

OCTOBER 1930

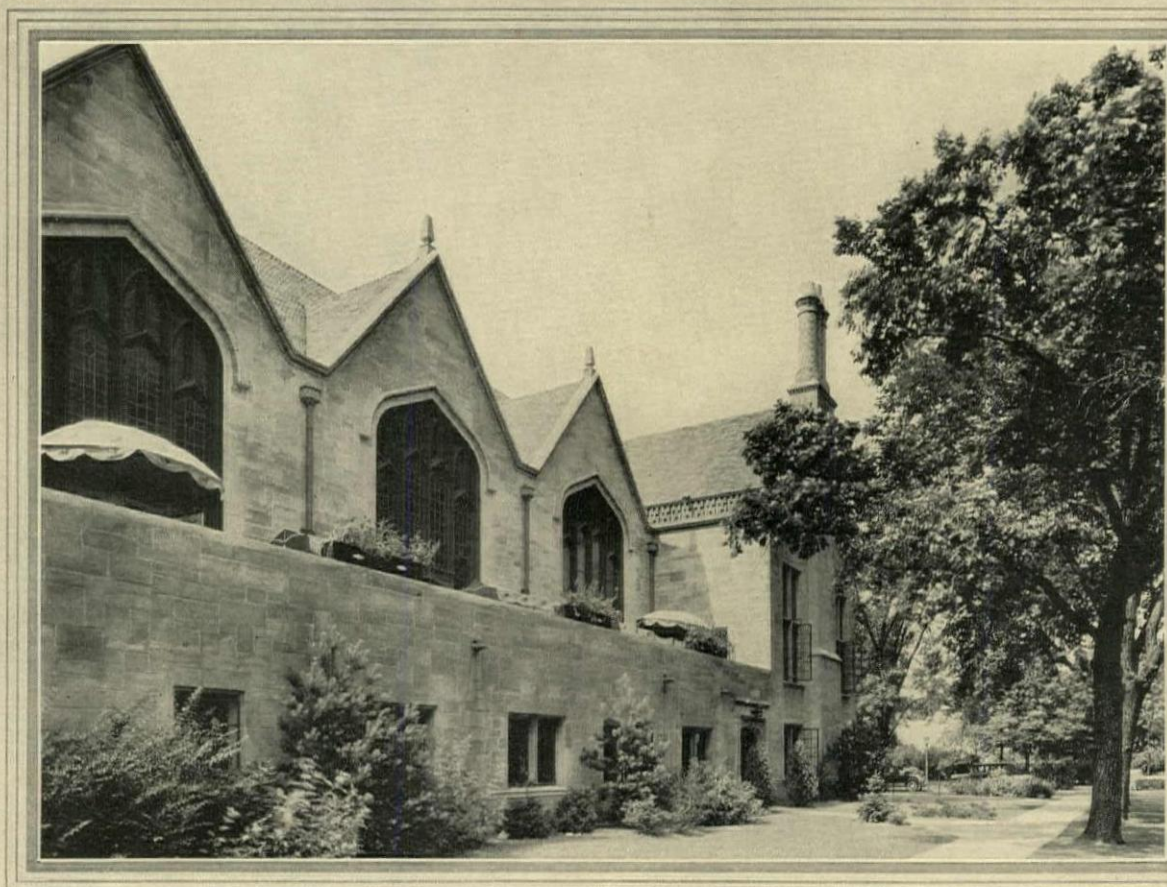
PENCIL POINTS

A JOURNAL FOR
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*Shawnee Club, Wilmette, Illinois. D. H. Burnham Company, Architects J. B. French Company, Builders.
Old Gothic Ilco Riplstone—shot-sawed finish.*

For a Residence, a Clubhouse, a Church. Here's new beauty at amazingly low cost

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ASK us to supply you with actual cost information regarding the stone facing for the beautiful Shawnee Club shown here. You'll be amazed, we predict, at how economically Indiana Limestone can be used for a building like this. Ilco Riplstone, we call our stone when prepared and used as a sawed masonry facing. The strips of stone, sawed on four sides, are broken to lengths on the job and used as a veneer or facing. Every piece of Ilco Riplstone is carefully selected as to color, texture and size so that it harmonizes with your design.

Local stone is more difficult and expensive to prepare and handle: the result is not as certain as when our beautiful Indiana Limestone is used. We send an expert right to the job to instruct masons in the laying up. No carefully prepared drawings of the laying-up scheme are needed. Just a simple pencil sketch.

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I am interested in cost data on Shawnee Club, Wilmette, Ill. ☐ Send literature and full information on Ilco Riplstone. ☐ (Check which, or both.)

Signed.....

Street.....

City..... State.....

INDIANA LIMESTONE COMPANY

General Offices: Bedford, Indiana
Executive Offices: Tribune Tower, Chicago

Pencil Points, published monthly by The Pencil Points Press, Inc., at 258 Atlantic St., Stamford, Conn. Publication office Stamford, Conn. Editorial and Advertising Offices 419 Fourth Avenue, New York, N. Y. Yearly subscription \$3.00, single copies 35 cents. Entered as second class matter, March 10, 1930, at the Post Office, Stamford, Conn., under the Act of March 3, 1879. Volume XI, No. 10
Dated October, 1930



Wall Units of Atlantic Terra Cotta

Particularly Adapted for Interiors
~ Catalog on Request ~

An entirely new development—Atlantic Wall Units have every advantage of handmade Terra Cotta.

Great economy is due to the fact that Wall Units are made mechanically to standard size, with every saving attending on quantity production. Quick and easy to erect, there is great saving in labor costs.

The standard size is 8" x 16". The bond is 2, 4, 6 or 8 inches. Cove base pieces, inside and exterior miters, and bull nose, plain or modeled cap pieces, are made as required.

The entire line of Atlantic colors, hundreds in number, is open for selection.

Atlantic Wall Units are particularly useful for lining lobbies and corridors in office buildings, schools and hospitals, replacing less durable materials or materials that are far more expensive. Atlantic Wall Units complete the walls structurally and give a permanently enduring surface, clean and sanitary, that can be completely renovated at any time by washing with soap and water.

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Power house interiors, dairies, etc., require maximum light reflection. Atlantic Terra Cotta Wall Units.

Atlantic Wall Units
The development is of
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In writing for

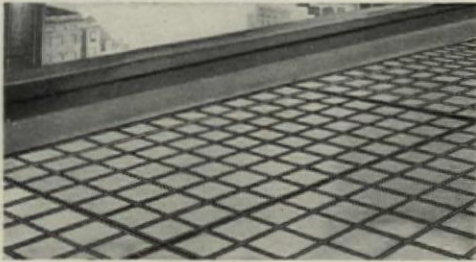
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NEW BARLOCK ALGLAS SKYLIGHT :: :: NEW BARLOCK ALGLAS SKYLIGHT :: :: NEW BARLOCK ALGLAS SKYLIGHT

A New Construction

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BARLOCK ALGLAS SKYLIGHTS



NO LONGER need skylights be omitted from plans because of high costs and installation problems. This new BARLOCK construction offers all the virtues of concrete and sheet metal skylights at pleasantly low prices, and of such quality and performance as to assure permanent consideration by all.

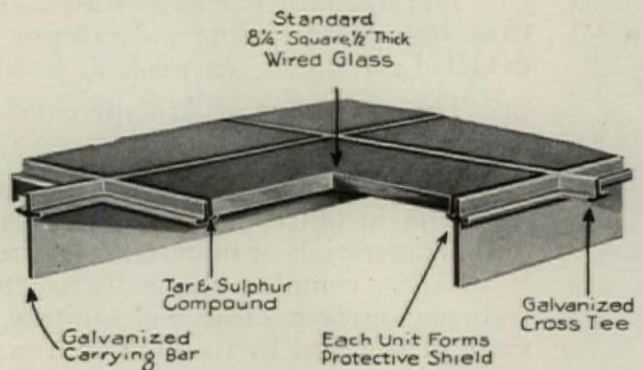
The light area (90%) is equal to that of sheet metal and yet the strength, appearance and utility is not surpassed by any concrete construction.

BARLOCK ALGLAS SKYLIGHTS weigh but 10 lbs. per square foot affording great saving in shipping and installation costs, as well as decreased cost of structural supports.

BARLOCK ALGLAS SKYLIGHTS are shipped ready to install by any local contractor and less than the average labor. No problems, no worries, no factory specialist or extensive plans are needed. Because ALGLAS SKYLIGHTS are so simple to install, they can be installed by any competent worker.

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- 1—90% GLASS AREA.
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SPECIFICATIONS

Skylights shown on plan shall be BARLOCK ALGLAS construction as manufactured by the American Barlock Company, Inc.

Glass shall be 1/2" thick ribbed wired, 8 1/4" square, quality, to conform with United States Government Standard Simplified Practice.

Supporting bars and tees are to be spaced on center to give a minimum 90% glass area.

Bars and tees to be locked together to form a continuous frame around each glass. The space between the glass glazed with tar and sulphur compound to form an elastic, water-tight, weather-resistant joint.

AMERICAN BARLOCK COMPANY, INC.

For more information on the new BARLOCK

Eighty Telephone Buildings Have Dialed Armstrong's Corkboard

for perfect connection to top-floor comfort and permanent fuel economy



Left—The entire roof area of the Mountain States Tel. & Tel. Co. building, Denver, is insulated with Armstrong's Corkboard; top-floor offices are comfortable in any kind of weather. Architect—Wm. N. Bowman Co., Denver.

Below—On the roof of Mountain States Tel. & Tel. Co. building. Architect—Wm. N. Bowman Co., Denver; contractor—C. E. Walker Constr. Co., Denver; roofing contractor—Western Elaterite Roofing Co., Denver.



Below—Armstrong's Corkboard insulates the Southwestern Bell Telephone Co. roof, Kansas City, Mo. Architect—Holt, Price & Barnes, Kansas City; associate architect—I. R. Timlin, St. Louis.



Below—2" Armstrong's Corkboard insulates the N. Y. Telephone Building, Buffalo. Architect—Vorhees, Genelin & Walker.



Some of the 80

Here is a partial list of the telephone buildings that have insured top-floor comfort and fuel economy with Armstrong's Corkboard Insulation on the roof.

New York Telephone Co., N. Y. C.
—(3 buildings)

Portland Telephone Building,
Portland, Me.

Telephone Exchange Building,
Boston, Mass.

New England Tel. & Tel. Co.,
Boston, Mass.—(Stadium
Exchange)

Bell Telephone Bldg., Athens, Ga.
So. Western Bell Telephone Bldg.,
St. Louis, Mo.

Indiana Bell Tel. Co., Marion, Ind.
Cumberland Tel. Co., Louisville, Ky.
So. Western Bell Telephone Bldg.,
Amarillo, Texas

Bell Tel. Co., Montreal, Canada
Wisconsin Tel. Co., Kenosha, Wis.
Michigan Bell Telephone Co., Ann
Arbor, Mich.

Southern Bell Tel. & Tel. Co.,
Chattanooga, Tenn.

Southern Bell Tel. & Tel. Co.,
Savannah, Ga.

So. Western Bell Tel. Co., Dallas,
Texas

Bell Tel. Co., Philadelphia, Pa.—
(3 buildings)

So. Western Bell Telephone Bldg.,
Oklahoma City, Okla.

Southern Bell Telephone Bldg.,
Greensboro, N. C.

Northwestern Bell Tel. Co.,
Minneapolis, Minn.

Southern Bell Telephone Co.,
LaPlace, La.

New England Tel. & Tel. Co.,
Dover, N. H.

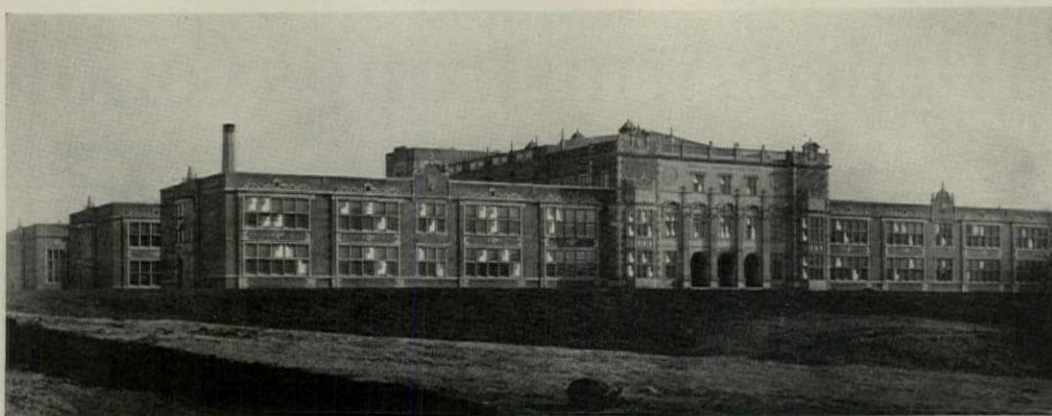
Michigan Bell Tel. Co., Detroit,
Mich.—(4 buildings)

Ohio Bell Tel. Co., Columbus, Ohio
—(2 buildings)

ARMSTRONG CORK & INSULATION Co., 902 Concord St., Lancaster, Pa.

Armstrong's Corkboard Insulation
for the roof of every building

Theodore Roosevelt High School, Des Moines, Iowa. Proudfoot, Bird & Rawson
(Des Moines), Architects; Van Dyck Heating & Plumbing Co., Plumbing Contractors



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On a RAYMOND PILE Foundation

Job 1347

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Buffalo, New York

Type of Building: APARTMENT HOUSE
Location: BUFFALO, N. Y.
Number of Piles: 491
Total Lineal Feet: 6798

Architects: BLEY & LYMAN
Contractor: DWIGHT P. ROBINSON
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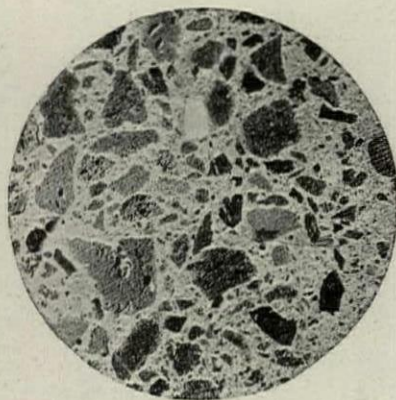
RAYMOND CONCRETE PILE COMPANY

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CHICAGO: 111 West Monroe St.

Raymond Concrete Pile Co., Montreal, Canada
Branches in Principal Cities

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PER SQ. FT.

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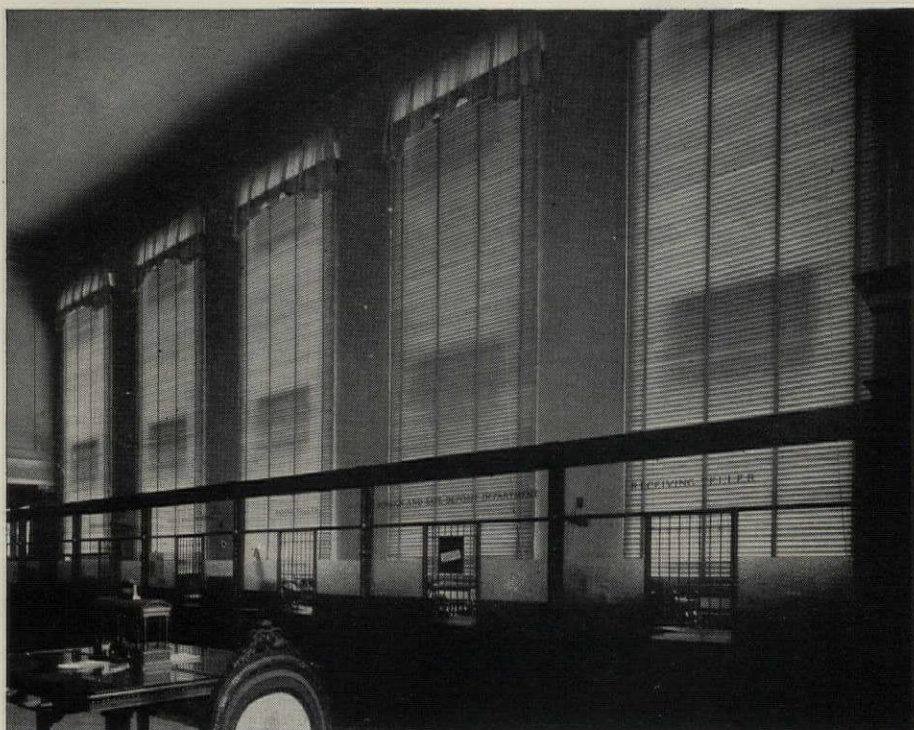
Featherweight Concrete INSULATING ROOF SLABS

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WEIGHT ..
INSULATING
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FOR OVER A QUARTER CENTURY

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Columbia VENETIAN BLINDS serve gracefully —usefully—economically

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Made by the makers of
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The *Columbia* Mills, Inc.
225 Fifth Avenue, New York

Please provide information about *Columbia* Blinds.

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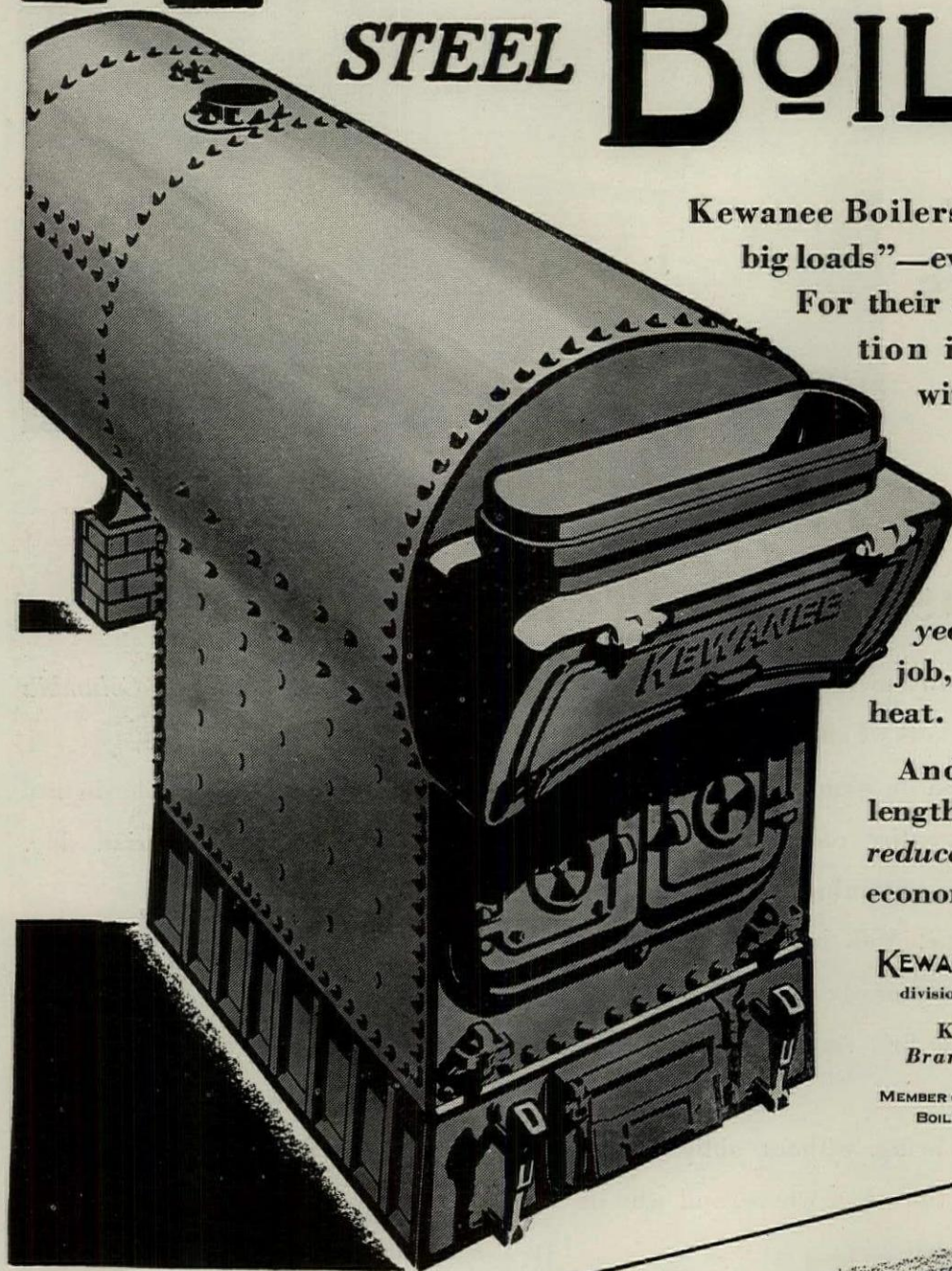
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For their riveted steel construction is strong enough to withstand the worst punishment a heating boiler can get.

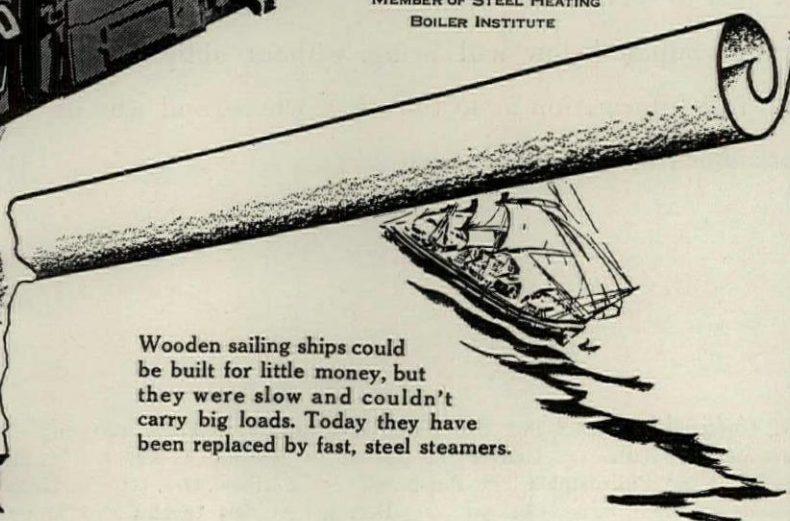
Countless Kewanee Boilers—installed 40 years ago—are still on the job, providing dependable heat.

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division of American Radiator & Standard
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OWN a Kewanee



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52 years of experience in the battle against pollution, ill-health, and uncleanness give the Clow Soldiers unmatched knowledge of mass plumbing needs.

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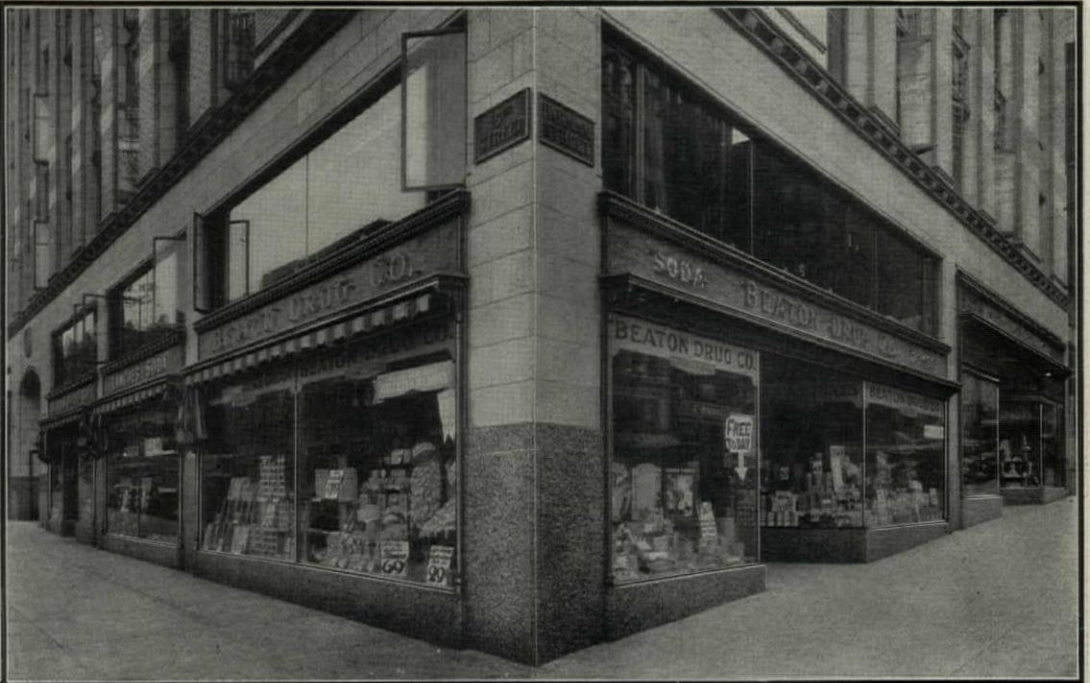
**STRUCTURAL GYPSUM
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Linden, N. J.

Linden 2-3700

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Starrett Bros. and Eken, Inc., General Contractors
Martin Conroy & Sons, Inc., Plastering Contractors
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The Barker Estate Building in Omaha contains five shops, all with fronts of Davis Solid Bronze. A view of one of the stores, Buck's Booterie is shown for detail. Architects: James T. Allan and Noel S. Wallace.



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—sash, bars, engaged columns, ornaments, crestings, panels, monograms, pivot windows, doors, frames—

Davis construction is *complete*. It offers of itself, every possible requisite for a unified, harmonious, ultra-modern store front—*solid* extruded bronze or aluminum members of permanent strength, glass safety and architectural beauty.

The trend toward Davis is unmistakable. Distinctive, yet moderate in cost, it is first choice in many of the country's leading architectural offices. Samples and full-sized details gladly sent on request.

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Architectural
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ALLEGHENY GENERAL HOSPITAL
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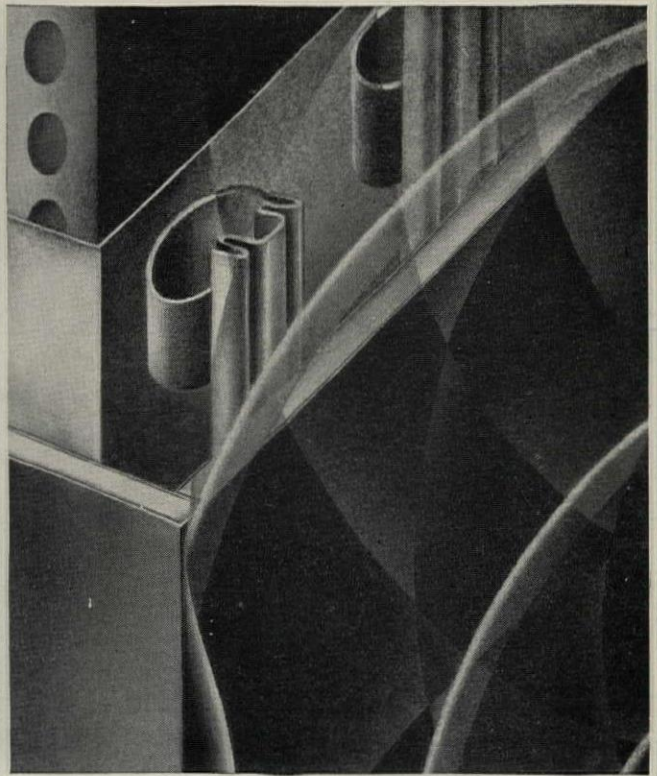
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Highways of modern architecture*

Westinghouse Electric Elevator Company



A MESSAGE TO ARCHITECTS FROM THE
UNITED STATES GYPSUM COMPANY



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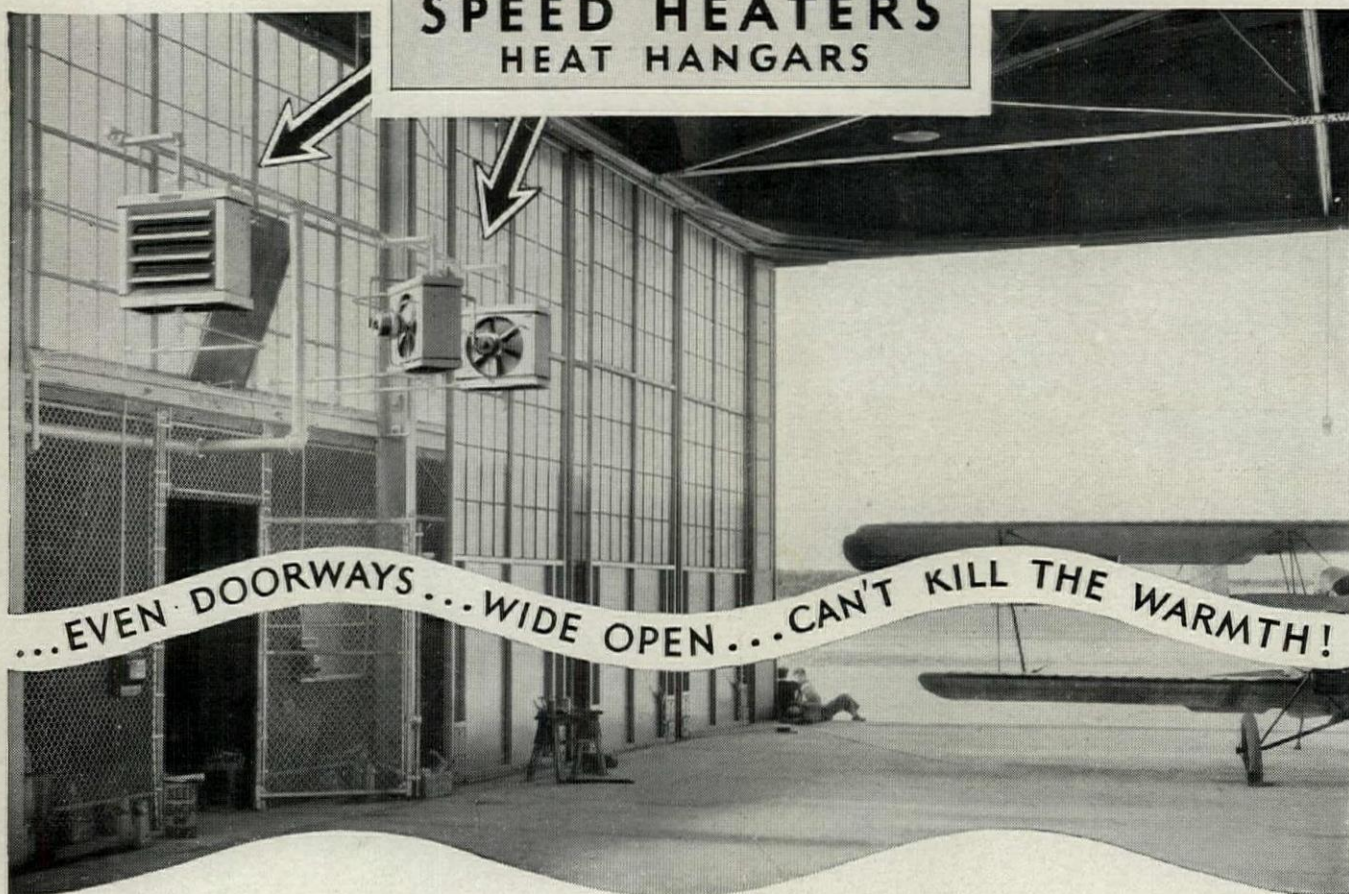
BLACK & WHITE

NATIONAL FIREPROOFING CORPORATION

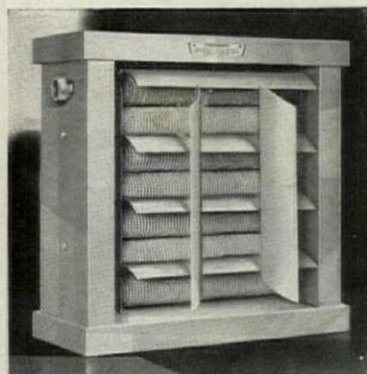
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Speed Heaters have proved ideal for this use.

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WITH

OMICRON

FOR over twenty years architects and engineers have reinforced concrete floors against abrasion by specifying the use of Master Builders Hardners.

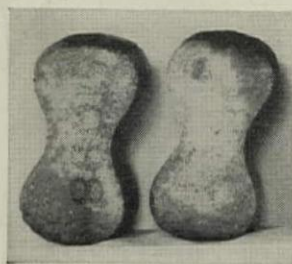
Now—with the discovery of Omicron by the Master Builders Research Laboratories, and its incorporation with those hardeners—a check can be placed upon corrosive disintegration, the second active cause of floor wear.

Omicron converts waste solubles formed in concrete during hydration into non-soluble, cementitious products that give increased strength and unusual resistance to corrosion.

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1:3 Concrete, untreated, after seven months in 1% Solution of Sodium Sulphate



1:3 Concrete—with Omicron—after seven months in 1% Solution of Sodium Sulphate

The photographs of tensile briquettes shown above clearly demonstrate the fact that (1) mild acid or alkali solutions corrode concrete and (2) Omicron checks that corrosive process. Results of many similar tests confirm these findings.



"CONCRETE BEARINGS"

A new, educational moving picture showing how BETTER concrete floors are laid. We'll gladly arrange a screening at your convenience.

corrosion. The acidic deposits from smoke or fumes—the solvents in soaps and cleaning compounds—slowly but surely eat away concrete's solubles. That action is hastened where floors are in direct contact with chemicals, fats, oils, greases—in short, any acidic or alkaline substance or solution.

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Complete technical data on Omicron, including reports of many laboratory tests, will be mailed upon your request.



The MASTER BUILDERS Co.

FACTORIES: CLEVELAND
BUFFALO, IRVINGTON

CLEVELAND, OHIO

SALES OFFICES AND STOCKS
IN ALL PRINCIPAL CITIES

FOR INDUSTRIAL FLOORS

METALICRON—an iron floor-finish aggregate, or metallic hardener, highly refined. Contains Omicron. Produces most wear-resisting disintegration-resisting concrete—waterproof, dustproof. For monolithic or topping finish. Also available in colors.



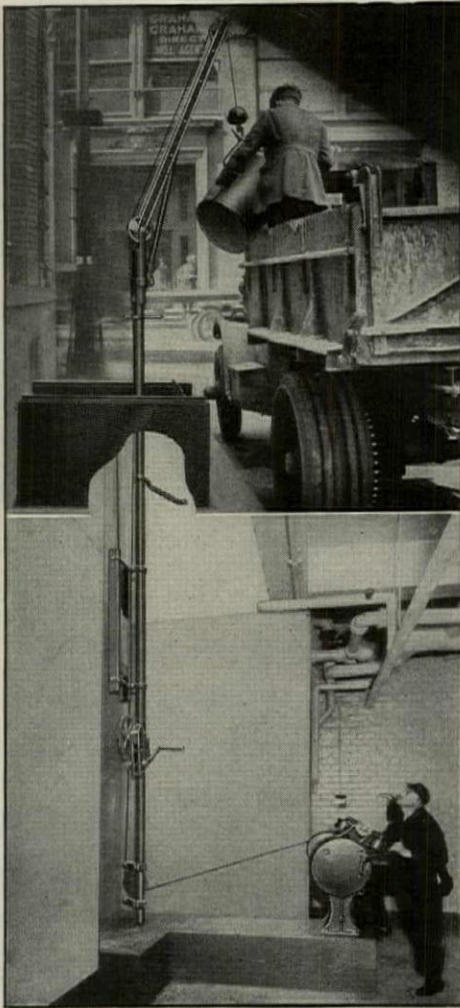
Omicron is an exclusive product of the Master Builders Company and is available as a basic ingredient in these integral concrete floor hardeners only.

FOR COMMERCIAL FLOORS

MASTERMIX—Omicron-containing liquid paste, mixed with the gauging water. Hardens, waterproofs, dustproofs the entire topping. Meets every commercial floor condition.

FOR COLORED FLOORS

COLORMIX—Omicron-containing paste, mixed with the gauging water. Stronger than plain concrete. Produces uniform, fadeproof colors throughout topping. Hardens, waterproofs, dustproofs.



Annual ROLL CALL



Telescopic Hoist
With Automatic Stop and Gravity Lowering Device

In the Nation's Schools

G&G Ash Removal Equipment is used in schools in 44 states. It is now *standard equipment* with the Boards of Education in Pittsburgh, Seattle, Louisville, Kansas City, Mo., Kansas City, Kans., Cleveland, Baltimore, Washington, Boston and New York. Here are the leading state totals:

NEW YORK	477 Schools	MINNESOTA	54 Schools
PENNSYLVANIA	204 Schools	MISSOURI	53 Schools
OHIO	197 Schools	MARYLAND	37 Schools
NEW JERSEY	167 Schools	INDIANA	26 Schools
MICHIGAN	111 Schools	WISCONSIN	26 Schools
MASSACHUSETTS	109 Schools	DIST. COLUMBIA	24 Schools
ILLINOIS	80 Schools	KENTUCKY	17 Schools
IOWA	69 Schools	DELAWARE	16 Schools
CONNECTICUT	67 Schools	NORTH CAROLINA	14 Schools
KANSAS	60 Schools	SOUTH DAKOTA	14 Schools

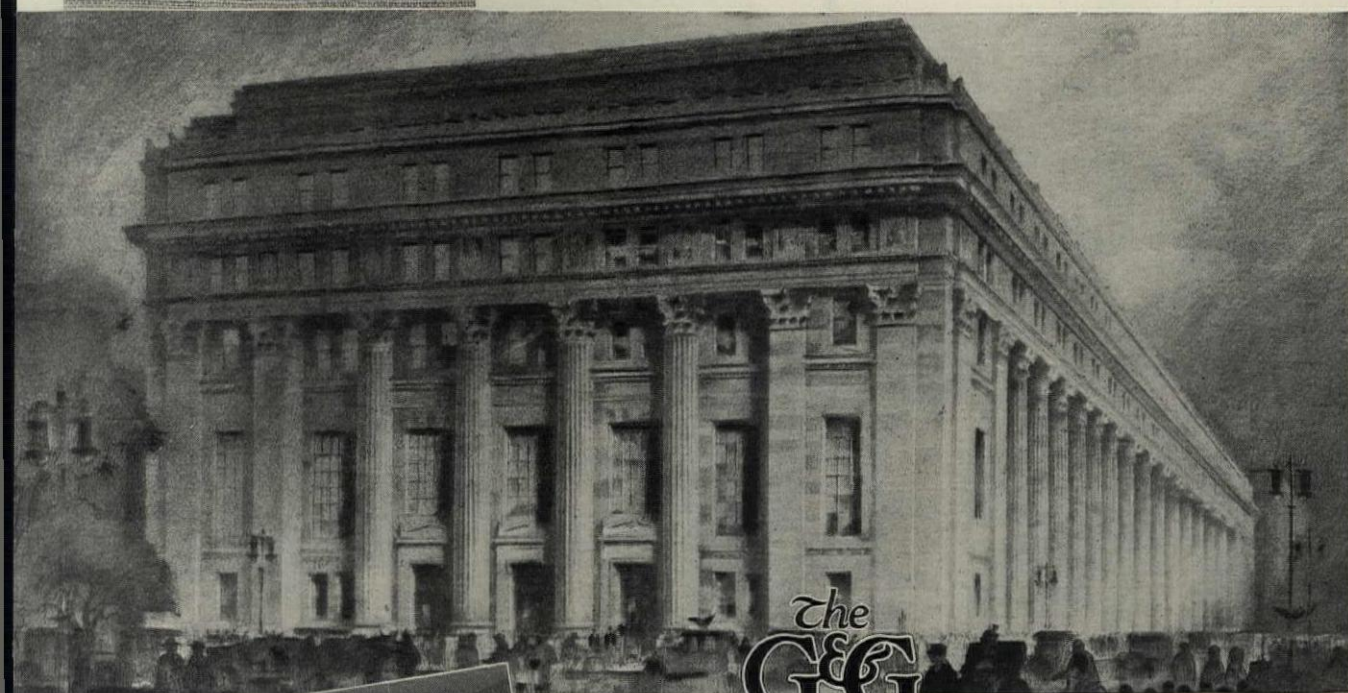
Gillis & Geoghegan have been pioneers in developing ash removal equipment to eliminate the danger of the open hoistway. Illustration shows patented opening-closing-locking sidewalk doors with spring guard gates, providing a complete barrier around the sidewalk opening when ashes and rubbish are being removed or when doors may be opened for ventilation. When Hoist is not in use, the doors automatically close flush with pavement and lock. G&G Ash Removal Equipment is also widely used in Banks, Churches, Hospitals, Hotels, Office Buildings, Theatres, Telephone Buildings, Stores, Factories, Garages, etc. Electric and hand power models for special uses. Write for Catalog.

GILLIS & GEOGHEGAN

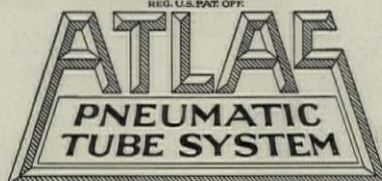
548 West Broadway

Sixty-four Years of Service

New York, N. Y.



The
G&G
REG. U.S. PAT. OFF.



IN FAR AWAY JAPAN

A Tribute to American Architecture

THE Bank of Mitsui & Co., Tokyo, will stand through the generations as a tribute to the creative design of Architects in America, as exemplified by the plans of Trowbridge & Livingston, New York, and to James Stewart & Co., General Contractors, who faithfully carried out the construction.

In this building a G&G Atlas Pneumatic Tube System (3 x 6 inch oval) makes possible the safe and rapid transmission of correspondence, documents, etc., between various departments. The upper left view illustrates the Central Station where carriers are received and dispatched. One of the stations on the main banking floor is shown in the center view. Motor and exhauster unit in basement is shown at lower left. The entire installation was made under our direct supervision.

Banks, hotels, hospitals, newspapers, libraries, mail-order houses, retailers, wholesalers, factories and large offices of all kinds use G&G Atlas Pneumatic Dispatch Tubes for speedily (30 ft. a second) distributing mail, telegrams, inter-office papers and light-weight articles among scattered departments. "Mechanical Messengers are faster and more dependable than human messengers."

Catalog in Sweet's Arch't. Cat., 1930 Ed., pp. D5113-15
Catalog in Specification Data, 1930 Ed., pp. 232-233

G&G ATLAS SYSTEMS, INC.

548 West Broadway New York
406 Dominion Bank Bldg., Toronto

G&G Atlas Users:

FOREMAN-STATE
NATIONAL BANK
Chicago, Ill.
Graham, Anderson, Probst
& White, Archts.

UNION TRUST CO.
(Term. Br.) Cleveland, O.
Graham, Anderson, Probst
& White, Archts.

NORTHWESTERN
NATIONAL BANK
Minneapolis, Minn.
Graham, Anderson, Probst
& White, Archts.

CHASE NATIONAL
BANK New York, N. Y.
Graham, Anderson, Probst
& White, Archts.

CHASE NATIONAL
BANK (Equitable Trust
Branch) New York, N. Y.
Trowbridge & Livingston,
Archts.
E. F. Abell, Equip. Spec.

CITY BANK FARM-
ERS TRUST CO.
New York, N. Y.
Cross & Cross, Archts.
Clyde R. Place, Con. Eng.

NATIONAL CITY
BANK New York, N. Y.
NEW YORK STOCK
EXCHANGE N. Y. City

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UNION NATIONAL
BANK Pittsburgh, Pa.

CANADIAN BANK OF
COMMERCE
(New Head Office)
Darling & Pearson, Archts.
York & Sawyer, Con. Archts.
E. F. Abell, Equip. Spec.

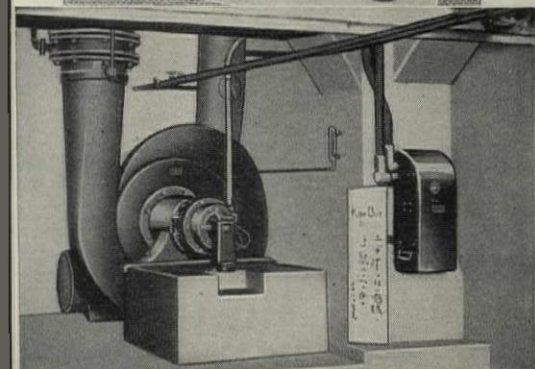
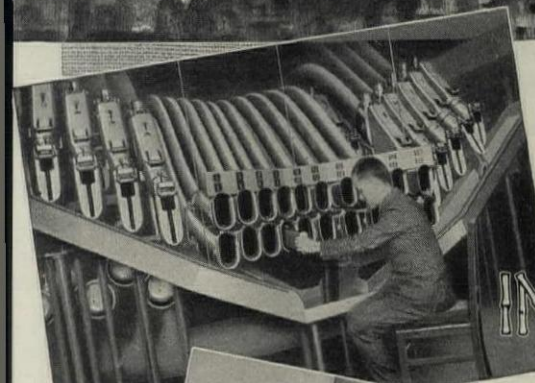
STANDARD STOCK &
MINING EXCHANGE
Toronto, Ont.

George, Moorhouse &
Kemp, Archts.

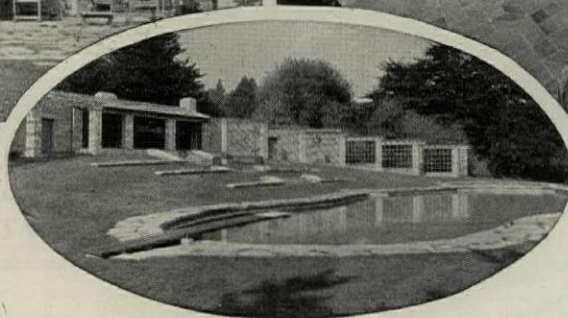
STATE MUTUAL
LIFE ASSUR. CO.
Worcester, Mass.
Parker, Thomas & Rice
Archts.

SUN LIFE ASSUR.
COMPANY Montreal, Que.
Darling & Pearson, Archts.

WALDORF-ASTORIA
HOTEL New York, N. Y.
Schulz & Weaver, Archts.



Concrete pays tribute to fine architecture



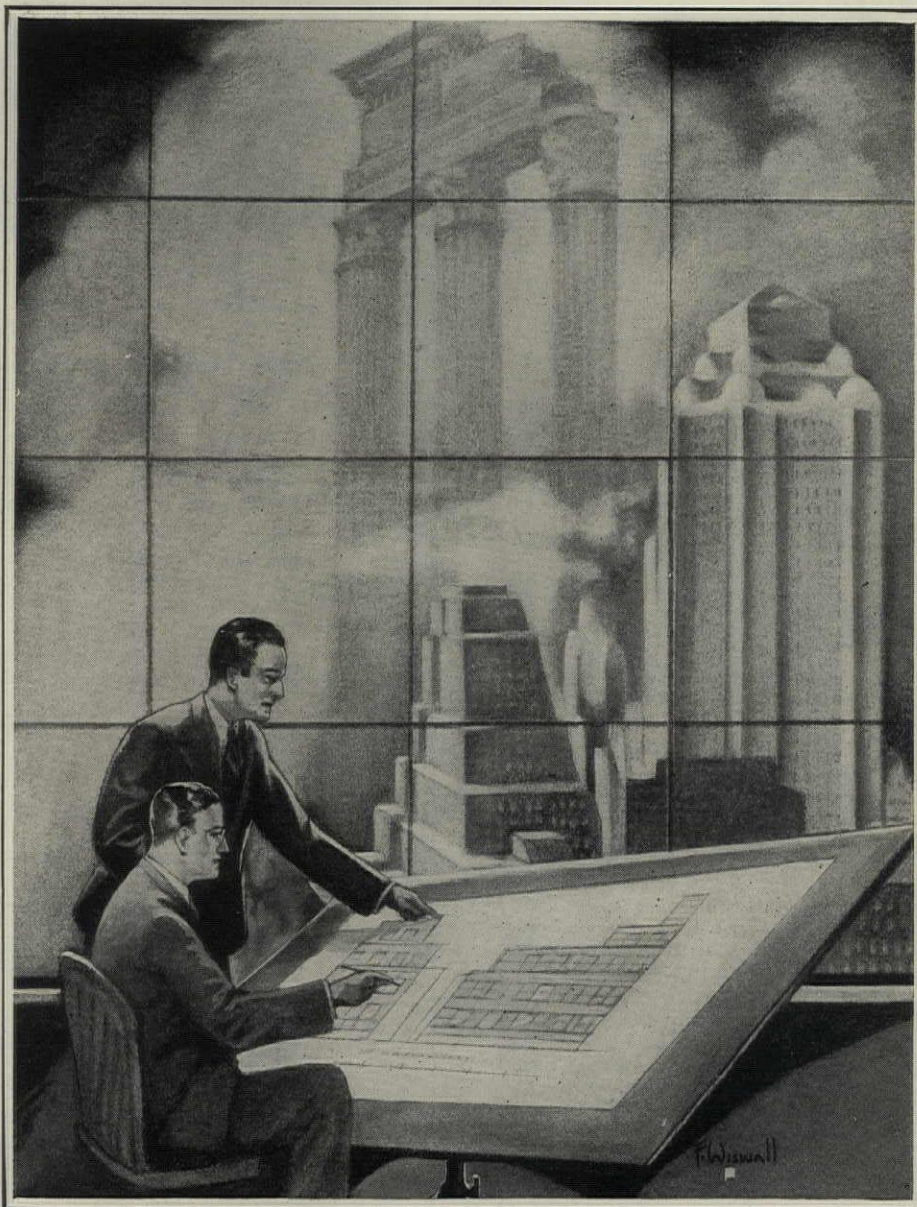
CONCRETE, in many forms, has been skillfully employed by the architect in designing this home. The exterior walls are of concrete masonry units, in slightly irregular sizes and varied colors. Building frame and floors throughout are of reinforced concrete—one unit, of utmost strength and rigidity. The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

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



PORTLAND CEMENT *Association*
Concrete for permanence and firesafety

33 W. GRAND AVENUE
CHICAGO



ARCHITECTURE PRESERVED

THE beauty created by Architects and constructed by Engineers today, need not become the antique fragments of the future. For every destructive effect of water on building walls or foundations, TOCH BROTHERS

offer the responsible and economical protection of their "R.I.W." products. For every problem of structural preservation, they offer the scientific resources of their laboratories and the recommendations of their experts.

THE AUTHORITY OF ACCOMPLISHMENT

TOCH BROTHERS, INC.

(ORGANIZED SINCE 1848)

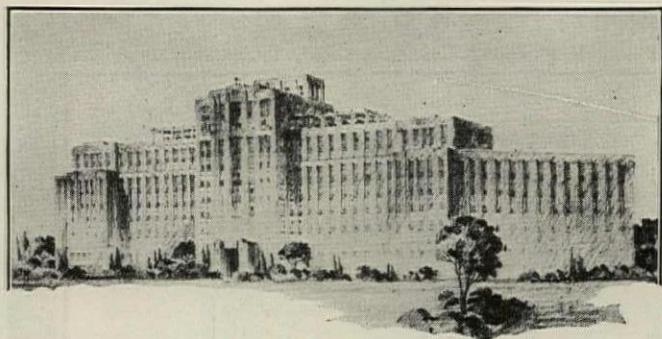
Water-proofing and Damp-proofing Products, Cement Compounds and Technical Paints

NEW YORK, 443 Fourth Avenue

CHICAGO, 2600 Federal Street

Refer to Sweet's Architectural and Engineering Catalogue

R.I.W.
REMEMBER IT'S WATERPROOF
R.I.W.



New St. Elizabeth's Hospital, Chicago, Ill.

Another HOSPITAL installs RCA CENTRALIZED RADIO

To keep patients in good spirits and to speed them on the road to recovery, hospital directors, superintendents, doctors and architects throughout the United States are installing RCA Centralized Radio

TO afford the modern hospital the finest in centralized radio equipment at low cost, RCA offers a centralized receiving system which distributes as many as four different broadcast programs to as many as 5,000 rooms.

By touching a wall switch, the patient can get whichever program he prefers.

RCA Centralized Radio is simple, economical, prevents future wiring costs, and avoids unsightly individual aerials and lead-in connections.

RCA engineers design apparatus to fit the job—the job is never forced to fit the apparatus.

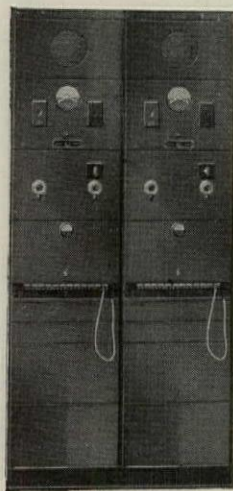
Let us prepare Estimates

Descriptive pamphlets of this system and photographs of typical installations are available to architects and hotel executives.

Without any obligation, we shall gladly prepare plans and estimates for installations of any size.

FOR APARTMENTS

Where the use of individual sets in the rooms, plugged into wall outlets, is desired, there is a separate RCA Centralized System especially designed for the independent use of as many as 80 sets of different makes, operated from a single antenna. Additional groups may be operated from other antennae, if desired. The superior reception assured by this system makes for greater tenant satisfaction and higher rentability.



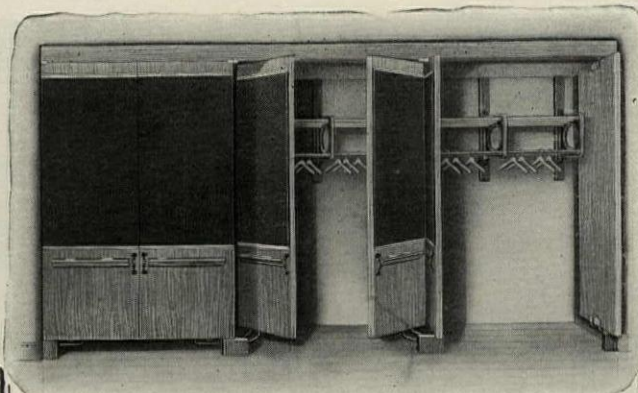
Engineering Products Division, Section B
RCA VICTOR COMPANY, INC.

261 Fifth Avenue

Chicago: 100 W. Monroe St. San Francisco: 235 Montgomery St.

Representatives in Principal Cities

Visit the permanent RCA Centralized Radio Exhibit at the RCA-Victor Salon, Boardwalk, Atlantic City



Evans "Vanishing Door" Wardrobe Class B-B, without jambs or trim

THE wardrobe illustrated is made for plaster ends, backs and ceilings. No jambs nor trim required; only doors, fillet, hinges and interior of racks and garment hangers completing the installation.

The hinges used are of heavier construction than any previous manufacture and are unconditionally guaranteed to last the life of the building. There are no noisy tracks nor rollers to stick or bind, nor intricate mechanism to get out of order.

The "Vanishing Door" wardrobes are furnished complete in the knockdown. All woodwork is cut to size and only needs nailing in place. The hinges are easier to put on than common butt hinges. The cost of installation is small.

Catalog "K," of A. I. A. file size, with specifications and price list, fully illustrates many types of school wardrobes.

W. L. EVANS

Washington, Indiana, U. S. A.

VANISHING DOOR WARDROBES



POLYCHROME FAIENCE PANEL ON HANDMADE TILE

**MUELLER
MOSAIC CO.**

Factory: Trenton, N. J.

New York Showroom: 130 Park Avenue

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DUPLEX Timber Fittings Designed for Strength and Appearance



DUPLEX installation in steel warehouse using four-way Steel Post Caps and Duplex Hangers.

Interesting facts and important information are contained in our "Reference Book of Mill Building Construction," Edition 27-P.



BEST SINCE 1890

The DUPLEX HANGER Co.

CLEVELAND, OHIO

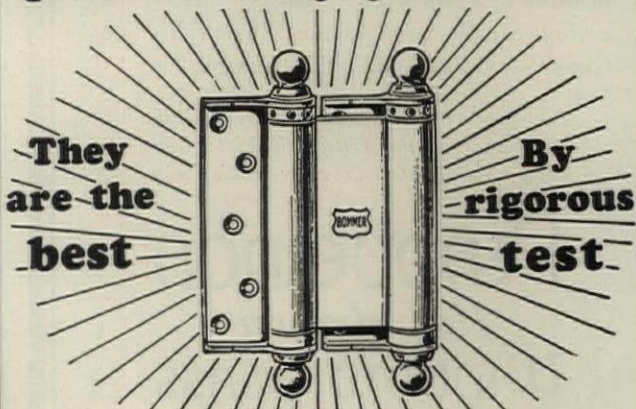
ESTABLISHED 1890

JOIST HANGERS
WALL HANGERS

WALL PLATES
POST BASES

POST CAPS
BEAM HANGERS

50 years on a DOOR good for fifty years more



Notabene

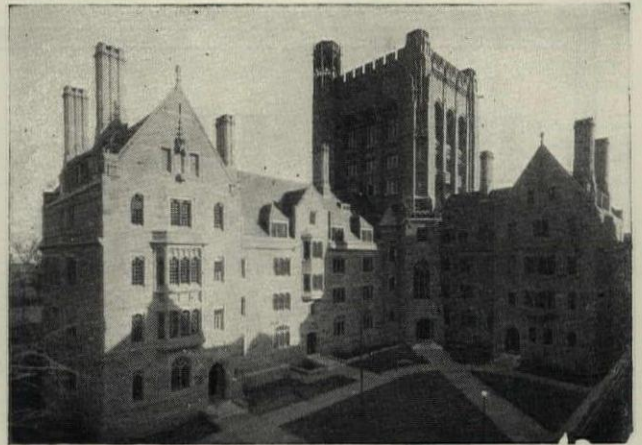
The solid bronze Bommer Spring Hinges swinging the big front doors of the old Bank of Manhattan at 40 Wall St., New York, since 1880 were still in excellent condition when that building was demolished in 1929 to be replaced by the new Bank of Manhattan skyscraper of 73 stories which is also equipped with Bommer Spring Hinges—truly an astounding record.

These Historic Hinges can be seen at our factory



**Millions and Millions of People
are Pushing Bommer Spring Hinges
when opening doors**

Factory at Brooklyn, N. Y.



BINGHAM HALL, YALE UNIVERSITY

Walter B. Chambers, Architect The Sperry & Treat Company, Contractors

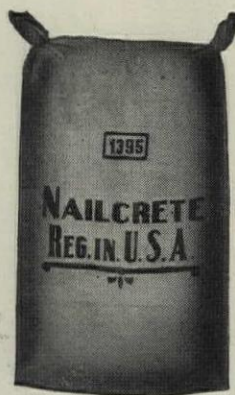
Nailcrete used as a Nailing Base for Wood Floors

NAILCRETE

IN UNIVERSITY and COLLEGE BUILDINGS

Architects have specified Nailcrete
...the original Nailing Concrete...
for use in many of the country's
finest educational buildings. They
know that Nailcrete is fire-proof and
rot-proof...that it is unaffected by

heat, cold or moisture
...and that its nail-grip-
ping power is greater
than that of any other
similar material.



Specify Nailcrete by name.
It is distributed by us from
our own warehouses and
every bag of genuine Nail-
crete is clearly stamped
with our registered trade-
mark.

BUILDING BLOCKS of NAILCRETE

Nailcrete Cinder Concrete Building Blocks
possess the nail-gripping power of Nailcrete.
They are designed for use in load-bearing
walls and also in partitions. Investigate!

Our catalog is in Sweet's but we
welcome direct inquiries. Write for
our illustrated booklet "Nailcrete."

THE NAILCRETE CORPORATION
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Born Flat— and Kept FLAT

*A New Window Glass that is
Creating a New Standard
of Flatness, Clearness
and Easy Glazing*



HOLD a piece of Pennvernon Window Glass *across* the light, and then *against* the light to see that a great change has taken place in window glass making. A surprising new freedom from waves, streaks and bowed surfaces. A new brilliance of finish. No "right" or "wrong" side. Both surfaces alike.

And you will readily realize how much *better windows* Pennvernon will make—and how much *easier work* for the glazier.

The new process by which Pennvernon Window Glass is made is fully described and pictured in a new booklet that is yours for the asking. Simply write to the Pittsburgh Plate Glass Co., Grant Building, Pittsburgh, Pa.

Pennvernon Window Glass is ready at all the warehouses of the Pittsburgh Plate Glass Company — located in every leading city.

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flat drawn
WINDOW GLASS





MADE LIFE LIKE with Unique Thin Lead Colored Pencils—after it was drawn with Venus Pencils. Harry W. Jacobs considers both fine instruments that are necessary to good work. Write and get this picture free.

YOUR
NEW IDEAS
ARE
BETTER YET
DONE
THIS WAY!

IRON GATE
BOSWORTH ST.
BOSTON ✓

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BOX 24 COLORS \$2.00
(all 24 colors listed below)

BOX 12 COLORS \$1.00
(First 12 colors listed below
—or 12 of any one color—or
3 or 4 colors to the dozen box)

Blue	White	Olive Green
Red	Lt. Blue	Chrome Yellow
Green	Pink	Violet
Yellow	Lt. Green	Vermilion
Purple	Maroon	Gray
Brown	Sepia	Ultramarine
Black	Mauve	Field Green
Orange	Dark Red	Ochre

WOULD you like to create a new style of rendering? A short cut to different wash effects? Something that will make your work more outstanding?

Unique pencils will help you. With their 24 colors. With their lead as thin as Venus B. And as smooth. They sharpen easily to a fine point.

New ways to use Unique Thin Lead Colored pencils are found every day. Try Unique pencils instead of crayon, or to simulate colored inks. Try them for washes (with gasoline or "Carbana" as a solvent).

For your own needs, have a box of Unique Thin Lead Colored pencils at hand . . . ready for any use that presents itself.

You can get a reproduction of the above sketch free, in full colors. Write to Department A.

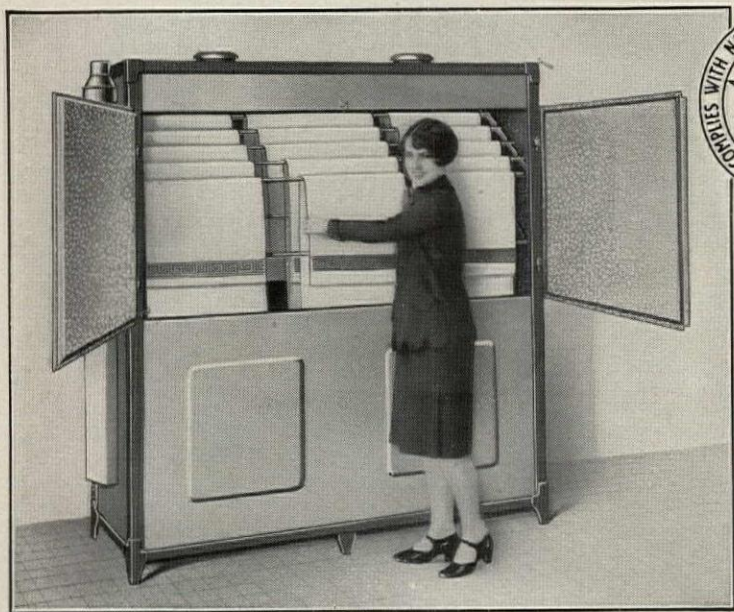
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AT YOUR DEALER'S
or order direct, stating color

UNIQUE THIN LEAD
COLORED PENCILS

The JUDELSON

MODERN CLOTHES DRYER



is **95%**

COP-R-LOY

Reg. U. S. Pat. Off.

THE COPPER ALLOYED STEEL

OF all material in Judelson Clothes Dryers 95% is COP-R-LOY. The double wall panels with insulating space are made entirely of heavy gauge COP-R-LOY Sheets, adding strength and rigidity to the cabinet, conserving heat in the dryer, and eliminating hot outer castings.

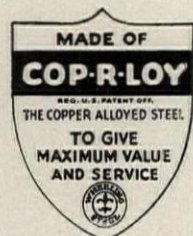
From such home conveniences to the many essentials for building construction and equipment, pipe and sheet metal work, COP-R-LOY is rendering the *expected* service of which only a laboratory-checked copper alloyed steel is capable.

COP-R-LOY may be specified with thorough assurance that no better steps can be taken toward economical and efficient installations of pipe or sheet metal work.

WHEELING STEEL CORPORATION, Wheeling, West Va.

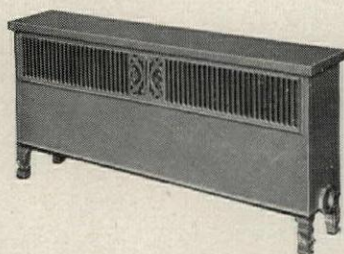
Principal Subsidiary Companies: Wheeling Corrugating Company, Consolidated Expanded Metal Companies, The Tyler Tube and Pipe Company, Ackermann Manufacturing Company

Bessemer and Open Hearth Steel, Plates, Sheets, Tin Plate, Lithographed Plates, Pipe, Boiler Tubes, Rods, Wire, Cut Nails, Wire Nails, Metal Lath, Roofings, Fence, Range Boilers, Tanks, Steel Barrels, Sheet Steel Products for Building and for the Home, Farm, and Factory

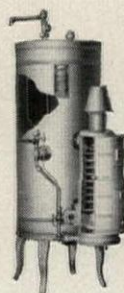


Many manufacturers use this label to identify products made of this more lasting and more economical copper alloyed steel.

The many forms in which COP-R-LOY is used by makers of radiator covers, gas water heaters, ventilators, coal doors and other home essentials are emphatic endorsement of its merit.



McQuay Radiator Corporation, Minneapolis, Minn., uses COP-R-LOY full finished furniture sheets for modern radiator covers of excellent design and utility.



Eleven leading gas water heater makers are using COP-R-LOY, the Copper Alloyed Steel, in the manufacture of their well known and efficient units.



A product of the Wisconsin Radiator Furniture Company, Mayville, Wis., is this artistic radiator cabinet made entirely of COP-R-LOY, the Copper Alloyed Steel.

FROM • MINE • TO • MARKET

THERE'S A NATIONAL HEATING SYSTEM FOR EVERY BUILDING NEED



*Cutaway view National
Crimson Flame Boiler.
One of 118 types and sizes.*



National Novus Boiler

National Bonded Crimson Flame Boiler

Mushrooms of Flame Bloom Against Each Section

Zig-zagging in and out, the flaming gases take their serpentine way to the stack. They pass through scientifically proportioned, water-surrounded ports, and "mushroom" out over the entire bottom of the section above, before escaping through its ports. The Crimson Flame dependably, efficiently furnishes the flood of friendly warmth which its crimson jacket so vividly promises.

This boiler is designed to perform efficiently with all leading types of fuel;

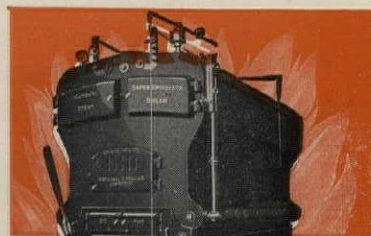
coal, coke, oil and gas. It can be converted on the ground to meet the individual requirements of the fuel selected. Engineering design scientifically coordinates every part to produce economical combustion and thoroughly satisfactory heating. The National Boiler Bond, furnished with each boiler, not only guarantees workmanship, materials, and design, BUT MOST IMPORTANT OF ALL SPECIFIES AND GUARANTEES BOILER PERFORMANCE. We will gladly send additional information.

NATIONAL RADIATOR CORPORATION

JOHNSTOWN, PENNSYLVANIA



National Low Water Line Boiler



National Super-Smokeless Boiler

NATIONAL

Made-to-Measure

HEATING SYSTEMS

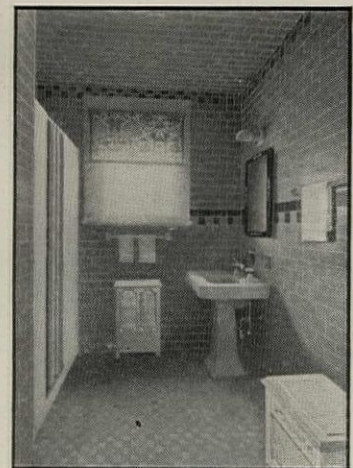


WOMEN ARE PROUD OF THEIR STEEL EQUIPPED HOMES

It is woman's delight to escort visitors through her home . . . to point out with pride the modern, sanitary and labor-saving steel equipment, the graceful steel furniture . . . to credit her own wise judgment in specifying materials of steel that have emancipated her from drudgery.

From bedroom to basement the modern trend is toward steel. For steel is lasting; it lends itself to beautiful design and enduring finishes. It is sanitary and resistant to fire. Its new, fresh appearance lasts throughout the years.




Architects and builders who have the saleability of their residential structures in mind will find it worth while to get all the facts about saving while improving with built-in steel products for the home. Complete information will be sent upon request. Trade Research Division, National Association of Flat Rolled Steel Manufacturers, 511 Terminal Tower Building, Cleveland, Ohio.



In the bathroom indestructible steel medicine cabinets, steel tile, radiator enclosures, clothes hampers and shower stalls, lend an atmosphere of beauty and cleanliness.



The modern basement with enameled steel laundry trays, enameled steel washing machine, steel clothes dryer and furnace, shelving and cupboards, plays an important part in reducing to a minimum the housewife's labor.

Save  Time  Labor  Dirt with Steel Household Equipment



**CELLized wood floor blocks*

Condensed Specification
FLOORING—Shall be.....
*CELLized..... Blocks, laid
according to *CELLized
specifications over..... sub-
floor, by a Licensed Floor
Contractor. Delivery of the
*CELLized Oak Flooring
Inc. 5 year guarantee by the
contractor will be required
upon completion of the job.

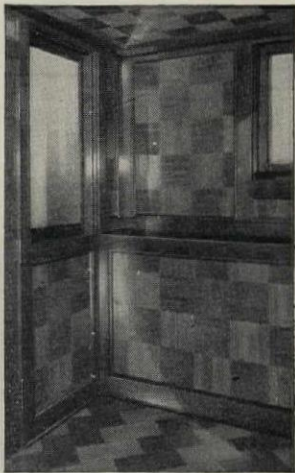


*CELLized Wood Floor Blocks
are guaranteed. Laid only by
Licensed Flooring Contractors.

Each block a complete unit, laid in EVERBOND, a
plastic cement, directly over concrete. Unit blocks
insure economical floors for all types of buildings;
adaptable also to design patterns for walls and ceilings.

OAK	BEECH	MAPLE	RED GUM	WALNUT	PHILIPPINE MAHOGANY	MAPLE*
Rectangular blocks 6" x 12" and 6 3/4" x 13 1/2"; also in maple 6 1/2" x 13". Square blocks, 13-16" thickness in the following sizes:						
6 3/4 in.	6 3/4 in.	6 3/4" & 7 1/2"	for walls and ceilings	6 3/4 in.	6 3/4 in.	also in 1 1-16" thickness in the following sizes: 6 3/4 in. 9 in.
7 1/4 in.	7 1/4 in.	8 in.		7 1/4 in.	7 1/4 in.	
9 in.	9 in.	9 in.		9 in.	9 in.	
10 1/4 in.		10 in.				
11 1/4 in.	11 1/4 in.	11 1/4 in.	11 1/4 in.	11 1/4 in.	11 1/4 in.	
12 in.	12 in.	12 in.				
		13 in.				

*For industrial floors, maple blocks are also fabricated 1 5-16" thick; 6 3/4" to 10" squares



This office has oak rectangles
in the floor, beech squares in the
walls, and alternately laid maple
and beech squares in the ceiling.

**CELLized Oak Flooring Inc.*
MEMPHIS — TENNESSEE

Sold through lumber dealers everywhere; manufactured by

ARKANSAS OAK FLOORING CO. . Pine Bluff, Ark. . THE LONG-BELL LUMBER CO. . Kansas City, Mo.
NASHVILLE HDW. FLOORING CO., Nashville, Tenn. E. L. BRUCE COMPANY Memphis, Tenn.

740 PARK AVE

NEW YORK



ARCHITECTS: ROSARIO CANDELA AND ARTHUR LOOMIS HARMON
BUILDERS: HEGEMAN-HARRIS, INCORPORATED

THIS apartment building is being erected for Mr. James T. Lee of New York. It embodies to the last painstaking detail its owner's far-reaching ideas in modern luxury and beauty. That Dahlstrom Elevator Entrances were chosen for this superlatively fine building is nothing less than a high tribute. Other current Dahlstrom installations include the 60-story City Bank and Farmer's Trust Co., the 58-story 500 Fifth Avenue, the 40-story George A. Fuller Building, the 36-story Daily News Building, and the world's largest office structure, the Empire State Building on the site of the historic Waldorf-Astoria Hotel.

