and how in our Rome-blindness it has been misunderstood and neglected despite all the efforts of Strzygowski and those who have worked with him.

Mr. Anthony's article on the Florentine Baptistry has already appeared in expanded form as a book. Mr. Whitehill's article is more far reaching than the actual point at issue since it suggests that liturgy is an influence on architecture of wide and infrequently grasped importance.

For those who are interested in modern architecture there can be nothing more healthy than the reading of archaeology and the history of art. These few articles, all within the medieval field, suggest much that is inherently and permanently true of great architecture and also the very strict and necessary relation between architecture and the civilization in which it exists—a connection which the men of the nineteenth century tried to forget, yet which, ironically enough, is very evident in their architecture. Let us hope that with sounder knowledge of the past our own day may be readier to accept and profit by the influences which inevitably react on architecture and that we may be freer to evolve a style in which we may face the past, not as an enfeebled image in some distorting mirror, but clearly and honestly as we are.

HENRY-RUSSELL HITCHCOCK, Jr.

FURNITURE ARTS AND CRAFTS

JOHNSON, A. P., AND M. K. SIRONEN, Compilers.

Manual of the Furniture Arts and Crafts. Edited by William J. Etten, Grand Rapids, Mich. A. P. Johnson Company, 1928. $5.50

THIS VOLUME is a compendium of facts about furniture. It includes a short historical sketch, a description of furniture woods, veneers, machinery and upholstery. There are also chapters devoted to the furniture housed in various museums of the United States and biographical sketches of furniture craftsmen.

GOTHIC ORNAMENTS

PUGIN, AUGUSTUS CHARLES.

Gothic Ornaments. C. W. Kuehny, Cleveland, Ohio. $7.50

EXAMPLES of Gothic ornament from various ancient buildings in England and France, covering every description of decorative detail from the eleventh to the beginning of the sixteenth century, are included. The first edition of this work, without letterpress, was published in 1831.

LIST OF NEW BOOKS ON ARCHITECTURE AND THE ALLIED ARTS

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ARCHITECTURE

BAUM, JULIUS.

Romanesque architecture in France; edited and with an introduction by Julius Baum. New York: B. Westermann Co. Inc., 1928. xxxii, 220 p. illus. (incl. plans.) 4°. $12.50. 723.44

Bibliographical footnotes.
The first German edition was published in 1910. This is a translation of the second, enlarged to 280 plates. "The object of the introductory text of this book is merely to show how French culture of the middle ages is mirrored in the works of art of the country." Preface.

CASTLE, SYDNEY ERNEST.

Domestic Gothic of the Tudor Period. Jamestown, N. Y., International Casement Company, Inc., 1927. 6, 86 p. front., illus., 54 plates. 4°. $5.00. 728

Informal, personal impression of English architecture of this period, illustrated by photographs and by the author's renderings in pen and ink.

GOTCH, JOHN ALFRED.

The growth of the English house, from early feudal times to the close of the eighteenth century. London: B. T. Batsford, Ltd., 1928. x, 214 p. front., illus., plates. 2 ed. rev. and enl. 8°. 12s. 6d. 728

American edition published by Scribner at $4.50.
The first edition was published in 1909.
"Advantage has been taken of the demand for a new edition of this book to make such slight variations of the text as became requisite, owing to researches undertaken since it was first published, and owing also to a revision of illustrations to picture more fully periods that formerly were sparsely represented." Preface.

HALSTEAD, FRANK.

Architectural details. New York: J. Wiley & Sons, Inc.; London: Chapman & Hall, Limited, 1927. vii, 284 p. incl. 114 pl. 4°. Amer. ed. $3.50; Eng. ed. 17s. 6d. 729

"This volume together with the one on 'The orders of architecture' and the 'Architects' and builders' reference book,' is planned to meet the demand for a treatise on architectural drawing." Preface.

MESSENT, CLAUDE J. W.

The old cottages and farm-houses of Norfolk; with pen and ink illustrations by the author. Norwich: H. W. Hunt, 1928. 248 p. incl. plates. front., illus. 4°. 10s. 728.6

This study of a local architecture includes chapters on dovecotes and Georgian shop fronts.

SOCIETY OF BEAUX-ARTS ARCHITECTS, New York.

Winning designs, 1904–1927, Paris prize in architecture, Lloyd Warren memorial, with an introduction by John F. Harbeson. New York: The Pencil Points Press, Inc., 1928. 2 p., 35 pl. (part fold., incl. plans) f°. $6.00. 720.7

The plates show designs of the twenty prize winners from 1904 to 1914 and from 1919 to 1927. The conditions of each scheme are printed with the plates.

SOUPRE, J. & J., firm, architects, Paris.

Maisons du Pays Basque, Labourd-Basse, Navarre-Soule; texte de E. Lambert. Paris: A. Sinjon, cop. 1928. 71. diagr., illus. (plan), 56 pl. f°. 100 fr. 720.944

Well chosen types of the French Basque house and a few Basque churches. There are short critical notes on the plates and an introduction which describes typical features of this regional architecture.

TEUPSER, WERNER.

Rothenburg, Dinkelsbühl, Nördlingen. Leipzig: E. A. Seemann, 1928. 236 p. illus., plans. 12°. (Beruehmte Kunststätten. Bd. 80.) 8 marks. 720.9433

This volume of a useful German series covers the architecture of these three Bavarian cities, and has 121 illustrations from plans, drawings and photographs.

VACQUIER, J.

Les anciens châteaux de France. La Touraine; Azay-le-Rideau; Champigny-sur-Veude; Loches; Montpoupon. Notices historiques et descriptives. Paris: F. Contet, 1928. 4, 4, 4 p. illus. (incl. plans.) 39 pl. (2 col'd). f°. 160 fr. 728.82

A new contribution to this familiar French series.

VALADY, MARIE JOSEPH LOUIS D'YZARN DE FREISSINET, MARQUIS DE.

Les châteaux de l'ancien Rouergue; avec des eaux-fortes du comte R. de Levezou de Vezins. Rodez: P. Carrère, 1927. viii, 608 p. 22 pl. f°. 210 fr. 728.82

283 copies only, printed.
Bibliographical footnotes.
A closely documented history of the châteaux of the three cantons of Sévérac-le-Château, Laissac, Campagnac.

VIRETTE, JEAN.

Sculptures et détails d'architecture moderne. Deuxième série. Paris: A. Sinjon, 1928. 2 l., 48 pl. f°. 110 fr. 729

The 48 plates show the work of twenty architects, and illustrate ironwork, sculptured relief, window, stair and doorway detail.

ALLIED ARTS

CAPART, JEAN.

Lectures on Egyptian art. Chapel Hill: The University of North Carolina Press, 1928. xxxii, 290 p. illus. (incl. plans, ports.) 4°. $5.00 709.32

This volume prints the text of the lectures delivered by Monsieur Capart on his tour in the United States during the season of 1924–1925. A popular but illuminating commentary by an authority on the subject.

FRENCH, J. C.

The art of the Pal empire of Bengal. Oxford: University Press; London: Humphrey Milford, 1928. xv, 26 p. 32 plates. 8°. $6.50. 709.54

Discusses sculpture and architecture of this period in India which is contemporary with the early Middle Ages in Europe, from the 8th to the 11th centuries.

GARBER, JOSEF.

Die romanischen Wandgemälde Tirols. Wien: Krystall-Verlag, 1928. 127 p. illus. (incl. plans), 91 pl. f°. 35 marks. 729.4

Through the medium of textual description and some 91 plates, this volume forms a record of Tyrolese mural paintings of the Romanesque period, covering the years 800 to 1300.

GAUTHIEZ, PIERRE.

Paris; aquarelles de Paul-Émile Lecomte. Grenoble: J. Rey, 1928. 3 v. illus., col'd plates. f°. 120 fr. 720.944

An architectural pilgrimage in Paris, fully illustrated from photographs and water colors.

GODARD, A., AND OTHERS.

Les antiquitées bouddhiques de Bāmiyan, par A. Godard, Y. Godard, J. Hackin. Avec des notes additionelles de M. Paul Pelliot. Paris: G. van Oest, 1928. 113 p. 48 pl. (part col'd.). f°. (Délégation archéologique française en Afghanistan. Mémoires. Tome 2.) 250 fr. 709.5

Bibliography, p. 105-108.
Not only the report of a preliminary survey made by an expert commission, but a review of all earlier visits to the valley of Bamian, and a reprint of texts dealing with previous expeditions.

GOTHEIN, MARIE LUISE (SCHROETER).

A history of garden art, edited by Walter P. Wright; translated from the German by Mrs. Archer-Hind. London: J. M. Dent & Sons Ltd., 1928. 2 v. fronts., illus., plans. 4°. 84s. 710

Amer. ed. pub. by Dutton at $27.00.
Bibliography, v. 2. p. 459-460.
An important history of landscape gardening, translated from the second German edition.

GUILLOT, LUCIEN.

Le cheval dans l'art; préface de J. Froment-Meurice. Paris: Le Goupy, 1927. 220 p. incl. front., plates. illus. 8°. 80 fr. 704

Bibliography, p. 209-212.
Discusses and illustrates the representation of the horse in painting and sculpture from pre-historic down to contemporary art.

HANOTAUX, GABRIEL.

La Provence niçoise. Paris: Hachette, 1928. ix, 159 p. diagr., facsims., illus. (incl. plans), plates. f°. (La Renaissance provençale.) 100 fr. 709.449

HAUTECOEUR, LOUIS.

Le romantisme et l'art. Paris: H. Laurence, 1928. iv, 319 p. facsim., plates. 8°. 40 fr. 709.44

Contents: Herriot, E. Introduction.
Hautecoeur, L. Les origines du romantisme.
Aubert, M. Le romantisme et le moyen âge.
Vitry, P. La sculpture romantique.
Rey, R. Gros-Géricault.
Jamot, P. Delacroix.
Joubin, A. Les manuscrits d'Eugène Delacroix.
Focillon, H. Chassériau, ou les deux romantismes.
Schneider, R. Le paysage romantique.
Rouchès, G. Les peintres romantiques et la peinture étrangère.
Rosenthal, L. La gravure romantique.
Lanson, R. L'orient romantique.
Boschot, A. Berlioz et le romantisme.
Girard, H. Le livre, l'illustration et la reliure à l'époque romantique.
A series of lectures commemorating the centenary of the romantic movement in France.

HURLIMANN, MARTIN.

India, the landscape, the monuments and the people. New York: B. Westermann Co., Inc., 1928. xxxiii, 304 p. incl. plates. map. f°. (Orbis terrarum.) $7.50. 720.954

Like others of the series, a collection of admirable plates from photographs illustrating Indian architecture, scenery and racial types. The text is descriptive and interpretative.

JOINT EXPEDITION OF THE BRITISH MUSEUM AND OF THE MUSEUM OF THE UNIVERSITY OF PENNSYLVANIA TO MESOPOTAMIA.

Ur excavations. Vol. 1. London: Oxford University Press, 1927. front., illus., plates, tables. f°. 63s. 709.3

Contents: Al-'Ubaid; a report on the work carried out in 1919 and 1922–3 by H. R. Hall and C. L. Woolley at Al-'Ubaid.
Describes the temple and cemetery at Al-'Ubaid and includes a detailed account of the objects found during the various excavations. Excellent photogravure plates.

LUETHI, MAX.

Buergerliche Innendekoration des Spätbarock und Rokoko in der deutschen Schweiz. Zürich: O. Füssli, 1927. 92 p. diagr., 48 pl. on 24 l. 4°. 16 fr. (Swiss).

Bibliography, p. 80-89. 747
Describes and illustrates interiors, wall decoration and furniture of the 18th century, from examples in published volumes, in historical museums, in the author's possession and in other private collections.

MARQUAND, ALLAN.

The brothers of Giovanni Della Robbia: Fra Mattia, Luca, Girolamo, Fra Ambrogio. With an appendix and corrections for all the Della Robbia catalogues. Edited and extended by Frank Jewett Mather, Jr., and Charles Rufus Morey from the manuscript of the late Professor Marquand.

Princeton: Princeton University Press, 1928. vi, 221 p. illus. 4°. (Princeton monographs in art and archaeology, XIII.) $10.00. 735

"This book represents the first comprehensive attempt to disentangle the works and personalities of the last Della Robbia sculptors from the mass of pieces hitherto vaguely ascribed to the school. Thus on the scholarly side, the late Professor Marquand's final volume may be regarded as his most personal and original contribution to the entire subject." Preface.

MARTINIE, A. H.

La sculpture; 24 planches hors texte. Paris: Les Editions Rieder, 1928. 132 p. 24 plates. 12°. (L'art français depuis vingt ans.) 15 fr. 735

A review of the academic, eclectic and independent schools of French sculpture since 1900.

Paris. Exposition internationale des arts décoratifs et industriels modernes, 1925. Rapport général. Paris: Larousse, 1927–28. vol. 4, 5, and 9, plates (part col'd). 4°. 80 fr. per vol. 740

Contents: vol. 4, Mobilier.
vol. 5, Accessoires du mobilier.
vol. 9, Parure.

Includes bibliographies.

The set is to be completed in eighteen volumes, the subjects including architecture, furniture, textiles, books, toys, costume, theatre arts, and municipal art. Five volumes are to be devoted to a discussion of the finance and administration of the Exposition. Each volume has text and approximately one hundred plates.

TROESCHER, GEORG.

Conrat Meit von Worms, ein rheinischer Bildhauer der Renaissance. Freiburg i. Brg., Urban-Verlag, 1927. 71 p. mounted illus., 54 pl. f°. 60 marks.

Bibliographical notes, p. 37-72. 735

A critical study of this early Renaissance sculptor whose most important works are certain tombs in the church at Brou. Exceedingly clear and detailed plates.

TYRRELL-GREEN, EDMUND.

Baptismal fonts, classified and illustrated. London: Soc. for Promoting Christian Knowledge, 1928. xvi, 183 p. illus., plates. 8°. (Historic monuments of England.) 10s. 6d. 729.9

Bibliography, p. v-vi.

A very large number of fonts in Great Britain are classified according to type, design, period ornamentation and material. The index of fonts is arranged alphabetically by county and town, and there is a second index of names and subjects.

WILLIAMS-ELLIS, CLOUGH.

England and the octopus; with an epilogue by Patrick Abercrombie. London: G. Bles, 1928. ix, 188 p. incl. front., plates. 12°. 5s. 720.41

An English architect speaks with emphasis upon what he considers the forces destructive to good English architecture, wise town planning, and the beauty of the English countryside.

FOREIGN PERIODICALS

Reviewed by Henry-Russell Hitchcock, Jr.

ARCHITECTURAL MAGAZINES PUBLISHED IN ENGLAND

ARCHITECT AND BUILDING NEWS. October 19, 1928. Weekly.

The Architect and Building News is an excellent English magazine of architecture. At the same time, it carries so much foreign material that it gives the American reader less of a view of English architecture than certain others. The current number has a report on the International Exhibition of Garden Design at the Hall of the Royal Horticultural Society at which the house and garden by Easton and Robertson, mentioned elsewhere in reviewing the Builder, was exhibited. The foreign article this month is devoted to houses by André Lurçat in the Cité Seurat and includes some new examples as well as many plans. If one may at all criticize the excellent "foreign policy" of *The Architect and Building News* it is that they illustrate perhaps too much French and Dutch work and too little German and Swiss. Also they seem unable to find in England many good buildings of comparable modernity.

SOUTH WIMBLEDON STATION, LONDON
S. A. HEAPS AND MESSRS. ADAMS, HOLDEN & PEARSON, CONSULTING ARCHITECTS
From *Academy Architecture and Architectural Review* Volume 60, 1928 (A bi-annual)

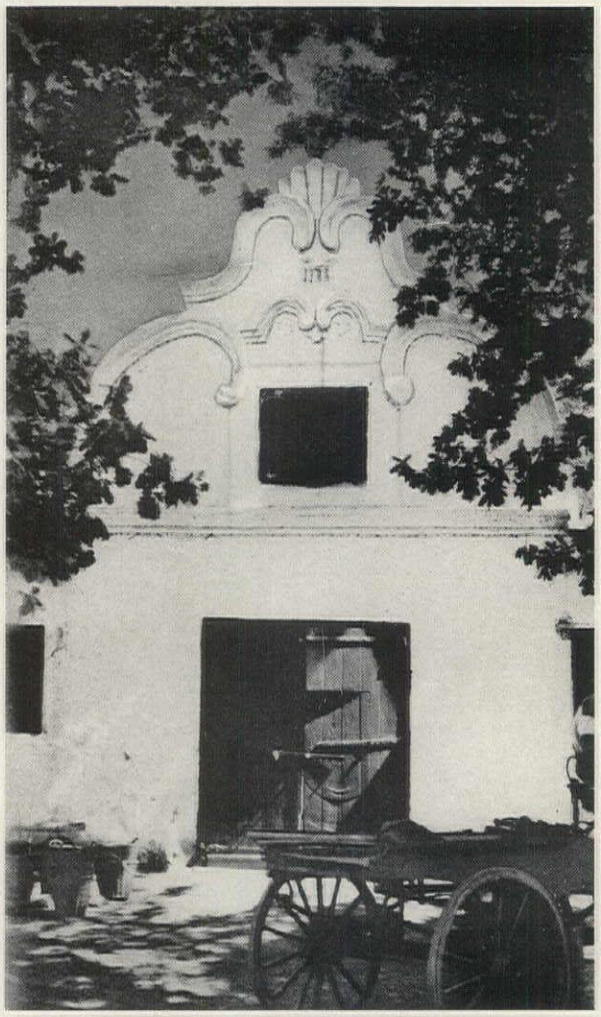
THE BUILDER. A Journal for the Architect and Constructor. October 19, 1928. Weekly.

The Builder is an inexpensive review with excellent brief notes and comment on matters of interest to English architects and constructors. Its illustrations are small and usually of material better seen elsewhere, as, for example, in the pres-

ent instance, the Royal Horticultural Hall. There is a very small illustration of a modern house and garden also by Easton and Robertson, an article on department store planning, in which English and American examples are compared, and some schools, libraries and bridges of no very great interest. Except for its broad scope there is little to recommend this review to Americans.

BUILDING. October, 1928. Monthly.

Building describes itself as a practical monthly journal for not only architects but also for quantity surveyors, builders, structural engineers, heating, lighting and ventilating engineers, sanitary engineers, decorators, manufacturers and merchants of building material and estate managers. Although its editorials and notes are somewhat more journalistic in tone than those of the professional architects' magazines and its publication of single buildings less complete, it gives a more varied picture of English contemporary production. There are also brief articles of general interest by foreign architects relative to their theories of design; the current number, for example, contains "The way we are going" by Ragnar Östberg, the well-known Swedish architect of the Stockholm City Hall. A series of articles on Modern Continental architecture provides in the current number a well-illustrated discussion of Switzerland. The work mentioned conforms generally to the current English standards of good craftsmanship and either simplified traditional design or eclectic modernism. The frequent technical articles are of more interest to those other than architects for whom the magazine is produced.



GABLE TO THE WINE CELLAR AT KROM REVIER, STELLENBOSCH
From *The Architectural Review*, October, 1928

THE ARCHITECTS' JOURNAL. October 24, 1928. Weekly.

The Architects' Journal is a sober professional weekly with excellent half tone plates and measured drawings. Its editorials and news and topics are informative as to English conditions and events of local professional interest. Its articles are well written and the publication of single buildings is very complete, both as to photographs and drawings. Plates of old buildings are well chosen and provide excellent precedent for modern traditional design. The modern buildings illustrated reflect Scandinavian rather than French and German movements.

THE ARCHITECTURAL REVIEW. A Magazine of Architecture and Decoration. October, 1928. Monthly.

The Review is a sumptuous and expensive monthly with excellent illustrations and text. But it is not particularly concerned with the actualities of architecture. Its book reviews and travel articles are its strongest features. In the present number, for instance, is an article on South African wine cellars with magnificent photographs, and a Spanish travel diary with very vigorous pen illustrations. *The Review* contains also a History of the English House treated as a series by Nathaniel Lloyd.

Included, too, is a full account of the new Hudson Bay Building by Mewes and Davis in Louis XIV style and, for contrast, some interesting modern block printed textiles by the well-known painter Paul Nash. The book reviews are well chosen and well done. In conclusion, *The Review* may be said to be the most impressive and the least usual to American architects of all the British architectural periodicals.

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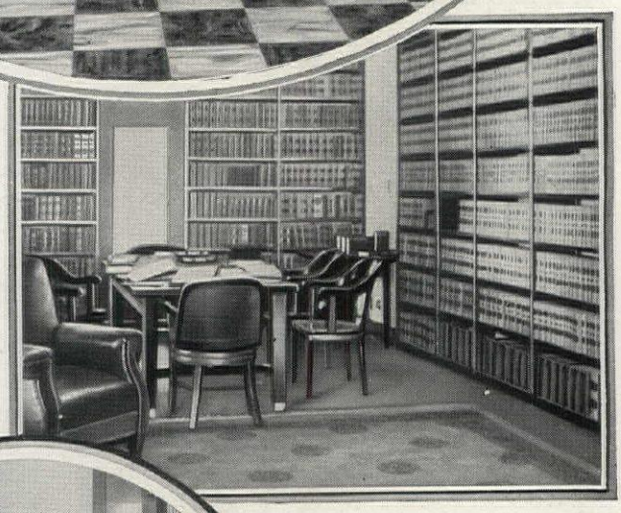

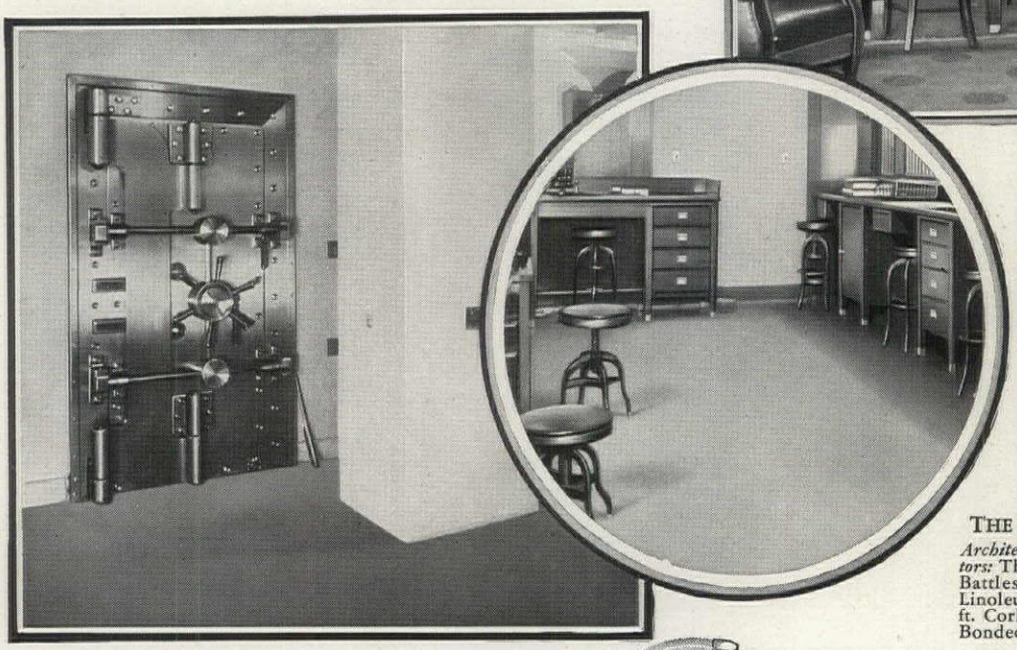

Above: Battleship Linoleum in library of Jerome & Rand, Counselors at Law.

Top: Marble-ized Cork-Composition Tile in reception room, Murray, Aldrich & Roberts, Counselors at Law.

Left: Bonded Floor of Battleship Linoleum in working spaces of Equitable Trust Co.

Extreme left: Bonded Floor of Battleship Linoleum in vaults of Equitable Trust Co.

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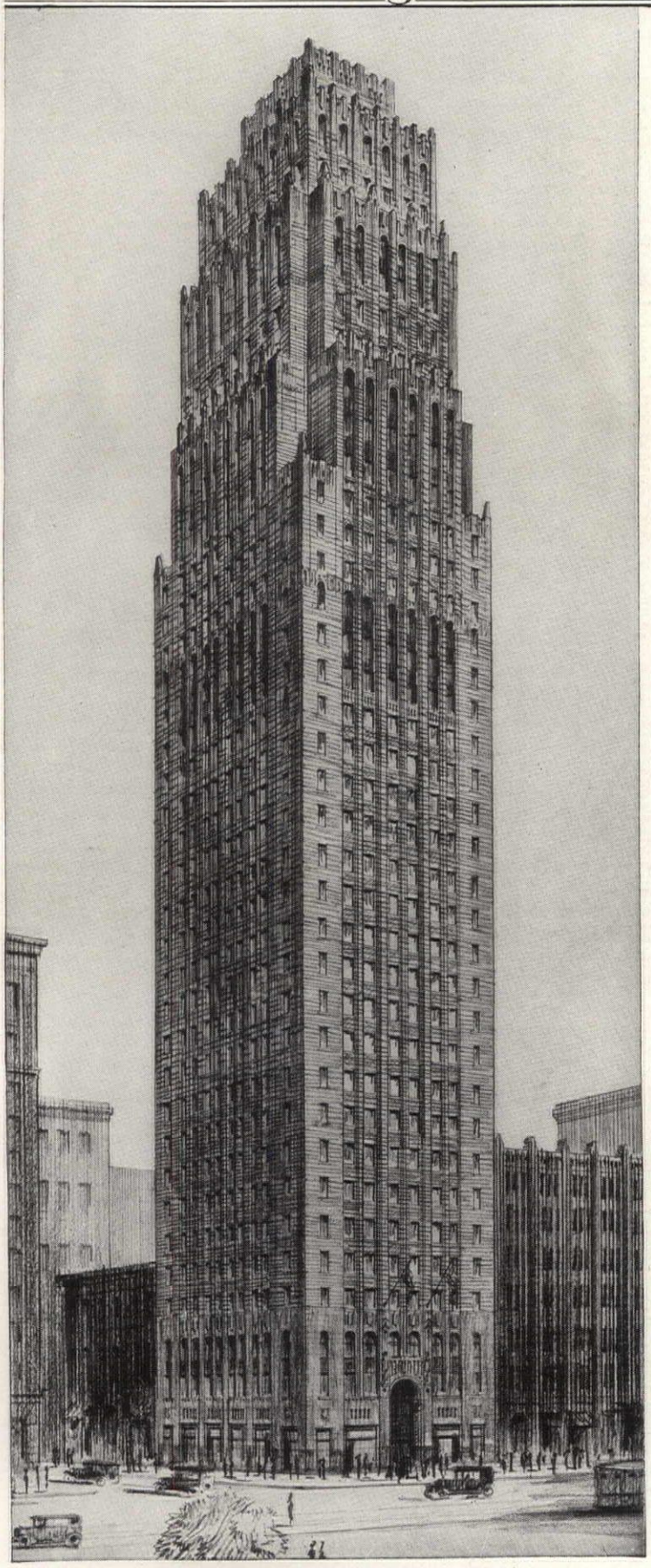

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St. Louis, Missouri

Architect, E. M. Tucker; *Engineer*, E. A. Hadley; *Plumbing Contractors*, The De Bord Company; *Heating Contractors*, Bradley Heating Company.

The Spirit of St. Louis . . .

THE will of a great city—to go ahead. Here one finds a determination to build greater—to expand—to do real things—a typical American populace. St. Louis, on the tongue of the world, interprets modern progress. From here went, with unflinching bravery, the mighty Lindbergh—symbolic of the spirit of her people. St. Louis looks ahead—prepares—builds well. Thus, in selecting the materials for her modern buildings—choice is the natural result of a "do it well" spirit—quality being the major consideration. The Missouri Pacific Building with its towering lines of beauty and stability faithfully exemplifies, in building measures, the spirit of this great city. Translated into practical terms, it means—care and precision in specifications. The architects, engineers and contractors responsible realized their task and met it. Thus, for the major pipe tonnage they selected "NATIONAL" Pipe—typical of progress and leadership in building materials. To resist corrosion—particularly pitting—butt-weld sizes ½ to 3-inch are made by the special Scale Free Process—an exclusive "NATIONAL" pipe feature.

NATIONAL TUBE COMPANY · Pittsburgh, Pa.

***Subsidiary of* United States Steel Corporation**

Smoking Room in Avalon Theatre, Chicago, John Eberson, Architect. Interior Tiling Co., Tiling Contractor.

KERAMIC TILES—real tiles—offer an ideal medium for artistically finishing the public smoking room or lounge. In the room shown above where smokers gather nightly, carelessly dropped cigarette stubs never mar the original beauty of this floor material.

There are many similar examples where Keramic Tiles have been wisely used to obtain interiors of true distinction as well as to meet definite requirements for a room that is easily, quickly cleaned and perfectly protected.

This practical and beautiful building material is supplied in many different colors, patterns and textures for any decorative scheme.

YOU DERIVE the greatest benefit from Keramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor on the quality of his work

KERAMIC TILES

ASSOCIATED TILE MANUFACTURERS

420 Lexington Ave., New York, N. Y.

ALHAMBRA TILE CO.
AMERICAN ENCAUSTIC TILING CO., Ltd.
CAMBRIDGE TILE MANUFACTURING CO.
FEDERAL TILE COMPANY
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MATAWAN TILE CO.
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WHEATLEY TILE & POTTERY CO.
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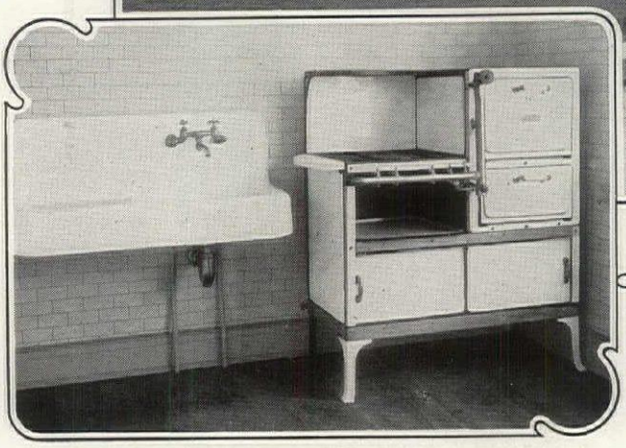


A few of the 500 homes at Stewart Manor, Long Island, N. Y., all Red Wheel-equipped. (At left) Typical Reliable Red Wheel Stove installation at Stewart Manor.

Hundreds of Red Wheel Ranges in Long Island Homes

IT IS estimated that women influence the buying of 90% of the houses built to sell. And in most cases, they are certain to insist that the kitchen have cookery equipment that enables them to bake via Time and Temperature.

To most women Time and Temperature Cookery means cookery achieved through the medium of the Lorain Red Wheel Self-regulating Oven. Are the kitchens of the houses you build to sell thus equipped?

