

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

CHARLES SCRIBNER'S SONS

ONE DOLLAR PER COPY

Portfolio: Radiator Enclosures

Concealed Heating of the Convecting Types

BRADLEY DELBANTY

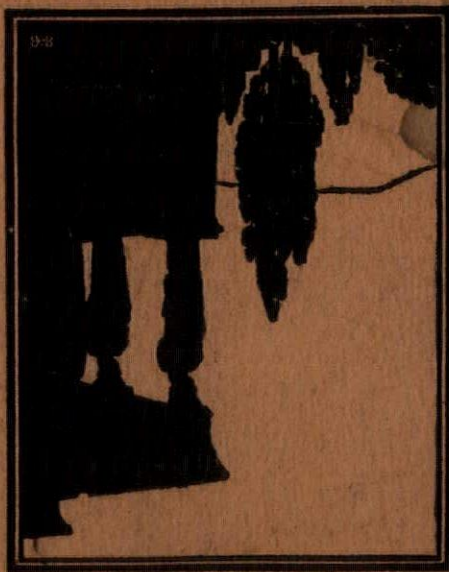
OFFICE OF ROSWELL E. BARRATT JOHN M. HOWELLS & RAYMOND M. HOOD

THE WORK OF

A City House and Two Country Houses

FROHMAN, ROBB & LITTLE

College of Preachers, Washington Cathedral

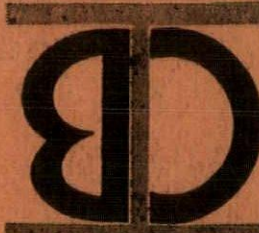


January 1932

ARCHITECTURE



# SECTIONS



TRAINS will soon be thundering into the new Pennsylvania Railroad Terminal now under construction at Philadelphia. The classic beauty of this magnificent structure will be the first of many pleasant changes to greet visitors to Pennsylvania's largest city. Other new construction to claim attention include Strawbridge & Clothier's massive new Department Store, the imposing Lincoln-Liberty Building, the new Market Street National Bank and the distinctly modern Philadelphia Saving Fund Society Building. The fact that CB Sections form the structural framework of all of these buildings indicates their remarkable adaptability to the present-day needs of architects and builders. CB Sections merit the investigation of anyone interested in modern steel construction. Graham, Anderson, Probst & White are the architects for the Pennsylvania Railroad Station. United Engineers & Constructors, Inc., the builders . . . and American Bridge Company, fabricators.

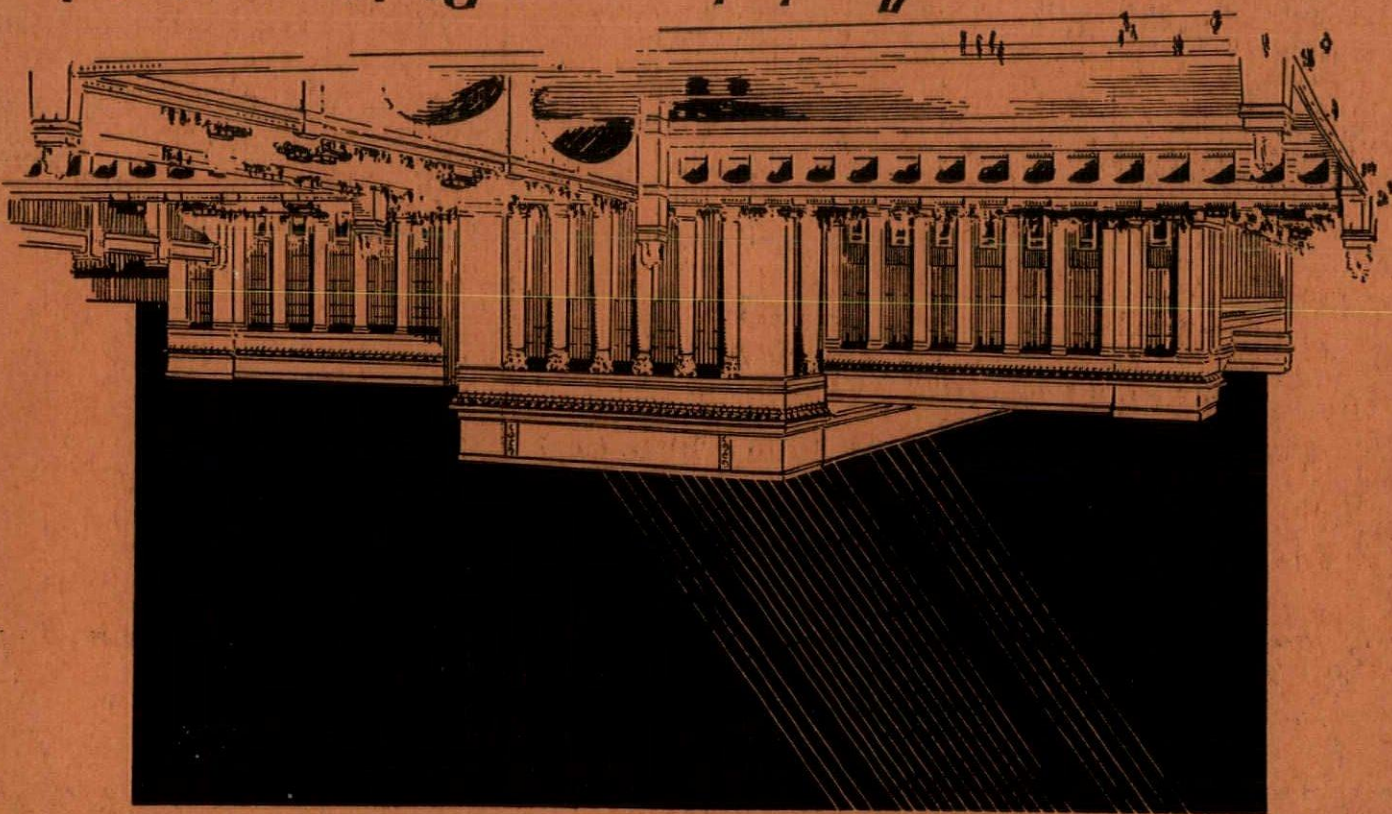
166

Subsidiary of  
 UNITED STATES  
 STEEL  
 CORPORATION



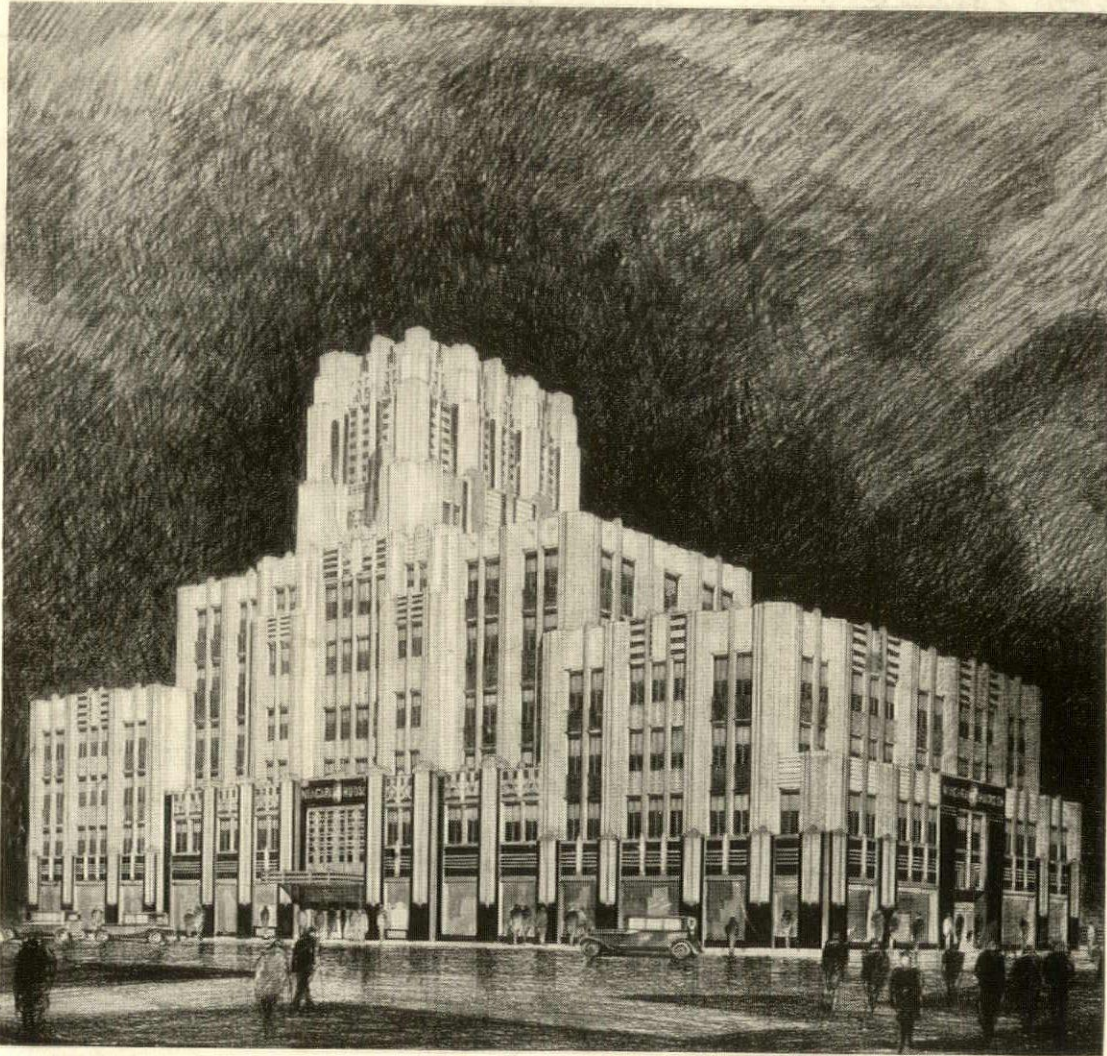
CARNEGIE  
 STEEL  
 COMPANY  
 PITTSBURGH, PA.

## Arriving at Philadelphia





Westinghouse Elevators are the logical highways of modern architecture



SYRACUSE LIGHTING COMPANY OFFICE BUILDING, SYRACUSE, NEW YORK  
 Melvin L. King, Architect Bley & Lyman, Consulting Architects  
J. D. Taylor Construction Company, Contractors

**for their own building—Electrical Engineers  
 chose Westinghouse Elevators**

When electrical engineers meet elevator electrical engineers they delve deeply into electrical as well as mechanical elevator construction. Because they so readily understand the importance of the modern developments in

vertical transportation made by Westinghouse they are quick to indicate their preference, and Westinghouse elevators become the electrically vital part of their new building—home of the Syracuse Lighting Company.

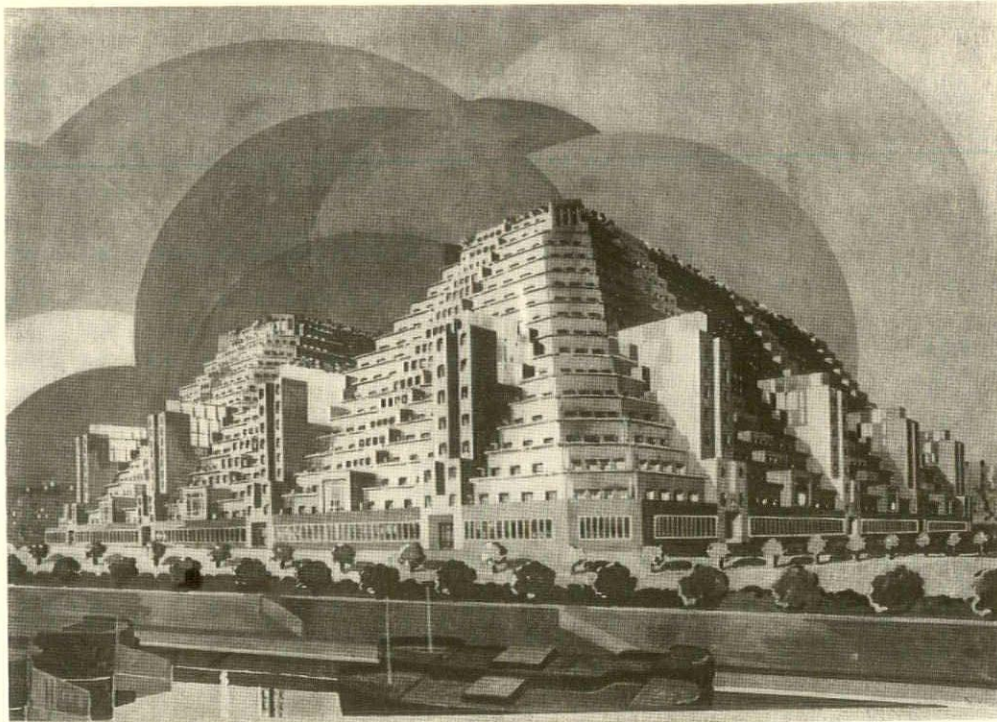
**Westinghouse Electric Elevator Company**



Of course, Westinghouse offers complete co-operation in rehabilitation plans for elevators in older buildings



# THE NEW STYLE



A conception of what Paris might become, by the architect Sauvage

## ARCHITECTURE AND DECORATIVE DESIGN

*With an introduction adapted from the French of*

**MAURICE CASTEELS**

HERE is a book that presents a survey of our first faltering steps into a new style, both in Europe and in America. The title of the book in its original French—*L'Art Moderne Primitif*—is not an easy one to render into concise English. This is unfortunate, for the French title conveys the thesis of the book in a nutshell. A new style is being born; its eyes are but partly open as it gropes its way toward maturity. It is an art in its primitive stages still, but already it has moved from uncertain experiment to disciplined, assertive production.

The illustrations have been chosen with considerable care to form a synthesis of the first phase of twentieth-century architecture and decorative design.

62 pages and 144  
plates, 8 $\frac{3}{4}$  x 11 inches

Price, \$8.50

CHARLES SCRIBNER'S SONS NEW YORK

ARCHITECTURE, published by CHARLES SCRIBNER'S SONS, New York, N. Y., under the Act of March 3, 1909.

SCRIBNER'S

NEW YORK

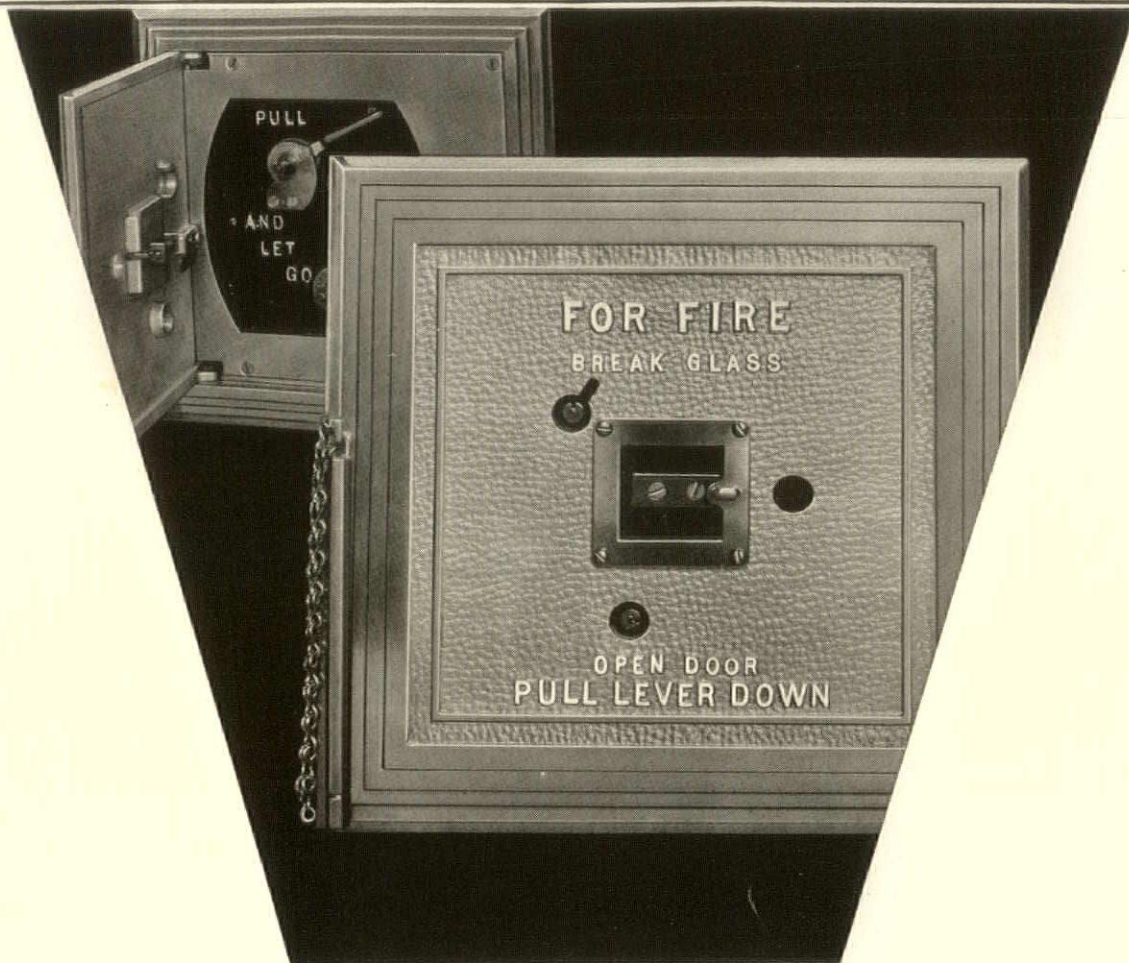
NEW YORK

JANUARY, 1932

Volume LXV, No. 1. Published monthly at the Post-Office at New York, N. Y., under Act of March 3, 1909. Price, \$5; to all others, \$10.



**A. D. T. ... A SYMBOL OF SECURITY SINCE 1873**



▲ A.D.T. has a special department for cooperating with the architectural profession on matters pertaining to building protection. Not only can we bring reams of information to your drafting and specification men but we can manufacture apparatus to conform in design to the general scheme.

▲ We were privileged to manufacture special fire alarm boxes (illustrated) for

**A USEFUL SERVICE FOR ARCHITECTS**

the Empire State Building, which had been designed by the architects, Shreve, Lamb and Harmon.

▲ Feel free to consult with us during the development of plans and specifications covering fire, sprinkler and watchman supervisory and alarm systems. No obligation, of course.

▲ Our catalog is in Sweet's and special bulletins are obtainable on request.

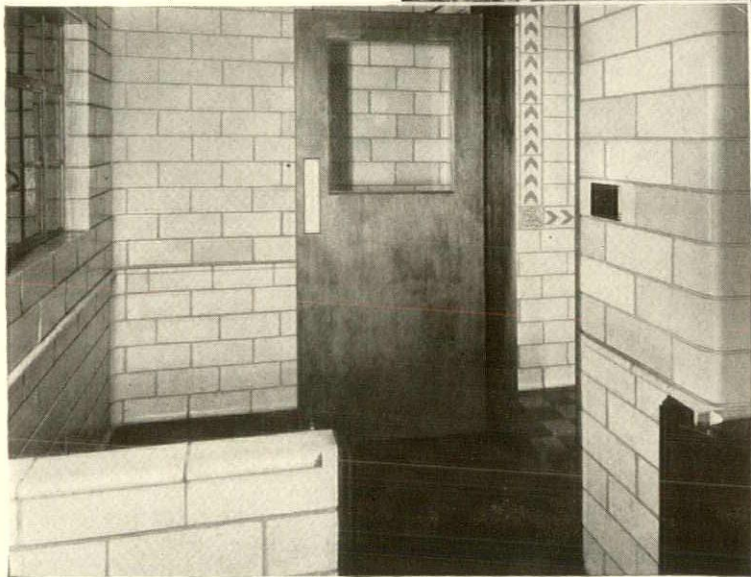
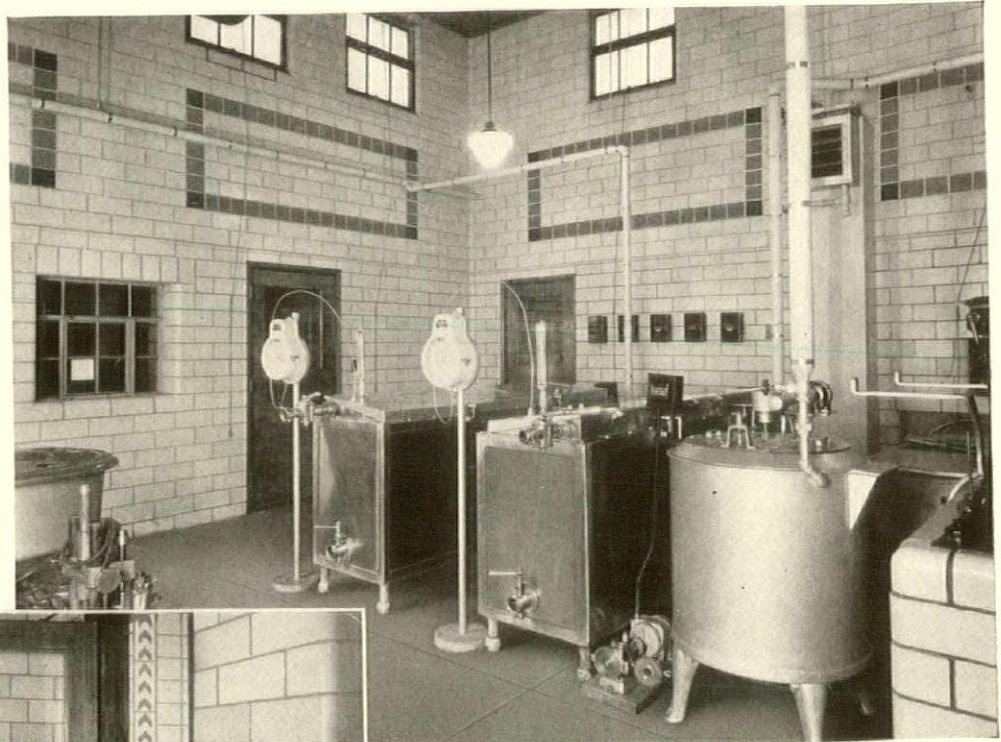
CONTROLLED COMPANIES OF  
**AMERICAN DISTRICT TELEGRAPH COMPANY**  
 155 SIXTH AVENUE - NEW YORK N.Y.





These pictures show how AR-KE-TEX Tile was used in the L. H. Weaver Creamery, Indianapolis. A corner of the Pasteurizing Room is shown at the right. The walls are of Cream Buff Stippled AR-KE-TEX Tile with panels in light and dark Insul-Glaz.

Below is a corner of the reception room. A section of the vestibule is seen through the open door. Colored insets of AR-KE-TEX Tile were used effectively in the vestibule. The building was designed by Lowell Houston, architect.



## The Sanitary Walls of This Milk Plant Are Constructed of AR-KE-TEX Tile

THE WEAVER CREAMERY in Indianapolis, is one of many modern milk handling plants in which walls of impervious AR-KE-TEX Tile make it easy to maintain the highest standard of cleanliness. These walls are sanitary and beautiful as well and there need never be any expenditure for painting or refinishing for the life of the building. AR-KE-TEX Tile is a structural wall material, strong enough for load bearing walls in a building for any type of occupancy, and with a beautiful glaze in a variety of colors to produce any desired architectural effect.

AR-KE-TEX Tile is ideal for milk handling plants because it is impervious to moisture, resists all ordinary acids and alkalis used in industrial processes and is easy to keep clean.

In the Weaver Creamery, not only all the interior walls, but the exterior walls of all but a small section, are of AR-KE-TEX Tile.

AR-KE-TEX Tile representatives in the larger cities will gladly show samples, or if there is no representative near, ask us to send samples and catalog direct.

THE AR-KE-TEX  
CORPORATION



National Distributors for Clay Products Co., Inc. of Indiana

17 N. Meridian Street  
INDIANAPOLIS, IND.

E S T A

T U R E D T I L E



**"ASK AN ARCHITECT"**

*A Symbol  
of Faith in the  
Architects of  
America . . .*

EVERY national advertisement featuring Tuttle and Bailey radiator enclosures bears the above slogan "Ask an Architect." It signifies our belief that the architects of America appreciate our efforts to beautify, to promote cleanliness and encourage scientific heating in the home through the use of artistic Grille Work or Custom-Made Radiator Cabinets. It is our constant pledge to architects that we believe in fullest co-operation with them in all matters pertaining to design, construction and installation of Tuttle and Bailey products.



**TUTTLE and BAILEY  
MANUFACTURING  
COMPANY**

*Established 1846*

155 EAST 44th ST.  
NEW YORK

Phone MUrray Hill 2-8600

70 BERRY ST.  
BROOKLYN

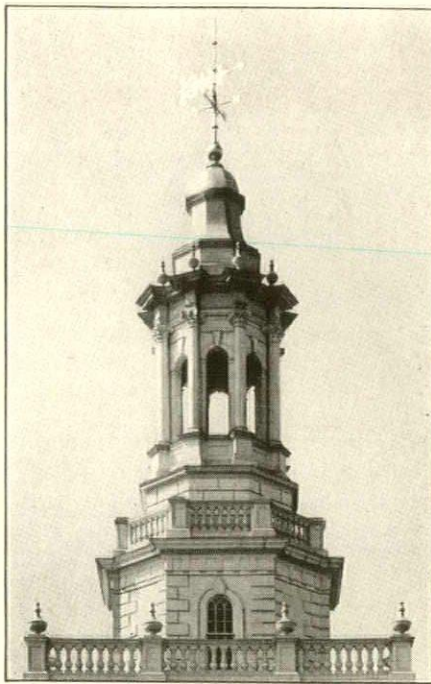
Offices in BOSTON, CHICAGO,  
KANSAS CITY, LOS ANGELES

**TUTTLE  
AND  
BAILEY  
RADIATOR  
CABINETS**

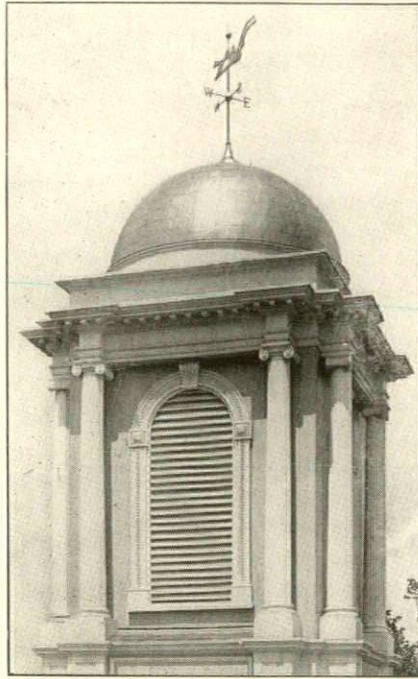
*Tuttle and Bailey Radiator Cabinet  
in the New York Salon of Elizabeth Arden  
Especially Designed to Architect's Specifications*

THE STANDARD

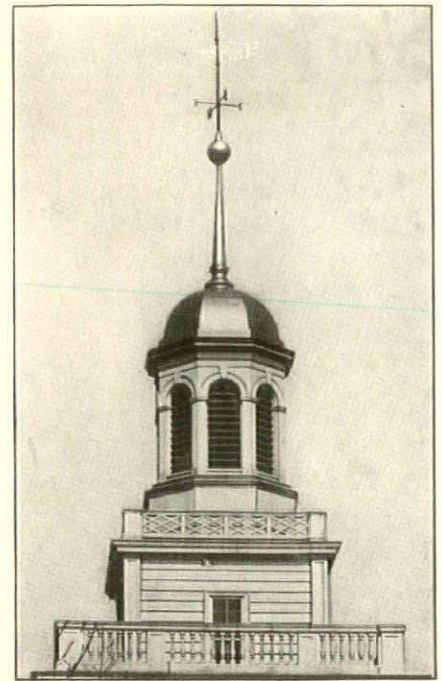




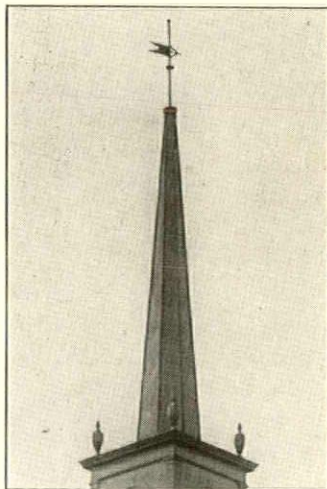
Great Neck, L. I., High School  
Guilbert & Betelle, Architects



Reconditioned Cupola on  
The Morris County Court House, Morristown, N. J.  
George A. Mills & Campbell Voorhees, Architects



Thos. A. Edison Jr. High School, West Orange, N. J.  
Guilbert & Betelle, Architects



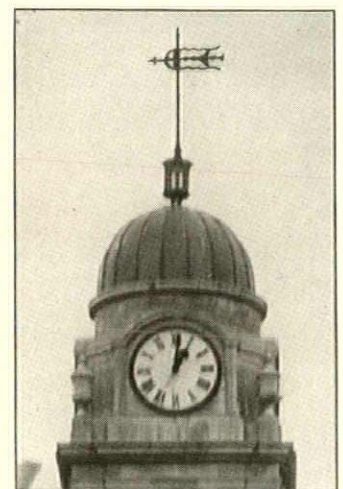
First Presbyterian Church, Orange, N. J.  
E. P. Mellon, Architect

# Weathervanes — by FISKE

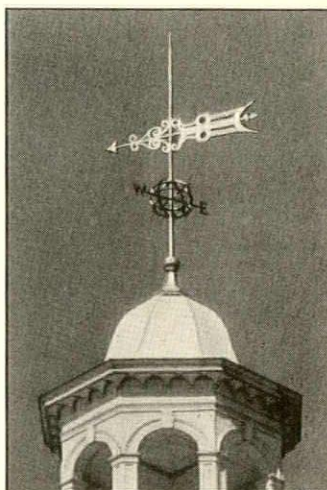
LEADING architects have called upon FISKE frequently to furnish special weathervanes for important private and municipal buildings.

FISKE is the largest and most extensive manufacturer of weathervanes. FISKE experience in the design, execution and installation of ornamental metal work covers nearly three quarters of a century. Consultation and design services, expressing this experience, are gladly offered to interested architects.

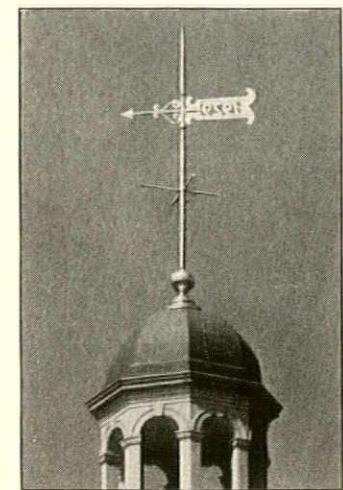
Illustrated catalogue of weathervanes (stock designs) on request.



East Orange, N. J., City Hall  
John H. & Wilson C. Ely, Architects



Maplewood, N. J., High School  
Guilbert & Betelle, Architects



Vernon L. Davey Jr. High School  
East Orange, N. J.  
Guilbert & Betelle, Architects

**J.W. Fiske** IRON WORKS  
80 Park Place — New York  
ESTABLISHED 1858

SPECIALISTS IN  
ORNAMENTAL METAL WORK



# Three types of modern elevator cars

TO FULLY MEET the needs of architects, Otis produces three distinct types of cars — all-metal, wood-metal and all-wood. Each of these can be quickly executed exactly in accordance with the architect's conceptions. For Otis maintains a staff of car designers and artists, art metal foundries, especially equipped car shops, finishing facilities of all kinds, and experienced field erectors.

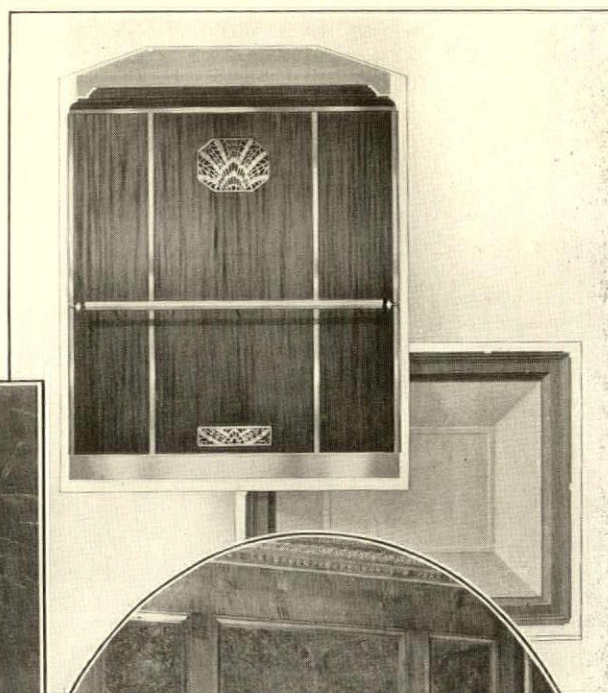
The basic structural design in each of these cars gives rigidity with minimum weight and freedom from creaking. For instance, the wood-metal car is built up of specially processed panels of veneer bonded to several laminations of wood and metal, thus combining the natural beauty of hardwoods with the mechanical advantages of steel.

Architectural details may be carried out in bronze, brass, steel, aluminum and other

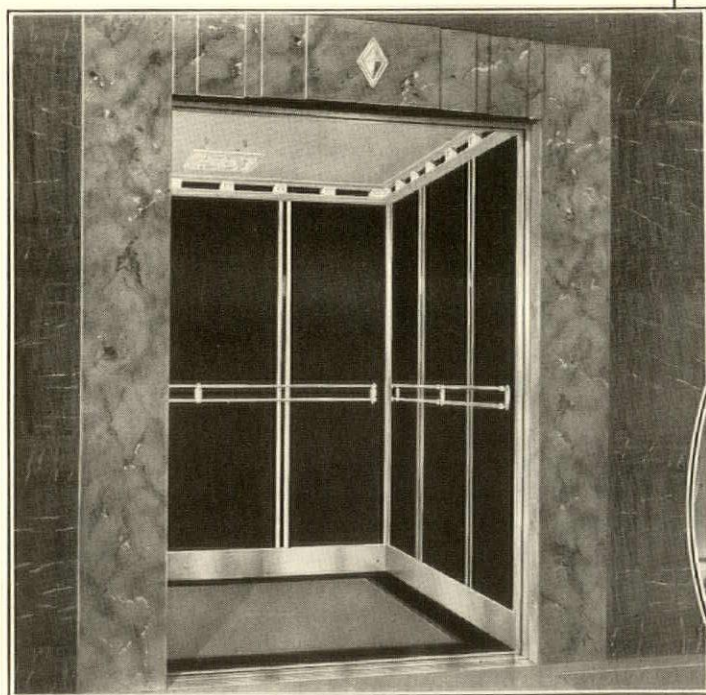
metals and finishes. Car and hall operating fixtures, hand rails, kick plates, grilles, and other appliances can be readily matched in design and material.

Therefore, by assuming undivided responsibility, Otis relieves the architect of unnecessary and often annoying details and frees him from restrictions upon creative ability.

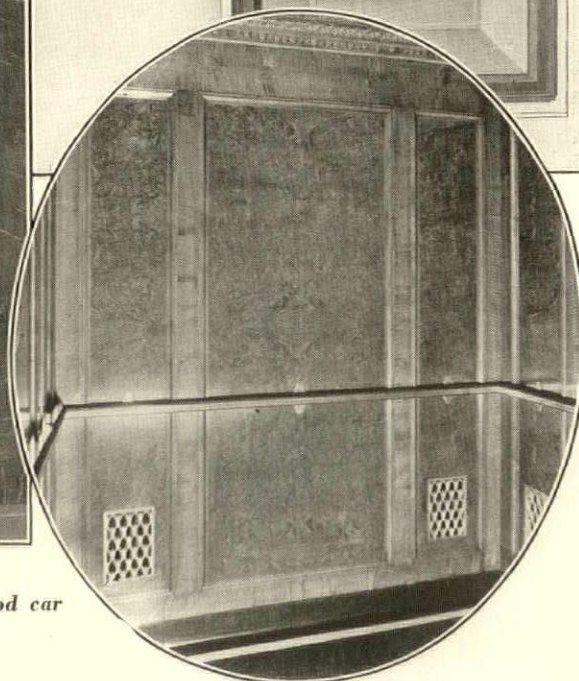
*This picture shows a wood-metal car*



*Below is a picture of an all-metal car*



*And this is an inside view of an all-wood car*

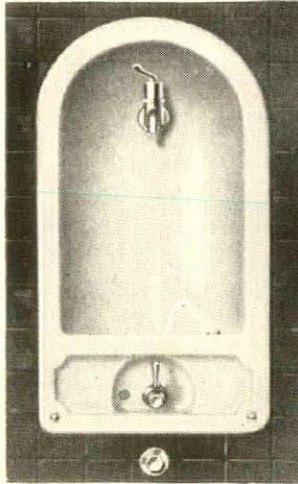


# OTIS

**ELEVATOR COMPANY**

CAR OFFICES THROUGHOUT THE WORLD



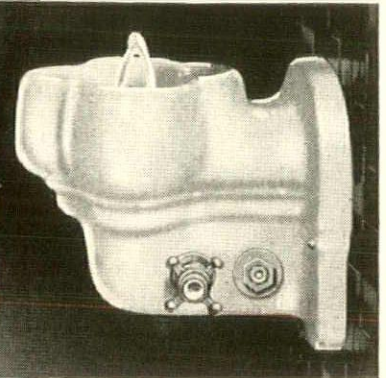


No. 626  
Heavy vitreous china  
recess type fountain.  
Furnished in colors.



Victor Lawson  
Dept. Y M C A  
Chicago

*Perkins, Chatten &  
Hammond—Arch.*



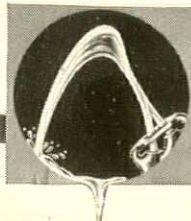
No. 608  
Heavy vitreous china—wall  
type . . . Furnished in white.

## Safe? Sure? Practical? . . . Yes!

After all, that's what you really want to know about a fountain. Is it health-safe? is it practical and convenient to drink from? Is it dependable in every-day performance and free from annoying servicing? Ask these questions and judge the specification by the answer you get! • Halsey Taylor Drinking Fountains are the choice of architects and owners of the country's foremost buildings. You'll find them in many other Y.M.C.A. structures—in public and parochial schools (many cities standardize on these fountains in their educational buildings)—in hospitals, churches, skyscrapers—even in service stations! Patented features, modern refinements and improvements, up-to-the-minute design. • The Halsey W. Taylor Co., Warren, Ohio. (Offices in principal cities.)

## HALSEY TAYLOR DRINKING FOUNTAINS

*Practical Automatic Stream Control*



*Distinctive Two-Stream Projector*





# THE BULLETIN - BOARD



## THE ARCHITECTURAL LEAGUE EXHIBITION

THE forty-seventh annual exhibition of The Architectural League of New York will open Thursday, February 29, at 9.30 P.M. This year we are to have the intimate type of show that is held on alternate years in the American Fine Arts Building, 215 West 57th Street. There will be the usual awards: Medals of Honor in architecture, decorative painting, sculpture, and landscape architecture; also for design and craftsmanship in native industrial art. The jury this year for the Medals of Honor in the fine arts consists of Julian Clarence Levi, ex-officio chairman; Chester H. Aldrich, William Pope Barney, Noel Chamberlin, Gilmore D. Clarke, Marian Coffin, Barry Faulkner, James E. Fraser, John Gregory, Arthur Loomis Harmon, J. Monroe Hewlett, Lee Lawrie, H. Van Buren Magonigle, and Hildreth Meière. The jury for the Craftsmanship Medal, with Mr. Levi again as ex-officio chairman, consists of Ulrich H. Ellerhusen, Walter Kantack, Horace Moran, Lee Simonson, Giles Whiting, and Joseph Urban. There will also be the usual annual award of the Henry O. Avery Prize for sculpture, and the Birch Burdette Long Memorial Prize for rendering. The last day for the return of entry slips of exhibits is Thursday, January 28. These should be sent to 115 East 40th Street, New York City. All exhibits will be received only on Friday, February 12, 9 A.M. to 5 P.M., at 215 West 57th Street. The public exhibition continues from Saturday, February 27, to Saturday, March 12, inclusive.

## LE BRUN SCHOLARSHIP COMPETITION

THE Executive Committee of the New York Chapter of the American Institute of Architects, as trustees of the travelling scholarship founded by Pierre L. Le Brun, announces a competition for the selection of a beneficiary. The programme will be issued about January 15, 1932, calling for drawings to be delivered about March 15, 1932.

All those wishing to enter the competition should arrange at once for nomination by a member of the American Institute of Architects. Nomination blanks can be obtained from the Secretary of any Chapter, A. I. A., or from the Le Brun Scholarship Committee. Nominations

should be sent, so as to be received before January 15, 1932, to Le Brun Scholarship Committee, Room 530, 101 Park Avenue, New York, N. Y. The chairman is Chester H. Aldrich.

## PENNSYLVANIA ACADEMY EXHIBITION

THE Pennsylvania Academy of the Fine Arts announces its one hundred and twenty-seventh annual exhibition, which will open to the public on Sunday, January 24, 1932, and close on Sunday, March 13, 1932.

The Press View and Varnishing Day will be Saturday, January 23, 1932, from 10 A.M. until 4 P.M. The Reception and Private View will be given on the same evening.

## STEEDMAN FELLOWSHIP COMPETITION

THE Governing Committee of the James Harrison Steedman Memorial Fellowship in Architecture announces the seventh competition for this fellowship, to be held in the spring of the year 1932.

Application blanks for registration can be obtained at any time upon written request addressed to the head of the School of Architecture of Washington University, St. Louis, Mo., to whom application blanks properly filled out must be returned not later than January 21, 1932.

The Governing Committee consists of Louis LaBeaume, Gabriel Ferrand, and J. Lawrence Mauran, chairman.

## COLUMBUS MEMORIAL LIGHTHOUSE COMPETITION AWARD

THE jury in the second and final stage of the Columbus Memorial Lighthouse Competition consisting of Horacio Acosta y Lara of Uruguay, chairman and representative of Latin America on the jury; Eliel Saarinen of Finland, representing Europe, and Frank Lloyd Wright of the United States, representing North America, have awarded the first prize of \$10,000 to J. L. Gleave, of Timperley, Cheshire, England. The other prizes awarded were as follows:

Second Prize (\$7,500): Donald Nelson and Edgar Lynch, 80 East Jackson Boulevard, Chicago, Ill. (Bennett, Parsons and Frost, associated architects; Oskar J. W. Hansen, associated sculptor.)

Third Prize (\$5,000): Joaquin Vaquero Palacios and Luis Moya Blanco, Zurbano 50, Madrid, Spain.

Fourth Prize (\$2,500): Theo. Lescher, Paul Andrieu, Maurice Gauthier, 76 Rue Rochechouart, Paris 9°, France.

## JAMES TEMPLETON KELLEY FELLOWSHIP IN ARCHITECTURE

THIS fellowship with an income of \$2,500 for one year, more or less, as seems best, was established in 1929 by Mrs. James Templeton Kelley in memory of her husband.

Applications for the year 1932 should be in the hands of Niels H. Larsen, Secretary of the Committee on Education of the Boston Society of Architects, 814 Statler Building, Boston, on or before January 18, 1932, and should state the applicant's age, education, experience, present occupation, and suggestions for his work abroad.

## STRUCTURAL SERVICE DEPARTMENT, A. I. A.

MR. F. LEO SMITH, a member of the Columbus Chapter of The American Institute of Architects, has succeeded Mr. LeRoy E. Kern as Technical Secretary of the Structural Service Department of the Institute, with headquarters at The Octagon, Washington, D. C.

Mr. Smith is a graduate of the Department of Architecture of Ohio State University and has had a wide experience in architectural practice and in the formulation of building legislation. For two years he served as Assistant Chief of the Division of Factory and Building Inspection of the Department of Industrial Relations of Ohio, having charge of the administration of the Ohio Building Code during that period.

From 1924 until 1929 he was employed by the State as Technical Secretary to the Ohio Board of Building Standards.