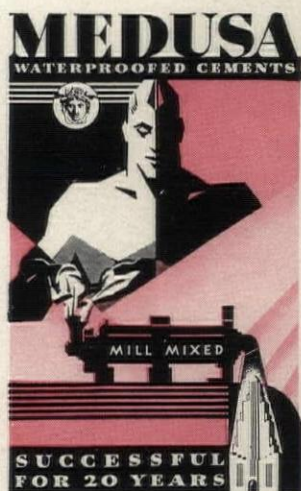
Elevator Entrances by
DAHLSTROM

DAHLSTROM METALLIC DOOR COMPANY, (Established 1904) JAMESTOWN, N. Y.
NEW YORK CHICAGO • LOS ANGELES • DETROIT • DALLAS

WATERPROOFING AND PORTLAND CEMENT DELIVERED IN ONE BAG

GOOD waterproofed concrete is made with a Portland cement that has the waterproofing material ground with cement clinker during manufacture. Such waterproofing is correct in amount and is uniformly distributed. Delivered in one bag, it saves time, labor and supervision on the job. It removes human hazards associated with job-mixing waterproofing and Portland cement. Anyone who can make good concrete can make good waterproofed concrete with Medusa Waterproofed

Cements (white or gray). Best of all, it will be permanent. This is proved by 20 years of successful use.



Only Medusa Portland Cements — *Waterproofed* — have these qualifications. If you have a waterproofing problem at the present time, please remember that our technical department is ready to co-operate without obligation. You can also secure latest data on the subject of waterproofing concrete and mortar in our book "How to Make Good Waterproofed Concrete." Send for this book today.

MEDUSA PORTLAND CEMENT COMPANY
1002 ENGINEERS BUILDING CLEVELAND, OHIO

MEDUSA WATERPROOFED CEMENTS



Medusa Products — Medusa Gray Portland Cement (Plain and Waterproofed); Medusa White Portland Cement (Plain and Waterproofed); Medusa Waterproofing (Powder or Paste); Medusa Portland Cement Paint and Medusa-Mix, The Masonry Cement

MORE DAYLIGHT WITH LUSTRAGLASS FLAT-DRAWN

BECAUSE



IT takes a "whiter" glass to transmit more daylight . . . that is obvious. LUSTRAGLASS is the "whitest" of all glass made for windows . . .

Laboratory tests conclusively prove that LUSTRAGLASS transmits more daylight. It also transmits a substantial amount of the shorter ultra-violet rays of sunlight at a wave length of 313 mu.* yet it costs no more than ordinary window glass.

For schools, factories, homes, hospitals and office buildings, everywhere that human beings live, work or play indoors, LUSTRAGLASS is needed . . . Every building is more beautiful when glazed with LUSTRA-

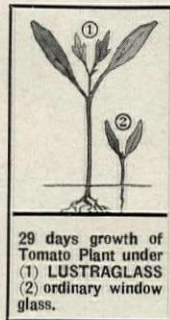
An unretouched, "end on" photo of four leading makes of glass. The white one is LUSTRAGLASS . . .

IT'S "WHITE"

GLASS, for LUSTRAGLASS is truly a superior product in every respect . . . flatter, clearer, more lustrous. Its appearance, alone, is ample reason for its selection by architects and builders, but a glance at the chart below will show why parents of growing children look for it in buildings which they buy or rent . . .

Write for LUSTRAGLASS BOOKLET A-430 and SPECIFICATION SHEET . . . SEE the complete table of ultra-violet ray transmission, then keep this literature in your file to show your clients.

*Send for LUSTRAGLASS BOOKLET A-430 and see complete table of transmission . . .



AMERICAN WINDOW GLASS CO.

Also Makers of Armor-Lite Scatter-Proof and Bullet-Proof Glass, Tinted-glass, Picture Glass, Photographic Dry Plate Glass, $\frac{3}{16}$ " and $\frac{1}{32}$ " Crystal Sheet, Ground and Chipped Glass, Improved Quartz-Lite and Bulb Edge Glass.

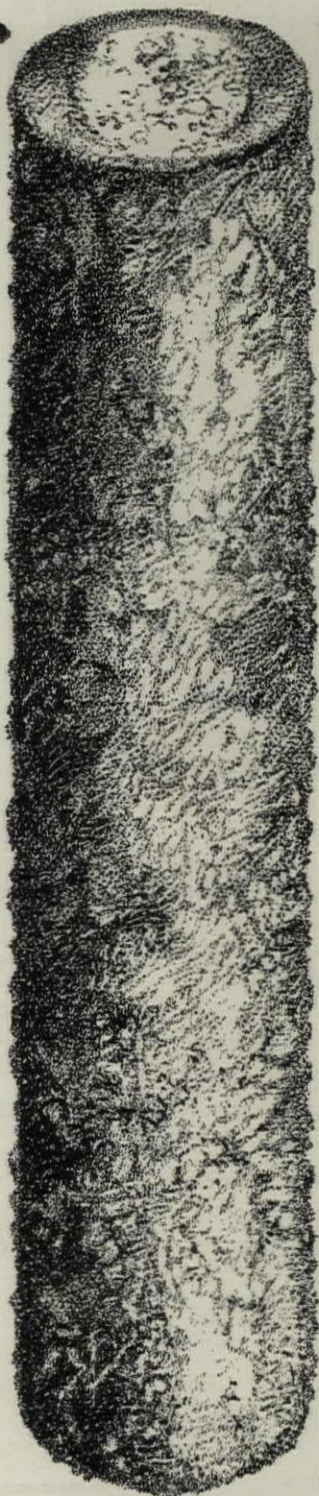
Farmers Bank Building

The label shown at the right appears on every light of genuine LUSTRAGLASS . . . Look for it. LUSTRAGLASS is packed with paper between the lights to prevent scratching or marring of the surface.

Pittsburgh, Penna.



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NATIONAL TUBE CO. PLANT, McKeesport, Pa.

John F. Casey Co., *General Contractors*

George E. Sperling, *Chief Engineer of Construction,*
National Tube Co.

6000 piles (230,616 linear feet) completed in 89 driving days.

MILWAUKEE COUNTY COURT HOUSE, Milwaukee, Wis.

Albert R. Ross, *Architect*

6682 piles (131,013 linear feet) completed in 73½ driving days.

AMERICAN ENKA CORPORATION, Asheville, N. C.

The H. K. Ferguson Co., *Engineers and General Contractors*

3411 piles (82,118 linear feet) completed in 76 driving days.

GOODYEAR-ZEPPELIN CORP. AIRSHIP FACTORY AND DOCK, Akron, Ohio

Wilbur Watson and Associates, *Architects and Engineers*
1244 piles (25,776 linear feet) completed 50 driving days.

CANADIAN PACIFIC RAILROAD HIGH LEVEL TERMINAL, Toronto, Canada

Anglin-Norcross, Limited, *Engineers*

3000 piles (112,698 linear feet) completed in 49 driving days.

STATE OF OHIO AND CITY OF CINCINNATI WEST EIGHTH STREET VIADUCT, Cincinnati, Ohio

J. R. Burkey, *Chief Engineer Bureau of Bridges*

E. A. Gast, Hamilton Co., *Surveyor*

4000 piles totalling 137,556 linear feet were driven to support this viaduct.



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Branch Offices: Chicago, New Orleans, San Francisco, Pittsburgh,
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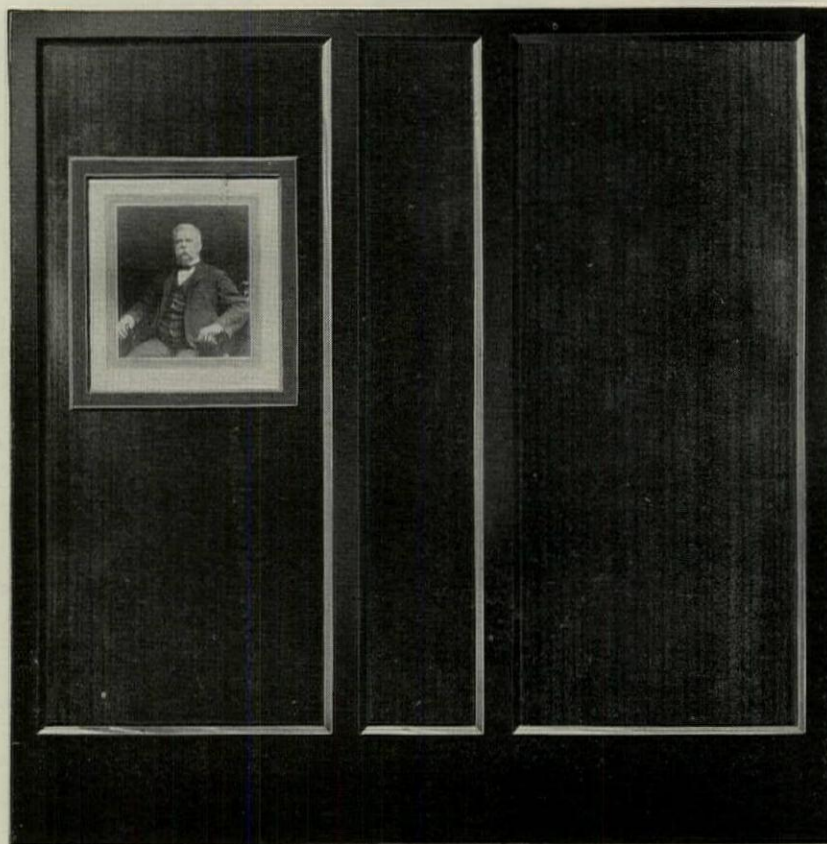
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Performance
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Speed
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The Giles Drilling Corporation (an affiliated company) will welcome the opportunity to submit estimates on core borings or soundings of any description.

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COMPRESSED CONCRETE PILES



*Bakelite-Micarta Panels
by Westinghouse Elec. &
Mfg. Co.*

A NON-COMBUSTIBLE PANEL AND TRIM MATERIAL OF ENDURING BEAUTY AND LUSTRE

New trends in design often may be best interpreted through the use of new or unusual materials. Sometimes, the adaptability of new materials to new forms is the inspiration for originality. Examples of both experiences may be found in the adaptations of Bakelite Laminated for paneling and trim.

The many inherent advantages of Bakelite Laminated make it most useful to the architect and the builder. It is light in weight but very rigid and strong. It resists moisture and does not shrink, swell nor split. It is non-

combustible, and a lighted cigarette may be rested upon it without blistering or burning the surface. Re-finishing is not required, as a damp cloth restores the original beauty and lustre.

Bakelite Laminated is obtainable in faithful reproductions of hardwoods and of various marbles. It is also made in plain colors and special designs. The panels illustrated are the product of Westinghouse Electric and Manufacturing Co., Pittsburgh, Pa., who will be glad to furnish full particulars.

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ied "B" is the numerical sign for infinity, or unlimited quantity. It symbolizes the infinite number of present and future uses of Bakelite Corporation's products."

THE MATERIAL OF A THOUSAND USES

WHAT MADE THESE NEW YORK APARTMENT HOUSES EASIER TO RENT?...INCLUDE 11,076 KOHLER FIXTURES AND FITTINGS IN YOUR ANSWER



A bathroom with STANDISH vitreous china lavatory and VICEROY tub each having Kohler Dynamic fittings.

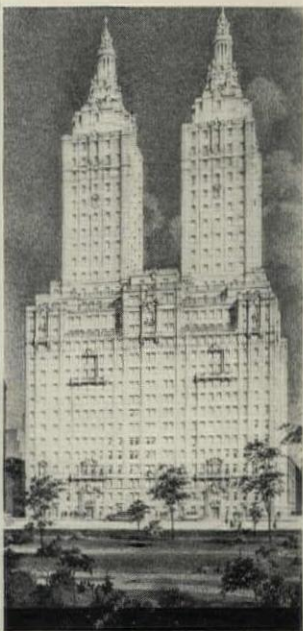
IN NEW YORK or any other place, the bathroom is the most important room in the house. You know it. Home-hunters know it. They look at the bathroom first. They expect, rightly, clear pipes, efficient faucets and drains. They want tubs of good design; lavatories, closets and fittings soundly constructed and in correct taste. They ask for—and get—colors that are clear and uniform.

Architects recognize the trend. Generally, they follow the one wise practice: Specify the kind of fixtures and fittings that good taste, good business instruct. And in the best and finest places going up today—apartment houses never before equaled for size, luxury, and elegance of appointment—all-Kohler installations are increasingly evident. Here,

for example, are three recent New York apartments, completely Kohler-equipped, with a total of 11,076 Kohler fixtures and fittings!

It's perfectly logical that all-Kohler installations should make any apartment house or a home easier to rent or sell—especially where competition is severe. If the bathroom and the kitchen are right, the whole place gets credit. High principles in plumbing are evidence of high principles at other critical points. Actual money savings add to the yearly dividends of satisfaction and security.

Kohler Co. Founded 1875. Kohler, Wis.—Shipping Point, Sheboygan, Wis.—Branches in principal cities. . . . Look for the Kohler trade-mark on each fixture and fitting.



The San Remo, apartment at 74th and 75th Streets and Central Park West, New York City. Emery Roth, Architect. H. R. H. Construction Co., Builders. Sam Minskoff, Plumber. Dimock & Fink Company, Jobbers.

Beresford Apartment House, 81st and 82nd Streets and Central Park West, New York City. Emery Roth, Architect. H. R. H. Construction Co., Builders. Frank B. Lassette, Plumber. E. F. Keating Co., Jobbers.

Apartment at 12 West 81st Street, New York City. Emery Roth, Architect. H. R. H. Construction Co., Builders. Sam Minskoff, Plumber. Dimock & Fink Company, Jobbers.



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"BEAUTY WITHOUT INTERRUPTION"

COMPLETELY invisible when the door is closed. Flush doors - clean lines - no undesirable projections.

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House Doors	Folding Partitions
Secret Panels	Radiator Covers
	Folding Tables
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Established 1908
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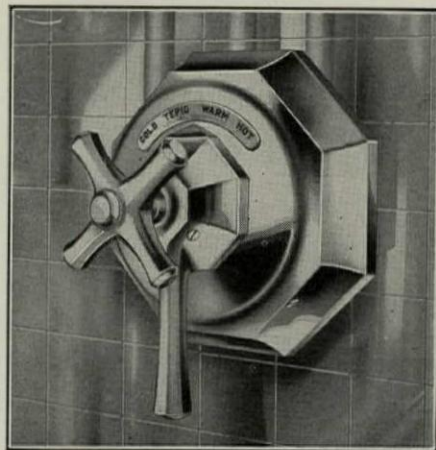
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See our catalog in Sweet's
 or write for A. I. A. folder.

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LEONARD Thermostatic Water Mixing Valves

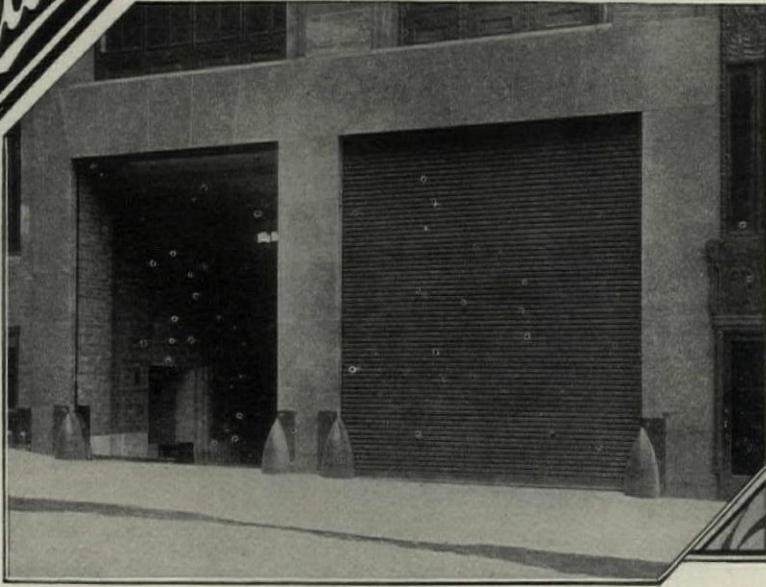


TYPE L-9 OCTAGON DESIGN

Catalog C of Leonard Valves, showing Type L-9 Octagon Design and Colors to match bathroom fixtures, is now ready.

Write for your copy

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Entrance to Baltimore and Ohio Railroad Bus Terminal. Chanin Building,
42nd St. and Lexington Ave., New York City. Architect—Sloan and Robertson,
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Motor operated rolling steel
doors were successfully in-
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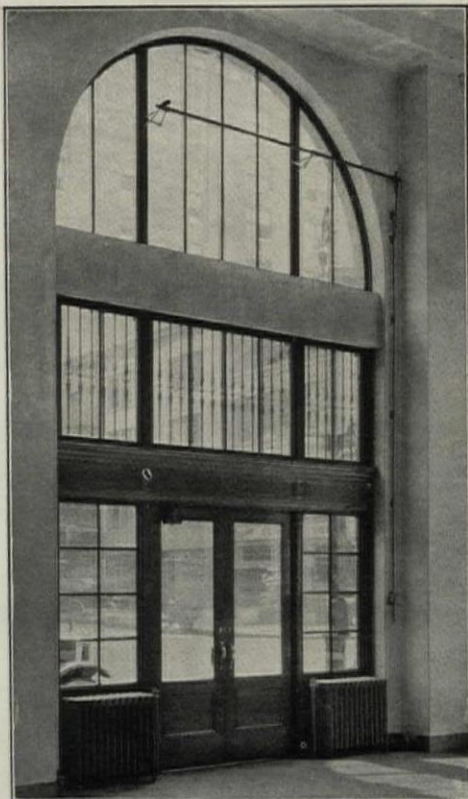
Consult us when sketching.

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**Operating Large Sash
with Safety and Ease**

*I*N the American Book Building, the
large bottom-hung sash in the arches
over the door and windows, are used for
natural ventilation.

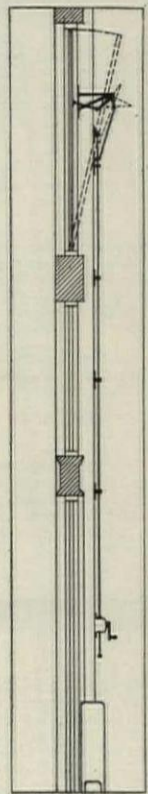
The operating shaft is so placed that the
sash cannot fall back when opened, and is
easily held at any desired angle against
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The vertical control rod and operating gear
case are of polished bronze.

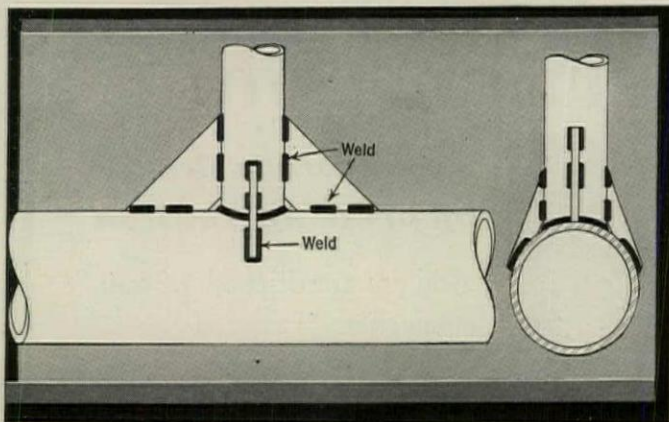
Lord & Burnham Co.

SASH OPERATING DIVISION
Graybar Building New York City

Representatives in all Principal Cities
of the United States and Canada



Vertical section
through window,
showing position
of equipment



DESIGN STANDARDS FOR OXWELDING PIPING

Any welded piping system, even in its most complicated form, is a combination of a few fundamental welding design details.

BRACED BRANCH CONNECTIONS

Explanation of design:

When tees and branch fittings are subjected to severe bending stresses, they may be reinforced in order to strengthen the joint to meet special service requirements. Bracing plates cut to fit the intersections of the pipes can be welded to the header and branch as illustrated.

Uses:

Such designs of braced branch connections may be used for high pressures, particularly for very high or very low temperature services, where unprovided for expansion and contraction or unforeseen conditions may throw high or unknown bending stresses into the connections or where piping is subject to pulsations. Under these conditions Y's should always be reinforced, especially where the angle of intersection is less than 75 deg.

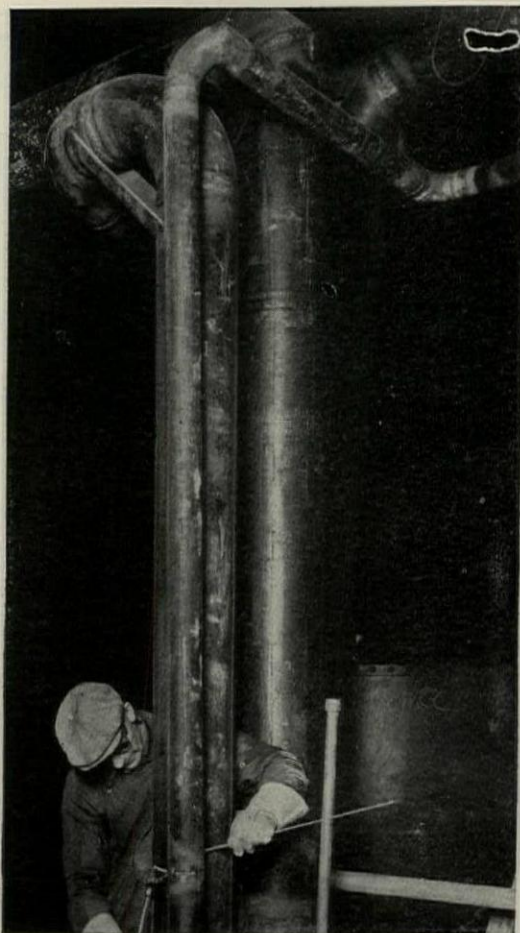
Specifications:

When braced branch connections are specified, the following features are included in the specifications:

1. The bracing shall be fabricated in such a way as to rigidly tie the branch and header together in order to reinforce the connecting pipes thoroughly and prevent deflection at the joint.
2. When the plate or similar reinforcement is used, welding shall preferably be omitted over the weld joining branch and header.
3. When sleeve reinforcements are used, features to be included in the specifications for sleeve welding are the same as in the base of the Butt Weld with Welded Split Sleeve given on page 18, "Design Standards for Oxwelded Piping."
4. The weld shall be of sound metal free from laps, gas pockets, slag inclusions or other defects.

The above is excerpted from a handbook on fundamental designs, titled, "Design Standards for Oxwelded Steel and Wrought Iron Piping," published by The Linde Air Products Company. A copy of this handbook should be in every architectural drafting room. It is yours for the asking. Just fill in and mail the coupon.

OXWELDING FACILITATES CONSTRUCTION



OXWELDING materially speeds up the installation of piping. When bends, valves and special fittings have been located, no consideration need be given to the exact lengths of connecting pipe. The ease of cutting and welding in the required piping, during construction, simplifies design and avoids error. If equipment does not conform to drawings, or if last minute changes are made, the job is not thrown out of routine.

These and other inherent advantages of oxwelding—permanent tightness, increased efficiency and economy—are evidenced by the growing acceptance of this method of pipe jointing.

Under Procedure Control, welded piping construction may be undertaken with the same confidence in a satisfactory result as older methods, and with further assurance of increased economy and serviceability.

Technical Publicity Dept., 12th Floor
205 East 42nd St., New York, N. Y.
Please send me a copy of your new book,
"Design Standards for Oxwelded Steel and
Wrought Iron Piping" which also explains
procedure control for pipe welding.

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City.....State.....
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Lignophol adds to floor durability by supplying the wood with natural oils and gums which penetrate throughout. It binds the fibres together to make the floor hard, wear-resisting, dustless. It obviates splintering, checking, warping, dry and wet rot, and makes the floor easier to keep clean.

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man can quickly apply it with a long-handled brush.

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Make use of Sonneborn consulting service. We co-operate with your contractor and give him the benefit of our 25 years' experience. This co-operation helps your contractor to come up to your exacting specifications while keeping the work within bounds of economy. Every Sonneborn product is guaranteed to do a good job.

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—Plaster Bond—For damp-proofing interior of exterior walls above ground.

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—The original concrete floor hardener and dustproof.

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—For waterproofing mass concrete, stucco and mortars.

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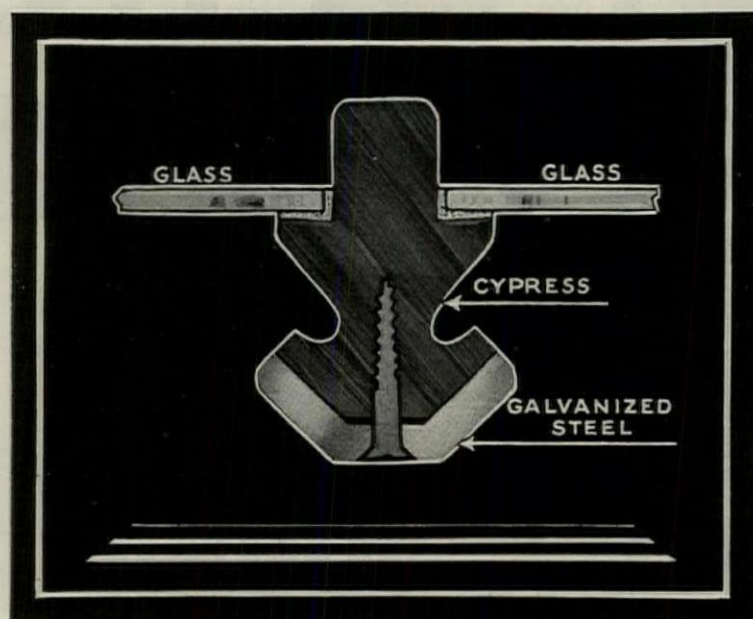
Please send me, without cost or obligation, demonstration samples and literature on: Lignophol.....; Lapidolith.....; Hydrocide Colorless.....; Fermo.....; Hydrocide No. 633.....; Hydrocide No. 648.....; Hydrocide Integral.....; (Check products that interest you.)

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Position.....



Offering 250 Dollars for a Name

YEARS ago we started using a combination metal and cypress roof bar for supporting the glass in greenhouses and conservatories. For the last three years we have been perfecting it from a structural side, while at the same time making possible many refinements to the framing, giving an added lightness and attractiveness.

Now that the series of tests have abundantly proven the superiority of the bar, we are seeking

a suitable name. One that will mean something structurally to architects, while at the same time be short and easy for others to remember.

For such a name we offer outright, 250 dollars. All architects and any draftsmen now in employ of an architect are eligible.

Write at once for full particulars. Offer expires December first. Award made December tenth, in ample time for Christmas use.

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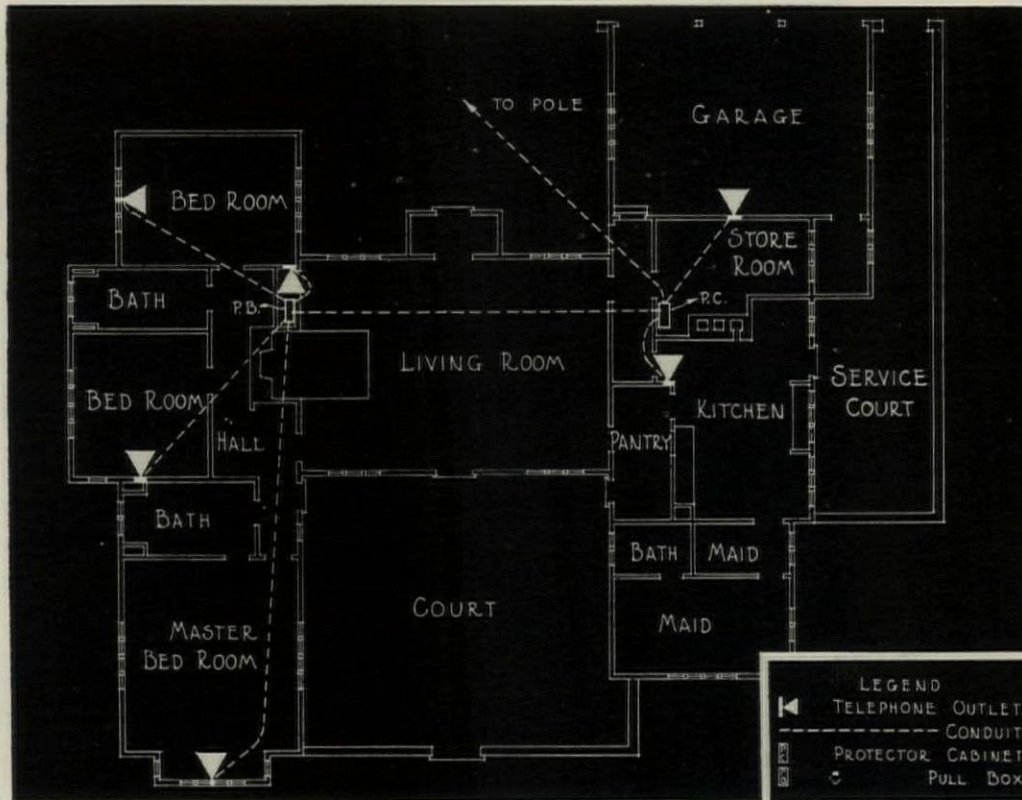
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The modern Home provides for both Present and Future Telephone needs



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

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

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



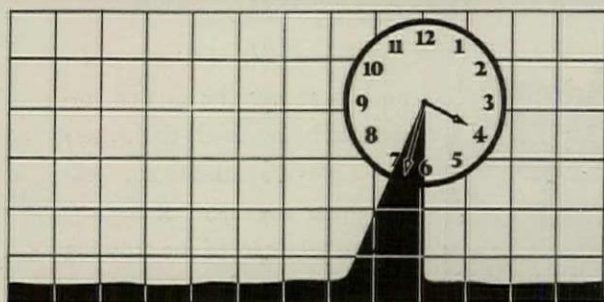
provides a flexibility of telephone service that is most desirable.

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

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



It's part of good lighting to **reduce LIGHTLESS INTERVALS***

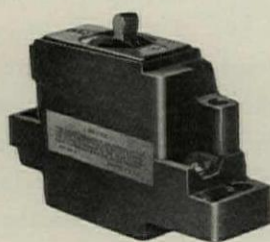


ACCIDENT HAZARDS MOUNT DURING LIGHTLESS INTERVALS

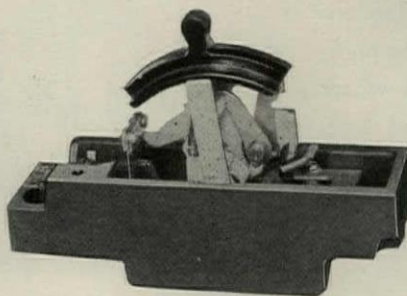
PROVISION for reducing lightless intervals is as much a part of good lighting as adequate illumination and well-planned lighting circuits. During these lightless intervals workers stand idle . . . busy machines are stopped . . . spoilage increases . . . and accident hazards mount.

Westinghouse Nofuz panelboards decrease lightless intervals to the minimum. Momentary overloads do not open the circuit—but the wiring is protected at all times. When, on abnormal overloads the breaker opens the circuit, service can be restored by anyone by a flip of the handle—provided the overload is cleared. However, the breaker cannot be held closed against an abnormal overload—the mechanism trips free from the handle.

The non-welding contacts on Nofuz panelboard breakers have withstood repeated openings of a 5000-ampere short circuit. Also, breakers have been operated more than 67,000 times at full load without damage.



Above—Nofuz breaker enclosed in a fire and moisture-proof asbestos composition housing.



Left—Nofuz breaker with cover removed.

★Lightless Intervals are periods when lights are out because of a blown fuse or the opening of a circuit protecting device.

Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse



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Administration Building, United States Department of Agriculture, Washington, D. C. Architect—Office of Supervising Architect, Washington, D. C. Geo. Hyman Construction Co., Engineers and Contractors. 261 Lupton Monumental Casements are installed in this building.

Beautiful buildings have beautiful windows

PERHAPS you wonder why the best buildings are usually equipped by Lupton. The answer is easily found. Every Lupton Monumental Casement is fabricated individually. Yet all are as alike as peas in a pod — in appearance and service, as well. This is because Lupton's most skilful craftsmen are assigned to Monumental Casements.

They know how to work to a hair-line formula. They can make the most of materials and tools. They know and believe in the Lupton idea that windows should last more than one generation. Finally, their finished work is relentlessly tested and checked for flaws.

We have given you but a mere framework of the Lupton Monumental Casement story. You can get further details from your current edition of *Sweet's*. Or write, David Lupton's Sons Company, 2229 E. Allegheny Avenue, Philadelphia, Pennsylvania.

L U P T O N

where steel is fused with sincerity

America is still too young to know how long cypress can endure

Built before the United States was born, hundreds of buildings are still in sound condition—thanks to the durability of Tidewater Red Cypress (Coast Type).

Today, this durable lumber is favored more than ever before by architects. They *know* its ability to fight time and rain and changing temperatures.

They also know that more home owners every day are looking to a rugged lumber as the most economical building material that can be employed, wherever wood meets weather.

A Book of Interiors—sent free

Beautiful as it is durable, Tidewater Red Cypress creates a natural interior that is difficult to approach for its exquisitely patterned grain.

To show you the many interesting ways well-known architects have employed this charming wood, we shall very gladly send you a complimentary illustrated book of interiors.

Write to the Southern Cypress Manufacturers' Association, Jacksonville, Florida.



Tidewater Red Cypress was used throughout the Gibbs home in Charleston, S. C. Built in 1800, it is sound as a dollar today.

The architect, Arthur T. Remick, New York, employed the same rugged lumber in the beautiful new home of Arthur W. Wood in Westchester County, New York.



TIDEWATER RED CYPRESS

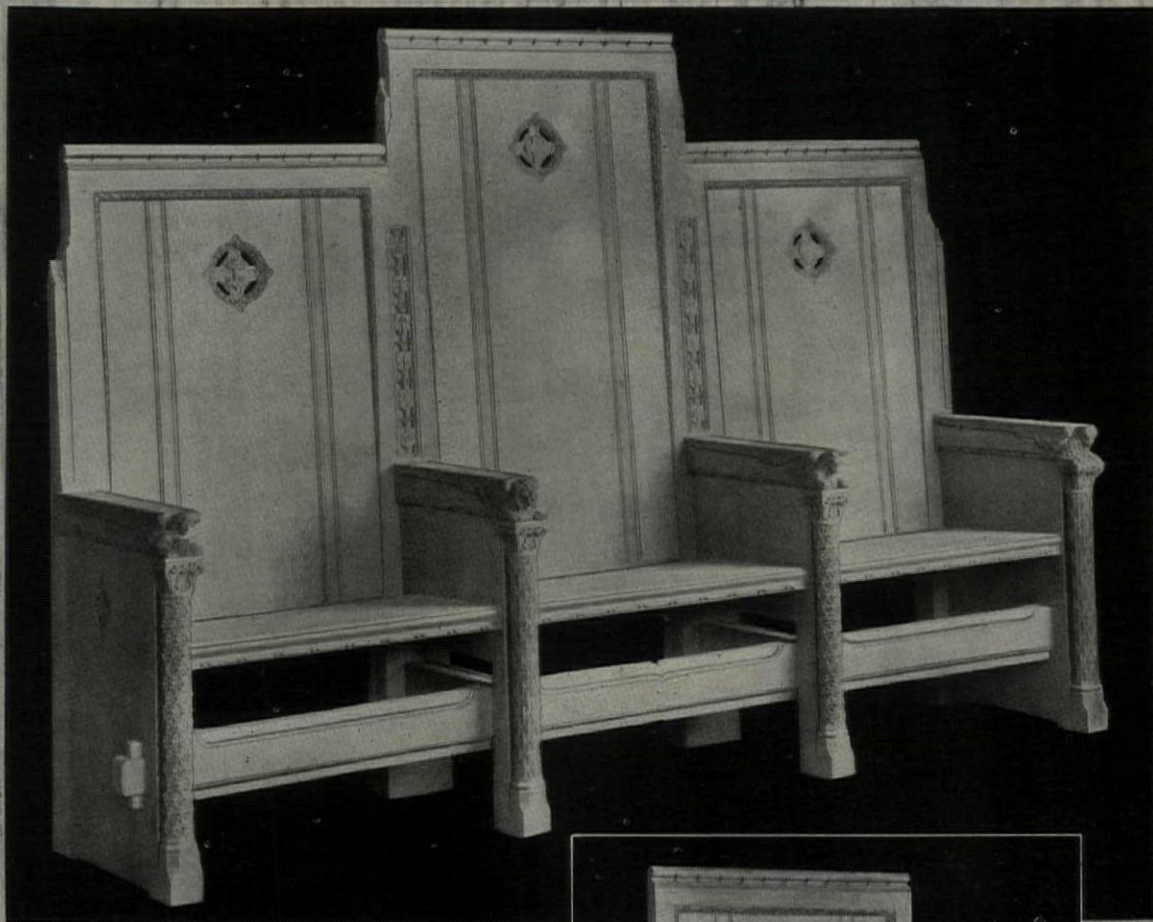
(COAST TYPE)

THE WOOD ETERNAL

This advertisement is published by the following members of the Southern Cypress Manufacturers' Association:

Big Salkehatchie Cypress Co., Varnville, S. C.
Burton-Swartz Cypress Co., Perry, Fla.
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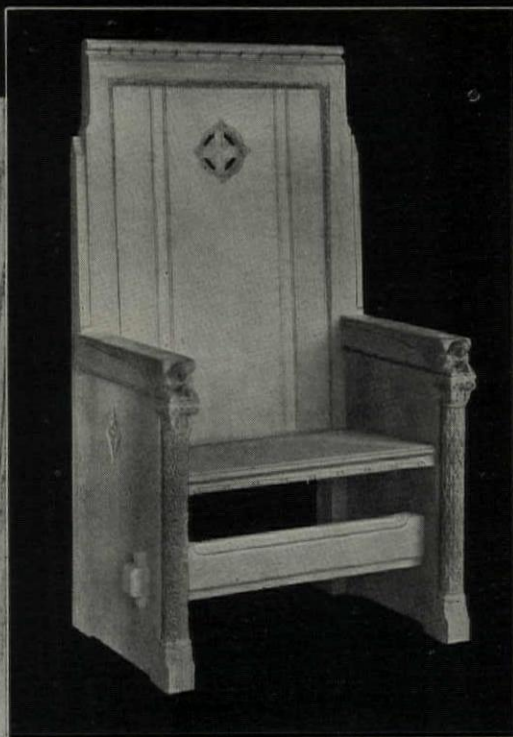
Everglade Cypress Co., Loughman, Fla.
Reynolds Bros. Lumber Co., Albany, Ga.
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In Holy Child R. C. Church, Philadelphia, George I. Lovatt has created an edifice destined, by the observations of fellow architects, to be one of the outstanding churches of the year.

We are proud of the fact that all furniture for this Church was entrusted to the DeLong Craftsmen, two of the pieces which they executed for the chancel being illustrated here.

For complete information
address Department F.



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ORANGE Extruded Aluminum SCREENS

Here's The Complete Manual For Screen Installations

As evidence that ours is no hit or miss screening service, let us send you a copy of our latest publication, entitled "Details and Data for Screen Installations." It contains more than twenty detail drawings, selected from hundreds of working drawings we have made for actual installations.

This information will be of direct use to your draftsmen. It illustrates the way in which we study each installation problem. Which is all in addition to the enduring, satisfying quality of the Orange Extruded Aluminum screens, but quite in harmony with it.

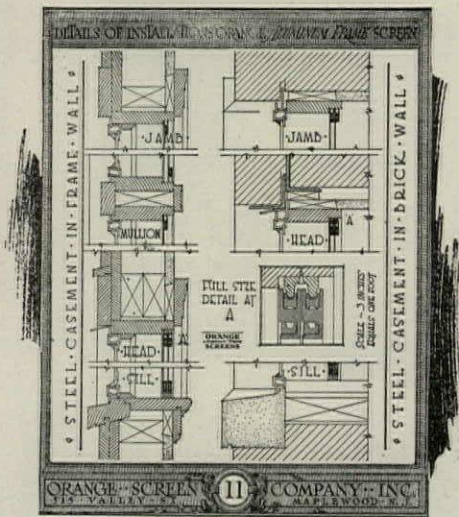


Plate No. 11 gives details of screen installations for steel casement in frame and in brick wall, drawn to scale



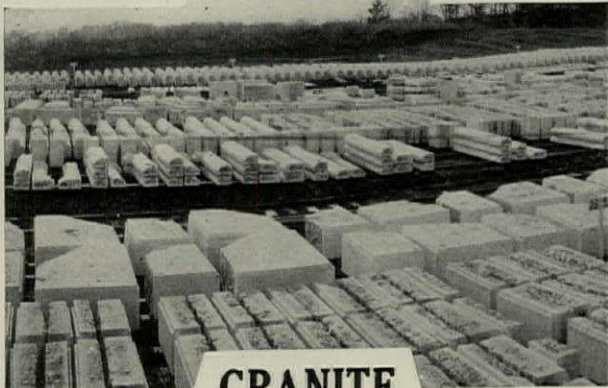
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Extruded Aluminum Frame Screens. Also
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MAPLEWOOD, NEW JERSEY

MOUNT

AIRY



Mount Airy Granite for the Arlington Memorial Bridge stored at the bridge site. This bridge crosses the Potomac between Lincoln Memorial and Arlington Cemetery, Washington, D. C. McKim, Mead & White are the architects.

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IN THE
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by writing to one of our offices listed below.

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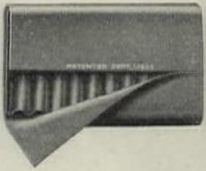


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COWING

Pressure Relieving JOINT

Patented September 1, 1925



**Insures
Facades
Against
Cracked
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Broken
Facing
Blocks**



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

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

See "SWEETS" Catalogue

Cowing Pressure Relieving Joint Co.
226 WEST SUPERIOR STREET CHICAGO, ILLINOIS



New House at Summit, New Jersey. Architect, Duncan Hunter, New York City.
Insulated with Cabot's Quilt.

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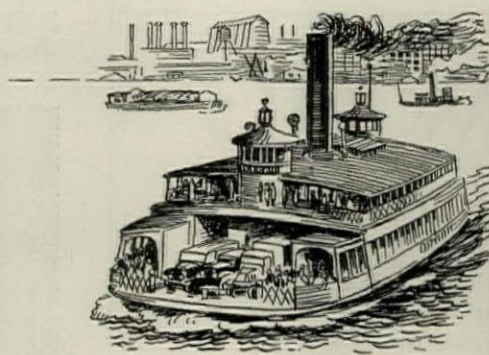
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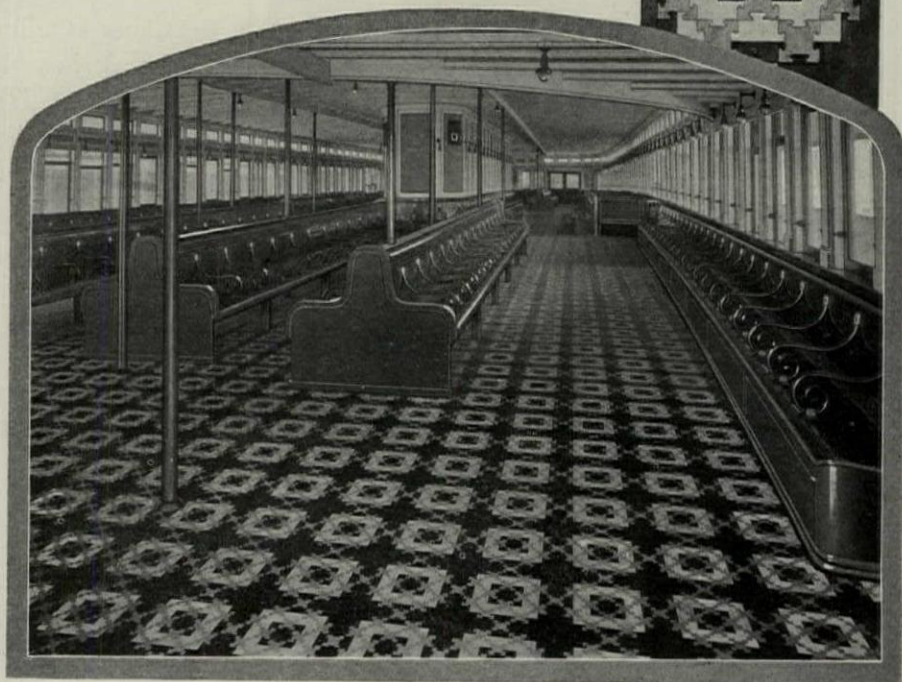


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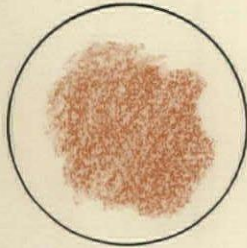
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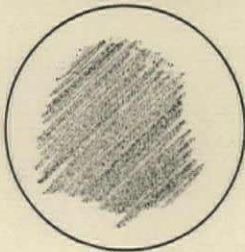
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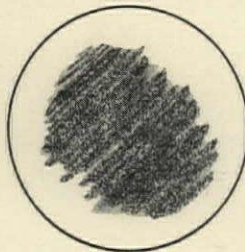
SANGUIN PENCIL NO. 2826

BLACK CHALK PENCILS NO. 231—SMOOTH—2 DEGREES

HB
MEDIUM
SOFT



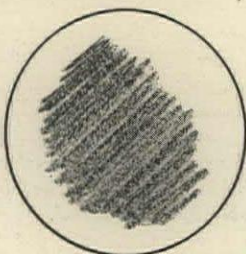
2B
VERY
SOFT



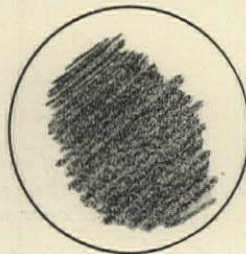
BLACK CHALK PENCILS NO. 230—ROUGH—4 DEGREES



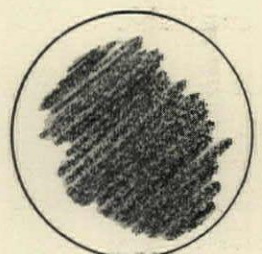
H HARD



HB MEDIUM SOFT



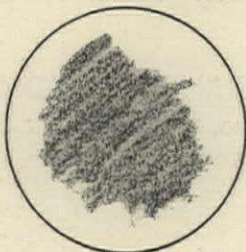
B SOFT



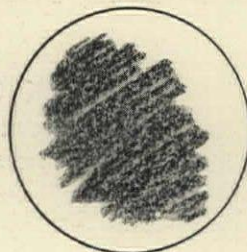
2B VERY SOFT

BLACK CHALK SKETCHING CRAYONS—MEDIUM SOFT

NO. 1
SOFT

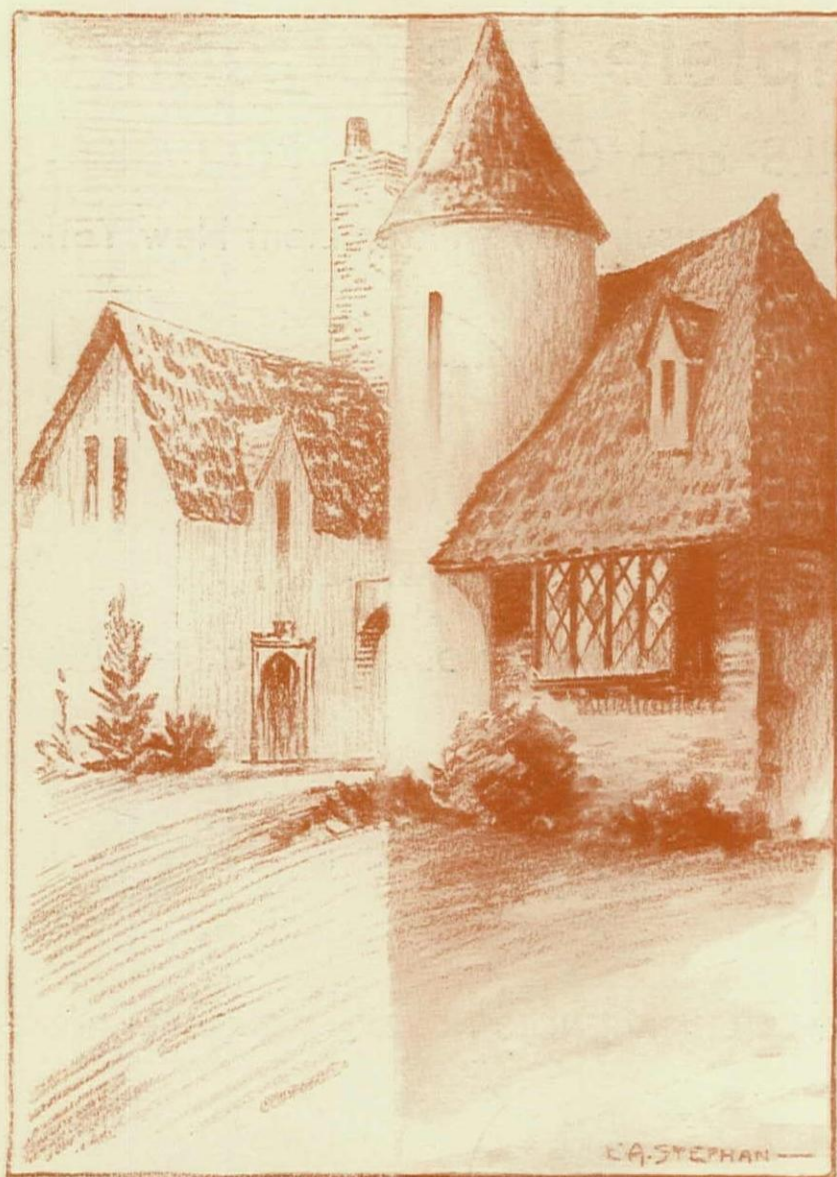


NO. 2
MEDIUM SOFT



THE ABOVE CIRCLES SHOW THE ACTUAL MARKS

EBERHARD FABER



Showing the effect of the use of water and brush on a sketch done with the Eberhard Faber Sanguin Pencil. Left half of the sketch has not been touched by the brush. Right half shows fine water color work obtainable by this method.

BLACK CHALK SKETCHING PENCILS

NO. 230—ROUGH—4 DEGREES H—HARD HB—MEDIUM SOFT B—SOFT 2B—VERY SOFT
NO. 231—SMOOTH—2 DEGREES HB—MEDIUM SOFT 2B—VERY SOFT

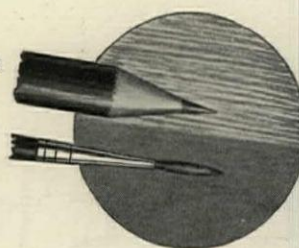
BLACK CHALK SKETCHING CRAYONS

NO. 2822 CONVENIENT SQUARE SHAPE—NO. 1 SOFT NO. 2 MEDIUM SOFT
NO SHINE—DEEP PURE COLOR—TOUGH LEAD

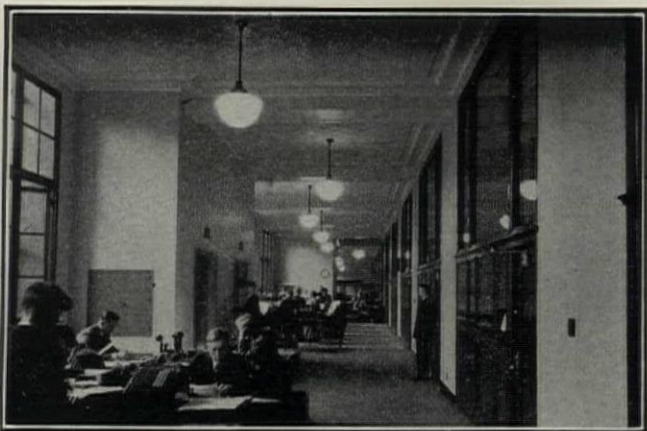
SANGUIN PENCIL

NO. 2826—REDDISH BROWN COLOR—I DEGREE

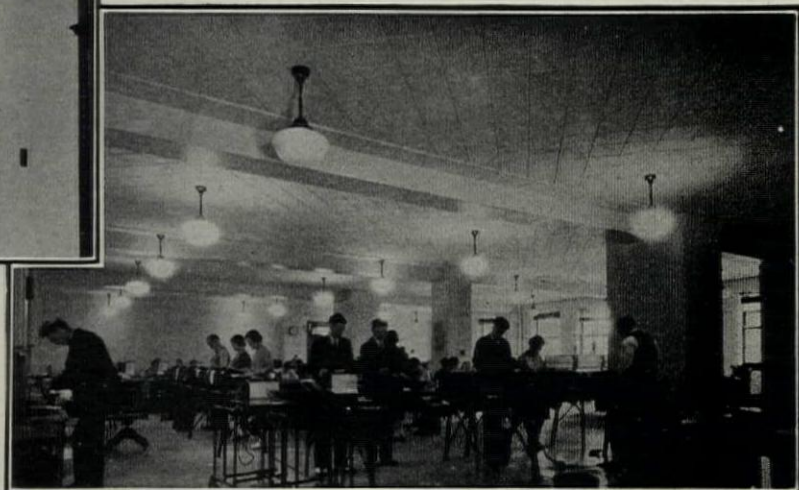
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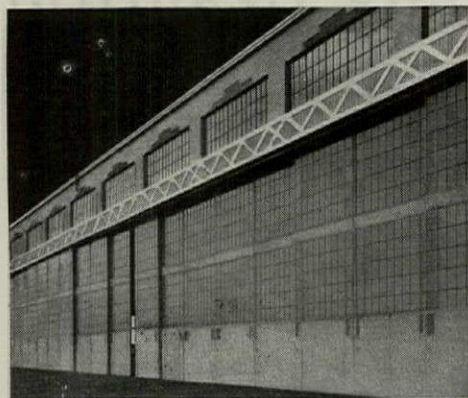
INSULITE ACOUSTILE



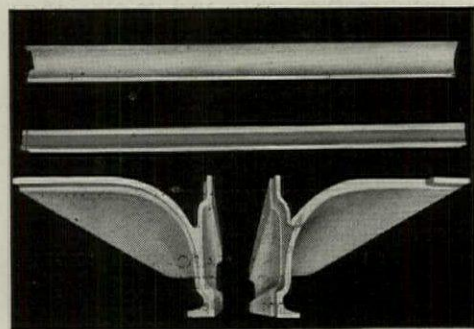
How Alcoa Aluminum is used Architecturally, at the Wayne County, Michigan, Airport



Hangar at Wayne County, Michigan, Airport. Built by the Board of Wayne County Road Commissioners, under the special supervision of Mr. L. C. Smith, Engineer Manager, and Mr. H. E. Baker, Airport Engineer for Wayne County. Giffels and Vallet, Inc., Architects and Engineers, Detroit, Michigan. General Builders, Gallagher and Flemmin. Aluminum Contractor, Anchor Steel Engineering Company.



Alcoa Aluminum Spandrels, approximately 3 ft. by 5 ft. 6 in. View shows these spandrels as used on sides of hangar. Note Alcoa Aluminum Cornices, also.



Front, back and edge views of Alcoa Aluminum Cornices. Cast in lengths 6 ft. 6 in. long by 5½ in. by 3¾ in.

In designing the Wayne County Airport, which is one of the few airports in the United States to have an official A-1-A rating, Giffels and Vallet made generous use of Alcoa Aluminum.

Following precedent, they specified Alcoa Aluminum Spandrels. 226 of these spandrels, approximately 3 ft. by 5 ft. 6 in., have a total weight of only 18,000 lbs. By using Alcoa Aluminum Spandrels, the whole structure was given a decided architectural character. In addition, a considerable saving was made in the structural members. The spandrels, cast in No. 43 Alcoa Aluminum Alloy, are themselves $\frac{2}{3}$ lighter than similar spandrels cast in any other metal commonly used.

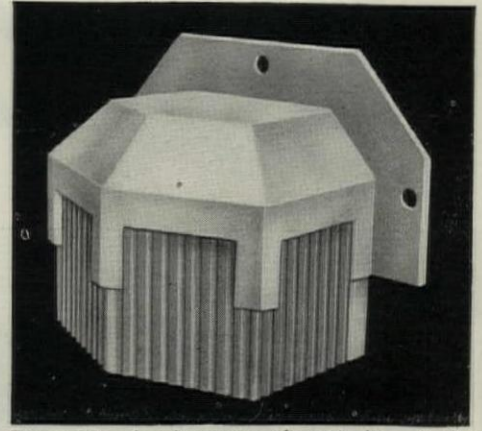
Next, the designers made use of Alcoa Aluminum for cornices. These were also cast of No. 43 Alcoa Aluminum Alloy, in lengths 6 ft. 6 in. long by 5½ in. by 3¾ in. The entire 1,014 feet of cornice, required, weighs only 3,000 lbs. Thus a further saving of approximately 6,000 lbs. was effected.



TRADE MARK

ALCOA

View of Power House Unit at Wayne County Airport. Alcoa Aluminum Lighting Fixtures will be placed on smoke-stack and walls, in positions indicated.



Fixture No. 4 has dimensions of $14\frac{1}{4}$ in. by 10 in. by 8 in. It is cast of Alcoa Aluminum with a $\frac{1}{4}$ in. wall and weighs only $10\frac{1}{2}$ lbs.

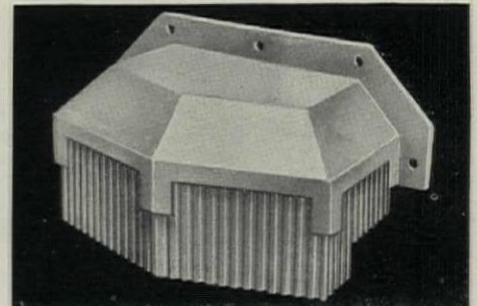
Alcoa Aluminum Lighting Fixtures, as indicated on Walls and Smoke- Stack of Airport Power House

Especially designed and constructed lighting fixtures made of Alcoa Aluminum for the airport insure that the aviators' eyes are not subjected to the glare of the lights.

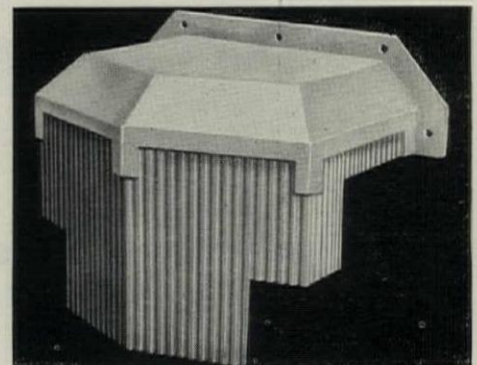
Although this is not the first time lighting fixtures have been fabricated of Alcoa Aluminum, these particular fixtures were cast to 3 special dimensions. There are 121 of these fixtures, yet their total weight is only 2,900 lbs.

Alcoa Aluminum has definitely proved its many varied and practical uses in structural and decorative effects. Its use is preeminently indicated where factors to be considered are lightness in weight and consequent ease of handling on the job; freedom from corrosion from water or gases; permanence, and a natural finish that does not require surface protection. Unaffected by atmospheric gases or sulphurous smoke fumes, it is suitable for use in or near roundhouses, chemical factories, or places where industrial processes result in a gaseous or damp condition, such as that which prevails in the textile or laundry business.

A representative from our nearest office will be glad to discuss the use of Alcoa Aluminum for any architectural purpose you may have in mind. ALUMINUM COMPANY of AMERICA; 2406 Oliver Building, PITTSBURGH, PENNSYLVANIA.

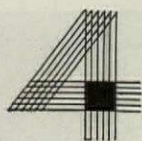


Fixture No. 3 weighs $20\frac{1}{4}$ lbs. It is 22 in. by $12\frac{1}{2}$ in. by 12 in. Cast of Alcoa Aluminum with a $\frac{1}{4}$ in. wall.

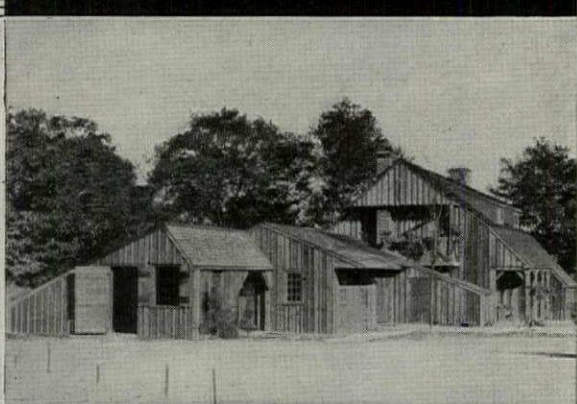
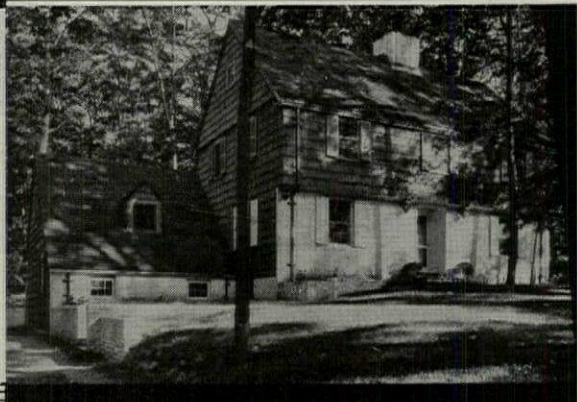


Fixture No. 1 weighs $39\frac{1}{4}$ lbs. and is 28 in. by 18 in. by 20 in. It, too, is cast of Alcoa Aluminum with a $\frac{1}{4}$ in. wall.

ALUMINUM



UNUSUAL HOMES THAT ARE AS COMFORTABLE AS THEY ARE ATTRACTIVE

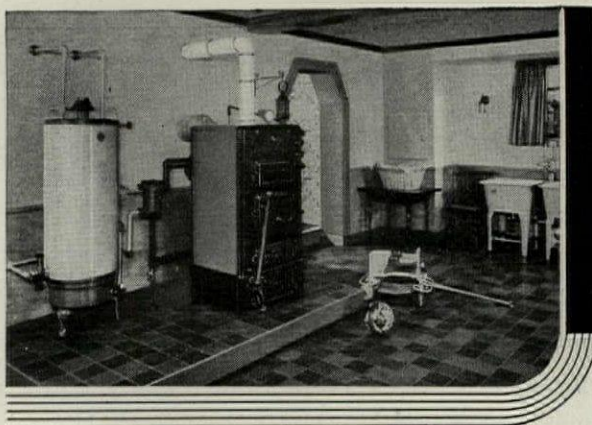


● Four unusual homes by Duncan Hunter, New York, Architect

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

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

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



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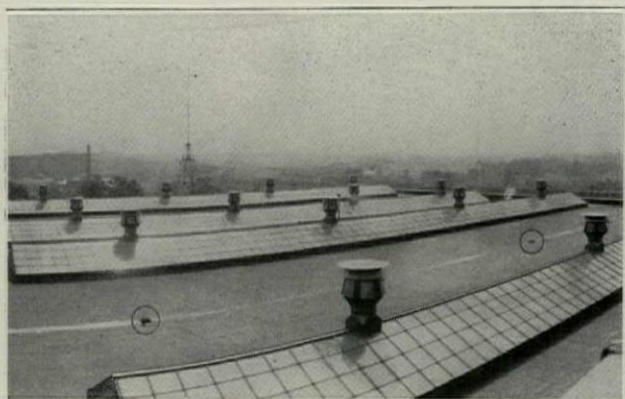
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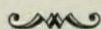
ÆOLUS copper ventilators and Dickinson roof drains
on the Battle Creek shops of the Grand
Trunk Western R. R.

Weather Proof AND Expense Proof

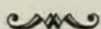
ÆOLUS ventilators give this modern railroad shop ample ventilation with perfect protection to the valuable equipment below.

They provide plenty of fresh air day after day with no operating expense.

In order to insure prompt and positive removal of storm water, Dickinson roof drains are used throughout.



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DOUBLE SYPHON"



ÆOLUS DICKINSON

2436 West 34th Street, Chicago

Builders of Ventilators since 1888

ÆOLUS IMPROVED VENTILATORS



Top View—The building showing Parapet partially demolished.
Lower View—Removing the Leaky Parapet

THRU-FLASH AND PREVENT SUCH
DISASTERS AND EXPENSE WITH



INTERLOCKING WALL FLASHING

EIGHT HUNDRED DOLLARS for Cheney Flashing solved the seepage problem in the parapet (see illustrations). Far cheaper to have installed Cheney Flashing in the beginning.

Cheney Flashing is the only Ready-to-use Thru-wall Copper Flashing that runs entirely thru the masonry wall and forms a positive unbreakable key-bond in every direction within the mortar bed.

It scientifically solves the problem of seepage in masonry walls and positively prevents leaks, efflorescence, disintegration of the walls; and the rusting of steel spandrels and lintels from this cause.

It does not break the bond because it is keyed both horizontally and vertically on both sides of each strip. The ends of the strips hook together to form a continuous course.

Cheney Flashing is economical in cost and application as it requires no soldering, special fitting or loss of time. It is built into the mortar bed as the masonry progresses.

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Rebuilding Parapet with Cheney
Flashing installed above roof line



Note—Cheney Flashing also in-
stalled under coping stones

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\$9000.00
TO REBUILD
>>>>>
NEEDLESS
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HOUSE, Nurnberg—
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Have Witnessed the Making
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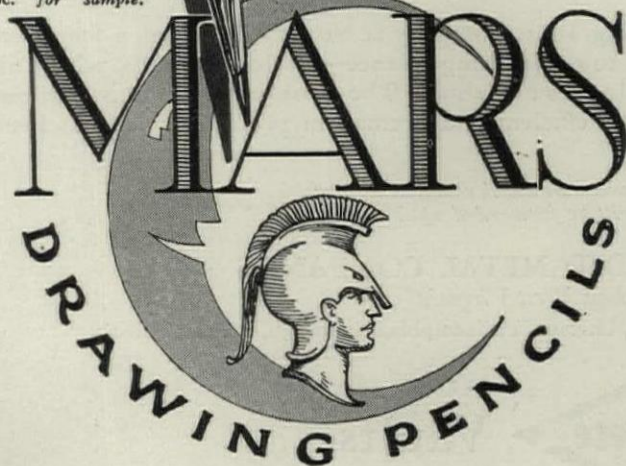
Most famous of these old pencil-makers was Staedtler, who plied his craft hard by the home of Albrecht Durer—master draughtsman of the age.

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MODERN hospitals *do* offer an amazing lot of improvements not found in nineteenth-century construction. Some of them are the things that even the casual observer notices — the open-air features, for instance.

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Calking against weather is one of the advanced practices in hospital construction that must be included if we are to live up to the “and everything” that sums up public approval. That goes for *all* building construction.

**This fine institution is calked with
Pecora Calking Compound, applied
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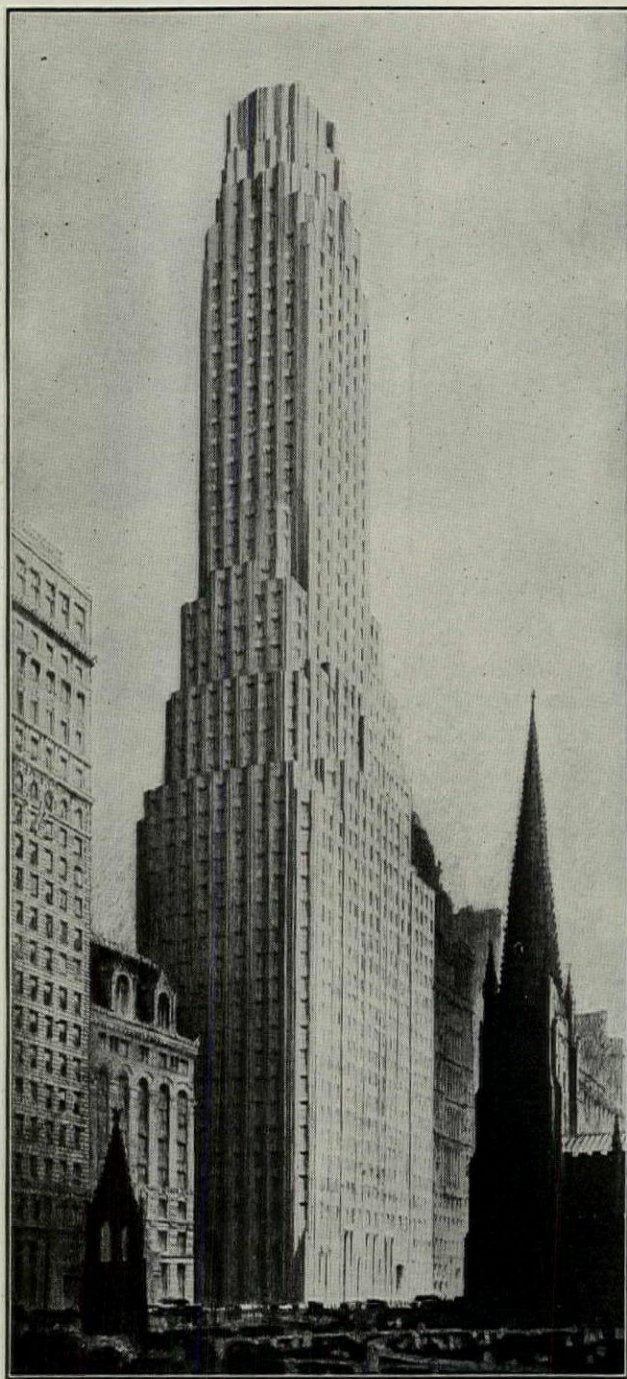
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Bank  Vaults

Alberene Stone Spandrels Provide Pleasing Color Harmony with Limestone



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

A Natural Color
that Grows More Beautiful
with Age

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

Economical—Weatherproof

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

*See details and other
information overleaf*



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

ALBERENE STONE SPANDRELS

THIN SLABS OF NATURAL STONE - BEAUTIFUL - ENDURING

Details of Alberene Stone Spandrels

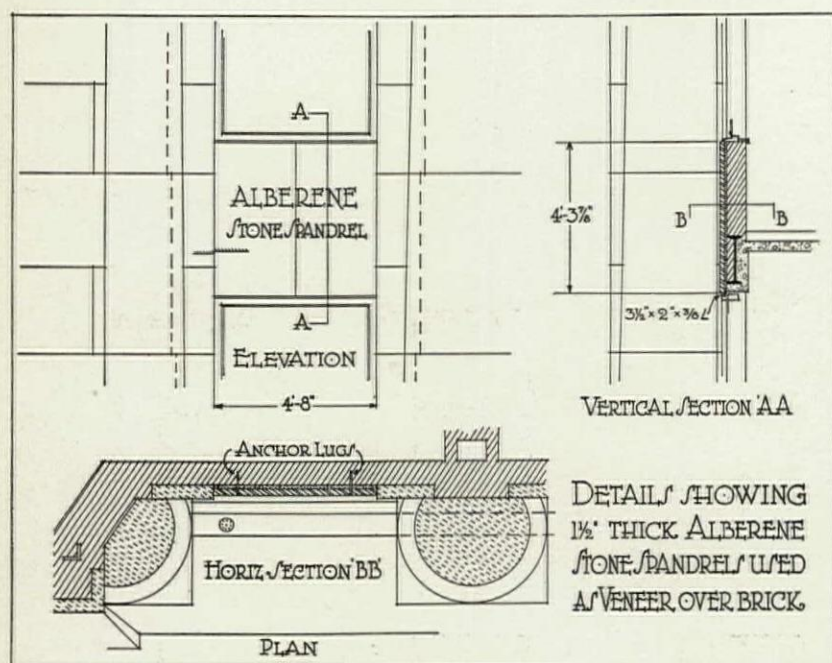


Figure 1. ALBERENE STONE SPANDRELS as installed on the 32nd and 33rd floors of the Newark & Essex Bank Building

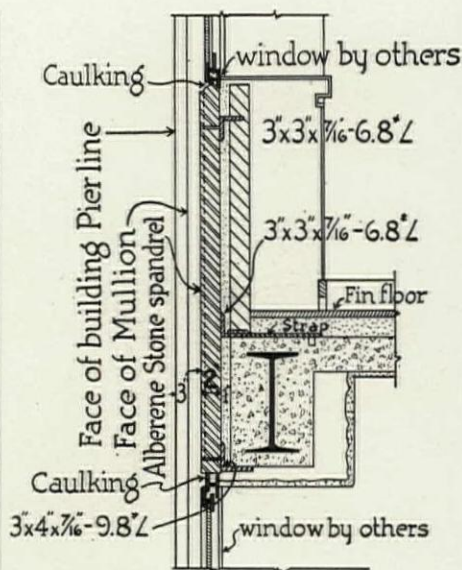


Figure 2. Another installation; in this instance the 1 1/2" thick ALBERENE spandrel is backed up with a 2" brick wall, providing space for radiators to be recessed in the wall.