It will pay you to follow the example of the Realty Associates, Inc., of New York City. At Stewart Manor on Long Island this firm is erecting 2000 homes similar to those shown above. 500 have already been built and each is equipped with a Red Wheel Range. The remaining number will also be thus equipped.

The Red Wheel has been continually advertised in leading national magazines for nearly ten years. It is the one device of its kind most widely and favorably known among women.

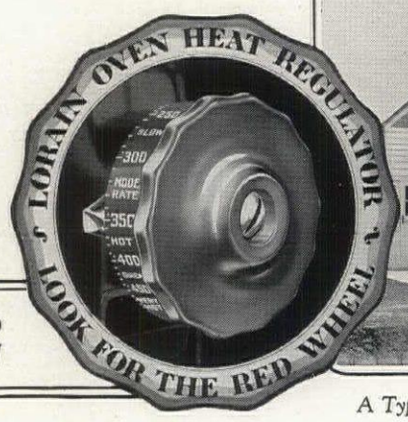
Only these six famous makes of stoves are equipped with the Red Wheel: **Quick Meal, Dangler, Clark Jewel, Direct Action, Reliable** and **New Process.** These stoves are used for cookery instruction in over 2700 schools and colleges.

All makes offer the latest in styles, sizes, colors and finishes. For specific data see Sweet's Catalog, 23rd Edition, Pages C4009-C4018 inclusive. A postal request brings interesting catalogs.

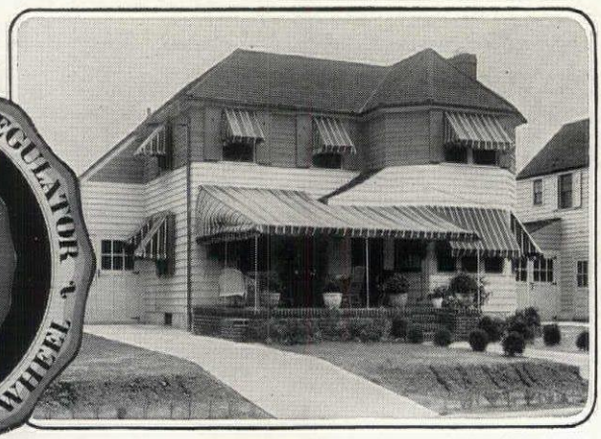
AMERICAN STOVE COMPANY

Largest Makers of Gas Ranges in the World

555 Chouteau Avenue :: St. Louis, Mo.



Unless the Gas Range has a RED WHEEL it is NOT a LORAIN



A Typical Home at Stewart Manor, Long Island, N.Y.

LORAIN

An Invitation..

is cordially extended to architects, builders, and hardware dealers to visit the Russwin New York offices and show-rooms in the Murray Hill Building, Madison Avenue at 40th Street. This suite is decorated completely in the "modernistic" as an appropriate background to the newly created Russwin modernistic hardware designs, originated to interpret the decorative motifs of this era.

R&E SINCE 1839

RUSSWIN

RUSSELL & ERWIN

DISTINCTIVE HARDWARE

Hardware that lasts ~ Base Metals of Bronze or Brass

•••

RUSSELL & ERWIN MFG. CO.

The American Hardware Corporation, Successor

NEW BRITAIN, CONN

NEW YORK CHICAGO LONDON

See pages 2519-2598 for a listing of Russwin Hardware

Prize Winning New York Apartments

1927 WINNERS IN "OVER SIX STORIES" CLASS

First award in the "over six stories" class to J. E. R. Carpenter, Architect for the apartment house at 812 Park Avenue.

The New York Chapter
of the
American Institute of Architects
Awards its Medal
in the Class of Apartment Houses over
Six Stories in Height
for the year 1927
to
The 50 East 75th Street Corporation
for
Number 812 Park Avenue
A Successful Solution in Facade of a
Difficult Problem in Fenestration
designed by
J. E. R. Carpenter
Architect

Chairman.

ex-officio, President Art Commission.

ex-officio, Tenement House Commissioner.

ex-officio, Secretary.

Second award in the "over six stories" class to York & Sawyer, Architects, for 660 Park Avenue — a co-operative building.

Third award in the "over six stories" class to Carrere & Hastings for 101 West 55th Street.

KERNERATOR
REG U.S. PAT. OFF.
INCINERATION

used in every building

THE New York Chapter, A. I. A., recognizes merit in apartment-house design with annual awards. There are two classes — those of more than six stories and those of six stories or less.

It is deeply significant that every building receiving an award in 1927 in the former class was Kernerator equipped.

In the architectural profession the Kernerator, in comparison with other products, is truly a "standard equipment" convenience. Its *exclusive* design makes it the most efficient incinerator. The service of trained engineers assures the most economical installation and the company behind it guarantees permanent satisfaction for the life of the building.

The Chimney-Fed Kernerator's hopper doors located on floors above receive garbage, sweepings, tin cans and refuse of all kinds which drops to the brick combustion chamber in the basement. The accumulation is air-dried without odor and is destroyed with an occasional match. No fuel is required. Filthy, offensive garbage cans are banished forever. First cost is the last cost.

See Sweet's, write for new Kernerator catalog No. 17 in ready-to-file A. I. A. Folder 35J41 or phone your local Kernerator representative. Offices in 89 cities.

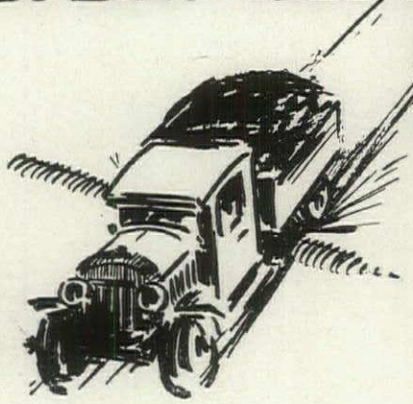
KERNER INCINERATOR COMPANY
717 East Water Street — Milwaukee, Wisconsin

THE BASEMENT-FED KERNERATOR

—for the home already built, costs about the same as the portable gas-fired incinerator of half the capacity. Abundant room for not only garbage and combustible waste, but all rubbish and non-combustibles like tin cans as well. Savings in gas pay for it in a few years' time.

Truck Weighed 23,175 pounds It was driven 10 M.P.H. It hit the "back-fill" 325 times

But the Ric-wiL Tile Conduit underneath was unharmed!



WILL Ric-wiL Conduit of vitrified tile stand up under the punishment of earth-load and heavy traffic?

We wanted the answer—a positive answer that would settle the matter finally.

We got it. Ric-wiL stood up under a test that was many times as severe as the worst conditions it will ever be called on to meet.

Five sections of the 15″ Ric-wiL Conduit were installed in a 33″ wide trench on Ric-wiL Base Drain Foundation. Back-fill of 2½′ over top of conduit was tamped with a 4,000 pound truck running over it 200 times. Then we loaded a 5 ton truck with gravel—gross weight 23,175 pounds. It was driven 325 times across the trench at a speed of 10 miles per hour—325 gigantic blows that grew heavier and heavier as the back-fill packed.

This photograph shows the 23,175 pounds of truck and gravel pounding across the filled-in trench.

But when we dug up the Ric-wiL, there wasn't even a crack in it. Not even the joints were disturbed. We'll send you full details of this test if you want them.

Another advantage for you when you put underground steam lines in Ric-wiL—dependable strength that guarantees permanent water-tightness. Add that to Ric-wiL extraordinary speed and economy of installation and its well above 90% efficiency and you explain why miles more Ric-wiL than ever before were put in for important buyers last year.

Photograph through the conduit installed for the test, the interior whitewashed so cracks would show up clearly. But there wasn't a crack.

For the sake of sound investment, get the Ric-wiL proposal on your next job

The Ric-wiL Company
1566 Union Trust Bldg., Cleveland, O.

Originators of Waterproof Conduit Filler

RIC-WIL

UNDERGROUND CONDUIT

Kohler *Colorware* is for all bathrooms

KOHLER fixtures in color are naturally thought of when an elaborate bathroom is to be planned. They should be thought of no less *for simple bathrooms* where cost is a vital factor.

Bathrooms with Kohler colored fixtures cost very little more than those with white fixtures. The fixtures themselves are somewhat more expensive—but that adds nothing to the cost of fittings, of installation, of walls or floor. The extra charge for Colorware is a minor part of the cost of the completed bathroom.

Besides, there are Kohler fixtures in color to meet any price requirement. You may not have realized that this complete line includes bath tubs in color, complete with chromium-plated fittings, to retail for as little as $80; lavatories for $40; toilets for $70.

Beautiful in color

These less expensive fixtures have all the color charm of the more costly ones. They are made in the same delicate, livable shades of ivory, green, blue, lavender, brown and gray—and in striking jet black.

This range of color and pattern affords the architect the fullest possible scope in designing beautiful modern bathrooms—in planning several bathrooms for the same house, each with its individual color appeal; or in creating for a group of apartment homes a series of unusual color effects.

Admirable in quality

In beauty and permanence of coloring, Kohler Colorware lives up to the intrinsic worth of the ware itself. All Kohler fixtures, whether of enameled or vitreous china ware, are made in one place—and they partake of the unique quality of Kohler Village, one of America's most beautiful town-planned communities. In specifying Kohler Colorware you specify superior worth—at the cost of the ordinary.

We urge you to take advantage of the first opportunity to inspect Kohler Colorware at a Kohler display room. And we invite you to write for a new booklet illustrating Kohler fixtures in color for bathrooms, kitchens, and laundries. The coupon below will bring it.

These modern Kohler fixtures are paneled Mayfair bath and Fairfax vitreous china lavatory

"It Pays to Modernize Your Plumbing and Heating"

KOHLER CO., *Founded 1873*, KOHLER, WIS. · *Shipping Point*, Sheboygan, Wis.
Branches in Principal Cities

KOHLER OF KOHLER

Plumbing Fixtures

LOOK FOR THE KOHLER TRADE MARK ON EACH FIXTURE

KOHLER CO., KOHLER, WIS. Gentlemen: Please send your book of Kohler Colorware. A. R. 2-29

Name .....

Street .....

City ..... *State* .....

Liability Insurance and Norton Floors

An Incident That "Sold" an Insurance Inspector

Too many stair accidents in a prominent metropolitan department store had brought a representative from their insurance company to investigate. A Norton engineer accompanied him, for Norton Floors were under consideration as a remedy, and while the insurance inspector was impressed with their features he was not quite "sold."

"These are supposed to be safety treads," said the inspector as they came to one of the stairways that had been giving most trouble.

The inspector turned to a clerk behind a counter at the foot of the stairs. "How many persons fall on this stairway in a week?"

"At least six or seven," was the reply, "whose names and addresses we take. There are undoubtedly many more accidents that are never reported."

"Do you ever find any lost heels here?"

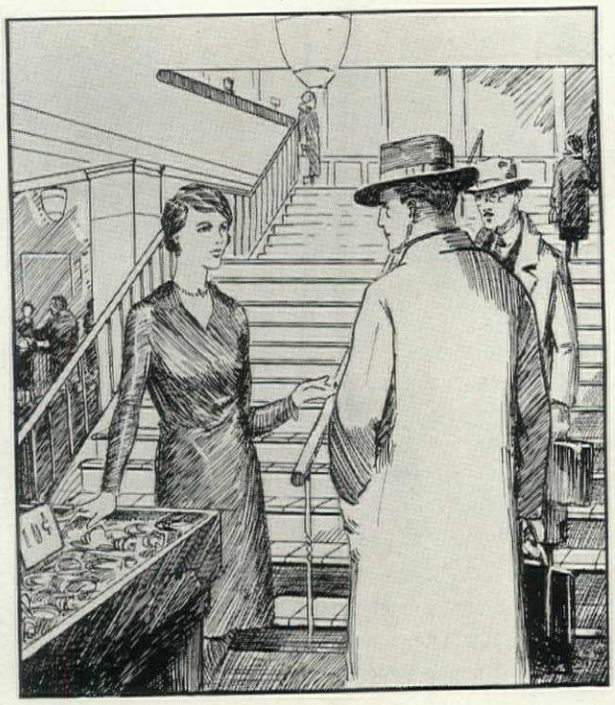
"Yes, we pick up one or two every day."

The insurance inspector turned to the Norton Floors representative. "Are there any installations of your materials in the city?"

"Oh, yes," and he named several including the city's largest and best-known department store.

"Let's go take a look at one."

They went to the store of a large chain system which has been using Norton Floors for many years. The inspector walked carefully down the stairs and was visibly pleased with their non-slip quality. He stepped up to a salesgirl near the foot of the stairs.



"I haven't seen a single fall as long as I have been here."

"How long have you worked here?"

"Ever since the store was opened, over two years ago," she replied.

"How many accidents do you have on the stairs? How many falls?"

"None," was the answer, "I haven't seen a single fall as long as I have been here."

The inspector was "sold." The department store is replacing the old type of tread by Norton Floors as fast as conditions permit.

NORTON FLOORS
Alundum Tiles, Treads & Aggregates

NORTON COMPANY, WORCESTER, MASS.

New York Chicago Detroit Philadelphia
Pittsburgh Hamilton, Ont.

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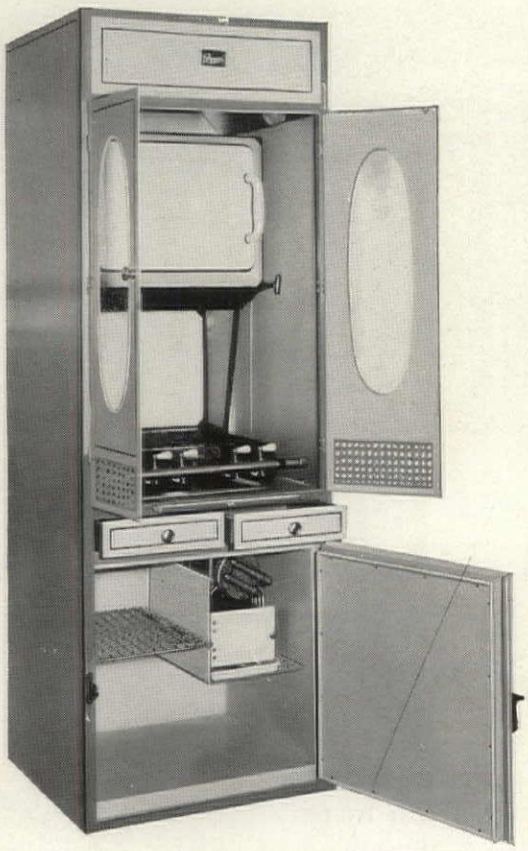
ANNOUNCING

Parsons Pureaire CABINET

(PATENTS PENDING)



Here is what the architect and apartment builder have long been looking for

A STOVE CABINET CONSTRUCTED ON A COLD DRAWN STEEL CHANNEL FRAME, SECURELY WELDED AND WITH DIRECT FLUE CONNECTIONS THAT CARRY AWAY THE COOKING ODORS AND HEAT FROM THE APARTMENT.

The Parsons "PUREAIRE" Cabinet—(cabinet only furnished)—is finished in attractive color effects, and due to large production and perfected manufacturing processes, is very reasonably priced. Note these salient points of the "PUREAIRE" Cabinet.

Direct outside ventilation.
No heat from the stove.
No odors from cooking.
Pure air in the apartment.
More rent. Satisfied tenants.
Keeps apartments clean.
Saves redecorating.
Reduces fire hazard.

Write for descriptive literature today

No. 600

The No. 600 "PUREAIRE" Cabinet shown above is built with space for a refrigerator unit.

No. 500

The No. 500 "PUREAIRE" Cabinet is similar to the one shown, but has two doors instead of one, below the drawers, behind which are a bread box and three roomy compartments.

DEALERS: We are appointing dealers in many of the larger cities. Write for our liberal proposition at once. It may mean a large source of income to you.

The Parsons Company

603 Milwaukee East, Detroit, Michigan

Cement delivered *in* BATES BAGS ensures better concrete

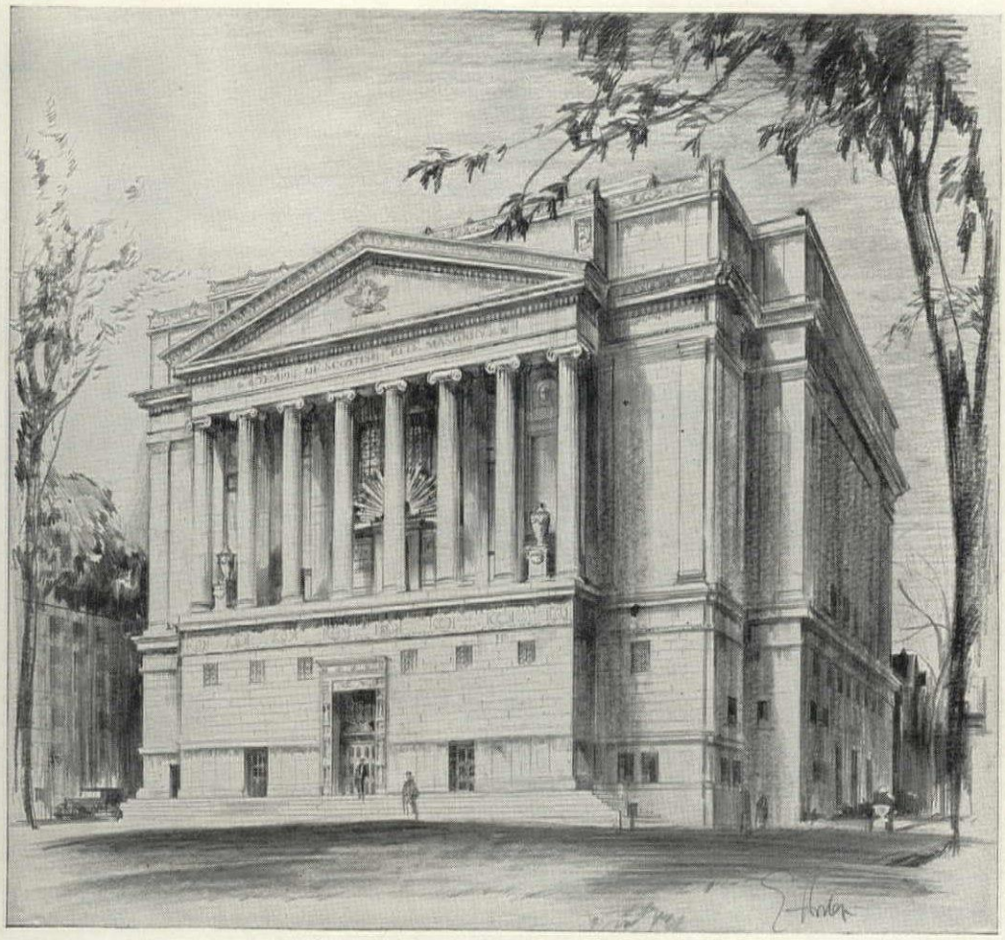
THE use of Bates Bags is a distinct service to the architect, for it eliminates the inspection and superintendence he is otherwise obliged to furnish in order to make certain of full strength cement.

Cement in Bates Multi-Wall Paper Bags comes to the job in the same excellent condition that it left the mill. Every pound is protected from moisture deterioration by the 5 separate walls of these modern containers.

Millions of Bates Bags, produced by the original makers of multi-wall bags, are now used yearly, and this use is rapidly increasing, for Bates Bags are a valuable economic contribution to the building industry.

BATES VALVE BAG CORPORATION

General Offices: 35 East Wacker Drive, Chicago, Illinois



Evidencing the structural and decorative value of cast stone

SCOTTISH Rite Temple, Oakland, California. Carl Werner, Architect. McDonald & Kahn, General Contractor. P. Grassi & Company, Cast Stone Manufacturer. Peter Bradley, Stucco Contractor. Below: a detail of the doorway.

"... it stands out a gem excelled in beauty by no other structure of its kind on the Pacific Coast" ....

Thus the press gave tribute to the new Scottish Rite Temple in Oakland, California, and to the material of which its beauty was wrought. The entire facade from the forty-two foot columns to the delicate tracery around the entrance, is cast stone manufactured of Atlas White Portland Cement. Harmonizing color and texture are secured to the sides through stucco made with Atlas White and granite chips.

Any form, color or texture that architecture demands, may be secured with Atlas White; a fact that is partly responsible for the constantly increasing use of cast stone, structural and decorative, in all types of buildings. Dependability is assured because Atlas White fully meets the requirements of standard specifications for Portland cement.

On request, architects may have books featuring Atlas White, with specifications for use in stucco—terrazzo—cast stone—and non-staining mortar. Address the office nearest you.

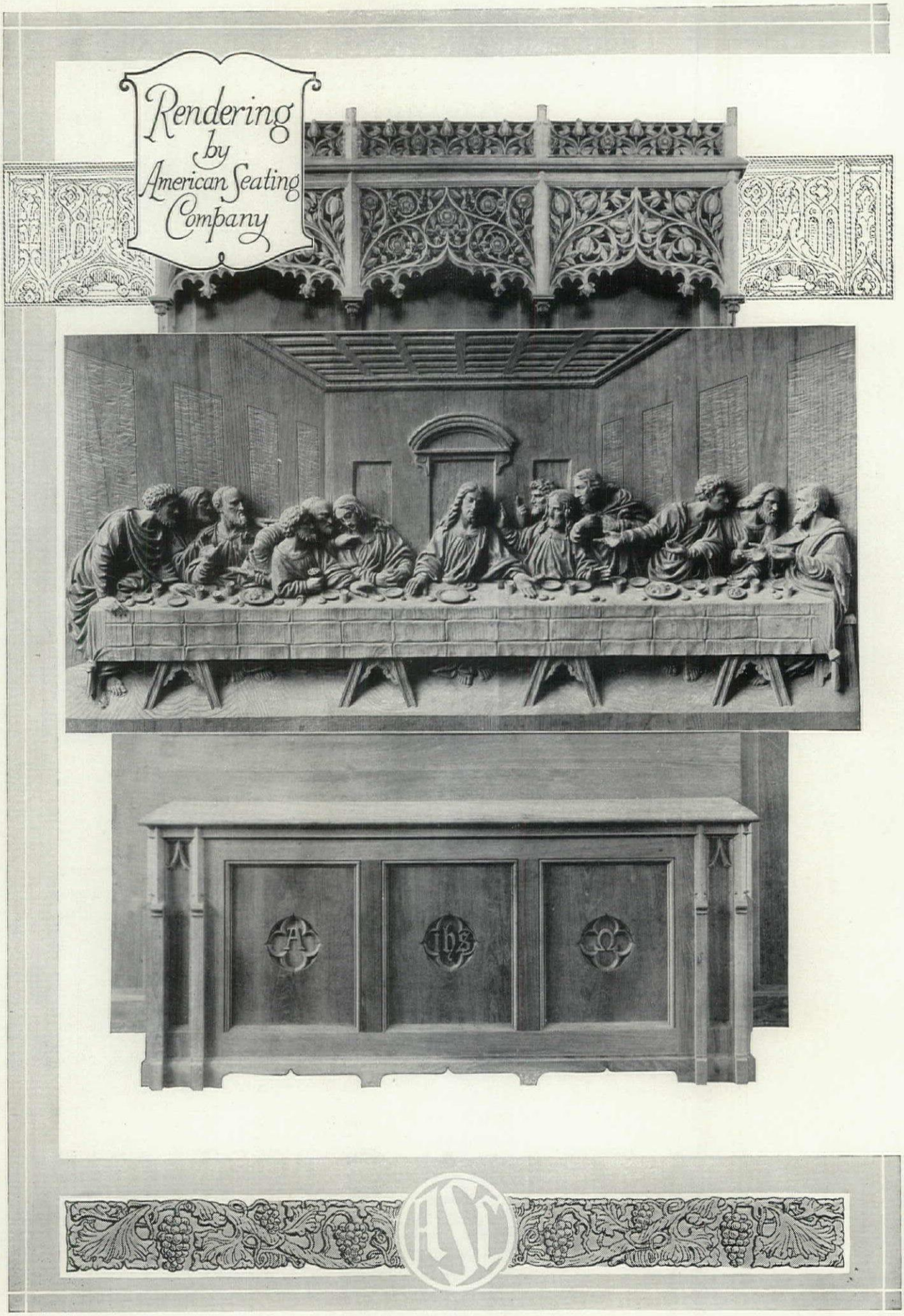
o o o

You can purchase Atlas White or Atlas Gray Portland Cement in any quantity from your own building material dealer. He is the only distributing agency between the Atlas plants and your concrete job. The flexible service which he offers on Atlas and the direct delivery of cement to the user, bring Atlas to you at less expense than by any other method. And because he performs this essential, economic service, the dealer makes a vital contribution to the upbuilding of the community.

ATLAS PORTLAND CEMENT GRAY & WHITE

The standard by which other makes are measured

THE ATLAS PORTLAND CEMENT COMPANY, MAIN OFFICES: NEW YORK, ST. LOUIS
BOSTON · ALBANY · PHILADELPHIA · CHICAGO · DES MOINES
OMAHA · KANSAS CITY · OKLAHOMA CITY · WACO · BIRMINGHAM


Rendering
by
American Seating
Company

To the left
Altar and Reredos
with Last Supper carving

Chancel and Sanctuary
First English Evangelical
Lutheran Church
Palmer Square, Chicago
Granger and Bollenbacker, *Architects*

"THE TRUE WORK OF ART IS BUT A SHADOW OF THE DIVINE PERFECTION"

—*Michael Angelo*

To the architect "American" craftsmen in wood bring more than skillful execution of design and careful rendering of detail. Artists in soul and spirit, they express in wood a pulsing reality of hand and cabinet art, so earnestly desired by every architect. Such results are obtained only where mechanical equipment and morale of personnel approaches perfection. Faith in these facts is one reason why architects can come to "American" craftsmen with highest expectations.

American Seating Company

16 E. Jackson Blvd., Chicago

670—119 W. 40th St., New York City • 1211-B Chestnut St., Philadelphia

Johns-Manville Corporation

Announces

a new line of Built-up Roofing

BY the addition of a line of slag or gravel surfaced roofings to their well known smooth surfaced Asbestos built-up roofings, Johns-Manville Corporation is now in a position to offer to Architects and Contractors built-up roofings suitable to any type of building and to any condition.

Together with this addition to their line of roofings, Johns-Manville is also prepared to offer surety bonds guaranteeing the performance of these roofings when laid under the supervision of their inspectors. Depending upon the type of roofing used, and upon the conditions, these bonds run for periods of ten, fifteen and twenty years. In connection with the bonding of these built-up roofs, a periodic inspection service is also supplied.

As in the past, all Johns-Manville built-up roofs will be laid only by Roofing Contractors approved by Johns-Manville Corporation. This will insure to the Architects that the workmanship will be handled in a satisfactory manner, and that the proper specifications will be followed.

The Johns-Manville line of built-up roofings now includes the following: *Smooth surfaced Asbestos Roofings.* These can be laid on roofs of *any* pitch . . . Super Class A. Underwriters' Laboratories Classification. Bonded for twenty years. . . . Class A. Underwriters' Laboratories Classification. Bonded for fifteen years . . . *Combination roofing.* Can be laid on roofs of *any* pitch. Bonded for ten years . . . *Slag or gravel surfaced roofings.* These can be laid on any pitch up to six inches per foot. Bonded for ten years.

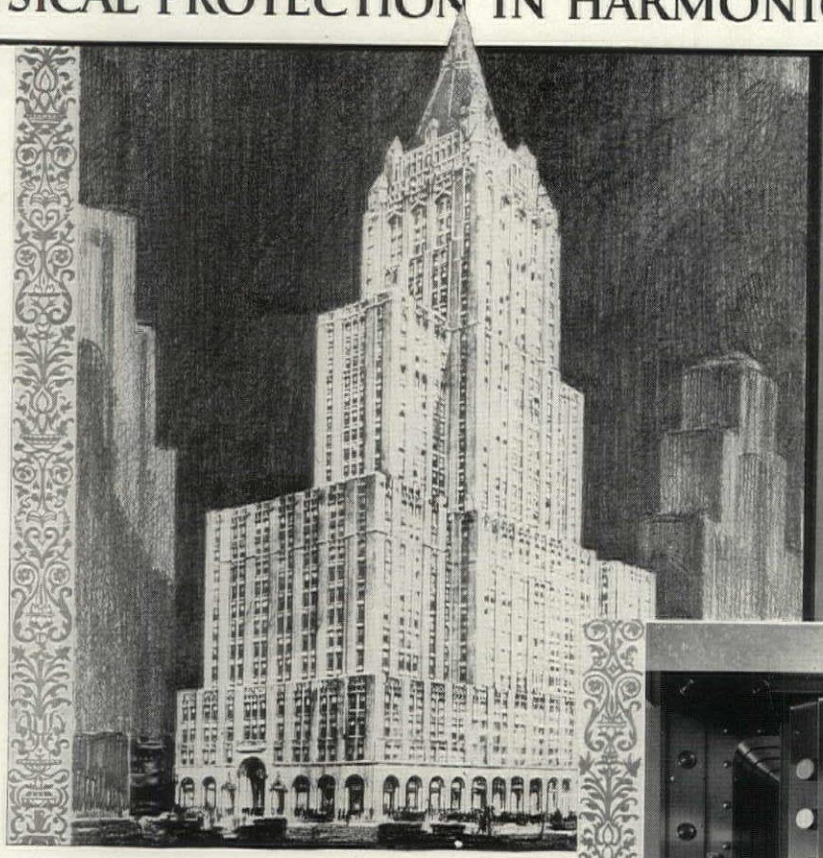
Architects are urged to avail themselves of the free services of Johns-Manville Architects' Service Section for consultation and assistance on all roofing problems. This service is offered to any who are using or considering the use of any Johns-Manville product.

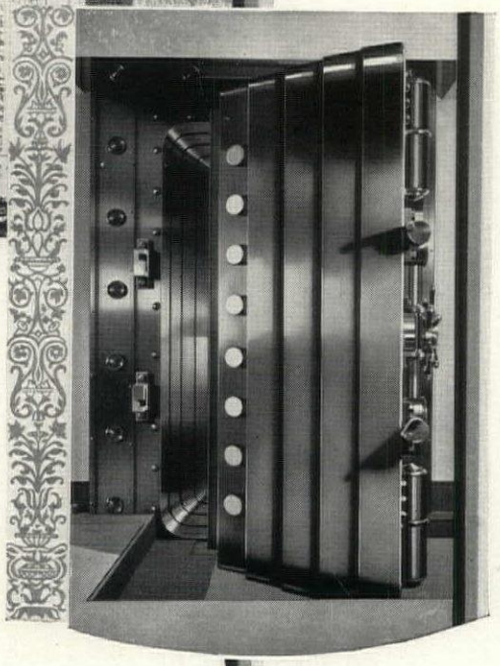
JOHNS MANVILLE JM CORPORATION

Johns-Manville

BONDED ROOFS

PHYSICAL PROTECTION IN HARMONIOUS DESIGN





Diebold Vault Door in New York Life Insurance Co. Building, New York City.

