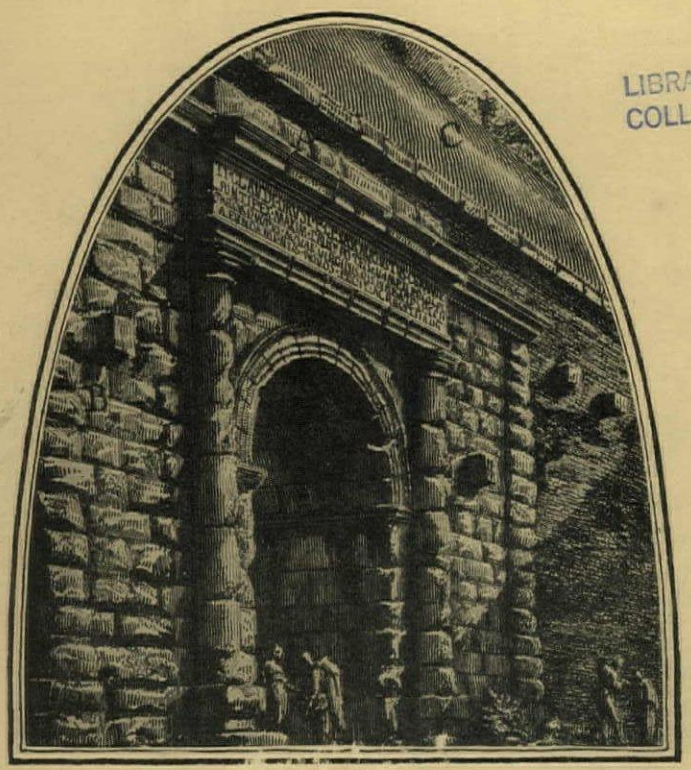


PENCIL POINTS

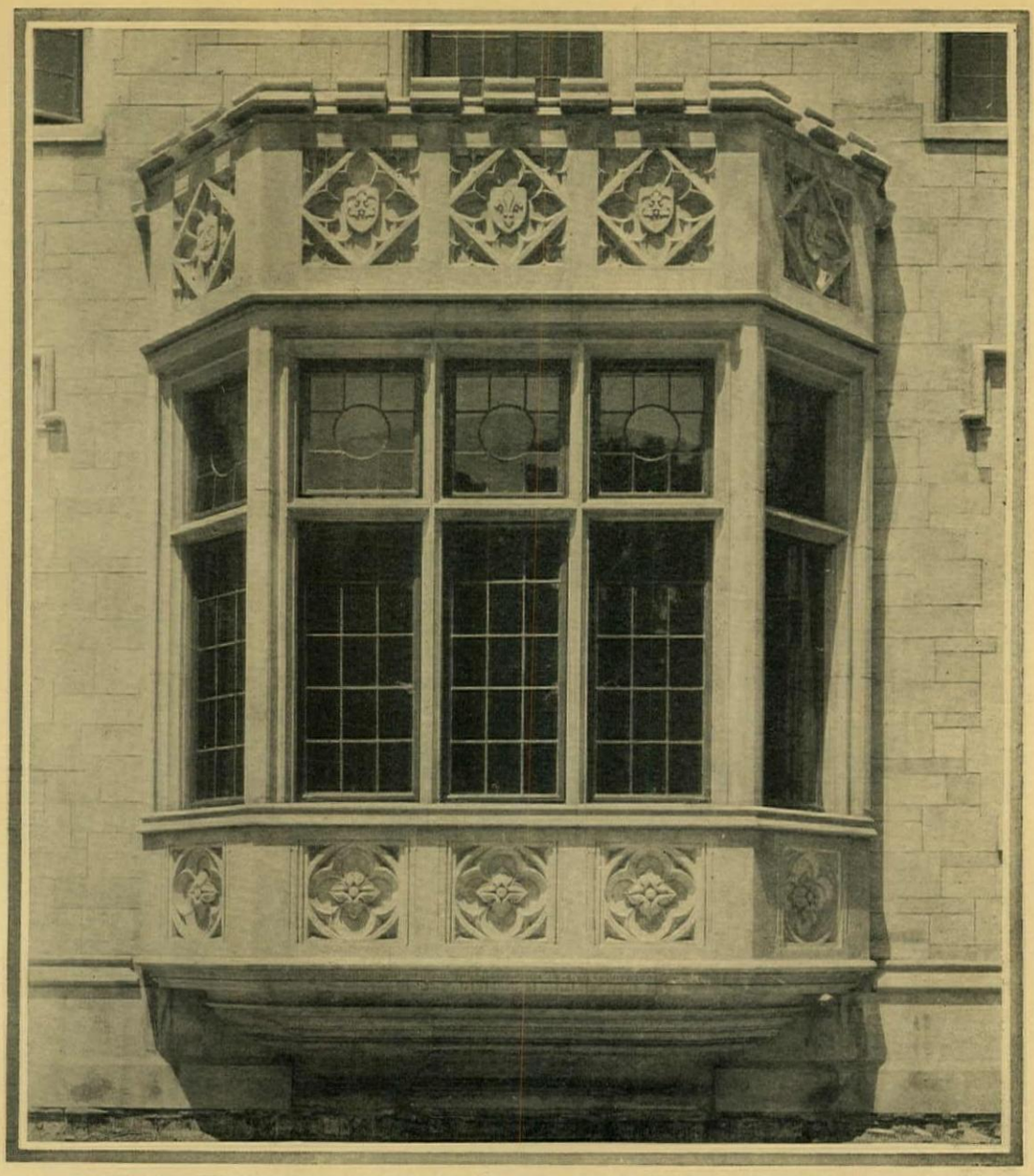
A JOURNAL FOR THE DRAFTING ROOM

APRIL 1928

THIRTY-FIVE CENTS A COPY

THREE DOLLARS A YEAR

EIGHTEEN THOUSAND COPIES OF THIS ISSUE PRINTED



Detail, Oriole Bay Window, Dormitory, Marygrove College, Detroit, Michigan. D. A. Bohlen & Sons, Architects. Rough sawed VARIEGATED Indiana Limestone Random Ashlar with buff trim

POINTS ON RANDOM ASHLAR

THE increasing use of Indiana Limestone Random Ashlar construction in school, college and church buildings, for residences and other purposes, makes it particularly important that you receive the fullest information on this subject.

The Architect's Service Bureau of Indiana Limestone Company is organized for the express purpose of supplying the architectural profession—not with "advertising matter"—but with information that will be genuinely helpful and which will keep important facts at your finger-tips.

Write us today and let us send you illustrated data on Indiana Limestone Random Ashlar. There will be no obligation. We will not solicit you further after receiving your inquiry unless you request it. Just keep the data for reference. Address Box 784, Service Bureau, Indiana Limestone Company, Bedford, Indiana.

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, September 7th, 1920, at the post office in Stamford, Conn., under the Act of March 3, 1879. Volume IX No. 4. Dated April, 1928

Making Model Homes models of Safety with ARCH LATH

One sheet of Arch Lath (27″ x 96″) grips the plaster at 8064 points; making the wall an integral unit of rigidity and strength, while minimizing possibility of cracking.

THE introduction of Wheeling Arch Lath has created new interest in metal lath. The reason is that Wheeling Arch Lath insures fire-safe construction at a cost comparable to that of inflammable types of lath.

Wheeling Arch Lath is fabricated from a solid sheet of steel. The arches are so formed as to permit only the correct amount of plaster to squeeze through for perfect "key." There is no waste due to plaster piling up between walls.

Immediately after application, the first coat of plaster can be scratched and made ready for the second coat—no waiting for plaster to dry. This saves time and labor.

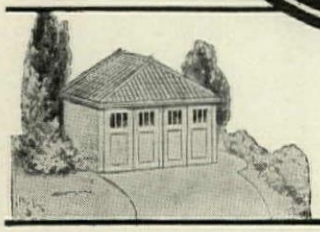
Wheeling Arch Lath combines time, labor and plaster-saving advantages with low cost of erection. The rigidity of the sheet makes it practical for one man to handle; the extra 3″ width (27″ width instead of the usual 24″ width) enables one man to cover more surface in less time.

Wheeling Arch Lath advertising in National Magazines is creating demand for Fire-Safe homes. Arch Lath helps to supply this demand. Let us send you additional information, prices and sample.

WHEELING CORRUGATING COMPANY
Wheeling, West Virginia

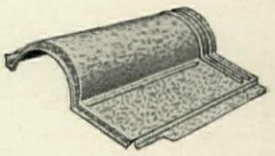
Branches: New York, Philadelphia, Chicago, Minneapolis St. Louis, Kansas City, Chattanooga, Richmond, Des Moines

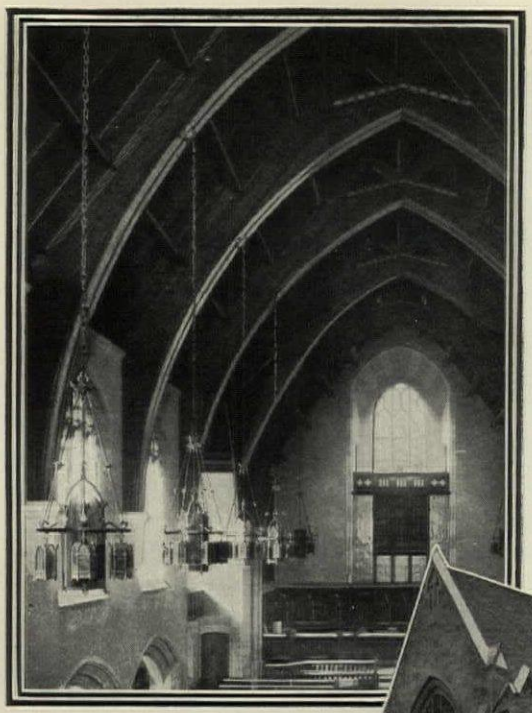
Wheeling
CORRUGATING COMPANY



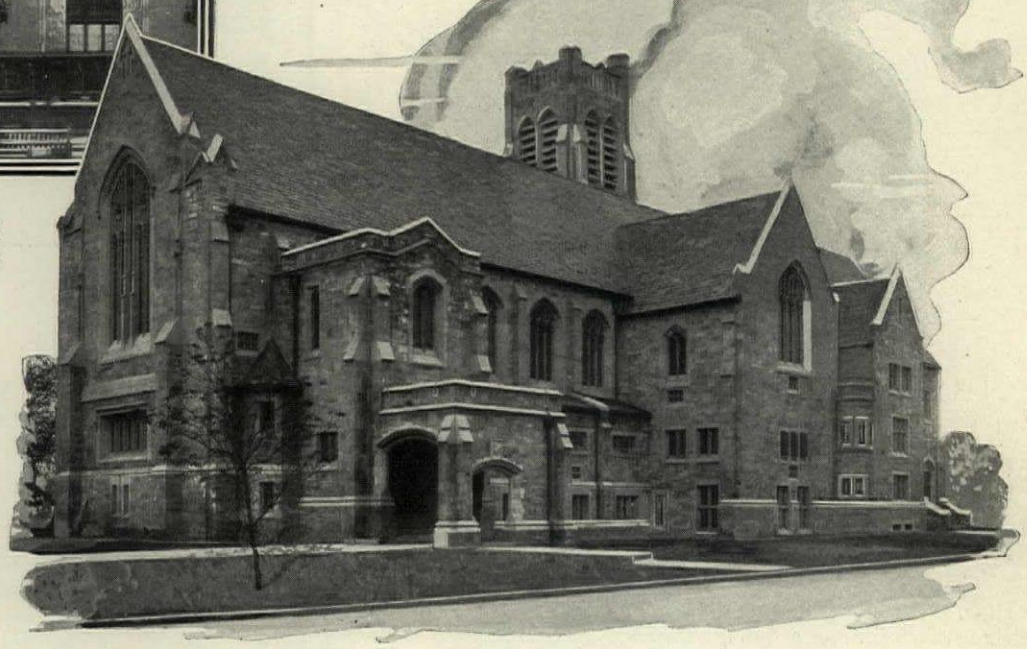
Wheeling Spanish Metal Tile

For a roof of enduring beauty at low cost, use Wheeling Spanish Metal Tile. It is proof against rust, leaks and lightning. Permanent and highly practical as well as artistic and attractive. Write for full information.





Cork Serves Double Purpose in this Church Installation



Broadway Methodist Episcopal Church, Indianapolis, Ind. Foltz, Osler & Thompson, architects. Armstrong's Corkboard, one inch thick, applied on the ceiling for heat insulation and acoustic effect

THE installation of Armstrong's Corkboard on the roof of the Broadway M. E. Church, Indianapolis, is an excellent example of the two-fold value of corkboard for the insulation of church roofs. It materially reduces the heat loss, which for such large areas is very great, and it serves the valuable acoustic purpose of correcting reverberation and echo.

In the Broadway M. E. Church, Armstrong's Corkboard was applied to the under side of the roof, and left exposed, the color and texture of the corkboard being admirably adapted to the interior decorative treatment.

Because of the intermittent use of church buildings and their high ceilings, heating is difficult and costly. The use of even one inch of Armstrong's Corkboard, as in this case, lessens the heat loss materially, making it possible to bring up the temperature in less time and to maintain it comfortably and uniformly with less fuel.

Armstrong's Corkboard has sound absorbing qualities that produce excellent acoustic effect, reducing reverberation and echo without deadening the intensity of the sound.

Armstrong's Corkboard is pure cork, non-absorbent and non-deteriorating. It does not decay or disintegrate, nor does it shrink, swell, warp or buckle. It is slow-burning, and will not ignite from sparks or embers. It is easily applied at a low cost for labor.

The counsel of Armstrong Engineers on the use of corkboard for either insulation or acoustic purposes is offered without charge to architects. Armstrong Cork & Insulation Company, 201 Twenty-fourth Street, Pittsburgh, Pa.; McGill Building, Montreal, Quebec; 11 Brant Street, Toronto 2, Ontario.

Armstrong's Corkboard Insulation

for the Roofs of All Kinds of Buildings

EXIT

ROOF REPAIR EXPENSE FOR 20 YEARS

HOW often does the owner of a Barrett Specification Roof think about that roof?

He forgets it. His roof is so trouble-free that he never has to give it a thought.

Once in a while—hearing that some other man's buildings are in the throes of roof repairs or replacements—he remembers that his Barrett Roof has been up there for years without costing him one cent.

When a Barrett Specification Roof is laid, a Surety Bond is issued guaranteeing the building owner against repair or maintenance expense for the next 20 years*.

That definitely guaranteed period jumps us up to the year 1948. After 1948, what?

That question is answered by scores of old roofs of Barrett Pitch and Felt laid in the 70's, 80's and 90's. (You remember the pictures of a number of these old-timers featured in our advertising during the past year.) Not once, but again and again we were able to point to veteran Barrett Roofs —30, 40 and even 50 years old—that had never cost their owners one cent for repairs or maintenance.

The architects, engineers and contractors of America are thoroughly familiar with these notable Barrett records. They know that no other type of built-up roof offers such irrefutable proofs of durability. That's why a majority of our finest modern buildings are covered with the Barrett Specification Roof.

For complete information about these trouble-free roofs, dictate a brief note to us.

* The Barrett Company also offers a Specification Type "A" Roof which is bonded for 10 years. This type of roof is adaptable to a certain class of buildings. The same high-grade materials are used, the only difference being in the quantities.

Depend on the Barrett Approved Roofer

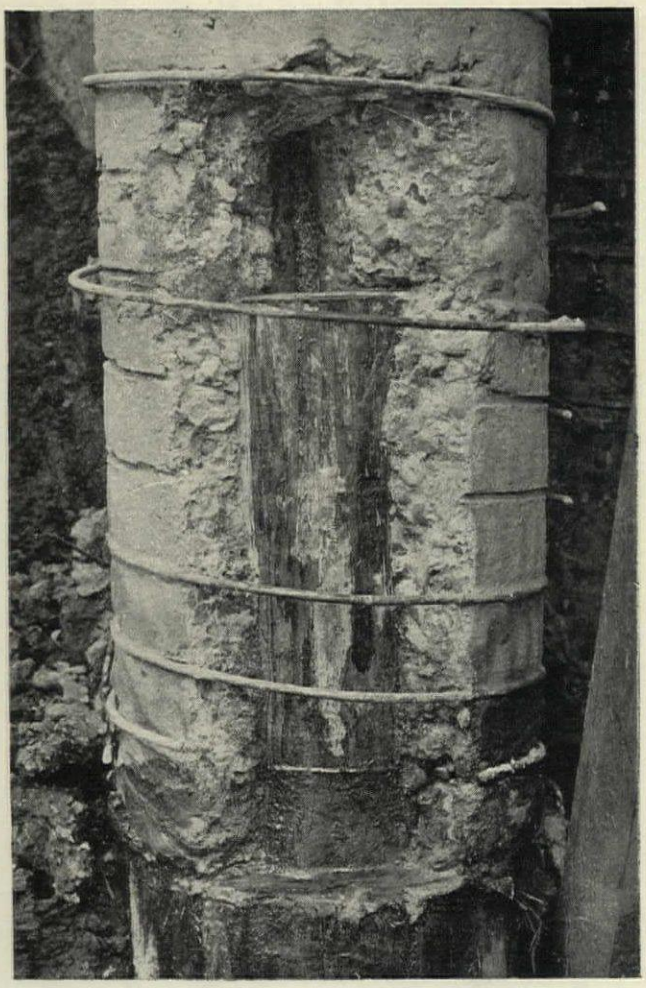
Throughout the United States and Canada a limited number of roofing contractors have been approved by Barrett to lay the Barrett Specification Bonded Roof. These men have earned a reputation for doing efficient work—a name for absolute dependability.

Good workmanship is a big part of any good roof. Good workmanship is a *certainty* when you provide for a Barrett Specification Roof.

THE BARRETT COMPANY
40 Rector Street, New York City

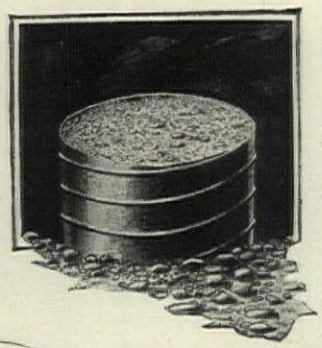
IN CANADA:
The Barrett Company, Limited
5551 St. Hubert Street, Montreal, Quebec

Barrett Specification Roofs



In Raymond Composite Piles, the wood section is bonded to the concrete in such a way as to develop virtually the full strength of the timber. The concrete section is poured into the shell that is left in the ground.

Raymond
Concrete
Pile Co.
NEW YORK
140 Cedar Street
CHICAGO
111 W. Monroe St.



Raymond
Concrete
Pile Co., Ltd.
Montreal, Canada
Branch Offices in all Principal Cities

CAST IN PLACE PILES · COMPOSITE PILES · PRECAST PILES · PIPE PILES ·

A FORM FOR EVERY PILE
A PILE FOR EVERY PURPOSE

BUILDING FOUNDATIONS · BULKHEADS & DOCKS · UNDERPINNING ETC · BRIDGES ·

Raymond

A Safer Investment — Public Utilities Everywhere

The intrinsic worth of a utility is reflected largely in the quality of its buildings and equipment. Permanent construction suggests confidence in the future —substantial finances—efficient operation—a safe return on obligations.

The use of Federal Precast Concrete Roof Slabs by the country's most prominent utilities is an ever-growing tribute to the protection afforded both operators and investors by this enduring roof construction.

Power and light companies—pumping plants—interurban and street car lines—sewage disposal stations—incinerator buildings—ice plants—have found the same advantage in the comparatively low first cost, the fire and weather-proof, no-maintenance service of Federal Tile, as have industrials, railroads and public buildings.

A list of these utilities is available—as well as details of Federal construction—on request.

Made, Laid and Guaranteed by

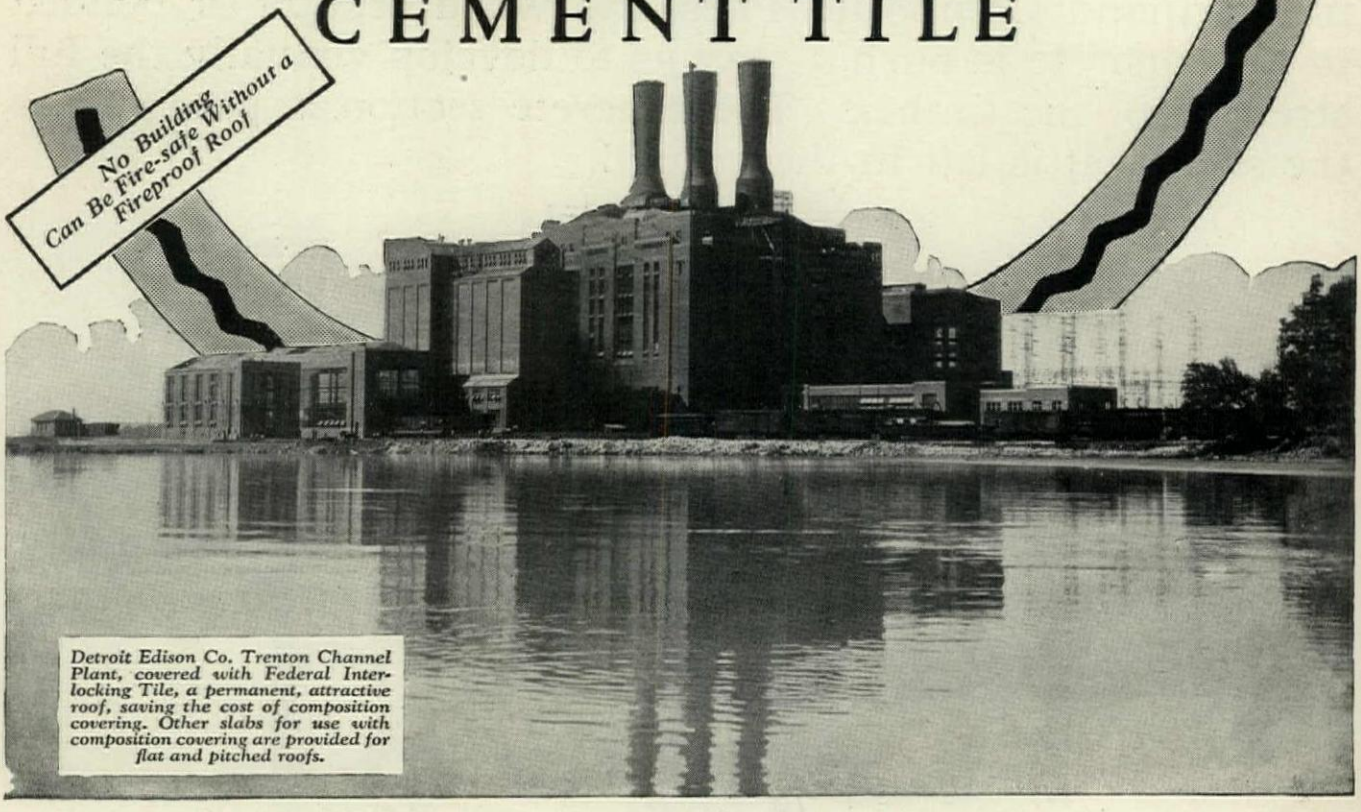
FEDERAL CEMENT TILE COMPANY

608 *South* Dearborn Street, CHICAGO

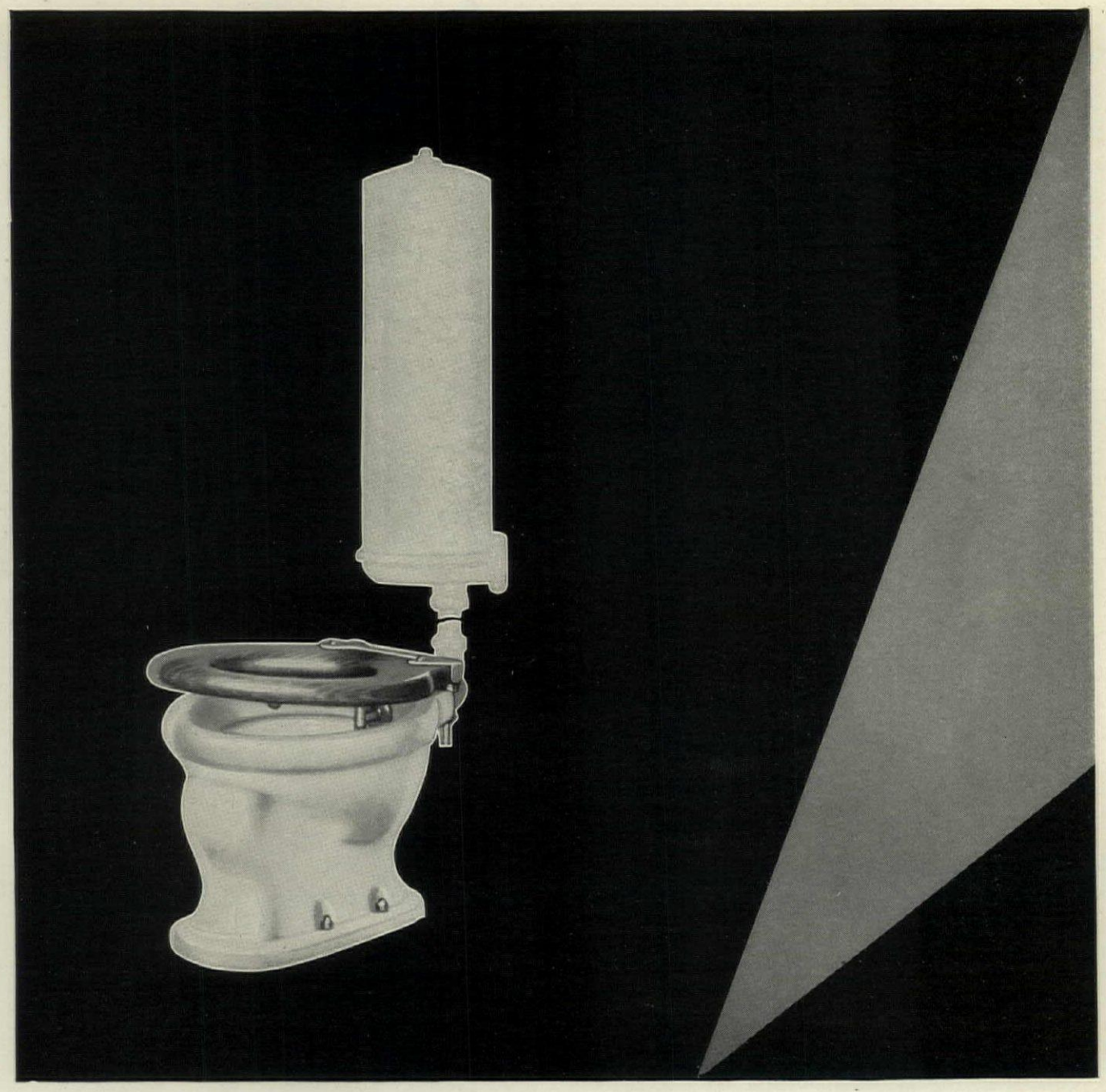
ROOFED WITH FEDERAL

FOR OVER A QUARTER CENTURY

FEDERAL CEMENT TILE



Detroit Edison Co. Trenton Channel Plant, covered with Federal Interlocking Tile, a permanent, attractive roof, saving the cost of composition covering. Other slabs for use with composition covering are provided for flat and pitched roofs.



Will They Stand Unflushed

germs, can't exist in Clow Madden Automatics.

A simple valve . . . a closed top tank . . . a bowl with no eddy or backwash hollows . . . these insure a perfect flush each time the seat is used.

One word more . . . the Clow Plumbing Booklet tells how toilet rooms are kept sanitary, and how sanitation costs are cut by smaller water, repair and replacement bills. (Read records No. 101 and No. 102.) Send for it today.

James B. Clow & Sons, 201-299 N. Talman Ave., Chicago

Record No. 102
1904 — 24 Clow Automatics installed. 1928 — repair bill after 24 years is $5.00, or less than 1c per closet per year. *Bingham School, Lansing, Michigan.*

AUTOMATIC

Forty-Eight Styles, Heights and Types to Meet Your Requirements

AMERICA NEEDS MORE GARAGES IN HER CITIES

They must PARK somewhere

THE Business Men of your city — the hotel owners, retail merchants, theatres, office building operators — all are vitally concerned in the parking problem. Inadequate facilities are causing them a monetary loss.

Garages are the need of the hour—modern-idea buildings will provide indoor parking accommodations at popular prices. Such buildings are profitable. You, as the man of vision, may well strike the spark which will start a blaze of real interest. A nice architectural commission can easily result. To discuss garage possibilities you will do well to have our *"Building Garages for Profitable Operation."* It will be sent on request.

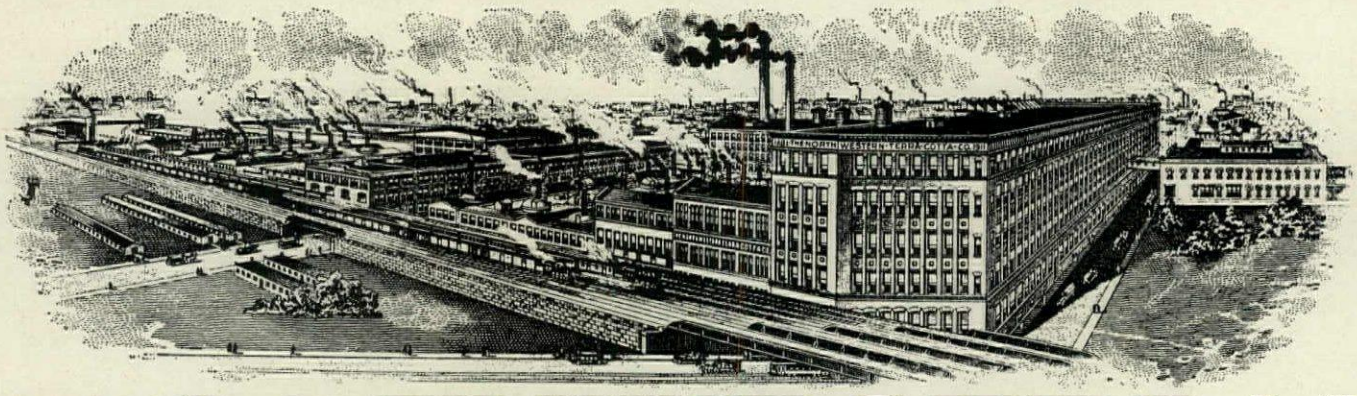
Let us send you our bulletin "Storage Efficiency."

GARAGE CONSULTANTS ON PROMOTION

ENGINEERS AND GARAGE MANAGEMENT

RAMP BUILDINGS CORPORATION

21 East 40th Street New York, N. Y.



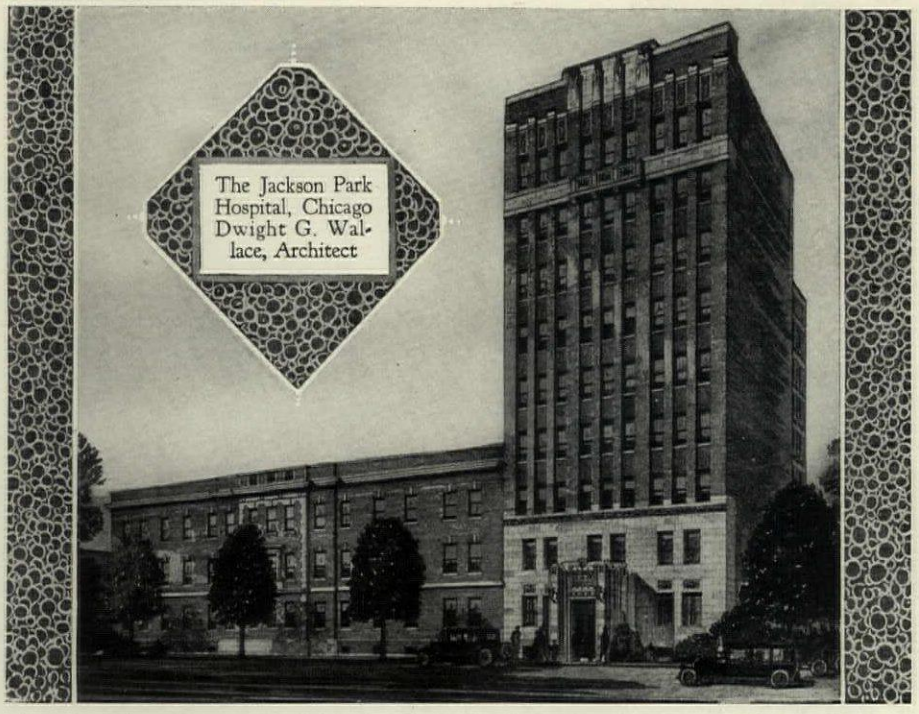
NORTHWESTERN
TERRA COTTA

The SPIRIT *of the* CENTRAL WEST

The marvelous growth of Chicago is paralleled by that of the pioneering spirit of The Northwestern Terra Cotta Company, and to the development and civic grandeur of the Mid-west metropolis it has been a factor of ever-increasing importance. Towering skyscrapers are made articulate by the vibrant charm of color contrasts and harmonies of terra cotta. No other building material lends itself to such gracious exterior and interior treatments. It banishes monotony in any architectural ensemble by its limitless possibilities in sculptural design and polychrome effects. The Northwestern Terra Cotta Company rejoices in its achievements of half a century in the transformation of the cities of the Mid-west, and it is dedicating its great resources to a new and finer architectural note that is gradually lifting American cities above the plane of the commonplace.

THE NORTHWESTERN TERRA COTTA COMPANY

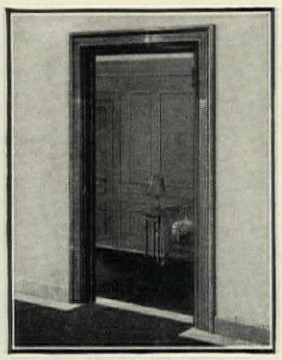
DENVER CHICAGO ST. LOUIS



Use Sykes Steel Construction For Hospitals

During the last few years the business of The Sykes Company has grown by leaps and bounds in the Hospital Field. Here, as in no other type of building, architects have found that Sykes Steel Construction fits their exact needs.

Then, too, the advantages of sanitary, fireproof, rigid construction leave architects with no other choice but Sykes where price is consistent with quality.



Every architect, regardless of the type or kind of building, should take advantage of Sykes' specialized service and low prices on Hollow Metal Doors, Door Buck and Trim, and Metal Molding.

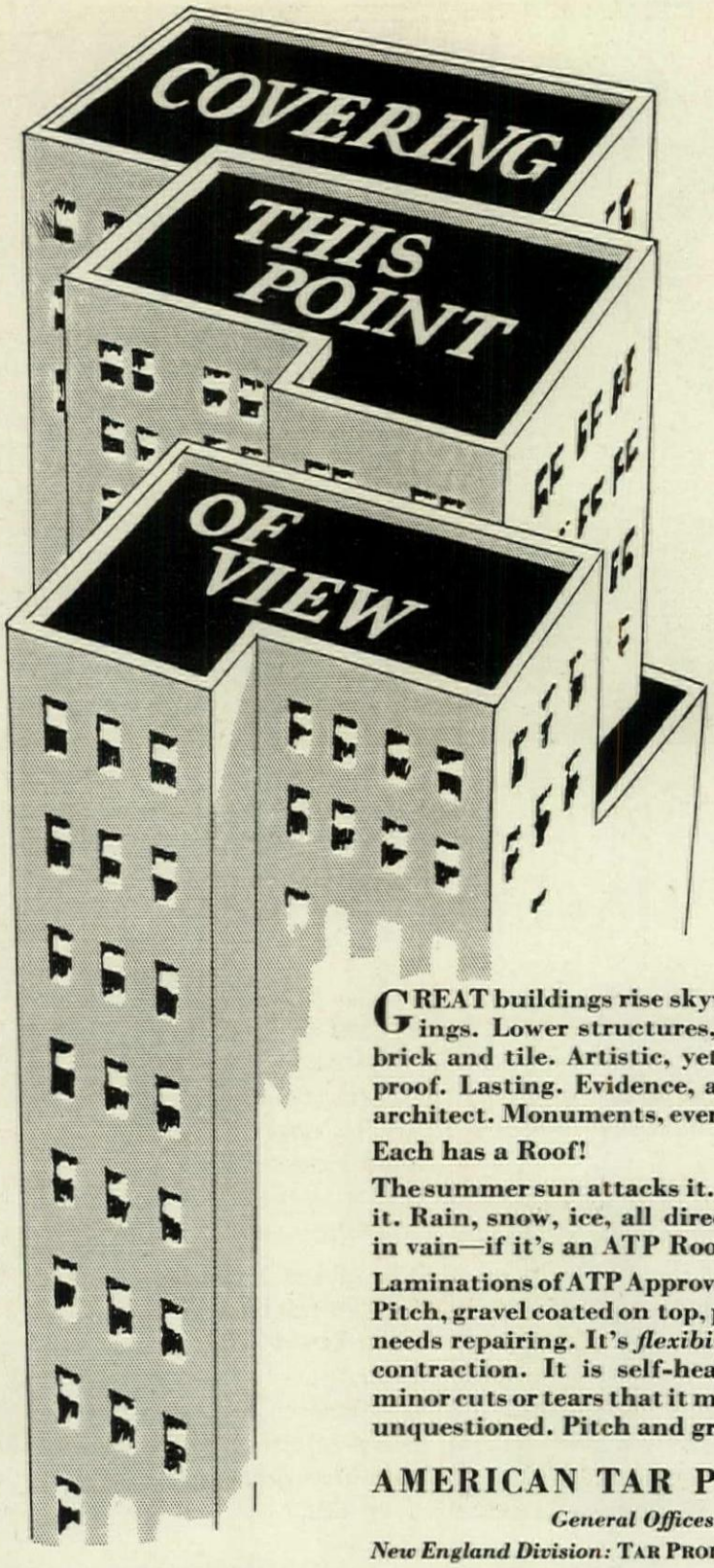
The Sykes Engineering Department is maintained to assist architects in their problems. We also have specially designed bulletins for your files.

THE SYKES COMPANY

2300 WEST 58TH STREET
CHICAGO

SYKES
HOLLOW METAL DOORS
INTEGRAL STEEL DOOR BUCK AND TRIM
METAL MOLDING
FABRICATED STEEL PRODUCTS

OFFICES IN PRINCIPAL CITIES



ATP Roofs should be specified by name. Obtainable with or without a 10 or 20-year indemnity bond. One quality only—the best. May we send you our new specification sheets, and give you the names of ATP Franchise Roofers near you?

GREAT buildings rise skyward. Hotels, clubs, office buildings. Lower structures, too. Masses of steel, concrete, brick and tile. Artistic, yet practical. Fireproof. Weatherproof. Lasting. Evidence, all of them, of the skill of some architect. Monuments, every one, to American architecture.

Each has a Roof!

The summer sun attacks it. Heat expands it. Cold contracts it. Rain, snow, ice, all direct their destructive shafts at it in vain—if it's an ATP Roof.

Laminations of ATP Approved Tarred Felt and ATP Old Style Pitch, gravel coated on top, provide a roof that seldom, if ever needs repairing. It's *flexibility* takes care of expansion and contraction. It is self-healing—the first warm day seals minor cuts or tears that it may have suffered. Its *durability* is unquestioned. Pitch and gravel roofs have stood for 50 years.

AMERICAN TAR PRODUCTS COMPANY

General Offices: PITTSBURGH, PA.

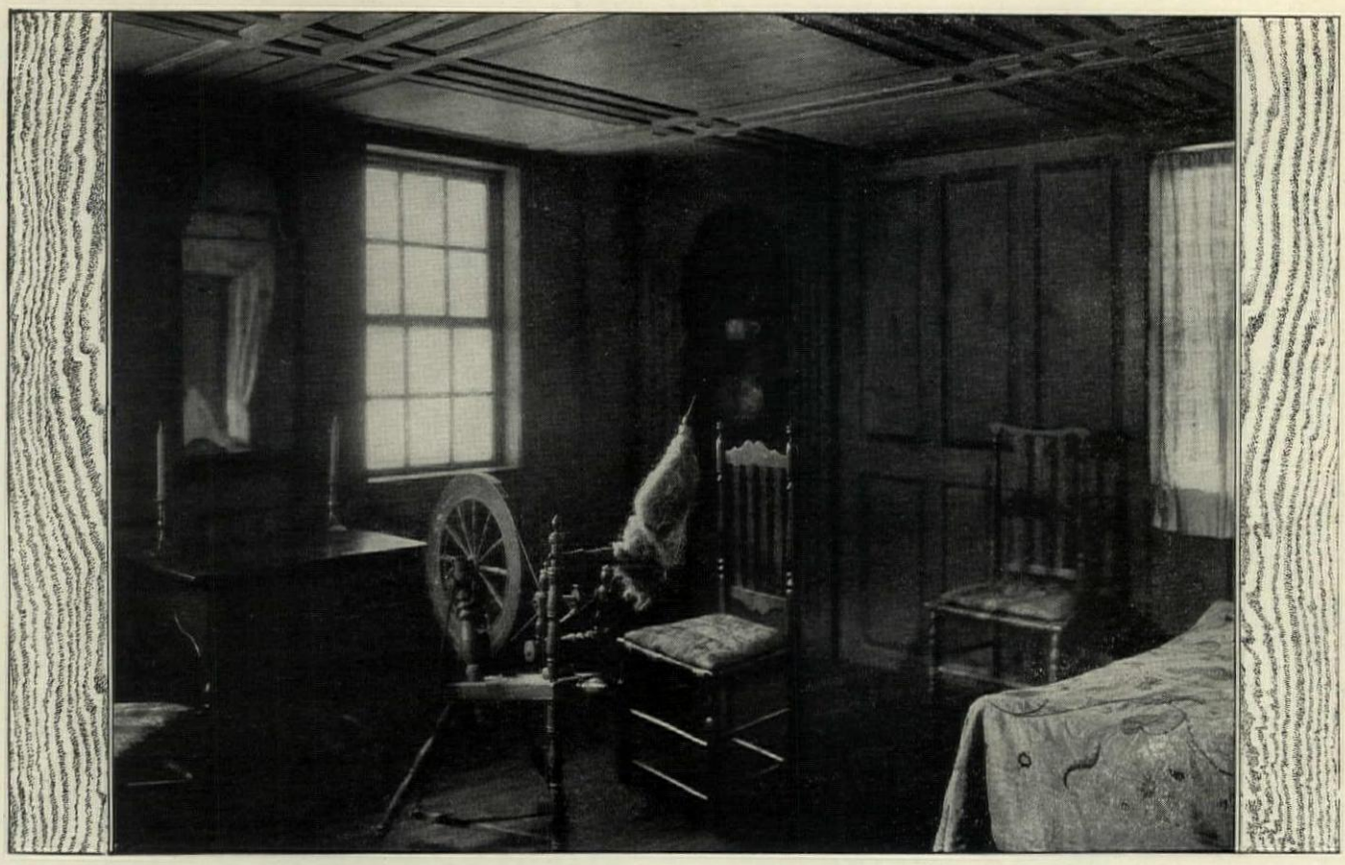
New England Division: TAR PRODUCTS CORPORATION, Providence, R. I.

ATP ROOFS

Plants

CHICAGO, ILL. ST. LOUIS, MO.
MILWAUKEE, WIS. FOLLANSBEE, W. VA.
YOUNGSTOWN, O. BIRMINGHAM, ALA.
UTICA, N. Y. ROCKTON, ILL.
PROVIDENCE, R.I. JERSEY CITY, N. J.

Made of ATP Old Style Pitch and ATP Approved Tarred Felt—one quality only—the best—backed by a bond if you want it.



FRIENDLINESS

Metropolitan Museum exhibit demonstrates how simply the XVIII Century home-owner attained Beauty

IN THE American Wing of the Metropolitan Museum of Art is this early Colonial bedroom, transferred from a house in Hampton, N. H. It would seem that nothing could be added to or taken from this room without injuring its inherent character.

Yet, its owner, desiring to give it even greater beauty, added to its late XVII Century rugged simplicity all of the XVIII Century panelling here shown.

Can you visualize the room barren of the panelling?—still a room, yet how much warmer, friendlier, more appealing that sheathing of carved wood makes it!

Only in wood—wood, the friendly, the "living" construction material—could that early Colonial builder express so simply and so harmoniously his sense of the beautiful . . . Wood is the natural resource which maintains its own abundance. You have but to order. The right wood for every purpose is available, to you, and to posterity.

NATIONAL

LUMBER

MANUFACTURERS ASSOCIATION

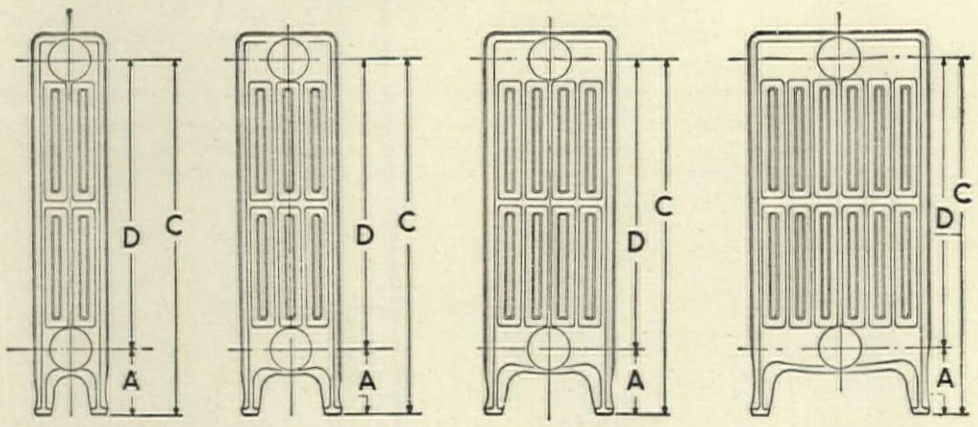
WASHINGTON, D. C.

NEW YORK, N. Y. *SAN FRANCISCO, CAL.* *INDIANAPOLIS, IND.* *DALLAS, TEX.*
CHICAGO, ILL. *MINNEAPOLIS, MINN.* *KANSAS CITY, MO.* *PORTLAND, ORE.*

AMERICAN STANDARD LUMBER FROM AMERICA'S BEST MILLS

PIERCE
EASTWOOD SCREW NIPPLE RADIATOR

DIMENSIONS



Eastwood Three Tube — Eastwood Four Tube — Eastwood Five Tube — Eastwood Seven Tube

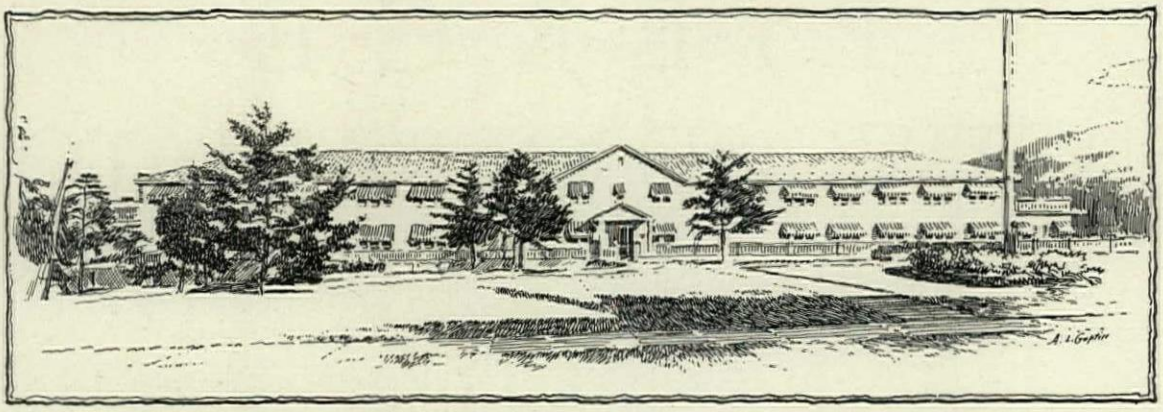
Width of Section 5⅜"				Width of Section 7"				Width of Section 8⅞"				Width of Section 12⅝"			
Length of Section in Stack 2½"				Length of Section in Stack 2½"				Length of Section in Stack 2½"				Length of Section in Stack 3"			
Ht. In.	A In.	C In.	D In.	Ht. In.	A In.	C In.	D In.	Ht. In.	A In.	C In.	D In.	Ht. In.	A In.	C In.	D In.
38	4½	36¼	31¾	38	4½	36¼	31¾	38	4½	36¼	31¾	38	4½	36¼	31¾
32	4½	30¼	25¾	32	4½	30¼	25¾	32	4½	30¼	25¾	32	4½	30¼	25¾
26	4½	24¼	19¾	26	4½	24¼	19¾	26	4½	24¼	19¾	26	4½	24¼	19¾
20	4½	18¼	13¾	20	4½	18¼	13¾	22	4½	20¼	15¾	22	4½	20¼	15¾
								20	4½	18¼	13¾	17	4½	15¼	10¾
												14	4½	12¼	7¾

NOTE the generous dimensions—particularly the width of the sections. The so called "square feet", the units in which radiators are sold, are correspondingly generous in size.

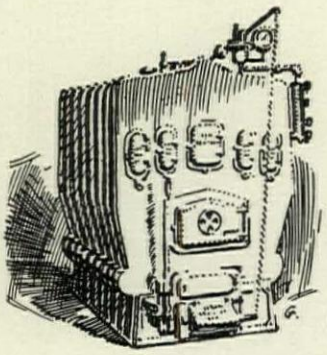
In the seven-tube series, the sections are spaced on 3-inch centers instead of 2½ inch, as in the narrower patterns. This extra spacing preserves the effect of lightness and grace in the largest radiators. It also measurably increases the heating effect.

A Quality Product

PIERCE BUTLER & PIERCE
MANUFACTURING CORPORATION
41 EAST 42ND STREET · NEW YORK, N. Y.



This 230 foot Dormitory for Girls at Devitts Camp Tuberculosis Sanitorium, accommodating 48 patients, is heated by one S-36-9 Burnham Boiler, using oil as fuel and connected with a vacuumized one-pipe steam system. Other camp units are also Burnham heated.



Where Burnham Heat Is a Factor in Healing

IN winning the fight against the great white plague, unfailing, easily controlled heat is next in importance only to clean, fresh mountain air and sunlight.

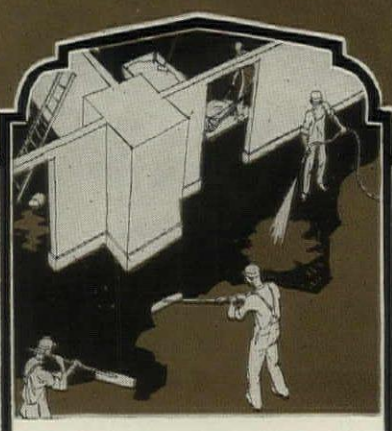
It is understandable that a Burnham S-36-9 should have been selected to heat this big girls' dormitory, which requires 2,345 square feet of direct radiation, during every hour of the twenty four.

Burnham Boiler Corporation

IRVINGTON, N. Y.

Representatives in all Principal Cities of the United States and Canada

The Edmund Clark Furniture Company of Detroit, say of these Brown Colormix Floors– "They were selected in place of carpet because they are not dust and moth shelters. Their brown mahogany finish is an ideal background for our furniture."



STAINPROOF

The Modern Curing and Protecting Film

Applied over the surface 36 hours after troweling Stainproof dries to a tough, air-proof film that prevents staining and marring and insures perfect curing of the concrete.

Easily removed after all danger of staining is passed.

All new Colormix Floors are protected with Colormix Stainproof.

MASTERBUILT FLOORS

STYLE

HERE in this exclusive decorator's shop Colormix Floors are used alongside of Faience Tile and Random Slate Flagging as display floors for costly rugs and fine furniture.

Now that the polished dustproof hardened finish of Colormix Floors is protected during the curing period by Stainproof no decorative hard type floor can equal them for spotless beauty at anywhere near their cost.

THE MASTER BUILDERS COMPANY

Cleveland, Ohio

Factories in Cleveland, Ohio, Buffalo, N. Y., and Irvington, N. J.

Sales Offices in 110 Cities

COLORMIX FLOORS

COLORMIX COLORED HARDENED CONCRETE

BRIXMENT *for Stucco*

ARCHITECTS know by experience that the only stuccos that have successfully withstood the test of time are true-cement stuccos—that is, stuccos made with either portland cement or BRIXMENT.

It has been definitely proved, however, that the same characteristics that make BRIXMENT preferable to portland cement and lime for masonry *make it equally preferable to these two materials when used for stucco.*

Unusual Advantages Described in This New Handbook

All the unusual advantages of BRIXMENT for stucco have been clearly presented in this new, compact, conveniently-arranged book—strength, permanence, economy, water-resistance, uniformity, color, estimating data, specifications etc. "BRIXMENT for Stucco" will make a valuable and helpful addition to your data file.

BRIXMENT
for Perfect Mortar

Send for Your Copy Today

Size, 8½ by 11 inches with A.I.A. file number for ready reference. Your copy will be promptly mailed you on request. The coupon below is for your convenience.

LOUISVILLE CEMENT CO., *Incorporated*
General Offices: Louisville, Ky.
Mills: Brixment, N. Y. and Speed, Ind.

District Sales Offices
1610 Builders Exchange Bldg., *Chicago*
301 Rose Bldg., *Cleveland* 602 Murphy Bldg., *Detroit*
1015 Chestnut St., *Philadelphia*

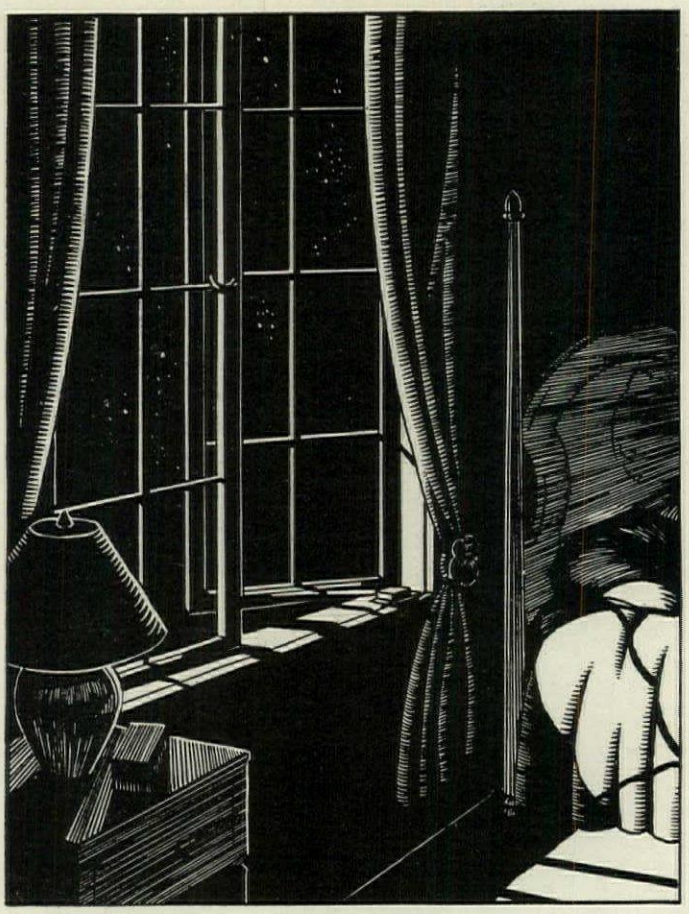
LOUISVILLE CEMENT CO., *Incorporated*
Louisville, Kentucky
Send, without obligating me, copy of the new handbook, "BRIXMENT for Stucco".

Name .....

Address .....

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

(Please check whether Architect ☐ or Contractor ☐)



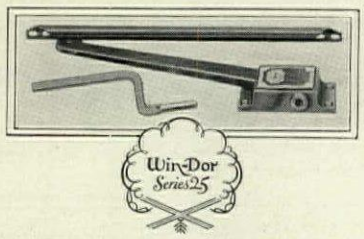
Series 25 Operators come in all standard hardware finishes or can be painted to match trim. Several types of handles available. Fully concealed installations are readily effected

Against winds by day and prowlers by night, this casement is *secure!*

Give your clients, for all residential buildings, casements that are as secure and convenient as they are beautiful.

Win-Dor Series 25 Operator is mechanically right and architecturally harmonious. It works *through* inside screens, locks *automatically* in any position, gives full opening in four easy turns of the crank. The bearingswill not corrode even in damp, salt air. All leading makes of steel casements come punched to receive Win-Dor Operators. Easily applicable to all wood casements. Remarkably inexpensive.

May we send you our new 1928 catalog [fits A. I. A. File No. 27c2] showing our full line of specialized casement hardware? Without obligation, send for literature.



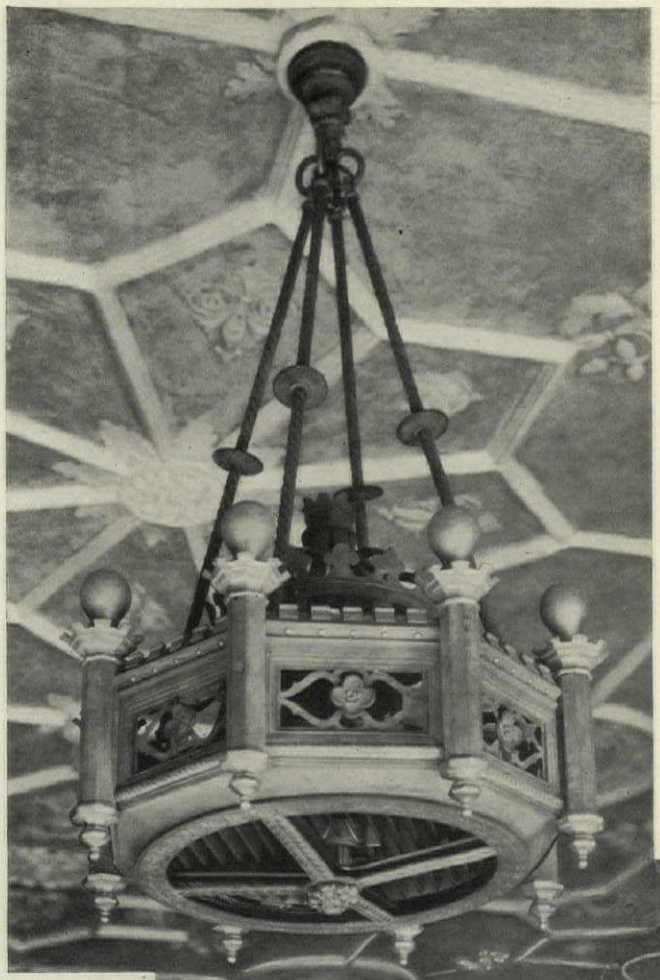
Win-Dor

CASEMENT HARDWARE

The Casement Hardware Co.

402-K North Wood Street, Chicago

CASEMENT HARDWARE HEADQUARTERS



The Fandolier

A desirable combination

Cooling effectively combined with lighting, and both harmoniously combined with architectural and decorative thought.

Farrar and Watmough, architects for Hotel Lombardy, New York City, selected this desirable combination in Fandoliers for the dining room, here illustrated, from designs by Collins and Wagner Mfg. Co., New York.