Information for the Specification Writer on Alberene Stone Spandrels

FIGURE 1 shows ALBERENE STONE SPANDRELS adapted to Single Window construction backed up with a full thickness brick wall. In this instance the ALBERENE STONE is merely a veneer and is used to provide a color and texture contrast to the limestone. Each spandrel is made up of two slabs (vertical center joint with the veining symmetrically matched. These slabs rest on 3 1/2" x 2" x 3/8" angles and are secured to the wall with anchor straps.

EXTRA FLOOR SPACE

Figure 2 shows how the use of ALBERENE STONE SPANDRELS with a 2" thickness of brick leaves adequate space for radiators to be installed without using valuable floor space. The weight of the wall is also reduced.

Although ALBERENE STONE was considered first from the standpoint of beauty, the use of ALBERENE STONE SPANDRELS offers definite structural advantages as well.

SPECIFICATIONS

MATERIAL (Double Spandrels). All spandrels to be structurally sound soapstone, grade equal to ALBERENE STONE. Stone not to be less than 1 1/2" thick at thinnest point. Each pair of spandrels to be securely bolted to three horizontal angles extending 2" beyond spandrel at each end.

Bottom angle to be 3"x4"x 3/16", center and top angles to be 3"x3"x 3/16". Mullion to be 3 3/4"x3 3/4" soapstone, rebated and bolted to steel flat 3 1/2"x 1/2".

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

(Single Spandrels). (a) Spandrels to be embedded in masonry 2" on each side. (b) or, where spandrel is not embedded in masonry at sides it shall rest on 3 1/2"x2"x 3/8" angle and be secured to the wall by anchor straps.

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

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

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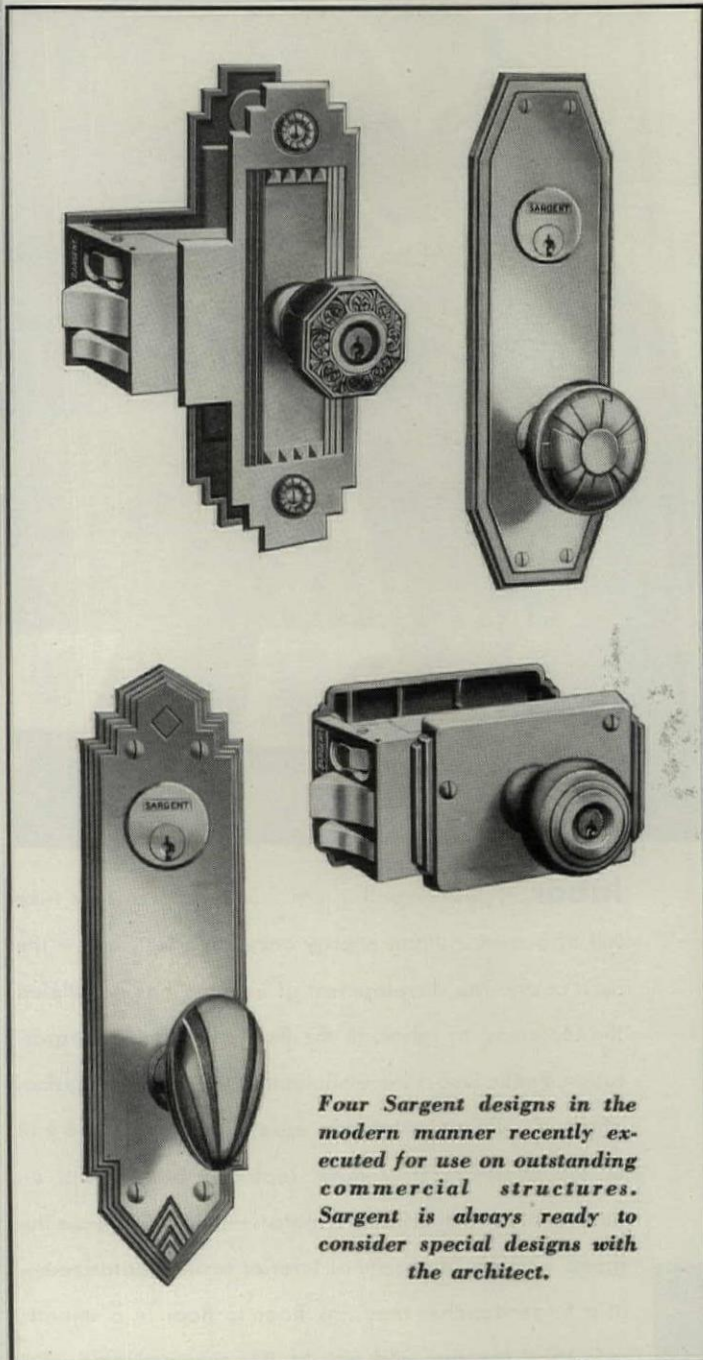
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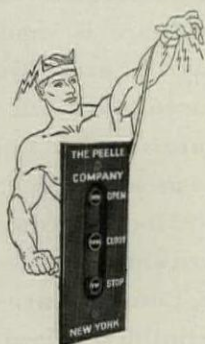
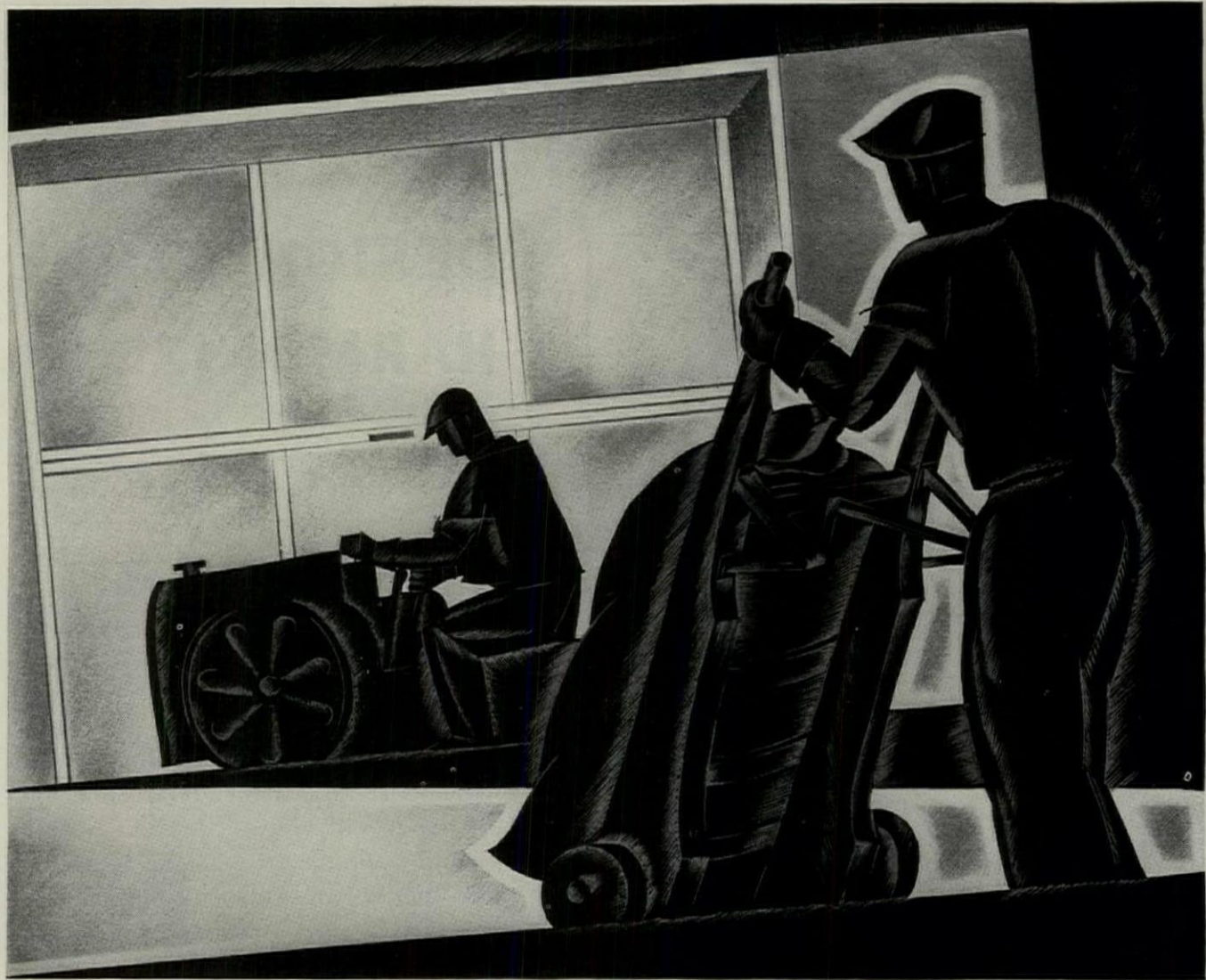


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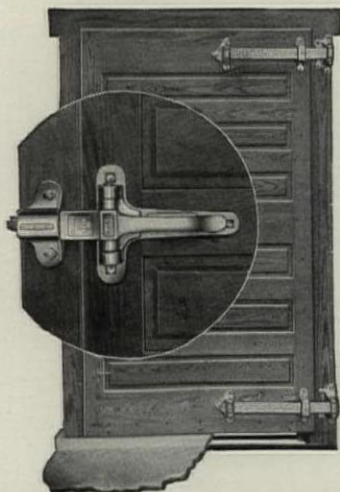
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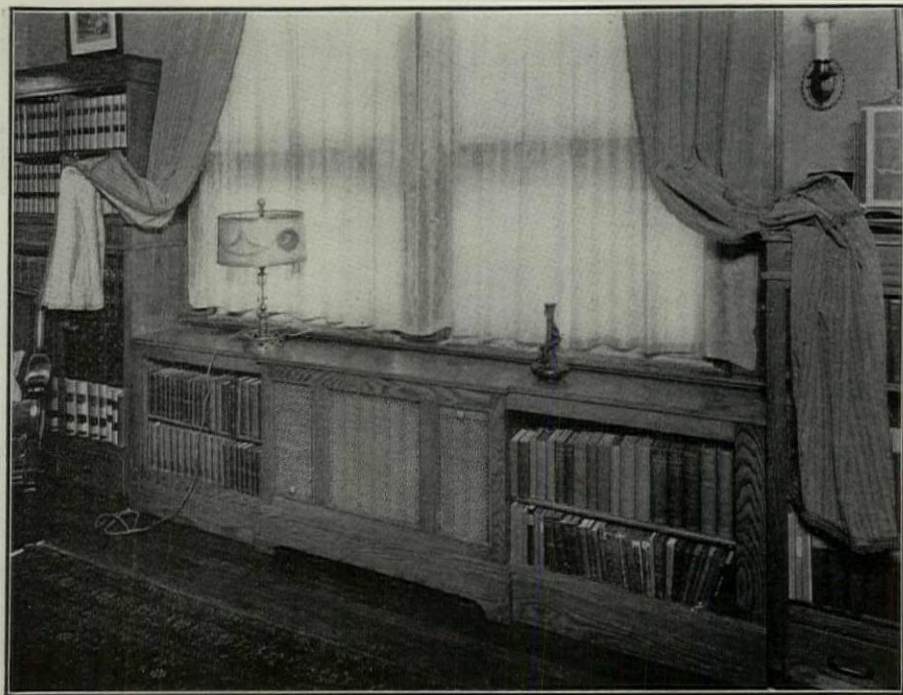
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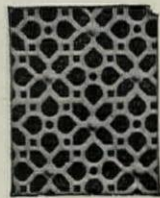
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IN OUR NOVEMBER ISSUE

OCCASIONALLY we find a man, not directly connected with the practice of architecture but in some closely allied field of activity, who can draw like a virtuoso. When his chosen field happens to be not one of the allied arts but the business of supplying architects with articles such as fine Colonial mantels and hardware we are a bit startled. Such an unusual man is Mr. J. I. Arnold, of Arnold and North of New York—one whose skill with pen and ink rivals that of the finest architectural draftsmen we know. We are privileged to announce that in our November issue we are reproducing a group of Mr. Arnold's drawings accompanied by a critical and philosophical discussion by Rayne Adams.

ERNEST IRVING FREESE, who has for some months been making squares, triangles, circles, and even such unusual geometric forms as tetrakisdecagons lie down, roll over, and jump through hoops at his command, turns his attention next month to the problem of laying out "extraneous" angles (which are simply angles not found directly or by combination with the ordinary 45 degree, 30-60 degree, or 22½ degree triangles). He is going to bring you an entirely new and general method of plotting any angle whatsoever with no instruments except your three triangles and your scale. You will not need a protractor, nor any trigonometrical tables—simply a little preliminary arithmetic. "And," says the author, "once you get the hang of it you'll sit up nights doing it just for fun!" The method is a working system of graphical interpolation that does away with decimal measurement entirely and gets the laid off distances into whole numbers. The results are so accurate that the "theoretical" deviation is graphically non-detectable by ordinary drafting methods. You had better add this accomplishment to your bag of tricks.

SPECIFICATION SCHEDULES are not used as commonly as they should be, nor as intelligently, according to Leonard Joseph of New York whose long experience with the problems of coordinating drawings and "specs" qualifies him to say a word or two on the subject. With his article in the November issue he will give layouts for four types of schedules which he has found particularly useful—schedules for Doors, Windows, Room Finishes, and Stairs. He says, "No operation is too small to benefit by the use of Specification Schedules and the need for them increases in proportion to the size and complexity of the building." Whether you are already using them or not you may get a few valuable pointers from this article on a practical drafting-room problem.

CONCRETE FLOORS for domestic use have decided advantages. Wyatt Brummit of Evanston,

Illinois, is sold on them and in our next issue he will tell you many practical things about how they can be successfully built. He will also suggest something of the scope they offer in texture, pattern, and color—which may add something to your vocabulary of design. And his ingenious and plausible theory concerning the domestication of concrete will, we hazard, stimulate a good many smiles to light up a dreary world which needs them.

IT HAS BEEN a long time since we published Professor Thomas E. O'Donnell's last article on the Ricker Manuscript Translation of Viollet-le-Duc's "Rational Dictionary of French Architecture," but we are, in November, continuing the series set aside last January. The forthcoming part deals with Volume VII of the famous document which even in these times of unrest is still used as a source of inspiration and sound architectural theory.

PHILIP G. KNOBLOCH begins in this issue a series of articles on specification writing which is going to be, we are sure, a real contribution to the discussions which have been running in our Specification Desk department. In November, and each month thereafter until further notice, he will take up in detail, with explanatory drawings, the various problems met with by the "spec" writer. You had better follow the series from the start.

AS FRONTISPIECE the November issue will have a reproduction of a striking aquatint by Geoffrey Wedgewood, an English etcher of distinction. The subject is a view, presumably from a studio window, across some roofs towards the backs of some houses in the next block. Not a very promising scene, you may think, but the artist has made of it an extremely interesting pattern of dark and light and a real picture. We think you will like it.

ROBERT LOCKWOOD is represented by one of the color plates for November; the other is from an anonymous hand. Lockwood's was not a very large drawing, but very rich in color, showing a residence in Beverly Hills, California, by Koerner and Gage, Architects. If it appeals to you, and we think it will, you will find on the back of the plate some valuable tips on the method employed by the artist. The other drawing, about which we were, by reason of its anonymity, unable to say so much, shows the new Greenbrier Hotel at White Sulphur Springs, West Virginia, for which Philip L. Small, Inc., was the architect. The original was quite large but even with the great reduction in size which was necessary the plate will be of value to the renderer as a suggestion for the treatment of long horizontal subjects.

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LET'S LOOK AHEAD

SUMMER, with its general let-down of activity, with vacations breaking up the routine of office practice, has passed unusually quickly, or so it seems to us. We hope that its passing has carried away with it the worst of the building depression. While things are not yet going full blast there are already signs that business is beginning to improve. Optimism is in the air. People are getting back to work. Projects abandoned after the stock market crash and those quietly worked up during the dull period are commencing to be talked about as though they were going ahead.

We hope that it is all true; that we are about to enter a period of at least reasonable prosperity, one which, though it may not yield wealth, will afford employment for all who need it and deserve it.

The most serious of all accompaniments to bad times in the field of architecture is, to us, the great number of draftsmen who are thrown out of employment. These men, trained for an exacting and specialized line of work, are not very readily or quickly adaptable to other businesses and, even if they were, the other businesses could not absorb many of them, nor could architecture afford to lose them permanently. They are the body and blood of the profession of which the architect is the heart and brain. From their numbers will come

many of the architects of the future. Their talents are an asset which should be protected and nourished.

No one has yet come forward with a successful plan to distribute architectural activity evenly over a period of time. We either have a peak or a depression in its curve. The man who could flatten it out to a horizontal line at an average distance above the axis of X would perhaps be the greatest of all possible benefactors.

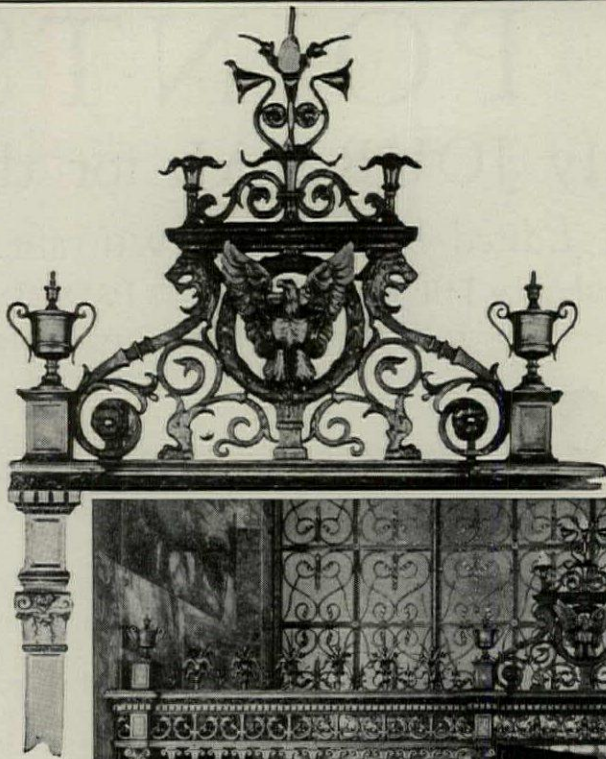
But, so far, he has not "ariz."

Architects generally, however, can work toward the betterment of the evil condition in several ways. First, they can carry on the fight to secure proper public recognition for the profession and proper compensation for their own services which will put them in a stronger financial position to tide over depressed periods. Then they can do some housecleaning within their own domains and put their accounting systems on the same basis as those of other businesses so that out of current earnings there will be laid aside a surplus for times of stress. Too many architects live from job to job, spending as fast as they receive so that their bank account has no chance to grow. When they run out of work temporarily there is nothing to do but cut down the office force. This benefits no one—the draftsmen are out of work and the boss loses valuable well-trained assistants whom he will need later.

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FEDERAL RESERVE BUILDING

CLEVELAND, OHIO

Interiors of Banking Lobby



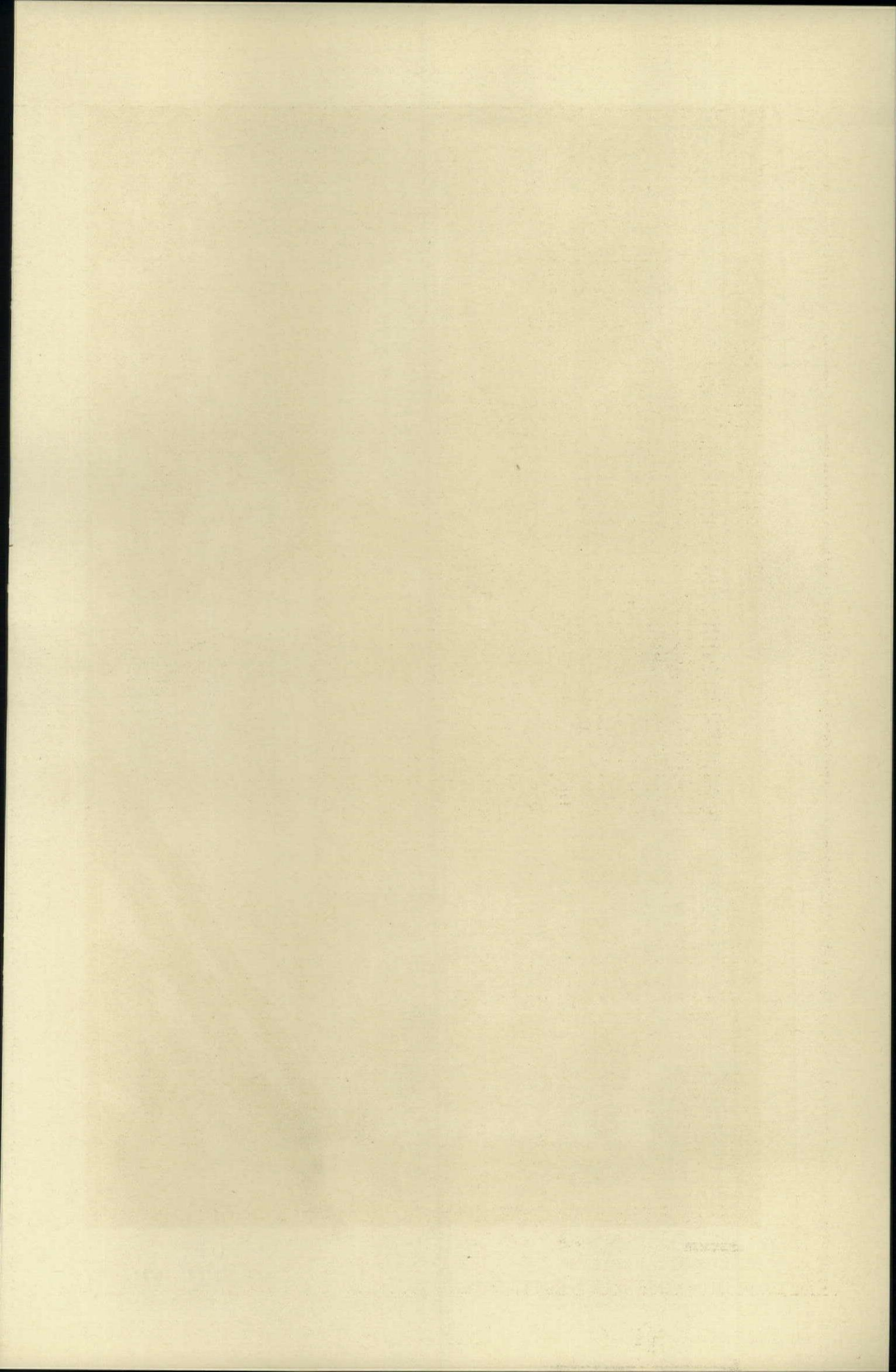
The side walls and pier facings in the Main Banking Lobby of this building are of Convent Sienna Marble, the floor—Tennessee. The barrelled ceiling is richly decorated in gold and color in the Roman manner. Lobby bays between the piers are screened with Iron grilles. Each bay, a private space adjacent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

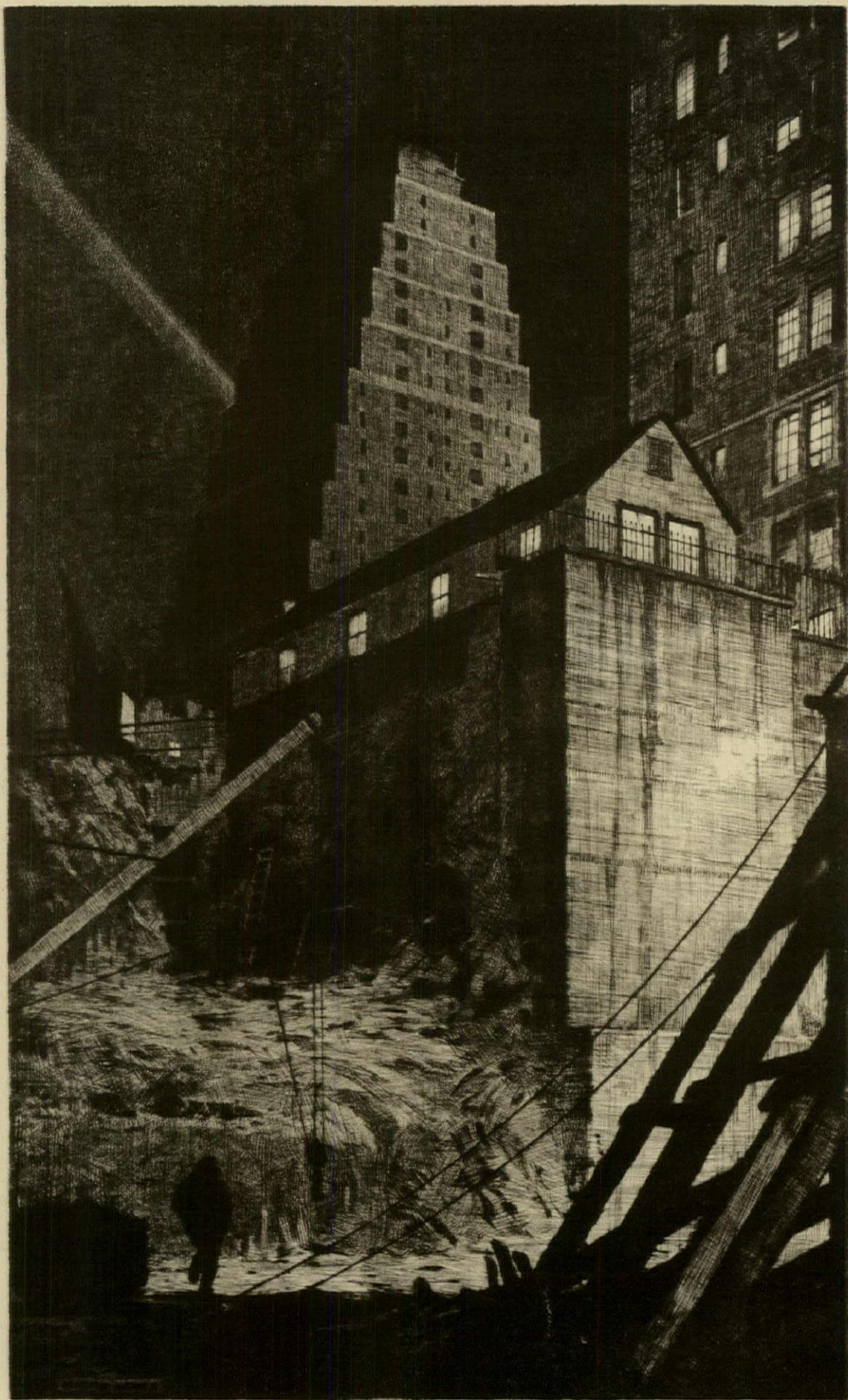


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BUILDING A BABYLON
FROM A DRYPOINT BY MARTIN LEWIS
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PENCIL POINTS
October, 1930

PENCIL POINTS

Volume XI

October, 1930

Number 10

AN EARLY MASTER OF LITHOGRAPHY

EUGÈNE ISABEY

THE NAME OF Eugène Isabey occupies, in the fields of lithography, a place second to none. For richness of composition and delicacy of draftsmanship his works in the medium have never been surpassed. We are privileged to reproduce, on the succeeding eight pages, some of the prints made by this master during the first half of the 19th Century beginning about 1829 and we feel sure that every lover of fine drawings will find them filled with interest and inspiration.

Isabey's first works were included, with some by other artists, in *Croquis par Divers Artistes*, and in *Voyages Pittoresques et Romantiques dans l'Ancienne France*, published by Taylor, Nodier, and Cailleux. Those of the country of *Auvergne*, shown here, were included in the latter series. The *Souvenir de Bretagne* shown on page 778 was done about two years later in 1832. The one reproduced below is one of his finest prints—in the words of Atherton Curtis, who has made a study of Isabey's work, it is "one of the masterpieces of lithography . . . not a sketch nor a hasty drawing, but a picture as grand and beautiful as if it had been done in color."

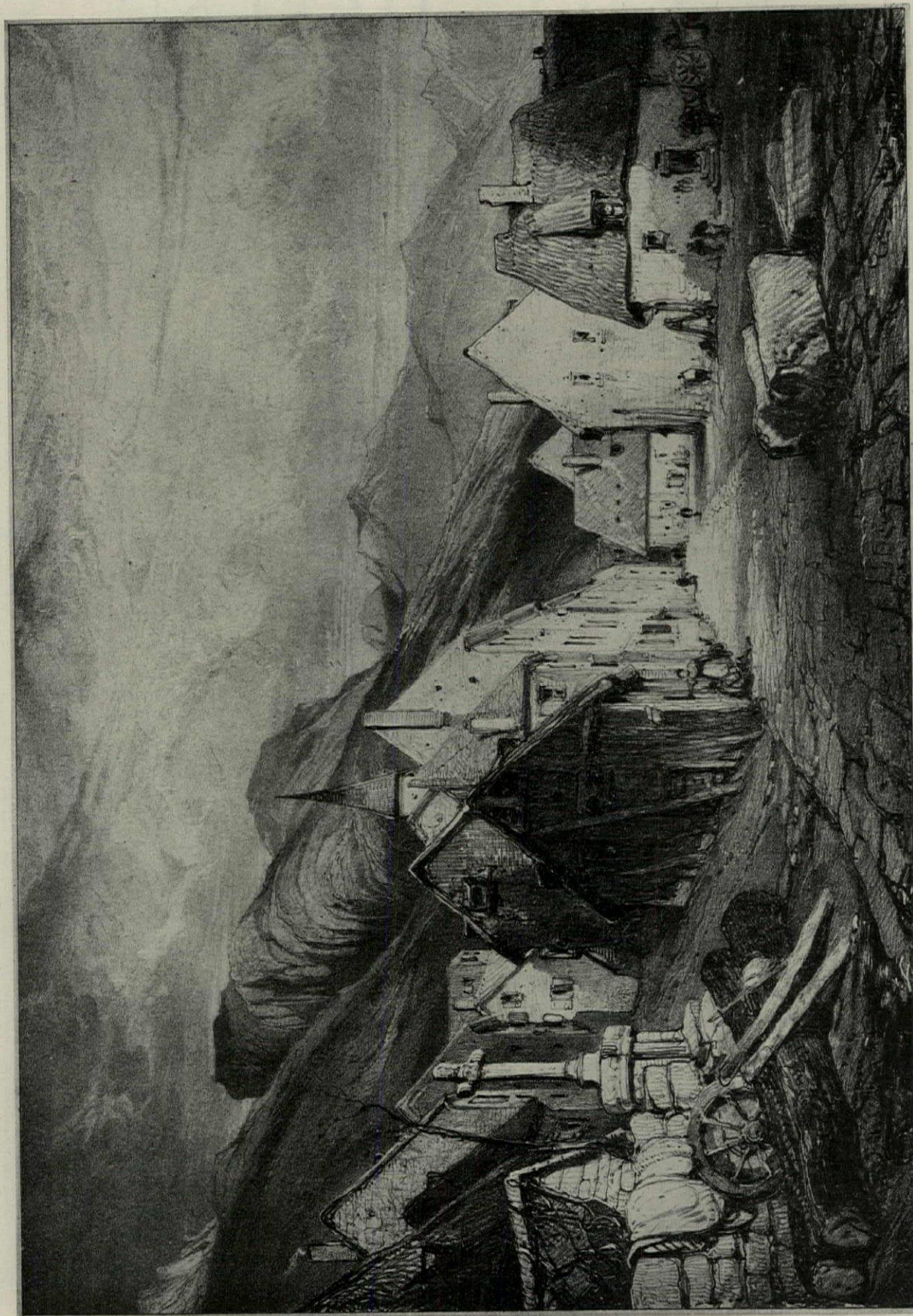
The late Germain Hédiard, who perhaps best ana-

lyzed the work of Isabey, said of him in a monograph published in 1906, "He has an incomparable *brio* of execution. No professional lithographer has lithographed better than he, nor drawn more surely on all the resources of the medium. Ordinarily he limits himself to the employment of the simplest means. But we have seen him at need experimenting according to all the receipts, and acquitting himself triumphantly. Whatever the process he uses, he causes it always to yield that glittering, iridescent, nacreous light which is peculiarly his own, those grey whites as vivid as pure whites, that coloring, a little artificial, but so distinguished, which, as a painter, he spread like a charm over his canvases and his water colors. No one before him, not even Bonington, whose merit is due to other causes, gives proof of the supreme skill; no one has refound his secret. He was the virtuoso of lithography." This is praise indeed, but no one, looking at even his lesser works, can deny that it is merited praise. Poor as these reproductions may be as substitutes for the originals they speak eloquently of a sensitive and searching draftsman who could feel the poetry of nature and express it with superlative ability.



"BRICK ÉCHOUE"—LITHOGRAPH BY EUGÈNE ISABEY

Size of original, $7\frac{3}{4}$ " x $5\frac{1}{2}$ "



Courtesy of E. Weyhe

"ENTRÉE DU VILLAGE DES BAINS, AUVERGNE"—LITHOGRAPH BY EUGÈNE ISABEY

Size of original 12 1/2" x 8 3/4"



"GORGE DE ROYAL, AUVERGNE"—LITHOGRAPH BY EUGÈNE ISABEY

Size of original, 11¼" x 7"

Courtesy of E. Weyhe



Courtesy of E. Weyhe

"RUINES DU CHÂTEAU DE BOUZOLS, PRES DU PUY EN VELAY, AUVERGNE"

LITHOGRAPH BY EUGÈNE ISABEY

Size of original, 9¼" x 10¾"

AN EARLY MASTER OF LITHOGRAPHY—EUGÈNE ISABEY

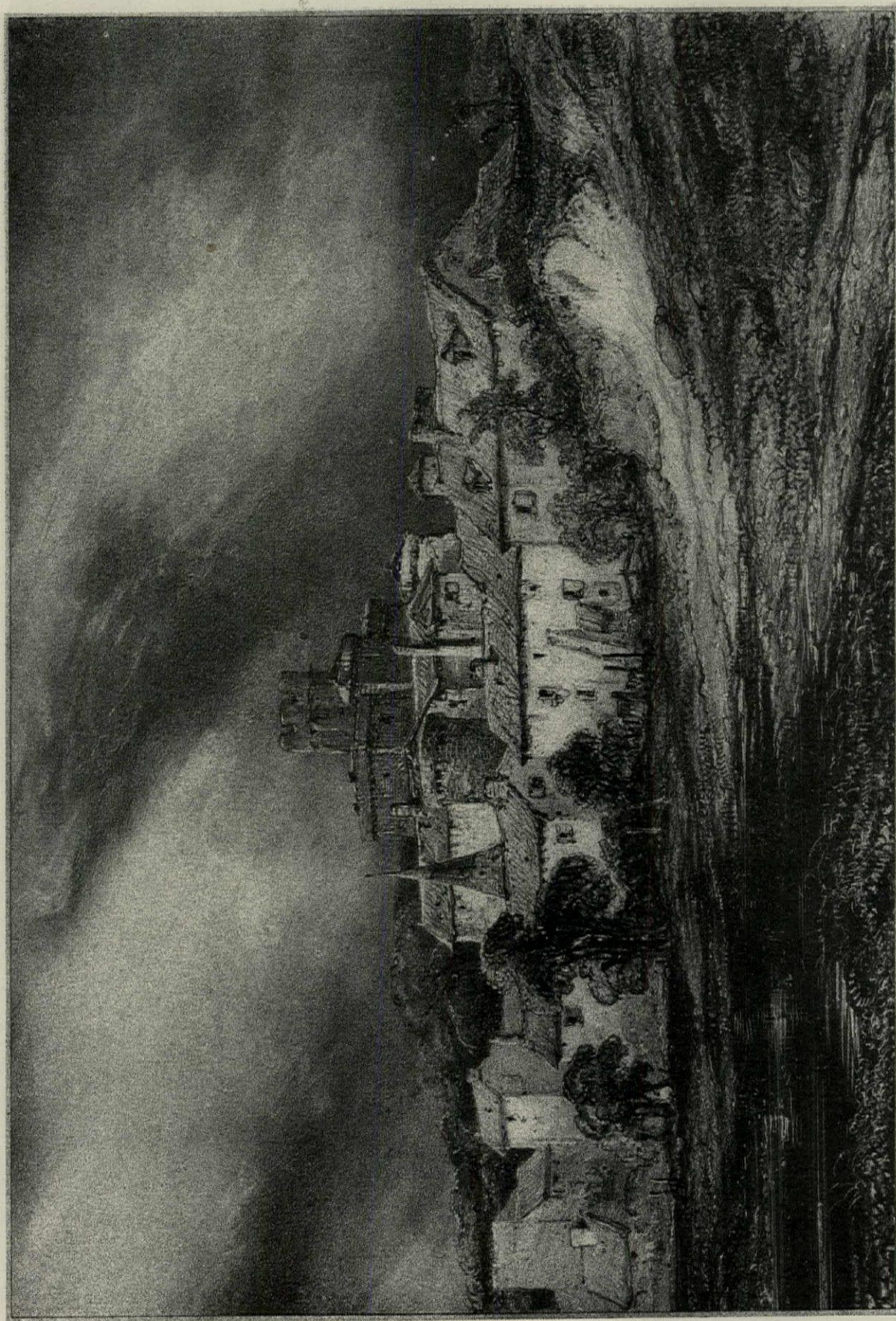


Courtesy of E. Weyhe

"ABSIDE EXTÉRIEUR DE L'ÉGLISE DE SAINT-NECTAIRE, AUVERGNE"

LITHOGRAPH BY EUGÈNE ISABEY

Size of original, 9" x 11"



Courtesy of E. Weyhe

FROM A LITHOGRAPH BY EUGÈNE ISABEY
CHÂTEAU DE PONT—GIBAUD, AUVERGNE

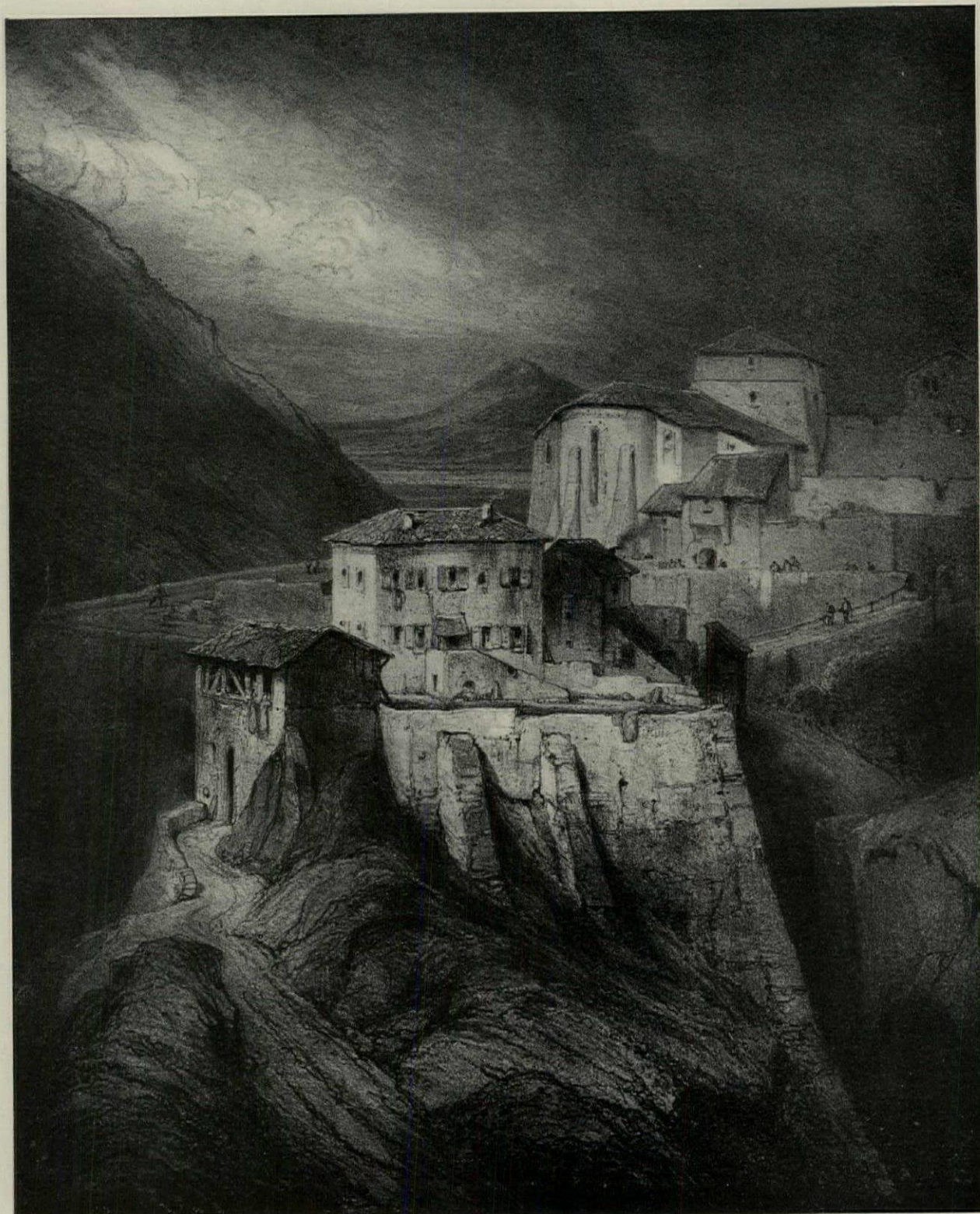
AN EARLY MASTER OF LITHOGRAPHY—EUGÈNE ISABEY



Courtesy of E. Weyhe

"SOUVENIR DE BRETAGNE"—LITHOGRAPH BY EUGÈNE ISABEY

Size of original, 7¾" x 10¾"



Courtesy of E. Weyhe

"ÉGLISE SAINT JEAN, THIERS, AUVERGNE"—LITHOGRAPH BY EUGÈNE ISABEY

Size of original, 11" x 13¾"

THE ARCHITECT AND THE BUILDER

By John C. Hegeman

President, Hegeman-Harris Company

EDITOR'S NOTE:—*This article, by one of the leading builders of this country, who has worked in close harmony with many of our most successful architects on important buildings, should be of particular interest to all who are interested in the development of cooperation in the building industry.*

THE RATHER depressed condition of the past three years in the building industry has, it seems, brought about at least one favorable development in the relations between the architect and the builder. It has brought about a clearer understanding that the interests of all engaged in this industry, architect, engineer, builder, and manufacturer, are so intimately interwoven that they all share in the burden and the worry which slack times have caused.

The time has gone by when any of these parties to a building operation can successfully fulfill his functions without cooperation with the others. In what I have to say in this article, therefore, I shall try to point out some of the points of contact where the builder can be of especial service to the drafting room of an architect's office, his function being rather that of a construction consultant than that of the old-fashioned general contractor.

When an architect is commissioned by an investor to prepare plans for a building, his first study necessarily is directed to the purpose of the proposed new building. This study will include careful survey of the site and adjoining land so that when he comes to laying out his building he will be fully advised as to the nature of the plot and the various conditions he must know to prepare his sub-surface drawings.

Assuming that the preliminary studies have developed a scheme for the new building, design, structural layout and materials, the architect is then immediately confronted with the very important and essential question of costs. In these days of competition in the real estate field the question of costs must be a major consideration because, whether the building be intended for rental or for occupancy by the owner, the outlay must be closely related to the revenue from rentals or the appropriation for occupancy. If the costs are off balance the job may be a source of loss to the owner.

Very often the line between profit and loss in a given construction venture is marked by a few cents variation either way in the cubic foot cost of the building. Thus, an office building may be designed and specified in such a way as to meet the approval of the owner as well as the uses for which it was intended and yet, when the rate of rental comes to be established, to insure a proper return on the investment, the costs may be so high as to make the space prohibitive for the class of tenants for whom the building was intended. The same situation may arise in the building of apartments, stores, or factories because investment must carry a certain return. If that return cannot be obtained because costs are excessive, the building will be a failure.

The construction consultant is concerned directly

and constantly with the problem of costs. The success of his business, both financial and in the way of good will, depends entirely upon his ability first to establish proper costs of a given operation and then to build the job complete within the figure he has estimated. He is in constant touch with the market; he knows the variations which given types of construction may develop under different conditions; he has had experience in the substitution of certain materials for those under consideration to get an equally good result at less cost; and often, as a result of some peculiar experience on other work, is in a position to suggest alternative details or structural forms that may substantially reduce the cost.

The architect nowadays has a vastly more difficult task in designing buildings than the architect of a generation ago. Everything is on a very much greater scale today. Land values in the cities are so high that every inch of possible revenue producing space must be incorporated in the building. At the same time, competition requires that design and layout shall be distinctive and artistic. It has come to pass, therefore, that the creative imagination of the architect has a far wider scope than it ever had and yet the designer is hedged about by problems of cost that never concerned the architect in days gone by. The traditional organization of an architect's office did not provide for cost accounting and very few present-day architects have the time or the inclination to change office practice in this regard.

As a matter of fact, there is no need for the architect to concern himself with this problem since in every locality there are builders who are competent by experience, education, and organization to advise him on this question and save him from the drudgery and responsibility which this question involves. This new type of builder or, rather, construction consultant will be able to make an accurate survey of the costs of a given set of drawings as the architect conceives them and advise the architect definitely so that when he presents his drawings to his client his statement will include a full estimate of the cost, not only with reference to various details but with reference to the whole proposition. The properly organized builder should also be able to prepare an analysis of the proposed building which would include not only estimates of cost but also a budget carrying forward all the important items of construction. Then, when the owner comes to make his decision, he will be fully advised as to the cost and can check probable income against cost and be advised with reasonable accuracy in advance as to whether or not his investment will be profitable.

My own experience in this comparatively new field of the builder has been quite broad and it may be of interest to cite a few examples, without mentioning names, of course, where our company was called in by architects under conditions practically as I have outlined above. Our company always has operated under the cost with a fixed fee form of contract and we always have regarded the architect as our sole source of business. Practically all of our business has come to us in such form that the architects have found it advantageous to call us in early in the project and to turn over to us the task of figuring costs and working up a budget. We have done a great deal of work for one of the larger universities, for instance. It is the practice of this university to appropriate certain sums of money for a given building or group of buildings as a result of which the architect has been required to lay out his drawings in such a way as to obtain the best results for the money to be spent. We have worked very closely with the architect for this university. He has made it his practice to send for us when certain drawings were available and direct us to make a full estimate of the cost. This estimate would be based not merely upon our own judgment but usually we actually took figures in the market so that when we presented our estimate to the architect it was an accurate survey of the probable cost. Very often as a result of this service the architect changed either design, structural form, or certain items of materials because the indicated figure showed that the cost would be excessive for the purpose intended.

This service was continuous until the architect was satisfied that the desired building could be built for the money available. Thereupon a budget would be prepared against which construction operations were carried on and duly checked at frequent intervals so that the architect and his client were always in a position to determine costs in relation to budget as the work went along. The result was that this university was always in a position to know what its construction costs were and usually we were able to save considerable money which could be devoted to equipment and other expenditures.

Cooperation between the drafting room of the architect and the organization of the builder is important in many other directions. For example, an owner may require completion of a building to meet a set time of occupancy. This means that time saved is money saved and therefore the builder may be called in to start construction operations immediately the general scheme and design of the building have been approved. This situation often develops in the case of a large company which decides to build its own office building with the expiration of a lease impending. The modern builder is organized to step into the breach in such a situation and begin his work with the completion of the sub-surface plans. We have built many large

office buildings under such conditions proceeding floor by floor as the plans came from the architect's drafting room, the final drawings only preceding the completion of the superstructure by a few days.

By this method sometimes as much as two months can be saved in the completion date. This is made possible by the complete cooperation between the two organizations.

The architect, a professional man, also finds the builder, a business man, useful when he comes to decide questions that deal with the business side of his work, bearing in mind that the builder's success depends upon his familiarity with methods and materials employed by the most successful in his field. Thus, the up-to-date builder will soon learn of any new device or short-cut developed by a competitor and will often be able to suggest a practical method that will produce real savings without impairing the design or detail conceived by the architect.

Again, the builder, always watching his market, will be in close touch with local conditions—the labor situation sometimes is different even in certain sections of a big city—and knowledge of these variations will be advantageous in presenting the architect's recommendations to his client. This same contact with the market will enable the builder to advise the architect with reference to special conditions in the material situation—often there will be an unusual trade war going on in the very territory where the new building is to be located which will offer fine opportunities for "good buys" in certain materials.

Experience covering many years and dealings with many architects on part of the builder offers many chances for the architect to call upon him for special investigations and surveys which his own facilities and experience do not reach. For instance, the architect may have under consideration certain specifications calling for special designs and dimensions. It may be and usually is possible for the builder, acting under the direction of the architect, to find a practical way of employing standard or stock designs and sizes which will simplify and greatly reduce the cost of the design or detail under consideration.

It is my sincere belief that the day is fast approaching when the architect generally will call upon the builder as a matter of course when he is commissioned to prepare plans for a new building. Of course he will exercise prudence and care in the selection of his builder so that the right man or firm will be selected. When that day comes I believe that many of the bad conditions in the building industry, from which all are suffering, will disappear. The contractual relations between owner, architect, and builder will be based upon trust and confidence and all can and will work for the common purpose, which is the completion of the job with sound workmanship, in the shortest possible time, for the least possible cost.

DESIGN IN MODERN ARCHITECTURE

8—METAL WORK

By John F. Harbeson

"LES IMPORTANTES ferronneries, sont, comme toutes les œuvres qui se rattachent à l'art décoratif, influencées par le goût du moment, par cette fantaisie vagabonde et capricieuse qui s'appelle la mode. . . . Mais elles continuent aussi les traditions nationales de notre grand artisanat, traditions de goût, de luxe et de beau travail, affirmées par des compositeurs féconds, par des novateurs hardis et par des techniciens que ne rebute aucune recherche. . . . Rester moderne, c'est savoir maintenir son art en le renouvelant." — GABRIEL HENRIOT, *"Ferronnerie du Jour."*

Contemporary architecture has proved a fertile field for metal work, especially work in iron; nothing sets off so well the large bare wall surfaces of modern construction, devoid of cornice or band moulds, of pilasters or panels, as metal work. In fact metal work is replacing to a large degree the woodwork that formerly filled in the openings in the masonry, either as window construction or as grilles—it lets in more air and light, and is less subject to deterioration. In balconies and lanterns metal work breaks the monotony of the plain surfaces of big buildings; inside, stair railings give an excuse for interesting work, which depends for its effect rather on the long oblique lines with easements at the change of pace than on any scheme of ornamentation. Interior grilles, metal radiator screens, and lighting fixtures are all, properly, metal problems, as is small furniture, especially for the conservatory, the sun porch and the terrace.

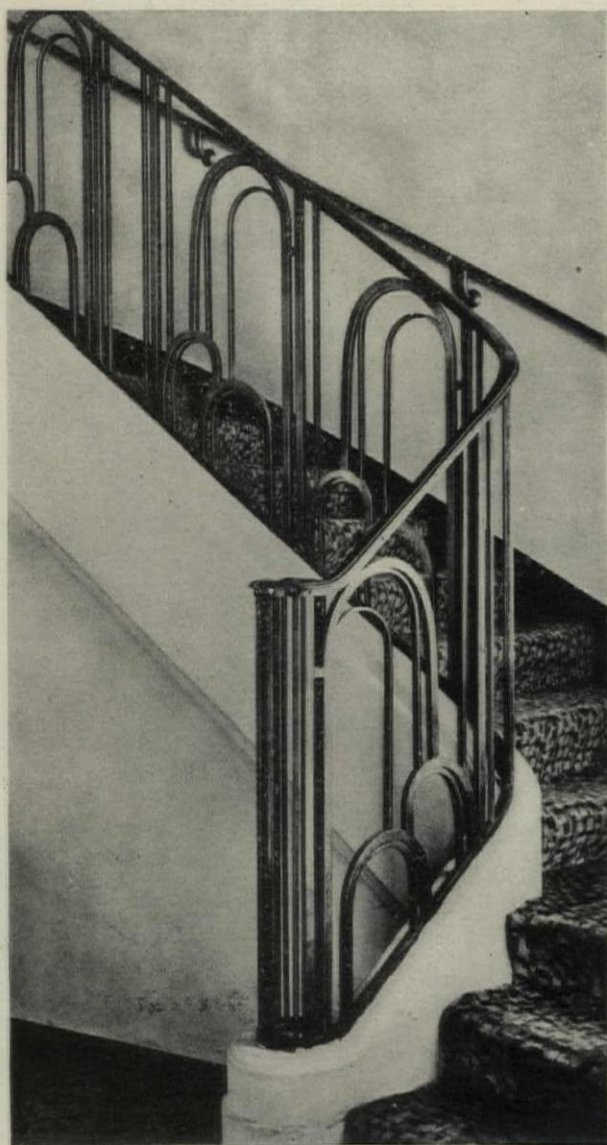
Such work has always been called "art metal work" if beauty of form and decorative effect are the first considerations, irrespective of whether

the object is intended for use or is largely ornamental. From an examination of modern work, it is evident that metal work, and more particularly ironwork, is assuming a more and more important role in the decoration of the residence—whether house or apartment—than it has in past times.

In the latter part of the last century metal work in general was at such low standard in general practice, both as to design and as to handiwork, that there was a strong movement, largely endorsed by architects, to attempt a revival of the guild spirit in crafts work. These architects, furious, but helpless, before the prevalent poor workmanship done in most of the trades, hoped to bring back some pride of craft, and some decent execution, by instituting awards and other recognition to men who would take the trouble to finish a piece of work well.

Labor is expensive—more so than ever before—and such care in execution as was demanded meant a prodigal use of time; hence such craftsmen as developed under this stimulus, doing really beautifully executed work, asked prices that seemed very high when compared to machine work. As ironwork had sunk to a lower artistic level than the other metal trades, it felt all the more keenly this incentive to improvement, and work resulted that was unquestionably the equal of the pieces made by the best ironworkers of the Middle Ages and Renaissance—at which period, of course, time was of comparatively little value.

By these modern master craftsmen, a complicated piece was lovingly forged out of an iron bar by successive blows, and without the use of any labor-saving machinery,



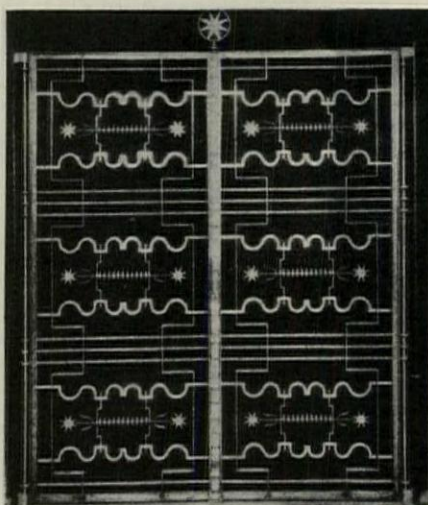
STAIR RAILING BY SCHENCK AND SONS—
DESIGNED BY MONGEAUD ET MARIC

A repeating motif of curves with the same study of the relation between void and solid as in good lettering.

when that could be avoided.

Naturally architects whose clients could not or would not pay the higher costs of such handwork attempted to get the same results by using less skilled artisans, and trying to get the appearance of skilled work by clauses in the specifications. Any workman who had been employed, even for a short time, by one of these masters, could set up a shop, and easily get work, by saying he could do just as good work as the master—and at a considerably lower price. One architect drew up a specification, calling for a piece of work to be "all hand wrought," specifying a definite number of hammer marks to the square inch.

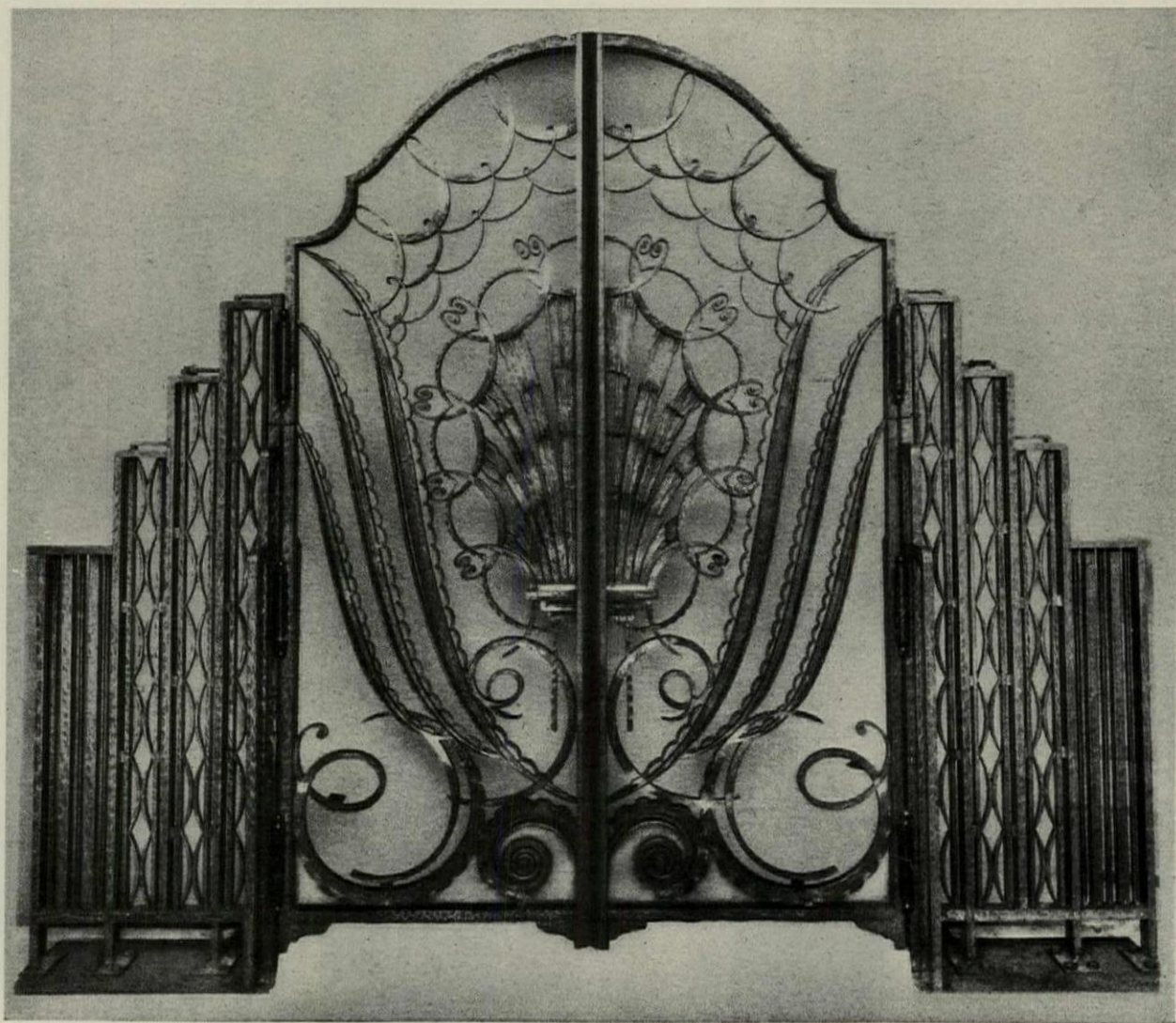
This crafts movement was of course accompanied by a study of



INTERIOR GRILLE—
"LA ROSE DES VENTS"—
DESIGNED BY GILBERT POILLERA
*Modern, geometrical, but with much of
the spirit of the Empire period.*

documents and museum pieces, which led to an eclecticism, an insistence on the so-called styles; design was distinctly secondary to workmanship; there was an over-emphasis on virtuosity—and praise was given for reproducing effects of nature or of the other arts, work being done that attempted to compete with the work of the brush and the chisel.

But while a few clients can pay for good craftsmanship done at the cost of many hours of highly paid handwork, and some architects have designed beautiful creations depending upon such expensive craftsmanship, this movement could not, by reason of this dear-ness, touch more than a very small proportion of the metal work being done.



INTERIOR GRILLE OF WROUGHT IRON ON THE STEAMER "ILE DE FRANCE," BY RAYMOND SUBES
*A combination of the geometrical with the free flowing forms so characteristically French—
remining one of the Louis XV work.*



WROUGHT IRON VASE BY RAYMOND SUBES

An interesting use of primitive motives in a very sophisticated design.

The modern movement in iron understands the fundamental anachronism of high-priced hand labor in this mechanistic age. When every employing agency is endeavoring to cut down the number of hours of the working class, and at the same time to raise its wage, it is natural that the building arts must do their part in adapting themselves to modern times—to adapt themselves to make use of labor-saving devices, at the cost of sacrificing some of the best of the surface technique. Consequently the modern craftsmanship is more insistent on design of good composition and line—design that will look well even if the surface finish leaves something to be desired, if much of the metal is shaped by labor-saving machines, if some use is made of casting, or other quantity production method, for repeating motives. This is a complete reversal of the one-piece at a time handwork of the guildsman ideal—but it is suited to our times.

There were those—both clients and architects—who, when the movement toward reviving the old crafts spirit was at its height, and fine arts medals were being given to master-craftsmen, wanted to use the material in fashion—wanted to have the appearance of wrought iron—and yet had innate objections, being practical men, to a metal that would rust. Therefore there were “wrought iron” bank screens made of bronze, but with a surface texture and a patina to simulate wrought iron, and residence balcony and

stair railings made of Monel metal, a rustless metal rather difficult to work, but finished so as to have all the surface indications of wrought iron—at far greater expense. The results were often very beautiful, even if the expense was not justified, but there was left in the mind of the creator that twinge of conscience at having assisted in a sham.

But this search for a rustless iron led to an interest in various metals, and alloys of metals, and present-day architecture makes use of all these—bronze, iron, copper, lead, and German silver, and also aluminum, and the many different alloys of aluminum with copper, nickel, chromium, and zinc. Not only this, but these metals are used in combination in one design. Edgar Brandt, who is perhaps the best, and the best known, of contemporary designers in metal, has used on some of his most successful work a design in which part of the pattern is made by the change in color from iron to white metal at focal points, or white metal is used as an accent in bronze work.

As it was economically impossible for our age to make a real success of craftsmanship in the sense of the handwork of past ages, the emphasis has been placed on design, and as the designer knows he



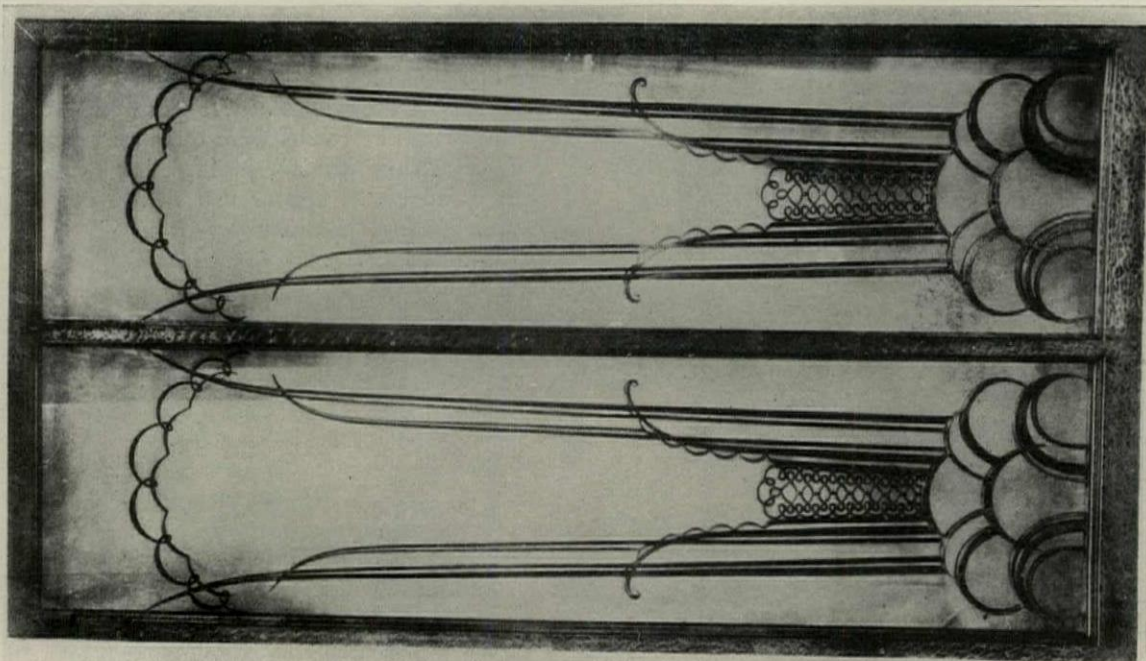
VASE OF WROUGHT IRON BY RAYMOND SUBES

Except for the bottom, this has all of the craftsmanship of former times.



LEFT—CHAPEL
DOOR OF THE
STEAMSHIP
"ILE DE FRANCE,"
BOUWENS DE
BOIJEN, ARCHITECT

*The geometrical and
naturalistic move-
ments in modern
design successfully
combined.*

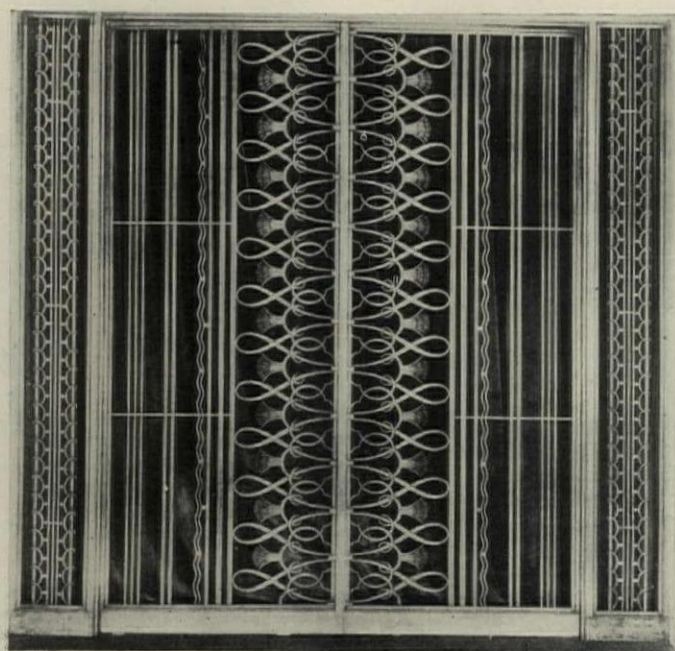


RIGHT—GRILLE BY
RAYMOND SUBES

*An exquisitely com-
posed work with all
of the grace of the
French art of two
centuries ago.*

cannot expect craftsmanship, he does not depend upon it for his entire effect. Modern work therefore uses all means to achieve a design; and cast work, for elements that repeat, is used in conjunction with the elaborate curls and rolls of wrought iron, repoussé work, and work cut out of the sheet; and change in metals is frequently resorted to, the selection of what metal to use in any part of a design being on the qualities of that metal, whether in surface, in the ways it can be worked, or in color.

There is, as in all phases of design today, a large use of geometrical work, and less of the free flowing naturalistic curves of former years, though in small motives of decoration natural forms of great elaboration are still



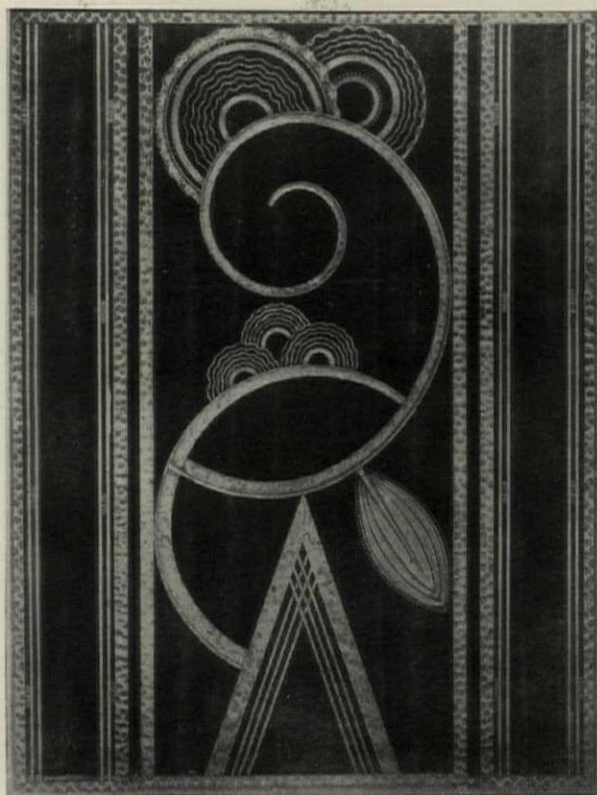
INTERIOR GRILLE IN IRON BY RAYMOND SUBES

This grille designed by one of the best contemporary craftsmen is an inspiration from the Greek, but the design is distinctly "modern."

used, calling for the greatest amount of metal-working skill. But the main characteristic of modern metal work is that it depends on design, rather than on execution, for its effect.

The examples of metal work here shown are of an elaborate nature: it is only natural that the most interesting work of the best craftsmen is chosen when space permits showing but a few illustrations. Yet this is far from giving a true picture of all of the metal work of the modern movement. For there are many architects, especially those of Le Corbusier's school, who believe that such

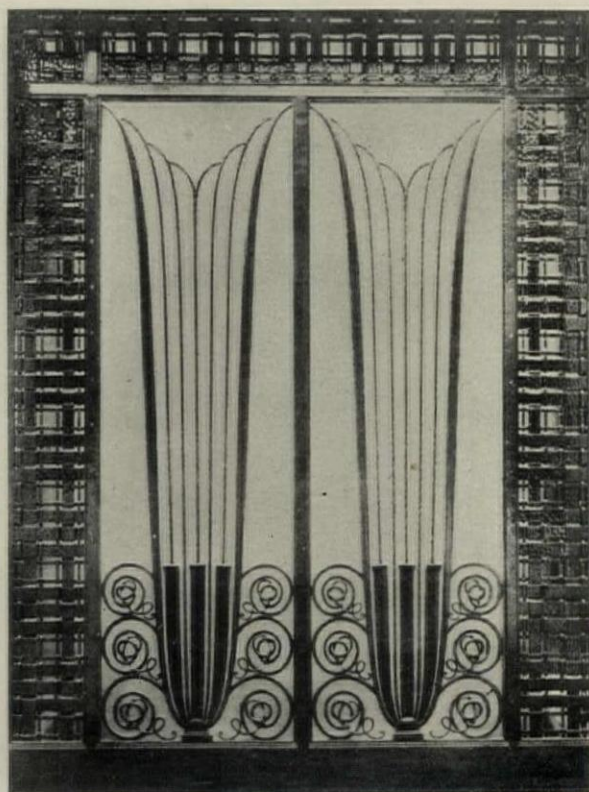
metal work as is used should be strictly "functional," and work designed by these architects is, for the most part, of plain bars, quietly arranged.



From "La Ferronnerie Moderne"

RADIATOR GRILLE BY PAUL KISS

With the seeming naïveté of a child's drawing but composed by a masterly hand.



ENTRANCE DOOR IN IRON BY RAYMOND SUBES—
H. SAUVAGE, ARCHITECT

Here the geometric motif is more insistent; modern art in the crafts is usually far from being dry.