SUPERB craftsmanship in producing and erecting the designs of master engineers schooled by years of experience in the protection of wealth and valuables accomplishes the marvelous vault installations by Diebold. Bank, Building and Loan, and Insurance buildings the world over bear evidence of the superiority of Diebold Vault Doors in security, appearance and mechanical perfection.

Physical protection of wealth, a growing tendency, is best understood and harmonized with the architects' ideas in design by Diebold—we have specialized for over seventy years.

We will be glad to send you complete information for your files. There is no limit to size and design of Diebold Bank Vaults.

DIEBOLD SAFE & LOCK COMPANY
Canton, Ohio

DIEBOLD SAFE
ASK YOUR BANKER

5 POINT PIPE

Art Endures—When "Five Point" Pipe Protects It

Back of the thought and skill that produce a structural masterpiece must stand the assurance of *completely* dependable pipe. For no building is younger than its pipes, and beauty cannot endure when walls and ceilings must be torn open to replace pipe that gives only *partial* protection.

That's the value of specifying Reading Genuine Puddled Wrought Iron Pipe—the "five point" pipe that lasts for generations because it resists *all* the forces that tend to shorten pipe endurance.

There is no substitute for genuine *puddled* wrought iron pipe. To be certain of complete protection, specify Reading Genuine Puddled Wrought Iron Pipe—and look for the Reading name and spiral knurl mark on every piece.

1

Resists Corrosion—the puddling process* coats every inmost particle of Reading Pipe with age-lasting silicious slag.

2

Defies Vibration—puddling imparts a tough, rope-like structure that does not crystallize or fracture sharply.

3

Threads Better—clean threads are quickly cut, insuring tight joints that stay leak-proof.

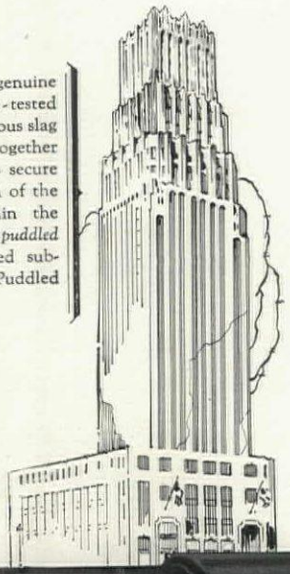
4

Welds Easily—pipe walls have maximum strength; no "weak spots".

5

Holds Coatings Permanently—due to the texture of genuine puddled wrought iron, galvanizing adheres to Reading Pipe four times more thickly than to any other ferrous pipe material. Paint and other coatings last indefinitely.

*There is only one way to make genuine *puddled* wrought iron—the time-tested material. Pure pig iron and silicious slag must be kneaded and worked together inside a flame-filled furnace, to secure perfect and uniform distribution of the protective slag filaments within the metal. Time tells of only genuine *puddled* wrought iron—accept no untried substitutes for Reading Genuine Puddled Wrought Iron Pipe.



New Gulf Building, Houston, Texas. Alfred C. Finn, Architect, Kenneth Franzheim and J. E. R. Carpenter, Consulting Architect. Reading Pipe is installed in this structure.

READING PIPE

GENUINE PUDDLED WROUGHT IRON

READING IRON COMPANY, Reading, Pennsylvania

Atlanta	Buffalo	Detroit	New York	St. Louis	Fort Worth
Baltimore	Chicago	Houston	Pittsburgh	Tulsa	Seattle
Boston	Cincinnati	Los Angeles	Cleveland	San Francisco	Philadelphia

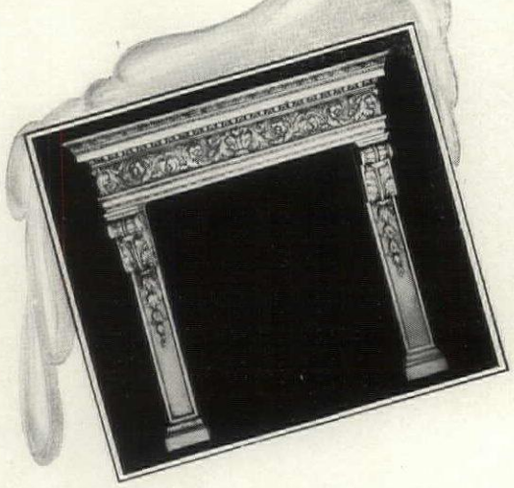
Cretan stone

POURED—
Cretan Mantels in any design or reproduction

Mantels made of Cretan Stone are not limited in the matter of design. We are as ready to furnish them from an architect's own detail as from the variety of "stock" designs in our collection. For the most part, these latter designs are faithful reproductions of venerable mantels found in old English, French and Italian homes of aristocracy.

Cretan is a stone exclusively our own creation. In making a mantel, moulds are formed and the Cretan Stone *poured* into them. After setting, each detail of design is gone over by hand until the finished product is as beautiful as one carved entirely by hand in natural stone.

Architects and Decorators should become familiar with what Cretan Stone offers, from the viewpoints of both economy and convenience.



WM. H. JACKSON COMPANY

ESTABLISHED IN THE YEAR 1827

2 WEST 47 TH STREET NEW YORK

318 N. MICHIGAN AVE. CHICAGO

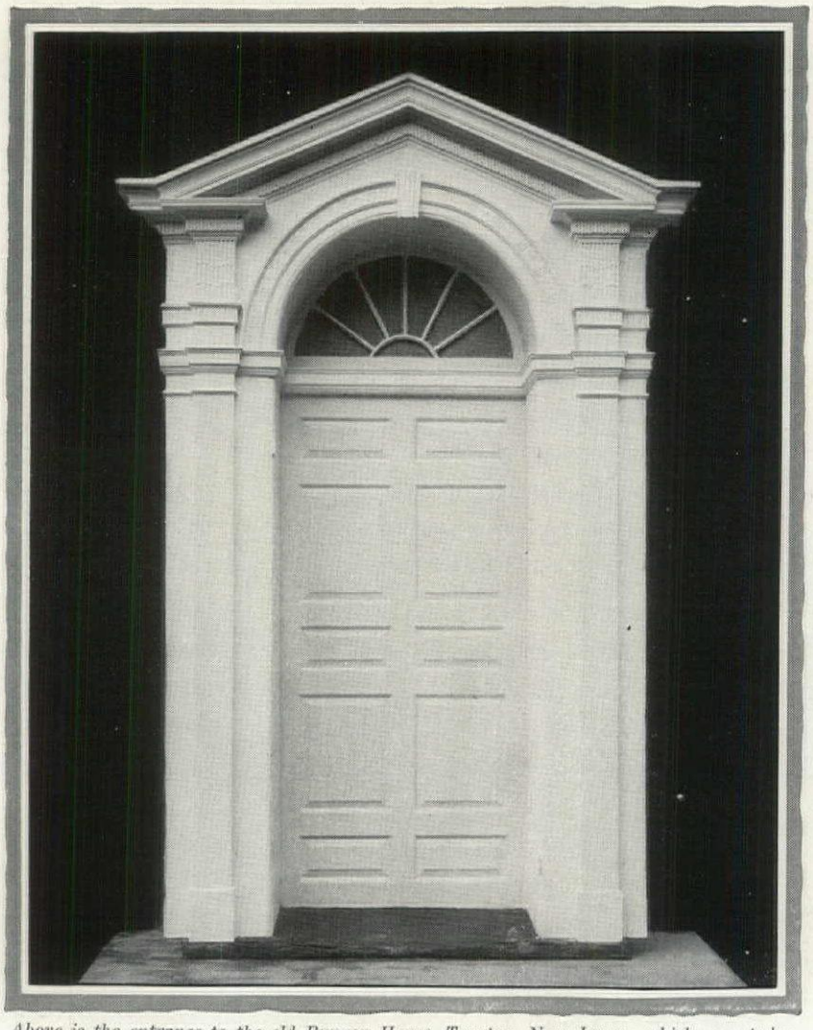
THE OLDEST HOUSE OF ITS KIND IN AMERICA

The old RUNYON HOUSE

was vibrant with patriotism and joy...

". . . It was one of the early anniversaries of the Declaration of Independence. And at the old Runyon House had gathered nearly every person of consequence in Trenton to rejoice over the blessings of independence.

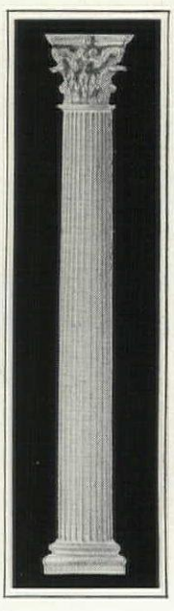
Truly the ballroom on this notable evening presented a brilliant picture. Laughter, music, dancing, powdered and pompadoured gentlemen bowing deeply to beruffled beauties. A spirit of fine patriotism and joy was everywhere . . ."



Above is the entrance to the old Runyon House, Trenton, New Jersey, which may today be seen at the Metropolitan Museum

These two booklets of authentic colonial entrances and columns gladly sent on request.

The booklets illustrate a notable group of entrances and columns of authentic early American inspiration ... many being almost exact duplicates of famous originals, now on display in the Metropolitan Museum.



The booklets tell how Hartmann-Sanders entrances and columns are finely hand wrought by skilled craftsmen, who understand from long years of experience, every artistic detail.

Write for the booklets

No charge, of course Hartmann-Sanders Co. 2152 Elston Avenue Chicago. Eastern Office and Showroom: 6 East 39th Street, New York City.

HARTMANN-SANDERS

PERGOLAS · COLONIAL ENTRANCES · KOLL COLUMNS
ROSE ARBORS · GARDEN EQUIPMENT

Announcing

"Buffalo" "Highboy" and "Lowboy" Industrial Unit Heaters

New, efficient, simple, good looking. Can be installed in vertical, horizontal or inverted position to fit space and structure requirements. Numerous exclusive features. Write for details.

See these heaters at the Chicago Power Show

BUFFALO FORGE COMPANY, 459 Broadway, Buffalo, N.Y.

IN CANADA: CANADIAN BLOWER & FORGE CO., LTD., KITCHENER, ONT.

. . . Right on up!

Cold weather notwithstanding

safe, fast wall construction in winter *is no problem with* Kosmortar

MASONRY problems that develop in winter can be largely circumvented by the use of Kosmortar. Cold weather and wet weather generally retard wall-laying, as mortar put into a wall must harden before the wall can be further built on. Kosmortar, though easy to spread and work, sets sufficiently as work progresses to hold the brickwork, and to prevent danger of the brickwork swimming, or sliding out. Brick laid today are firmly hard tomorrow. The wall shapes up true, sound, and fast.

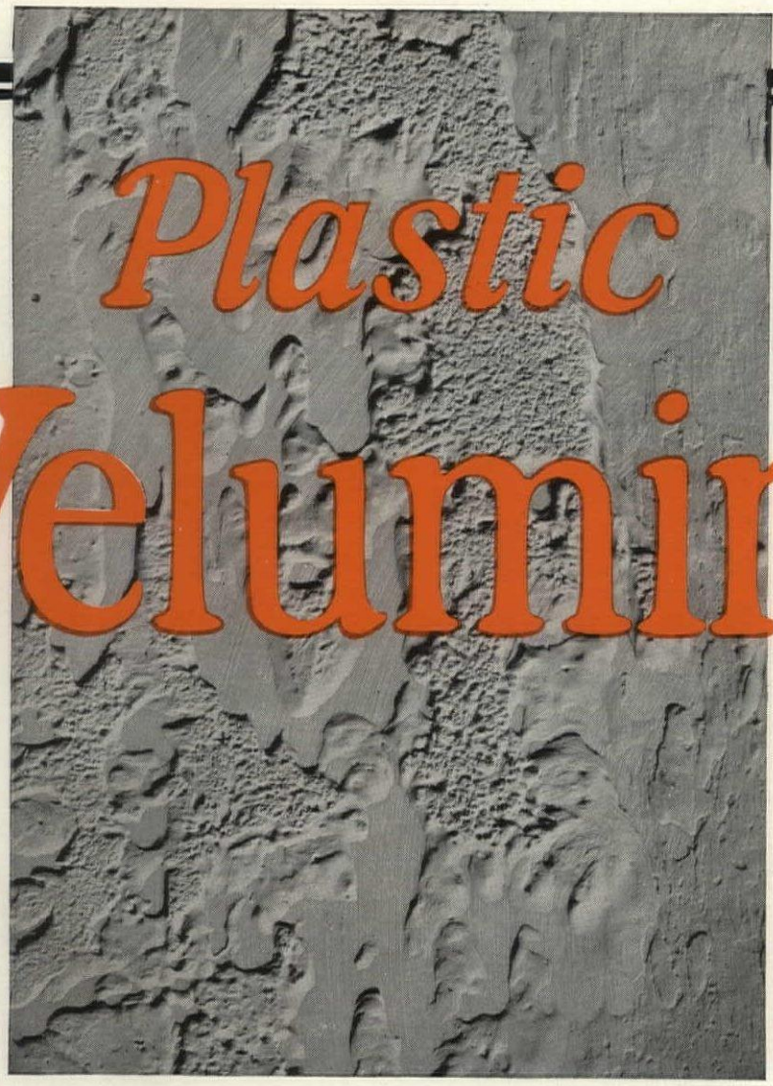
Building has become a year-'round operation. Masonry demands a mortar that works with speed and safety in winter as in summer. The increased consumption of Kosmortar in cold weather is a reflection of its satisfactory use. Mixed and used immediately; plastic, strong, economical. *The Ideal Cement for Masonry.* Kosmos Portland Cement Company, *Incorporated*, Mills, Kosmosdale, Kentucky; Sales Offices, Louisville, Kentucky.

Kosmortar is guaranteed to meet the Federal Specifications Board Specification No. 443, "U. S. Government Master Specification for Masonry Cement."

KOSMORTAR

A MASON'S CEMENT—*EASY TO SPREAD*

Plastic Velumina



Write for Plastic Velumina Specifications.

COLOR and effects of plaster or composition applied in one operation — and an enduring, non-absorbent washable result!

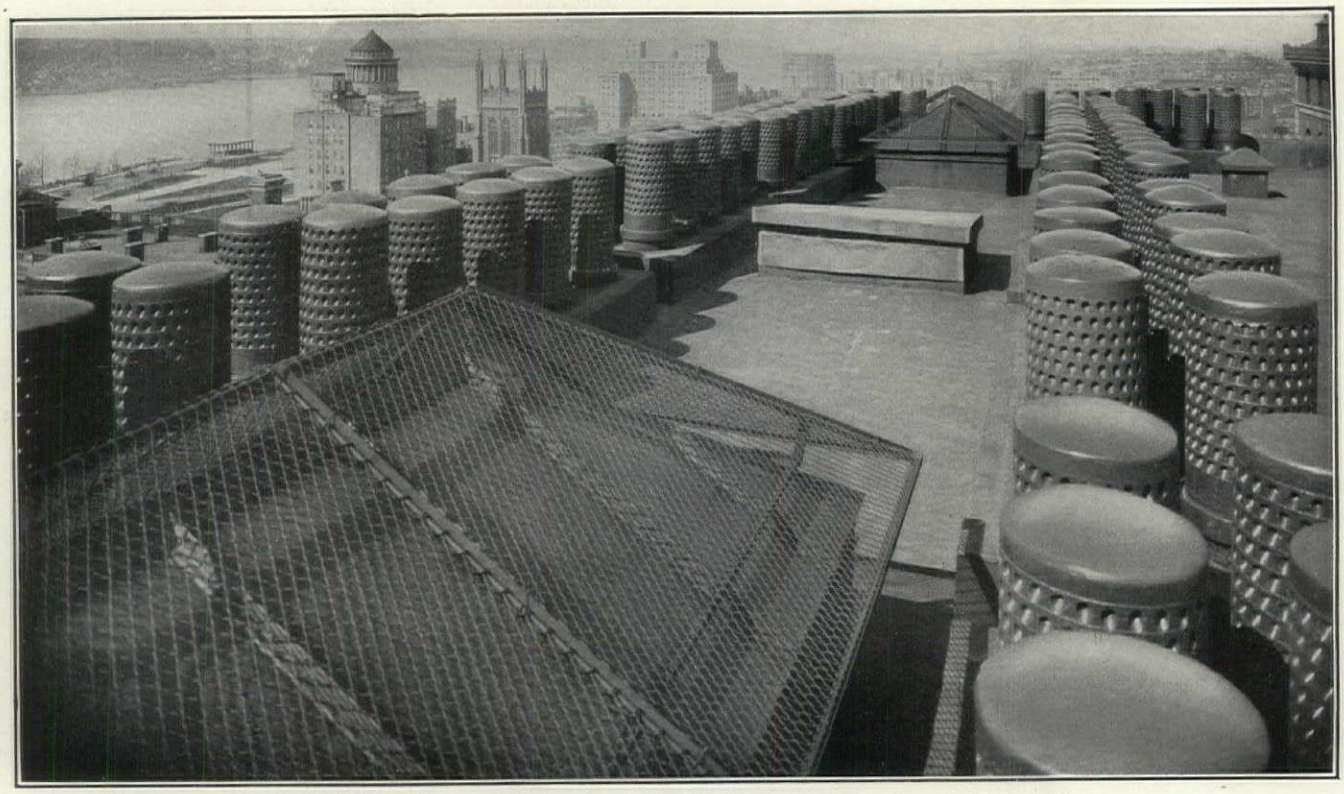
Plastic Velumina — a plastic form of the well known Velumina Flat Wall Paint can be stippled, swirled or worked to stone effects. It is tintable to the whole palette of color — applicable over plaster or wood, painted, or unpainted surfaces!

It is a new, durable medium for architectural decoration of individuality and distinction.

PITTSBURGH PLATE GLASS CO.

Paint, Varnish and Lacquer Factories, Milwaukee, Wis. Newark, N. J., Portland, Ore., Los Angeles, Cal.

PITTSBURGH Proof Products
Glass-Paint-Varnish-Lacquer Brushes



KNIGHT-WARE Ventilating Flue Caps on the Roof of Columbia University Chemistry Building

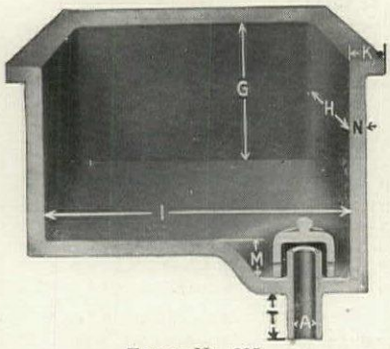


FIGURE No. 235
Acid Proof Laboratory Sink without Back, but with Lute Trap Outlet

FIGURE No. 271
Acid Proof Socket Pipe

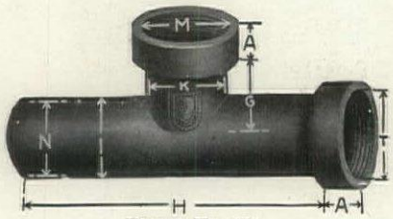


FIGURE No. 273
Acid Proof Socket Tee Pipe

From Basement to Roof...

Columbia University's new Chemistry Building has been equipped with KNIGHT-WARE. This includes WASTE, DRAIN and VENTILATING LINES, LABORATORY SINKS, SUMPS, FAN HOUSINGS AND VENTILATING CAPS.

Besides Columbia there are many more now using KNIGHT-WARE, a list of which will be sent on request.

We furnish all bores of Acid Proof Pipe and Fittings from ½" up to 60", Laboratory Sinks in any sizes or designs to suit your needs, Sumps in capacities and types as desired and Ventilating Flue Caps as are wanted. Further, we can furnish any other special equipment that might be necessary.

KNIGHT-WARE is GUARANTEED to be acid and corrosion proof throughout the entire body of the ware, free from defects and satisfactory in EVERY respect. It will withstand the action of acids, alkalies, chemicals and all corrosive solutions and gases, weak or strong, hot or cold.

We will be glad to assist you in any way in planning your new building.

GUARANTEED SATISFACTORY — MAURICE A. KNIGHT — ACID-PROOF CHEMICAL STONEWARE

KNIGHT-WARE

"IT IS THE BODY ITSELF"

MAURICE A. KNIGHT

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Say "Floor *with* Maple"

. . . one of the finest acts of service you can render any client

Your client is building an office structure. You recommend Northern Hard Maple Flooring. He follows your advice. The result: His offices are easy to rent—because they are comfortable and homelike. His floors are permanently smooth and easy to keep clean. They make simple the problem of under-floor alterations in his building. They give him year upon year of uniformly satisfactory wear. Your client is satisfied.

Your client is planning a school building. He and his committee choose Maple Flooring—upon your advice. The result: Economy for the community that pays for the building—because Northern Hard Maple outwears stone. Hygienic study conditions for the children who attend the school—because Maple is warm, dry, resilient, sanitary. Your client, his committee, the community are satisfied.

Your client is building a factory or mill. He floors with Maple—in accordance with your recommendation. The result: His floors give cushioning comfort to his workers' feet—minimize fatigue—raise the standards of health and efficiency. They provide lasting smoothness, despite the wear of heavy rolling trucks and pounding feet—because the extremely hard, tough-fibred, unsplintering structure of Maple gives it a unique ability to withstand the years. Your client is satisfied.

Your client is building a hotel or hospital. He accepts your advice and installs Northern Hard Maple Flooring. The result: Rooms and corridors of great comfort and attractiveness. Sanitary conditions. Economy. Less noise in the building. Pleased guests or patients, as the case may be. Your client is satisfied.

Your client is planning a residence or apartment building. You recommend Maple Flooring. He follows your recommendation. The result: The floors provide the lasting beauty of finest hardwood. They are smooth, inviting, durable. Your client can stain them any color he desires. He is satisfied!

We are sparing no effort to inform *your clients* of the many advantages Northern Hard Maple provides in industrial, commercial and residential buildings. The constantly increasing use of this flooring material and the enthusiastic attitude architects are taking toward Maple, justifies us, we feel, in saying, "One of the finest acts of service you can render your client is to advise, 'Floor with Maple.'"

*Our book, "The New Color Enchantment in Hard Maple Floors," describes the application of permanent, transparent penetrating stains. Let us send you a copy.

Standard finishes manufactured and guaranteed by the Marietta Paint & Color Co., Marietta, Ohio, and Murphy Varnish Company, Newark, N. J. They include:

Standard finishes as follows:

Early American
Silver Gray
Orchid
Pastel Green
Royal Blue
Dove Gray
Spanish Brown
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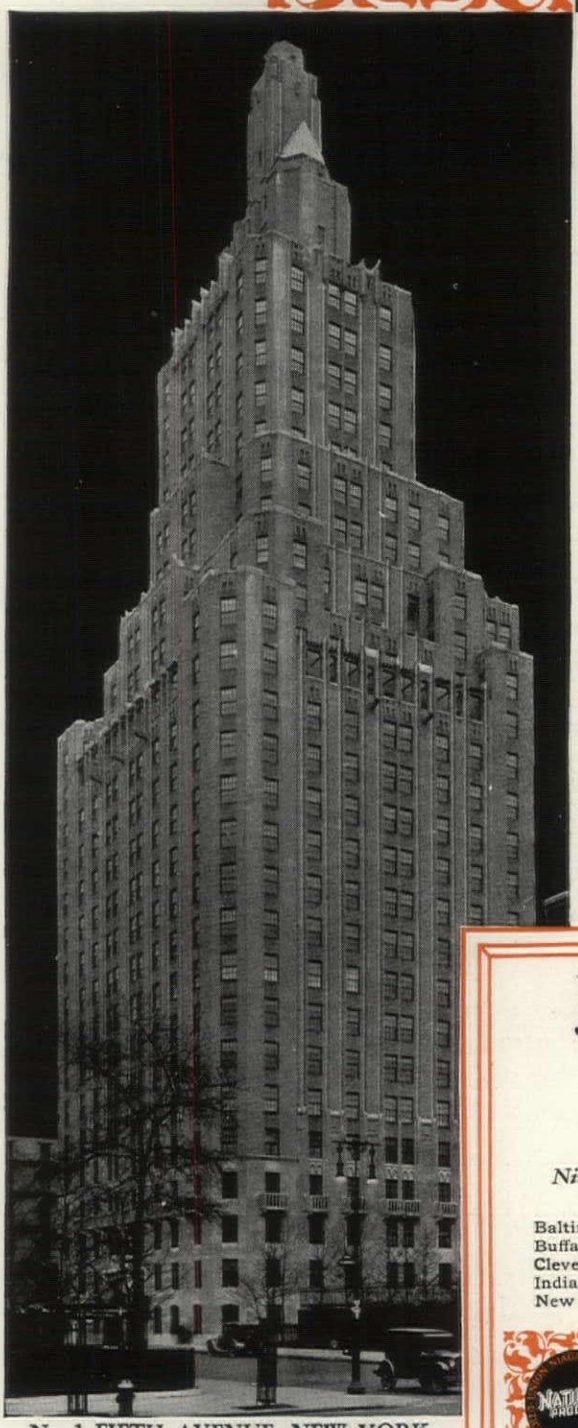
The letters **MFMA** on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you use. **MFMA**

Let our Service and Research Department assist you with your flooring problems. Write us.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1774 McCormick Building, *Chicago*

Floor *with* Maple

For THE FINEST BUILDINGS ...THE FINEST RADIATION..



No. 1 FIFTH AVENUE, NEW YORK

Architect, Helmle & Corbett
Heating Contractor, Chas. Darmstadt, Inc.
Builder, Jos. Seigel

AERO
THE NATIONAL RADIATOR

In the years when Aero, the National Radiator, was the only complete line of tube-type radiation on the market, it was the almost invariable selection for the finest buildings. That was only natural.

Now, competing with many imitations, it is still chosen with amazing regularity. *That is significant.*

It indicates appreciation of the fact that Aero has, during more than six years, been rendering faithful, trouble-free service on heating applications of every character; and that it is the only complete line of tube-type radiation that can show so impressive a record of demonstrated dependability.

The man who selects Aero, the National Radiator, takes no gamble on the quality or on the satisfactory performance of his warming equipment.

NATIONAL RADIATOR CORPORATION

MANUFACTURER OF RADIATORS AND BOILERS

Nine Plants devoted to National Service through these Branch Offices and Warehouses:

Baltimore, Md.—2600-2622 Matthews Street
Buffalo, N. Y.—259-265 Delaware Avenue
Cleveland, Ohio—935 E. 63rd Street
Indianapolis, Ind.—431 W. Georgia Street
New York, N. Y.—55 W. 42nd St.
Philadelphia, Pa.—121 N. Broad St.
Richmond, Va.—3032 Norfolk St.
Boston, Mass.—93-97 Oliver Street
Chicago, Ill.—2445 N. Keeler Avenue
Cincinnati, Ohio—3530-36 Spring Grove Ave.
Johnstown, Pa.—221 Central Avenue
Milwaukee, Wis.—124-130 Jefferson Street
Omaha, Neb.—108-112 S. Tenth Street
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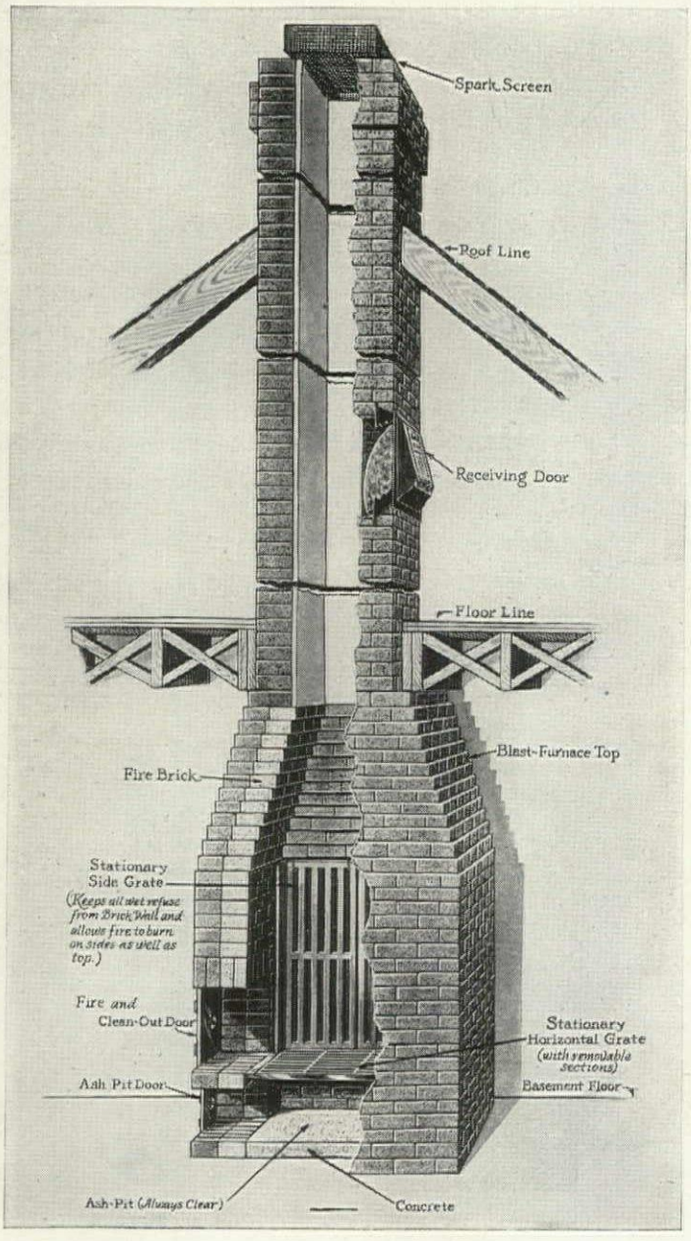
Pittsburgh, Pa.—1509 Arrott Building
Washington, D. C.—2205 Fifth Street, N. E.

K-M Incinerators

For Residences, Apartments, Hotels

For Once, the Best *Is* Cheapest Because it is the Most Simple

Chancellor Hall, Philadelphia, Pa.
Completely equipped with K-M Incinerators.
Arthur W. Hall, Architect.
F. V. Warren Co., Contractor



BECAUSE of its simple construction and a consequent saving in labor and material costs—because of the low cost of the incinerator parts owing to their simplicity—the K-M costs less than you have probably been accustomed to figure for incineration.

Because there are no nuts or bolts—because the grates are stationary without bearing blocks or shakers, the K-M Incinerator is "fool proof" and can never get out of order.

Because of its blast furnace design—because the side grates keep the refuse away from the brick and provide for the circulation of air on all sides of the burning mass—and because draft comes from two points, the fire door and the ash pit door—speedy and thorough combustion is assured.

We shall gladly send you complete details of the K-M Incinerator if you will write or simply return the coupon below.

KELLOGG MANN & CO., INC.
315 Grote Street, Buffalo, N. Y.

KELLOGG MANN & CO., INC.
315 Grote Street,
Buffalo, N. Y.