The Safety Car Heating & Lighting Company

NEW YORK
75 West Street

PHILADELPHIA
16 South Broad Street

CHICAGO
310 South Michigan Avenue

Boston

St. Louis

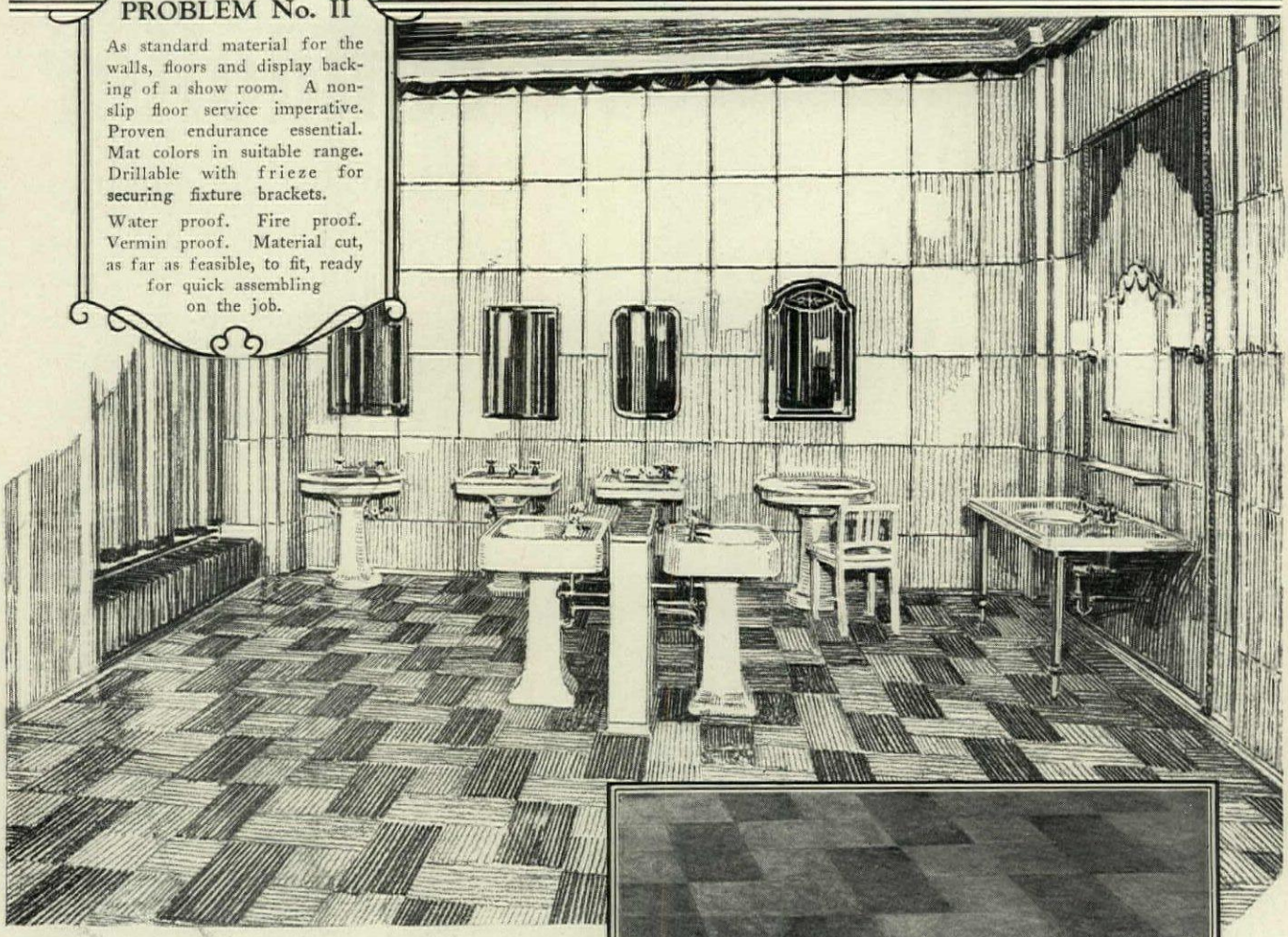
San Francisco

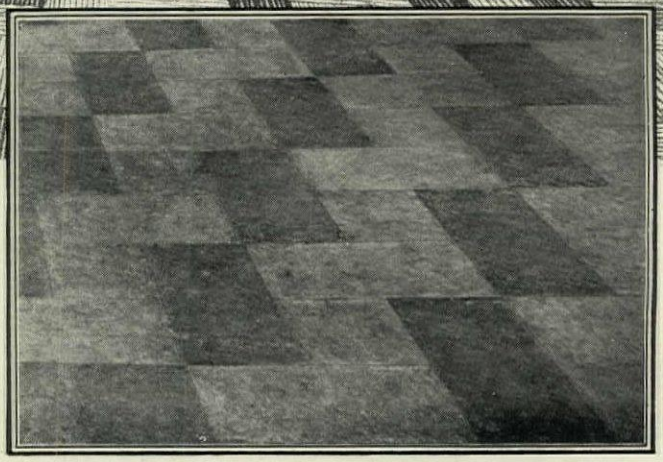
ZENITHERM

Stating
PROBLEM No. II

As standard material for the walls, floors and display backing of a show room. A non-slip floor service imperative. Proven endurance essential. Mat colors in suitable range. Drillable with frieze for securing fixture brackets.

Water proof. Fire proof. Vermin proof. Material cut, as far as feasible, to fit, ready for quick assembling on the job.





The PROBLEM *Solved*

Crane Company's display room at Philadelphia
Ralph B. Bencker *Architect*

For a number of years the Crane Company, in doing over their branch offices, have used Zenitherm for floors and walls.

In this particular display room they have used for the floor, stone grey and light grey Zenitherm in pieces 8½ x 17 and buff pieces 8½ x 8½.

For the walls, Zenitherm in light grey and natural. For the frieze, black Zenitherm.

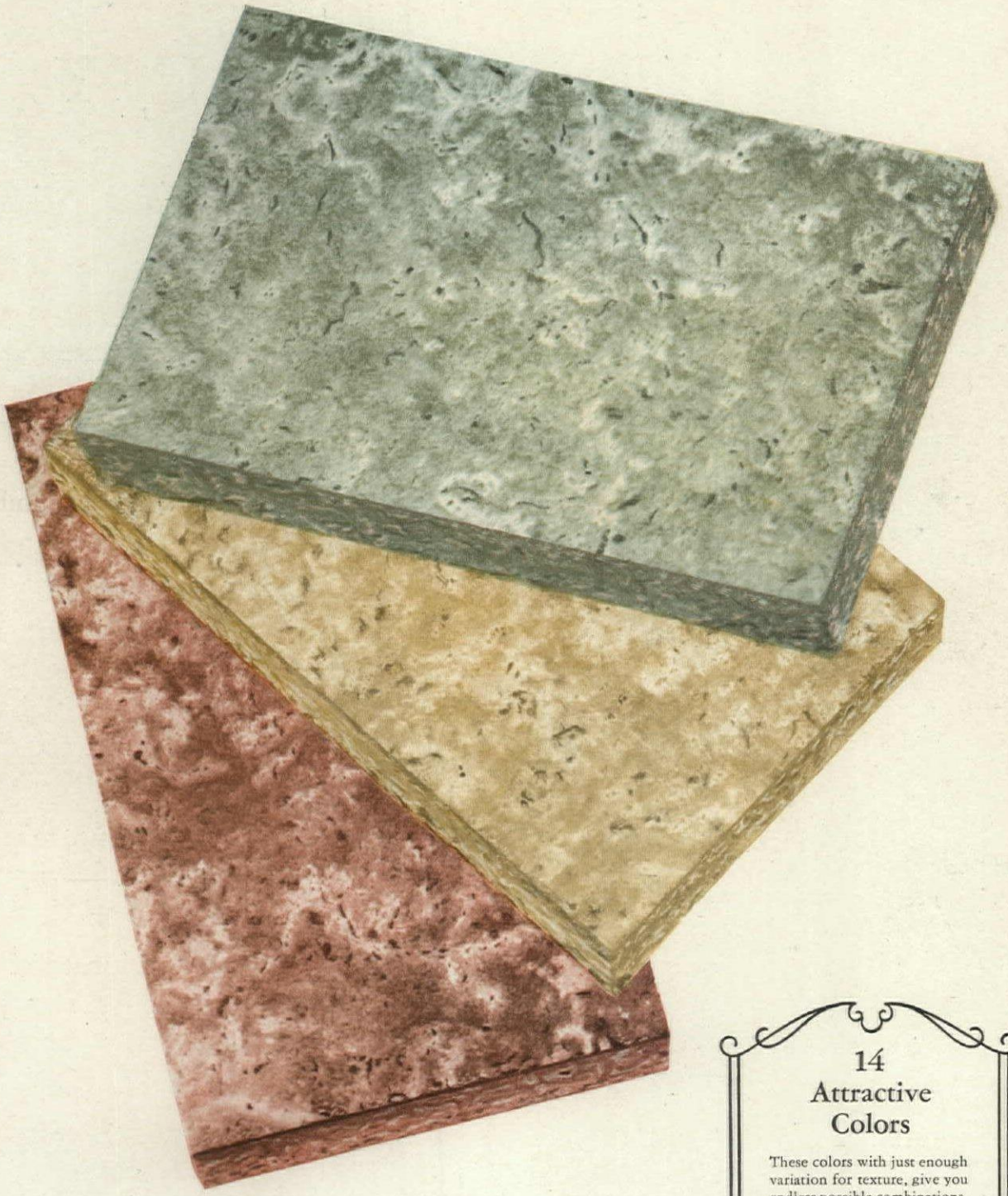
Drapery motive over mirror at right, brown.

A. G. H. Dinsdale
President

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

110 East 42nd St., New York City ~ 612 North Michigan Ave., Chicago, Ill. ~ Zenitherm Sales Co. (Cal.) San Francisco

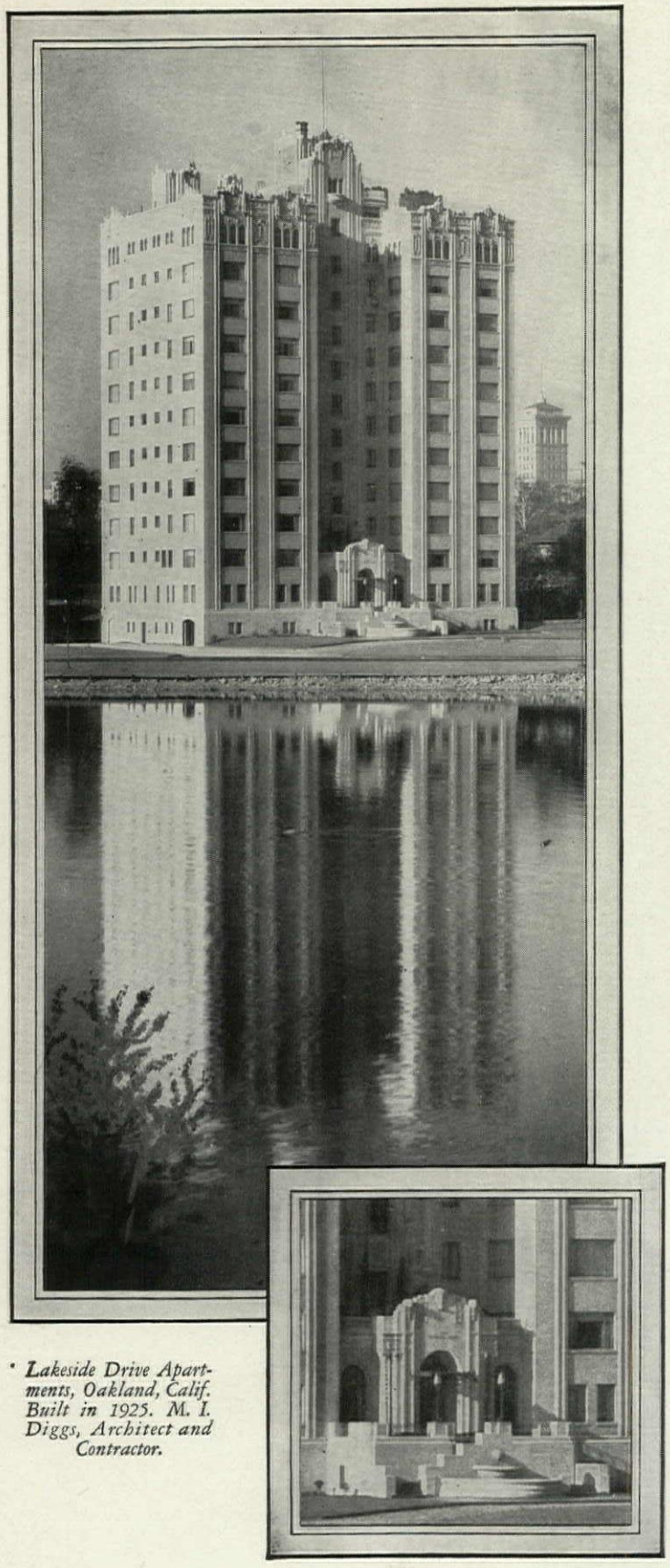
ZENITHERM



14 Attractive Colors

These colors with just enough variation for texture, give you endless possible combinations. Color schemes can be as conventional or as exotic as the selection requires. This range of colors gives you a Zenitherm color to harmonize with any other building material be it brick, marble or stone.

Natural Buff Gold Red Pink Drab Dark Brown
Light Brown Blue Black Green Olive Stone Gray Light Gray



Lakeside Drive Apartments, Oakland, Calif. Built in 1925. M. I. Diggs, Architect and Contractor.

STRUCTURES *of* BEAUTY *and* DIGNITY

The Lakeside Drive Apartment building in Oakland, California, illustrates how ideally portland cement concrete can be employed to interpret the architect's dream of beauty and dignity.

This fine modern structure is built of reinforced concrete and has a portland cement stucco exterior with cast stone trim. The floors and walls are also of concrete, providing a high degree of fire-safety—an item of prime importance in buildings of this type.

The adaptability of concrete to ornamental design is exemplified by the entrance, which has unusual charm.

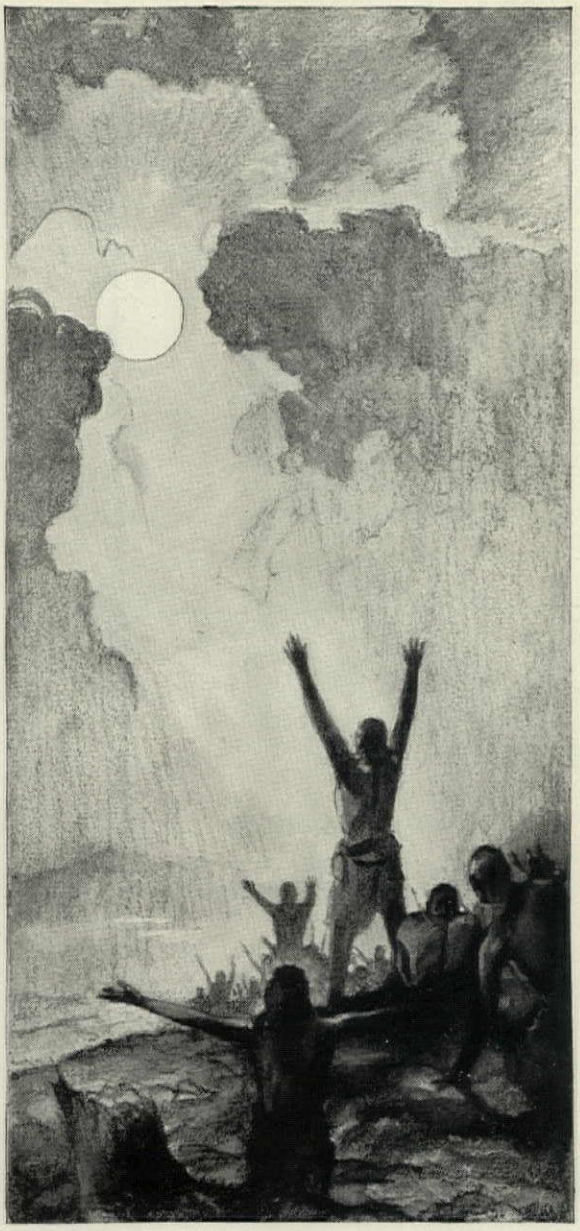
Concrete as a structural material for large buildings is rapidly growing in favor with architects throughout the country.

It merits consideration *for large and small structures alike* because of its strength, durability, ease and speed of construction, and low maintenance costs.

PORTLAND CEMENT *Association*

Concrete for Permanence

CHICAGO



The Evolution of CELESTIALITE

EVEN in the dark ages of our earliest ancestors, man cherished the sun as life itself. With each new rising of the celestial radiance fresh hope and new ambition formed—the horrors of darkness had been dispelled for another day.

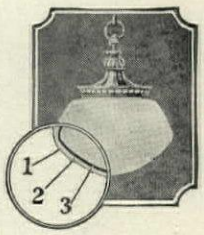
How the world has advanced since those infernal days! First oil lamps, then candle lights, then flickering gas and now electricity. But, with the introduction of electricity came a new problem.

It was necessary that a lighting globe be created that would transform the strong, glaring electric rays into soft, natural light that would not hurt the eyes. Years of experimentation bore proof that only three special layers of glass could produce a perfect light that would rival the beauty of daylight.

Then we proceeded to manufacture CELESTIALITE, the three layer lighting globe (see illustration on right). At all the demonstrations of this new lighting globe, expert and layman alike agreed that CELESTIALITE gives superior illumination.

Clients want Celestialite

Today people demand perfect light. They appreciate the need of better vision. They realize the necessity of safeguarding the eyesight. And the result — CELESTIALITE'S popularity is growing by leaps and bounds.



Celestialite's Three Layers:

1—An inner layer of blue whitens and perfects the light.

2—A middle layer of white filters out all the glare.

3—An outer layer of crystal glass, provides body and strength.

A marvelous soft white light results that safeguards the eyesight

Glorifying the Architect's Artistry

Architects, too, are appreciating how this light enhances the beauty of an interior. All of the artistic niceties which the architect so carefully plans are accentuated—glorified!

Request a trial demonstration in one of your buildings or your own office. Primeval instinct born of thousands of generations of experience with daylight will make you like CELESTIALITE.

CELESTIALITE

(PATENTED)

NEXT TO DAYLIGHT

GLEASON-TIEBOUT GLASS CO., (*Celestialite Division*)
200 Fifth Avenue, New York City P.P.-4

Kindly send me free Catalog, A.I.A. file, and fragment of CELESTIALITE showing its three-layer construction

Name.....

Position.....

Address.....

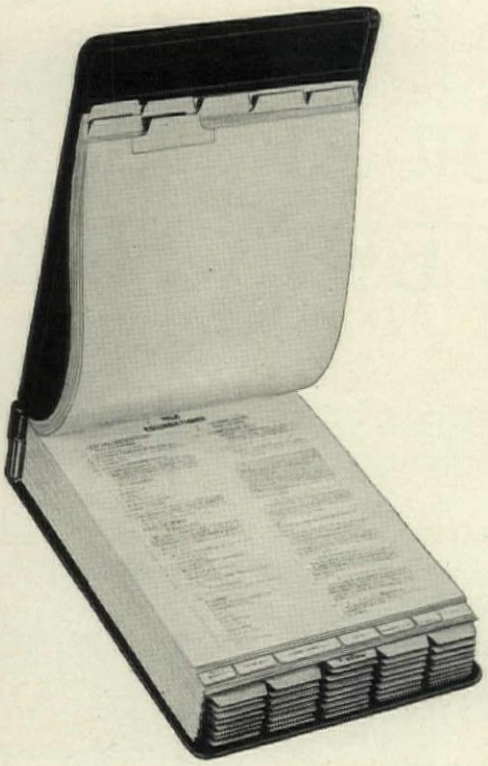
City.....

Specification writers will find work easier —effective July 1st

The news has leaked out about Stevens' Master Specifications. Architects and Engineers from many cities have written us to find out when they can get a complete copy. One prominent Architect who saw only the manuscript offered us a thousand dollar fee for the use of it so he could write, quickly and correctly, the specifications for a four million dollar job he had just secured. Other Architects, hearing this, also want to "borrow" the manuscript. Hence this advertisement.

What it is

A leather bound manual containing an exhaustive compilation of open-competitive master specifications for every type of building, every detail of construction. Compiled and edited by Frank B. Stevens Jr. who has specified for over $60,000,000 worth of construction. Every paragraph thoroughly tested and approved by eminent specialists.



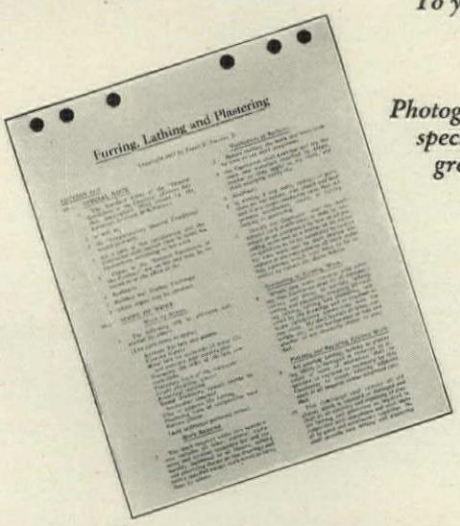
To you—with our compliments!

Why you will use it

No more thumbing through files for printed matter. No need to consult A. I. A. folder data. Simply mark certain paragraphs for typist to copy and the job is done! And following the model specifications under each heading—a limited number of selected manufacturers' data sheets—so you can name the exact product or material you want used.

Who will get it

This *first year only* with our compliments one copy to each firm of licensed, recognized Architects or Engineers. (Next year $7.50.) A suggestion: To make *sure* the right man in *your* office receives your copy, fill in and mail the coupon below. No obligation whatsoever.



Photograph of a typical specification page, greatly reduced

Condensed Index

General Conditions
Instructions to Bidders
General Instructions
Wrecking
Excavation
Foundations
Sub-Drains
Concrete
Hollow Tile Floors
Brick Work
Structural Tile Work
Water Proofing
Architectural Terra Cotta
Cement Roofing Tile
Artificial Stone
Granite, Limestone
Masonry
Structural Steel
Miscellaneous Iron
Architectural Iron
Hollow Metal Doors
Fire Doors
Steel Rolling Doors
Steel Sash
Steel Casements
Fire Windows
Steel Partitions
Marble, Slate
Finish Tile Work
Terrazzo
Terrazzo Tile
Mastic Flooring
Composition Flooring
Magnesite Flooring
Cork Tile Flooring
Rubber Tile Flooring
Linoleum Flooring
Wood Block Floorings
Plastering
Carpentry
Roofing and Sheet Metal
Skylights
Painting and Finishing
Glass and Glazing
Finish Hardware
Weatherstrips
Screens
Lighting Fixtures
Window Shades
Metal Shelving and Cases

STEVENS' MASTER SPECIFICATIONS

INCORPORATED

220 S. State Street Chicago, Ill.

STEVENS' MASTER SPECIFICATIONS, Inc.
220 S. State St. Attention Mr. Probst
Chicago, Ill.

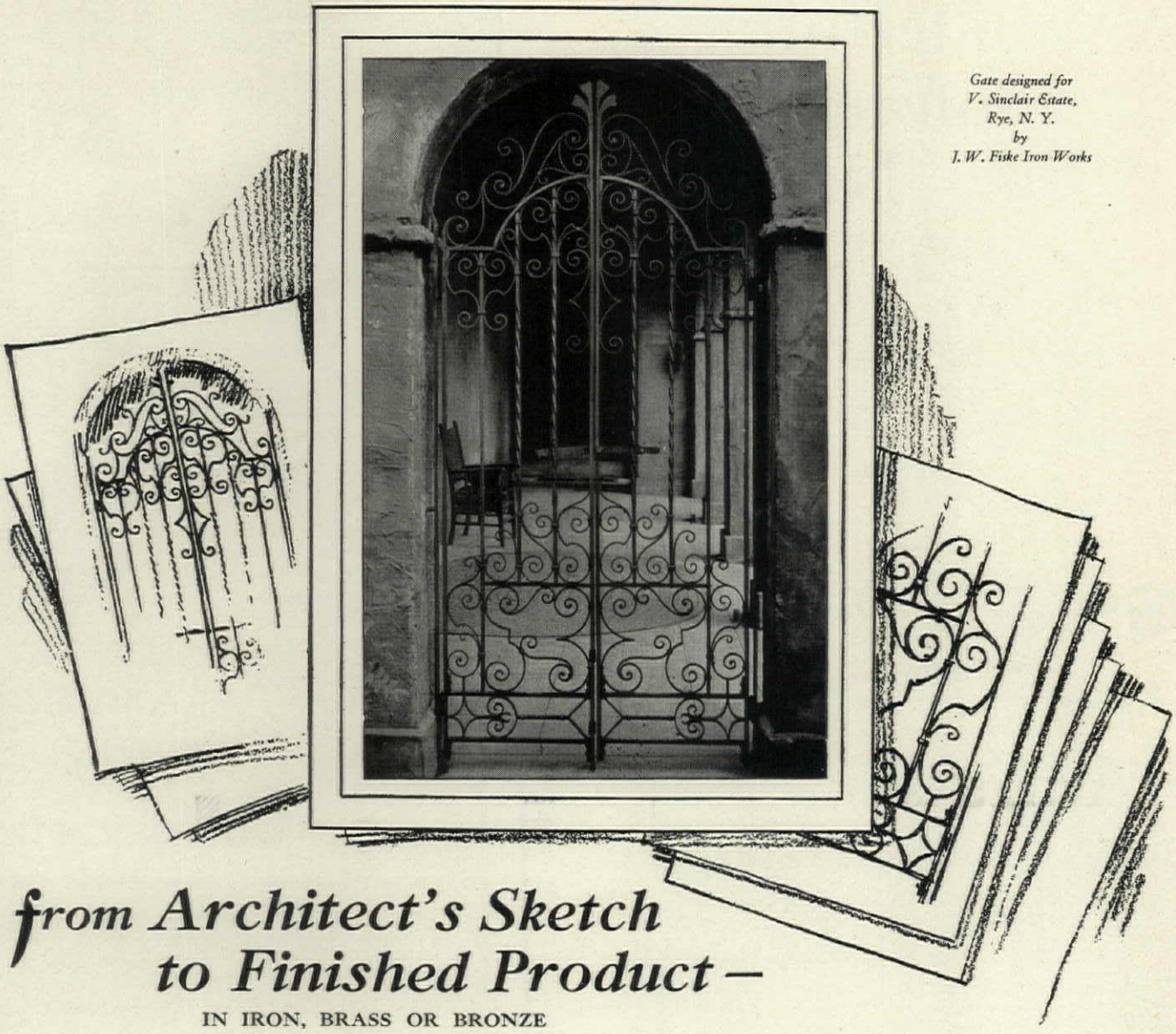
The right man in our office to send the book to is

Name .....

Firm Name .....

Street .....

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



Gate designed for V. Sinclair Estate, Rye, N. Y. by J. W. Fiske Iron Works

from Architect's Sketch to Finished Product –

IN IRON, BRASS OR BRONZE

ARTISTIC metal work made to individual design and hand-wrought by skilled craftsmen is a logical and widely accepted medium today in decorative architecture. The J. W. Fiske Iron Works offers to Architects and Builders a superior production service in all variety of hand-wrought metal work—artistic embellishments, practical and useful details, for indoors or out.

70 years' experience in handling this highly specialized work is our guarantee of satisfaction at moderate cost. Our work includes an endless variety of Ornamental Fencing for every purpose, country estate or industrial usage; Entrance Gates; Decorative Railings; Garden and Terrace Furniture; Fountains; Sun-dials; Weather-vanes; Lamp Brackets; Lanterns; Spiral Stairs; Stable Fittings; Bronze Tablets; Architectural Bronze; etc.

Estimates, on individual designs, gladly given. Booklets covering each of our various specialties on request. Kindly mention *Pencil Points.*

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

Specialists in Ornamental Metal Work

Here is a new book—

made to order for every Specification Writer

ARE you familiar with the special merits of concrete made with Structolite Cement?

If you are, you will find the very latest facts on the uses of this material in this new booklet, just off the press.

You may have it without cost, simply for the asking.

It may be that Structolite Cement is something new to you.

If so, this book tells you all about it, briefly and clearly.

Tells you about its quick set, its light-weight qualities, its insulating value, its nailability, its economy.

Everyone who uses or specifies concrete should know the facts about Structolite Cement as given in this book. Mail the coupon today for your free copy.

· STRUCTOLITE ·

Reg. U. S. Pat. Off.

THE QUICK-SET INSULATING CEMENT

Made by the United States Gypsum Company

USG STANDARD BUILDING MATERIALS

MAIL THIS TODAY

UNITED STATES GYPSUM COMPANY
Fireproofing Dept., 300 W. Adams Street, Chicago, Illinois

Send me your new booklet, Structolite Concrete.

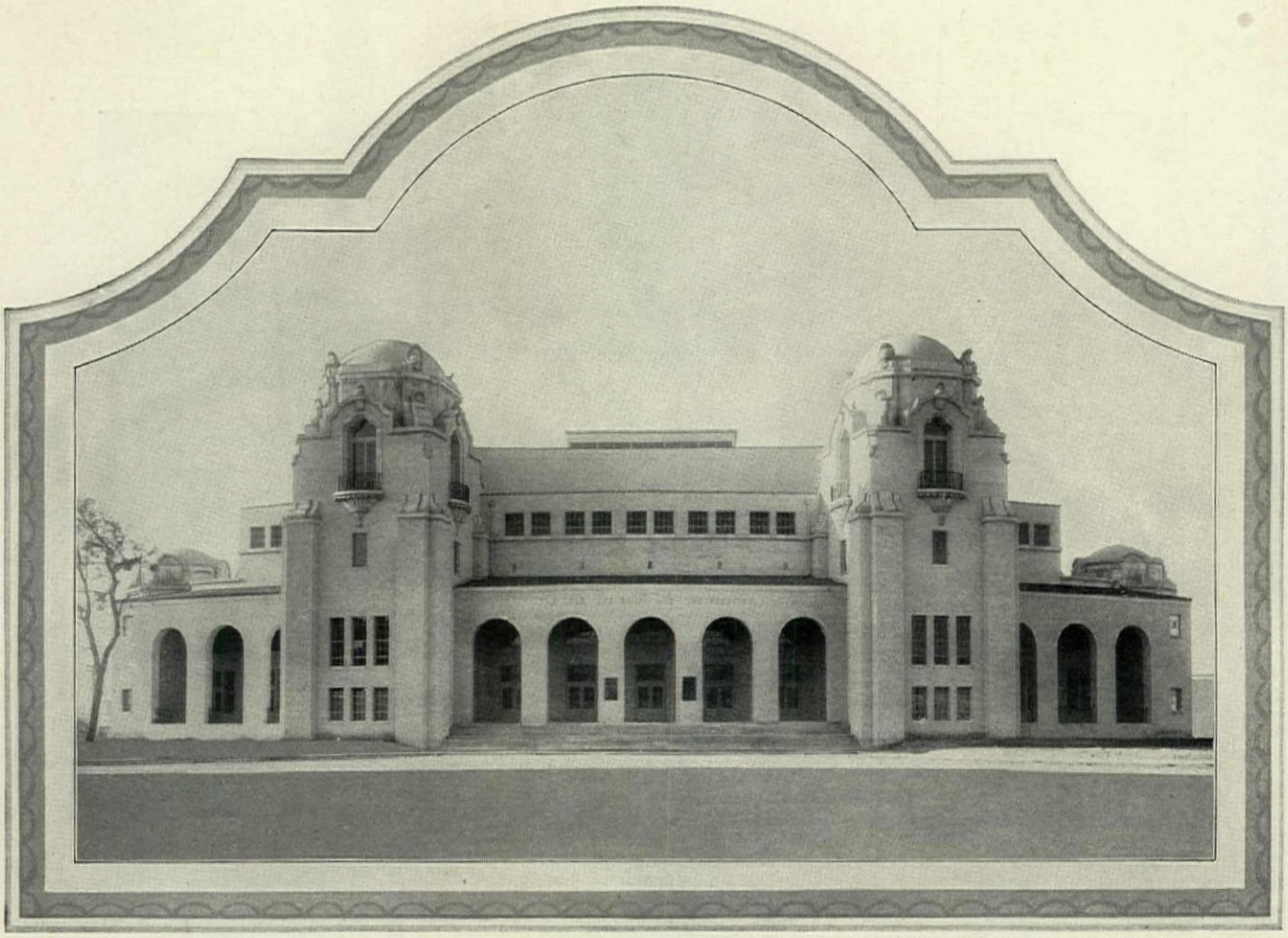
Name .....

Address .....

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

Pencil Points, Apr.—28

USG STANDARD BUILDING MATERIALS



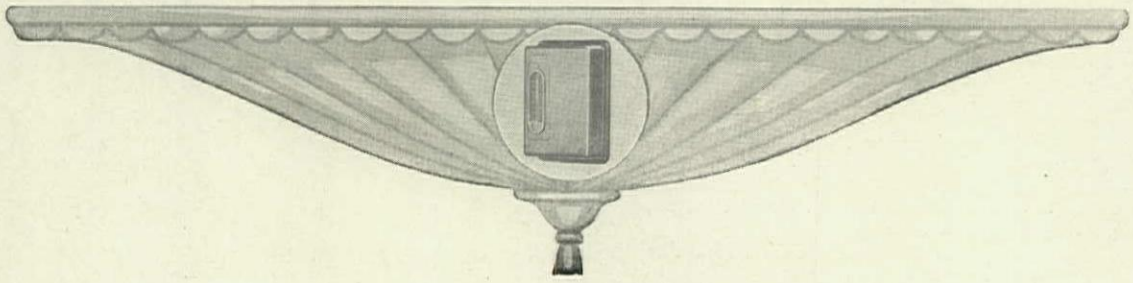
FAIR PARK AUDITORIUM, DALLAS, TEXAS . . . . LANG & WITCHELL, ARCHITECTS . . . . EQUIPPED WITH JOHNSON HEAT CONTROL

The architect's attitude toward Johnson Heat Control is one of confirmed acceptance. Johnson Heat Control is readily specified for every type of building. The Johnson System's forty-three years of constancy substantiates its merit. Johnson all-metal construction has advanced temperature regulation to a permanent accuracy and practicability. Its Dual Thermostat (night and day regulation) completes heat control service and value. The conveniences and comforts and correct temperature evenness furnished, and the fuel economy of twenty-five to forty per cent obtained . . . . . are advantages and results every building today requires.

The Perfect Graduated, Intermediate Night And Day Heat Regulation . . .

JOHNSON SERVICE COMPANY
MILWAUKEE, . . WISCONSIN, . . U. S. A.
BRANCHES IN ALL PRINCIPAL CITIES

JOHNSON · HEAT · CONTROL



Architect, C. W. & G. L. Rapp
Builders, Thompson, Starrett Company

All concrete floors in the Paramount Building are protected by LAPIDOLITH TRADE MARK

OVER one-quarter million feet of cement surface—thirty-one floors in this great structure—are treated with Lapidolith, the original concrete floor hardener.

The steadily growing list of such Sonneborn jobs is definite evidence of the leadership of Sonneborn Products.

The cost of Lapidolith per gallon may be higher, but *the cost per year of service is lower than that of any other hardener.*

Every set of plans in your office involves floors. Remember that Sonneborn experts are at your service to give the cooperation that produces successful work.

The Sonneborn Policy is that the architect must always be satisfied. Sonneborn always makes good.

L. SONNEBORN SONS, Inc.

114 FIFTH AVENUE, NEW YORK

Some Other SONNEBORN *Products*

LIGNOPHOL—Wood floor preservative prevents floors from splintering or drying out. Gives a hard, smooth, sanitary floor.

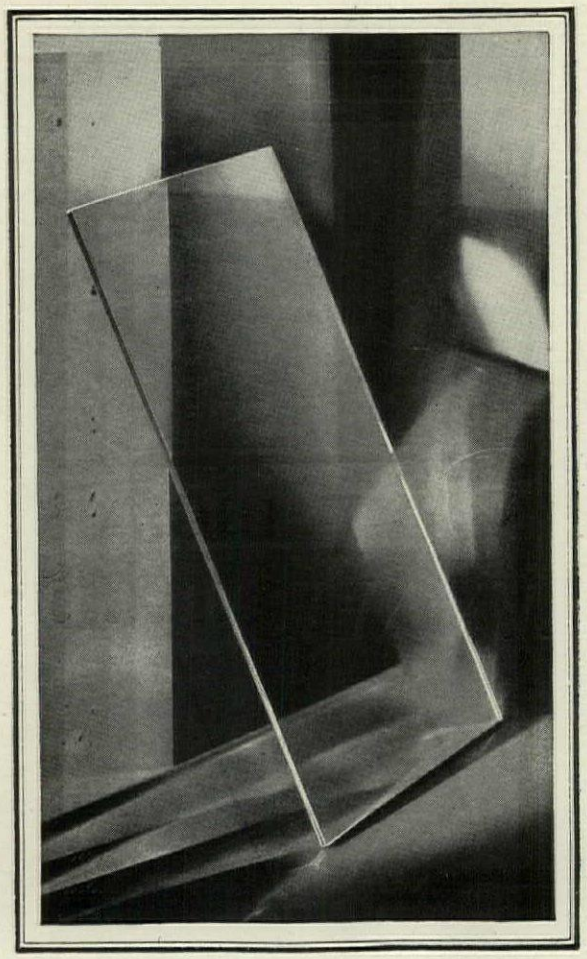
HYDROCIDE COLORLESS—A waterproofing for exposed exterior walls, which does not form a film that can be abraded, but carries waterproofing material into brick, stone or cement, caulking the pores against the elements.

CEMCOAT—A paint that stays white after others turn yellow. Can be washed over endlessly. Adheres to brick or concrete as easily as to wood.

COUPON

L. SONNEBORN SONS, Inc., 114 Fifth Ave., New York
Please send me, without obligation, demonstration samples and literature on:—Lapidolith....; Lignophol....; Cemcoat....;
Hydrocide Colorless.... (Check products that interest you.)

Name.....
Address.....
Company.....
Position..... P.P.-4



Libbey-Owens

FLAT-DRAWN CLEAR SHEET GLASS

LIBBEY-OWENS glass in the windows of a home means so much from the standpoint of beauty, attractiveness, and clear vision that there is no reason why every home-builder should not insist on having this quality glass.

There is a real difference between Libbey-Owens glass and "just window glass"—a difference due to the exclusive process of manufacture used by Libbey-Owens.

Drawn from the molten state in a flat continuous sheet, and then carefully annealed during its slow passage through a 200-foot annealing oven, *Libbey-Owens glass is truly flat, uniform in thickness and strength, and has a beautiful lustre of sparkling brilliance.*

For all fine windows we recommend Libbey-Owens "A" quality glass. This superior glass comes paper-packed to protect its brilliant lustre, and each individual light bears the familiar Libbey-Owens label. *Look for it when you buy glass.*

THE LIBBEY-OWENS SHEET GLASS COMPANY
TOLEDO, OHIO

Libbey-Owens

FLAT-DRAWN CLEAR SHEET GLASS FOR WINDOWS

Libbey-Owens flat-drawn sheet glass is a nationally advertised product which millions of people are being taught to identify by its name

What does *STAGGERED FIRE TRAVEL* mean?

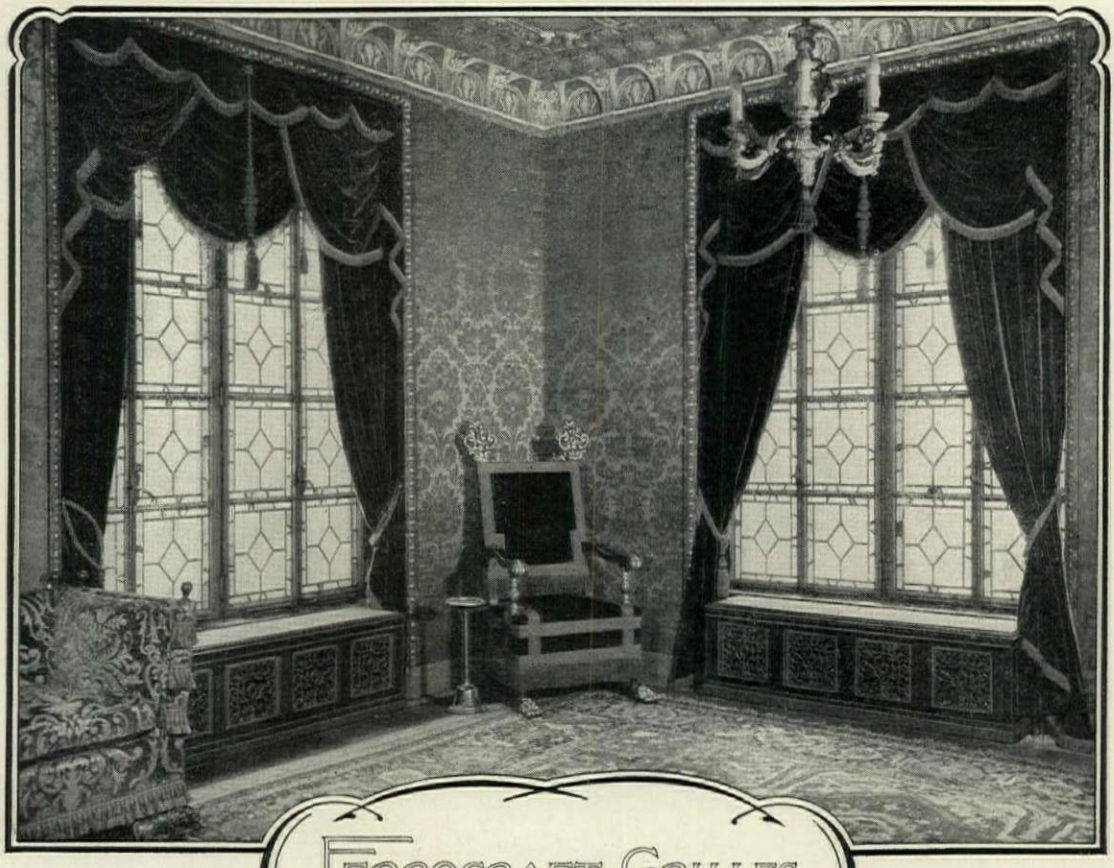
This Thatcher principle in boiler construction has been the cause of much favorable comment—because it is realized that here we have a vital reason for fuel economy. Picture the red hot tongues of flame dashing themselves madly against the water surfaces—the hot gases surging upward through the jackets of boiling water—to be staggered back and forth again and again from surface to surface until almost every atom of generated heat has been utilized. Result—lower fuel cost through greater utilization of the heat units.

This "staggered fire travel" principle is a feature of all Thatcher boilers. We illustrate here the new Thatcher "Elite" red enamel jacketed boiler. Full details and descriptions will gladly be sent upon request.

THE THATCHER COMPANY
39-41 St. Francis Street - - Newark, N. J.
New York—11 West 44th Street
Chicago—341 No. Clark Street

THATCHER
Elite ENAMEL JACKETED Boilers
BOILERS - FURNACES - RANGES - RADIATORS

THE ULTRA IN RADIATOR CONCEALMENT



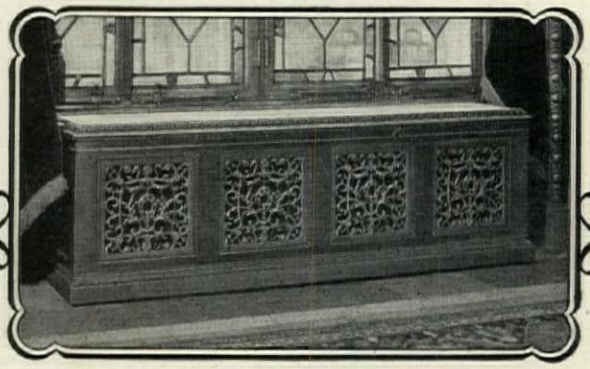
FERROCRAFT GRILLES CAST

THE versatility of design available in Ferrocraft Cast Grilles is exemplified by their application at the Park Central Hotel, New York. The various Period Rooms are equipped with Ferrocraft Grilles for the purpose of concealing radiators—and for each room the decorators were able to select a Ferrocraft design adapted to the specific period motif. Wherever the requirements are exacting as to design, quality and physical characteristics, the Ferrocraft Line capably meets the situation. Whether in the towering cathedrals of the business world, the spacious salons of luxurious hotels, or in the quiet dignity of a beautiful home, Ferrocraft is a vital means to the end of radiator concealment. Architects and Decorators should write for illustrations of special designs available in the Line of Ferrocraft Cast Grilles.

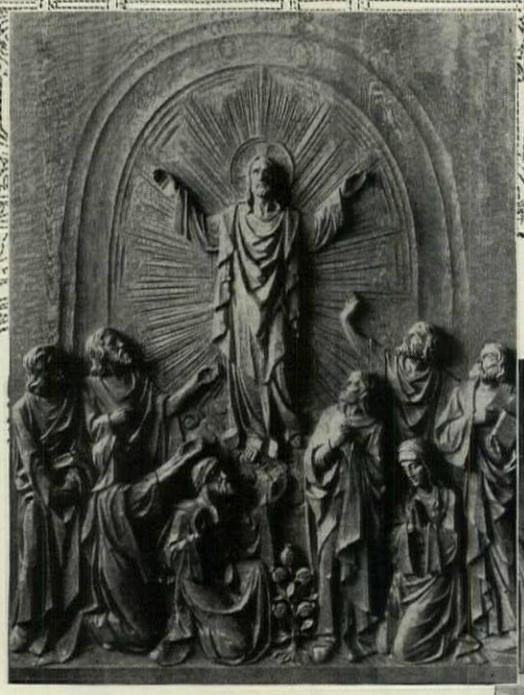
TUTTLE & BAILEY MFG. CO.

441 LEXINGTON AVENUE NEW YORK CITY

Makers of
Registers and Grilles
for 82 years



Photograph ABOVE shows the Renaissance Room at the Park Central, designed by Willy Pogany of New York. A close-up of the Ferrocraft Grille (Special Design 270) is shown at LEFT. The French, Arabian and Gothic Rooms are also equipped with Ferrocraft Cast Grilles.



Altar and Reredos with carved panels
The Nativity and The Ascension
St. Joseph's Episcopal Church, Detroit, Michigan
Nettleton and Weaver, *Architects*

Chancel and
Sanctuary

DEVOTION TO IDEA AND IDEAL

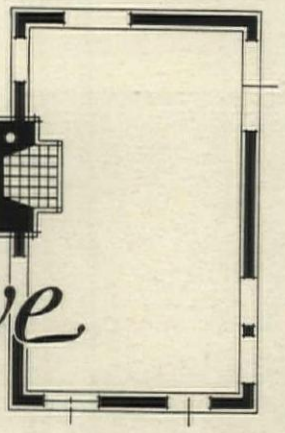
In executing architects' designs American Seating Company craftsmen reflect in their treatment of subject and detail a devotion to their art that produces more than a contract exactingly fulfilled. Coupled with genius in wood carving is an ability to interpret ideas and ideals . . . a surpassing technique, with a soul to guide it. Architects will find that perfection of every detail is but part of "American" rendering.

American Seating Company

1091 Lytton Bldg., Chicago, Illinos

FLOORS OF COLOR — THEIR ARCHITECTURAL VALUE *

An Effective PLAN



is assured when mass color accentuates its lines

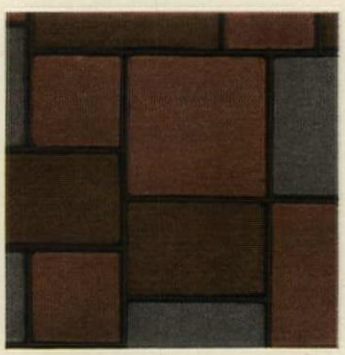
ALL the potential beauty of line and proportion that your carefully thought out plan possesses may be easily brought out. Each break, each reveal, each projection can stand out clearly, unmistakably defined. This added effectiveness is readily achieved by the use of mass color in the floors.

Color which faithfully follows and emphasizes the outlines of the room brings superior architectural value to the plan. Besides, room beauty is increased by the way in which the color is distributed.

In just this manner an Armstrong's Linoleum Floor of color confirms the contour of the room. And in addition to emphasizing its good lines and proportions, it offers an attractive pattern background for further room decoration. The finished effect affords you unusual satisfaction, and your client obtains added beauty at but slight additional cost.

And as it wears, an Armstrong's Linoleum Floor is more and more appreciated. It acquires a rich glow and mellow beauty. It never needs costly resurfacing. Its lustrous Accolac finish is easy to keep clean, and easily polished. Such a floor lasts for years and years.

For complete specifications covering Armstrong's Linoleum Floors, refer to Section B of Sweet's 1927–28 Architectural Catalog, pages 1578–1583, or write for the current edition of our architect's handbook, "Armstrong's Linoleum Floors," 40 pages, 8½x11 inches in size. Armstrong Cork Company, Linoleum Division, Lancaster, Penna.



ABOVE *is shown a section of Armstrong's Jaspé Linoleum Floor No. 17. To accentuate the room plan, giving it maximum effect, this floor is unusually appropriate; for its solid mass of color is relieved by a charming rippled motif that softens the whole area.*

At the left is Armstrong's Embossed Handcraft Tile Inlaid, design No. 6042, a large scale flagstone tile effect floor with much structural significance.

Look for the CIRCLE A trade-mark on the burlap back

* *This is No. 1 of a series—"Floors of Color —Their Architectural Value." Reprints of this and the five pages to come will be sent you gladly upon request.*

Armstrong's Linoleum Floors

for every room in the house

PLAIN ~ INLAID ~ EMBOSSED ~ JASPÉ ~ ARABESQ ~ PRINTED

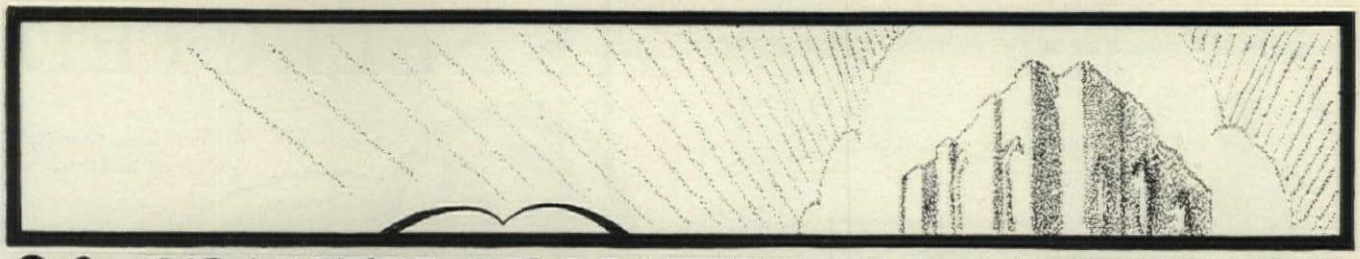
THE QUIET MAY has gained national recognition as the standard of perfection for automatic oil burners. ¶ Its simplicity and reliability have been, and will continue to be, featured effectively in magazine, newspaper, car card, outdoor and direct mail advertising, as well as by the sincere verbal endorsement of many thousands of users.

QUIET MAY

AUTOMATIC OIL BURNER

MAY OIL BURNER CORPORATION

BALTIMORE, MARYLAND



The BEAUTY OF NATURAL MATERIALS

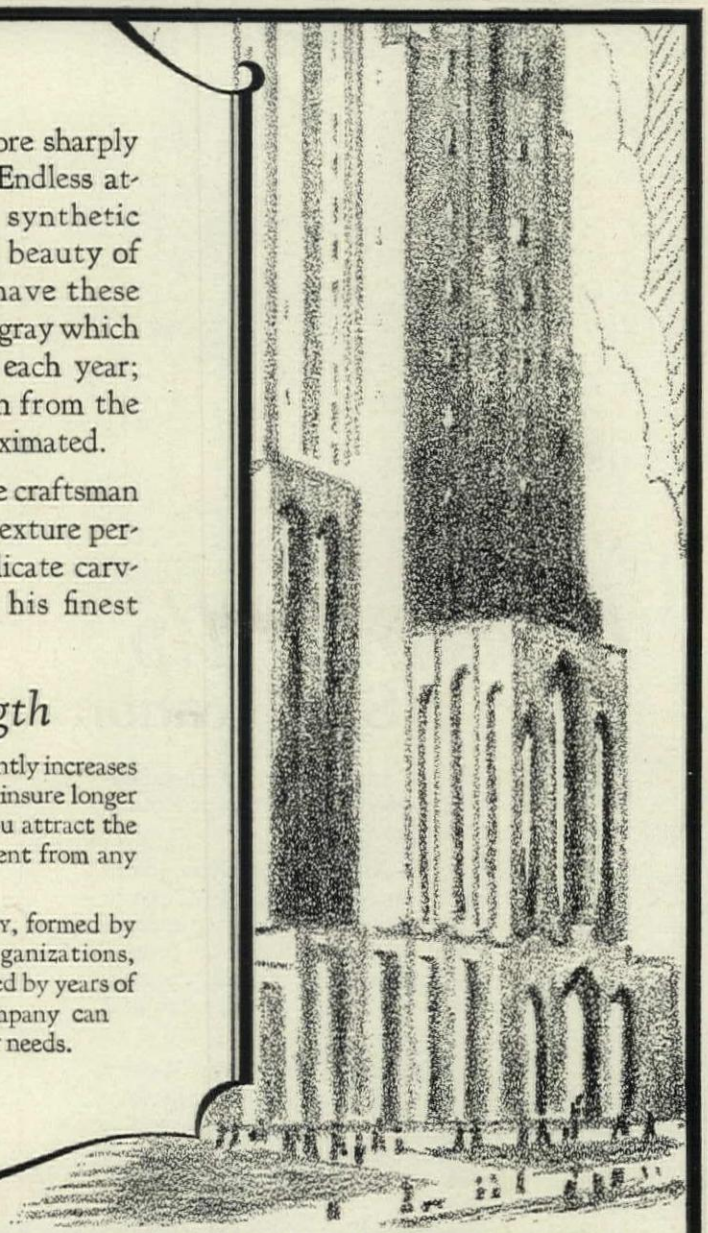
NEVER is natural charm more sharply defined than in stone. Endless attempts are made to produce a synthetic material with the rich, rugged beauty of Indiana Limestone, but never have these attempts succeeded. The soft buff-gray which grows more lovely in tone with each year; the dignity of native rock hewn from the earth — these can never be approximated.

More, Indiana Limestone gives the craftsman his perfect working medium. Its texture permits him to execute the most delicate carvings and to keep imperishably his finest inspirations.

Increasing Strength

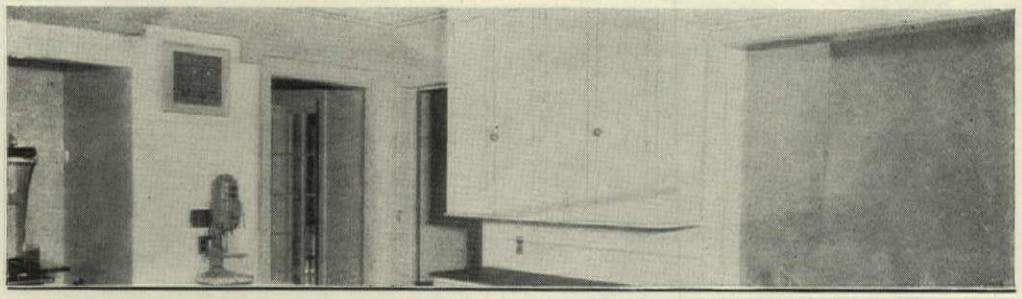
The strength of Indiana Limestone constantly increases with age. By using oolitic limestone you insure longer life and lower maintenance costs, and you attract the more desirable tenants — a good investment from any angle.

THE BLOOMINGTON LIMESTONE COMPANY, formed by the merger of four large, successful organizations, quarries this superb building stone. Backed by years of experience and achievement, this company can promptly and efficiently meet your needs.

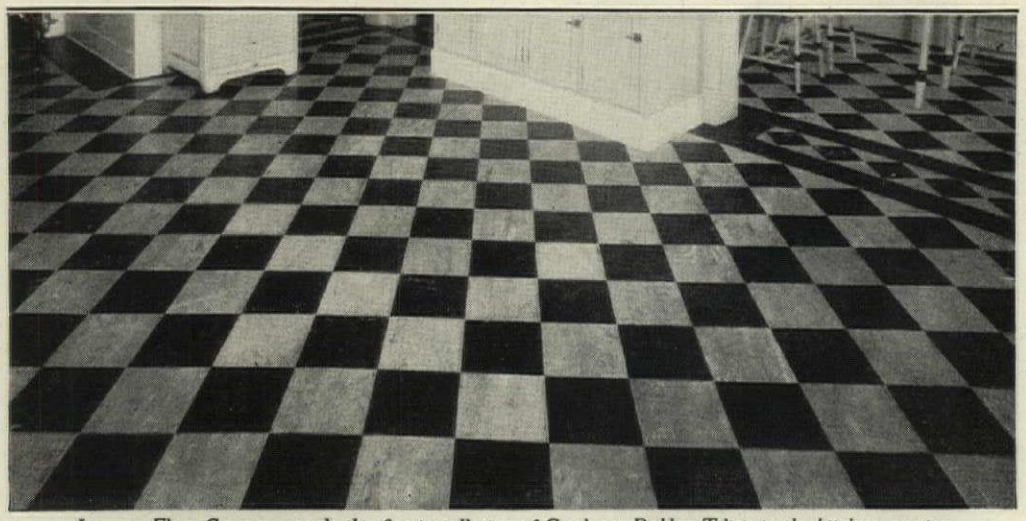


NO MATERIAL COMBINES BEAUTY, DURABILITY AND ECONOMY AS DOES INDIANA LIMESTONE

BLOOMINGTON LIMESTONE CO
BLOOMINGTON · INDIANA



Laboratory cleanliness in floors



Lamson Floor Company made this fine installation of Goodyear Rubber Tiling in the kitchen, service dining room, butler's pantry and service hallways of the Studor Thompson residence, Cleveland, Ohio

IF you think of a kitchen as a food laboratory, you will give added thought to its floor.

Cleanliness and permanence you will want of course. And quietness too will be desirable. Also color and tone will have their place because at last beauty has entered the kitchen.

Make a mental sketch of the kitchen floor your best judgment would approve, then fill in the picture with Goodyear Rubber Tiling.

A material that measures up to such a test would naturally make a fine floor for any room in the house.

You will be especially pleased by the variety of good designs including many rich marbleized effects and various other two- and three-colored combinations.

Sold under a name that insures satisfaction. Used successfully in every kind of business structure.

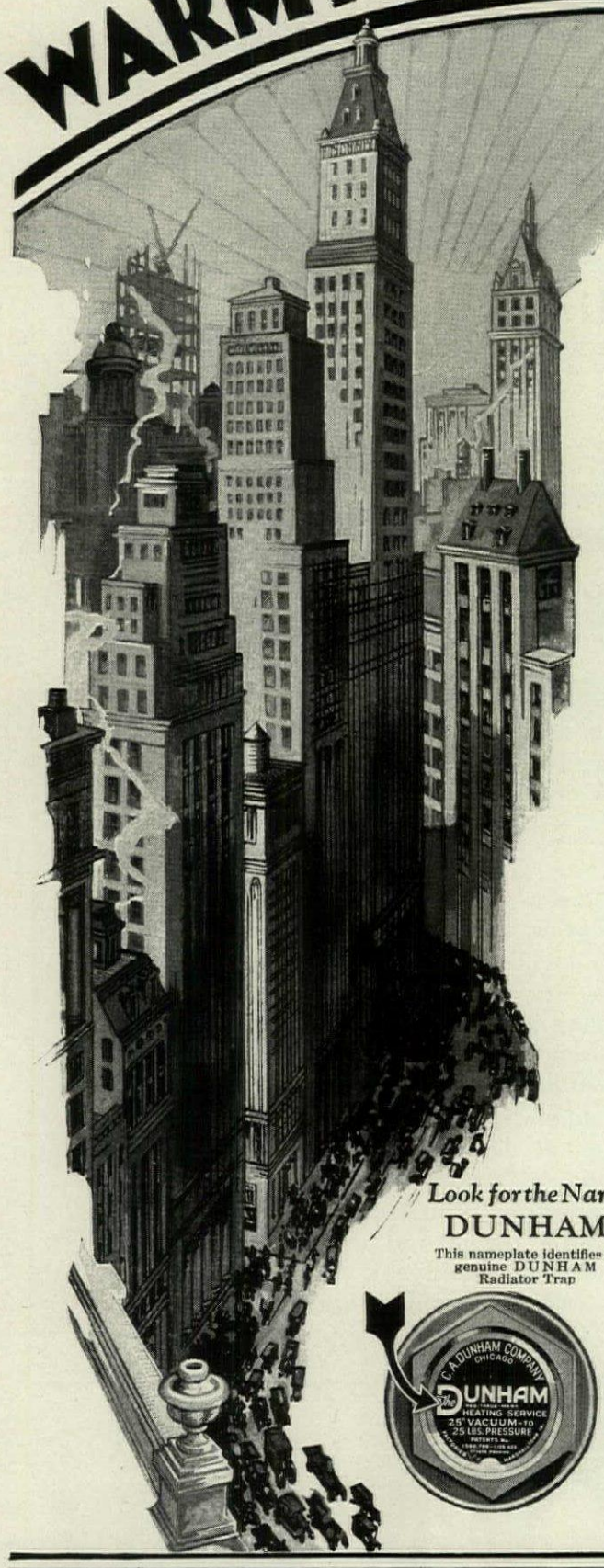
Complete architectural data will be gladly forwarded upon request. Address Goodyear, Akron, Ohio, or Los Angeles, California.