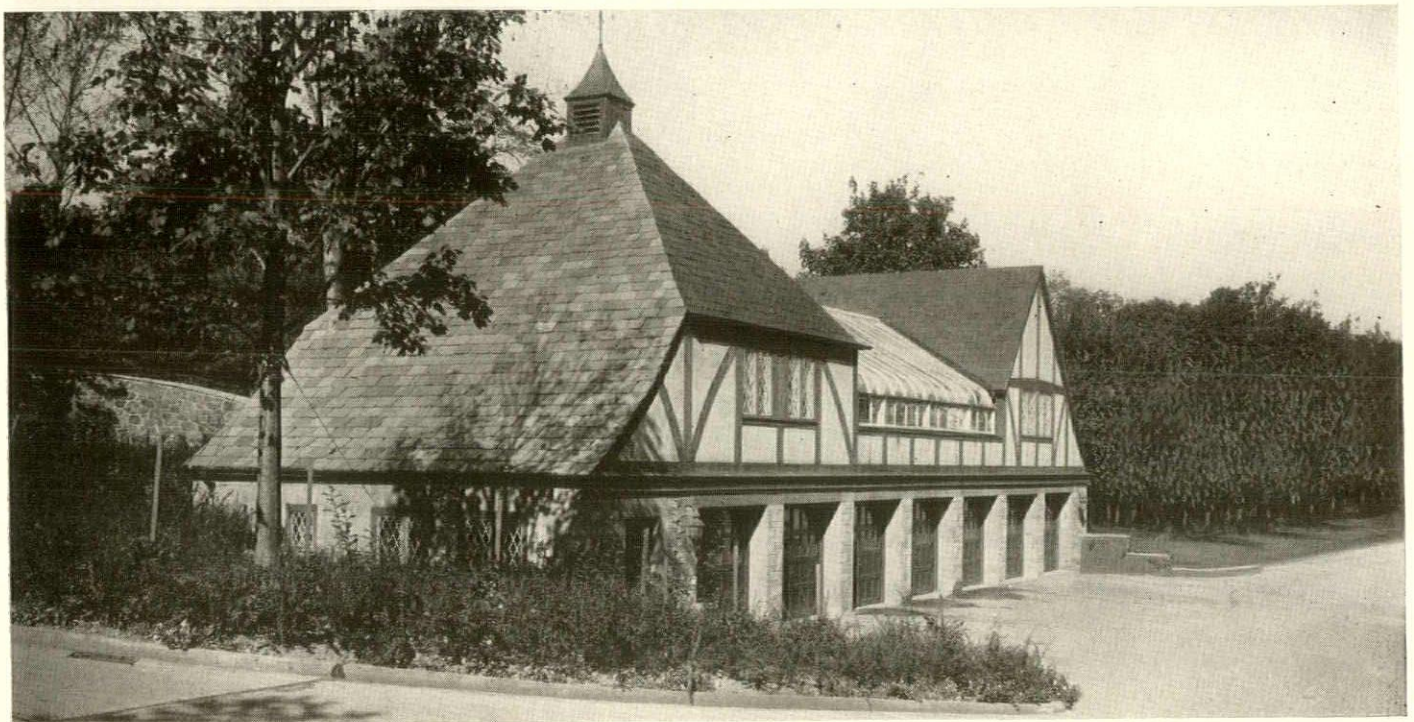
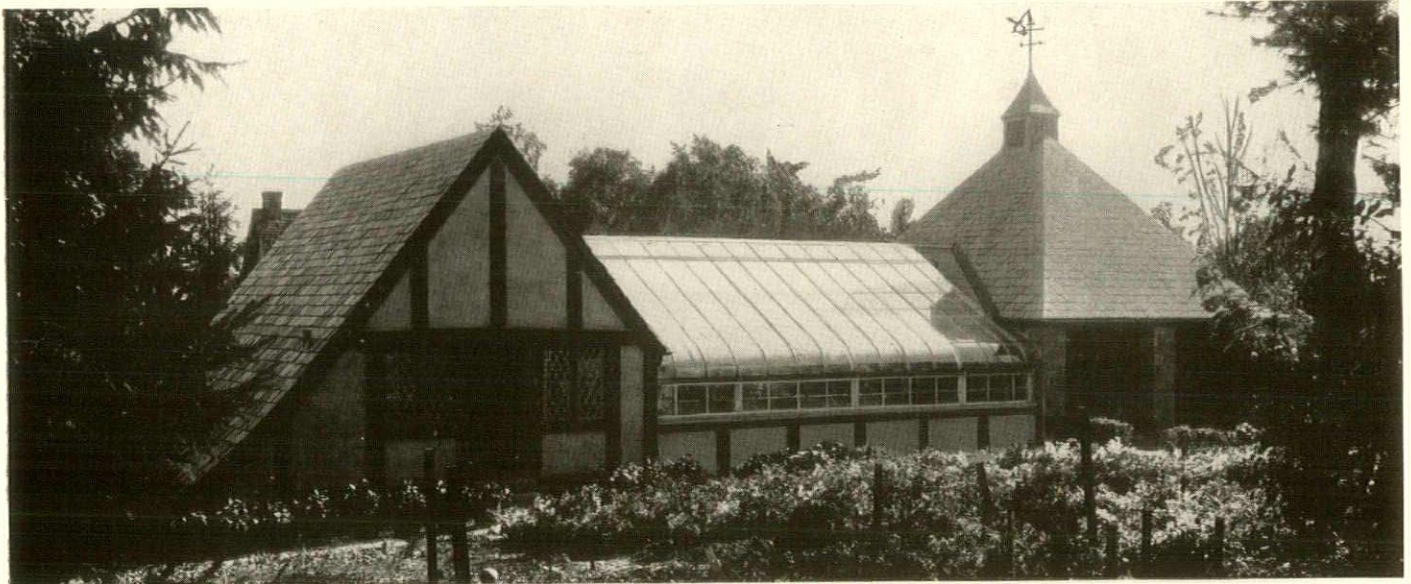
For the past two years Mr. Smith has been employed by the Portland Cement Association as Field Engineer in Northern Ohio.

## MEMORIAL WINDOW TO ADRIAN A. BUCK

FRIENDS of the late Adrian A. Buck, of New York City, will be interested to learn that a memorial has been unveiled and dedicated to

(Continued on page 13)





## From the office of Frederick L. Ackerman Comes This Top O' Garage Greenhouse

Located on the estate of J. DuPratt White, Nyack, N. Y.  
It is one of a number we have built.  
This top o' garage treatment was adopted to enhance the  
architectural interest of the service group. Glad to send you photos.

New York  
Cleveland  
Philadelphia

Chicago  
Montreal

**Lord & Burnham Co.**  
IRVINGTON, N. Y.

Boston  
Detroit

Denver  
Toronto  
St. Catharines

**For Four Generations Builders of Greenhouses**



# THE BULLETIN - BOARD *Continued*

his memory in the Church of the Ascension, Mount Vernon, N. Y. The memorial is a rose window designed, executed, and given by James Powell & Sons, of London, for whom Mr. Buck acted for many years as representative in this country.

*ERNEST A. GRUNSFELD, JR.,  
HONORED*

**T**HE Chicago Chapter, A. I. A., at its November meeting awarded the Gold Medal of the Chicago Chapter to Ernest A. Grunsfeld, Jr., for the design of the Adler Planetarium in Chicago. The jury which awarded the medal consisted of members of the Architectural Sketch Club, the Illinois Society of Architects, and the Chicago Chapter, A. I. A.

## *A CORRECTION*

**I**N the November issue, No. XVIII in the Series of Working Drawings by Jack G. Stewart, there was a mistake in crediting the drawing "From work by Morris & O'Connor." The design of the revolving door detail shown was, instead, the work of Mr. Stewart himself.

## *A. W. BROWN TRAVELLING SCHOLARSHIP*

**P**ROGRAMMES will be mailed about March 7 covering the fifth annual competition for the A. W. Brown Travelling Scholarship, the gift of Ludowici-Celadon Company as a memorial to the man who was for many years its president.

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. Other members of the committee of the A. I. A. which directs the competition are J. Monroe Hewlett and Charles Butler.

*FREDERICK J. STERNER,  
1862-1931*

**F**REDERICK J. STERNER, architect, of New York City, died on November 12 last, in Rome, after an operation. Mr. Sterner was born in England, coming to this country at the age of sixteen, where he subsequently became a naturalized American citizen. He received his academic and professional education in the United States, be-

ginning his architectural practice in Denver. Some twenty-five years ago he relinquished his Western practice to establish an office in New York. Mr. Sterner was a brother of Albert Sterner, the artist, of New York, and Lawrence S. Sterner, playwright, of Los Angeles. Among other important structures he designed the home of General Cortlandt Palmer in Denver, the Greenbrier Hotel at White Sulphur Springs, the Antlers Hotel in Colorado Springs. He was known particularly, also, for his work in doing over many of the old brownstone dwellings of New York City. Since 1925 Mr. Sterner had made his home in London.

*JOHN F. BACON,  
1876-1931*

**J**OHN F. BACON, an associate partner in the firm of Schultze & Weaver, architects, New York, in charge of the firm's engineering division, died very suddenly on November 7 last. Mr. Bacon had only recently finished the strenuous labors of about two years in bringing to completion the new Waldorf-Astoria. He was born in Lebanon, N. Y., and was educated for his profession at the Massachusetts Institute of Technology, after which he had been associated with Trowbridge & Livingston, Benjamin W. Morris, and with Warren & Wetmore, together with Leonard Schultze when that firm, with Reed & Stem, was designing and building the Grand Central Terminal.

*FRANCIS R. ALLEN,  
1843-1931*

**F**RANCIS R. ALLEN, architect, of Boston, died November 8 last, after a long illness. He was born in Boston, and after being graduated from Amherst in 1865, he spent ten years with his father in the drygoods business. Thereafter he studied at the Massachusetts Institute of Technology and at the Ecole des Beaux-Arts. After the death of his first professional associate, Arthur Kenway, Mr. Allen organized the firm of Allen & Collens. Among the better-known buildings which the firm has designed are the Leslie Lindsay Memorial Chapel, numerous buildings at Williams College and at Vassar College, the Union Theological Seminary, New York, Andover Theological Seminary at Cambridge, and, in association with Henry C.

Pelton, the Riverside Church, New York City. Mr. Allen was a member of the American Institute of Architects and the International Congress of Architects. He had received an LL.D. from Amherst and an honorary degree of M.A. from Williams College.

*EDWARD SIMMONS,  
1852-1931*

**E**DWARD SIMMONS, known in America and abroad for his mural paintings, died in Baltimore, November 17, of bronchial pneumonia. Among Mr. Simmons's murals are those in the Congressional Library at Washington, Massachusetts State Capitol, South Dakota State Capitol, the Appellate Court Building in New York City, and the old Waldorf-Astoria Hotel in New York, which latter paintings were transferred to the new Waldorf when it opened. The private homes of Frederick Vanderbilt in Hyde Park, N. Y., and John D. Rockefeller at Tarrytown, N. Y., also were decorated by Mr. Simmons.

Born in historic Concord, Mass., in 1852, Mr. Simmons lived in the Old Manse, made famous by Nathaniel Hawthorne. In his autobiography, "From Seven to Seventy," published in 1922, the artist tells of his residence there. The Manse was the property of Mr. Simmons's grandmother.

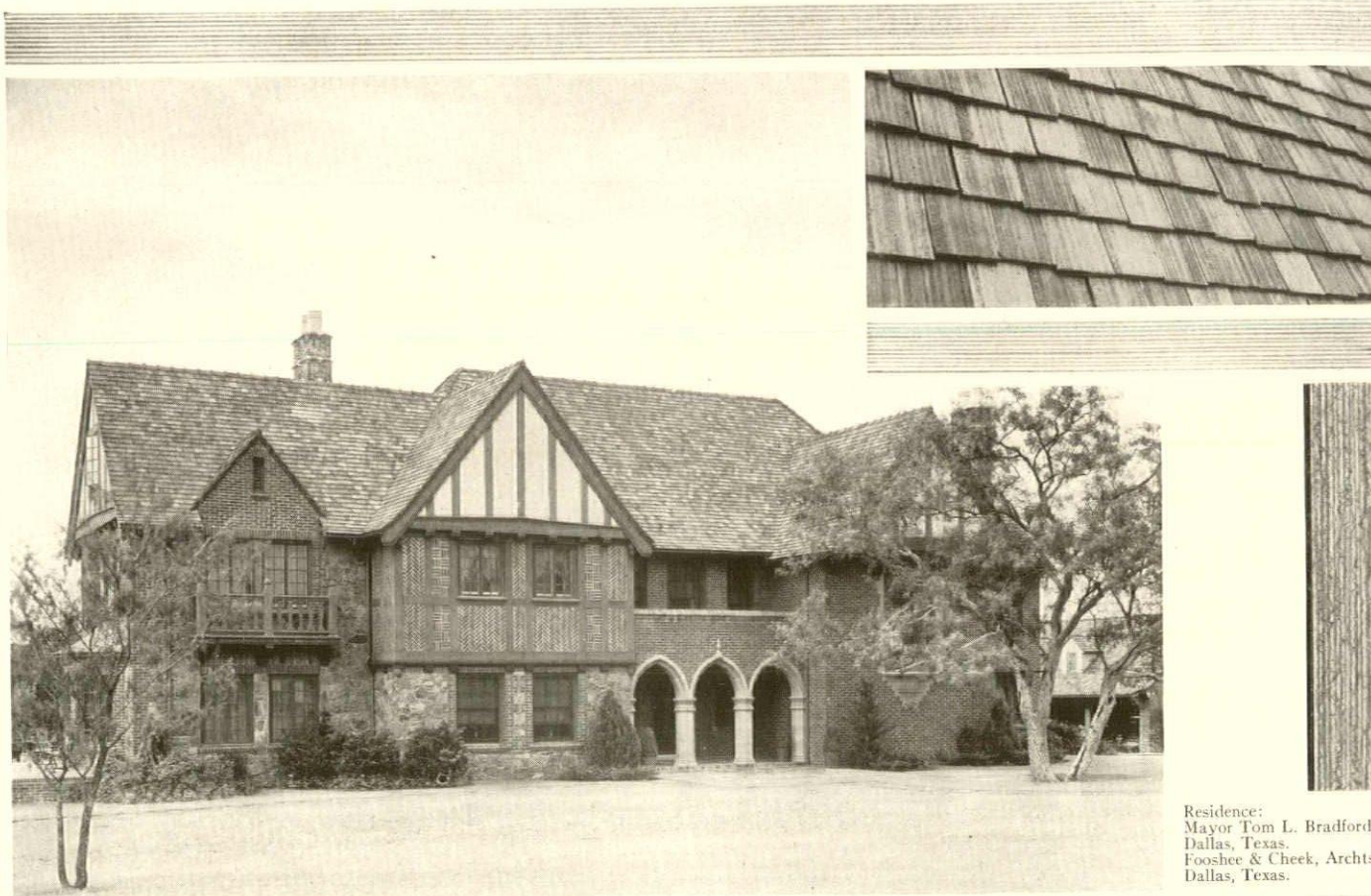
Mr. Simmons was graduated from Harvard in 1874, after which he travelled extensively. He returned to America when Chicago was preparing for the World's Fair in 1893, and was asked to join the group of mural decorators assembled under Frank Millet. When the exposition closed, he came to New York and won the Municipal Art Society's competition for the decorations in the Criminal Courts Building. He won honorable mention at the Paris Salon in 1882, the bronze medal at the Paris Exposition of 1889, the gold medal at the Pan-American Exposition in Buffalo in 1901, and other prizes. He was a member of the National Institute of Arts and Letters and of Ten American Painters.

## *PERSONAL*

Emery Roth, architect, announces the removal of his offices to 18 East 48th Street, New York City.

C. Bertram French, architect, has established offices at 31 East Ridgewood Avenue, Ridgewood, N. J.





Residence:  
Mayor Tom L. Bradford,  
Dallas, Texas.  
Foshee & Cheek, Archts.,  
Dallas, Texas.

## MOSS-MOTTLE DEVONSHIRE

### COLONIAL SHINGLE TILE

Moss-Mottle Devonshire shingle tile has been created to preserve the hospitable charm of the delicately moss-tinged riven wood shingles of old Colonial days.

The special process of burning imparts a velvety patina of elusive mossy green in natural varying intensities, on a background of weathered woody brown, very faithfully simulating old Colonial wood shingles. (Every effort has been made to prevent a painted or artificial green effect.)

For early English or French, Dutch Colonial, early American or Southern Colonial, there just isn't any roofing material or unit more

genuinely fitting or pleasing than Moss-Mottle Devonshire Shingle. Of course—like all Hood Tiles—they are unfading, wear-proof and fire-proof. Last but not least—the price makes the “yearage” cost ridiculously low.

Hood Tiles are available for practically any type of design or color scheme. You should also know the many possibilities with Hood's Hand-Fettled Pavers, Quarries and Quaramics for floors.

Full size samples or a panel of miniature (actual) tiles will be prepaid to you, at your request.

ADDRESS DEPARTMENT “A”  
DAISY, TENNESSEE

# B. MIFFLIN HOOD COMPANY

D A I S Y . . . T E N N E S S E E



# ARCHITECTURE

REG. U. S. PAT. OFFICE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. LXV, NO. 1

## CONTENTS

JANUARY, 1932

	PAGE		PAGE
Frontispiece: Jewelled City <i>From the etching aquatint by Gerald K. Geerlings</i>		A House at Ossining, N. Y. <i>Unadulterated functionalism, with exterior decoration derived from the camouflage ideas, as developed by John M. Howells and Raymond M. Hood, associate architects</i>	31
College of Preachers, Washington Cathedral <i>E. Donald Robb tells what his firm, Frohman, Robb &amp; Little, is doing in connection with the cathedral dependencies</i>	1	Contacts: . . . . .	37
Working Drawings: XX <i>Jack G. Stewart's series continues with a detail of a built-in writing desk</i>	9	Heating the House <i>An excerpt from the tentative report of the Committee on Fundamental Equipment of the President's Conference on Home Building and Home Ownership</i>	
Architectural News in Photographs <i>New projects contemplated, earlier ones completed</i>	10	Historic Houses from Old Prints <i>A glimpse into one or two of the lesser known periods of American architecture</i>	39
Book Reviews . . . . .	12	The Editor's Diary . . . . .	41
Lead and Glass in Silhouette <i>Eugene Clute continues his series on craftsmanship in the allied arts as it appears to-day</i>	13	Concealed Heating of the Convectector Types <i>W. F. Bartels presents a comprehensive summary of structural and spatial details of partly and wholly concealed radiation</i>	44
House of J. T. Johnston Mali, New York City <i>The city house on an eighteen-foot lot as solved by the Office of Roswell F. Barratt, architects</i>	21	ARCHITECTURE'S Portfolio of Radiator Enclosures <i>A collection of sixty-six photographs</i>	47
House of Paul D. Cravath, Locust Valley, Long Island <i>Informality in a fairly large country house by Bradley Delehanty, architect</i>	25		

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

Copyright, 1931, by CHARLES SCRIBNER'S SONS. All rights reserved.

CHARLES SCRIBNER'S SONS, PUBLISHERS

ARTHUR H. SCRIBNER, *President*

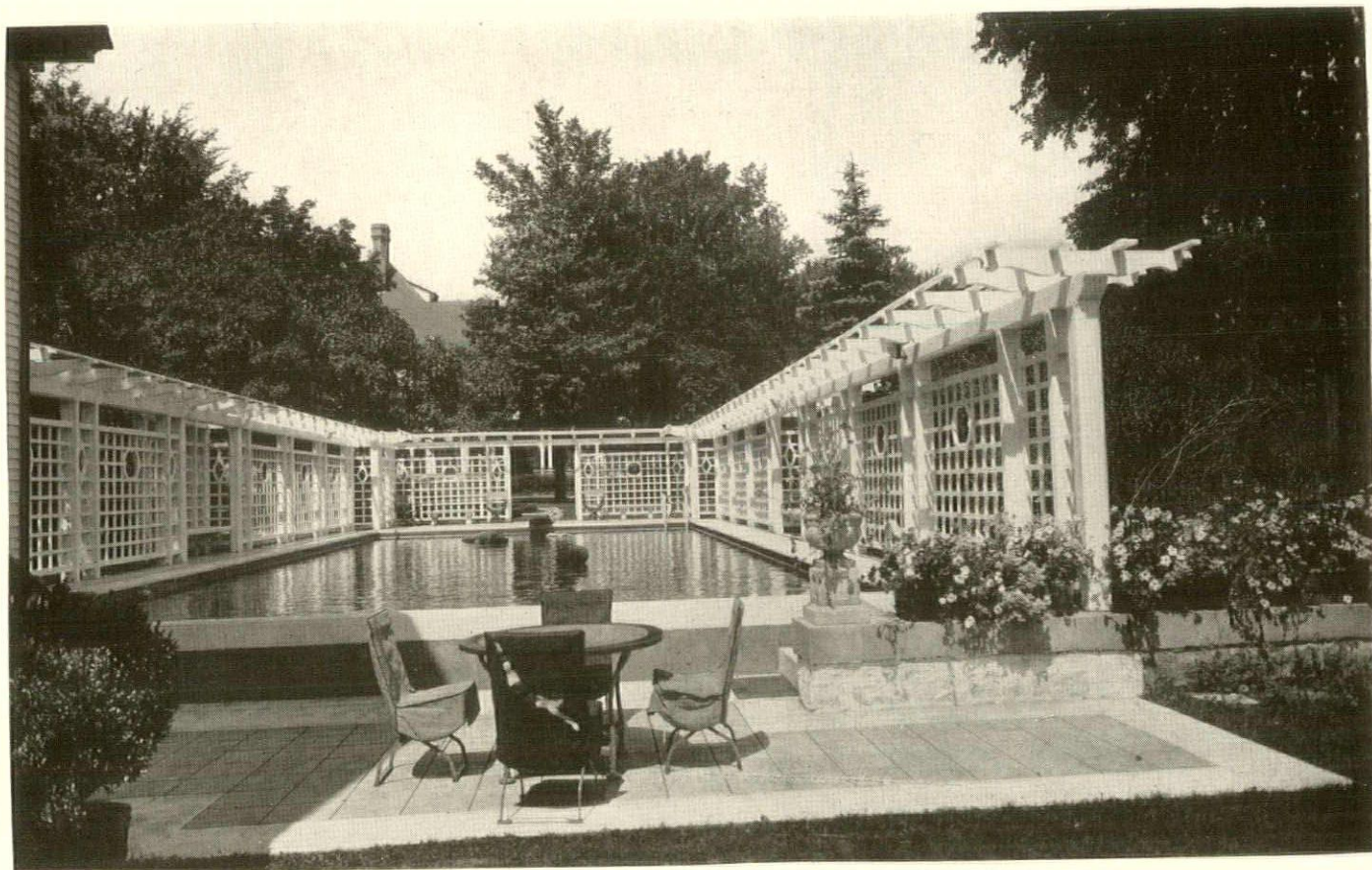
CHARLES SCRIBNER, JR., EDWARD T. S. LORD, WHITNEY DARROW, *Vice-Presidents*

GEO. R. D. SCHIEFFELIN, *Treasurer*

MAXWELL E. PERKINS, *Secretary*

NEW YORK: 505 FIFTH





*A W & T Chlorinator Sterilizes the Private Plunge of Mr. C. H. Good, Moline Illinois*

# CHLORINATION IS THE FOURTH DIMENSION

\*Article XVIII Report of the Joint Committee on Bathing Places of the American Public Health Association and the Conference of State Sanitary Engineers. Reprints of this report are available on request. Ask also for individual pamphlets on the purification of private, commercial, high school, college, country club, municipal, Y. M. C. A., hotel and apartment swimming pools.

"SWIM IN  
DRINKING WATER"

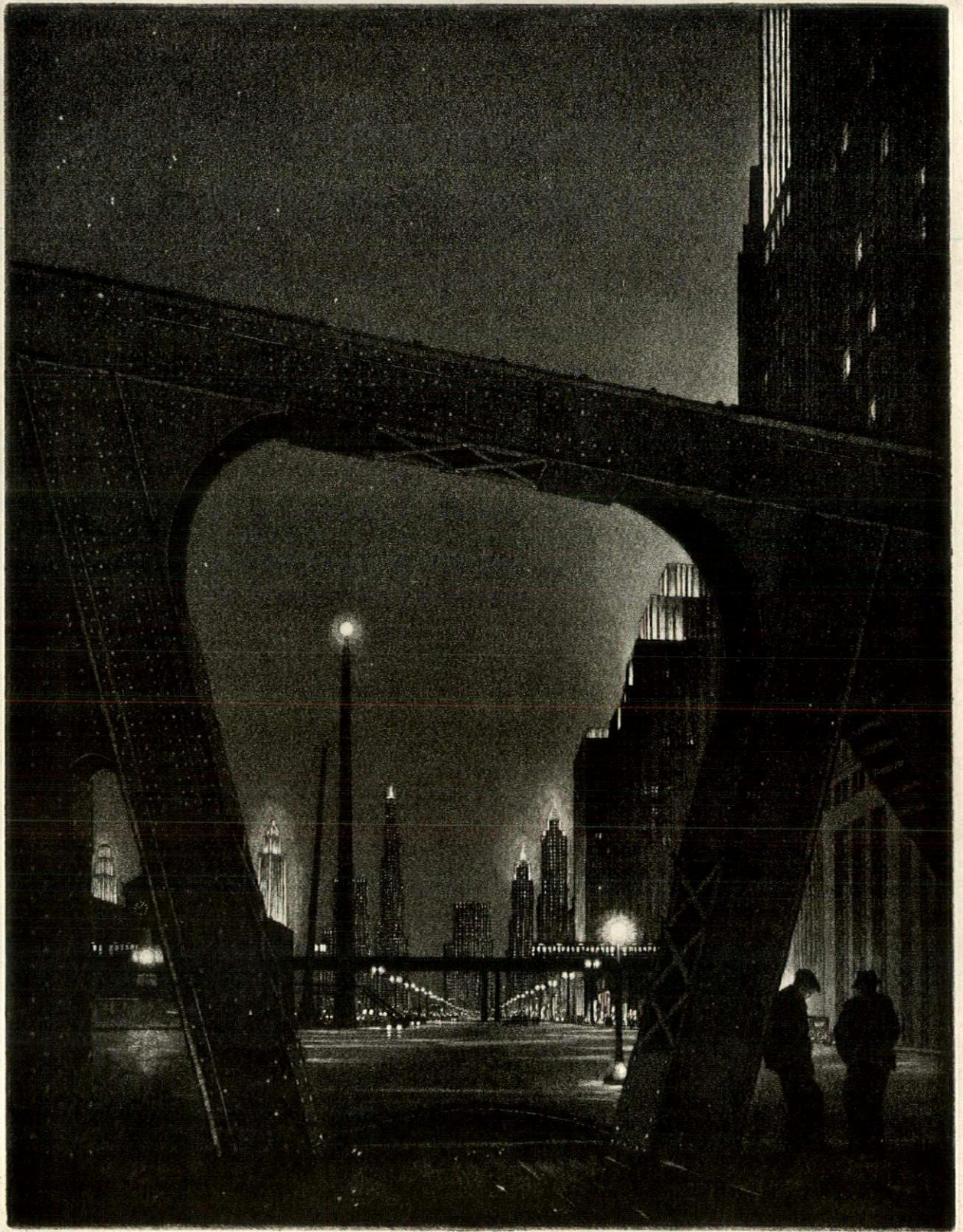
Sixty feet long—30 feet wide—average depth 4 feet—and chlorinated. The fourth dimension that assures safe, sterile water. The swimmer is never away from the protection of residual chlorine. It is everywhere in the pool. Into every corner—and from top to bottom—chlorine carries a residual disinfectant—lasting protection against every source of contamination. That is why leading sanitarians and health authorities call chlorination . . . "by the use of proper apparatus . . . the most satisfactory method of pool disinfection."\*

That W & T chlorinators supply the "proper apparatus" is attested by over 16,000 units used in all types of sanitary service. Over 3000 W & T chlorinators assigned to swimming pool disinfection repay their owners with accurate, dependable service—a service your client can have from W & T equipment.









*By courtesy of Kennedy & Co.*

« ARCHITECTURE »

JEWELLED CITY  
*From the etching aquatint by*  
GERALD K. GEERLINGS



# ARCHITECTURE

❖ VOLUME LXV

JANUARY 1932

NUMBER 1 ❖

## College of Preachers, Washington Cathedral

FROHMAN, ROBB & LITTLE, ARCHITECTS

*By E. Donald Robb*

THE COLLEGE OF PREACHERS, in Washington Cathedral Close, is the central unit of a future group comprising the Administration Building of the Cathedral, the College of Preachers, and the Cathedral Library. Of the latter building one small memorial wing has already been built. The Administration Building will adjoin the north side of the great cloister, with the other buildings of the group swinging more or less radially eastward about the apse of the cathedral, following the natural contours of the site. Reference to the general plan of the Close will explain the location of the College of Preachers between the cathedral on the south and Woodley Road to the north.

To explain briefly the purpose of the building, it might be called a small post-ordination school where clergy, coming from all parts of the country, live for a few days or weeks at a time in monastic simplicity and devotion, receiving instruction and inspiration from the very ablest preachers and teachers of the Episcopal faith, thence returning to their various churches renewed in spirit and better equipped to serve. Later on it is planned to have special students in residence for six months or longer.

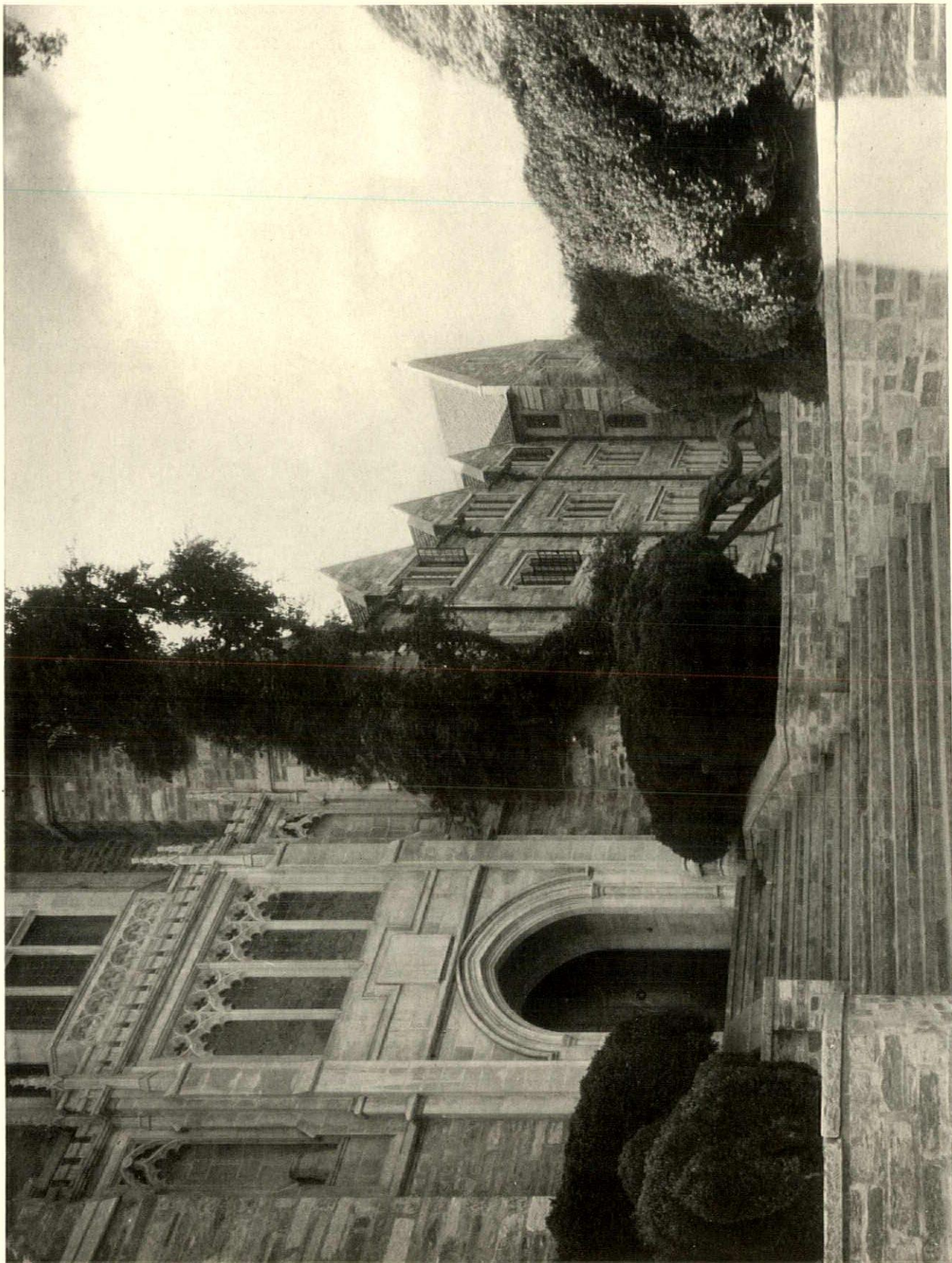
Never were architects given a more interesting problem—the curving plan and the sloping site together have made a picturesque building inevitable, with few right angles and no balanced axes. The detail, too, is varied throughout to give greater interest and life. To add to the general interest of the problem, no one seemed to be exactly certain, when we were commissioned to make the designs, just what were the definite requirements of such a college. So far as could be learned, nothing of the kind had ever been planned before. After much patient study, and more than the usual number of conferences, the building committee, the warden,

and the architects evolved a programme, the outcome of which is illustrated herewith. This programme called for a building of a monastic type, with single rooms for twenty-five students, a residence for the warden and quarters for the teaching staff, refectory with kitchens and pantries and laundry, together with quarters for servants, several small lecture-rooms, a common room with library, and a small private chapel. These departments group around a cloister and service court, which will be enclosed on all sides when the future library building is erected. The lower or north side follows a curving roadway. The upper faces a future garden surrounding the apse of the cathedral, with a difference in finished grade of thirty feet between the two sides.

The style selected was, quite naturally, English Tudor, in order to harmonize with the cathedral towering above it. A strict adherence to this style has not been considered necessary nor desirable. The cottages of the Cotswolds were the source of inspiration for the residential portions. The chapel is earlier in type. The refectory suggests the great hall of an English manor house. Half-timbering is used across one end of this room, and somewhat sparingly on the exterior of the service wing. Details have been carried out with much informality and variation everywhere.

As the cathedral itself is a select buff Indiana limestone, and as this group is to cluster around and below it, we have used a warm gray seam-faced granite, quarried locally, for ashlar, trimmed with the rougher Rustic Buff limestone. This causes the cathedral, soaring above, to stand out in finer and lighter-colored stone, while the college below becomes a part of its foundations visually and spiritually. The main entrance is in the tower, the entrance lobby running through two stories, and giving vistas





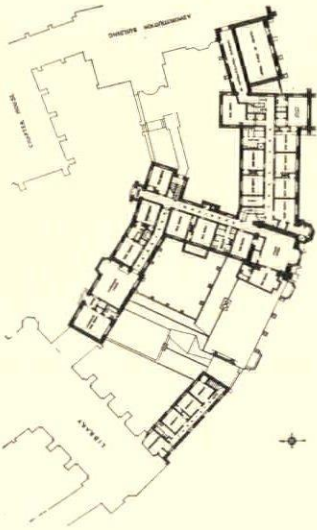
*The main entrance on the north side, with the Dormitory Wing at right*



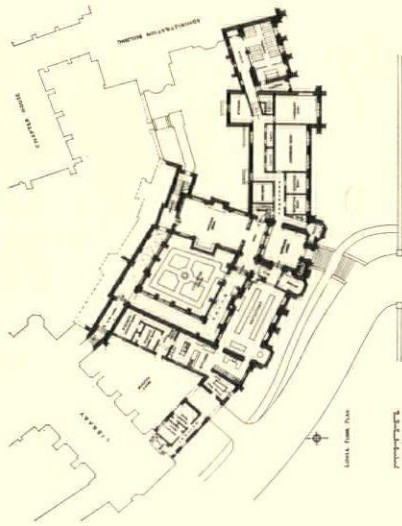
◀ ARCHITECTURE ▶



*A view of the Cloister from the East Walk*



*Plan of the upper floor*



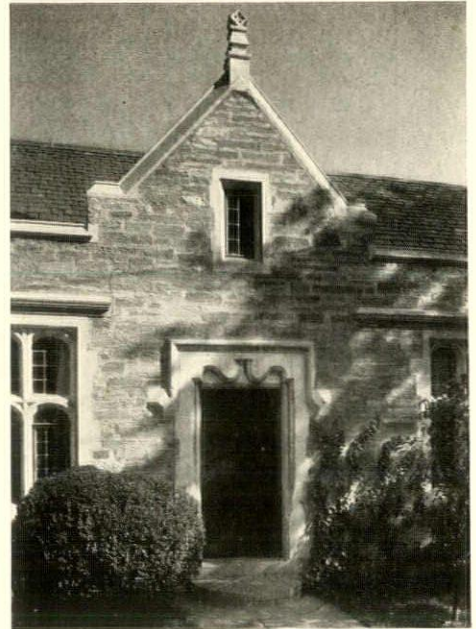
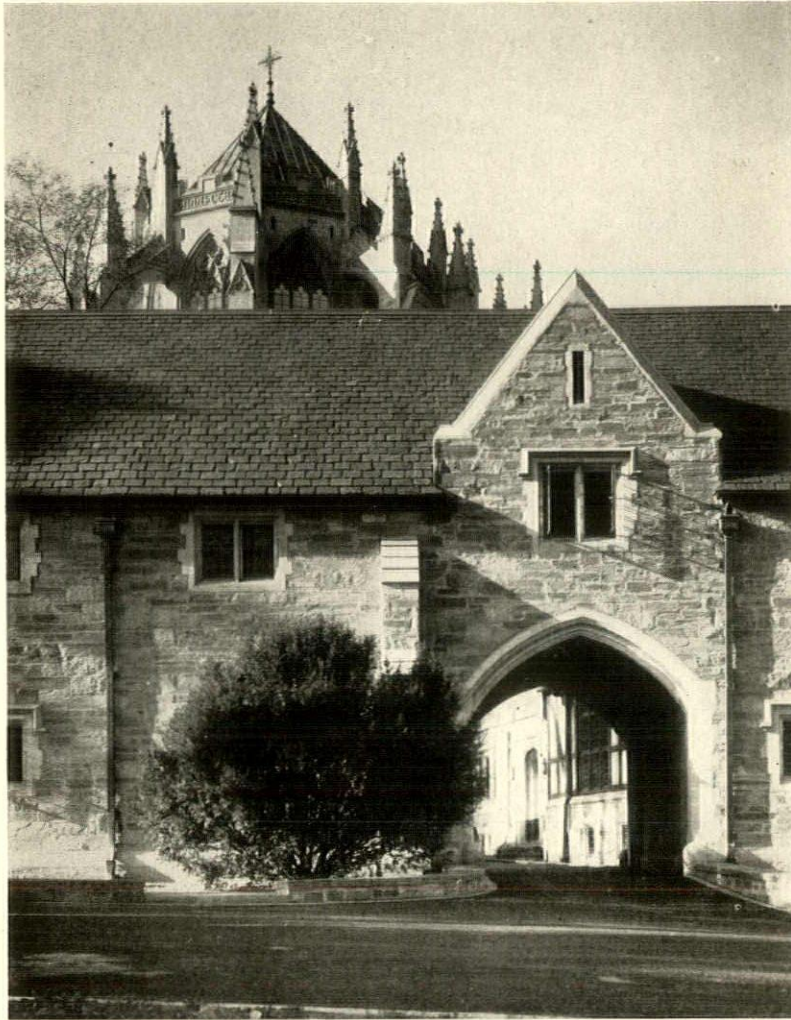
*Plan of the lower floor, showing the relation of the present unit to the proposed group, including the Library, the Administration Building, and the Chapter House. The compass arrow points downward to north*



*In the Court looking toward the Common Room and the North Cloister*

All photographs by Paul J. Weber





*The entrance doorway to the Warden's Wing*

*The entrance to the service court with the service wing at left of the archway and the apse of the cathedral beyond on the heights*

*The south wing—dormitory and warden's suite with its entrance on the upper level*

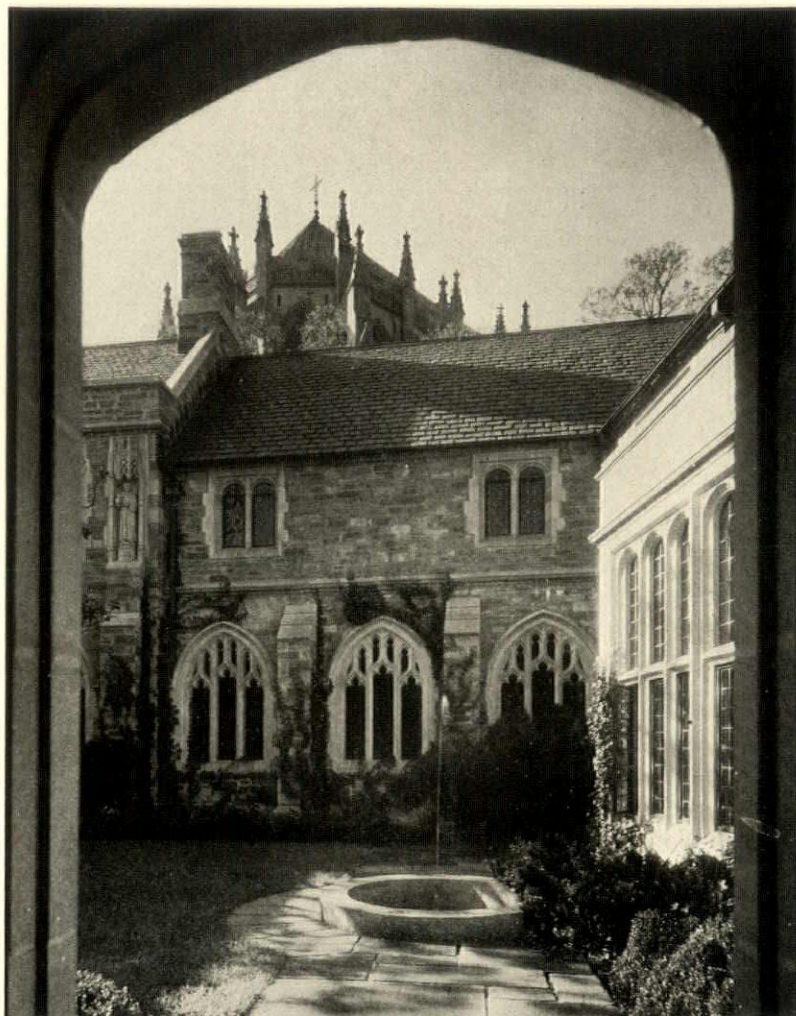






*The south entrance to the dormitory, on the upper level*

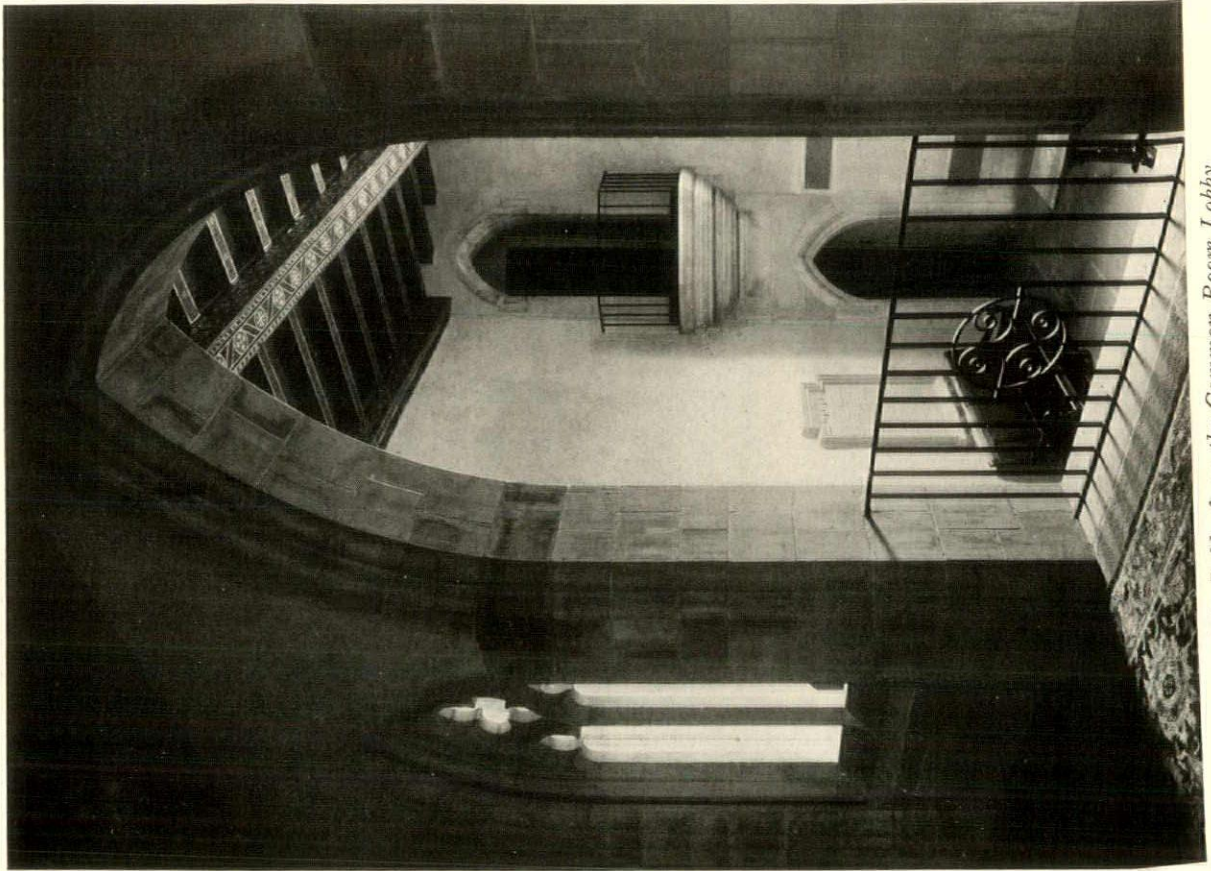
*The Court and South Cloister (the location of the fountain has been changed from that shown on the plan)*