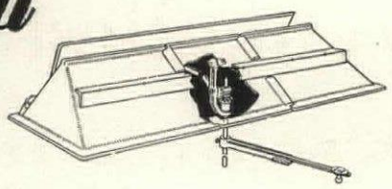
Please send me complete details of your K-M Incinerator. ☐ I am a builder

Name_____

Address_____

City & State_____

Colonial Damper - *the preferred* fireplace control



THE architects of America have depended on the Colonial Damper for a quarter of a century to insure the proper functioning of prominent fireplaces as well as modest ones.

Homes throughout the land are happier because in them the fireplace—"the heart of the home"—is controlled by a dependable Colonial Damper.

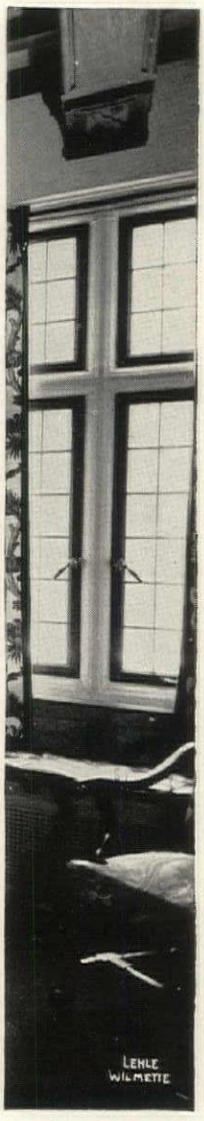
The Colonial Damper meets all conditions of construction and is the only damper made that takes up heat expansion within itself. This prevents the possibility of a cracked fireplace facing.

With the new Style "G" operating device this is the only damper that can be set to three or more courses above the opening—high up in the fireplace throat—where only the best results of draft control can be obtained.

The Colonial Damper prevents smoking, compels correct formation of the fireplace throat—the vital part—and pays for itself by the time it saves in construction.

Leading architects, experienced contractors and informed home owners specify the Colonial because they know it will give practical satisfaction.

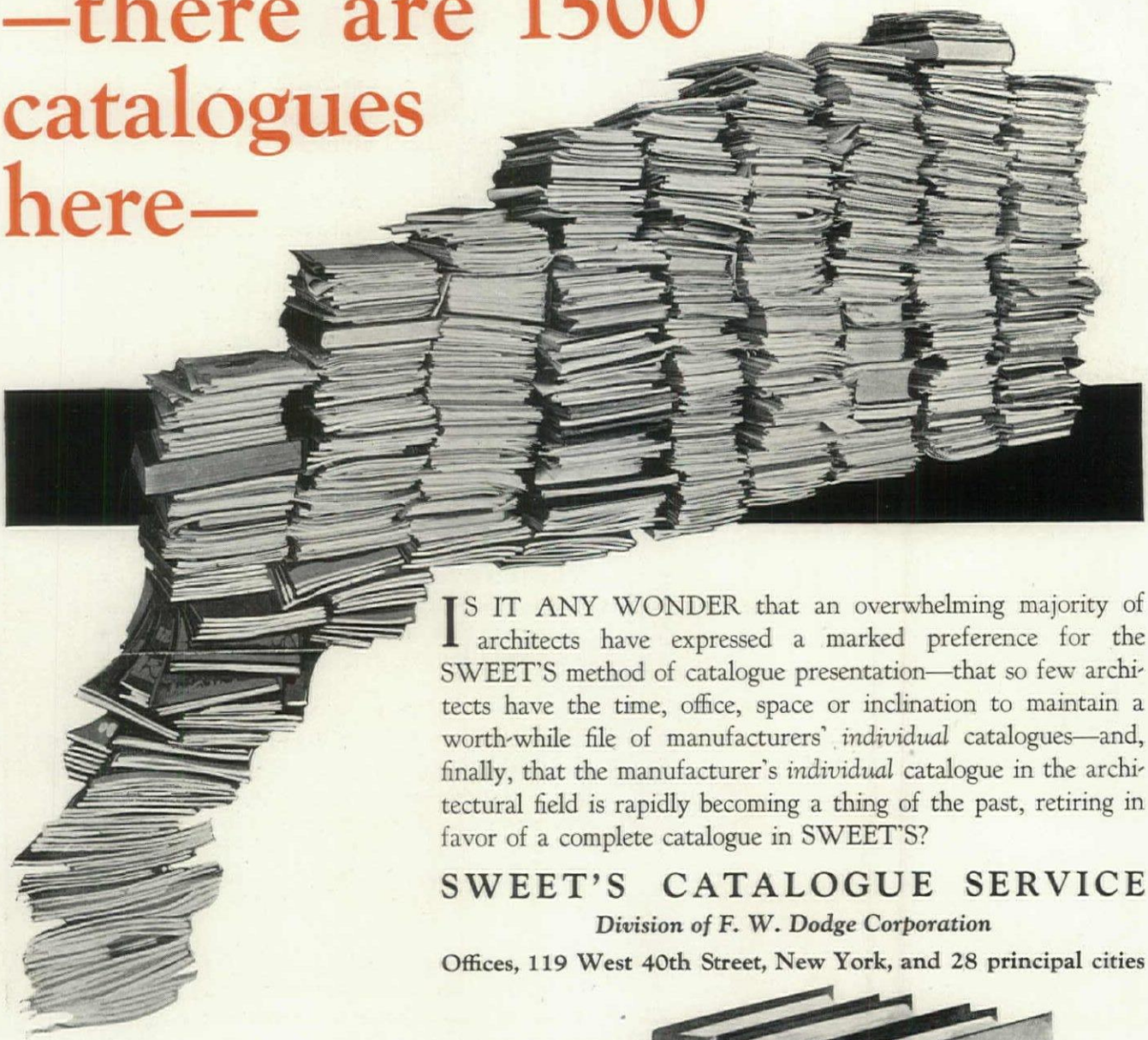
For blue print detailing helpful suggestions, as well as dangers to avoid in fireplace design and construction, address—



Colonial Damper

COLONIAL FIREPLACE CO.
4622 Roosevelt Road, Chicago

—there are 1500 catalogues here—



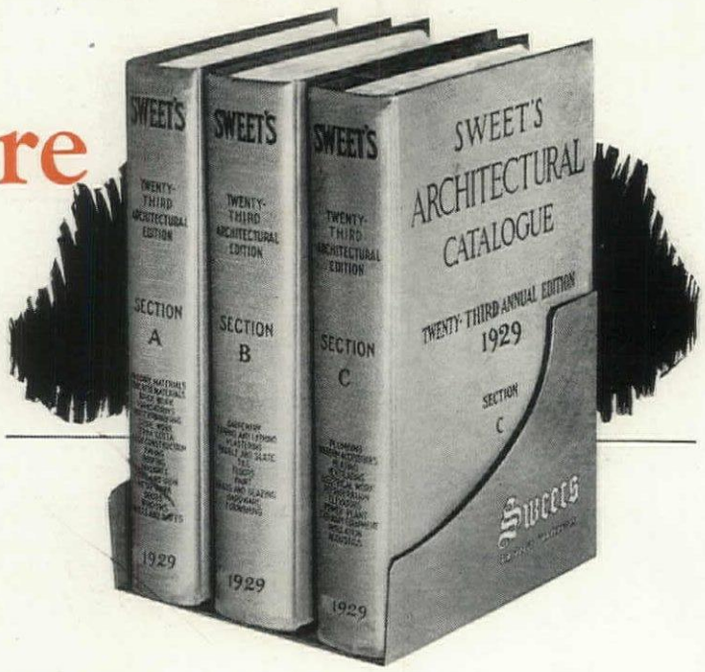
IS IT ANY WONDER that an overwhelming majority of architects have expressed a marked preference for the SWEET'S method of catalogue presentation—that so few architects have the time, office, space or inclination to maintain a worth-while file of manufacturers' *individual* catalogues—and, finally, that the manufacturer's *individual* catalogue in the architectural field is rapidly becoming a thing of the past, retiring in favor of a complete catalogue in SWEET'S?

SWEET'S CATALOGUE SERVICE

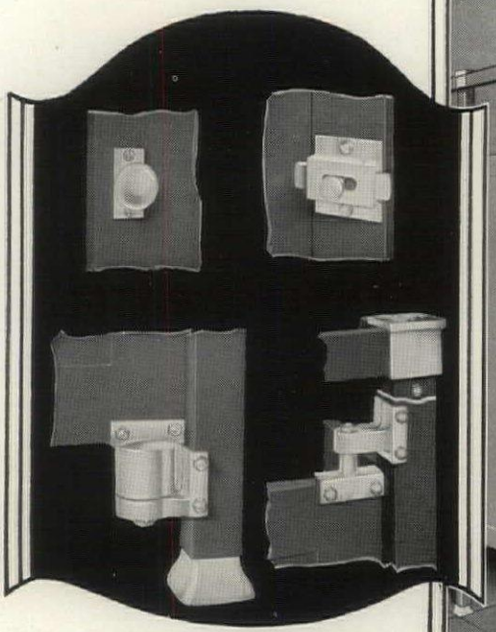
Division of F. W. Dodge Corporation

Offices, 119 West 40th Street, New York, and 28 principal cities

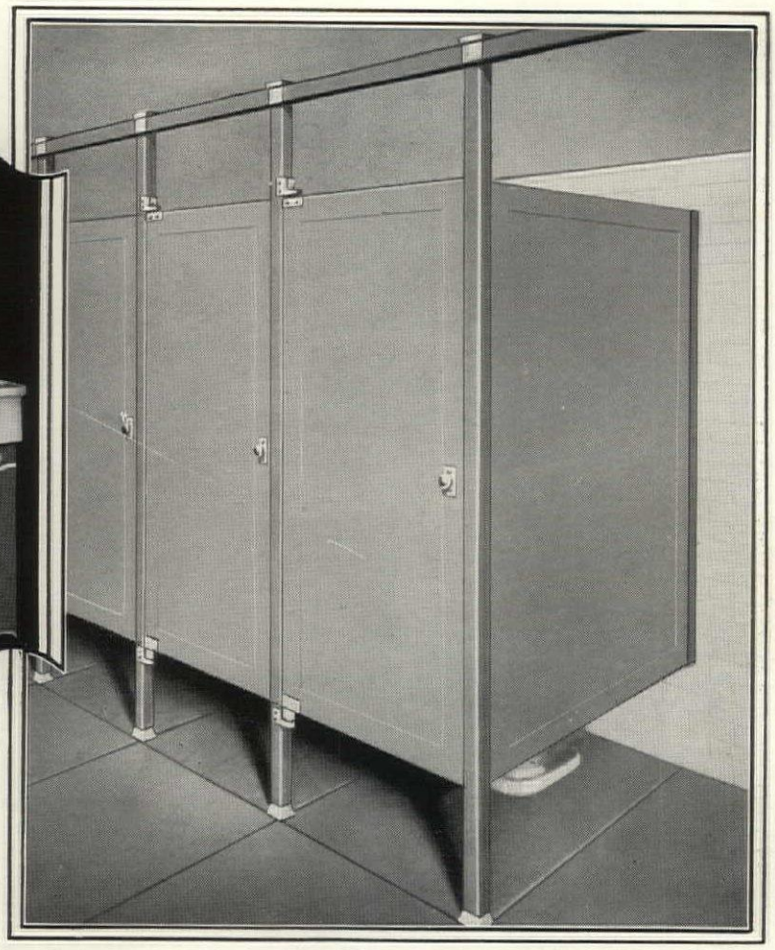
—and there are 1500 catalogues here—



Architects will find the new SWEET'S, recently distributed to the profession, a working tool of greater practical value than ever before.



We believe the new Marblmetal hardware is the finest ever put on toilet partitions. The new Marblmetal hinge has been operated by a testing device to equal ten years' service without perceptible wear and it is safe to say that our hinges will last a lifetime. All Marblmetal hardware is chromium plated. Ask to see a sample of this wonderful new partition.



A Toilet Partition for the Finest Buildings

MARBLMETAL is a toilet partition that in design, construction, equipment and appearance immediately disassociates itself from the crowd. There is nothing that compares with Marblmetal. It has no equal.

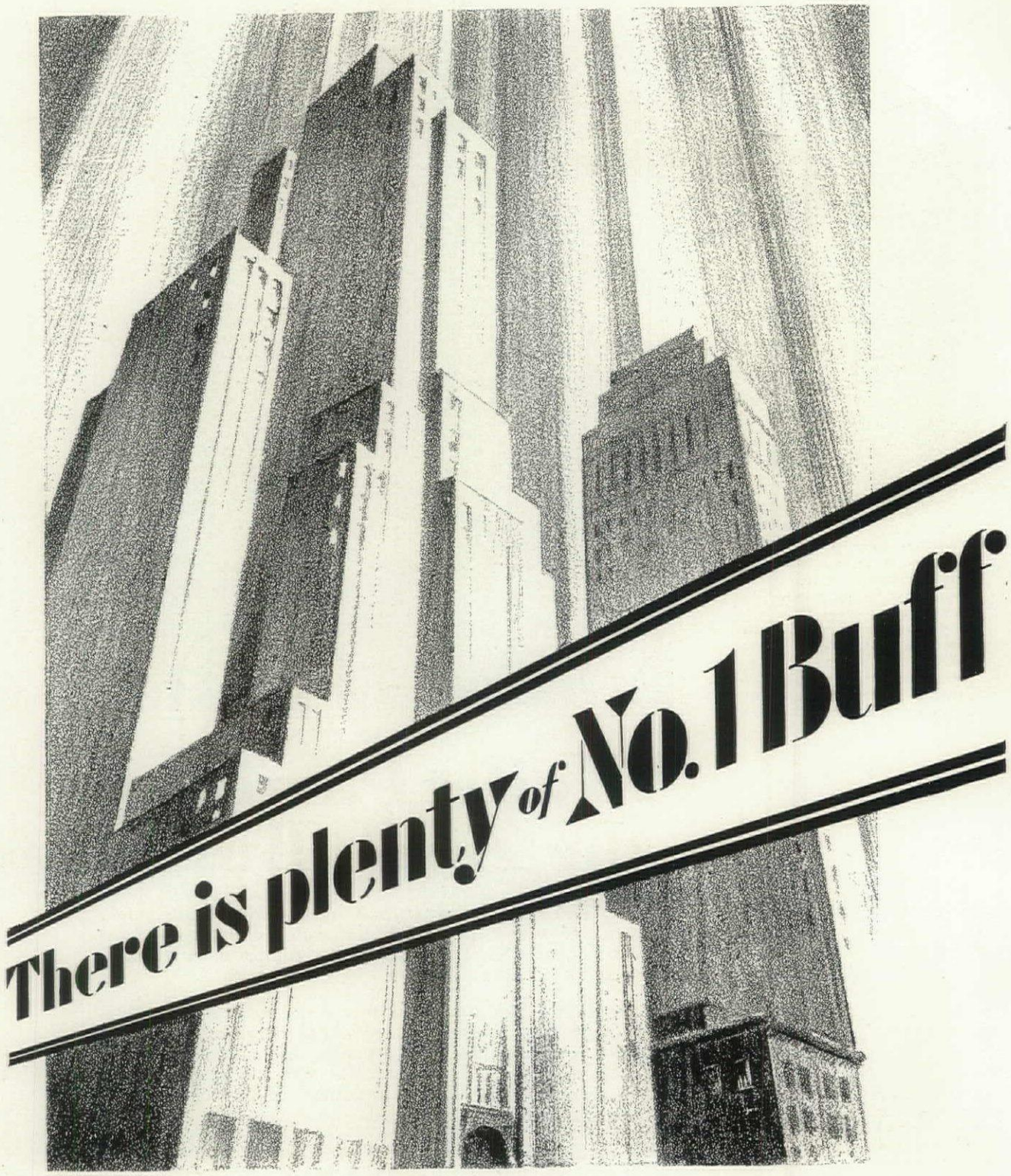
The panel is ¾" thick insulated with a special material. A knuckle-knock sounds like marble. Instead of a monotonous flat surface there is a continuous 2½" stile around doors and panels giving just the right contrast for beauty. The stile is interlocked with outside sheets, re-inforced at each corner, solidly welded across the mitre, ground down and filled.

What a toilet partition Marblmetal is! Beautiful, durable, easy to keep clean. Will not absorb odors. A quality product in every detail but quantity production makes the price surprisingly attractive.

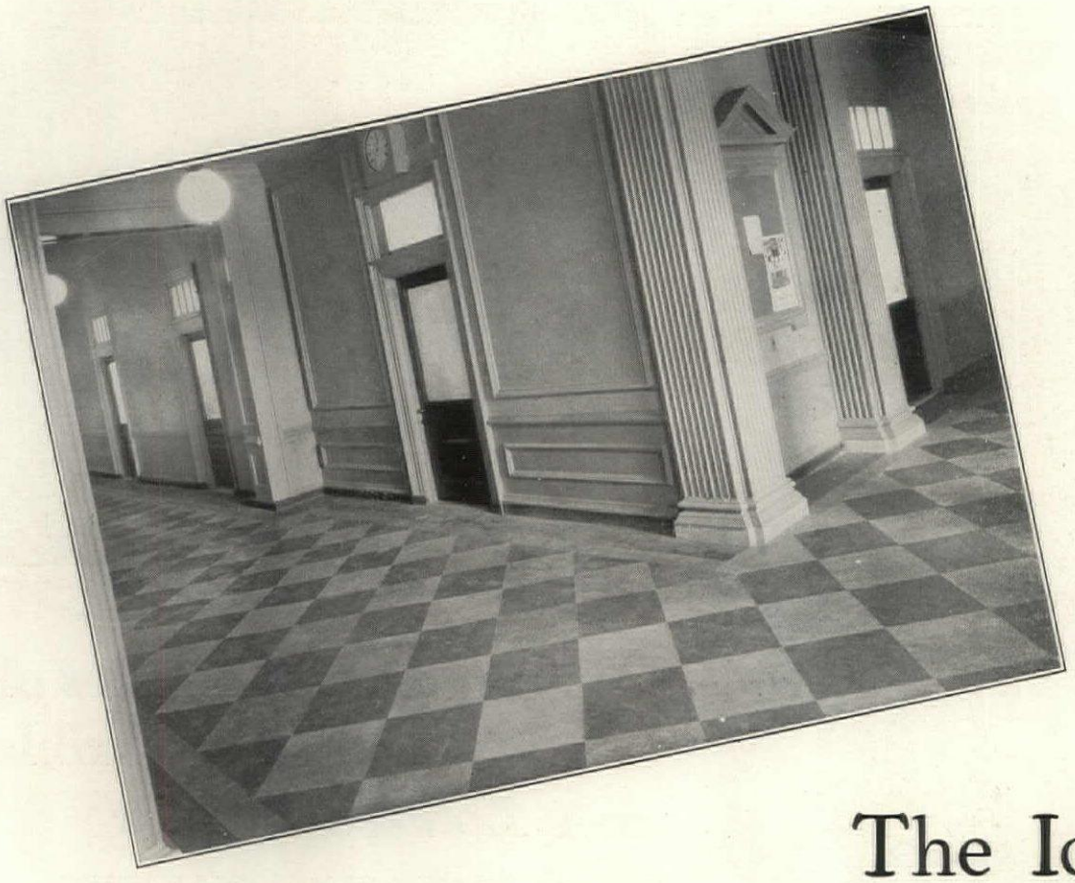
! *Send for folder which illustrates and describes Marblmetal and contains complete specifications.*

THE MILLS COMPANY
A Mills Metal Partition for Every Purpose
903 Wayside Road ··· Cleveland, Ohio
REPRESENTATIVES IN ALL PRINCIPAL CITIES

MARBLMETAL



No. 1 Buff ▪▪▪ a uniform creamy white Indiana Limestone ▪▪▪ has been the market's highest grade for 72 years ▪▪▪ and is admirably adapted to the sweeping vertical lines of present-day building. Warm and full of life and beauty ▪▪▪ it is uniform in tint ▪▪▪ and the supply is unlimited. ▪▪▪ Victor Oolitic Stone Co., Bloomington, Ind.



Wright Rubber Tile installation—Building for Architecture and Kindred subjects—University of Illinois, Urbana, Ill. Chas. A. Platt, New York, Architect. James M. White, Urbana, University of Illinois, Architect.

The Ideal School Room Floor

FEATURES of silence, long life, sanitation and comfort have made Wright Rubber Tile first choice for many school room floors. Simple and ornate patterns in endless variety make easy—the matching or contrasting of any general decorative scheme.

Wright Rubber Tile has been endorsed for all types of floors by an authoritative board of prominent architects. When you specify this product you are protected by tests and performance records that place the stamp of approval on your recommendation.

For the convenience of all architects Wright Rubber Tile is illustrated in thirty colors, with complete data, in the 23rd Edition of Sweet's Architectural Catalog. This same information is also available to you in handy, file size pamphlet form. We will cheerfully mail you this pamphlet without cost or obligation. Write

WRIGHT RUBBER PRODUCTS CO.

LAYARD AVE. RACINE, WISCONSIN

THE WRIGHT RUBBER TILE

A Battery of Nine Electrified PEELLE Tel-Co Doors. Each door is 26′ wide and 13′ high and operates in 12 seconds. Borden Milk Co. Bldg., New York.
Joseph C. Schaeffler, Architect

Entrance and Exit . . . *ELECTRIFIED*

Heavy-service PEELLE Tel-Co Doors increase traffic efficiency at driveway entrances, railroad sidings, piers, building entrances with interior shipping platforms. They afford full openings, operate quickly, easily and vertically.

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PEELLE Freight Elevator DOORS

"The doorway of America's freight elevator traffic"

Nation-wide CONFIDENCE

Confidence—built on a foundation as secure as MacArthur's own sturdy piles.

Confidence—reinforced by the MacArthur principle that character of soil and structure must determine the type of pile to be used. (MacArthur drives every type).

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You may find detailed information of distinct value when next you have a pile job under consideration

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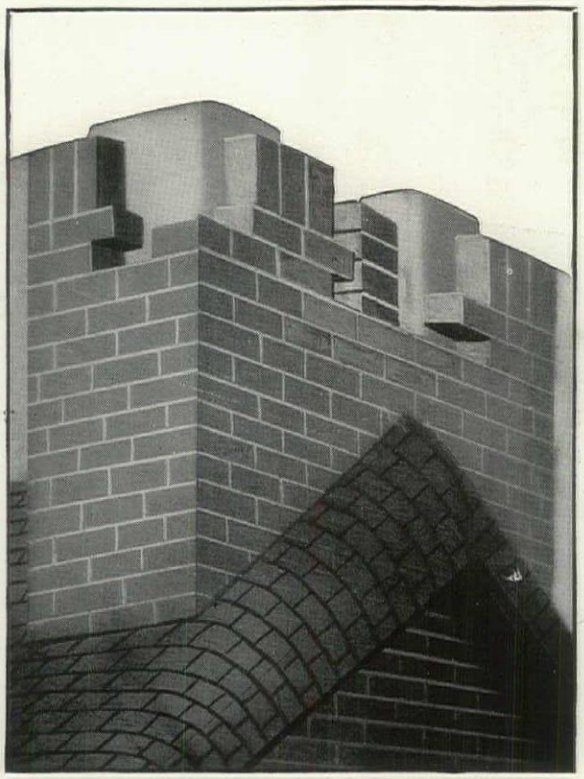
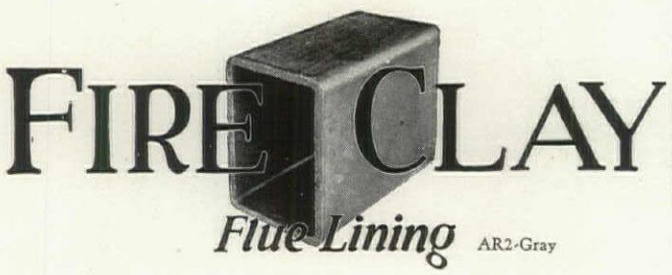
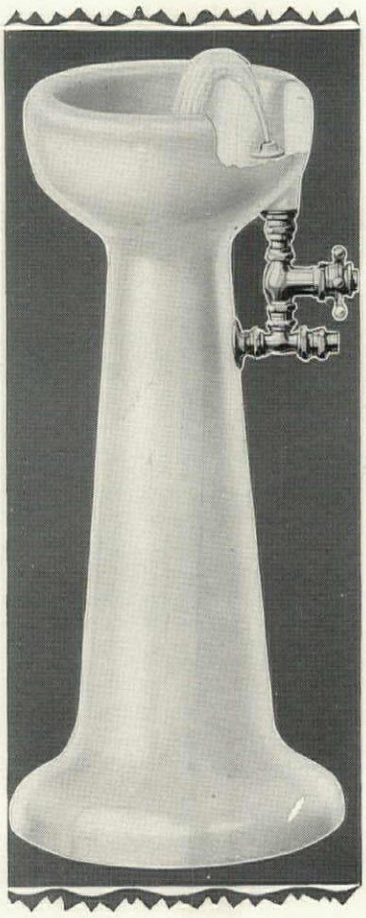


No fire can get a foothold in a chimney lined with fire clay flue lining

CLAY PRODUCTS ASSOCIATION
CONWAY BUILDING
Chicago





Satisfy Thirst Sanitarily

WHEREVER Rundle-Spence drinking fountains are installed, the thirst of all is satisfied sanitarily. It's bound to be because lips cannot touch the R-S nozzle—the slight slant stream prevents water from falling back upon the jet.

Let us give you complete information covering R-S Sanitary Drinking fountains, besides our line of Bath and Plumbing Fixtures and Supplies.

RUNDLE-SPENCE MFG. CO.
70 Fourth Street
MILWAUKEE, WIS.

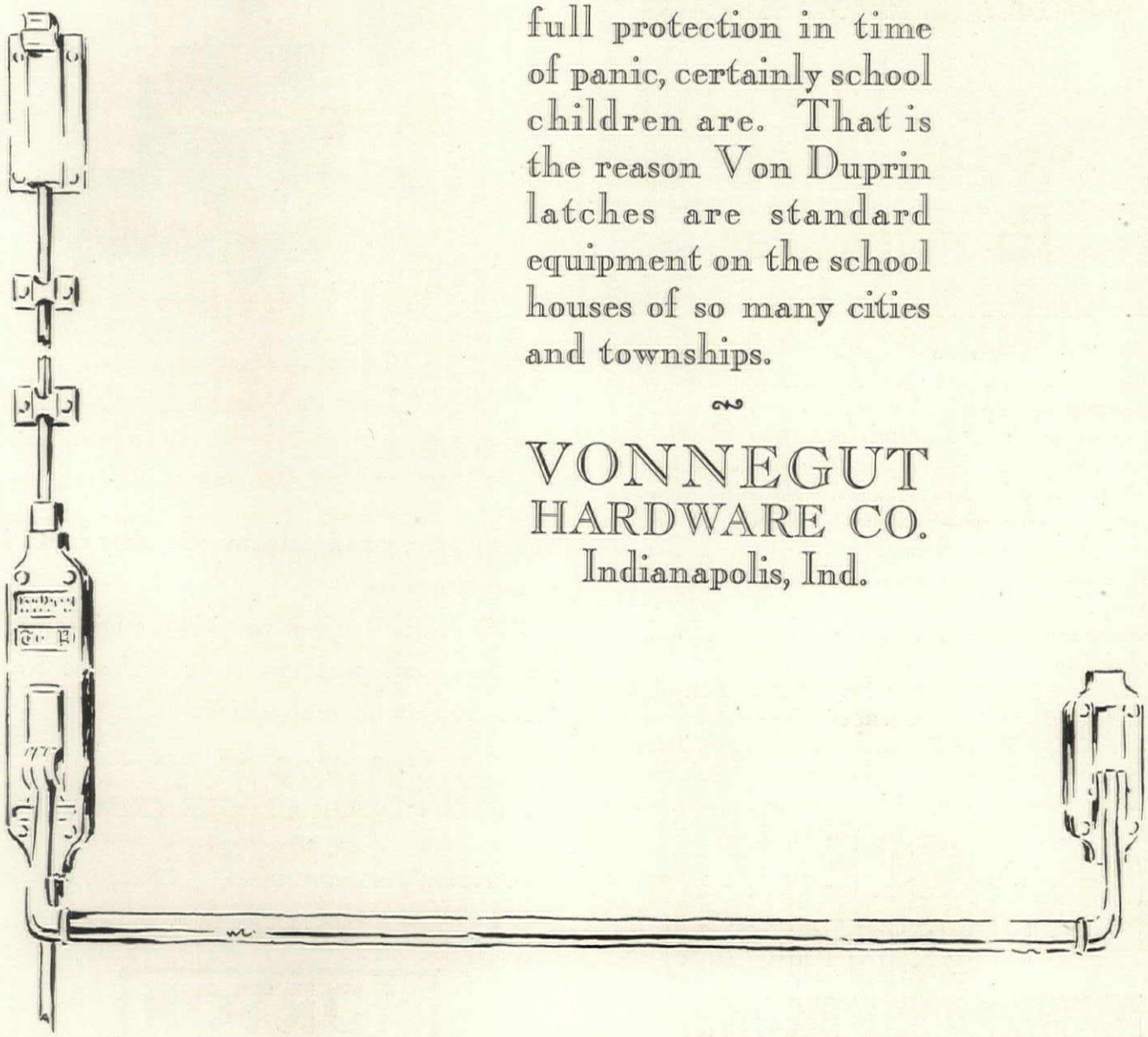
RUNDLE-SPENCE

Von Duprin

Self-Releasing Fire Exit Latches

Sweets, Pages B2605-B2609

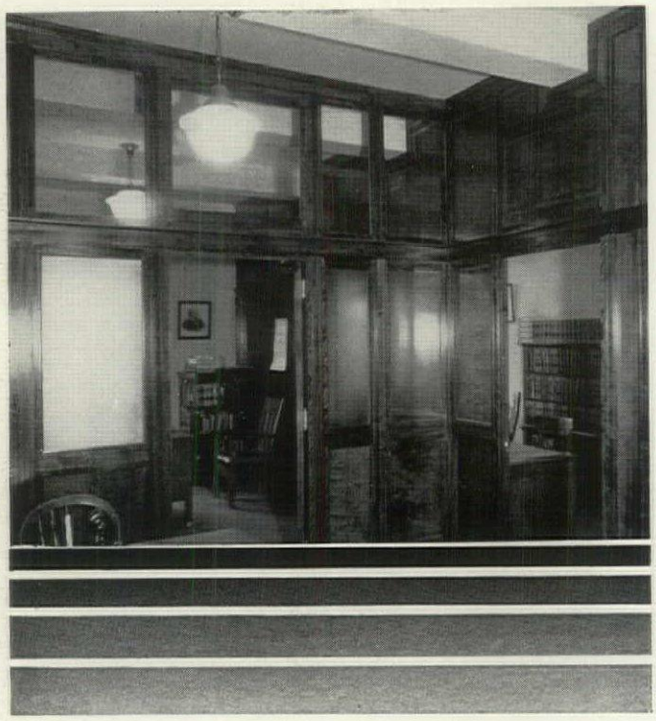
AIA 27c5



If anyone is entitled to full protection in time of panic, certainly school children are. That is the reason Von Duprin latches are standard equipment on the school houses of so many cities and townships.