The Greatest Name in Rubber

GOODYEAR

RUBBER TILING

WARMTH WITHOUT WASTE



Look for the Name
DUNHAM
This nameplate identifies a genuine DUNHAM Radiator Trap

ENGINEERS have pronounced the invention and successful application of the Dunham Differential Vacuum Heating System utilizing Sub-Atmospheric Steam as the outstanding heating achievement of the decade.

It has long been a matter of common knowledge among Engineers that the amount of radiation estimated for the coldest weather of a heating season was excessive for the requirements of the mild temperatures which prevail through 95% of the usual heating season.

Sub-Atmospheric Steam Overcomes These Conditions

It prevents costly overheating with excessive window opening. It provides healthier indoor temperature of buildings.

With the widespread installation of the Dunham Differential System has come a new appreciation of the comforting agent we know heat to be. And also a new understanding of heating economy. For with the removal of overheating the Dunham System cuts fuel costs at least 25%.

A fundamental point about this new system of heating is the degree of heat given off by the radiators. It permits circulation of steam in the radiators on as low as 133 degrees (for mild weather) with increasing temperatures (in extreme weather) to correspond to heat lost from the building.

These are facts that should challenge the attention and closest investigation of Engineers, Architects and Heating Contractors.

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

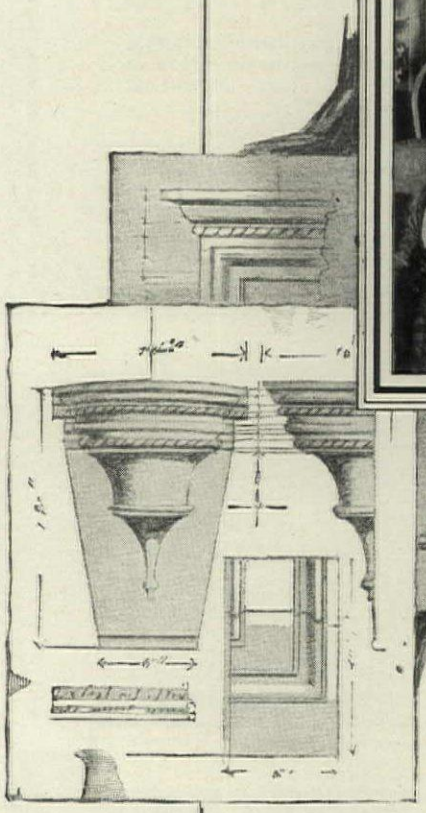
The DUNHAM
Difr-enshal-Vacm
A FIXED DIFFERENTIAL IN PRESSURE — Heating System — A VARIABLE DEGREE OF VACUUM

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

C. A. DUNHAM CO.

DUNHAM BUILDING
450 East Ohio Street, Chicago

SUB-ATMOSPHERIC STEAM



EXPRESSIVE
IN TONE AND TEXTURE

The mantle and fireplace pictured above are indicative of the simple dignity and artistic beauty which can be achieved with Alberene Stone. The soft blue-gray of the stone emphasized by the fire markings on the lining—the smooth surface—the firm texture—against the soft wall tone, make a picture of restful simplicity, yet rich in suggestion. *Address Alberene Stone Company, 153 West 23rd Street, New York, for the catalog —and samples, if desired.*

ALBERENE STONE

A NATURAL STONE OF DIVERSIFIED ARCHITECTURAL UTILITY

"PEERLESS" DRAWING TABLE WITH PEASE PARALLEL RULE ATTACHMENT

PEASE SET-EZY STOOLS

Here is the new four-point suspension stool that eliminates fatigue, and provides freedom of movement with relaxation. Has a securely riveted steel angle frame, perfectly leveled, and sets solidly. Furnished with or without back rest and rubber feet can be supplied or the legs will be fitted with smooth rolling hard casters if desired.

PEASE STEEL FILING CABINET

Here is adequate protection for tracings or drawings; keeps them from curling, tearing, or becoming lost, and eliminates fire hazard. Sectionally constructed of re-annealed cold rolled steel with roomy compartments and perfectly welded corners that do not sag. Attractively finished in olive green baked enamel.

Drafting Room Furniture That Lasts a Lifetime

Pease Drafting Room Furniture is designed to afford the greatest convenience and working comfort, within a minimum of floor space, and each piece is so sturdily constructed, as to resist maximum hard usage day after day for a lifetime.

Here you see illustrated only a few of the items comprising the complete line of Pease Drafting Room Furniture. Directly above is the popular Pease Peerless Drawing Table No. 2253, equipped with the new Pease Parallel Rule Attachment that can be used on any drawing table. To the left is featured one of the new Pease Set-Ezy Stools, and directly beneath is pictured one of the Pease Steel Sectional Filing Cabinets built like a Gibraltar.

There are a hundred and one other items, illustrated and described in our latest Furniture Catalog, that would probably add considerably to the convenience and efficiency of your office. Let us send you a copy of this interesting edition, complete with prices.

Ask for Catalog F-03D

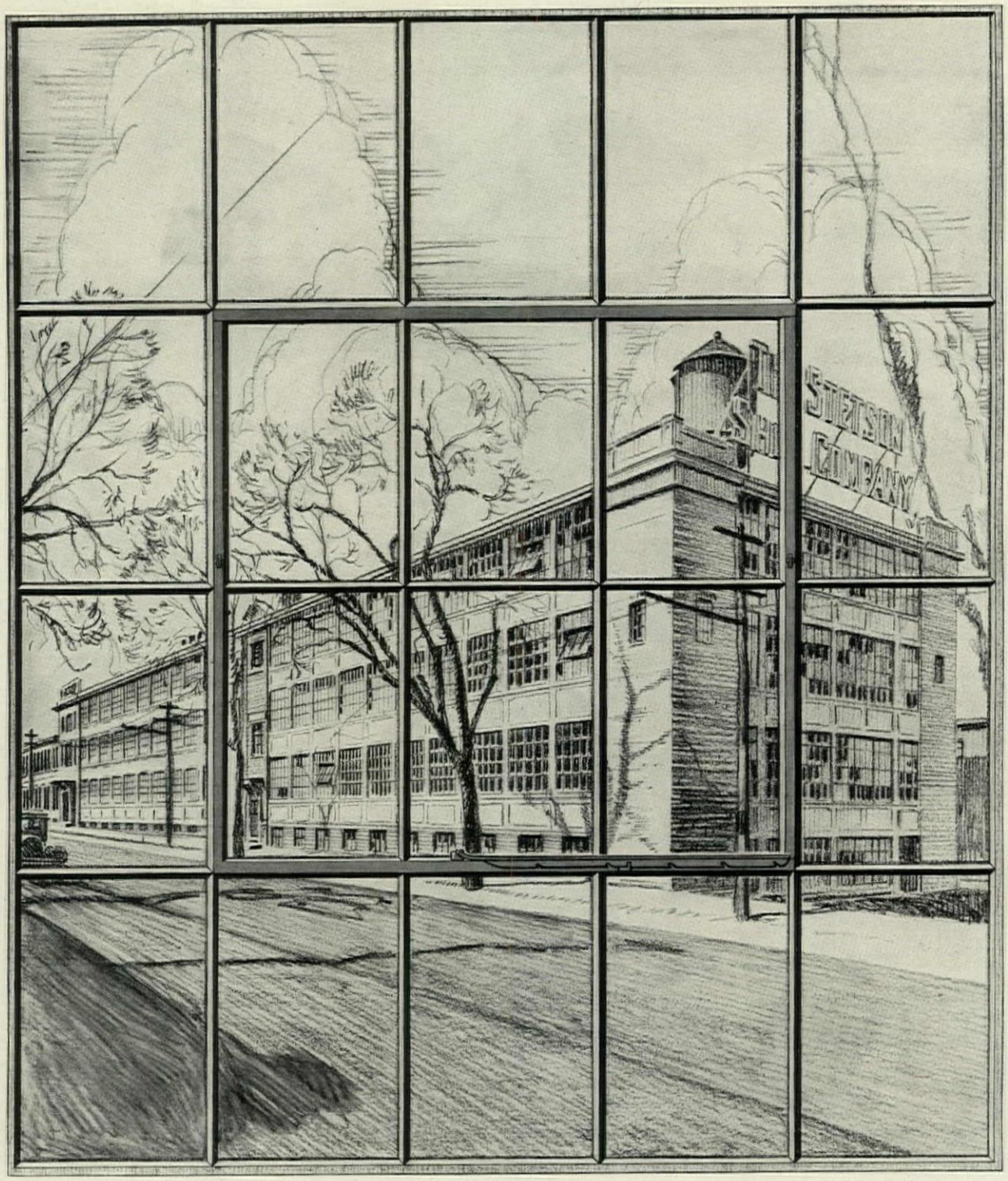
THE C. F. PEASE COMPANY

803 N. Franklin Street, Chicago, Illinois

PEASE

BLUE PRINTING MACHINERY

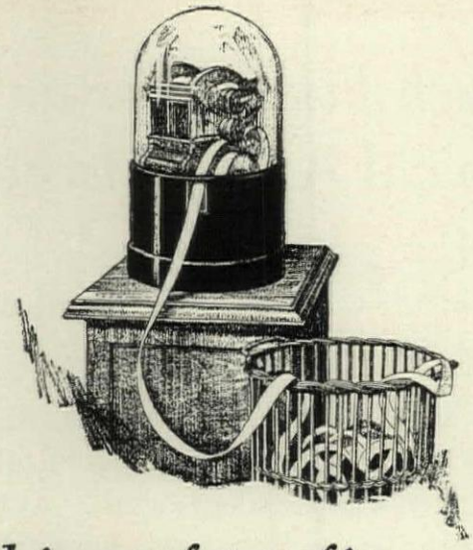
"Let Blue Prints Tell Your Story"



LUPTON Pivoted Windows, accepted for many years as the standard steel windows for every type of industrial building, provide natural lighting and ventilation at lowest cost. Rigidly built of rolled steel sections, their easy operation, large glass space and durability give them high investment value. When specified, these windows can be furnished with Underwriters' Label. Consult Lupton on your window problems.

DAVID LUPTON'S SONS CO. 2229 E. Allegheny Ave., Philadelphia

Lupton Steel Windows



Speaking of profits . . . . here is a dollar that is earning a dollar and forty-five cents a year

WHEN it is all said and done, what we throw into furnaces is not just coal —*it's money!* . . . WITNESS: A leading textile manufacturer* of northern New York was burning up $270.00 per day for heat, power and process steam. At the suggestion of their consulting engineer, they converted their antiquated high pressure heating system to a modern Webster Vacuum System which cut their fuel cost down to $196.00 per day and their yearly repair bill by $500.00. A net saving of $17,300.00 per year from an investment of $12,000.00 for modernization . . . 145 per cent.

**name on request*

- since 1888

Webster Systems of Steam Heating

Warren Webster & Company, Camden, New Jersey
Pioneers of the Vacuum System of Steam Heating
52 U. S. Branch Offices—*In Canada, Darling Bros., Ltd., Montreal*

Another Example!

The failure of its heating system to maintain all rooms at a comfortable temperature was a serious handicap to the management of the Hotel Endicott in New York City. So in 1923 the chief engineer made an investigation to determine what changes would be necessary to convert their obsolete two-pipe gravity system to a modern Webster Vacuum System of Steam Heating.

The piping was revised where necessary. Webster Sylphon Traps were installed on some radiators, while on others, Webster Sylphon Attachments were installed in the old valve bodies. Two motor-driven vacuum pumps, one a spare, which maintain a vacuum of from 4 to 5 ins. on the return line, completed the installation.

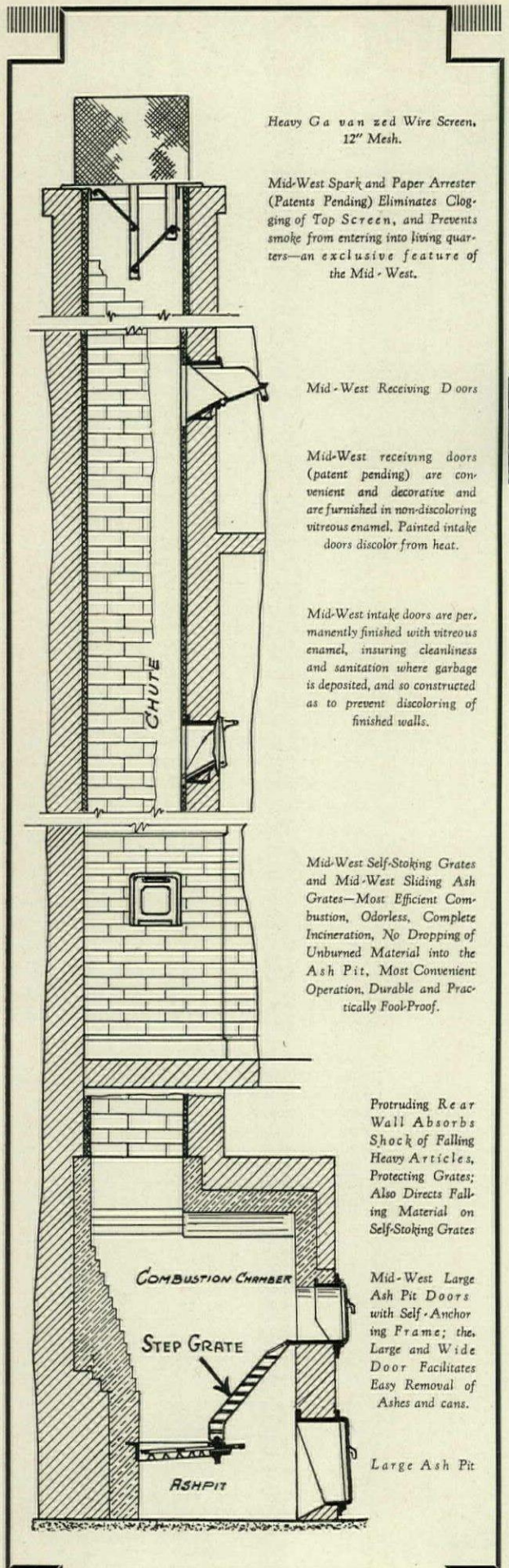
With the Webster System conditions have improved, surprisingly. Instead of using three boilers, the cold weather load is easily carried with the one large boiler, and the farthest rooms in this difficult-to-heat building are as comfortable as those in the central portion. Regulation of heat is much more effective, pounding in the radiators has stopped, and ruinous leaks have ceased to exist.

The savings in fuel, while amounting to $432.00 annually, is of relatively small importance when compared to the increase in heating efficiency and comfort of guests. The good will of its patrons is one of a hotel's greatest assets, and it should never be jeopardized by a heating system which cannot maintain a comfortable temperature in every room—at all times.

Can we apply Webster Service to increase the income from your Building?

Write for data.

More than 46,000 installations in America's finer buildings



Heavy Galvanized Wire Screen, 12" Mesh.

Mid-West Spark and Paper Arrester (Patents Pending) Eliminates Clogging of Top Screen, and Prevents smoke from entering into living quarters—an exclusive feature of the Mid-West.

Mid-West Receiving Doors

Mid-West receiving doors (patent pending) are convenient and decorative and are furnished in non-discoloring vitreous enamel. Painted intake doors discolor from heat.

Mid-West intake doors are permanently finished with vitreous enamel, insuring cleanliness and sanitation where garbage is deposited, and so constructed as to prevent discoloring of finished walls.

Mid-West Self-Stoking Grates and Mid-West Sliding Ash Grates—Most Efficient Combustion, Odorless, Complete Incineration, No Dropping of Unburned Material into the Ash Pit, Most Convenient Operation, Durable and Practically Fool-Proof.

Protruding Rear Wall Absorbs Shock of Falling Heavy Articles, Protecting Grates; Also Directs Falling Material on Self-Stoking Grates

Mid-West Large Ash Pit Doors with Self-Anchoring Frame; the Large and Wide Door Facilitates Easy Removal of Ashes and cans.

Large Ash Pit

7321 South Shore Drive Apartments, Chicago — W. C. Bannerman & Co.—Owners & Genera Contractors. Robert S. DeGolyer & Co. Architects. Walter T. Stockton, Member of firm, in charge of this operation — H. L. Clute, Engineer: "We are quite familiar with the Mid-West Incinerator," said Mr. Stockton. "Our engineer has investigated it thoroughly and we believe it to be one of the best incinerators on the market."

Self Stoking Step Grates

"Permit Ample Draft"
"Contribute to Complete Combustion"

in the

Mid-West STEP GRATE *Incinerator*

Chute-Fed

FOR the cleanliness, the healthfulness, the sanitation you can assure in every structure you build, and to every client you serve, you specify incineration of garbage and refuse.

To you, the question is "What incinerator shall I specify?"

You must be satisfied as to its engineering, its adherence to established combustion principles.

The report of the "Investigating Committees of Architects and Engineers of New York" (which have endorsed and approved the Mid-West Incinerator) state among other things:

"The distribution of refuse along the step grates above the flat grates gave the material an opportunity to become preheated and somewhat dried out before it dropped down to the flat grate for final combustion. It was evident that the opening in these step grates permitted ample draft and contributed materially to the complete combustion of the gases. The grates in each of the incinerators visited were in such perfect condition as to indicate long life for these grates."

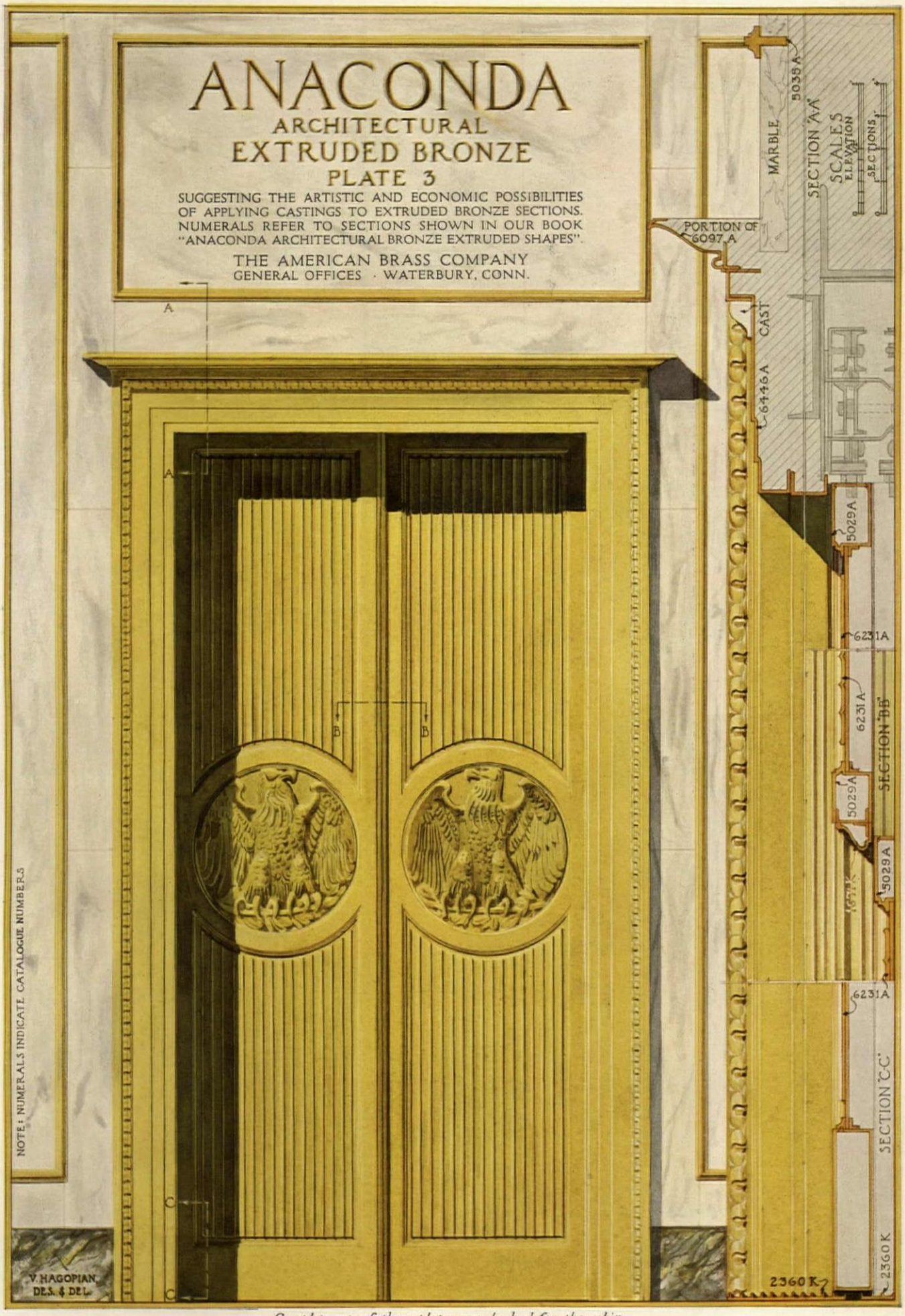
Sweet's Catalogue 1928 SEE OUR CATALOGUE IN SWEETS *Gives Full Details*

Mid-West Incinerator Corporation

General Offices - St. Clair Bldg., Erie & St. Clair Sts., Chicago
New York Office - 75 West St., New York City

REPRESENTATIVES

BOSTON, MASS., Fiske & Co., Inc., 115 Federal St.; MILWAUKEE, WIS., Goodwin Bldg. Specialty Co., 424 Jefferson St.; MINNEAPOLIS, MINN., H. O. Johnson, 648 Builders Exchange; NEW YORK, N. Y., Stanton-Thomson Corp., 75 West St.; PHILADELPHIA, PA., W. A. Laub Co., 1700 Walnut St.; WASHINGTON, D. C., Arthur B. Gilbert, Insurance Exchange; BUFFALO, N. Y., Edwin G. Day & Co., Erie County Bank Bldg.; ST. LOUIS, MO., A. D. Foster, 3727 Oliver St.; FORT WAYNE, IND., C. J. Clark, 809 Spring St.; ST. PAUL, MINN., R. E. Anderson, 308 Builders' Exchange Bldg.



Complete sets of these plates may be had for the asking

MURPHY FINE FINISHES

Famous for 63 years among architects, master painters, and makers of products requiring a fine finish

THE interior finish used in the new home of the Equitable Life Assurance Society in New York is Murphy Transparent Interior Varnish, for over half a century the standard fine interior varnish.

This varnish is so extremely durable and of such transparency that surfaces finished with it many years ago appear more beautiful than when the varnish was applied. Its great covering quality makes it also economical to use.

The architects of this building are Messrs. Starrett & Van Vleck and the painting contractors are W. P. Nelson Company, both of New York.

Murphy Varnish Company

Newark Chicago San Francisco Montreal

Quiet, Comfortable Office Floors

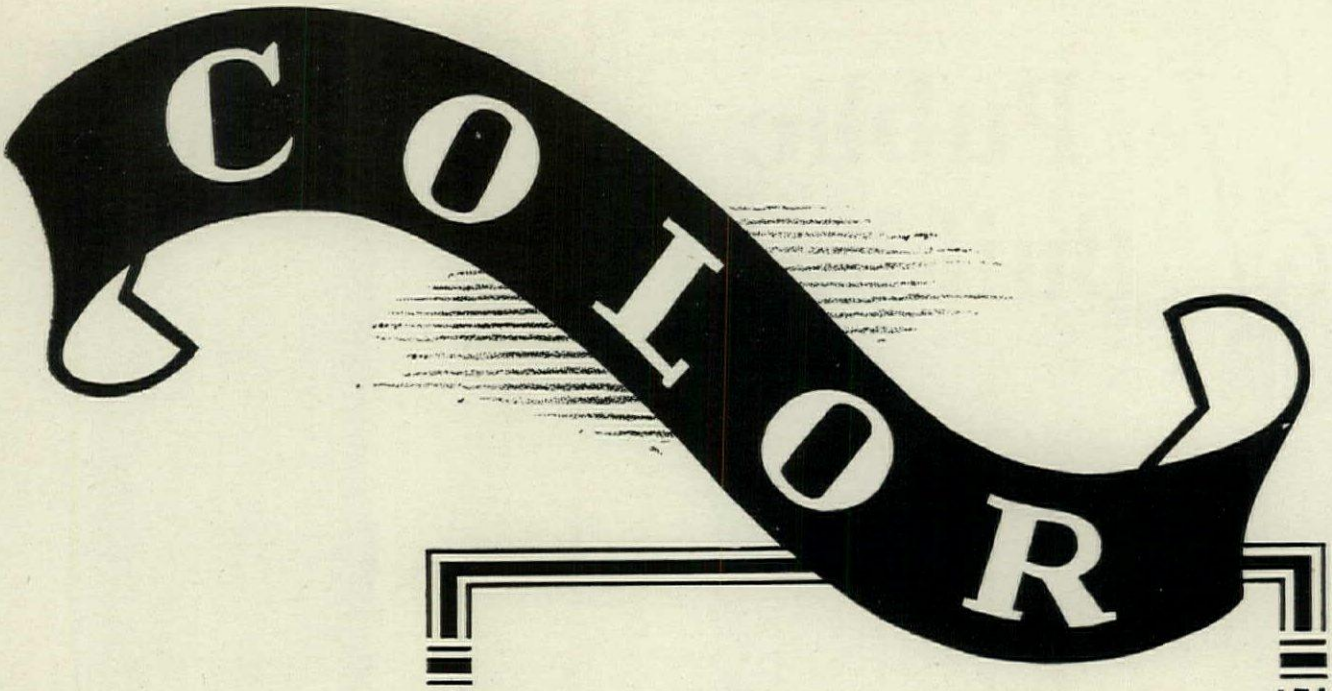
Cashier's Room, First National Bank, McKees Rocks, Pa., floored with Armstrong's Cork Tile in 9 x 9 inch medium brown tiles and dark border.

RESTFUL and noiseless underfoot as a carpet, dignified and distinctive in appearance, Armstrong's Cork Tile is an especially appropriate floor for offices. It lessens fatigue and noise and contributes materially to office comfort and efficiency. The rich brown colors and characteristic surface marking make it an effective decorative feature.

Armstrong's Cork Tile is made of fresh, live curlings of pure cork compressed into half-inch thick tiles which are furnished in a wide range of sizes and in three shades of brown. A floor of Armstrong's Cork Tile is warm and nonslippery, very resistant to wear, practically nonabsorbent, dustless, easily cleaned, and not readily stained or marred.

The book, "Armstrong's Cork Tile Floors" containing complete data and specifications, along with a sample tile, will be mailed on request. Address, Armstrong Cork & Insulation Company, 162 Twenty-fourth Street, Pittsburgh, Pa.

Armstrong's Cork Tile



The era of COLOR

increases

architectural resources and problems

THE era of Color is fast pushing over the horizon. Its coming places in the hands of architects an additional and versatile medium.

Naturally new problems are created . . . both of a technical and commercial nature.

R & H, as a manufacturer of long and high standing in the field of Gold and Colors, is desirous of rendering assistance for the more extended use of these products in the building industry.

Architects desiring information on ceramic possibilities in terra cotta, tile, enamel, glass, china or earthenware, please inquire of us at our main office. Our exhibit at the Architects' Samples Corporation, 101 Park Avenue, New York, shows several interesting examples.

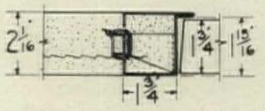
The
ROESSLER & HASSLACHER CHEMICAL CO.
709 Sixth Avenue New York, N. Y.

"AMERICA'S LEADING CERAMIC MATERIAL HOUSE"

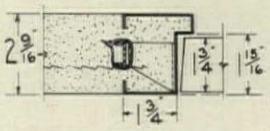
CRAFTBUILT SINCE HF&G INC. 1884

HOWELL, FIELD & GODDARD, INC.

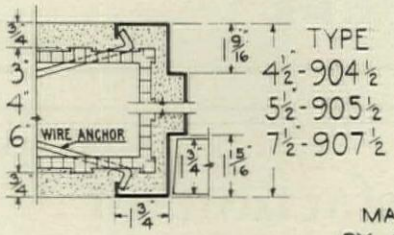
420 LEXINGTON AVENUE
NEW YORK



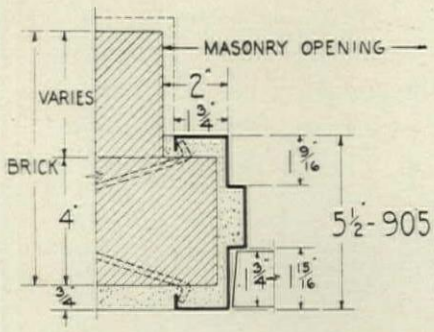
TYPE 902 1/16
FOR 2" PLASTER WALL



TYPE 902 9/16
FOR 2½" PLASTER WALL



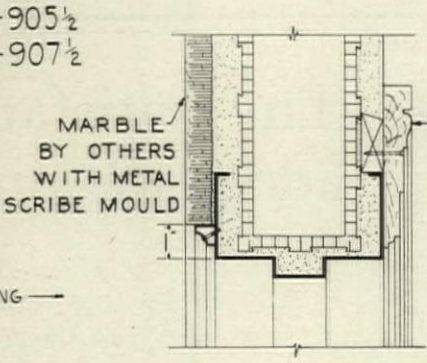
TYPE
4½-904½
5½-905½
7½-907½
FOR TERRA COTTA PARTITIONS

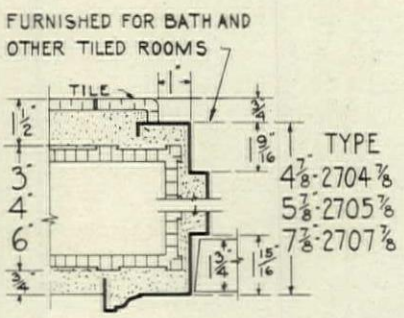


5½-905½
FOR BRICK WALLS

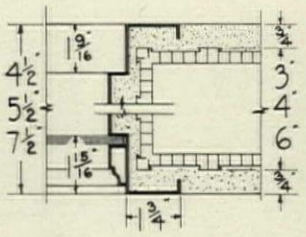
HOLLOW STEEL COMBINATION
BUCK & JAMB
STRONG·SUBSTANTIAL·PERMANENT
MITERS WELDED·NO SAG
SHRINKAGE OR OPEN JOINTS.
GOOD FOR LIFE OF BUILDING.
COMPLETE OPENING INSTALLED
IN BUILDING AS CHEAP AS WOOD.

WHILE THESE BUCKS ARE PRIMARILY DESIGNED FOR USE IN HOSPITALS AND INSTITUTIONS, WHERE MOULDED TRIMS ARE NOT DESIRED, THEY ARE EXTENSIVELY USED IN ENTRANCE HALLS AND SPECIAL ROOMS OF HOTELS, APARTMENT HOUSES, COMMERCIAL BUILDINGS ETC., WHERE MARBLE OR WOOD TRIM IS TO BE APPLIED, AS INDICATED IN SECTION OF HEAD OF BUCK SHOWN BELOW.

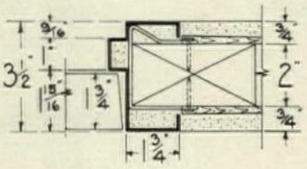




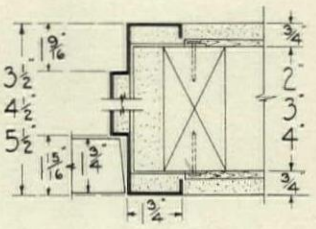
TYPE
4⅞-2704⅞
5⅞-2705⅞
7⅞-2707⅞



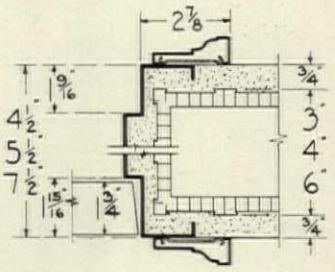
WHEN USED IN PARTITIONS
AS BORROWED LIGHT



FOR 2" STUD PARTITION



FOR STUD PARTITIONS



COMBINATION BUCK WITH APPLIED
HOLLOW METAL TRIM

FOR OTHER TYPES AND CONSTRUCTION DETAILS
SEE PENCIL POINTS EACH MONTH

Jamison

Plant of
Detroit Refrigerating Co.
Detroit, Michigan

W. W. Ahlschlager
Architect
Westerlin & Campbell Co.
Con. Engrs.

I Approve!

Mr. H. P. Hill, of Ophus & Hill, Inc., Consulting Engineers, 112 W. 42nd St., New York City, comments as follows:
"Your five point challenge sets up an ideal worth striving for."

Five Point Challenge

1 Build doors which—WHEN CLOSED—MAKE PRACTICALLY A SOLID WALL, because of sure, tight seals and door insulation equivalent to the wall itself.

2 Build doors which CLOSE AND SEAL QUICKLY and surely, and which further reduce air-flow by requiring minimum wall opening.

3 Design doors that HARMONIZE with their surroundings and which PASS the most stringent SANITARY INSPECTION.

4 Build doors to avoid troubles due to swelling, shrinking and warping and to ENDURE FOR YEARS despite heavy duty and abuse.

5 Build doors so efficiently, because of long experience and volume production, that it is possible to combine ALL of these requirements in a single door at MODERATE COST AND LOW UPKEEP

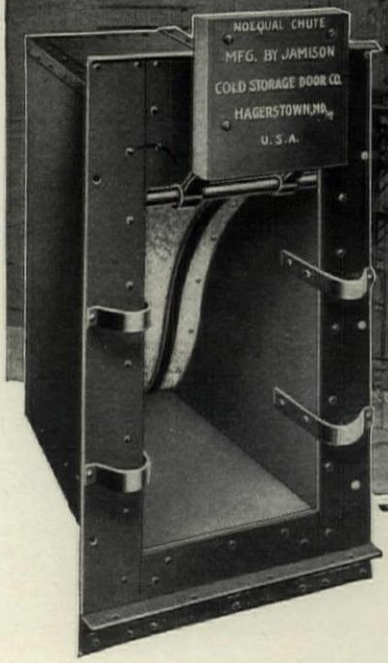
Point Number Two

Air flows through a doorway in proportion to the size of the door and the length of time it is open. Within practical limits, a cold storage door must be as small as possible and designed for quick action.

Jamison makes doors of any required dimensions, but a study of the catalog shows standard sizes that will fit most needs perfectly and that are proportioned for greatest utility. The line includes a wide range of specialties such as track, bunker, Dutch, double, and vestibule doors, also chutes, sliding doors, and windows, built singly and in multiple. *Each Jamison unit is of the smallest size possible for its particular duty.*

For quick, easy handling, Jamison construction has taken into serious consideration weight, hardware, the radius and swing of the door, the position of the handle, and a self-tightening type of fastener that allows a door to be kicked or slammed shut. Quick action is apparent in every detail.

Doors must open and doors must close. In the twinkling of an eye the Jamison door changes an unobstructed passageway to the full equivalent of an unbroken wall.



Noequal all-steel automatic ice chute, reinforced with angles and riveted. No springs, no hinges; door is bolted to a steel housing and mounted on a cold-rolled steel shaft that is pivoted through the side walls in ample bearings. A really husky chute.

Cold Storage Doors

P4

Clip and pin to your letterhead

JAMISON COLD STORAGE DOOR CO.
Hagerstown, Md. U.S.A.

Please send us immediately your complete answer to the 5-point challenge, and catalog.

Lobby of the Graystone Plaza Apts., Yonkers, N. Y. *Snyder & Henry, Architects*

THE architect has created an effect of conservative richness in this entrance hall, with its floor of glazed Faience tile in beautiful shades of red-gold and brown, laid in random pattern. The sizes are 6 x 6, 6 x 3, and 3 x 3. Border and base are of bright glazed black tile, with yellow, red and blue inserts. In the fireplace and about the doorway there is an interesting variation of the floor *motif*. The whole affords a background of unusual simplicity and harmony.

ASSOCIATED TILE MANUFACTURERS

220 Graybar Building 420 Lexington Avenue, New York, N. Y.

ALHAMBRA TILE CO., Newport, Ky.
AMERICAN ENCAUSTIC TILING CO., Ltd. Zanesville, Ohio
CAMBRIDGE TILE MFG. CO., Covington, Ky.
FEDERAL TILE CO., Columbus, Ohio
GRUEBY FAIENCE & TILE CO., Perth Amboy, N. J.
MATAWAN TILE CO., Matawan, N. J.
MOSAIC TILE CO., Zanesville, Ohio
NATIONAL TILE CO., Anderson, Ind.
OLEAN TILE CO., Olean, N. Y.
THE C. PARDEE WORKS, Perth Amboy, N. J.
ROSSMAN CORPORATION, Beaver Falls, Pa.
STANDARD TILE CO., Zanesville, Ohio
THE SPARTA CERAMIC CO., East Sparta, Ohio
UNITED STATES ENCAUSTIC TILE WORKS Indianapolis, Ind.
UNITED STATES QUARRY TILE CO. Parkersburg, W. Va.
WHEELING TILE CO., Wheeling, W. Va.

ASSOCIATION TILES

MADE IN U.S.A.

Pergola on the grounds of the Dickerson residence. Union Metal Columns, Design 246.

The Dickerson residence, Dallas, Texas. H. H. Crane, architect, Dallas, Texas. Union Metal Columns, Design 213.

For Porches or Pergolas — UNION METAL Columns

WITHOUT going to great expense, the architect has added much to the beauty of this residence by the tasteful use of Union Metal Columns. Not a little of the grace and dignity of the structure is due to these columns, designed after the classical orders of ancient Greece and Rome and finely executed in enduring steel.

The attractive pergola, too, the finishing touch to well-planned grounds, depends upon Union Metal Columns for its ornamental value.

And the beauty which these columns impart to both the building itself and the pergola is permanent, for it cannot be destroyed by splitting, cracking or warping — common failures where inferior types of porch columns are used.

Union Metal Columns are die-pressed from copper-bearing steel and galvanized inside and out. Neither sun nor rain, wind nor weather, can mar their finish — they last a lifetime.

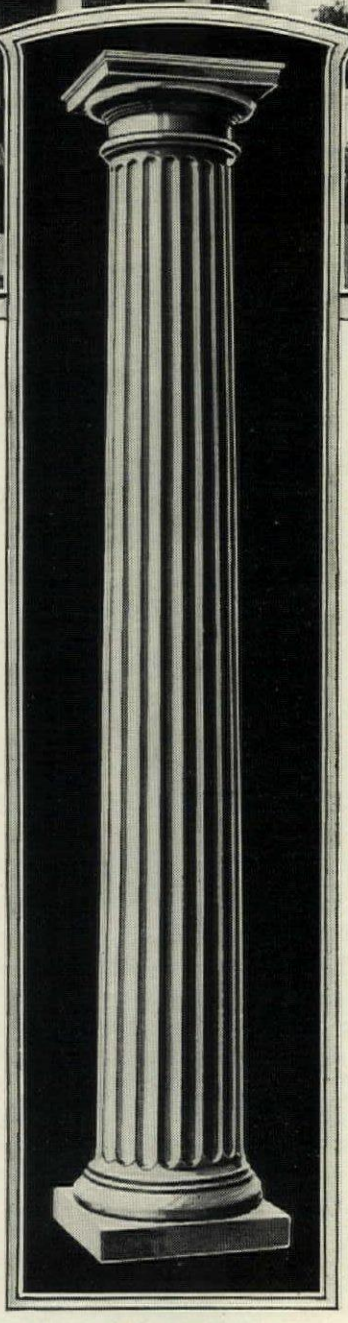
Let us quote you on your next column job. In the meantime, send for the complete Union Metal story.

THE UNION METAL MANUFACTURING CO.

General Offices and Factory: Canton, Ohio

Branches — New York, Chicago, Philadelphia, Cleveland, Pittsburgh, Los Angeles, St. Louis, San Francisco, Jacksonville.

UNION METAL COLUMNS



Union Metal Design 246. Roman Doric Column as used in the pergola shown above. One of ten classical designs made in diameters from 8″ to 42″, height 5′ to 35′.

AN INSURANCE COMPANY BUYS VALVE INSURANCE

A Donald Douglass Aquatint study of the NEW YORK LIFE BUILDING, New York, N. Y.

* * *

Architects, Cass Gilbert, Inc. New York, N. Y.; steam contractor, Baker-Smith Co., New York, N. Y.; plumbing contractor, W. G. Cornell Co., New York, N. Y.; general contractors, Starrett Bros., New York, N. Y.; associate engineers, Meyer, Strong & Jones, Inc., New York, N. Y.

APPROACHING completion on the historic site of the old Madison Square Garden is the new building of the New York Life Insurance Company.

The selection of Jenkins Valves for this building is, in a sense, a valve insurance policy. They are used for steam, plumbing and fire protection lines.

In building permanent structures of such imposing proportions, architects, owners and contractors naturally agree on the choice of valves with a record of long-term, trouble-free performance.

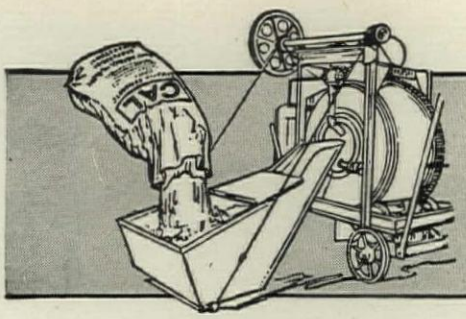
To make sure of Jenkins Service specify Jenkins Valves—marked with the Diamond and Jenkins signature.

JENKINS BROS.

80 White Street, New York, N. Y. — 133 North Seventh Street, Philadelphia, Pa.
524 Atlantic Avenue, Boston, Mass. — 646 Washington Boulevard, Chicago, Ill.
JENKINS BROS., Limited, Montreal, Canada; London, England
Factories: Bridgeport, Conn.; Elizabeth, N. J.; Montreal, Canada

Fig. 253
Jenkins Medium Pressure Iron Body Gate Valve with Outside Screw and Yoke

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864



~just put it in the mix

CAL

Specify CAL to improve the density of concrete. Dense concrete is watertight. ¶CAL is Oxychloride of Calcium, a white powder packed in bags, to be added dry to any Portland Cement mixture. ¶In addition to densifying, CAL accelerates the hardening, fattens and cures Portland Cement concrete, stucco and mortar. ¶The use of CAL in place of other materials is a safeguard on rigid adherence to architectural specifications. ¶The CAL Book will be sent upon request. ¶ See our Catalog in Sweet's.

NORTH AMERICAN
CEMENT
CORPORATION

General Offices
ALBANY, N. Y.

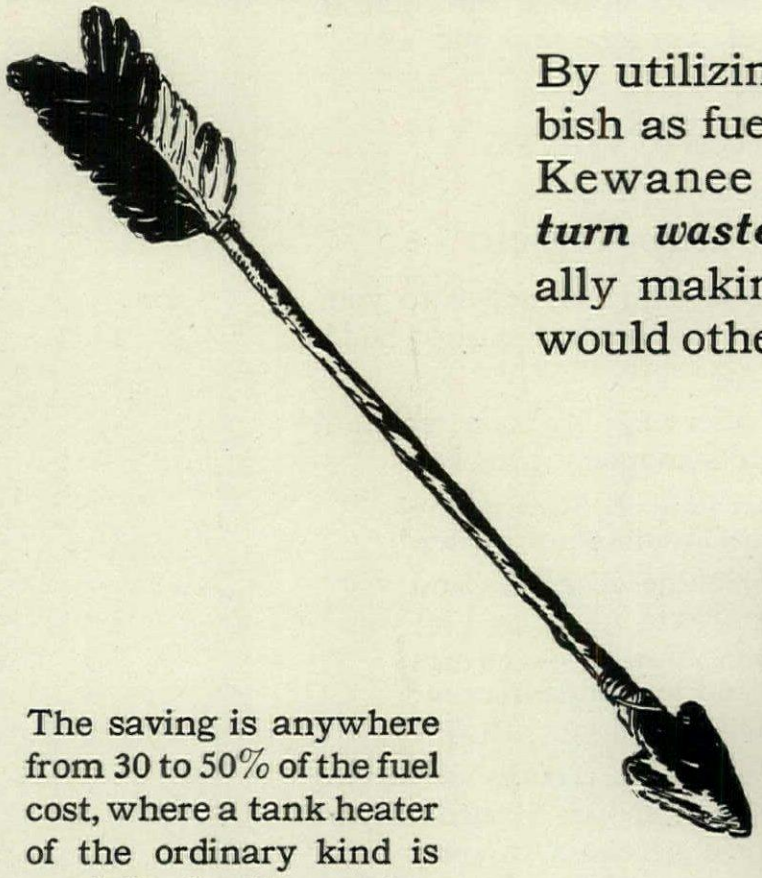
General Sales Office
285 MADISON AVE., N. Y.

BALTIMORE BOSTON HAGERSTOWN, MD. WASHINGTON

KEWANEE

Water Heating

GARBAGE BURNERS



By utilizing garbage and rubbish as fuel for heating water, Kewanee Garbage Burners ***turn waste into profit***—actually making an asset of what would otherwise be a nuisance.

The saving is anywhere from 30 to 50% of the fuel cost, where a tank heater of the ordinary kind is used for heating water.

Made in three types and fourteen sizes to heat 200 to 2600 gallons of water per hour

All the details are in Catalog Number 75. Have you a copy?

KEWANEE BOILER CORPORATION

Kewanee, Illinois ***Branches in Most Leading Cities***

STEEL HEATING BOILERS RADIATORS WATER HEATERS TANKS AND WATER HEATING GARBAGE BURNERS

PENCIL POINTS

An Illustrated Monthly JOURNAL for the DRAFTING ROOM *Edited by* RUSSELL F. WHITEHEAD
KENNETH REID & E. L. CLEAVER *Published by* THE PENCIL POINTS PRESS, INC.
Ralph Reinhold, *President*, Edward G. Nellis, *Vice-President*, W. V. Montgomery, *Secretary*

MORE PAGES IN PENCIL POINTS

ONE OF THE things which has gratified us most as publishers is the fact that PENCIL POINTS has been able to grow from year to year, adding a little now and then to its size and its usefulness as a periodical serving the architectural profession, using this word in its broadest sense. From its modest start in 1920, when each issue contained about sixteen pages, PENCIL POINTS has developed to its present stage where every month we send out sixty-four pages of editorial matter together with two reproductions in color of architectural renderings or drawings.

We are pleased to announce that the growth of our advertising section places us in a position financially where we are able to give to our subscribers more for their money and so we expect shortly to increase the space in PENCIL POINTS devoted to editorial matter by eight pages a month. Naturally, in doing this, we are anxious to use the additional pages to the best advantage of all concerned. Hence, we are inviting you, our readers, to let us know what we can do with this space to make it of the greatest possible use to you. Of what sort of material are you most in need?

We have several possibilities in mind. We may very possibly include material on construction, particularly as applied to small buildings. It is possible, also, that we might include additional material on the design and economical construction of small houses. It is probable that we will devote considerable space to discussion by architects, located in different sections of the country and working under different conditions, of the cost of preparing drawings for different types of work. This subject, of course, is of vital importance to the architect, for the cost of his drafting room may furnish the element which will make all the difference between profit and loss in conducting his business. It should also be vitally important to the draftsman for if he can, by using common sense methods, cut down on his drafting time on a given job, he can make it possible for his employer, the architect, to reward him by increased salary.

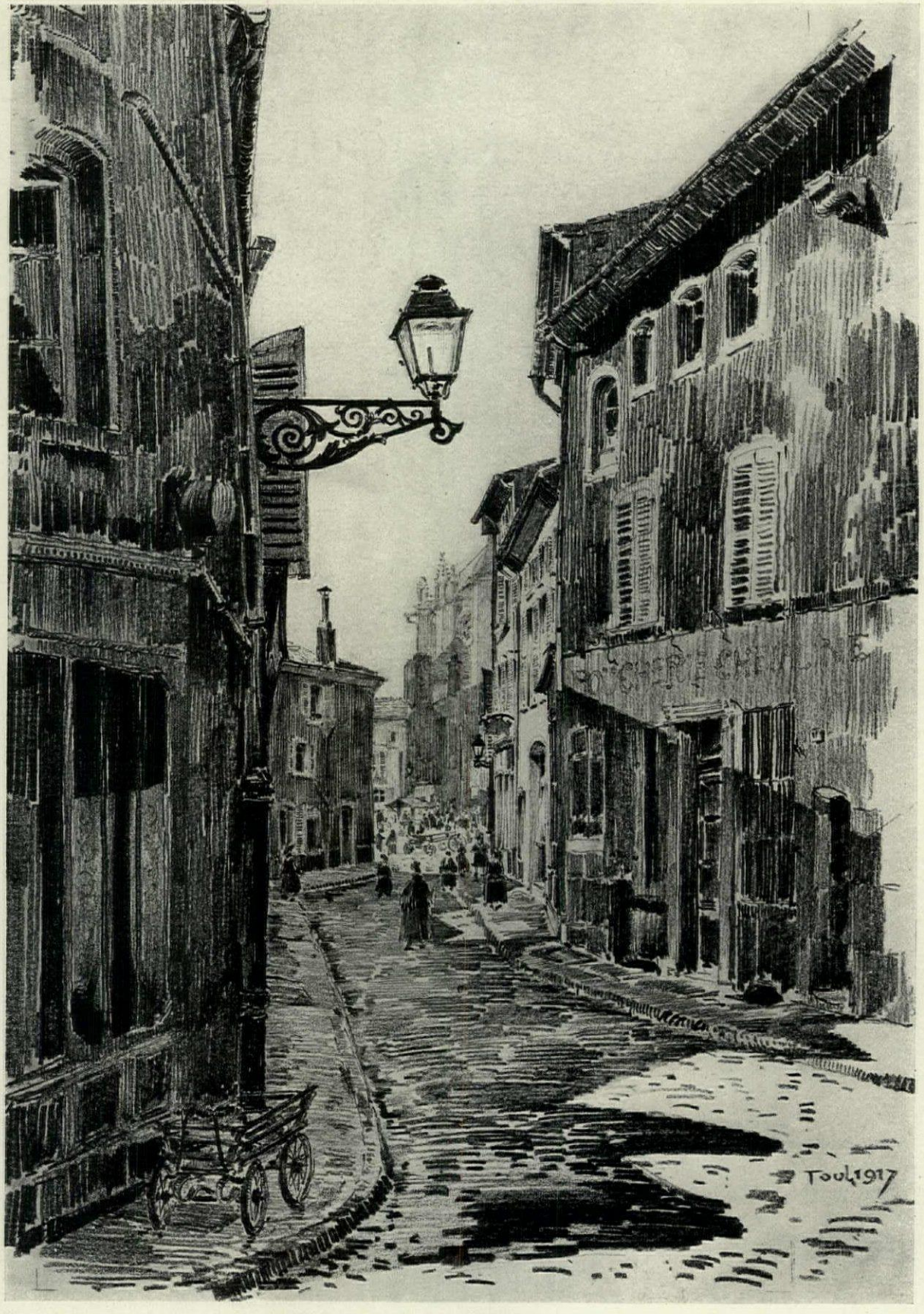
There are a number of other subjects which have occurred to us as worthy of consideration in our pages. What we eventually decide to do will depend in some measure on what you tell us you want. Perhaps there is some problem which has come up in your daily work concerning which you have had difficulty in discovering authoritative information. Let us know about it and we will make every effort to supply that deficiency, both for your benefit and for that of all of our other readers. Here is your golden opportunity to exert your influence in the editorial office.

Contents

French Comrades in America, III Camille Etienne Grapin *By Luther Lashmit*	195
Stone and the Draftsman, II *By Marion Davidson*	211
The Greek Spiral *By Richard S. Buck, Jr.*	219
Color Plates	*Insert*
Plates	227-234
Whittlings	235
Here & There & This & That	244
The Specification Desk	247
Service Departments	253

EDITORIAL AND BUSINESS OFFICES, 419 FOURTH AVENUE, NEW YORK.

PENCIL POINTS—*Yearly subscription, payable in advance, $3.00 to the U. S. A., Insular Possessions, Cuba and Mexico. Foreign subscriptions in the Postal Union, $1.00 additional for postage; Canadian subscriptions, 50 cents additional. Remittances by International or American Express Money Order or by Draft on a bank in the U. S. Payable in United States Funds. Subscribers are requested to state profession or occupation. TO SUBSCRIBERS: Instructions for change of address should reach us before the twentieth of the month to assure delivery of the forthcoming issue. Please give both old and new addresses. TO CONTRIBUTORS: We are always glad to receive manuscripts, drawings, etc. We will use due care with material in our hands, but cannot be responsible for damages.*



PENCIL SKETCH BY CAMILLE ÉTIENNE GRAPIN

OLD STREET IN TOUL, FRANCE

PENCIL POINTS

Volume IX April, 1928 Number 4

FRENCH COMRADES IN AMERICA, III

CAMILLE ÉTIENNE GRAPIN

By Luther Lashmit

CAMILLE GRAPIN IS Professor of Architecture at Carnegie Institute of Technology. He came to this post in 1923. His coming added another comrade to the noted band of French Architects teaching and practicing in this country, and gave added evidence of the faith of our architectural schools in the constructive influence of the École des Beaux Arts on the architecture of America.

Born in Burgundy in the little town of Savigny-les-Beaune, Grapin grew to boyhood in the eastern foothills of the Côte-d'Or in the peaceful beauty of the Burgundy landscape.

Dijon, twenty-seven miles away, was the goal of his first architectural adventure. There the numerous fine monuments of the Old Burgundy School, a rich heritage dating from the eleventh century, were the first influences to bear directly on the career which he had chosen.

CAMILLE ETIENNE GRAPIN

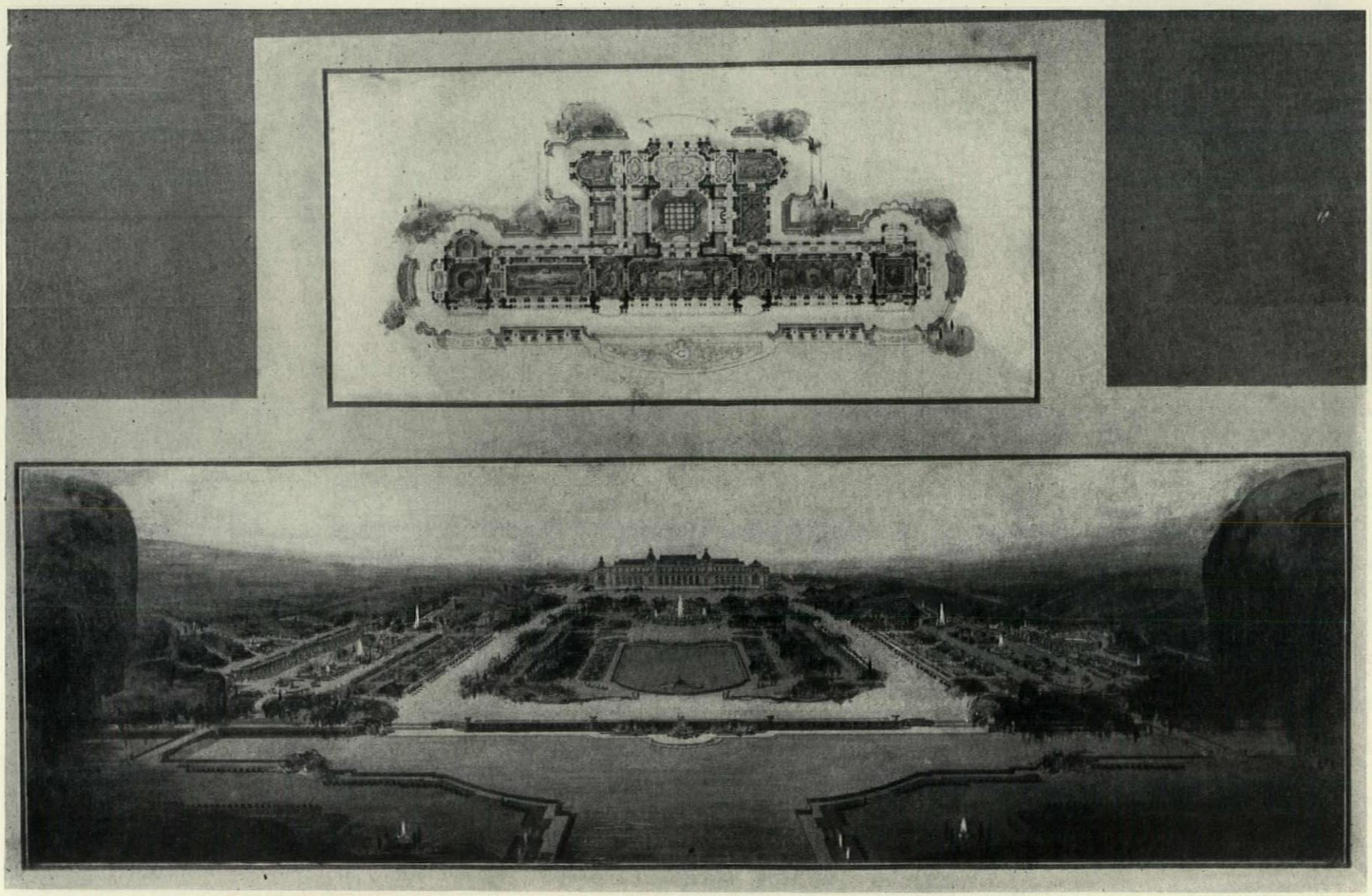
He began his studies at the École des Beaux Arts in Dijon under M. Danne, who had been trained at the *atelier Lebas et Ginain*. With a diligence and seriousness that has been characteristic of all his undertakings, he soon completed the preparatory requirements for the second goal of his ambitions,—admission to the École des Beaux Arts in Paris. In recognition of his talents his department of the Côte-d'Or gave him a scholarship for Paris enabling him to continue his studies.

In Paris he entered the *atelier Bernier*, famed for its good taste in architecture. Under the supervision of his patron he amassed a great knowledge of detail. By observing the work of older students he learned to evaluate his own work. By studying the exhibitions he learned to discriminate in the choice of *parti*.

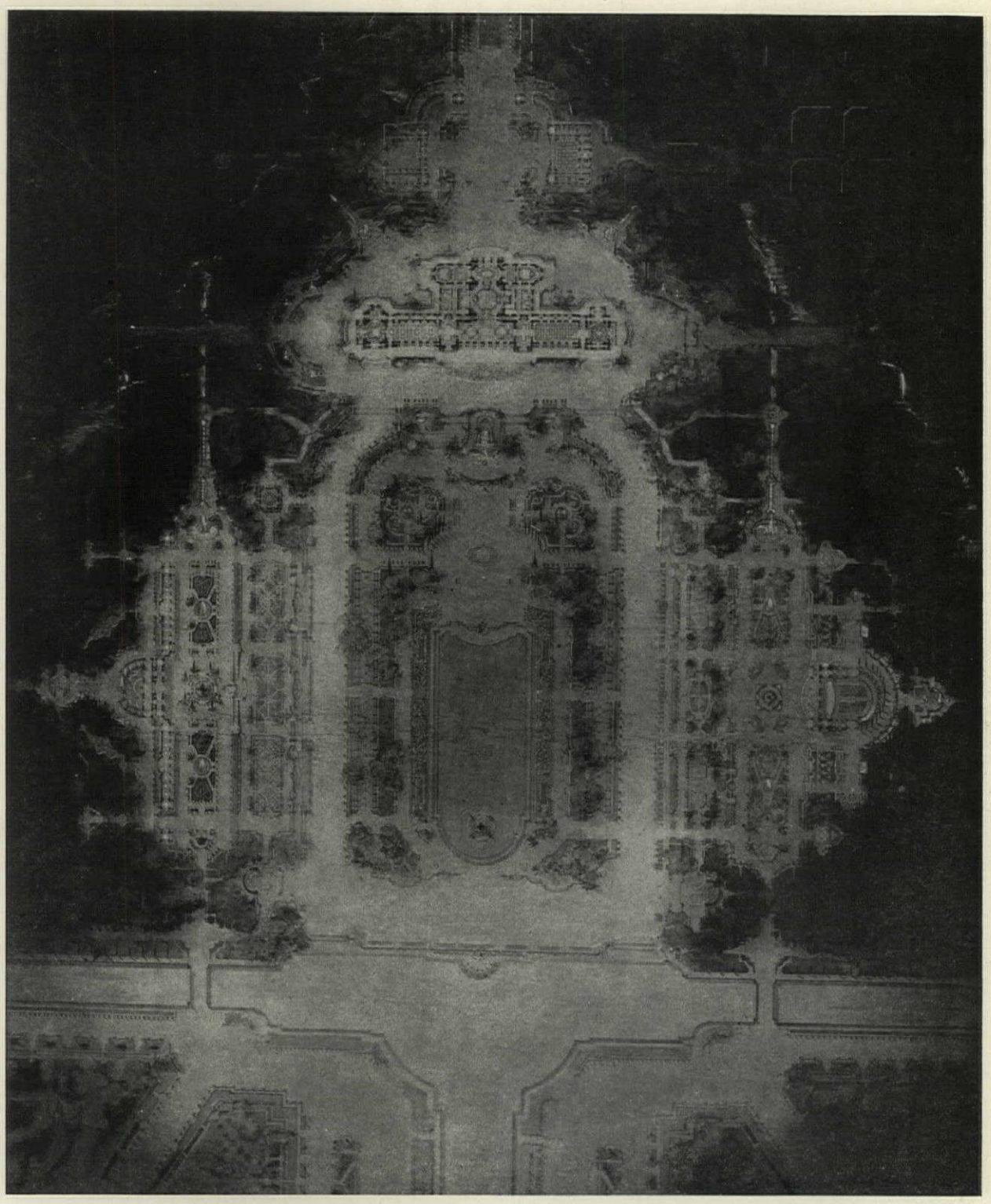
The successes of this period were many. In the first year he won the Muller-Schonée Prize for having received the most awards. In the second year he won the medal in mathematics and construction, and later, in the first class, the *Grande Medaille d'Emulation* for having received the most awards in the first class. In the years after were won the *Prix Labarre*, a *Prix Chenavard*, the *Prix Abel Blouet*, *Prix Stillman*, *Prix St. Agnan-Boucher*. And in 1914, the last year before the war, was attained the coveted position of *logiste* for the *Grand Prix de Rome*.