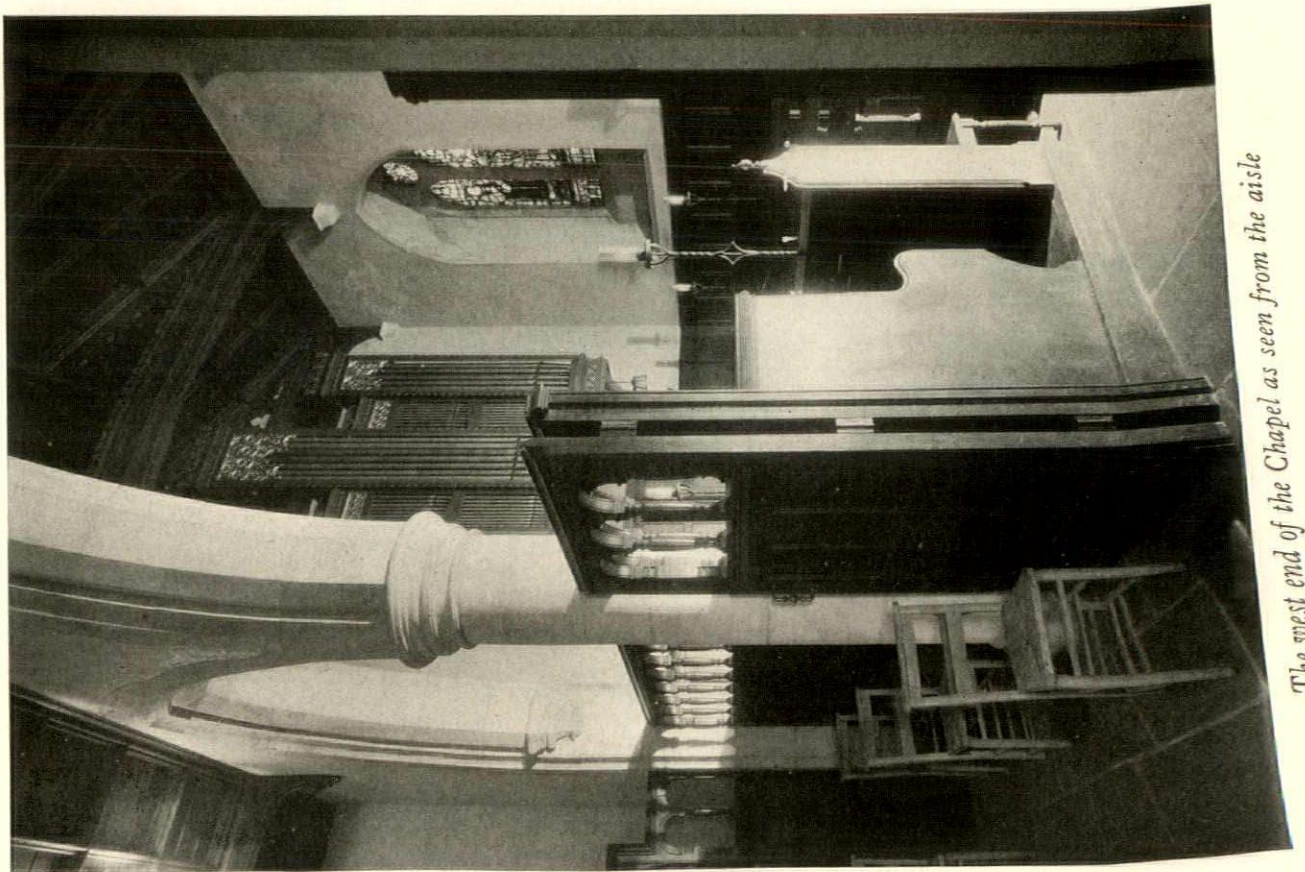
*Inside the service court, with the archway entrance in middle*







*The Main Lobby from the Common Room Lobby*



*The west end of the Chapel as seen from the aisle*



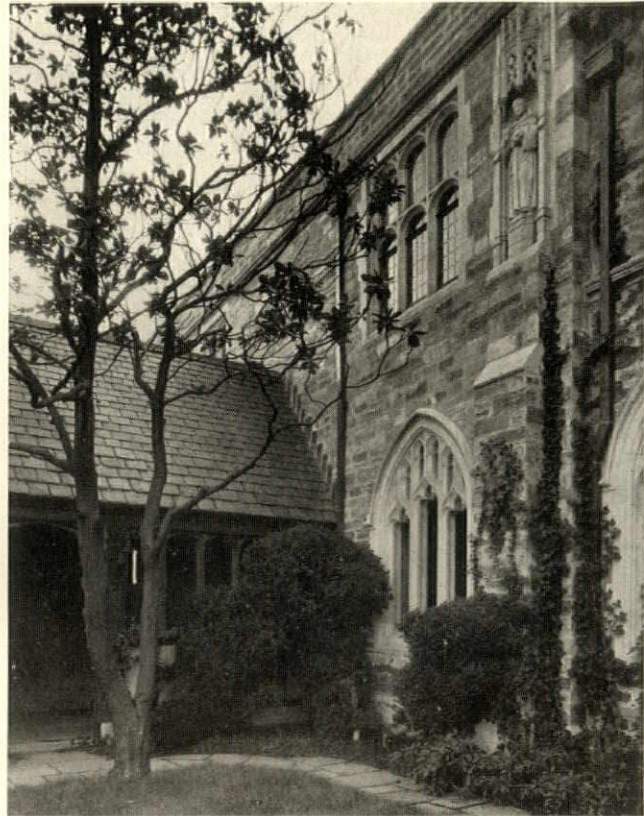


*The Common Room, toward the south end and the bay overlooking the Cloister*

*In the North Walk of the Cloister*



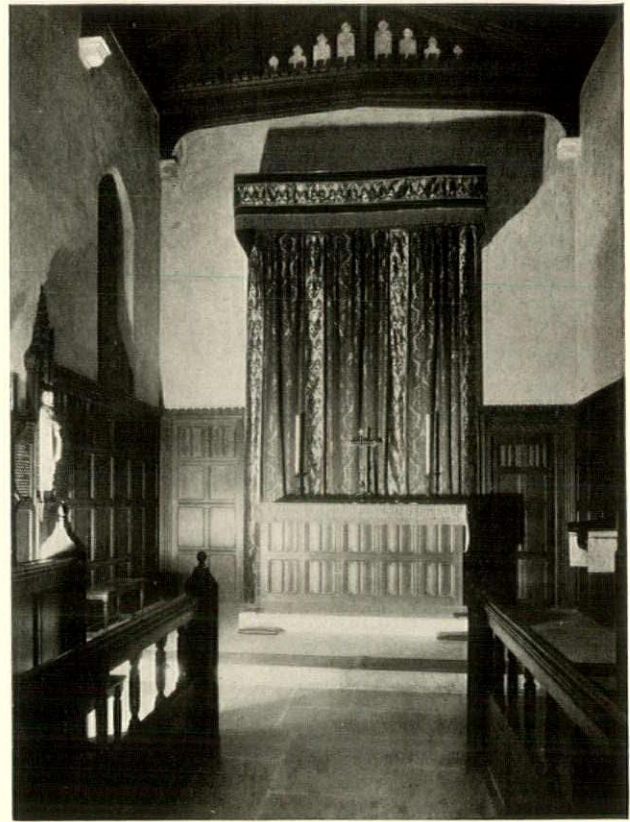
*In the Cloister looking toward the East Walk*







*In the Refectory, looking east*



*The east end of the Chapel*

into the refectory, and through an open arcade into the common room on a higher level. An elevator in the corner turret of the tower connects with the upper floors.

The common room forms one side of the cloister, and its windows look out upon a garth thirty-five feet square for which Mrs. G. C. F. Bratenahl, landscape architect of the cathedral, was awarded the Renwick Gold Medal of the Garden Club of America for 1929. The magnolia tree in the far corner, which was brought into the cloister garth across the adjoining wall during the construction of the building, is apparently none the worse for the adventure; a fountain plays quietly near the common-room bay, and from a niche on the high wall to the south Saint Francis preaches to the birds—and others. Against the timbered east wall an ancient wrought-iron bell, from a monastery near Lucca, calls to meals and classes. All in all, it is an area of exquisite peace and beauty.

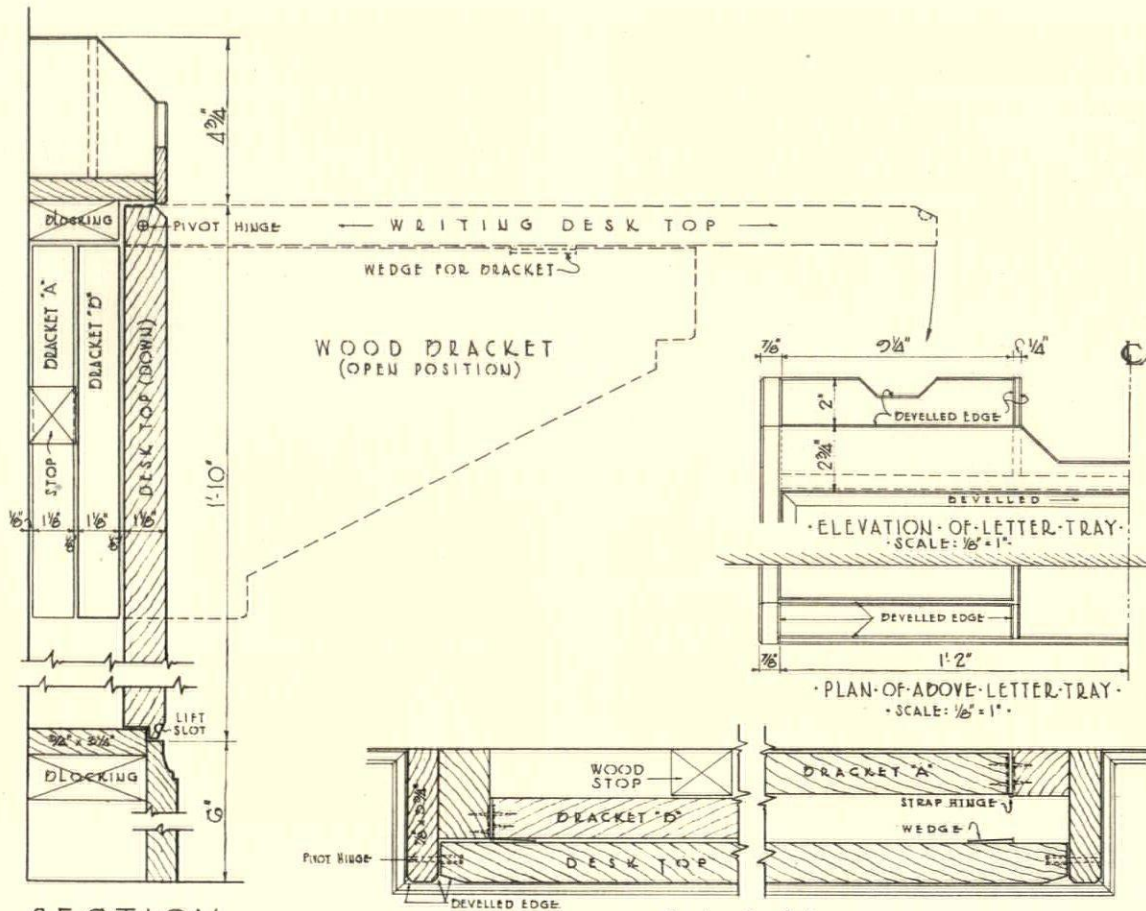
The south wall of the cloister will ultimately connect with the Cathedral Library Building, the third building of the group. Connection with the Administration Building on the west will be had through a corridor above the side

aisle of the chapel. Covered communication will then be obtained through all units of the group, and also with the cathedral, sacristies, and Chapter House.

The building, together with its furnishings and landscaping, is the gift of Alexander Smith Cochran, who unfortunately did not live to see the fulfilment of his dream. The success is in no small measure due to the landscaping by Mrs. Bratenahl. Probably no new building ever had the advantage of such devotion, patience, and genius in finding, obtaining, and planting the right thing in the right place. Ancient box and full-grown trees were brought from great distances and transplanted without the loss of a single specimen. The giant wisteria, which climbs to the very top of the tower, still holds in its grip a portion of tree trunk to which it originally clung, and from which it refused to be separated.

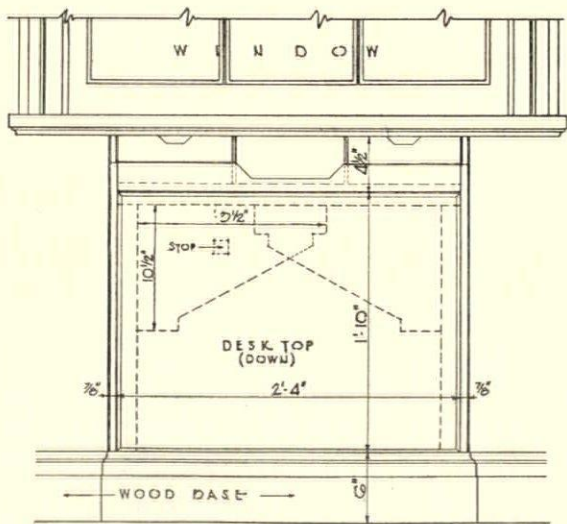
The presence of this aged shrubbery has produced an atmosphere of antiquity around a building but little more than a year old; and the resulting spirit of quiet repose cannot fail to influence those who come to the college for help and inspiration.



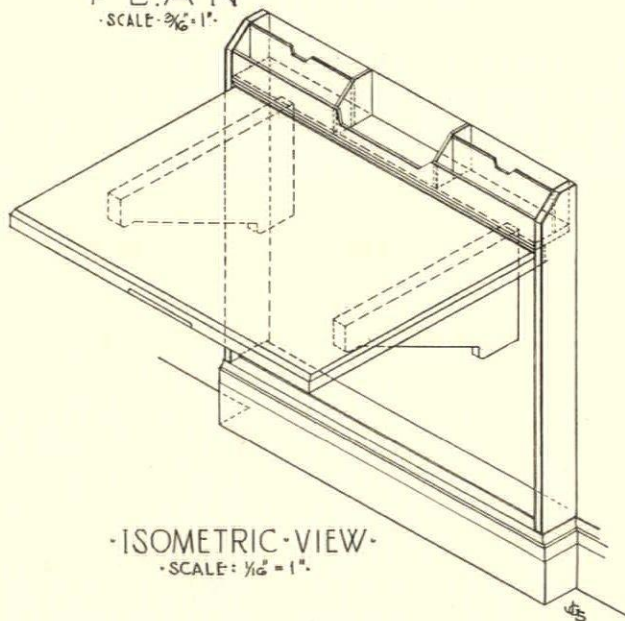


SECTION  
SCALE:  $\frac{3}{16}$ " = 1"

PLAN  
SCALE:  $\frac{3}{16}$ " = 1"



ELEVATION  
SCALE:  $\frac{1}{16}$ " = 1"



ISOMETRIC VIEW  
SCALE:  $\frac{1}{16}$ " = 1"

DETAIL OF BUILT-IN WRITING DESK

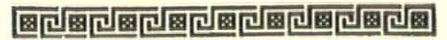
A SERIES OF WORKING DRAWINGS BY JACK G. STEWART

PLATE N<sup>o</sup> 20

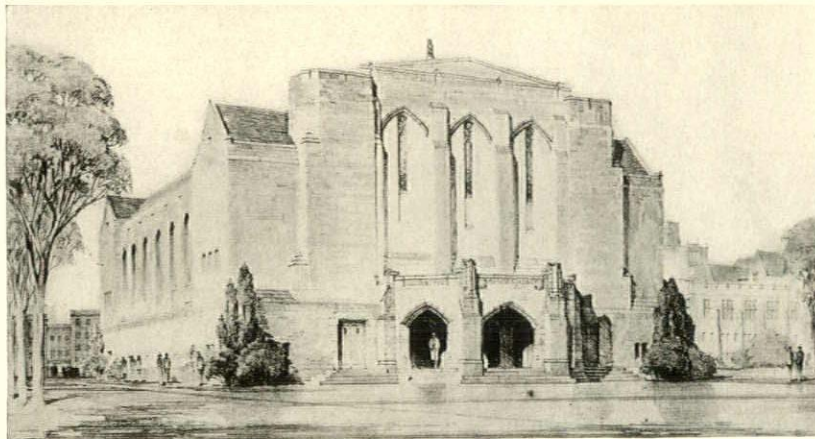




*Work is well under way upon a Community Centre for Manchester, Conn., consisting of the Whiton Memorial Library (left) and the Morton Y. M. C. A. The central portion is now standing. At the right will be the Y. M. C. A. gymnasium. Hutchins & French, architects*



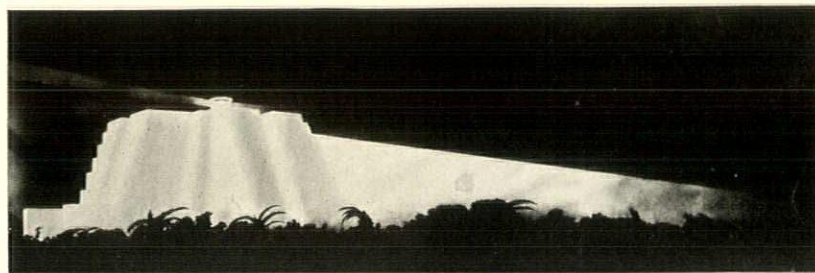
## Architectural Photo-



*The proposed George R. Thorne Hall for the McKinlock Campus, Northwestern University, Chicago. James Gamble Rogers and Childs & Smith, associated architects*



*An air view of the proposed so-called Radio City in New York, from the east side of Fifth Avenue north of 51st Street. Reinhardt & Hofmeister; Corbett, Harrison & MacMurray; and Hood & Fouilhoux, architects*

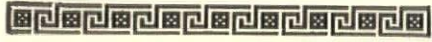


*Winning design by J. L. Gleave, Timperley, Cheshire, England, in the Columbus Memorial Lighthouse Competition*

*A preliminary perspective of Chicago's new Post Office as it will look from the northwest—housing also various other governmental activities. Graham, Anderson, Probst & White, architects*



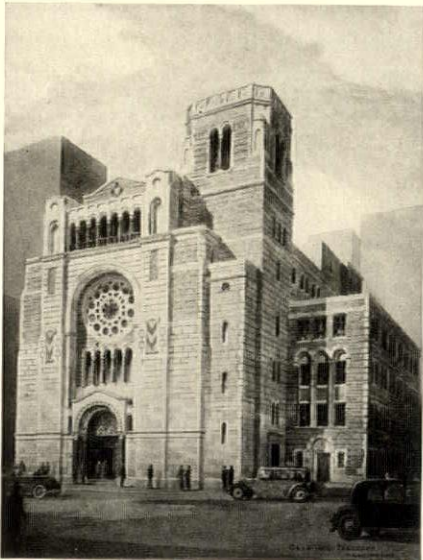




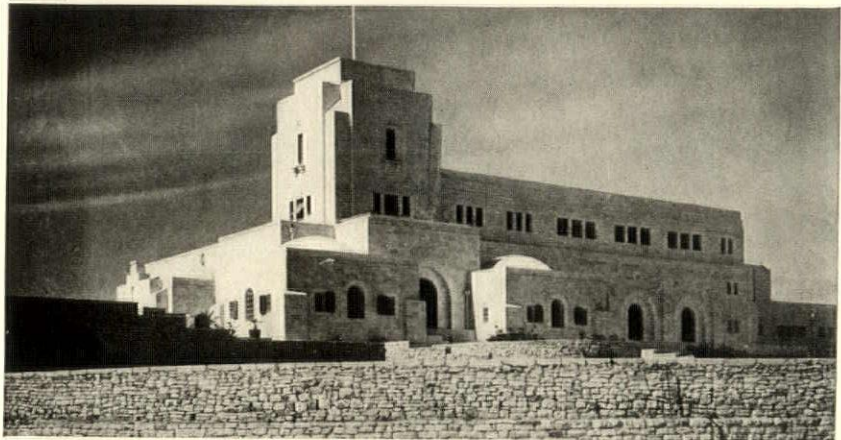
# News in graphs



*A proposed Community Centre for Avalon Park, Chicago, which it is expected will cost approximately \$375,000. Alfred S. Alschuler, Inc., architect*



*The new building for Christ Church (Methodist Episcopal) now being built at 60th Street and Park Avenue, New York City, in which Cram & Ferguson recognize the futility of a spire in competition with surrounding high buildings*



*Government House, the new residence of the High Commissioner for Palestine. Austen St. B. Harrison, architect*



*The new Central Terminal Building recently completed at the Chicago Municipal Airport, measuring 220 by 160 feet outside. Huszagh & Hill, architects*



*The night lighting of the recently completed Scottish Rite Temple, Kansas City, Mo. Keene & Simpson, architects*



## BOOK REVIEWS

**THE ART OF CARVED SCULPTURE.** By KINETON PARKES. Two volumes. 465 pages,  $5\frac{3}{4}$  by 9 inches. Illustrations from photographs. Printed in Great Britain. New York: 1931: Charles Scribner's Sons. \$8.50 each volume.

There are two kinds of sculpture—that which is carved from the block, and that which is modelled in plastic material. The author separates the two very clearly, as they should be separated, not that one is any better than the other, but they are two distinctly different arts. These two volumes treat of the glyptic art from the cave-dweller up to the present time, giving a particularly well-balanced and convincing survey of the sculpture that is cut from a block.

**VOLUME CHANGES IN BRICK MASONRY MATERIALS.** By L. A. PALMER. 24 pages,  $5\frac{3}{4}$  by  $9\frac{1}{4}$  inches. Illustrations from photographs and diagrams. Research Paper No. 321. Reprint from *Bureau of Standards Journal of Research*, Vol. 6, June, 1931. Pamphlet binding. Washington: 1931: U. S. Department of Commerce, Bureau of Standards. 10 cents.

**THE ORDERS OF ARCHITECTURE.** By ARTHUR STRATTON. Introduction by A. TRYSTAN EDWARDS. 49 pages and 80 plates, 9 by  $11\frac{3}{4}$  inches. Illustrations from drawings and photographs. Printed in Great Britain. Philadelphia: 1931: J. B. Lippincott Co. \$8.

In spite of the fact that we already have a great many books on the Orders, Mr. Stratton, who formerly taught architecture in the University of London, feels that in most of the existing volumes the presentation makes an interesting subject irksome and dull. While the plates of the Orders themselves have not the great delicacy of line that marks Esquié, for instance, this is perhaps more than offset by the inclusion of many examples of each Order, with brief notes as to where and when they were built.

**SCHOOL VENTILATION—Principles and Practices.** 73 pages, 5 by  $7\frac{1}{2}$  inches. New York: 1931: Bureau of Publications, Teachers College, Columbia University. \$1.

A New York Commission on Ventilation was appointed by the Governor in 1913. The Commission published an extensive volume in 1923. After a reorganization of the State Government, which made the continuation of the Commission impossible, it was constituted by the Milbank Memorial Fund in 1926. Since then the Commission has published a number of technical reports, and closes its work with this brief final résumé. Among its find-

ings, it is pointed out that large sums are spent by municipalities throughout the country in an attempt to conform to obsolete regulations which have been proven not only unnecessary, but even a menace to health.

**TWO LECTURES ON ARCHITECTURE.** By FRANK LLOYD WRIGHT. 63 pages,  $7\frac{1}{2}$  by  $10\frac{1}{4}$  inches. Illustrations from drawings and photographs. Chicago: 1931: The Art Institute of Chicago. 75 cents.

Educational institutions from the Atlantic to the Pacific have apparently been demanding most of Mr. Frank Lloyd Wright's time in recent months, for lectures to their students on his philosophy of life and art. Mr. Wright has so much to say that he seems not to repeat himself, to judge from a comparison of these two lectures at The Art Institute of Chicago with the series at Princeton, also recently put into book form.

**AN EARLY AMERICAN HOME AND THE FUN WE HAD BUILDING IT.** By CLAUDE H. MILLER. 238 pages,  $6\frac{1}{4}$  by  $9\frac{1}{4}$  inches. Illustrations from photographs and plans. New York: 1931: Thomas Y. Crowell Co. \$3.50.

The author, who was at one time associate editor of *Country Life*, tells with a keen sense of humor the vicissitudes of the layman in building his home. Mr. Miller is writing for the layman, but his book is of great incidental interest to the architect in presenting a point of view which does not admit that the architect sits upon a throne and issues ukases.

**DESIGNING AND BUILDING THE CHAPTER HOUSE.** By OSWALD C. HERING. 63 pages, 8 by 11 inches. Illustrations from photographs and plans. Menasha, Wis.: 1931: George Banta Publishing Co. \$1.25.

Mr. Hering, a New York architect, is chairman of the Interfraternity Conference on Architecture, and has for years made a study of the problem of chapter-house design. He points out with considerable emphasis the importance of consulting a qualified architect, but disappoints us in failing to give any credit to the various architects who have designed the chapter houses illustrated in his book.

**THE DAYLIGHT ILLUMINATION REQUIRED IN OFFICES.** Illumination Research Technical Paper No. 12. By A. K. TAYLOR. 10 pages, 6 by  $9\frac{3}{4}$  inches. Illustrations from graph plans. Pamphlet binding. Printed in Great Britain. London: 1931: His Majesty's Stationery Office (The British Library, 551 Fifth Avenue, New York City, Agents). 10 cents.



*A panel of the front entrance door, house of S. O. Merri- man, Jamestown, N. Y.*

*Albert W. Ford, architect; craftsmanship by Otto W. Heinigke*

THE type of leaded glass in which the lead plays the principal part, forming the design in silhouette while the glass fills the voids, affords an excellent means of enrichment under many circumstances to which leaded glass of the more familiar kinds is not so well adapted.

Examples of this kind of work have appeared here and there during the past few years and some of them are admirable, but it seems to have remained for the recently completed Sterling Memorial Library of Yale University, James Gamble Rogers, architect, to give this method of treatment prominence in a work of architecture of monumental character and outstanding importance.

It is difficult to apply a properly descriptive name to this kind of leaded glass, since it embraces works that vary greatly in technic. The one distinguishing characteristic that marks all varieties is the formation of the design from lead seen in silhouette, not as a mere outline for the design.

Though very old stained glass shows the occasional introduction of fretted lead in parts of the work, the development of a distinct type of leaded glass upon this basis, or upon the massing together and shaping of the leads (comes), appears to be of comparatively recent origin.

A tendency in this direction is to be seen in some of the stained glass of the latter part of



the nineteenth century in the use of lead lines as the chief element in the design, colored glass being used only sparingly in points of accent, with clear glass for the major part. An excellent example of this stage of development is a window that was made for the residence of George Gould, at Lakewood, N. J., some thirty-five or forty years ago and that is still to be seen in the building, which has now been converted into a convent. The architect was Bruce Price, and the craftsmanship was by Heinigke & Smith.

Otto Heinigke, master craftsman in stained glass of the last generation, was a pioneer in this development and

there is still in existence a small panel by him, made apparently as an experiment in the technic, in which the design is composed entirely leads massed together in silhouette. Though the design is of little interest, the principle it demonstrates is important.

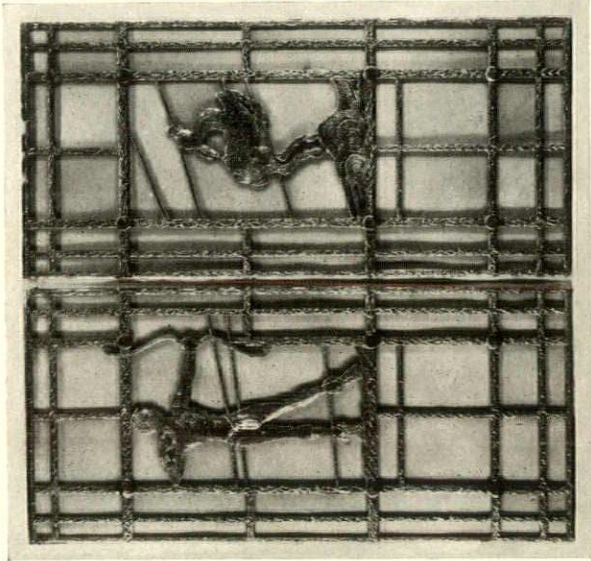
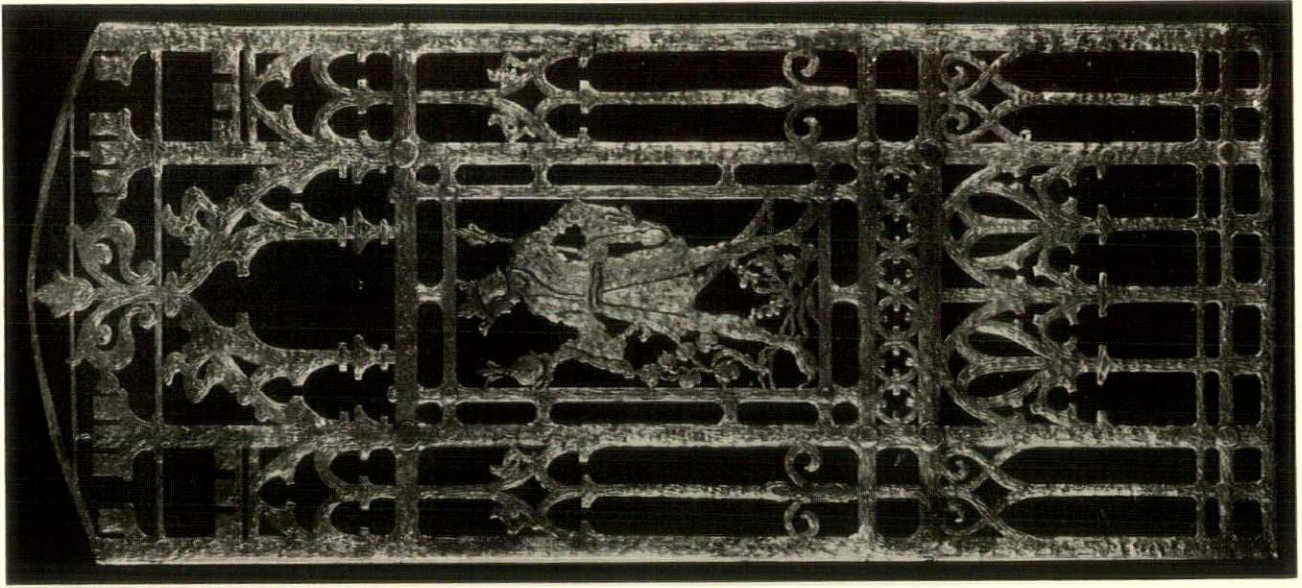
This principle has been developed by his son, Otto W. Heinigke, in the beautiful panel of exquisite workmanship, showing an old-time ship at sea, a photograph of which is reproduced here.

In this instance the leads that outline the silhouetted masses are whole comes, of the usual H-shaped section, while the areas inside of the outlines are filled with flanges (leaves) cut from lead comes, joined together by soldering over a backing of glass. These little strips of lead are

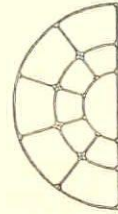
## Lead and Glass in Silhouette

*By Eugene Clute*



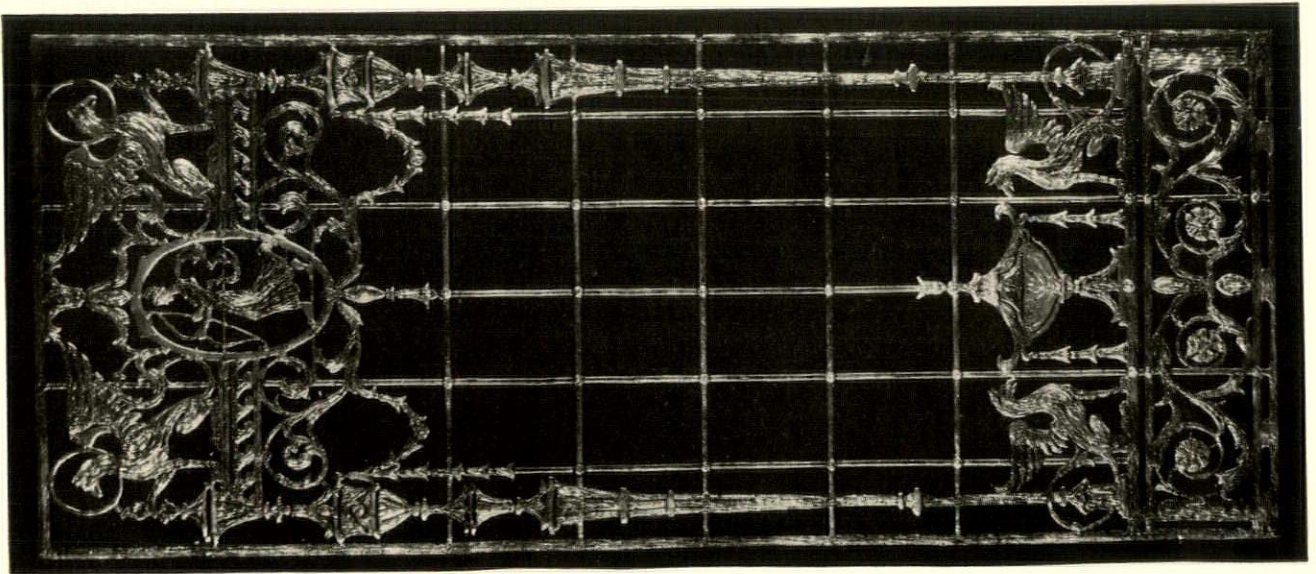


*Panels for the doors of a gun case.  
Craftsmanship by G. Owen Bonawit*



*Panel for a door in a  
country house. Craftsmanship by G. Owen Bonawit*

*A door panel in a New  
York apartment. Craftsmanship by G. Owen Bonawit*







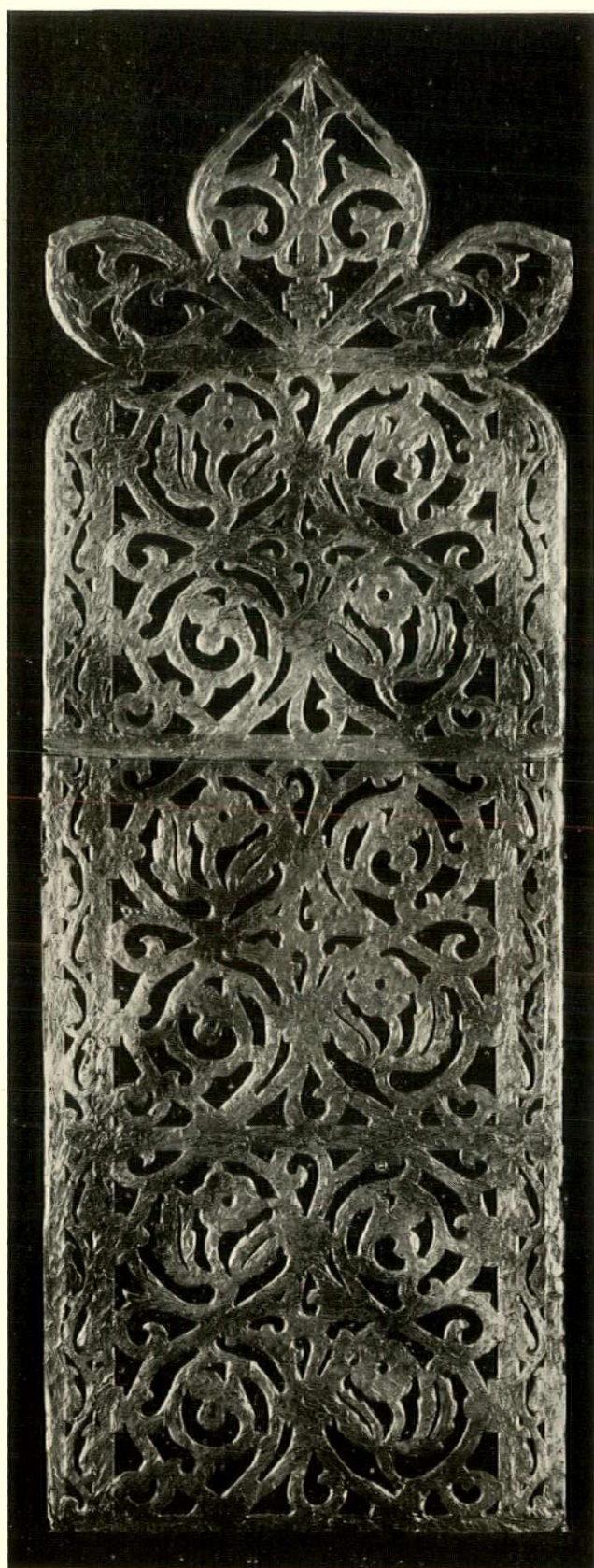
*A window panel, Grand Central Art Galleries, designed by J. Scott Williams, the lead of which is painted in polychrome*

juxtaposed and arranged with great skill and in a variety of ways to produce the texture and direction of lines desired. In some places they are lapped like clapboards; elsewhere they are superimposed like batten construction; and often they are butted edge-to-edge and the joints made to form slight ridges, with sunken deli-

cately curved surfaces between. This refined modelling of the lead surfaces gives them the character and interest needed in expressing the design.

In this panel the lead is of a soft dull black color and the effect is that of a ship seen against the light blue of a moonlit sky on a sea of pale





*A vestibule window panel in Sterling Memorial Library, Yale University. James Gamble Rogers, architect; craftsmanship by G. Owen Bonawit*

green. There is yellow light in the cabin windows and the flag flying from the mast is red and blue. Antique green glass is used to represent the water, and seedy antique glass (containing small bubbles) is used in two thicknesses (plated) in parts to suggest the foam on the waves. The panel illustrated is a replica, made for exhibition, the original being set in the heavy oak entrance door of a residence by Albert W. Ford, architect.

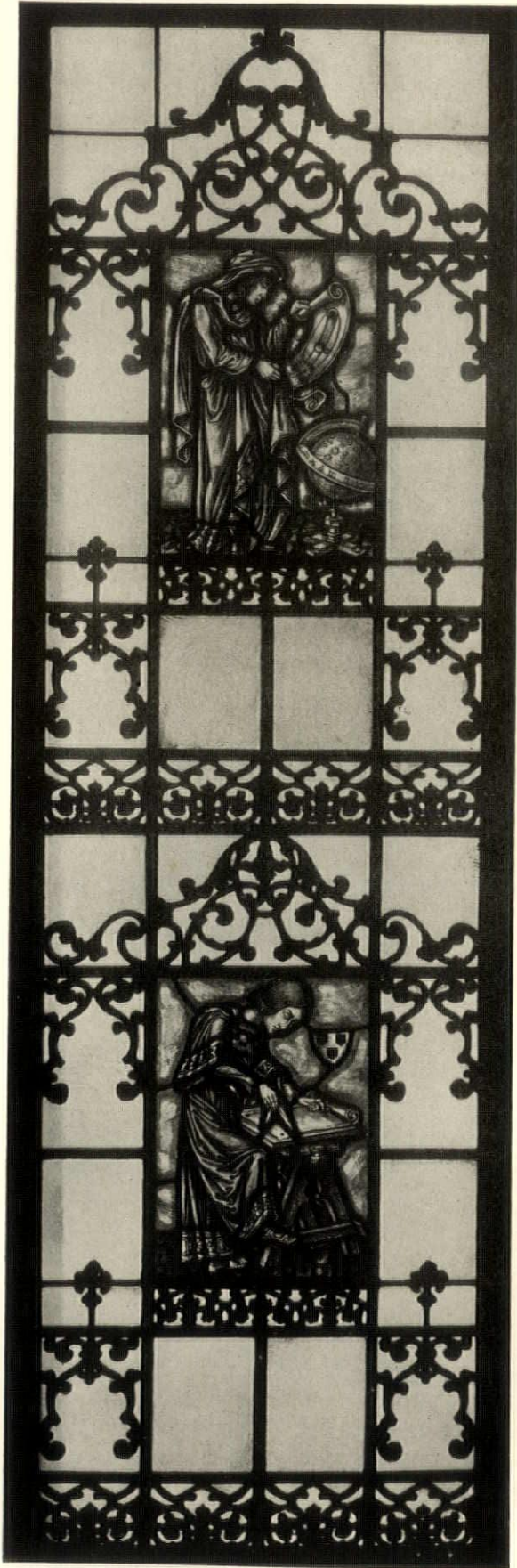
The detail of a side light for a residence by Mellor, Meigs & Howe, architects, is very crisp and graceful in design and well studied for the relation of form and of light and dark. The design is formed of whole leads, extending through from face to face, and the surfaces are vigorously modelled. The craftsmanship is by Heinigke & Smith.

In the room at the Grand Central Art Galleries, finished in oak in the early English manner, are windows of leaded glass that have figure designs cut from lead in silhouette and painted in polychrome by J. Scott Williams. The greater part of the windows is of clear glass with simple leading. The silhouettes are painted with a heavy paste of oil paint laid on thickly in vigorous strokes that give texture and richness of effect. The beauty of the drawing can be seen in the photograph of one of these medallions, the illustration being large enough to show the technic of the painting.

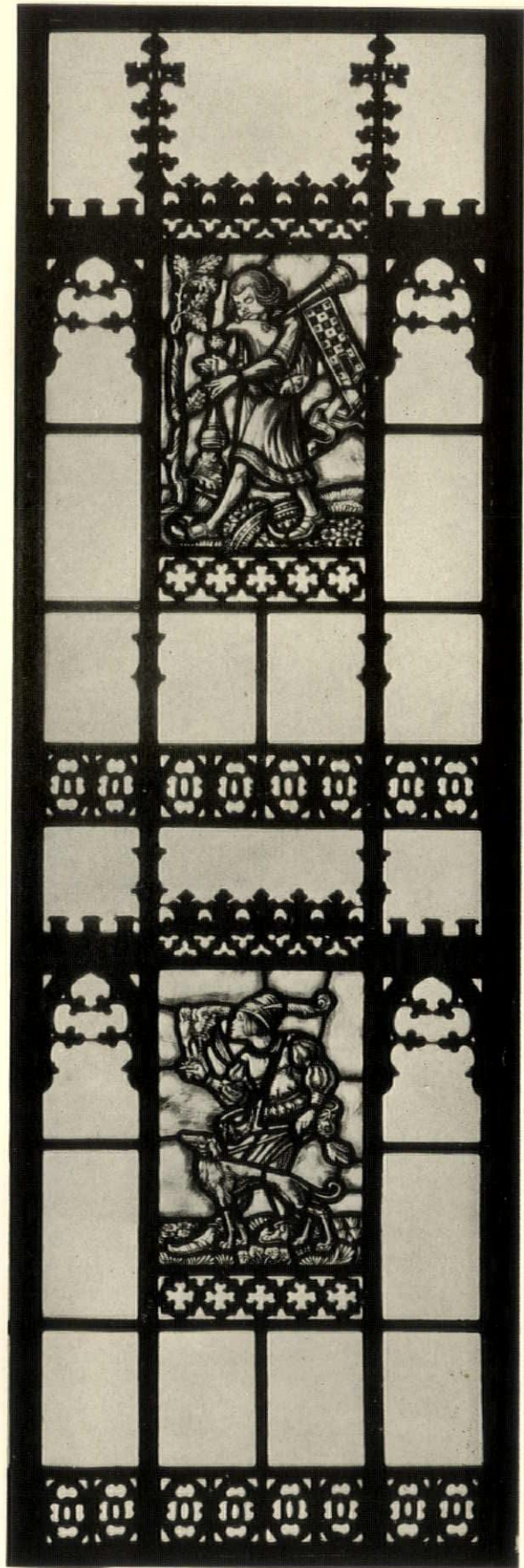
Especially notable instances of the use of silhouettes of lead combined with glass are found in the grille over the entrance to the First National Bank and Trust Company Building at Hamilton, Ohio (ARCHITECTURE, Feb., 1931), and in the leaded-glass panels in the Board of Directors Room and private offices of the Hardware Mutual Insurance Building, Stevens Point, Wis. (ARCHITECTURE, Oct., 1922). Childs & Smith, of Chicago, were the architects of both of these buildings and the leaded glass was made by G. Owen Bonawit for the Lindon Company. The lead was flooded with solder, which was worked to form a texture and allowed to oxidize to a dull silver gray, after which it was lacquered.