PENCIL POINTS FOR OCTOBER, 1930

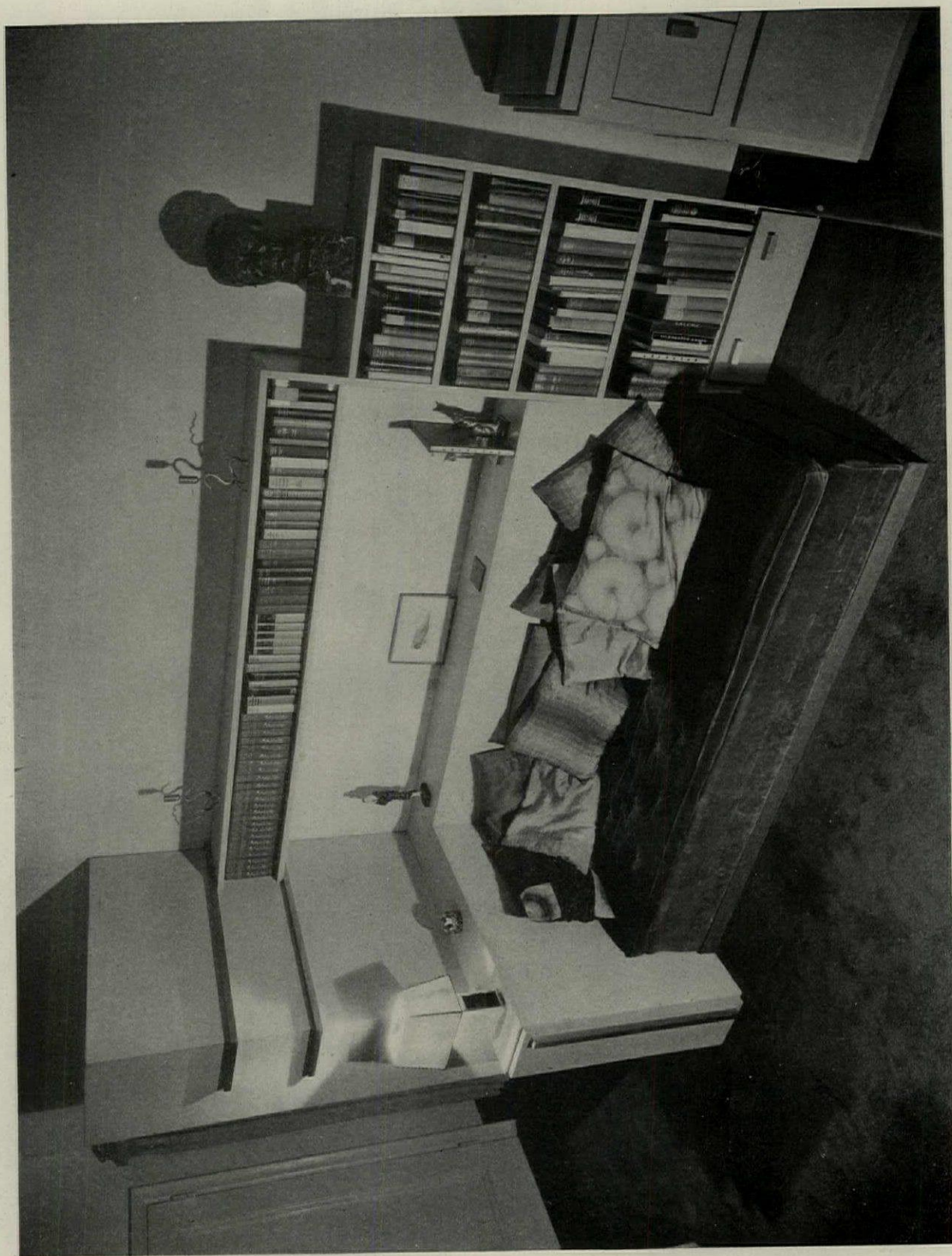


Photo by Peyser and Patoig
LIBRARY AND DIVAN COMPOSITION—A SMALL MODERN APARTMENT DESIGNED BY JOHN VASSOS

A SMALL MODERN APARTMENT

DESIGNED BY THE ARTIST FOR HIS OWN USE

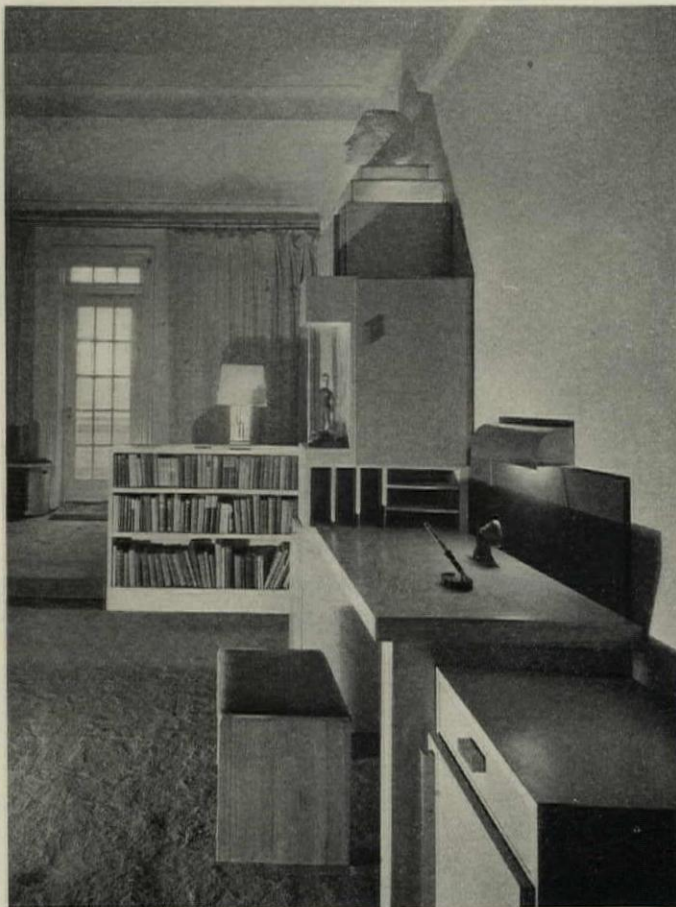
By John Vassos

EDITOR'S NOTE:—We present here what we believe to be an example of a sane, logical, modern interior. Comfortable city life for a young couple is admirably provided for in these rooms where everything is worked out in an orderly restful way. As the author and designer of the apartment suggests, there seems no reason why adequate and practical furniture, such as is shown here, cannot be designed and built when the apartment is erected.

SINCE IT IS our privilege to be the most efficient people who have inhabited the earth to date, it is this motivation that causes the true modernist to eliminate all unnecessary detail in attaining a practical—and by reason of its intense practicability, a beautiful—result. Floor space is expensive in large cities and the luxury of apartments or houses with eight or ten large rooms is not for many. Therefore we put our inventive minds to work to create interiors comfortable, livable, and spacious in effect, with only a limited floor space. My living room has a floor space 15' x 23'. In this room at one end is my dining table and small bar, another wall has a working study with a large desk, there is a sun lounge—and there

are over 500 books in the room. All this with no effect of crowding, in fact an actual feeling of space. This is accomplished, first—because the furniture is architecturally planned and appears as part of the walls, and second—because the color tones are neutral, though warm, beiges. The floor is carpeted in plain deep beige chenille, the walls are a flat, almost dead, white. The north end of the room with the river view has a four-inch platform built across it, giving the effect of a separate room. The flat top surfaces of the architectural furniture are used for sculpture, bronzes, etc., all forming a part of the whole general design, while low tables are used for articles of use, such as cigarettes, ash trays, magazines, etc.

To avoid chaos in my architecture, I am an apostle of verticalism; I have used squares and parallel verti-



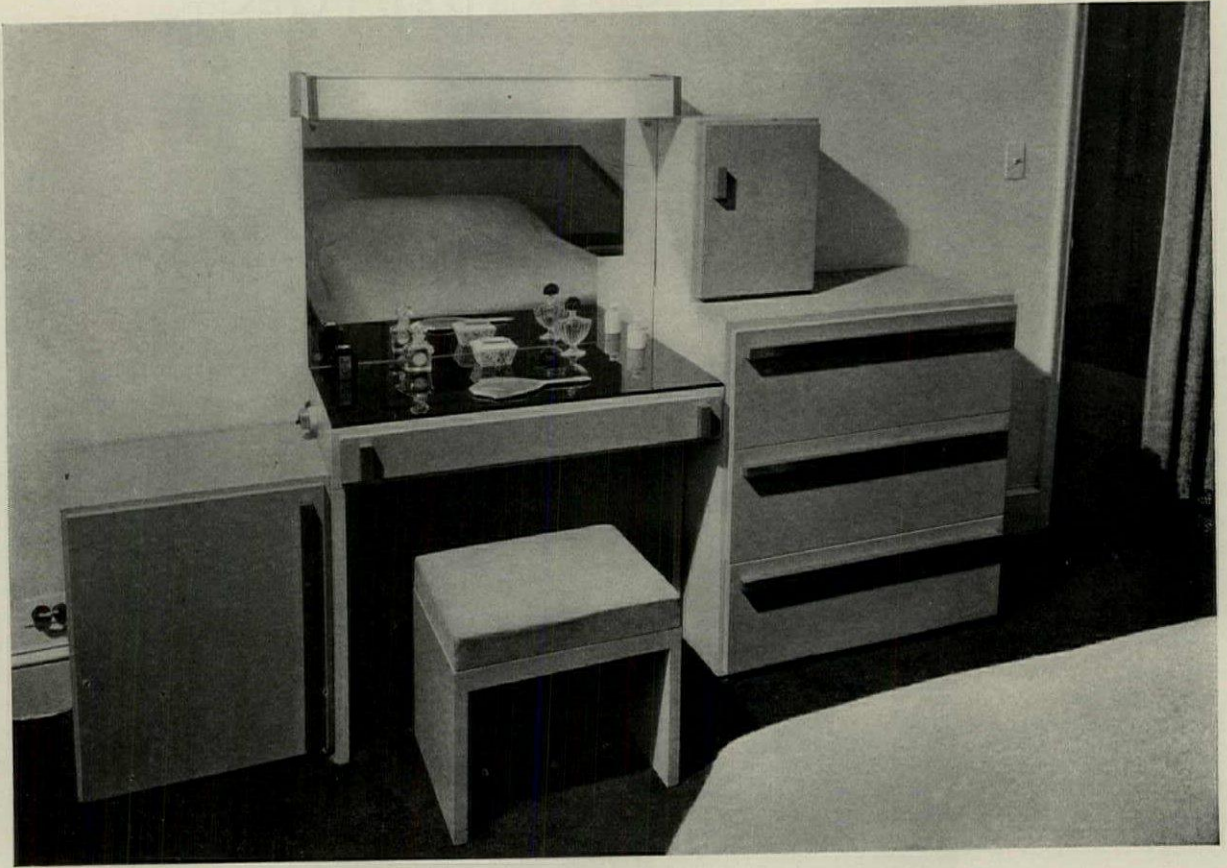
DESK UNIT WITH DOORWAY TO TERRACE
IN THE BACKGROUND

(See detail on page 792)

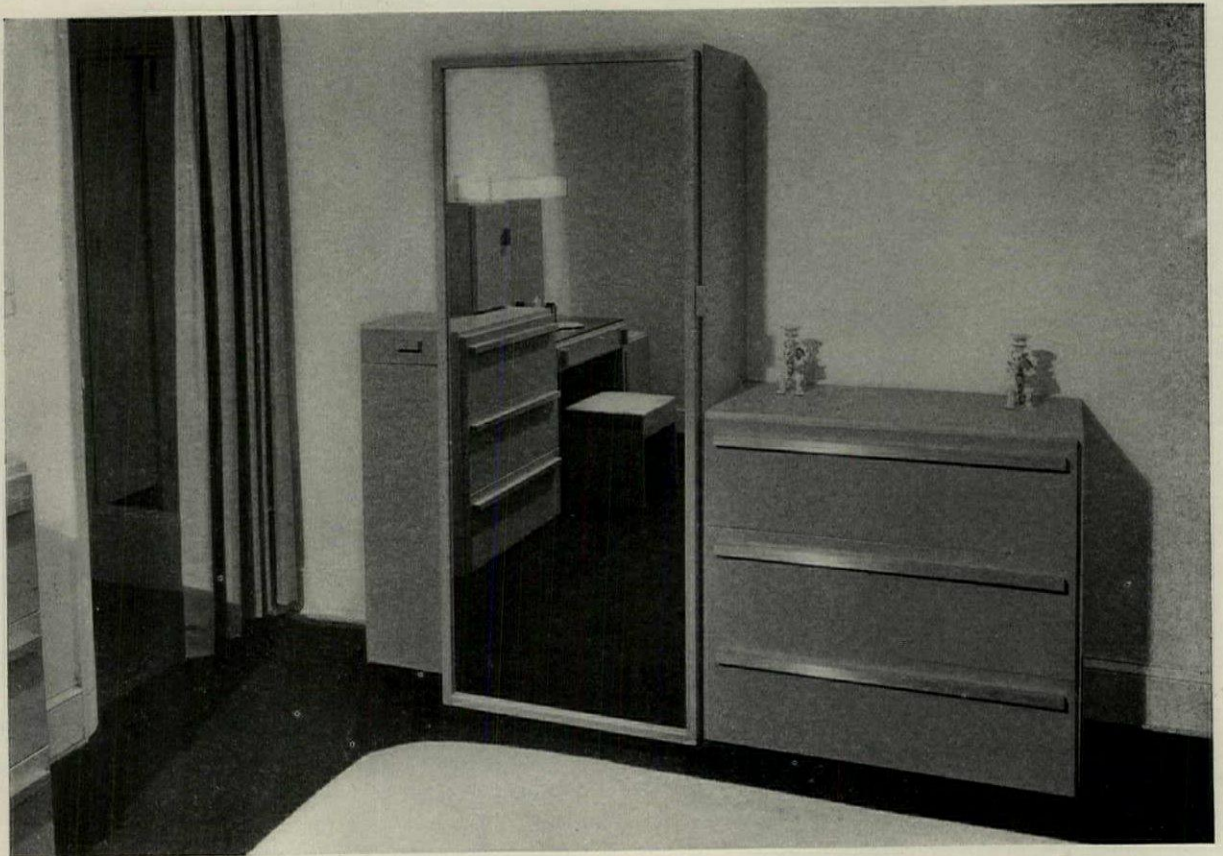
cal lines following the lines of the room itself everywhere, with the exception of the dining chairs, which are curved. This is because the curved chairs made a better design with the oblong table. One might think that the use of neutral beige color tones would give a colorless effect, with the beiges and natural wood tones of the furniture, but the result is surprisingly warm and creates a flattering background for people who are in the room—they supply the color. For handles on the various doors and openings I have used Monel metal, which adds greatly to the interest of the room by the changes in its silvery surface as the light strikes it. The baseboard is cork, in its natural shade of dark brown, and where wood has been

used it has been left natural and the beautiful grain of maple and walnut forms a design in the room. The radiator covers act as seats beneath the windows. Their top is of natural wood and the front and sides are rounded bars of Monel. The hangings are of monk's cloth (a burlap-like material) which is a natural linen color and the window shades are pale, water-green Venetian blinds. To achieve an efficient but not too prominent light over the dining table, I installed an extra beam in the ceiling. In this beam is an opening covered with opaque glass, through which light is cast directly on the table.

In the bedroom, the problem was perforce a little different. It was one of individualism in close quarters. There I created two entirely separate and distinct units. One for Mrs. Vassos consisting of dressing



DRESSING TABLE UNIT IN BEDROOM

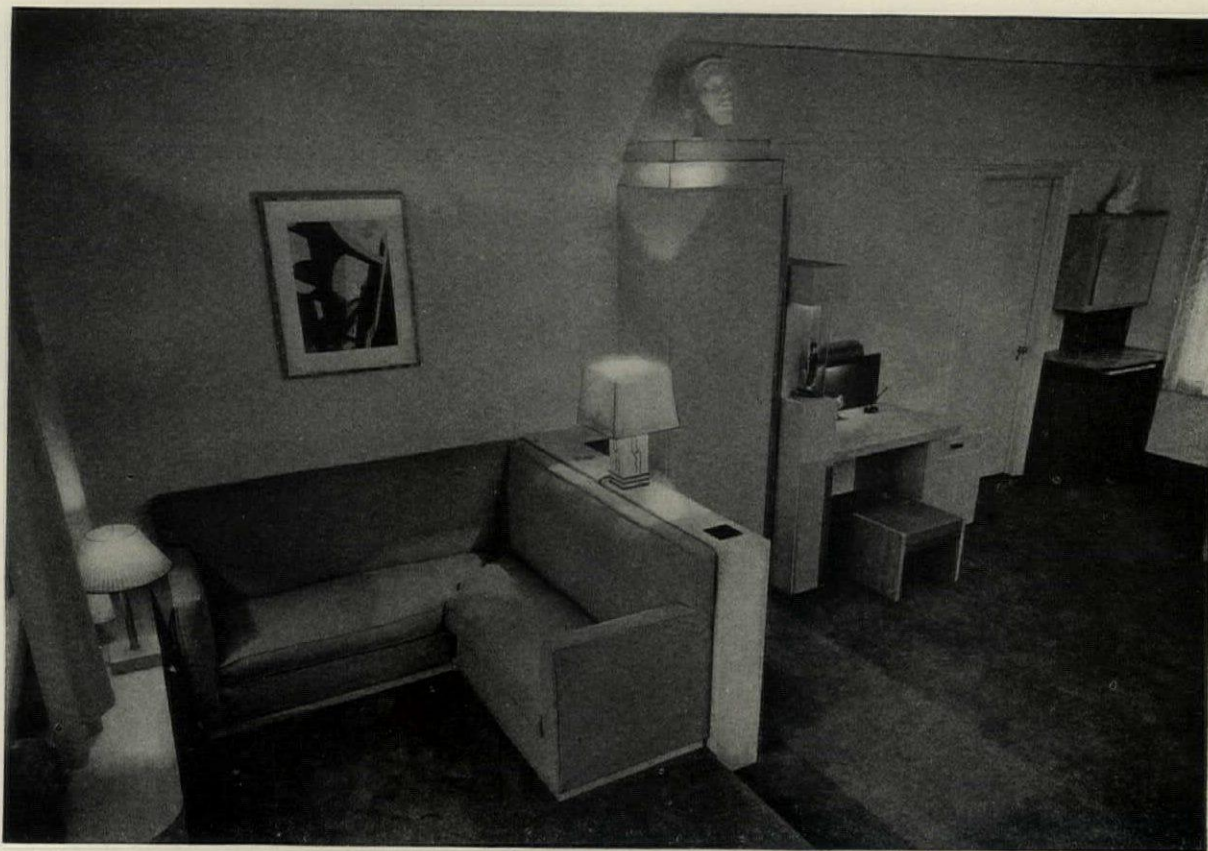


Photos by Peyser and Patzig

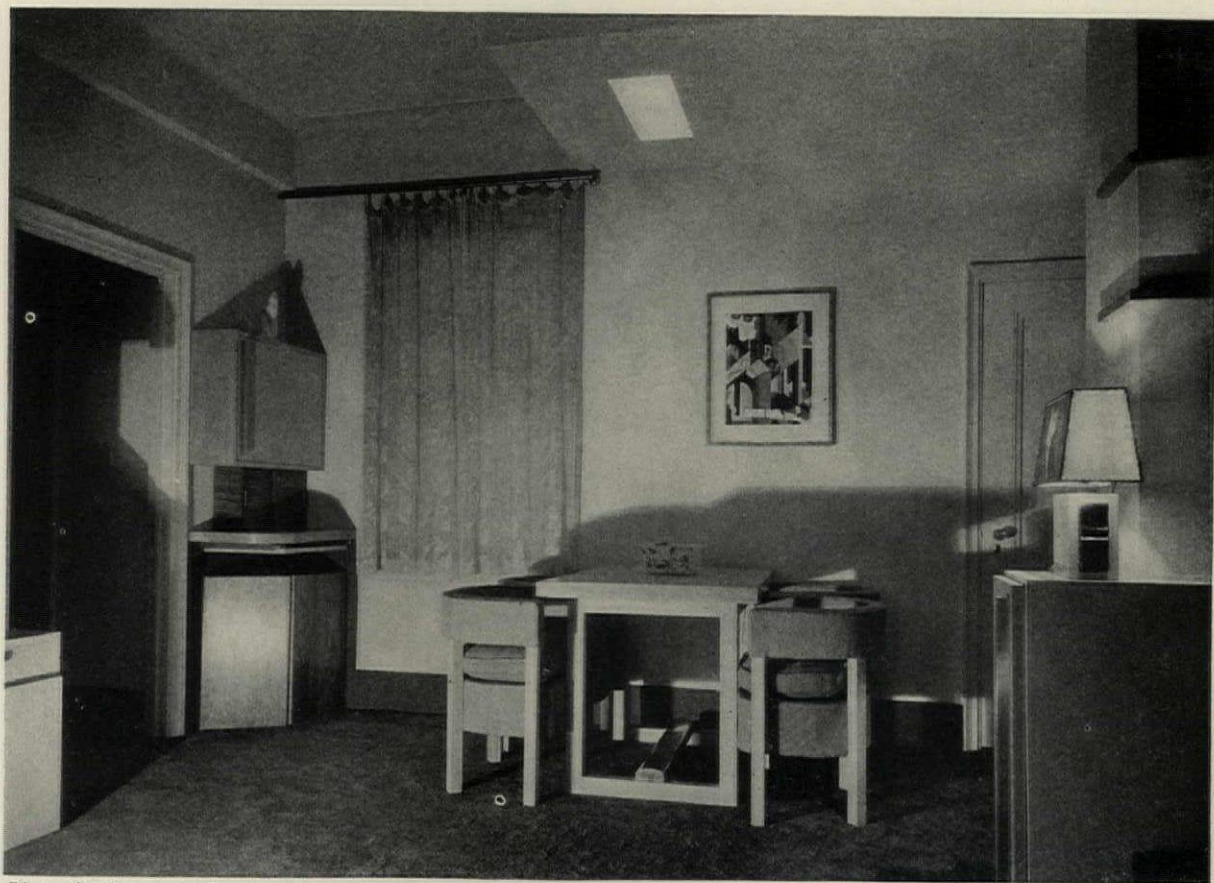
MAN'S WARDROBE UNIT IN BEDROOM

A SMALL MODERN APARTMENT DESIGNED BY JOHN VASSOS

A SMALL MODERN APARTMENT

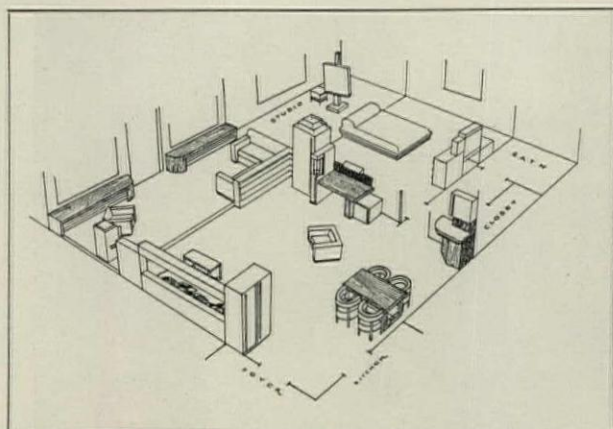


CORNER OF SUN LOUNGE AND DESK UNIT IN LIVING ROOM

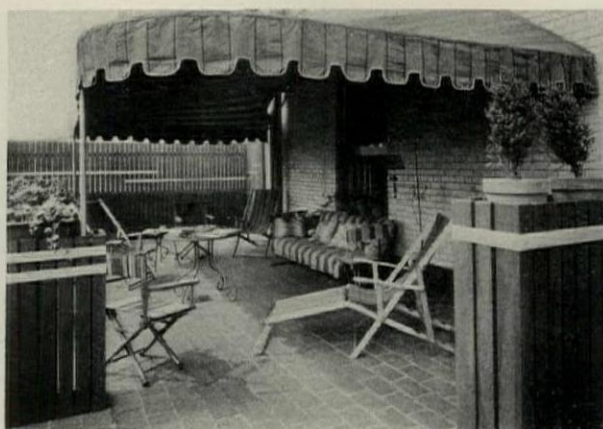


Photos by Peyser and Patsig

DINING UNIT AT END OF LIVING ROOM WITH BAR AT LEFT IN CORNER
A SMALL MODERN APARTMENT DESIGNED BY JOHN VASSOS



BIRD'S-EYE VIEW OF THE APARTMENT

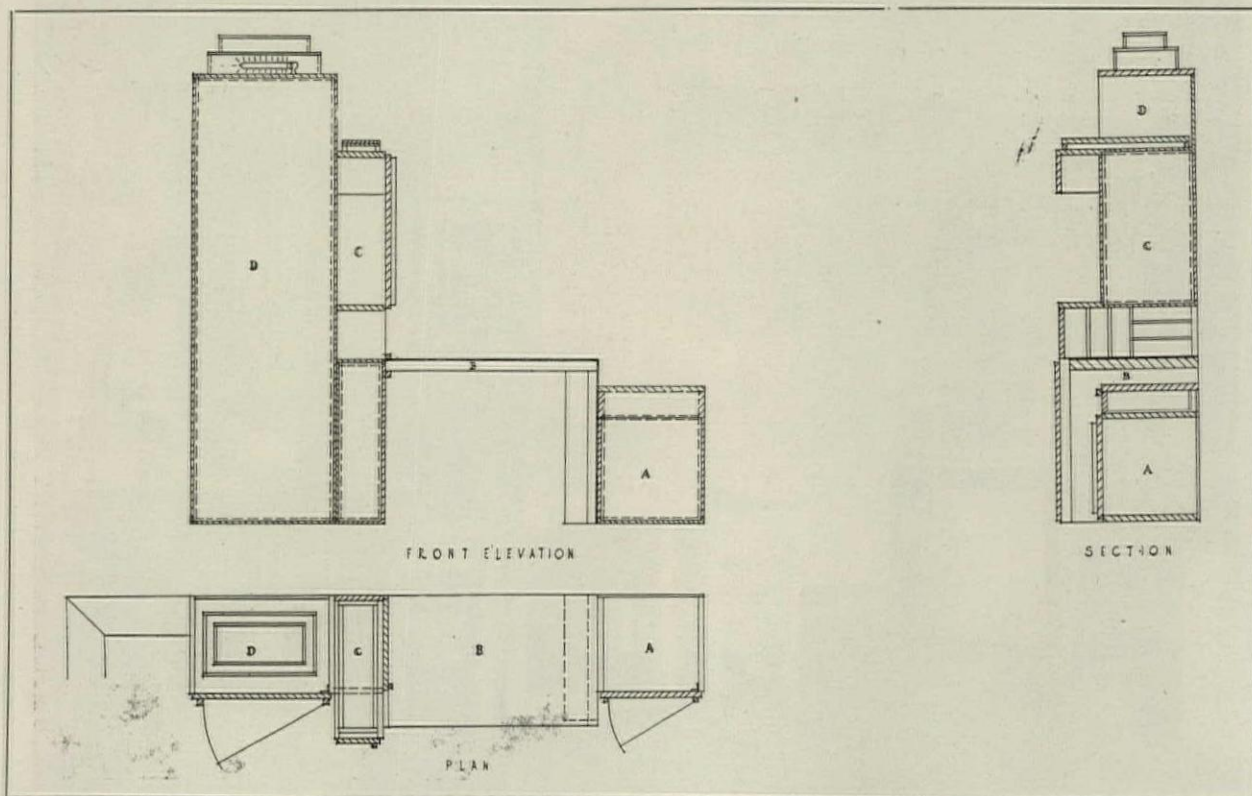


A CORNER OF THE TERRACE

table, three large drawers, cosmetic cabinet, and shoe cabinet—all in one. For myself the unit consists of a large wardrobe with a mirror door, large drawers, shoe cabinet, and telephone table, also in one. The headpiece of the bed is much larger than the bed itself, the space extending on either side being occupied by bedside tables. All of the furniture is built directly on the floor and walls, so it is absolutely sanitary and dust proof and "lost collar button proof"—there is no space under any of the furniture for anything, even dust, to hide. The color scheme is as follows: lemon yellow walls, furniture of a grayish green with silvery Monel handles and carpet in deep aubergine. A door leads from the bedroom to my studio, which has flat dead white walls and looks almost like an anatomical laboratory in its immaculateness and total absence of all deco-

ration—this so nothing will influence or distract me while I am at work there.

I am convinced that the day will come when homes will have living rooms and bedrooms as completely furnished when one moves into them as are the bathrooms and kitchens now. (And it is not so very long ago that stoves were not included in kitchen equipment.) This I believe to be the solution of our constant moving into ever greater heights. There is no reason why adequate and practical furniture (and it is bound to be beautiful if it has these two qualities) cannot be designed and built into apartments when the building is erected. And think what will be added to the sum of human comfort when moving will only mean transporting one's personal belongings!



CONSTRUCTION DETAILS OF DESK UNIT SHOWN ON PAGE 789
A SMALL MODERN APARTMENT DESIGNED BY JOHN VASSOS

ADVENTURES OF AN ARCHITECT

12—BEATING THE GAME

By Rossel E. Mitchell

“WHAT HAPPENS,” runs the old riddle, “when an irresistible force meets an immovable body?”

The same result, no doubt, that occurs when an owner wants a certain type and size of building, and dictates in advance just what it shall cost! Or when an architect accepts a cost limit for the building he wants to secure for the owner, and the bids exceed. Here is a test of an architect's ability not prepared for in Beaux-Arts competitions!

To get the work to go ahead. Next to securing a commission, this is the greatest single problem of an architect today.

Inability to solve this has spelled defeat and disaster to numberless talented and capable practitioners.

In the solution of this problem may be found the reason for the gravitation of great percentages of building construction from the hands of architects into those of “constructing engineers,” builders with “architectural departments,” and speculators with architects employed at small salaries.

While architects are holding up their skirts of professional ethics and tradition, the tide of accelerated speed in the building world rushes in, leaving the King Canute of professionalism to avault or drown.

In every large city in America, there are numberless apartment houses and other structures, which, if planned by professional architects, would be better planned, better looking, a better investment. The majority of these are designed without the aid of practicing architects. Why? There are several reasons: One of the principal reasons, if not the overpowering one, is a failure on the part of many architects to become thoroughly posted on costs.

A client does not want to risk a substantial sum of money for plans when those plans may call for a building beyond his power to finance. Therefore, rather than be left in the dark as to exact cost, he will take chances with the arrangement, or be satisfied with a poor plan and design. The traditional architectural society policy of standing from under the responsibility of cost has created a steady trek of valuable business out of architects' offices into hands infinitely less capable.

Many are the devices employed to wean lucrative business away from architects—and devastating is their success!

Perhaps every architect has seen something like the following:

An enterprising firm of builders or real estate men enters the building field. They frequently know almost nothing of the technical side of building; they are not trained in design—and by that I mean *fundamental design*—or the economical, logical, orderly, and scientific use of space.

But they possess two qualifications—which the architect either does not have, or too often does not avail himself of—namely, intimate knowledge of costs and how to manipulate them; also, access to capital.

Right here it must be said in all justice, that if architects as a class were willing to stoop to certain devices of cost manipulation indulged in by some speculative builders, they, too, could get many more buildings to erect.

Having acquired this intimate knowledge of costs, your budding builders prepare estimates. Next they study carefully the financial devices and expedients used in promotion of such structures. Third, they ally themselves with people having some capital in their own right, or having access to sufficient capital to make a “nest-egg.” There is no large cash expense for plans piled up in advance, but the information for their purposes is secured without this. True, it is not the scientific information that a good architect would secure, but it *gets the work through*.

Having “financed” the enterprise, frequently on the equivalent of a shoe lace, the enterprise goes forward. Usually it is sold to some one before the paint is dry. The builders “get out from under,” have made a success, and go immediately after another suck. I mean customer.

Unlike some of the great ones of the earth, who by virtue of transcendent ability and marrying a rich wife (especially the latter) are able to milk the financial cow regularly and often of such building cream as she, he, or it, may produce, my own checkered career has necessitated *getting the job to go*—no matter how hard the conditions.

My first experience was an eye-opener. It was a bank and office building. The shrewd bankers had well cultivated appetites for niceties of architecture and well trained instincts for restraining expenditures.

They wanted the building as beautiful as I could make it—but it **MUST** not exceed a certain cost! Well, I designed it with all the architectural niceties, and when the bids came in, they were met with that cold “no,” which, with a banker, means **NO-O-O-O-O-O!** Then gloom!

But a brickmason gave me an idea, as he called to inquire if the job would go ahead.

“If you'd just keep my work out of the general contract, I could save you lots of money.”

“Why?”

“Because I lose so much money with general contractors going ‘busted,’ I could afford to give the bank a closer figure.”

The next day a painting contractor called.

“I just wanted to ask if you couldn't let me figure that job direct,” he said. He gave the same reasons. Five different men, representing as many trades,

broached the same idea within a week. I resolved to act. If they could all save money, maybe we could get the job going. Sub-estimates were taken for every portion of the work. The carpentry and millwork was a small contract to itself. The total of cost as evidenced by the aggregate of bids was astonishingly lower than the lowest bid received under the general contract system. Still the total was a little higher than the bank wished to go.

With the cooperation of the institution, we wired certain material manufacturers, also some out-of-town bidders, offering them a less price than their low bid. In every case the offers were accepted. The building went ahead and brought us considerable other business.

This method is not offered either as a sure specific for low costs, or a fool-proof method of building procedure. There are many angles to be considered (besides triangles!).

It is merely an example of what may sometimes be done.

It is said the children of darkness are wiser in their day and generation than the children of light.

If the men who have had the benefit of the incandescent light of technical training would devote more attention to the wisdom of those who traverse the sometimes dark ways of finance and trade, architects might cut a very much larger figure in the sum totals of buildings built under their jurisdiction.



FROM A PENCIL SKETCH BY JOHN A. FRANK—BRIDGE AT BATH, ENGLAND

STUDYING A COMPETITION PROBLEM

A DISCUSSION OF SOME ANALYTICAL DRAWINGS BY EDGAR I. WILLIAMS

By Lorimer Rich

THESE SKETCHES for the Southampton War Memorial Competition show the different schemes under consideration by the designer. The studies were all made for the same site, where the principal thing to be featured was a vista over the water. Each is drawn in a simple, convincing manner, with no resort to trickery or false values—those *bêtes noires* which so often delude the architect into thinking that his scheme has “arrived.” The drawings impress one with their sureness and express clearly the designer’s idea. They show facility but do not make use of this facility to gloss over any questionable parts.

A distinguished architect, recently looking at a seductive perspective rendering, volunteered the opinion that such a rendering was architecture’s worst handicap; the architect was tempted to stop studying his building after seeing such a flattering exposition of it.

These sketches by Mr. Williams do not flatter and working studies should not. They reveal the good points and the bad, and as such are valuable.

When considering a new problem the architectural designer sometimes finds himself more or less hampered

by forming a quick and often ill-considered solution, which may be based upon his enthusiasm for some particular motif or idea rather than upon its suitability for the particular problem at hand. It is said of the late Charles McKim that he would occasionally sit down at the board of one of the men in the office and, after looking at an elevation over which the man had been laboring, ask if there was not some one thing in the drawing that seemed to the man particularly fine—some motif, some detail which he hoped might be used. The astonished answer, after a pause, often would be that there was—a balustrade, a cornice, or other detail. McKim would then suggest that perhaps the first thing to do would be to erase it completely. Thus, with the offending mote removed, the work would proceed.

The ability to study the problem at hand without being biased by some pre-conceived idea is well illustrated in these sketches by Edgar I. Williams and the variety of ideas for the same problem indicates a power to explore thoroughly all the possibilities and a determination not to decide upon a parti before carefully investigating the various schemes.

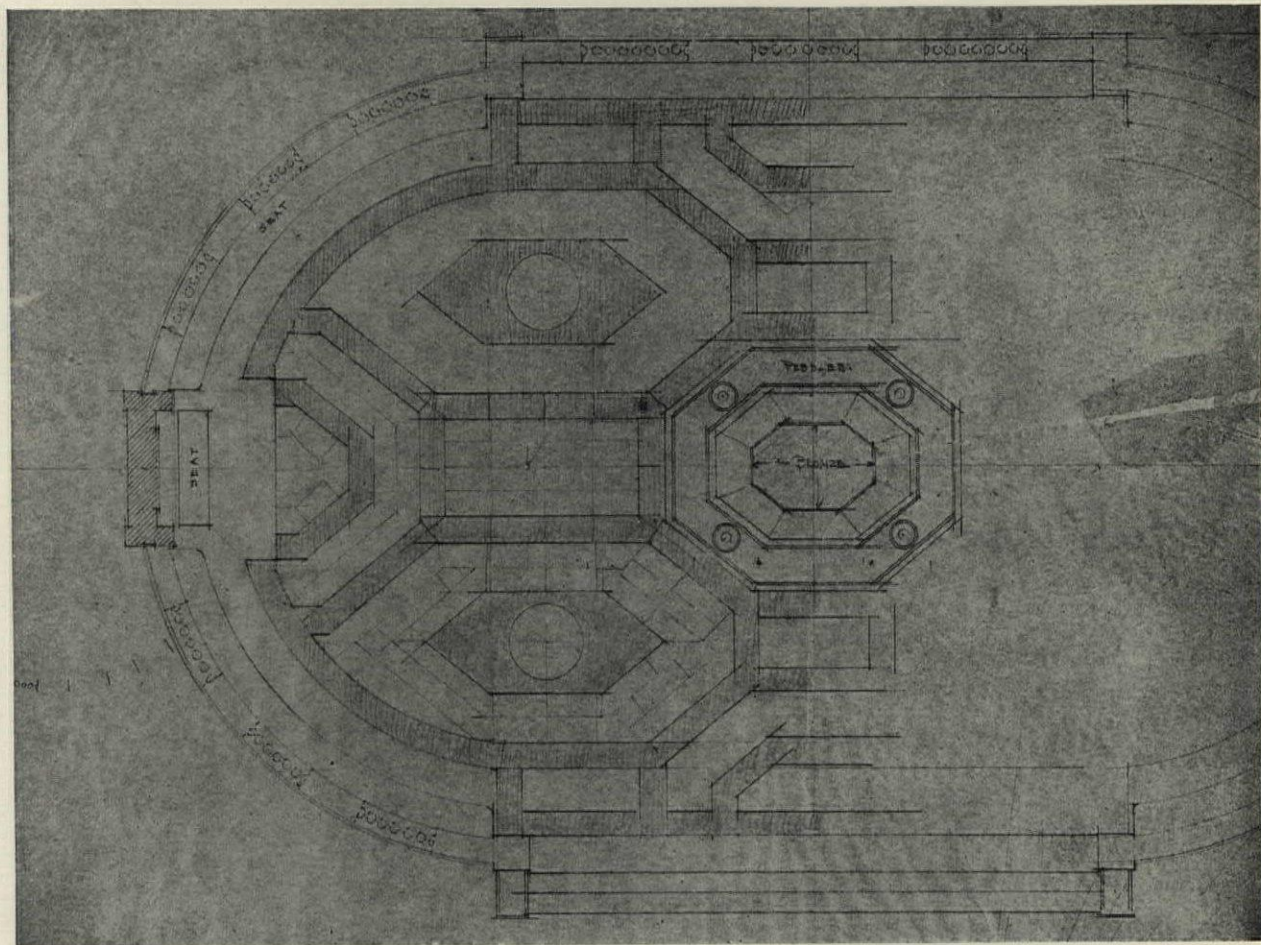


FIGURE 1—PLAN BASED ON THE SMALL COURT OF THE VILLA IN THE VATICAN GARDENS AT ROME
STUDY FOR THE SOUTHAMPTON WAR MEMORIAL COMPETITION

PENCIL POINTS FOR OCTOBER, 1930

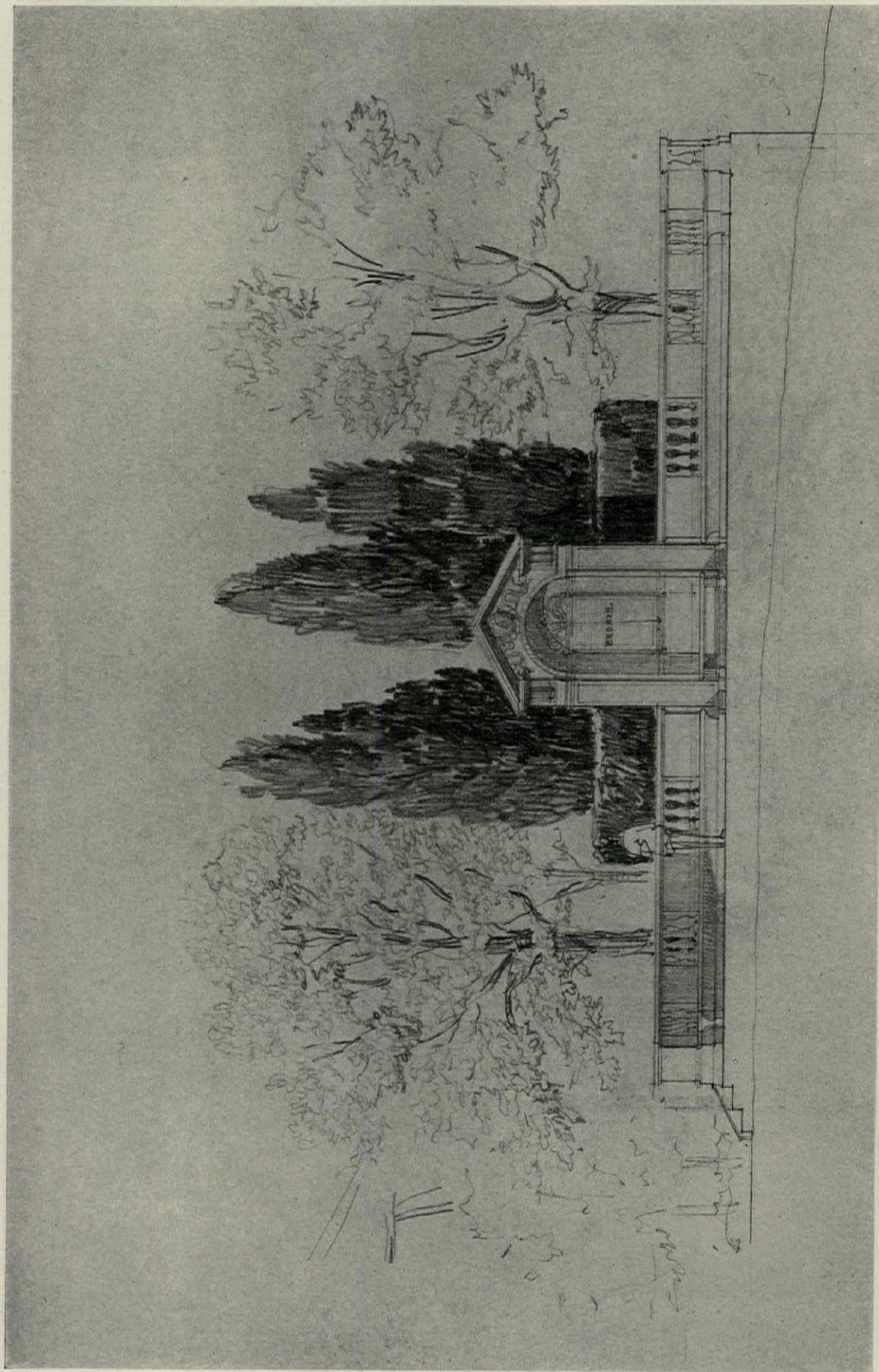


FIGURE 2—NICHE FOR SOLDIERS' HONOR ROLL IN SCHEME SHOWN IN FIGURE 1
STUDY BY EDGAR I. WILLIAMS FOR SOUTHAMPTON WAR MEMORIAL COMPETITION

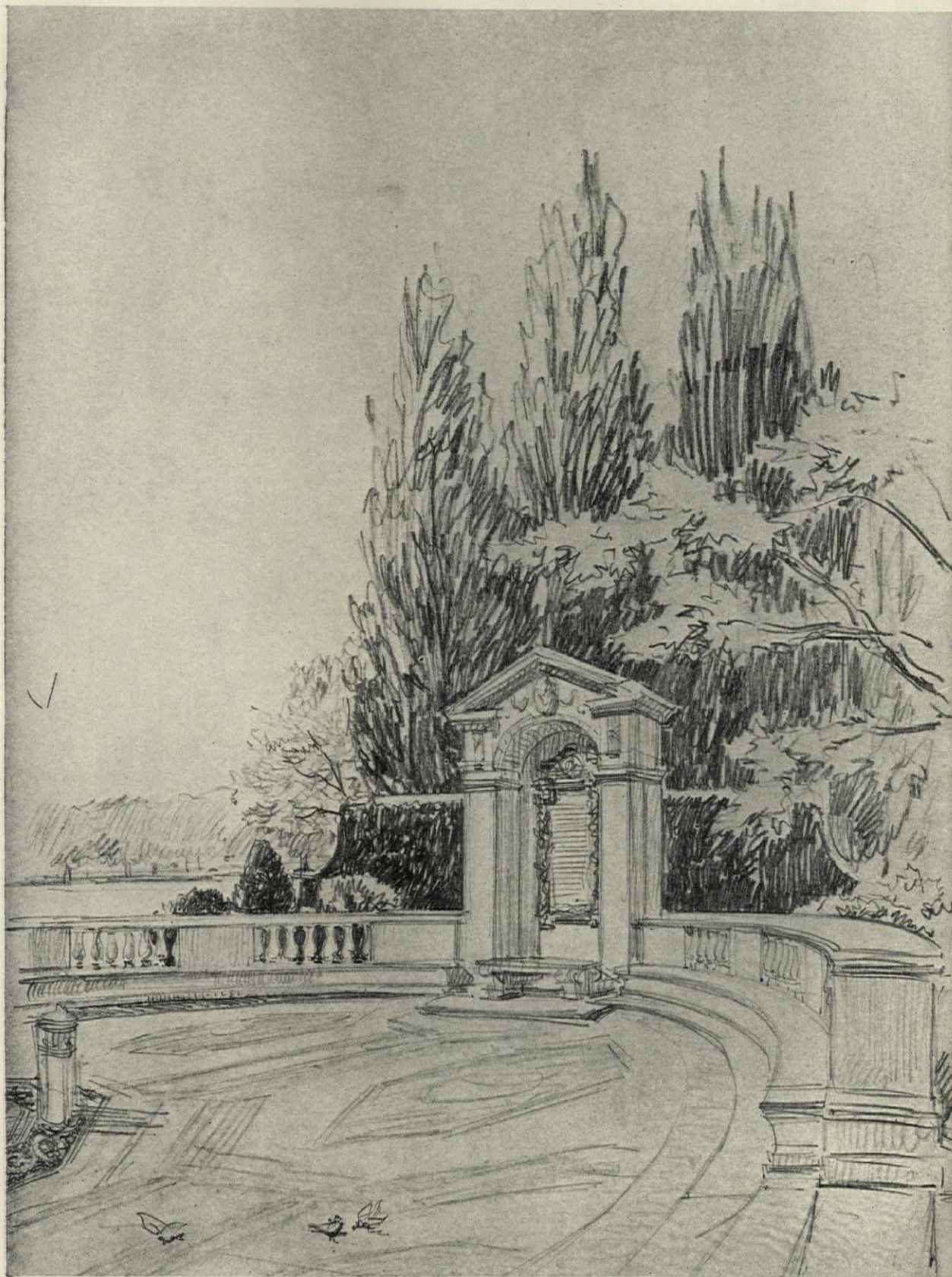


FIGURE 3—PERSPECTIVE OF NICHE SHOWN IN FIGURE 2
FROM A SKETCH BY EDGAR I. WILLIAMS FOR THE SOUTHAMPTON WAR MEMORIAL COMPETITION

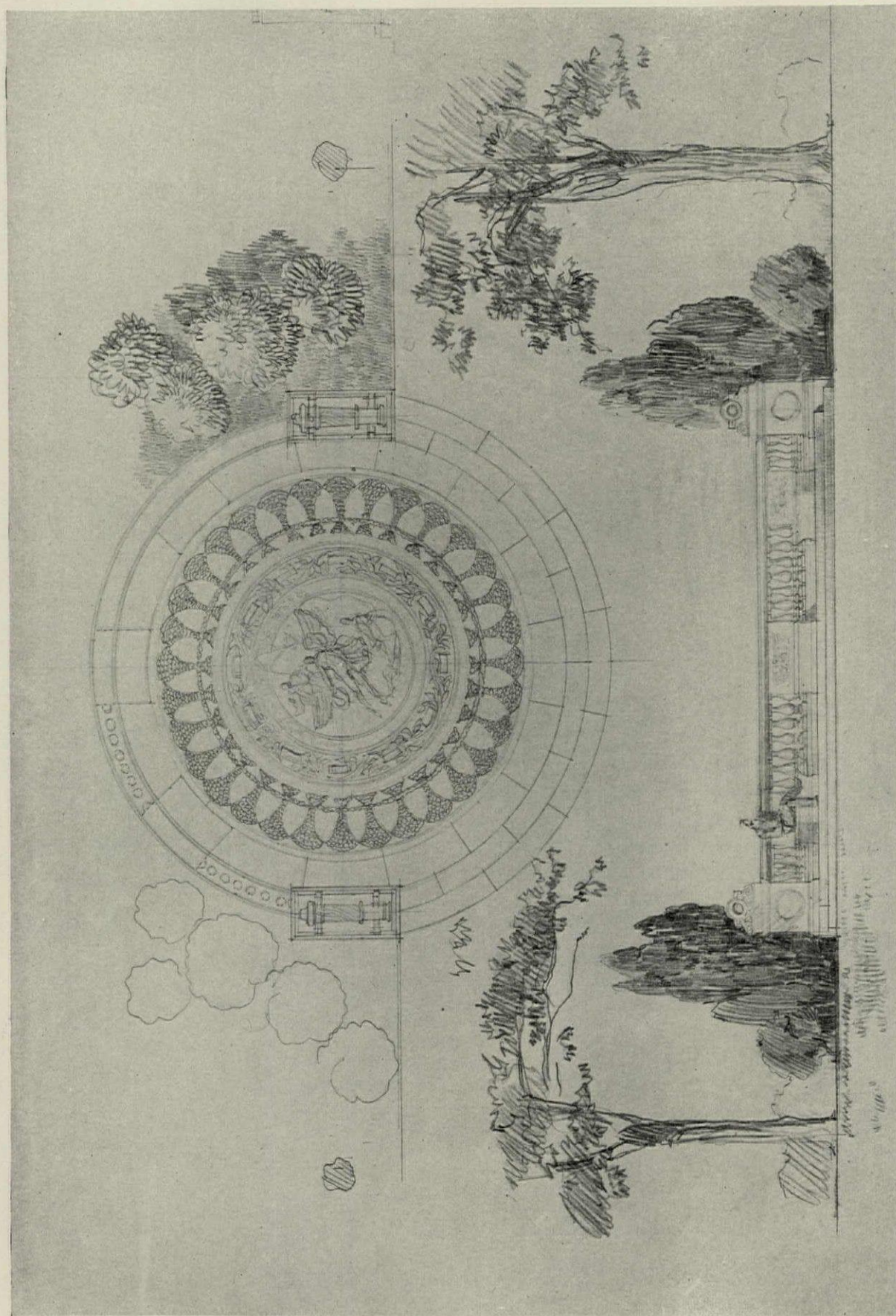


FIGURE 4—ANOTHER SCHEME BY EDGAR I. WILLIAMS FOR THE SOUTHAMPTON WAR MEMORIAL COMPETITION

This study shows the use of stone pebbles in bronze in pavement and no stone pebbles in bronze in pavement.

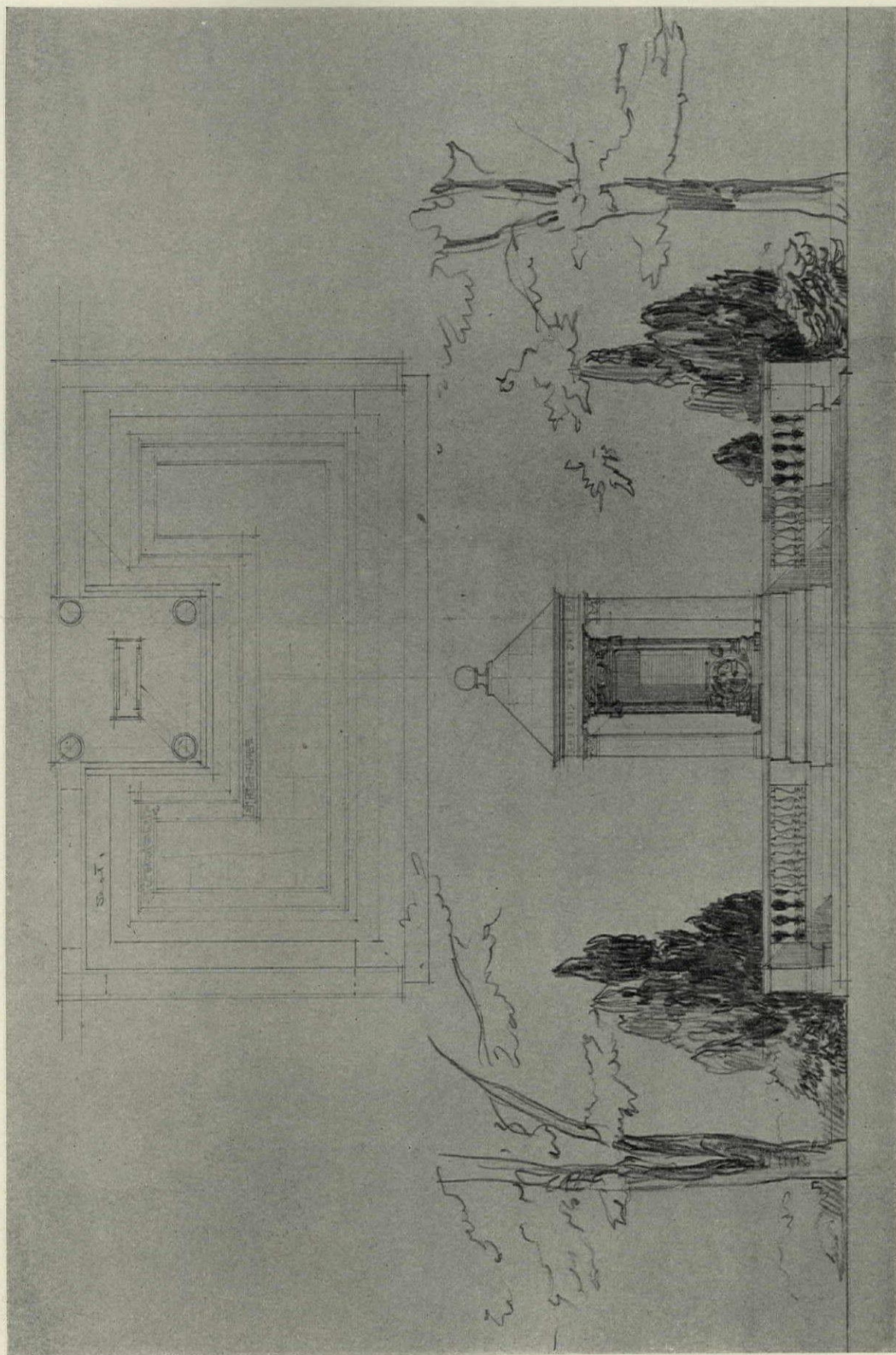
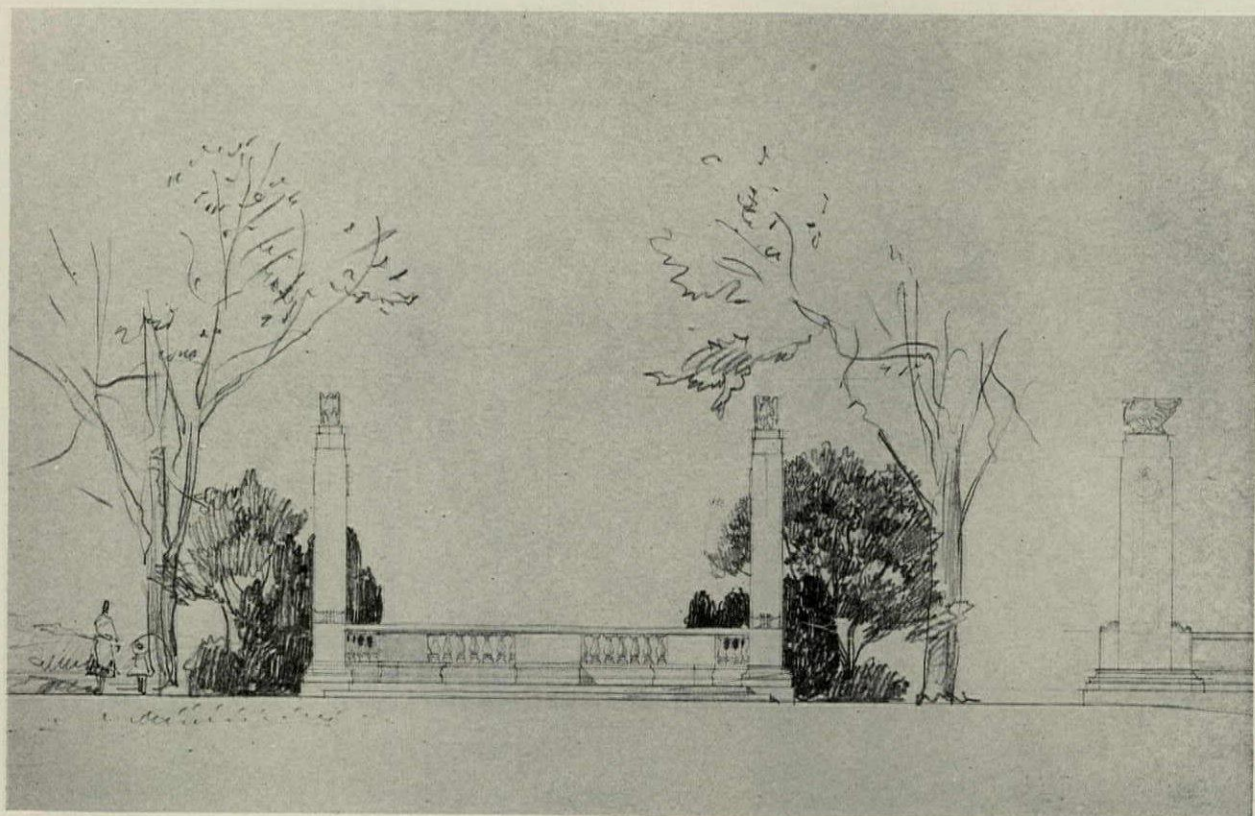
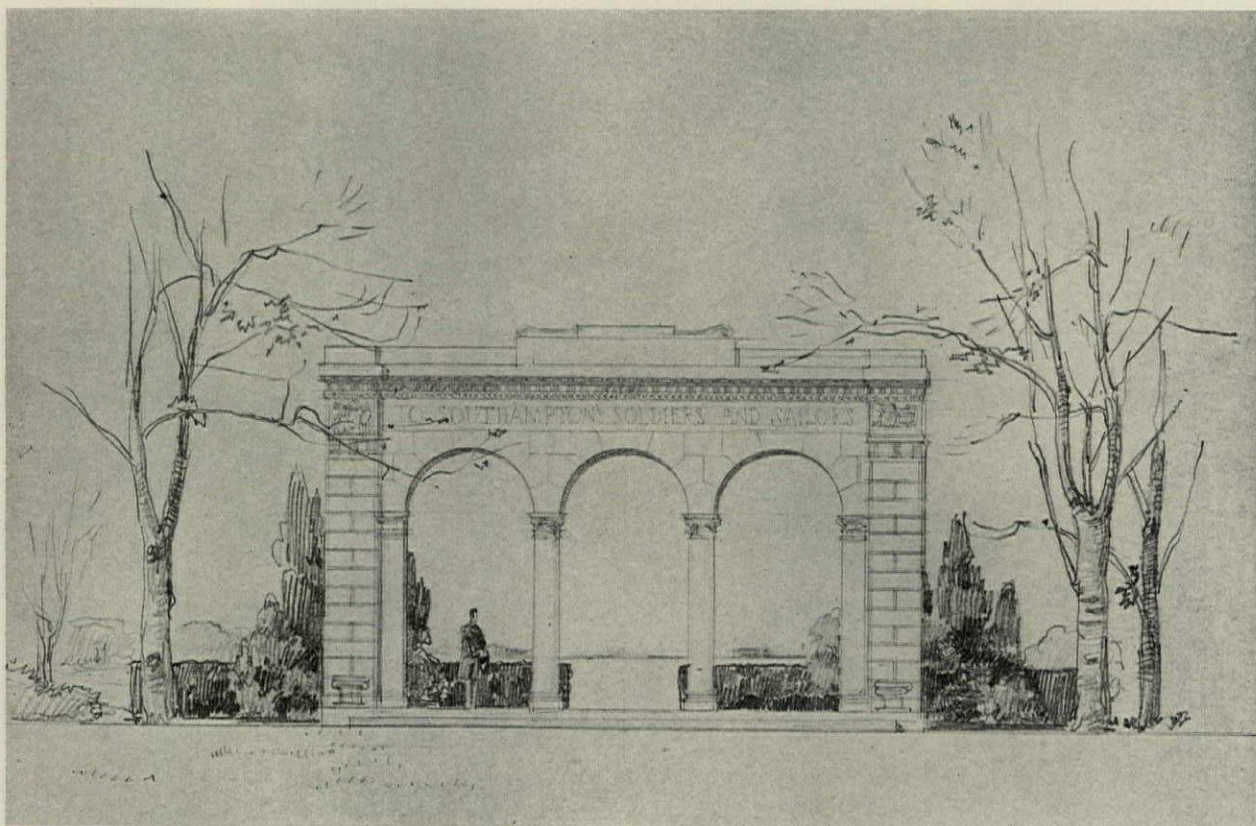


FIGURE 5—THIS SCHEME HAS A DEFINITE CENTRAL MOTIF INTERRUPTING THE VIEW
DRAWN BY EDGAR I. WILLIAMS AS A STUDY FOR THE SOUTHAMPTON WAR MEMORIAL COMPETITION



STUDIES BY EDGAR I. WILLIAMS FOR THE SOUTHAMPTON WAR MEMORIAL COMPETITION
Two schemes with vertical motifs partially framing the view which the architect considered important.

THE DEVELOPMENT OF A SEAGOING NIGHT CLUB

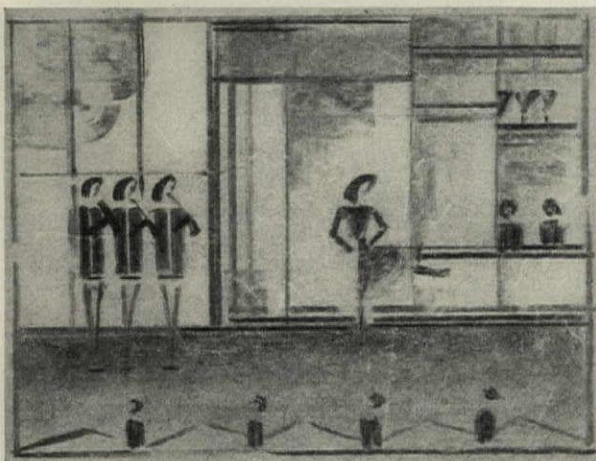
DESIGNED BY EUGENE SCHOEN, INC., FOR THE S. S. LEVIATHAN

THE PRACTICAL REQUIREMENTS of planning a Night Club on the S. S. "Leviathan" were that a room 55' x 95' should form an appropriate background for Afternoon Tea and Evening Cabaret, catering to a sophisticated patronage.

The major elements of the plan (shown on page 806) are the dance floor, the orchestra stage, and alcoves for seating patrons. The alcoves consist of stationary tables and lounges on two raised levels at both sides of the room, insuring the occupant of each seat a clear, unobstructed view of the entire floor and at the same time giving each alcove an intimate atmosphere of privacy by reason of the low partitions.

The lounges and chairs are designed for luxurious

comfort, upholstered in vermilion permatex. Linen covers of special design are provided for refreshment and serving tables, each of which has an individual

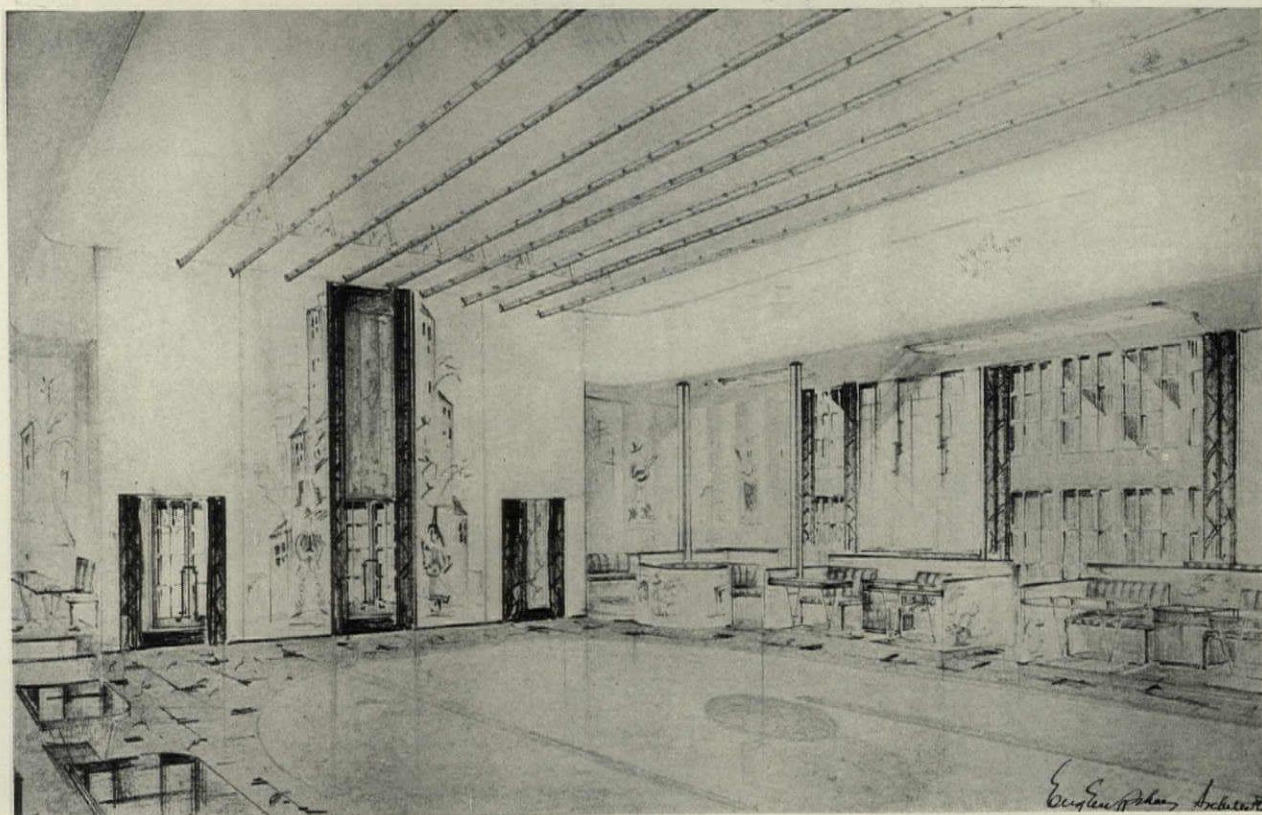


EARLY SKETCH FOR CURTAINS AT SIDES

lighting fixture in chromium for use when the general illumination is reduced for solo performances by the entertainers. The china was especially designed to harmonize with the decorative motif of the linen, as shown in the photograph on page 805. The walls in proximity to the seating alcoves are covered in gold permatex stretched in vertical serrated strips to give an interesting modulation to the light played upon them. All draperies are

of the same waterproof material sprayed in special designs of bright colors.