VONNEGUT
HARDWARE CO.
Indianapolis, Ind.

Always Ready for New Office Needs



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CIRCLE A PARTITIONS

Sectional.....Movable

On Every Door On Every Floor

NORTON DOOR CLOSERS

Justify the confidence of the architect who specified them

Silently, surely and permanently, they control every door.

Built to the highest precision, engineering standards and practices, their exclusive features evidence their superiority.

See full data in Sweet's, pages B1864-1867

NORTON DOOR CLOSER COMPANY

Division of The Yale & Towne Manufacturing Company

2900 North Western Avenue Chicago, Illinois

Specify

NORTON

SECOND ANNUAL COMPETITION
FOR THE
A. W. BROWN TRAVELLING SCHOLARSHIP

Announcement is made this month through the architectural press of the second annual competition open to architects and architectural draftsmen for the award of THE A. W. BROWN TRAVELLING SCHOLARSHIP, *a memorial to the late A. W. Brown who was for many years President of Ludowici-Celadon Company and a leader in the manufacture of roofing tile.*

Believing in the importance to the architect of a thorough knowledge of the various materials which go to make up a completed work of architecture, Ludowici-Celadon Company is continuing this scholarship with the hope that it will offer advantages for detailed study of the uses of materials and especially of tile roofs.

The scholarship was established in consultation with the American Institute of Architects and, through its president, a member of the Committee on Education and a member of the Committee on Allied Arts have been appointed to act with the architectural adviser as a special committee to conduct the competition and to have charge of the scholarship.

Ludowici-Celadon Company has made an agreement with the American Institute of Architects to provide the funds necessary to conduct the competition for the selection of a worthy and deserving beneficiary and further to pay to them the sum of two thousand dollars to be used in defraying the expenses of the beneficiary during a year of travel and study in Europe, and also five hundred dollars to be distributed as three additional prizes.

While there will be no restrictions as to the type of architecture which the holder of the scholarship shall study or the exact places he shall visit, he will be required to prepare at least two envois consisting of measured drawings of buildings on which burned clay has been used for roofing. It is hoped, by thus emphasizing in the work of this student the particular craft which the donors represent, that this scholarship will prove a real aid in establishing a better understanding of the use and necessary qualities of burned clay.

Programs will be mailed from New York City on or about March 1st, 1929, and the drawings are to be delivered on April 1st, 1929. Further details concerning the competition will be found in the editorial pages of this magazine. Those wishing to compete should apply for blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York City.

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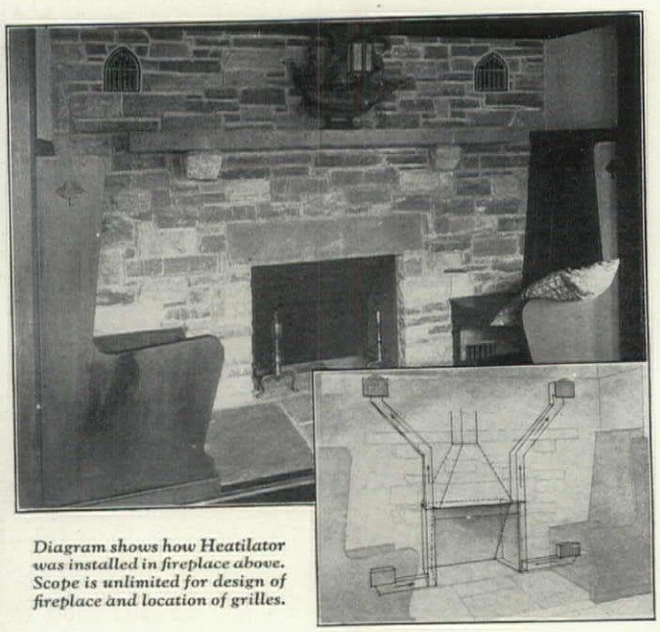

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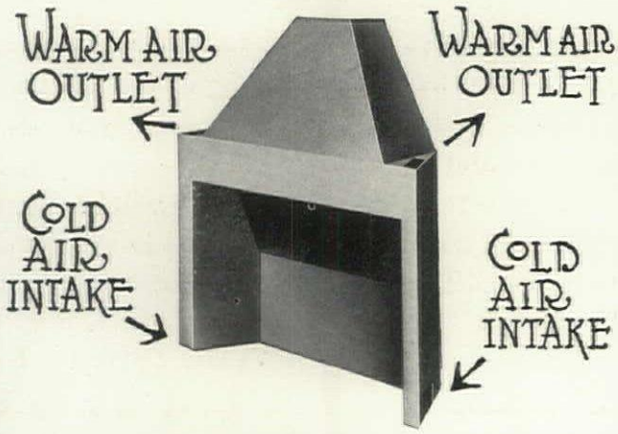

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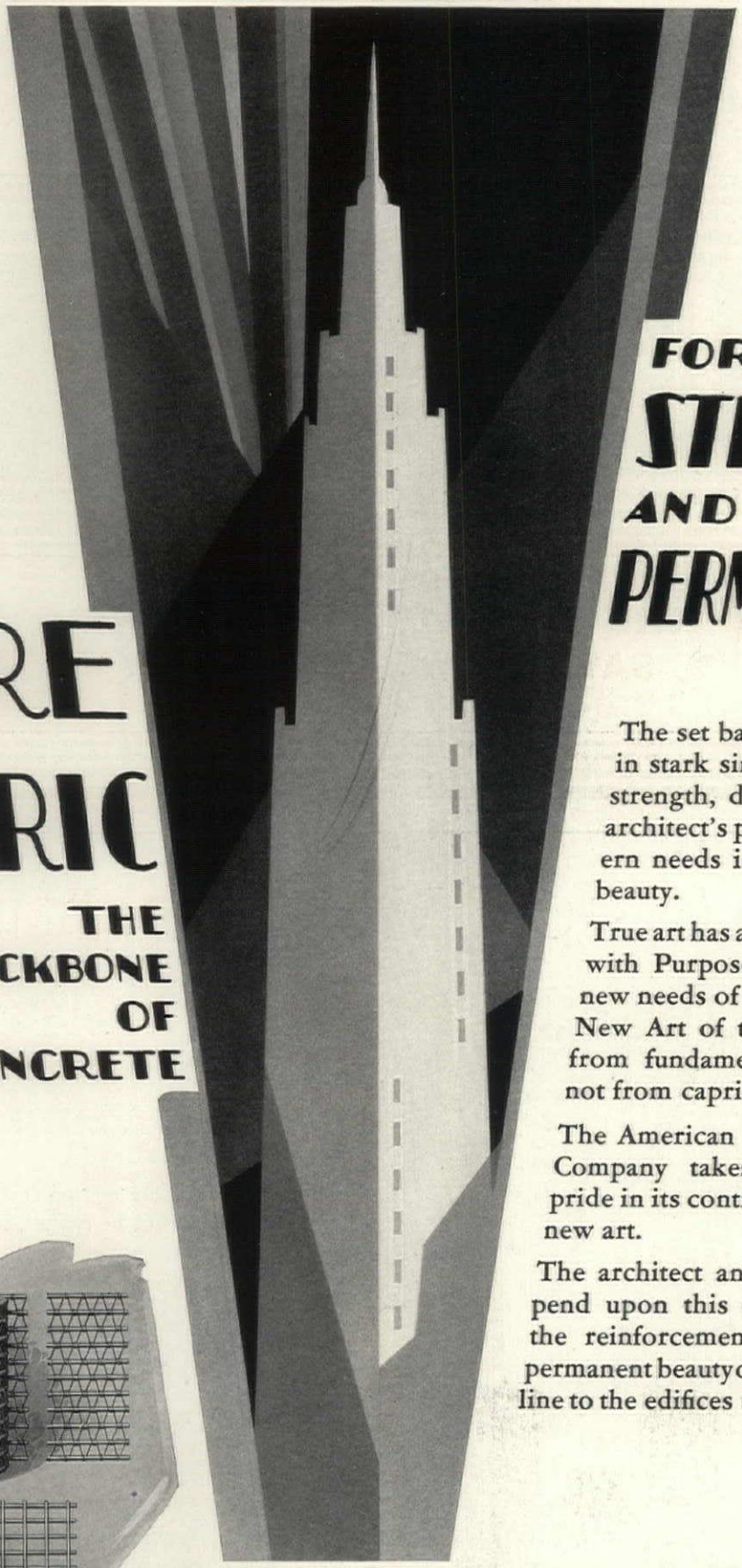

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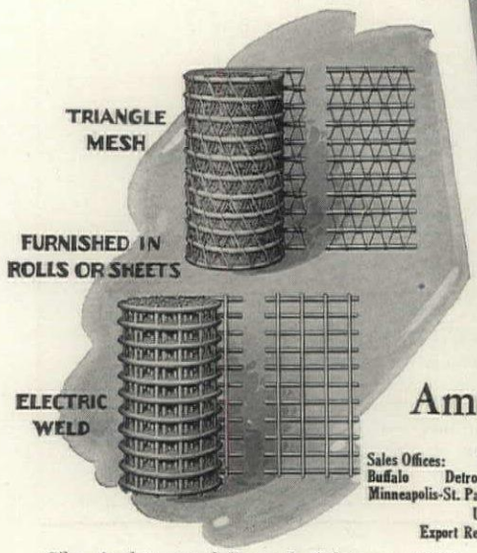

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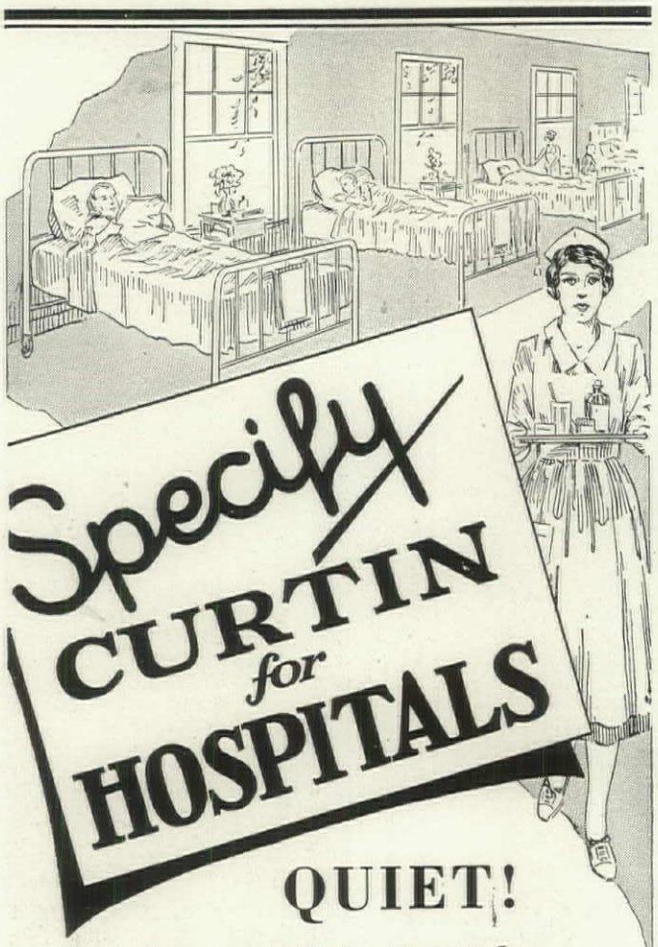

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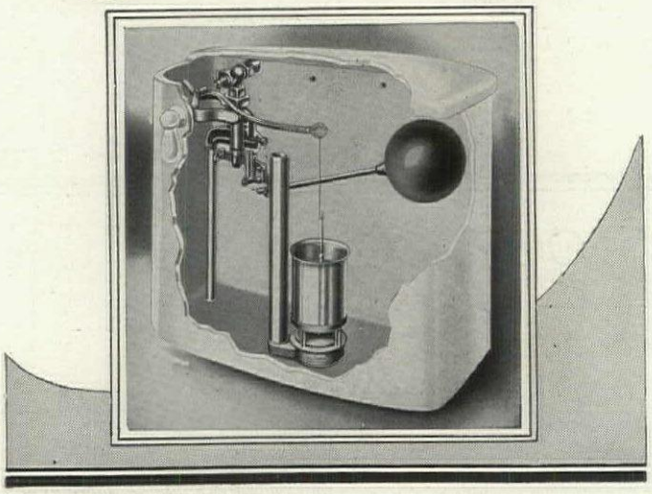

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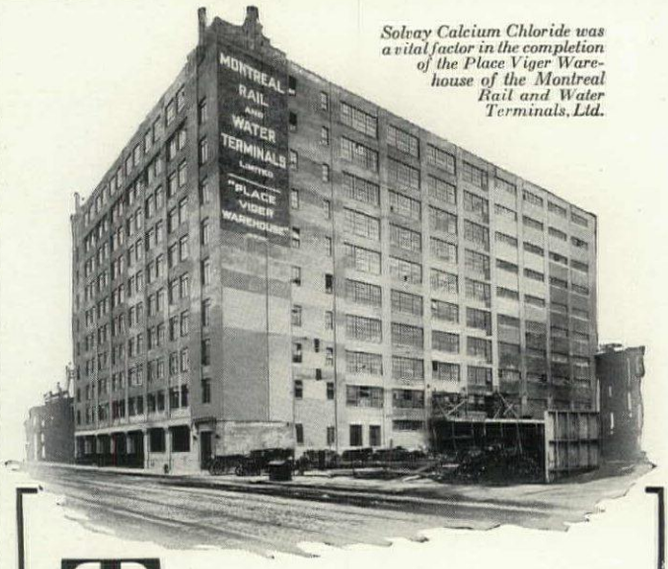

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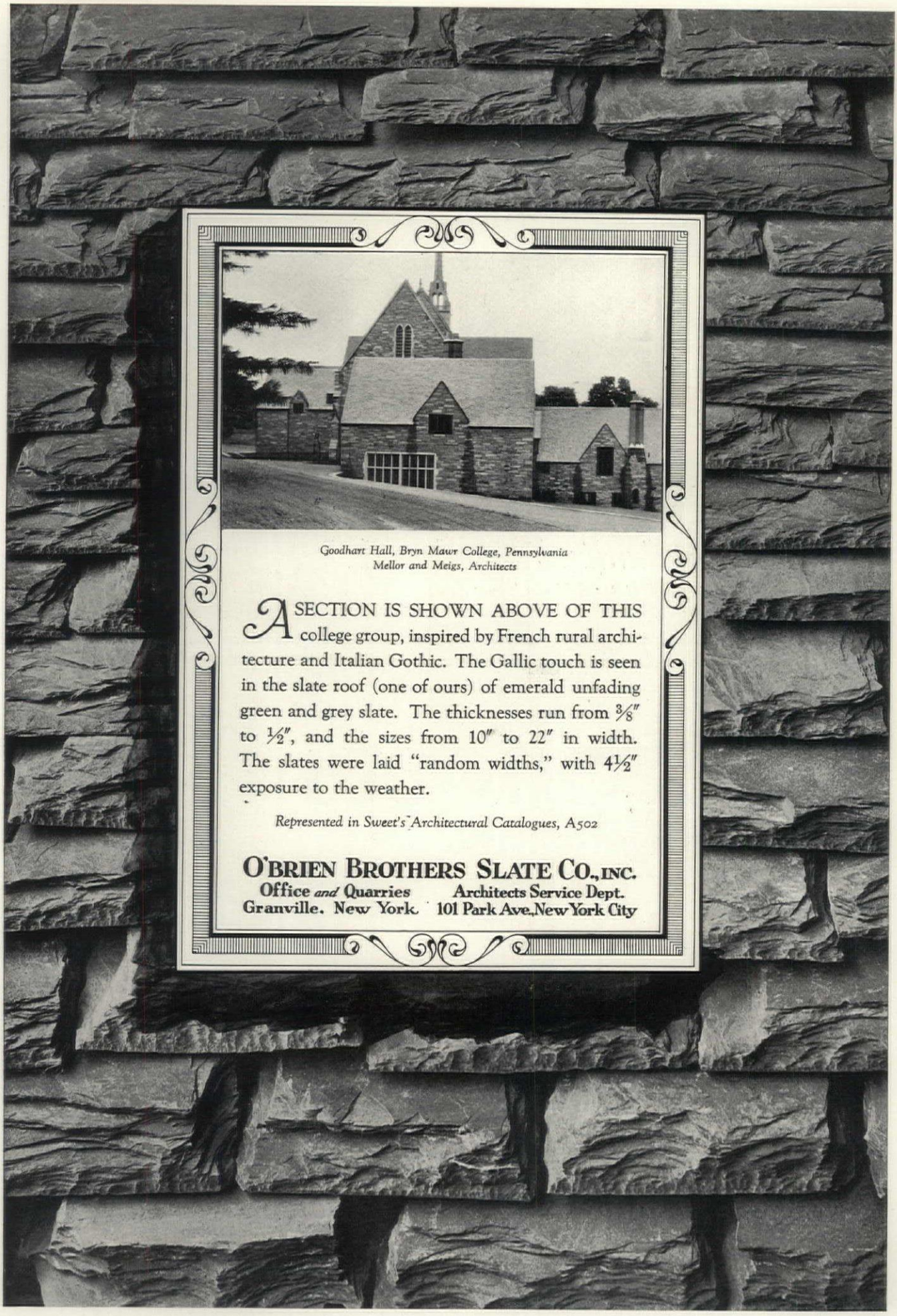

Goodhart Hall, Bryn Mawr College, Pennsylvania
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A SECTION IS SHOWN ABOVE OF THIS college group, inspired by French rural architecture and Italian Gothic. The Gallic touch is seen in the slate roof (one of ours) of emerald unfading green and grey slate. The thicknesses run from 3/8" to 1/2", and the sizes from 10" to 22" in width. The slates were laid "random widths," with 4 1/2" exposure to the weather.

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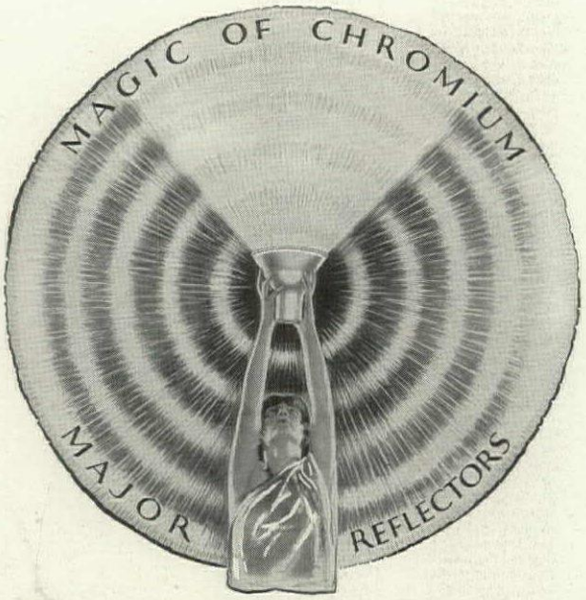

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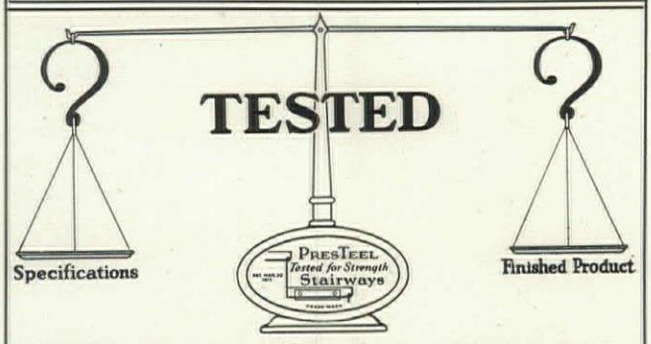

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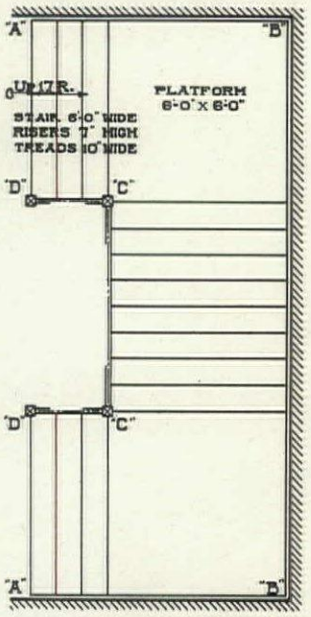

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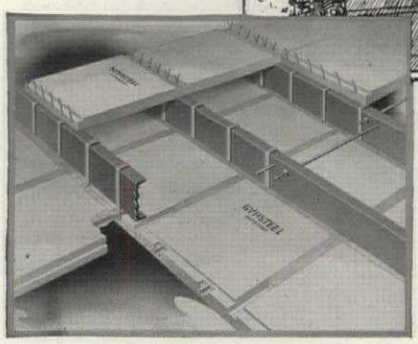

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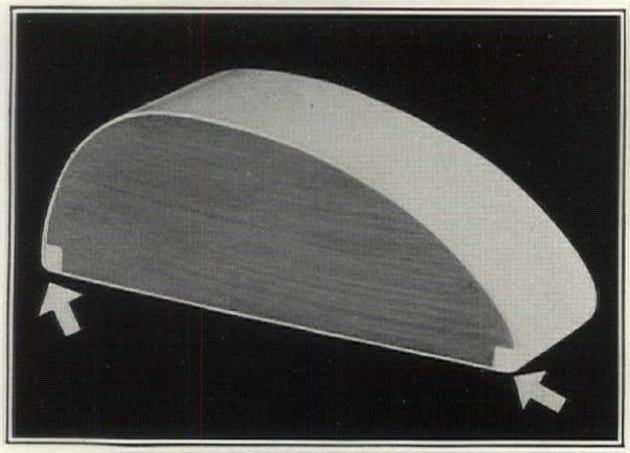

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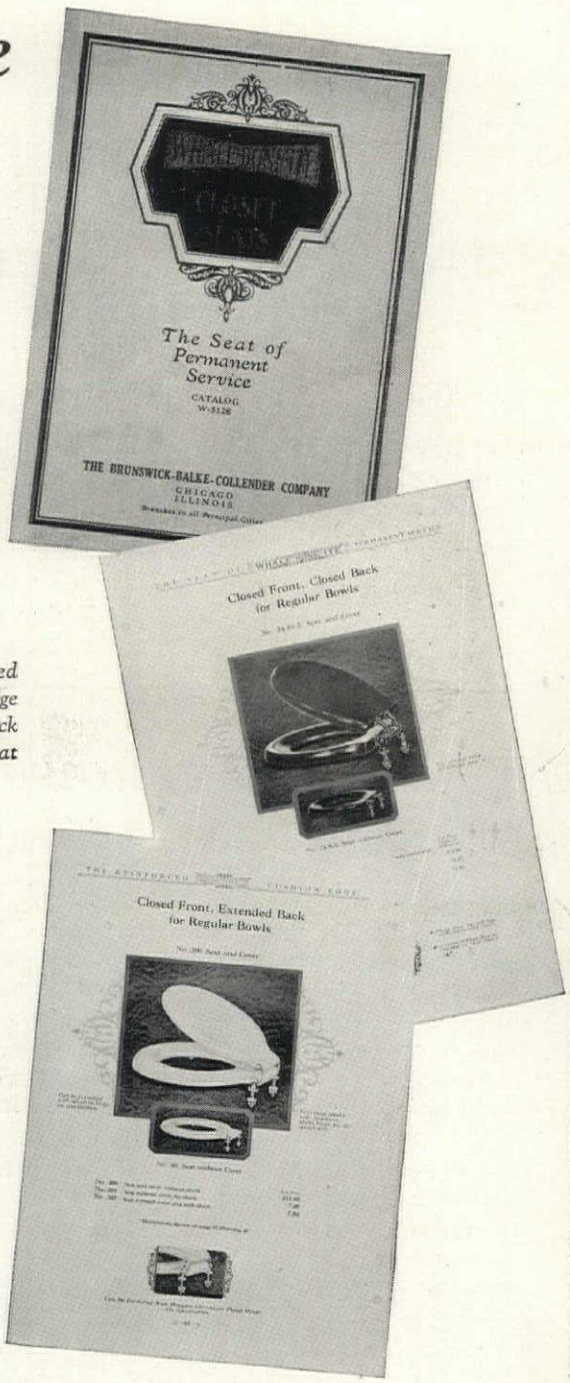

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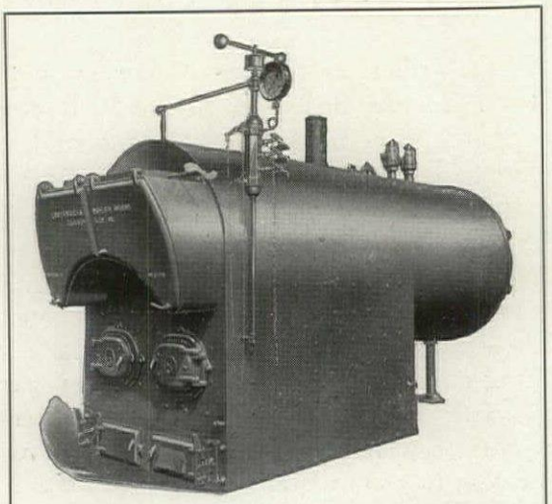

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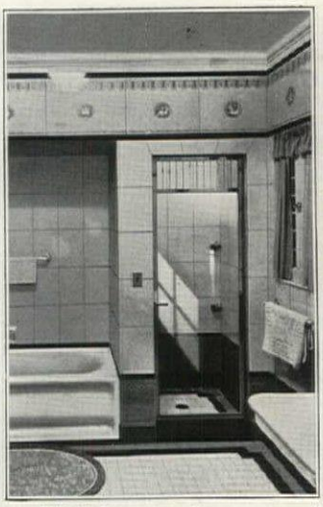

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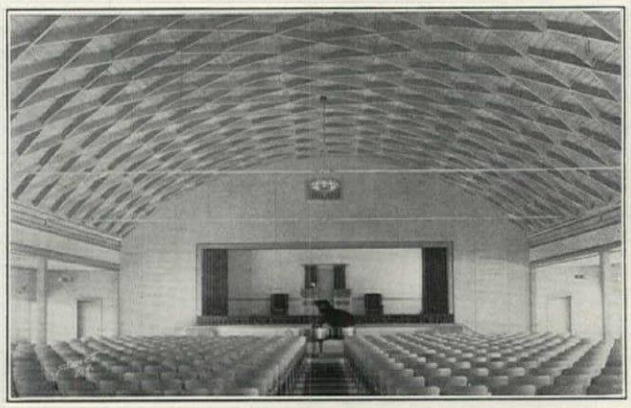

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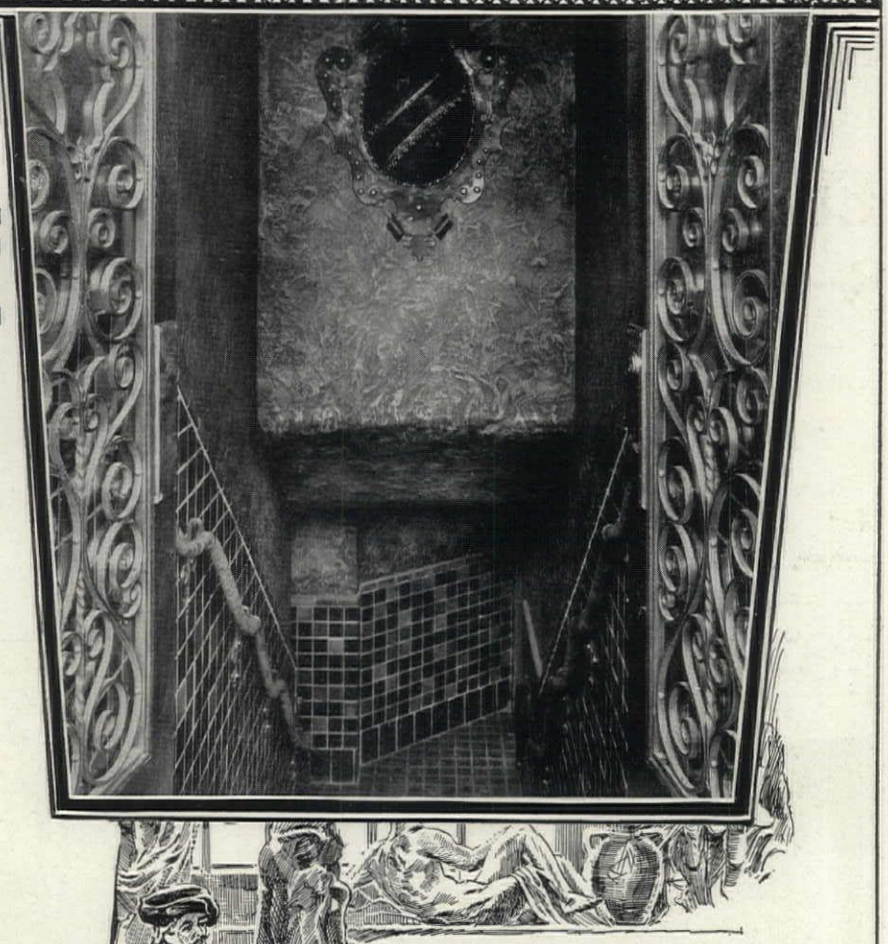

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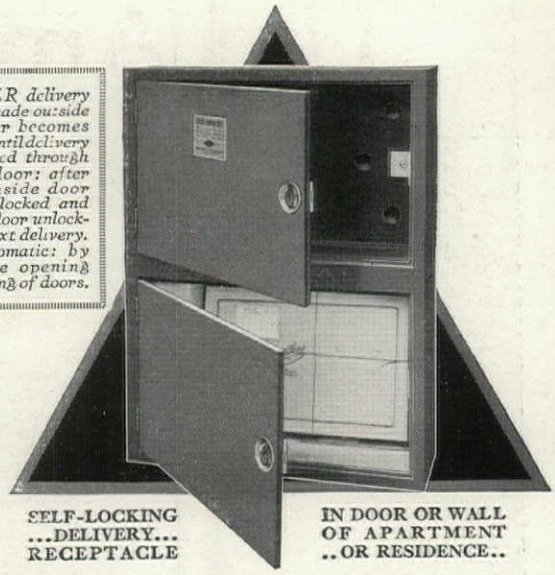

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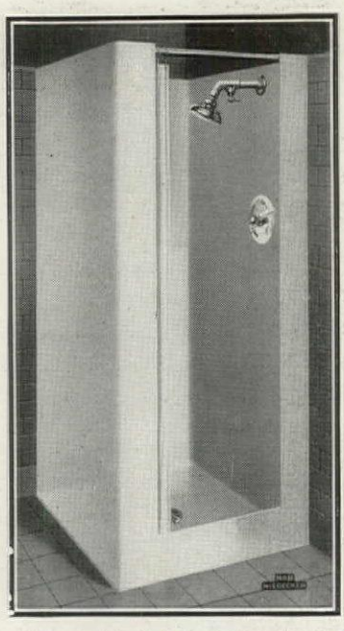