Very interesting examples of silhouette work in lead on glass are the windows made by G. Owen Bonawit for the United States Embassy in Tokyo, Japan; H. Van Buren Magonigle, architect. In this case the use of help lines or break lines of leading, which would have been required in glass made up of pieces set in strips of lead, has been avoided by using a piece of



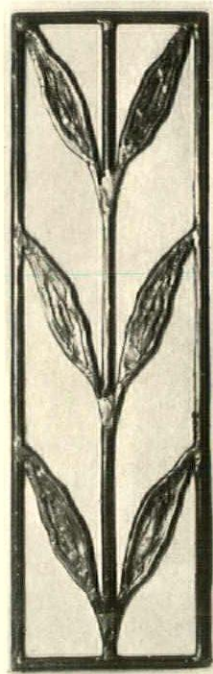
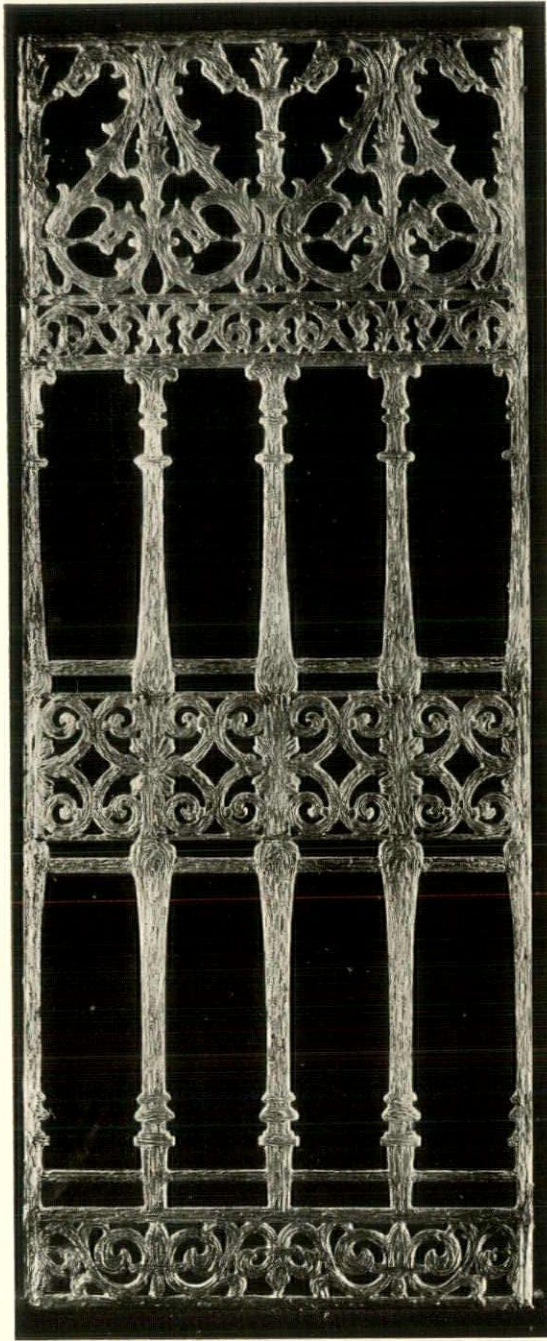


*Half of a window in the Northern States Insurance Building, Hammond, Ind. Childs & Smith, architects; craftsmanship by G. Owen Bonawit*



*Half of a window in the Northern States Insurance Building, Hammond, Ind. Childs & Smith, architects; craftsmanship by G. Owen Bonawit*





*A very simple panel from the George F. Tyler House, Elkins Park, Md. Mellor, Meigs & Howe, architects; craftsmanship by Heinigke & Smith*

*A window panel, Sterling Memorial Library, Yale University. James Gamble Rogers, architect; craftsmanship by G. Owen Bonawit*

*A window in the Rare Book Room, Sterling Memorial Library, Yale University. James Gamble Rogers, architect; craftsmanship by G. Owen Bonawit*

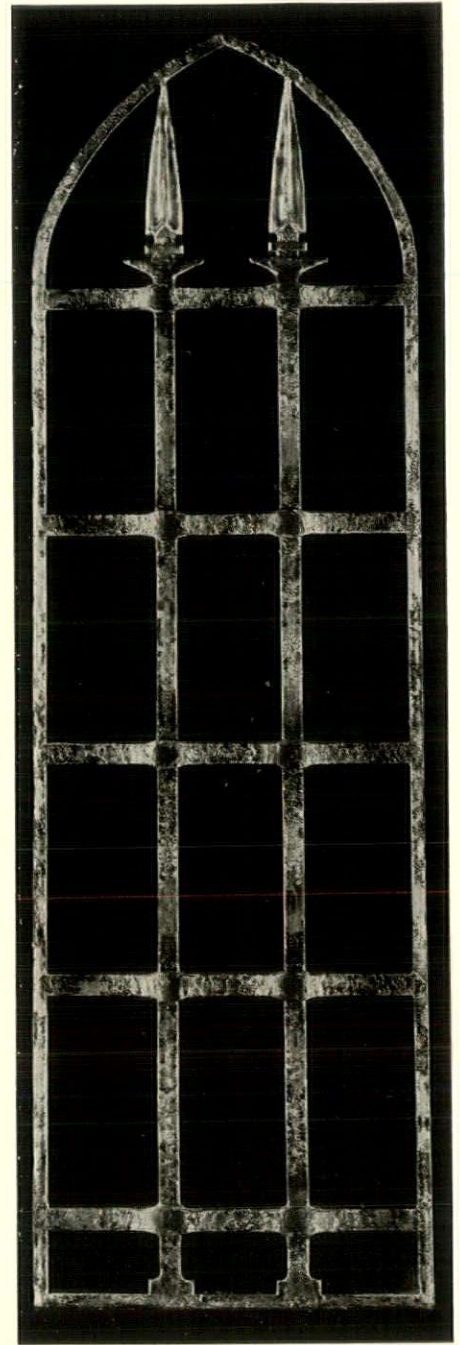


plate glass the full size of each window. Holes were drilled through the glass where required to attach the lead work, four hundred and ten holes in each window, 22 by 60 in. The design in lead, the same on both sides, was applied with a special cement, and anchored by passing wire solder through the holes and melting it with a soldering-iron to form rivet-like connections through the glass from lead to lead. It will be noted by reference to the photograph that the ornament is built up with laminations

cut from sheet lead and applied one upon another. The finish is a soft, satin-like black.

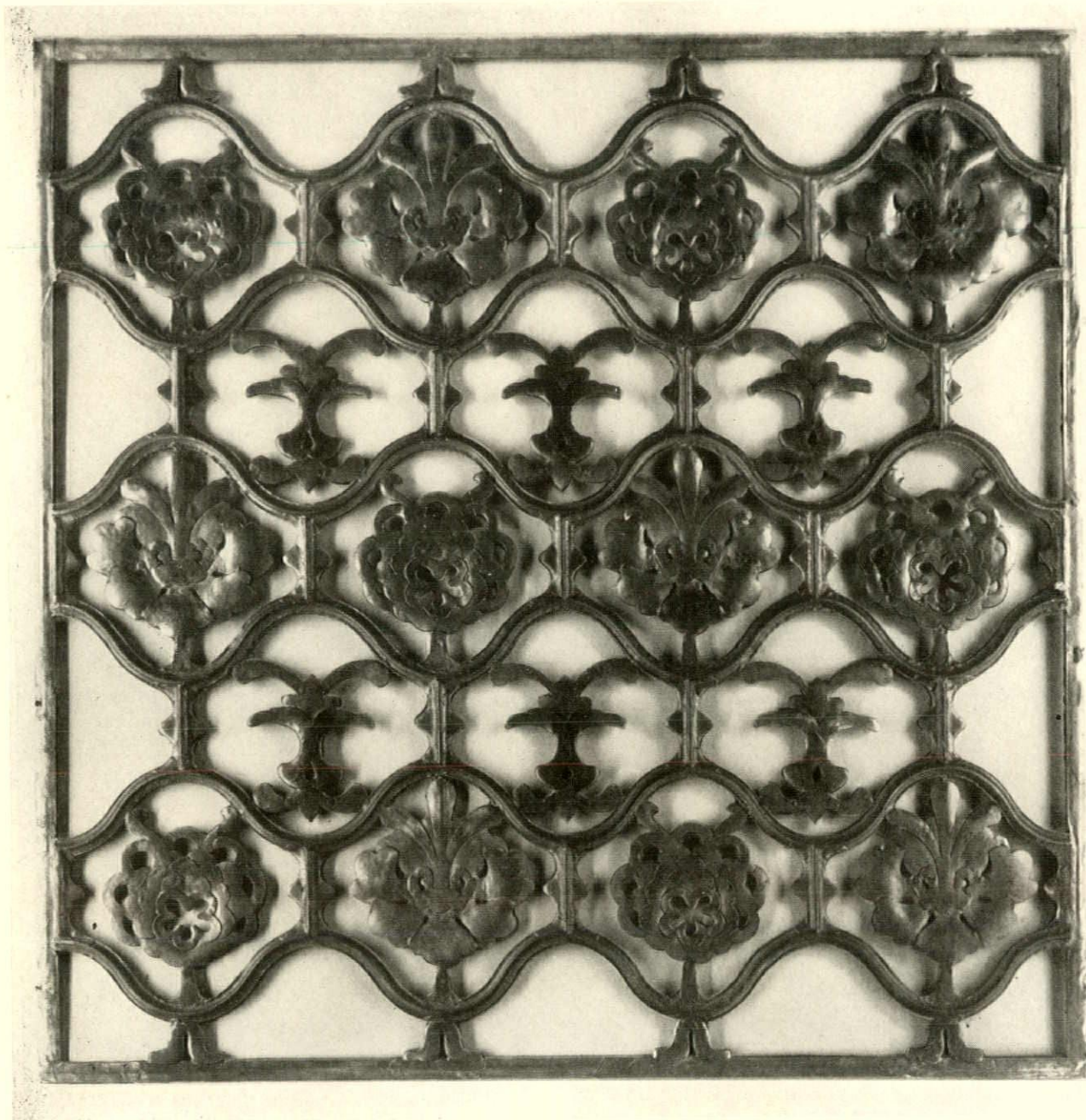
In the lead-and-glass work in silhouette in the Sterling Memorial Library, executed by G. Owen Bonawit, sheet lead cut to form has been applied by attachment to lines of comes that extend throughout the work, the same as in stained glass. The sheet lead was attached by sweating with solder to the lines of lead, then the surface was flooded or puddled with solder, upon which the relief and the desired texture





*Lead doors for a bank at Hammond, Ind. Childs & Smith, architects; craftsmanship by G. Owen Bonawit. Here, as in the window panel on page 16, the lead greatly predominates over the area of glass*





*A window in the United States Embassy, Tokyo. H. Van Buren Magonigle, architect; craftsmanship by G. Owen Bonawit*

were built up and modelled in the solder. Much of the work in this building is finished entirely in gold leaf, antiqued, while some of it has the appearance of old silver, with softly luminous high lights and dark oxidation in the depressions of the surface. A lacquer has been added to preserve its coloring. Besides the elaborate fret-like designs there are very effective simple designs in which straight lines of lead cross each other in a basket weave at the intersections. In these windows there are hand-wrought spear-

heads at the top. The work is stiffened by the use of cames, each reinforced by a strip of steel in its centre, so that the usual external reinforcing bars are not needed. These windows are alike in design within and without, lending beauty to the openings whether they are seen as crisp silhouettes or as ornament in low relief with a lively and beautiful texture and a softness of coloring that tones in with the stone of the building. They mark the early steps of an old craft into paths that may lead us far.



« ARCHITECTURE »

Photographs by  
Richard Averill Smith

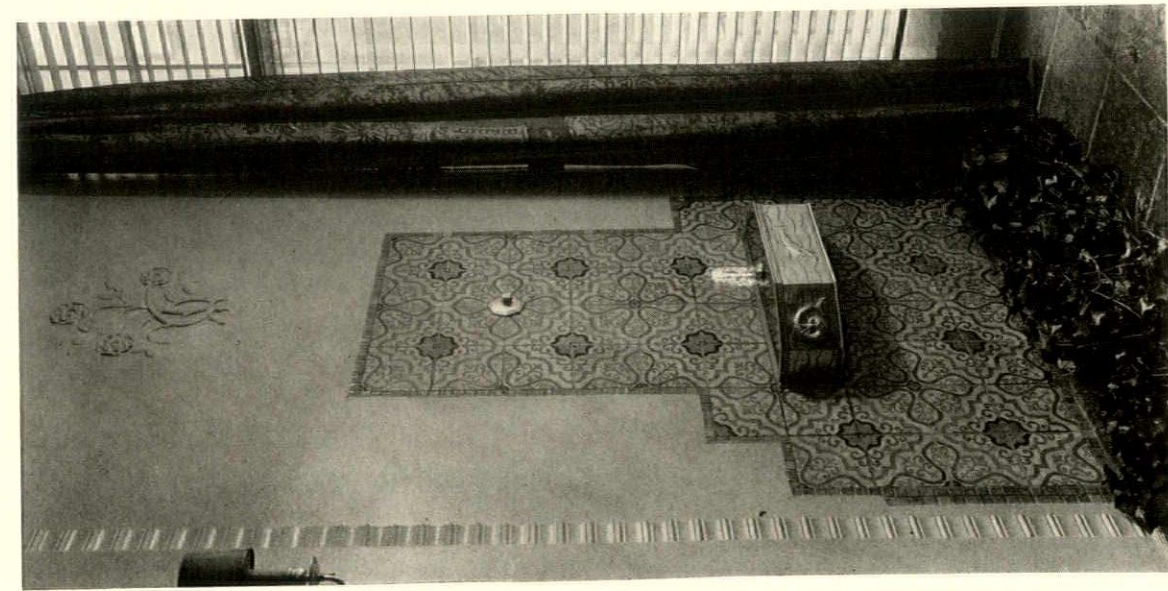


*The finish is grayish brown stucco on brick. There is no attempt to simulate stone jointing, but the surface pattern is secured by changes in planes of one-eighth to three-sixteenth inch. The flower-boxes are of cast stone, copper lined*

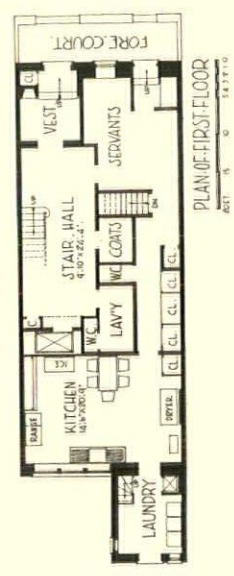
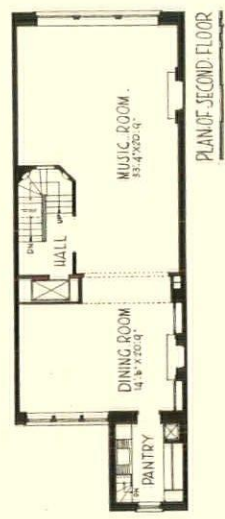
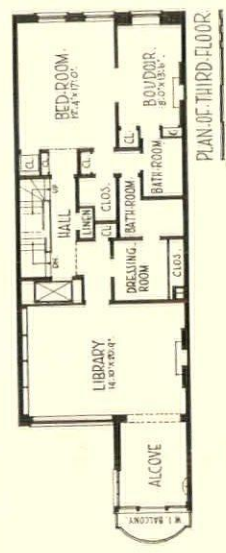
HOUSE OF  
J. T. JOHNSTON MALI,  
NEW YORK CITY

OFFICE OF  
ROSWELL F. BARRATT,  
ARCHITECTS



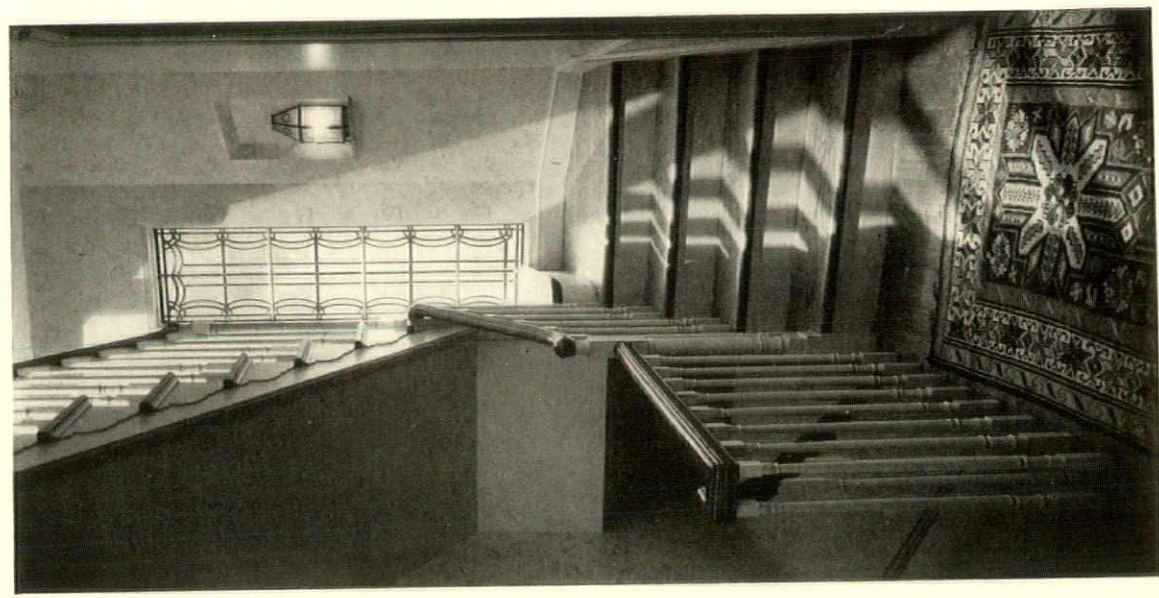


*Fountain in library, of monel metal and silver. The upper outlet is for filling flower vases. The wall and Venetian blinds are dull turquoise; the tiles blue over tan; the floor of iridescent brown slate.*



HOUSE OF J. T. JOHNSTON MALL,  
NEW YORK CITY

OFFICE OF  
ROSSELL F. BARRATT, ARCHITECTS



*The stair hall at the music-room landing. As will be seen from the plan, the case window shown on the stairway is a borrowed light, opening toward the 10 x 17 ft. north window of the music room.*





*Music-room mantel. The fireplace hearth is Belgian Black marble; the facing, black and gold marble. On the ceiling there is a conventionalized pattern of strap work to harmonize with the Renaissance tapestry*

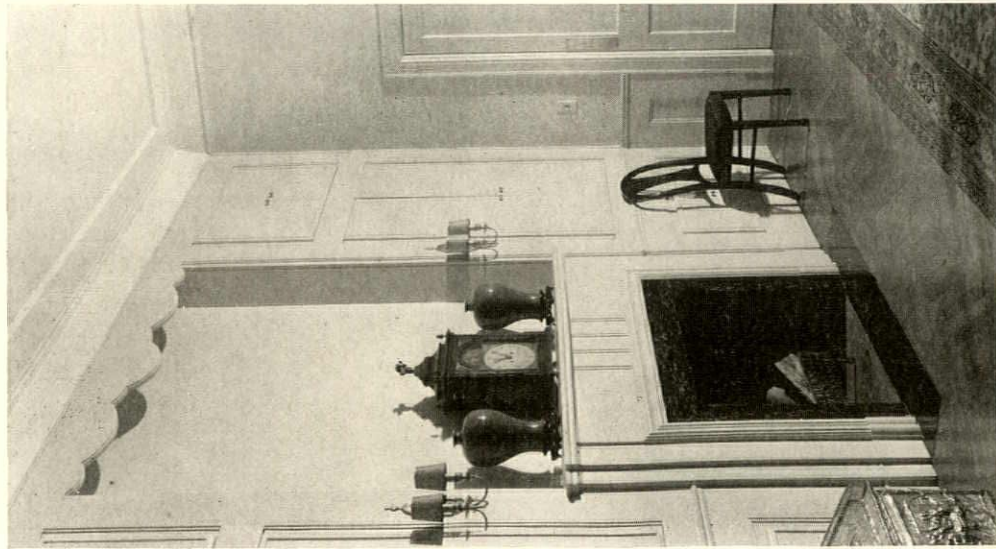
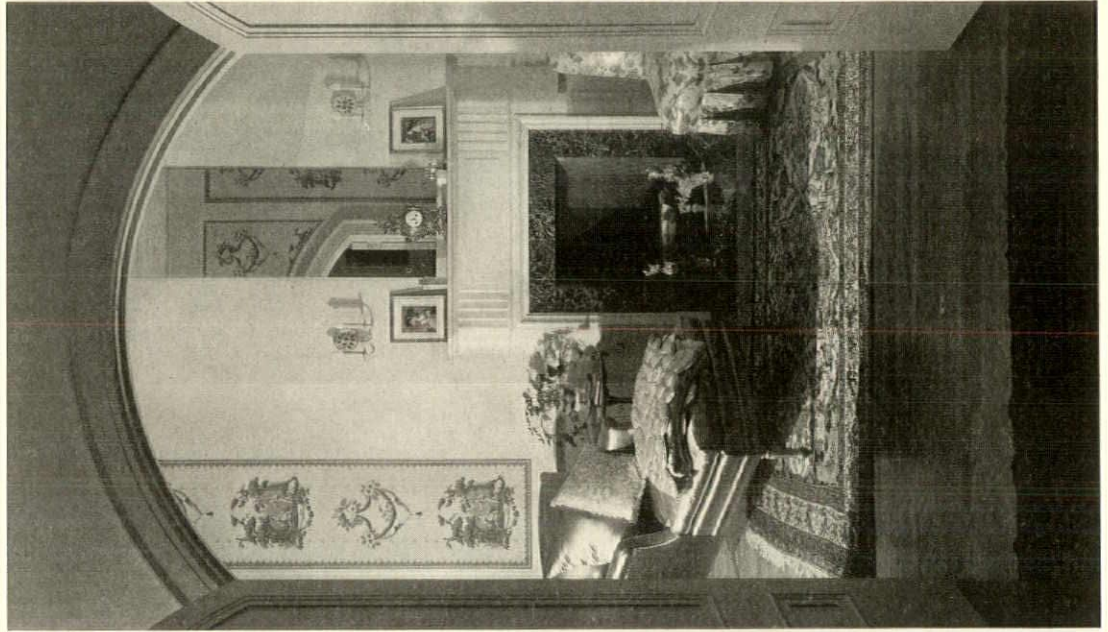


*Library, with its recessed book shelving. Walls and trim are dull turquoise*

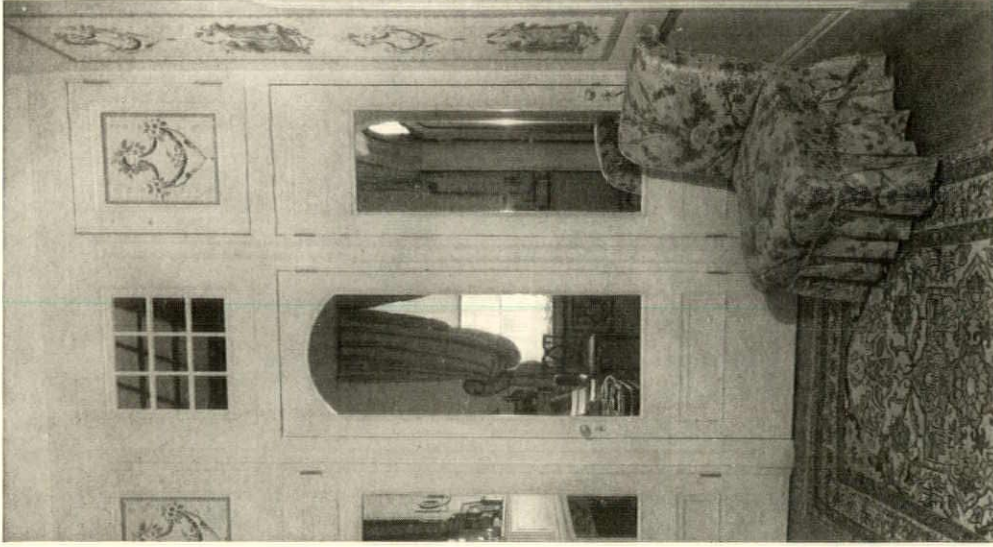


« ARCHITECTURE »

*Boudoir as seen from the main bedroom. French wall-paper panels in pink and green; walls and trim are pink; the wood mantel returns are concave; the fireplace facing of green marble*



*The dining-room, of same color as the music room, into which it opens. The recessed space over the mantel was designed to accommodate the old clock*



*End wall of the boudoir. The three doors open to a cabinet of trays, a bathroom, and a closet*

OFFICE OF ROSWELL F. BARRATT,  
ARCHITECTS

HOUSE OF J. T. JOHNSTON MALI,  
NEW YORK CITY



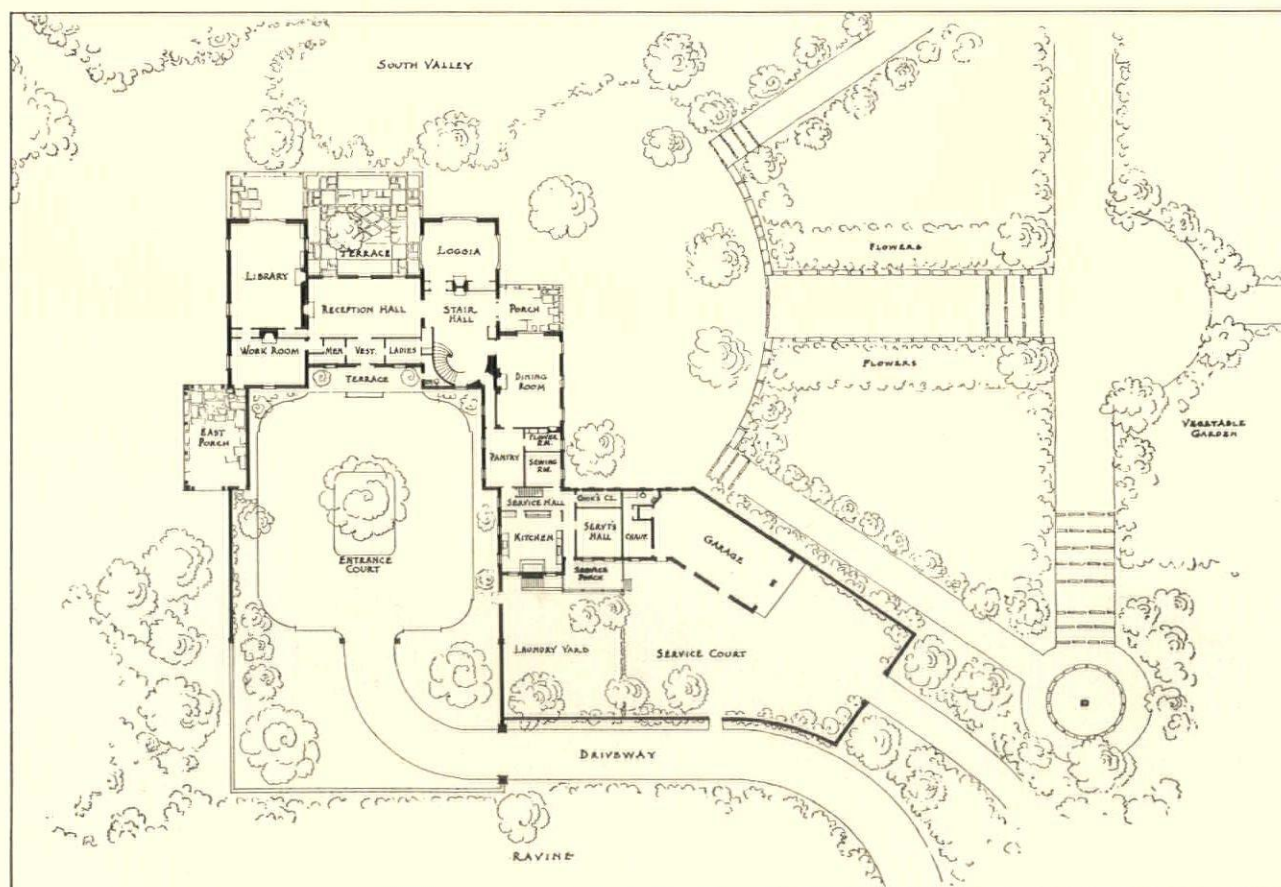


Photographs by Samuel H. Gottscho

HOUSE OF PAUL D. CRAVATH, LOCUST VALLEY, LONG ISLAND

BRADLEY DELEHANTY, ARCHITECT

ISABELLE PENDLETON, LANDSCAPE ARCHITECT







*The terrace front*

*Gateway to the entrance court*



HOUSE OF PAUL D. CRAVATH, LOCUST VALLEY, LONG ISLAND  
BRADLEY DELEHANTY, ARCHITECT





*Detail of entrance from the court*

*West side with the service quarters at left*



HOUSE OF PAUL D. CRAVATH, LOCUST VALLEY, LONG ISLAND  
BRADLEY DELEHANTY, ARCHITECT





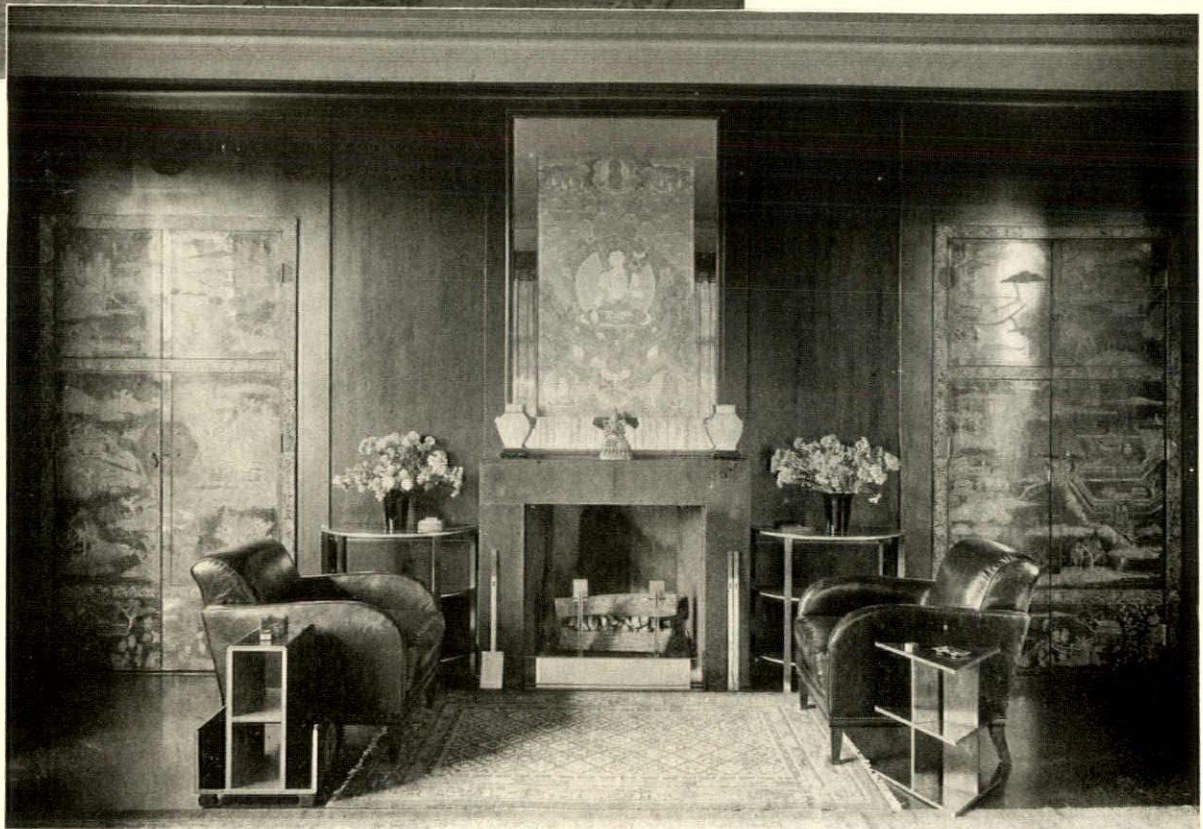
*Main staircase looking toward a window into entrance court*

HOUSE OF PAUL D. CRAVATH,  
LOCUST VALLEY,  
LONG ISLAND

BRADLEY DELEHANTY,  
ARCHITECT

ELSIE COBB WILSON, INC.,  
INTERIOR DECORATOR

*The fireplace side of the loggia*







*In the dining-room, the long window of which looks out upon the garden*

HOUSE OF PAUL D. CRAVATH,  
LOCUST VALLEY,  
LONG ISLAND

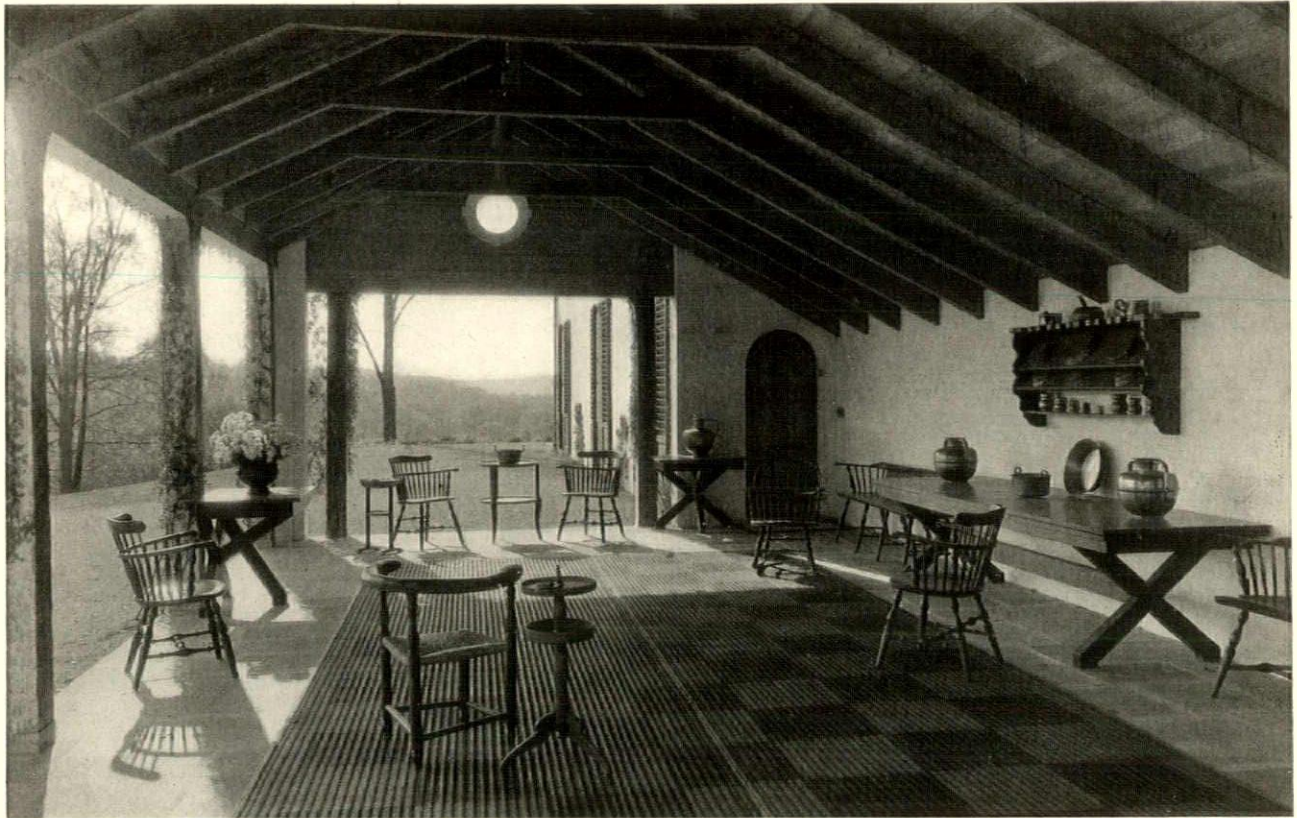
BRADLEY DELEHANTY,  
ARCHITECT

ELSIE COBB WILSON, INC.,  
INTERIOR DECORATOR



*The fireplace in Mr. Cravath's workroom*





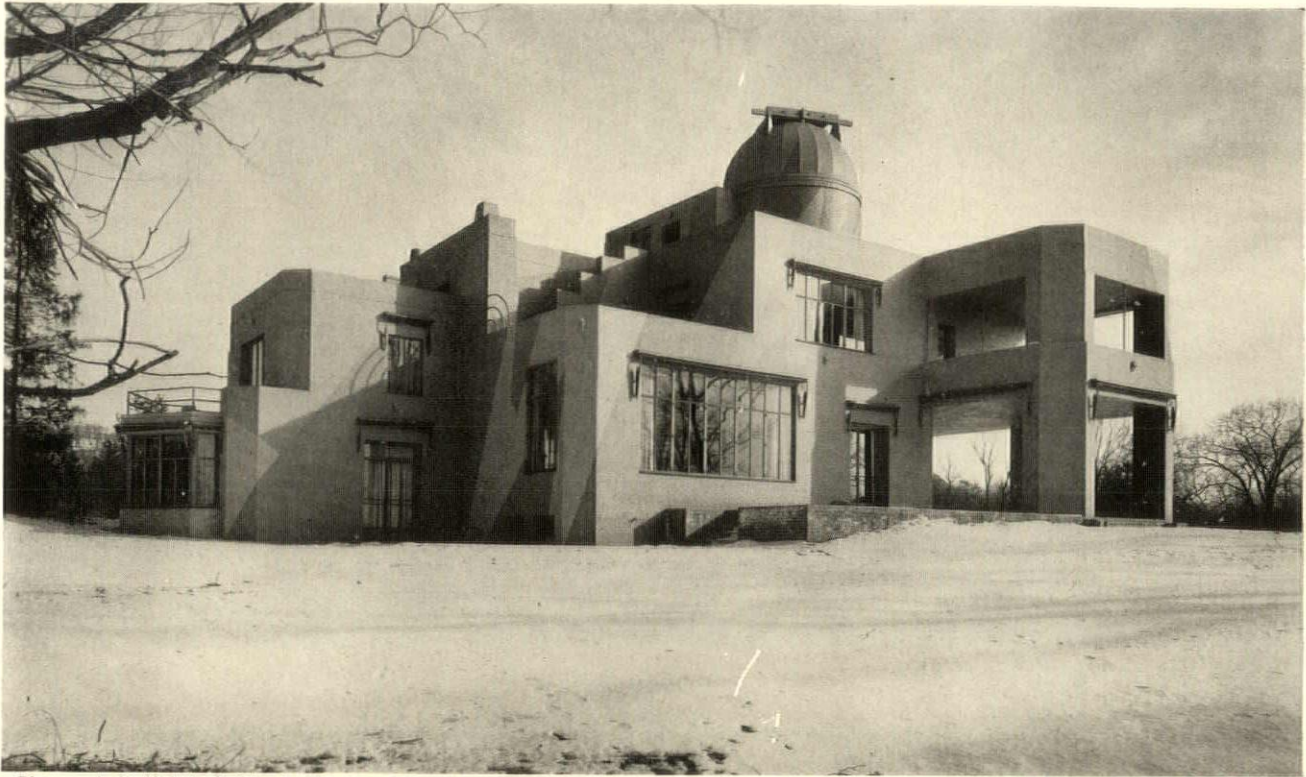
*The east porch*

*The gardener's cottage*



HOUSE OF PAUL D. CRAVATH, LOCUST VALLEY, LONG ISLAND  
BRADLEY DELEHANTY, ARCHITECT





*Photographs by Nyholm & Lincoln*

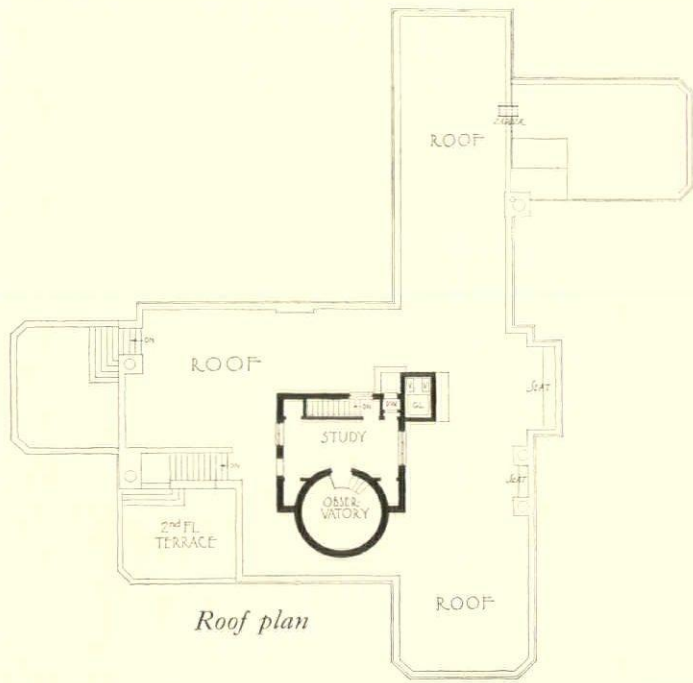
*The brick-faced walls are painted in pastel shades of yellow, blue, green, and red-brown*

A COUNTRY HOUSE, OSSINING, N. Y.