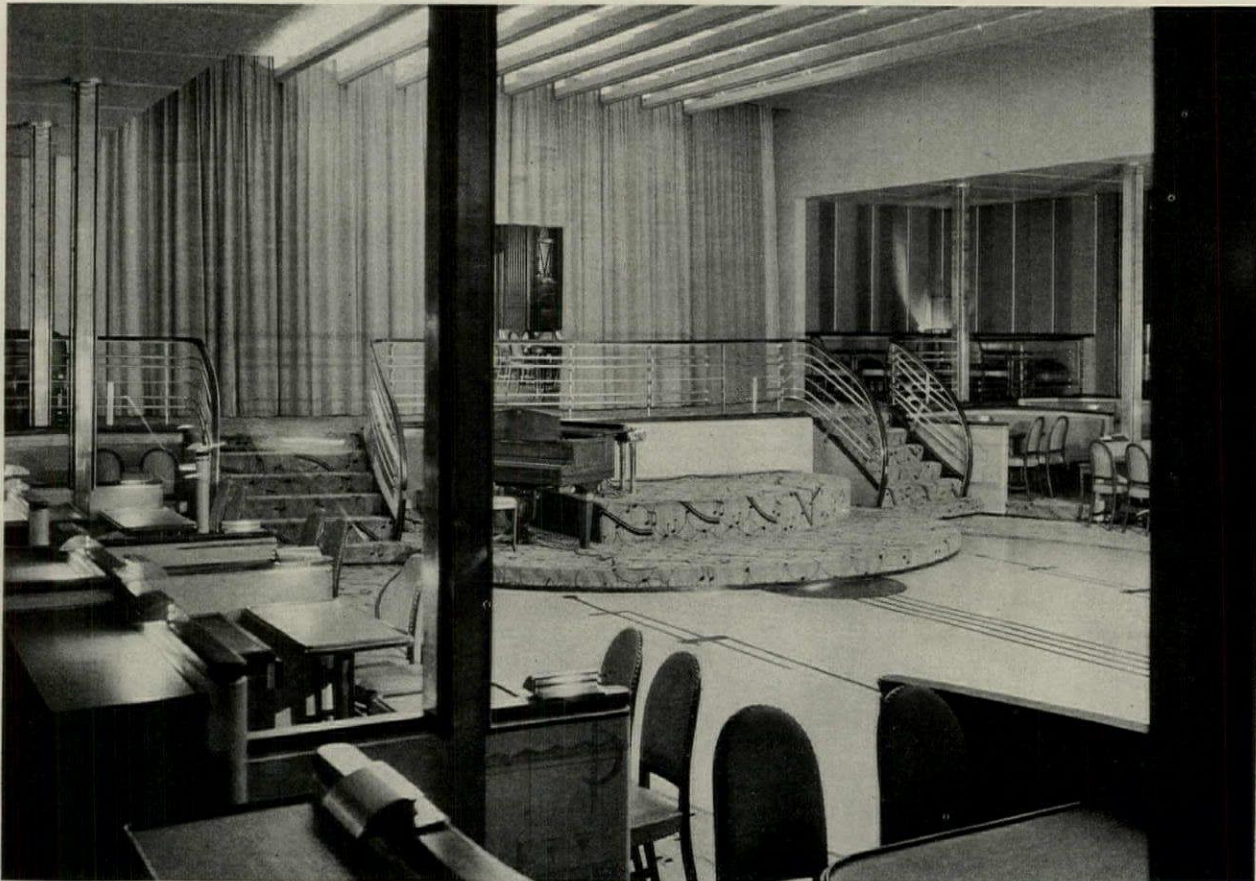
The ceiling presents an unusual solution of the



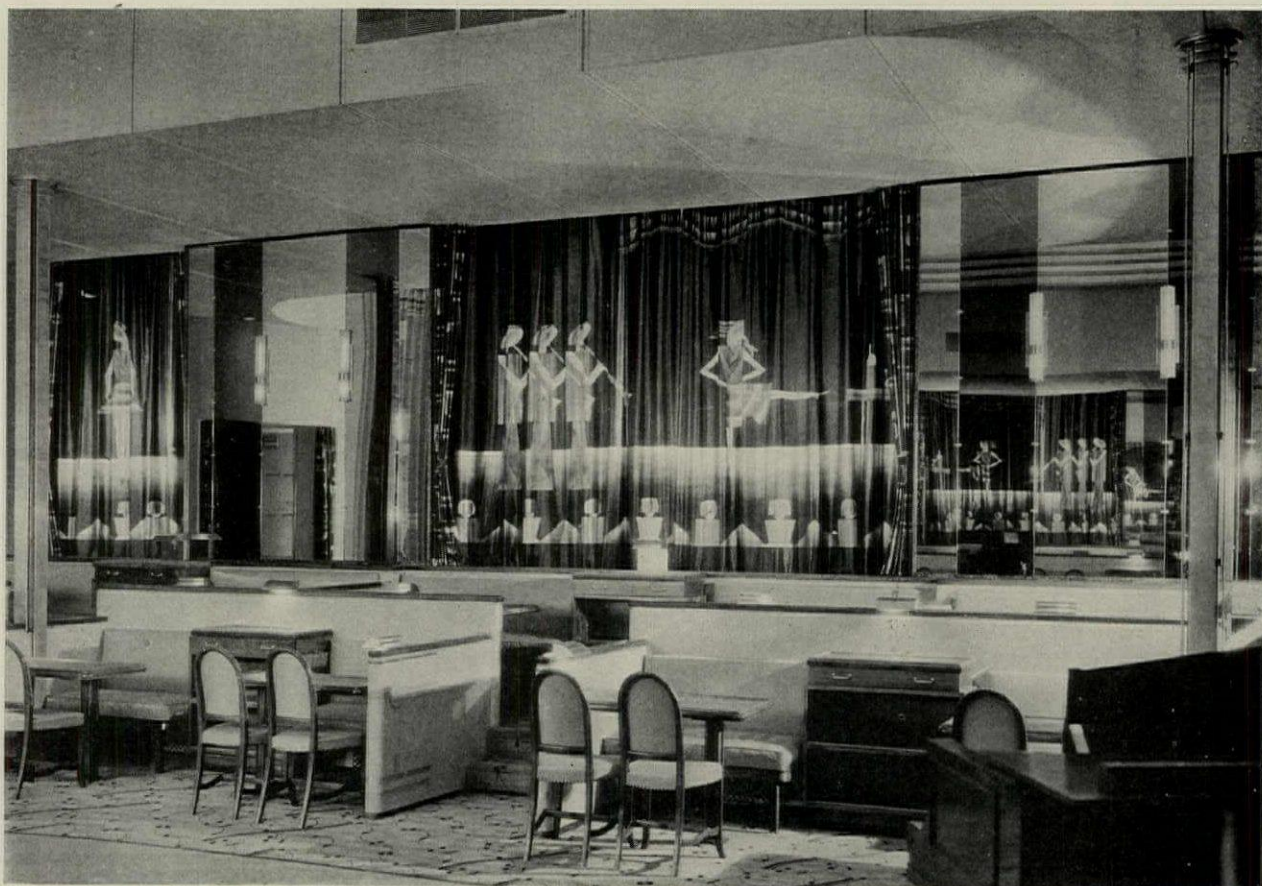
VIEW LOOKING FORWARD TOWARD MOTION PICTURE SCREEN

SCREEN IS BEHIND CURTAINS WHICH DRAW TO EACH SIDE

Eugene Schoen, Inc., Architect

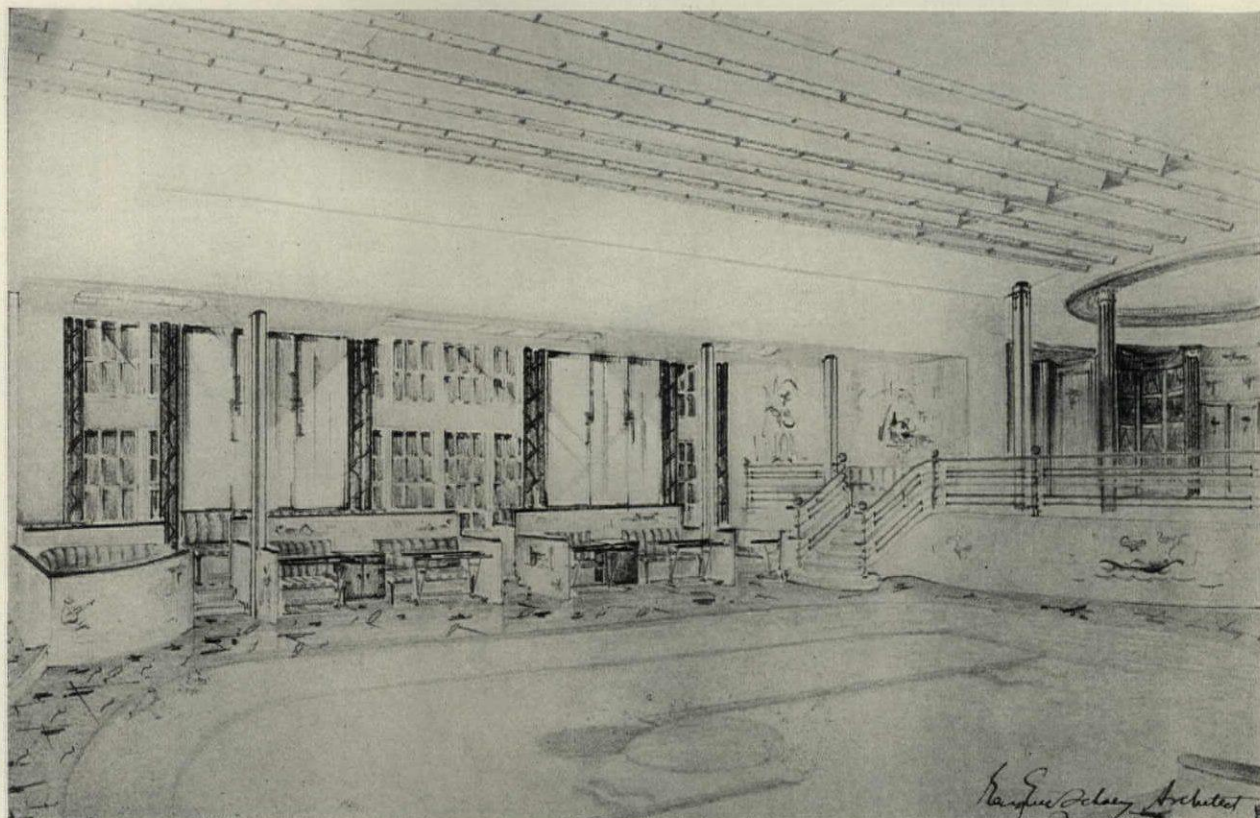


VIEW AFT TOWARDS MUSICIANS' PLATFORM AS IT NOW APPEARS

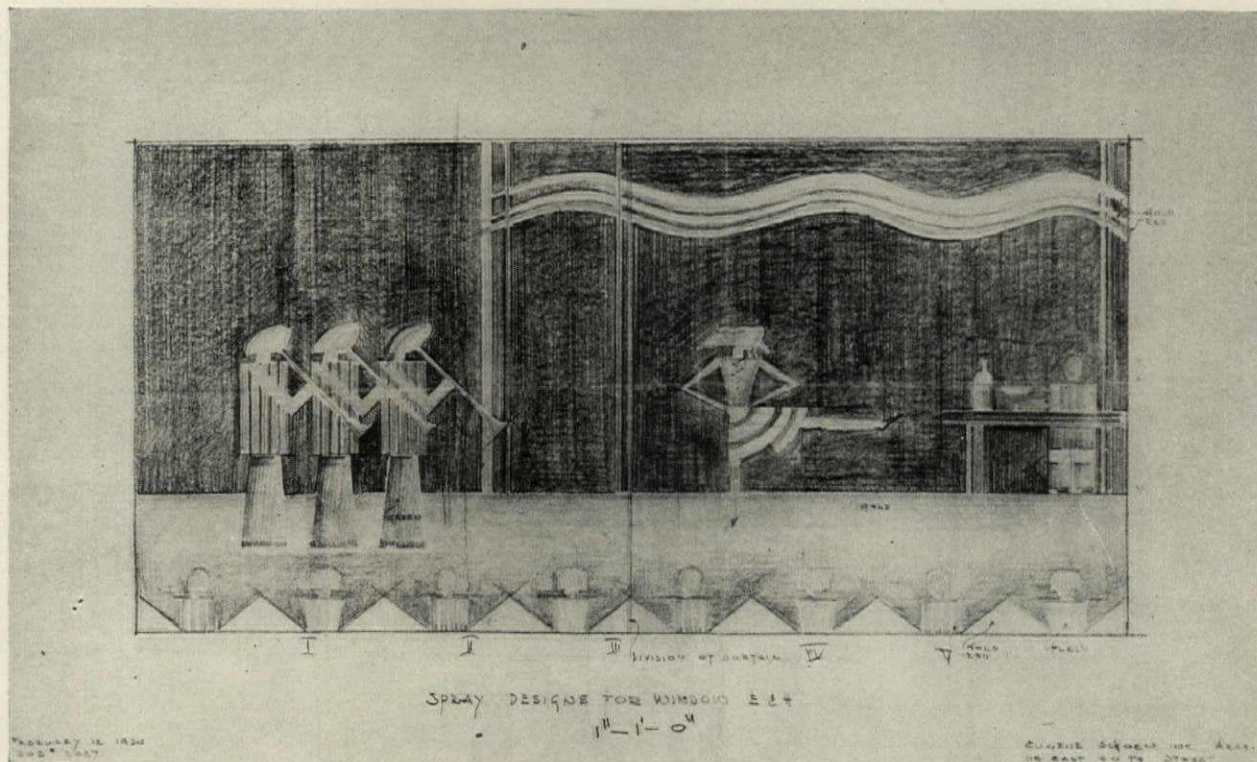


VIEW SHOWING TREATMENT OF SIDE OF ROOM AND ARRANGEMENT OF TABLES
"CLUB LEVIATHAN," S.S. LEVIATHAN—EUGENE SCHOEN, INC., ARCHITECT

THE DEVELOPMENT OF A SEAGOING NIGHT CLUB



STUDY FOR ARRANGEMENT SHOWN ON FACING PAGE



DEVELOPED ELEVATION OF PERMATEX CURTAINS AT SIDES—FINISHED EFFECT SHOWN OPPOSITE
 "CLUB LEVIATHAN," S. S. LEVIATHAN—EUGENE SCHOEN, INC., ARCHITECT

THE DEVELOPMENT OF A SEAGOING NIGHT CLUB



CORNER OF ROOM AT FORWARD END

lighting problem. The central portion is in the form of serrated planes which receive with varying intensity the light from continuous reflectors running

the entire length of the room. This light can be varied at will by a combination manual and automatic control upon the orchestra platform, thus providing any intensity or shade of light in the spectrum.

Variable lighting is also furnished by two batteries of floodlights at the sides of the room. These play upon the dancers in a constantly changing pattern of tones and colors. Additional fixtures of novel design are also placed at intervals along the side walls. These, as well as the ceiling lights, are at the control of the musicians.

The dance floor proper is covered with an orange linoleum, highly waxed, with simple design of black stripes. The floor covering outside the dancing oval is a rich carpet in orange with brown and black design which suggests the musical rhythm of the dance.

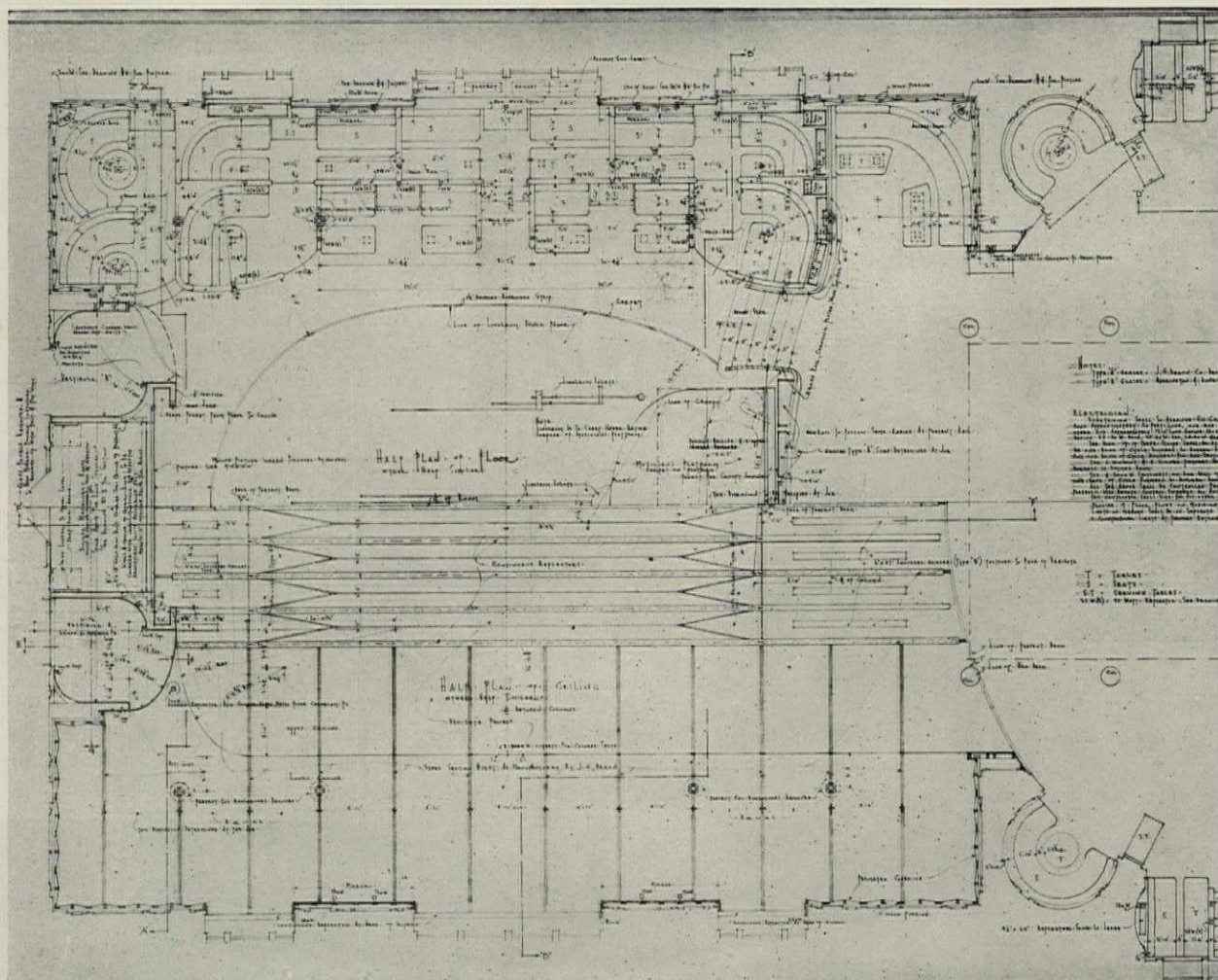
Mr. Schoen describes the scheme:

"First, the room had to be modern in every sense of the term. One could not go back to ancient traditional history and decorate a modern Night Club in a



DETAIL SHOWING TABLE SERVICE AND LINEN DESIGNED BY LEE SCHOEN

"CLUB LEVIATHAN," S. S. LEVIATHAN—EUGENE SCHOEN, INC., ARCHITECT



HALF PLAN OF "CLUB LEVIATHAN"—S. S. LEVIATHAN

EUGENE SCHOEN, INC., ARCHITECT

period style. Secondly, it had to be completely American, not only because the Night Club in its present form is completely American but also because America should be able to develop its own modern style through an American architect, and not be dependent upon a European conception, as is, unfortunately, most of our modernistic American design. This is not said in a boastful attitude but simply to state what I believe a fact; that American architects are thoroughly competent men to handle questions of decoration and design for Americans.

"There was no precedent to go by, because a Night Club at sea must be different from one on land, and in the real sense of that term no Night Club has as yet been provided for any of the great ocean-going liners even though some small attempts in that direction have been made. Furthermore, the problem was a little complicated by the fact that the room was to be used as a talking motion picture theatre during certain parts of the day.

"In the first place, the colors were determined primarily by their brightness and cheerfulness. The ceiling has nine strip reflectors running fore and aft which illuminate saw tooth surfaces that in their turn

act as reflectors, lighting up the dancing floor immediately beneath them. These reflectors are equipped with a complete spectrum of colors, and are controlled from a panel board on the musicians' platform. The lights therefore can be varied in color to suit the mood of the music. The color of this ceiling is light blue with a touch of silver.

"The side walls are treated in gold cloth and mirrors where the tables and seats occur, and in the central higher portion in a peach tone. The seats and tables are placed in small enclosures accommodating from two to six persons in each group, and here the color becomes much brighter, a brilliant lacquer red having been chosen.

"When the room is used for motion pictures, seats are placed upon the dance floor, and the canopy covering the musicians' stand is dropped into its pocket, a curtain at the extreme aft end is drawn aside to permit the projecting apparatus to work and the forward curtains are drawn aside revealing a full-sized motion picture screen with talking apparatus behind it. It is therefore possible to have a complete Motion Picture Theatre function, which is also being done for the first time at sea."



FROM A LITHOGRAPH BY EDWARD BIRCSAK
NIGHT ON THE RIALTO—VENICE

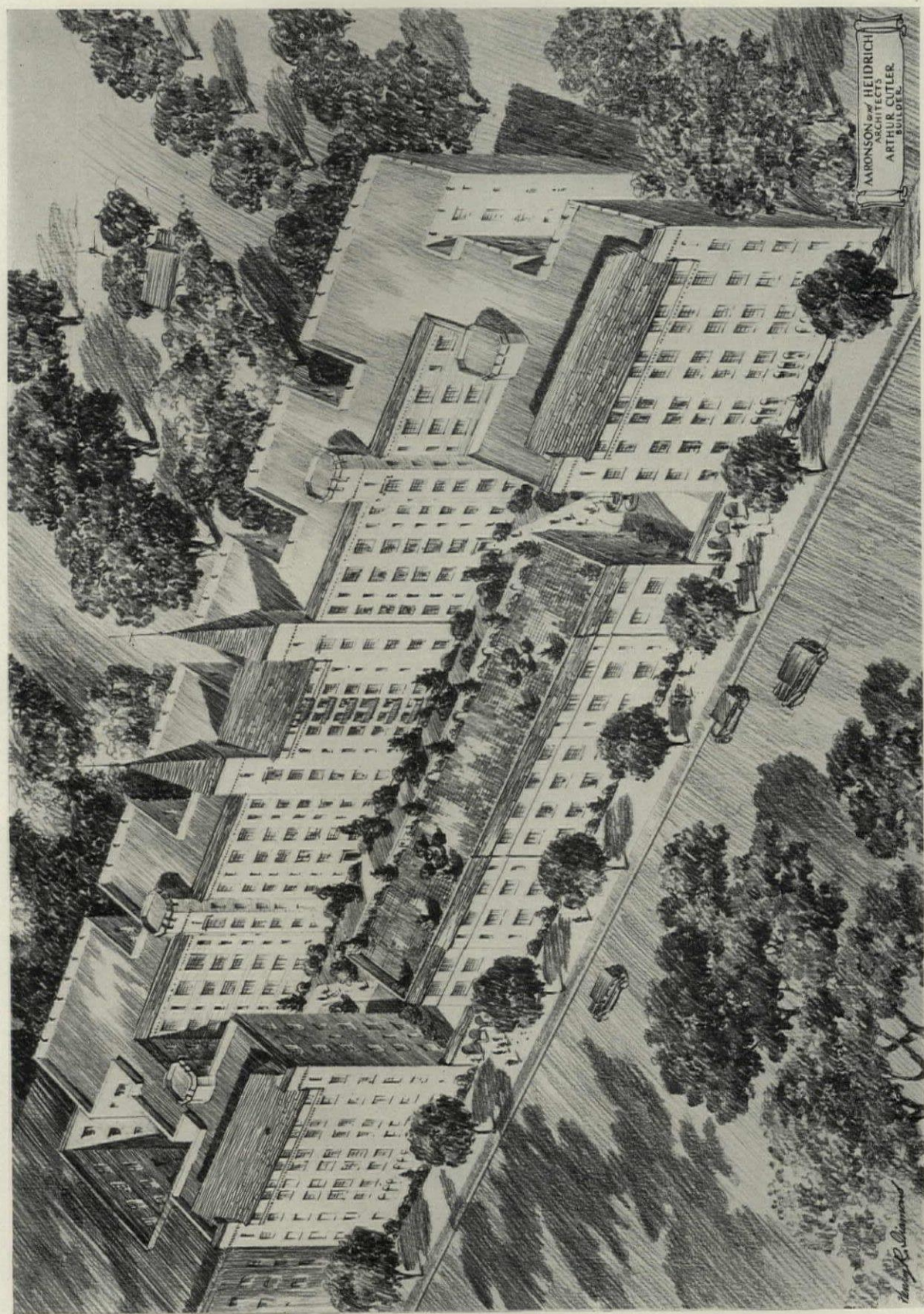
PENCIL POINTS

PENCIL POINTS FOR OCTOBER, 1930

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NUMBER 10

This lithograph is one of a number made by Edgar F. Bircsak while in Europe last year as holder of the A. W. Brown Travelling Scholarship. Other drawings by Mr. Bircsak will be shown in future issues of PENCIL POINTS.



PENCIL RENDERING BY HENRY R. DIAMOND—THE STEEPLES APARTMENTS, BROOKLYN, NEW YORK.

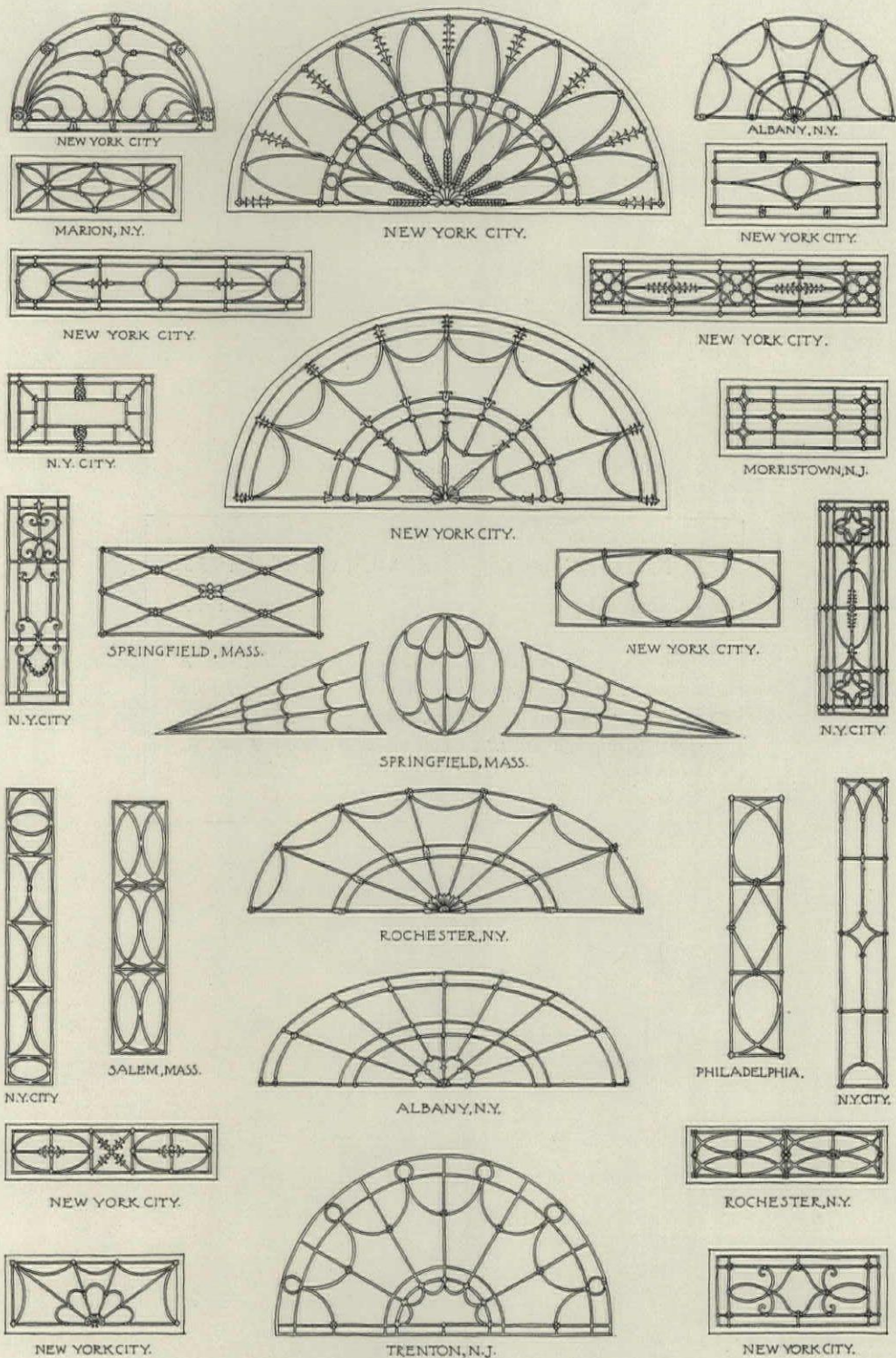
AARONSON AND HEIDRICH, ARCHITECTS

PENCIL POINTS FOR OCTOBER, 1930

VOLUME XI

NUMBER 10

Mr. Diamond has selected the bird's-eye view for this perspective to show the architect's design to the best possible advantage. The clear, straightforward treatment is admirably adapted to a subject of this kind.



COLONIAL FAN, HEAD & SIDE LIGHTS ~ DRAWN BY F.S.SWALES.

1-1-27.

A PEN AND INK DRAWING BY FRANCIS S. SWALES
 PLATE FROM "THE GEORGIAN PERIOD"

PENCIL POINTS FOR OCTOBER, 1930

VOLUME XI

NUMBER 10

This sheet of details was drawn by Mr. Swales a number of years ago for Ware's book on "The Georgian Period." Other drawings by Mr. Swales were published in the September issue of PENCIL POINTS.



SANTA MARIA NOVELLA, FLORENCE
FROM A WATER COLOR PAINTING BY J. OLAF OLSON

PENCIL POINTS
(October, 1930)

PENCIL POINTS SERIES of COLOR PLATES

The subject of this plate is the work of a well known water color painter and should be of great interest to architectural draftsmen who practice this art. Some notes concerning Mr. Olson's method of working may be helpful. He uses Whatman's 140-pound rough paper and applies the color with a large brush, say No. 18, and two or three smaller ones of selected sable. He never stretches his paper but simply tacks it dry to a board. His method of working varies somewhat according to subject, but in the main he works from light to dark in big, simple washes, using enough water to flow freely and yet not so much that it gets beyond control. A few accents put in crisply where needed add form and depth. Mr. Olson's palette contains all the colors he finds necessary, and he is careful to avoid fugitive colors. He uses ultramarine blue, cobalt blue, cerulean blue, yellow ochre, raw sienna, burnt sienna, raw umber, cadmium lemon, cadmium medium, viridian green, vermilion, alizarin crimson, and ivory black. The black is seldom used and it is possible to get along without it. Chinese white, when used at all, is employed very sparingly. The original of this drawing measured $21\frac{1}{2}$ " x $16\frac{3}{4}$ ". It is reproduced by courtesy of Mrs. Frank Howard of New York.

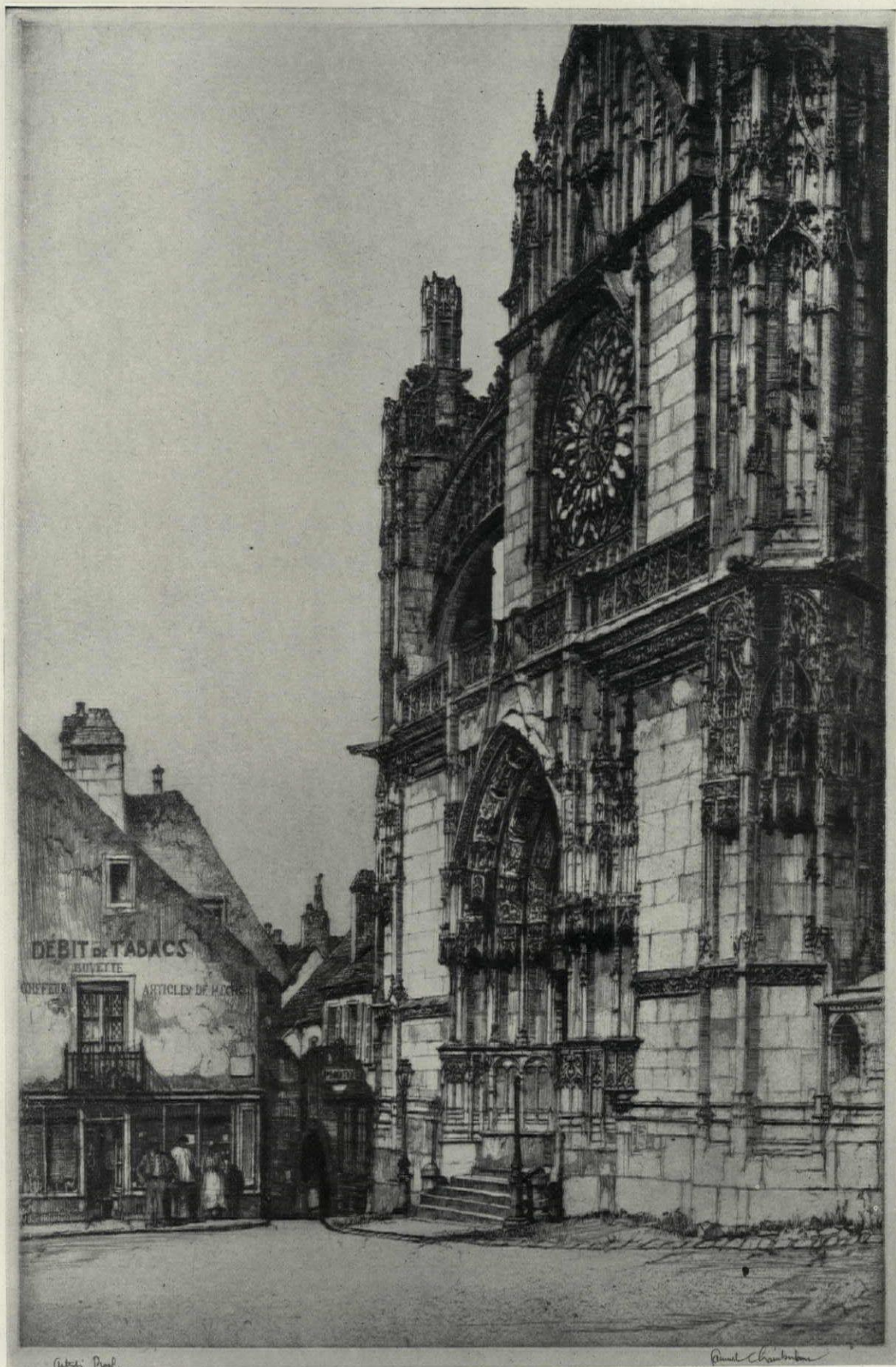


A RESIDENCE FOR MARSHALL PRENTISS, ESQ., AT LITCHFIELD, CONNECTICUT— JOHN C. GREENLEAF, ARCHITECT
FROM A RENDERING IN BLACK AND COLORED PENCIL BY G. L. SCHEFFLER

PENCIL POINTS
(October, 1930)

PENCIL POINTS SERIES of COLOR PLATES

The drawing which forms the subject of this plate was made on brown illustrator's board and shows how effectively tinted paper or board can be utilized for architectural renderings. The layout was made directly on the board with a soft pencil and the brighter portions of the building were then painted in with Chinese white to which sufficient color was added to give a pleasant warmth. If desired the warm color can be applied over the white when it has dried. Colored crayon pencils were used for the green and yellow touches on the foreground and trees while blue crayon was used for the sky. The foliage and trunks of trees were done with pencil. The original measured 29" x 18".



DRYPOINT BY SAMUEL CHAMBERLAIN
"DENTELLES GOTHIQUES—CLAMECY"

PENCIL POINTS

PENCIL POINTS FOR OCTOBER, 1930

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NUMBER 10

We are glad to present to our readers this new plate by Samuel Chamberlain. The original dry-point measures $9\frac{3}{4}$ " x $14\frac{3}{4}$ ". Of interest is an announcement from Mr. Chamberlain that he is planning to return to New York next month for an exhibition of his work.

COMPETITION FOR GIRARD COLLEGE CHAPEL

THE PROBLEM AND REPORT OF THE JURY OF AWARD

THE WILL OF STEPHEN GIRARD, deceased 1831, provided for the establishment of an institution for the education and maintenance of "poor, white, male, orphan children." Subsequently named "Girard College" and placed under the direction of the Board of Directors of City Trusts of Philadelphia, the institution now cares for about 1,600 boys of ages from eight to eighteen. To these are given an education, both general and vocational, terminating in a curriculum equivalent to that of the public high school. The teaching, executive, and service staffs number more than 550, and the work is carried on in 28 buildings occupying grounds with an area of 41 acres.

The distinctive spirit and character of the institution is indicated in the "History of Girard College" by its President, Dr. Cheesman A. Herrick, published in 1927, the study of which is commended to competitors. The special quality of the college is suggested in the opening paragraph of the Preface as follows: "Of Girard College it may be said, as has repeatedly been said of Christ's Hospital in England, that it is an institution without parallel in the country, wholly *sui generis*. For centuries Christ's Hospital has treasured its peculiar traditions, its ancient customs and ceremonies, and its conservatism. In all its earlier history Christ's Hospital was regarded merely as a charity, but in its later development it has become a great school, a national institution. In its shorter history, Girard College has gone through a somewhat similar evolution."

The Girard Will, while providing explicitly for the exclusion of sectarian influences, enjoins upon the instructors the teaching of "the purest principles of morality, so that, on their entrance into active life, they may, from inclination and habit, evince benevolence towards their fellow creatures, and a love of truth, sobriety and industry, adopting at the same time such religious tenets as their matured wisdom may enable them to prefer."

To this end, and as a part of its whole teaching program, the College maintains a form of religious education based upon Bible study, addresses upon the broad principles of morality and conduct by laymen who are leaders of religious thought, daily chapel exercises and special observances on Sunday, employing, with the speaker's address, sacred music, both instrumental and vocal, responsive readings from the Bible, scripture lessons and prayer.

The Chapel. This teaching work is conducted in the Chapel which therefore may be regarded as a structure dedicated to the teaching of the essentials of religion and the principles of morality.

The Committee desires that the new Chapel express this dedication and regards it as essential that the design avoid an architectural form historically identified with any particular religious faith. While it need not echo "Founders Hall" nor conform in style to nearby buildings it should, broadly speaking, harmonize with its surroundings.

The word "Chapel" as here employed follows the Century Dictionary definition (4) as indicating "a place of worship connected with a . . . corporation, as a University or College."

THE SITE

The Site is shown in a Plan of Site attached to the program. The building may employ the entire site but is not to extend steps, areaways or other of its parts beyond its boundaries. Six photographs of surrounding buildings,

taken from points indicated on the Plan of Site, are attached to the program.

THE BUILDING

Auditorium. This, to provide space for public worship, will be used only for purposes consistent with the religious motive. These will include Sunday and daily services, commencement exercises, organ recitals and other forms of classical musical entertainment, meetings for public addresses and the exercises of Founder's Day, this last marking the most important single event of the year at Girard College.

The auditorium is intended to seat an audience of about 2,200 (part of which may be placed in levels above the main floor), also providing space for speakers, faculty members and a chorus choir. To this end the following areas are required:

Total area of main floor and gallery, not less than	14,000 sq. ft.
Platform for speakers, faculty members and chorus choir, not less than	2,400 sq. ft.
Retiring Rooms, off speakers' platform, two, with toilets, total area about . .	400 sq. ft.

All parts of the auditorium should be accessible through a principal entrance vestibule or lobby but ample exits leading directly to the outside should be provided. The auditorium floor should be made to pitch.

The principal entrance should be directly accessible from the principal thoroughfare of the college grounds, north of the site.

The "speakers' platform" should have seats for five speakers, fifty (50) faculty members, a chorus choir of two hundred (200) and an organ manual. It may be arranged as for a university convocation hall with stepped-up seats in semicircular or rectangular plan. The retiring rooms should be convenient to platform and auditorium and be accessible also from the outside.

Organs. Space provision is to be made for an organ installation to consist of a main organ and an echo organ. The main organ may be in one or more lofts or chambers but if in two or more they must connect to form a single continuous chamber; the echo organ should be in a single chamber. Main organ chambers should be contiguous to the space containing speakers' platform. The echo organ should be placed above the auditorium, if possible, and in any case at a point distant from main organ. The latter may show either pipes or grilles; the echo organ grilles only. Neither pipe fronts nor grilles should be less in total area than that of the fronts of organ chambers behind them. The least dimensions of the organ chambers are to be as follows: Main organ, one or two chambers, total width 60 feet, depth 20 feet, height 45 to 60 feet; echo organ floor area 1000 sq. ft., lesser floor dimension 20 feet, height 16 feet. A blower room of about 250 sq. ft. floor area and a height of 6 feet is to be provided. It may be placed below the auditorium if connecting directly with the main organ chamber by an intake flue about 1 x 2½ feet in cross section.

Lecture Room. This is intended to seat about 1,500 persons. It may be placed below the auditorium but shall be a separate unit. It may be entered from the south and should have several exits leading directly to the outside. It will be used for lectures, private theatricals, the display of moving pictures, musical entertainments, etc., and will

PENCIL POINTS FOR OCTOBER, 1930

be provided with a stage with two dressing rooms, each with toilet. The floor is to be level. A gallery may be employed to provide part of the sittings and a moving picture booth must be placed.

The following areas are required: A total of not less than 9750 sq. ft. if the room have a single floor. If a gallery be employed the total area of both main floor and gallery shall be not less than 10,000 sq. ft. of which not over 3,000 sq. ft. may be given to the gallery.

Posts may be employed to support the floor above but should be minimized in number.

Stories. Two stories are called for; the main story, containing the auditorium, and the ground story, to hold lecture and other rooms. The clear height of the ground story, from floor to under side of ceiling beams, in designs where no gallery is employed, is to be not less than sixteen feet (16') (see (b), below). The clear height under gallery, where the latter is shown in lecture room, shall be not less than seven feet (7') and clear head room above highest gallery floor level not less than six feet six inches (6'6").

The levels of ground floor and main floor shall be brought as near grade line as possible.

Miscellaneous. Communication between ground and main stories should be provided but need not accommodate a large number of persons.

Toilets, etc., additional to those above prescribed, must be provided separately for faculty (men and women) and students. The following areas should be provided: Faculty retiring rooms with toilets for men and for women, one each in ground story, 100 to 150 sq. ft. each, and one toilet in main story for each, of 50 to 100 sq. ft. each; student toilets, all in ground story, two to four at 100 to 150 sq. ft. each. Cleaners' closets are to be placed in each floor at convenient points.

A service elevator is to be provided to connect all floor and gallery levels.

The Philadelphia building laws governing places of assemblage are to be observed as they apply to this project.

Cubage. The volume of the building is to be not more than two million (2,000,000) cubic feet. It is therefore required that the volume of this building as shown in each competitive design shall not exceed two million (2,000,000) cubic feet measured as follows, to wit:—Within the planes formed by the outer faces of the outer walls of the building and between a plane two feet below the ground floor level and the upper surfaces of roofs, plus the full volume of the following, to wit: porticoes, porches or other structures outside the outer walls of the main building, whether with free standing columns, piers or walls, measured within the outer face line of such columns, piers or walls and the outer face line of the building proper and from a plane at the bottom of their foundations (not less than six feet below grade) to the surfaces of their roofs; outside steps measured from a plane at the bottom of their foundations (not less than six feet below grade); areaways measured from outside the building plane to outside of area walls and from top of coping to a plane one foot below floor level; buttresses, balconies, parapets, balustrades, pent houses, and any other feature adding appreciably to the bulk of the building. It is further provided that

(a) Walls decorated with pilasters or engaged columns in series shall be computed to the outer face line of such features; terraces or external masonry platforms above grade line shall be computed within their outside wall lines and from floor to bottom of foundations (not less than six feet below grade), but cornices, belt courses and

similar projections shall be excluded from computation.

(b) The roof of the auditorium shall be figured to have an average thickness of at least one-eighth ($\frac{1}{8}$) of its span, such thickness to include truss and ceiling and roof covering and to obtain whether the ceiling be flat or curved.

All other rooms or spaces (e. g. lecture room) whose least dimension between ceiling supports is twenty-five feet or more should show and shall be figured to have a total thickness, for beam or truss and floor or roof above, equal to at least one-tenth (1-10) of such least dimension.

REPORT OF THE JURY

The jury met on Sunday morning, August 10th, and attended services in the present Chapel, and afterward examined the proposed site, particularly taking into consideration the surrounding buildings.

Previous to the meeting of the Jury, each member had been provided with the program and all the other information given to the competitors. The Jury found the program to be such an exceedingly lucid document that they were able to proceed with their labors with the main points of the project clearly set forth. Guided by the above and observations on the spot, the Jury proceeded on the afternoon of August 10th to view informally the ten designs, and on the two following days examined and analyzed the drawings with the greatest care.

The Adviser delivered to the Jury the report of the Computers, which showed that all the designs fell within the maximum cubage. Furthermore, it was found that the areas required by the program were met in each of the designs. The Jury verified the compliance of the designs with such mandatory provisions of the program as came within their purview, and found that all the designs conformed to these provisions. The Jury then made a careful study and comparison of the various designs and have selected design number ten as showing the best solution of the problem. In accordance with the further requirements of the program, the Jury selected design number six and placed it second, and design number four and placed it third.

Design number ten was found to be outstanding for the following reasons:

It provides the best auditorium and the best lecture room.

The designer, having produced an excellent plan, has made his frame for it, both exterior and interior, in harmony with his plan and in harmony with the character required for this building.

The architect has shown originality in placing his building on the site and in considering all its surroundings.

The Jury, therefore, unanimously recommend that design number ten be premiated, thus awarding to the author of this design the commission as architect of the Chapel for Girard College.

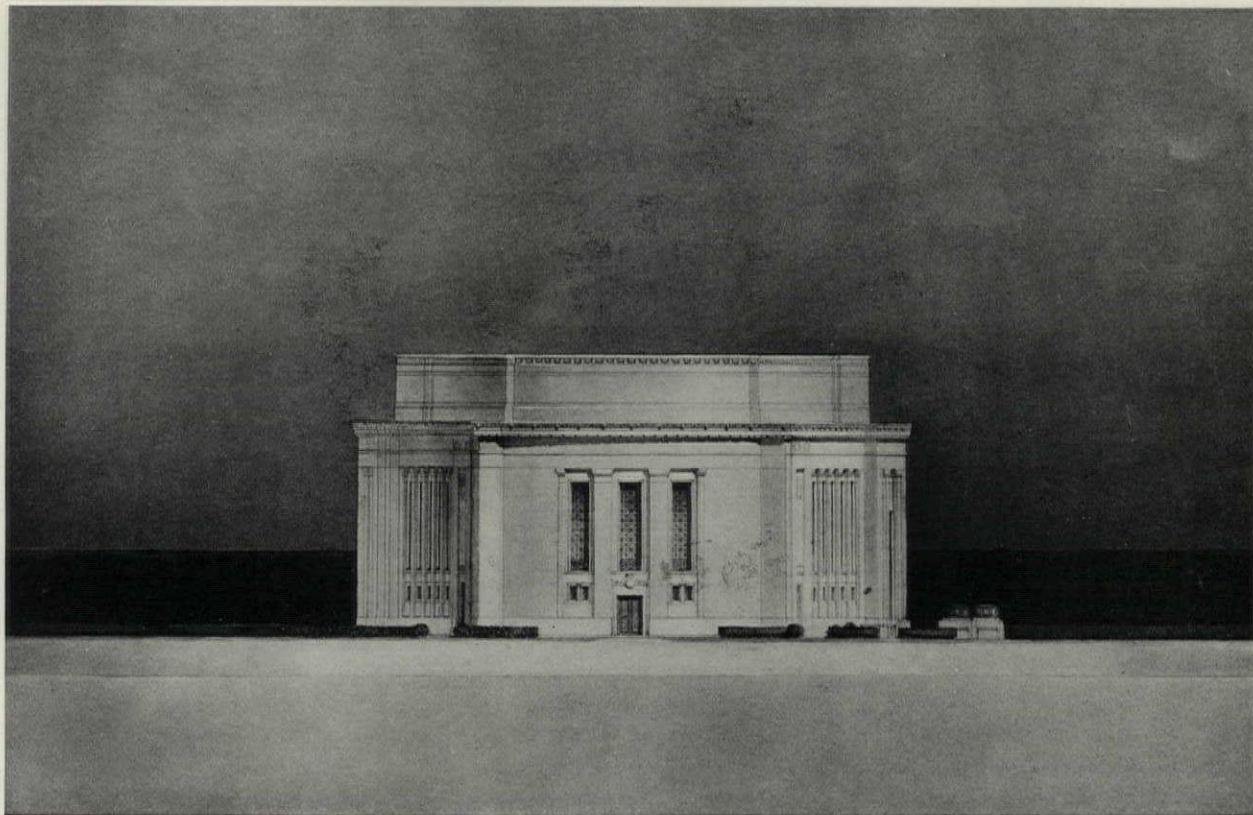
Jury of Award	JEAN HÉBRARD EVERETT V. MEEKS CHARLES A. PLATT, <div style="text-align: right;"><i>Chairman.</i></div>
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Following a careful consideration of the report of the Jury the Committee by resolution accepted the report and designated design Number 10 as premiated.

The Committee then opened the envelope bearing the same number, disclosing the authors of this design, and the architects awarded the prize of the competition, as Messrs. Thomas, Martin, and Kirkpatrick of Philadelphia.

(Continued on page 851)

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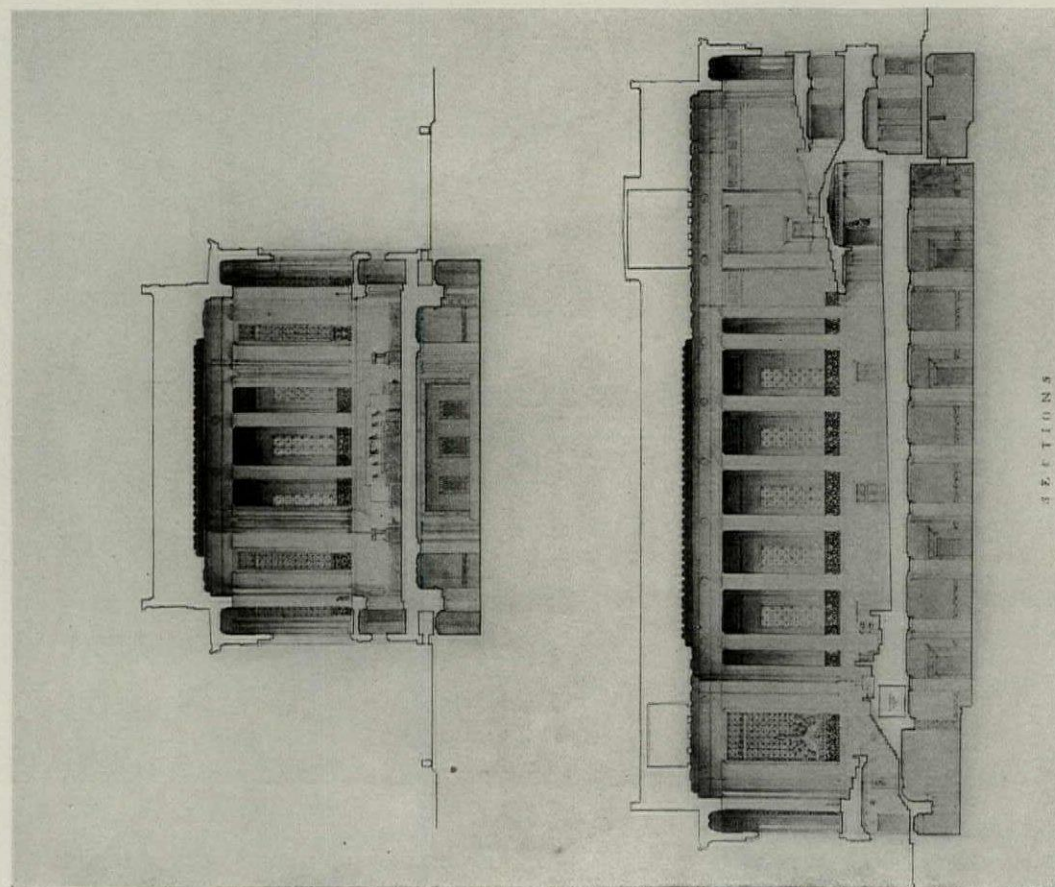
EAST ELEVATION



NORTH ELEVATION

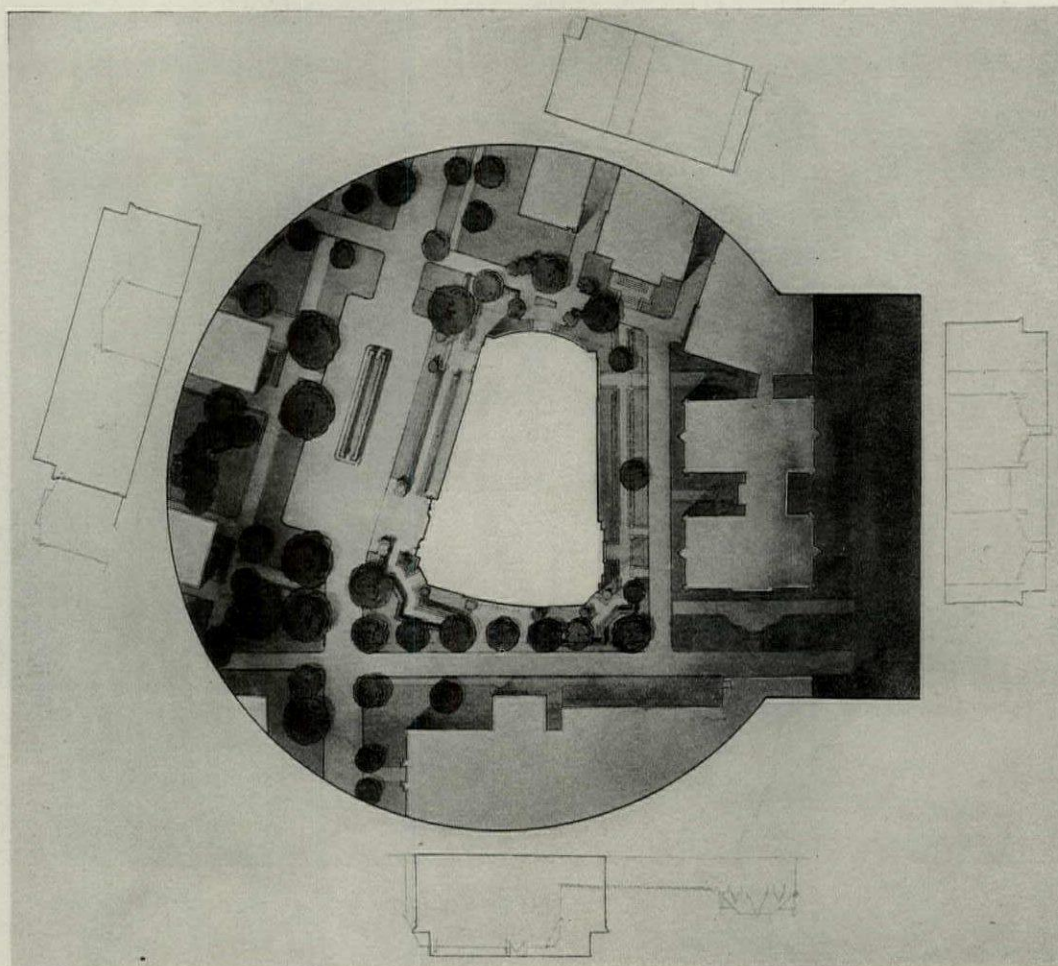
PRIZE WINNING DESIGN BY THOMAS, MARTIN, AND KIRKPATRICK, ARCHITECTS, PHILADELPHIA, PA.
COMPETITION FOR GIRARD COLLEGE CHAPEL

PENCIL POINTS FOR OCTOBER, 1930



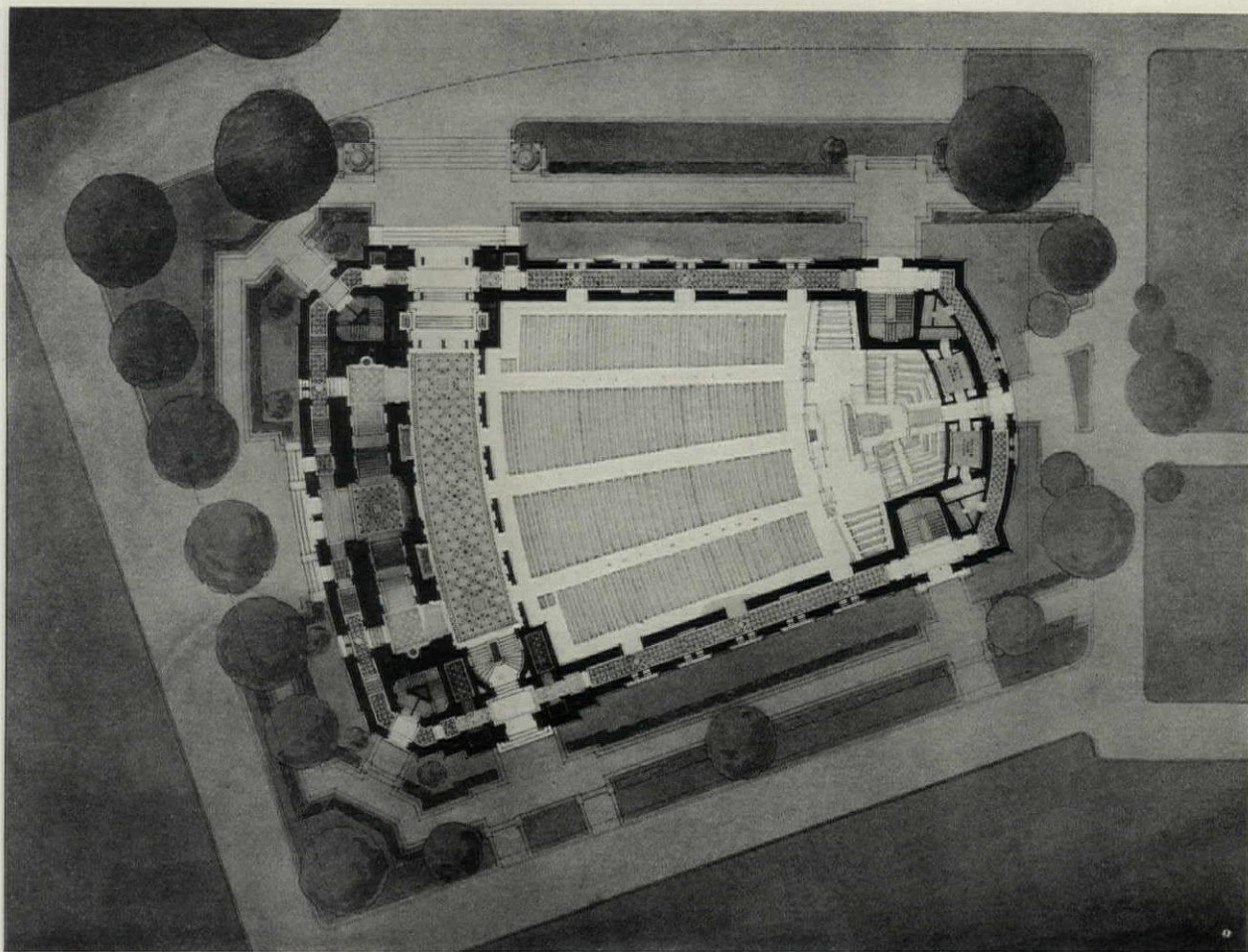
SECTIONS

TRANSVERSE AND LONGITUDINAL SECTIONS

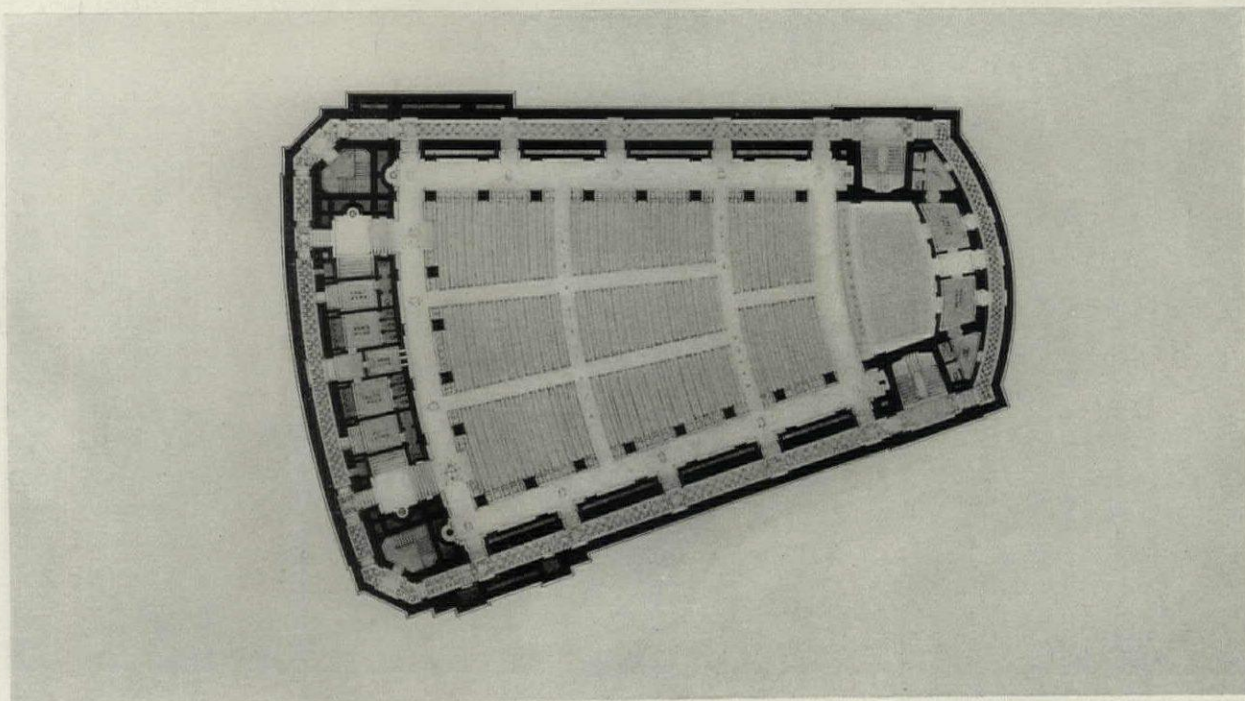


PLOT PLAN

PRIZE WINNING DESIGN BY THOMAS, MARTIN, AND KIRKPATRICK, ARCHITECTS, PHILADELPHIA, PA.
COMPETITION FOR GIRARD COLLEGE CHAPEL

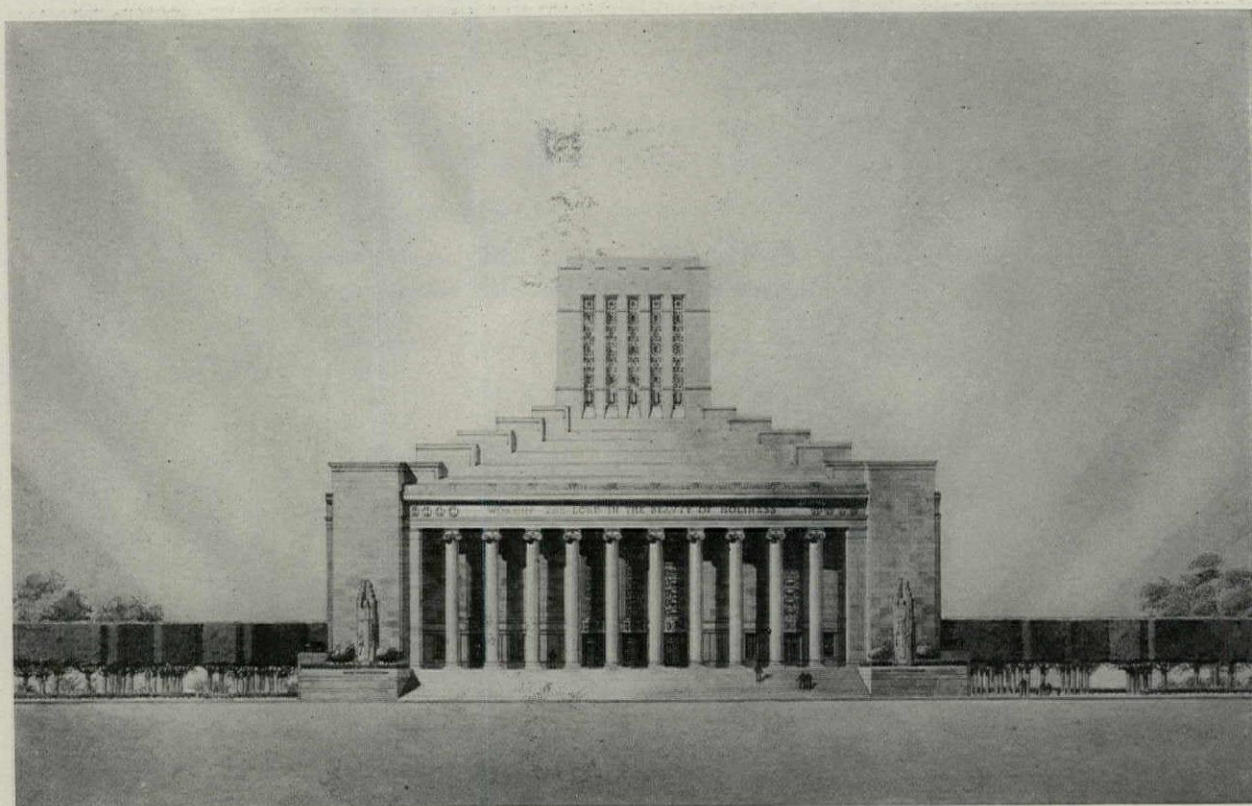


MAIN FLOOR PLAN

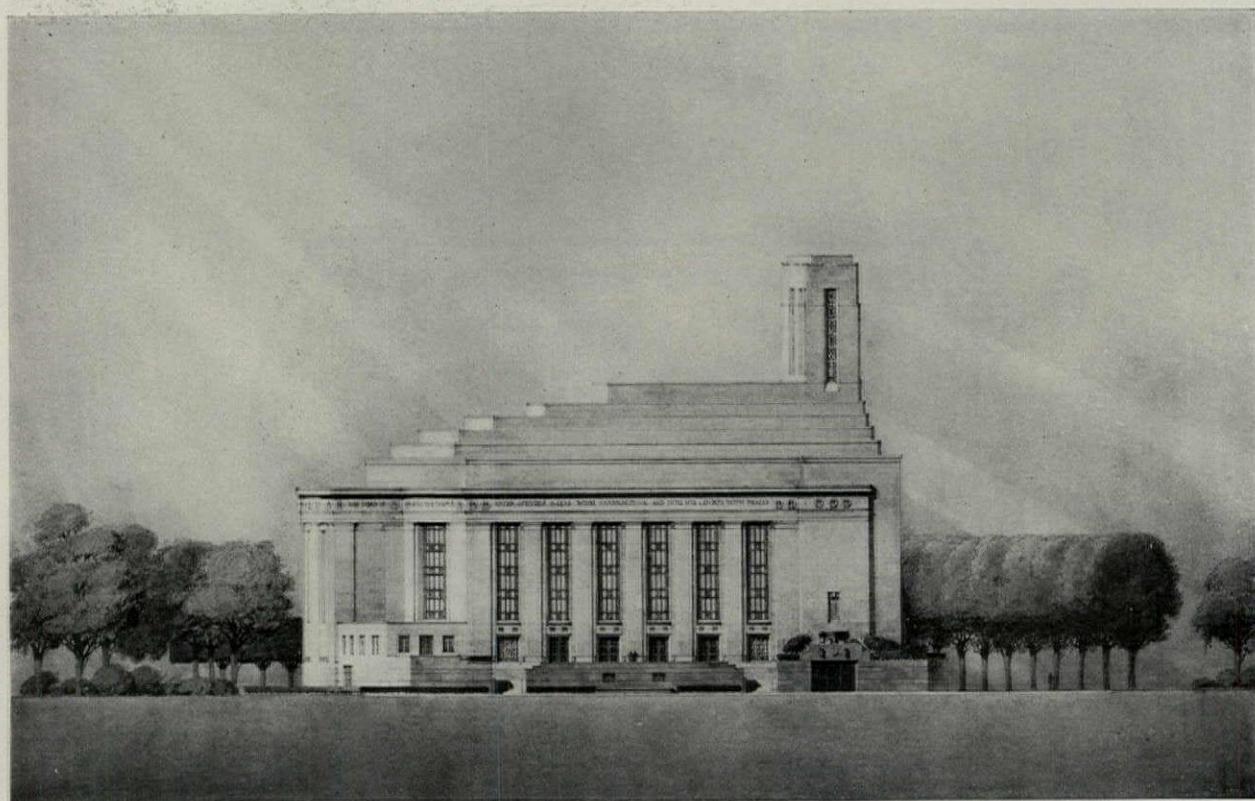


GROUND FLOOR PLAN

PRIZE WINNING DESIGN BY THOMAS, MARTIN, AND KIRKPATRICK, ARCHITECTS, PHILADELPHIA, PA.
COMPETITION FOR GIRARD COLLEGE CHAPEL

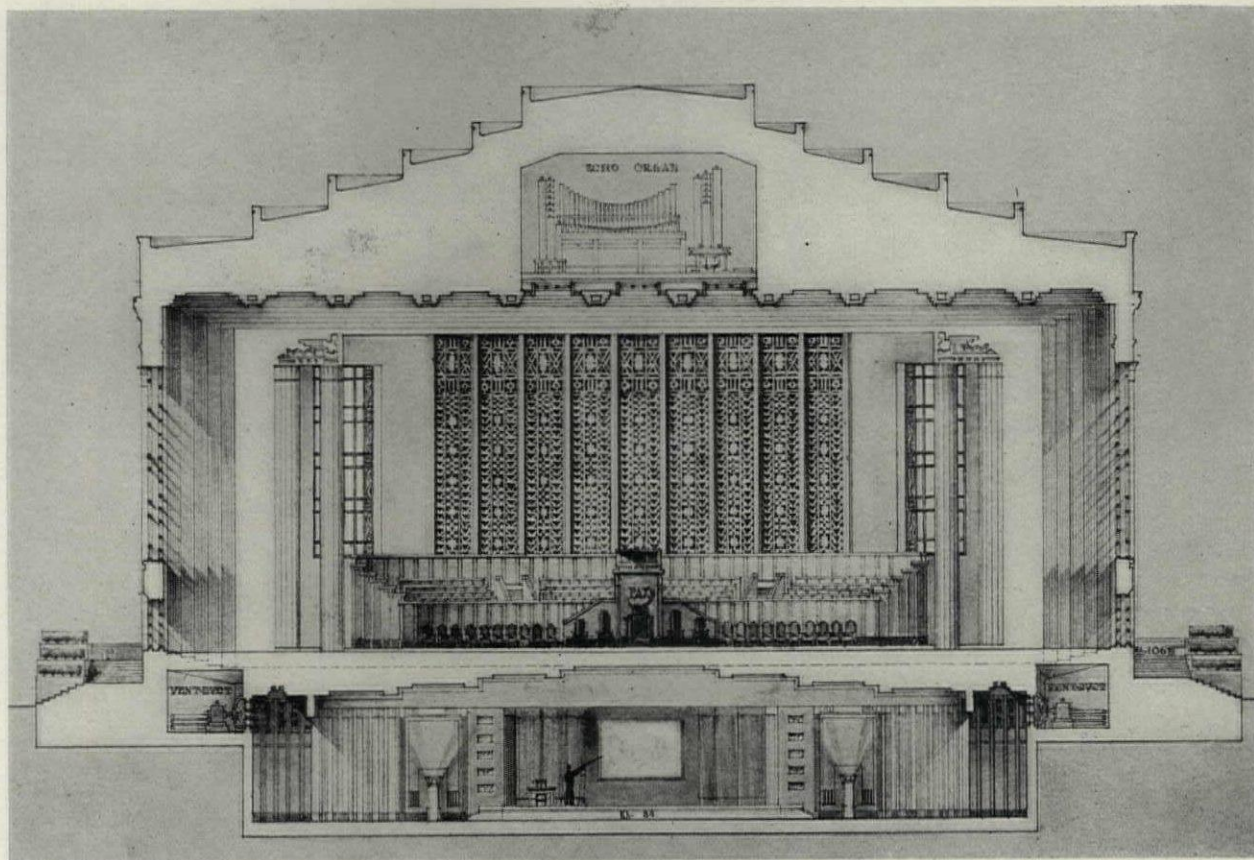


FRONT ELEVATION

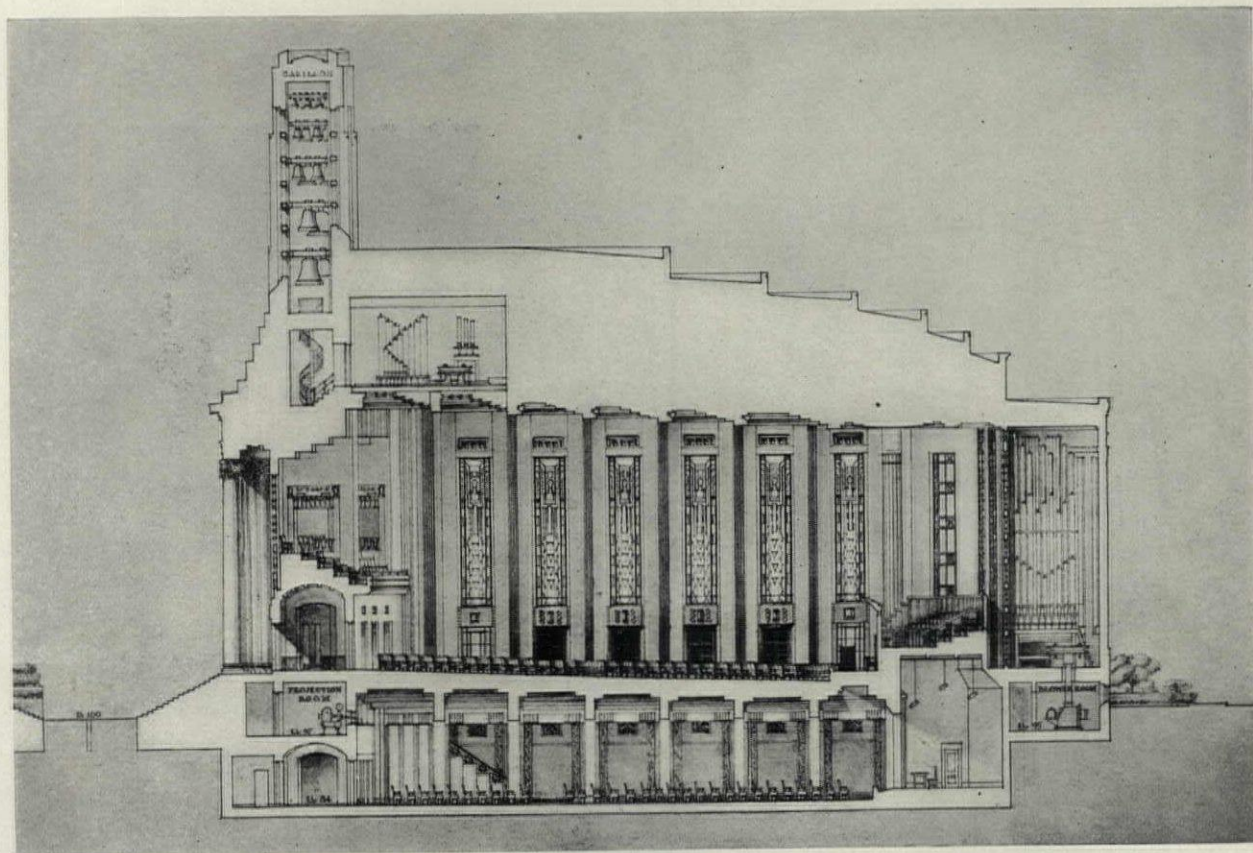


SIDE ELEVATION

DESIGN PLACED SECOND BY HARRY STERNFELD, AND ZANTZINGER, BORIE, AND MEDARY, ASSOCIATED ARCHITECTS
COMPETITION FOR GIRARD COLLEGE CHAPEL