During the five years of war Grapin served in the army.

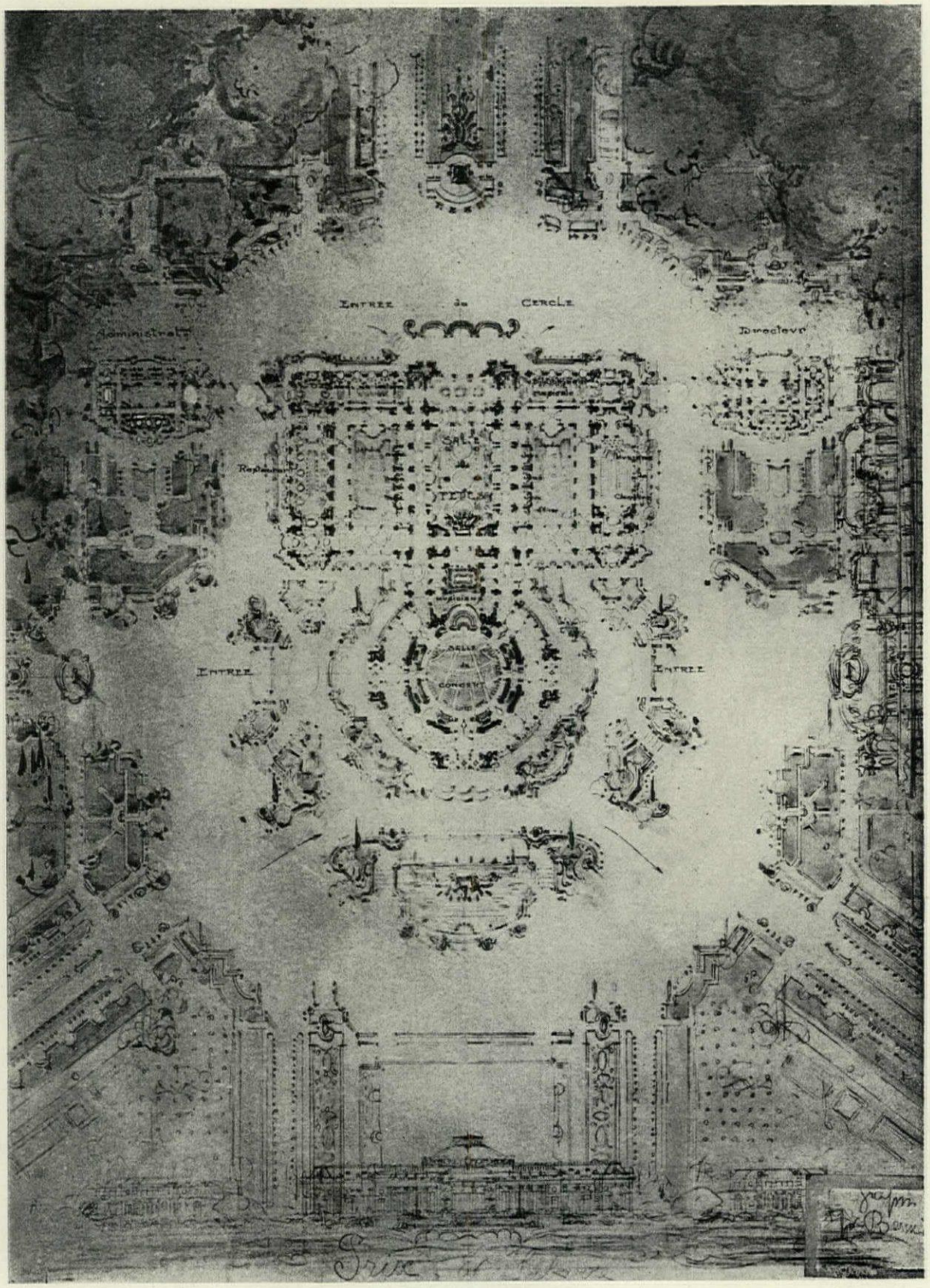
Returning to his studies he entered the *atelier Laloux*, where, under the guidance of "the master of broad and powerful compositions," he sought to link with his excellent training in good detail, learned at the *atelier Bernier*, a thorough understanding of



PLAN AND PERSPECTIVE BY CAMILLE GRAPIN FOR "UN CHÂTEAU EN PROVINCE"
SUBMITTED IN CHENAVARD COMPETITION OF THE ÉCOLE DES BEAUX ARTS IN 1914

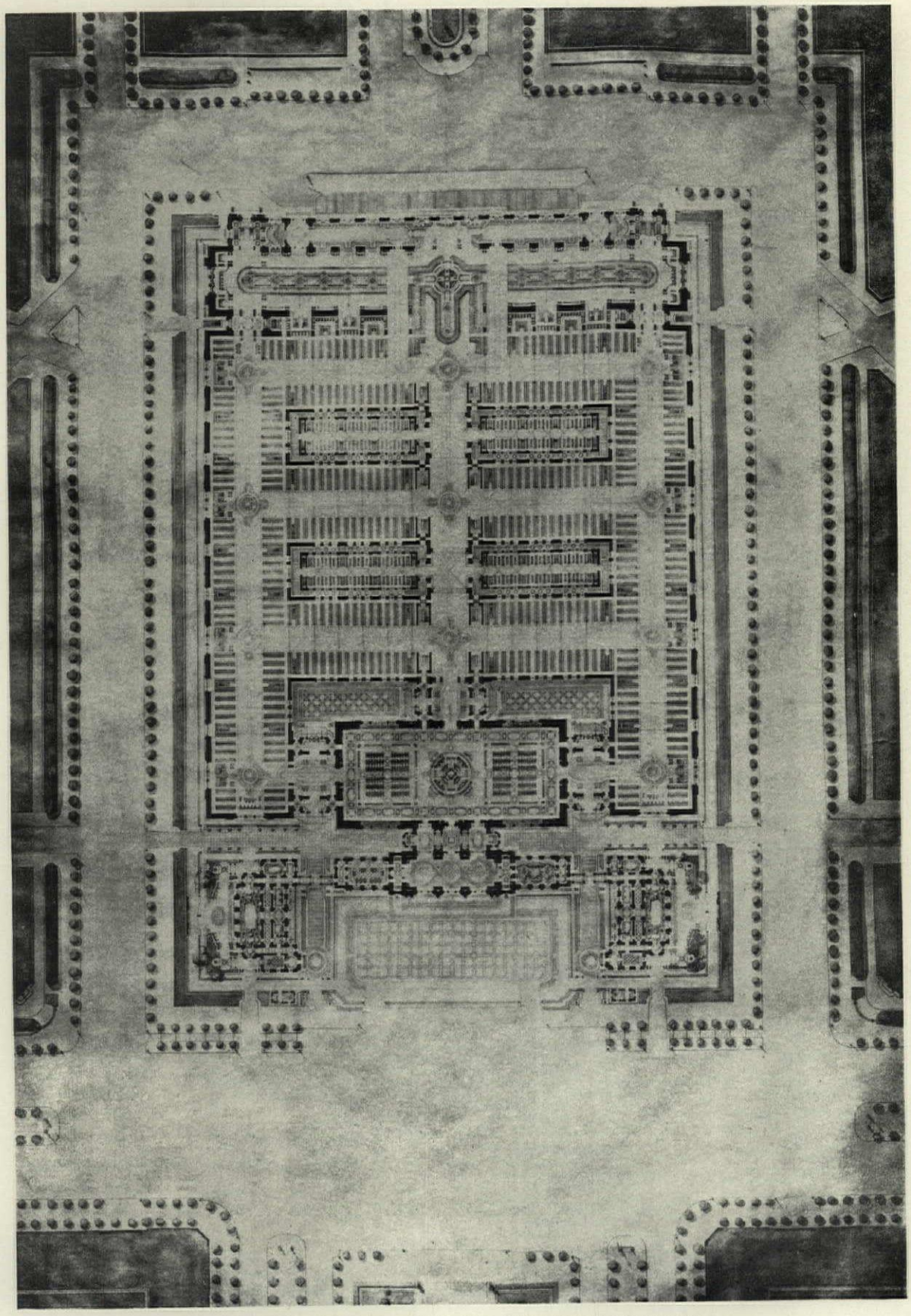


PLAN BY CAMILLE GRAPIN FOR "UN CHATEAU EN PROVINCE"
SUBMITTED IN CHENAVARD COMPETITION OF THE ÉCOLE DES BEAUX ARTS IN 1914



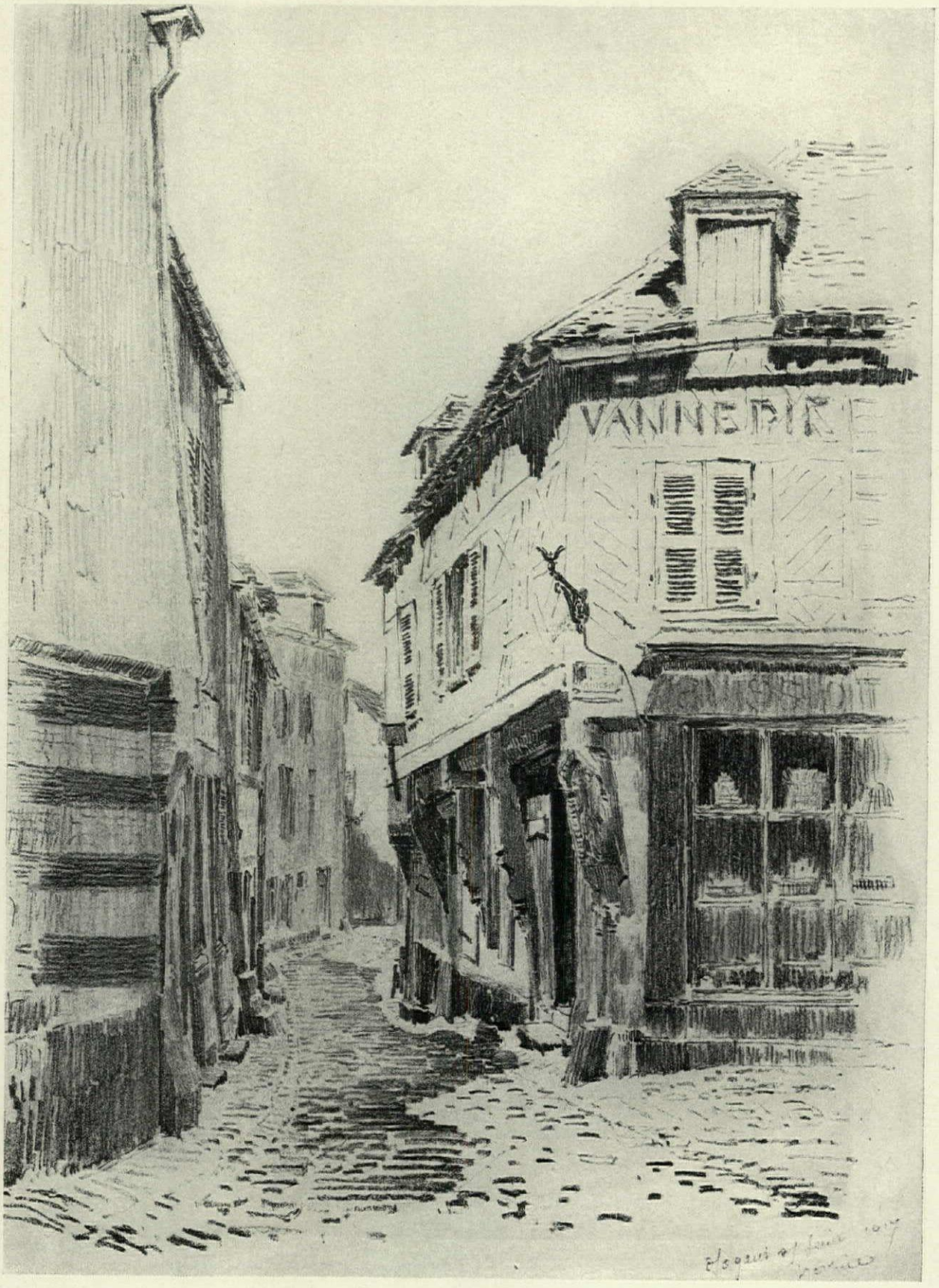
PLAN FOR "UN PALAIS DE LA MUSIQUE," BY CAMILLE ÉTIENNE GRAPIN

WINNING DESIGN IN LABARRE COMPETITION AT THE ÉCOLE DES BEAUX ARTS IN 1914



PLAN BY CAMILLE GRAPIN FOR "UNE HEMEROTHEQUE"

AWARDED SECOND PRIZE IN THE CONCOURS ROUX OF THE ÉCOLE DES BEAUX ARTS IN 1919



PENCIL SKETCH BY CAMILLE ÉTIENNE GRAPIN

PENCIL SKETCH BY CAMILLE ÉTIENNE GRAPIN

sound composition. His chief honors during this period were the second *Prix Roux* and the first *Prix Roux* a year later. The final and crowning achievement of his school days was the *Deuxième Grand Prix de Rome.*

When Grapin was *logiste* for the *Grand Prix* in 1920, Laloux wrote him a letter which is an interesting revelation of the character of Laloux for those of us who know him chiefly in legend.

"MY DEAR FRIEND:

"Just a line, not to give you words of encouragement—I know full well that you do not need any—but to explain, in a measure, our complete change of opinion.

"For some time already I have been embarrassed by the comparison of our study with your esquisse. It had an embarrassing effect upon me and my advice was concerned only with infinite details. At close range I was charmed; at a distance, when I saw only the whole, I was not quite so well pleased.

"Where I was wrong, I frankly admit it, was not to have expressed to you my regret before leaving for the country. Nevertheless, I believe that your esquisse is infinitely better than our work. It is much more individual, more original, more yourself. So let us come back to it without hesitancy. I am firmly convinced that you will not regret it.

"In your esquisse everything is better; the mass, the proportions; the general form is more impressive, greatly to the advantage of the whole composition.

"It took me perhaps a long time to realize it, but, on second thought, I believe that your esquisse is a good solution of the program, a clear and *decorative* vision and we were wrong in not being willing to accept it. Have therefore confidence!

"Does that mean that your studies will not be useful in attaining quickly the desired results? Do not think so. Your studies will be helpful in getting immediately at the details and will thus enable you to make up lost time.

"On the other hand, should you need some fellows 'to nigger' for you, in order to make up the days you lost, I shall find them for you.

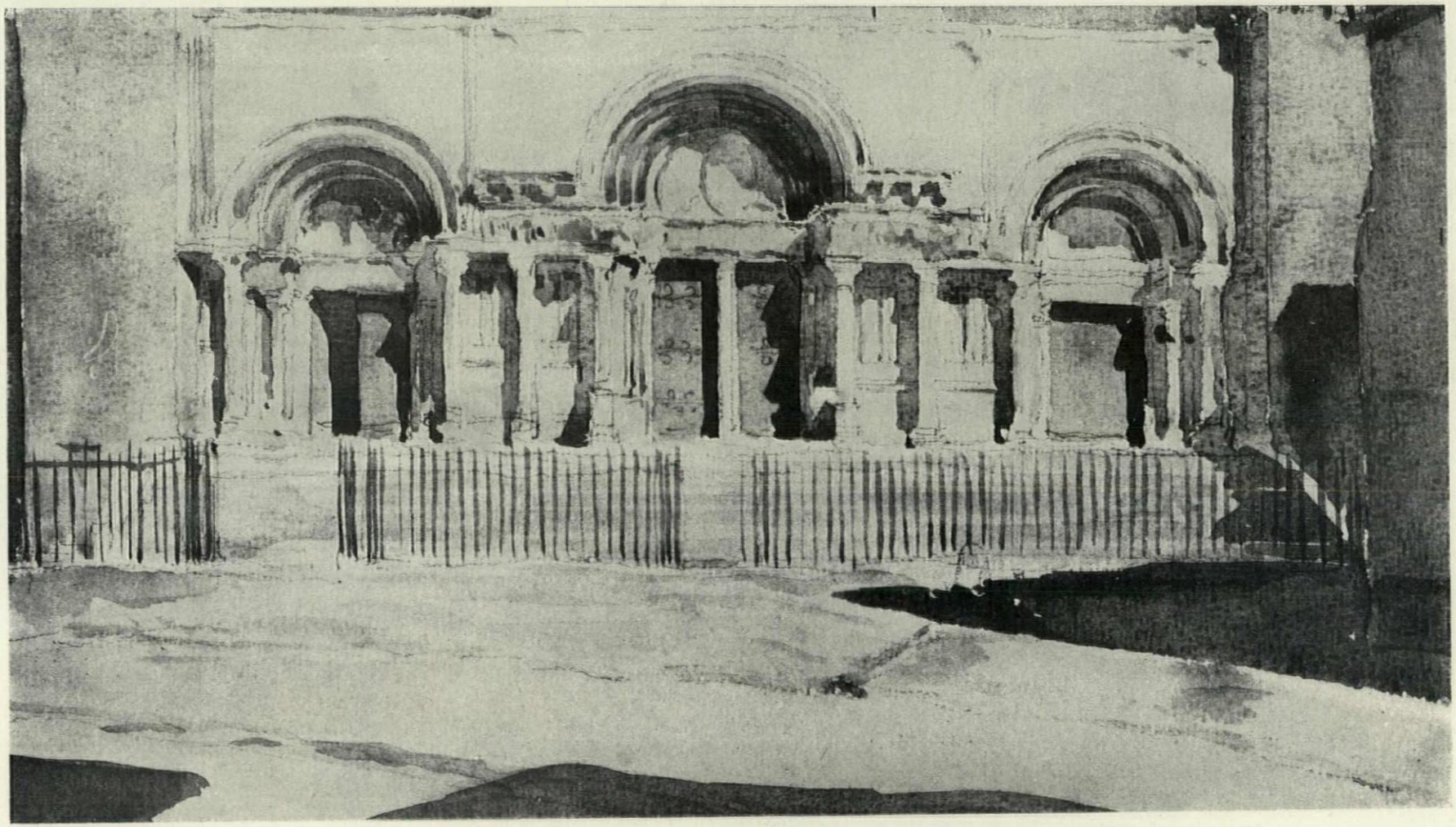
Sincerely yours,

(Signed) LALOUX.

"Cheer up!! I'll see you tomorrow."

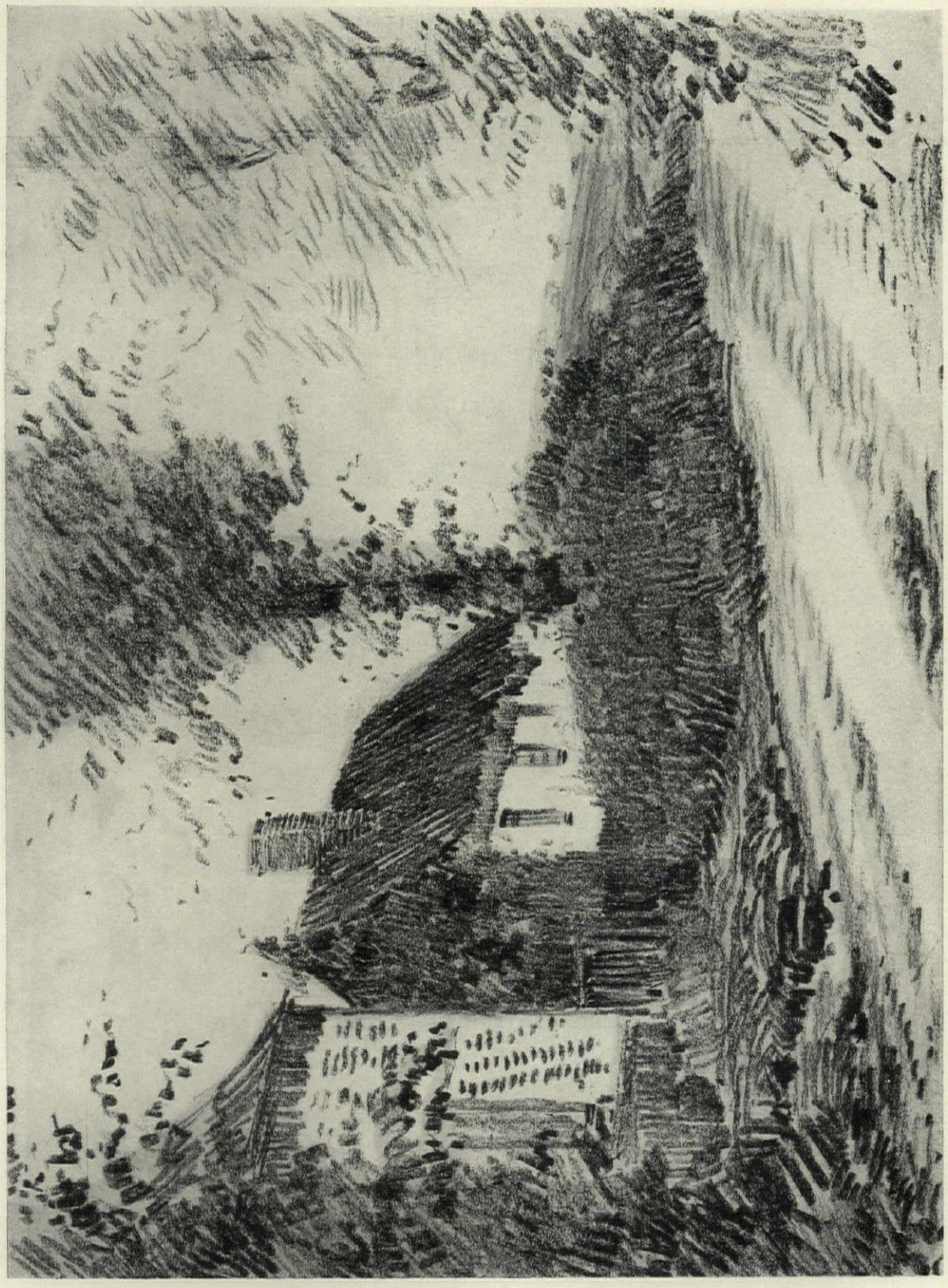
School days finished, Grapin spent some months in travel. Returning to Paris, he sought an appointment as *Architecte des Batiments Civils et des Palais Nationaux.* He was received second and named *Architecte Ordinaire du Palais du Louvre.* The position, being only honorary, was not accepted.

There followed a period of practical work in Milan and in Paris. In Paris he worked on the new

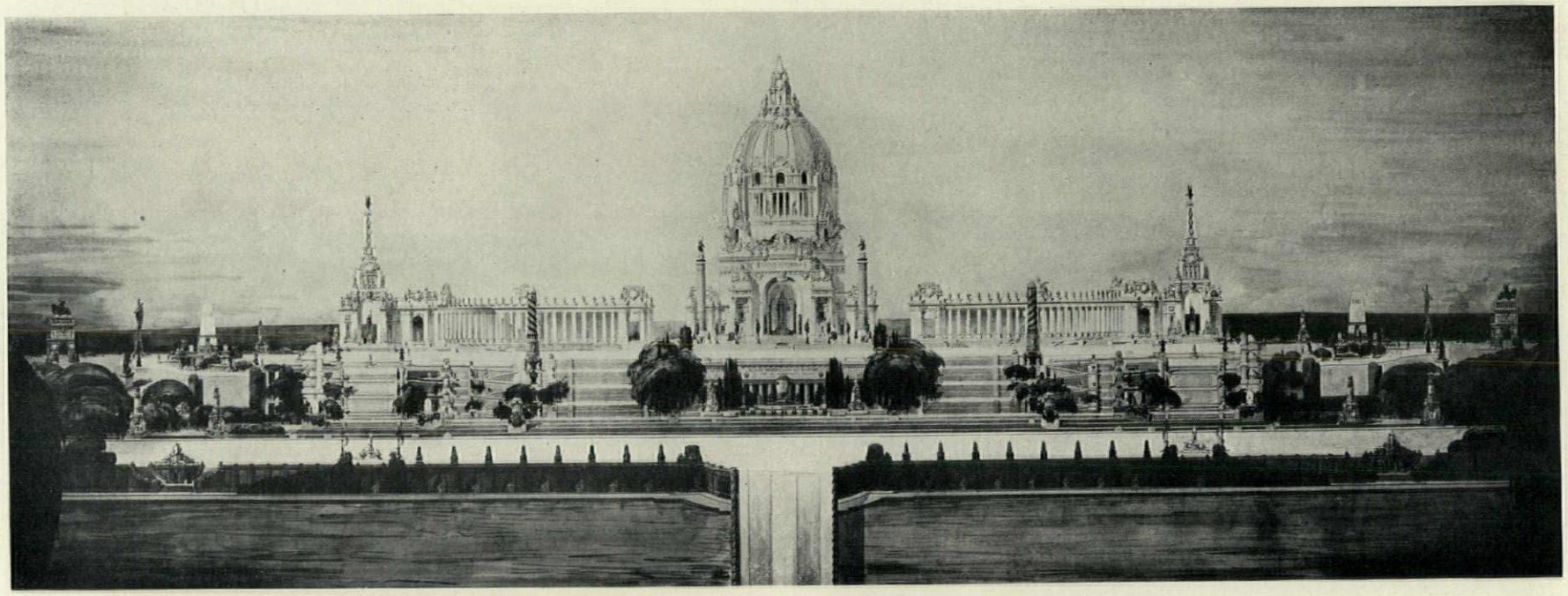


FROM A WATER COLOR SKETCH BY CAMILLE ÉTIENNE GRAPIN

"PORCH OF CHURCH OF ST. GILLES"

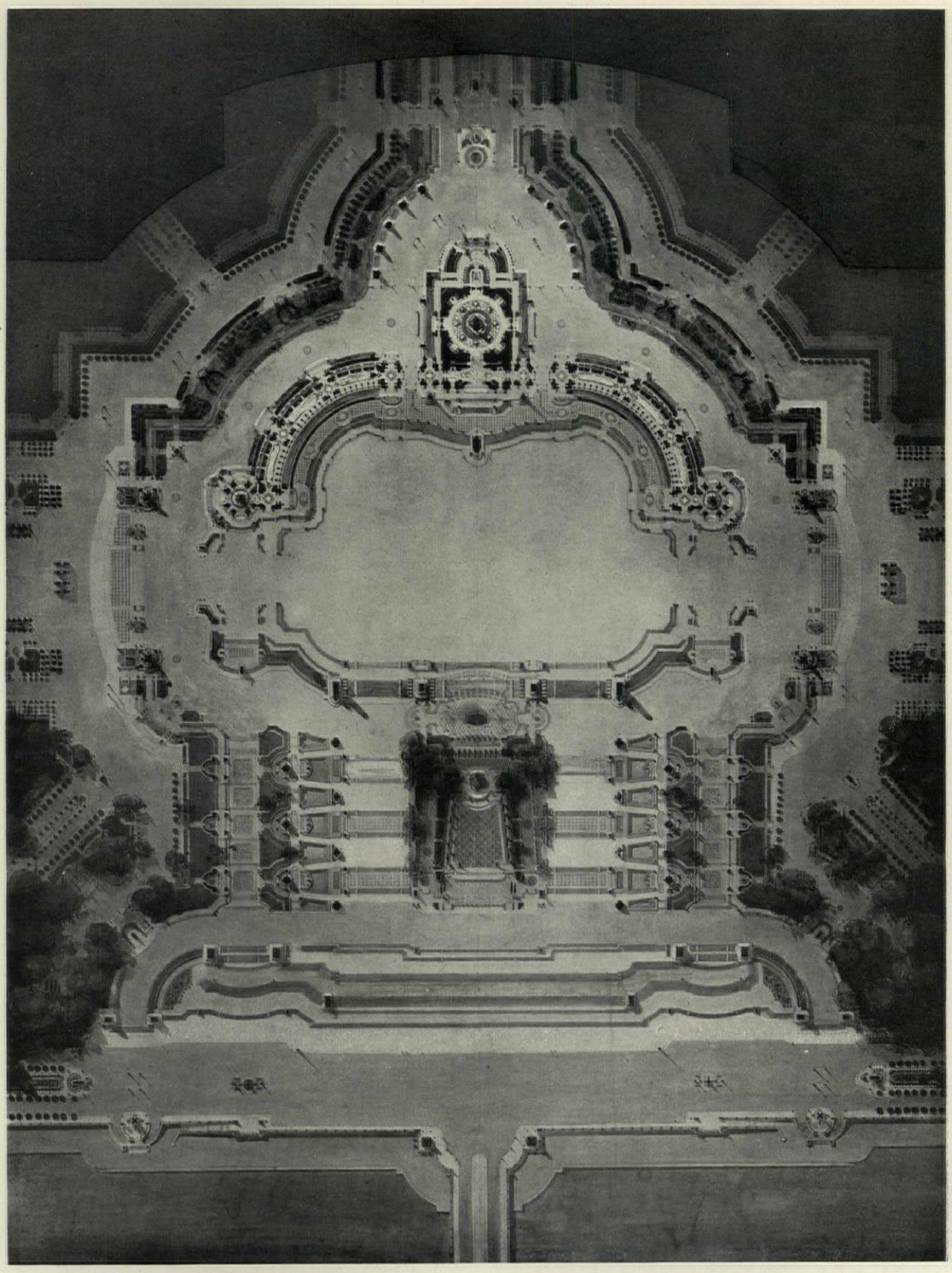


PENCIL SKETCH BY CAMILLE ETIENNE GRAPIN
"A ROAD IN BURGUNDY"

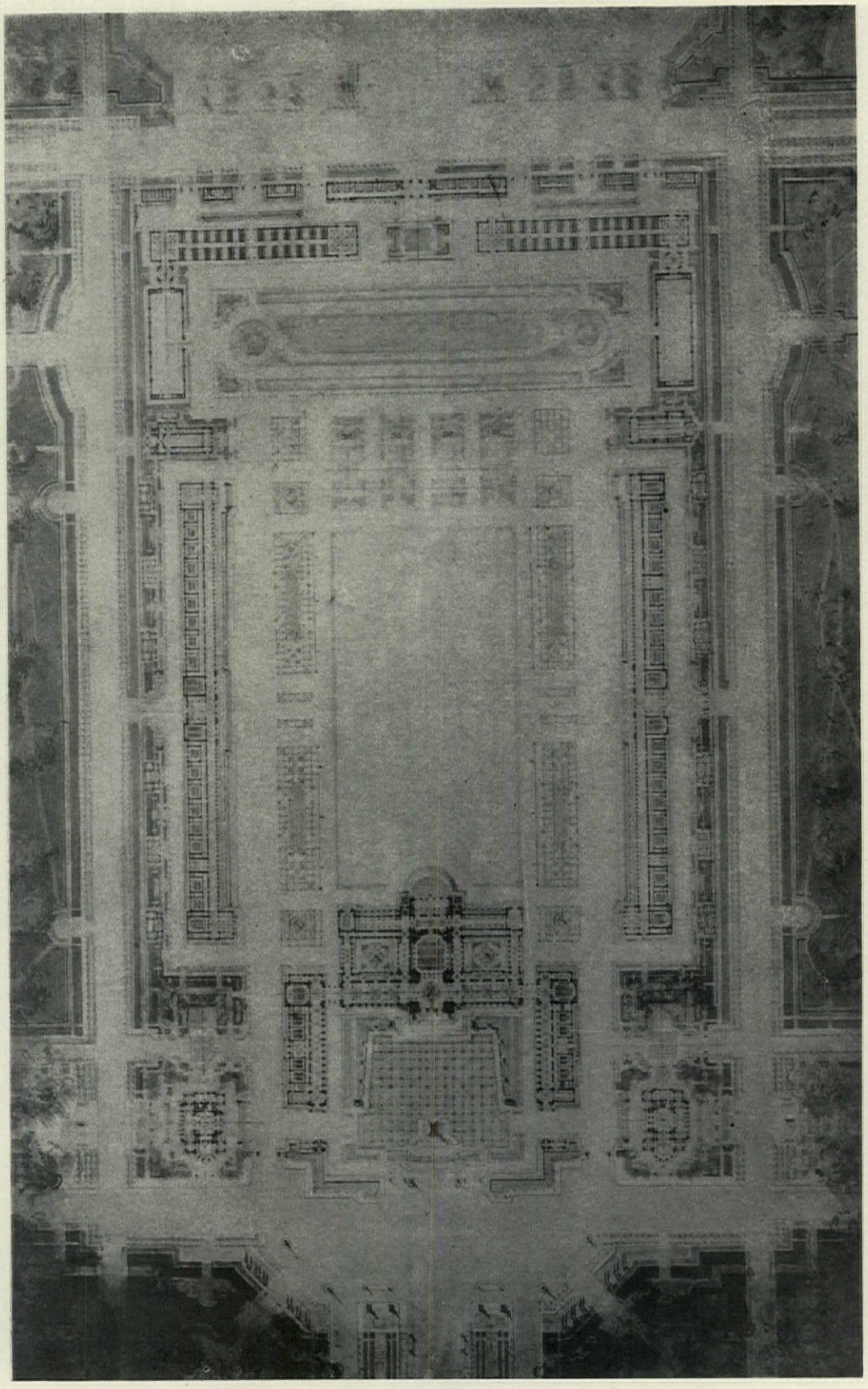


FAÇADE BY CAMILLE GRAPIN FOR "UN MONUMENT À LA VICTOIRE"

AWARDED SECOND GRAND PRIX DE ROME AT THE ÉCOLE DES BEAUX ARTS IN 1920 COMPETITION

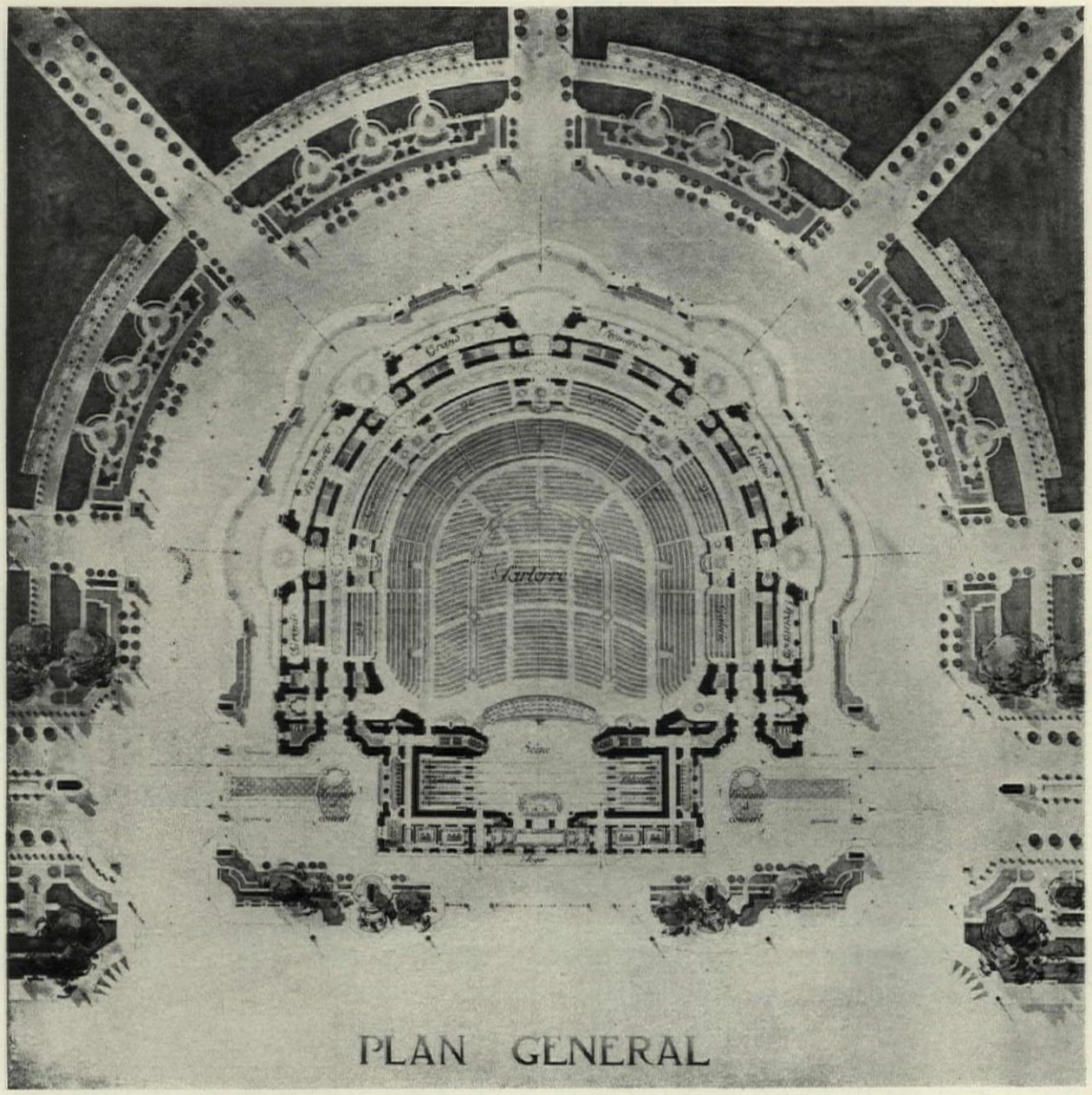


PLAN BY CAMILLE GRAPIN FOR "UN MONUMENT À LA VICTOIRE"
AWARDED SECOND GRAND PRIX DE ROME IN 1920 COMPETITION



STUDY BY CAMILLE GRAPIN FOR PLAN OF "ÉCOLE MILITAIRE"

DRAWN IN 1921 AT THE ÉCOLE DES BEAUX ARTS



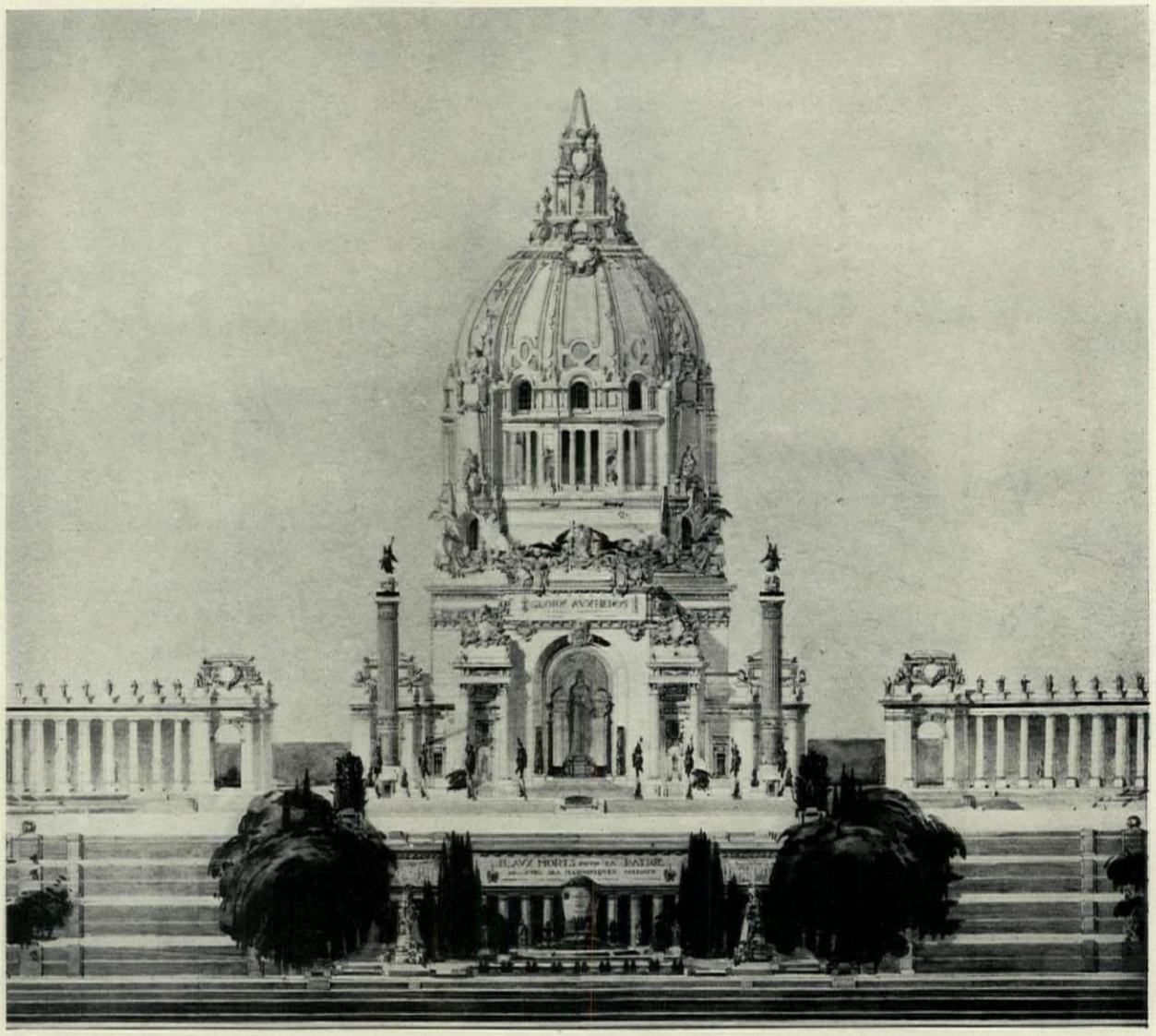
PLAN BY CAMILLE GRAPIN FOR "UN THÉATRE POPULAIRE"
AWARDED FIRST PRIZE IN THE CONCOURS ROUX OF THE ÉCOLE DES BEAUX ARTS IN 1920

abattoir, on a new railroad station for Le Havre and on the new *Cercle dec Officiers*. He did a competition for the new school of Decorative Arts and made several studies for the Automobile Club.

In 1923 he was asked to come to Carnegie Institute of Technology, as chief of the design faculty for the Department of Architecture. He is fulfilling his new duties with characteristic seriousness.

The projects chosen for reproduction in connection with this article consist chiefly of prizes won at the Ecole. Their technical and decorative qualities are apparent. The plan for a Military School is reproduced from a small scale study about twice the size of the reproduction. It is an interesting example of finished technique in indication.

Grapin's pencil sketches attracted attention at the Salon in Paris in 1921. An extract is taken from a criticism of the architecture at the Salon. "The presentations of ancient monuments are submitted in two ways: in geometric elevation and in picturesque views. The second manner does not belong to the architectural section, it belongs more to the realm of painting. A very useful exception would be to make this section accessible to the work of Cancelletto and Piranesi. Mr Grapin is represented there by his five pencil drawings of views of old Paris,



PORTION OF ELEVATION FOR "UN MONUMENT À LA VICTOIRE," BY CAMILLE GRAPIN
SECOND GRAND PRIX DE ROME DESIGN, 1920 (SEE COMPLETE DRAWING ON PAGE 204)

which are excellent pieces of work. Our painters of city views might take them as an example. Mr. Grapin draws with solidity and charming precision the fleeting perspective of streets. The lights and shades are treated with a perfect sense of effect . . ."

Among the reproductions a group of water colors is added. The two in color show sufficiently the real qualities of Mr. Grapin's work in that direction. It is regrettable not to have more printed in color for they have a brilliant effect.

Some of Grapin's thoughts on architecture, gathered from conversations, are set forth in the remaining paragraphs.

Architecture should keep pace with science, industry, politics. The scientist, the industrialist, the politician, have studied the accomplishments of the past. But they live in the present and meet modern problems with modern solutions. Every indication of progress in human effort can be traced in the concurrent material and spiritual life.

Achievements in architecture are no exceptions. But present-day progress seems to have been blocked by architects who cling too affectionately to the past. They call constantly to mind the antique monuments of foreign countries. The reflection of dead epochs is too apparent in their work. Clients are partly responsible for the persistent recurrence of abortive details of past styles. Having traveled, having seen charming bits of detail here and there, they demand the same things although climatic conditions, accessibility of material, structural difficulties may deny the logic of such demands.

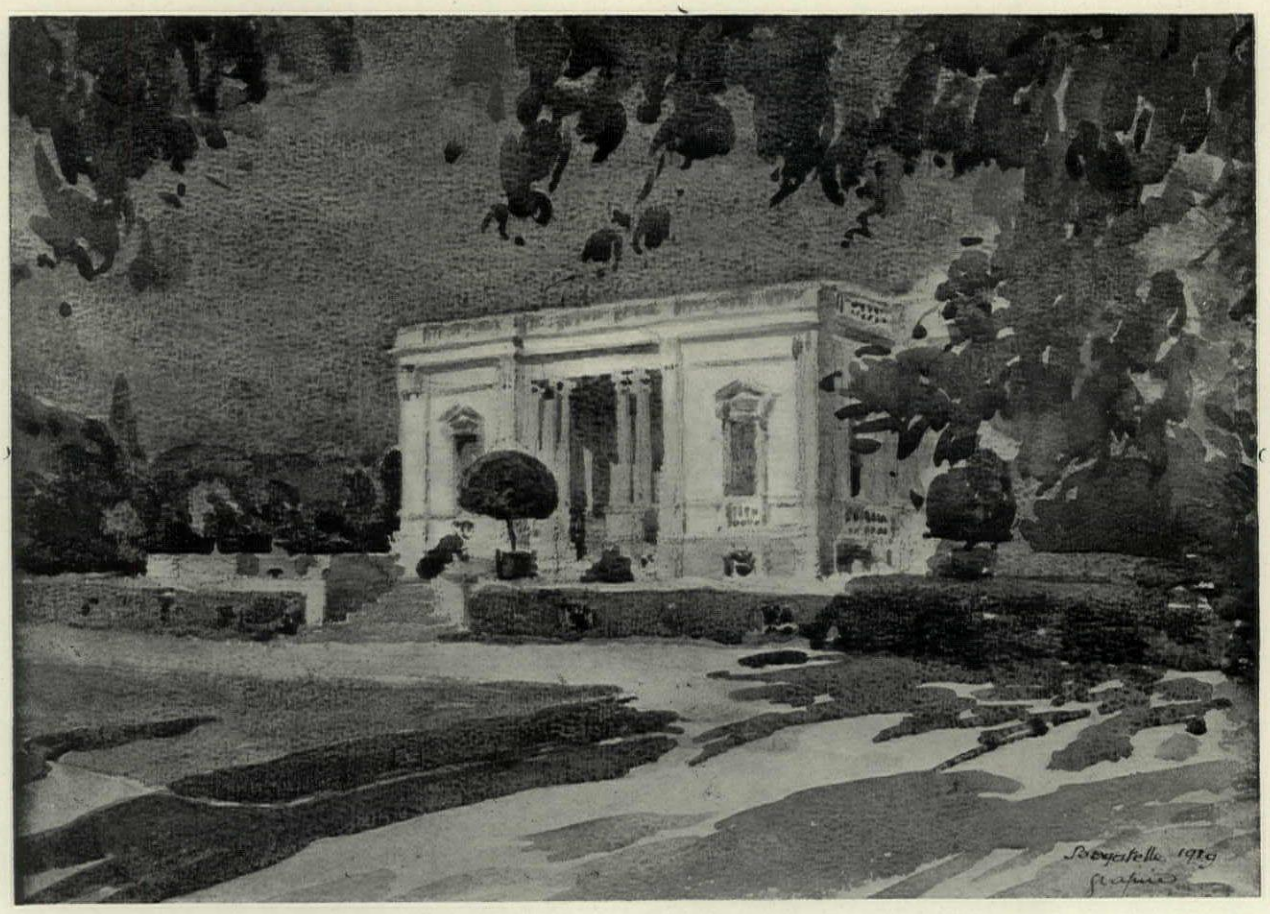
The realities of life today indicate new programs. Modern methods of mass production, processes of fabrication, new structural possibilities give new means of execution. Modern workers are not skilled

in the same way that Gothic workers were skilled. But there are compensations. Machines replace human hands. Pneumatic tools set a new character for carved details—steel and concrete challenge the imagination. Electro-chemistry and the blast furnaces are at the bidding of the visionary capable of producing a new wealth of products in polychrome terra cotta, colored glasses, metals. Photography makes accessible a wide knowledge of plant forms, animal forms and forms of marine life, from which can be taken fresh and interesting motifs for ornament. Microscopic photography is more modern still. From its revelations of microbe groupings and plant sections may be evolved decorative motifs of a superior sort.

Thus far attempts at "modernism" have existed chiefly in some changes of proportion and detail. The grotesque masquerade of present-day buildings is highly amusing. The architect chooses the costume. The engineer produces a skeleton to wear it. But all present-day buildings are not in masquerade. Some new skyscrapers, particularly, are apparently sincere in their outward appearance. They may be the first fruits of a new era. It is only through a shameless recognition and a frank acceptance of modern structural and decorative elements that continued progress in architecture is possible.

Perhaps the most valuable lesson in building should be learned from nature. In animals, for example, structure and beauty of finish are achieved directly and purposefully with the elimination of all unnecessary things.

New ideas take root slowly. But it is encouraging to see the very interesting attempts of the younger generation. Older minds, entrenched in the easy security of an acceptable past, are sometimes hostile to the spirit of change. Younger minds, lacking assurance, hesitate to impose their thought. But as there is no imperialism in architecture and as youth asks to be understood, it is the duty of every architect to assume part of the responsibilities of the present and to encourage new essays. In spite of the respect we owe our ancestors we must make way for youth!



WATER COLOR BY CAMILLE ETIENNE GRAPIN—"BAGATELLE"

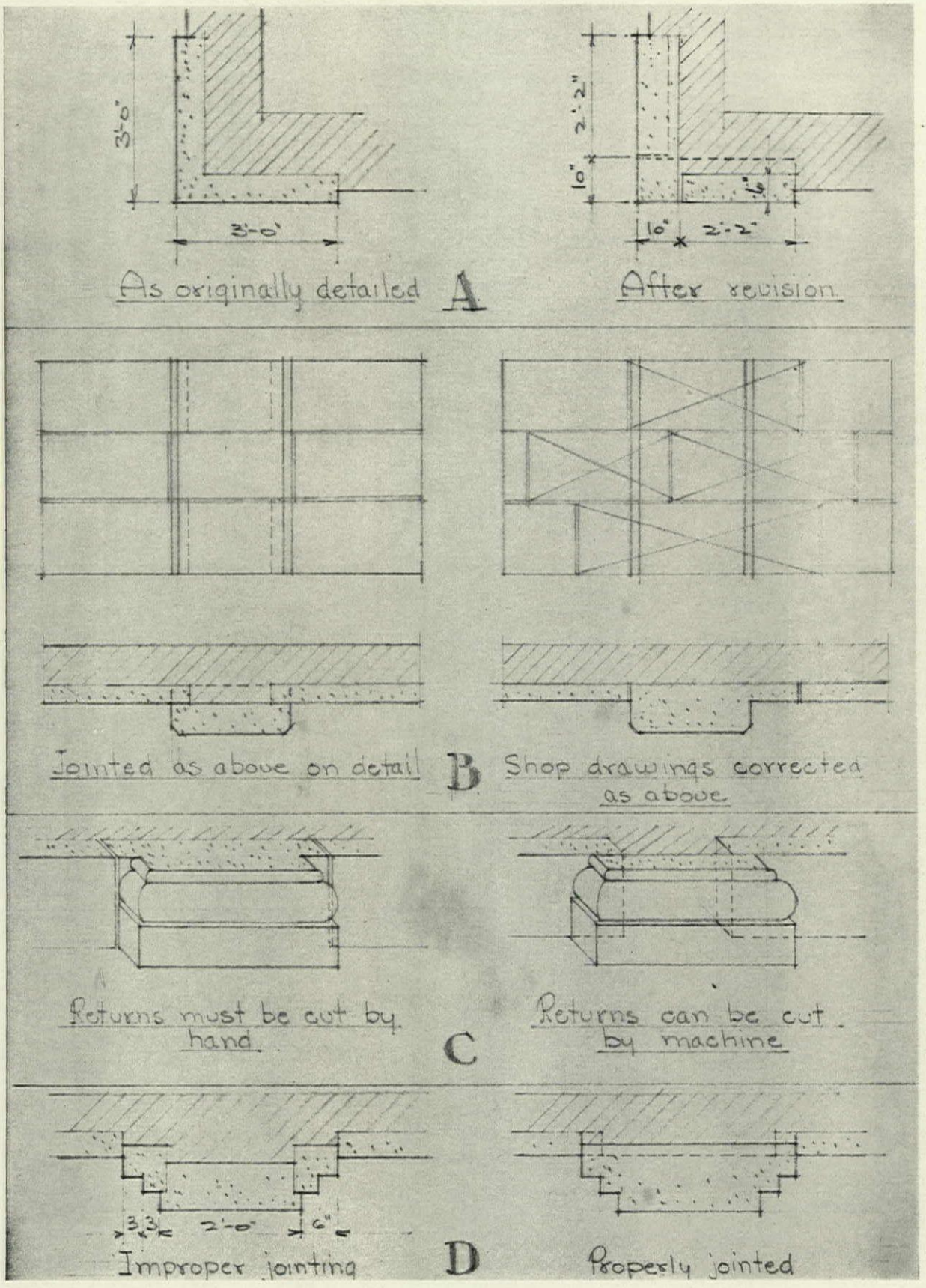


FIGURE 1—SKETCHES TO SHOW COMMON ERRORS IN DETAILING STONE

(See text opposite)

STONE AND THE DRAFTSMAN, II

By Marion Davidson

EDITOR'S NOTE:—*This article continues the discussion of stone begun by Mr. Davidson in the January 1928 issue. In this installment he takes the question of detailing stone on the architect's drawings and on the stone shop drawings and brings out a number of points which should be of assistance to the draftsman.*

EVERY GOOD DRAFTSMAN is a jack-of-all-trades. Isn't it logical for him to know about the working qualities of the materials incorporated in his plans, when he expects contractors to follow these and produce a successfully executed building? Whether detailing bronze or glass or stone, or writing a specification for a Twentieth Century wine cellar, where a good man may be down but not out, he must constantly see through the eyes of each trade or else the drawings do not carry their message.

Of the three operations described in this series, his closest contact with the work of the stone contractor is during the preparation of details and the checking of shop drawings for the process of manufacture. Frequently, however, drawings show information that is incomplete, indefinite or contrary to common practice and which may have a bearing on the preparation of estimates and the execution of the work. It is difficult to describe semi-technical subjects without dropping into a matter-of-fact style which soon becomes irksome and dry reading, and while we guard against this inclination, we hope that wa may write simply and briefly and that our discussion will cover at least a few items which may assist the man in the office when working on stone.

In the first place, the purpose of working drawings and particularly scale-details includes presenting proper information for contractors to prepare intelligent estimates as well as for them to follow in constructing the building. In order to take off the quantity of stone in cubic feet, the size of each member must be obtained; but often important sections and plans through belt courses, lintels, cornices, and joints are lacking, and the estimator must ask innumerable questions or just guess. As a rule too few sections are drawn. It is surprising what is left hidden and what they can bring to light Courses in walls should be only deep enough to secure sufficient bond in the wall and balance for a projecting portion—further depth is excess stock, costing additional freight, increasing the expense of handling and likely requireing extra hand cutting for back-checking on the building, but adding nothing to the face of the stone.

A characteristic that is almost universal with all men who draw and which requires a constant guard, lest it become natural and difficult to shake, is visualizing the units of construction at a reduced scale from what they actually are. The author speaks with the background of several years' experience making architectural details when this tendency of running in too much detail and drawing at too small scale, rather than too large, continually followed and haunted him. Frequently, this inclination will cause draftsmen to dwarf the units of the architectural members, and when these are stone, it becomes a serious fault, because the physical properties do not lend to an economical fabrication at an extremely fine scale. This of course affects especially the joints—their location, size, and number.

We want to mention an incident which illustrates the habit one is likely to acquire unsuspectingly. An excellent draftsman, who had been working continually for several weeks on eighth-scale drawings received the first batch of shop drawings to check for a 4-cut granite base course. After several days these were returned with a mass of corrections, neatly lettered in yellow crayon, showing that the location of many joints had been shifted by only one-sixteenth inch. Besides being waste of time, this extreme checking was impractical because the material could not be cut this accurately—but the project was large, and by the time the last shop drawings had arrived this same man was allowing a latitude of ¾″ in establishing the location of joints. The point is: after he shifted from working at eighth scale to checking shop drawings, one-sixteenth inch still remained in his mind as meaning six inches.

Ashlar cornices and belt courses, but particularly ashlar, are shown repeatedly as jointed, both horizontally and vertically, into too many courses and pieces, preventing an economical manufacture and setting of the stonework, for the reasons that each joint requires two beds to be cut and a small piece costs approximately the same to handle as a stone of large size. It is worth while to remember that the heights of courses above the eye-level are often foreshortened and the joints appear nearer together. The locations of vertical jointing are not always sufficiently studied on scale details to obtain the best result. Sketches A, B, C, D in Figure 1 are portions of drawings that have been picked at random from architectural details to illustrate conditions that have occurred.