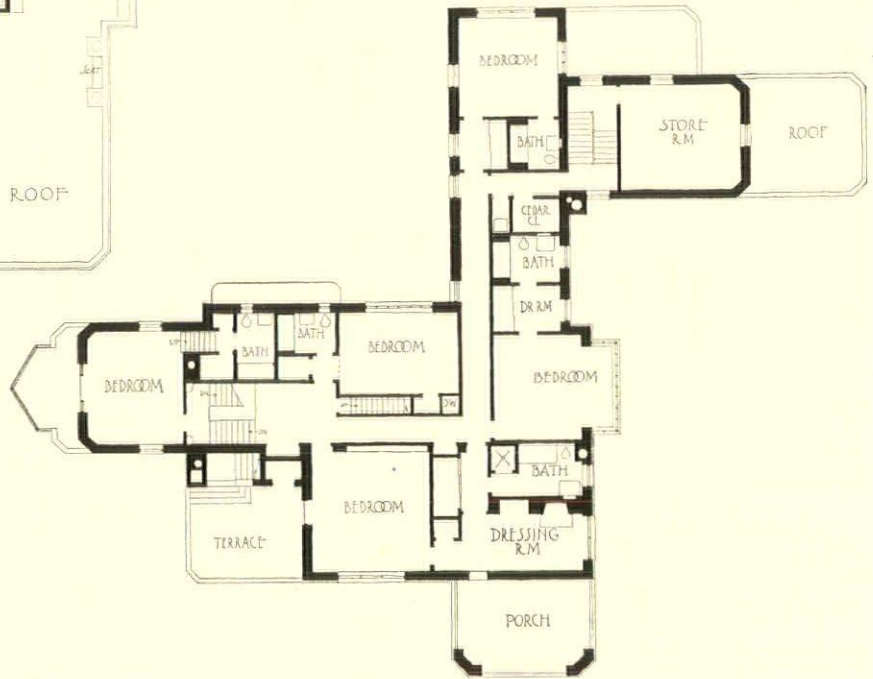
JOHN M. HOWELLS AND RAYMOND M. HOOD, ASSOCIATE ARCHITECTS



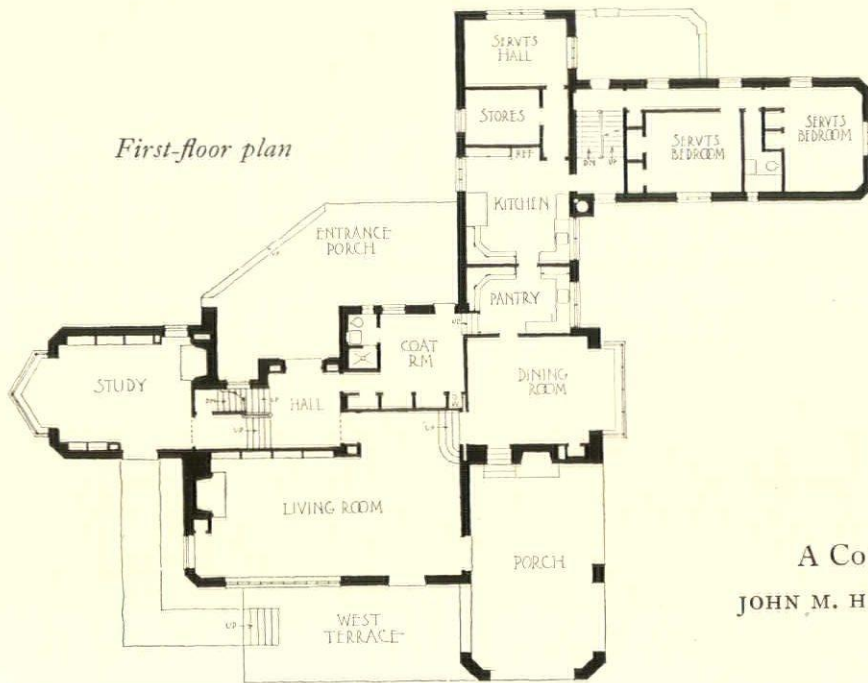




*Roof plan*



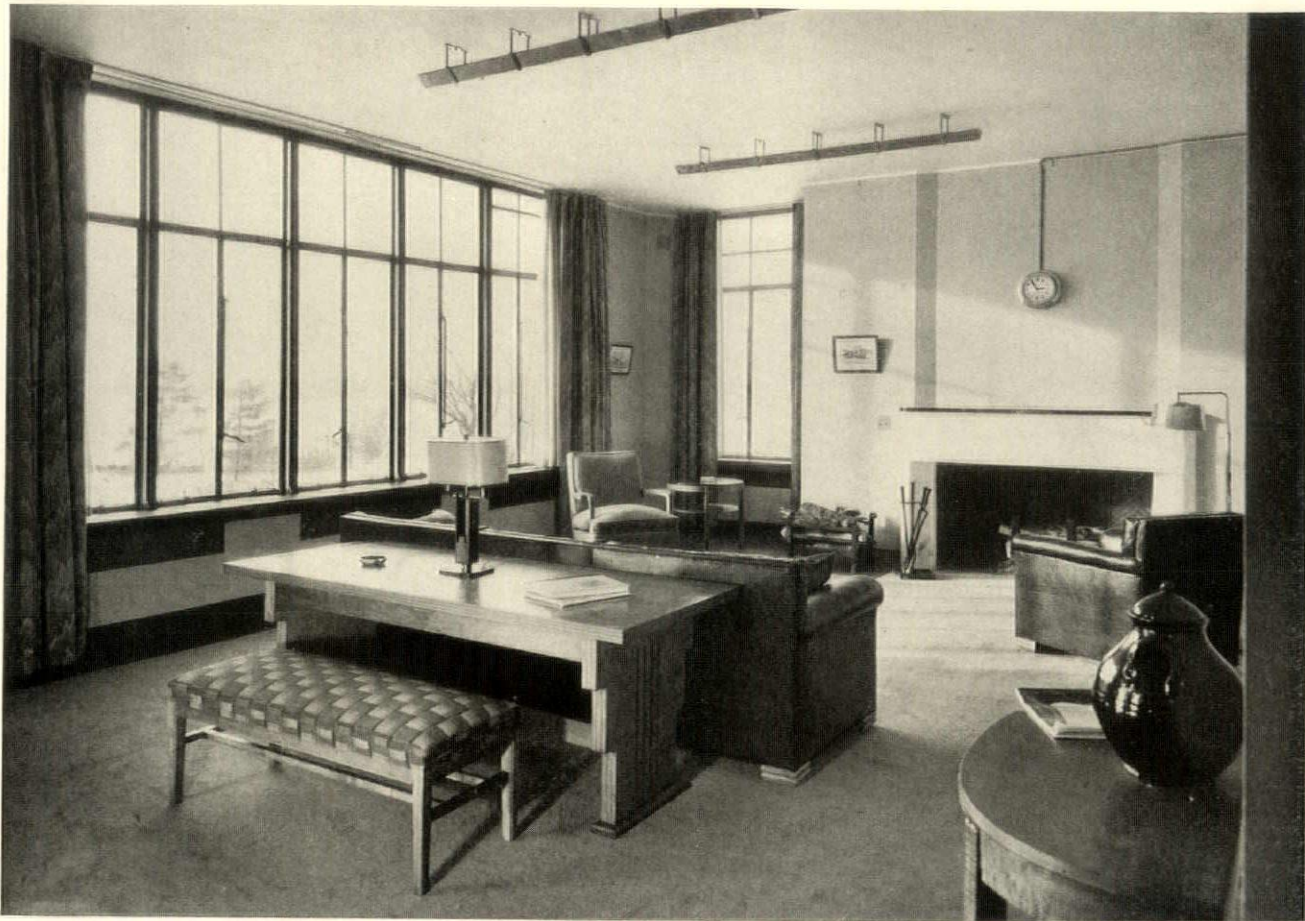
*Second-floor plan*



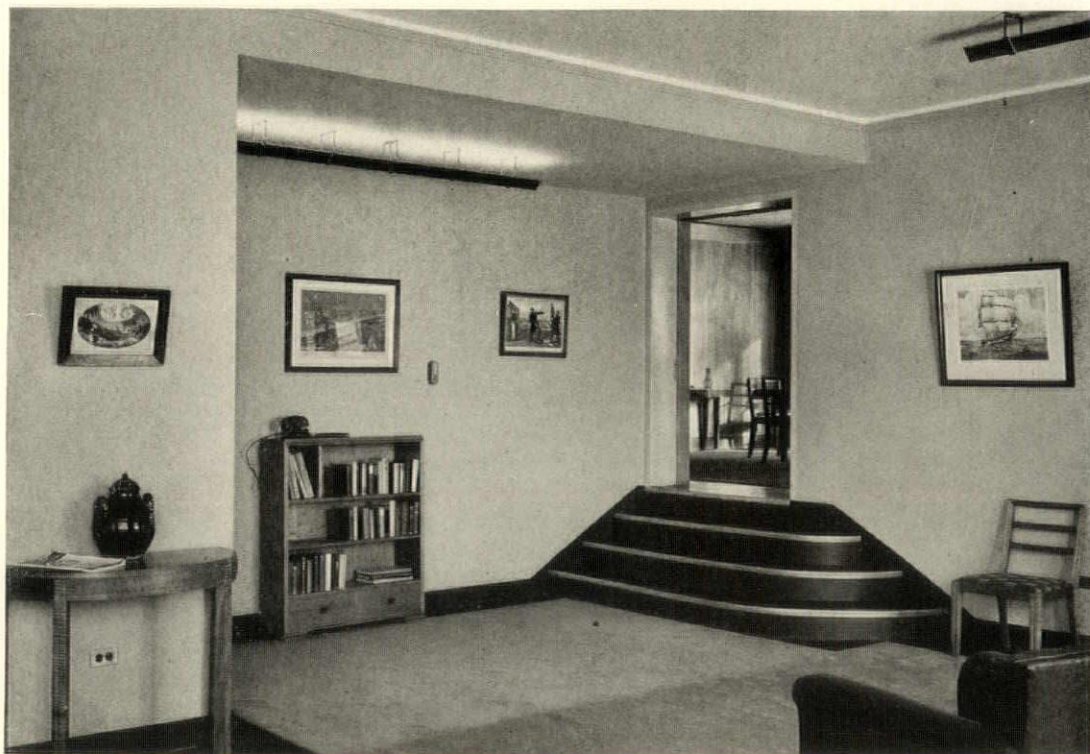
*First-floor plan*

A COUNTRY HOUSE, OSSINING, N. Y.  
JOHN M. HOWELLS AND RAYMOND M. HOOD,  
ASSOCIATE ARCHITECTS





*The fireplace end of the living-room, in which the usual axial arrangement has been abandoned in the interests of comfort and light. The walls are greenish gray, the floor covered with a deep-green carpet, the furniture in maple and black leather, the draperies patterned in wood-green, orange, and brown*

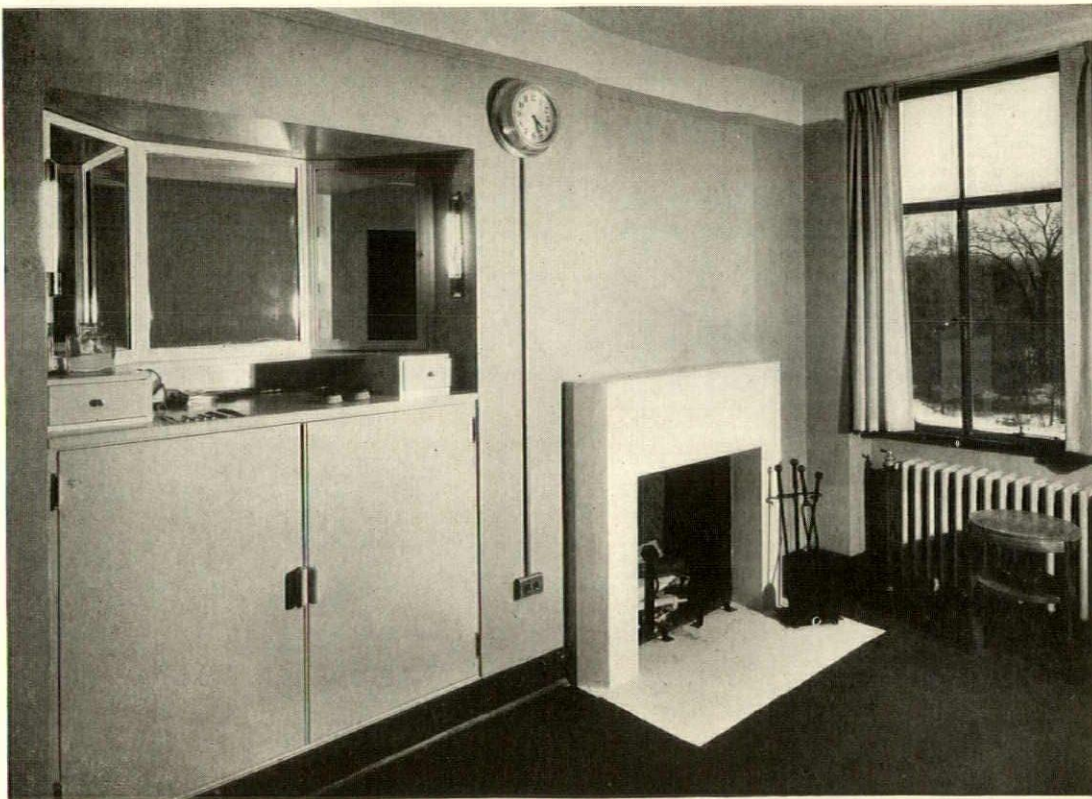


*A corner of the living-room, looking into the dining-room on a higher level*

A COUNTRY HOUSE, OSSINING, N. Y.

JOHN M. HOWELLS AND RAYMOND M. HOOD, ASSOCIATE ARCHITECTS





*The study has walls of natural cork, waxed, with black trim and chromium-plated lighting troughs. The carpet is egg-plant color, curtains wool tapestry, furniture ebony and hawthorn, with black veal skin covering for sofa and desk*

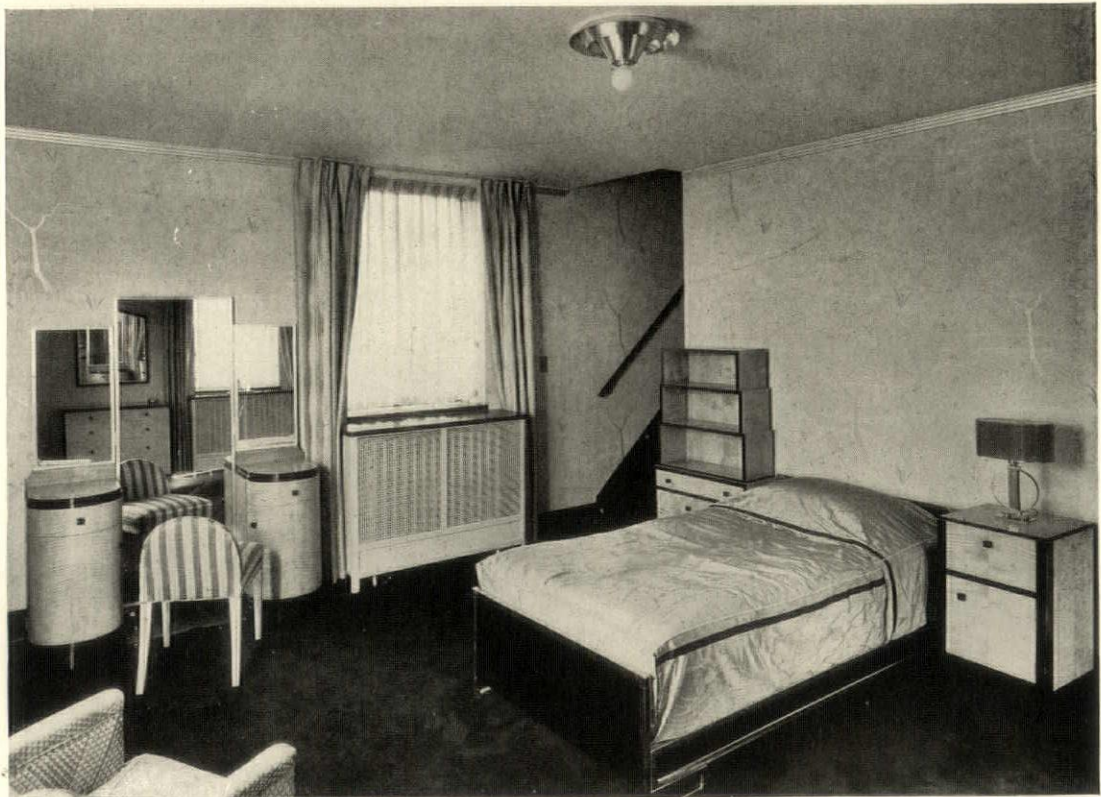
*One of the dressing-rooms, in all of which the important furniture has been built in*

A COUNTRY HOUSE, OSSINING, N. Y.  
JOHN M. HOWELLS AND RAYMOND M. HOOD, ASSOCIATE ARCHITECTS





*The dining-room walls are covered with a silver gray Prima Vera veneer applied over the plaster. The furniture is macassar ebony upholstered in red leather; the carpet is burgundy; the draperies have a modern pattern in warm coloring*



*A bedroom, the walls of which have a washable covering in rose and silver. The carpet is black, the draperies blue, the furniture of ebony and hawwood*

A COUNTRY HOUSE, OSSINING, N. Y.

JOHN M. HOWELLS AND RAYMOND M. HOOD, ASSOCIATE ARCHITECTS



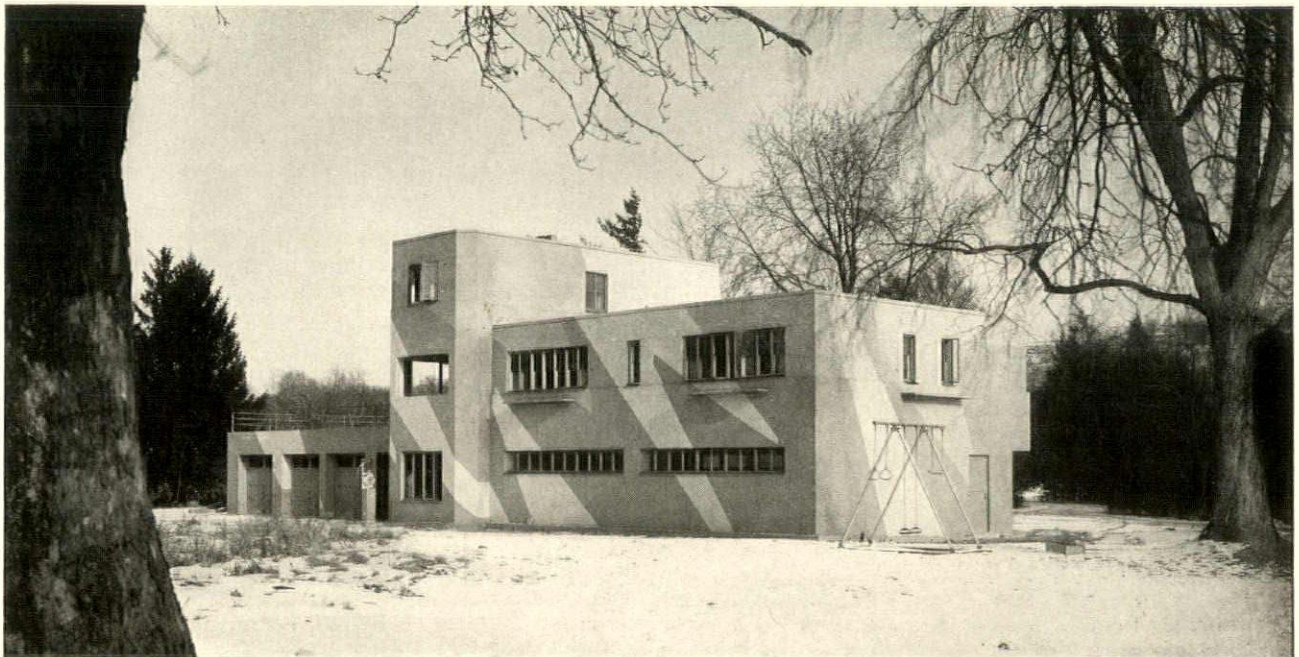
*The stairway has a chromium rail, the stairtreads being black slate; the floor, terrazzo in green and black chips. Side walls are greenish gray*

A COUNTRY  
HOUSE,  
OSSINING, N. Y.



JOHN M. HOWELLS  
AND  
RAYMOND M. HOOD,  
ASSOCIATE  
ARCHITECTS

*Below, the garage, painted in the same colorings as the house, and providing quarters for seven cars, a repair shop, and service apartments*

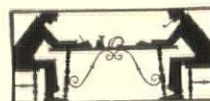




# CONTACTS



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



THE following is an excerpt from Section IV of The Tentative Report submitted by the Committee on Fundamental Equipment to the President's Conference on Home Building and Home Ownership, held in Washington, December 2 to 5 last. It is an excellent example of the thoroughness with which the many committees carried out their work, aiming to show how we can build better houses more economically for America, particularly in the lower-income ranges. Although this and the other reports are based upon the needs of the small house, many of the provisions, as in this case, apply to domestic architecture throughout the scale.

1. *Cost of Equipment as Affected by District and Climate, also by Urban or Rural Location.* About the first thing a prospective home builder or owner wishes to know is the comparative cost of the various kinds of heating systems. Definite figures for these comparative costs cannot be determined for any particular house in any particular district except by submitting definite plans and specifications to several reputable contractors for estimates. In the process of budgeting a home before this state is reached it is very helpful to have some idea of what these comparative costs may run. . . .

The ordinary one-pipe steam system is made the basis of comparison and the following general observations may be of value.

The costs of one-pipe steam systems in the colder climates range from 15 per cent for \$2,000 homes to 10 per cent for \$9,000 homes and in the milder climates from 10 per cent for the \$1,500 homes to 5 per cent for the \$7,000 homes. The costs of other systems in percentage of the cost of one-pipe steam systems will range as follows:

Two-pipe vapor . . . . .	125%
Two-pipe hot water . . . . .	130%
Piped furnace . . . . .	65%
Pipeless furnace . . . . .	35%
Convection heaters or stoves . . . . .	15%
Air conditioning gas or oil fired furnaces . . . . .	150%



## Heating the House

Air conditioning furnaces  
with summer cooling . . . . . 250%

Heating systems costing more than 10 per cent of the total cost of the home are out of normal proportion in the budget and for this reason stoves, convection heaters, or grates are recommended for houses costing \$2,500 or less.

2. *Operating Costs.* After analyzing the cost of equipment, the next important question is the economy of operation. . . . The following general observations may be made in this connection. Almost any kind of system with almost any kind of fuel may be operated more economically in the colder than in the milder climates in the matters of heating done per unit of fuel used. This is true for the reason that the load factor in the colder climates is more uniform and therefore requires less regulation, banking, and "on" and "off" operation.

The cost of oil in cents per gallon multiplied by 1.3 for hard coal and by 1.4 for soft coal will give the equivalent cost of coal in dollars per ton.

The cost of gas in dollars per 1,000 cubic feet multiplied by 24 for hard coal and by 26 for soft coal will give the equivalent cost of coal in dollars per ton.

These figures are general averages and may vary widely with various fuels, systems, and methods of control and operation.

3. *Personal Preferences.* The further important questions are concerned with comfort, cleanliness, noise, odors, space occupied, gen-

eral appearance of apparatus, labor and care of operation, control and uniformity of results, and the carrying charges and upkeep of apparatus.

These are all questions which must be decided by each individual owner in accordance with his desires and requirements.

4. *Effects of Building Construction.* The effects of different types of building construction on the heating of a home are shown in Tables 12, 13, 14, and 15 in the appendix, but the following general points may be observed.

Standard wood construction is taken as a basis and shall be understood to consist of the following:

Walls—of 2" x 4" studs spaced not over 18" on centres, 25/32" wood sheathing on outside, building paper over this and bevel siding, drop siding or shingles over this; inside wall wood laths and plaster.

Roof—wood shingles on slat deck on wood rafters, no underfinish. Attic floor—wood joists, no attic flooring, under finish of wood laths and plaster forming the top-floor ceiling.

Walls of other constructions will have the following general effects on an average six-room house.

The addition of an extra wood sheathing under the plaster will have about the same effect as the substitution of the ordinary 1/2" board form of insulating base and will add about \$100 to the cost of the house, save about \$100 in the cost of hot-water heating system and about \$15 in the cost of coal in the colder climates. In milder climates these may reduce to a saving of \$40 in the cost of a hot-water heating system and less than \$5 in the saving of fuel.

The addition of lumber construction consisting of 25/32" wood sheathing and 7/8" x 2" furring strips under the wood laths and plaster and similar furring strips between the outside sheathing and the siding or shingles will add about \$250 to the cost of the house, save about \$180 in the cost of a hot-water heating system and about \$30 in the cost of coal in the colder climates. In milder climates these may reduce to \$75 and \$5 respectively.



Lumber construction with stucco outside instead of the siding or shingles will cost about \$100 less, but may cost slightly more for heating system and coal.

An 8" common brick wall furred and plastered on the inside will cost about \$600 more and will require about the same heating.

A 12" brick wall furred and plastered on the inside will cost about \$900 more and require slightly less heating.

An 8" hollow clay tile wall with stucco outside and plaster inside on the masonry will cost about \$675 more and will require more heat.

A 12" tile wall of the same character will cost about \$1200 more and require slightly less heat.

In the matter of roofs the addition of a 25/32" wood attic floor will add about \$60 to the cost of the house and save about \$75 in the cost of hot-water heating equipment and \$10 in cost of coal in the colder climates, reducing to \$30 and practically nothing respectively for milder climates.

Tile roof instead of shingles will cost about \$275 more and require slightly more heating.

The addition of a tight deck to a shingle roof will add about \$50 to the cost of the house and save about \$10 in cost of fuel in cold climates.

The addition of an under finish of wall board or plaster to the underside of roof joists will cost about \$125, save \$100 in cost of heating equipment, \$15 in coal in colder climates, reducing to \$50 and \$3 respectively in milder climates.

In connection with the above figures hot-water heating has been used and the relative saving in costs for other systems will be in proportion to their relative costs.



5. *Effects of Building Insulation and Weatherstripping.* The effects of different kinds of insulation on the heating of a house are shown by the tables published as an appendix to this report, and the following general observation may be noted in connection with these.

The value of insulation or weatherstripping a home, as far as the cost of heating is concerned, depends upon the amount that can be saved in the way of interest and depreci-

ation on the cost of the heating systems, plus the saving in the cost of fuel, as compared with the interests on the added cost of the insulation or/and weatherstripping. The heat losses from the average home, without insulation or weatherstrips, is divided into about 35 per cent through walls, 20 per cent through ceilings and roofs, 20 per cent through glass, and 25 per cent through air leakage. Of these losses about half of the loss through walls, ceilings, and roofs can be prevented by good insulation and about 75 per cent of the losses through air leakage can be prevented by good weatherstripping.

This means that the preventable losses, based on the amount of fuel required for the same house without insulation or weatherstrips, are as follows:

1. Through walls by insulation . . . . . 15 to 20%
2. Through roofs by insulation . . . . . 5 to 10%
3. Through air leakage by weatherstripping 15 to 20%
4. Total by insulation and weatherstrips . . . 35 to 50%

Good insulation in the colder climates will save about 30 per cent of the cost of the heating system and from 20 to 30 per cent of the cost of fuel. In an average-size-room house the added cost of insulation for walls and roof will amount to about \$450, the saving in cost of the heating system will be about \$225, and the yearly saving in fuel will be about \$45. These conditions vary with climatic conditions, so that in the milder climates the saving in cost of the heating system may amount to not over \$100 and the saving in fuel to less than \$10 per year. These figures are based on wood construction and hot-water heat. The saving in the cost of the heating system will vary as the comparative cost of different types varies.

In all instances of insulation it should be remembered that the substitution of many of the 1/2" commercial insulations for plaster base instead of wood lath and for sheathing instead of wood does not constitute the kind of insulation referred to above.

Also, masonry walls up to 12" thick, while more durable and more

costly than wood, require better insulation.

Heavier masonry walls may require the same or even less insulations than wood walls and in addition may produce much warmer conditions in winter and cooler conditions in summer on account of their added capacity for heat, which, by causing a lag in the time of transmission, will prevent some of the heat getting out in winter or in in summer except during protracted periods of either hot or cold weather.

In addition to the economic consideration, good insulation tends to prevent cold walls which produce a disagreeable sense of chilliness to persons near them, although the surrounding air within the room may otherwise be at the comfort temperature. It also tends to produce more uniform temperature between floor and ceiling, to prevent cold floors, and air leakage and disagreeable drafts. In the summer, it tends to prevent sweating of walls and excessive air change or replacement of the conditioned air where cooling is employed.

Generally speaking, flexible and blanket forms of house insulation have high insulating values, but some types may be subject to deterioration or infestation.

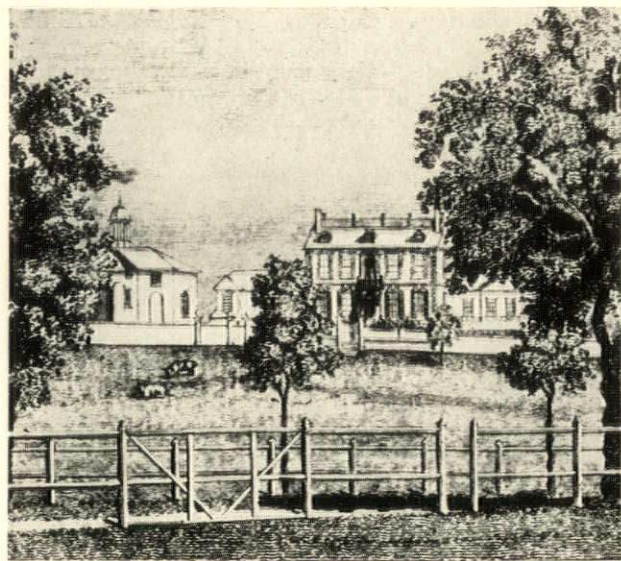
In the colder climates the cost of weatherstripping is usually paid for by the reduction in the cost of the heating system and a saving in fuel of about 20 per cent of this amount is made per year. This condition varies, according to climatic conditions, so that in the warmer districts the saving in the cost of the heating system reduces to about 25 per cent of the cost of weatherstrips and the saving in fuel to about 5 per cent. Weatherstrips tend to prevent disagreeable drafts and cold floors in winter and to prevent excessive air change where summer-time cooling is employed.



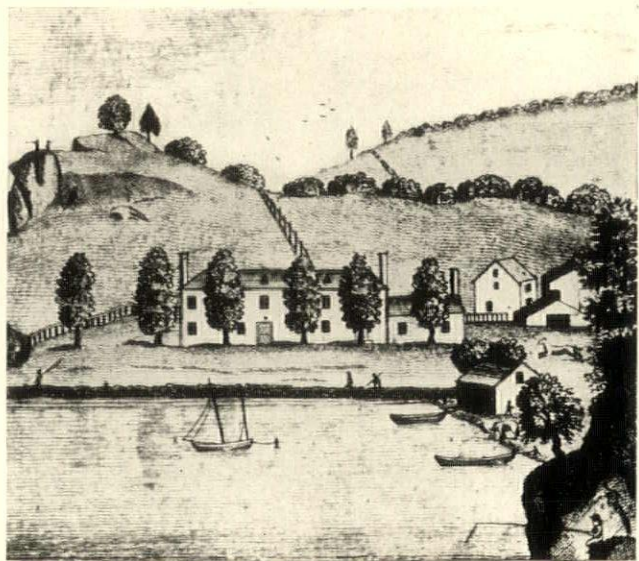
Electric heating at 1 cent per kilowatt hour will equal the cost of heating by coal at \$30 per ton and the cost of the apparatus will about offset the cost of a steam-heating boiler, the remainder of the apparatus throughout the house usually being an ordinary two-pipe hot-water job.



# HISTORIC HOUSES *from* OLD PRINTS



*View of the SEAT of his Excellency JOHN HANCOCK, Esq, Boston, engraved for the Massachusetts Magazine, July, 1789*



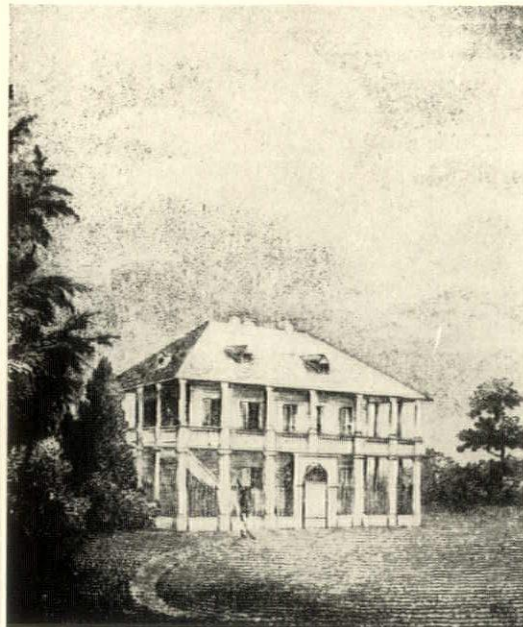
*The Seat of HENRY LIVINGSTON, Esq, at Poughkeepsie, N. Y., engraved for the New York Magazine about 1791*



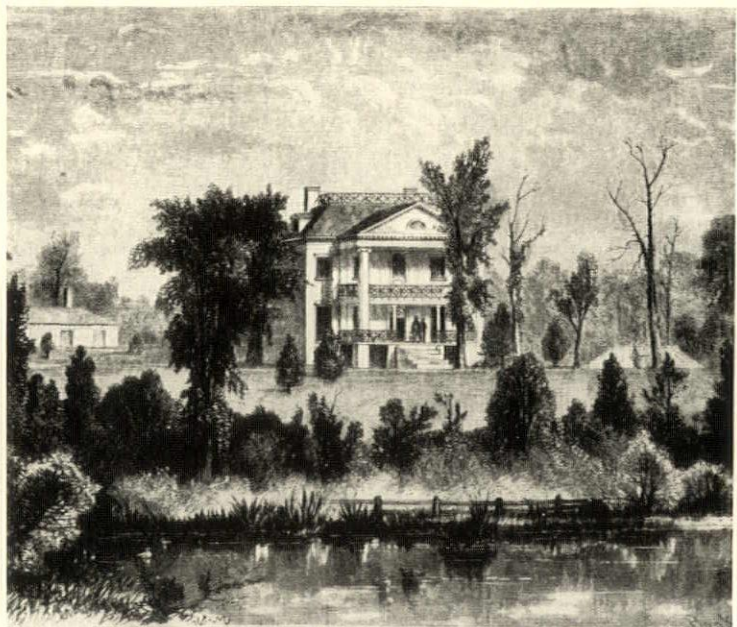
*Most of us are fairly well acquainted with the architectural landmarks remaining from the seventeenth and eighteenth centuries. Those of somewhat later periods have largely been overlooked, perhaps in our impression that the dark ages of our art history were longer in extent than is actually the case*



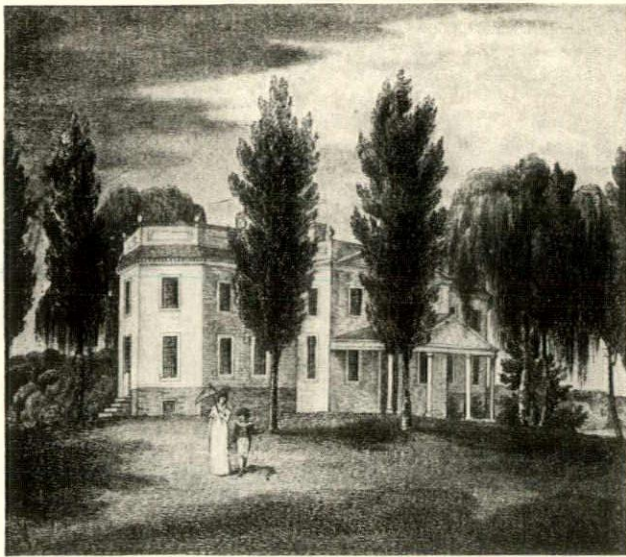
*The SEAT of Mr. Duplantier near New Orleans, lately occupied as Head Quarters by Genl. J. Wilkinson. 1814*



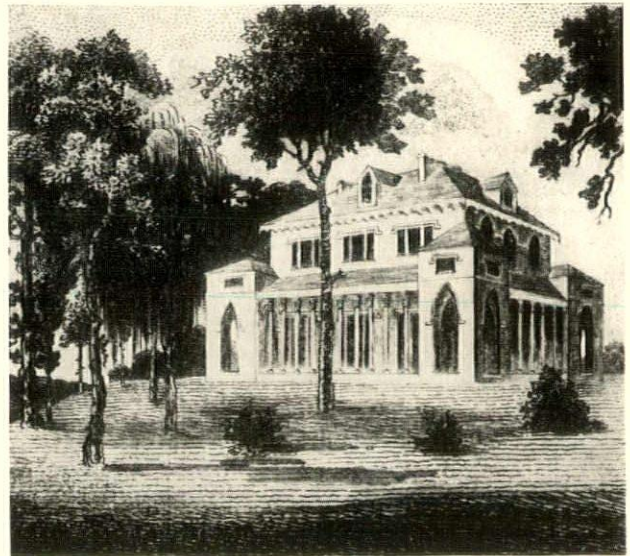
*The Richmond Hill House, Washington's Headquarters. Residence of Vice-President AARON BURR (1801-1805) when New York was the Capital of the United States*



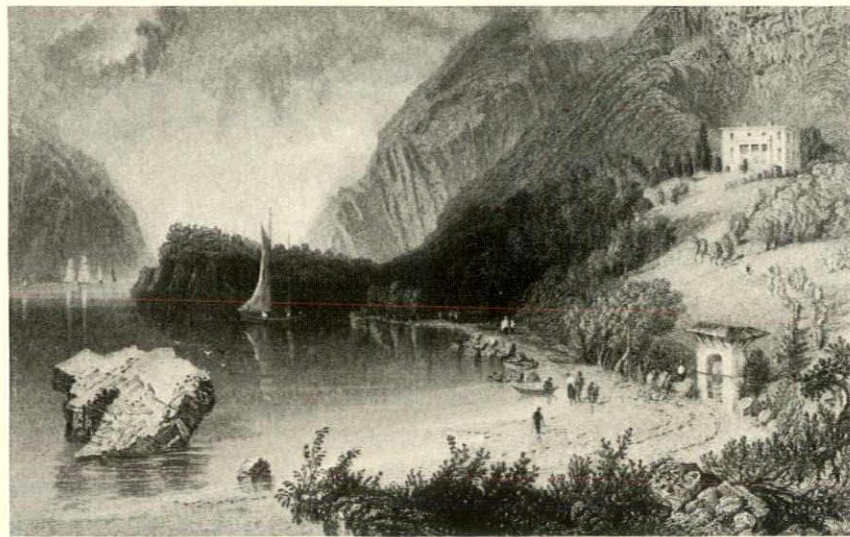




*The Seat of Mr. John Stevens, Hoboken, N. J. 1814*



*Sedgley, the Seat of Mr. Wm. Crammond, Pennsylv<sup>a</sup>. 1814*

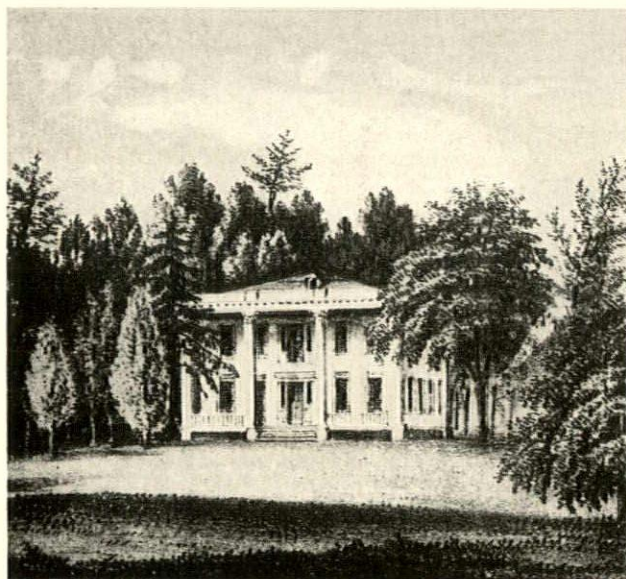


*Undercliff, near Cold Spring [N. Y.], the Seat of*

*General George P. Morris. 1839*

*John Jacob Astor's former residence, 88th St. near East River. 1864*

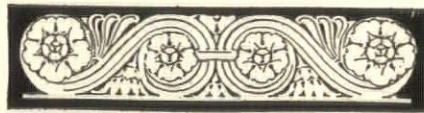
*Residence of the SCHERMERHORN FAMILY, foot of 84th St., East River. 1866*





*Sunday, November 1.*—Lancelot Sukert gave the National Retail Lumber Dealers' Association a little plain talk at their recent convention in Detroit. Contrasting the way in which steel has been steadily winning popular favor for building purposes, Sukert points out many of the shortcomings of those who have been responsible for the sale and use of wood in building. The lumber dealers seem to have worked solely on the theory that what the owner wants is not better lumber, but cheaper lumber. Why have they not told the architect, for example, how an auto-bus manufacturer manages to hold up an upper-deck load of passengers on a few slim wood window mullions and 1½-inch square bowed ceiling ribs? If an architect were to design such a bus, the average city building code would require him to make the side walls of 2 x 4 inch studs, and the roof of 2 x 8's. Sukert bemoans the fact that our calculations have to be based upon the poorest lumber and the poorest workmanship at the point of connection. No laboratory has ever told us how to get the most out of the least lumber. Perhaps the time may come when an enlightened industry will furnish builders with faultless lumber, cut to dimensions that are actual and not merely nominal, such as the steel-manufacturing industry has been doing and still does.

*Monday, November 2.*—The system of radio transmission and reception installed in the Waldorf-Astoria is an amazing recapitulation of what the scientists have developed within this generation. Room 615 is a radio control room—the centre of the whole system. Any guest wanting a radio service in his room notifies the hotel switchboard, and has a loud-speaker delivered to his room and plugged in. It has two controls—one for the selection of a programme from among six open to choice, the other for volume. Incidentally, the latter can never be loud enough to annoy guests in adjoining rooms. The six programmes can originate from any combination of three sources: radio picked up from the air or wired directly into the hotel from broadcasting studios; events going on in any of the hotel public rooms; and music reproduction from records. The control operator, moreover, can draw from any of these sources, and can amplify the programme into one or all of the seventeen public rooms; he can send them to the 1,940 guest rooms; he can direct three of them to broadcasting studios by wire. There are seventy-two locations in the hotel at which microphones can be connected to pick up music or speeches, which, of course, can be amplified at the spot, anywhere else in the hotel, or sent out for further broadcasting. Three antennæ serve the whole system—strung between the two towers. One is a pick-up for the



## The Editor's Diary



general radio system, the other two supply radio reception to the 138 private suites—a combined use of antennæ that is made possible by a new method designed by the Bell laboratories.

*Tuesday, November 3.*—Maurice L. Condon was telling me to-day of the scheme by which the architects of the Radio City project in New York hope to maintain a healthy growth of large trees on elevated terraces. Condon, who is a nurseryman, devised the scheme of introducing semicircular cables or bars, the ends of which are secured to studs in the concrete base of the planting area, these bars to bind down the root system, the roots themselves helping the process. It is necessary, of course, to provide artificial irrigation and drainage for these areas, which will have a three to four foot depth of soil. Mr. Condon has now developed a similar scheme for making of a big bridge a tree-shaded boulevard.

*Wednesday, November 4.*—I see that the Cathedral of Notre Dame at Rouen has just been cleaned by the steam-and-vacuum process, five tons of its ancient dust having been thus removed. It was last cleaned in 1789, when the cleaners finished up their work by whitewashing it.



*Thursday, November 5.*—There is much true talk in a report of the Committee on Practice, Detroit Chapter, A. I. A., the two members of which are Clair W. Ditchy and Henry F. Stanton: "We have heard much in the last year or two of the cry that architecture is really a business instead of a profession; or if it isn't it should be. We take the contrary view that architecture's very existence depends on its practice being

more purely professional. We do not mean to imply that its professional practice should not be conducted in the most business-like manner. On the contrary, it is of utmost importance that it be so conducted. We feel, however, that there has been much loose thinking and considerable loose talk about putting architecture on a business basis, and that this has tended to hurt the profession rather than help it."

*Friday, November 6.*—Arthur C. Holden is trying to rouse the public to the need for finding some way to free the capital that is frozen in real-estate investments. The almost universal human attribute of desiring to own and hold land, Mr. Holden blames upon an inherited dread of landlords. If we could get over this, and be content to pay for land a rental which actually expresses the value of the use made of the land, we should rid ourselves of an unnatural burden carried in the paying of toll upon inflated land values. Mr. Holden thinks that more harm results from speculation in real estate than from speculation on the stock exchange. A real-estate market, functioning in the same way as the stock exchange, would do away with the necessity or temptation for a sale of the realty itself, since the basis for increases in value of the securities issued would be increased earning power rather than exploitation.

*Monday, November 9.*—Raymond Hood, talking before the American Woman's Association at luncheon to-day, justified with much enthusiasm the scheme for Radio City. In defending the utilitarian restrictions on skyscraper architecture which some critics have held must inevitably produce a bald and ugly design, Hood cited the modern steamship as a matter of construction on purely practical lines that had achieved real beauty. "The *Bremen* and the *Europa*," he said, "are so beautiful that they make the Pitti Palace in Florence look like thirty cents."

*Tuesday, November 10.*—Among the varied efforts of the Architects' Emergency Committee for the Region of New York is one by which it is hoped to persuade owners of country estates who ordinarily close their country homes for the winter, to provide work therein for the architectural draftsman. There is always something that might be done about a country place—new porches or stairways, painting, repairing, refinishing of floors, etc. By removing unemployed single men from the cities and putting them at work in the country, with a place to live and a small monetary return, the work that does develop in the cities will be available for architects with families depending upon them for support.