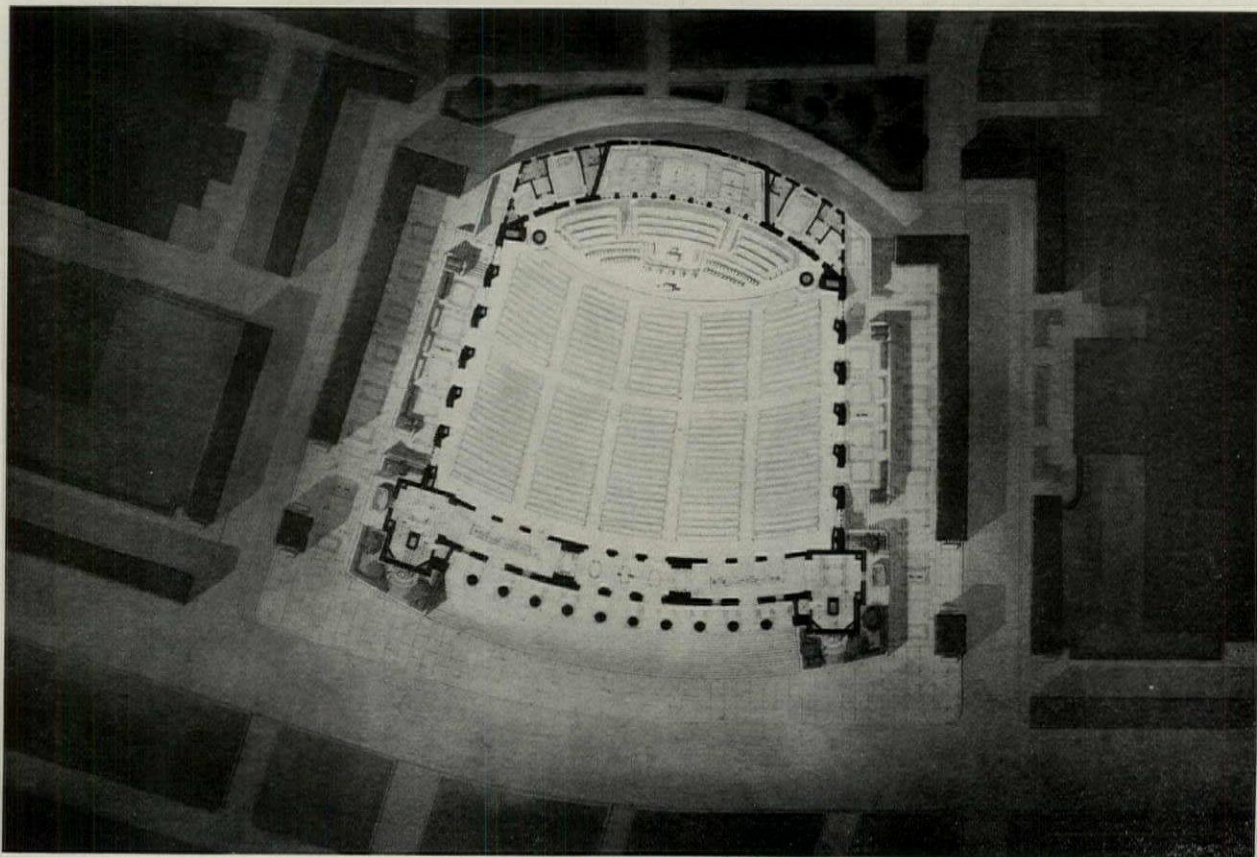
TRANSVERSE SECTION



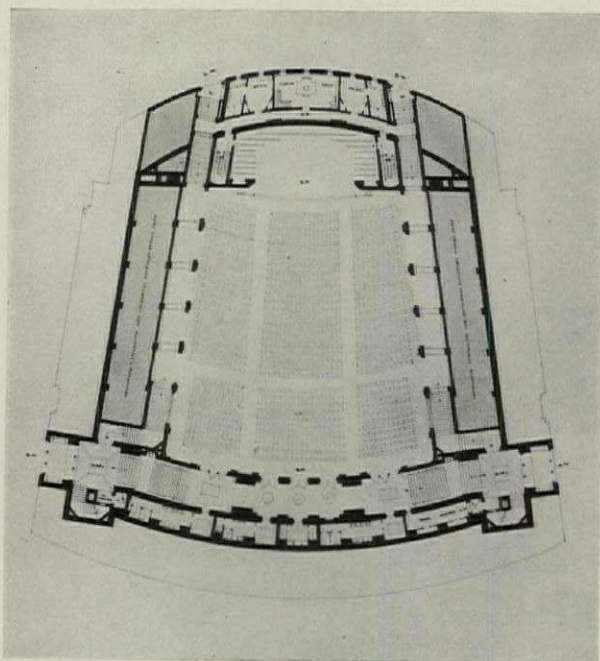
LONGITUDINAL SECTION

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COMPETITION FOR GIRARD COLLEGE CHAPEL

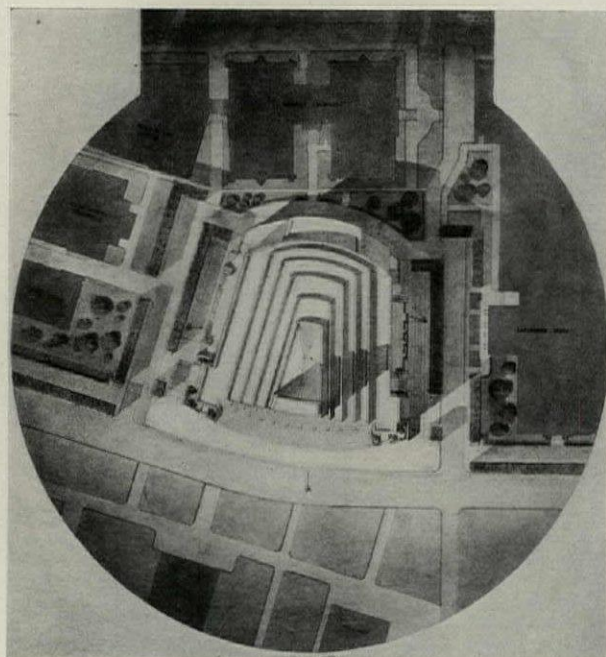
PENCIL POINTS FOR OCTOBER, 1930



MAIN FLOOR PLAN

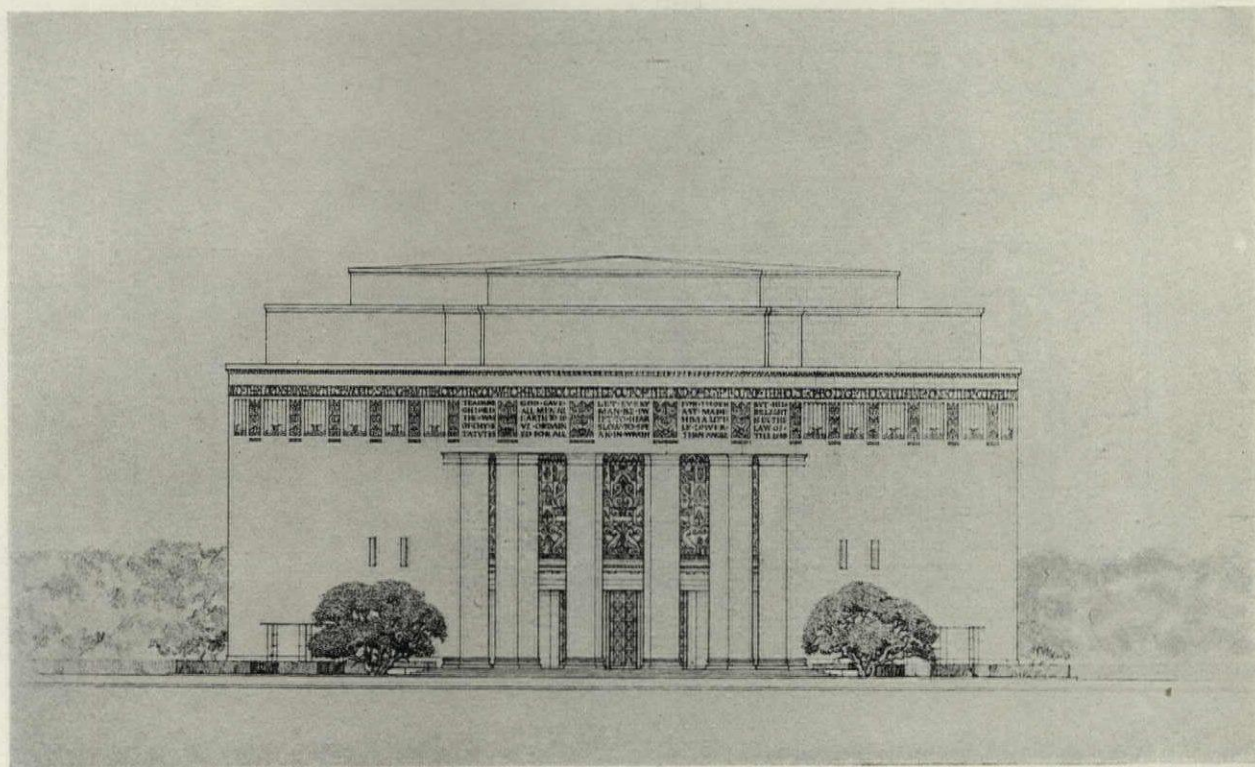


GROUND FLOOR PLAN

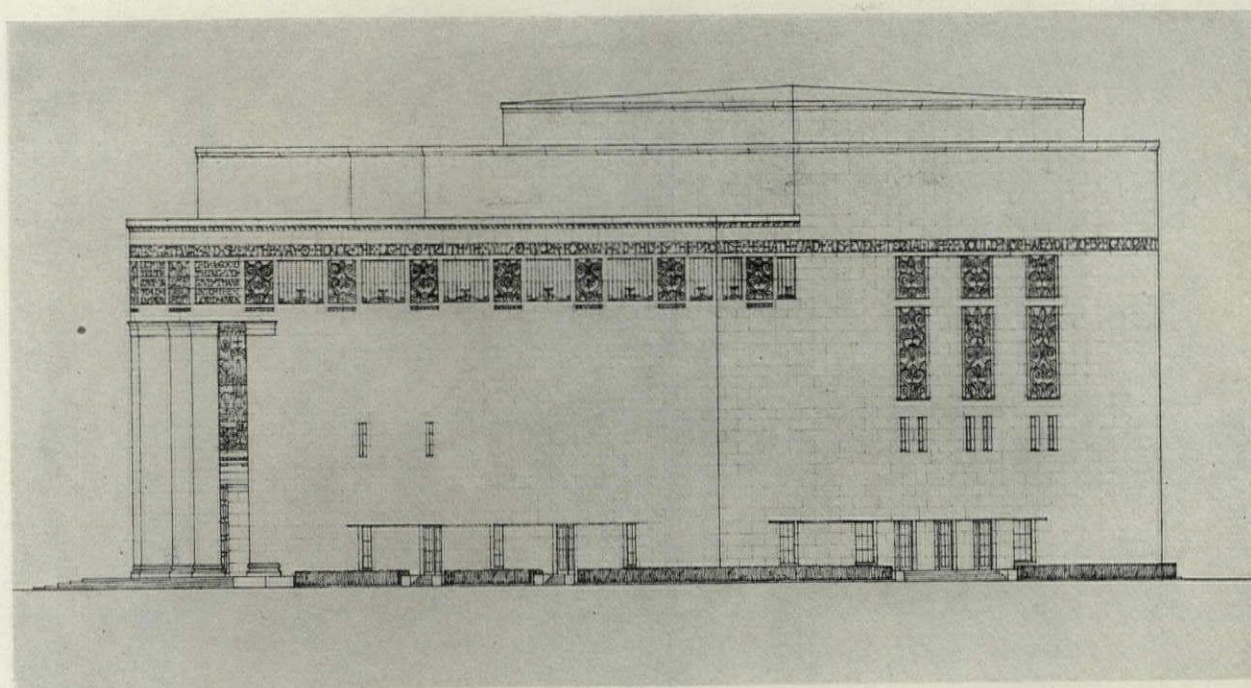


PLOT PLAN

DESIGN PLACED SECOND BY HARRY STERNFELD, AND ZANTZINGER, BORIE, AND MEDARY, ASSOCIATED ARCHITECTS
COMPETITION FOR GIRARD COLLEGE CHAPEL

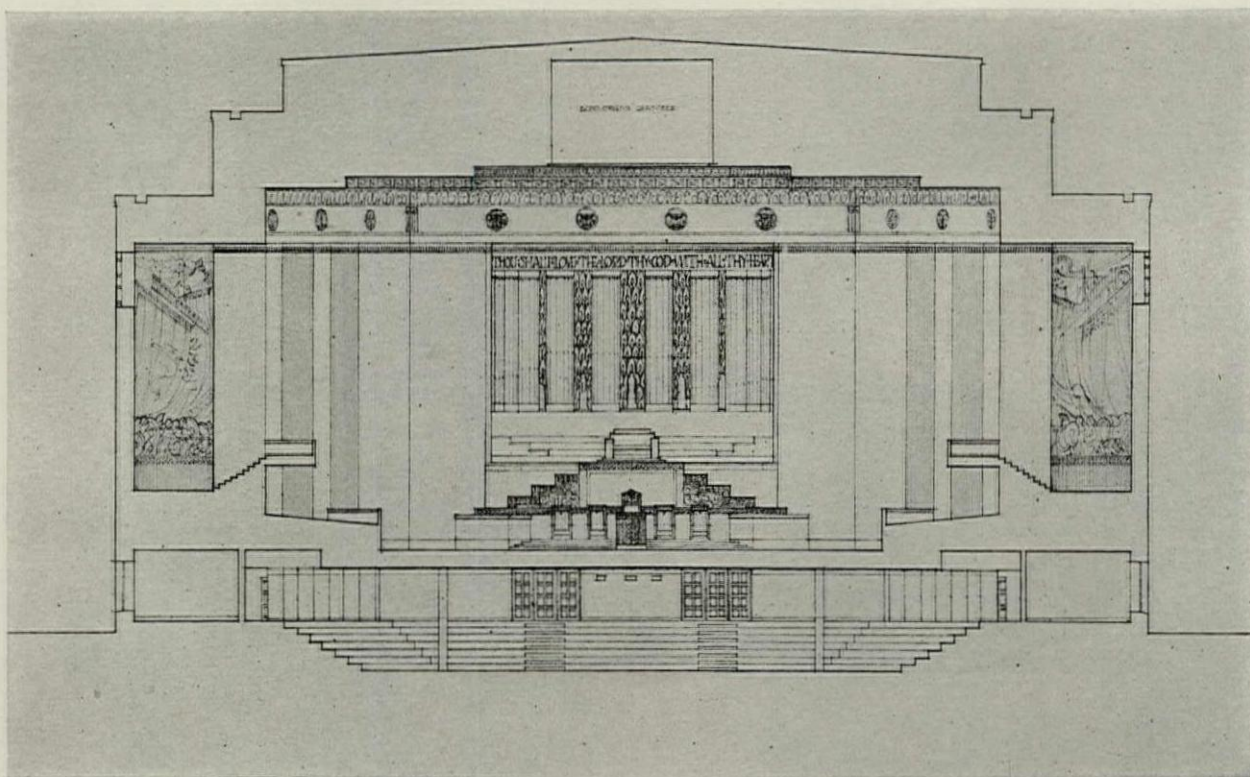


FRONT ELEVATION

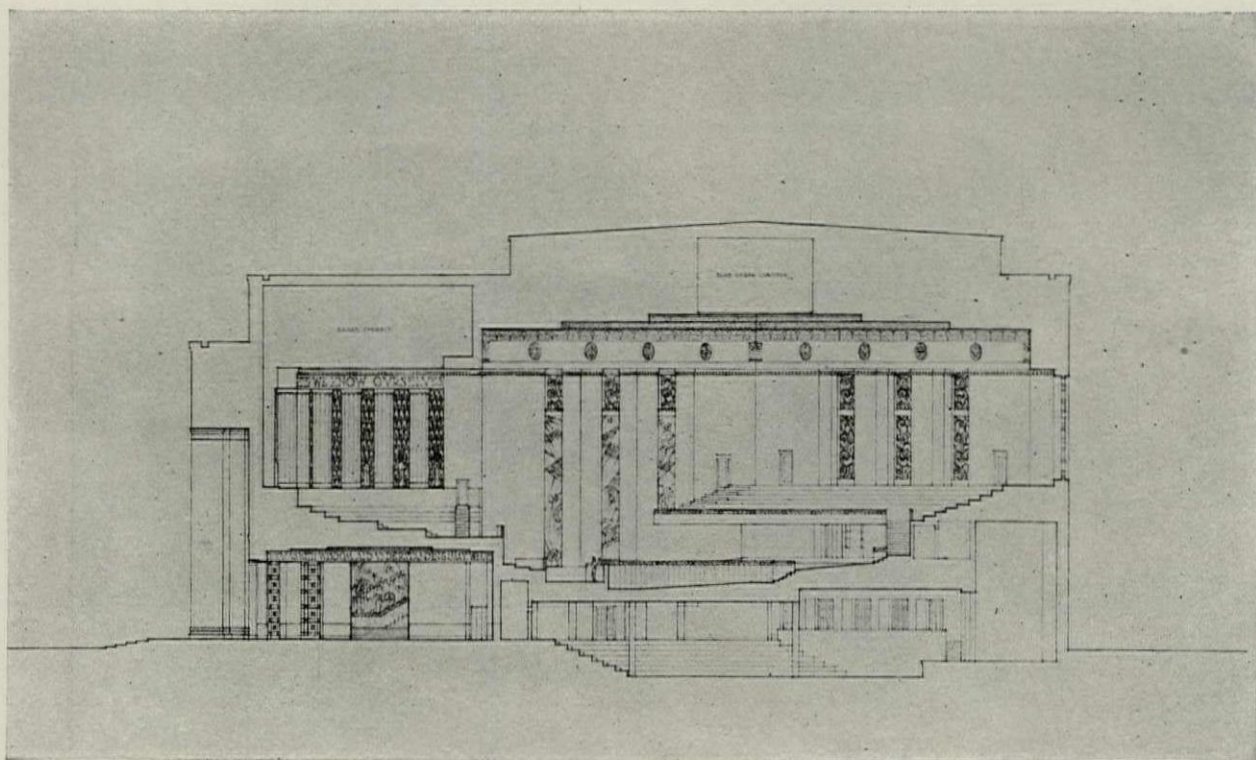


SIDE ELEVATION

DESIGN PLACED THIRD BY RAYMOND M. HOOD, GODLEY, AND FOULHOX, ARCHITECTS, NEW YORK
COMPETITION FOR GIRARD COLLEGE CHAPEL

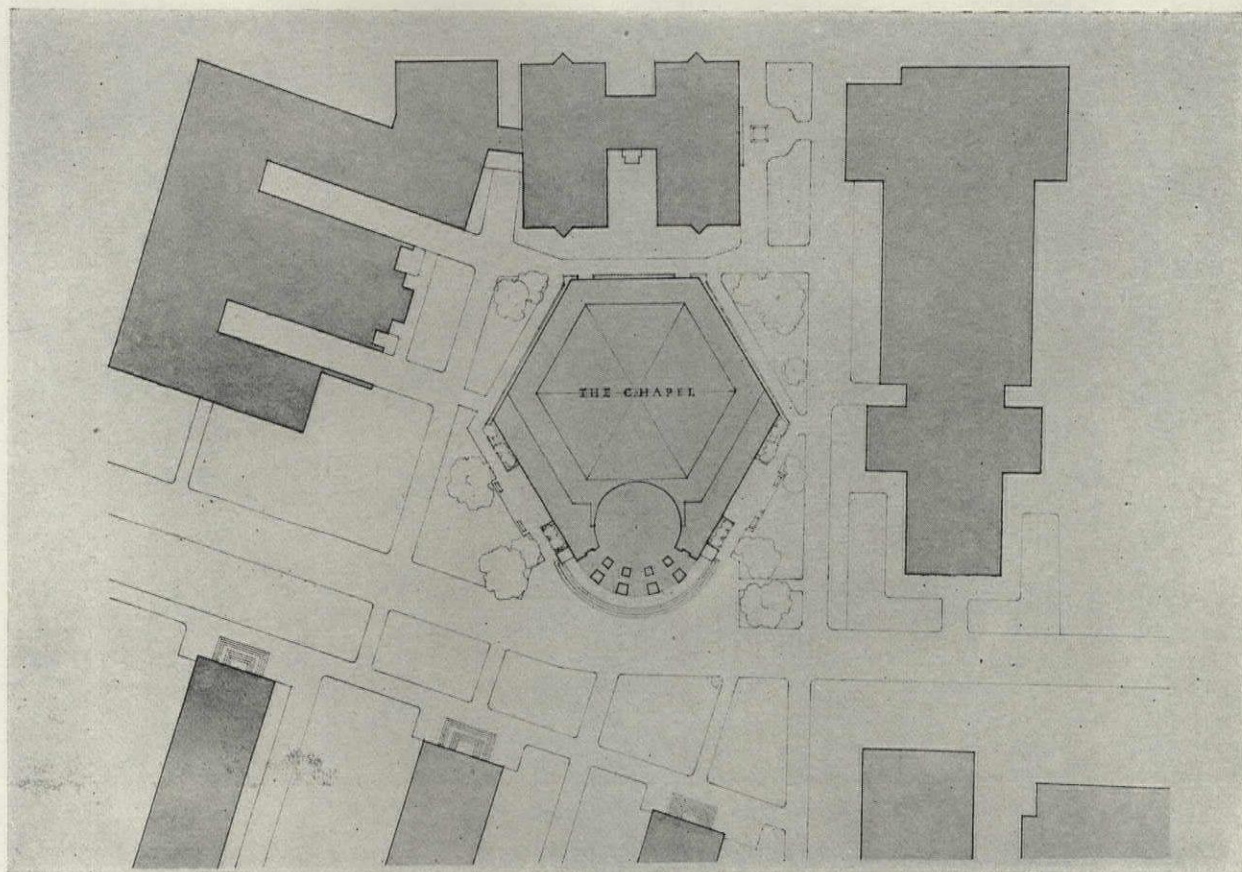


TRANSVERSE SECTION

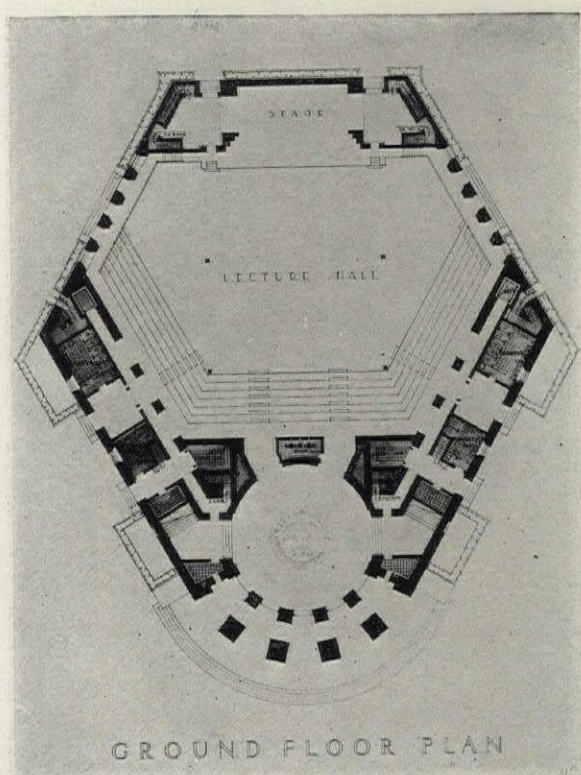


LONGITUDINAL SECTION

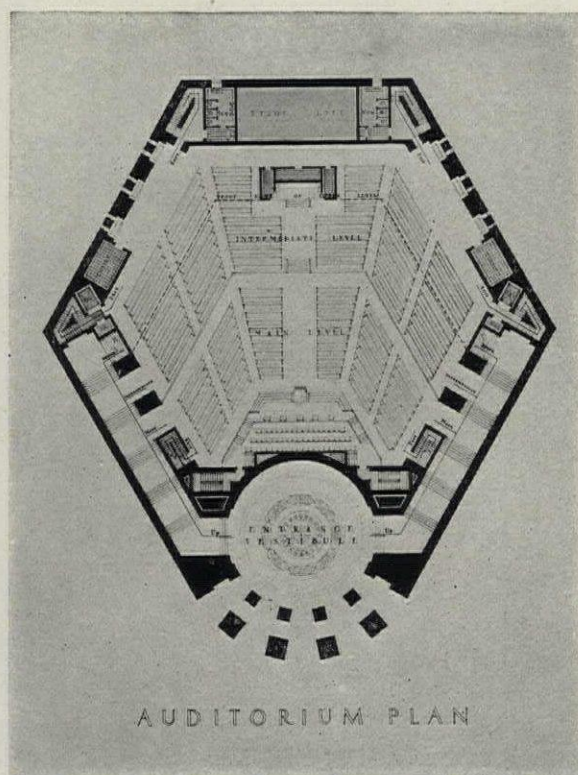
DESIGN PLACED THIRD BY RAYMOND M. HOOD, GODLEY, AND FOULHOUX, ARCHITECTS, NEW YORK
COMPETITION FOR GIRARD COLLEGE CHAPEL



PLOT PLAN



GROUND FLOOR PLAN



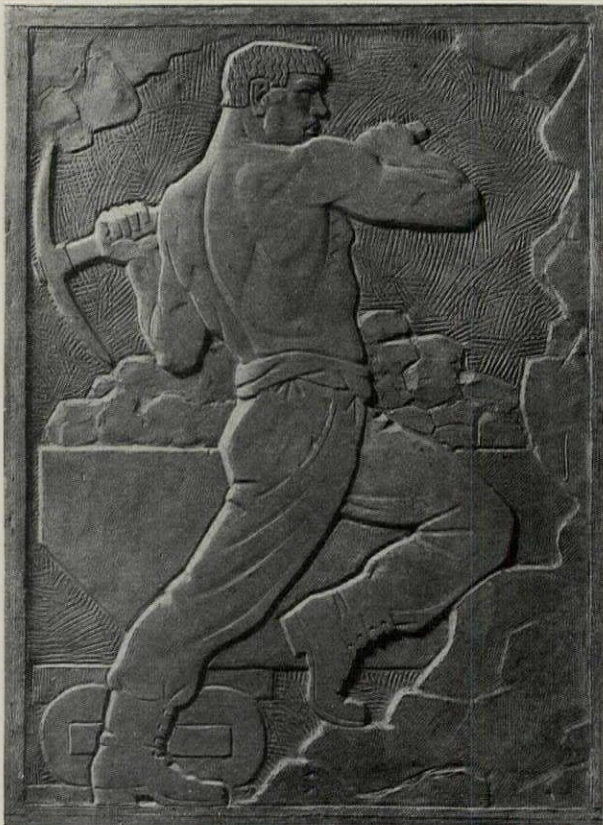
AUDITORIUM PLAN

DESIGN PLACED THIRD BY RAYMOND M. HOOD, GODLEY, AND FOUILHOUX, ARCHITECTS, NEW YORK
COMPETITION FOR GIRARD COLLEGE CHAPEL

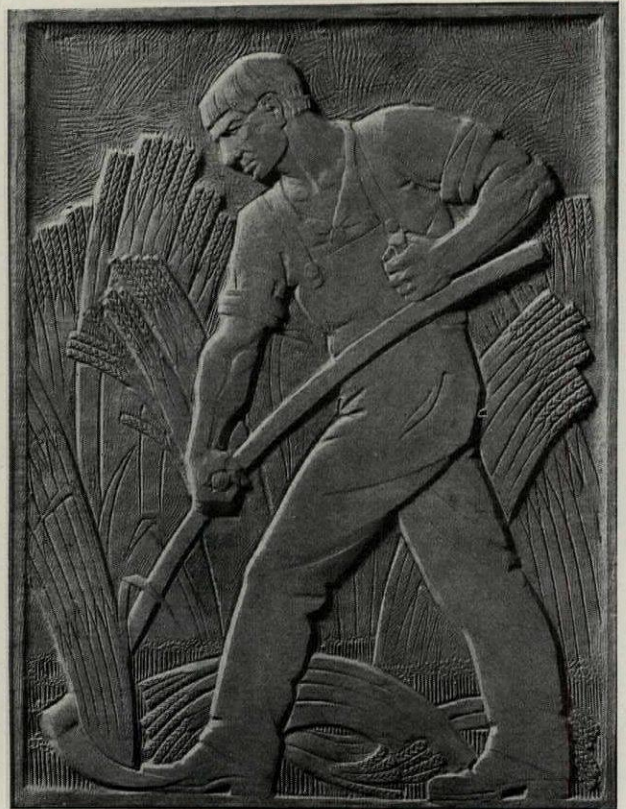


"MANUFACTURING"—CENTER PANEL

Herewith and on the following pages are shown nine of a series of fourteen bronze spandrel panels representing modern activities. The panels are placed between the first and second floor levels of the building and are cast with one-half inch depth of relief.



"MINING"—LEFT PANEL



"AGRICULTURE"—RIGHT PANEL

SCULPTURE FOR 75 FEDERAL STREET BUILDING, BOSTON, MASSACHUSETTS

PAUL FJELDE, SCULPTOR—THOMAS M. JAMES COMPANY, ARCHITECTS



"TRANSPORTATION"—CENTER PANEL
Size of original—7' 1/2" x 4' 4"



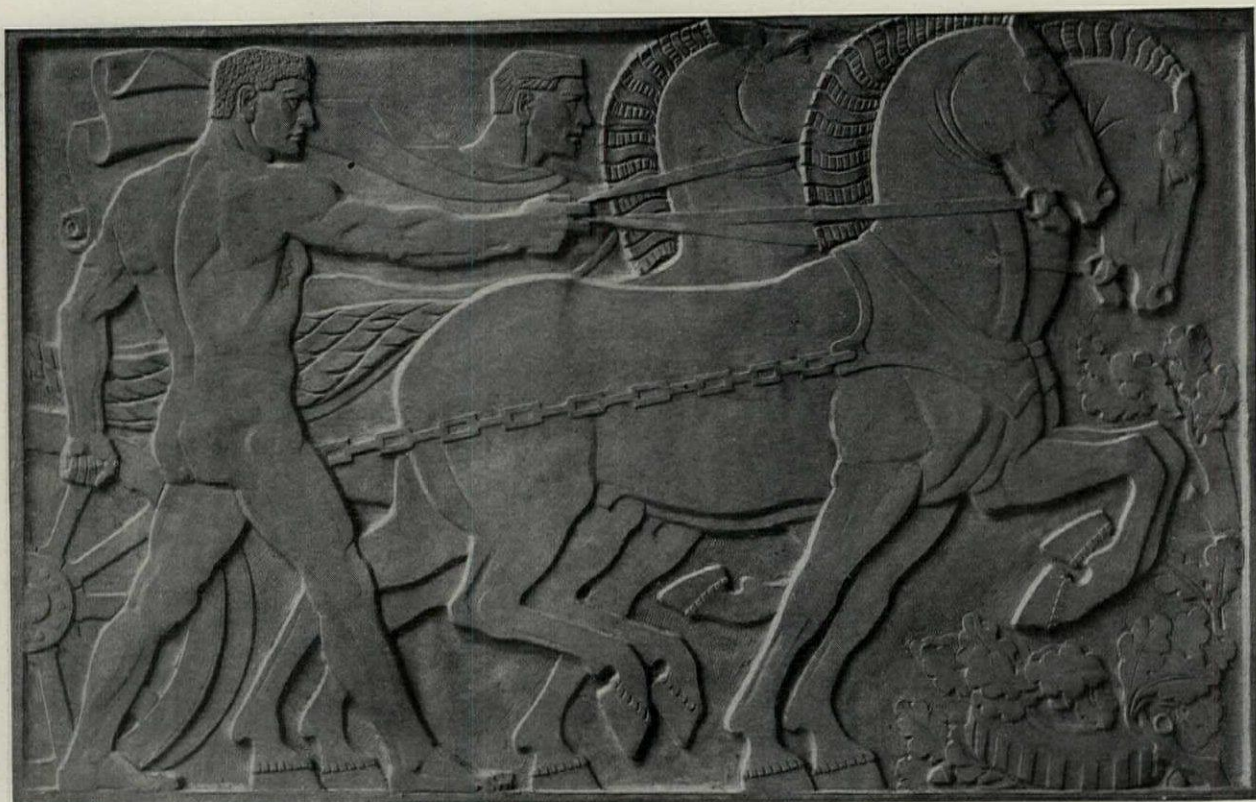
"TRANSPORTATION"—LEFT PANEL
Size of original—3' 4 1/2" x 4' 4"



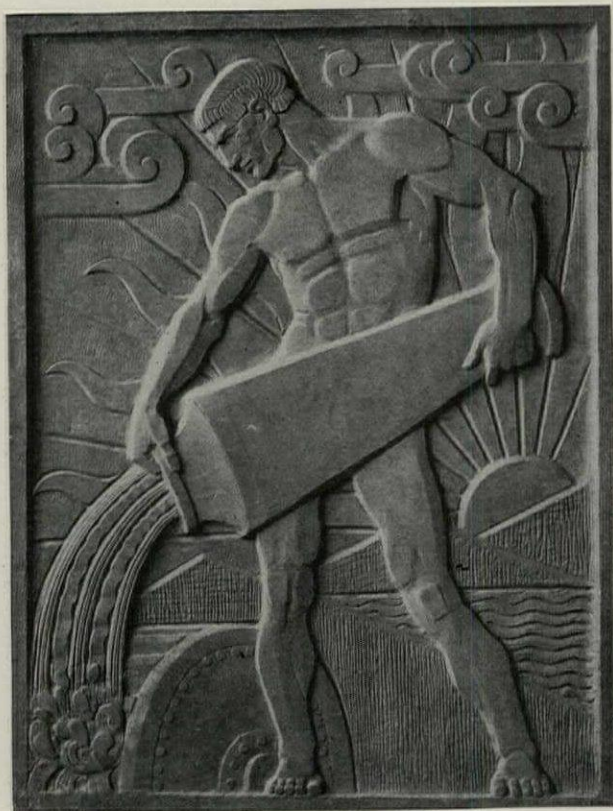
"TRANSPORTATION"—RIGHT PANEL
Size of original—3' 4 1/2" x 4' 4"

SCULPTURE FOR 75 FEDERAL STREET BUILDING, BOSTON, MASSACHUSETTS

PAUL FJELDE, SCULPTOR—THOMAS M. JAMES COMPANY, ARCHITECTS



"POWER"—CENTER PANEL
Size of original—7' 1/2" x 4' 4"

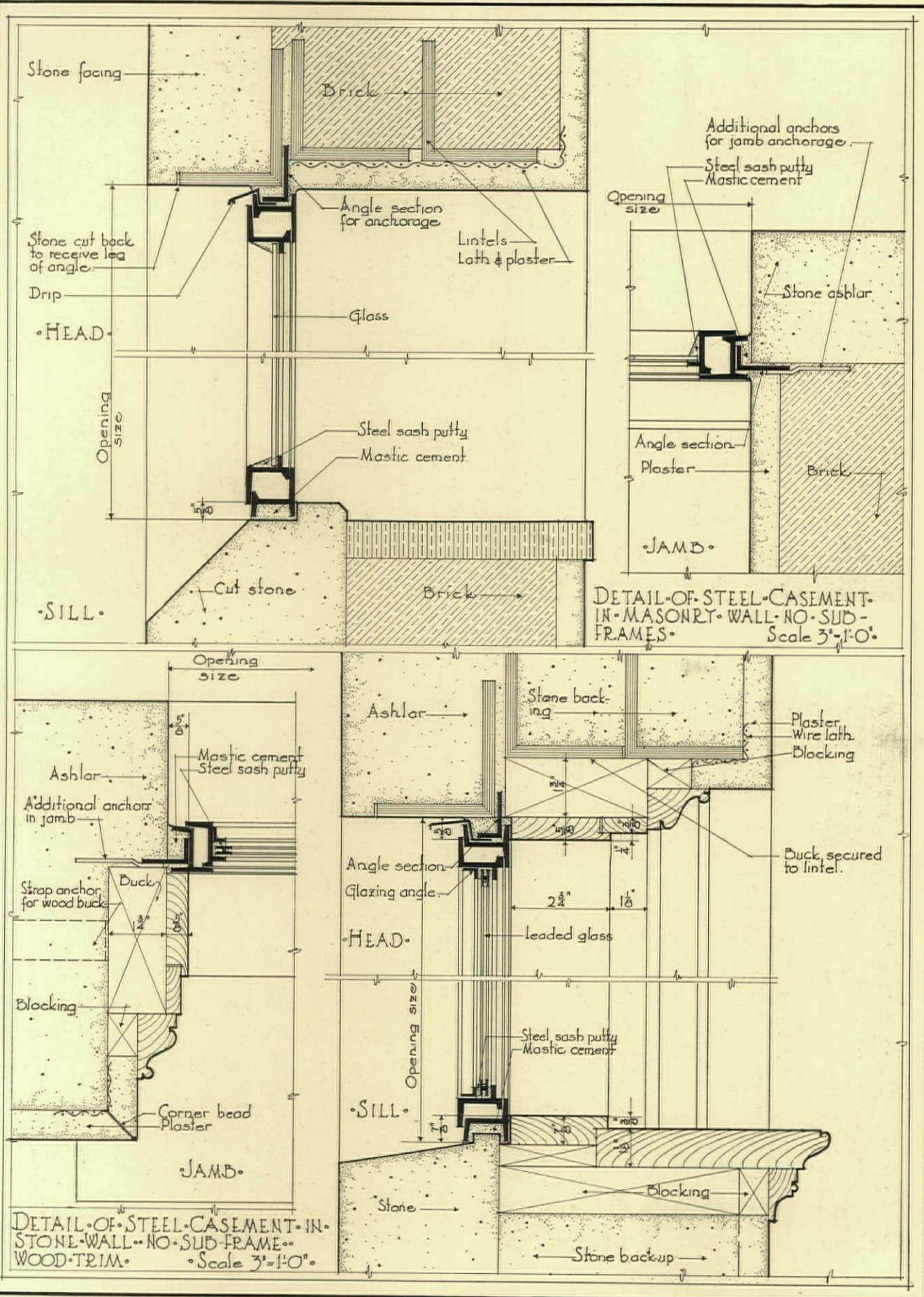


"POWER"—LEFT PANEL
Size of original—3' 4 1/2" x 4' 4"

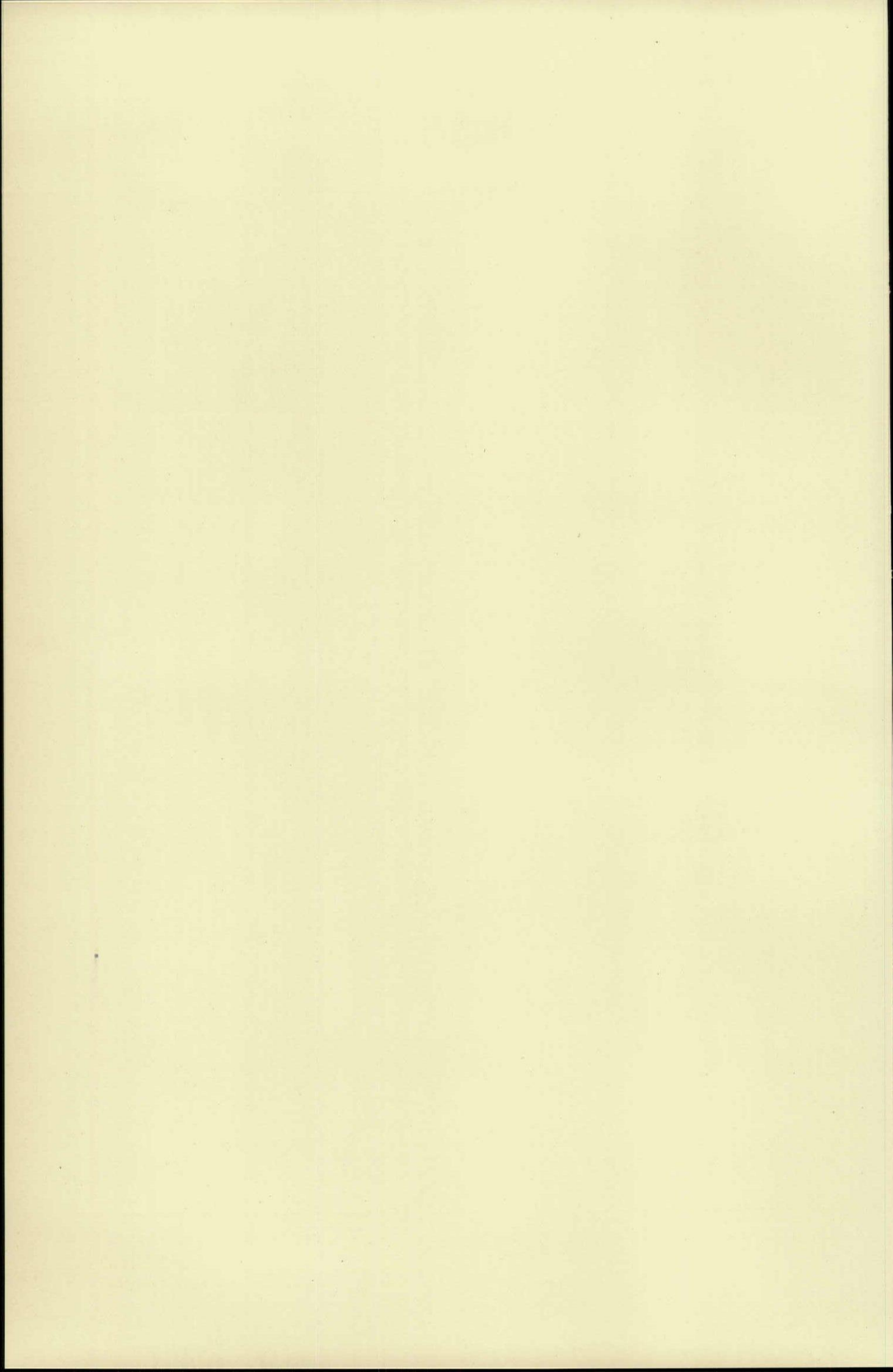


"POWER"—RIGHT PANEL
Size of original—3' 4 1/2" x 4' 4"

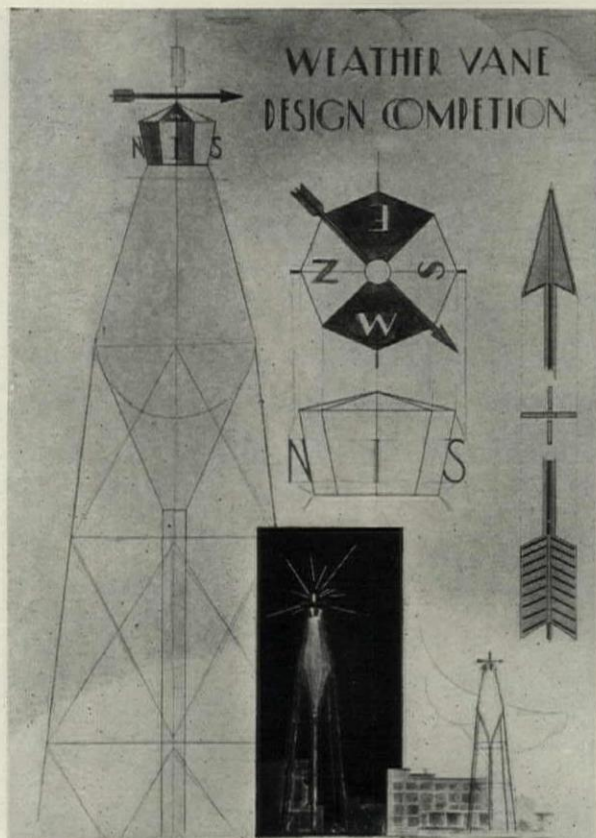
SCULPTURE FOR 75 FEDERAL STREET BUILDING, BOSTON, MASSACHUSETTS
PAUL FJELDE, SCULPTOR—THOMAS M. JAMES COMPANY, ARCHITECTS



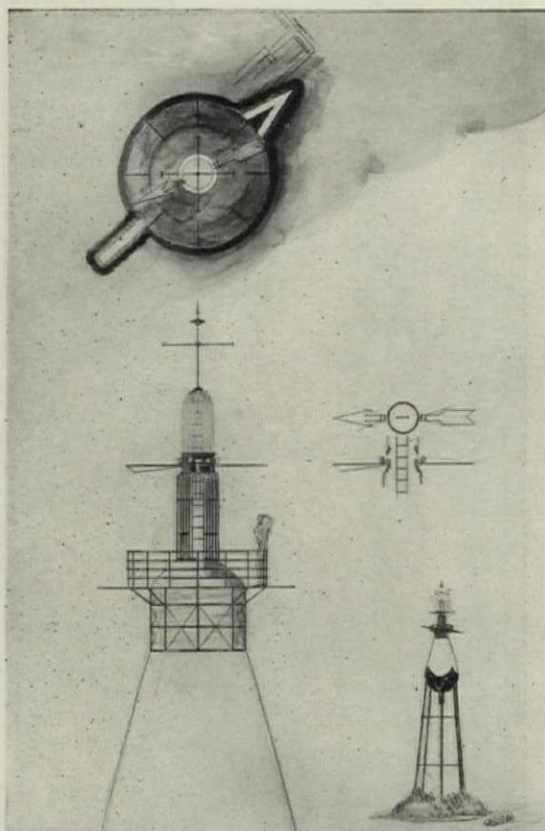
GOOD PRACTICE IN CONSTRUCTION—STEEL CASEMENT IN STONE WALL—DRAWN BY PHILIP G. KNOBLOCH



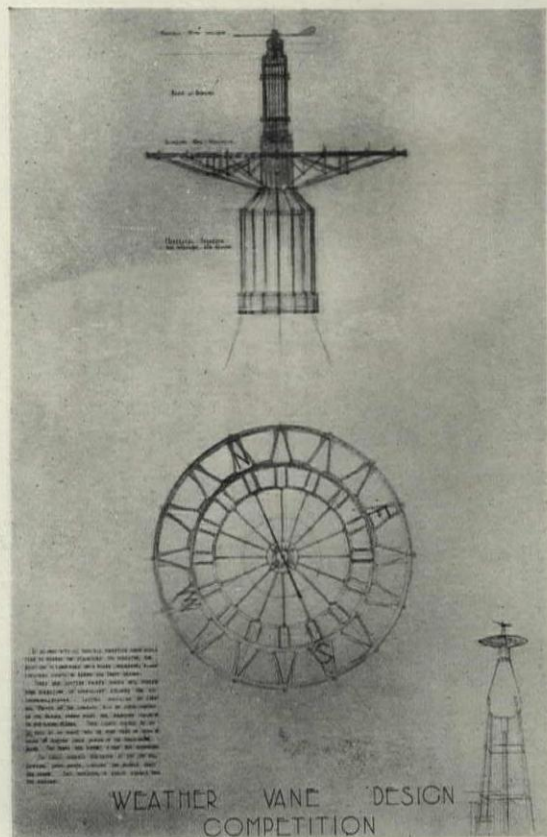
PENCIL POINTS FOR OCTOBER, 1930



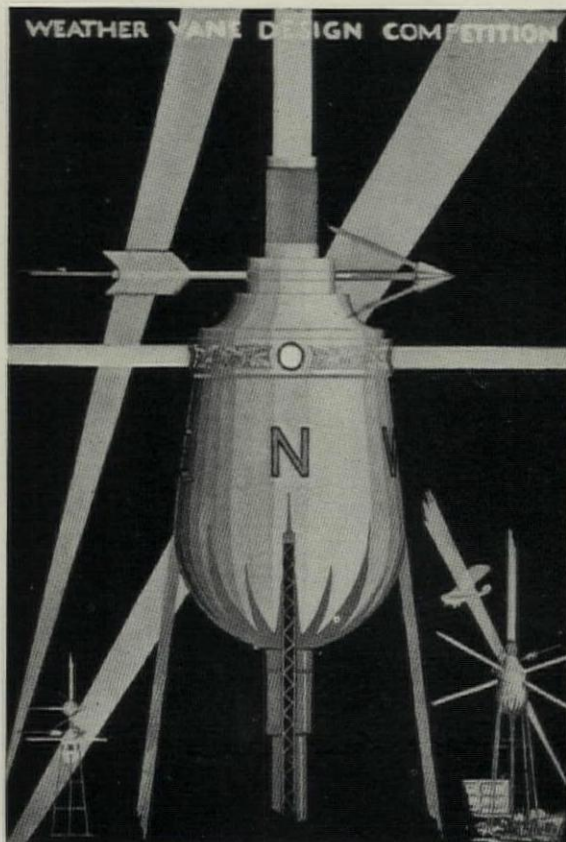
FIRST PRIZE—BY CARL KUDLICH, SCARSDALE, N. Y.



SECOND PRIZE—BY LEONARD DE WITT, CHICAGO, ILL.



THIRD PRIZE—BY JAMES GORDON CARR

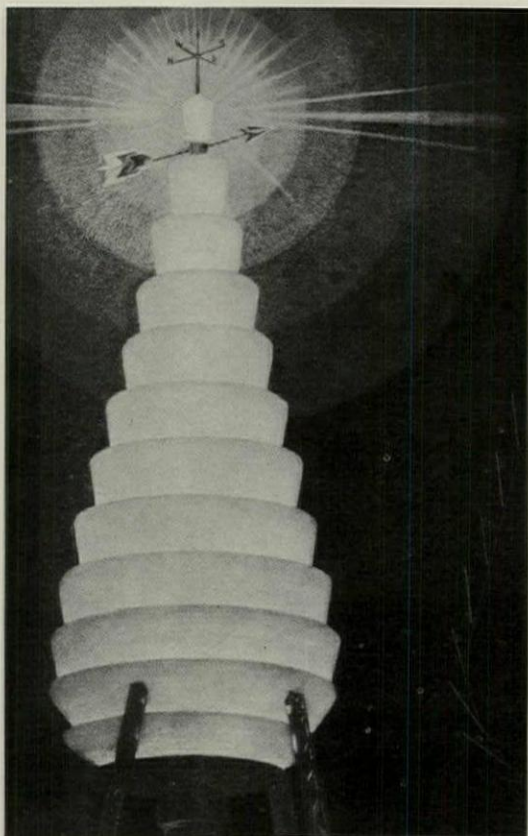


DESIGN BY BEN WYATT, NEW YORK

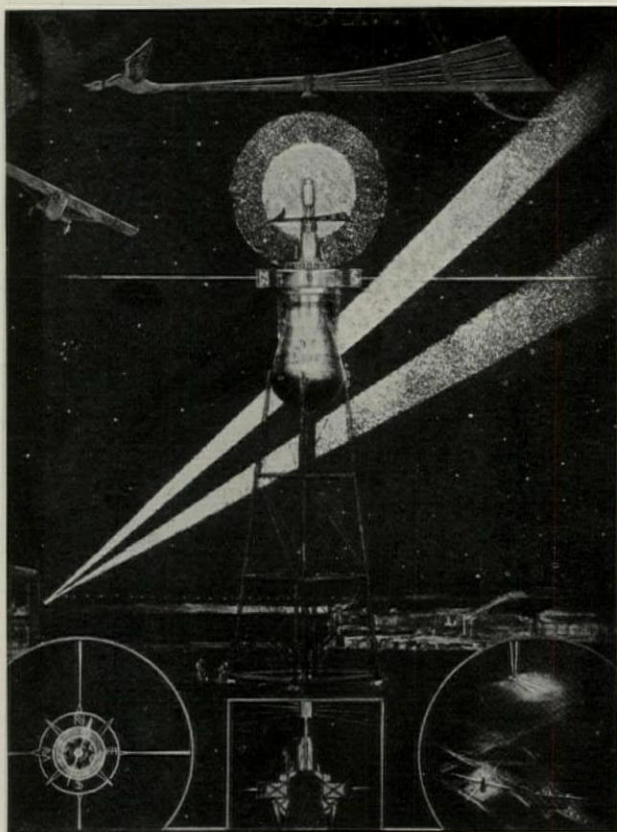
COMPETITION FOR A WEATHER VANE FOR CARRIER ENGINEERING CORPORATION, NEWARK, NEW JERSEY

SPONSORED BY THE ART ALLIANCE OF AMERICA

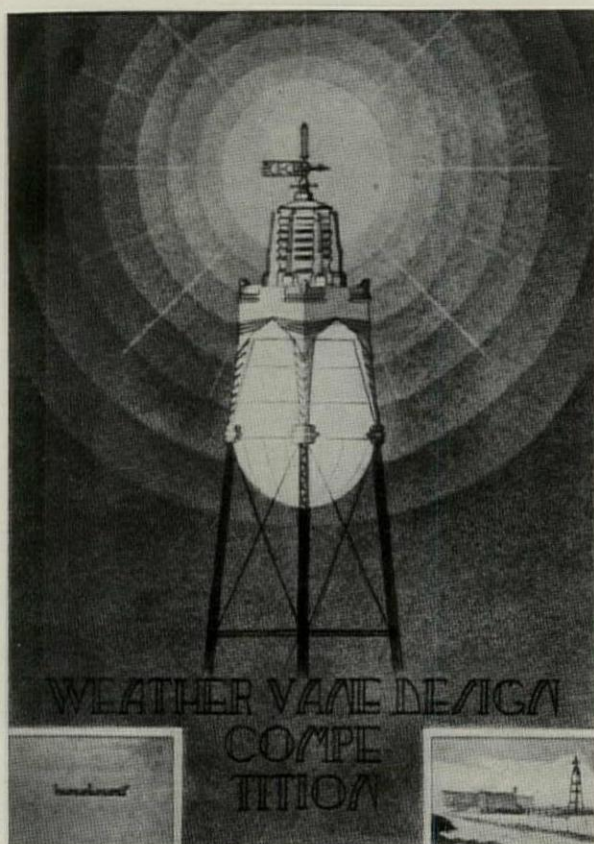
(The program for this competition was announced on page 209 of the March issue)



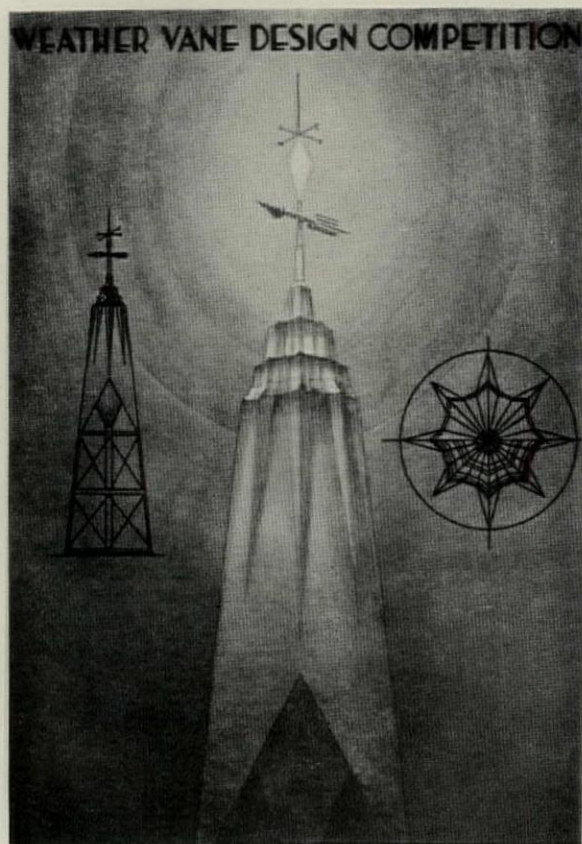
DESIGN SUBMITTED BY IRWIN L. SCOTT, NEW YORK



DESIGN SUBMITTED BY ALBERT F. BECK, PHILADELPHIA, PA.



DESIGN SUBMITTED BY HELMER N. ANDERSON, CHICAGO, ILL.



DESIGN SUBMITTED BY A. W. BARTHELL, ELMHURST, L. I.

COMPETITION FOR A WEATHER VANE FOR CARRIER ENGINEERING CORPORATION, NEWARK, NEW JERSEY

SPONSORED BY THE ART ALLIANCE OF AMERICA

(The program for this competition was announced on page 209 of the March issue)

IN FURTHER DISCUSSION OF "THE VALUE OF THE ARCHITECT'S SERVICES"

EDITOR'S NOTE: In the September issue we published a number of letters from architects expressing opinions and offering criticisms of our document, "The Value of the Architect's Services." We believe that the following letters will be of particular interest and invite further suggestions from architects. The criticisms received will serve as a basis for revising the document so that its eventual publication will be of benefit to the profession as a whole.

From HENRY G. EMERY of Nyack, N. Y.

"I have received the July issue of PENCIL POINTS, and have looked over, with much interest, the matter on page 563 and following.

"The campaign you have undertaken should be of the greatest interest to architects, and it is surprising and disappointing that the reaction, among them, to your commendable efforts, has been so lacking in unanimity and enthusiasm. The reason must be, that architects, as a class, are poor business men, and have little faculty to perceive how to make their way in the world, or to secure respect and patronage for their abilities.

"In view of the architect's low estate in the public esteem, the task of winning higher prestige and increase of business for him seems a tremendous and almost hopeless undertaking. As with other jobs, equally huge, the only thing to do, is to begin, and keep on, until it is consummated; with a clear perception that haste must be made slowly, and that much time and effort must be spent, before appreciable results may be expected. Whether a campaign conducted by a single organization, such as yours, however ably and enthusiastically prosecuted, can be expected to accomplish enough to justify the money and energy necessary to it, may well be questioned; but you deserve the greatest credit for initiating the project, and the least we architects can do, is to give it very careful consideration, and co-operate with you, as well as we can.

"Your brochure entitled 'The Value of an Architect's Services,' takes up some 14 double-column pages in your magazine. I have not read it all, but I have looked through it, and read portions.

"As a statement of the architect's position, it is true, accurate, well expressed and well considered. At the same time, it seems to me that there is an air of desperate earnestness, and special pleading about it, that deprives it of much of its force. It reminds one of the tone of the salesman's recital (so familiar to the architect), when he is fighting with his back to the wall, to put over his arguments, sell his line of goods and defeat the similar efforts of his rival, who is waiting out in the outer office, for his turn with the prospective buyer.

"Would it not be worth while to take a leaf out of the book of the Department Store Advertisement Writer, who daily sets forth the merits of his employer's wares in the public prints, in a manner (carefully studied), that conveys a sense of good humor and insouciance, and makes his matter readable, even though we are aware of the completely sordid motive that it so skilfully masks.

"I doubt very much whether the average individual, for whose perusal your brochure is so carefully prepared, would have the patience to read it through, on account of its super-serious and didactic tone. It could, I think, be made more readable, more forceful and more effective, by abbreviation; and by alteration, as suggested, in its quality.

"I have taken the liberty of re-writing page 567, to illustrate my suggestion, and enclose it herewith. To my mind, the final page (587) is by far the best. It has all the qualities that the preceding pages seem to need.

"The illustrations are well selected and aptly amplify the printed matter. It was a happy thought to add these to the written argument."

From LANCELOT SUKERT of Detroit

"I have just finished reading 'The Value of the Architect's Services' in the July issue of PENCIL POINTS. You have asked my opinion of this.

"Of course it is unnecessary to state that the document exhibits the deep study and careful editing that was given its preparation. The arguments are most tenable and the presentation is excellent.

"The first questions that occurs to me is 'How are you going to place this document in the hands of possible prospects? Who are they? Where are they? How can you find them?' In asking these questions I clearly indicate my own doubt as to the possibility of reaching unknown prospects except through the shot-gun method of magazine advertising. The Illinois Society of Architects sent their propaganda to financiers and attorneys, thereby reaching a known element who should be educated concerning the functions of the architect. This element, however, while having considerable to do with building does not go to make up the 'owner class.' Nine-tenths of my own clients have no contact whatsoever, at least upon building projects, with lawyers or financiers.

"The great criticism of any form of printed memoranda is that you must first find the right person to hand it to. Somewhere, in the great population of this country, there are thousands of people who have never built before, know nothing concerning the architect and his work, but who now have the desire, financial means and the intention to build. If I knew who and where they were I would tell them why they should employ an architect. I wouldn't leave it to chance that they might read a printed document. Unfortunately I do not know who or where they are. The only method I can propose for reaching them is advertising in the type of magazine which we suppose they read.

"The second question is, having placed this document in their hands (provided you are able to find them), 'How are you going to make prospects read it?' As interested as I am in this subject and as greedily as I seize upon any real hope for group publicity, I must confess even I was licked by the length and formidable size of the document. To avoid shooting at their readers more than could be digested at once the architects in Illinois sent out their propaganda in seven parts, allowing a breathing spell between arguments for giving the reader a chance to thoroughly understand and digest each argument as it was driven home.

"Frankly I would never have read your document through to the bitter end if I had not promised you that I would. I believe that it can be boiled down to one-third its present length without losing a single point. Indeed it would gather forcefulness by becoming 'invitingly brief.'

"The idea of illustration is a most excellent one and adds a new thought to the solution of the problem.

"I question the advisability of further study upon this document because I do not believe that any document, tract, booklet or anything else that has to be deliberately placed in the hands of a known prospect is a solution of the problem. We must reach the *unknown* prospect. How? And how!"

A CORRECTION

THE DESIGN FOR an eight-room house shown on page 723 of the September issue of PENCIL POINTS was designed by Arthur R. Hutchason, Architect, of Los Angeles, California. We regret that this drawing was, through an error, attributed to Andrew P. Coolidge.

PENCIL POINTS FOR OCTOBER, 1930



MEMBERS OF THE ORGANIZATION OF GUILBERT AND BETELLE, ARCHITECTS, NEWARK, NEW JERSEY

1. James O. Betelle, 2. Charles H. Bauer, 3. Grant A. C. Behee, 4. J. S. Allen, 5. E. Fleming, 6. A. Sieder, 7. A. A. Kaufman, 8. C. E. Krahmer, 9. T. Stark, 10. A. Pistolesse, 11. P. J. Gannon, 12. G. T. Forman, 13. E. H. Yarwood, 14. F. J. Everett, 15. Wm. F. Malarky, 16. Miss A. Ponczner, 17. Miss L. Kordja, 18. Miss A. Noll, 19. Miss R. Liebhauer, 20. Miss G. Welsh, 21. Miss M. Dayton, 22. Mrs. M. Shepard, 23. Miss A. Douhert, 24. Miss A. Gauch, 25. P. A. Maguire, 26. J. D. Williams, 27. N. Armstrong, 28. S. Freedland, 29. J. H. Bailey, 30. R. B. Johns, 31. Ray Arbour, 32. W. E. Willner, 33. H. N. Wells, 34. R. T. Abel, 35. T. C. Ort, 36. D. Balkian, 37. S. D. Ely, 38. L. Mignard, 39. E. D. Powers, 40. C. A. Guldberg, 41. J. Roberts, 42. R. Haines, 43. J. Henning, 44. M. Leibowitz, 45. R. Rossi, 46. F. Woodruff, 47. E. M. Urband, 48. J. Barrett, 49. R. P. Dee, 50. T. D. Taro, 51. A. H. Bernel, 52. L. I. Moe, 53. C. M. Reinhardt, 54. B. Gordon, 55. M. Cadzow, 56.

HERE AND THERE AND THIS AND THAT



This department conducts four competitions each month. A prize of \$10.00 is awarded in each class as follows: Class 1, sketches or drawings in any medium; Class 2, poetry; Class 3, cartoons; Class 4, miscellaneous items not coming under the above headings. Everyone is eligible to enter material in any of these four divisions. Good Wrinkle Section: a prize of \$10.00 is awarded for any suggestion as to how work in the drafting room may be facilitated. No matter how simple the scheme, if you have found it of help in making your work easier, send it in. Competitions close the fifteenth of each month so that contributions for a forthcoming issue must be received by the twelfth of the month preceding the publication date in order to be eligible for that month's competitions. Material received after the closing date is entered in the following month's competition. The publishers reserve the right to publish any of the material, other than the prize winners, at any time, unless specifically requested not to do so by the contributor.

THIS MONTH the prizes have been awarded as follows:

Class One—Robert Gustafson.

Class Two—Doris Dwelly Brink, Amarillo, Texas.

Class Three—Arthur F. Baer, Cleveland, O.

Class Four—No Award.

Good Wrinkle—E. D. Stevens, Lynchburg, Va.

WE HAVE a surprise for Here and There readers which we hope to inaugurate with the January issue. We know that it isn't fair to arouse your curiosity this way but we're quite excited and hope you'll all like the new feature.

It does seem a bit untimely to be talking about Christmas just now, but it's not too soon (if you're at all ambitious) to start working on your greeting cards. Send along any ideas on the subject so that we may all be benefited by them. One of our friends assured us last year that he had planned to send *his* greeting cards rather later than

is the average draftsman's custom—that his friends would hear from him on George Washington's birthday. For a time we believed all this and looked forward to receiving the promised etching. But alas, just another illusion gone, we're still waiting!

ARCHITECTURAL DESIGN

(FOR THE MEN OF WALKER & WEEKS, ARCHITECTS)

By Colette M. Burns

Seeds the weathered mind planted
Are blooming on the drawing board.
T-square and pencils now are granted
To be elements, and there is stored
In tracing paper, all the powers
Of the soil. Another day,
A lintel detailed with granite flowers
Will recognize the rigid way
Of blossoms which the wind once shook,
Lying pressed within a book.



PENCIL SKETCH ON CAMEO PAPER BY ROBERT GUSTAFSON

"Ravenna, Italy"

(PRIZE—Class One—September Competition)

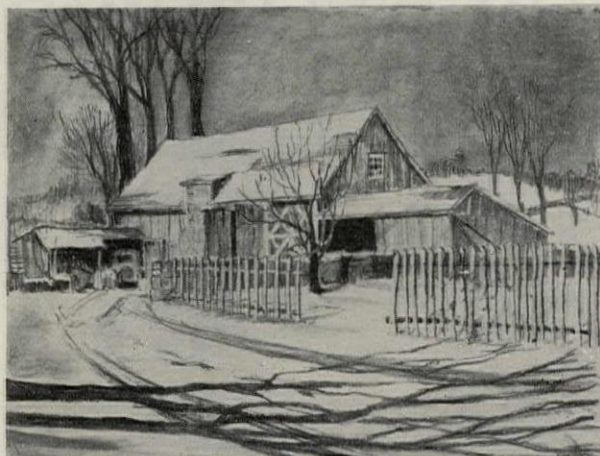


FROM AN ETCHING BY LOUIS RUYL

Grand Central Building and Building from Park Avenue
and 38th Street, New York.



PENCIL SKETCH ON CAMEO PAPER BY J. CHESTER DOLPHIN



CHARCOAL SKETCH BY W. B. CRAM OF WESTPORT, CONN.

SORROWS OF A DRAFTSMAN'S WIFE

By Doris Dwelly Brink

(PRIZE—Class Two—September Competition)

He sits upon his seat all day
And draws the lines in ink;
It sticks upon his fingertips,
But does he use the sink?
Ah no! A handkerchief will do,
And so he wipes them clean.
(Poor wife does the laundering—
What does the fellow mean?)

His shirt sleeves get all penciled on,
All worn and very frayed;
His trousers get so very thin
It makes one quite afraid



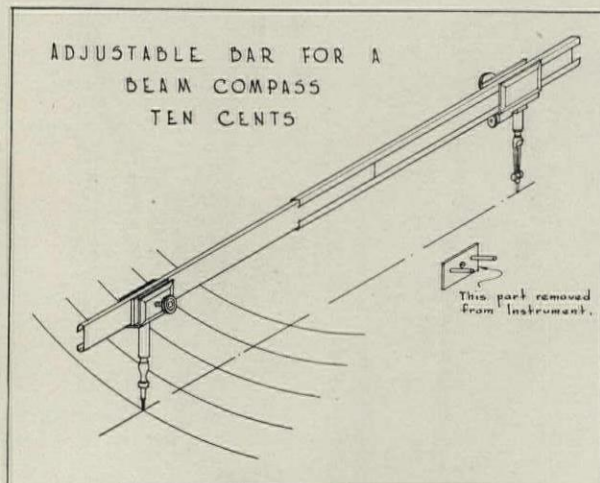
RENDERING BY V. KARFIK, HOUSE DESIGNED BY HIM

The architect has used the standard silo construction in concrete. The kitchen is on the ground floor; living room on the first floor, opening on a terrace, under which is a garage; two bedrooms on the second floor; owner's studio on the third floor.

That some day soon the wife will have
To patch, and darn and mend,
Or that the man himself will grow
Afraid to stoop or bend.

Occasionally he'll carry home
His apron without strings,
And while his wife is fixing it
He talks (and sometimes sings)
Of how the office should be run,
Or of the office girl
Who wears her hair so straight and plain
Why can't she get a curl?

But who would trade a husband like
Most drafting husbands are
For one who greater sorrows bring,
One's happiness to mar?
We'll bear our sorrows rain or shine
To help in our small way—
Because, dear man, he's sure to be
An architect some day.



ADJUSTABLE BAR FOR A BEAM COMPASS

By E. D. Stevens

(GOOD WRINKLE PRIZE—September Competition)

A ten-cent metal curtain rod makes an efficient bar for loose beam compasses. The radius can be changed quickly without touching the screws and friction prevents slipping after the radius is set. It is very convenient for drawing a series of concentric circles such as auditorium seating.

HERE AND THERE AND THIS AND THAT



HIGHLIGHTS OF ARCHITECTURE
HIRAM OF TYRE FALLS DOWN ON THE MILL WORK.

"HIGHLIGHTS OF ARCHITECTURE"—THE SEVENTH IN A SERIES OF CARTOONS
BY ARTHUR F. BAER, OF CLEVELAND, OHIO

The Contractor's Subcontractor's Subcontractor caused most of the noise.

(PRIZE—Class Three—September Competition)



PENCIL SKETCH BY A. THORNTON BISHOP
TOM TOWER, OXFORD

HEATING

By David B. Emerson

ALTHOUGH THE WRITING of specifications for heating is usually done by engineers who specialize in that class of work, the architectural specification writer is sometimes called on to write the heating specifications for small work. Therefore a knowledge of that work is not amiss.

The various systems of heating which are in general use are hot air, steam, and hot water. Electrical heating is being used to some extent, but is not as yet on a competitive basis.

Hot air, or "warm air" as most manufacturers now prefer to call it, is the simplest and probably the most inexpensive system of house heating, and is very well suited for the heating of small churches, auditoriums, and similar buildings. The earliest attempts at hot air heating in this country were made sometime between 1835 and 1840, and were naturally rather crude.

The earlier form of hot air heaters was constructed with a radiator located over the combustion chamber and enclosed in an airtight casing. The heat was conducted through tin pipes to the various spaces to be heated, and fresh air was introduced from outside the building through a duct leading into the building. At the present time both pipe and pipeless furnaces are being used.

The pipeless furnace, or the "one pipe" furnace as some manufacturers call it, is a recent development in hot air heating, and is a very efficient heating unit. This particular type of furnace was probably originally designed for the heating of bungalows, but it has been found to be thoroughly effective in the heating of small, compactly planned, two-story houses. The principle on which the pipeless furnace works is a very simple one, depending entirely on the natural upward movement of hot air and the natural downward movement of cold air. This form of furnace is constructed with a double casing, the inner casing surrounding the radiator and the combustion chamber, with a single short pipe terminating in a register in the floor directly above the furnace. The outer casing encloses the entire furnace and extends up to the register in the floor, and has a space around the heat pipe to allow the cold air to descend and enter the inner casing, be warmed and ascend into the rooms. For houses which are built on a spread out plan, a recirculating system may be used with good results. This system, in addition to the pipeless furnace, has two cold air grilles placed in the floors of the outer rooms of the house connecting with ducts which connect with the furnace. These ducts take the cold air from these rooms and return it to the furnace, thus giving a continuous circulation of warm air throughout the house.