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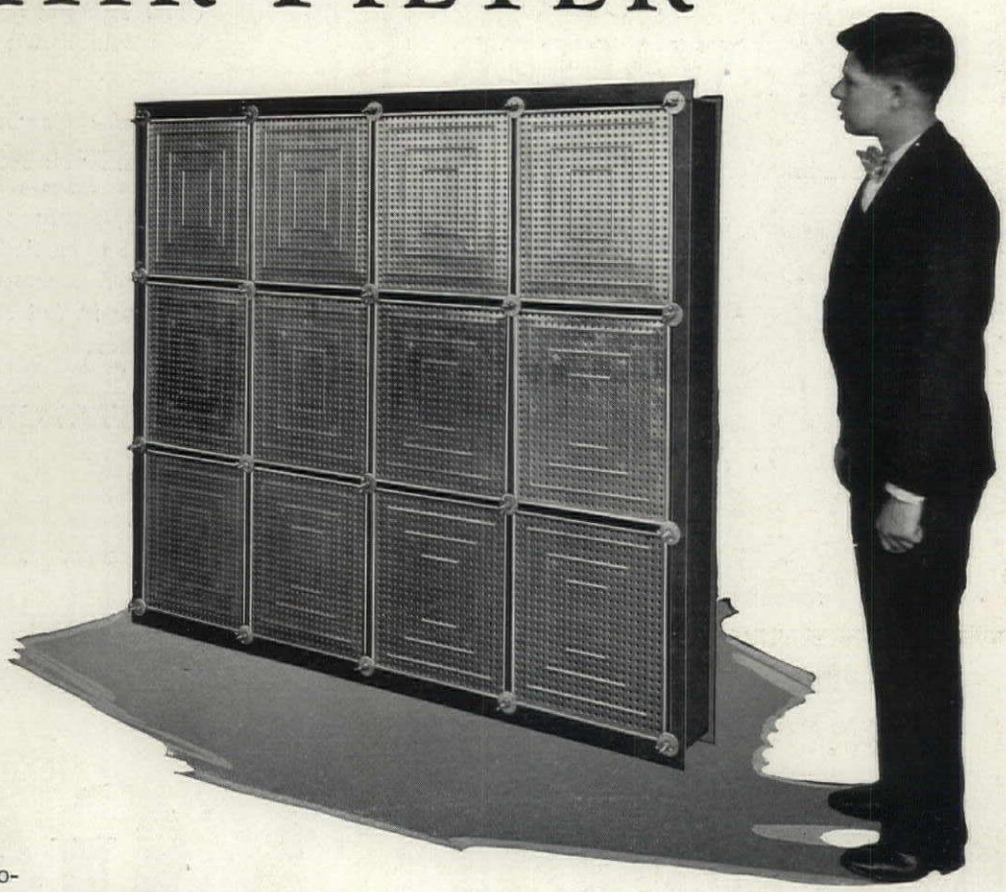

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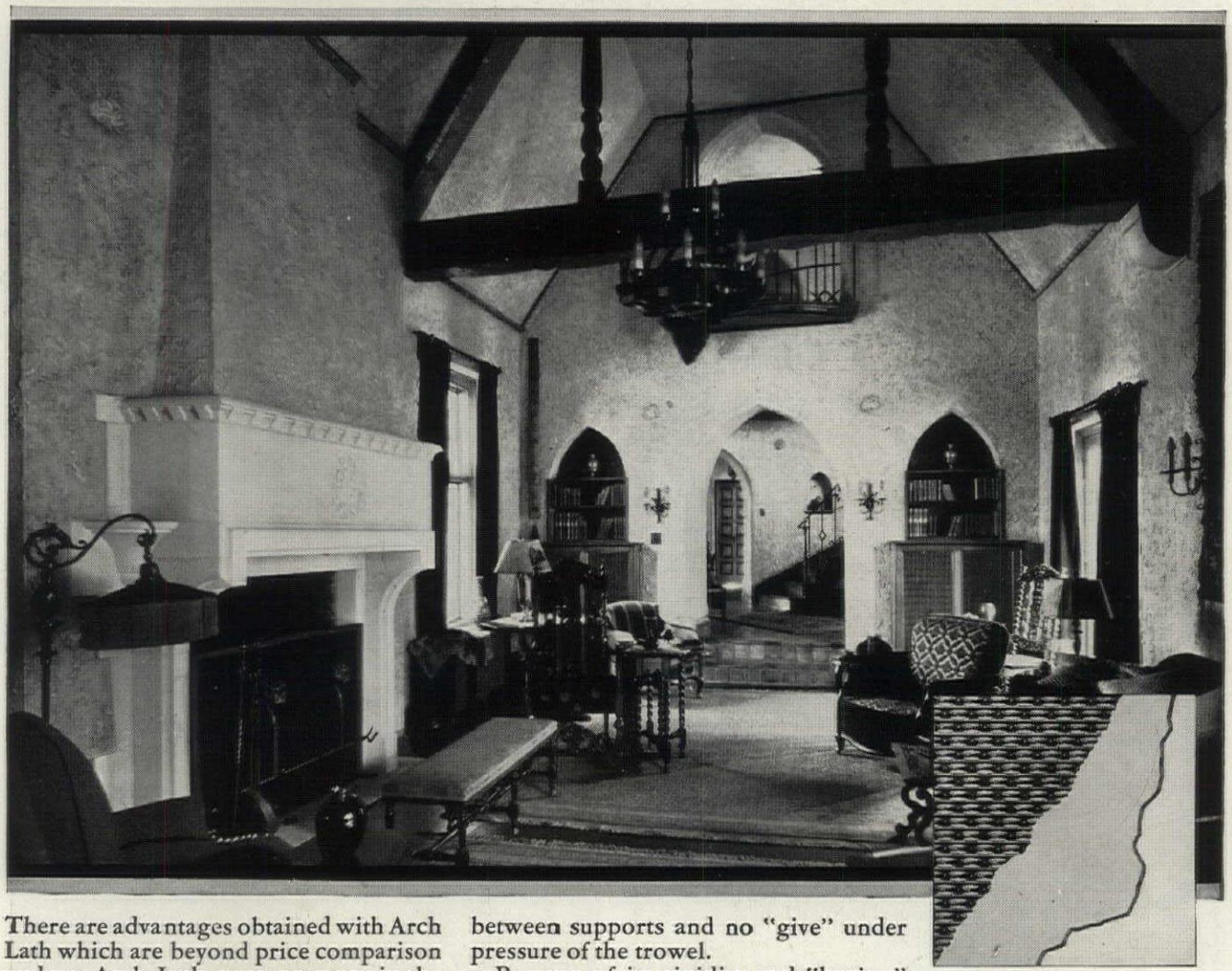

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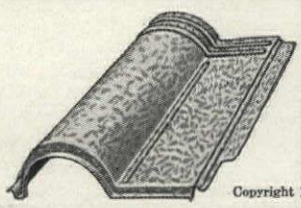

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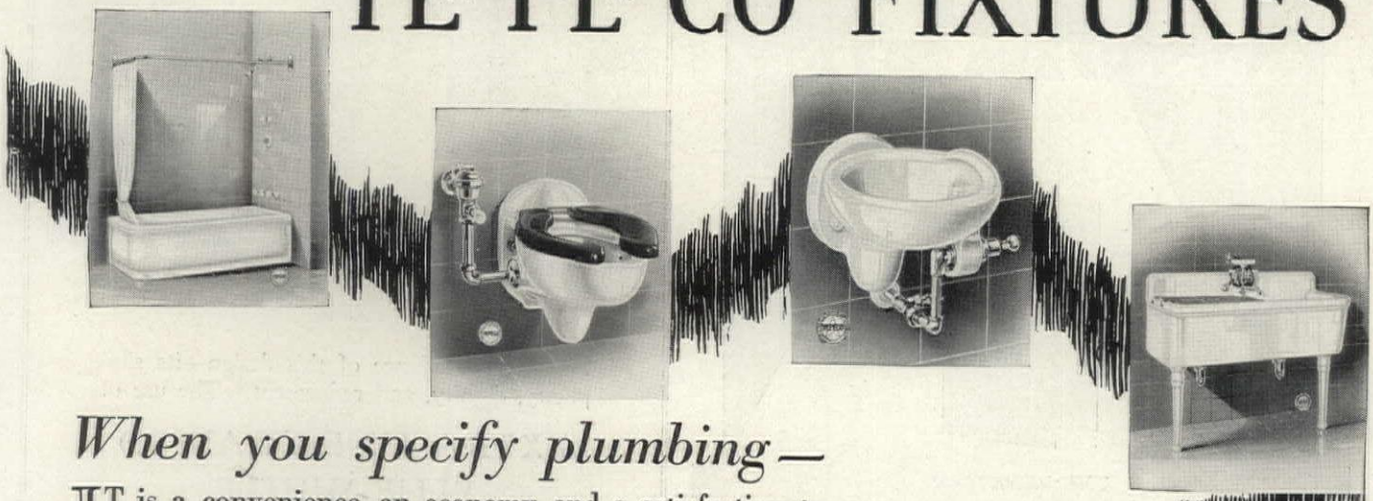

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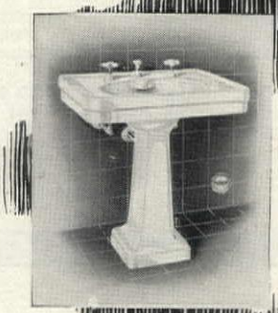

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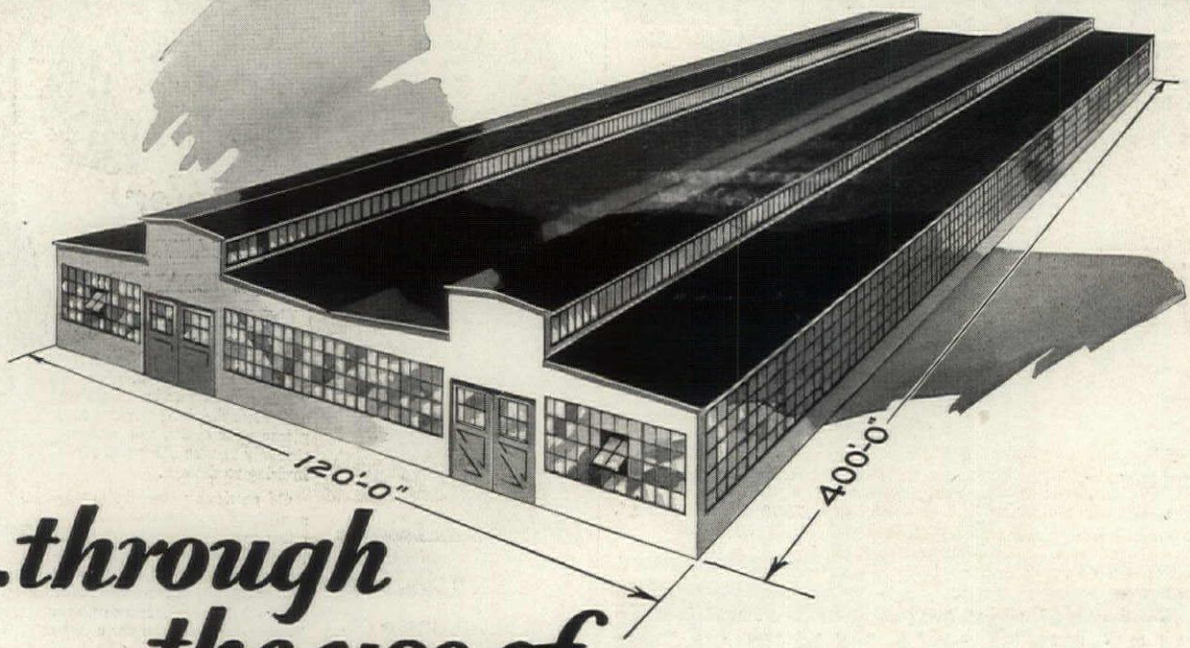

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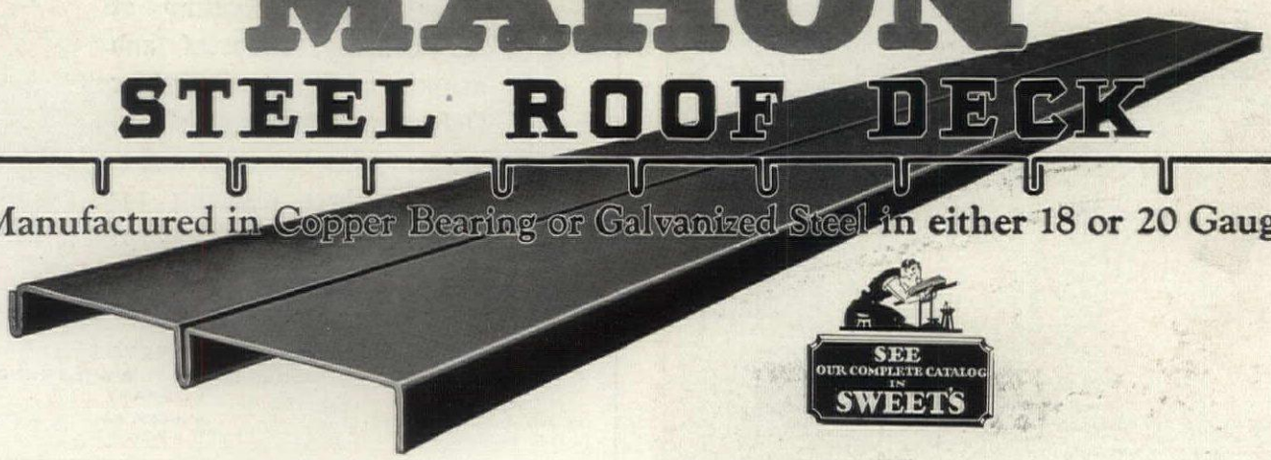

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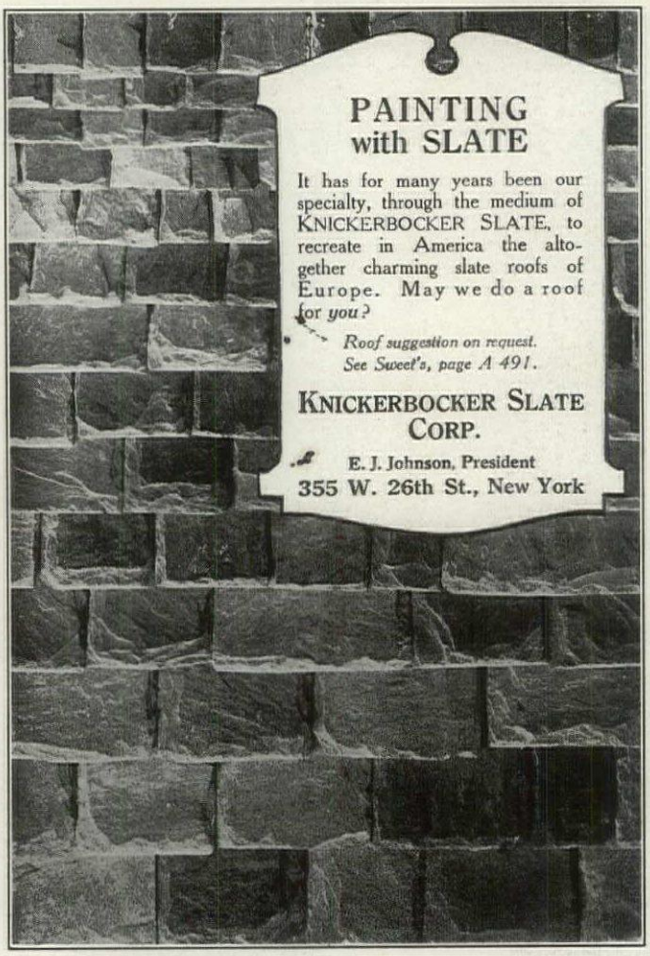

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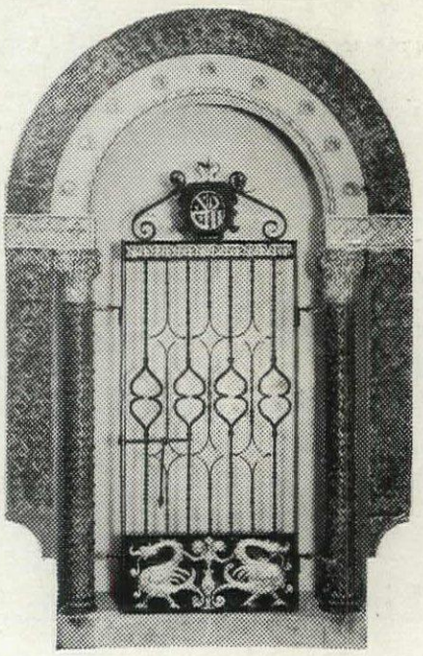

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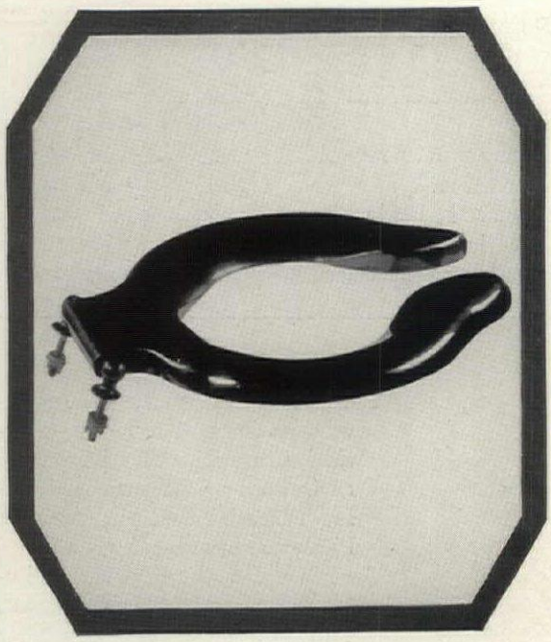

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NOTES IN BRIEF

A. W. BROWN TRAVELLING SCHOLARSHIP COMPETITION, 1929

Announcement is made of the second annual competition for the selection of a beneficiary for the A. W. Brown Travelling Scholarship, this competition to be held under the direction of a committee of the American Institute of Architects. Programmes will be mailed to approved applicants about March 1st, 1929, drawings to be delivered on April 1st, 1929.

This scholarship is the gift of Ludowici-Celadon Company and is a memorial to the late A. W. Brown, who was for many years president of that company and a leader in the manufacture of roofing tile.

The value of the scholarship is Two Thousand Dollars, to be used towards defraying the expenses of a year of travel and study in Europe by a worthy and deserving architect or architectural draftsman. Travelling expenses between the winner's place of residence and the port of New York will be paid in addition to this amount.

An award of Two Hundred and Fifty Dollars will be made to the person whose design is placed second in the competition; One Hundred and Fifty Dollars to the person whose design is placed third; and One Hundred Dollars to the person whose design is placed fourth.

Under the terms of the gift the selection of the beneficiary of this scholarship is to be made by means of a competition to be held under the direction of a committee of the American Institute of Architects, the drawings to be judged by a jury of from three to five practising architects chosen by that committee. The general requirements of the problem given for the competition will be similar to those of the Class A problems issued by the Beaux-Arts Institute of Design.

It is also stipulated by the donors that the competition shall be open to any architect or architectural draftsman who is a citizen and resident of the United States; who has never been the beneficiary of any other European scholarship; who has passed his twenty-second but has not passed his thirty-second birthday on May 1st, 1929; and who has been in active practice or employed in the offices of practising architects for at least six years, or, if a graduate of an architectural school, at least two years since graduation.

The beneficiary will be required to complete, during his European study, at least two envois, which shall consist of measured drawings of buildings on which burnt clay has been used for roofing. Other than this there will be no restrictions as to the type of architecture that shall be studied or the type of work that shall be done, except as the committee may deem it necessary to advise from time to time in order that the intention of the establishment of the scholarship may be achieved.

Those wishing to compete should write for application blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York City.

CALENDAR OF EVENTS

Feb. 1-15	Exhibition of work of prize-winners in the last House Beautiful Competition. Dinner in their honor. Architects Building Material Exhibit, Fifth at Figveroa, Los Angeles, Calif.
Feb. 4-9	American Ceramic Exposition. Exhibition Hall, Hotel Stevens, Chicago.
Feb. 11-Mar. 24	American Industrial Arts. 11th Exhibition. Metropolitan Museum, New York City.
Mar. 1-31	Exhibition of the work of Reginald Johnson, Architect. Architects Building Material Exhibit, Los Angeles, Calif.
Apr. 15-27	Architectural and Allied Arts Exposition. (Architectural League of New York) Grand Central Palace, New York.
Apr. 17-May 11	"Own Your Home" Exposition, indoor and outdoor. Chicago.
Apr. 23-25	Producers' Council. Annual Meeting in conjunction with
Apr. 23-25	American Inst. of Architects Annual Meeting. Washington, D.C.
Sept. 3	Exposition of Modern Decorative and Industrial Art. Mandel Brothers, Chicago.
Oct. 29-Nov. 7	World Engineering Congress. Tokio, Japan.
Nov. 7-22	Excursion and inspection tours throughout the Japanese Empire, in connection with the World Engineering Congress.

COMPETITIONS

Feb. 15	All ballots nominating members of the International Jury in the Columbus Memorial Lighthouse Competition must be in Washington, D. C.
Mar. 1	Prix de Rome. Final date for entry in competition. New York City.
Apr. 1	Columbus Memorial Lighthouse Competition. Drawings must be in Madrid, Spain.
Apr. 1	A. W. Brown Travelling Scholarship Competition. Drawings to be delivered. Programmes will be mailed to applicants about March 1st. New York City.

C C C

CITY PLANNING ENABLING ACT

A Standard City Planning Enabling Act booklet has been prepared by the Advisory Committee on City Planning and Zoning of the U. S. Department of Commerce which may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., for fifteen cents.

In several hundred American cities and regions, planning commissions are working with public officials and private groups in order to obtain more orderly and efficient physical development of their land area. They are concerned partly with rectifying past mistakes, but more with securing such location and development of streets, parks, public utili-

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(4) Perfect mill workmanship —absolute *accuracy and uniformity.*

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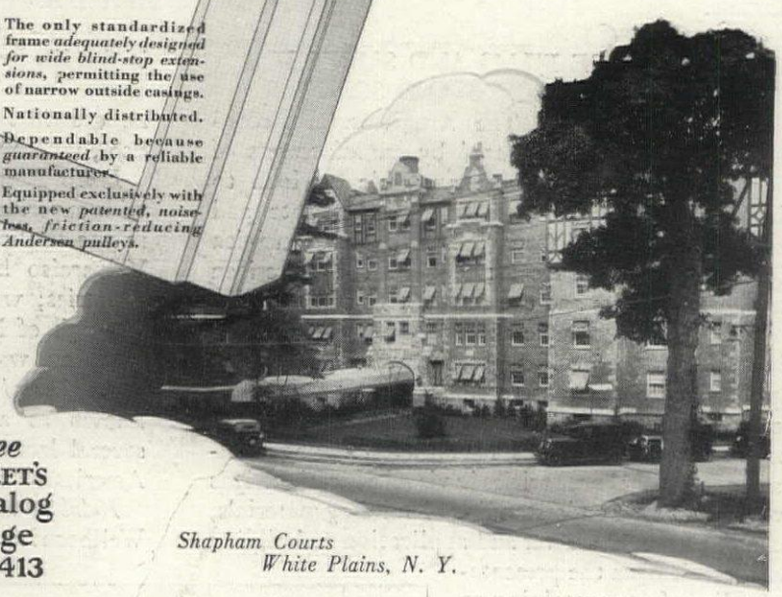
(6) The only standardized frame *adequately designed for wide blind-stop extensions,* permitting the use of narrow outside casings.

(7) Nationally distributed.

(8) Dependable because *guaranteed* by a reliable manufacturer.

(9) Equipped exclusively with the new *patented, noiseless, friction-reducing Andersen pulleys.*



Shapham Courts
White Plains, N. Y.

SUPERIORITY
GUARANTEED
by this trade mark

WINDOW and DOOR Andersen FRAMES

Genuine White Pine Sills and Casings

1 *White Pine for* PERMANENCE
2 *Styles and Sizes for* BEAUTY
3 *Weather-tight for* HOME COMFORT
4 *Available at dealers for* CONVENIENCE
5 *Standardized Quantity Production for* ECONOMY

See SWEET'S Catalog Page B-1413

Andersen FRAMES

***Andersen* FRAMES are manufactured by ANDERSEN LUMBER CO., Bayport, Minn.**

ties, and public and private buildings as will best serve the needs of the people for their homes, their industry, trade and recreation.

The booklet gives information on how a standard city planning enabling act based on a careful analysis of wide experience may be drafted.

C C C

ARCHITECTS TO HONOR L'ENFANT

A nation-wide movement to commemorate Major L'Enfant, the Frenchman known as the "Founder of Washington," has been started by the Committee on Plan of Washington and Environs of the American Institute of Architects, of which Horace W. Peaslee is chairman. It is proposed that the memory of Major Pierre L'Enfant and of William Thornton, a contemporary architect of L'Enfant, be honored annually on Memorial Day through national and state architectural societies.

It is also suggested by the Committee that an open parkway from the Capitol to Washington Monument, which will be completed in time for the 200th anniversary of Washington's birth be dedicated in honor of L'Enfant.

MEDALLION OF MAJOR L'ENFANT
From *Journal of the A. I. A.*

C C C

MOVING PICTURE FILMS AND SLIDES FOR ARCHITECTURAL CLUBS AND SCHOOLS

In February, last year, The Architectural Record announced certain films prepared by manufacturers of building materials which were available on loan to Architectural Clubs, Chapters of The Institute and Schools. The Producers' Council in collaboration with the Structural Service Department of the American Institute of Architects and the Association of Collegiate Schools of Architecture have now prepared a catalogue of Moving Picture Films, Slides, etc., illustrating materials and appliances used for construction.

The form of service which these films and slides aim to institute is the result of widespread interest among architects and educational authorities in visual education. It is believed that a better understanding of building materials, their manufacture, character and application to building uses will result from the presentation of salient facts pertaining to materials used in building.

The list of films, slides and lectures is too extensive to repeat completely here. Included in the list are the following:

Installing tilework in swimming pools
Erection of a steel frame house
Manufacture of cork covering
Metal flashings
Brick and its romance
Manufacture of face brick
Lumbering in the Pacific Northwest
Trip through mills fabricating, cutting and carving of limestone. (A film showing setting of limestone in building is in course of preparation.)
Terra cotta
Quarrying and shaping slate
Portland cement stucco and the
Application of textural finishes

There are over fifty subjects in all, mostly films that vary in length of time for showing from fifteen to forty-five minutes.

The school, chapter or club will be expected to pay cost of transportation one way. No charge is made by the Council for the loan of films, slides, etc.

Further information may be obtained on application to The Producers' Council, 19 West 44th Street, New York City.

C C C

CONTRIBUTORS

Arthur I. Meigs, member of the firm of Mellor & Meigs, has been a practising architect of Philadelphia, which is also his native city, since 1906. Mr. Meigs is author of the book "An American Country House," in which he describes the house of Arthur E. Newbold, Jr., Esq., which was designed by his firm.

Ernest Payson Goodrich is a consulting engineer. His wide experience includes the construction of two harbors in the Philippine Islands; preliminary investigation of Valparaiso harbor and other large work in foreign countries; work as chief consulting engineer for the borough of Manhattan and as associate in many city planning, water-way and railroad projects.

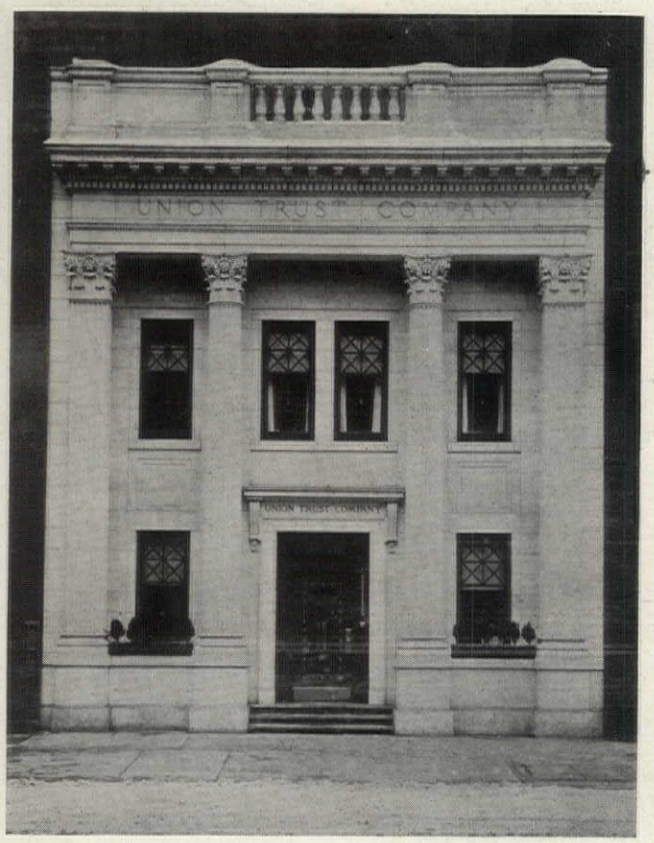
C. Howard Walker is an architect of Boston, well known as a lecturer on architecture, having made several lecture tours of American universities for The American Institute of Architects.

Holabird and Root.—John Augur Holabird and John Wellborn Root are both natives of Illinois. Both studied at one time at the École des Beaux-Arts in Paris and they have been in association since 1915, although the firm name was only recently changed from Holabird & Roche to that of Holabird & Root. A short time ago the firm was selected a member of the Architectural Committee for the Chicago World's Fair, 1933.

PROFESSIONAL ANNOUNCEMENTS

**Advertising Section*

WOODBURY GRANITES



Crandall & Strobell, Architects — Bethel White Granite
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For nearly half a century, prominent architects have specified Woodbury granite for buildings. Granite costs more than substitutes but it is the best exterior material for the permanent type of building.

Woodbury Gray and Bethel White granites are noted for their qualities of beauty and permanence. In this material the architect may be sure of perpetuating the exact expression of the ideals he wishes to carry out.