*Wednesday, November 11.*—Claude Bragdon dropped in for a few moments, and the talk drifted into methods and kinds of perspective drawing. In most of his own drawings he uses isometric representation in lieu of optical perspective, on the theory that the isometric has a quality very much nearer that of the mental image than that of the eye image. However, he has devised a compromise in isometric drawing which brings it much nearer optical perspective, that is to use full units of measure on the horizontal and half units on the thirty-degree lines. The Chinese, incidentally, in their art show a great fondness for parallel perspective, which accords with Bragdon's idea that they bothered less about what happens upon the retina, and much more about what happens in the mind. When one pictures a building mentally, one does not bother much about vanishing points and all the other intricacies of optical perspective. One creates an image that is possibly more nearly like parallel isometric than anything else.

7

*Thursday, November 12.*—Apparently there is an architectural education storm brewing, for in walking down the street at noon to-day I met Ellis F. Lawrence of Portland, Ore., Joseph M. Kellogg of Lawrence, Kans., Dean Everett V. Meeks of New Haven, Conn., C. C. Zantinger of Philadelphia, and Charles Butler of New York, chairman of the A. I. A. Committee on Education.

*Saturday, November 14.*—President Hoover has finally launched his scheme for home-loan discount banks of which he first spoke at our editorial conference at the White House last April. The plan has been called the President's second major step in the interest of relieving economic stagnation. In brief, the scheme is the setting up of twelve discount banks under the control of a Governmental board. These banks would include in their membership building and loan associations, savings banks, deposit banks, and farm loan banks. These members would discount mortgages of fifteen thousand dollars or under, thus thawing out their frozen assets and permitting many new loans for home building throughout the country. The capital of each of the twelve banks would be from five to thirty millions, subscribed by the member organizations, supplemented possibly by the Government. The plan needs, of course, the approval of Congress before being put into operation.

*Monday, November 16.*—Colonel William A. Starrett is urging a scheme of

employment rotation in the construction industry. He says that there are only about 58 per cent of the workers in the building trades now employed. Three plans are under consideration for helping this situation: first, the employment of a certain percentage of the entire personnel each day, with a like percentage remaining idle, thus rotating the work between two or more groups. The second plan calls for a three-day week for each workman. The third plan provides two daily shifts of six hours each. These plans are being discussed by organizations of contractors and of unemployment relief throughout the country.

*Tuesday, November 17.*—I was sorry to miss the opening to-day of Mrs. Gertrude Vanderbilt Whitney's great gift to the American public, the Whitney Museum of American Art. The museum was opened with addresses by Mrs. Whitney, former Governor Alfred Smith, Otto H. Kahn, and Christopher Morley, President Hoover having sent a letter of congratulations upon the occasion. As its title indicates, the museum is for the purpose of showing American art, but Herman More, the curator, says that the emphasis is to be placed primarily on "art" and secondarily on "American."

*Thursday, November 19.*—Carl E. Grunsky, San Francisco, president of the American Engineering Council, advocates a plan of action that rather parallels David C. Coyle's scheme for segregating surplus capital and turning it into permanent improvements instead of into more income-producing plant.

"Under a well-balanced programme the nation should get vastly more scientific research and educational opportunity. Art should be encouraged by the erection of monuments, the establishment of museums, art galleries, conservatories of music, and opera-houses with maintenance of opera companies in all centres of population. Expenditures for these purposes would contribute to the spiritual uplift of the people, and to the progress of civilization. . . .

"The basis of such a programme is a high rate of taxation. . . . If the burden were distributed commensurately



A photograph of which the above is a reproduction has been sent in to me for publication. It is a pleasure to show it for the sake of asking: Why should any designer think it appropriate to use a Greek temple motive on an airplane hangar?

with ability to pay, there would be less dissatisfaction and the public would soon learn that the greater the tax the less the slump in the aggregate volume of the country's business.

"Tax money thus put into circulation would create a volume of business that could readily bear the tax from year to year."

*Saturday, November 21.*—William I. Garren, of the Northern California Chapter, A. I. A., says that the four-year building decline has stopped, and has definitely turned upward. His good news from the Pacific Coast is based on the fact that for the first eight months of each year since 1926, excepting for 1929, 1931 is the first to show no decline from the figures of the previous year.

20

*Sunday, November 22.*—Clarence S. Stein, who knows more about community housing and group planning than most of us, told an audience in Brooklyn to-night: "The civilization of the present day is moving beyond the cities because they are an antique and worn-out machine. Economically they are unsound, and will eventually disappear." Stein predicted that we are to have instead "small self-sufficient model communities in which each home will be surrounded by abundant air, light, and ordered grounds." With the highest regard for Clarence Stein's opinions, I should be more inclined to think that cities will continue to grow bigger, but that eventually we may come to see that we cannot cover the land solidly even in the Grand Central district. There is something happening before our eyes in New York City at the moment that should be an object lesson. Costly properties such as the Hotel Belmont and many others have been razed to the ground because neither they nor any other structure that can be devised will bring a profit on the high valuation of the land. At the moment, awaiting developments, it is cheaper to tear down the buildings, saving the taxes upon them, and leave the land "unimproved." The object lesson obviously is that if we are going to build high in the air, we must have correspondingly larger areas of ground about these high buildings. The one great difficulty is that the individual land-owner cannot afford to leave his land unimproved very long. The community, however, could well afford to do so—which brings us back in a circle to the stumbling-block that is presented every day in large cities through the private ownership of land. It seems to me that only through public ownership of the land is there any rational plan of development made possible.



*Monday, November 23.*—With O. H. Murray to St. Thomas's Church to inspect the new stained-glass chancel windows, about which there has been some discussion. There is an unusual, if not a unique, problem here in that the elaborately carved stone reredos extends all the way to the vaulting, and the east windows over the altar, therefore, are penetrations through this reredos. Murray points out the obvious fact that adding any sort of intricate pattern or figure work in these windows would distract the eye from the reredos itself and, incidentally, lose the opportunity for securing a foil of plane surface. If these breaks in the reredos were stone wall instead of window openings they would undoubtedly be better as unbroken plane surfaces. Therefore, it seemed to the architects that in the window an area of blue color would be the logical thing for which to strike. Obviously one cannot use clear-colored glass areas, so that the effect sought was a decided blue with vibration gained by the use of yellow, red, and green in combination with it. Incidentally, purple was carefully avoided by having no reds immediately adjacent to the blues. The pieces of glass are quite small, and the leading has no pattern whatever. Since there has been no attempt to antique the glass it still has an appearance of newness which will tone down as the patina is acquired. Mayers, Murray & Phillip, working with James P. Powell & Son, have felt very strongly the responsibility of dealing with an accepted architectural masterpiece, and searched the files for every expression of intention, however casual, by the late Bertram Goodhue. In one letter that he wrote he said: "The style we have employed for the church is rather indeterminate—but more French than English. The glass, therefore, should not be of the pale and silvery type one usually associates with England, but rather rich, harmonious, and full-toned, as was the case in similar work in the mediæval period of France." The glass that has been replaced was, of course, a merely temporary material—quoting Goodhue, "The glass was of the cheapest possible description." Incidentally, the rector of St. Thomas's, Dr. Roelif H. Brooks, is inaugurating a systematic campaign to finish St. Thomas's as to the rest of its stained glass and carved figures for the niches at an early date.

*Wednesday, November 25.*—I see that Gerald K. Geerlings has been awarded the Alice McFadden Eyre Gold Medal by the Pennsylvania Academy of Fine Arts, Autumn Exhibit, 1931, for his etchings.

*Friday, November 27.*—We occasionally lapse into errors of typography in these pages with no more serious results than the necessity for an apology. I see, however, that on the Herman Ritter



Earl H. Reed, Jr., examining the Home Insurance Building in Chicago to determine whether it was built of skeleton construction

Junior High School, New York's newest and one of its largest school buildings, they have put an extra *n* on the end of Herman, in cutting the name of the school into the limestone frieze—all of which involves in its correction considerably more than the lifting out of a piece of type.

*Saturday, November 28.*—The father of the skyscrapers has been definitely designated by a Committee of Investigation under the chairmanship of Thomas E. Tallmadge, Chicago. The



The Home Insurance Building, recently razed, which is designated by an investigating committee as the first high building to utilize the method known as skeleton construction. Designed by William LeBaron Jenney, and built in 1885

razing of the Home Insurance Building to make room for a new forty-two-story Field Building brought the opportunity to settle this fundamental question and one or two minor ones. In the first place, the committee had to determine upon a definition of skeleton construction, which it calls "a type of construction in which a metal frame or cage, composed of girders, beams, and columns, supports all internal and external loads and carries all stresses to the foundations." The committee finds that the Tacoma Building at 1 La Salle Street was completed April 1, 1888, while the Home Insurance Building at La Salle and Adams Streets was finished in the fall of 1885. There is no question, therefore, as to priority, the point at issue being whether the Home Insurance Building really was of skeleton construction. The committee's verdict is:

"We have no hesitation in stating that the Home Insurance Building was the first high building to utilize as the basic principle of its design the method known as skeleton construction, and that there is much evidence that William LeBaron Jenney, the architect, in solving the particular problems of light and loads appearing in this building, discovered the true application of skeleton construction in the building of high structures and invented and here utilized for the first time its special forms."

The committee, of which Mr. Tallmadge was chairman, consisted of Ernest R. Graham, A. H. Rebori, Earl H. Reed, Jr., Richard E. Schmidt, Benjamin H. Marshall, and Alfred Shaw, all architects; Charles B. Pike, President of the Chicago Historical Society; O. T. Kreusser, Director of the Rosenwald Museum of Science and Industry; Mark Levy, President of the Chicago Real Estate Board. W. B. Mundie, who helped design the Home Insurance Building, was an ex-officio member.

*Sunday, November 29.*—Dined with Egerton Swartwout, who is quite concerned about the difficulties that professional advisers bring upon themselves in writing competition programmes. Such programmes should, of course, be approved by the local chapter, which in turn passes the matter on to the A. I. A.'s national committee on competitions for final approval. The difficulty is that many of these programmes are issued before any official sanction has been given, only to have those interested find that there are provisions of which the Institute cannot approve. This reflects not only on the professional adviser, who naturally is supposed to know what he is writing, but upon the profession as a whole. It would save so much trouble for all concerned if these programmes were visé before being turned over to those who will announce the competition. A few days' time lost here would save perhaps weeks later on.



# Concealed Heating of the Convector Types

By F. W. Bartels

THE ghost of the one-foot-deep radiator enclosure has been laid once and for all by the recent development of the new cast-iron radiators and the newly evolved convector type of heating units.

For no matter which of the dozen or so models is finally selected, the depth need seldom exceed four inches for ordinary conditions. This dimension makes it possible to have concealed heating in the frame house with no special provision other than to provide proper insulation between studs under the windows where the heating units occur. In the brick structure it means only the omission of the inner brick lining. This estimable result, of course, serves to render enclosed heating practically no more expensive than the old not-too-beautiful exposed radiators.

According to the definition taken from the American Society of Heating and Ventilating Engineers' Guide, a convector is a "heater which is enclosed in a duct or cabinet and which gives off the heat to an air stream, which passes into the room which is to be heated." Various types of these heating units in a flue or enclosed space are shown diagrammatically herewith. The cold air coming in at the bottom is heated; it expands and naturally rises upward, forcing its way up and out of the enclosure, and thus supplies a stream of heated air for the room.

In discussing the types of heating units it must be remembered that these units may be used in the proper enclosures in alteration work and do not of necessity have to be concealed in

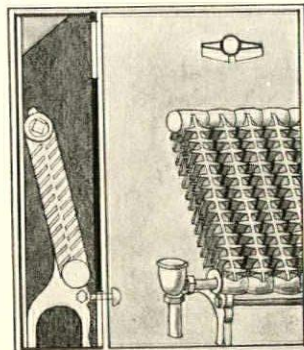
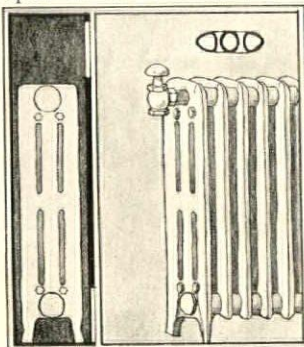
*This article, together with its illustrations and those in the Portfolio which follows after, constitutes a fairly comprehensive presentation of the radiator problem and how it may be solved.*

the wall, although this is of course more desirable in new work. In old buildings the same steam lines may be used. There are several excellent types of units on the market, a brief

summary of which follows.

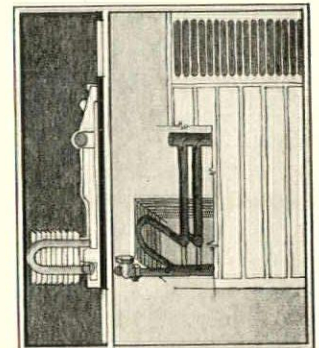
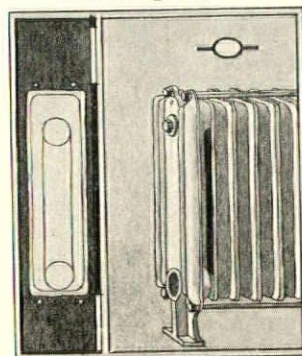
A narrow cast-iron-tube radiator is one which may be used either exposed or as the heating unit in a convector. Another cast-iron-tube radiator, which has integral cast fins set at an angle to the tube, must be hung or set at an angle off the vertical, so that the fins will deflect the air upward. Its efficiency is to some extent directly proportional to the degree to which it is inclined. Another has fins running on the sides of a high narrow chamber. Still another type of cast-iron unit which has an exposed front gives radiating heat while the back forms a convector. A combination of cast iron and copper is also available; the cast-iron front provides direct radiation while the copper tubes connected to it provide some of the heat for convection, the remainder being supplied by the rear of the cast-iron unit. Fins of non-ferrous metals are used considerably and in various ways. In one type copper plates or fins are securely fastened to a copper tube running through them. These units are then inserted in the flues or recess. A somewhat similar type uses a copper tube pierc-

Narrow cast-iron-tube radiator, used in the open or as convector



Cast-iron tube with integral fins set at an angle

A cast-iron chamber upon which the fins are cast integrally



Cast-iron front copper fins and tube for convector action

ing aluminum plates and so joined that in effect it becomes an integral part of the fin and tube. Another type consists of a series of vertical hexagonal tubes, intersected horizontally by a winding copper tube containing the steam



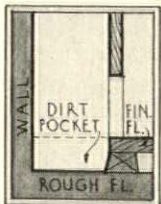
or hot water. A variation of the tube type is that of a unit having a core of cast aluminum alloy, and conductor plates of sheet aluminum (which has a higher heat transmission value per unit of weight than cast aluminum). Finally, a hexagonal copper-tube type, which gives a large surface to which the fins may be attached, completes the group.

The manner of piping and installing convectors does not differ greatly from the methods used for the ordinary exposed radiator. The branches are generally run in a wall chase or recess made by the mason contractor. The supporting legs or brackets are furnished with the unit. Some types have their manifold so made that connections may be made from either side, while long screws to the floor are used to adjust the pitch.

Many factors enter in the using of convectors that normally do not occur when installing radiators. Branches are usually run in a chase at the bottom of the wall. Often this may involve



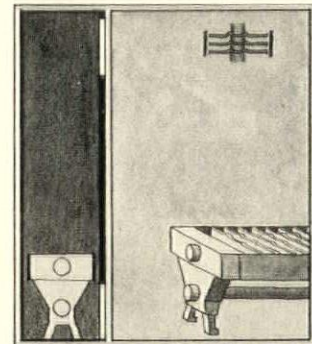
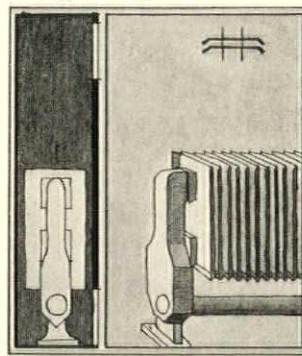
special construction which the architect will want to detail. The finished floor should be run all the way under the convector as far as the recess goes, as an added measure of cleanliness. Sometimes the floor is allowed to stop at the base, leaving a trough beneath the convector which will be a great dirt catcher. It is well also to have an asbestos backing for the convector. This will soon pay for itself in heat saved; since the exterior wall is thinner where the convector is inserted, a certain amount of heat will be lost by leakage without such insulation. Then, too, the manufacturer's directions as to height of flue or enclosure must be carefully followed. For the same reason that a chimney needs height to draw properly, so, too, a convector needs a certain vertical space in order to function properly. It is of the utmost importance that proper sides or baffle plates are provided for. To merely install a front and back for the convector permits the air to stagnate at both ends of the recess. To function efficiently it must enter at the base, be heated, and be pushed out of a confined space above the heat unit only by the incoming air at the bottom. There arises the question, also, whether to have the opening at the top or at the front face immediately below the top. Tests prove that the top opening is about 10 per cent



more efficient than the one on the front, although the latter is often preferred because of decorative effects.

While the designer now has practically a free hand except for these top and bottom grilles (generally about four inches high and the width of the actual heating unit), he saves himself time and irritation by determining accurately the size and location of these openings. If there are to be competitive bids taken on the various types of heating units, the base and the paneling (or whatever the wall treatment) should be

Copper plates fastened to a copper tube passing through them



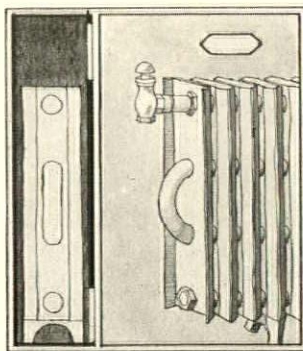
Copper plates and tubes; a similar type copper with aluminum

designed in such a way that a few inches' difference in height or width will not upset a whole scheme. In the room which is to have a dado, it may be that the grilles are least objectionable when occupying the stile below this series of mouldings. If the grilles threaten to break into any such horizontal feature it may be advisable to have less high but deeper heating units, even at the expense of slight breaks forward, for in width these can be confined within the window-trim limits and be less conspicuous than interrupting mouldings which otherwise carry around the entire room. A base which has a plain facia high enough to accommodate the grille and any necessary rabbets, is almost indispensable.

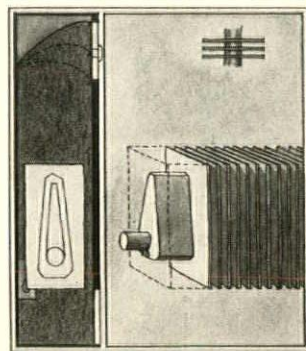
The problem of the bottom inlet for cold air offers a choice of two solutions: either there can be an unobstructed opening provided, or there may be a grille with members running vertically or horizontally. To omit the grille means that there is less expense but more visible dirt space. The appearance of this opening in a light-colored base is not an asset, by any stretch of the imagination. However, it can be made to look less objectionable if a carefully studied profile of scroll work is considered, after the manner of



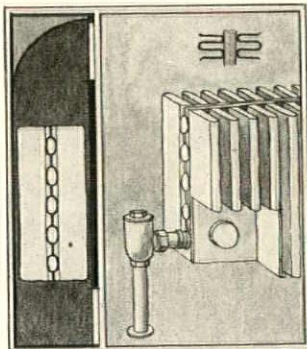
Colonial cupboards or Welsh dresser aprons. If the room can possibly stand a dark or black base, the problem is fairly well solved by thus rendering the opening almost unnoticeable. This is a particularly good solution in the case of a residence where the side hangings extend to the floor and hide the transition from full base to cut-out base. It goes without saying that an unobstructed opening requires less actual area than the overall dimensions of a grille which is required to admit the same volume of air. However, a happily conceived grille may in many cases become a desirable interruption in an otherwise monotonous base. Instead of



Vertical hexagonal tubes intersected by a winding copper steam tube



A cast core of aluminum alloy, with conductor plates of sheet aluminum



A middle core of copper to which are attached copper fins

duplicating the exact pattern of the upper grille, it can consist of a series of horizontal louvers which have the advantage of repeating the horizontal accent of the base. If the top grille is to be ornate it would seem better design in all cases to treat the lower one more simply.

The manufacturers of these improved heating units usually guarantee that if only the top and bottom grilles are removable all heating exigencies which may arise can be managed, and that the panelling or other wall material in front of the heating unit can be made stationary. However, while this may be true in ninety-nine cases out of a hundred, no architect likes to run the risk of having his panelling the one to be torn out because the heating unit proves

to be so faulty that it must be replaced. In the case of plaster nothing can be done except hope that nothing untoward will occur; after all, plaster patching is not an expensive item. But if wood panelling is being designed, with a little extra trouble this can be so made that by pushing up and then pulling forward it can be removed—without any special hardware or heavy expense.

Accessibility of control must be kept in mind also. Some types have the valve located at the bottom, some at the top. Others have it concealed behind a small panelled door in the front, or a part of the grille swings on a concealed hinge. Several types are regulated by the opening or closing of the top outlet or grille by means of a small knob. This is a simple method and is really the reincarnation of the old hot-air register.

In handling convectors on the job it must be borne in mind that thin fins do not have the robust physique of cast-iron radiators. Also, as a rule they are set before the plastering is done with its attendant scaffolding. Hence the handling must be done with care and provisions taken so that the fins are not mashed by the burly trades. It is a good plan to have thin wooden strips on the fins when they are shipped, to prevent the edges from being mashed in. After being set the top or top-side grill should be closed up by having a board fastened over it or by having several layers of heavy paper pasted over it. Failure to take these precautions will result in the fins being bent, dirt and plaster filling the space between the plates, and the efficiency of the unit greatly curtailed.

For the residence which is to have heavy hangings there should be proper provision made at deep jambs so that the heat will not be boxed in a drapery pocket. There will be no heat if the hangings cover the grilles. If the client insists on the omission of roller window shades and the sole use of hangings, he should have it thoroughly explained in writing and kept as a record, that hangings which are to be drawn must extend only to the top of the windowsill—as they would if the radiator were exposed in the old way.

When it comes to the question of paint on the enclosure, it must be remembered if the decorating is done after the enclosure is set in place, certain paints will darken and discolor due to the action of heat. This is best avoided by having the manufacturer send the enclosure to the job already painted or enamelled.





# ARCHITECTURE'S PORTFOLIO OF RADIATOR ENCLOSURES

THE SIXTY-THIRD IN A SERIES OF COLLECTIONS  
OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR  
ARCHITECTURAL DETAILS

*Forthcoming Portfolios will be devoted to the following subjects: Interior Clocks (February), Outside Stairways (March), Leaded Glass Medallions (April), Exterior Doors (May), Metal Fences (June), and Hanging Signs (July). Photographs showing interesting examples under any of these headings will be welcomed by the Editor, though it should be noted that these respective issues are made up about six weeks in advance of publication dates.*

## Subjects of Previous Portfolios

1926-27

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

1928

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

1929

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

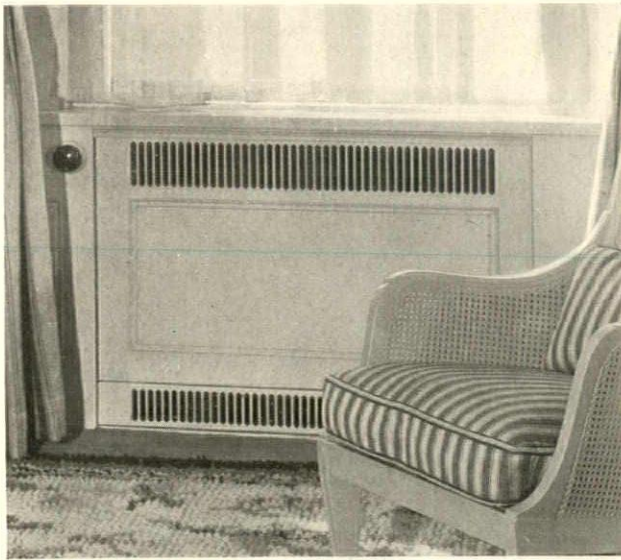
1930

SPANDRELS  
CHANCEL FURNITURE  
BUSINESS BUILDING ENTRANCES  
GARDEN SHELTERS  
ELEVATOR DOORS  
ENTRANCE PORCHES  
PATIOS  
TREILLAGE  
FLAGPOLE HOLDERS  
CASEMENT WINDOWS  
FENCES OF WOOD  
GOTHIC DOORWAYS

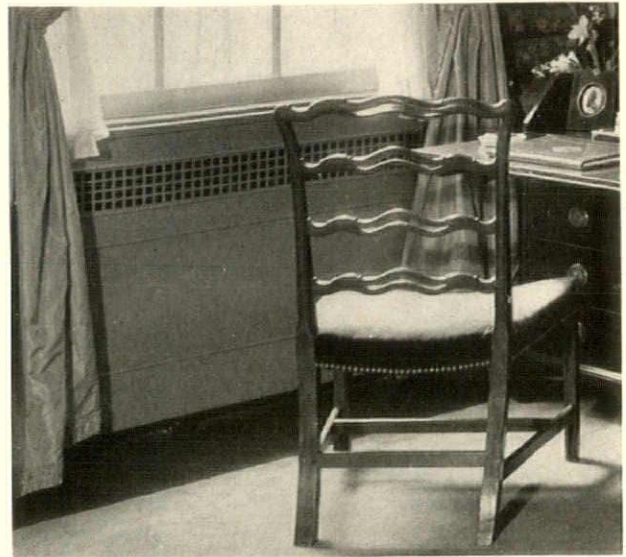
1931

BANKING-ROOM CHECK DESKS  
SECOND-STORY PORCHES  
TOWER CLOCKS  
ALTARS  
GARAGE DOORS  
MAIL-CHUTE BOXES  
WEATHER-VANES  
BANK ENTRANCES  
URNS  
WINDOW GRILLES  
CHINA CUPBOARDS  
PARAPETS

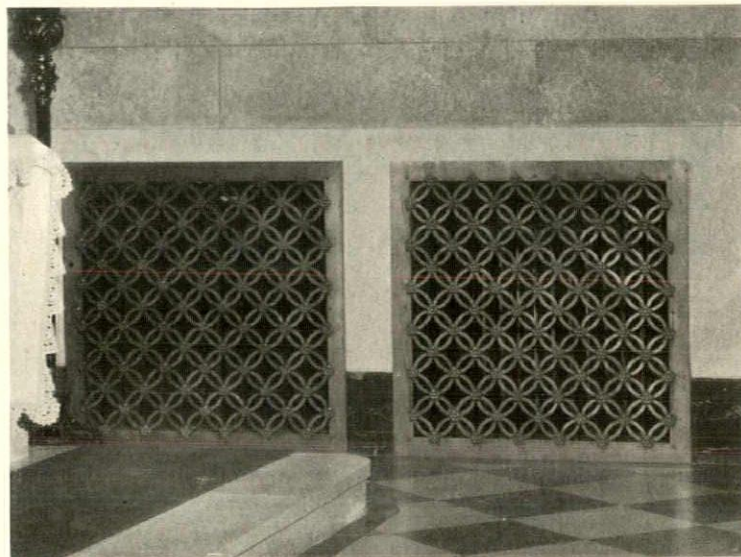




*Recessed with sheet-steel enclosure*



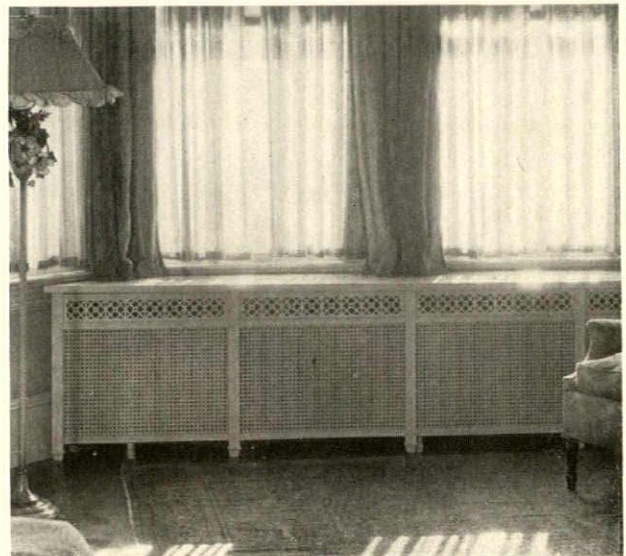
*Sheet-steel enclosure open at bottom*



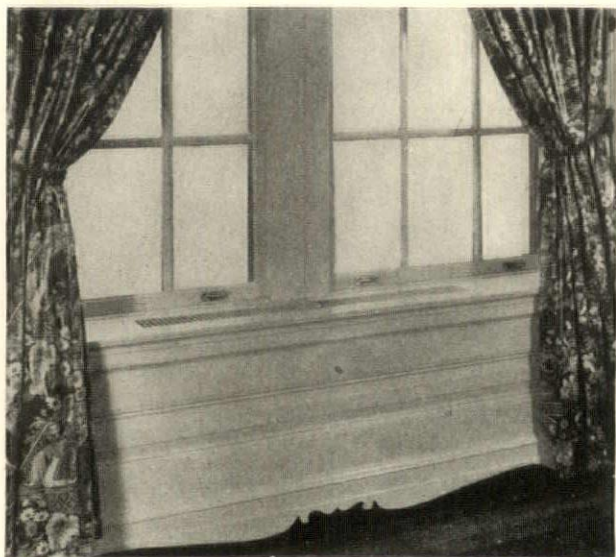
*Special use of a stock metal grille*

*Projecting portable enclosure*

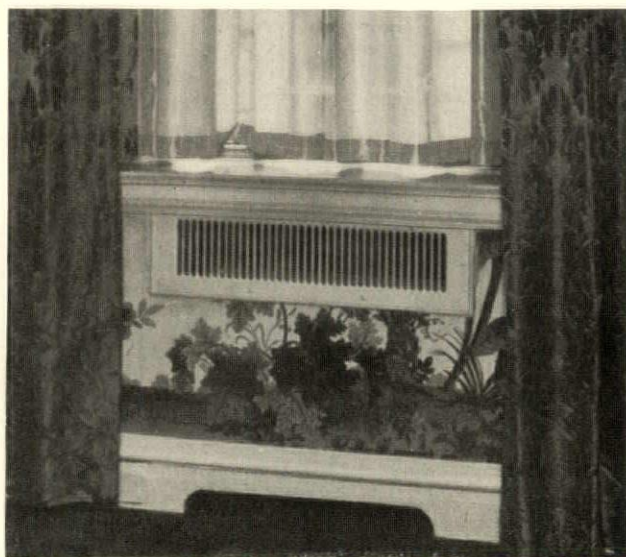
*Portable cover of wood and cane*



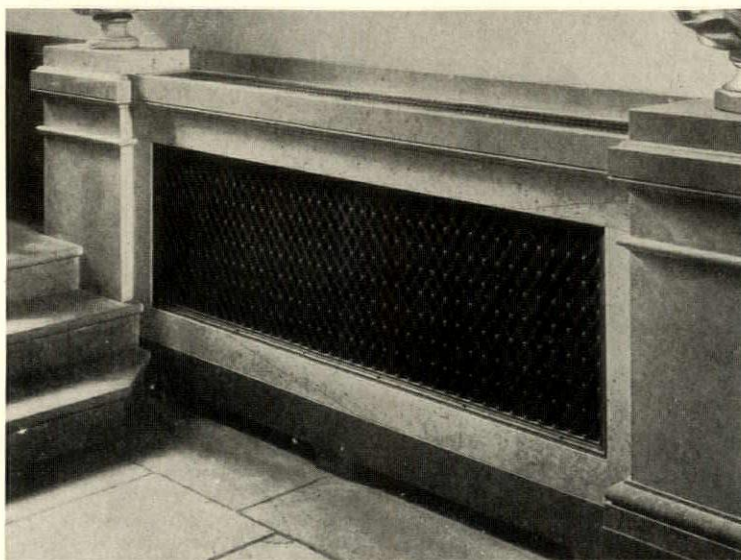




*Window-sill opening  
with specially cut  
bottom, in wood*



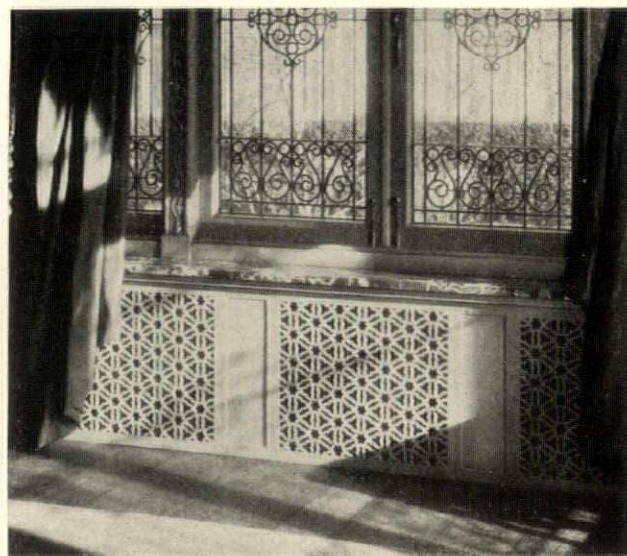
*Carrying wallpaper  
over the  
convactor recess*



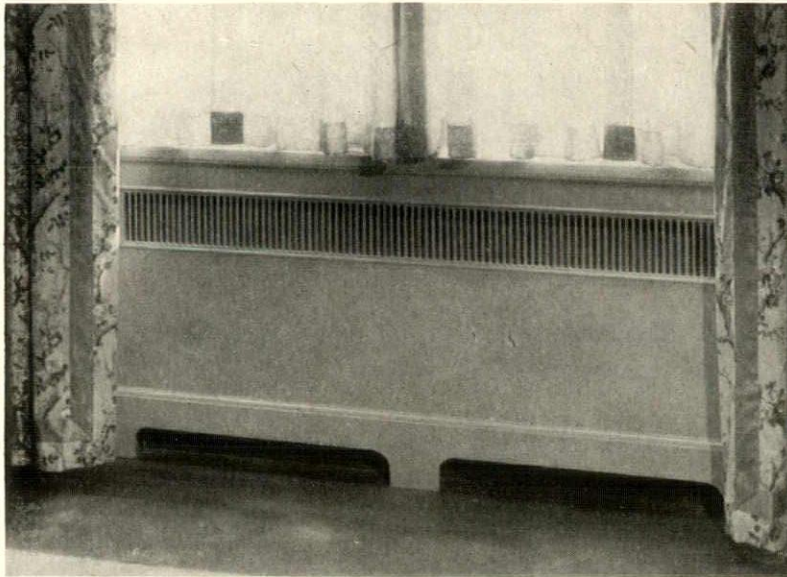
*Special treatment of a  
stock metal grille*

*Portable type of  
furniture steel with  
metal grilles*

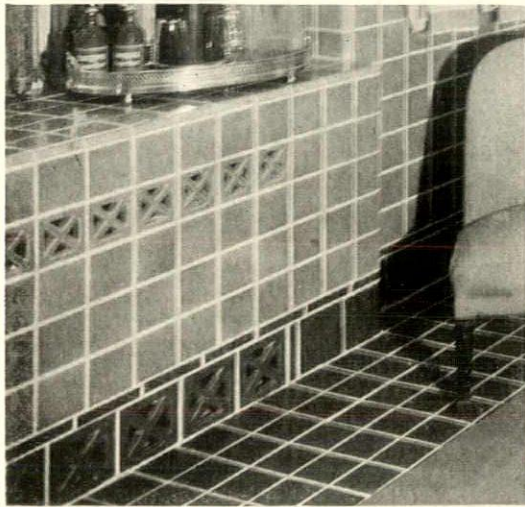
*The metal grille used  
as a screen and not  
as a convactor*





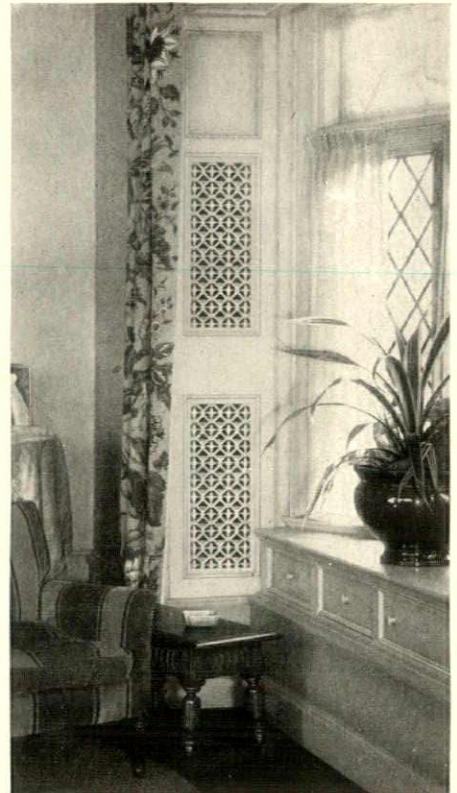
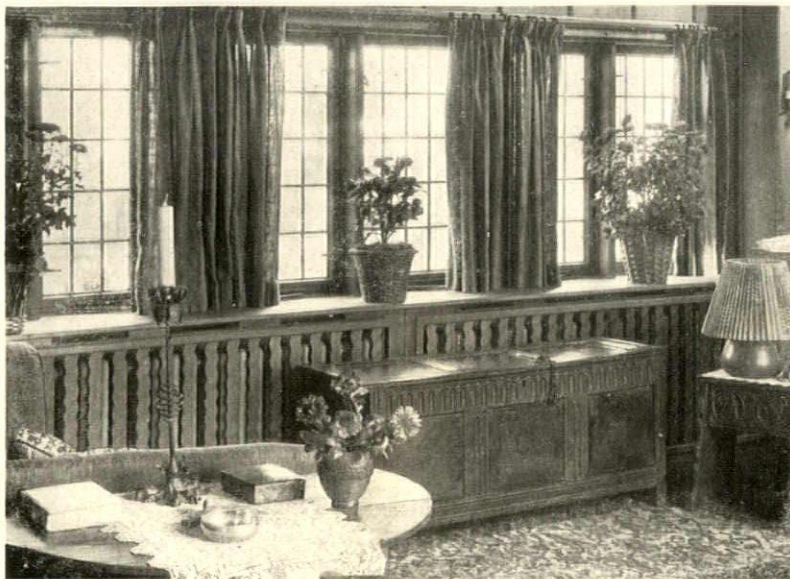


*The convector behind the plaster wall*



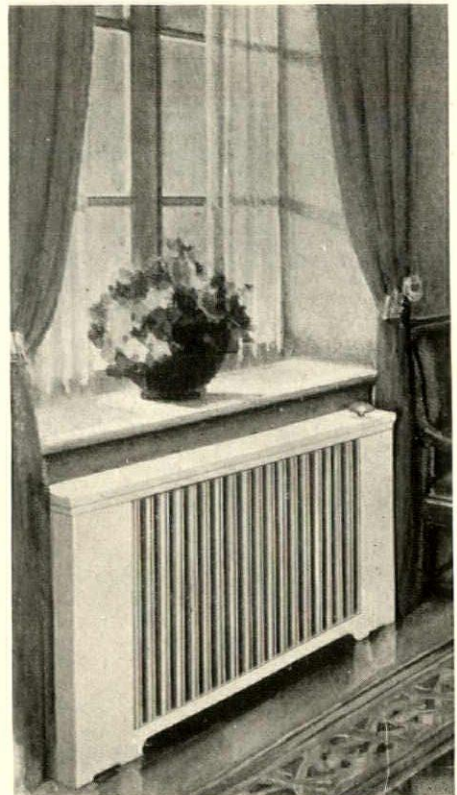
*Pierced tile, forming a convector in the bathroom*

*The wood slat as a screen*

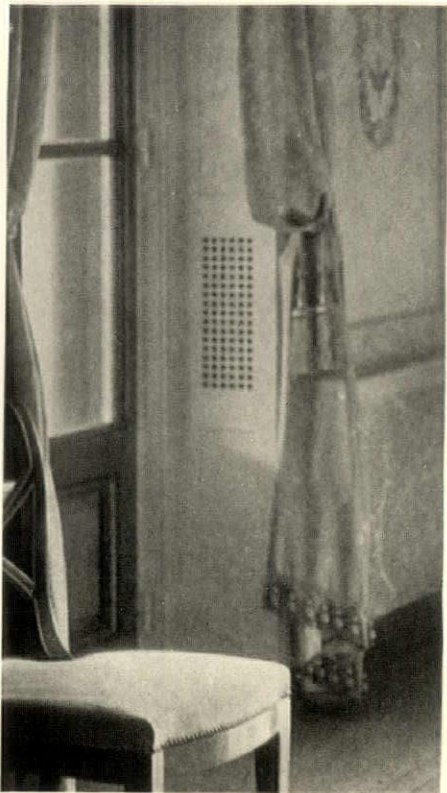


*Metal grilles in a bay-window reveal*

*Sheet-steel covering for ends and top of a tubular radiator*

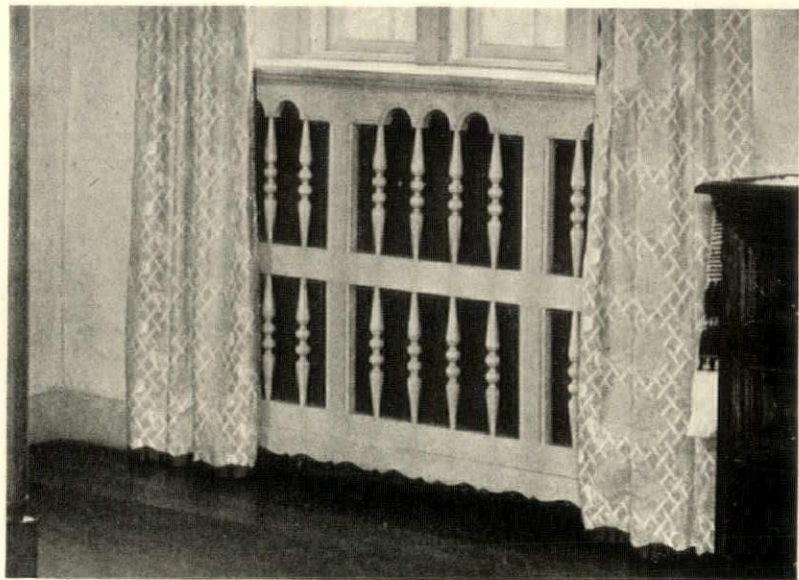
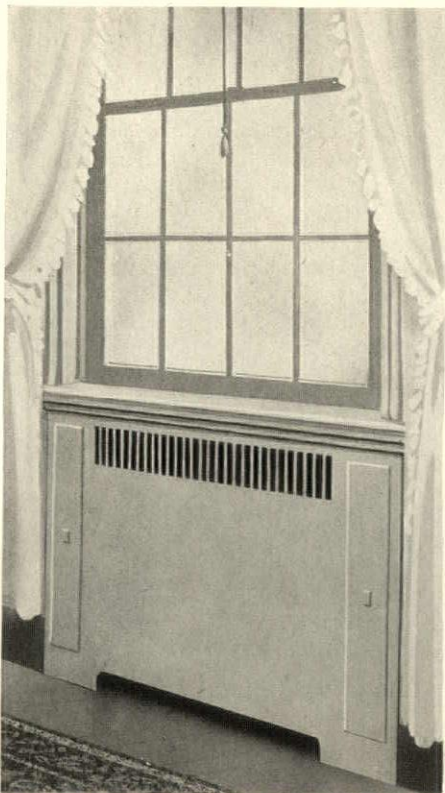