The left-hand plan of A is through a corner pilaster in which no vertical joints were indicated on the ¾″ scale detail, consequently the cube was figured on the basis of 3′-0″ x 3′-0″, the size of the pilaster, for ordinarily no allowance is made for the stock

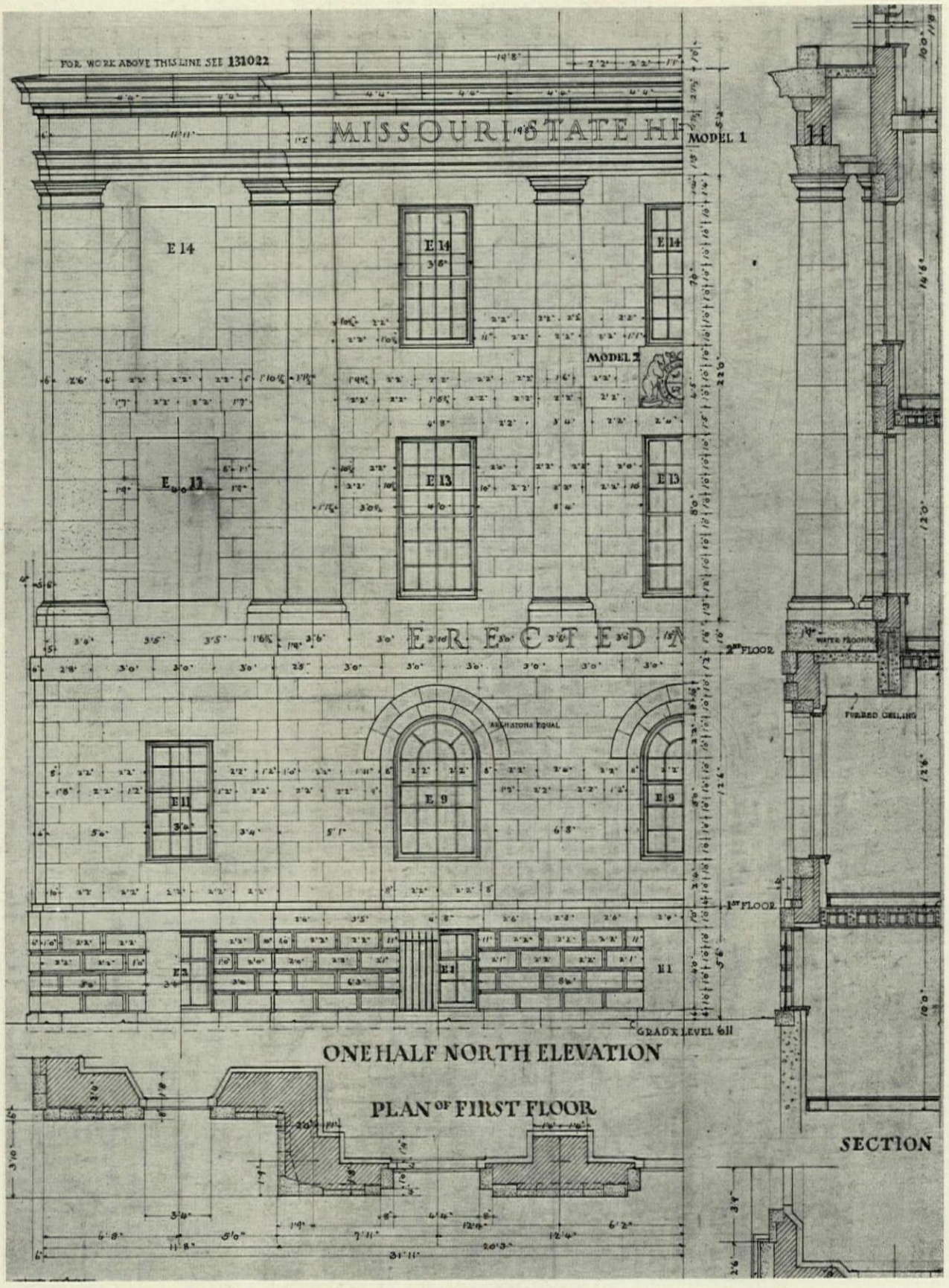


FIGURE 2—PORTION OF ¼ INCH SCALE DRAWING FOR MISSOURI STATE HIGHWAY BUILDING
EGERTON SWARTWOUT, ARCHITECT

checked out in the back. The proposals on the basis of this detail were far above the budget established for the stone, but by alternating 10″ heads in the faces, illustrated by the right-hand plan, the cost was reduced several hundred dollars. This illustration is applicable to headers and returns at corners that often can be similarly jointed to reduce the cost without lowering the standard of the work.

The left-hand sketches of B are copied from a detail which showed the method of jointing a series of wall pilasters. The stone proposal was made up and shop drawings prepared on this basis, but when these were returned for correction, the joints had been changed so that most of the pilaster stones were integral with the ashlar. Obviously this was a more expensive method of fabrication because of increasing the amount of stock and requiring all the pieces to be manufactured or special, for no two are alike. We believe the stone contractor was justified in howling, which he did, because the pilasters occurred at a high elevation where this special jointing would neither be expected nor count for much. The object, of course, in changing the joints was to prevent the irregular line of the alternating joints occurring in the corner, which is a refinement and to be recommended for monumental work. Buttresses and piers that project from walls in all high-grade work demand a certain number of stones cut integral with the wall and buttress to break up the joint line in the corner. If these are expected the stone contractor ought not be misled by the details into estimating on a cheaper method. Along with all of us he desires to keep worry out of his face and poverty off his back.

Jointing of architectural members similar to the pilaster bases in C are rarely ever indicated as jointed in a definite way so the estimator will know whether handcutting will be necessary on the return, as the left-hand base, or whether it can be cut entirely by machinery as the other. One of the two methods should be shown. Pilaster caps and returns in general often need the same information to be established.

In sketch D the draftsman went too far in skinning down the cube at the expense of manufacturing and setting, for the two small pieces ought to have been combined with the large center stone that could have been made and set cheaper than the three pieces. Although the cube is increased, the cost of the extra stock is more than offset by the saving in the mill operation, and the elimination of the two vertical joints by combination will produce a better result. The setting of the piers on the building where this occurred ran high and similar instances are worth anticipating and preventing.

The examples that have just been mentioned are typical of many that could be given of instances where draftsmen can assist in portraying to the stone man practical information for preparing a just estimate and receiving good work.

The kind of stone, the finish and the size of individual stones determine to an extent the size of joints. One immediately reasons that a coarse-grained stone will not work to a joint as small as a stone with a fine texture; and that large pieces have a tendency to increase the size. Generally, architects desire joints as narrow as possible, often too small for the working qualities. In everyday practice 3/16″ and 1/4″ are the rule. Stone men prefer the latter because dimensions are easier to figure but it is our opinion, after checking many joints on a building, that 3/16″ should be specified if a thin joint is wanted and the stone is fine texture with a smooth or fine tooled finish. This size permits a sufficient bed of mortar between the stones, and if slight variances occur in their sizes, which do because of the inability to work the material to small fractions of an inch, these variations are less noticeable in 3/16″ joints than in 1/4″. Truthfully, horizontal joints tend to run oversize and vertical joints run under. Occasionally ⅛″ joints are wanted, but unless the material is suitable, like marble, or the joints are in sculpture, we don't believe they work out practically. With gang saw finishes and some hand-tooled surfaces, the joint sizes run up to ⅜″ and in cases where the ashlar is broken to sizes they may be as large as ¾″.

Unfortunately jointing in sculptured work is often disappointing, for sculpture is habitually designated on the plans with an apologetic note, something like "Leave stock for sculpture" or "Sculpture—see later detail" because the subject has not been approved, accepted or decided. Frequently the stone is set before the motive has been settled and in this case it is always advisable to confer with the stone contractor so that large stones and small joints can be secured, as joints have an unhappy manner of coming in wrong places. An instance is recalled where each of three figures in the same panel had a vertical joint splitting its face as accurately along the nose as Mr. Tell split the apple. The jointing of the sculptured frieze in the Liberty Memorial at Kansas City by Mr. Magonigle is excellently laid out. By slight humoring on the job, the carver will hide most of the joints.

In dimensioning stonework the heights are measured from "bed to bed"; that is, from the top of one stone to the top of another. Dimensions on details should be the same. Horizontal lengths are figured from the center of the joints. Mr. Egerton Swartwout furnished us with the interesting detail, Figure 2, which he made of the Missouri State Highway Dept. Building. At the first glance one sees that a large portion of the rusticated base course and a still greater percentage of the plain ashlar field is typical in size; i.e. 2′-2″ x 1′-0″. The arch stones are equal and the headers are carefully dimensioned. Mr. Swartwout says that these stones more or less happened to work out at these sizes, but the important point is that by the application of a few dimensions every stone estimator

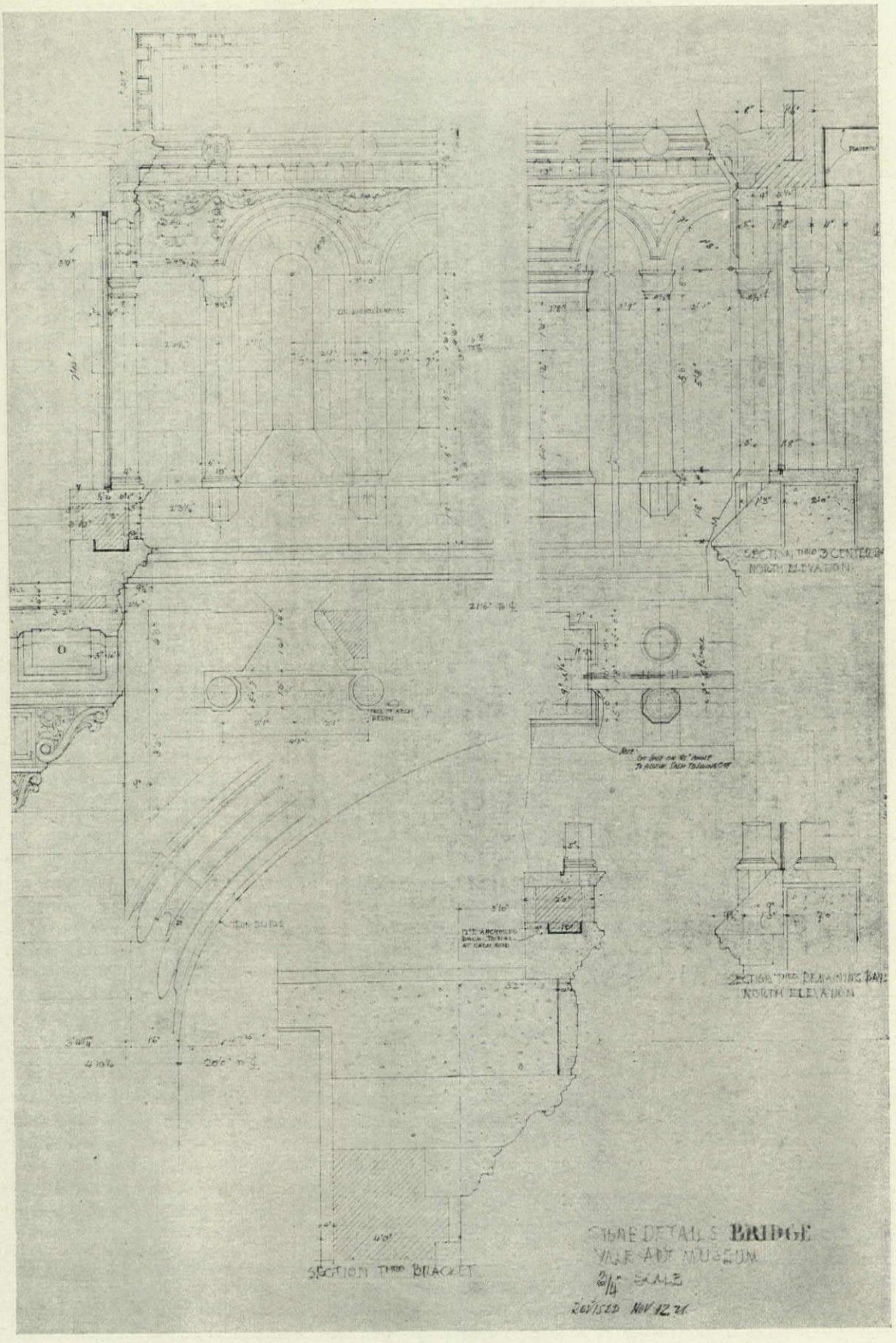


FIGURE 3—PORTION OF ARCHITECT'S ¾ INCH SCALE STONE DETAIL DRAWING
YALE UNIVERSITY ART MUSEUM, EGERTON SWARTWOUT, ARCHITECT

will be impressed immediately by the fact that a great number of typical stones exist; which means simplification in ticketing, listing, and making patterns in the drafting room, of handling in the shop and setting on the building. We venture that the prices in connection with all items of stonework shown on this building were the best obtainable and we also think that many items, such as this, which escape draftsmen, are worth while and tend to give the stone contractor a better insight into what he be required to do if he obtains the contract. For example, voussoirs in many arches, particularly Gothic, vary in size, but instead of actually making all the stones different, several typical ones can be made and the variation secured by shifting their location in the arches.

The areas of ornamental portions that are to be carved should be defined on scale-details and some idea of the character of the carving given, but on full-size details it is a waste of time to do elaborate drawing for work to be modelled since this binds down the modeller and is later confusing when models are completed. Wherever models are wanted for ornament it is a good scheme to number them in the approximate numerical order in which they will be required in the building and to define each area to be modelled by a line enclosure on the plans. If mouldings such as pediments occur within these limits, it is most advisable to describe in the specification or by note on the plans whether or not these are to be included with the model. Sometimes both carving and modelling contracts are let directly by the architect. If the former is done during the construction of the building it is better for its progress to have these contracts let by the general contractor, for the time schedules of many other trades hinge on the work of these artisans; but unless their contracts are made directly with the general contractor, he is not legally recognized by them and sometimes, for this reason, he finds it difficult to secure their cooperation.

Where letters go, indicate the number, kind (incised or raised), and the size. Have we ever carefully lettered in the word "Suscription" and hopefully expected it to cover any wording from "Let there be Peace" to a list of the names of the building committee?

The contracts for the windows and stone in a building ought to be let immediately after excavation, foundations, and steel. We include windows with stone to lay emphasis on the fact that the type must be decided so their sections can be incorporated in the

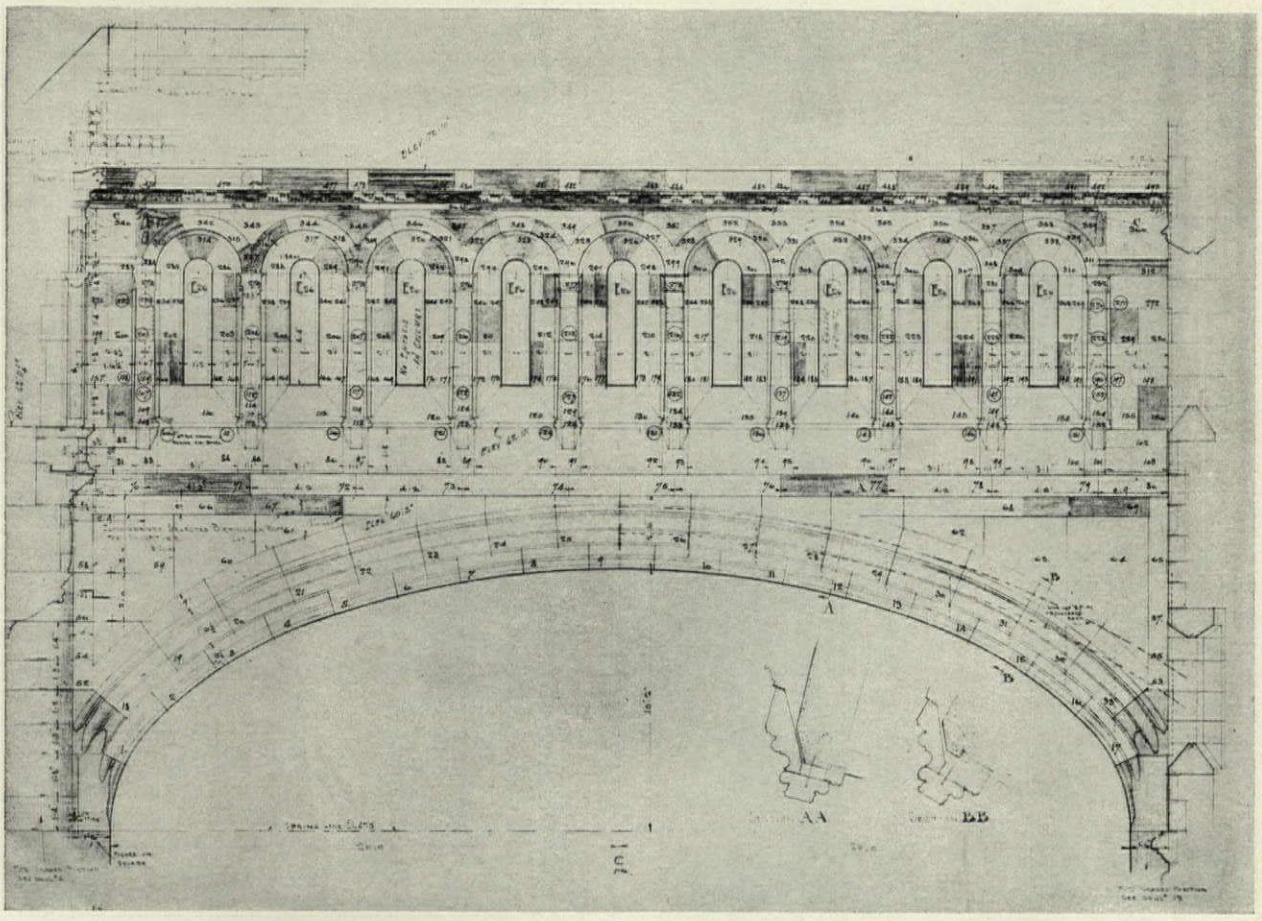


FIGURE 4—STONE COMPANY'S DRAWING FOR BRIDGE, YALE ART MUSEUM

MADE FROM ARCHITECT'S DRAWING SHOWN OPPOSITE

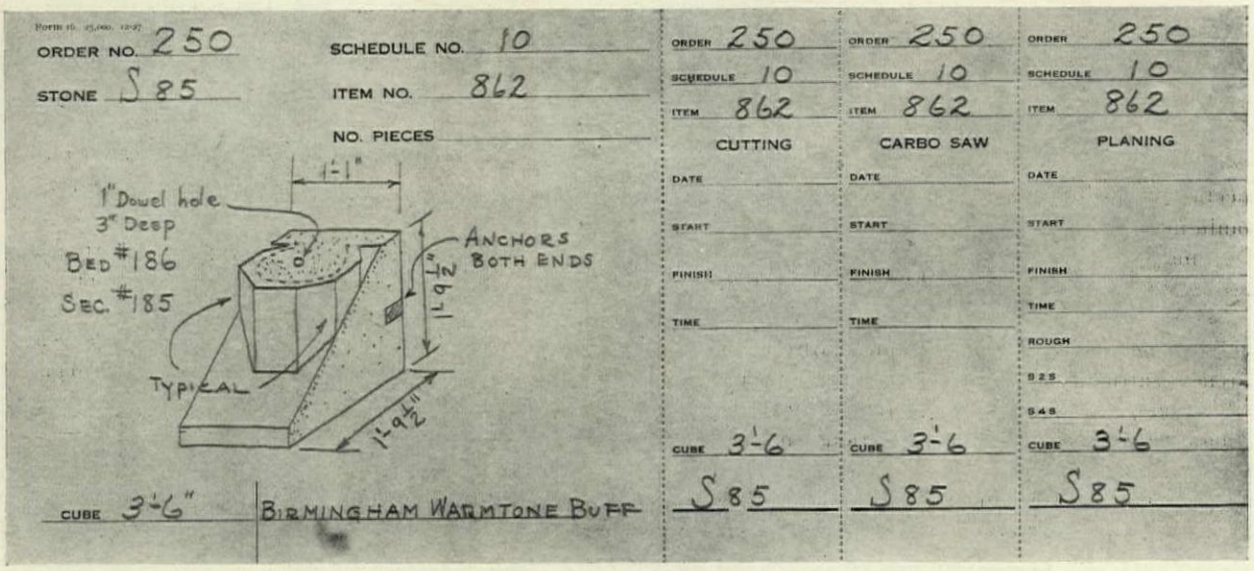


FIGURE 5—SHOP TICKET

full-size details for the information of the stone contractor in manufacturing sills, lintels, and joints. So far nothing has been said about full-size details. Faults of many are their unwieldy large size, the showing of unnecessary information, and the delay in preparation.

Details are often made in single sheets and when unrolled they look as long as a rug in a hotel corridor. This size is inconvenient to handle, the drawings become torn and ragged, and as a consequence the stone draftsman immediately tears them into convenient sizes for his use. It would be of assistance to contractors in handling large full-size drawings if the draftsmen would put the drawing number in each corner of the drawing. It is not necessary to take time to make beautiful figures, but use a black Blaisdell pencil which will make the numbers plain on the blue prints. This not only allows one to tell by a glance at any corner what drawing it is, but if a corner becomes torn off there is always a number left.

What we meant in saying that full-size details show too much information is this—the most time in the preparation of drawings should be applied to working out complete, scale details, preferably 3/4" scale, so that 1/16" on a common rule will mean one inch. Full-size details are only supplementary to these and should indicate only what cannot be put down at a small scale, for instance the full size of moulds. Good scale details are frequently made and then followed with unnecessary duplication of sections, like the back-side of cornices, on the large drawings. The inclination to see and think in units of small scale influences the draftsmen at times to full-size moulds too small for cutting in stone and with sharp interior corners that are impossible to cut. The character of mouldings is improved by allowing the corners to be very slightly rounded, which produces a softening effect to the lines and relieves that hardness which extremely sharp arrises produce. The contours of moulds ought to be drawn in sharp narrow lines because better patterns can be made from following a thin line than a heavy sketchy one whose thickness will cause the shape to vary.

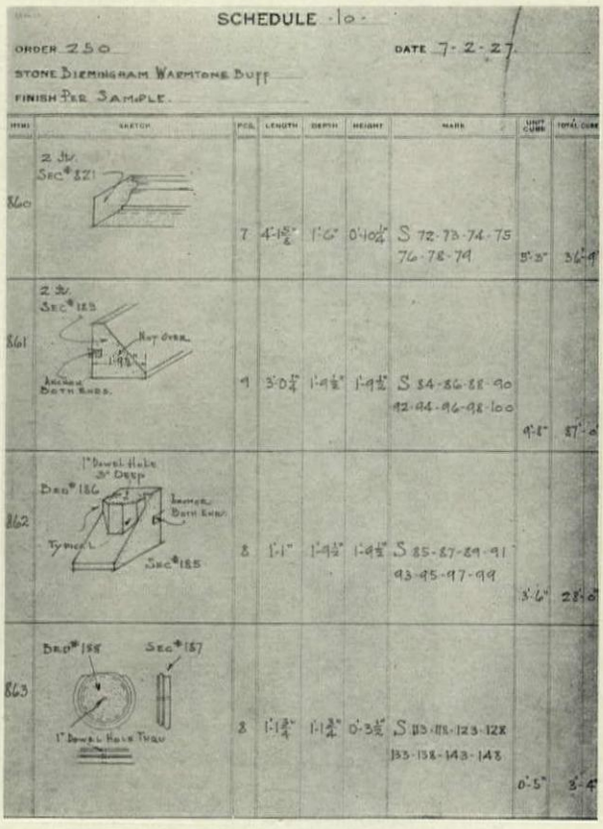


FIGURE 6—SHOP SCHEDULE

Stone shop drawings are customarily drawn at 1/2" scale in ink on tracing cloth. While the usual procedure is to draw

and submit them for approval in the order of the requirements for stone in the building, it does not necessarily follow that all stones will be manufactured in this sequence, for the reason that stock is sawed with the idea of obtaining as many small pieces as possible from the waste of the larger.

The actual making of shop drawings is only a small part of the stone draftsman's work. Figure 3 illustrates an architectural detail that the company used in conjunction with the general plans for preparing the shop drawing shown in Figure 4. The stone represented by this drawing is a mixture of two Ohio sandstones, one has been shaded in so the architect could study the distribution and to facilitate the handling in the shop and the setting on the building. After a drawing like this is approved, the draftsman makes the corrections, rechecks the dimensions, and numbers the pieces from left to right, beginning at the lower left-hand corner of each elevation. Following this he tickets and lists each piece and cuts the patterns—all are guides in the manufacture. On intricate work such as domes, tracery, circle on circle arches, ramps and twists, expert knowledge of stereography is required to lay out work so the patterns can be made and the information listed for the men in the shop to follow. The cost of drafting is one of the largest operating expenses in the stone industry, and on intricate work the cost per cubic foot often exceeds that of the rough stock.

Figures 5 and 6 show a shop ticket and schedule and while this scheme is not typical of all mills, the theory is essentially the same. Stone S85 has been taken as an example. Its ticket, Figure 5, is issued to the shop superintendent and travels entirely through the mill with the stone. The three right-hand stubs are for the use of the stone company in recording costs as a check against the estimate and for references on the costs of future work. As each portion of the manufacturing is finished the proper third is torn off, filled out and filed at the office. The ticket containing the sketch remains with the stone until shipment is made, then the shipping clerk turns it in as a record of shipment. The shop schedule, Figure 6, is a compilation of the various pieces and shows, for instance, that eight stones like S85 are to be cut. A copy is given the plant superintendent, the cutter superintendent and the shipping clerk at the time the tickets are issued and the stones put in the mill.

Simultaneous with the preparation of the ticket and the schedules the patterns are laid out. Patterns are cut from either zinc or heavy paper and numbered so that each will be identified with the proper shop ticket and stone. Figure 7 shows the two made for stone S85; pattern No. 185 is the vertical section and No. 186 is the horizontal or bed pattern. These are full size and the cutting lines are laid out on the stone from these. On some stones in complicated work as many as a dozen or more are needed.

Notice that the stone of the sill course in which S85 is located is jointed for an economical manufacture, for had vertical joints been made in the center of all the stones like No. 85 instead of one at each side, the sills could not have been planed by machine but would have to be cut by hand.

We have hastily described some of the work of the stone draftsman for the purpose of emphasizing that he has much careful work to do after the approval of the shop drawings and before the stone starts through the mill. For this reason full-size details should be furnished promptly and the shop drawings checked without delay, so there will be time to do this work. Shop drawings cannot be returned in one day and stone expected on the way the next. And now just a word about notations on corrected shop drawings—it is this, use only yellow pencils in checking because the notes show plainly against the contrasting blue print. Corrections in red hurt the eyes, and ones in white are sometimes overlooked.

As a final word let us drop this note of advice—use your stone man, for he will always be glad to assist you with detailing and clearing up many points that cause confusion in estimating and producing good work.

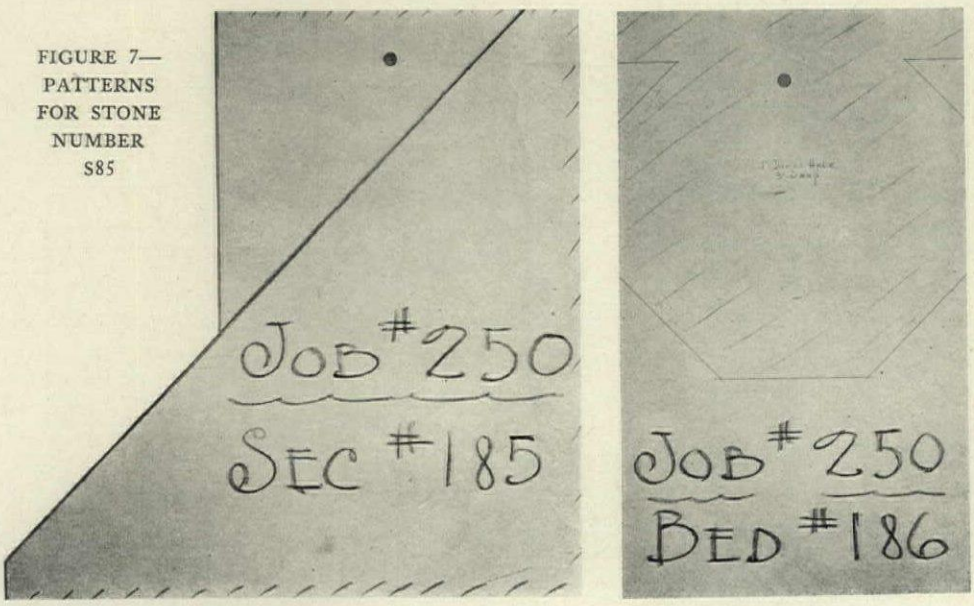
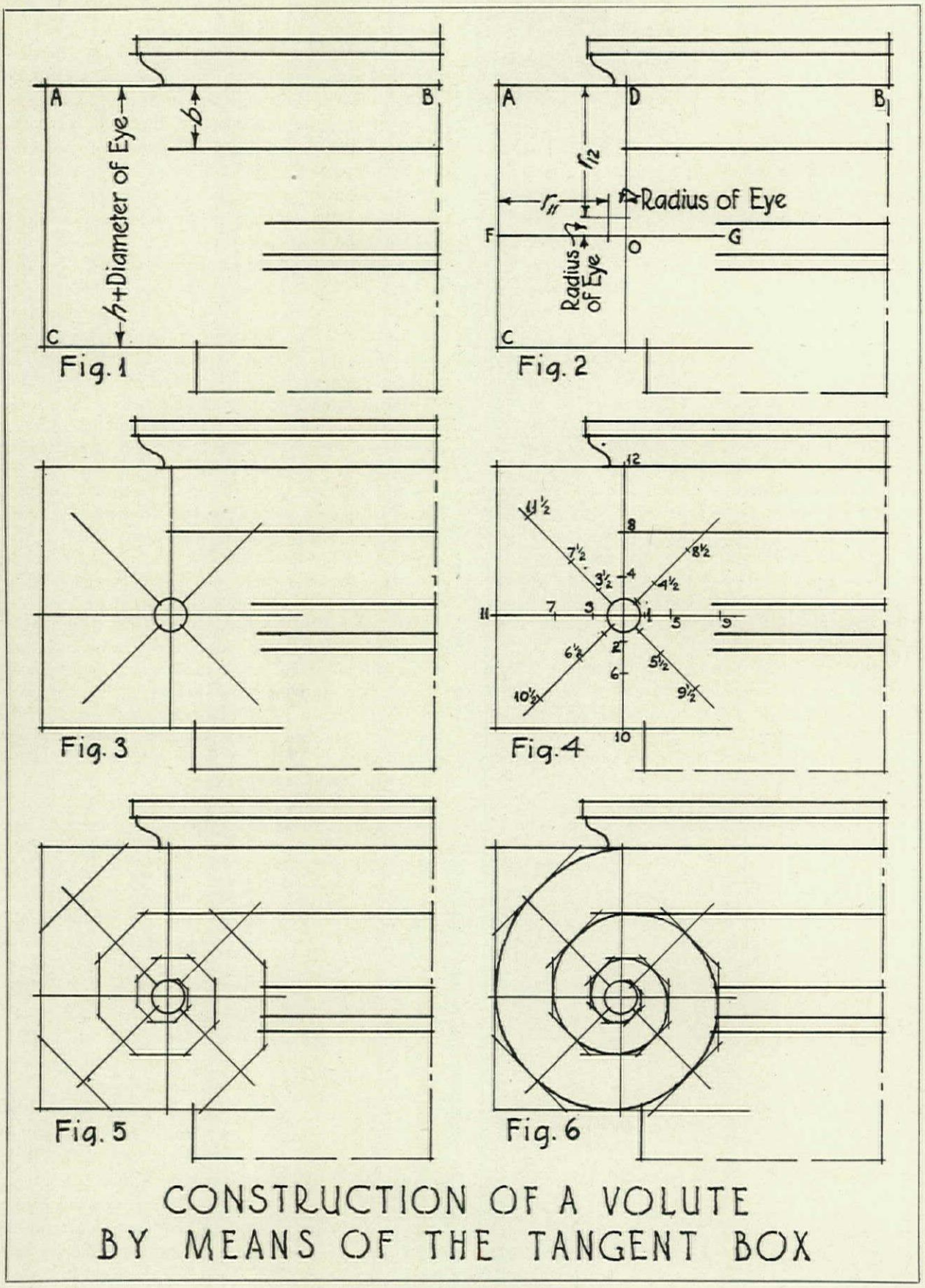


FIGURE 7—PATTERNS FOR STONE NUMBER S85



FIGURES 1 TO 6 FOR "THE GREEK SPIRAL"

THE GREEK SPIRAL

By Richard S. Buck, Jr.

OF THE ARCHITECTURAL DETAILS left to us by the Greeks, one of the most interesting and widely used is the Ionic volute. By the same token, it is one of the most difficult to draw satisfactorily. The Greeks, who had been using spirals for ornament since the Stone Age, drew these curves freehand; if you doubt this, look at the Sardis cap in the Metropolitan Museum of Art.

The Romans preferred not to trust the hands and eyes of their draftsmen for details so prominent as the volutes of Ionic caps, and devised a geometric scheme for laying out the volutes with compasses. This scheme has been handed down to us by the Roman Kidder, Vitruvius, and further elucidated by Vignola.* Its disadvantages are, first, that it is not readily adaptable to volutes of varying proportions,† and secondly, that in order to draw a successful volute by it, one needs a wire-drawn accuracy of drafting of a sort that is otherwise useful only for solving problems in graphic statics. (If you have ever "drawn the Orders" in school you have doubtless sweated blood over this foolish little graphical problem, and I doubt if you were a better architectural draftsman for your pains.) Then, too, a compass-drawn curve can never have the life of a freehand curve.

A mathematically trained modern is tempted to say, "Why not devise an equation for the sort of curve you want, and then plot, by points, a line that shall have at least the cold beauty of things mathematical?" As a matter of fact, this has never been done. The conditions that the volute-spiral must fit, when expressed mathematically, form a nasty problem in differential equations.

The best working scheme in general use, then, is the freehand method of the Greeks; and a long, weary method it is, too. A good spiral is no easy thing to draw under the simplest conditions; when the conditions are as many and as rigorous as those that govern the curve of the Ionic volute the difficulty, for most draftsmen, grows of all reason. The usual compromise is to go to D'Espouy for a crib.

In the present article, I propose to explain a practical method of laying out guide-lines as an aid in drawing freehand spirals. I shall then show that this method can be further developed into a scheme for plotting a volute to fit any set of conditions that will ordinarily be given.

Given: The following conditions on an Ionic volute (see figure 1)

1. The height, $h + e$, from the bottom of the spiral to the bottom of the abacus.
2. The width of the spiral band at the end of curvature, b.
3. The diameter of the eye, e **
4. The condition that the spiral shall make three complete turns between the end of curvature and the point where it touches the eye
5. The condition that the curve shall be graceful; that is,
   (a) That the spiral shall look round
   (b) That the band shall increase steadily in width from the eye outward to the end of curvature.
   (c) That the spiral shall be free from bumps and depressions.
   (d) That the curve shall not hug the rim of the eye too closely near the beginning.

Note that the breadth over-all of the capital is regulated by the placing of the volutes, not by adjustments of their form.

To construct a series of tangent straight lines boxing in the curve of the proposed volute.

Procedure by use of tables.

1. On the elevation of the capital, lay off the bottom line of the abacus, AB, and the vertical line, AC, tangent to the outside of the spiral. The latter marks the extreme width of the capital.

2. From tables I.-V, choose the spiral whose proportions are closest to that which you intend††. Note that in these tables, the value "h" is the height of the spiral *less the diameter of the eye*, "e"; the size of the eye can be assumed independently of the other proportions. Its diameter is usually about one-half the maximum width, o, of the spiral band.

3. On the same table multiply each of the values by the value of "h" on your proposed spiral. A 10-inch slide-rule gives ample accuracy for this process. Thus, if the height of the spiral, less the diameter of the eye, is 9¾ inches, all values are to be multiplied by 9.75.

4. On the elevation, lay off the horizontal line FG a distance down from the line AB equal to

r_{12} + radius of eye—(see figure 4.)

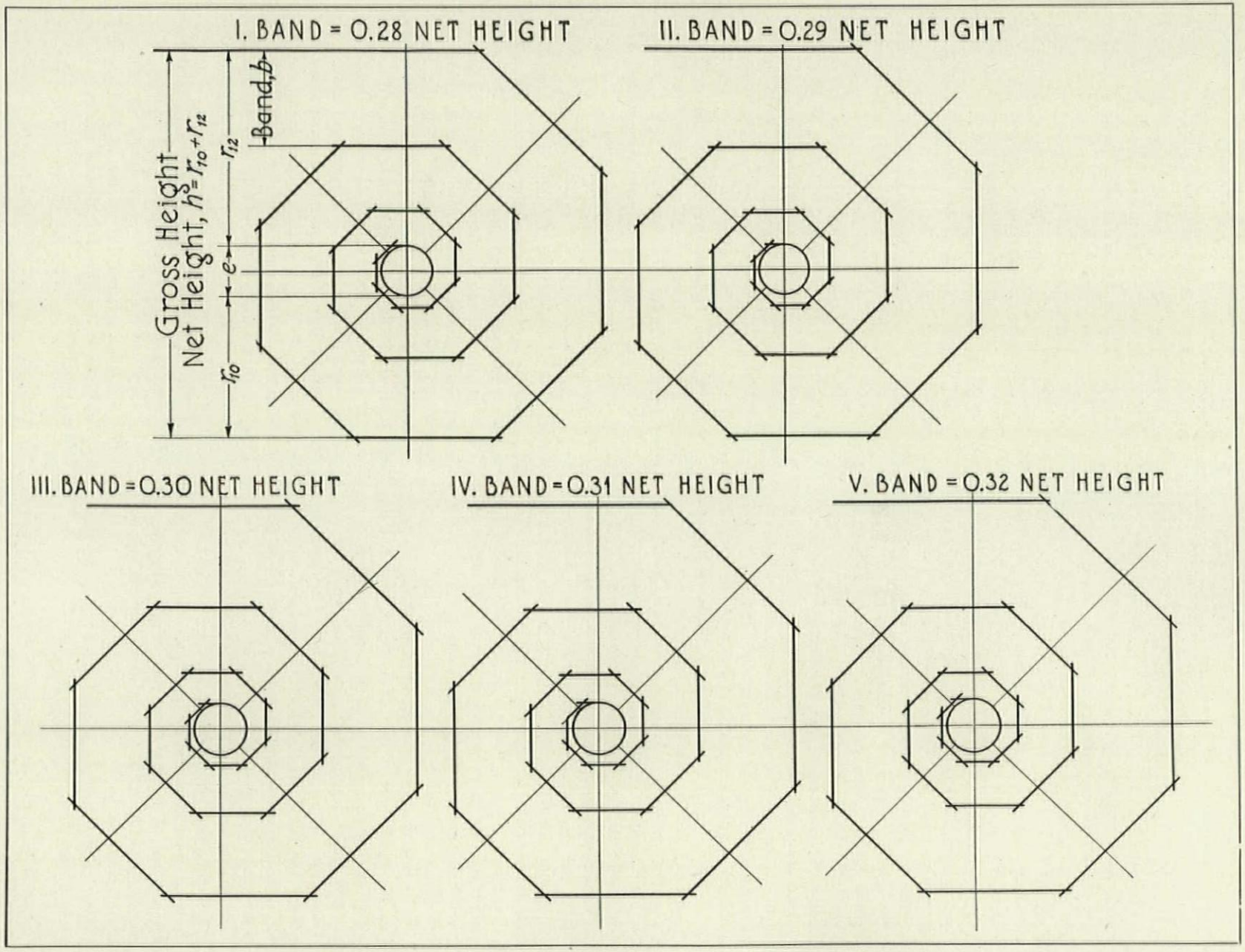
5. On the elevation, lay off the vertical line DE a distance from the line AC, toward the axis of the column equal to

*This is the method so ably discussed by Mr. Egerton Swartwout in the January, 1928, issue of "Architecture."

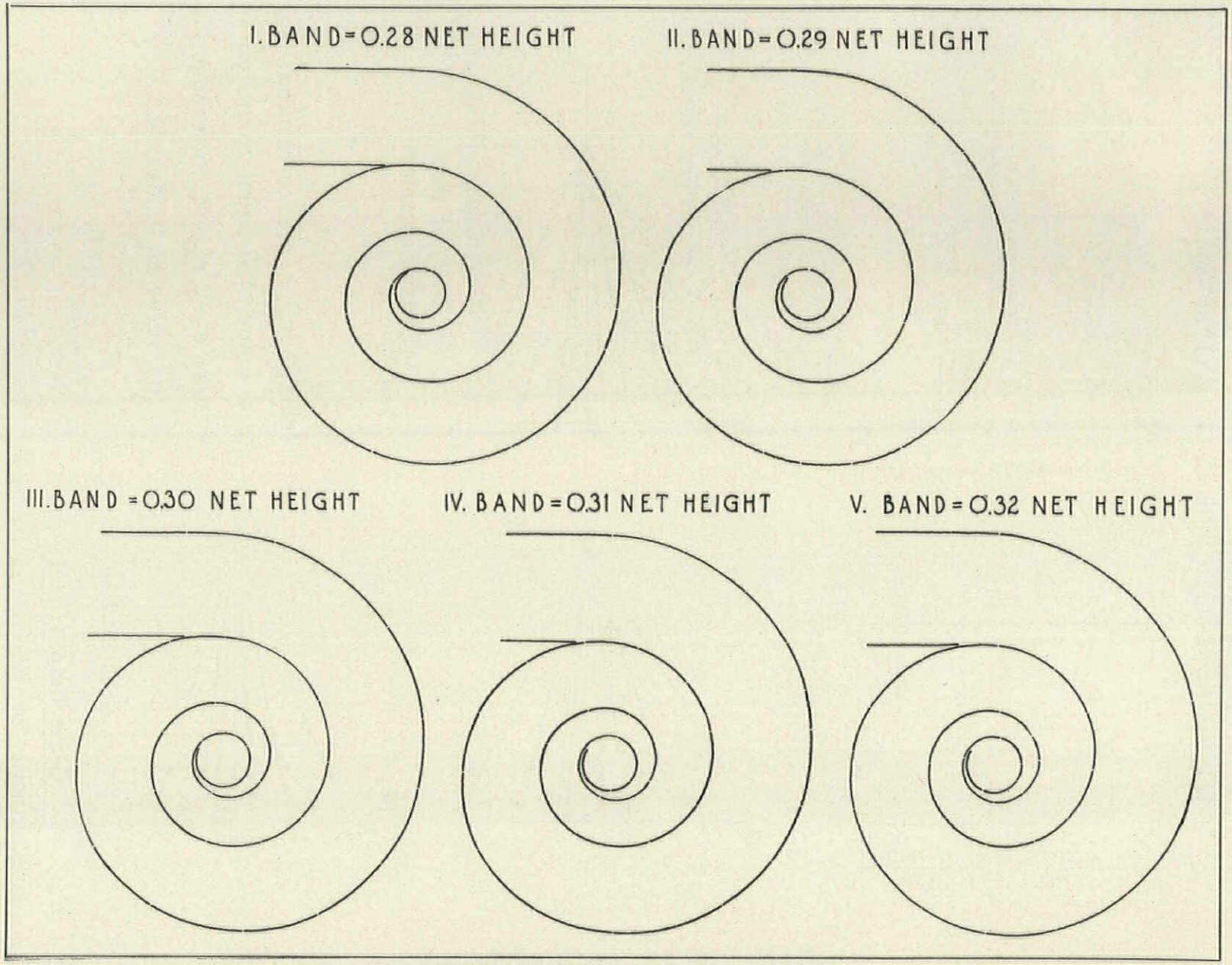
†*The Greeks varied the proportions of their volutes noticeably. Contrast the volute of the interior columns of the Propylæa at Athens with the volute of the Temple of Athena Polias at Priene.*

**These dimensions will be determined by general design considerations, on small-scale studies.

††*The entire range of variation in the main proportions of volute spirals is slight, the variation from one spiral of our series to the next is barely perceptible.*



SPIRAL BOXES FOR DRAWING SPIRALS, PLOTTED FROM TABLES I-V



VOLUTES DRAWN IN SPIRAL BOXES SHOWN OPPOSITE

AUXILIARY DIAGRAM
TO CONSTRUCT SPIRAL OF ANY HEIGHT

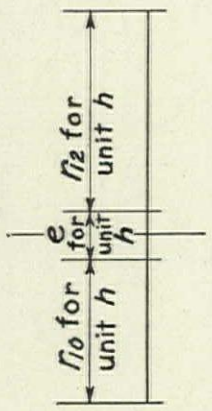


Fig. 7

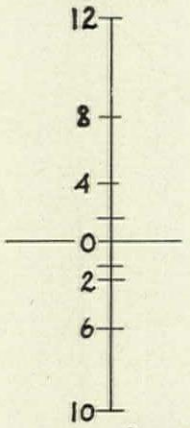


Fig. 8

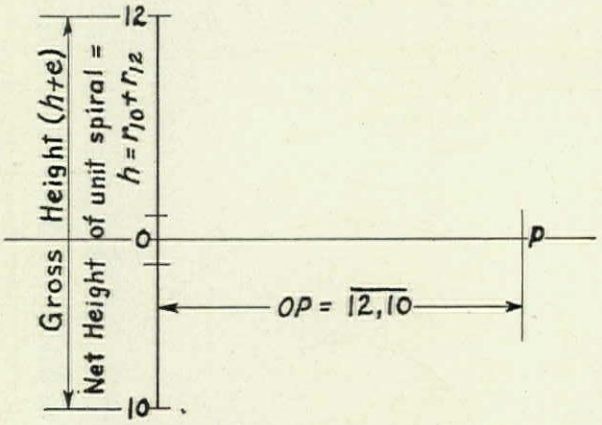


Fig. 9

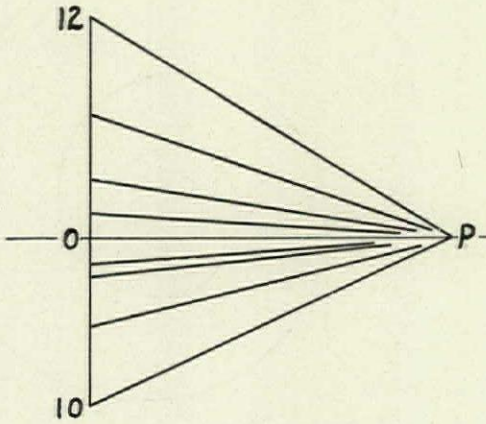


Fig. 10

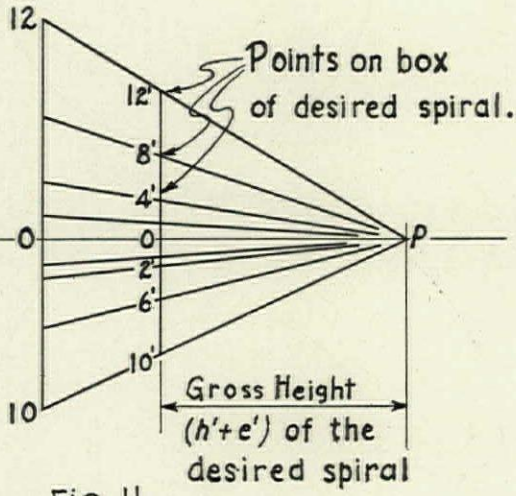
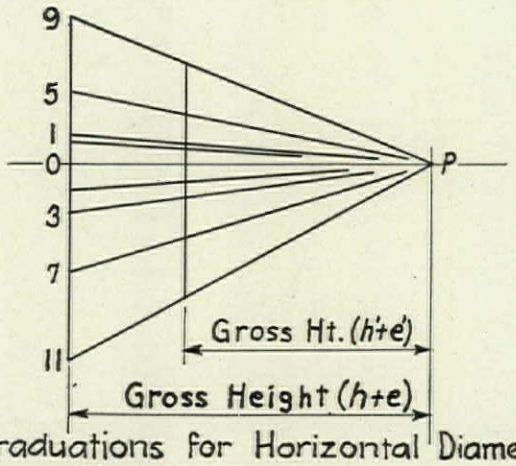


Fig. 11



Graduations for Horizontal Diameter
Fig. 12.

Values e, r_{12}, r_{10} etc. correspond to a value of h equal to unity. Values e', r'_{12}, r'_{10} etc. correspond to the value of h desired.

FIGURES 7 TO 12

r_{11} + radius of eye—(see figure 4.)

Then, FG and *DE* meet at *O*, the center of the eye (Figure 2)

6. Draw the eye, and through the center *O* draw lines at 45° (Figure 3); you now have four diameters of the eye, extended.

7. On the four diameters lay off, outward from the *circumference of the eye*, the distances $r_{½}$, r_1, $r_{1½}$, r_2, etc., as shown in figure 4, giving the points ½, 1, 1½, 2, 2½, etc.

8. Through each of these points draw a line normal to the diameter, giving a spiral box as shown in figure 5.

9. Draw the spiral, tangent to all the sides of the spiral box. The points of tangency are undetermined; they are *not* the plotted points ½, 1, 1½, 2, 2½, etc.

To avoid the use of the slide-rule in laying out the spiral box, we can construct a graphic diagram. Tables I to V are figured for a spiral of unit net height. This unit we can take as any quantity which we can easily divide by means of a scale into tenths and hundredths. If you have an engineer's scale, 10″ will be convenient.

To construct a diagram for a spiral of the proportions you have chosen, turn to the proper table, and then

(1) Along a vertical line, lay off the r_{12} of that spiral from the table in terms of the unit that you have chosen, (10″)-12*H* in figure 7

(2) Below this, lay off the diameter of the eye, *HI****, in the same terms.

(3) Below this, lay off r_2, r_6, and r_{10}, in the same terms, each measured downward from *I*.

(4) Likewise, lay off r_4 and r_8, each measured upward from *H* (r_{12} brings us back to the initial point 12). (Fig. 8).

(5) Through a point *O*, midway between *H* and *I*, draw a horizontal line; on this lay off the distance *OP* equal to the line 12, 10, which is the gross height of the unit spiral. (Fig. 9).

(6) Draw the lines *P*,12, *P*,8, *P*,4, *P*,H, *P*,I, etc. (Fig. 10).

(7) Along *P*,*O*, lay off *P*,*O*′ equal to the gross height of your proposed spiral. Through O′ draw a vertical line cutting *P*,12 at 12′, *P*, 8 at 8′, etc. then 12′, 8′, 4′, *H*′, *I*′, 2′, 6′, and 10′ all have the same spacing along 12′, 10′ that they should have on the vertical diameter of your proposed spiral. (Fig. 11).

Draw similar diagrams (as in Fig. 12) for the graduations of the horizontal and oblique diameters. Note that in every case the distance *OP* is equal to the gross height of the unit spiral, and *O*′*P* is equal to the gross height of the proposed spiral, just as in the first case. Once such a set of diagrams has been constructed at reasonable scale, it can be used for constructing spirals of any size.

****The diameter of the eye on the unit spiral is found by proportion:*

$$\frac{\text{Diameter of eye, unit spiral, } e}{\text{Diameter of eye, spiral on drawing}} = \frac{\text{net height, unit spiral, } h}{\text{net height, spiral on drawing}}$$

Mathematical Theory of the Tangent Box

It is assumed that the plotting points—½, 1, 1½, 2, 2½, etc. lie along a spiral whose polar equation (in general, r = f (Θ) is of simple form. This spiral is not the volute curve itself—it is merely a device for plotting the tangents to the volute.

The pole is assumed to be at the center of the eye.

The initial line (Θ = O) extends vertically upward from the center of the eye.

On a left-hand volute like the one shown, positive values of Θ are measured clockwise.

Positive values of *r* are measured outward from the rim of the eye; at the rim, then, r = o. (This notation is a matter of convenience).

The unit value of Θ is 90°; that is, at the end of one turn, $\Theta = 4$. The value of *r* corresponding to any value of Θ will here be given with that value subscript: e.g. r_4 = value of r when $\Theta = 4$.

We assume arbitrarily that the equation of the spiral is of the form, $r = m\Theta + n\Theta^2 + l\Theta^{½}$.

A curve of this sort may be termed a spiral of mixed type; by adjusting the coefficients *m*, *n*, and *l*, it may be modified to suit a variety of conditions:

The equation

$$r = m\Theta$$

gives a spiral (Fig. 14) whose curving band increases in width for the first turn, and beyond that section remains uniform.

The equation

$$r = n\Theta^2$$

gives a spiral (Fig. 15) whose curving band increases in width continuously; for the first quarter turn, however, it is excessively narrow; that is, the inner part of the spiral hugs the rim of the eye too closely.

The equation

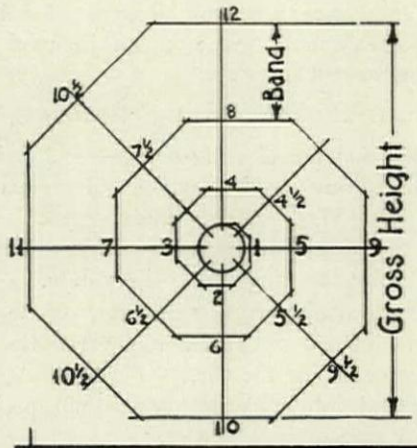
$$r = l\Theta^{½}$$

gives a spiral (Fig. 13) whose band increases rapidly in width for the first turn, and then diminishes. The diminution is rapid at first and then slows gradually, until the width of the band becomes almost uniform.

Each of the terms of our proposed equation impresses some of its own character on the curve. The term $n\Theta^2$ provides the increase in band width that should characterize the volute; the term $m\Theta$ prevents the increase from being excessive, while the term $l\Theta^{½}$ provides width for the band near the beginning of the curve.

The constants *m*, *n*, and *l*, in equation (1) are determined by certain of the conditions which we gave at the beginning of this article, and which can be expressed as algebraic equations.

From the assumed form of equation (1), it follows that



LOCATION OF SIDES OF SPIRAL BOXES

Net Height = Gross Height Minus Diameter of Eye

θ = Serial Number of Point

r = Distance of Point from Rim of Eye

NET HEIGHT = 1.00

No. I. — WIDTH OF BAND = 0.28 r_{11} = .4972 r_{12} = .5754

θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r
½	.0081	1	.0177	1½	.0286	2	.0408	2½	.0545	3	.0695	3½	.0859	4	.1037
4½	.1228	5	.1434	5½	.1653	6	.1886	6½	.2132	7	.2393	7½	.2667	8	.2955
8½	.3257	9	.3573	9½	.3902	10	.4245	10½	.4601	11	.4972	11½	.5357	12	.5754

No. II. — WIDTH OF BAND = 0.29 r_{11} = .4970 r_{12} = .5786

θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r
½	.0067	1	.0148	1½	.0245	2	.0357	2½	.0485	3	.0627	3½	.0784	4	.0957
4½	.1144	5	.1348	5½	.1566	6	.1800	6½	.2050	7	.2313	7½	.2592	8	.2866
8½	.3196	9	.3520	9½	.3859	10	.4215	10½	.4586	11	.4970	11½	.5370	12	.5786

No. III. — WIDTH OF BAND = 0.30 r_{11} = .4967 r_{12} = .5816

θ	r	θ	r	θ	r	θ		θ	r	θ	r	θ	r	θ	r
½	.0068	1	.0140	1½	.0225	2	.0326	2½	.0442	3	.0576	3½	.0725	4	.0890
4½	.1073	5	.1272	5½	.1487	6	.1720	6½	.1969	7	.2234	7½	.2516	8	.2816
8½	.3132	9	.3465	9½	.3815	10	.4183	10½	.4566	11	.4967	11½	.5383	12	.5816

No. IV. — WIDTH OF BAND = 0.31 r_{11} = .4965 r_{12} = .5848

θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r
½	.0077	1	.0138	1½	.0212	2	.0300	2½	.0406	3	.0529	3½	.0670	4	.0828
4½	.1004	5	.1199	5½	.1411	6	.1642	6½	.1890	7	.2157	7½	.2443	8	.2748
8½	.3071	9	.3412	9½	.3772	10	.4152	10½	.4550	11	.4965	11½	.5398	12	.5848

No. V. — WIDTH OF BAND = 0.32 r_{11} = .4963 r_{12} = .5882

θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r	θ	r
½	.0086	1	.0136	1½	.0198	2	.0275	2½	.0370	3	.0483	3½	.0615	4	.0766
4½	.0936	5	.1125	5½	.1335	6	.1564	6½	.1813	7	.2082	7½	.2371	8	.2682
8½	.3011	9	.3360	9½	.3730	10	.4121	10½	.4532	11	.4963	11½	.5413	12	.5882

TABLES I TO V FOR PLOTTING SPIRAL BOXES

SPIRAL. Nº 1

Net Height, $h = r_{10} + r_{12} = 1.0000$
Width of Band, $b = r_{12} - r_9 = 0.2800$
Formula: $r = m\theta + n\theta^2$

$0.102041\,h = 0.102041$ $\quad -0.0051020\,h = -0.0051020$
$-0.311224\,b = -0.087145$ $\quad 0.028061\,b = 0.0078571$
$m = 0.014896$ $\quad n = 0.0027551$

θ	½	1	1½	2	2½	3	3½	4
$m\theta$	.0074	.0149	.0224	.0298	.0373	.0447	.0522	.0596
$n\theta^2$	.0007	.0028	.0062	.0110	.0172	.0248	.0337	.0441
r	.0081	.0177	.0286	.0408	.0545	.0695	.0859	.1037

θ	4½	5	5½	6	6½	7	7½	8
$m\theta$	.0670	.0745	.0819	.0894	.0968	.1043	.1117	.1192
$n\theta^2$	.0558	.0689	.0834	.0992	.1164	.1350	.1550	.1763
r	.1228	.1434	.1652	.1886	.2132	.2393	.2667	.2955

θ	8½	9	9½	10	10½	11	11½	12
$m\theta$	.1266	.1341	.1415	.1490	.1564	.1638	.1713	.1788
$n\theta^2$	.1991	.2232	.2487	.2755	.3037	.3334	.3644	.3966
r	.3257	.3573	.3902	.4245	.4601	.4972	.5357	.5755

TABLE 2

SPIRAL Nº III.

Net Height, $h = r_{10} + r_{12} = 1.0000$
Widt of Band, $b = r_{12} - r_9 = 0.3000$; $r_1 = 0.0140$
Formula $r = m\theta + n\theta^2 + l\theta^{1/2}$

$0.188284\,h = 0.188284$ $\quad -0.0079815\,h = 0.0079815$ $\quad -0.18030\,h = 0.18030$
$-0.563144\,b = 0.163945$ $\quad 0.036472\,b = 0.0109417$ $\quad 0.52667\,b = 0.15800$
$-0.889662\,r_1 = 0.012455$ $\quad 0.029704\,r_1 = 0.0004159$ $\quad 0.18600\,r_1 = 0.02604$
$m = 0.006885$ $\quad n = 0.0033761$ $\quad l = 0.00374$

θ	½	1	1½	2	2½	3	3½	4
$m\theta$	.0034	.0069	.0103	.0138	.0172	.0207	.0241	.0275
$n\theta^2$	.0008	.0034	.0076	.0135	.0211	.0304	.0414	.0540
$l\theta^{1/2}$	.0026	.0037	.0046	.0053	.0059	.0065	.0065	.0075
r	.0068	.0140	.0225	.0326	.0442	.0576	.0576	.0890

θ	4½	5	5½	6	6½	7	7½	8
$m\theta$	.0310	.0344	.0379	.0413	.0447	.0482	.0516	.0551
$n\theta^2$	.0684	.0844	.1020	.0115	.1427	.1655	.1898	.2159
$l\theta^{1/2}$	.0079	.0084	.0088	.0092	.0095	.0099	.0102	.0106
r	.1073	.1272	.1487	.1720	.1969	.2234	.2516	.2816

θ	8½	9	9½	10	10½	11	11½	12
$m\theta$	.0585	.0619	.8654	.0689	.0723	.0757	.0792	.0826
$n\theta^2$	.2438	.2734	.3046	.3376	.3722	.4086	.4464	.4861
$l\theta^{1/2}$	.0109	.0112	.0115	.0118	.0121	.0124	.0127	.0129
r	.3132	.3465	.3815	.4183	.4566	.4967	.5383	.5816

TABLE 3

(2) $r_0 = 0$;

this equation starts the curve at the top of the eye.

(3) The net height, h, $= r_{10} + r_{12}$, (See Fig. 4) that is

$$-10m + 10^2 n + 10^{3/2} l$$
$$+12m + 12^2 n + 12^{3/2} l = h$$

This equation makes the first three turns of the volute fit in the desired height.

The width of the band at the end of curvature, b, $= r_{12}$; (See Fig. 4) that is

(4) $b = 12m + 12^2 n + \sqrt{12}\, l$
$\quad - 8m - 8^2 n + \sqrt{8}\, l$

(5) $r_1 = 1m + 1^2 n + \sqrt{1} l = m + n + l$

The value of r_1 is chosen; it is made just large enough to keep the spiral clear of the eye near the start. The choice of this value is a matter of design.

The mathematical form of the equation insures that the spiral shall look round.

These three independent equations, solved simultaneously, give us the values of the constants m, n, and l, in terms of the assumed dimensions, h, b, and r_1, and numerical coefficients.