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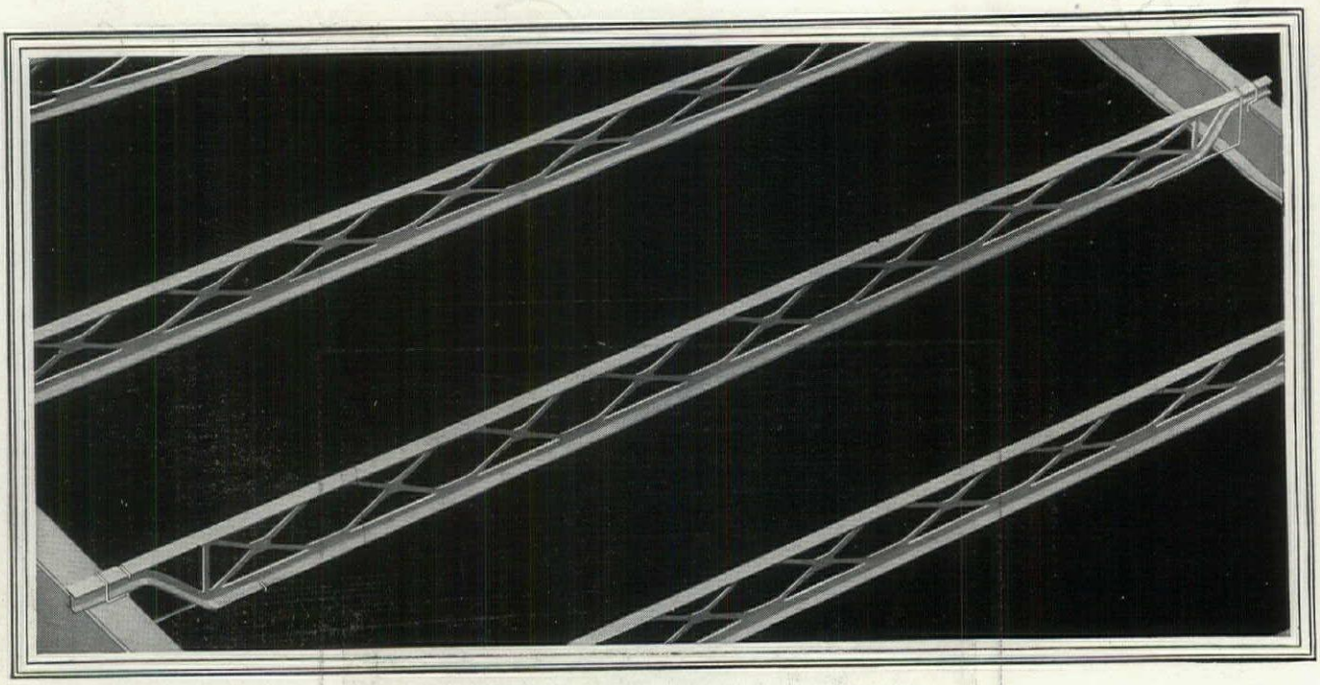

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Here is a new Kalman product for safe and economical fire-resisting floor construction. This advanced type of joist gives you a joist which meets the requirements of modern construction methods, and is built according to accepted principles of sound engineering. A new and different method of manufacturing gives you the chords and web members which are formed from one piece of steel. There isn't a bolt, rivet or weld in tension. You can see the Kalmantruss joist — can read about it — and you can get lots of other valuable information from the new Kalmantruss catalog. Write for it.

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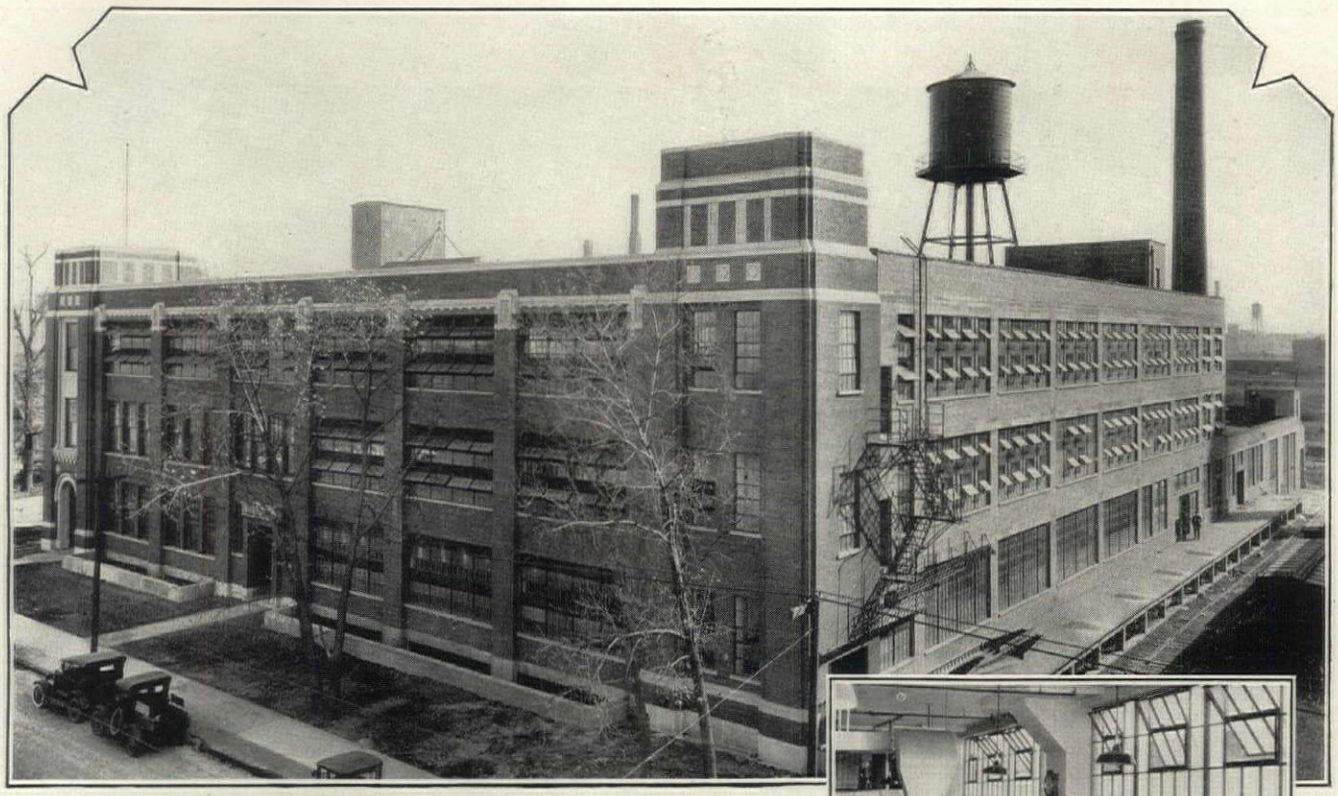
WASHINGTON, D. C.		NEWARK		

Export Office—NEW YORK



The Williamson Candy Company, Chicago, Home of the famous "Oh Henry" Candy. Architects, Chatten and Hammond, Chicago. Builders, Henry Ericson Co., Chicago.

Advanced Features in Screened Windows

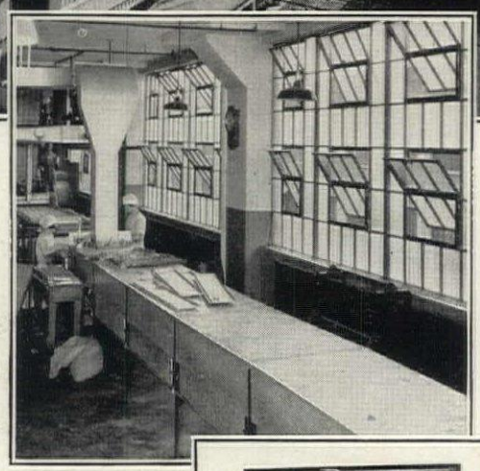
BAYLEY-SPRINGFIELD Pivoted Windows Screened combine the ventilating and screening features which are the outcome of more than fourteen years of development and extensive experience in steel window construction.

In quality of materials and workmanship, they are identical with other Bayley-Springfield Windows, and in addition have a special contact, a vital part of the screen feature which permits full freedom in opening, positioning and closing of the ventilators without having to disturb the fixed position of the screens.

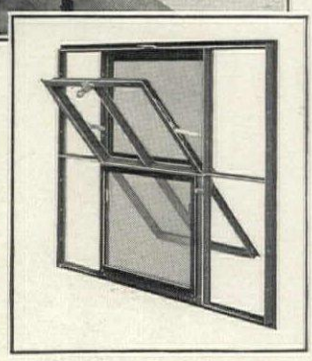
Offsets, extensions and chains have been eliminated, and refinements incorporated which assure a trim, attractive appearance admired by observers and enjoyed by users.

These Bayley-Springfield Pivoted Windows Screened afford quality at minimum initial cost, and permanent efficient service at minimum upkeep expense.

District offices in the large cities and agents throughout the country offer complete sales and installation service. A. I. A. 16e and Sweets. A new folder giving complete details will be mailed on request.



They make possible, compliance with municipal and State Pure Food Laws and at the same time assure adequate ventilation.



Ventilators are built around screens—opening, and closing can be done without disturbing the screens. Screens easily removable for cleaning. As in all Bayley-Springfield Windows, the sections are 1½ inches deep. This assures a window that stands up under hard, continuous use.

THE WILLIAM BAYLEY COMPANY
132 North Street, Springfield, Ohio

Sales Agencies in Principal Cities

New York, 67 W. 44th St.
Boston, 5 Park St.
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Atlanta, 407 Bona Allen Bldg.

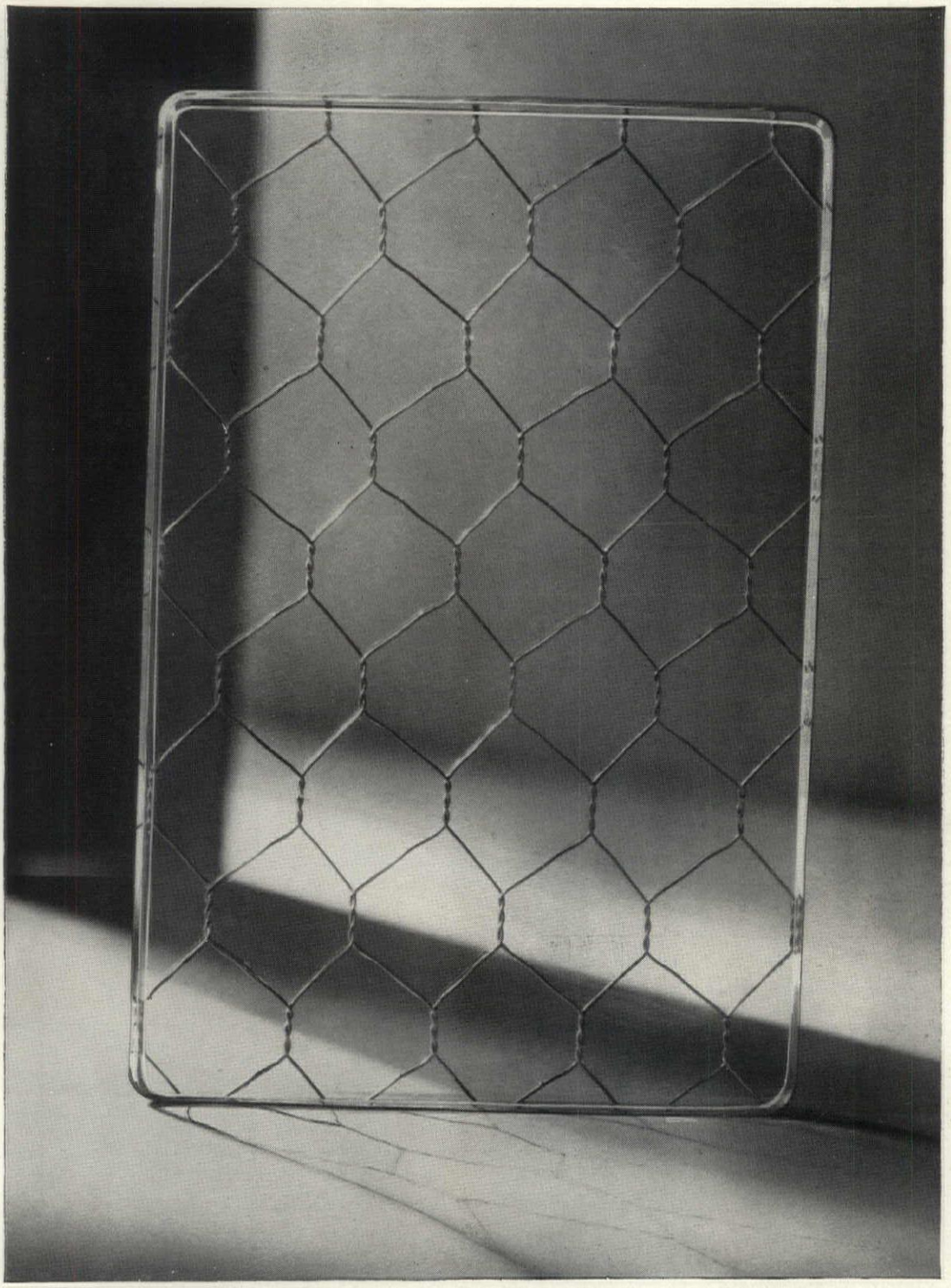
Bayley-Springfield Steel Windows

THE spacious interior of the FIRST NATIONAL BANK OF BOSTON building, with its deeply coffered ceiling 45 feet above the floor, combines the best in classical architecture with the newer architectural expression designed for the needs of modern commerce.

STONE & WEBSTER

INCORPORATED

BUILDERS



Mississippi Polished Wire Glass

The wire glass with the plate glass finish that protects thousands of fine buildings when the neighbors are on fire. Particular architects specify it because its high quality has won recognition everywhere. If you want safety and security you will also specify "Mississippi"—the standard since the standard was created.

MISSISSIPPI WIRE GLASS COMPANY

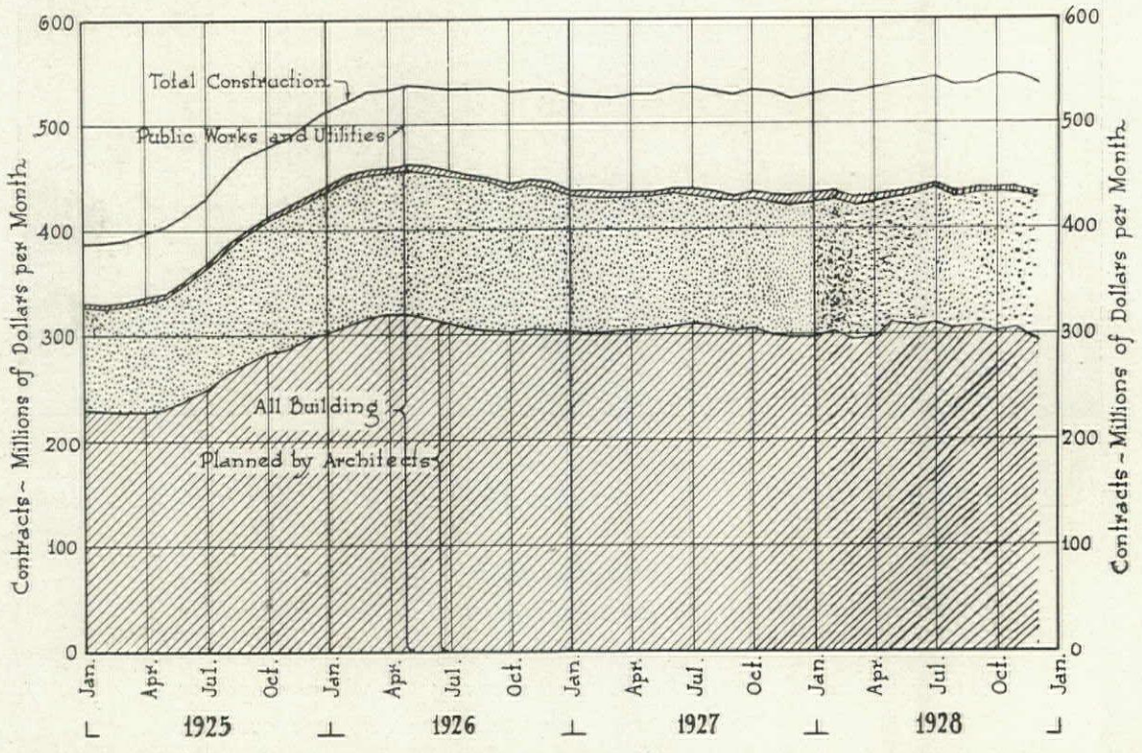
CHICAGO · 220 FIFTH AVENUE · NEW YORK · ST. LOUIS

CONSTRUCTION STATISTICS

From the records of F. W. DODGE CORPORATION, Statistical Division. The figures cover the 37 states east of the Rocky Mountains and represent about 91 per cent. of the country's construction volume.

Year 1928

Classification	TOTAL CONTRACTS Number of Projects	TOTAL CONTRACTS Valuation	WORK PLANNED BY ARCHITECTS Number of Projects	WORK PLANNED BY ARCHITECTS Valuation	Per cent. of Total
Commercial Buildings	23,583	$ 884,609,600	10,331	$ 686,247,400	78%
Educational Buildings	4,759	398,997,300	3,825	383,701,700	96%
Hospitals & Institutions	1,141	164,728,200	827	155,041,800	94%
Industrial Buildings	6,067	635,390,300	2,161	210,878,200	33%
Military & Naval Buildings	178	15,175,300	61	6,638,800	44%
Public Buildings	1,205	61,069,300	751	55,038,100	90%
Religious & Memorial Buildings	2,520	127,947,400	1,852	117,412,600	92%
Residential Buildings	139,133	2,788,317,400	38,109	1,776,466,500	64%
Social & Recreational Projects	2,657	214,120,800	1,718	193,456,500	90%
Total Building	181,243	$5,290,355,600	59,635	$3,584,881,600	68%
Public Works & Utilities	19,012	1,337,930,500	321	54,137,200	4%
Total Construction	200,255	$6,628,286,100	59,956	$3,639,018,800	55%
Total Construction, year 1927	184,604	$6,303,055,100	56,937	$3,674,375,800	58%



General Trend of Building and Engineering Construction

RECENT TRADE PUBLICATIONS

ISSUED BY MANUFACTURERS OF CONSTRUCTION MATERIALS AND EQUIPMENT

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

RISERS AND TREADS, BOLTLESS

A.I.A. File No. 14d. "Ezyfit" Boltless Risers and Treads. Detailed drawings and particulars. Starting riser, typical riser and tread combined, landing or nosing section. "Ezyfit" load test conducted by Columbia University. Advantages. Installations and applications. Standard Steel Sections, Inc., 608 East 133d Street, New York City. 9 x 11½ in. 20 pp. Ill.

LEADWORK

"Hope's Leadwork." Decorative value. Method of production. Wrought lead pipe heads, gutters and pipes, flower boxes, cisterns, etc. Cast lead fret panels. Examples of Old English leadwork. Henry Hope & Sons, 103 Park Avenue, New York City. 7⅛ x 10¾ in. 86 pp. 80 plates.

REFLECTORS

Pocket catalog of Permaflectors. Good lighting methods. Flexible lighting. Reflector information. Approximate coefficients of reflection. Spacing, size, uses, dimensions, prices, etc. of Permaflector types. Accessories and fixtures. Flood-lighting. Intensity of illumination. Recreational areas. Utilitarian and protective purposes. Special applications. Foot Candles table for buildings. Pittsburgh Reflector Co., 304 Ross Street, Pittsburgh, Pa. 4 x 8⅝ in. 79 pp. Ill.

TUBE, STEEL

"A Clipping, A Letter, and a Fact or Two." Advantages of "Spellerized" steel and Sherardizing process. Sheraduct conduit. Economy conduit. Rust. Testimonials. National Electric Products Corporation, National Metal Molding Division, Pittsburgh, Pa. 8½ x 11 in. 16 pp. Ill.

SOUND CONTROL

"Macoustic Sound Control." A. I. A. File No. 39 B. Explanation of Macoustic. Ease of application. Decorative qualities. Characteristic installations. Field of use. Specification data. Mixing. Surface textures. Cost. Macoustic Engineering Co., Inc., Union Trust Building, Cleveland, Ohio. 8½ x 11 in. 16 pp. Ill.

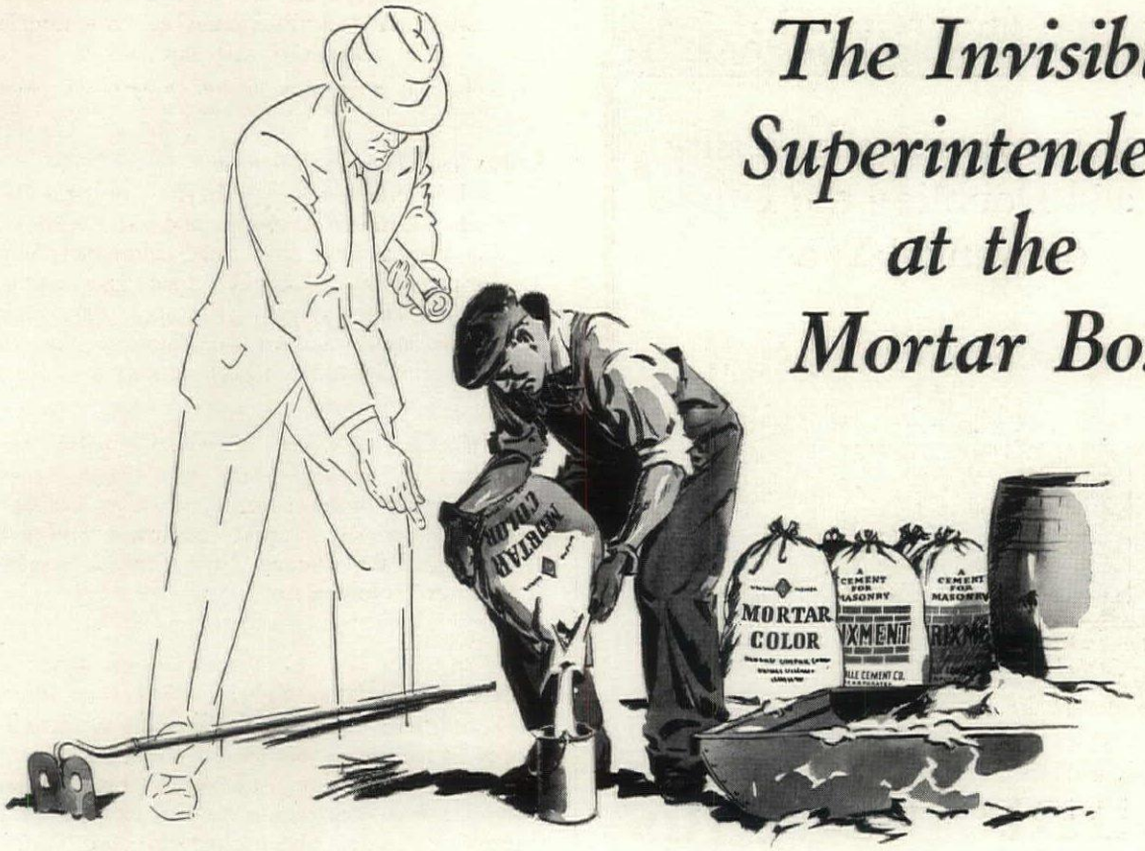
WARDROBES, CABINETS, ETC.

"Evans Vanishing Door." A.I.A. File No. 28 B 33. Catalog K. Standardization of doors, paneling, vent screens, hinges, etc. Blackboards and hardware. Directions for installation. Detail drawings. Types of wardrobes, locker and lavatory, cabinets, telephone booths, etc. Hollow sanitary door and panel work. Racks. Evans ring joints. Construction and advantages. W. L. Evans, Washington, Ind. 8¼ x 10⅞ in. 48 pp. Ill.

GAS MACHINES, WATER

Bulletin No. 43. "Carbureted Water Gas." Complete information on Backrun gas process. Advantages. Detailed drawings. Complete table of gas analyses. Typical installations. Specifications. Semet-Solvay Engineering Corp., 40 Rector Street, New York. 8½ x 11 in. 28 pp. Ill.

(Continued on page 160)



The Invisible Superintendent at the Mortar Box

Prevents Fading of Colors

THE permanence of the mortar color in the joint depends not only upon the pigment selected but upon the mortar with which it is mixed. Too frequently the desired effect of harmony or contrast is entirely lost by the use of a mortar that fades the color and causes a washed-out appearance of the joint.

When BRIXMENT *mortar is used this condition is eliminated.* For BRIXMENT contains none of the strong acids or alkalies so frequently the cause of fading in other mortars.

The small amount of mineral oil combined with BRIXMENT when manufactured is a further protection to the color because it prevents moisture from penetrating the mortar and leaching out the pigments. *Architect's handbook on request.* Louisville Cement Company, *Incorporated,* Louisville, Kentucky.

District Sales Offices: 1610 Builders Building, *Chicago;* 301 Rose Building, *Cleveland;* 602 Murphy Building, *Detroit;* 101 Park Ave., *New York.*

BRIXMENT

for Mortar  *and Stucco*

RECENT TRADE PUBLICATIONS—(Continued)

WINDOWS, STEEL

"Truscon Double-Hung Steel Windows." A.I.A. File No. 16e. Catalogue 138. Construction features. Specifications. Construction details and hardware. Various styles. Detail drawings. Truscon Steel Company, Youngstown, Ohio. 8½ x 11 in. 32 pp. Ill.

BEAM SECTIONS

"Carnegie Beam Sections." Additions and modifications of advantage. Detail drawings and section index. Elements of sections decimal, dimensions of sections fractional, maximum bending moments and web resistance, allowable uniform loads, etc. Tables. Carnegie Steel Company, Pittsburgh, Pa. 5 x 7⅝ in. 46 pp. Ill.

SASH PULLEY, NOISELESS

A.I.A. File No. 27a1. Exclusive and distinctive features. Guarantee. Mechanical specifications. Andersen Foundry Co., sash pulley division of Andersen Lumber Co., Bayport, Minn. 8½ x 11 in. 4 pp. folder. Ill.

AUTOMOBILE TURNTABLES

"Automobile Turntables." Advantages, including speed and ease of operation. Sizes with or without washrack extension. Details of pit foundation for regular and washrack extension turntables. Detail drawing. The Canton Foundry and Machine Co., Canton, Ohio. 8⅝ x 11¼ in. 16 pp. Ill.

INSERTS AND ACCESSORIES

A.I.A. 4H. Use as metal lath hanger and veneer anchor. Advantages. Specifications for concrete, plastering, stucco, veneer, etc. Detail drawings. "Tie-To" Insert Co., 874 Layton Blvd., Milwaukee, Wis. 8¾ x 11 in. 4 pp. folder. Ill.

METAL LATH, ETC.

"Steelcrete Time-Tested Products." Manufacturing process. Specifications for mesh reinforcement. Tables and explanation. Steelcrete armor mat vaults, diamond lath, arch lath, industrial mesh, accessories, binder mesh, etc. The Consolidated Expanded Metal Companies, Wheeling, W. Va. 8½ x 11 in. 16 pp. Ill.

TABLETS, BRONZE

"Newman Bronze Tablets." A.I.A. File No. 15-A 1. Tables of prices, letters and borders. Stock type styles. Tablets, markers, frames, bulletin boards, etc. Cast brass and bronze characters. The Newman Manufacturing Co., Cleneay and N. & W. Tracks, Cincinnati, Ohio. 8 x 10¾ in. 64 pp. Ill.

ENTRANCE INCLOSURES, ELEVATOR

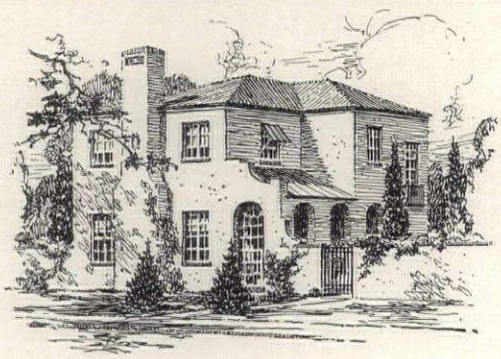
Types of elevator inclosures including various leafs and speeds. Standard door designs and types. Casings, scribes and pilasters. Hardware. Construction details. Glass. Types of finishes; specifications and classification. Installation. Specification of elevator entrance inclosures. Dahlstrom Metallic Door Co., Jamestown, New York. 8⅜ x 10⅞ in. 86 pp. Ill.

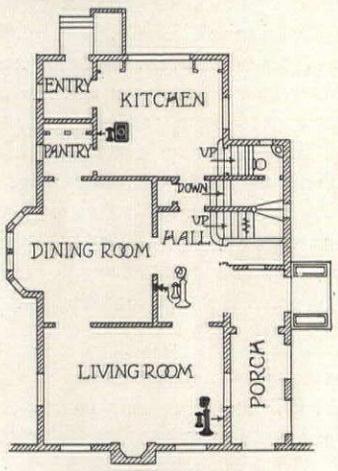
FOUNTAINS, BRONZE

A.I.A. File No. 29H1. Reproductions of ornamental bronze fountains. Stock designs. Oregon Brass Works, 2nd and Everett Streets, Portland, Ore. 8⅜ x 11¼ in. 16 pp.

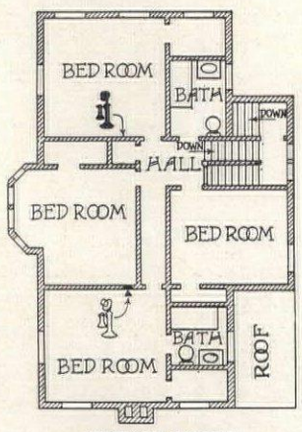
(Continued on page 162)

Telephone Arrangements are now Planned in Advance . . . and *Built into* the House





FIRST FLOOR



SECOND FLOOR

Outlined telephones indicate additional outlets

People everywhere are welcoming the new idea . . . telephone service available throughout the house . . . wherever it is needed

TELEPHONE service *throughout the house.*

This is part of the new idea of telephone convenience and comfort which is meeting instant favor among home-owners everywhere.

Telephones permanently installed in those rooms frequently used . . . living-rooms, kitchen, bedchambers, hallways, etc.

Telephone service *available* in other parts of the house—when needed!

And it can be accomplished so easily. Especially in new or remodeled homes facilities for wires and other apparatus can be *built in*, adding appreciably to appearance and permanence.

Architects are finding it desirable, in designing residences and buildings, to plan in advance for telephone convenience. They arrange for telephone outlets during construction, providing not only for immediate service requirements, but for future expansion and rearrangements as well.

Conduits are run, within the walls, to all points where present or ultimate service may be desired. Thus, rearrangement of the service, or additions to it, may be made without the necessity of exposed wiring.

Many people nowadays want two or more telephone lines—one, or perhaps two, for the family and another for the servants. Household business can then be conducted without interfering with incoming and outgoing calls. Additional equipment is available for all sorts of requirements.

To help architects and others in preparing for proper telephone facilities, the Bell System has issued two booklets on planning for telephones in residences and buildings. If you have not yet received your copies, the Business Office of the local Bell company will be glad to see that you are supplied at once.