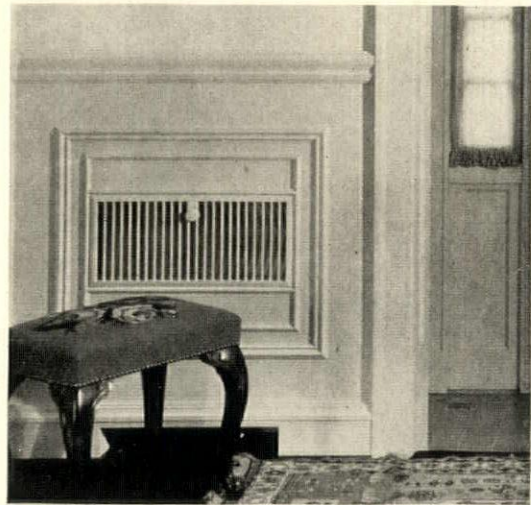


*Metal grille in a window reveal*

*Sheet-steel recess in a stud wall, with access panels*

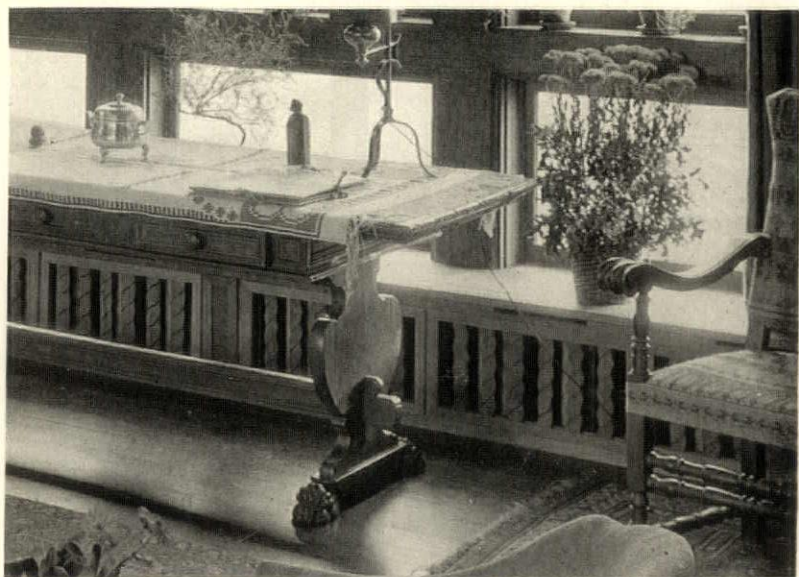


*One of Frank J. Forster's wood spindle screens*

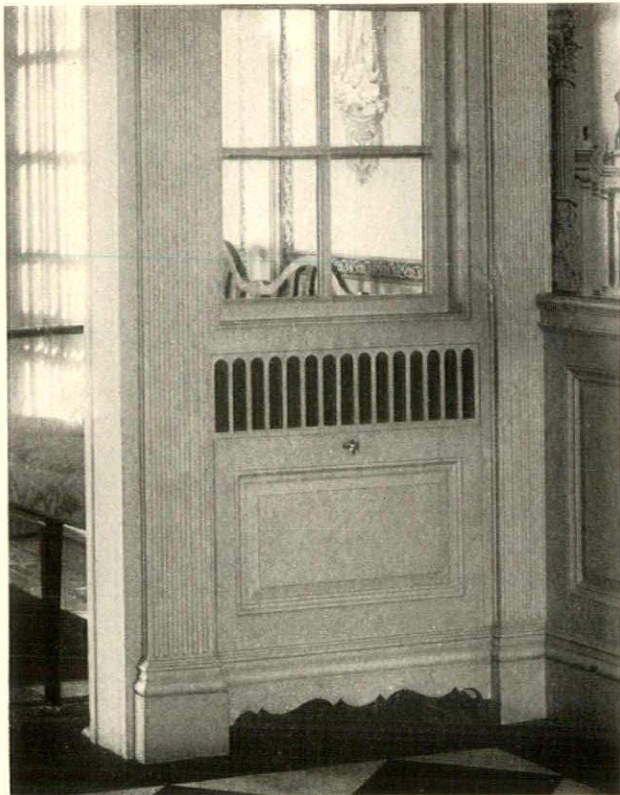


*The reincarnation of the old warm-air register*

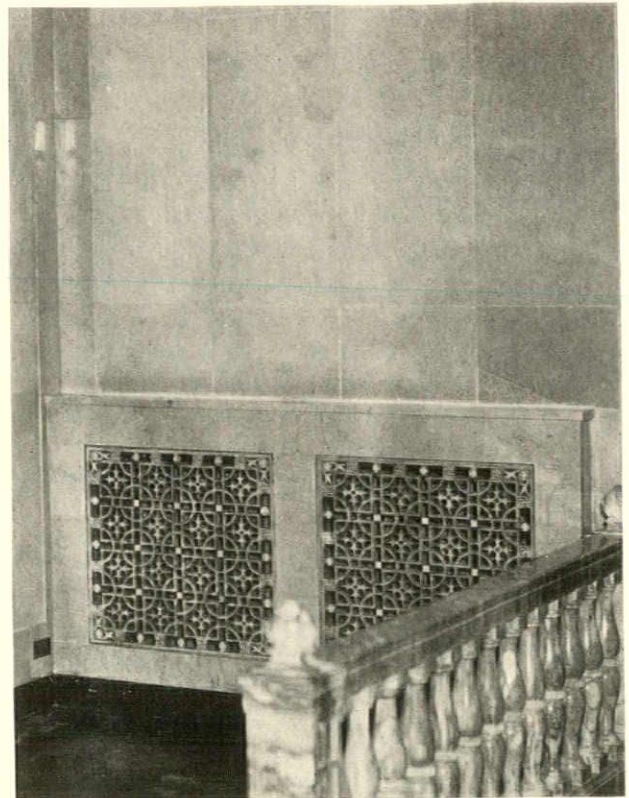
*Turned spindles with supplementary top front openings*







*Convactor in an interior partition*

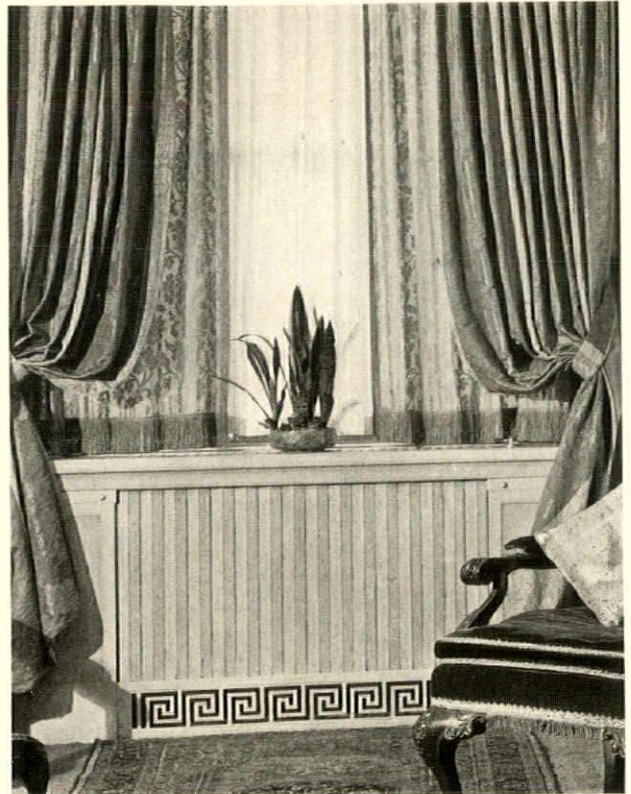


*Metal grilles designed by Maginnis & Walsh*

*Wrought-iron screen with a heavy tubular radiator*



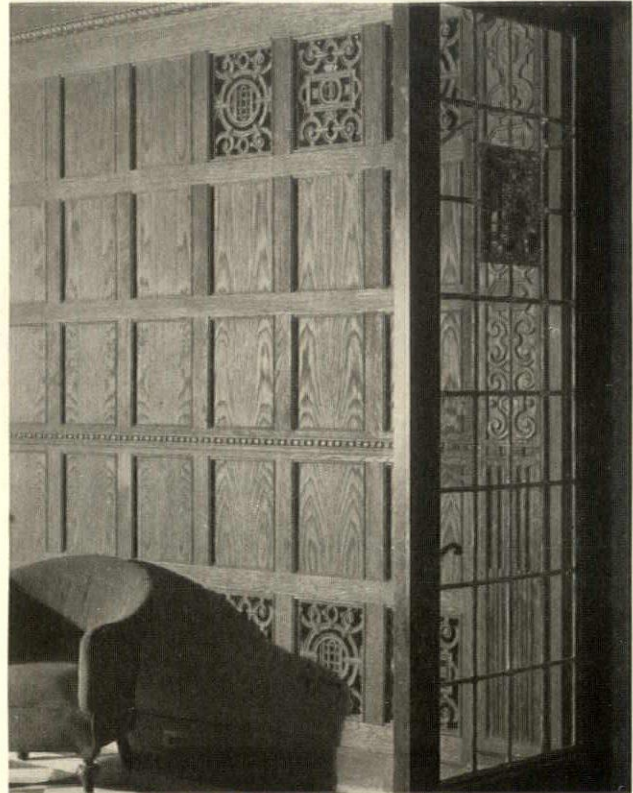
*Combined convactor and direct-radiation unit in cast iron*







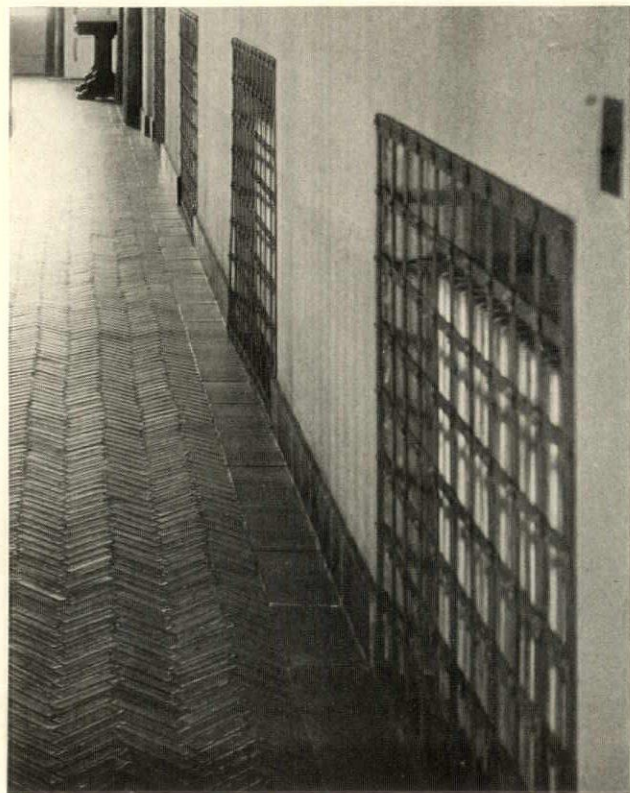
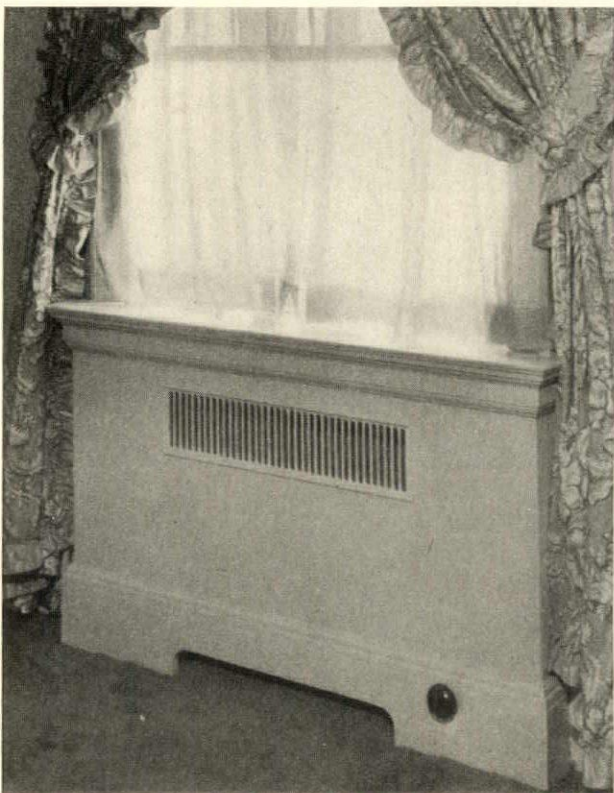
*Concealing the lower opening in a dark base*



*Carved wood panels. Henry Raeder, N. Max Dunning, George C. Nimmons & Company, associated*

*Metal enclosures with slight projection*

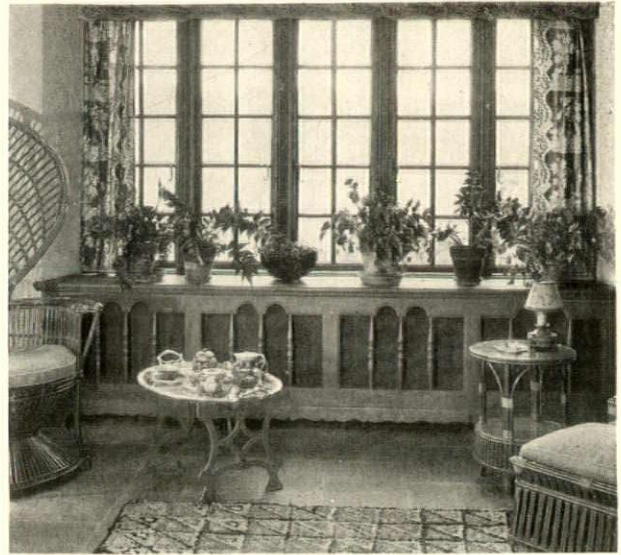
*Wrought-iron strap grilles over wall recess*



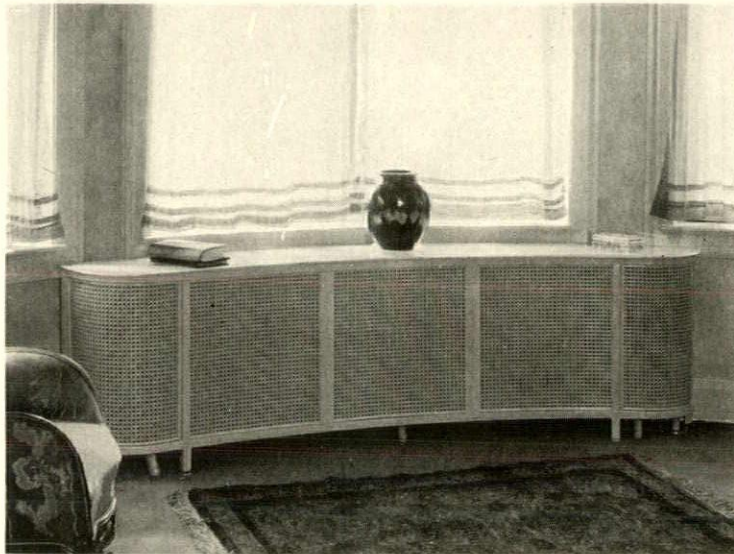




*Partly recessed behind woodwork*



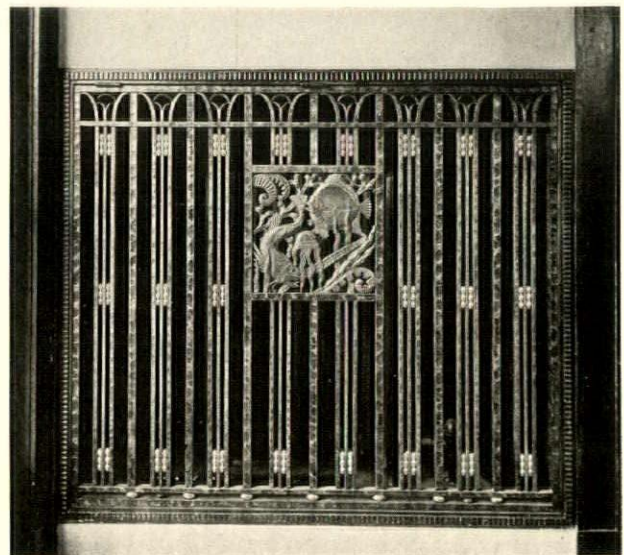
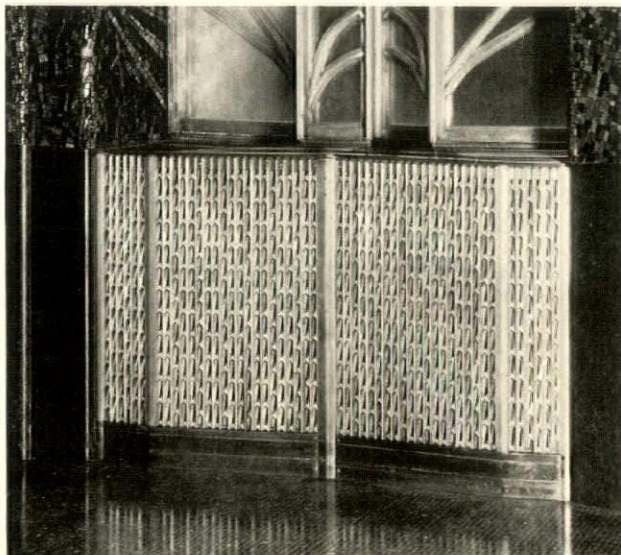
*Spindles over wire mesh with a cutout base*



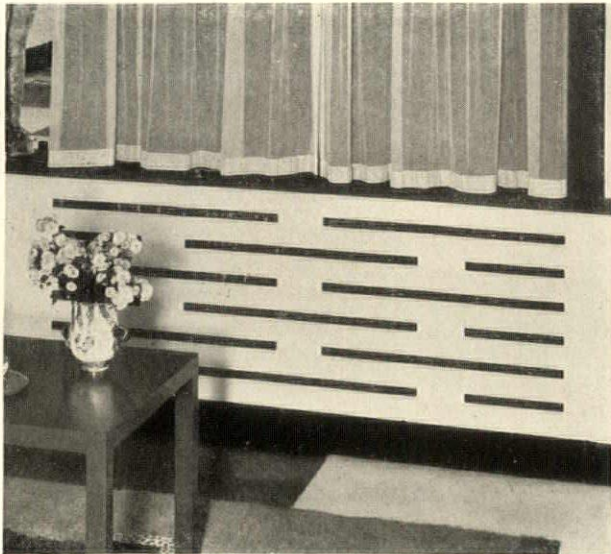
*Portable enclosure of furniture metal with metal grille*

*Metal grille for banking-room. Craftsmanship by Renner & Maras*

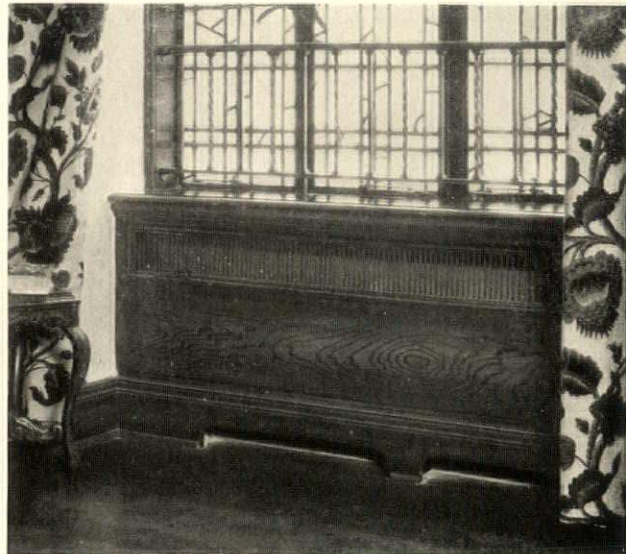
*A bronze grille by Voorhees, Gmelin & Walker*



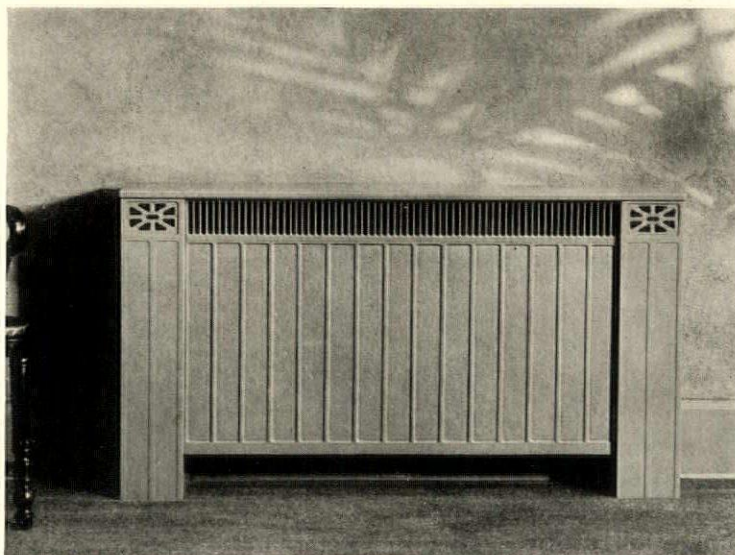




*Lower opening in a black base, with slotted metal front*



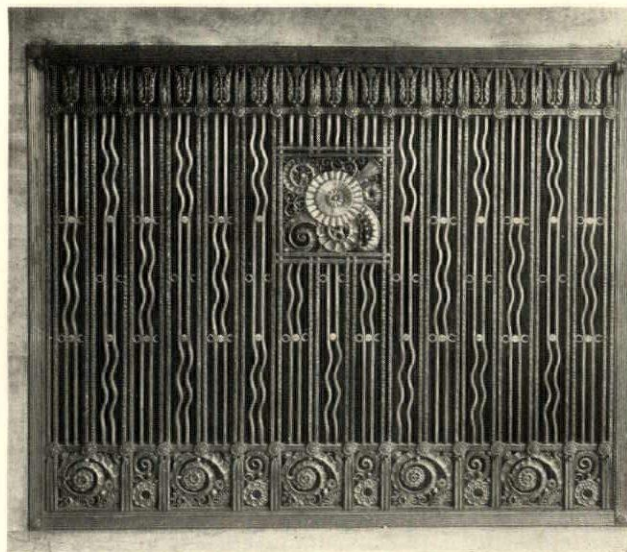
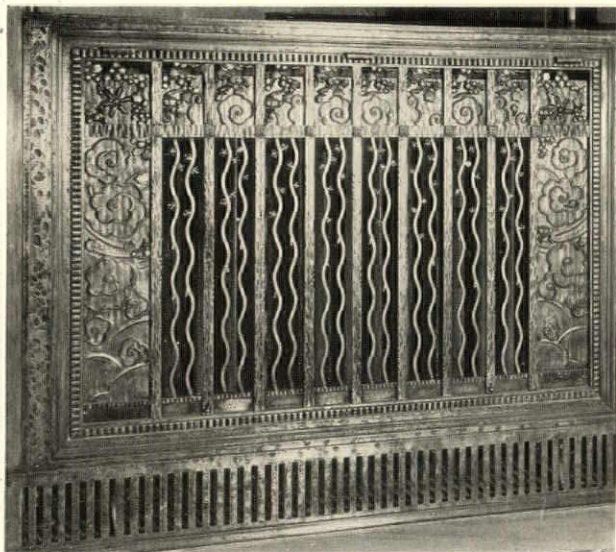
*Inconspicuous bottom openings and grille in connection with dark woodwork*



*Convactor metal covering for free-standing radiator*

*Wrought-iron grille for banking-room. Executed by Renner & Maras*

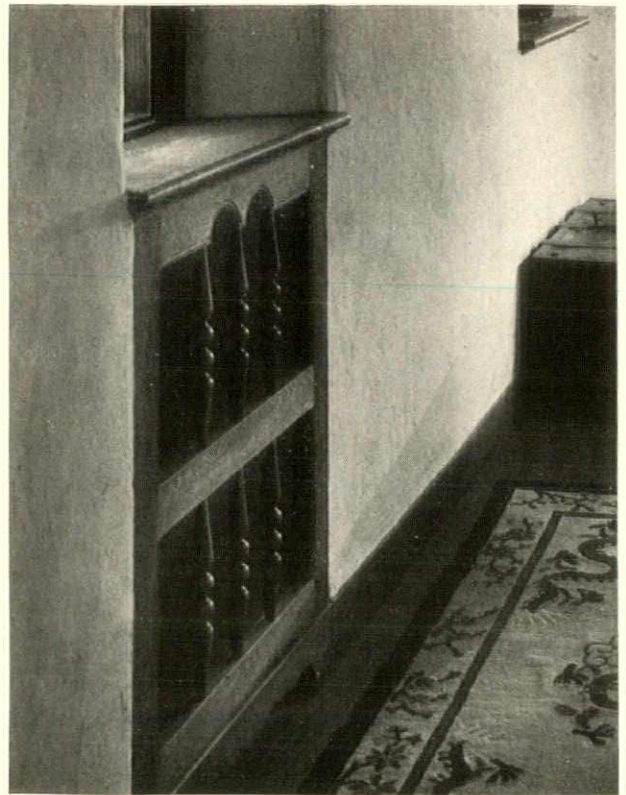
*Wrought-iron grille for banking-room. Executed by Renner & Maras*







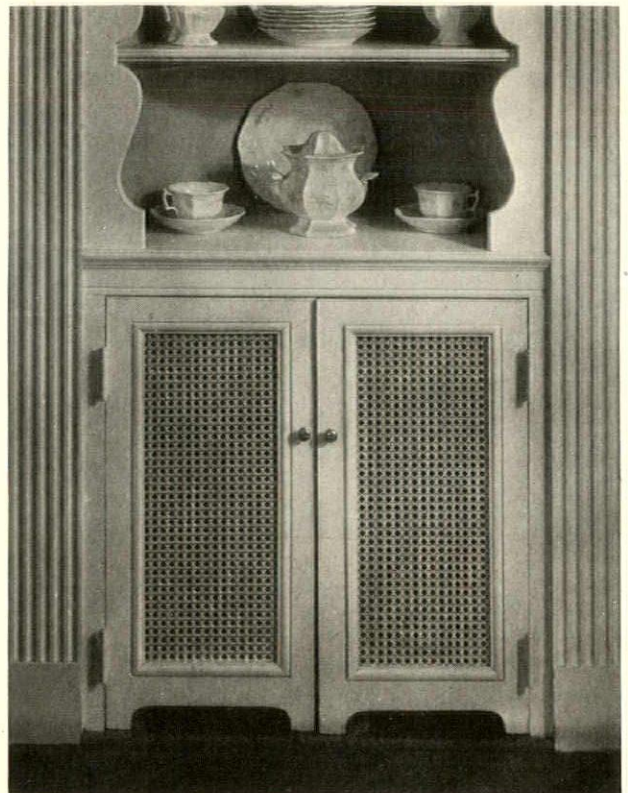
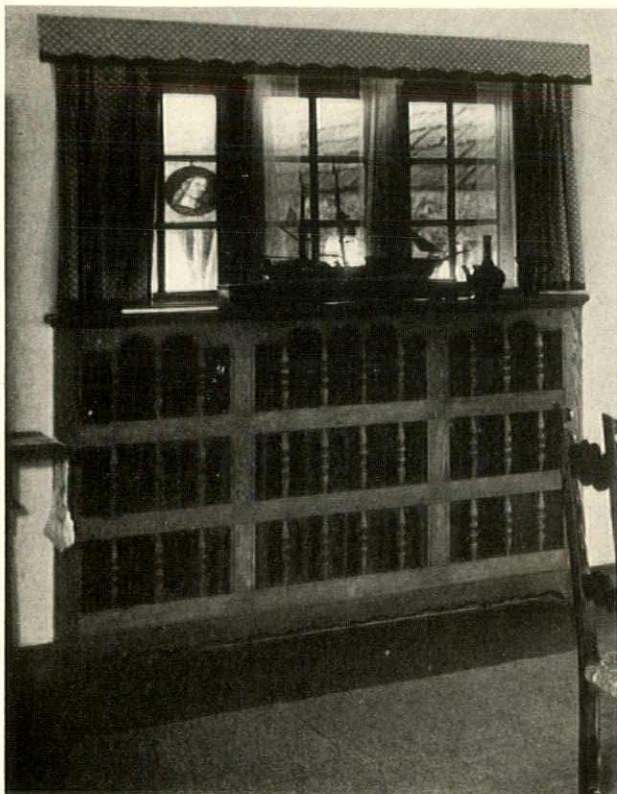
*Fluted metal front panel and window reveals by Eric Kebbon*



*Wood spindles in front of wire mesh by Frank J. Forster and R. A. Gallimore*

*Another variation of the wood spindle by Frank J. Forster*

*Utilizing the lower part of a corner cabinet. Godwin, Thompson & Patterson*







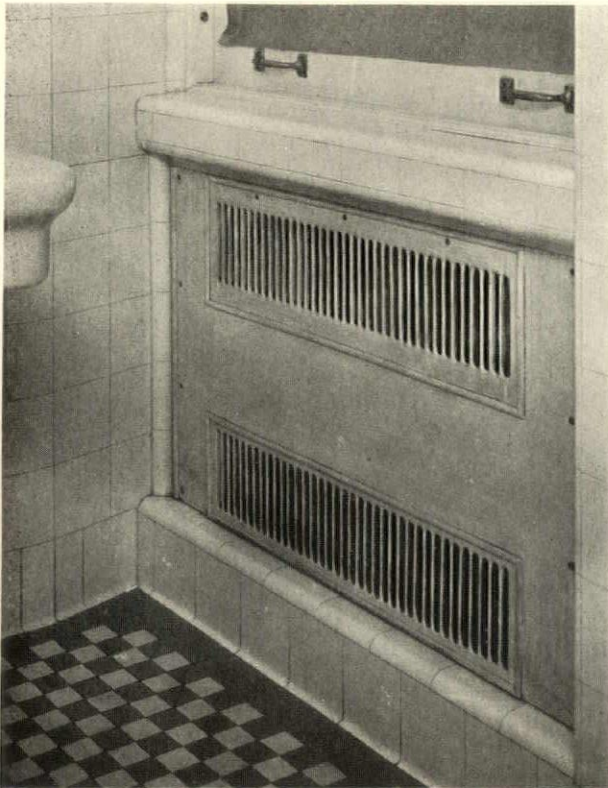
*One of two facing convector panels in a hallway*



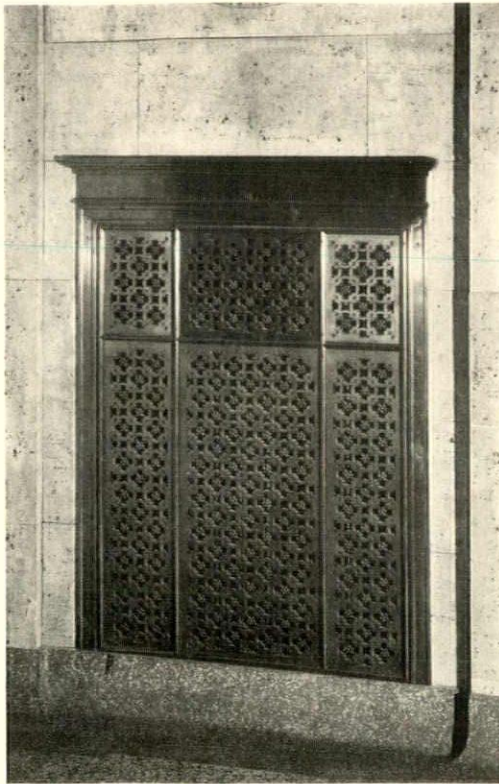
*Baluster screen under a stairway. John Graham, Jr.*

*Metal grille panel in tile work*

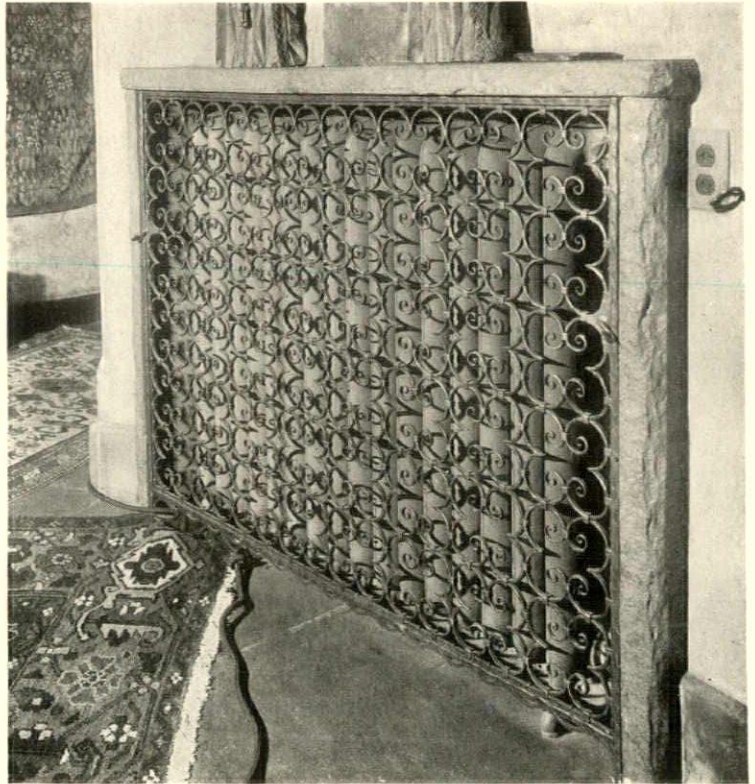
*Wood grille in front of sheet-metal convector. Lester Beach Scheide, Inc.*







*A special treatment of stock metal grilles by Harry Hake and Charles Kuck*

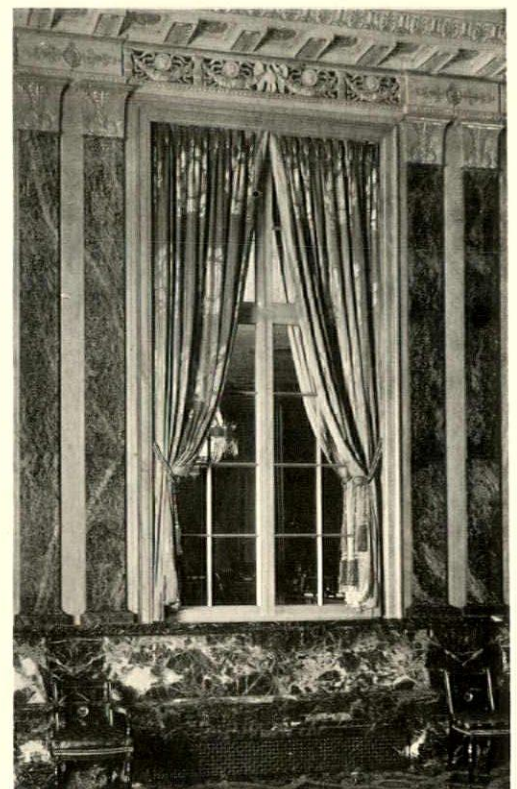


*The traditional wrought-iron grille screening the ordinary tubular radiator*

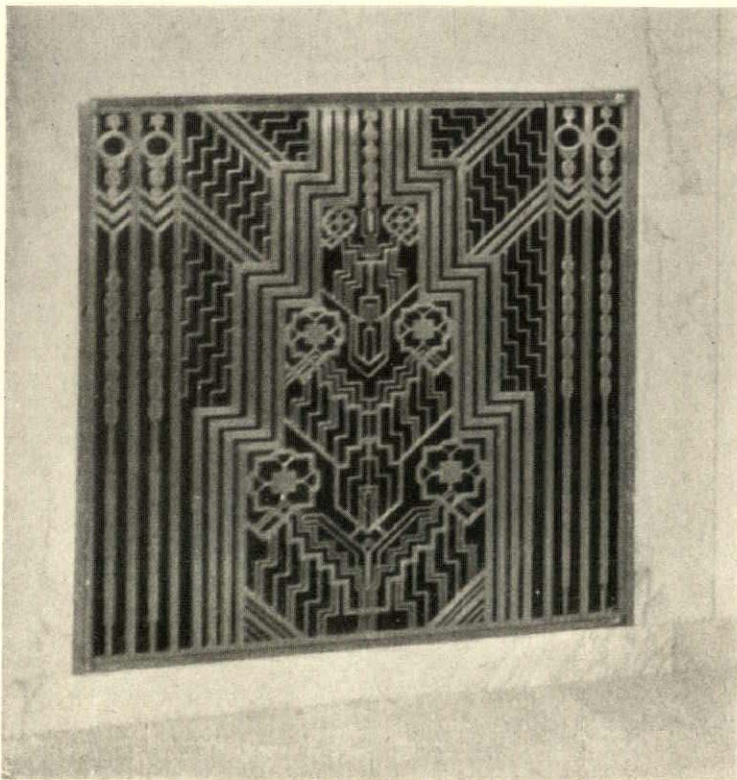
*Carved wood screen in Rockwell Kent's own house*



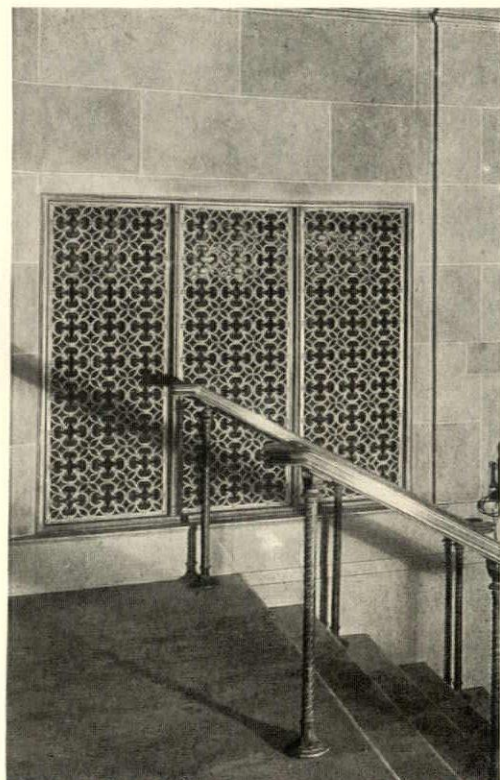
*Convectors behind marble, supplementary to air conditioning above window*





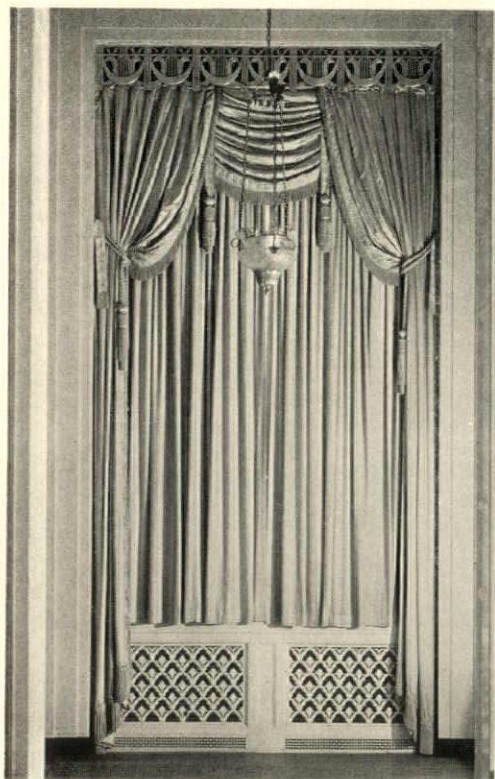


*Bronze grille by The Firm of Ely Jacques Kahn*



*Special use of a stock metal grille*

*Convactor behind metal grille, supplementary to air conditioning above window*



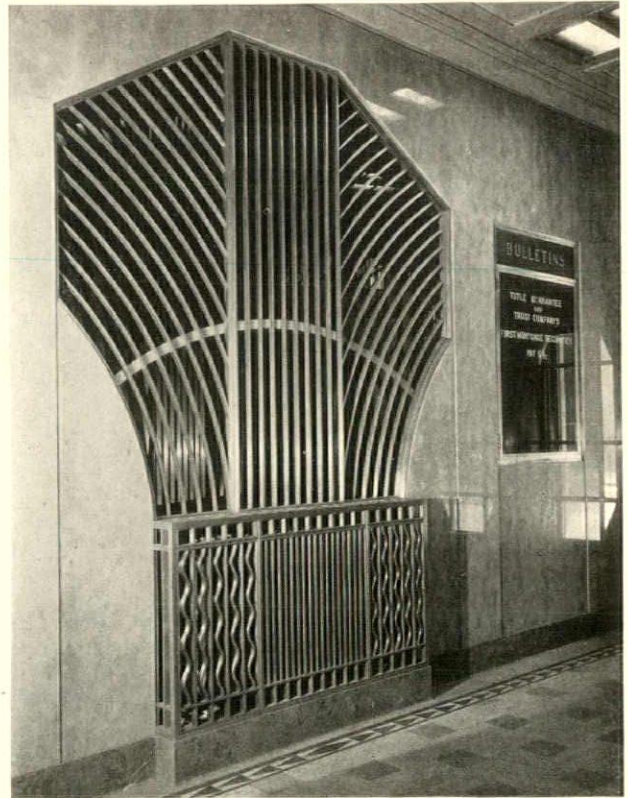
*Metal grille as screen under stairs. Delano & Aldrich*





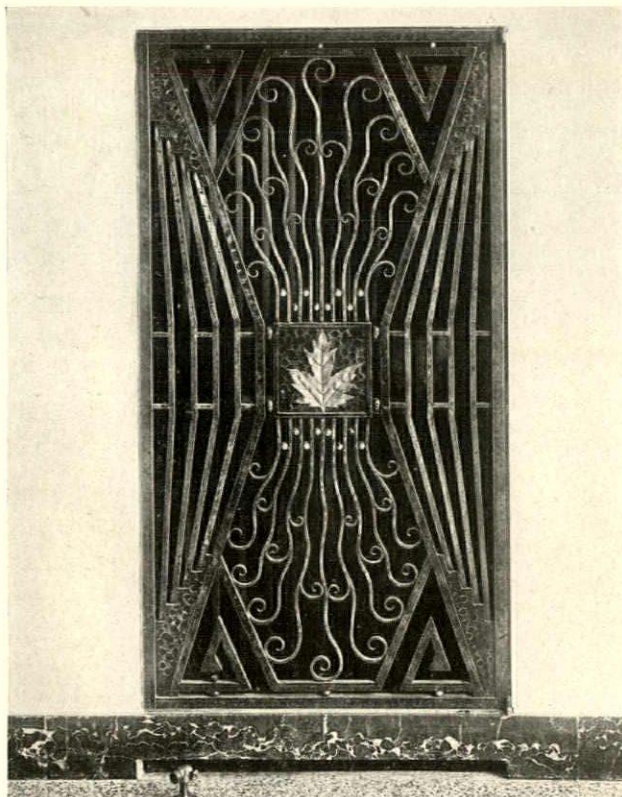


*Metal grille to floor, acting as screen only. Moise Goldstein*

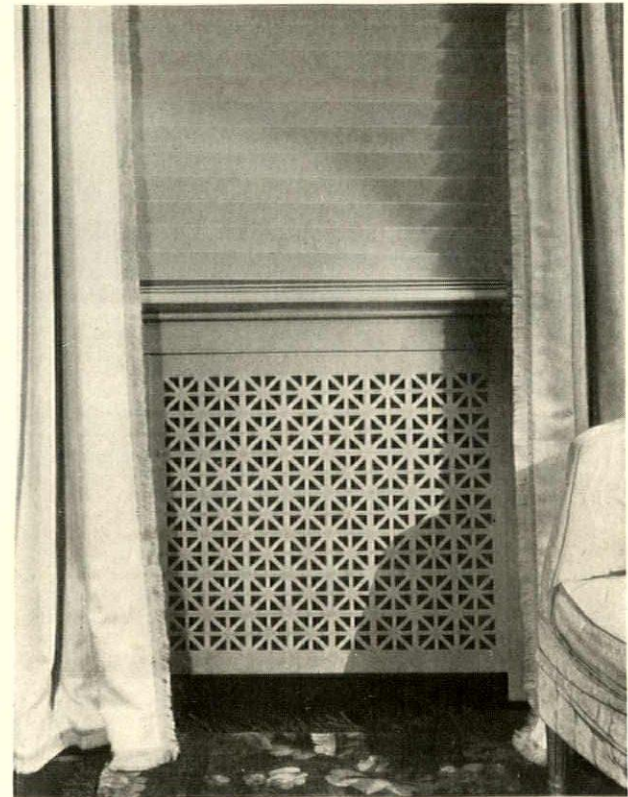


*Bronze grille in bank. John Mead Howells*

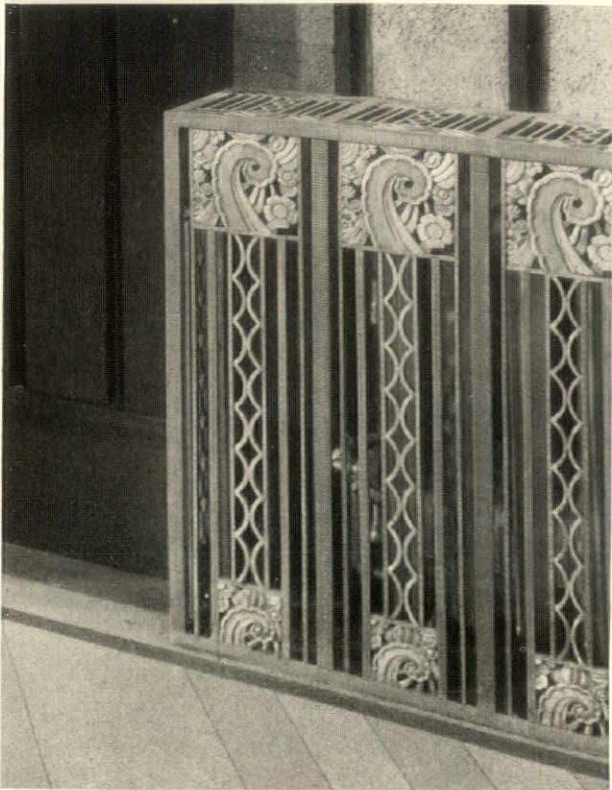
*Wrought-iron screen with lower opening in marble base*