Furnaces are built with either steel or cast iron radiators. The steel radiator provides more heating surface than the cast iron radiator, but the latter is undoubtedly more durable, as cast iron is less subject to corrosion than steel. Where pipe furnaces are used it is advisable to use double pipes with a one-half inch air space between the inner and outer pipes, as they save considerable heat, and reduce the fire risk. The Building Code of the City of New York requires double pipes for all stacks which run in stud partitions. All leaders from furnaces which run through unexcavated spaces should be covered with asbestos paper to prevent the loss of heat.

In writing the specifications for houses to be heated by hot air, if wood lath is to be used, always specify that metal lath should be used over all stacks which run in stud partitions or between floor joists, and specify that the studs on either side of the stacks shall be covered with tin, and that the outside pipe shall be not less than two inches from any woodwork. All this is required by most building codes, but where no code exists or where the code is inadequate, it should be specially called for, as defective heating installations are very frequently the cause of fires.

Steam heating was first attempted by James Watt sometime in the latter part of the Eighteenth or very early in the Nineteenth Century. Watt, as the reader undoubtedly knows, was the one generally credited with the invention of the steam engine, although crude steam engines were built and operated before he was born, but his improvements made the steam engine a success. It is indeed a far cry from the crude attempt of Watt to our present-day steam heating. Just when and how steam heating was developed, I have never heard, but it was in use in this country as early as the middle of the Nineteenth Century.

There are three systems of steam heating in general use, the direct, the direct-indirect, and the indirect. In the direct system of radiation, the air in the room is heated by radiators or pipe coils placed in the room which is to be heated. In the direct-indirect system of radiation the radiators are placed in a manner similar to those used in direct radiation, but they have specially constructed bases which are enclosed, and are connected by means of small ducts to registers located in the outside walls of the building. These bases also have registers in the face which open into the room. When the inner register is closed, the outer one is open, allowing the fresh air to enter and pass up between the inner sections of the radiators, thus making them indirect type radiators. When the inner registers are open the outer ones are closed, and the radiators are then of the direct type.

In the indirect type of radiation the radiators are usually placed in the basement and are encased in galvanized sheet iron boxes which are connected to the outside air and to the registers in the rooms by means of galvanized sheet iron ducts. This is the most expensive system of steam heating, but is undoubtedly the most satisfactory. The method of piping for direct or direct-indirect systems of steam heating may be either the "one pipe" or "two pipe" gravity return system. The one pipe system works admirably in small buildings, and I have known it to be a perfect success in five-story apartment houses. In installing a one pipe system, the radiators should always be blocked up at least one inch at the far end so that the water of condensation can run off easily. Also, always use the most efficient type of air valves on the radiators, as with the one pipe system there is always a great tendency for the radiators to become air-bound.

The vacuum, or vapor system as it is sometimes called, is a system using steam at a very low pressure and separating the air from the water of condensation by means of an air eliminator and trap at the end of the return line. This is done by means of a pump in large heating systems. On account of this feature, all air valves are omitted from the

radiators and special thermostatic return valves which allow the passage of air and water, but which prevent steam from entering the return lines, are used. The supplies in this system should always enter the top of the radiator, and to obtain the best results, modulating valves which regulate the amount of steam which is permitted to flow into the radiator should be used. This system can be used either with direct, direct-indirect, or indirect radiation.

Boilers for steam heating are built both of cast iron and steel. Cast iron boilers are built in sections, either of the rectangular water tube type or of the circular type, which are used for small work. These boilers give very good service, and I have seldom if ever heard of one failing, although sections do sometimes crack. One great advantage with the use of cast iron boilers is that being built in sections, each section can be carried through an ordinary doorway, so that an old boiler may be removed and a new boiler installed without damage to the building. Steel boilers for heating purposes are mostly of the firebox pattern, and are built both with riveted and welded seams. I will not attempt to discuss the merits of the two types of construction; both meet the requirements of the American Society of Mechanical Engineers, so there is no cause for worry on the part of the architect. These boilers give excellent service. The only objection to their use which I have ever heard is that their homogeneous construction makes it sometimes necessary to set them very early in the construction of the building, and once set they cannot be removed or replaced without wrecking a portion of the building. This objection, however, is not very serious, as with proper attention a good steel boiler ought to last nearly if not quite as long as the building. Both cast iron and steel boilers are built with special smokeless features for use with bituminous coal. This is done either by the "up draft" method which has a smoke consuming curtain or baffle in the rear of the firebox which promotes the combustion of the gases; or by the "down draft" method which has upper and lower grates. The upper grate is composed of water tubes connected to headers, and the fresh coal is stoked on this grate and burns downward and the coked fuel drops onto the lower grate and is wholly consumed as are the combustible gases. In addition to the regular types of boilers, a large number of special types of boilers are on the market for special uses, and for special fuels, particularly oil and gas.

The common type radiator either for direct or indirect radiation is made of cast iron, and they are made in various patterns to suit different conditions. All radiators are made in sections, connected together either by threaded nipples or push nipples. At the present time there are several different types of brass radiators on the market. These radiators are much smaller than cast iron radiators having the same amount of heating surface; they take up much less room and on account of their relatively light weight are more easily transported and installed than cast iron radiators. Brass radiators are generally used for concealed radiation. A decided improvement in radiator valves recently put on the market is the thermostatic supply valve. This type of valve automatically opens, and partly or entirely closes as the temperature in the room changes. As it may be readily seen this not only effects a considerable saving in fuel, but materially adds to the comfort of the various rooms by maintaining an even temperature at all times and under all conditions. As a general rule the best results in heating are obtained if the radiators

are placed in front of windows, but the top of radiators should not project above the window stools. In writing heating specifications this should always be noted. Also, certain other items should be included in the specifications to insure satisfactory results. All valves on all horizontal lines should be specified to be gate valves as they offer much less resistance to the flow of water than globe valves. All reducers on horizontal lines should be eccentric reducing fittings as they prevent trapping in the line. All supply risers should be taken from the top of the supply main, and all return branches should connect into the top of the return main. All horizontal runs of pipe should be hung in special type hangers to allow for expansion and contraction.

Hot water heating is a later development than either hot air or steam heating, and was, if I am not greatly mistaken, first developed for the purpose of heating greenhouses. As any one knows who has had any experience whatsoever with steam heat, as soon as the steam pressure drops, the circulation stops, whereas hot water will circulate while it is cooling and continue to give off a certain amount of heat. Although hot water heating is generally believed to be suited only for small buildings, many of the readers will be surprised to learn that the Grand Central Terminal Station and the Biltmore Hotel in New York City are both heated with hot water.

Hot water heating systems generally cost more to install than steam heating systems. This is largely due to the greater amount of radiation which is required; it takes ninety-six square feet of radiation to heat a room with hot water which can be heated with sixty square feet of radiation if steam is used. This initial extra cost will be offset in a few years as it generally takes less fuel to heat a building with hot water than it does with steam. Hot water heating is installed with either direct, direct-indirect, or indirect radiation the same as steam. It is installed either as an "up-feed" system using basement mains or as a "down-feed" system using overhead or attic mains. The piping is generally done as a two-pipe system, as the radiators require separate supply and return pipes.

A so-called one pipe down-feed system is also used. This system is not a one pipe system, the same as is used for steam heating, but has one descending main. The supplies are taken off this main above the radiators, and the returns connect onto the main below the radiators.

An expansion tank should always be placed above the highest point in the system. The purpose of this tank is to keep the entire system full of water. Water expands when heated, and if the system is filled when it is cold, it will overflow when hot. The expansion tank serves to receive this overflow. The tank should be constructed of heavy galvanized steel, with riveted seams, and should be provided with an expansion pipe, overflow and vent pipe, water supply pipe, and gauge glass. The overflow should be carried down to and discharge in an open sink or slop sink, and the vent should be carried to the outside air. There should be no valves, cocks, or checks between the boiler and the expansion tank and the tank should be protected from freezing. To obtain the most satisfactory results with hot water heating the supply should enter the top of the radiator and the return should always connect at the bottom. Only one valve is required for hot water radiators, and it should be on the supply. The return should have a union elbow connection.

Valves for hot water radiators should be either gate valves or special quick opening valves designed for hot

HEATING

water radiation. In either case the diaphragm of the gate valve or the disc of the quick opening valve should have a hole about one-sixteenth of an inch in diameter bored through it to permit a small circulation of water through the radiator to prevent freezing when the valve is closed. All piping for hot water heating should be connected with long turn fittings as they aid circulation by reducing friction. No regular fittings should be used in any part of the system.

Supply risers in hot water heating systems should be taken off from the top of the main the same as for steam, but the returns should connect into the side or the bottom of the return main, instead of into the top as steam mains do.

Boilers for hot water heating are built the same as steam heating boilers, but they have different fittings which include damper regulators, thermometers, and altitude gauges. They should be of ample capacity in order that a more uniform temperature may be maintained.

The most recent and probably the most radical development in hot water heating is what is known as "panel heating." This system is an English invention, and has been in use in England and on the Continent for some years. The first and, so far as I have any knowledge, the only installation of the kind in this country is the new British Legation Building in Washington. This system of heating is quite similar in principle to the low pressure radiator, except that the heating surface of the various rooms consists of the surfaces of the ceilings themselves, and in some cases of the walls and floors. These radiating surfaces are warmed by jointless coils of piping embedded directly in the building construction. These coils are placed as near to the radiating surfaces as possible, either by casting them solidly into the under side of the concrete floor slabs, or where hung ceilings are used making them an integral part of the ceiling construction, plastering solidly against them and placing insulating material directly on top of the coils to prevent the escape of any amount of heat into the space above. A special grade of plaster should be used in the panel surfaces, and it should be reinforced with scrim (a loosely woven cotton fabric) which is laid against the freshly applied plaster, and worked into the surface by troweling, thus overcoming the danger of cracking. The scrim becomes embedded in the plaster in such a manner as to be practically invisible (except that it gives the plaster a slightly textured surface). The great advantage claimed for this system is that it warms the occupants of the rooms, rather than the air in the rooms. Another advantage is that there are no radiator grilles or piping exposed in the rooms, which makes the problem of design and decoration much easier for the architect.

The gas steam radiator is a very simple and quite efficient system of heating. This system consists of a series of independent cast iron radiators located in each room. Each radiator has a water chamber beneath the radiating surface and a gas heater of the Bunsen type. The water chamber holds a supply sufficient for from two to four weeks. Each radiator is provided with an independent gas connection and an automatic steam regulator to keep the steam pressure from becoming too great and thereby causing an explosion. These radiators are made both vented and unvented.

The vented radiators are fitted with a vent pipe which is carried up through the roof and the fumes of combustion are carried off through this pipe. Also, any gas which may escape due to leaks or from the flame being accidentally extinguished will be carried up through the

vent pipe and will not escape into the room. The gas steam radiators can be connected to the boiler plant in the usual way, and can be operated between seasons before the boiler is started and after its use has been discontinued. This system of heating has been very successful in the heating of buildings in mild climates where heat is only needed occasionally, in buildings which have no cellars or basements, and in old buildings where a tenant who occupies only a portion of the building desires to install an easily controlled heating system.

In writing the specifications for steam and hot water heating systems it is very important to specify that the boiler should be covered with plastic asbestos, and that all piping in the basement, all risers (either exposed or concealed) and all radiator run-outs should be covered with sectional pipe covering. This effects a considerable saving of fuel, and also causes the heat to be given out from the radiators where it should be.

Another very important item in writing specifications, although it is not a part of the heating specifications, is in writing the general specifications to call for the thorough insulation of the walls in frame buildings and the roof and basement ceiling in all buildings. Also, specify that all windows and doors should be weatherstripped, and that all window and door frames in brick or stone buildings should be properly caulked with oakum and elastic cement. All this may mean some additional cost when the building is erected, but it will pay for itself in a very few years in the saving of fuel, to say nothing of the comfort it will give to the occupants of the building.

In writing this article, I have not discussed fan and blower systems or any of the other complicated systems of heating, as they are never likely to be specified by the architectural specification writer. They are strictly engineering problems.

Now, in conclusion let me say that I have not tried to tell all that there is to know about heating in this short article, but merely to give the young specification writer and draftsman some insight into the matter. Also, I have not tried to prove that the heating engineer is not a very valuable assistant and collaborator of the architect, for he is.

COMPETITION FOR GIRARD COLLEGE CHAPEL (Continued from page 820)

The remaining envelopes were then opened and the authors of the corresponding designs announced as follows:

- No. 1. F. C. Hirons and F. W. Mellor
- No. 2. Paul P. Cret
- No. 3. Corbett, Harrison, and MacMurray
- No. 4. Raymond Hood, Godley, and Fouilhoux
- No. 5. Robert D. Kohn, Charles Butler, and Clarence Stein
- No. 6. Harry Sternfeld and Zantzinger, Borie, and Medary
- No. 7. McKim, Mead, and White
- No. 8. Egerton Swartwout
- No. 9. Charles Z. Klauder.

WARREN P. LAIRD,
Adviser.

The winning design is shown on pages 821 through 823. Harry Sternfeld and Zantzinger, Borie, and Medary's design was placed second, and that by Raymond M. Hood, Godley, and Fouilhoux, third. These designs are illustrated on pages 824 through 829.



SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale, or desiring to purchase books, drawing instruments and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed under this heading free of charge.

QUERIES AND ANSWERS. In this department we shall undertake to answer to the best of our ability all questions from our subscribers concerning the problems of the drafting room, broadly considered. Questions of design, construction, or anything else which may arise in the daily work of an architect or a draftsman, are solicited. Where such questions are of broad interest, the answers will be published in the paper. Others will be answered promptly by letter.

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SPECIAL NOTICE TO ARCHITECTS LOCATED OUTSIDE OF THE UNITED STATES: Should you be interested in any building material or equipment manufactured in America, we will gladly procure and send, without charge, any information you may desire concerning it.

Notices submitted for publication in these Service Departments must reach us before the fifth of each month if they are to be inserted in the next issue. Address all communications to 419 Fourth Avenue, New York, N. Y.

THE MART

Robert Knighton, 808 N. Bishop Avenue, Dallas, Texas, would like to obtain back issues of PENCIL POINTS and other architectural periodicals.

H. E. McClellan, 12429 Cedar Road, Rm. 8, Cleveland Heights, Ohio, has for sale all issues of PENCIL POINTS from June, 1920, to November, 1925, inclusive.

H. R. Gamble, 401 E. 6th Avenue, Altoona, Penna., has the following copies of PENCIL POINTS for sale: August and October, 1920; August, 1921; January and August, 1922.

H. L. Curtiss, Landscape Design Division, Dept. of Parks, City Hall Civic Center, Pasadena, wishes to obtain the January and July, 1929, issues of PENCIL POINTS.

Ben W. Clawson, Washington, Indiana, would like to have the December, 1929, January and February, 1930, issues of PENCIL POINTS.

Eugene Fodor, 238 Morton Avenue, Albany, New York, has for sale the complete course of I. C. S. in Architectural Design, ten volumes, bound in semi-flexible blue sturdite, new.

Walter Patry, R. F. D. 1, Union, N. J., has for sale copies of PENCIL POINTS from: October, 1929, to present date, unused.

W. Andrew Weise, 4213 Euclid Avenue, Baltimore, Md., has for sale all copies of PENCIL POINTS from 1920 to the present date, in excellent condition.

Peter Mrock, 63 Chicago St., Fall River, Mass., would like to obtain the January, February, and March, 1929, issues of PENCIL POINTS.

PERSONALS

CHANEL & CHUTE, ARCHITECTS, of Battle Creek, Michigan, are dissolving partnership. Mr. Chanel will remain

at the present location, 717 Post Bldg. Mr. Chute will soon open offices in the new Central Bank Tower. For the present, Mr. Chute's address is Route 3, Box 81.

PHILIP NICHOLS SUNDERLAND, ARCHITECT, Danbury, Conn., announces the dissolution of his partnership with Edmund Watson. Mr. Sunderland will continue his offices at 248 Main Street.

GEORGE R. CALLIS, JR., ARCHITECT, has moved his offices from the Hearst Tower, Baltimore, Md., to 13 Melvin Avenue, Catonsville, Md.

A. W. FERGUSON has moved from Greensboro, N. C., to 1526 First Street, N. W., Washington, D. C.

MILLS, RHINES, BELLMAN & NORDHOFF, INC., ARCHITECTS, have moved their offices from 1234 Ohio Bldg., to 1515 Ohio Bank Bldg., Toledo, Ohio.

G. MASSENA AND A. V. DUPONT recently arrived from France and will practice architecture in this country. The firm name is Massena & DuPont, with temporary offices at NEILBOITS, Wilmington, Delaware.

ABRAHAM H. OKUN, ARCHITECT, has removed his office to 27 Cottage Street, Monticello, N. Y.

GRONENBERG & LEUCHTAG, ARCHITECTS, 119 West 34th Street, New York City, have discontinued their practice as of October 1st.

R. K. O. CONSTRUCTION CORPORATION, Builders and Engineers, have opened an office at 414 East 16th Street, New York.

THOLE & LEGEMAN, ARCHITECTS, have moved from 307 American Trust Bldg. to 707 Furniture Bldg., Evansville, Indiana.

L. J. T. DECARY, ARCHITECT, has moved from 285 Boulevard Decarie, Montreal, to 115 St. John's Street, Quebec, P. Q., Canada.

GRIFFITH & GOODRICH, ARCHITECTS, have moved from 225 East Berry Street to 209-210 Bass Block, Fort Wayne, Indiana.

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PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER

Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of PENCIL POINTS by the firm issuing them. When writing for these items please mention PENCIL POINTS.

Kinnear Rol-Top Door.—Illustrated folder with detail drawings and brief descriptive data covering this new type of garage door. 4 pp. $8\frac{1}{2} \times 11$. The Kinnear Manufacturing Co., Columbus, Ohio.

Kawneer Store Fronts.—Attractive new brochure illustrating numerous attractive and modernistic store front installations. Included are suggested designs suitable for various kinds of retail stores. 32 pp. The Kawneer Co., Niles, Mich.

Richmond Model Heating Boilers.—Illustrated booklet devoted to description of this type of insulated and jacketed sectional boiler for steam, vapor, vacuum and hot-water heating. Rating and dimension tables. 32 pp. Richmond Radiator Co., 1480 Broadway, New York, N. Y.

Cast Iron Verandas.—New brochure dealing with the subject of cast iron verandas shows numerous Colonial veranda designs in detail. 12 pp. Smyser-Royer Co., 1700 Walnut St., Philadelphia, Pa.

Armstrong's Floors.—A.I.A. File No. 23-j. Valuable reference document for architects contains much practical and technical information on Armstrong's linoleum, linotile and cork tile floors. Series of beautiful color plates showing wide range of patterns. Specifications, installation details, working table of gauges and weights, etc. 44 pp. Standard filing size. Armstrong Cork Co., Floor Division, Lancaster, Pa.

Jenkins Standard Bronze Valves.—Bulletin No. 141, just issued, fully describes and illustrates a new line of bronze valves for all standard services. Tables of sizes, dimensions and prices. $8\frac{1}{2} \times 11$. Jenkins Bros., 80 White St., New York, N. Y.

Custom Built Ranges.—Handsome new brochure announcing and describing in detail Angliron chromium-finished custom built gas ranges for fine homes. Specifications, blue print drawings, illustrations. 24 pp. $8\frac{1}{2} \times 11$. American Stove Co., Lorain, Ohio.

Marietta Painting and Wood Finishing Specifications.—A.I.A. File No. 25-c-25. Looseleaf document prepared especially for architects and specification writers contains complete set of specifications covering the application of this line of stains and fillers to various kinds of woods. 26 pp. Standard filing size. The Marietta Paint and Color Co., Marietta, Ohio.

Published by the same firm, "Marietta Stains." Illustrated folder with application data and color charts covering this line of acid and art wood stains.

Volume Water Heating.—New illustrated catalog describes in detail all sizes of Ruud multi-coil automatic storage systems for use in residences, industrial, commercial, and social institutions. Operation and construction data and many useful tables and diagrams. 28 pp. Standard filing size. Ruud Manufacturing Co., Pittsburgh, Pa.

Arc Welding of Structural Steel.—A.I.A. File No. 31-m. A comprehensive publication covering the progress in structural steel welding. The subjects treated cover the strength of welded joints, design data, test and inspection data, building code, estimating costs and bridge specifications. Included is a review of the progress in structural arc welding and a discussion of future and possible developments in welding. 32 pp. $8\frac{1}{2} \times 11$. Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa.

Indiana Limestone Sculpture, Carving and Finishes.—New bulletin showing numerous limestone details, also bonds and finishes. 16 pp. Standard filing size. Indiana Limestone Co., Bedford, Ind.

Published by the same firm, "Ico Details." A.I.A. File No. 8-b-2. Set of four new detail plates in a series dealing with the subject of structural design for Indiana limestone cover interior facing, entrance of modern office building, flashing and random ashlar. $11\frac{1}{4} \times 16\frac{1}{2}$.

Capitol Red Top Boilers.—Illustrated catalog presents descriptive and engineering data covering this complete line of square jacketed boilers suitable for all types of buildings. Blue print drawings, rating tables, boiler data, etc. 32 pp. United States Radiator Corp., Detroit, Mich.

Lupton Products.—Attractive and interesting new booklet for architects outlines briefly the varied usefulness of Lupton products, including steel windows, skylights, steel partitions and doors, shelving, gutters, rain spouts, etc. 20 pp. David Lupton's Sons Co., Allegheny Ave. and Tulip St., Philadelphia, Pa.

The Overhead Door.—A.I.A. File No. 17-a-2. New catalog covering the construction, application and installation of this type of door equipment suitable for garages, factories, warehouses, etc. Specifications, detail drawings, etc. 24 pp. Standard filing size. Overhead Door Corporation, Hartford City, Ind.

Smith & Wesson Flush Valve.—A.I.A. File No. 29-h-21. Catalog A describes and illustrates a full line of flush valves. Typical installations, roughing-in measurements, pipe sizes. 20 pp. Standard filing size. Smith & Wesson, Springfield, Mass.

Hazard Electric Building Wire.—New publication with useful information on the subject of Hazard electric building wire for lighting and power circuits. Profusely illustrated. 24 pp. Hazard Insulated Wire Works, Wilkes-Barre, Pa.

"Type F" Industrial Buckeye Thermovent Unit Heaters.—A.I.A. File No. 30-d-11. New catalog for architects and engineers gives complete descriptive and engineering data on this type of unit heater for heating and ventilating public garages, terminal and storage warehouses, factories, etc. Specifications, dimension drawings, illustrations, etc. 32 pp. $8\frac{1}{2} \times 11$. The Buckeye Blower Co., 400 Dublin Ave., Columbus, Ohio.

Heirloom Panel.—Illustrated bulletin describing a recently developed paneling material suitable for use in all types of modern buildings. 8 pp. $8\frac{1}{2} \times 11$. Housing Co., 40 Central St., Boston, Mass.

Imperial Roofing Tiles.—A.I.A. File No. 12-e-1. Architect's filing folder with series of specification and detail sheets for roofing tiles. Standard filing size. Ludowici-Celadon Co., 104 South Michigan Ave., Chicago, Ill.

Cromar Oak Floors.—Illustrated booklet describes in detail the various operations performed in the production of this type of factory finished oak flooring. 24 pp. The Cromar Co., Williamsport, Pa.

Bull Dog Floor Clips.—A.I.A. File No. 4-h. Bulletin with useful information on the Bull Dog floor clip method of anchoring wood floors in reinforced concrete buildings. Specifications, installation data, detail drawings. 8 pp. $8\frac{1}{2} \times 11$. The Bull Dog Floor Clip Co., Winterset, Iowa.

Ambler Asbestos Shingles.—A.I.A. File No. 12-f-1. New catalog describes and illustrates in colors the various types of this line of asbestos shingles. Specifications, color charts, tables of sizes and weights, roofing details. 24 pp. Standard filing size. Ambler Asbestos Shingle and Sheathing Co., Ambler, Pa.

Mueller Copper Water Tube and Streamline Fittings.—Illustrated bulletin gives complete descriptive and installation data covering this line of copper water tube and streamline fittings for plumbing, heating and industrial uses. Roughing-in dimensions, sizes. 16 pp. $8\frac{1}{2} \times 11$. Mueller Brass Co., Port Huron, Mich.

Lamella Trussless Roofs.—A.I.A. File No. 19-b-1. New publication presents descriptive data, detail drawings and numerous installation views showing the wide range of applications of Lamella trussless roofs. 16 pp. $8\frac{1}{2} \times 11$. Lamella Roof Syndicate, Inc., 45 W. 45th St., New York, N. Y.

Tappan Gas Ranges.—Catalog No. 18 illustrates and describes in detail this full line of insulated and non-insulated gas ranges. Tables of dimensions, color plates. 62 pp. The Tappan Stove Co., Mansfield, Ohio.

Kelvinator Electric Refrigerators.—A.I.A. File No. 32-c-3. Looseleaf manual prepared especially for the architect and builder. Shows the complete Kelvinator line suitable for all kinds of service, together with specifications and dimension drawings. 48 pp. $8\frac{1}{2} \times 11$. Kelvinator Corporation, Plymouth and Penn. R. R., Detroit, Mich.

Acme Wood Rolling Partitions and Doors.—A.I.A. File No. 19-e-61. New document contains scale details and full information covering both vertical and horizontal types of partitions for interior use in churches, schools, gymnasiums, hospitals, lodge rooms, hotels, etc., and for exterior use in markets, warehouses, etc. $8\frac{1}{2} \times 11$. Acme Partition Co., 3535 Peralta St., Oakland, Cal.

The Way Out of the Twilight Zone.—A.I.A. File No. 31-f-1. Valuable new document for architects and lighting engineers gives descriptions of various types of lighting equipment and instructions for designing good systems. Tables showing present standards of foot candle illumination for commercial and industrial interiors, room and maintenance conditions to be considered, and outlet spacing and lamp size for commercial interiors are included. Profusely illustrated. 34 pp. Standard filing size. Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa.

Leonard Thermostatic Water Mixing Valves.—A.I.A. File No. 29-d-21. Catalog C. New looseleaf document printed in full colors covers a complete line of thermostatic water mixing valves. Blue print roughing-in dimensions, piping methods, etc. Indexed. 66 pp. Standard filing size. Leonard-Rooke Co., Providence, R. I.

Buffalo Gas Unit Heaters.—Bulletin No. 2754 illustrates and describes this recently developed type of gas unit heater for industrial installations. $8\frac{1}{2} \times 11$. Buffalo Forge Co., Buffalo, N. Y.

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Professor F. B. Rowley, engineering expert, University of Minnesota, tested two Andersen Pulleys, and after 1,626,456 revolutions — equal to 186 years of ordinary wear — he said: "These pulleys are as good as new".

So Andersen says: "Guaranteed noiseless and wearproof. If an Andersen pulley shows wear or becomes noisy, it will be replaced by the manufacturer".

Several million Andersen sash pulleys now are in use. They are made in four standard sizes and nine standard finishes.

Andersen pulleys are made by ANDERSEN FOUNDRY COMPANY, sash pulley division of ANDERSEN FRAMES CORPORATION, makers of Andersen Master Frame for windows and doors.

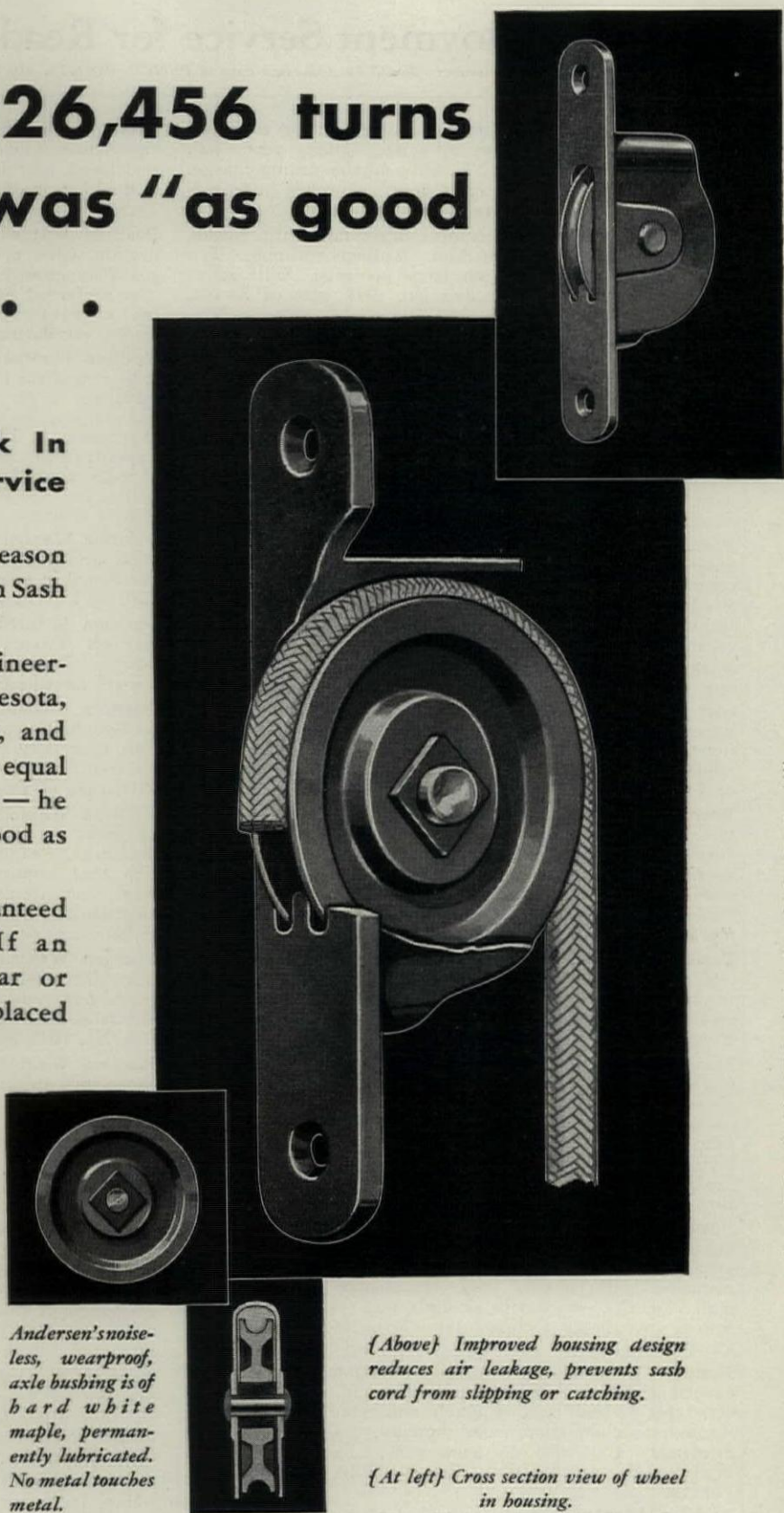
Andersen's noiseless, wearproof, axle bushing is of hard white maple, permanently lubricated. No metal touches metal.

{Above} Improved housing design reduces air leakage, prevents sash cord from slipping or catching.

{At left} Cross section view of wheel in housing.

SASH
WINDOW and DOOR
Andersen Pulleys
FRAMES

GUARANTEED NOISELESS AND WEARPROOF



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Replies to box numbers should be addressed care of PENCIL POINTS, 419 Fourth Avenue, New York, N. Y.

Partnership Wanted: With Ohio architect or engineer, one who has good amount of work. Thirty years old, married, studied design M.I.T., fully capable taking charge. Twelve years' experience on schools, churches and residences. Box No. 1000, care of PENCIL POINTS.

Position Wanted: Architectural draftsman with knowledge of design desires position. College training. Ten years' experience, mostly on large projects. Will go to any part of the country. Box No. 1001, care of PENCIL POINTS.

Position Wanted: Architectural graduate, 1930, with some experience in drafting room practice desires permanent position in office. Will accept moderate salary if there is an opportunity for advancement. Box No. 1002, care of PENCIL POINTS.

Position Wanted: Architectural draftsman-designer with fifteen years' all-round experience on practically all types of buildings in leading mid-west offices desires connection with eastern office doing high grade work. Box No. 1003, care of PENCIL POINTS.

Position Wanted: Designer, one with extensive experience in offices of the east doing work of a monumental, commercial and residential character. Graduate of C.I.T. Specializing in plan, composition, perspectives and presentation. Would prefer office which could use man of creative ability. Box No. 1004, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, 27 years of age, University and Atelier training. Ten years' experience design, working drawings, details of various buildings including theatres, industrial, domestic, city buildings and clubs. Extensive knowledge design, rendering, modern styles. Reasonable salary. Box No. 1005, care of PENCIL POINTS.

Position Wanted: Young man, 21, High School graduate, two years' business administration at Evening School. Just completed one year's training in architecture at University and plan to continue course in evening class. Desires position as beginner in architect's office, Cincinnati, Ohio or vicinity. Ambitious, hard worker and of good moral character. Box No. 1006, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, designer, registered, college graduate, twelve years' experience, best references, neat and fast. Can go anywhere, open for immediate employment. Box No. 1007, care of PENCIL POINTS.

Position Wanted: Young man desires position in architect's office, anywhere in the United States. Wide experience in general architecture. Employed in best offices in the south, been in charge of drafting room of two of them, four years' construction work and seven years in architects' offices. Preliminaries, working drawings, specifications, supervision. Fast worker. Salary \$50 per week. Box No. 1008, care of PENCIL POINTS.

Position Wanted: Architectural draftsman. Working drawings from sketches to completion. Hospitals, hotels, garages, office buildings, apartment houses, alterations. Figuring and checking steel. Landscape work, grading plan. Details, perspective, designs, etc. Location Eastern States. Available October 1st. Box No. 1009, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, thoroughly experienced on apartment houses, residential and commercial types of buildings. Capable and reliable to carry job through to completion from sketches, scale and full-size drawings. Can also do field work. Salary secondary. Will consider any location. Box No. 1010, care of PENCIL POINTS.

Position Wanted: Architectural draftsman of all-round experience various classes of work. Location immaterial. Reasonable. Box No. 1011, care of PENCIL POINTS.

Position Wanted: Young man, 24, graduate of recognized architectural school, desires position as draftsman with Architect. One year's experience in office. Box No. 1012, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, designer, detailer, perspectives and renderings. Five years' experience covering building department work, country residences, office buildings, apartment houses and hospitals. Carry job through to completion. Has been employed as chief draftsman. Best references. Graduate School of Architecture, Columbia University. Box No. 1024, care of PENCIL POINTS.

Position Wanted: Draftsman, age 38, married, 23 years' experience in field and drafting room on hospitals, schools, residences and full-size details, desires permanent position with firm of architects. Box No. 1013, care of PENCIL POINTS.

Position Wanted: Architectural draftsman desires connection with architect or construction company. Ten years' experience residential and commercial work. Position preferred where hard work will be appreciated and lead to advancement. Experience covers drafting, supervision, estimating. Box No. 1014, care of PENCIL POINTS.

Position Wanted: Registered architect desires connection with established architect who specializes in high class residence work with view to partnership. Five years' private practice, three years' European and eighteen years' experience in large city in Middle West. Considerable experience in consultation and following up prospects. Handle work from sketches through to issuing of final certificate. Age 40. Married. Box No. 1015, care of PENCIL POINTS.

Position Wanted: Young draftsman, 21, two years' structural and architectural experience. Beaux Arts student. Interested in stage designing. Salary open. Box No. 1016, care of PENCIL POINTS.

Position Wanted: Draftsman, designer, office manager. Age 42. Twenty years' experience, ten in leading Denver offices. Permanent connection desired. \$50.00 a week. Locate anywhere. Box No. 1017, care of PENCIL POINTS.

Position Wanted: College trained man, twelve years' well-rounded experience in high grade office, desires position, especially one leading to partnership. Preferably in western half of New York or Pennsylvania. Box No. 1018, care of PENCIL POINTS.

Position Wanted in South America: Young draftsman, 21 years of age, four years' experience in architectural drafting. Ready to sail at once or would accept position that requires some training before leaving U. S. Neat, accurate and rapid. Work in drafting room or outside work in building line. Box No. 1019, care of PENCIL POINTS.

Position Wanted: Thoroughly experienced architectural man, University graduate, capable designer. Fourteen years' experience all types of buildings. Well versed in all styles including modern. Good colorist and delineator. Box No. 1020, care of PENCIL POINTS.

Position Wanted: Young man, 27 years old, five years' experience in first class offices. Graduate of Washington University School of Architecture. References. Salary optional. Box No. 1021, care of PENCIL POINTS.

Position Wanted: College graduate, single, 31 years old. Ten years' experience on working drawings, full-size and scale details. Good designer on period and modern work. All types of buildings and alterations. Box No. 1022, care of PENCIL POINTS.

Position Wanted: Architectural graduate, 10 years' experience as draftsman, estimator and salesman on architectural bronze, iron and kalamein work, desires to establish a permanent connection with a reliable firm in same or allied line. Will work in either or all of above-mentioned capacities. Box No. 1023, care of PENCIL POINTS.

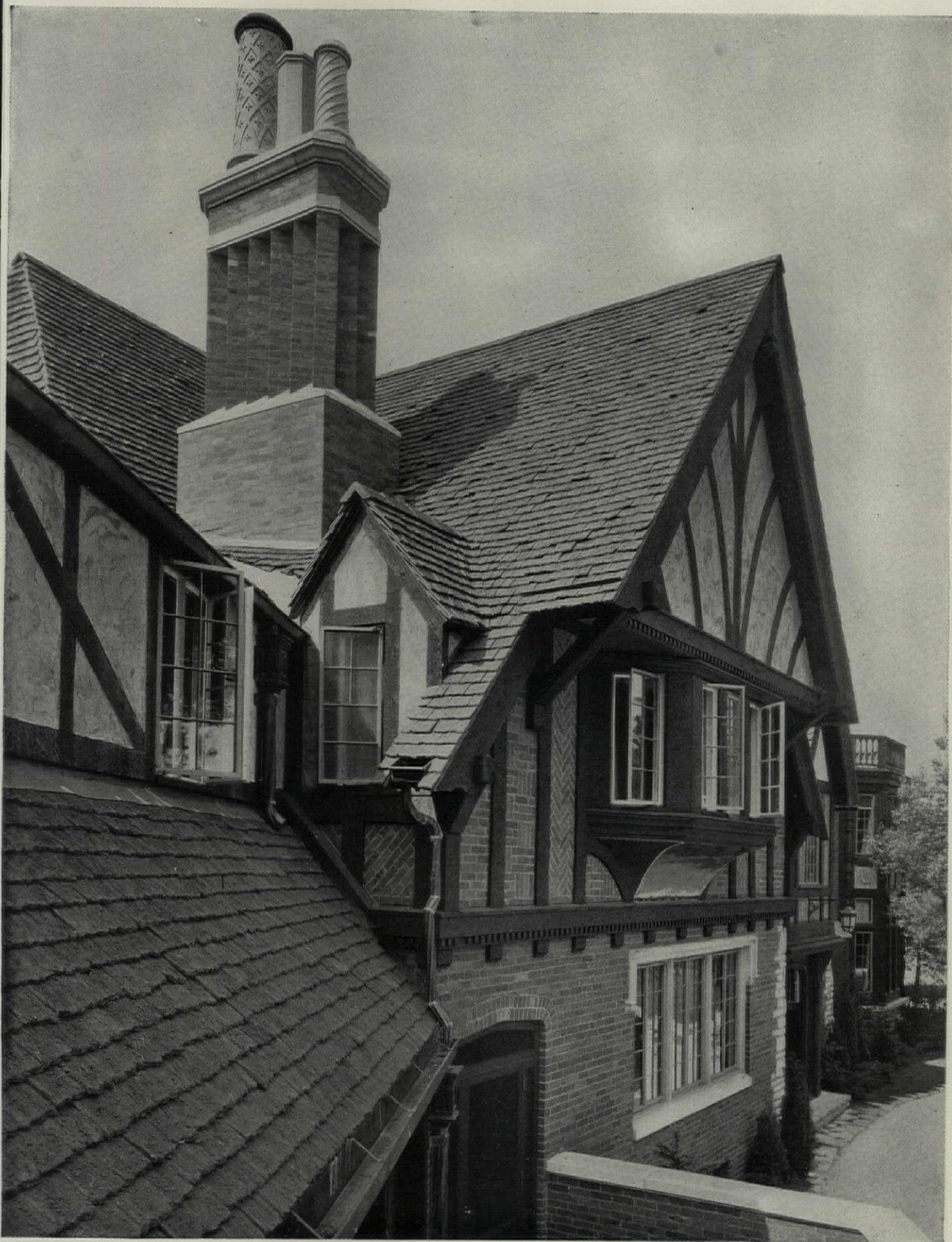
Position Wanted: Architectural draftsman, 7 years' experience in New York offices. Apartment houses, dwellings and other projects. Structural and architectural designer. New York or vicinity or locality where there is a real opportunity. Box No. 1025, care of PENCIL POINTS.

Position Wanted: Architect, executive type, varied experience, large and small work, alterations, factories, commercial and dwellings. Knows all city departments, labor law, multiple dwelling code. Effective working drawings, details and supervision. Open to offer leading to permanent connections. Now in New York. Box No. 1026, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, 8 years' experience. Planning, elevations, detailing, designing and rendering of apartment and country houses. Neat worker and capable of making working drawings from sketches to full-size details. Box No. 1027, care of PENCIL POINTS.

Position Wanted: Draftsman would like to get in touch with expert topographical draftsman to take lessons from. D B, Post Office Box 195, Brooklyn, N. Y.

(Other items on pages 84 and 85, Advertising Section)



*Detail of residence of William Chamberlain, Esquire, Winnetka, Illinois.
S. S. Beman, Architect, Chicago. Roofed with IMPERIAL Antique Shingle Tiles*

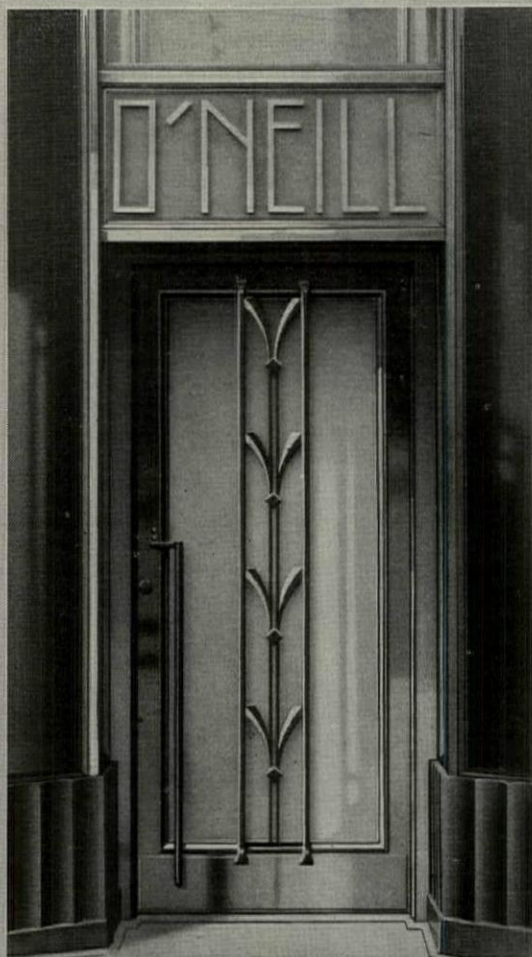
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Makers of IMPERIAL Roofing Tiles

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Architects, Holabird and Root

A faithful interpretation of the
architect's design is assured by
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Doors can be furnished in
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(Other items on pages 82 and 85, Advertising Section)

Position Wanted: Designer-draftsman, thoroughly familiar with all styles and modern architecture. Sketching, designing, detailing, working drawings, perspectives and renderings in all mediums. Box No. 1028, care of PENCIL POINTS.

Position Wanted: Draftsman (not a designer) long experience in New York City offices on everyday type of building in the several methods of construction, rapid, thorough and accurate. Well recommended as senior, squad leader, chief draftsman, office manager, practical specification writer, steel designer and superintendent. Large commercial, bank or apartment work preferred. Salary moderate. Box No. 1029, care of PENCIL POINTS.

Position Wanted: Draftsman, 4 years' varied experience, university graduate in architecture, desires work that involves executive ability. Specialized in department stores, fixtures, planning, designing, specialty shops and similar work. Institutions, and was chief draftsman for one of Chicago's largest department stores. Married, Chicago preferred. Box No. 1030, care of PENCIL POINTS.

Position Wanted: Hospital specialist wants permanent position with architect or firm that will guarantee a future. Well versed in modern hospital layouts, equipment and other problems. Can handle job from preliminary sketches to finished working drawings and get good results from men under my supervision. 17 years' broad experience. Box No. 1031, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, age 28. University graduate, 4 years' general experience in drafting, design and delineation. Box No. 1032, care of PENCIL POINTS.

Position Wanted: Young man wishes a position as a beginner. High School graduate, two years' training at Chicago Technical College. Would work for very little to start. Box No. 1033, care of PENCIL POINTS.

Position Wanted: Young woman with eight years' drafting and designing experience desires position with first-class decorator or architect. Excellent references. Box No. 1034, care of PENCIL POINTS.

Salesman Wanted: Thoroughly experienced in selling landscape construction and nursery stock of the highest quality. Must be well educated, and of good appearance. An excellent opportunity to form a permanent and profitable connection with a rapidly growing Philadelphia organization. Give complete detailed information in your first letter. Box No. 1035, care of PENCIL POINTS.

Position Wanted: Competent architectural engineer with College training. 17 years' excellent practical experience in foremost New York City offices. Desires position of responsibility where efficient and conscientious qualities of workmanship will be recognized. Best references. Will go anywhere. 40 years old. Box No. 1036, care of PENCIL POINTS.

Position Wanted: Architectural draftsman and superintendent of construction with 12 years' practical experience on various types of structures such as commercial, industrial, residential, hospital, etc., desires position. Box No. 1037, care of PENCIL POINTS.

Position Wanted: Architectural supervisor of construction, 18 years' practical experience in supervising and expediting building projects in New York and vicinity, desires position. Willing to travel or locate anywhere. American, married, 38 years old. Box No. 1038, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, trained at Columbia University, five years' experience on high class residential work, some hotel and school experience. Have had a great deal of experience in working up drawings from sketches showing all necessary details and interiors. Best references. Box No. 1039, care of PENCIL POINTS.

Position Wanted: Registered architect, twelve years in private practice and as office manager in New York City and the middle west, wishes to make connection with reputable architectural office as office manager or in executive capacity. University graduate and very extensively traveled in Europe and the United States. A.I.A. and past president of one of its Chapters. Broad general experience and thoroughly versed in all phases of architectural practice. Man of culture and social standing. Box No. 1040, care of PENCIL POINTS.

A FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Other items opposite and on page 82, Advertising Section)

Position Wanted: Architect experienced in educational and institutional buildings, with broad knowledge of planning and design, desires to make connection with first-class office. Salary of secondary importance. Box No. 1041, care of PENCIL POINTS.

Position Wanted: Secretary to architect or builder. Young lady, educated, executive ability, with tact and personality. Eight years' experience in bookkeeping and stenography, can read plans and take off quantities for estimating. Desires to make a change to White Plains or New York City. Goodwin, 3400 Wayne Avenue, New York, N. Y.

Position Wanted: Ambitious young man, 19, desires to learn architecture. Neat letterer and tracer. George F. Niedelman, 1226 Sherman Avenue, New York, N. Y.

Position Wanted: Ambitious young man, 20, desires position in architect's office as a beginner. Three years' technical training and is still continuing at Cooper Union. Salary no object. Alfred Munson, 101 West 52nd Street, New York, N. Y.

Position Wanted: Architect-draftsman experienced in detailing building or art stone work. Samples. Edw. Lechner, 1544 East 23rd Street, Cleveland, Ohio.

Position Wanted: Architectural draftsman, 10 years' experience mostly on schools, college groups, commercial buildings, banks, and residences. Can carry job from sketches to complete working drawings and details. Age 28. Salary \$60.00 per week. R. H. Owens, Box 845, Bristol, Va.

Partner Wanted: Architectural draftsman and designer desires partnership with established architect. Twelve years' experience on all types of buildings. P. O. Box 47, Mansfield, Ohio.

Position Wanted: Young man, 18, graduate of New Utrecht High School, desires position in architect's office as beginner. Will begin study of architecture at Pratt Institute this year. Frank Majeski, 185-32nd Street, Brooklyn, N. Y.

Position Wanted: Young ambitious boy just completed architectural course wishes position as junior draftsman or office boy in an architect's office. Domenic Ditrano, 325 East 120th Street, New York, N. Y. Telephone, Harlem 1310.

Position Wanted: Architectural draftsman, neat and reliable worker. Can letter well, make working drawings, details, plans and elevations. Three years' drafting experience, desires position in architect's or builder's office. No reasonable offer refused. Carl G. Buhrer, 189015 Tioga Drive, St. Albans, L. I.

Position Wanted: Young man desires position in architect's or builder's office. Two and a half years' experience and school training. Arthur N. Jacobs. Telephone, Regent 4393.

Position Wanted: Young man wishes position as beginner in architect's or builder's office. Some knowledge of drafting. Michael Parlato, 59 East 106th Street, New York, N. Y.

Position Wanted: Structural superintendent and architectural engineer, available at once. Six years' experience in New York and Chicago. Good experience on heavy framework and deep and heavy foundations. Technical training. Salary \$175.00. C. C. Everhart, 6038 Drexel Ave., Chicago, Ill.

Position Wanted: Young man, age 19, desires position in Chicago architect's office as beginner. Attending college in evening. Salary no object. Ivan Bounn, 3512 W. Grenshaw St., Chicago, Ill.

Position Wanted: Architectural draftsman desires position with architect. Five years' experience on hospitals, apartment houses and residences. Salary moderate. Will travel if assured of permanent position. Peter J. Scmieca, 298 Montauk Avenue, Brooklyn, N. Y.

Position Wanted: Structural engineer desires employment with builder or architect. R. B. Friess, 1803 So. Seventh Ave., Maywood, Ill.

Free Lance Work Wanted: Sketches, perspective renderings, working drawings, also concrete or structural design and construction details prepared by architectural designer and engineer on free lance basis. Phone Mitre or Kane, Stuyvesant 1014.

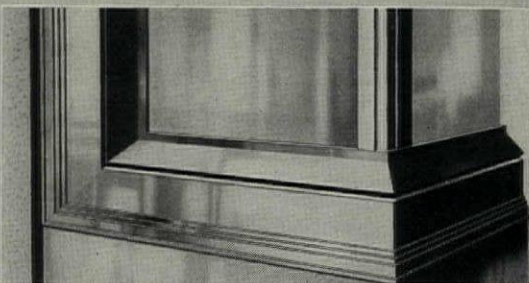
STORE FRONTS



QUIGLEY BUILDING, CHICAGO
Architect, Jos. T. Fortin. Associate, David Adler

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by a corps of skilled craftsmen. Every rolled, extruded or cast unit is carefully executed and assembled by this trained staff, assuring the architect a faithful rendering, in metal, of his design. Upon request we will send new free Book of Modern Store Front installations, also description and F. S. Details of "B" Construction.



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Select your floors "à la carte" for the rooms you want to be different

GOOD TASTE, in a room as well as a menu, demands something that is distinctive, different, and original in character. When you design floors "à la carte," you know you'll get just what you want. Your made-to-order floor is assurance that the whole decorative scheme of the room will be planned on a proper basis.

Therein rests the advantage of Armstrong's Cork Tile! Three delightful shades of brown and more than thirty standard tile sizes enable you to design any floor you desire—custom-made to suit the mode of the room you are planning.

Hand-laid, Armstrong's Cork Tile Floors permit design adaptability for almost any type of room or any type of building—school, hospital, public building, yes, even private residence. Today this is most important; the client's appreciation of harmonious beauty accentuates the value of floors made to order.


Virtues of a practical nature are present, too. Armstrong's Cork Tile Floors are naturally quiet. They say "Sh" to traffic noises. They cushion feet and prevent slipping. They are easy to clean. Sanitary, of course. Simple care makes them give many years of satisfying service.

We'd like to tell you the whole story about Armstrong's Cork Tile and its many superiorities for quiet, restful floors. So we suggest that you send for our color-illustrated book, "Custom-Built Floors of Cork." You'll see many interesting design possibilities. And there are important facts about Armstrong's Linotile, another custom-built floor. Armstrong Cork Company, Custom Floors Department, Lancaster, Pa.

Notice how this Armstrong's Cork Tile Floor blends with the decorations of Notre Dame Academy's dining-room, Cleveland, O. This interior was planned by Thomas D. McLaughlin and Associates, Lima, O., architects.



Armstrong's CUSTOM FLOORS

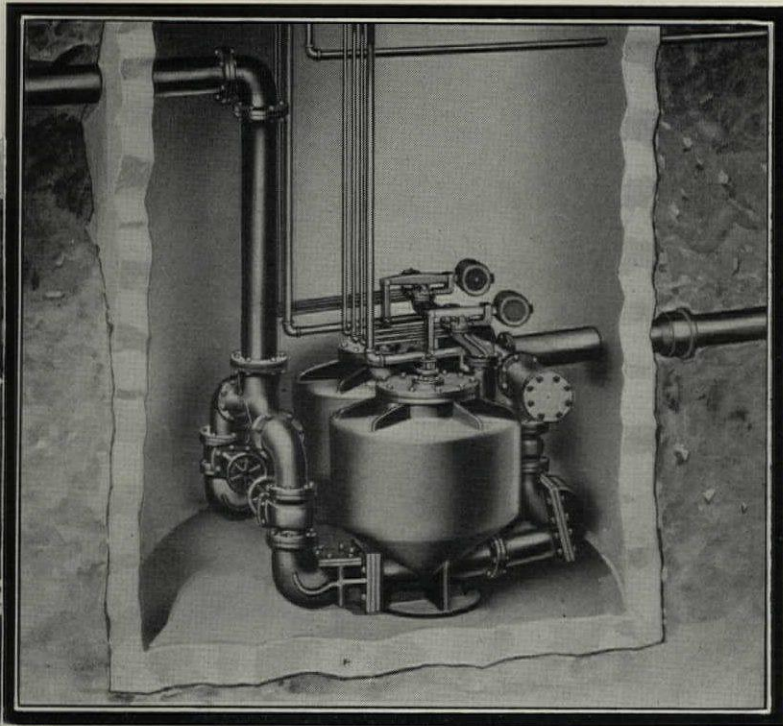
Armstrong's

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LINOTILE

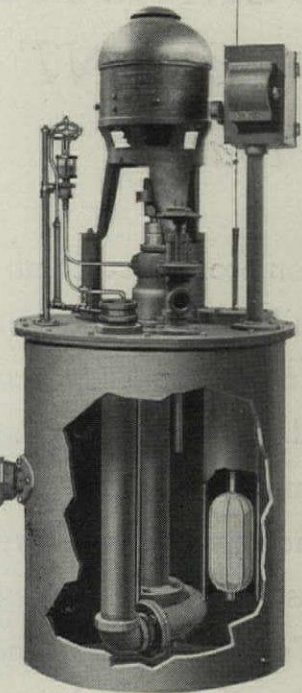
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Auditorium Building, one of many buildings on Chicago's famous lake front that are Yeomans-equipped. Installation made in 1888.



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The World's Largest Hotel—the Stevens, Chicago—depends upon 8 Yeomans-Shone Sewage Ejectors and a Yeomans Emergency Flood Pump to keep the basements clear of drainage and flood water. The equipment offers positive assurance against flooding and damage to other machinery.

A GENERATION ago Yeomans pumps were installed in Chicago's famous hotel, the Auditorium, to handle its entire sewage and drainage requirements. That the equipment has given uninterrupted, dependable service through all these years is evidenced by the words of chief engineer T. E. Wade, who says,—"41 years ago Yeomans-Shone equipment was installed to handle our entire sewage and drainage requirements. During this period the pumps have given complete satisfaction—without clogging, without excessive power consumption, at savings in cost, and more dependably—a record for 100% service!"

And this same dependable equipment is being specified for the leading hotels today, and for other buildings, industrial plants and municipalities. Yeomans pumps are built in a complete range of sizes and can be furnished to fulfill practically all pumping requirements. Their operation goes on automatically year in and year out, satisfying engineer, tenant, manager, and owner. Their installation reflects credit on the sound judgment of architect, engineer or contractor.

Yeomans service is available throughout the entire nation. Write for name of our nearest representative and for literature descriptive of the equipment in which you are interested.

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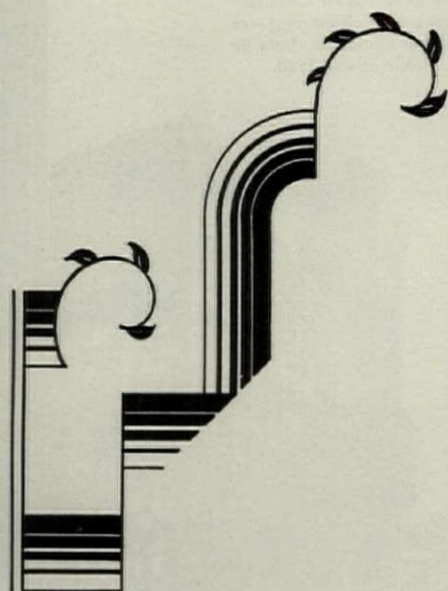
Representatives in Principal Cities

Yeomans Pumps

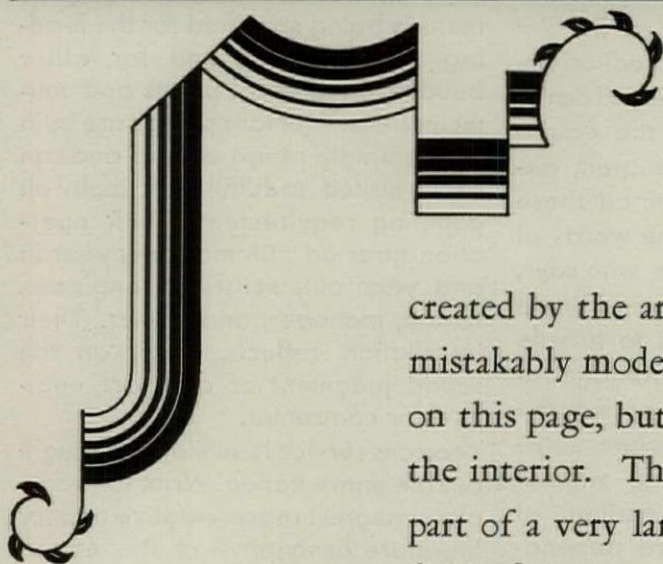
Sewage and Drainage



P.P. 10 Gray



THE
MODERNISTIC
MOVEMENT
Plate 3



In the Hudson Store, Newcomb-Endicott Building, Detroit, is a children's barber shop known as Circus Land. The design, as

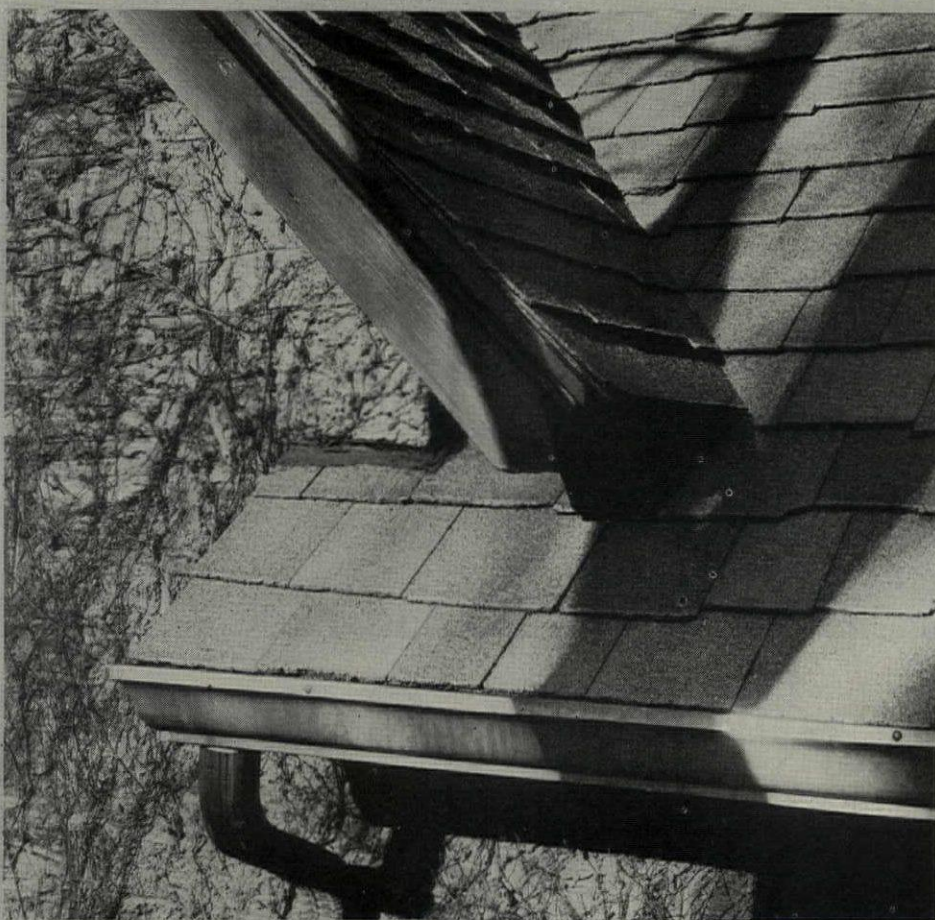
created by the architects, Smith, Hinchman & Grylls, is unmistakably modern in character. Only the entrance is shown on this page, but that perhaps is the most unique feature of the interior. This entrance of Roman Travertine is but one part of a very large installation of marble, all of which was finished in our shops.

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THE use of J-M Cotswold Blend Shingles will provide a roof dark in color tone. Their soft subdued shades of black, purple and green blend charmingly without strong contrast. Due to their harmonious color and texture

these shingles permit a wide range in their use. A representative of our Architectural Service Department will gladly show you this development. Address Johns-Manville, 292 Madison Avenue, New York, N. Y.

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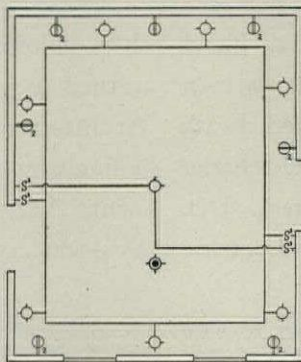


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YOU can make sure even in the blueprint stage—that any home you design will have that priceless liveable quality so plainly evident in this living room. Specify a General Electric Wiring System. It is born of long experience and “thinks of everything” for you.

The General Electric Wiring System brings greater comfort, greater beauty into a dwelling by making electric service *adequate* for illumination and appliances. Lighting and

convenience outlets are certain to be where they're needed... and enough switches handy beside the doors. Dependable General Electric materials throughout are the owner's guarantee of wiring that is trouble-free. The General Electric Wiring System's certificate on the switch-box adds real value to the property.



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ONE OF FIFTH AVENUE'S FINEST

A GAIN uptown New York comes to the front with the erection of the palatial new Hotel Pierre. This ultra-fashionable hostelry . . . beautiful lines of Georgian architecture . . . slender, graceful facade of granite and cream-colored brick . . . rises forty stories above Fifth Avenue at Sixty-first Street.

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Architects and engineers interested in the protection feature of copper-steel pipe should write for Bulletin No. 11, describing National Copper-Steel Pipe—

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Consulting Engineer: Clyde R. Place
General Contractor: Geo. A. Fuller Co.
Heating Contractor: Baker, Smith & Co.
Plumbing Contractor: Jarcho Bros.*

NATIONAL COPPER-STEEL PIPE

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YOUR confidence (and the confidence of thousands of others like yourself) in DIETZGEN has imposed a tremendous obligation—an obligation to give you “enduring worth at reasonable cost,” to give you always the Prompt Service that you have come to know as characteristic of DIETZGEN.

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☐ Portfolio in color.

☐ Color sketch of enclosed area showing how it will look if tiled in Pardee.*

*I enclose { ☐ sketch of tile area (with dimensions)
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City.....

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It implies the efficient performance of Johnson apparatus always.

It includes voluntary, free inspection of each job once a year.

It assures emergency attention within twenty-four hours time.

It means the company's guarantee of attentive interest in the installed apparatus as long as it exists; permanently responsible.

It embraces constant effort toward improvement in Johnson apparatus; every notable advance in temperature regulation during the past forty-five years having been of Johnson conception.

The word "Service" is indeed significant in this company's name.

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Established 1885

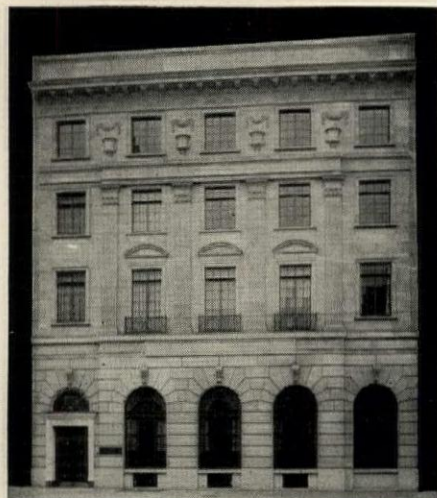
149 E. Michigan St. **MILWAUKEE, WIS.**
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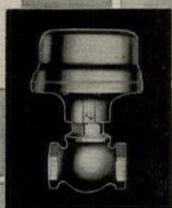
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Johnson Dual Thermostats control the direct radiators in the various offices of this building: automatically maintaining constant normal temperature during the occupied periods of each office, and a lower temperature when vacated and unoccupied (at night, for example). In addition, Johnson Control is on the mechanical ventilating system of the building. Fresh air intake and vent dampers are operated by Johnson Pneumatic Switches. A Johnson Humidostat and Johnson Grid Humidifier insure proper humidification of the air entering each room of the building.