AMERICAN TELEPHONE & TELEGRAPH CO. BELL SYSTEM AND ASSOCIATED COMPANIES

RECENT TRADE PUBLICATIONS—(Continued)

WASHFOUNTAINS

"Modern Washroom Requirements." Catalog No. 1028. Advantages of Bradley washfountains. Types. Typical installations. Soap fixtures and accessories. Typical layouts for modern washrooms. Detail drawings. Weights and shipping data. Bradley Washfountain Co., 2203 Michigan Street, Milwaukee, Wis. 8½ x 11 in 28 pp. Ill.

WALL FINISHES, HARDENERS, ETC.

A.I.A. File Nos. 25c2, 21a2, 21d1. Series of bulletins on colored Portland cement flooring, stucco, interior wall finishes, paint, etc. Advantages, directions for use and application, specifications, etc. Made-Rite Products Company, 5223-35 McKissock Avenue, Saint Louis, Mo. 2, 6, and 8 pp. folders. Ill.

LOCKERS, STEEL

"The Improved Durabilt Steel Locker." A.I.A. File No. 28A-1. Folder No. 6000 A. Advantages including neatness, sturdiness, moderate cost. 23 prominent construction features. Description and size of various types. Basket racks. Specifications. Types of perforations. Table of sizes. Details of recessed type. Miscellaneous equipment. Durabilt Steel Locker Co., 600 Arnold Avenue, Aurora, Ill. 8½ x 11 in. 12 pp. folder. Ill.

INSULATION

"Maftex Manual." A.I.A. File No. 37a1. Description and tests of Maftex. General application. Use of Maftex for sheathing on walls and sloping roofs, for interior decoration, for sound deadening, as insulating plaster base. Direction for application. Detail drawings. General notes on plastering. Roof insulating board on various types of roofs. Condensation chart. Directions and specifications for application. Data and construction. MacAndrews & Forbes Company, 3d and Jefferson Streets, Camden, N. J. 8½ x 11 in. 64 pp. Ill.

DUMB WAITERS AND ELEVATORS

A.I.A. File No 33. Catalog p. Dumb waiter outfits. Table of standard sizes. Directions for ordering or applying for estimates. Cars. Typical layout. Automatic, band, geared automatic and band brakes, etc. Iceless refrigerators. Book, fuel and log, and trunk lifts. Types of elevators including freight, wall climbers, gravity drops, invalid, hospital, automobile, sidewalk, etc. Grip hoists. Ash cranes. Sedgwick Machine Works, 150 West 15th Street, New York. 8½ x 11 in. 32 pp. Ill.

LACQUER

"Modern Interior Finishing with Lacquer." A.I.A. File No. 25 B 14. Cost of application. Time of occupancy. Maintenance and durability cost. Beauty of finish. Plaster grades. Specifications and description for interior finishing. Zeller Lacquer Manufacturing Co., Inc., 20 East 49th Street, New York City. 8 x 10 in. 8 pp. folder. Ill.

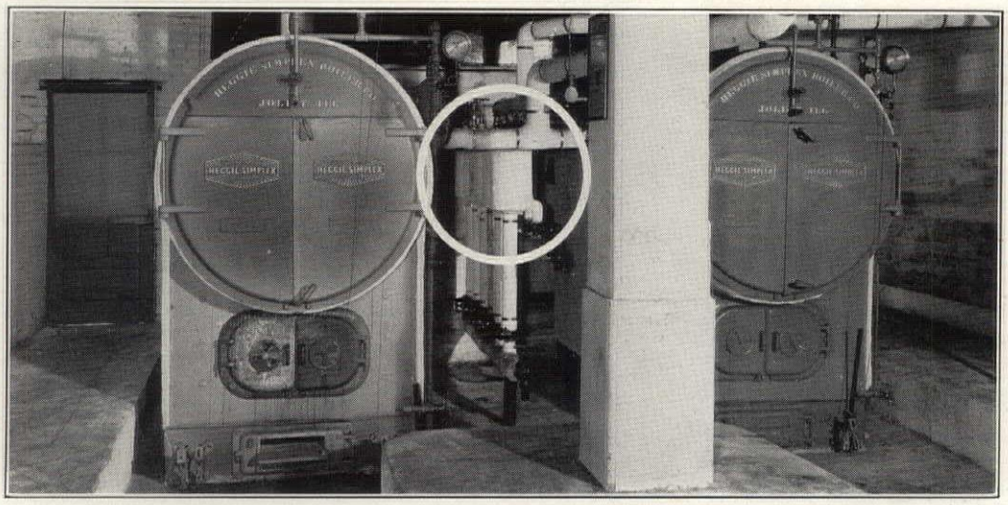
CHIMNEY POTS

A.I.A. File No. 5H3. Colors. Detail drawings. Actual color illustrations. Detail drawings of wood burning fireplace. Atlantic Terra Cotta Company, 19 West 44th Street, New York City. 8½ x 11in. 16 pp. Ill.

WASHINGTON

Selects

EXCELSO INDIRECT WATER HEATERS



CHATHAM COURT APARTMENTS, COLUMBIA ROAD, N. W.

96 Apartments furnished a constant supply of correctly heated water by battery of six No. 28 Excelso Indirect Water Heaters connected to 2,000 gal. storage tank

A number of the Capitol's residential buildings—hotels, apartments and private homes—have been equipped with Excelso Indirect Water Heaters, as a result of demonstrated efficiency and economy in over 600,000 installations thruout the U. S. and Canada.

A. I. A.
File No. 29-d

Our catalog diagraming fourteen typical installations should be in your file. If not, have your secretary write for copy.

Excelso Products Corporation
DIVISION OF AMERICAN RADIATOR COMPANY
67 Clyde Avenue **Buffalo, N. Y.**

Sold and Installed by All Plumbers and Steamfitters

SIZES TO HEAT WATER FOR ONE FAMILY OR ONE HUNDRED FAMILIES

CLASSIFIED DIRECTORY OF ADVERTISERS

Alphabetical Index to Advertisers, Page 182

After reviewing advertisements in this issue—consult Sweet's Architectural Catalogue 23rd edition for catalogue and specification information on the products of the most of the manufacturers.

Acid Proof Chemical Stoneware
Knight, Maurice A.

Arc Welding
Lincoln Electric Co.

Arch Roofs
Lamella Roof Syndicate, Inc.

Architectural Faience
Associated Tile Mfrs.

Architectural Supplies
American Lead Pencil Company
Higgins, Chas. M., & Co.

Artstone
Rackle, George, & Sons Co.

Asbestos
Johns-Manville Corporation

Asbestos Lumber
Asbestos Shingle Slate & Sheathing Co.

Bag Trucks
Bates Valve Bag Corp.

Basement, Windows—Steel
Detroit Steel Products Co.
Kalman Steel Company
Truscon Steel Company

Bathroom Accessories
Eustis, J. P., Mfg. Company
Hess Warming & Ventilating Co.
Premier Standardized Woodwork

Beads—Corner Metal
Concrete Engineering Co.
Genfire Steel Company
Kalman Steel Company
Truscon Steel Company
Wheeling Corrugating Co.

Beams, Angles, Channels, Etc.
Carnegie Steel Company

Beds—Concealed
Concealed Bed Corp.

Blackboards
Weber Costello Co.

Blinds—Venetian
See Venetian Blinds

Boiler and Pipe Covering
Johns-Manville Corporation
Ric-wiL Company

Boilers
American Gas Products Co.
American Radiator Co.
Dahlquist Mfg. Co.
Pierce, Butler & Pierce Mfg. Co.
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The Grand Rapids Trust Company

Smith, Hinchman & Grylls, Architects

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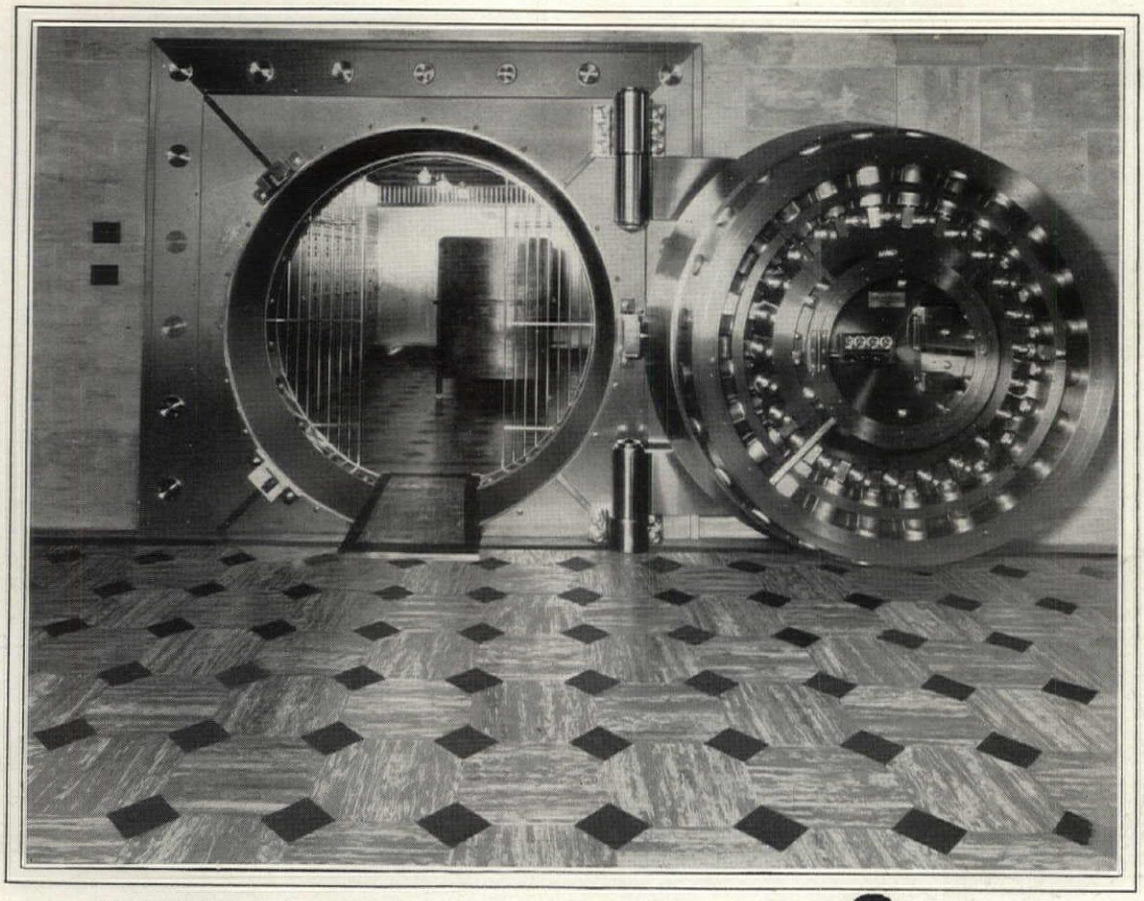

This beautiful Linotile floor was installed in the Bank of California, by the Dinwiddie Construction Company. Architects, Bliss and Fairweather.

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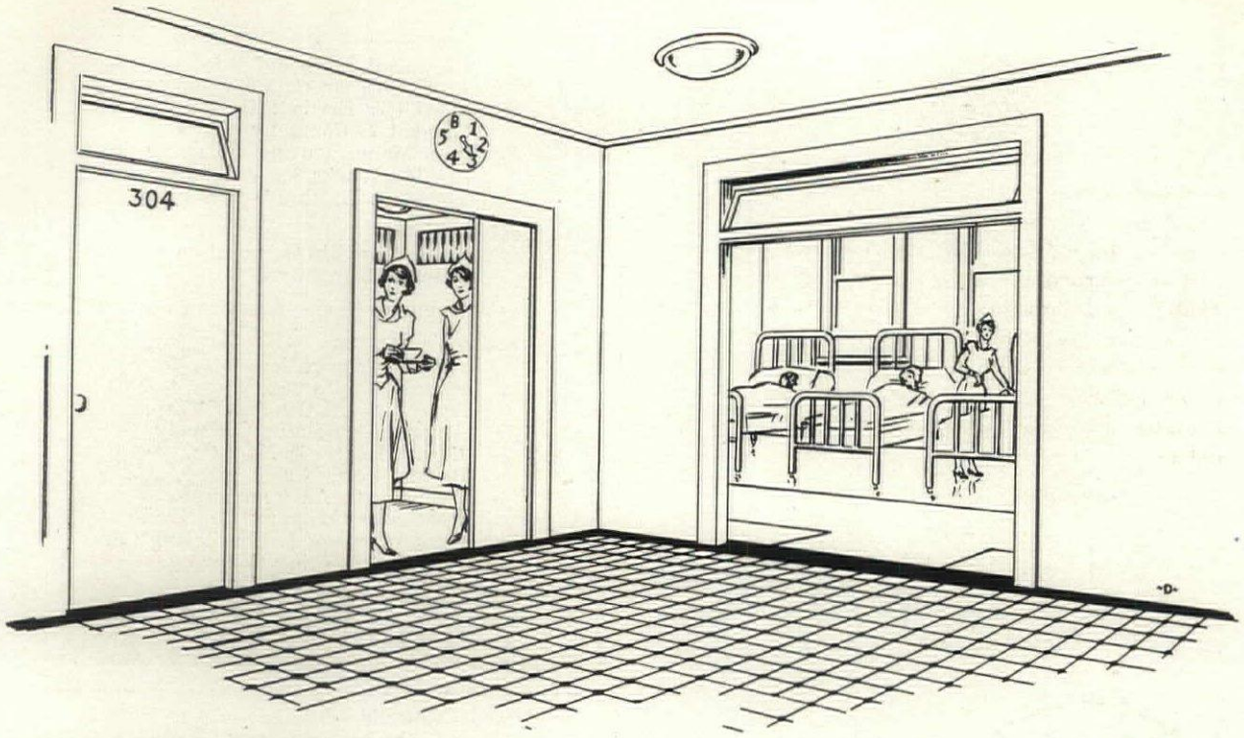

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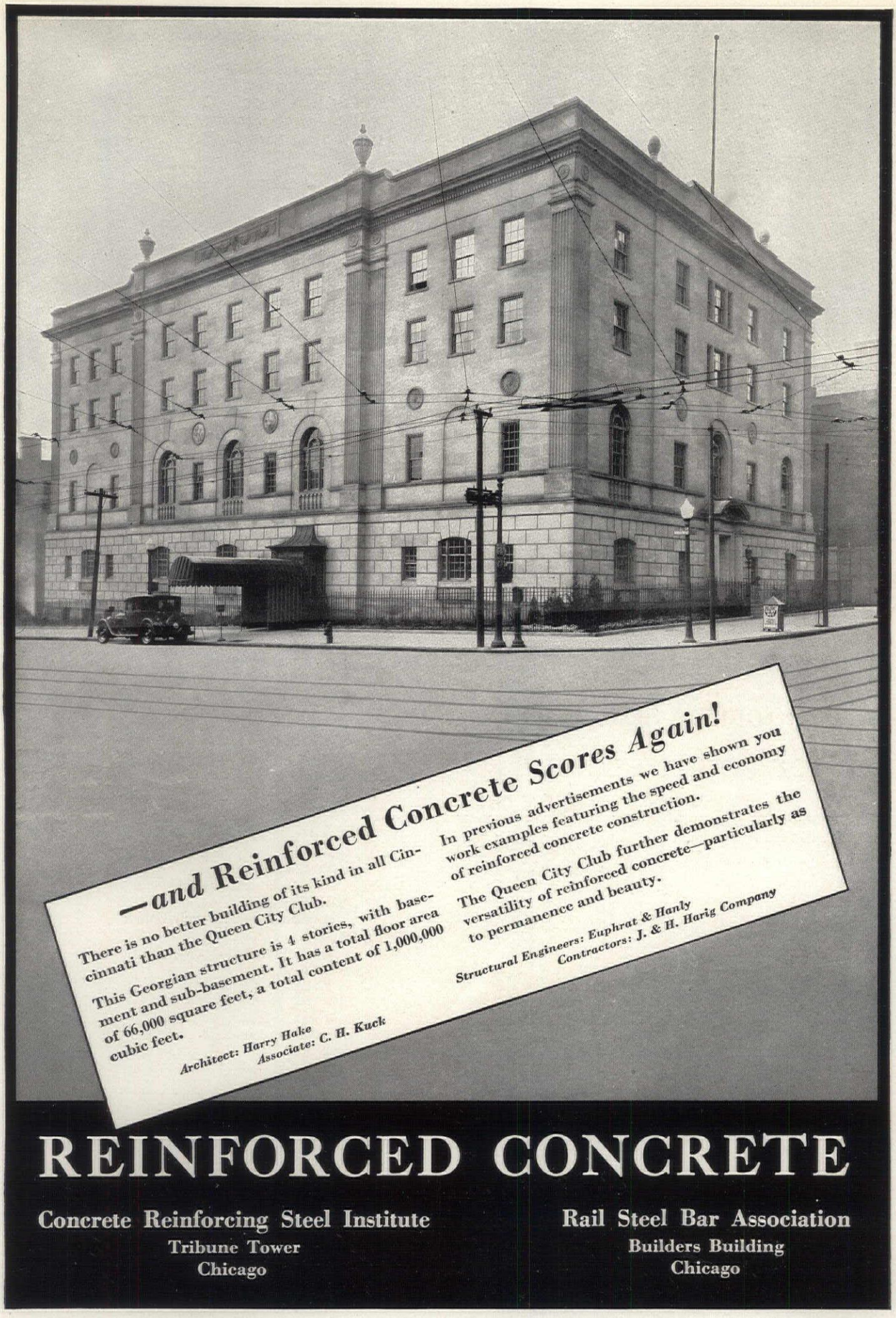

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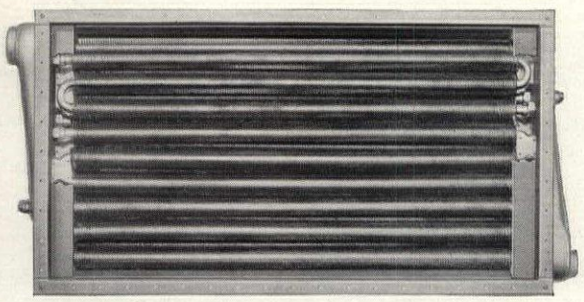

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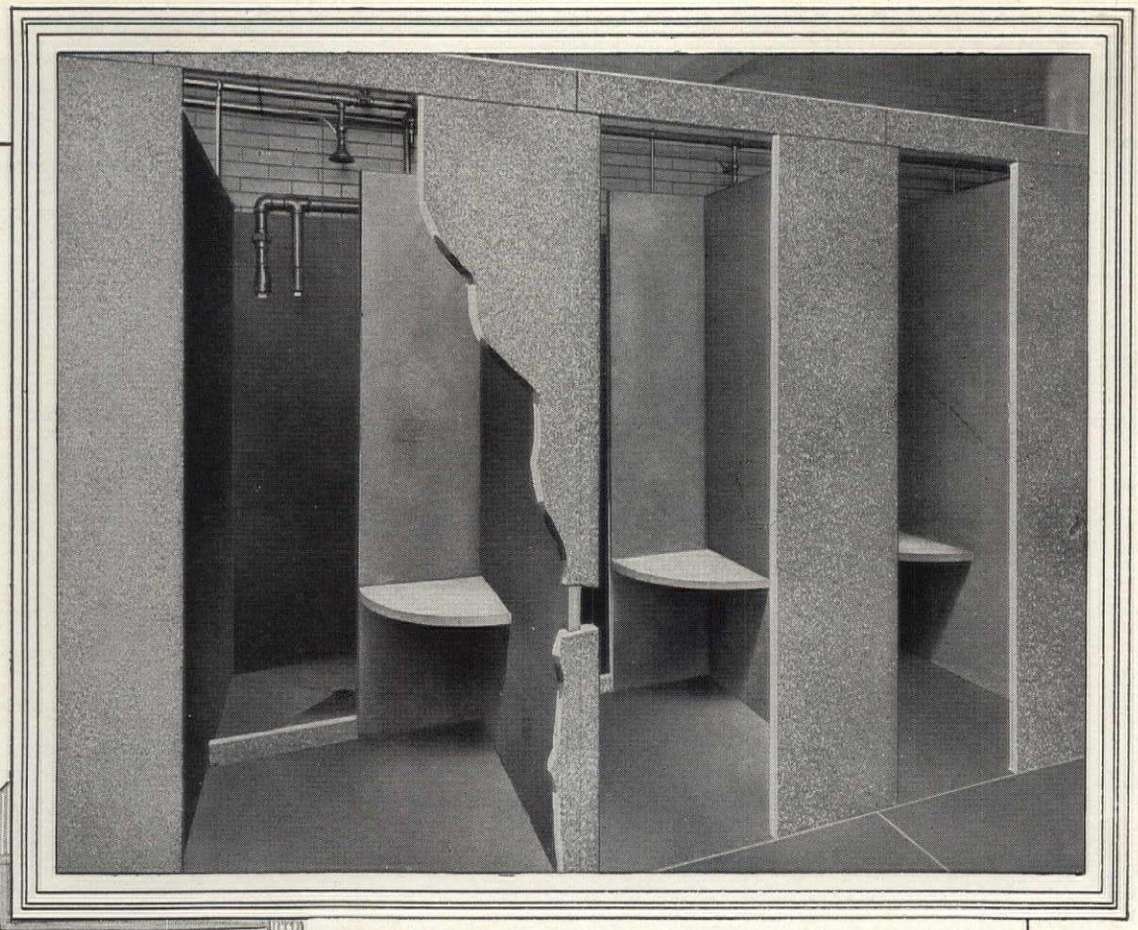

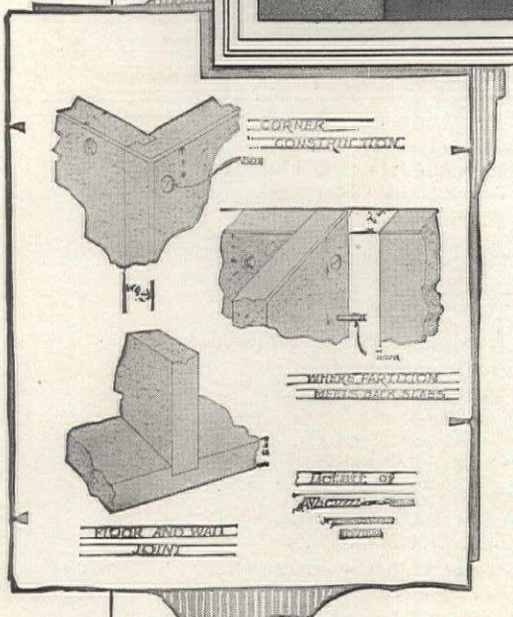

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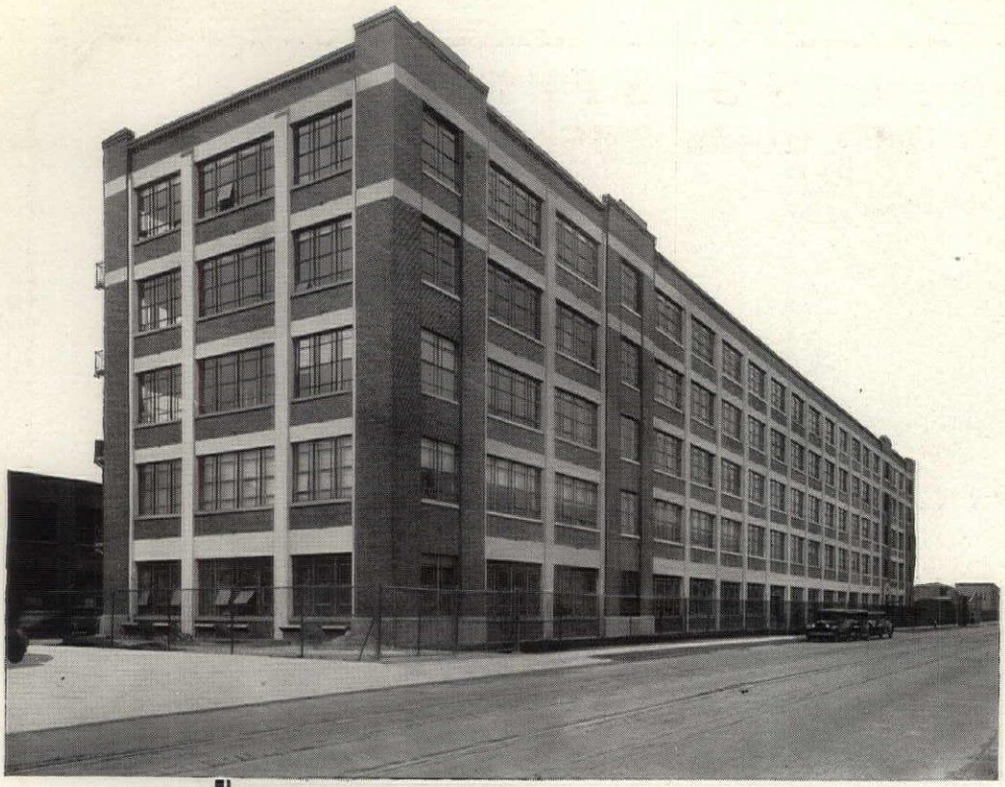

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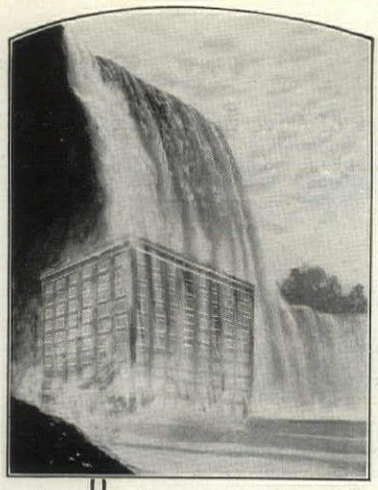

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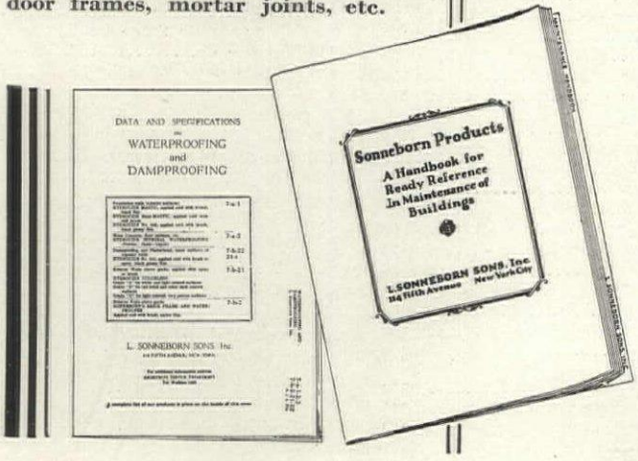

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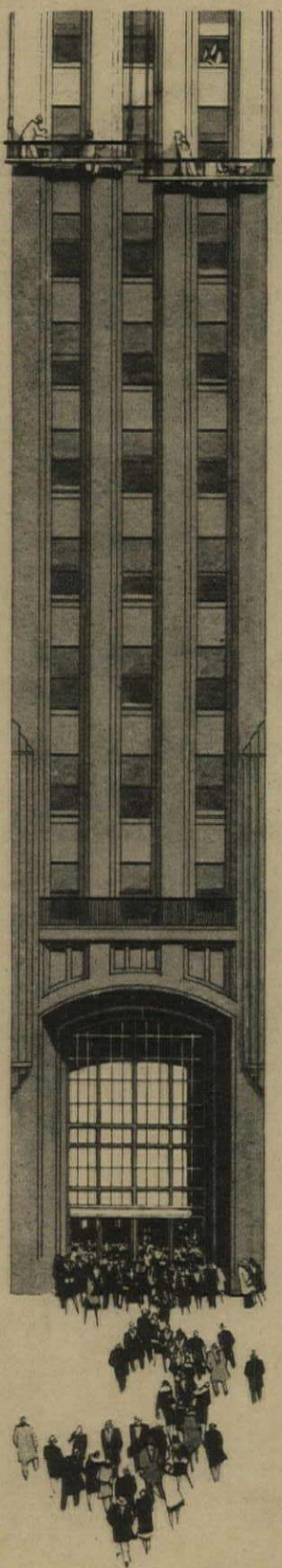

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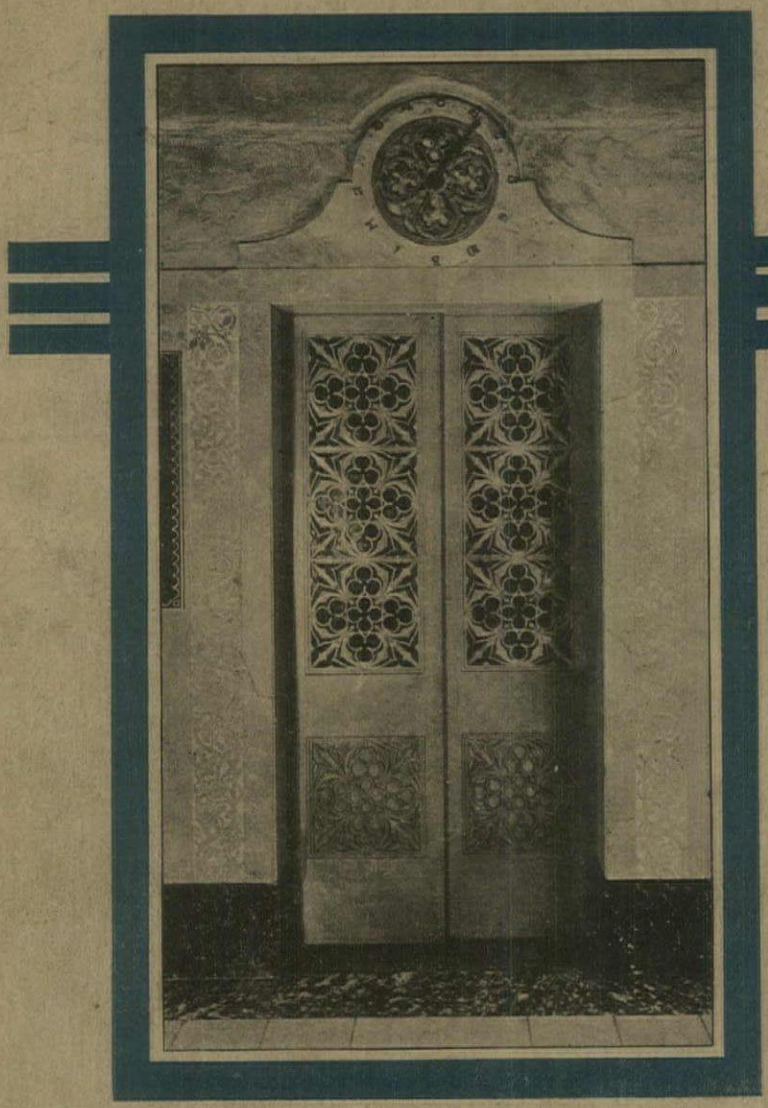

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