*Stock metal screen with base opening*







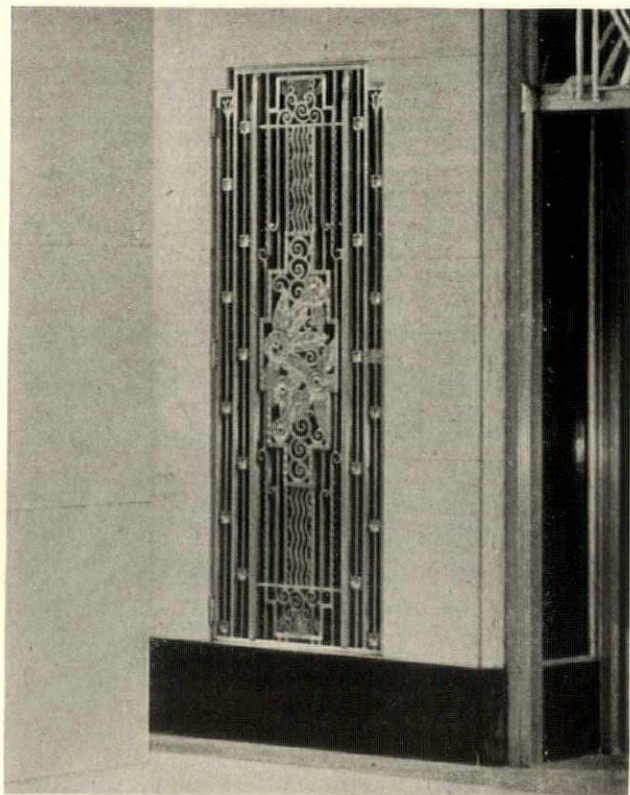
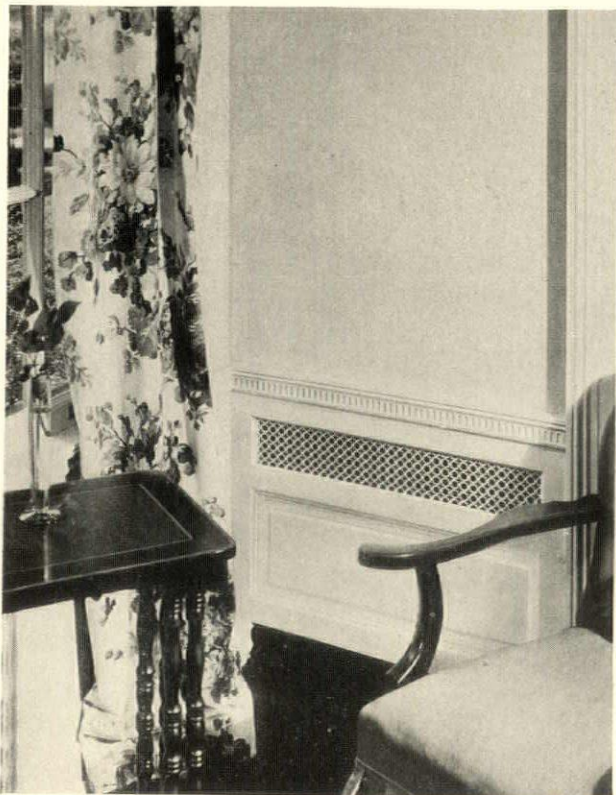
*Free-standing screen of iron and bronze. Morgan, Walls & Clements*



*Wood and painted wire mesh under shelving. Lewis Bowman*

*Lower opening in a black base behind wood. Armstrong, Furst & Tilton*

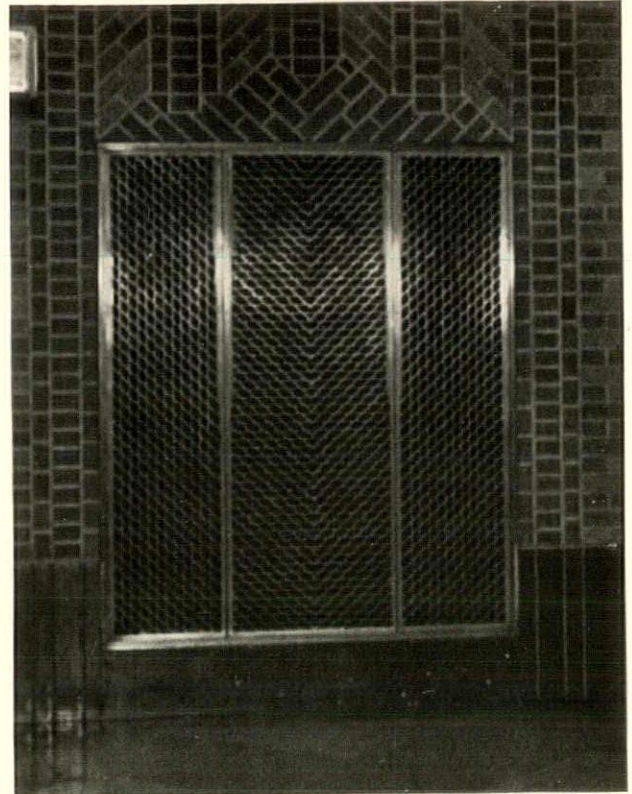
*Bronze grille in an office lobby. Holabird & Root*





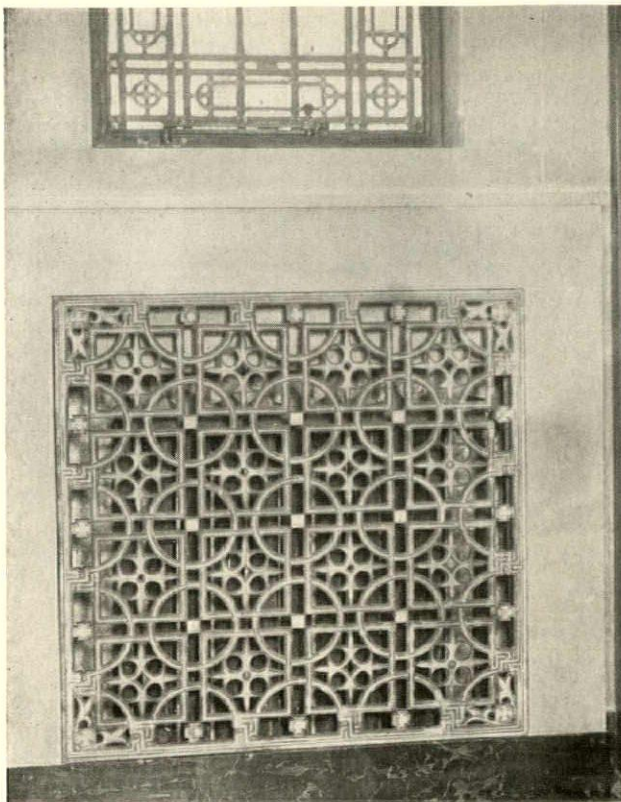


*Marble slab as convector face without grilles. Paul P. Cret*



*Bronze grille in an office lobby. Voorhees, Gmelin & Walker*

*Stock metal screen without convector action*



*Portable cover of furniture metal with front of rods*





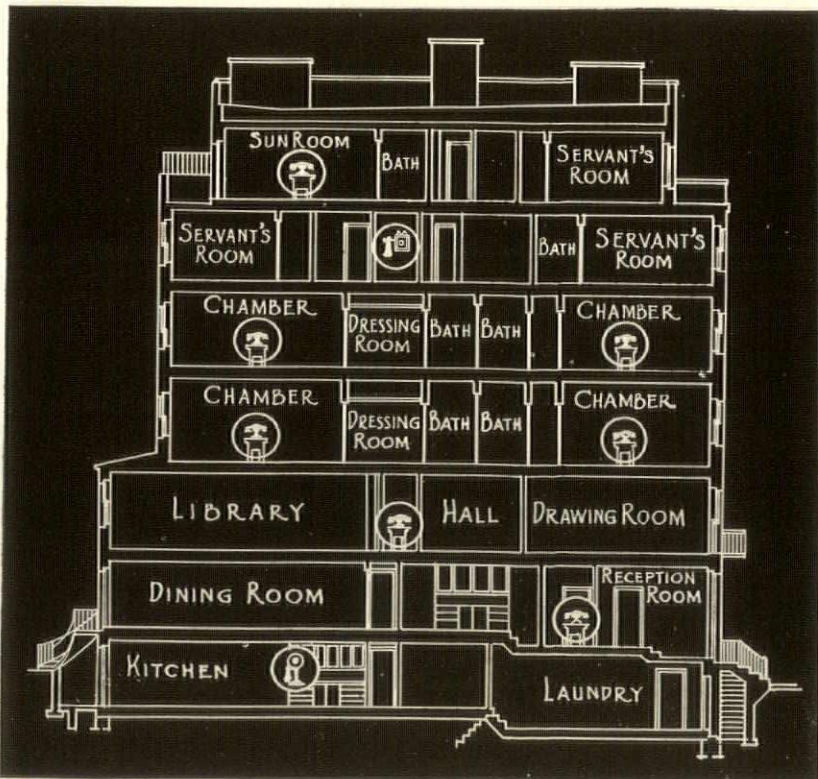
# TELEPHONE COMFORT AND CONVENIENCE FOR YOUR CLIENT

EFFICIENT management of home or business today demands that ample provision be made for complete telephone communication. All built-in conduits and outlets should be included in the original specifications for a structure of any size or character, whether the recommendation is for a single extension telephone or for a private branch exchange.

Pre-planned arrangements of this kind will assure full convenience, allow for future expansion, conceal all wiring and protect against most types of service interruptions. This thoughtful planning on your part returns generous dividends in client satisfaction.



*Provision for telephone convenience was built into this well-planned New York residence. EDWARD S. HEWITT, Architect; ROBERT JOHNSON, JR., Builder. The diagram shows the arrangement of the telephones connected to a dial intercommunicating system, with 2 trunk lines and 9 stations, each one equipped to pick up or initiate central office or interior calls.*



*When provision has been made for adequate telephone facilities, the instruments can be conveniently located throughout the house as shown in the diagram above.*

A representative of your local telephone company will be glad to consult with you in regard to the telephone arrangements suited to the particular needs of any type of building. The service of these trained telephone engineers is offered you free of charge. Call the Business Office of your local telephone company.







# ARCHITECTURE'S SERVICE BUREAU FOR ARCHITECTS



ARCHITECTS AND EVERY ONE INTERESTED WILL FIND HERE THE LATEST AND MOST UP-TO-DATE INFORMATION ON BUILDING EQUIPMENT AND ACTIVITIES IN THE INDUSTRY. THESE PUBLICATIONS MAY BE HAD BY ADDRESSING ARCHITECTURE'S SERVICE BUREAU FOR ARCHITECTS, 507 FIFTH AVENUE, NEW YORK. OUR SERVICE BUREAU WILL OBTAIN ANY OTHER CATALOGUES OR DATA YOU REQUIRE.

## HOME RECONDITIONING

The Copper and Brass Research Association feels that one indication of the beneficial effect on industries in general, should the home reconditioning movement gain momentum, is furnished by potential copper requirements for repair work—estimated by them to be approximately 270,000,000 pounds. With a total of probably 3,000,000 homes in the United States requiring repair (about 14 per cent of the total number of homes), the possible requirements in roofing, plumbing, carpentry, painting, hardware replacement, rewiring, and redecoration mount high. The association feels that stimulation of such work should be aggressively undertaken to the end that the home-building industry be brought back to more normal status.

## "CONVERTA" PARTITIONS

The Waldbas Co., Inc., of 42 William Street, Long Island City, N. Y., state in their new file-folder that "Converta" partitions are the most portable wood-and-glass office partitions on the market. There are no nails used. They are connected by adjustable tie rods, and have full-length solid posts throughout and so need no reinforcing for high ceilings or long lines. They are also built to receive conduit wire. They have many additional features which will interest you and are merchandised with a maintenance guarantee. If you have partition problems it will pay you to get in touch with the Waldbas Co.

## ENAMELED BRICK

A specialty of the American Enameled Brick Corporation, Graybar Building, New York City, are their "Tu-Bric" shapes. The introduction of this double-unit enameled brick greatly widens the range of this product's usefulness. There is a great time saving in delivery and final laying, as well as a substantial saving in mortar. The latest literature from this company shows many examples of "Tu-Bric" shapes as well as illustrations of modern design, color plates, and discussion of properties and special features.

## OIL FOR HOMES

Equipping of homes is now the most important domestic industry according to clip sheet from the Oil Heating Institute. The institute assures us that the supply of heating oil is as continuous, as suitable in quality, and as reasonable in price as is motor-fuel supply. The use of oil for heating homes has increased to such an extent that the oil industry now estimates that the consumption of petroleum for domestic heating is more than one-tenth of the amount demanded by the automobile industry. In the same report are two timely admonitions—ventilation in the basement to prevent interference with proper draft combustion and heat development—and the importance of wisdom in the installation and care of thermostat.

## ARCHITECTURAL ALUMINUM

The Metal Refinishing Products Co., of Cleveland, Ohio, has issued a leaflet on the care and maintenance of architectural aluminum and other decorative metals. The finishes most frequently used on architectural aluminum are listed and the methods of retaining these finishes are described.

## VIBRASTONE

An eight-page file-folder has just been issued by the Benedict Stone Products Co., of Chicago, giving a good idea of the character of Vibrastone. Accurate natural color reproductions are included, giving a useful idea of just what this new building stone looks like. Vibrastone offers the architect a wide range of colors and textures. Laboratory tests of Vibrastone at various stages of manufacture are available and architects are encouraged to make their own tests for uniformity of color, weight, and strength. Vibrastone will not crack under great heat. It absorbs less than 3 per cent of its weight of water when immersed for forty-eight hours after being dried to constant weight at 220 degrees Fahrenheit. Information sent on request.

## ELECTRON TUBES

*General Electric Review* for December includes an interesting article on the highly interesting subject of Electron Tubes, their utility and applications. The article deals specifically with the photoelectric and thyratron tubes which have found wide application for control devices in industrial operations. Automatic opening of doors, discharging of mail bags from conveyor at proper car-loading points, and control of shears that cut to length the hot bars as they come from mill rolls are some of the diverse uses.

## PRESTO STEEL FLOORS

The Truscon Steel Company have just announced a newly developed steel floor for light occupancy buildings. The folder issued indicates that the Truscon Presto Steel Floor is used over open-truss steel joists and is built to carry a concrete slab of ordinary depth. Presto units are made of 24-gauge steel and are laid like tongue-and-grooved boards. They are easily cut in the field where openings are required by construction conditions.

## "BLUE-STAIN" PREVENTION

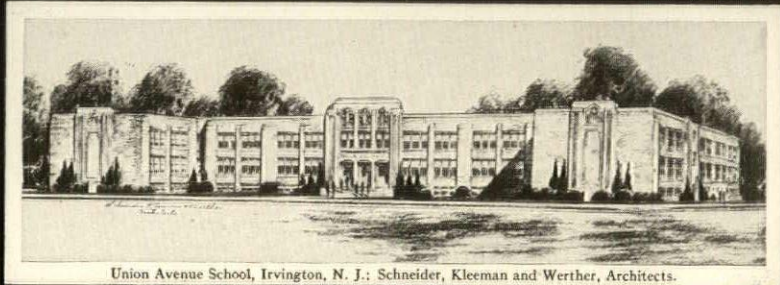
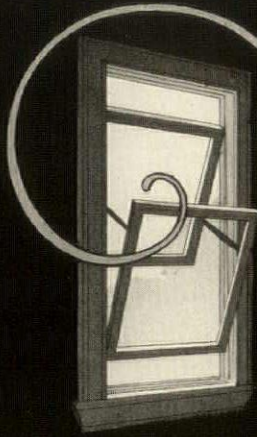
The E. I. du Pont de Nemours & Co. announce a new disinfectant for the prevention of mold and sap stain or "blue-stain" of air-dried lumber. Losses from such stains have previously cost the lumber industry as much as ten millions annually. The treatment has proved effective, according to reports from users, in preserving the natural appearance of pine, sap gum, black gum, yellow poplar, magnolia, and other hardwoods.

(Continued on page 21)



# STANDARD SCHOOL EQUIPMENT

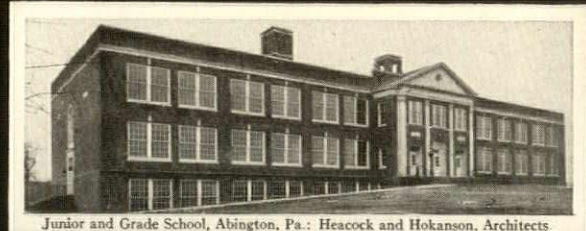
*Prominent Schools Equipped with  
AUSTRAL WINDOWS and  
AUSTRAL WARDROBES.*



Union Avenue School, Irvington, N. J.: Schneider, Kleeman and Werther, Architects.



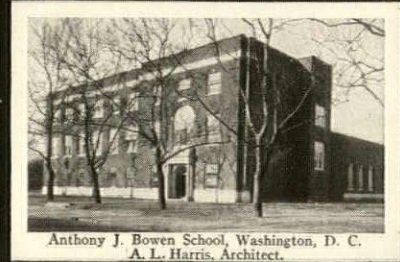
Hawthorne Public School, Hawthorne, N. J.;  
Fanning and Shaw, Architects.



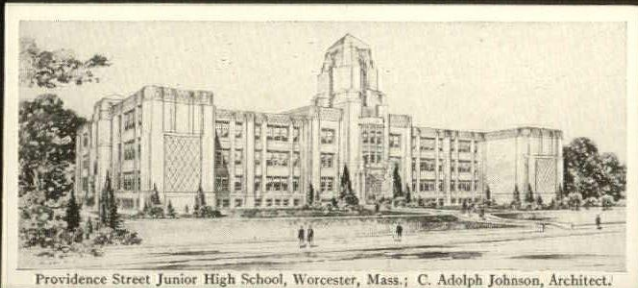
Junior and Grade School, Abington, Pa.: Heacock and Hokanson, Architects



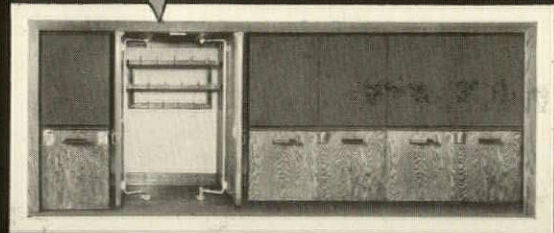
Chatsworth Avenue School, Larchmont, N. Y.;  
Knappe and Morris, Architects



Anthony J. Bowen School, Washington, D. C.  
A. L. Harris, Architect.



Providence Street Junior High School, Worcester, Mass.; C. Adolph Johnson, Architect.



The judgment of School Specialists favors COMPLETE NATURAL VENTILATION, the latest development for modern schools . . . The fresh air enters through the AUSTRAL Window and is diffused through the classroom, passing under the Wardrobe doors and is vented out through an aperture in the top of the Wardrobe . . . Simplified . . . Economical . . . Efficient.

101 PARK AVE AUSTRAL WINDOW CO. NEW YORK CITY



## BUILD WITH ARCHITECTURAL TERRA COTTA



Showing Interior of Display Bldg.—Conkling-Armstrong Terra Cotta Co. Plant  
Designed by Our Technical Dept.—At Your Service Without Obligation

In the picture—

Fountain — in polychrome and gold.

Pictorial effect — produced without modelling, highly colored ceramic glazes having been applied to the design drawn on the surface of the tiles before burning — unlimited scope for colorful design without cost of modelling.

Floor — machine-made terra cotta blocks in four mottled tones with random jointing.

Base and Walls — machine-made terra cotta units in mottled tones.

**CONKLING-ARMSTRONG**

TERRA COTTA COMPANY

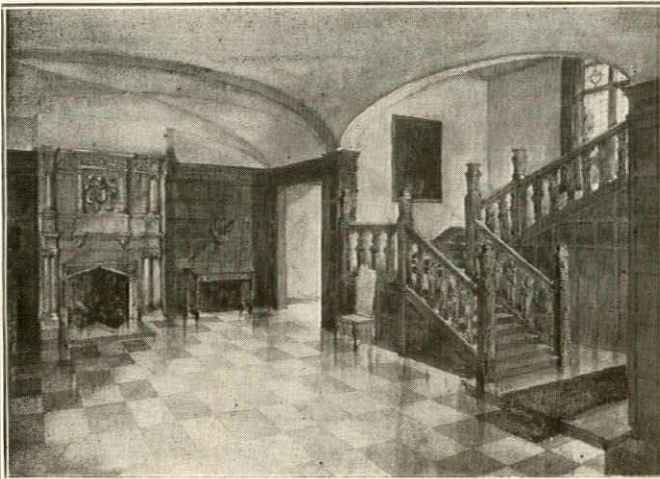
Architects Bldg.

Philadelphia, Pa.

QUALITY, SERVICE, CO-OPERATION

**FRED<sup>K</sup> ROSE & CO. INC.**

34 EAST 65th ST., N. Y. C.



CONTRACTORS FOR  
FINE INTERIORS / WOODWORK  
PAINTING / UPHOLSTERY  
SPECIALIZING TO ARCHITECTS

*Lloyd Wallpapers*



THE PHOENIX BIRD SCENIC—A Beautiful pictorial wallpaper, hand-painted, requiring over 800 blocks in the printing.

ARCHITECTS cordially invited to confer with experienced members of our staff on all matters pertaining to wallpapers of the better sort.

W. H. S. *Lloyd* CO., INC.

*Importers of Fine Wallpapers*

NEW YORK, 48 West 48th St.

CHICAGO, 434 So. Wabash Ave. NEWARK, 71 Washington St.  
LOS ANGELES, 1051 So. Alvarado St. BOSTON, 420 Boylston St.



**ROBRAS 20-20**

The Rome Brass Radiator Corporation has issued an attractive brochure on the Robras 20-20 radiator and radiation. They state that the proof of the pudding is in the eating and that the proof of a radiator is in its heating. They claim that Robras 20-20 has passed all tests and that it has been designed with the requirements of owner, architect, and builder in mind. Robras 20-20 is a welded brass radiator. Robras 20-20 provides radiators in the wall, out of sight, out of the way, and still effective to the nth degree. The illustrations in the brochure should provide many an inspiration for unique concealed radiation.

**LI-FLAT CABINETS**

The Lyon Metal Products Co., Inc., of Aurora, Ill., call to your attention their Li-Flat Cabinets in which drawings and tracings can be filed for instant use. The hinged paper weight in the front and the rear guard on the drawers hold the drawings flat, prevent them from sliding over rear edge, and prevent curling.

**DOOR OPERATORS**

Switch Controlled Door Operators as manufactured by the Barber-Colman Co., of Rockford, Ill., are cleverly illustrated in a new pamphlet—file size—from that company. Designers of garages will find especial interest in this literature. Stop at a convenient control post in the driveway, turn key in switch, and the doors open. Toggle switch on post and in garage serve to close the doors. This switch cannot be used to open the doors. "Why keep doing it the hard way," asks the Barber-Colman Co., "when convenient, automatic power operation is available?" Models for most every type of door are made.

**ELECTRIC RANGES**

A pamphlet from the Standard Electric Stove Co. recommends the Standard Royal Range as having struck a new keynote in range construction. Non-exposed bolts, concealed hinges, aluminum-lined oven, flawless porcelain, chromium trim, and automatic action are features.

**PONDOSA PINE**

Its Properties, Uses, and Grades are the subject matters of a newly issued catalogue by the Western Pine Manufacturers Association, of Portland, Ore. Pondosa Pine has been officially adopted by members of the association as the common name for the species *Pinus ponderosa*, formerly called Arizona White Pine, California White Pine, New Mexico White Pine, Pondosa Pine, and Western Soft Pine. The book contains historical matter of interest, botanical classifications, commercial names, manufactured characteristics and properties, and requirements for specific uses. The whole is well illustrated and many attractive installations are shown as examples of what can be accomplished with this wood.

**MURRAY RADIATOR**

A handsome file catalogue from the American Radiator Co. deals in detail with the new Murray Radiator, complete with drawings, dimensional charts, and charts showing the average water and air temperature differences. The new Murray provides for concealed radiation which is a modern architectural requirement. The ratings included in this new catalogue are based on the actual output ratings as determined by exhaustive tests at the Institute of Thermal Research.

(Continued on page 23)

*Fire-Proof*  
**AWNING FABRICS**  
*of*  
**Woven Asbestos Yarn**

No more burnt awnings, due to carelessly thrown cigarette stubs, or lighted matches. Here at last, are *fire-resisting* awning fabrics which are not only heat-resisting, but colorful and artistic.



**AWNBEST STRIPES AND TINTS** are painted on fabrics woven of *genuine* asbestos yarn. This

means that fire hazards are eliminated and repairs reduced. Think of the savings in costs for new awnings as well as the added factor of safety.

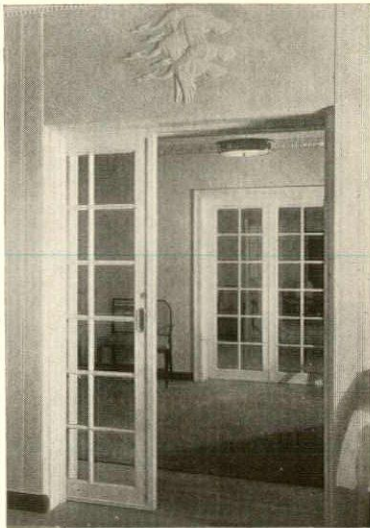
These handsome stripes and tints take their place on any residence, apartment, hotel, commercial building, or public building. Why bother with ordinary awning fabrics that burn? Save time, labor and trouble with **AWNBEST STRIPES AND TINTS**

*Obtainable From*  
**Awning Manufacturers**

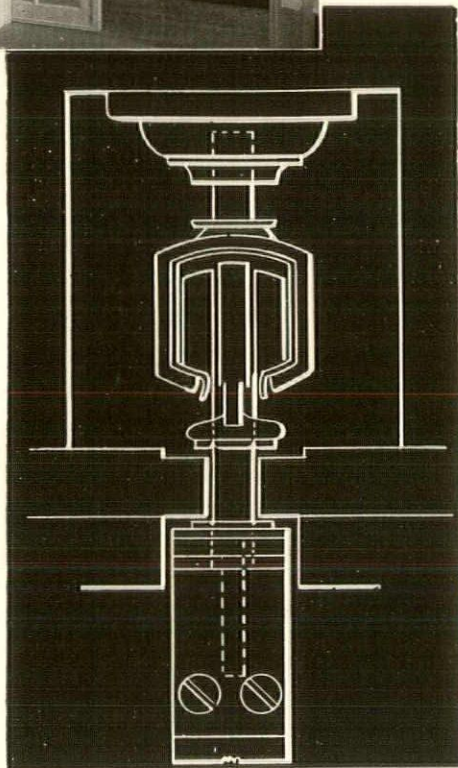
**AWNBEST STRIPES AND TINTS** are sold by leading awning manufacturers. In the event that your manufacturer does not carry these fabrics in stock, write us for address of nearest distributor.

**AWNBEST CORPORATION**  
CHARLESTON, S. C.





SLIDING  
FRENCH  
DOORS



McCabe Hangers have now made possible the sliding French Door. You can now include French Doors in your plans, achieve their artistic value, and save space. The above illustration is one of the sliding French Doors in the new Waldorf-Astoria Hotel.

SEND FOR DETAILS

**McCABE HANGER MFG. CO.**  
425-27 West 25th St. New York City

*The printing plates for the editorial pages in this issue of*

ARCHITECTURE

WERE MADE BY

**THE BECK ENGRAVING COMPANY**

INCORPORATED

*Designers · Engravers · Printers*



Four plants located for national service

NEW YORK  
305 E. 45TH ST.

PHILADELPHIA  
7TH & SANSON STS.

CHICAGO  
21ST & CALUMET AVE.

SPRINGFIELD, MASS.  
10 BROADWAY

SEND FOR OUR BOOKLET "BECK GRAVURE"

*Draftsmen Wanted!*

DOUBLEDAY, DORAN & Co., Inc.,  
PUBLISHERS, HAVE A UNIQUE PLAN  
WHEREBY DRAFTSMEN MAY EARN EX-  
TRA MONEY DURING SPARE TIME.

FOR FULL DETAILS, WRITE

J. AUSTIN

DOUBLEDAY, DORAN & Co., Inc.

GARDEN CITY, N. Y.



**PRODUCING COLOR BY MUSIC**

You'll be interested in a folder issued by the R. C. A. Victor Company giving specifications and details for custom-built systems for Reproducing Music and Automatic Color Organ. The R. C. A. Victor Color Organ is a new departure in the field of public and home entertainment which permits the control of colored light by music from orchestra, radio, or record. The folder has been prepared to assist architects in the study of the potential value to their clients of the systems mentioned.

**CABINET AND WALL RADIATION**

The new line of car heaters, convectors, and cabinet and wall radiation for homes and commercial buildings as manufactured by the Young Radiator Co., of Racine, Wis., is keeping the company busy on twenty-four-hour shifts, according to recent news received from the company. They announce likewise a newly designed unit heater with many new advantages. They will be glad to send details on their equipment.

**TUBE COUPLINGS**

By Parker. Bulletin No. 33 of the Parker Appliance Co., of Cleveland, Ohio, covers the subject of Parker Underground Water Service Fittings and Parker Draft Gauge Manifolds. Rugged durability and resistance to soil corrosion and mechanical strains have been incorporated in their latest designs. Fabrication of the tube and make-up of the joint have been simplified to conserve plumbers' time. Special shapes for special problems are meat for the Parker Co.

**ARC WELDING**

Plate No. 29 of the Lincoln Electric Co., of Cleveland, Ohio, figures the use of purlins in Arc Welded Mill Buildings. Diagrams for erection and methods of welding are shown, indicating the possibility of shipment directly from mill to job. Transportation and handling costs can be greatly reduced by following the methods outlined.

**EMERGENCY LIGHTING**

The danger of lighting failures is no longer necessary, according to *Exide News*, published by the Electric Storage Battery Co., of Philadelphia. Recent issues of the *News* give ideas on the application of storage batteries for emergency lighting and power.

**TUBE-TURNS**

A new series of seamless, uniform wall fittings for pipe welding is announced by the manufacturers, Tube-Turns, Inc., of Louisville, Ky. They are of uniform thickness at all points, insuring uniform radius. They have the same exterior and interior diameter, same wall thickness and wall tolerance as the pipe with which they are used. This greatly facilitates lining up and welding. The new series affords 45-degree and 90-degree elbows and 180-degree return-type fittings in virtually all the weights required by modern piping.

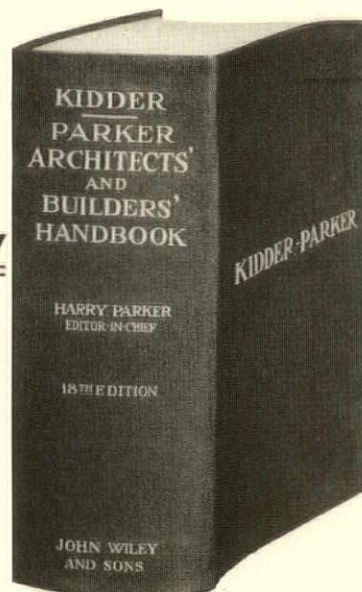
**SELSYN DIFFERENTIAL**

That title sounds almost like Greek. But instead of being a dead language it is modern in extreme, and a new leaflet from the General Electric Co. tells all about the Selsyn Differential Follow-up System for those who are interested. Part I of the folder deals with the general scope, classification of uses, factors influencing its use, suggested applications, and explanation of the system's operation. Part II goes into details of operation.

**NOW  
READY**



The  
World  
Famous



**18<sup>th</sup>  
EDITION**



Completely  
Revised

**Kidder-Parker  
ARCHITECTS'  
and BUILDERS'  
HANDBOOK—  
By the late Frank E. Kidder**

*Compiled by a staff of specialists and  
Harry Parker, Editor-in-Chief*  
Professor of Architectural Construction,  
School of Fine Arts, University of Pennsylvania

*Packed with New, Live, Usable Information!*

Once again this famous book is thoroughly up to date in every detail. Improved methods of construction, new materials, modification of building codes and the acceptance by architects and engineers of new unit stresses have necessitated this complete revision. Much material of the former edition has been omitted, many chapters have been revised or rewritten and certain new chapters have been added. A new Index has also been prepared.

Among architects throughout the world Kidder-Parker's "Architects' and Builders' Handbook" stands supreme. It has attained its high position through almost fifty years of continuous and reliable service and today represents the best in architectural practice.

Through years of constant use, thousands of architects have come to depend upon "KIDDER-PARKER" and its always convenient data. From cover to cover it is authoritative and thoroughly reliable.

2315 pages 4½ by 7 Flexible, \$8.00

**A WILEY BOOK**

ON APPROVAL COUPON

JOHN WILEY AND SONS, INC., 440 Fourth Ave., New York City  
Gentlemen: Kindly send me for ten days' free examination a copy of "KIDDER-PARKER." I agree to remit the price of the book (\$8.00) within ten days after its receipt or return it postpaid.

Name.....

Address.....

Position or Reference.....

A 1-32





**A book for architects . . .**

## **UNDERPINNING**

**ITS PRACTICE AND APPLICATIONS**

**By**

**Edmund A. Prentis and Lazarus White**

This book is a detailed, technical description of underpinning, underpinning methods and applications to foundation construction. It is written for engineers, contractors and architects by men of many years' experience in that particular field. A knowledge of its contents means increased efficiency, less waste of time and money, for the practical man.

It describes in detail actual cases of every type and is illustrated with 153 photographs and sketches. "... an answer to the riddle of only yesterday, and a veritable treasure-trove of valuable experience and knowledge of the subject . . ." writes William A. Starrett in the introduction.

Price, \$7.50 (sent postpaid on receipt of your check). Full descriptive circular sent on request.

**COLUMBIA  
UNIVERSITY PRESS  
2960 BROADWAY  
NEW YORK CITY**

## **THE CUTLER MAIL CHUTE**

The achievement of half a century's experience in meeting the exacting requirements of public use under Post Office Regulations.

Simple, practical and sturdy in construction. Can be opened and closed quickly by Post Office representatives and left in perfect condition, with no injury to structure or finish.

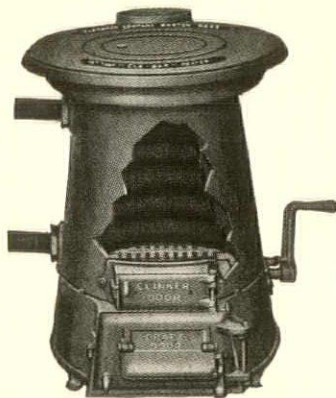
Full information, details and specifications on request.

**CUTLER MAIL CHUTE CO.**

General Offices and Factory  
ROCHESTER, NEW YORK

## **WATER THAT IS HOT**

Special  
Copper  
Coils  
for  
Rustless  
Water



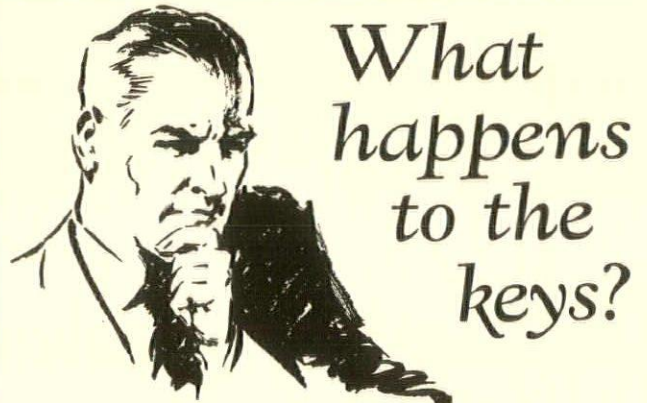
CLE-BAR  
Easily  
Installed  
by  
Local  
Plumber

**SPECIFY  
CLE-BAR WATER HEATER**

*"Good for a Lifetime"*

And you'll hear no more complaints about cracked sections, rusty water, or no hot water.

**CLEGHORN CO.**  
86 Broad Street Boston, Mass.



**LEARN  
ABOUT TELKEE**  
TRADE MARK

The building is completed—the keys are handed over, and then—how are they cared for? Must your client work out his own salvation?

Knowledge of what the TelKee System accomplishes for the proper care of keys in buildings—large or small—will convince you that TelKee should be written in your specifications. Write for literature.

Thayer **TELKEE** Corporation  
110 EAST 17TH ST. LOS ANGELES, CALIF.



# ADVERTISERS' INDEX

## WHAT TO SPECIFY

## WHERE TO BUY

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

	PAGE
American District Telegraph Co. . . . .	3
American Telephone and Telegraph Co. . . . .	17
Ar-Ke-Tex Corp., The . . . . .	4
Armstrong Cork Co. . . . .	26
Austral Window Co. . . . .	19
Awnbest Corp. . . . .	21
Beck Engraving Co., The . . . . .	22
Burnham Boiler Corp. . . . .	4th Cover
Carnegie Steel Co. . . . .	2d Cover
Cleghorn Co. . . . .	24
Columbia University Press . . . . .	24
Conkling-Armstrong Terra Cotta Co. . . . .	20
Cutler Mail Chute Co. . . . .	24
Doubleday, Doran & Co., Inc. . . . .	22
Federal Seaboard Terra Cotta Corp. . . . .	9
Fiske Iron Works, J. W. . . . .	6
Grenci and Ellis, Inc. . . . .	3d Cover
Hood Co., B. Mifflin . . . . .	14
Lloyd Co., Inc., W. H. S. . . . .	20
Lord & Burnham Co. . . . .	12
McCabe Hanger Co. . . . .	22
Otis Elevator Co. . . . .	7
Rose & Co., Fred'k . . . . .	20
Taylor Co., Halsey W. . . . .	8
TelKee Corp., Thayer . . . . .	24
Tuttle & Bailey Mfg. Co. . . . .	5
Wallace and Tiernan Co. . . . .	16
Webster and Co., Warren . . . . .	10
Westinghouse Electric Elevator Co. . . . .	1
Wiley & Sons, Inc., John . . . . .	23

REFER TO PAGE 18 FOR ANNOUNCEMENTS OF THE MOST UP-TO-DATE PUBLICATIONS OF MANUFACTURERS.

## Some Interesting Comments on ARCHITECTURE'S Presentation of Waldorf-Astoria

"I think it a very splendid move to give complete information on one subject, that warrants it, rather than incomplete treatments of varied subjects."

RALPH D. HUSZAGH.

"We believe that a comprehensive presentation of such outstanding buildings as the Waldorf-Astoria is a very splendid thing."

HOWARD J. WHITE.

Graham, Anderson, Probst & White.

"We congratulate you and hope you will be able to repeat as opportunity occurs."

H. J. MAXWELL GRYLLS.

Smith, Hinchman & Grylls.

"Your skill in discovering and judgment in selecting buildings to be so treated will be the test of this policy which you have tried."

CHARLES Z. KLAUDER.

"The November issue on the Waldorf is an outstanding example of a worthwhile attempt to give the architect excellent reference data."

LANCELOT SUKERT.

# ARCHITECTURE

Published by CHARLES SCRIBNER'S SONS

*"The Greatest Architectural Publishing  
Enterprise in Years"*



“*As though everyone walked on tiptoe...*”

Services are undisturbed when floor noises are hushed with cork tile . .

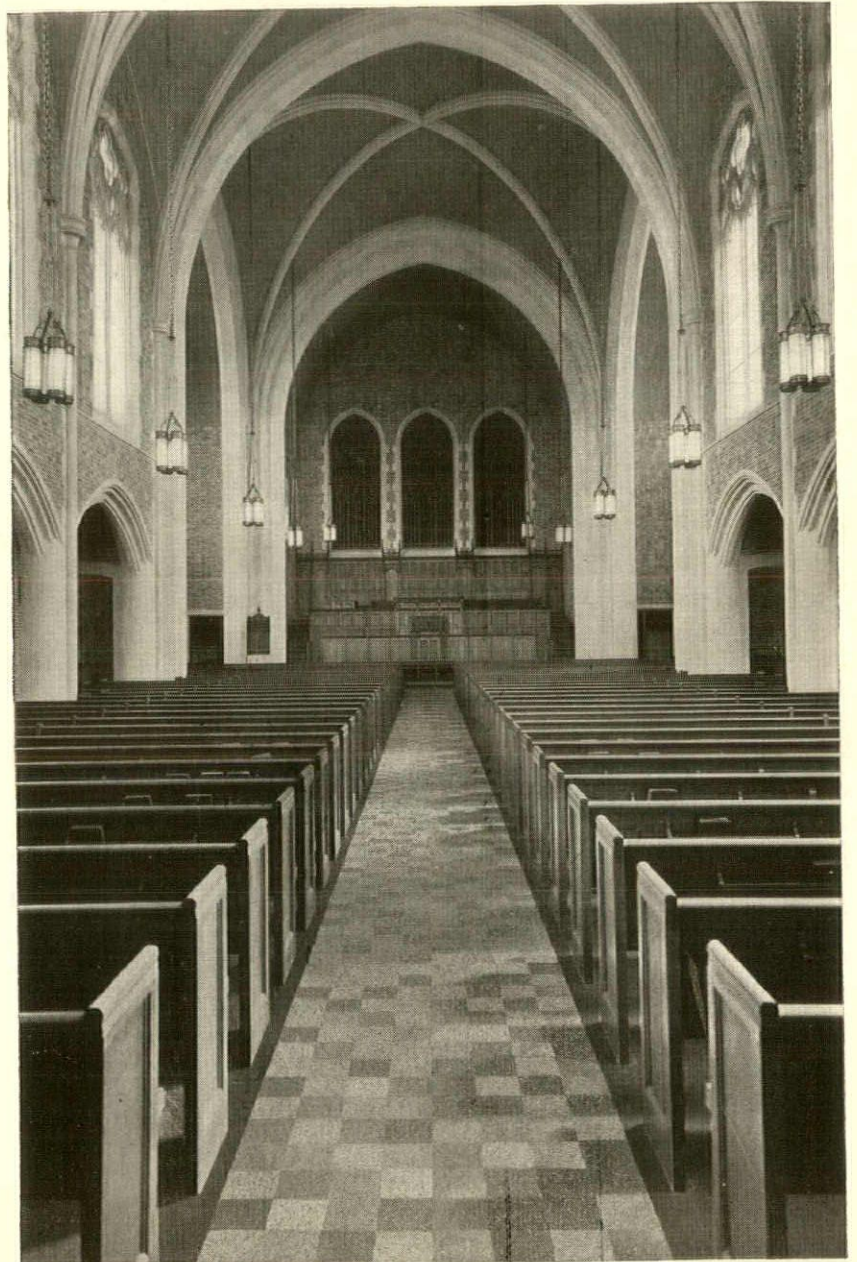
LATE comers move silently down the aisle and into their pews. The reverent dignity and quiet are unbroken because the church architect specified resilient floors of Armstrong's Cork Tile.

Wherever quiet is essential—in churches, libraries, auditoriums, offices—these tiles of pure, baked cork will hush pounding heels, shuffling feet, and the clatter of articles dropped on the floor. It seems as though everyone walked on tiptoe in such places.

But aside from their sound-quieting properties, Armstrong's Cork Tile Floors are excellent from the standpoint of design and durability, too. The three shades of cork—dark, medium, and light—can be arranged in distinctive patterns that are unusually suitable for public buildings. And the thick resilient cork has proved itself time and again a floor of *permanent* beauty.

*Free Booklet* gives design suggestions. “Custom-Built Floors of Cork” illustrates in full color how much Armstrong's Cork Tile and Linotile Floors can add to your interiors. The design suggestions should prove helpful to the architect who is seeking floors of distinctive beauty. You'll find information in Sweets', too. Armstrong Cork Company, Floor Sales Division, Lancaster, Pennsylvania.

Armstrong's  
  
 Product



PSALM AND SERMON ARE NOT DISTURBED in the First Presbyterian Church, Fargo, N. D. Armstrong's Cork Tile in the aisle and Armstrong's Linoleum under the pews assure quiet. Architects, Ransland & Lewis, Minneapolis.

Armstrong's CORK TILE

LINOTILE • ASPHALT TILE

MADE BY THE MAKERS OF ARMSTRONG'S LINOLEUM