These equations are

(6) $m = 0.188284\,h - 0.56314\,b - 0.88966\,r_1$

(7) $n = 0.0079815\,h + 0.036472\,b + 0.02970\,r_1$

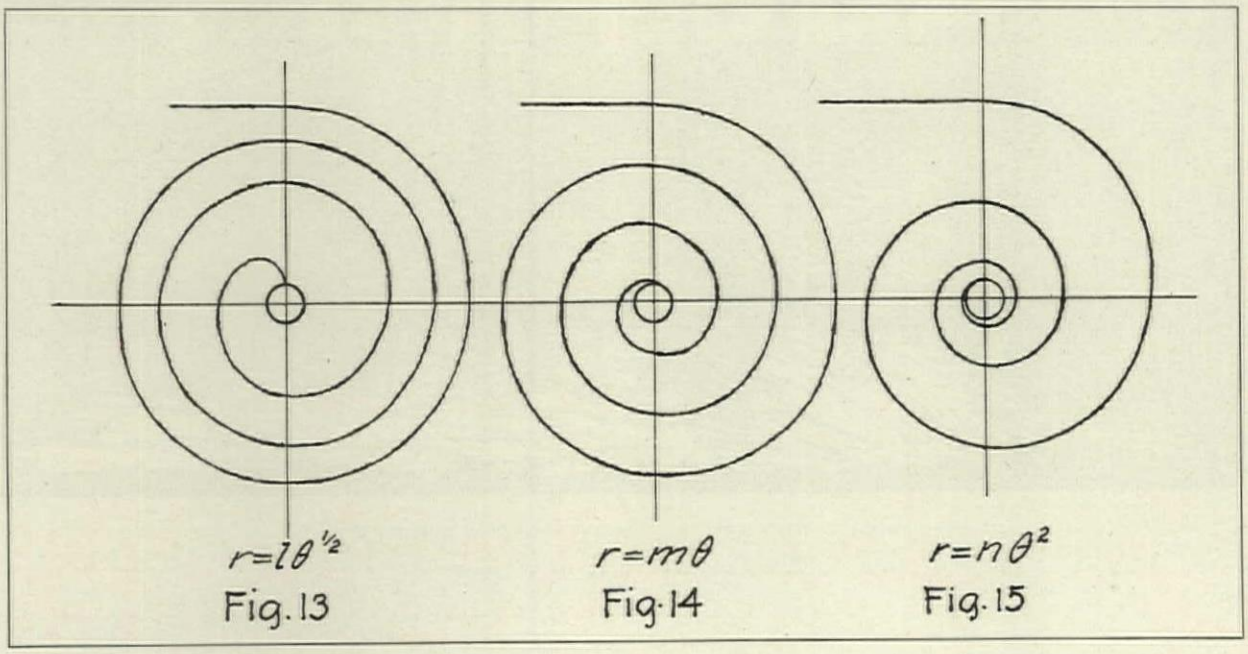


Fig. 13 Fig. 14 Fig. 15

(8) $l = 0.180303\ h + 0.52667\ b + 1.8600\ r_1$

With the aid of these equations, then, you can assume the following dimensions of your volute independently.

Height, h
Width of band, b
Diameter of eye
Distance of point No. 1 from rim of eye, r_1

There are, however, certain limitations on the choice. The value r_1 should be about one-fiftieth the net height of the spiral from the *bottom of the band*, that is

$$r_1 = 0.02\ (h - b) = 0.02\ (r_8 + r_{10})$$

If we assume this value, spirals of good shape can be plotted where the band b is relatively wide, (up to $0.32\ h$); if, however,

$r_1 = 0.02\ (h - b)$,
and $b = 0.2924h$,
then $l = 0$.

For lower values of b, l then becomes negative, and the curve does not work. Accordingly, we let r_1 take care of itself (in spiral of this type it does not tend to be too small) assume only h, b, and the diameter of the eye. Then we assume that the curve is of the form,

(9) $r = m\Theta + n\Theta^2$

By the same methods as before, we find

(10) $m = 0.102041h - 0.311224b$

(11) $n = 0.0051020h + 0.028061b$

The method of figuring these spirals by these two sets of formulas is shown in tables 2 and 3. Of the spirals in table 1, Nos. I and II are based on equations (10) and (11), and the rest on equations (6), (7), and (8).

FROM A WOODCUT BY ERNEST THORNE THOMPSON
"THE GREEK REVIVAL IN MICHIGAN"

PENCIL POINTS SERIES
of
COLOR PLATES

In this plate as well as on the other color plate of this issue we have reproduced a water color sketch by Camille Étienne Grapin whose work is the subject of the leading article in this issue. This drawing is notable for the free use of color and although it is a little indefinite as to form it succeeds in conveying the impression of autumn foliage in an admirable way. The color was applied from a full brush and was worked wet with the result that there is hardly a square quarter of an inch of it without gradation both in color and intensity. The student of rendering can learn much from this plate about the production of pleasing color harmonies. The original measured 12" x 9½" and was drawn on egg-shell paper.

AUTUMN LANDSCAPE, BURGUNDY

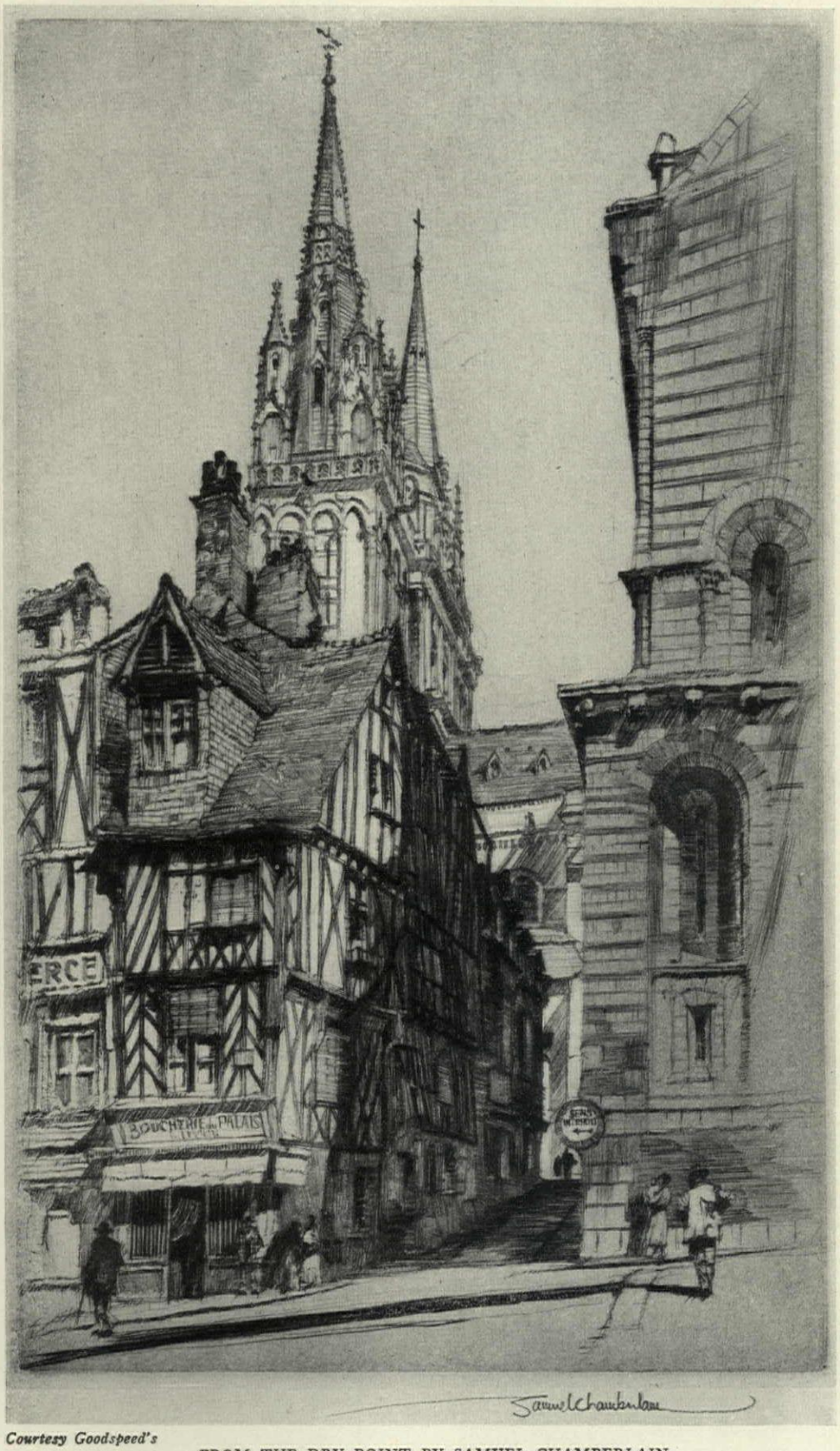
WATER COLOR BY CAMILLE ETIENNE GRAPIN

EGLISE ST. PIERRE, AVIGNON

WATER COLOR BY CAMILLE ETIENNE GRAPIN

PENCIL POINTS SERIES
of
COLOR PLATES

The original of this sketch by Camille Étienne Grapin measured 9¼" x 13" and was drawn on a sheet of plain white, smooth, water-color paper. Notice that the buildings in the foreground at the left were sketched in with a soft carbon pencil, while the church itself was lightly drawn with a red pencil before the color was applied. While this sketch is not, in the accepted sense, an architectural rendering it will repay study by renderers of the way in which the color is used to gain atmospheric perspective and to concentrate interest on the principal element of the composition. Both this and its companion in this issue should also be of help to the student of outdoor sketching with water colors.



Courtesy Goodspeed's

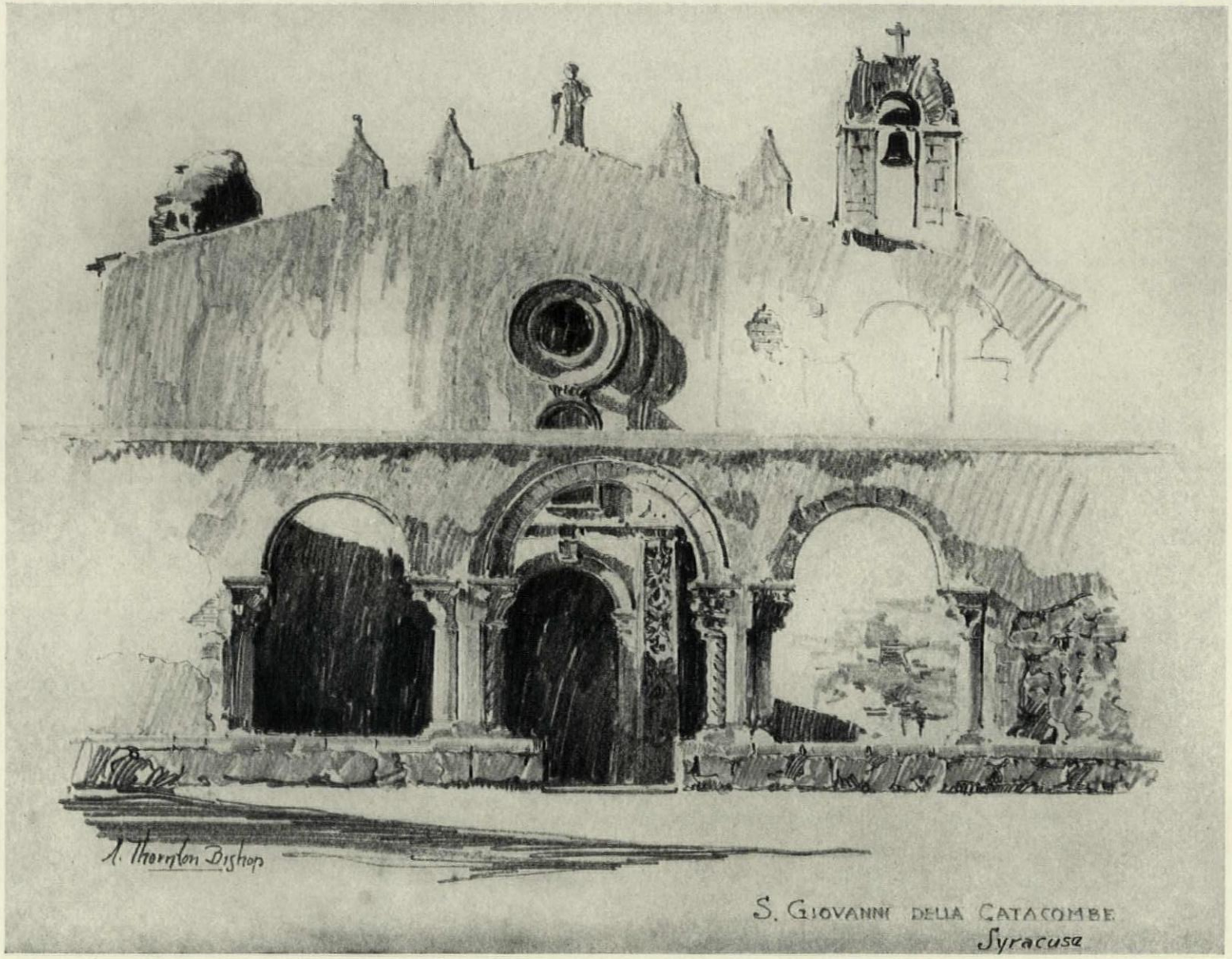
FROM THE DRY POINT BY SAMUEL CHAMBERLAIN

CATHEDRAL SPIRES, ANGERS

PLATE XIII

VOLUME IX NUMBER 4

We have reproduced here a recent drypoint by Samuel Chamberlain, who is still abroad recording on copper, zinc, and stone his impressions of picturesque European architecture. The present example was done on copper and measured 5½" x 9". It was printed in a rich warm ink.



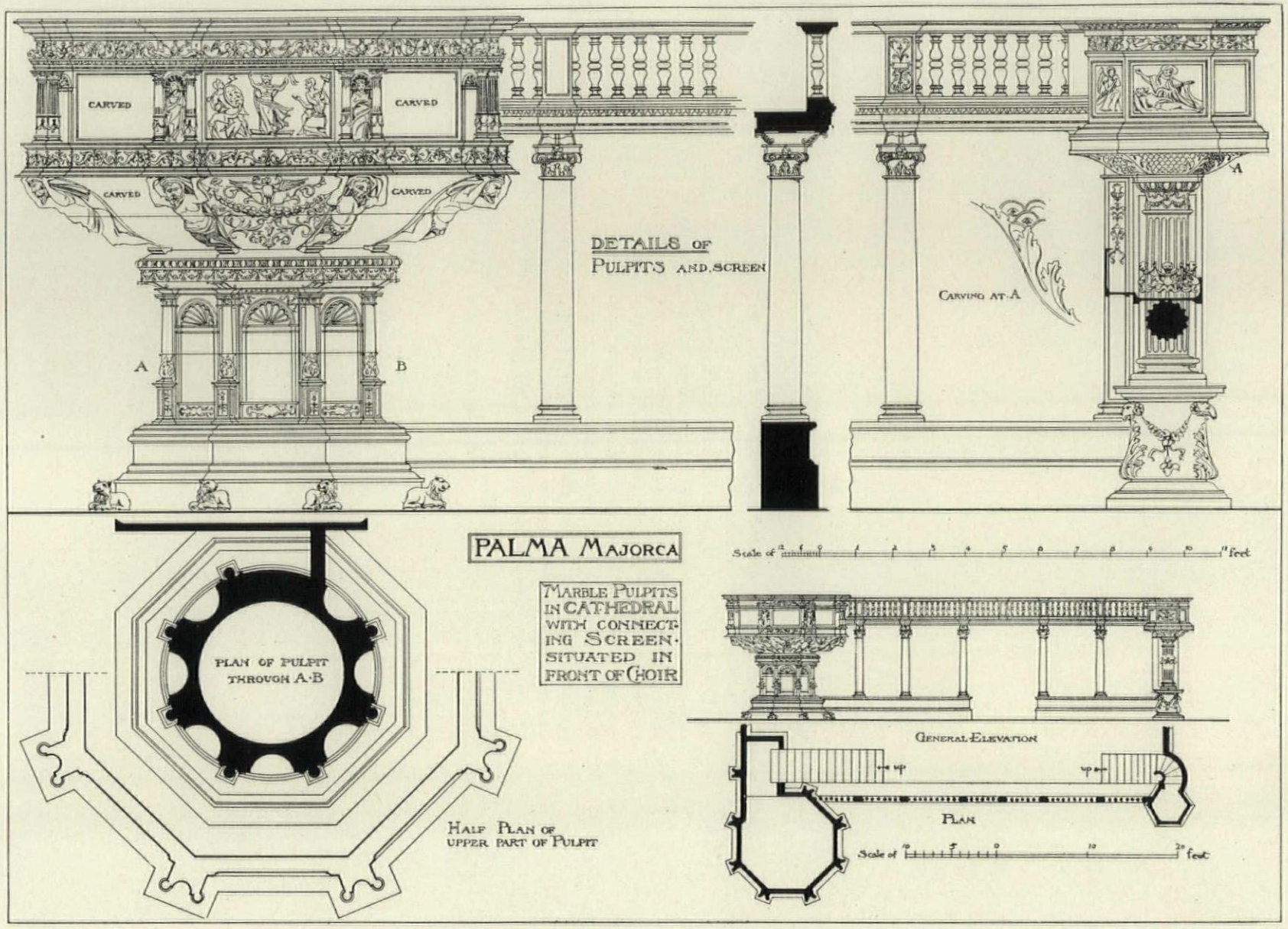
FROM A PENCIL SKETCH BY A. THORNTON BISHOP

CHURCH OF S. GIOVANNI DELLA CATACOMBE, SYRACUSE, SICILY

PLATE XIV

VOLUME IX NUMBER 4

Drawn on Cameo paper with a graphite pencil, this sketch by A. Thornton Bishop furnishes a good example of the sure, crisp technique which marks all his work in this medium.



RENAISSANCE ARCHITECTURE AND ORNAMENT IN SPAIN

A PLATE FROM THE WORK BY ANDREW L. PRENTICE

PLATE XV

VOLUME IX NUMBER 4

"These finely sculptured pulpits, or Ambos, are said to have been executed by an Italian sculptor in the year 1529, and, together with the connecting screen, form the east end of the choir. The other portions of the 'respaldo del Coro' were entrusted to Juan de Segrera, whose design for the west portal of the choir shows more Spanish than Italian influence. The sculptured subjects in the square panels around the pulpit are deeply cut, and the ornament shows great spirit.

"A small key plan is added to explain the general arrangements."

A. L. PRENTICE

TEMPERA EMULSION PAINTING BY FRANK SCHWARZ

FOR THE HOLY NAME ALTAR OF THE CHURCH OF ST. VINCENT FERRER, NEW YORK

PLATE XVI

VOLUME IX NUMBER 4

This painting was done on wood in brilliant primary colors for the Holy Name Altar of the Church of St. Vincent Ferrer, New York. Wilfred E. Anthony was the architect for this altar; the church itself is well known as the work of the late Bertram G. Goodhue. The painting measures about four feet in length. The figures of which it is composed were drawn from studies of splendid types found in a hill town in Italy.

WHITTLINGS

RALPH ADAMS CRAM,

"The Gothic architect of America," tells the American Club in Paris to be of good cheer as to the condition of the art of architecture in this country:

"The arts of the world are suffering an eclipse. Creative music has almost ceased. Painting has fallen back and sculpture is in almost the same condition.

"Ten years after the Civil War American architecture had reached the lowest depths of degeneration. There has been no parallel to the American architecture of that period in all history.

"Today, however, it is on a higher level than that of any other country in the world. The change for the better began with Richardson and McKim, and now there are, in ecclesiastical work alone, thirty or forty men doing excellent things."

GOLDWIN GOLDSMITH,

Professor of Architecture and head of the architectural school of the University of Kansas, speaking before the Wisconsin Chapter of the A.I.A., gives his listeners some good advice:

"You needn't resent it if architects come in from other cities to do work here.

"It is not at all detrimental if that thing happens. Perhaps other architects will be able to show you a few new ideas, and they may give you something worth looking at."

MRS. ROBERT C. MORRIS,

Of Toledo, Ohio, in an address to four hundred women of that city, points out the desirability of cultivating public interest in architecture through observation of local buildings:

"Though we may never visit Rome or Greece, there are in Toledo buildings which show the influence of ideas which live and blossom in beauty all around the world. When our eyes are upon these buildings, why not form the habit of tracing them back to their sources?"

ARCHITECTS' SMALL HOUSE SERVICE BUREAU,

In a syndicated newspaper article, advances a picturesque argument for the employment of an architect by the home-builder:

"Take for example, a porch column. Its business is to hold up the roof of the porch. It can be made of a sawn stick of timber, or even an old galvanized iron pipe, and perform its work in a practical manner. But will you be satisfied with such a column? No, not any more than you would be satisfied to see the pet canary lose its neck feathers or the favorite cat drop all of the fur from its legs. A raw, skinny neck on a canary may function, and so may the furless legs on a cat, but the eye that can stand such a sight is truly hardened.

"For the same reasons a porch column must be more than a structural thing. It must look well, and have a graceful form. As soon as we demand this of it, we must find someone who can make it pleasant to look upon. Who can do this? The carpenter, the mason or the town contractor? No. An architect and artist."

DOUGLAS HASKEL,

In a book review in the New York Herald-Tribune gives the architect a hint as to the effect of his buildings on the passers-by:

"The average city dweller has a secret contempt for the conglomeration of styles and gingerbread on the city street, which gives him a headache, so that he closes his eyes in self-protection. We don't really see our buildings; we don't care much about them. Only at night, from a distance, when the 'architecture' becomes invisible, and the logic of the masses stands forth in great simplicity, while the single decorative pattern is the crosswork of the lights, no one needs an explanation, and we are all entranced. It is then the hidden *style* of today shadows itself forth.

DR. S. PARKES CADMAN,

Noted preacher, answers a question in the New York Herald-Tribune as to his advocacy of better church architecture:

"A philosopher in speaking of architecture called it frozen music. Goethe corrected this saying by calling architecture speechless music. Strong, silent, changeless beauty of structure consistent with the purposes for which it is designed is not a spiritual necessity, but it is a splendid incentive to spirituality.

ELBERT PEETS,

Writing on "The Garden as a Reservoir of Time," in the magazine "Your Garden":

"Look well to the ground-plan, too, if you want to make your garden a storage-place for time, growing richer every year. A lucid formal garden, even if neglected, manages somehow to grow old gracefully and always retains a certain air of the culture it knew in its prime. At the Villa d'Este a low cyress hedge has shot up into soaring columns. It is a new rendering of the plan, but the plan is sound and the effect is good. An informal garden, never quite sure of itself, reverts easily to bucolic pasturage, where men and not cattle seem the intruders."

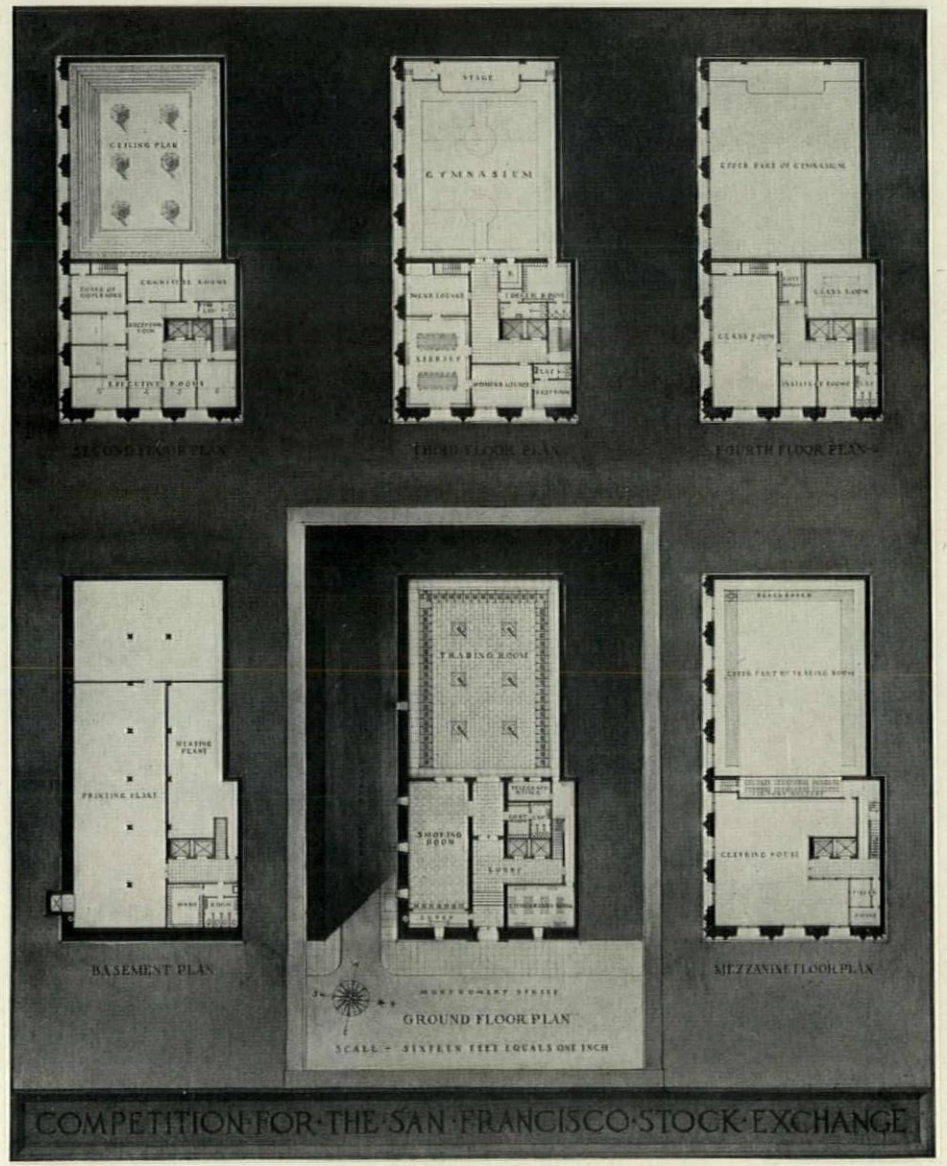
DR. W. H. P. FAUNCE,

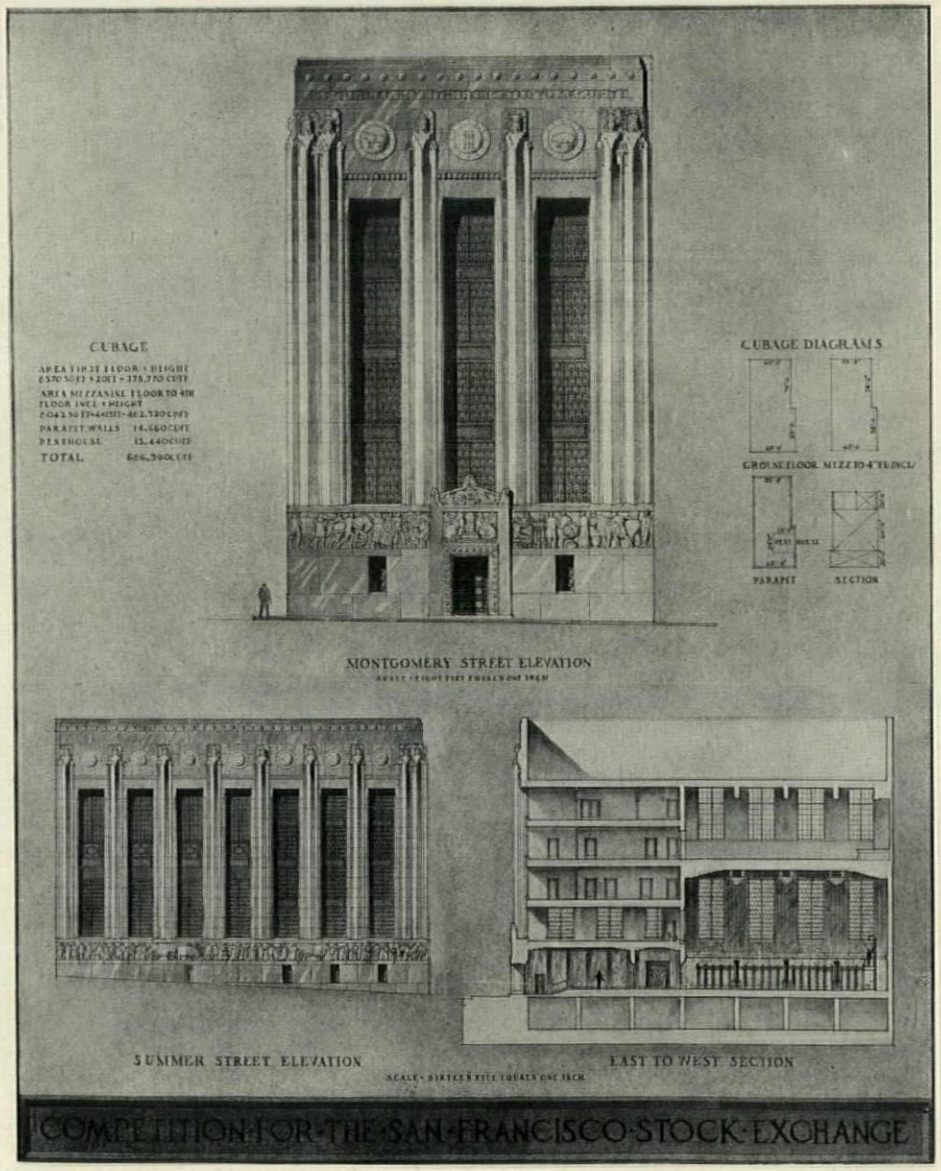
President of Brown University, at a rocking-chair meeting of the Rhode Island Chapter of the A.I.A.:

"Because America is getting the taste, a glorious opportunity is presented to American architects. A great challenge, also, is presented. American architects must avoid the penalty of extremes in their forthcoming efforts to create a truly American style of architecture.

"Our American architects must be original, but they must not be eccentric or fantastic. Such things are not originality, they are audacity.

"The work of the architect is dangerously permanent. Architecture is not as the art of the musician, that is over after a song, nor as the art of the orator, which is gone at the end of a speech. Our buildings will endure for centuries; perhaps for a thousand years."

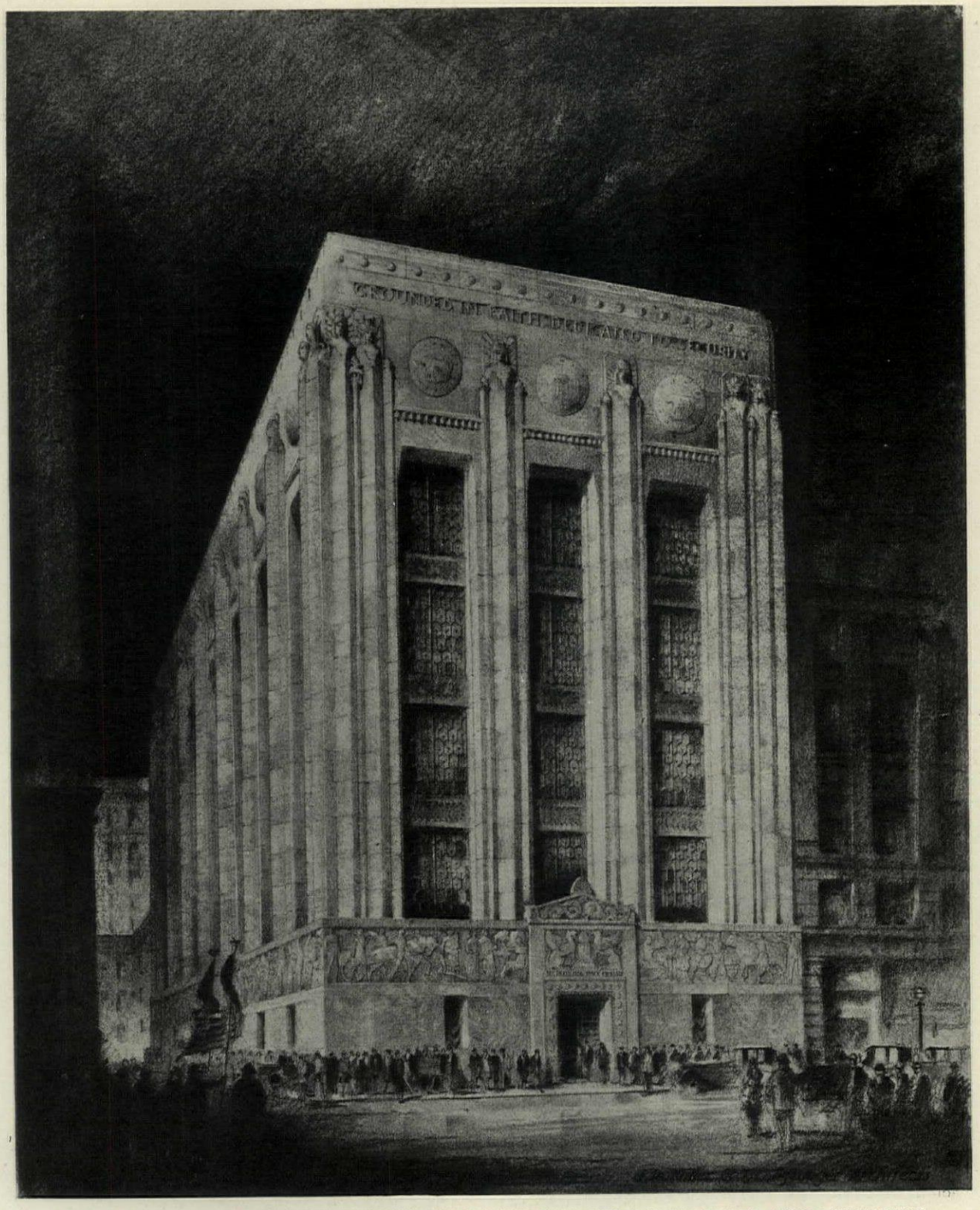




WINNING DESIGN IN THE COMPETITION FOR THE NEW SAN FRANCISCO STOCK EXCHANGE BUILDING

J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS, SAN FRANCISCO

(See text on page 238)



RENDERING BY HUGH FERRISS, WINNING DESIGN FOR THE NEW SAN FRANCISCO STOCK EXCHANGE

J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS, SAN FRANCISCO

(See text on page 238)

THE NEW SAN FRANCISCO STOCK EXCHANGE

MILLER AND PFLUEGER, ARCHITECTS

THE DESIGN FOR the new building for the San Francisco Stock Exchange, reproduced on the preceding pages, was selected by a competition conducted under the rulings of the American Institute of Architects.

Five San Francisco architects were invited to compete, and were paid for their time. The architects selected were Arthur Brown, Jr., Bliss and Fairweather, Weeks and Day, Lewis P. Hobart, and Miller and Pflueger. The drawings demanded were few, and of a small scale, and in addition to two rendered elevations, a most sensible thing was done in the call for a monochrome perspective. The jury was composed of two architects from Portland and Los Angeles, respectively, with one juror only to represent the Owners, San Francisco Stock Exchange. As the verdict was unanimous, it follows that the selection rested finally with the profession, and was outside and practically independent of the Owners.

As the lot is small, and the requirements of the Exchange quite definite, all the plans were in rather close accord. The layout seemed self-evident. For all that, the winning design was the most straightforward.

Of the plan, it is not necessary to go into detail, other than to point out that the two large room units are placed in the rear on top of one another, the Trading Room on the ground floor, and the Gymnasium directly over it. The smaller rooms occupy the front part of the lot with five stories, instead of two.

The winning design, with three bays on Montgomery and seven bays on Summer Street, is divided vertically into three distinct stages; a base for the first story, compound piers making one high architectural story out of the four real ones, since no masonry crosses the window heads; and finally, a very deep frieze, in reality a super-firewall, twenty feet high, the inside of which does service for a group of handball courts on the roof. The exterior fenestration, apart from very small openings in the base, consists of high vertical slots without more horizontal interruption than is necessary to define a grilled window screen from the same metal screen where it is panelled at the dado, or perforated at the sash.

Regarding the entrance framework, an earlier study of the rachitects' which we were privileged to see, showed a plainly bordered square-topped scheme upon which a group of heroic sculptured figures gave a truly magnificent "uplift," in a purely pictorial and not ethical sense (for the benefit of Mr. Menken) without at all suggesting, as the present scheme does, anything whatever held over from architectural antiquity.

The entire "basement" story, of which this is separate detail, is, we think, very splendidly conceived; the whole symbolic frieze incised in a field of polished black granite would, we might almost hope, cause traffic disturbances, especially if an eminent sculptor handled the subject more or less "in modo antico."

The logical opportunity to substitute diagonal corners of stone instead of the tiresome edges squared with the building has here been seized upon with most refreshing and stimulating results, because absolutely new to the eye and capable of splitting all incident light into sparkling brilliance on one side of the thin front edge, and into deepest shade on the other, with what remains parallel to the street line in a medium tone and the splayed jambs of the window openings in still another shade.

The windows differ completely from all the office windows we have ever seen. They are no longer small, dark rectangles of glass, but large, bright rectangles of grillework. We understand that if the stonework is carried out in polished green granite, the grillage will be done in silver; that is, some type of white metal. If, however, a green polishable stone is not available, a polished pink granite may be substituted with the metal work of Pompeiian green. In any event, the color scheme will be both new and entrancing.

The very deep frieze band, or head, of the building, will again strike an unusual note in its utter freedom from anything like an overhanging cornice. This, again, is in line with sheer logic.—*B. J. S. Cahill.*

PRIZES AWARDED IN COMPETITIONS FOR WAYSIDE REFRESHMENT STAND

DESIGNS SUBMITTED in the Competitions for a Wayside Refreshment Stand were judged on March 17th and the following prizes awarded:

Group I—A Refreshment Stand.

1st Prize, $500. to William E. Frenaye, Jr., New York; 2nd Prize, $400. to Franklin Scott, New York; 3rd Prize, $300. to Laurence Doubleday, Ithaca, N. Y.; 4th Prize, $200. to James A. Britton, Boston, Mass.; 5th Prize, $100. to Burton A. Bugbee, Ithaca, N. Y.

Group II—A Refreshment Stand and Gas Station.

1st Prize, $500. to Henry Ives Cobb, Jr., New York; 2nd Prize, $400. to Malcom P. Cameron, New York; 3rd Prize, $300. to Sam F. Swales, New York; 4th Prize, $200. to Weston Morley Geety, New York; 5th Prize, $100. to A. S. Crapsey and Charles Leonardi, New York.

The members of the jury were A. F. Brinckerhoff, Harvey Wiley Corbett, George B. Ford, Ely Jacques Kahn, and Electus D. Litchfield.

The first prize winning drawings are reproduced on pages 240 and 241.

In commenting on Mr. Frenaye's design the judges said:

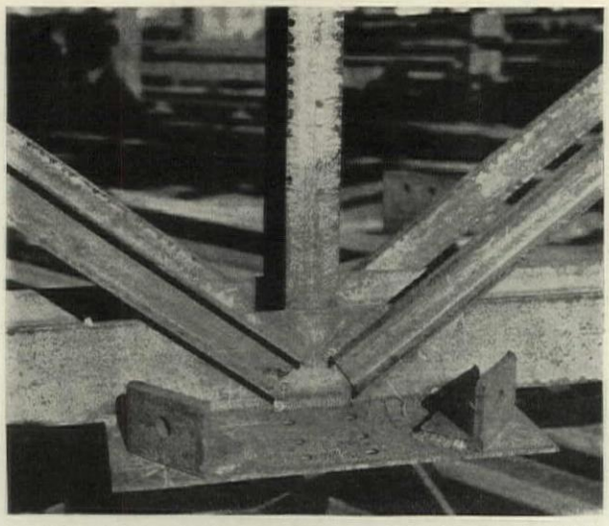
"The first prize is outstanding for its appropriateness and beauty of design. It needs no signs to show that it is a roadside stand. Its rustic character would make it seem in harmony along any roadside. The plan is delightfully simple and straightforward, and exceptionally economical as to construction. It has distinct charm, both inside and outside."

And quoting from the judges' report on Mr. Cobb's design:

"The first prize-winner stands out from all the drawings submitted in both competitions for its sheer charm. It is delightfully simple in design, excellent in proportions, and most economical in planning and construction. The interior arrangement is particularly interesting. The gas station features are extremely practical in their handling. The building is especially suitable of reproduction in series."

These competitions were the second of a series of four in a campaign initiated by Mrs. John D. Rockefeller, Jr., to improve the appearance of the wayside refreshment stands. The campaign is sponsored by The Art Center of New York and The American Civic Association of Washington, D. C., and is supported by contributions from Adolf Gobel Company.

The winning drawings in both groups are to be published and a set may be had for ten cents upon application to the *Secretary of Competitions*, The Art Center, 65 East 56th St., New York.



ARC WELDED ROOF TRUSS, 58 FT. LONG x 8 FT. DEEP

View of connection at center where two tension members and one compression member point the bottom chord.

A WELDED BUILDING

THE ILLUSTRATION above shows a portion of a truss used in the construction of the Tank Shop building now nearing completion at the West Philadelphia works of the General Electric Company. The entire structure is electrically welded instead of riveted and the success and economy with which the operation was carried out makes this job of particular interest to architects as well as to engineers. Harris and Richards of Philadelphia were the architects of the building.

The use of welding resulted in a considerable saving of steel, in a reduction of cost of the steel frame, and in the elimination of noise due to riveting. Having a total of 989 tons of steel of which 745 tons passed through the welding shop of the American Bridge Company at Trenton, N. J., this building is one of the heaviest among welded structures. It is also unique in that it exceeds all other welded buildings in the use of trusses.

The steel frame of the building consists of steel columns, made of new Carnegie beam types, between which are welded transverse trusses of the Pratt type with parallel chords in the two main aisles, but with inclined top chords in the head-house trusses. The latter trusses have spans, center to center of columns, of about 77 feet and vary in depth from 8 feet, 4 inches at one end to 6 feet, 4 inches at the other to carry the sloping roof of the head house. One main aisle has roof trusses 7 feet deep with eight panels each 9 feet, 9 inches, making the span 58 feet, 6 inches. The other truss chords in the main aisle are horizontal and as the main purlins rest on the top chords of these trusses, roof slopes for drainage are provided for by sloping the secondary purlins.

In general each column had a 1½-inch cap plate welded directly to its web and flanges, but the 1½-inch base plate was in most cases not welded to the column. Each anchor bolt was connected to each column by passing between the column flange and a short angle standing vertically with outer edges of both legs welded to the face of column flange. The anchor bolt nut bears against a plate washer resting on upper end of the angle. The device is very simple.

The bays in the main aisle were 24 feet to 25 feet while those in the head house were from 25 feet, 7 inches to 29 feet, 3 inches.

The design of roof trusses is characterized by the use of one 8-inch Carnegie beam for each top and bottom chord with flanges vertical; to the outer surfaces of which are welded channel diagonals and to inner surfaces 7-inch I-beam verticals. By thus welding diagonals and verticals directly to chord flanges the use of over 1,200 gusset plates were avoided in the trusses. Another feature is the absence of lattice bars, not only in all trusses but generally throughout the building. In only two members in the entire building were lattice bars used.

The fillet welds, of triangular cross section with base and altitude generally ⅜ inch each, are subjected to longitudinal shear, and the unit shearing stress used in the design is 3,000 pounds per linear inch for ⅜-inch fillets. In comparison with many tests made by the General Electric Company this represents a factor of safety of at least four.

At the Trenton fabricating shop five welders were generally used, each using a single operator motor generator set which consists of a generator, control panel, motor, starter and reactor assembled on a base. At the building site in West Philadelphia two welders were used each supplied with a machine brought from Trenton and made portable by mounting on simple hand trucks.

The design of this building was based in part upon tests made by Rensselaer Polytechnic Institute for the General Electric Company. The plates were of such sizes and thicknesses that at the ultimate loads the stresses in the plates were much below the elastic limit. For specimens in tension the ⅜ inch x ⅜ inch triangular fillets of varying lengths gave an average longitudinal shearing strength of 13,300 pounds per linear inch of fillet; whereas, compression specimens with varying lengths of ⅜ inch x ⅜ inch fillets gave from 17,800 to 15,800 pounds ultimate shearing strength per linear inch of fillet.

It is apparent that the 3,000 pounds per linear inch used in design for this building gives ample security.

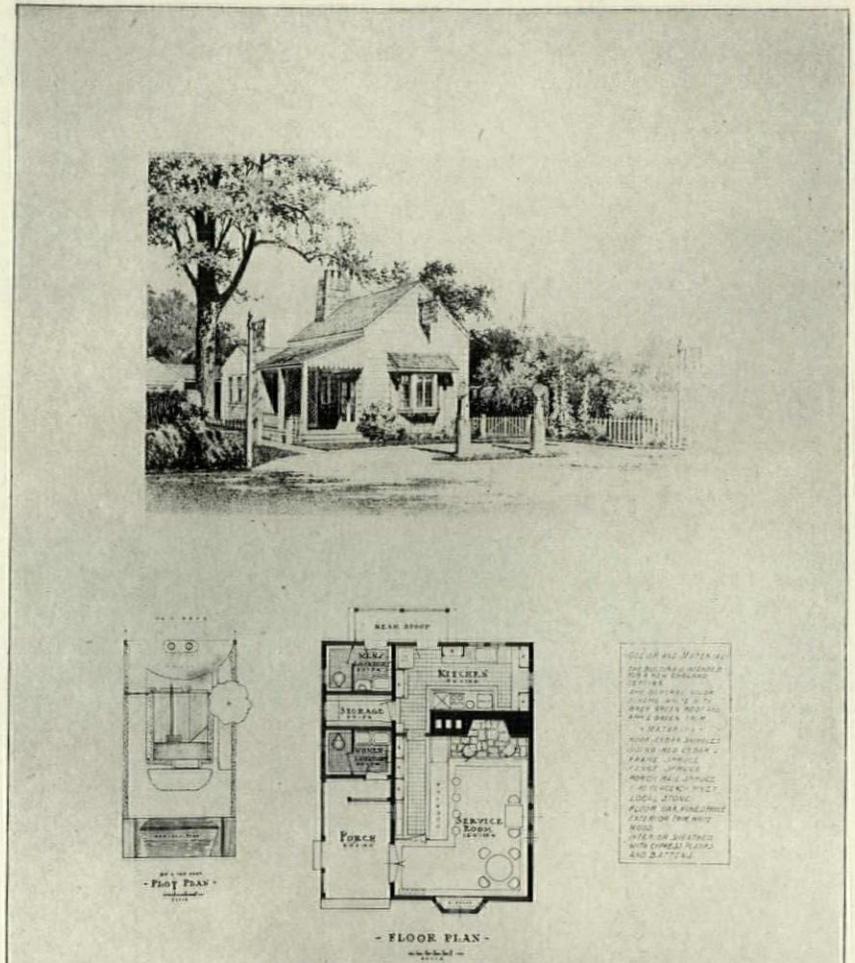
PRODUCERS' COUNCIL

THE FIFTH ANNUAL MEETING of The Producers' Council, affiliated with the American Institute of Architects, will be held at the Kingsway Hotel, St. Louis, Missouri, on Tuesday, May 15th, 1928, the day preceding the opening of the Annual Convention of the Institute. Several prominent architects will address the meeting on subjects of mutual interest.

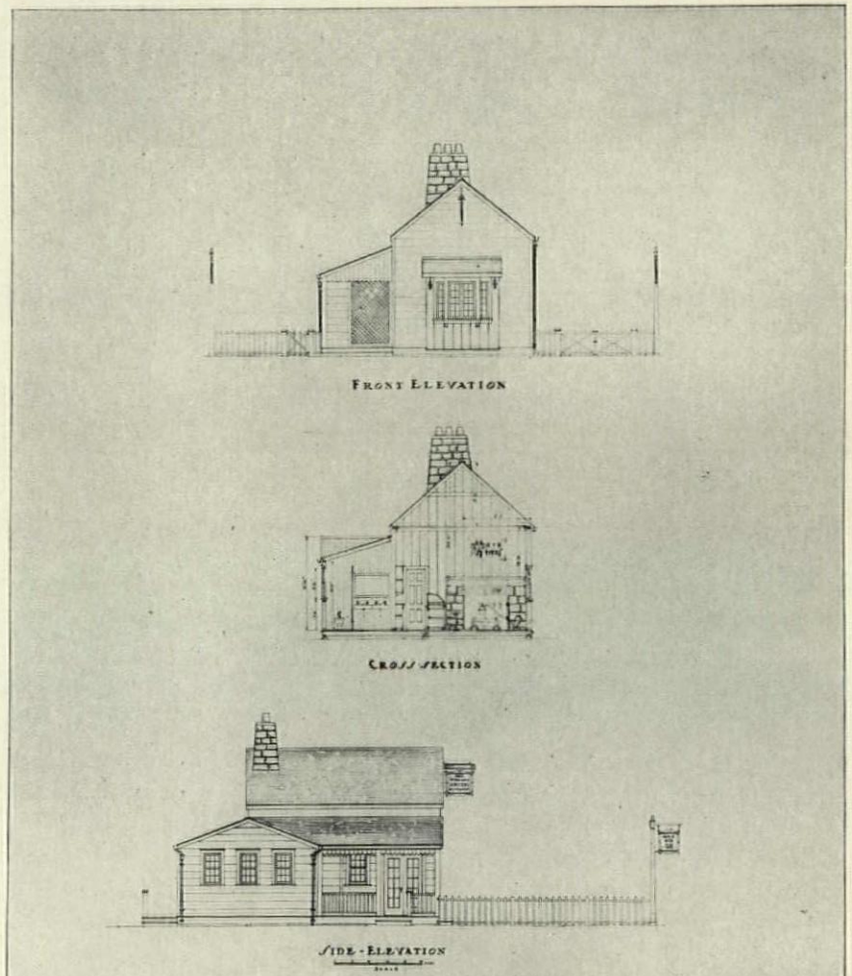
All members of the Institute are cordially invited to attend the meetings of the Council at the Kingsway Hotel, which is only one block from the Institute's headquarters at the Chase Hotel.

ILLUMINATING ARCHITECTURE AT NIGHT

OUR ATTENTION has been called during the past month to an unusual example of the use of flood lighting to illuminate architecture and to make it more effective at night. The building in question is the new Edison Building of the Philadelphia Electric Company, designed by John T. Windrim, Architect. By a system worked out by the engineers of the Pittsburgh Reflector Company and the A. Hopkin, Jr. Company of Philadelphia, the tower is now illuminated at night in changing colors applied by a wash lighting system involving the use of white and colored light. By means of this system scores of combinations of color are available. The constantly shifting tones of color and light make this building the most prominent spot in the skyline of Philadelphia at night.



DESIGN FOR
REFRESHMENT STAND AND GAS STATION

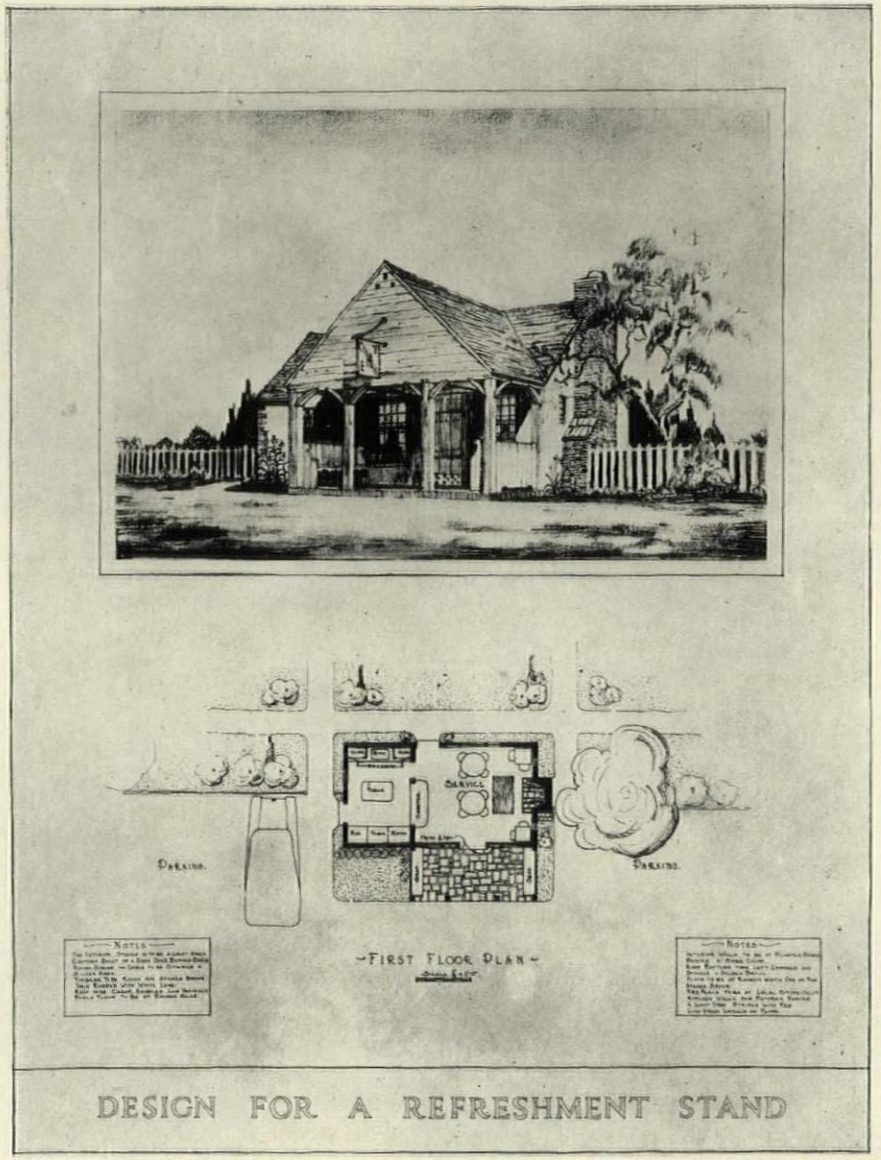


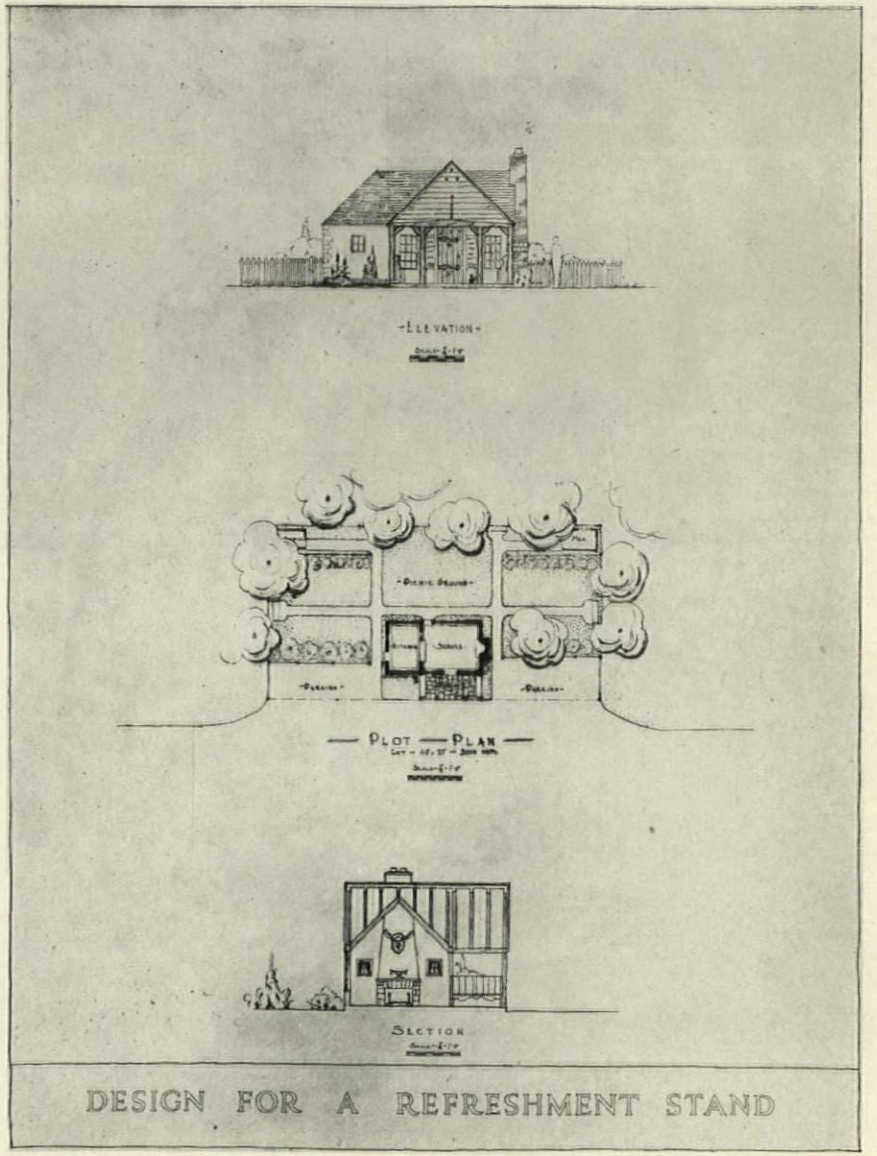
DESIGN FOR
REFRESHMENT STAND AND GAS STATION

PRIZE WINNING DESIGN IN THE COMPETITION FOR A WAYSIDE REFRESHMENT STAND AND GAS STATION

WON BY HENRY IVES COBB, JR., NEW YORK, N. Y.

(See text on page 238)





PRIZE WINNING DESIGN IN THE COMPETITION FOR A WAYSIDE REFRESHMENT STAND

WON BY WILLIAM E. FRENAYE, JR., NEW YORK, N. Y.

(See text on page 238)

NOTES FROM THE DETROIT ARCHITECTURAL BOWLING LEAGUE

ANOTHER MONTH has passed with but few changes in the standings of the teams. McGrath & Dohmen, and Smith, Hinchman & Grylls have completely outclassed the field this year and most of the interest is centered on the race for third place.

Just now it seems quite probable that we shall increase our membership before next season starts. Letters have been sent to most of the architects in the city who are not already represented, asking if they would care to enter the League. Several firms have already signified their intention of putting in a team in case it can be worked out advantageously to all concerned. It has been suggested that we add six teams and divide the new League into two eight-team sections.

The standings of the teams on March 10th were as follows:

	W	L
McGrath & Dohmen	51	18
Smith, Hinchman & Grylls	47	22
Albert Kahn	34	35
Frank H. Nygren	34	35
Louis Kamper	33	36
Donaldson & Meier	32	37
Malcomson & Higginbotham	32	37
Janke, Venman & Krecke	30	39
Van Leyen, Schilling & Keough	30	39
Weston & Ellington	23	46

High Ind.—1 game Krecke (J. V. & K.)—266
" " —3 games Jolson (F. H. N.)—654
High Team—1 game Janke, Venman & Krecke—1027
" " —3 games Smith, Hinchman & Grylls—2866

CLEVELAND ARCHITECTURAL BOWLING LEAGUE

THE PRESENT standing of the teams in the Cleveland Architectural Bowling League is as follows:

Position	Team	Won	Lost	Pct.	Ave.
1	Walker & Weeks	62	7	.898	.835
2	Corbusier & Foster	48	21	.696	.764
3	Small & Rowley	44	25	.638	.772
4	City Architects	39	30	.565	.746
5	Warner & McCormack	31	38	.449	.737
6	Board of Education	31	38	.449	.741
7	Chas. S. Schneider	29	40	.420	.737
8	Howell & Thomas	27	42	.391	.725
9	Meade & Hamilton	23	46	.333	.707
10	Abram Garfield	11	58	.158	.675

High team (3 game) total	Walker & Weeks	2710
High team (1 game) total	Walker & Weeks	979
Individual High Single game.		
1 Zaiser (Corbusier & Foster)		246
2 Bradner (Board of Education)		245
3 Rose (Walker & Weeks)		234
Individual High (3 game) Series.		
1 Schrimpton (Small & Rowley)		659
2 Oram (Corbusier & Foster)		633
3 Worthley (Corbusier & Foster)		608
Individual High Average for Season.		
1 Rose (Walker & Weeks)		181
2 Schrimpton (Small & Rowley)		175
3 Ventker (Walker & Weeks)		174

SKETCH CLUB OF NEW YORK

THE ANNUAL MEETING of the Sketch Club of New York will be held on April 28th at a studio in Greenwich Village. Dinner will be served and a water color class will be conducted under the personal direction of Hughson Hawley, with entertainment by club talent. All members are requested to notify Henry C. Van Cleef, 2207 Broadway, of changes in address.

GARGOYLE CLUB OF NEW YORK

A MEETING of the Gargoyle Club of New York will be held on April 17th at the Architectural League of New York clubhouse at 115 East 40th Street. The meeting, which will be "Ladies' Night," will be held under the direction of the Entertainment Committee. Dinner and a variety of entertainment will be followed by dancing.

PRATT ARCHITECTURAL CLUB

DEAR MEMBERS:—

The first paragraph of this month's letter will be the important one for the members. Mr. Wm. H. Gompert, charter member of the Club and member of the Board of Governors, resigned as Architect of the Schools of New York City. In order to protect his reputation and professional standing from possible hurt (stories will start when an architect resigns such a position as this) the New York Chapter of the A.I.A. made a thorough investigation and passed a resolution in which Mr. Gompert was highly commended for the way in which his office had been run and in all that he accomplished while in office. The Club gave him a dinner and we are sure that he was thoroughly satisfied as to where he stands with us.