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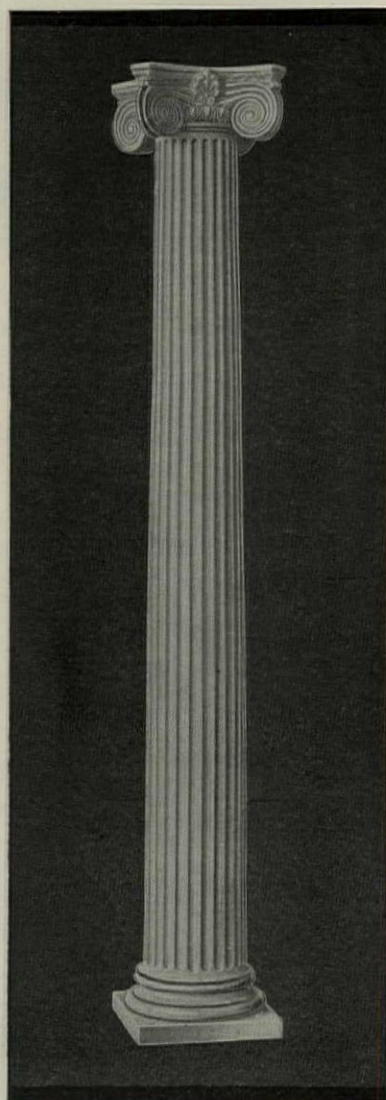
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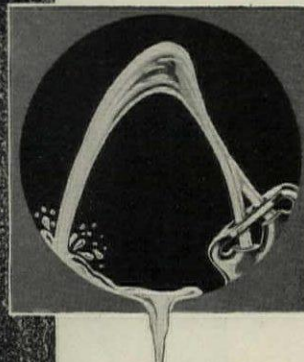
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HALSEY TAYLOR *Drinking Fountains*



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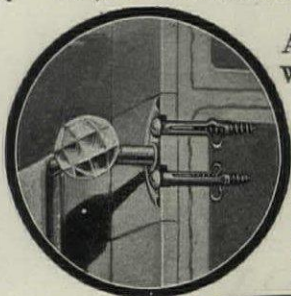
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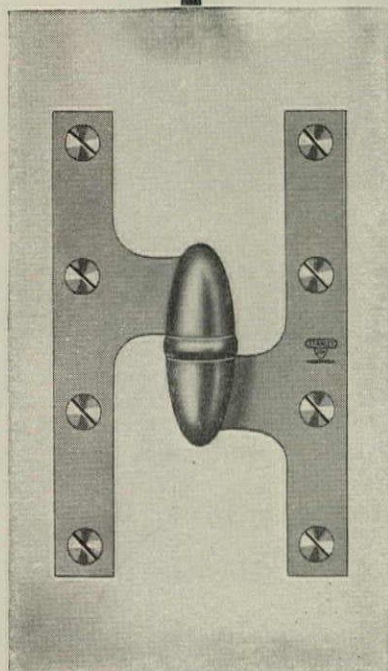
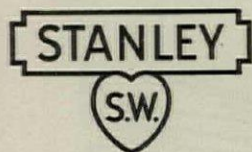
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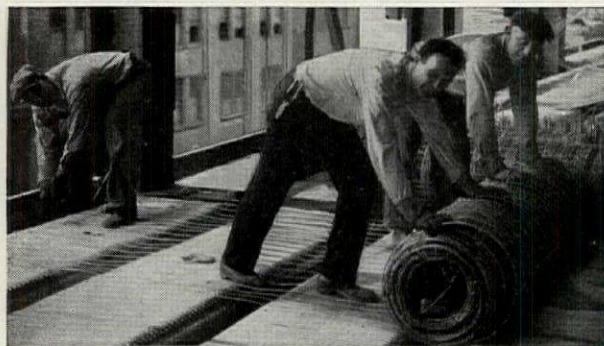
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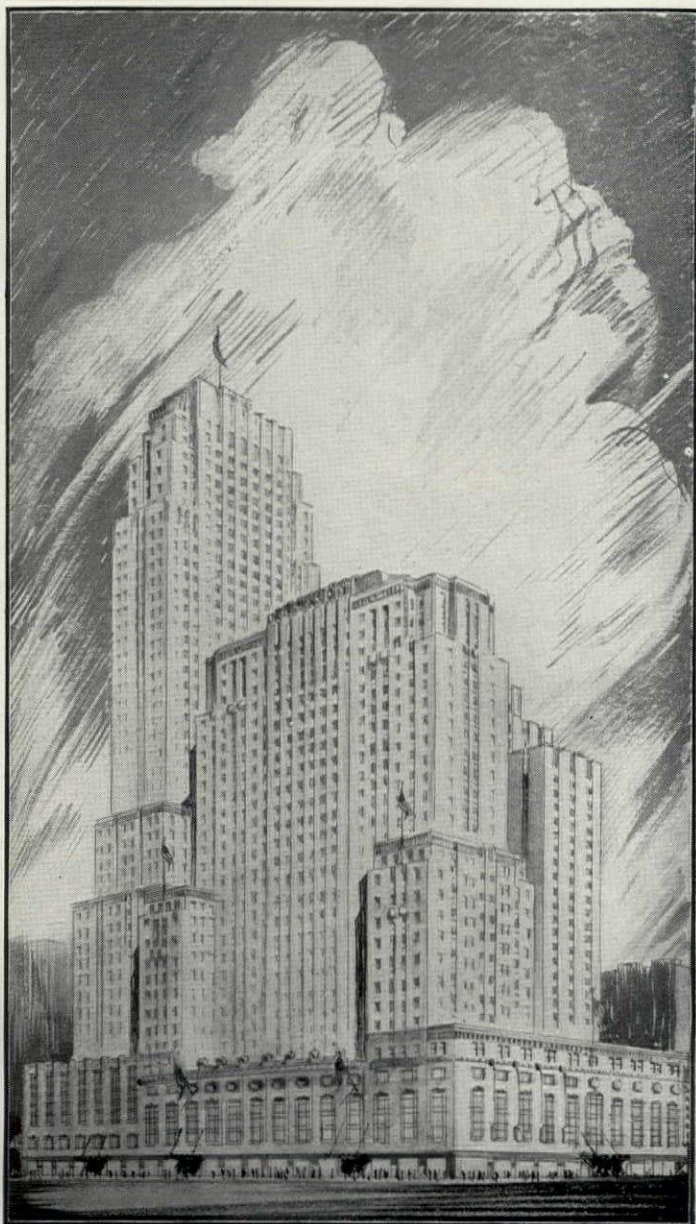
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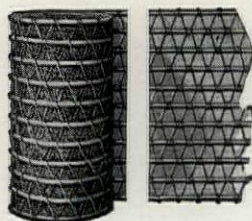
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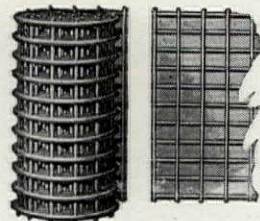
Wire Fabric being laid on floors of Carew Tower



The Carew Tower, Cincinnati, Ohio—Walter Ahlschlager, Architect, Chicago—Delano & Aldrich, Associate Architects, New York—Starrett Building Co., Contractors, Chicago—Lieberman & Hein, Consulting Engineers, Chicago



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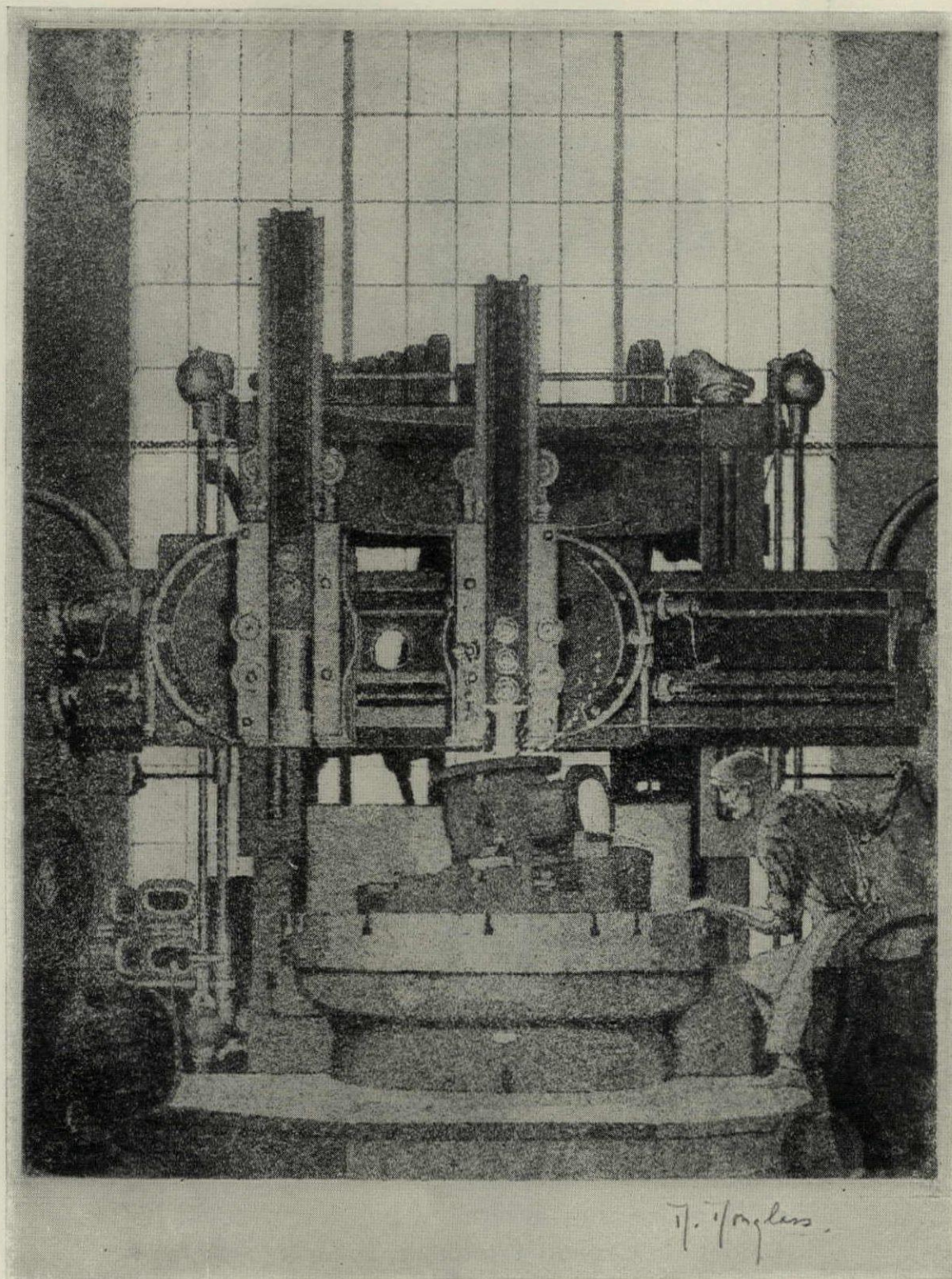
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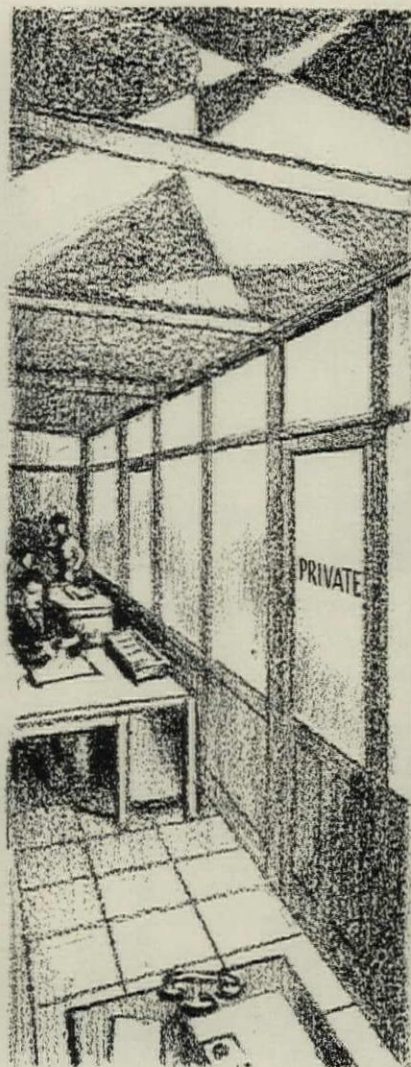
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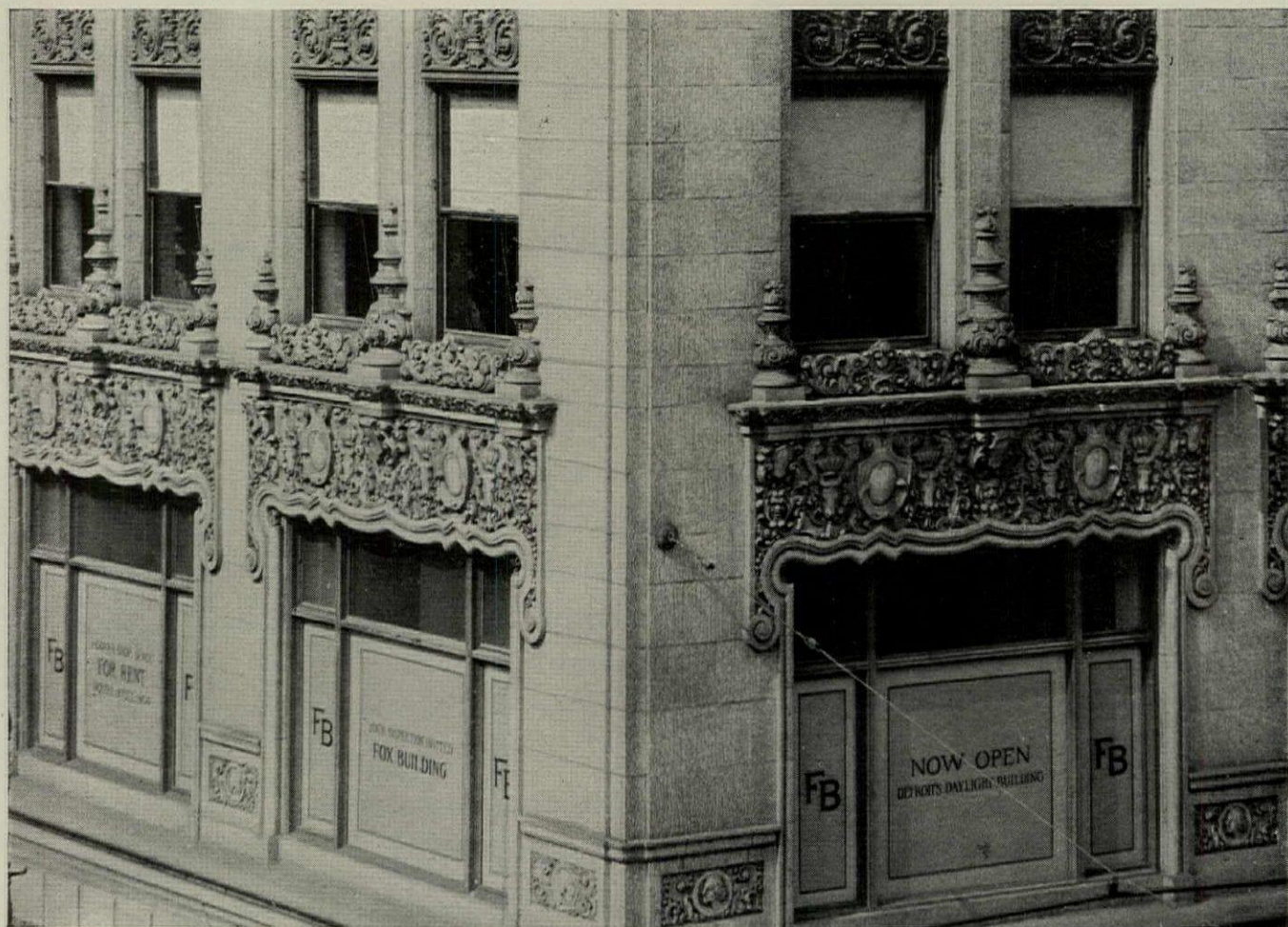
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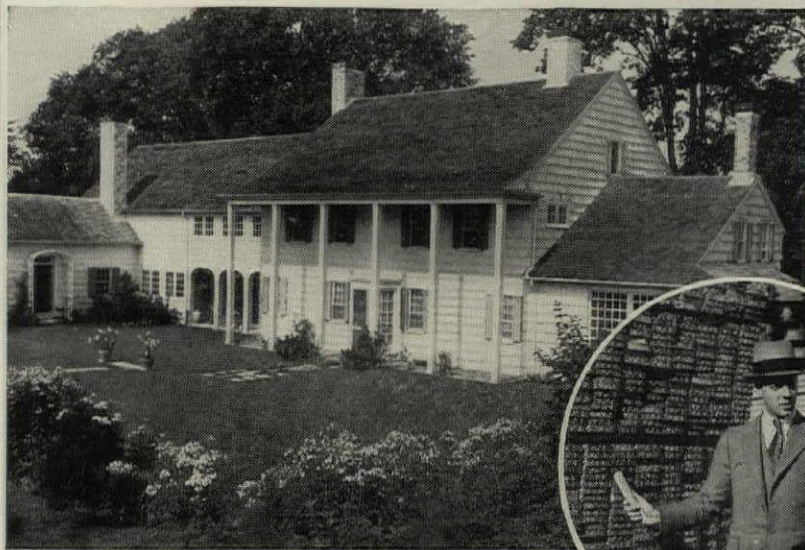
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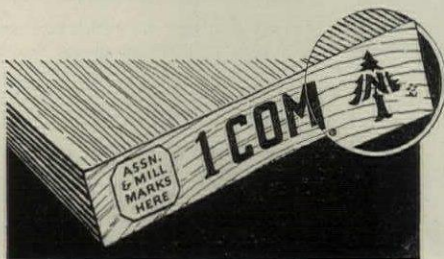
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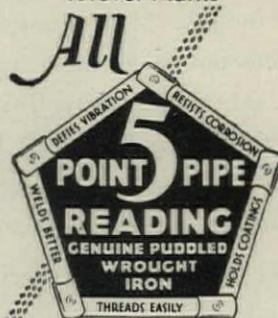
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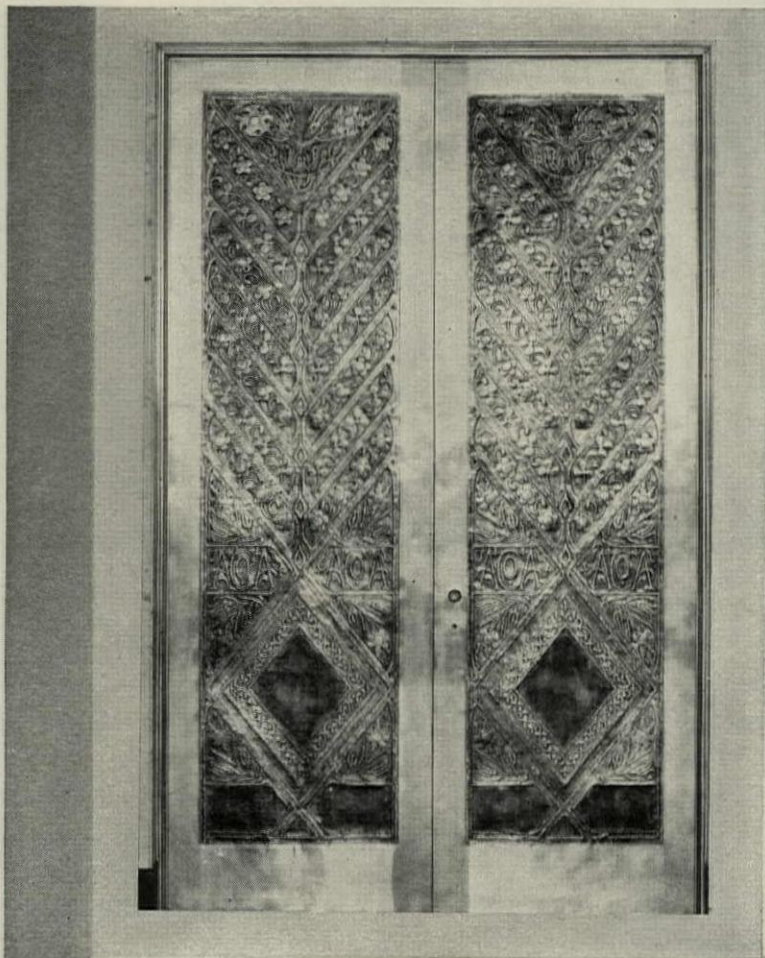
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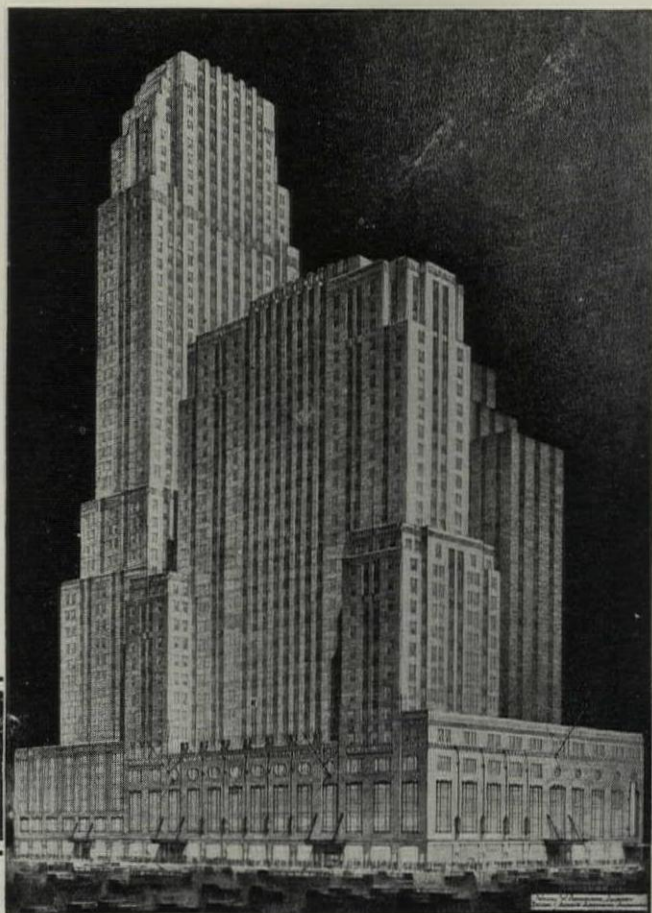
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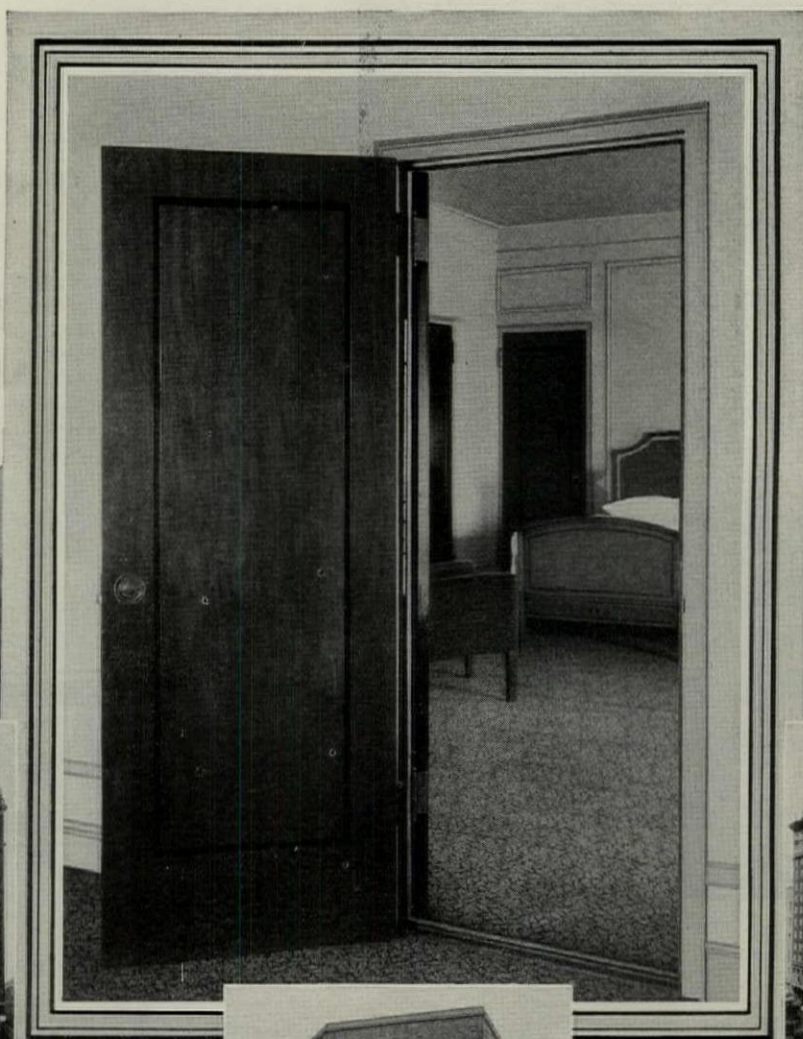
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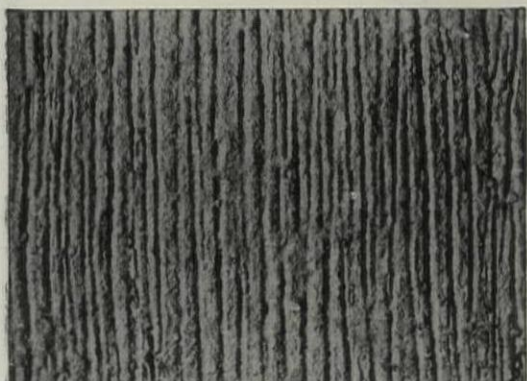
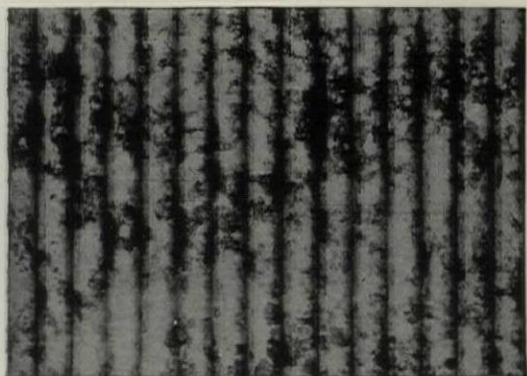
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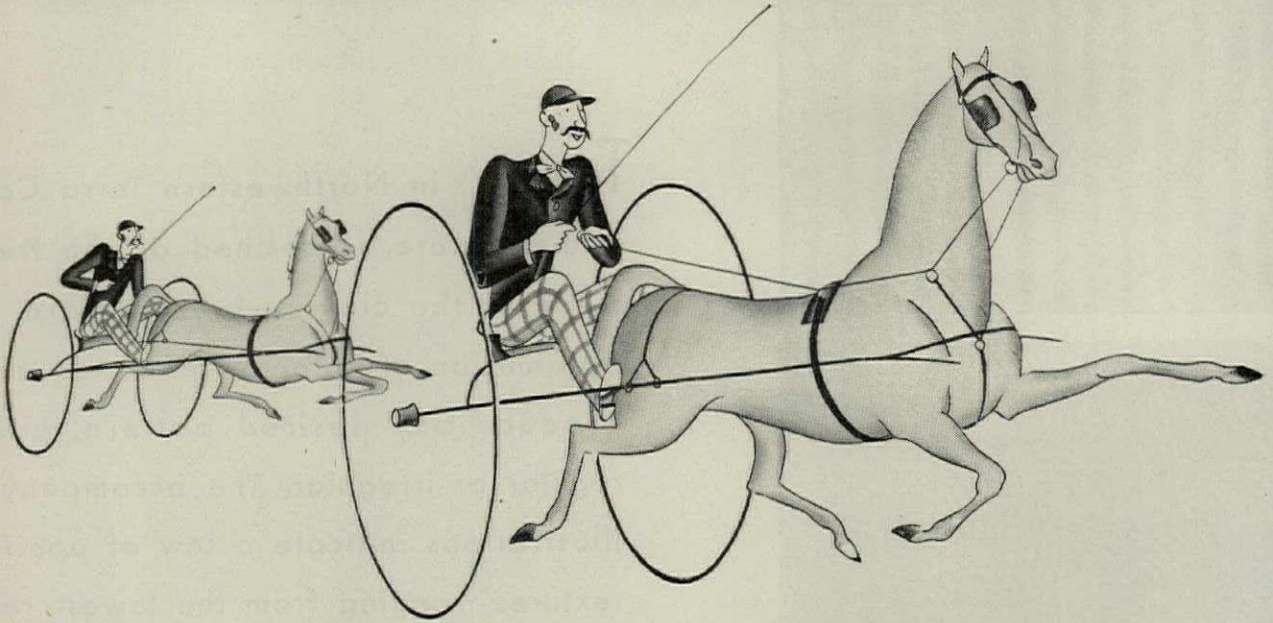
"TEXTURE" in Northwestern Terra Cotta nomenclature, is defined as the treatment of the clay surface, before the application of color or glaze, so as to produce any desired pattern, either regular or irregular. The accompanying illustrations indicate a few of possible textures, ranging from the lowest relief to rugged or modeled surfaces.

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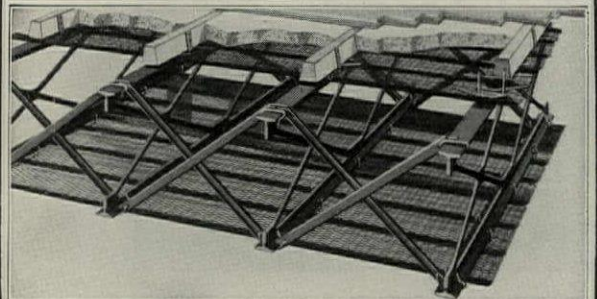
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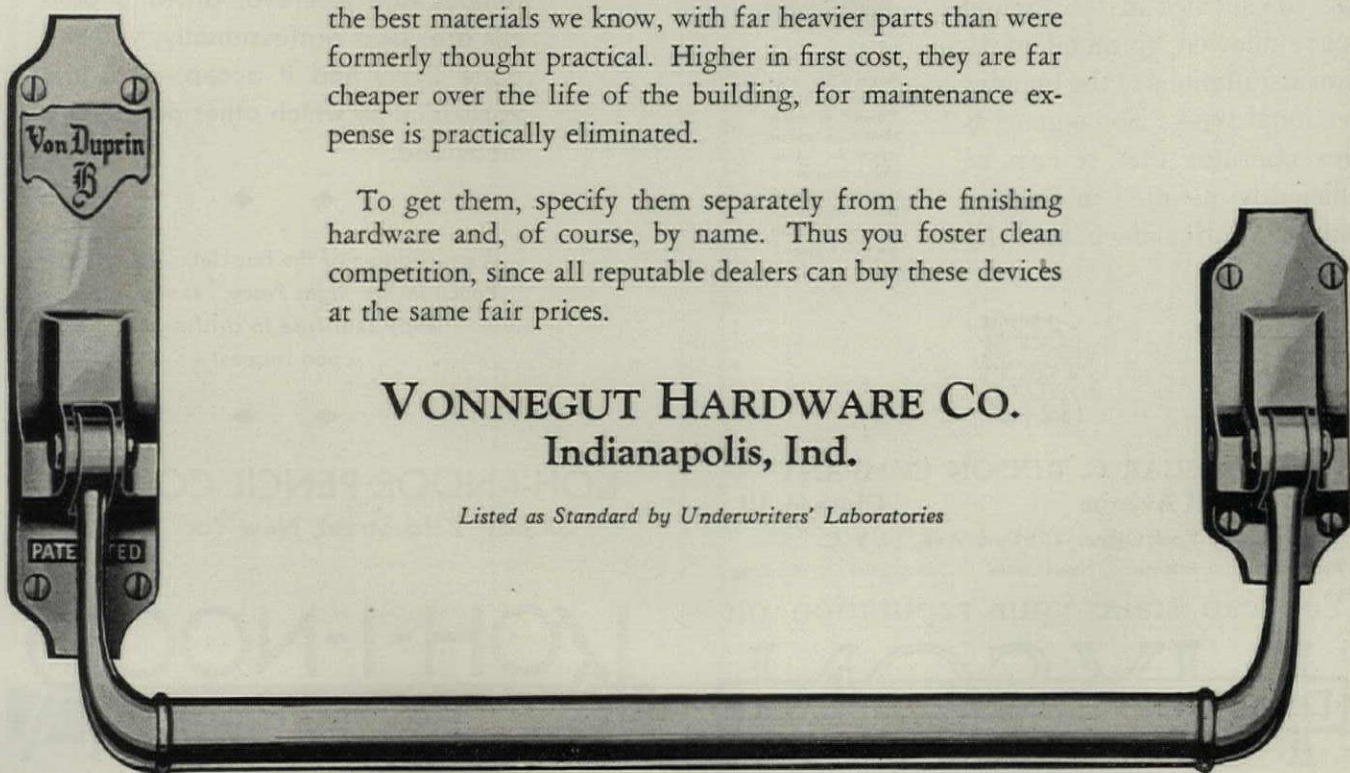
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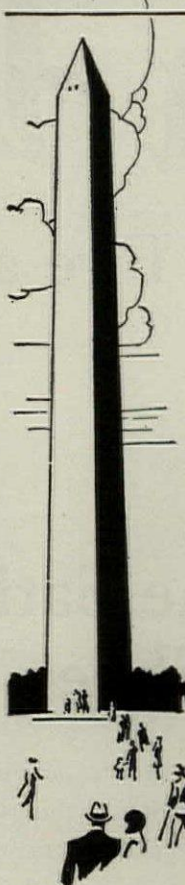
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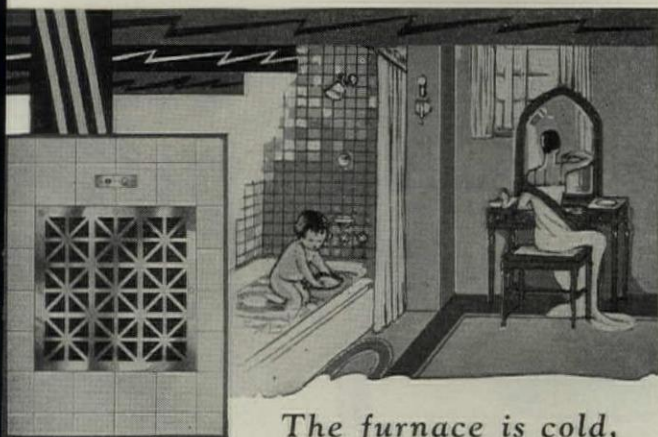
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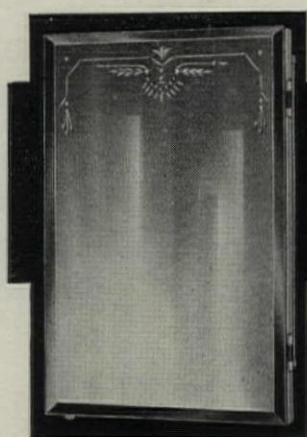
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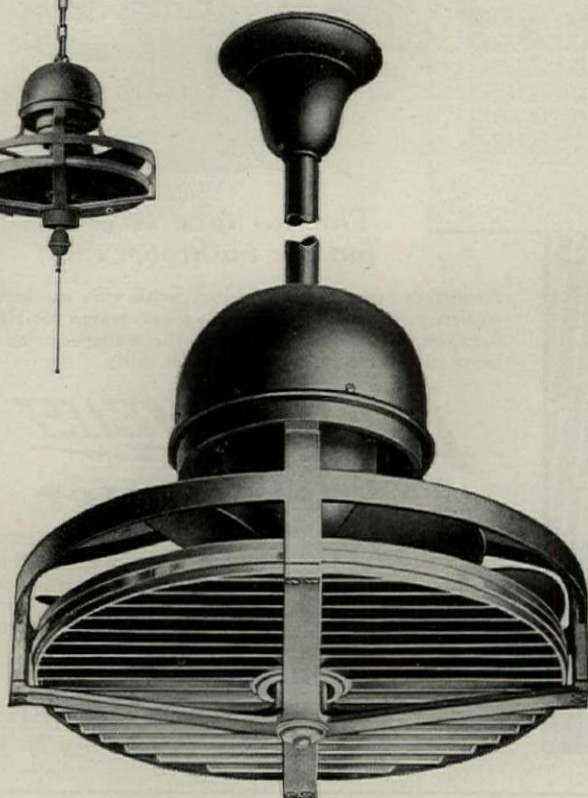
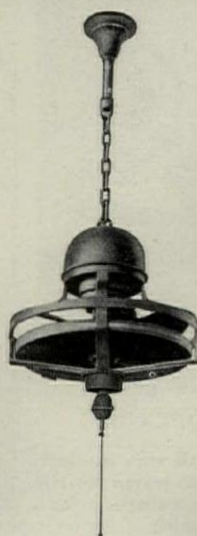
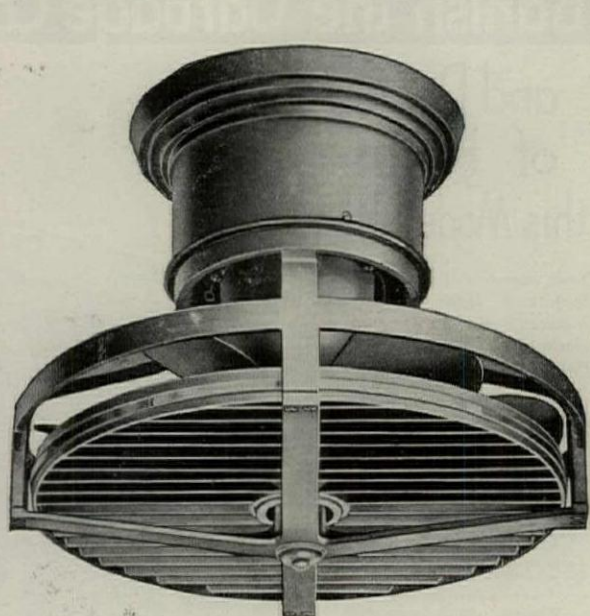
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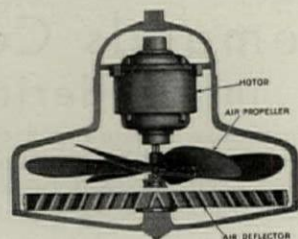
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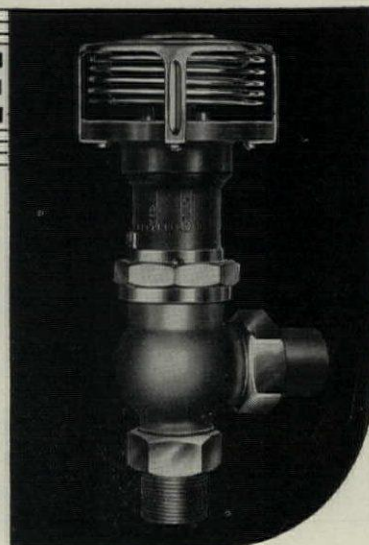
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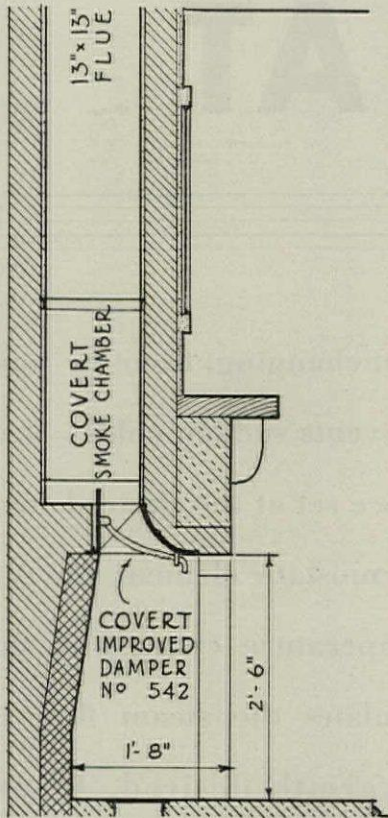
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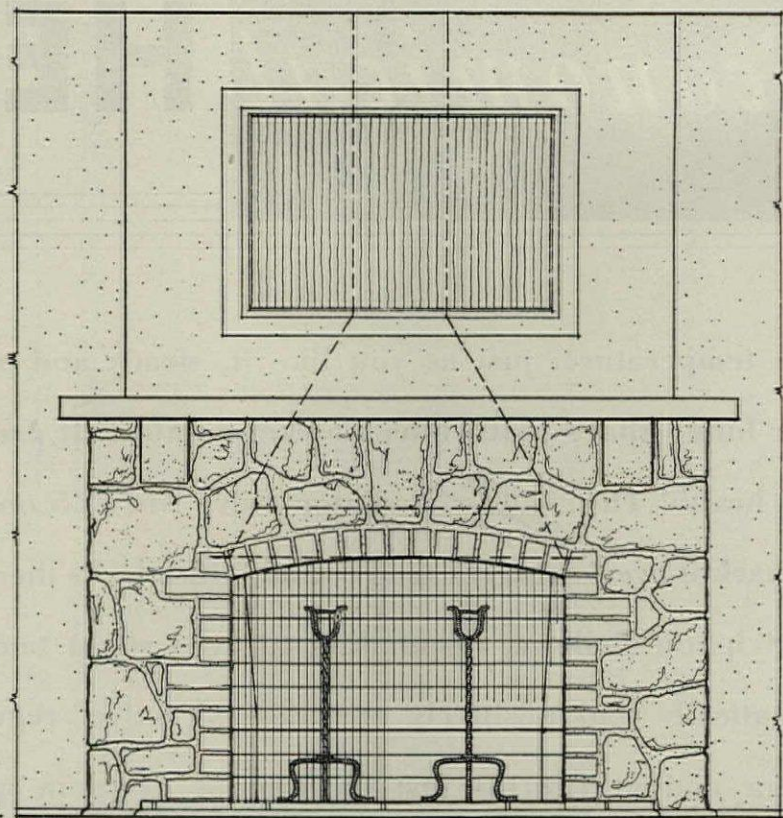


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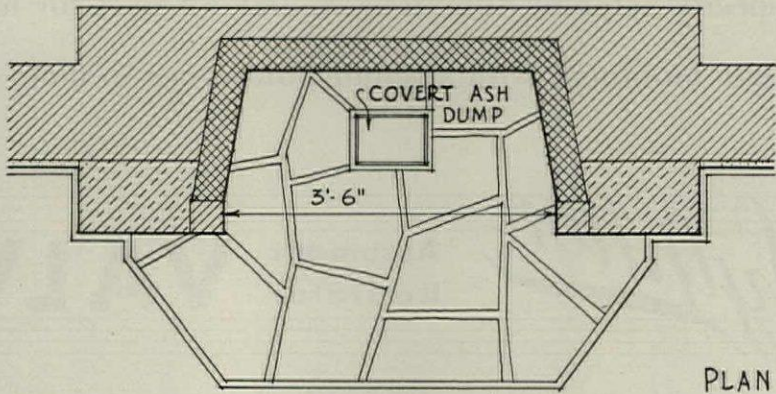


SECTION



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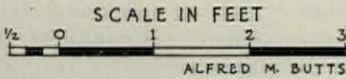
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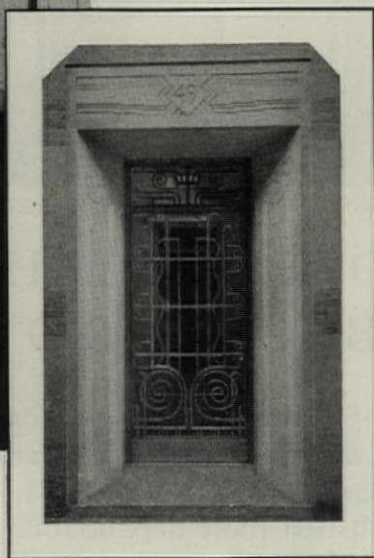
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(At left) Stair rail of forged Monel Metal manufactured for a New York residence by RENNER & MARAS, INC., Long Island City, N. Y. HARRY ALLEN JACOBS, Architect. (Below) Forged Monel Metal door installed in same residence.



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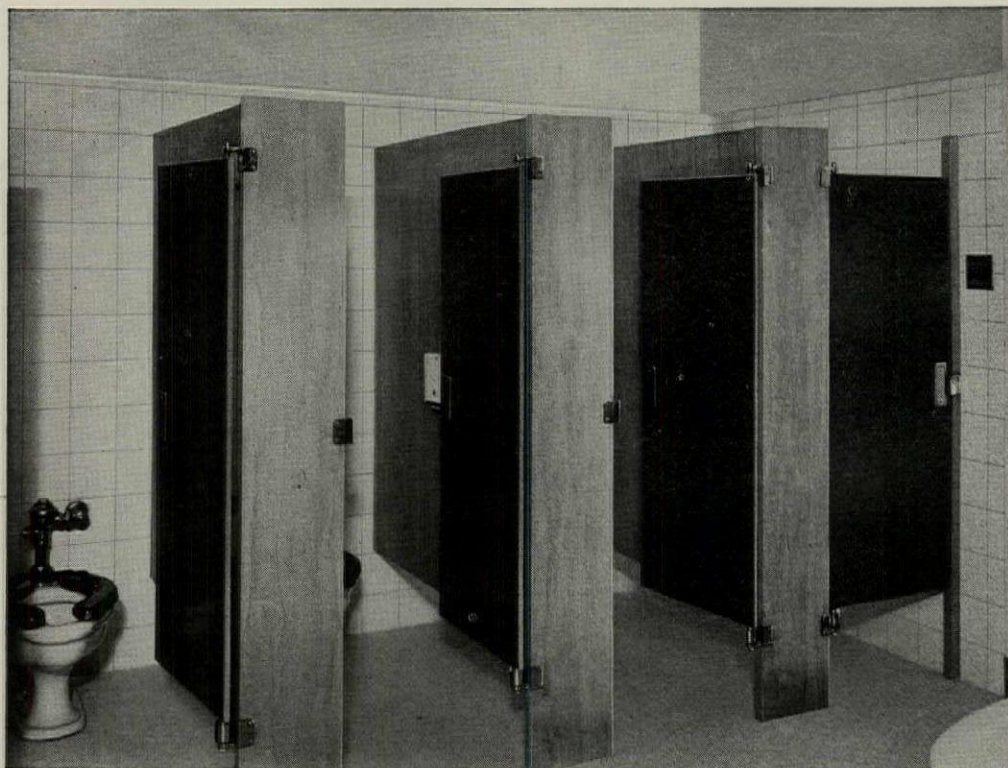
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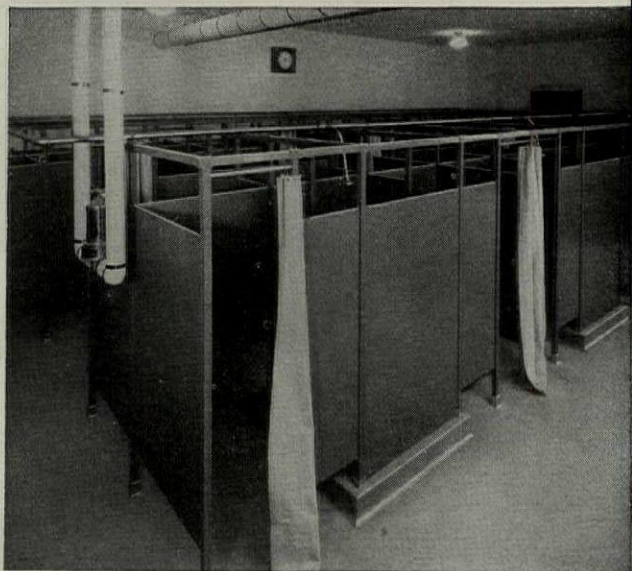
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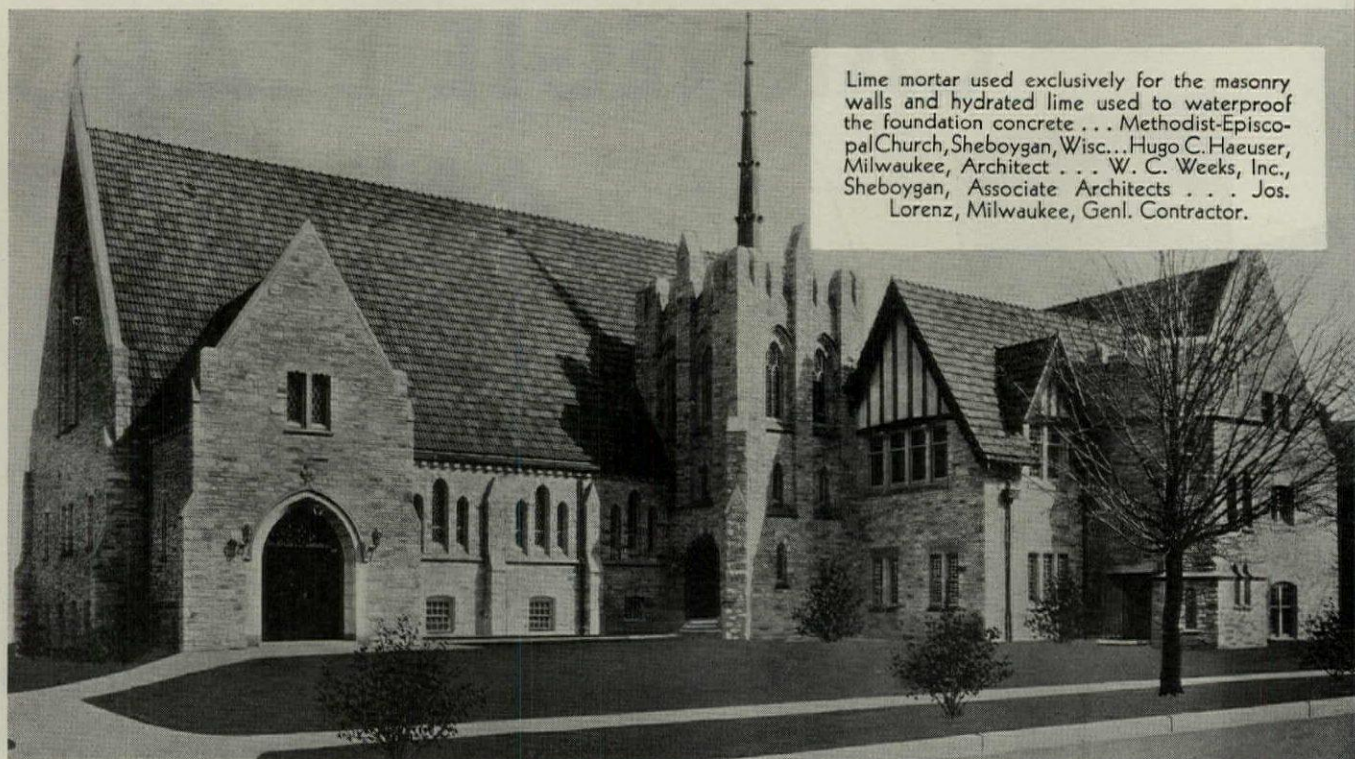
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ARCHITECTURAL EXTRUDED BRONZE IN STANDARD SHAPES

PLATE 25

SUGGESTING THE USE OF EXTRUDED BRONZE IN STANDARD SHAPES FOR A FORMAL ROOM. THE BRASS DIVIDING STRIPS IN THE TERRAZZO PANELS HAVE BEEN UTILIZED TO SET OFF THE DESIGN AND TO ALLOW FOR EXPANSION.

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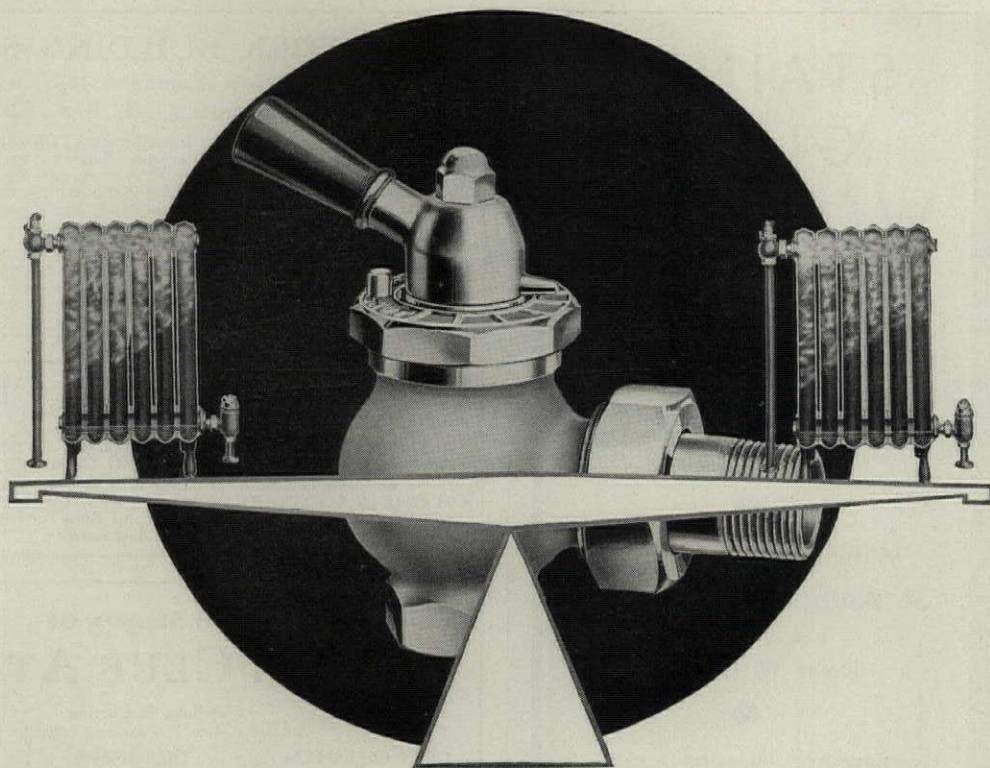
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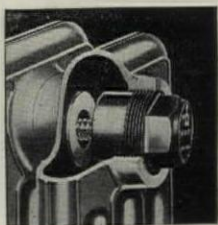


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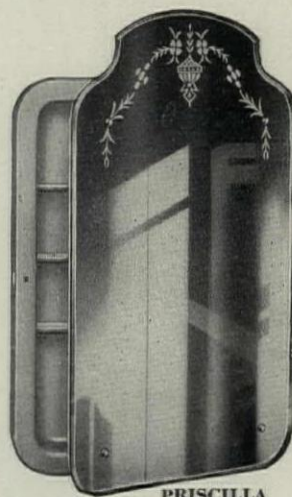
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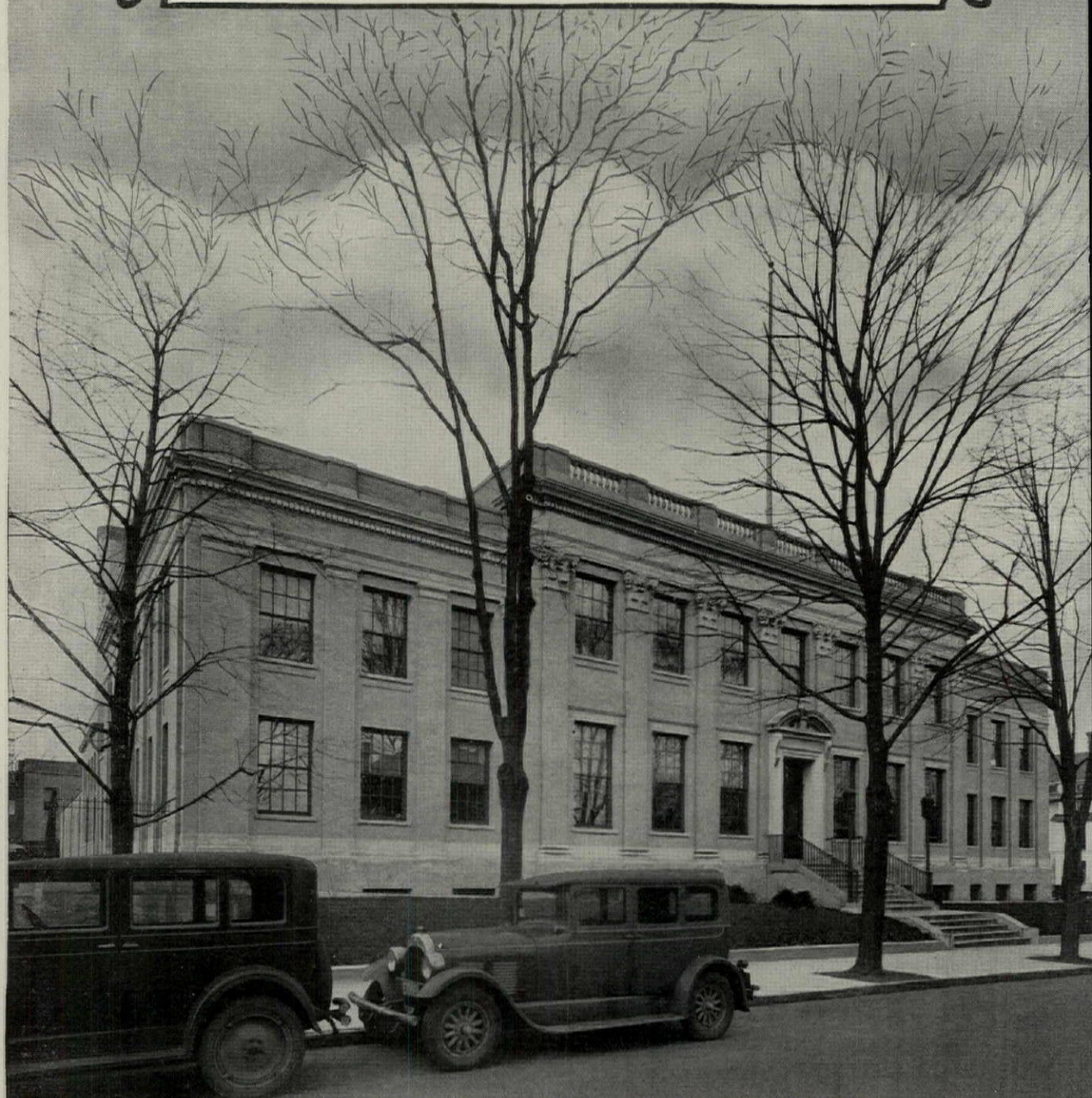
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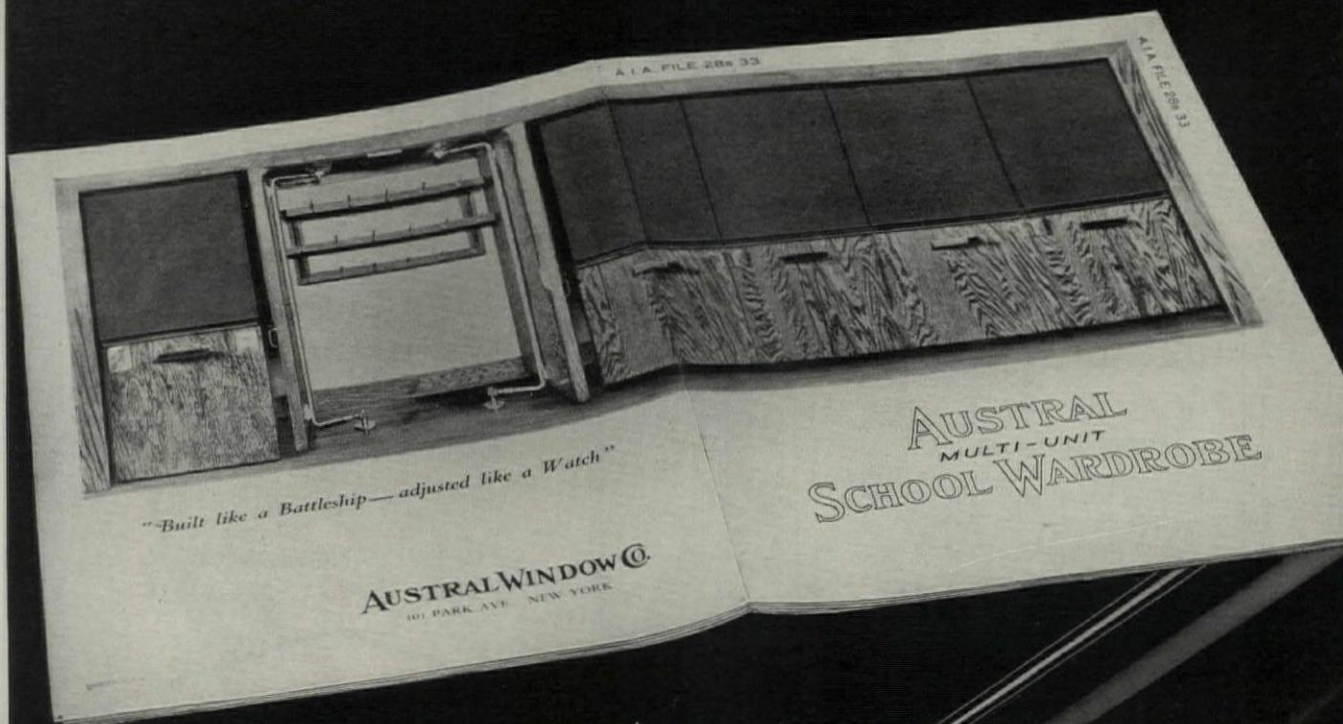


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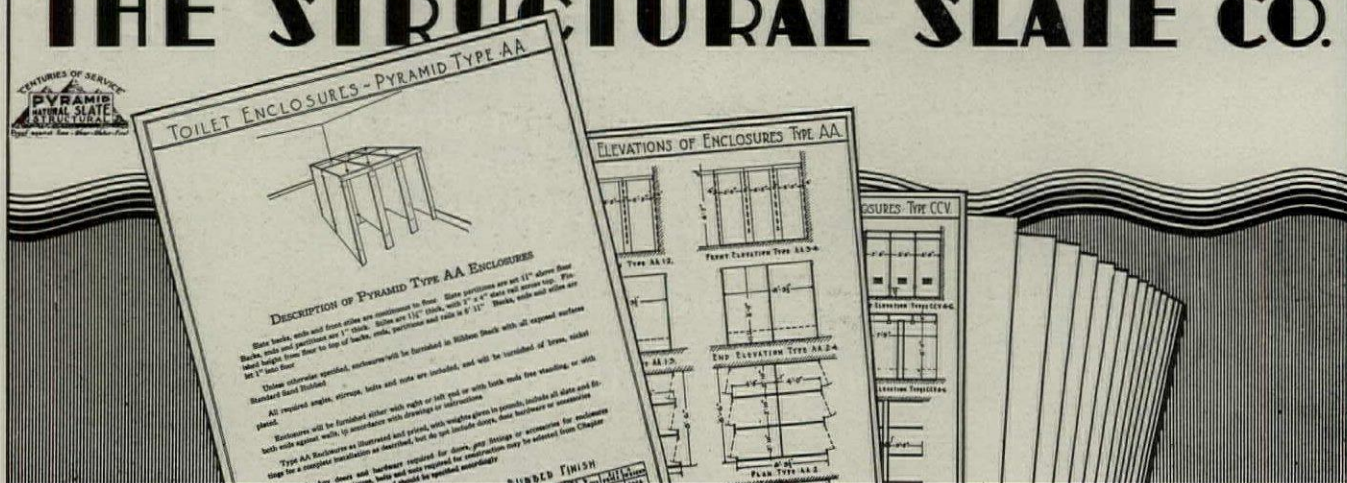
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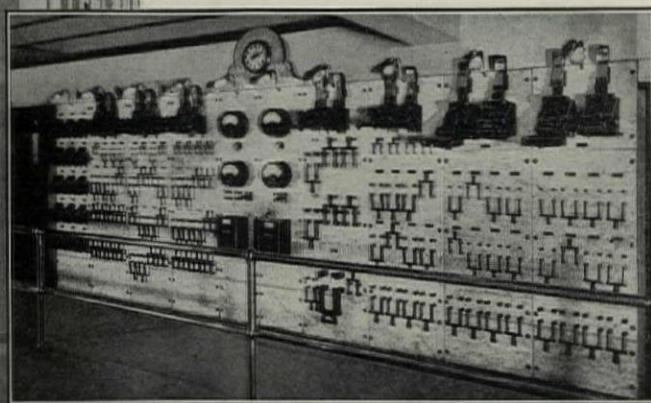
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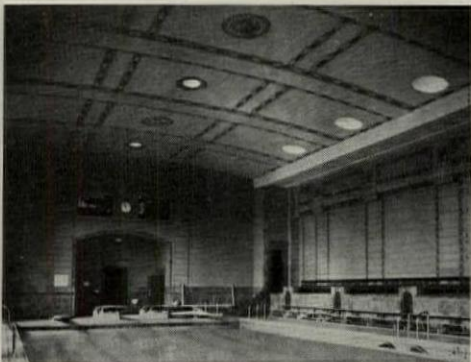
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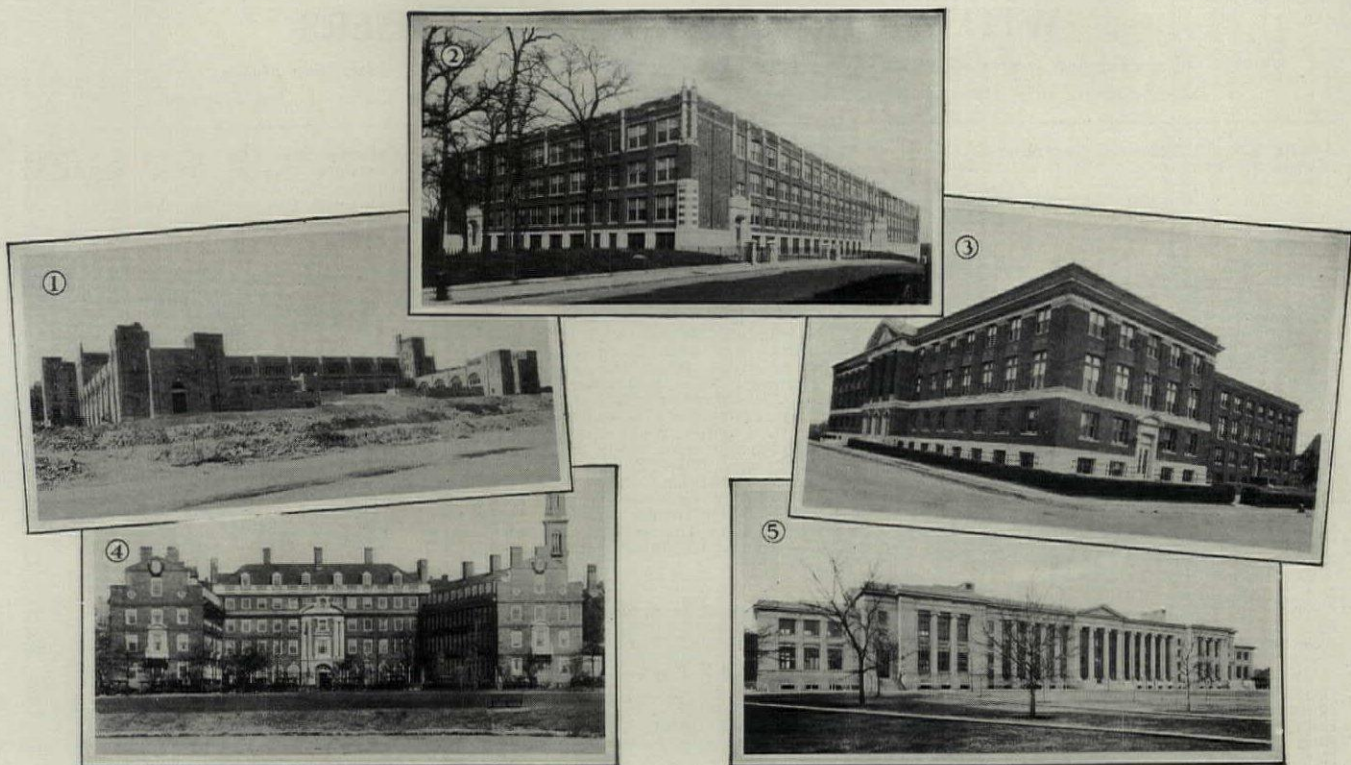
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The Pardee Matawan Tile Company has just completed arrangements to take over the sales of The Nemadji Tile & Pottery Company. The Pardee Matawan Tile Company represents a combination of The C. Pardee Works, manufacturers of wall and floor tile, and The Matawan Tile Company, producers of ceramics. The Nemadji Tile & Pottery Company's products will completely round out the full line of tiles as the latter company manufactures unglazed handmade tiles.

Announcement is made that negotiations have been completed whereby the Standard Varnish Works, New York, acquires the business and good will of the National Varnish Company. The National Varnish Company, of which F. W. Herz is president, and John E. Sanderson, vice-president, has been in business for twenty-two years. Messrs Herz and Sanderson join Standard Varnish Works to direct respectively the National salesmen and the manufacture of products for their customers under the National formulae. The Standard Varnish Works was founded in 1870. Five years ago, Toch Brothers, manufacturers of technical paints, founded in 1848, was merged with the Standard Varnish Works. Dr. Maximilian Toch and Henry M. Toch are now identified with the Standard Varnish Works, Henry M. Toch being Chairman of the Board of Directors.

The Josam Manufacturing Co., Cleveland, O., announces that it is now manufacturing and marketing an adjustable water closet outlet connection which, if properly installed, will be water-tight and gas-tight, thus safeguarding the health of people from a sanitary and hygienic standpoint.

Indicative of the increasing use of white metal for architectural and decorative purposes in large building construction, the General Bronze Corporation recently closed contracts aggregating \$800,000 to furnish white metal work to be installed in five large Eastern buildings now being erected, including the Empire State Building in New York City. The contract for the Empire State Building is believed to be the largest ever placed for the use of architectural aluminum in a single structure. It calls for construction according to modernistic treatment of the main entrances, store fronts, interior decorative effects for halls and lobbies, and aluminum doors on the first floor for the 58 elevators which will serve the building. A contract also has been made to install the architectural metal work for the City Bank Farmers Trust Co. building now under construction at Hanover Square, New York. Nickel will be used throughout this building. Included in the group of white metal contracts awarded to General Bronze Corporation are others for buildings at 29 Broadway and 80 Broadway, New York, and for the Hirsch Building, at Elizabeth, N. J. Aluminum will be used in these structures. The company's volume of white metal contracts last year was only 10 per cent. of its total sales, the demand being almost entirely for bronze and iron. With the growing architectural use of aluminum and other white metals, it is expected that about 20 per cent. of its total volume this year will specify these newer metals.

Kalman Steel Co.	118
Kawneer Company, The	84, 85
Kerner Incinerator Co.	38
Kewanee Boiler Company	8
Koh-I-Noor Pencil Co., Inc.	120
Kohler Company	37
Leonard-Rooke Company	38
Libbey-Owens-Ford Glass Co.	95
Long-Bell Lumber Co., The	31
Lord & Burnham Co.	42
Lord & Burnham Co., The (Sash Operating Div.)	39
Louisville Cement Company	106
Ludowici-Celadon Company	83
Lupton's, David, Sons Co.	45
Mac Arthur Concrete Pile Corp.	35
Marsh, Jas. P., & Co.	68
Master Builders Co.	19
Medusa Portland Cement Co.	33
Milcor Steel Company	148
Mueller Mosaic Co.	24
Nailcrete Corp., The	25
National Association of Flat Rolled Steel Manufacturers	30
National Fireproofing Co.	17
National Hdw. Flooring Co.	31
National Lime Association	128
National Lumber Manufacturers Assn.	109
National Radiator Corp.	29
National Terra Cotta Society	97
National Tube Company	91
Nelson, Herman, Corp., The	113, 114
New York Belting & Packing Co.	50
New York Building School	134
Northwestern Terra Cotta Company, The	117
Oak Flooring Manufacturers Association of the United States	100
Orange Screen Co.	48
Pardee Matawan Tile Co., The	93
Pecora Paint Company	59
Peelle Company	64
Pittsburgh Plate Glass Co.	26
Portland Cement Association	22
Prometheus Electric Corp.	121
Rail Steel Bar Assn.	15
Raymond Concrete Pile Co.	5
RCA Victor Co., Inc., Engineering Products Division	24
Reading Iron Co.	111
Richards-Wilcox Mfg. Co., 3rd Cover	
Rising & Nelson Slate Company	98
Rixson, Oscar C., Co., The	120
Roddis Lumber & Veneer Co.	116
Safety Car Heating & Lighting Co.	122
Sargent & Co.	63
Sargent, J. D., Granite Co.	48
Seco Incinerator Co.	121
Security Fire Door Co.	115
Sketch Club Atelier	134
Sonneborn, L. Sons, Inc.	41
Soss Mfg. Company	38
Southern Cypress Manufacturers Assn.	46
Staedtler, J. S., Inc.	59
Stanley Works, The	102
Stevenson Cold Storage Door Co.	65
Structural Gypsum Corporation	10
Structural Slate Co.	142
Sturtevant, B. F., Co.	18
Taylor Co., The Halsey W.	99
Toch Brothers, Inc.	23
Trane Co.	137
Union Carbide and Carbon Corp.	40
Union Metal Mfg. Co., The	96
United Spanish Craftsmen	139
United States Gypsum Co.	13
United States Rubber Co.	132
Vermont Marble Co.	88
Vonnegut Hardware Company	119
Ward Leonard Electric Co.	138
Warren Webster & Co.	133
Weber, F., Co.	121
Welded Products Corp.	121
Westinghouse Electric Elevator Co.	12
Westinghouse Elec. & Mfg. Co.	44
Wheeling Steel Corp.	28
Wilson Corporation, J. G.	39
Yeomans Brothers Co.	87
Zouri Co., The	147

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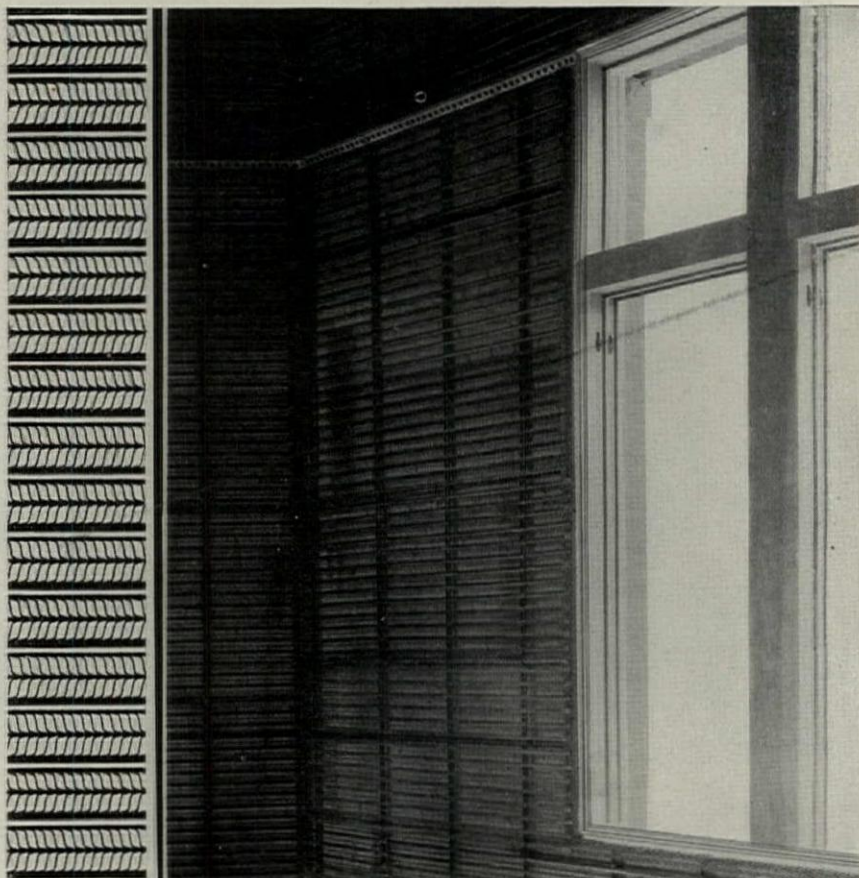
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WRITE FOR CATALOG

Scratching In and Doubling Up Can Be Done from One Scaffold



The expanded metal wings of Milcor Expansion Casing key the plaster to the trim so that it cannot pull away. The patented Milcor locking clip anchors the whole assembly to the wood frame so that it's there to stay. Milcor Expansion Metal Casing is the most practical and permanent trim.

Patent No. 1,570,676



In Expansion Corner Bead Milcor offers distinctive advantages. The expanded metal wings permit keying the plaster right up to the bead... resulting in corners that will withstand more than the usual abuse.

Patent No. 1,419,232



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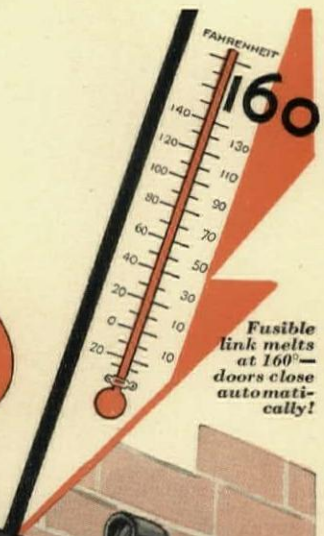
Sales Offices: New York, 418 Pershing Square Building; Boston, Mass., 726 Little Building; Atlanta, Ga., 207 Bona Allen Building; Minneapolis, Minn., 642 Builders Exchange Building; Little Rock, Ark., 104 W. Markham Street

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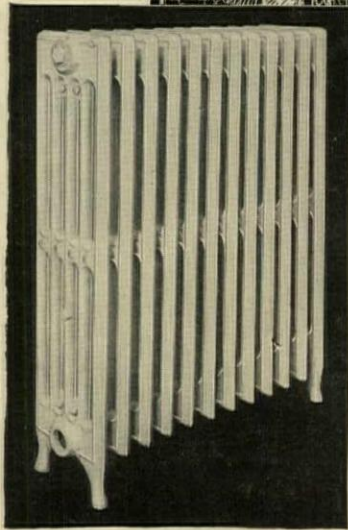
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