While we did not attend the dance the Club gave for its members, their wives and prospective wives, we heard about it. It was a success in all manner and shapes; special orchestra, a prominent broadcasting gang, lots of entertainment and dancing. The perspiring architects danced, and otherwise, at every chance they had. Trust them to get their money's worth from a well fed orchestra. Our profs from School where there in all their native glory (and you know where some of them hail from). One of them danced the last dance with his coat on. Probably figured, after looking the gang over, that a coat on the back is worth two in the check room when neither is yours.

The membership is still increasing and it is a good bet that the third year will see a 100% jump over the second year membership total.

That the Tuesday luncheons are well received is proven by the gang at the round table. A bigger table was recently set aside for the members. Once a month they occupy the grill by themselves and listen quietly (it is possible) to a short talk by some imported speaker. The importation is to give the Club orators a rest. We never knew how many orators we had until a recent dinner. Here necessity and not opportunity knocked and we discovered that we did not have to go outside the Club for our talent unless we wanted some talk foreign to an architect—such as how to collect the last payment from the client.

If the Board of Governors does something at their next meeting we hope to be able to tell you some good inside information at the next writing.

Sincerely,
THE COMMITTEE
Chairman, p.g.k.

RESTORATIONS ON THE ACROPOLIS

EDITOR'S NOTE:—*On page 573 of the September, 1927, issue of* PENCIL POINTS *we published a letter received from Clarence Badgeley, Fellow in Architecture, American Academy in Rome, commenting upon the restorations now in progress on the Parthenon. Mr. Alexander Philadelpheus, Curator of Archeology and former Commissioner of the Acropolis, replies to Mr. Badgeley in the following letter to* PENCIL POINTS, *which has been translated from the Greek by T. Protopopas, of the Massachusetts Institute of Technology.*

Athens, Greece
February 17, 1928

DEAR MR. EDITOR:

I was surprised to read in your distinguished magazine a letter by Mr. Clarence Badgeley, Fellow in Architecture, American Academy in Rome, about the restoration work on the Parthenon. In so far as that letter contained inaccuracies which may harm this great work and at the same time defame my country, I shall request you to publish these few lines so that those inaccuracies be rectified, for the sake of truth and justice.

Mr. Badgeley writes that he was surprised when he saw the workmen using concrete as filler, where marble could be used, and that this is a great mistake. But this is not new for the restorers of the Parthenon, because many parts of this famous temple have been finished with marble, particularly during the year of 1894, when the terrible earthquakes occurred on Good Friday. The whole western façade was in danger of falling down then. Three famous architects came to Athens at that time; Penrose from London, Magne from Paris, and Durm from Germany. They prepared plans for the restoration of that façade. New huge architraves of Pentelic marble were placed which strengthened this immortal building for many centuries to come.

Since then all the restoration work is based on that plan and all work is done on the same system of scaffolding, under the direction of Mr. N. Balanos, head of the Architectural Division of the Department of Education. Mr. Balanos has been working for thirty years on the Acropolis. Many years ago he restored many parts of the Propylaea and of the Erechtheion, and if Mr. Badgeley observed these monuments, he would have noticed that marble has been used everywhere. Recently, however, concrete has been considered more suitable. This step was approved by all archeologists of the foreign schools (in Athens) so there is no question of arbitrariness and superficiality.

Neither is it true that the restoration of the Parthenon is being paid for by *American money only*. As soon as our country gained its independence, the Greek nation began to restore the Parthenon. Notwithstanding the fact that the blood of our heroes who gave their lives for our independence was yet fresh, nevertheless the Greek government began the work of strengthening and renewing the most splendid temple of Greek antiquity. At that time also the small temple of Niké Apteros (Wingless Victory) was restored entirely from its foundations. The Turks had razed the building and used all its marble to construct entrenchments in front of the Propylaea, which are called "Serpentzé."

And for all this work the needy Greek nation, particularly at that time when its poverty was greatest, spent millions without asking pecuniary aid from anyone. It is only recently or about a year ago, I think, that a banquet was given in New York where many professors, friends, and admirers of Ancient Greece participated. Edward Capps, professor of Greek literature and former United States minister to Greece was present, and he spoke with admiration about the work which is progressing on the Parthenon. He proposed that America contribute toward such noble effort and thus unite forever the name of the American people with the most perfect monuments of the world. Everybody showed great enthusiasm over Professor Capps' happy inspiration and welcomed his proposal. Immediately, each one present contributed various sums which resulted in a significant fund worthy of the nation which these noble lovers of Greece represent.

Such is the condition in all sincerity and truth, dear Mr. Editor, of the restoration of the Parthenon which differs substantially from that of your correspondent who throws such blame on the Greek people as if they were not taking care of their monuments and their ancestral glories. I remain,

Yours sincerely,
(Signed) ALEXANDER PHILADELPHEUS,
Curator of Archeology, former Commissioner of Acropolis, etc., etc.

PHILADELPHIA ARCHITECTS' TOUR

IN RESPONSE to numerous requests from students in universities and men employed in architects' offices a special tour is being offered to those interested in architecture and the allied arts. The intent of this tour is to create an interest and further a more complete knowledge of the architectural gems of the old world by means of lectures and actual sketches made by members of the party. The tour will be under the direction of Mr. C. A. Scheuringer and Mr. E. E. Williams, who are qualified by their training and experience to instruct the members of the party in the historic background and the architectural style and development of the buildings and monuments that are to be visited. The tour leaves New York on June 30; the itinerary includes France, Italy, Switzerland, and England, returning to New York the early part of August. For additional information write to Mr. Scheuringer at 1211 Chestnut St., Philadelphia, or Mr. E. E. Williams, 9 North Avenue, Wyncott, Pa.

PARIS SUMMER SCHOOL ART COURSES

THE DEPARTMENT OF FINE ARTS of New York University, through the courtesy of the French Ministry of Fine Arts, will conduct a summer school in a quadrangle of the Louvre Museum. Nine courses will be given in English by French professors.

The school is open to both men and women and the rate of $475 each person includes tuition fees, choice of any four courses, Transatlantic passage in the Student Tourist Cabin, accommodations and meals from arrival in France to departure for New York at the end of the courses. The party will leave New York on June 16th, returning to New York on August 24th. For complete information write to the *Secretary*, Dept. of Fine Arts, New York University, Washington Square East, New York.

INDUSTRIAL ART SCHOOL FOR CHICAGO

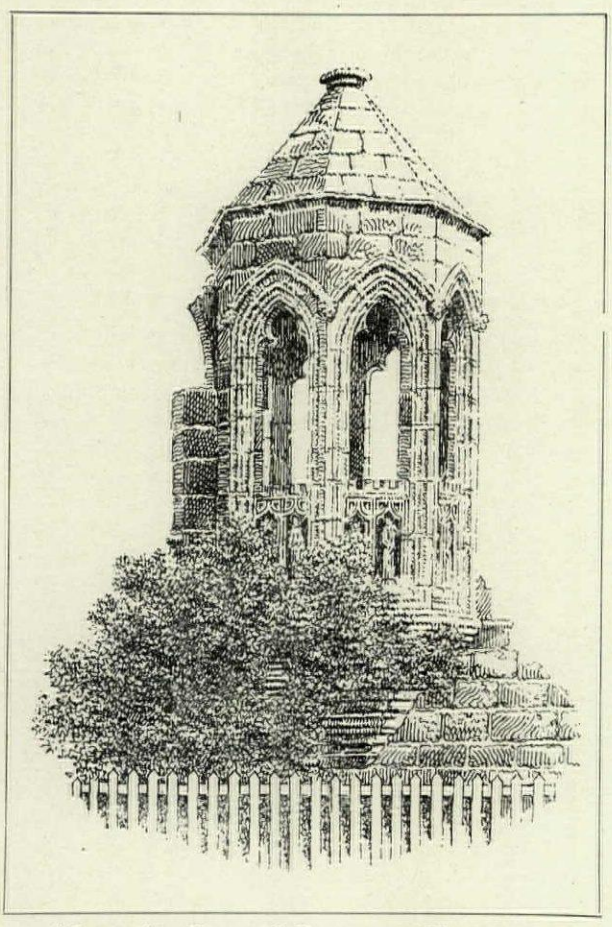
THE NEW Industrial Art School will be housed in the Art Institute of Chicago. Money is now being raised to pay the salaries of a staff of expert instructors so that the very best instruction may be offered in a wide range of industrial arts. Of particular interest to the architectural profession will be the class in Architectural Modelling, which has been made possible through the generosity of Gustav Hottinger, President of the Northwestern Terra Cotta Company.

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. Competitions close the fifteenth of each month so that contributions for a forthcoming issue must be received by the fifteenth of the month preceding the publication date in order to be eligible for that month's competition. Material received after the closing date is entered in the following month's competition.

THE PRIZE WINNERS in the March Competitions are as follows:

Class One—William Eaton, of Cardiff, Wales.
Class Two—"Jiggs," of New York.
Class Three—Fred H. Kock, of Cincinnati, Ohio.
Class Four—"Doc" Caulstone, of Cambridge, Mass.

"Doc" Caulstone sends us an esquisse for a built-in ash tray, reproduced on the opposite page, along with a note telling us that we should have a Competition for Bigger and Better Built-in Ash Trays. Therefore, we take pleasure in announcing such a competition. Drawings may be submitted on any kind of white paper, but must be done in black ink. Designs will be received until 5 P. M., on May 12th, and should be addressed to R. W. R., in care of this department, 419 Fourth Avenue, New York. Suitable prizes will be awarded!!



"OPEN AIR PULPIT," DRAWN BY WM. EATON
(PRIZE—*Class One—March Competition*)

"Jigg's" poem, *Beaux-Arts Building Ballad*, must have been inspired by the illustrations that accompanied Francis Swales' article in the January issue on *The Competition Extraordinary*.

BEAUX-ARTS BUILDING BALLAD

(PRIZE—*Class Two—March Competition*)
By "Jiggs"

Have you all seen,
The sketches so grand,
Made by the Patrons,
In a four-hour stand?

If not, take a look
At the drawings submitted,
And you'll see at a glance,
Why their noses I've twitted.

Yet, these are not bad,
For some you can bear,
But think of the mess,
Had all our bosses been there.

They can well walk around,
Looking wise and give h—,
When called to do real work,
They don't look so well.

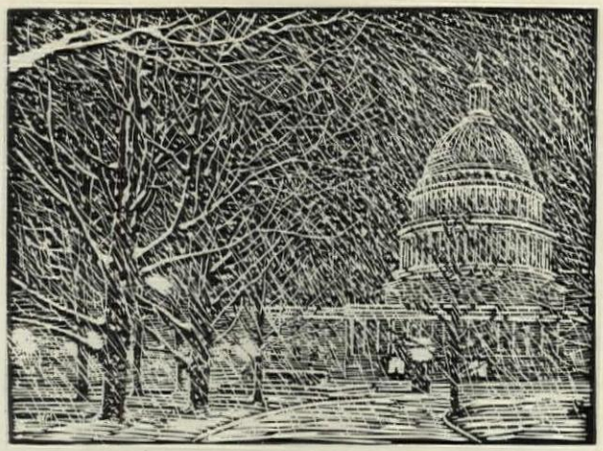
Old man Hirons gets credit,
To him credit is due,
And there are few others
Who have nothing to rue.

Couldn't they think of this building
In terms pure and simple,
Without getting the aid,
Of old Rip Van Winkle?

Some were not happy
Until they had placed,
A shopworn old detail,
On our building's new face.

Just look at the others,
Made in Georgian and Greek,
Romanesque and Grotesque,
With minds that are weak.

Let's be more modern,
Away with the trash,
The jumble, the mixup,
Of wornout old hash.

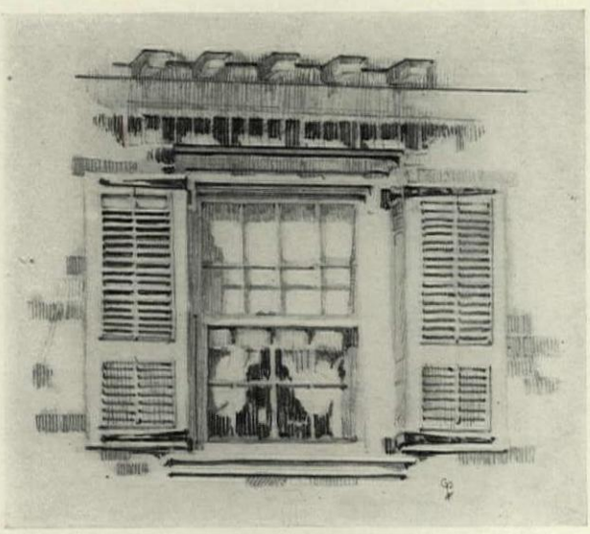


WOODCUT BY W. B. MACK, OF PENN. STATE COLLEGE
"Winter Night in Washington"

GERALD ANTHONY PAUL sent us two nice pencil sketches of windows, one of which is reproduced below, and some good advice on how it's done:

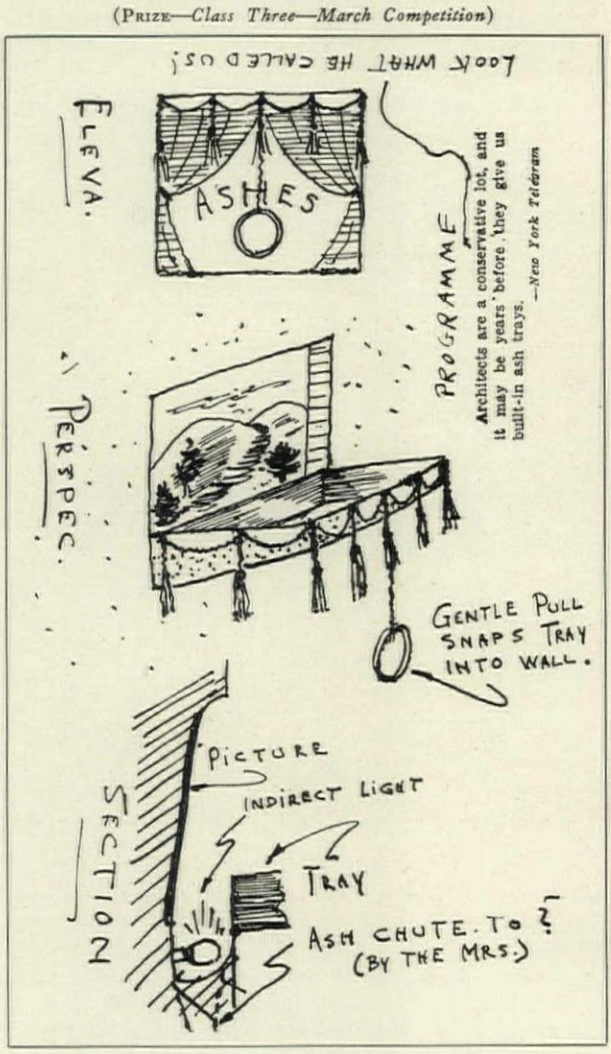
"Window patterns are dandy things to work out when you render buildings and perhaps a few tricks that I have picked up will make the job easier. When there are many windows on the same surface, such as an office building, work up those that fall within the center of interest and merely suggest the shadows of the openings of the others. Omit most of them—it looks better and the drawing doesn't seem to be labored. Where there are only a few—render those at the center of interest—the spot to which the eye is first attracted—subordinating all others, but do not omit any.

"Work with a round point until it has worn flat then use it to 'paint in' the shadows with a 'brush-like' stroke. Cast shadows should be light and transparent and should describe the forms on which they fall. Shadows on white surfaces are light; black tones should be saved for openings to show depth. Hide your 5B or 6B until the drawing is complete—then put the icing on the cake."

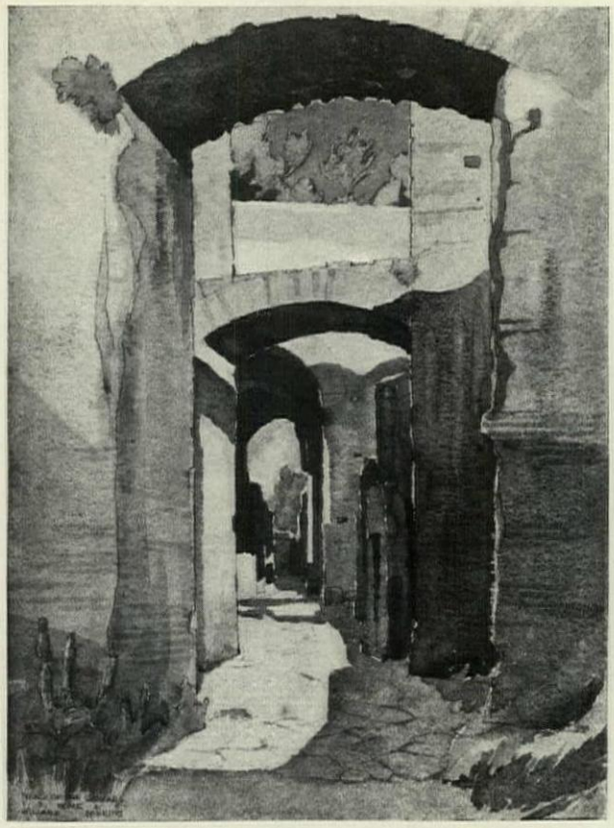


PENCIL SKETCH BY GERALD A. PAUL, OF NEW YORK
(see text above)

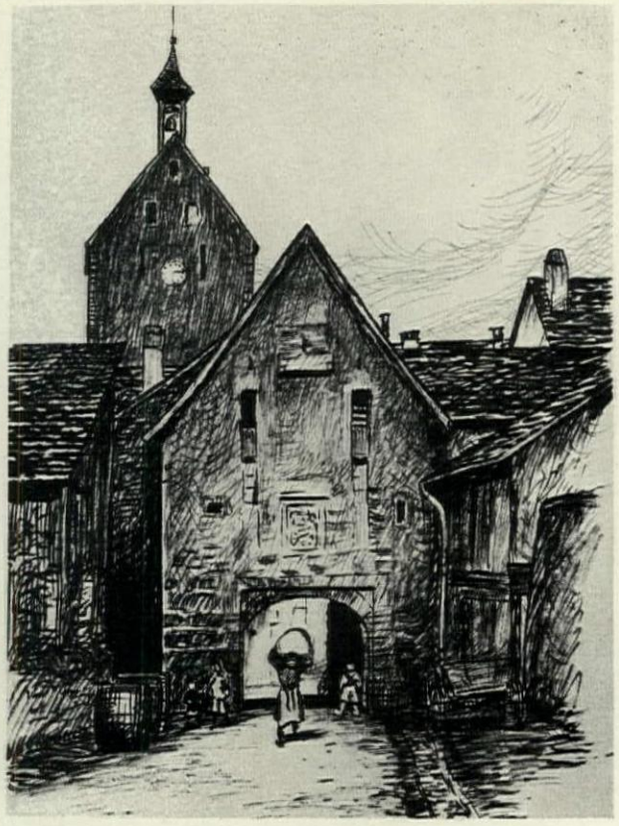
"OFFICE PRACTICE," BY FRED H. KOCK
(PRIZE—*Class Three—March Competition*)



ESQUISSE FOR A BUILT-IN ASH TRAY, BY "DOC" CAULSTONE
(PRIZE—*Class Four—March Competition*)



WATER COLOR BY WILLARD PERKINS, OF PITTSBURGH, PA.
Palace of the Cæsars, Rome



SKETCH BY RALPH WARRIN, OF NEW YORK
Drawn with a brush in India Ink

"DE PROFUNDIS"—CHARCOAL DRAWING BY LUDWIG MESTLER, OF NEW YORK

This drawing, in the words of the designer, is "An attempt to illustrate the state of mind of Christ, at the time when he, a boy of thirteen, talked to the scribes in the temple. Using his powers for the first time, he becomes conscious of them and, like an hallucination, a horrifying presentiment of his life's tragedy arises within him. This appearance marks the boundary of two worlds of thought and sentiment. Hence his head is shown between their symbols: the Thora, the scroll of laws of the ancient Hebrews, and the Cross, crudely made of twigs, as indication of Christianity dawning. Above the head as a kind of halo, threatens the crown of thorns. With its three bows it reminds of the Holy Trinity. The initials of the sarcastic inscription on the Cross of Golgatha: 'Jesus Nazarenus Rex Judorum,' Jesus of Nazareth, King of the Jews, in connection with his own monogram are meant to characterize the tragic irony by which this Superhuman has been persecuted, that irony which is part of the fate of all mortals."

THE SPECIFICATION DESK

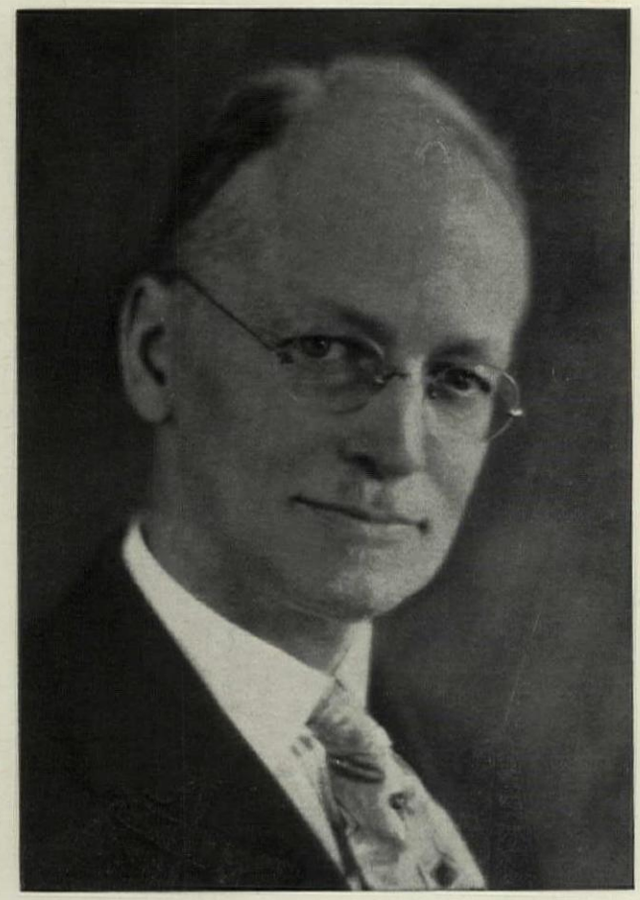
A Department for the Specification Writer

EMERY STANFORD HALL AS A SPECIFICATION WRITER

By Wilfred W. Beach

ALTHOUGH NOT boasting one of the largest practices, no architect is better known to his confrères of the Central West than Emery Stanford Hall of the firm of Emery Stanford Hall, Bisbee and Rhenisch, Chicago, Ill.

Mr. Hall has been a hard-working participator in the management of the affairs of the Illinois Society of Architects from its inception as the Chicago Architects' Business Association and has been twice honored by its presidency. Meanwhile, he has also been a truly active member of both the Illinois Chapter of the American Institute of Architects and the national body.



EMERY STANFORD HALL

For many years he has edited the annual *Handbook* of the Illinois Society and has been the chief factor in making it invaluable in the office of every architect—alongside Kidder and the local code.

Some architects fish in their spare time, some golf and some tour Europe and the antipodes, but Mr. Hall's hobbies are the *Handbook*, his filing system, and his specification make-up. These are closely interrelated, as he uses his numerical reference system (published in the *Handbook*) throughout his whole office procedure—catalogue and plate filing and specification divisions and sub-divisions. Mr. Hall was appointed by the American Institute of Architects as its representative to committee and convention sessions on the standardization of advertising documents in which, as secretary of the Illinois Society, he had taken the initiative as far back as the year 1900. Mr. Hall's system for filing such documents is founded upon the well-known Dewey System of library catalogue fame.

He has extended and perfected its application to architectural practice, publishing an up-to-date revision in the *Handbook*, year after year. This is quite worthy of study, as is the consideration of its adoption in any office.

Under the ten major divisions of the Dewey System, *6* (or *600*) is the numeral allotted to the *Useful Arts*, under which are the following sub-headings:

610 Medicine
620 Engineering
630 Agriculture
640 Domestic Economy
650 Communication and Commerce
660 Chemical Technology
670 Manufacture
680 Mechanic Trades
690 Building

Of the foregoing, Mr. Hall's classification for the use of architects is, of course, concerned with the last numbered, *690, Building*. This he sub-divides after this manner:

690. Building—Materials and Trades—General.
691. Earth-Working, Transportation and Teaming Trades.
692. Mortar-using Trades (Inc. Masonry, Plastering, Tile and Marble Setting and the preparation for same).
693. Wood-Working Trades.
694. Heavy-Metal Trades—(Employing Metal heavier than No. 10 gauge).
695. Sheet-Metal Trades—(Employing Metal of No. 10 gauge or less).
696. Brush, Broom and Swab-Using Trades.
697. Pipe Trades.
698. Wire and Conduit Trades—Electrical Work of All Kinds.
699. Machinery Trades and Miscellaneous Building Items—(Not Otherwise Classified).

The amplification of these sub-headings makes a classification for the catalogue filer as nearly ideal as may be. But it is not of Mr. Hall's catalogue-filing system that we are treating.

Referring to the general subject, *690 (Building—Ma-*

terials and Trades), he lists the following:

690.0 General.
690.1 Education of Personnel Concerned in Building.
690.2 Building Material in the Abstract.
690.3 Plans (Drawings) for Buildings.
690.4 Specifications for Buildings.
690.5 Estimates for Buildings.
690.6 Contracts and General Conditions.
690.7 Supervision of Construction and Accounts.
690.8 Professional Services.
690.9 Laws and Rules Controlling Building.

We now get to the point, as it is sub-division *690.4, Specifications for Buildings*, with which we are concerned. This Mr. Hall further divides in a manner paralleling the sub-divisions of 690, thus:

690.40 Matter Pertaining to all Trades.
690.41 Earth-Working and Transportation Trades, including Miscellaneous Labor.
690.42 Mortar-Using Trades.
690.43 Wood-Working Trades and Hardware.
690.44 Heavy-Metal Trades (Employing Metal heavier than No. 10 gauge).
690.45 Sheet-Metal Trades (Employing Metal of No. 10 gauge or less).
690.46 Brush, Broom and Swab-Using Trades.
690.47 Pipe Trades.
690.48 Wire and Conduit Trades.
690.49 Machinery and Miscellaneous Trades.

It will be noted that the segregation employed is not in the approximate order in which the various trades attack the work, as is more customary, but according to the tools and materials of those trades. As worked out, however, the sequence is not vastly different.

Obviously, any system of specification writing should be usable, without material change, for the letting either of a general contract, or for a major contract and minor contracts, or for a number of contracts without a major. This phase of Mr. Hall's topical system is to be particularly noted.

Inasmuch as the users of specifications are not at all concerned with the derivation of the method of numeration of sections employed therein, Mr. Hall simply refers to his nine major divisions as *Groups I to IX*. These one can sub-divide *ad lib* depending upon one's method of handling sub-contracts or minor contracts.

The following are Mr. Hall's sub-divisions as published in the 1927 edition of the *Handbook*.

Group I. Earth-Working and Transportation Trades.
A. Preparation of Site.
B. Wrecking.
C. Shoring and House Moving.
D. Excavating.
E. Caisson and Special Foundations.
F. Construction Plant.
G. Maintenance Contract.
I. Grading and Filling.
J. Preparation of Soil, Sodding and Seeding.
K. Planting.
Z. Miscellaneous Labor not Otherwise Classified.

Group II. Mortar-Using Trades.
A. Masonry Materials.
B. Foundation Work.
C. Concrete Work.
D. Stone Work.
E. Brick Work.
F. Fireproofing, Furring and Partitions.
G. Architectural Terra Cotta.
H. Paving.
I. Smoke Stacks of Masonry.
J. Plastic Reinforcement, Lathing and Furring.
K. Plastering.
L. Models, Clay and Plaster.
M. Plastic Insulation, Pipe Covering, Etc.
N. Marble and Substitutes (Including Slate, Structural Glass, Terrazzo Slabs, Etc.)
O. Tile and Substitutes.
P. Terrazzo Blocks.
Z. Miscellaneous Mortar Using Trades not Otherwise Classified.

Group III. Wood-Working Trades and Hardware.
A. Wood-working Materials and Methods.
B. Carpentry.
C. Rough Carpentry Hardware.
D. Finish Hardware.
E. Revolving Doors.
F. Special Doors, Folding, Rolling, Etc.
G. Screens, Wood Frame, for Insects.
H. Wood Registers, Screens, Etc.
I. Mantels, Etc., of Wood.
J. Wood Specialties, Show-cases, Cabinets, Etc.
K. Seating for Assembly, Pews, Opera Chairs, Etc.
L. Wood Platform Furniture, Pulpits, Lectern Sedilia, Altars and Altar Furniture.
M. Portable Furniture of Wood, Chairs, Etc.
N. Domestic Furniture.
Z. Miscellaneous Wood-working Trades not Otherwise Classified.

Group IV. Heavy-Metal Trades—(Employing Metal Heavier than No. 10 Gauge).
A. Metal Materials and Methods.
B. Structural Metal (over No. 10 gauge).
C. Miscellaneous Metal.
D. Ornamental Metal (over No. 10 gauge).
E. Vaults, Safes, Vault Doors, Etc.
F. Solid Metal Sash.
G. Heavy Metal Doors and Shutters.
H. Fire Escapes.
I. Stairs, Metal.
J. Fences, Metal.
Z. Miscellaneous Heavy Metal Trades not Otherwise Classified.

Group V. Sheet-Metal Trades—(Employing Metal of No. 10 Gauge or Less).
A. Sheet-Metal Materials and Methods.
B. Ordinary Sheet-Metal.
C. Slate and Tile Roofing.
D. Ventilating Ducts, Fans, Stacks, Furnaces, Etc.
E. Hollow Metal Windows.
F. Metal Clad Wood Doors.
G. Enamel Sheet Metal Ceilings.
H. Art Sheet Metal Trim and Doors.
I. Enamel Sheet Metal Cabinets.
J. Enamel Sheet Metal Lockers.
K. Enamel Sheet Metal Radiator Covers and Seats.
L. Enamel Sheet Metal Toilet Partitions.
M. Metal Furniture.
N. Sheet Metal Utensils.
O. Drawn Sheet Metal Store Fronts, Etc.
Z. Miscellaneous Sheet Metal Trades not Otherwise Classified.

Group VI. Brush, Broom and Swab-Using Trades.
A. Brush Trade Materials and Methods.
B. Waterproofing Membrane and Mastic or other

Viscous Compositions, mopped, broomed or swabbed in place.
C. Composition Roofing.
D. Plain Painting and Varnishing.
E. Decorations (Plain, Painted or Water Color).
F. Hangings, Fabrics, Etc.
G. Upholstery.
H. Window Shades.
I. Mastic Tile and Sheet Floor Covering.
J. Rubber Tile and Sheet Floor Covering.
K. Cork Tile and Sheet Floor Covering.
L. Carpets, Linoleum, Etc., Floor Covering.
M. Plain Glass and Glazing.
N. Art Glass and Glazing.
Z. Miscellaneous Brush Trades not Otherwise Classified.

Group VII. Pipe Trades.
A. Pipe Trades Materials and Methods.
B. Sanitary Plant.
1. *Sewerage and Drainage.*
2. *Sewerage and Bilge Pumps.*
3. *Sewerage Disposal.*
4. *Plumbing.*
5. *Tanks and Towers for Water Supply, Stand Pipes.*
6. *Gas Fitting.*
7. *Gas Stoves, Etc.*
C. Sprinkler Fitting.
1. *Storage Tanks and Towers.*
2. *Pressure Tanks, Etc.*
3. *Pumps.*
D. Boiler Plant.
1. *Steel Stacks and Breeching.*
2. *Tanks for Water Storage.*
3. *Tanks for Oil Storage.*
4. *Super Steam Heaters.*
5. *Tube Blowers.*
6. *Tube Cleaners.*
7. *Furnaces.*
8. *Stokers.*
9. *Coal Handling Equipment.*
10. *Ash Handling Equipment.*
11. *Pulverized Coal Burners and Pulverizers.*
12. *Oil Burners.*
13. *Gas Burners.*
14. *Draft Inducer Blowers.*
15. *Soot Burners.*
16. *Fuel Economizers.*
17. *Smoke Indicators.*
18. *Feed Water Heaters.*
19. *Boiler Feed Pumps.*
20. *Service Pumps.*
21. *Fire Pumps.*
22. *Governors for Pumps, Etc.*
23. *Water Softeners.*
24. *Lubricators.*
25. *Injectors for Compound.*
26. *Injectors for Water.*
27. *Feed Water Regulators.*
28. *Draft Regulators.*
29. *Flow Meters.*
30. *Draught Gauges.*
31. *CO_2 Recorders.*
E. Steam and Hot Water Fitting.
1. *Vacuum Pumps.*
2. *Vacuum Valves.*
3. *Miscellaneous Specialties.*
F. Steam Power Plant.
1. *Engines.*
2. *Compressors.*
G. Vacuum Cleaning Plant.
H. Mechanical Refrigeration.
1. *Tanks.*
2. *Compressors.*
3. *Cooler Towers.*
I. Mechanical Ventilation.
1. *Heating Units.*
2. *Cooling Units.*
3. *Air Washers.*
4. *Fans and Engines.*
Z. Miscellaneous Pipe Trades not Otherwise Classified.

Group VIII. Wire and Conduit Trades.
A. Wire Trades Materials and Methods.
B. Electrical Conduit and Wiring.
C. Lighting Fixtures.
D. Electrical Power Work.
E. Electric Signs.
F. Private Telephone Systems.
G. Clock Systems.
H. Signal Clock Systems.
I. Fire Alarm Systems.
J. Burglar Alarm Systems.
K. Projecting Machines.
Z. Miscellaneous Electrical Trades not Otherwise Classified.

Group IX. Machinery and Miscellaneous Trades.
A. Machinery and Miscellaneous Materials and Methods.
B. Elevators.
C. Conveying Machines.
D. Mechanical Cleaners.
E. General Machinery.
F. Foundry Equipment.
G. Insulation, Pipe Covering, Etc.
H. Refrigerators, Coolers and Freezers.
I. Laundry Equipment.
J. Kitchen Equipment.
K. Laboratory Equipment.
L. Gymnasium Equipment.
Z. Other Equipment not Otherwise Classified.

The following excerpts from a current church job may be considered typical of the specifications turned out by Mr. Hall's firm. A word of explanation is given in a *Preface* on the title page:

"In order to avoid repetition, materials common to the several trades of a group of trades using common materials are specified in one place under *Article 1* of that group and not again repeated except by paragraph title and number.

"For illustration: The mention of a material title in a construction paragraph means that the proportion of materials therein specified shall be furnished in strict accord with detailed specification for the material enumerated under that particular title in the specifications for the various materials grouped under the general heading MATERIALS in *Article 1* of that Group, the same as though therein repeated. Paragraph reference numbers are only added to make it easy to refer back in case the reader has forgotten the exact specification for that material. Material specified under the general heading MATERIALS, or construction specified under the general heading CONSTRUCTION, and not called for either directly or by reason-

able implication, either on the plans or in the schedule, under a contract specification are not required to be furnished, but would be required to be furnished under an extra involving that particular type of material."

Here is inserted the standard form of GENERAL CONDITIONS OF THE ILLINOIS SOCIETY OF ARCHITECTS, followed by

TRADE GROUP I

EXCAVATING, GRADING, CARTING, WRECKING, SHORING AND MISCELLANEOUS LABOR

Article O—Group I—General Requirements

(101) IN GENERAL the contractor, or contractors, who undertake to furnish work or materials under this Group shall be governed by the GENERAL CONDITIONS OF THE CONTRACT as defined in documents known as the *Illinois Building Contract Documents,* which GENERAL CONDITIONS are made a part of every specification for work required for this improvement, the same as though separately attached and repeated in connection with each separate topic or trade heading of these specifications. The General Conditions before mentioned and identified shall be understood to define and govern all matters of mutual relationship between contractors, Owner, Architect, and the public, responsibility for insurance, etc. (see pars. 1 to 61, inclusive).

(102) ISSUANCE OF CERTIFICATES by the Architect for payments on account during the progress of the work are conditioned on the contractor's furnishing a statement to the Architect as described in paragraph 19 of the GENERAL CONDITIONS OF THE CONTRACT, and also such statements as to sub-contractors and outstanding obligations to complete the work, as are prescribed by the Mechanics Lien Law of the State of Illinois and therein required to be furnished by the contractor to the Owner as a prerequisite to making payment on contract.

(103) GROUP I comprehends and includes every sort of labor and transportation necessary to prepare the site ready for actual building construction, and also to clean up same when all construction is complete, including any *shoring, piling, wrecking, excavation, filling, grading, sodding, seeding, planting, teaming, cartage, hauling* or *trucking* hereinafter required by these specifications or accompanying drawings and not otherwise required to be furnished by any of the construction trades.

(104) DELIVERY OF WORK REQUIRED * * * *

(105) APPARATUS * * * * *

(106) LEGAL DISPOSAL OF ALL EXCESS MATERIALS * * * *

Article I—Group I—Precautionary Measures Required

(107) OLD HOUSE NOW LOCATED on the lot is to be * * * *

(108) SHEET PILING OR SHORING shall be * * * *

(109) ANCHOR RODS shall be * * * *

Article II—Group I

(110) EXCAVATION OPERATIONS shall be divided into two general divisions as follows:

(a) *Division "A"* shall comprehend and include what is commonly known as "General Excavation," including all team, scraper and excavating-machine work to carry the excavation down to required levels over the entire area as far back as it is practical to do so with either team work or excavating-machine work. This Division does not include any hand-spade work but does include all cartage and disposal of material for the team work, machine-excavation work and hand-spade work; in other words, all of the hauling is included under *Division "A,"* both for *Divisions "A"* and *"B."*

(b) *Division "B"* shall comprehend and include the necessary hand-spade work for truing up the excavations ready for building, including all trenches and pits for foundation walls, footings and piers. It also includes all excavation from under the old building, including wheelbarrow work, to bring out the earth to where it may be handled by the excavating-machine or team-scraper. It also includes all back-filling around walls and footings both inside and outside the building. It also includes the cutting of openings in the old walls, the shoring of old walls and all of the necessary incidental work to get the site ready for construction after the work of *Division "A"* has been completed.

(111) IT IS DISTINCTLY UNDERSTOOD that the contractor assuming work under *Division "B"* shall always place surplus material in a position where it can be practically and easily reached either by the excavating-machine or team-scraper.

Contract "A"—Group I—General Excavation, Grading, Shoring, Wrecking, Etc.

(112) CONTRACT "A", GROUP I, shall comprehend and include everything in the way of labor and materials required for doing all work described under *Division "A,"* Article II, of these specifications, * * * * enumerated as follows:

* * * *

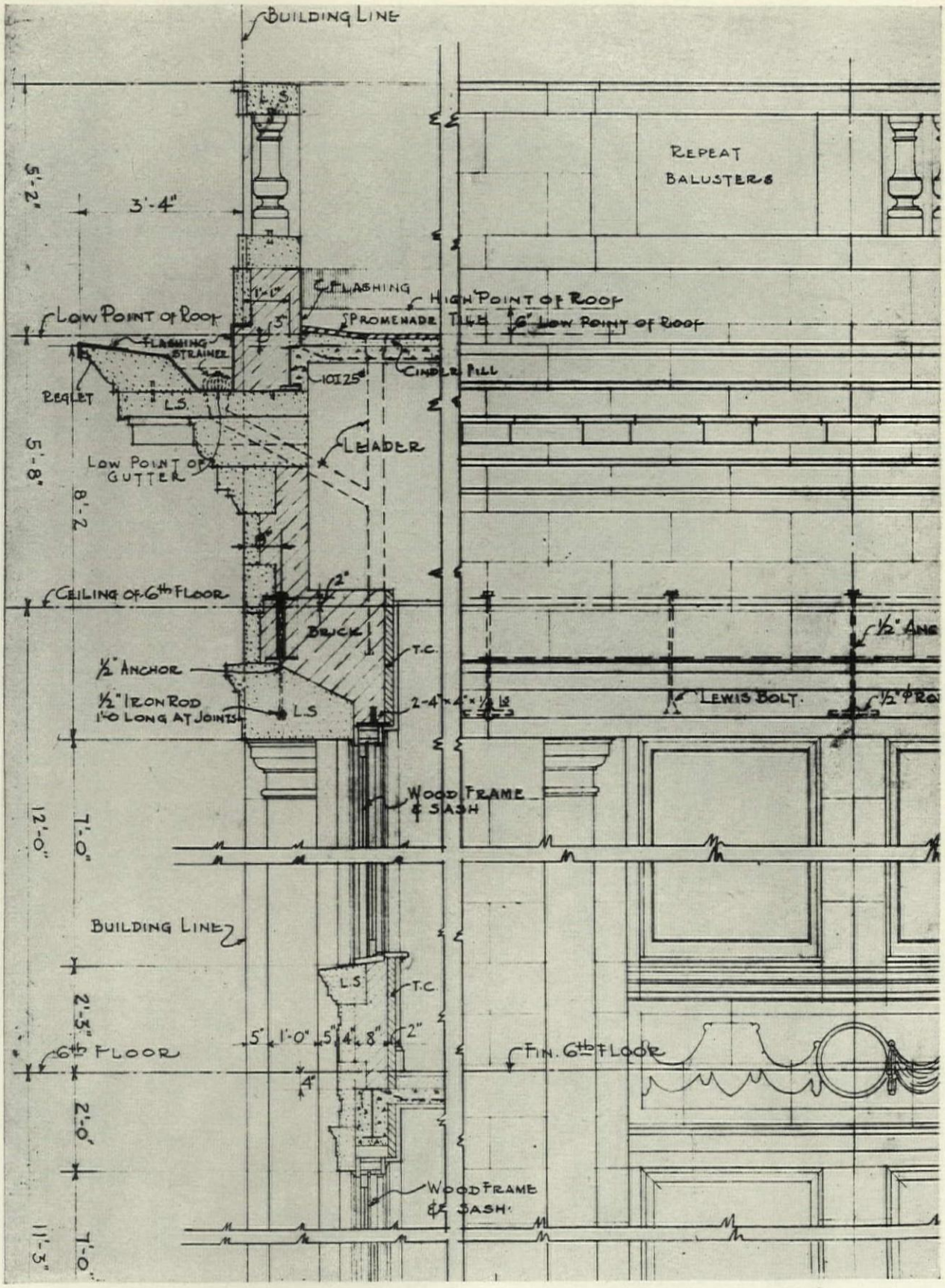
(113) CONTRACT "B", GROUP I, shall comprehend and include * * * *

From the foregoing may be noted the meticulous care exercised by Mr. Hall in establishing the lines of demarcation between contracts or sub-contracts, as the case may be. In this segregation he is influenced by his previous experiences in supervising the work, in the convenience of contractors in alloting and carrying on the work and in observance of trade union jurisdictional awards, the latter of especial importance in territory controlled by building-trade unions.

The old-time idea of architects that they should compel each contractor to circumscribe his sub-contracts carefully, without recourse to the architect in case of dispute, is excellent and proper—in theory—but contractors are prone to let sub-contracts intended to be bounded by specification divisions, hence it behooves the architect to make all such divisions and sub-divisions explicit and comprehensive, if he would avoid misunderstandings and unexpected demands for extras. This Mr. Hall is most careful to do.

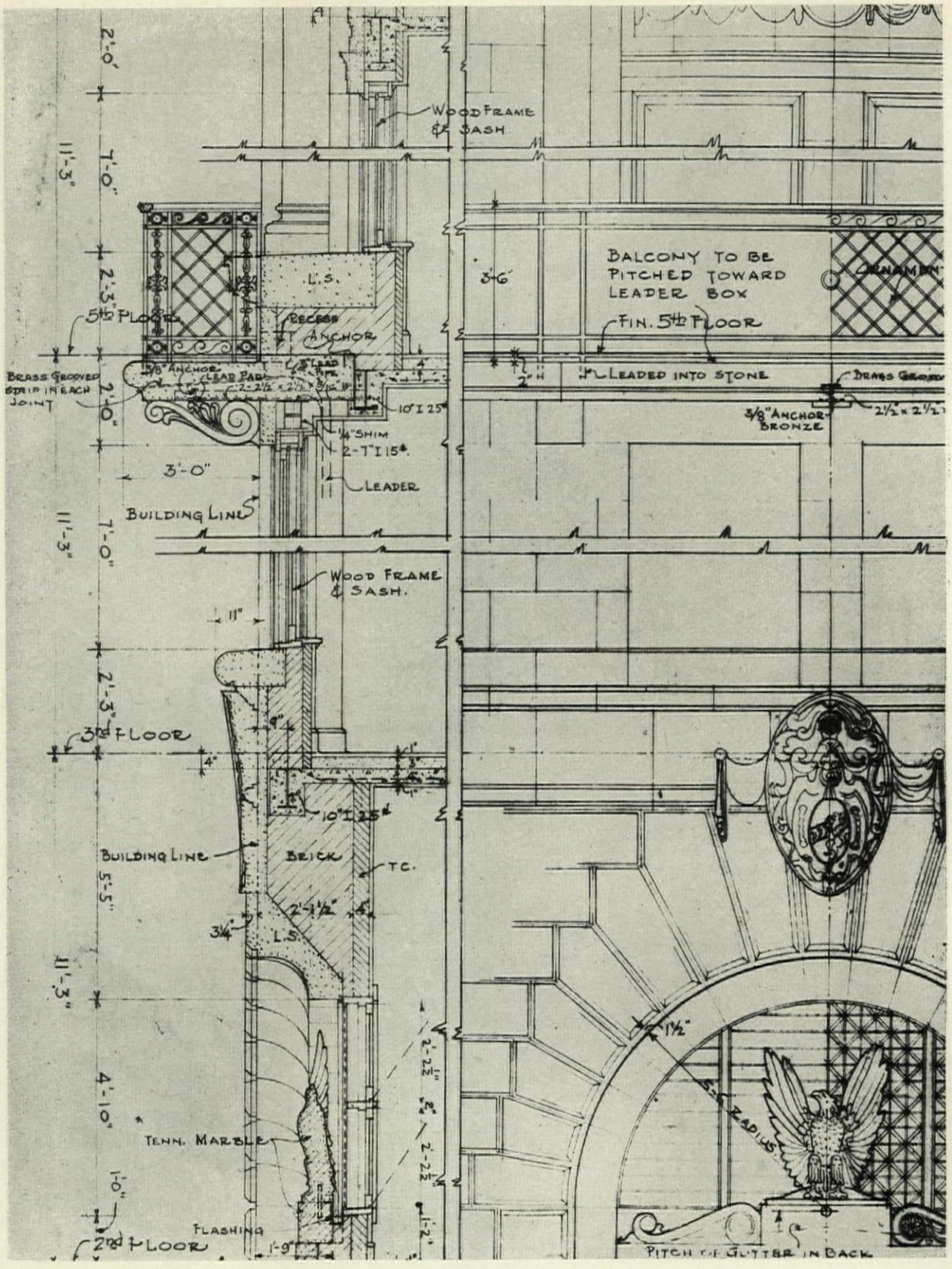
He does not, as is the practice of many architects whose documentary products are otherwise of real merit, relegate the specifications to a sphere of innocuous desuetude on the theory that contractors who work out of their offices will be more influenced to do what is expected of them by their desire to keep on good terms with the architect than by being bound by harsh contract restrictions. The latter is dangerous and unprofessional practice and may easily result in a new client paying for something that was left out of the preceding contract and donated by the contractor to prove he was a "good fellow."

The younger members of the profession would do well to bear this in mind and begin early in their careers to make their specifications as nearly bullet-proof as they know how.



DETAILS OF CONSTRUCTION—GLEN ALDEN COAL COMPANY BUILDING, SCRANTON, PA.

KENNETH M. MURCHISON, ARCHITECT



DETAILS OF CONSTRUCTION—GLEN ALDEN COAL COMPANY BUILDING, SCRANTON, PA.

KENNETH M. MURCHISON, ARCHITECT

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.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all. Owing to the very large number of advertisements submitted for publication under this heading we are asking those desiring to use this service to make their advertisements as short as possible, *in no case to exceed forty words.*

Notices submitted for publication in the Service Departments must reach us before the fifteenth 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

Starrett & Van Vleck, 393 Seventh Avenue, New York, Att. Mr. Rice, wants a copy of PENCIL POINTS for January, 1921, and a copy of *The Architectural Review* for July, 1925.

Floyd Mueller, 544 So. New Hampshire Ave., Los Angeles, Calif., has for sale a copy of Byne & Stapley's *Spanish Interiors and Furniture*, Vols. 1 and 2, portfolio form, good condition, $100.00.

PERSONALS

HENRY R. DIAMOND, architectural renderer, has moved to 67 West 44th St., New York.

WILLIAM BAILEY, architectural student, 295 Washington Ave., Brooklyn, N. Y., would like to receive manufacturers' samples and catalogues.

CHARLES N. WHINSTON AND SELIG WHINSTON announce the opening of an additional office due to the large increase in their Westchester practice. It will be temporarily located at 58 West 1st Street, Mt. Vernon, New York. A new building will shortly be erected on N. 4th Avenue for their own occupancy.

CYRIL W. SUNDERLAND, architectural student, 96 Fourth Ave., East Greenwich, R. I., would like to receive manufacturers' samples and catalogues.

LAWRENCE A. REHM, architectural draftsman and student of ecclesiastical design, P. O. Box 104, Galveston, Texas, would like to receive manufacturers' samples, catalogues, A.I.A. data, etc.

ROSE & HALL have dissolved partnership. A. Fraser Rose will continue to practice architecture at 208 Sixth St., Miami Beach, Fla.

CARLOS MENDOZA, Aguiar 116 Departmento 93, Havana, Cuba, is opening an office as sales representative of manufacturers in the building field and would appreciate samples and catalogues.

WERNER AMREIN, architectural student, Sigma Nu House, Gainesville, Florida, would like to receive manufacturers' samples and catalogues.

R. STANLEY REID, architectural student, 720 Arbor St., Ann Arbor, Mich., would appreciate manufacturers' samples and catalogues.

LAND, RAUGLAND & LEWIS, ARCHITECTS AND ENGINEERS, 412 Essex Bldg., Minneapolis, Minn., have opened a branch office at 1955 University Ave., St. Paul, Minn., Rooms 3 & 4, and would like to receive manufacturers' samples and catalogues.

BLACKALL & ELWELL, ARCHITECTS, have moved to 29 Central St., Boston, Mass.

MILTON M. FRIEDMAN, ARCHITECT, has moved to Interstate Bldg., 6001 Santa Monica Blvd., Los Angeles, Calif.

OMAN & LILIENTHAL, ARCHITECTS, have moved to Suite 1410, Tribune Tower, Chicago, Ill.

G. H. WELLS, ARCHITECT, has moved to 274 Madison Ave., New York.

HARKNESS & LOCKYER, ARCHITECTS, have dissolved partnership. Wilfred S. Lockyer will continue the practice at 106 I. C. Office Bldg., Gulfport, Miss.

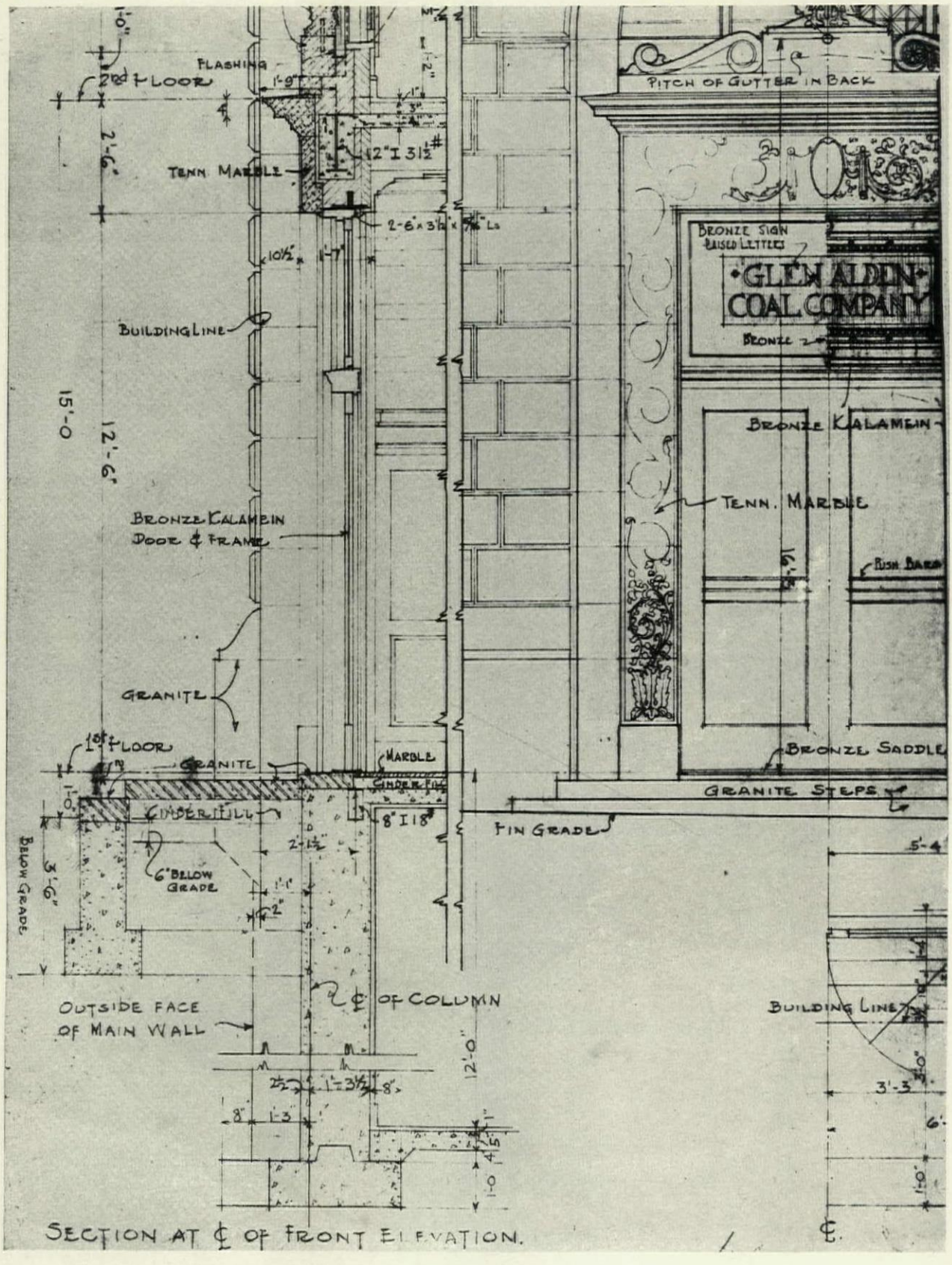
IRVING MARGON, ARCHITECT, has become associated with Adolph M. Holder under the firm name of Margon & Holder with offices at 29 West 57th Street, New York.

CHARLES A. SIMONS, Fort Scott, Kansas, desires manufacturers' samples and catalogues.

BRANDON SMITH, R. A., has formed a partnership with Harold O. Reif for the continuation of Mr. Smith's architectural practice. Offices are located at 429 Penn Avenue, Pittsburgh, Pa.

LOUIS J. BRADBURY, architectural student, 271 Adelphi St., Brooklyn, N. Y., is starting an A.I.A. file and would like to receive manufacturers' samples and catalogues.

W. H. WILSON, architectural student, 1803 Sawtelle Blvd., Sawtelle, Calif., would like to receive manufacturers' samples and catalogues.



DETAILS OF CONSTRUCTION—GLEN ALDEN COAL COMPANY BUILDING, SCRANTON, PA.

KENNETH M. MURCHISON, ARCHITECT

PERSONALS (Continued)

RAYMOND G. CLIFFORD, ARCHITECT, has moved to 616 Guaranty Building, Portland, Oregon.

A. ROY KELLEY, ARCHITECT, has moved to 1102 Architects Bldg., Fifth and Figueroa Sts., Los Angeles, Calif.

VICTOR LA FORTE, CONSTRUCTOR, 50 Leslie Terrace, Springfield, Mass., would like to receive manufacturers' samples and catalogues pertaining to hotels and apartment houses.

MORISON & WALLACE, ARCHITECTS, have moved to Adams-Franklin Bldg., 222 W. Adams St., Chicago, Ill.

GEORGE F. BERTAN, architectural student, 140-17 Cherry Avenue, Flushing, L. I., would like to receive manufacturers' samples and catalogues.

ARTHUR W. DAHLSTROM, architectural student, 847 Francisco St., Los Angeles, Calif., would like to receive manufacturers' samples and catalogues.

QUERIES AND ANSWERS

Query: I have seen "pendants" used as an architectural term to refer to the springers of arches, which rest on shafts or corbels. Have always thought pendant came from the Latin, *pendo*, I hang.

Answer: In Gothic Architecture, an ornamented polygonal piece of stone or timber hanging down from the vault or roof of a building is called a pendant.

Query: Where did the term "attic base" originate? The rooms in a roof seem a long way from the classic column!

Answer: Vitruvius named the upper and lower torus and scotia joined by fillets, the most usual of all column bases, the "attic base."

Query: Please do not write an essay but can you tell me in a few words what you and the authors in PENCIL POINTS mean by *style?*

Answer: In the Fine Arts style is the mode in which an artist forms and expresses his ideas on and of a given subject. It is the form and character that he gives to the expression of his ideas, according to his particular faculties and powers. Style may be considered as the refinement of manner: it is a characteristic essence by which we distinguish the works of one master from another. From literature this word has passed into the theoretic language of the Fine Arts; and as in that we hear of the *sublime, brilliant, agreeable, historic, regular, natural, confused,* and other styles, so we have almost the same epithets applied to styles of art.

Query: How is the real ultramarine made?

Answer: Ultramarine is the blue coloring matter of the lapis lazuli. This substance is much valued by painters on account of the beauty and permanence of its color, both for oil and water painting. In its preparation the finest lapis lazuli is selected, heated to a dull red heat and quenched in water; it is thus rendered friable, and is ground down into an impalpable powder. This is then mixed with a tenacious paste made of linseed oil, wax, resin, turpentine and mastic; and the mixture being kneaded in warm water gives out the blue particles, which are afterwards collected by subsidence. Chemists have succeeded in preparing an artificial ultramarine by heating sulphuret of sodium with a mixture of silica and alumina.

FREE EMPLOYMENT SERVICE

(Other Items on Page 126, Advertising Section)

POSITION WANTED: Architect and specification expert, 20 years' experience in general design, construction and supervision, including building and zoning laws on hotels, hospitals and other fireproof building construction. Specifications written in spare time at reasonable rates or consider permanent executive connection with a good firm. Box No. 808-A, care of PENCIL POINTS.

POSITION WANTED: Construction supervisor or superintendent. Graduate engineer wants employment preferably out of town; experienced in earthwork, concrete foundations, power, sub-station and industrial plants, warehouses, etc., transit, level work, measuring, estimating, cost-keeping. Also sales work. Address H.J.K., care of PENCIL POINTS.

POSITION WANTED: A.R.I.B.A., A.M.T.P.I., 10 years' experience with concern handling development work in housing, hospitals, offices, schools, university buildings and stores. Write stating salary to C.M.L., 40 Croftdown Road, Parliament Hill Fields, London, N.W.5.

PARTNERSHIP WANTED: Wish to make arrangements with well established architect who considers retirement from business. Middle-sized Texas city preferred. Have more than 30 years' experience in all lines of architectural business. Box No. 810-A, care of PENCIL POINTS.

SPARE TIME WORK WANTED: By senior architectural draftsman in New York City. Box No. 811-A, care of PENCIL POINTS.

POSITION WANTED: Junior draftsman, college student, 2 years' actual drawing experience with architect, desires position. A. Louis Gioggia, 208 20th Street, West New York, N. J.

POSITION WANTED: Young man, 20 years old, desires position as junior draftsman. College student. Sam. Schub, 1253 78th St., Brooklyn, N. Y.

POSITION WANTED: Draftsman-Designer, 5 years' experience. Also do renderings and perspectives, also plan work. Box No. 812-A, care of PENCIL POINTS.

PLASTER MODELS of buildings, groups, dams, bridges, and building sites, made to any scale from drawings. Box No. 813-A, care of PENCIL POINTS.

POSITION WANTED: Experienced, expert specification writer seeks connection with good firm. Location immaterial. Box No. 814, care of PENCIL POINTS.

SPARE TIME WORK WANTED: Expert typist, can file, compile data, fairly accurate at figuring. Box No. 815-A, care of PENCIL POINTS.

I AM DESIROUS of placing in the office of an architect or builder, a young man now in my employ. Very rapid typist, and can take "spec" from dictation. Also, competent and expert bookkeeper, and student of accounting. Can be depended upon fully and trusted in matters of extreme confidence. Salary reasonable. Communicate with Mr. Harold E. Hall, Architect, 1345 Shakespeare Ave., New York, N. Y.

POSITION WANTED: Graduate of University of recognized standing, training abroad, three years' experience at delineation, designing, and working drawings. Will start at moderate salary in office offering good experience and possibilities of permanent connection. Box No. 816-A, care of PENCIL POINTS.

POSITION WANTED: Architectural student studying evenings wants position as tracer in Chicago architect's or builder's office. Has good knowledge of drafting and building construction. Can furnish unquestionable references. R. A. Kempf, 66 N. Prospect Ave., Clarendon Hills, Ill.

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.

Specifications for ATP Roofs.—A.I.A. File No. 12-b-11. A new document with blue prints and concise specifications covering 14 different roofing problems. Flashing details and much useful information. Standard filing size. American Tar Products Company, Inc., Union Trust Bldg., Pittsburgh, Pa.

Mantels in Cretan Stone.—Brochure in duotone showing about 50 beautiful mantels in elevation, with profiles and all necessary dimensions. 8½ x 11. William H. Jackson Company, 2 West 47th St., New York, N. Y.

Oil Burner Specifications and Data.—A.I.A. File No. 30-g-1. Document prepared with special reference to the architect and specification writer. Blue prints, specifications, complete, concise data. Standard filing size. Electrol, Inc., of Missouri, St., Louis.

Drinking Fountains.—A.I.A. File No. 29-h-1. Architects' Catalog "H." A new document which constitutes a handbook on the subject, completely illustrated. Specifications, dimensions and complete data on all types of every conceivable use. 50 pp. Standard filing size. The Halsey W. Taylor Co., Warren, Ohio.

A Treatise on Textured Wall Finishes.—Handsome brochure, just off the press, with many color plates and large size details of different wall textures and colors. Notes on the preparation of wall surfaces. 60 pp. 8½ x 11. The United States Gypsum Co., 300 West Adams St., Chicago, Ill.

Globes for Commercial Lighting.—Catalog 202 presents in color a line of newly designed glassware for all types of public and commercial buildings. Standard filing size. Macbeth-Evans Glass Company, Charleroi, Pa.

Sutterlith.—A.I.A. File No. 23-g-2. Specification and data folder covering this new material which is manufactured in tile or slab form for use as a flooring and on wall surfaces. Standard filing size. Sutterlith, Inc., 26 Cortlandt St., New York, N. Y.

Atlantic Terra Cotta.—Monthly brochure for architects and draftsmen, the February 1928 issue of which covers small buildings. Banks, stores, theatres, comfort stations, etc., are included. Atlantic Terra Cotta Co., 19 West 44th St., New York, N. Y.

Andirons and Firetools.—Portfolio illustrating a large number of andiron sets and other items of equipment for the fireplace. 24 pp. 8½ x 11. Todhunter, Inc., 119 East 57th St., New York.

Within the Walls.—Booklet with accompanying detail drawings giving facts about modern out-of-the-way, out-of-sight radiators. Rome Brass Radiator Corp., 1 East 42nd St., New York, N. Y.

Insulite Specifications.—A.I.A. File No. 37-a-1. Standard specification folder with detail drawings covering sound-deadening construction for walls, ceilings and floors. 8½ x 11. The Insulite Co., Builders Exchange Bldg., Minneapolis, Minn.

The Key to Firesafe Homes.—A.I.A. File No. 4-i-3. Brochure illustrated with many photographs with six pages of construction details covering the application of reinforced concrete to the first floors of residences. An interesting development. 20 pp. 8½ x 11. Portland Cement Association, 605 Builders Bldg., Chicago, Ill.

Some Thoughts on Furnishing a Hotel.—Profusely illustrated booklet with plans and layouts covering everything required in the modern hotel from the lobby to the kitchen. Albert Pick & Co., 208 W. Randolph St., Chicago, Ill.

The Newton Invisible Door Closer for Banks.—A.I.A. File No. 27-b-4. Data sheet with detail drawings setting forth the advantages of this modern device. 8½ x 11. C. H. Newton & Co., 261 Franklin St., Boston, Mass.

The Story of Oak Floors.—Brochure in sepia with color plates covering the application of oak flooring in its various finishes in all types of buildings. Oak Flooring Bureau, 828 Hearst Bldg., Chicago, Ill.

Tile Data Sheet.—Condensed information sheet with many color plates covering a complete line of tile suitable for all uses. 8½ x 11. Rossman Corporation, 160 East 56th St., New York.

Standardized Metal Elevator Doors.—Data sheet covering the subject with detail drawings. Standard filing size. Lasar Mfg. Co., 1315 No. 16th St., St. Louis, Mo.

Blue Prints and Lumber Lists.—A series of detail sheets covering farm buildings of all types, also a two-car garage. Exchange Sawmills Sales Co., Kansas City, Mo.

Mueller Tile.—Illustrated catalog covering Polychrome Faience Tile Emblems, etc. 20 detail sheets, standard filing size. Mueller Mosaic Co., Trenton, N. J.

Gypsum Partition Tile.—Treatise by Henry J. Schweim covering the use of this material for all types of buildings. Detail drawings, tests, etc. 24 pp. 8½ x 11. The Gypsum Industries, 844 Rush St., Chicago, Ill.

Exterior Lighting Fixtures.—A.I.A. File No. 31-f-33. Loose leaf illustrated portfolio covering complete line of lighting fixtures for the exteriors of buildings as well as equipment suitable for parks, streets, etc. Standard filing size. Union Metal Mfg. Co., Canton, Ohio.

Better Walls for Better Homes.—Booklet illustrated with construction details and photographs covering the application of stucco to both old and new work. 16 pp. Standard filing size. National Steel Fabric Co., Union Trust Bldg., Pittsburgh, Pa.

The Blue Book of Steel Windows.— A.I.A. File No. 16-E-1, just off the press. Contains a large number of construction drawings and really constitutes a handbook on the subject of steel windows as applied to all types of buildings. 80 pp. 8½ x 11. Detroit Steel Products Co., 2250 East Grand Blvd., Detroit, Mich.

Extruded Bronze Store Front Construction.—A.I.A. File No. 26-b-1. Full size detail sheets showing application of extruded bronze to store front construction. Standard filing size. Modern Bronze Store Front Co., Chicago Heights, Ill.

Terra Cotta Detail Plates.—A portfolio containing a collection of detail plates covering a wide variety of buildings, details, ornament, etc. 9½ x 14. Midland Terra Cotta Co., 105 W. Monroe St., Chicago, Ill.

Sterlco System of Vapor Heating.—A.I.A. File No. 30-c-2. Data sheet covering the subject indicated. Layouts, drawings, specification data, etc. Standard filing size. Sterling Engineering Co., Milwaukee, Wis.

Reinforced Concrete Floors.—Data covering subject indicated. Detail drawings, useful tables, standard filing size. Tables of live loads required by building codes. National Steel Fabric Co., Union Trust Bldg., Pittsburgh, Pa.

The Scientific Super-Efficient System for Warming and Ventilating Homes.—Interesting data on this subject, illustrated and containing installation directions for gas furnaces. Standard filing size. The Scientific Heater Co., Cleveland, Ohio.

Blue-Printing Machinery, Blue-Print Paper, Drafting Room Furniture.—Catalog M-27 illustrates and describes this line of drafting room equipment. Much useful and interesting data including drawing of the arrangement of a blue-print room. The C. F. Pease Co., 813 N. Franklin St., Chicago, Ill.

Beardslee Beverly Lights.—A.I.A. File No. 31-f-23. Catalog No. 5 illustrates and describes this line of lighting fixtures. Price lists. Standard filing size. Beardslee Chandelier Mfg. Co., 216 S. Jefferson St., Chicago, Ill.

Fitzgibbons Steel Heating Boilers.—A.I.A. File No. 30-c-1. Bulletin No. H-7 illustrates and describes this type of boilers. Profusely illustrated, details of construction, tables, etc. Fitzgibbons Boiler Co., 570 7th Ave., New York, N. Y.

Newman Bronze Tablets.—Handsome catalog illustrated in color showing complete line of bronze tablets for honor rolls, commercial signs, nameplates, etched brass signs, cast characters, etc. 8 x 10¾. 64 pp. Newman Mfg. Co., 416 Elm St., Cincinnati, O.

Richmond Standard Automatic Tin-Clad Fire-Doors and Fixtures.—A.I.A. File No. 16-c. Catalog TC-24 illustrates and describes this line of fixtures. Illustrations showing application of tin sheets, construction details, tables of dimensions, etc. Standard filing size. Richmond Fireproof Door Co., Richmond, Ind.

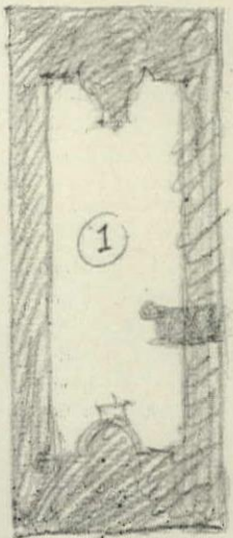
Heat—As You Would Have It.—Interesting data on Hardinge fuel oil heat. Many illustrations and much useful information on the subject. Tests. 8½ x 11. Hardinge Bros., Inc., 549 N. Michigan Ave., Chicago, Ill.

R P M.—Illustrated discussion of Robertson protected metal and its place in modern building construction. Blue prints, drawings, engineering data, of interest in industrial buildings. 48 pp. 8½ x 11. H. H. Robertson Co., 1st Nat'l Bank Bldg., Pittsburgh, Pa.

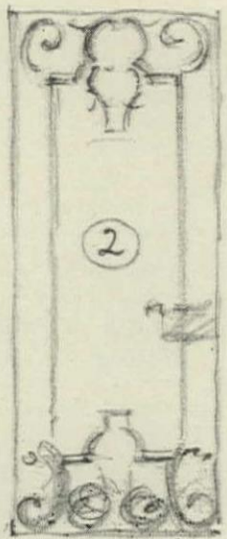
Lithopone and Its Part in Paint.—Consideration of a technical subject in non-technical language by L. H. Trot. Of special interest to those who write painting specifications. New Jersey Zinc Co., 160 Front St., New York, N. Y.

McCray Refrigerators for Hotels, Restaurants, Clubs, Hospitals and Institutions.—Completely illustrated. Plans, details of construction and complete data. McCray Refrigerator Sales Corporation, Kendallville, Indiana.

The ELDORADO PAGE



Analysis of MASS effect



Analysis of LINE effect

No. 2 + scumbled lines to suggest less important details

Two Methods of Indicating Ironwork

The drawing of the left half of the iron gate above, required two hours; the right half was sketched in fifteen minutes. Yet both sides give the same effect when viewed casually. If the purpose of the drawing be to illustrate the design of the gate in detail, the more elaborate and accurate treatment is desirable—if, on the other hand, the general effect is the only requirement, it is evident that the rapid sketch method is adequate and more economical.

The diagrams 1, 2 and 3 indicate the importance of analysis of the design when using the shorthand method. The general mass effect and the leading lines of the design must be carefully observed. The details which are not so important can be suggested by scumbled lines.

There is no better way to learn than to make many such analytical sketches of iron designs.

This is one of a series of Pencil Lessons prepared by Ernest W. Watson. Write on your letterhead for samples of Dixon's Eldorado, "The Master Drawing Pencil." Joseph Dixon Crucible Co., Pencil Dept. 167-J, Jersey City, N. J.

COMPETITION FOR A RUG DESIGN

A RUG DESIGN competition has been announced by the Art Alliance of America which is open to artists, free lance designers, and art students generally, with the purpose of arousing them to the present-day demand for expression of modern motifs and color trends in interior decoration. The prizes offered to professional artists are:

First Prize, $1,000.00; Second Prize, $500.00; Third Prize, $250.00. Other prizes will be offered to students. All the prizes are given by the Mohawk Carpet Mills, Inc., of Amsterdam, N. Y. The competition closes April 24th.

Copies of the announcement may be had from the Secretary, Rug Design Competition, The Art Alliance of America, 65 East 56th Street, New York.

LOS ANGELES ARCHITECTURAL CLUB

BENEFITTED BY the building up of the organization during the past year, the Club has now stirred itself into considerable activity with the incoming régime of the newly elected officers. There have been numerous applications for membership and the Club promises to grow in numbers as well as interest.

The February meeting brought out a large number, about 100 in all. The meeting was addressed by Francis Vreeland, Artist, and Roger Noble Burnham, Sculptor, two very enthusiastic and interesting speakers. The newly formed Club quartette rendered several vocal numbers which were well received. The meeting was held at the new Architects' Building.

The annual ball was held the early part of February and was more successful than ever. In a glorious Venetian setting there gathered a swarm of happy carnival makers, Spanish Dons and Spanish Dancers, sheiks and maids from Araby, sullen monks and rollicking Russians, their faces hidden by masks and only gleaming eyes and flashing teeth gave hint to their personalities. The proceeds of the affair were used towards a scholarship at Fontainebleau for the architectural student successful in the competition held the first week in March.

The Club is exhibiting with the Architects League of Hollywood in their third annual show at the California Art Club, located in the former Barnsdale residence, designed by Frank Lloyd Wright.

GEORGE G. BOOTH TRAVELLING FELLOWSHIP

THE COLLEGE OF ARCHITECTURE, University of Michigan, has announced that the annual competition for the George G. Booth Travelling Fellowship in Architecture will be held from April 6th to April 20th, 1928.

No, dear reader, this is not a bit of Bagdad or Byzantium. Believe it or not it is the Municipal Building in the rising American city of Opa-locka, Florida, situated not so far from Miami.

LETTERS OF AN ARCHITECT TO HIS NEPHEW

EDITOR'S NOTE:—*This is the eighth of a series of letters by William Rice Pearsall, Architect, of New York, addressed to young draftsmen and students about to take up the study of architecture. Mr. Pearsall, who may be addressed at 527 Fifth Avenue, New York, has expressed his willingness to answer any questions which may be addressed to him by our readers.*

March 1st, 1928.

DEAR GEORGE:

A month or so ago my letter discussed the subject of design, taking it for granted that you had looked up its definition. Now let us look at the other part of the office work, that of engineering, sometimes called "Architectural Engineering."

The dictionary definition of *engineering* reads: *The art and science by which natural forces and materials are utilized in structures or machines.*

In my letter on design I spoke of the use of suitable materials with which to carry out the character and spirit of the design as in contrast to what I called "paper designing."

Do not confuse the engineering work of the specialist in the various branches—structural and mechanical—with architectural engineering; these are subdivided because they fit in with the engineering of the architect's office. A better name might be co-ordination, for it is the engineer in the architect's office who brings together all the drawings with the specification (which should be a description of materials and methods) in a form that presents the work complete in its various parts, divided as trades for the estimating of the cost.

The one who fits into such a position must have the ability to grasp quickly the large volume of detail that must be listed, scheduled, and checked, select materials and decide methods of putting such materials in their relation to other kinds of material. A knowledge of the unit sizes and where to look for information regarding materials is necessary. Have you read that before? Keep that thought in mind.

Many times a diagram or outline drawing to call attention to the location or use of certain materials will make clear much description, because there are methods and kinds of finish that cannot be pictured in words, nor can the regular detail drawings always show clearly what is wanted or the way to use the material.

The engineer, like the draftsman, cannot succeed if he is afraid of work, is a clock watcher or does not want to dig his way out when the large volume of work almost overwhelms because pressure from outside demands the work at once.

Training and experience will teach how to judge the most important thing to be done first from those which can be postponed.

Interest and studious attention to the required duties will hasten the advancement desired by ambition to succeed, much faster than constant discussion of salary values and using as a sign of success the $.

Sincerely, YOUR UNCLE.

EXHIBITION OF CHICAGO ARCHITECTS' CLUB

THE FIRST ANNUAL Exhibition of the Architects' Club of Chicago is being held at the Clubhouse, 1801 Prairie Avenue, and will continue for a period of two months.

This exhibition embraces displays by the Club Members and represents interesting phases of the building industry. It includes examples of material and processes, as well as drawings, paintings and models by architects, painters and sculptors.

For every Style of Architecture...

We earnestly wish that every architect could visit our factory and see for himself just what Andersen Frames* are and exactly how they are made.

You are cordially invited to come to Friendly Valley on the St. Croix River whenever it is convenient. We shall welcome you to Bayport.

Whether or not you visit us, we hope you will take the time to form an opinion of our product and its value in relation to the big buildings or homes you are planning. We shall be glad to help you to complete information if you will manifest your interest by filling out the coupon below.

*The *Andersen* Trade Mark is on every frame.

Andersen FRAMES

A Frame for Every Kind of Building

Andersen Distinctive Features

(1) Detailed and constructed to *merit architects' critical approval.*

(2) Genuine, clear *White Pine sills and casings.*

(3) Exclusive, patented *weather-tight features.*

(4) Perfect mill workmanship —absolute *accuracy and uniformity.*

(5) A window or door frame *type and size for every architectural need.*

(6) The only standardized frame *adequately designed for wide blind-stop extensions,* permitting the use of narrow outside casings.

(7) Nationally distributed.

(8) Dependable because *guaranteed* by a reliable manufacturer.

(9) Equipped exclusively with the new *patented, noiseless, friction-reducing Andersen pulleys.*

See Sweet's Architectural Catalog, page B 1160 for frames, page B 1785 for pulleys.

ANDERSEN LUMBER COMPANY
Box 4204, Bayport, Minnesota

I will be interested in receiving items checked:

☐ Andersen Catalog No. 300—Complete, detailed information for the drafting room and specification writer.

☐ A sample of the new, noiseless, frictionless Andersen pulley.

Name_____

Street_____

City_____ State_____

Two model offices which are part of an Exhibit of Model Offices, created by Randolph and Hang, Office Equipment Specialists of Cleveland.

At right, a realistic made-to-order floor in "plank" effect laid in *Gold Seal* Jaspé Linoleum, with "dowels" and "joints" fashioned by inlaying with mahogany brown interliners.

Below, a cork-composition tile floor of *Gold Seal* Marble-ized Tile gives spaciousness and dignity.

Who knows business floors better?

WHO has better reason to know what constitutes the ideal business floor than a firm which specializes in the planning, decoration and furnishing of modern business offices?—No one, obviously!

That's why the use of BONDED FLOORS throughout Randolph and Hang's model offices is noteworthy. That's why we bring this BONDED FLOORS installation to your attention.

These attractive rooms prove conclusively that you *can* have distinctive floors in perfect accord with the most elaborate and luxurious office and *still* secure all the approved advantages and assured economies which modern resilient floors offer.

For full particulars in regard to these comfortable, quiet, easily cleaned floors write Department I. Learn how the long life of these floors is assured by a Guaranty Bond!

BONDED FLOORS COMPANY, INC.

New York Boston Philadelphia Cleveland Detroit
San Francisco ~ *Distributors in other principal cities*

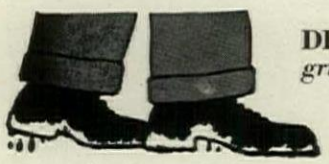
BONDED FLOORS

Backed by a Guaranty Bond

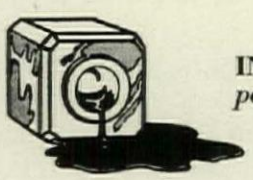
Here is

LINOLEUM

that will not "spot"



DIRT *cannot grind into it*



INK *cannot penetrate it*

GREASE *leaves no mark on it*

FRUIT JUICES *do not stain it*

THESE Gold Seal Linoleums — Inlaid, Jaspé, Romanesq, Plain and Battleship — will be made by our *Sealex Process.*

Originated by Congoleum-Nairn Inc., the *Sealex Process* has the effect of *penetrating and sealing* the tiny pores of the linoleum so that dirt cannot grind into it. A damp mop or cloth wipes off spilled things such as ink, grease and hot fruit juices almost as easily as from glazed tile. Scrubbing and scouring are unnecessary.

Yet the *Sealex Process* actually increases the durability and flexibility of Gold Seal Linoleums. It makes them easier to lay, enhances their beauty and keeps them new-looking for years.

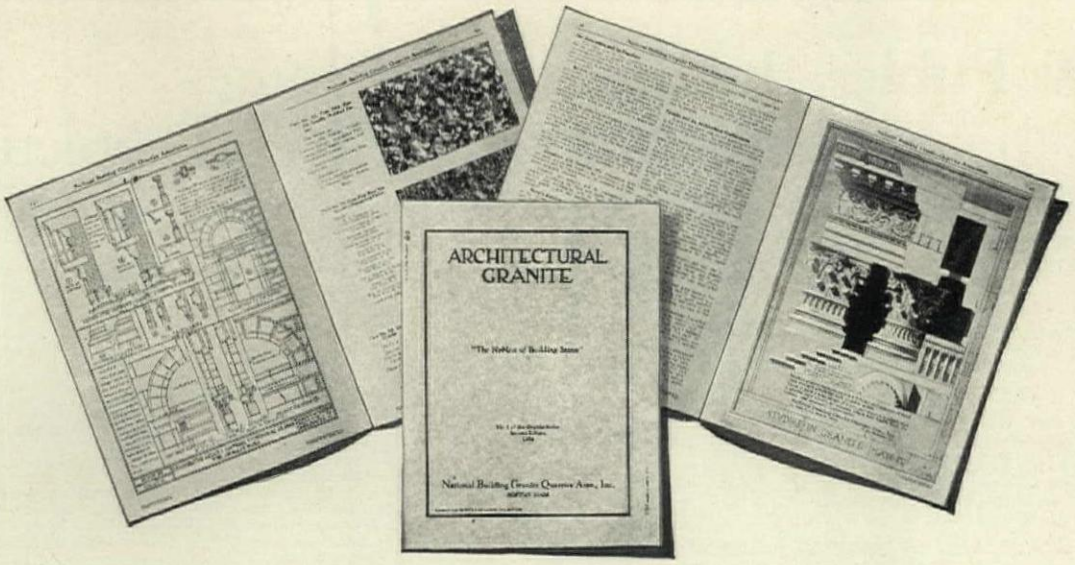
Architects, contractors and business men who have seen this remarkable development regard it as a notable advance in linoleum manufacture.

Being soil-proof and easy to clean, all Gold Seal Linoleums, made by the *Sealex Process,* offer maintenance economies which business men are sure to welcome.

Write today for a sample of these soil-proof goods and catalog showing the many patterns.

CONGOLEUM-NAIRN INC., 1421 Chestnut Street, Philadelphia, Pa., New York, Chicago, Pittsburgh, Boston, Kansas City, San Francisco, Minneapolis, Atlanta, Dallas, New Orleans, Rio de Janeiro.

GOLD SEAL LINOLEUMS



This Book Will Bring Your Granite Information Up-to-Date

IN THIS COMPACT BOOKLET, you will find the most complete and up-to-date information available concerning granite for architectural uses.

In "Architectural Granite" we have reprinted our 24-page catalogue in the latest edition of Sweet's. It contains twenty-one color reproductions of standard building granites, charts and information for the designer and draftsman, valuable data for the specification writer and other valuable information for the architect and user of architectural granite.

Specific attention is called to the various services this Association can render and you are cordially invited to make free use of these services. In this connection it will interest you to know of our exhibits of granite samples at the Architects' Samples Corporation, 101 Park Avenue, New York, and at Association Headquarters in Boston. A similar exhibit is being arranged at the Master Stone Cutters Association, 220 South Sixteenth Street, Philadelphia.

A copy of "Architectural Granite" is yours for the asking.

National Building Granite Quarries Association, Inc.

H. H. Sherman, *Secretary* **31 State Street, Boston, Mass.**

National Building Granite Quarries Assn., Inc.
31 State Street, Boston, Mass.

Gentlemen: **Please send me a copy of "Architectural Granite."**

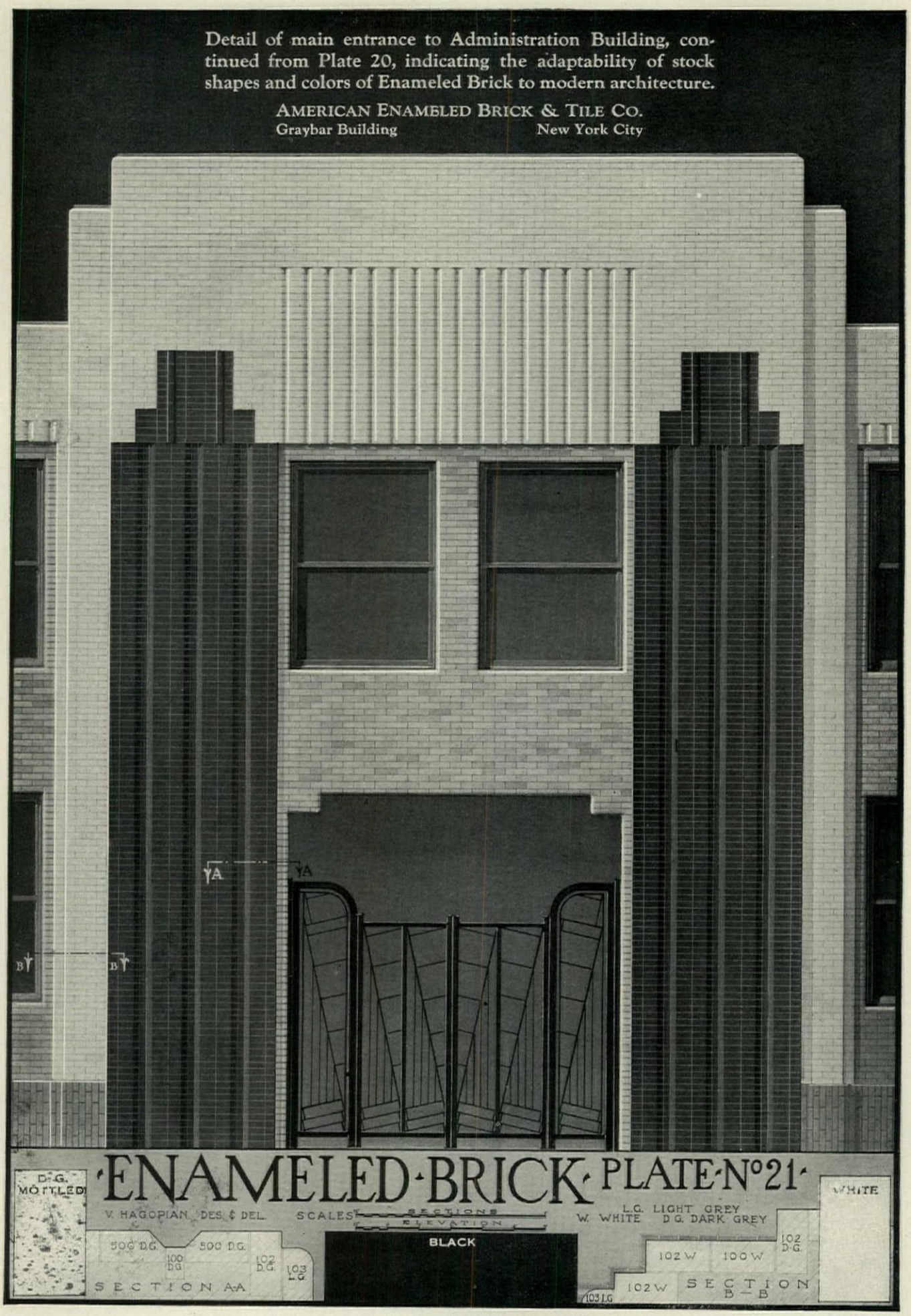
Name .....

Address .....

P.P.-4-28

Detail of main entrance to Administration Building, continued from Plate 20, indicating the adaptability of stock shapes and colors of Enameled Brick to modern architecture.

AMERICAN ENAMELED BRICK & TILE CO.
Graybar Building New York City



Copies of these plates in folio will be mailed upon request

JUST ISSUED

By Special Arrangement with the

Society of Beaux-Arts Architects

A Portfolio Containing the Twenty

WINNING DESIGNS

1904-1927

PARIS PRIZE IN ARCHITECTURE

LLOYD WARREN MEMORIAL

With an Introduction by John F. Harbeson

The designs shown in this portfolio were chosen by the Society of Beaux-Arts Architects as the best solutions submitted by the ablest American architectural students of the past 24 years in what is generally accepted to be the most important and exacting planning problem offered annually in this country. The architectural student can therefore profit greatly by studying the program of each competition in conjunction with its accompanying solution. This portfolio, while particularly valuable to students taking work in design under the Beaux-Arts system, cannot fail to help all other students of architectural design.

The Paris Prize, now a permanent memorial to Lloyd Warren, who was principally responsible for its establishment in 1904, is awarded each year to the winner of a series of competitive tests, constantly narrowing in their application and testing in each step a different phase of architectural ability. The first preliminary is open to all citizens of the United States, with few restrictions. No other scholarship is so keenly competed for; in no other competition is the number of competitors so great. The Paris Prize winner is admitted by the French government directly to the first class in the Ecole' des BeauxArts without entrance examinations. This special privilege is granted to no other person. The winner is thus privileged to spend two and a half years in Paris as the culmination to a thorough education in Architectural Design.

This book should be invaluable to every student or draftsman wishing to compete for the Paris Prize now, or in the future, and will be found exceedingly helpful to every student of Architectural Design.

The library of every practising architect will be enriched with this volume.

The following problems are illustrated:

1904—"A Colonial Institute"
1905—"A Yacht Harbor and Club"
1906—"A Restaurant on the Borders of a Lake"
1907—"A School of Fine Arts"
1908—"A Theatre"
1909—"A Permanent Exposition or Institute of American Industries"
1910—"A Municipal Interborough Trolley Station and Assembly Hall"
1911—"An Embassy for the United States in Paris"
1912—"A Governmental Printing, Lithographing, and Engraving Establishment"
1913—"The Monumental Treatment of the End of Manhattan Island"
1914—"A City Hall"
1919—"The Capitol Building of the League of Nations"
1920—"The Great War Memorial for the City of New York"
1921—"An Exhibition Center"
1922—"A City Hall"
1923—"An Office and Reception Building for the President of the United States"
1924—"A Transportation Institute"
1925—"A Summer Capitol"
1926—"A Natatorium in a Park"
1927—"A Radio Broadcasting Station"

The reproductions of these designs are all made at a large enough size to be of maximum use to students—some of them being 18 inches in their longest dimensions. A total of 35 plates is included in this portfolio, 20 of which are 15" x 20"; and 15, 10" x 15". For convenience in reference, the programs for problems are all printed on the back of the plates; and the plates are so arranged that the individual sheets may be removed for study.

Portfolio 10" x 15", containing 35 plates comprising the complete programs, plans, sections and elevations for all the winning designs for the Paris Prize in Architecture.

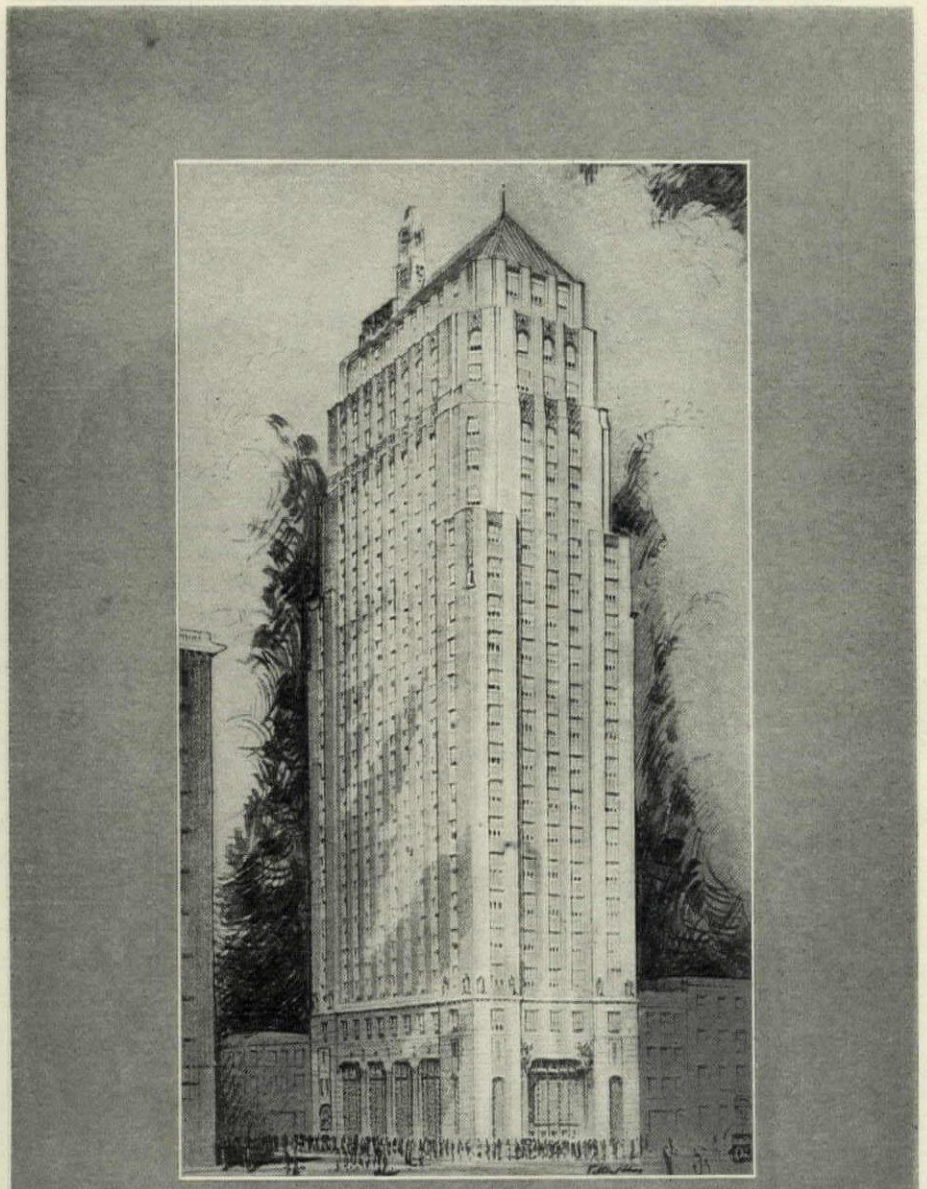
Printed by the Aquatone process on heavy paper. The reproductions are clear and the detail is distinct.

Price $6.00

Any Book in The Pencil Points Library found unsatisfactory may be returned within 5 days and payment will be refunded.

Published by

THE PENCIL POINTS PRESS, INC.
419 Fourth Avenue New York, N. Y.



FIRST NATIONAL BANK BUILDING, PHILADELPHIA
Ritter and Shay, Architects

Faced, roofed and trimmed with brick, hand-made roof and Terra Cotta by

O. W. KETCHAM

Architectural Terra Cotta
Face Brick
Hollow Tile
Other Burnt Clay Products

Factory—Crum Lynne, Pa.

PHILADELPHIA
New York
Washington

Pen rendering from "Drawing with Pen and Ink" by Arthur L. Guptill.

The Renaissance in Rendering

SPARKLING brilliancy is replacing monotonous flatness; rich shadow-depth, glistening highlights and line definition in color are distinguishing the Renaissance in Rendering which has been achieved by the use of Higgins' Colored Drawing Inks in place of water colors, in the drafting rooms of leading architects everywhere. Two widely varying techniques are illustrated, one above and the other upon the following page.

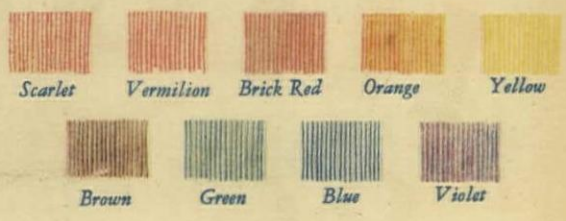
CHAS. M. HIGGINS & CO.
Makers of American Drawing Inks for Almost Half a Century.
271 Ninth Street Brooklyn, N. Y

THE beautiful, the delicate and the unusual in color rendering are exemplified by the fine cross-hatch treatment of the subject above.

Two methods of procedure may be followed to obtain a similar effect with a subject of your own selection. Probably the easier and more conventional of these consists of sketching the subject in black ink, next applying the intense colors and after that the tints. Caution should be exercised against the use of too much black, instead of permitting the colors to bring out the vital elements.

The second technique is a reversal of this order, with the subject first being sketched lightly in pencil, "built up" from Yellow, Orange, and Brick Red Higgins' Inks, with the darker Green, Blue, Purple and Black lines being subsequently sketched over it to supply additional depth and detail.

Done either way, the complete rendering represents an odd and interesting type which can be created only through the use of drawing ink. The technique itself may be used with equal effectiveness for the entire range of rendering, from the quickest thumbnail sketch to the most extensive elevation or perspective.



Rendering in brush by Arthur L. Guptill, from "Drawing with Pen and Ink."

HERE the brush comes into play—the result is really a painting in Higgins' Ink. Its soft warmth and subtle sheen caused by the brilliancy of the inks commend it in many instances over the usual flat wash in water color which is often muddy, particularly in the darker tones. Because of their transparency, even the darkest tones of Higgins' Drawing Inks may be gone over repeatedly without destroying their crispness—a marked advantage over water color.

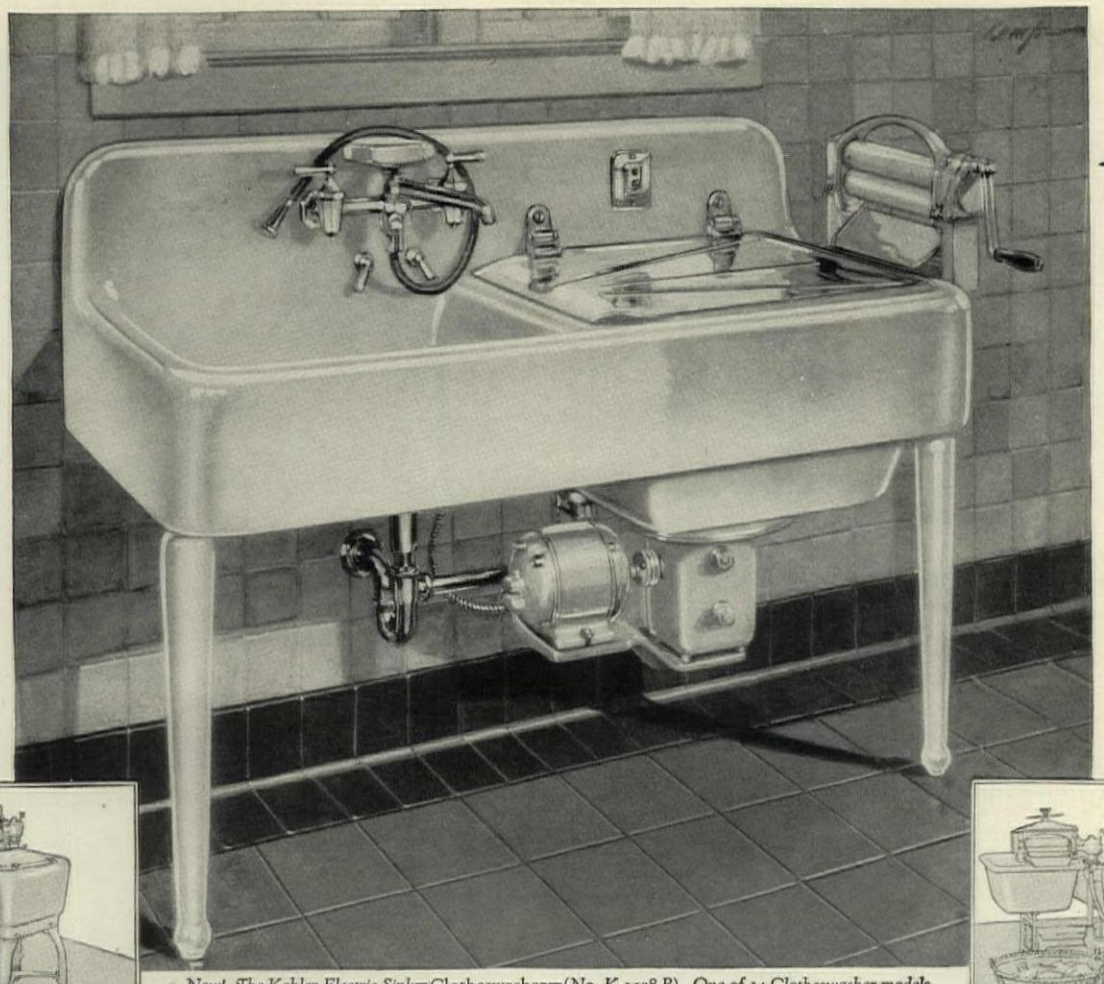
The subject was first sketched roughly in yellow ink, which, together with a few touches of brown on the railing and several purple accents on the tree branches, subsequently applied, consisted of the only pen work. The colors indicated were applied by brush, the lighter ones being laid on first.

Like the drawing upon the preceding page, this method of handling may be employed for all rendering requirements and can be done quickly or carefully, as the requirements dictate. In application, Higgins' Drawing Inks may be used in line or wash, or, because they are waterproof, in combinations of the two, wash over line or line over wash.

Extra copies of this insert for your reference files may be obtained from Chas. M. Higgins & Co., 271 Ninth Street, Brooklyn, N. Y. Higgins' Colored Drawing Inks, in Carmine, Brick Red, Orange, Green, Blue, Vermilion, Indigo, Brown, Scarlet, Violet and Yellow (also the Waterproof and General Blacks and Waterproof White) are carried in stock by supply dealers and blueprint houses everywhere.

HIGGINS'

Colored Drawing Inks



The wringer is easily removable

New! The Kohler Electric Sink—Clotheswasher—(No. K-1128-R). One of 14 Clotheswasher models

Kohler also makes this portable washer, in colored enamel inside and out—an admirably capable machine

"Free-standing" Kohler laundry trays and the new Kohler washer make a most efficient combination in the laundry

The Kohler Electric Sink —Clotheswasher—

for light laundering

HERE is a fixture which presents a new opportunity to the architect who specializes on designing for maximum efficiency in housekeeping. It is a Kohler Electric Sink for clotheswashing, a fixture to be permanently installed in the kitchen, where it is most convenient for immediate and constant use.

Countless homes need it for doing the *everyday* washing—of tea napkins and luncheon sets, children's clothes, golf stockings, silk sweaters and underthings—all those articles that are too easily ruined or too immediately needed to be left for the regular washing.

You will realize, too, what a useful place this fixture will fill in apartments where the basement laundry is inconvenient to use and only available for a limited time each week for each individual tenant.

This *two-in-one* fixture is, in addition, a splendid regular sink. The wringer is easily removable and the metal clotheswasher cover forms a capacious drainboard. The sink is 8 inches deep, fitted with the Kohler Duostrainer, the new cup strainer and drain control for Kohler Sinks. It holds the water in the sink. No need to bother with pans. And the removable strainer cup catches the debris. It may be lifted out by the convenient handle and emptied with ease.

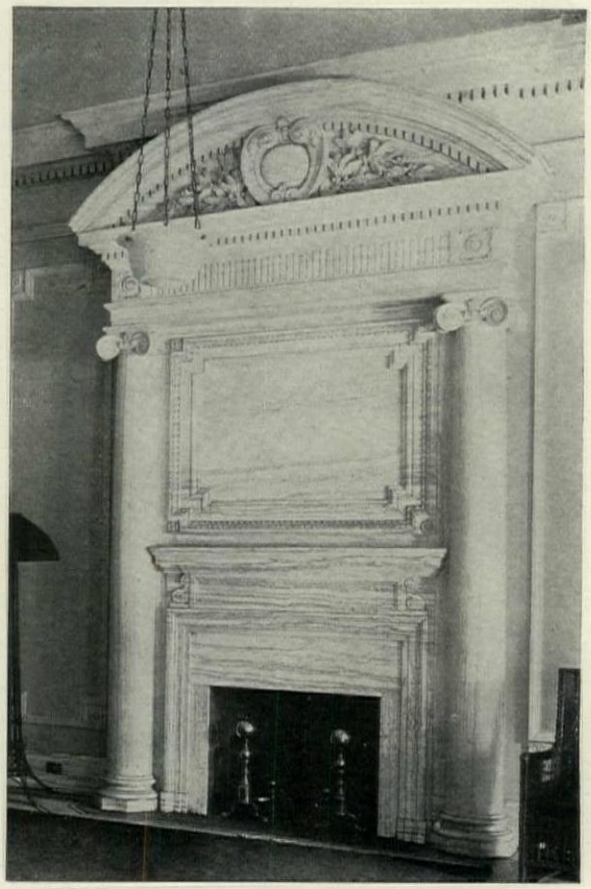
* * *

Kohler Electric Sinks for clotheswashing and dishwashing, the recently announced *Efficiency* sinks, and Kohler Color Ware, are combining to revolutionize the plumbing-fixture equipment of the modern home. You should make it a point to see these new fixtures in Kohler show-rooms and to write for descriptive literature.

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

KOHLER OF KOHLER

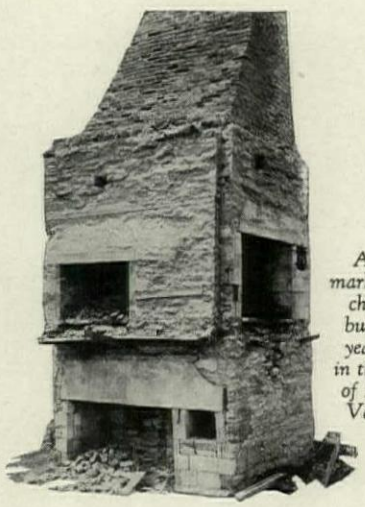
Plumbing Fixtures



Mantel of Vermont Brocadillo Marble. In Apartment House 18th and K Streets, Washington, D. C.

Claughton C. West, Architect.

A Discovery of the Pioneers



A huge marble-faced chimney built 160 years ago in the town of Dorset, Vermont

THE early settlers of Vermont found that marble slabs split from the outcropping ledges would stand extreme heat. So they tried them in their fireplaces. It was a wise selection. In many cases the fireplaces have outlived the houses. The old chimney at the left—eight feet square with five hearthstones in its sides—was photographed a few years ago after the wreck of the wooden building had been cleared away.

Tested by a century and a half of hard usage, Vermont Marble holds a unique position in fireplace construction. At the top of the page is a more modern adaption of the product, designed for a Washington apartment house.

VERMONT MARBLE COMPANY
PROCTOR, VERMONT

BRANCHES IN THE LARGER CITIES

VERMONT MARBLE

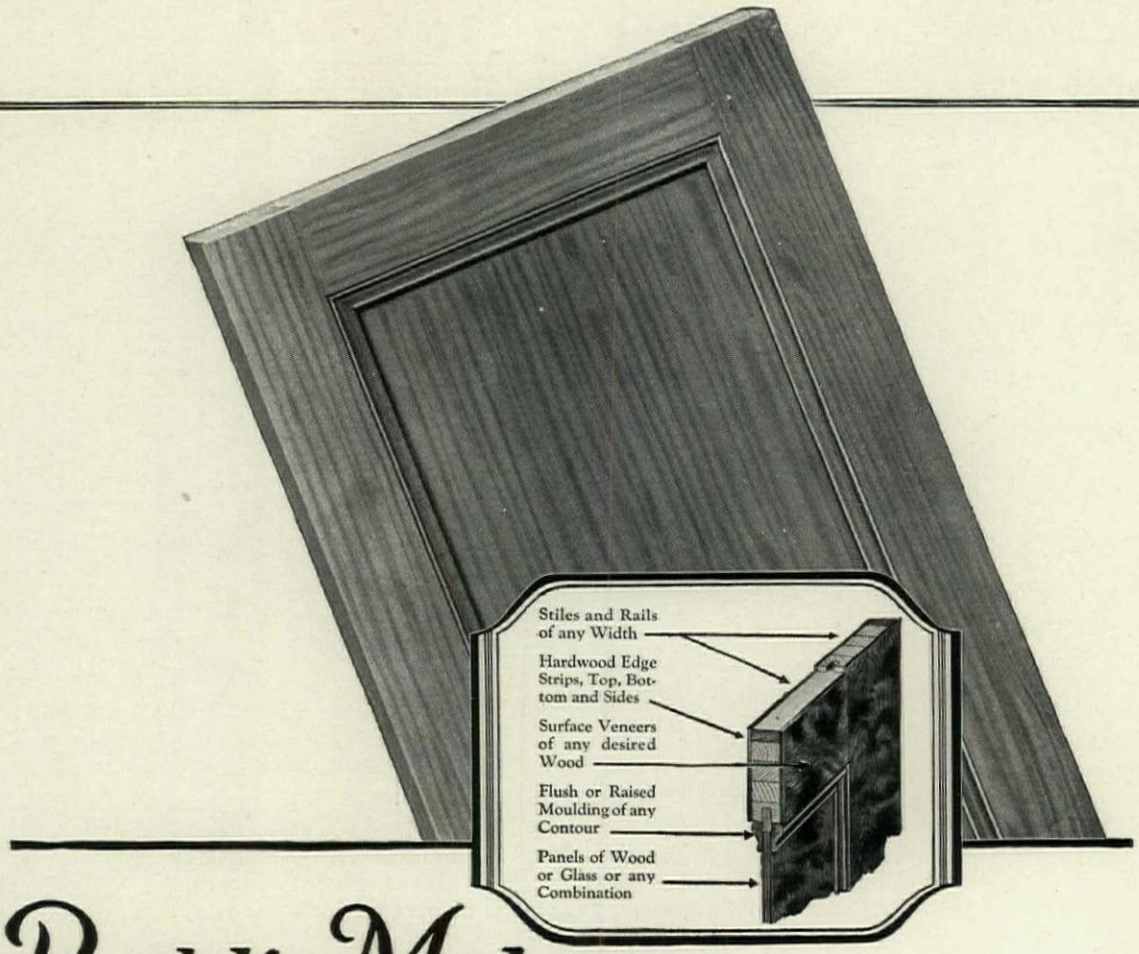
BALANCE

BALANCE . . . . . weight adjusted to control weight. Perfect balance is the keynote of PEELLE Door operating ease. PEELLE Freight Elevator Doors are counterbalanced, each section with the other. Their precisely designed component parts yield a quick, concerted response to hand or electric switch. PEELLE door equipment is as fault-proof and fool-proof as engineering genius can devise. Over 15,000 installations have proven their enduring efficiency and economy. ¶ If the PEELLE catalog is not in your files, a copy will be sent you on request.

THE PEELLE COMPANY, Brooklyn, New York
Boston • Chicago • Cleveland • Philadelphia and 30 other cities
In Canada: Toronto and Hamilton, Ontario

PEELLE Freight Elevator DOORS

"The doorway of America's freight elevator traffic"



Roddis Makes Panel Doors to Your Order

IN panel doors, Roddis gives you your individual design, in any finish, with almost immediate delivery.

In price, the Custom Built Door by Roddis incurs no premium. So completely has Roddis solved the problem that you can have the Custom Built for almost the same price as for standard panel doors.

Send for the folder "The Custom Built Door". It gives complete details. And, if you're interested in prices, send us a print of your design. Gladly will we quote on your individual requirements.

In Flush Doors Roddis offers a wide variety of surface veneers, inlays and fitments. Maximum sound resistive qualities are secured by the five solid layers of wood that extend the full length and width of the door. The Roddis catalog gives full details. Ask for a copy.

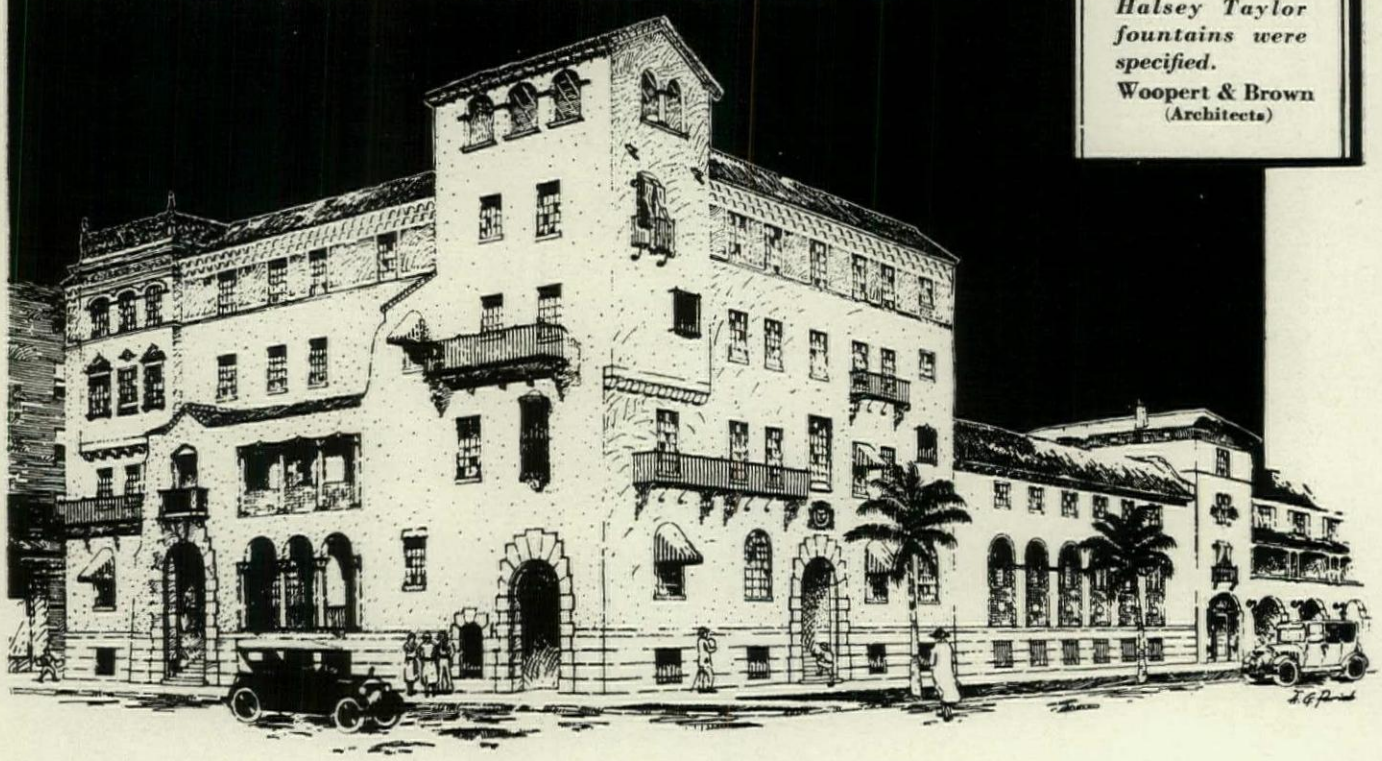
RODDIS LUMBER AND VENEER COMPANY
MARSHFIELD, WISCONSIN
Branches in all Principal Cities

RODDIS DOORS

Made by the World's Largest Producer of

FLUSH···AND···FRENCH···DOORS

FOR CLUBS



THIS *splendid example of Spanish architecture is the Y. M. C. A. building at St. Petersburg, Fla., Halsey Taylor fountains were specified.*
Woopert & Brown
(Architects)

SUCH community welfare institutions as the Y. M. C. A. and fraternal and athletic clubs, where continually guests and members gather . . . all these edifices must assure health-safety in planning drinking water systems. ¶ It is a notable tribute to Halsey Taylor Drinking Fountains that architects so generally recommend their installation! Have you our new Architect's Manual for 1928? . . . ***The Halsey Taylor W. Company, Warren, Ohio.***

HALSEY TAYLOR · DRINKING FOUNTAINS

Practical Automatic Stream Control

THIS is the distinguishing feature of Halsey Taylor Drinking Fountains . . . the drinking stream remains at uniform, practical height regardless of pressure variation!

In Thousands of Buildings

Office Buildings, Hotels, Theatres, Hospitals and Schools, the Original Genuine Sylphon Bellows controls the temperature of service hot water, of air duct systems, of heating and ventilating of feed water and of brine cooled refrigerating systems.

In Most Industrial Plants

Sylphon Instruments find extensive application in temperature control in Textile Mills, Chemical and Leather Plants, Food and Meat Packing Plants and Laundries.

In Great Power Plants

Sylphon Instruments maintain constant temperatures of feed water to boilers, the cooling water for Diesel Engines, maintain correct temperature of fuel oils and cut off the oil supply when the atomizing pressure drops below a safe minium.

In Homes of the People

Sylphon Damper Regulators, now factory equipment on 35 of the leading makes of boilers, afford comfort and positive fuel economy.

In Your Service let us send you complete detailed information and let our engineers assist in solving your particular problem, all without obligation to you. Just send coupon or write if you prefer.

The **ORIGINAL GENUINE SYLPHON BELLOWS**

The motor element in all Sylphon Instruments is the most accurate, durable and flexible temperature control unit known to science.

THE FULTON SYLPHON COMPANY, *Knoxville, Tenn., U.S.A.*

Sales Offices: New York, Chicago, Philadelphia, Boston, Detroit. All Principal Cities in the U. S.

Dept. N

Gentlemen:

We are interested in the application of Sylphon Bellows

_____

Name _____

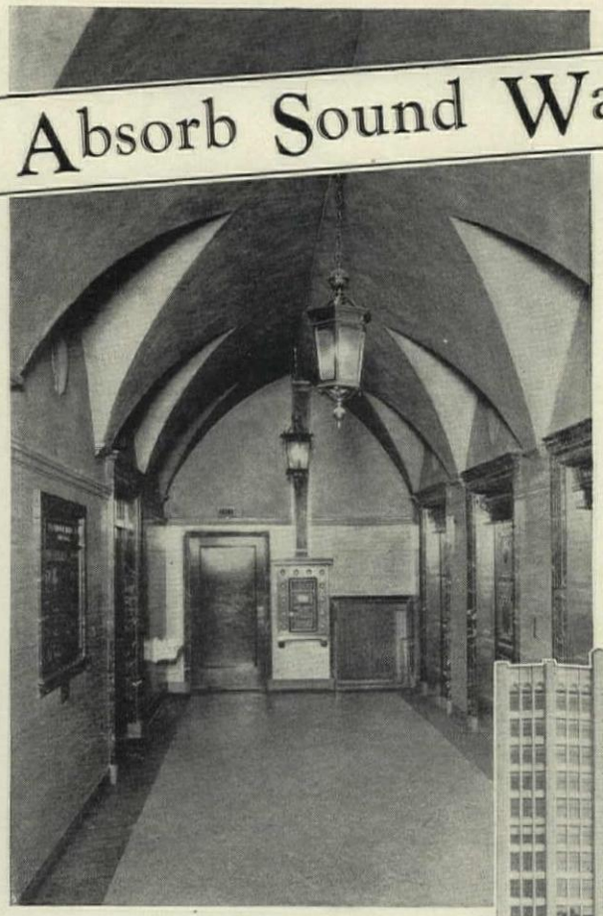
Company _____

Address _____

City _____ State _____

THE FULTON SYLPHON COMPANY — Sylphon — AUTOMATIC TEMPERATURE CONTROL

Walls That Absorb Sound Waves



The Shell Building
ST. LOUIS

Architect:—James P. Jamieson and George Spearl.

Plastering Contractor:—John Brenner Plastering Co.

Mr. Spearl says:
"We wished to obtain the greatest possible freedom from noise and echo in the large offices of the Shell Building and at the same time give the owner a first class plastering job. We therefore specified and used lime mortar gauged with BEST BROS. Keene's Cement. The Roxana Petroleum Corporation, owner, is pleased with the result."

Mr. Brenner says:
"We find lime plaster gauged with BEST BROS. Keene's Cement produces a mortar which is thoroughly plastic, permits retempering, and can be rodded easily to a true and even surface. The use of this plaster in the Shell Building pleased all concerned."

Best Bros. Keene's Cement a Ready Aid to Proper Acoustics and Interior Beauty

IN all types of buildings . . . from bungalow to skyscraper . . . BEST BROS. Keene's Cement is a dependable ally in constructing sound-proof walls. Its sound-absorbing qualities eliminate echoes in large interiors; bring quiet to offices, hospitals, banks and homes; assure better acoustics in halls and auditoriums. And withal there is beauty and endurance.

BEST BROS. Keene's is an all-purpose gypsum cement. Tough and resistant to wear, it is practical for bathroom and kitchen use. Adaptable to all forms and finishes, it is ideal for the finest decorative effects. It works easily and smoothly . . . and never goes "dead".

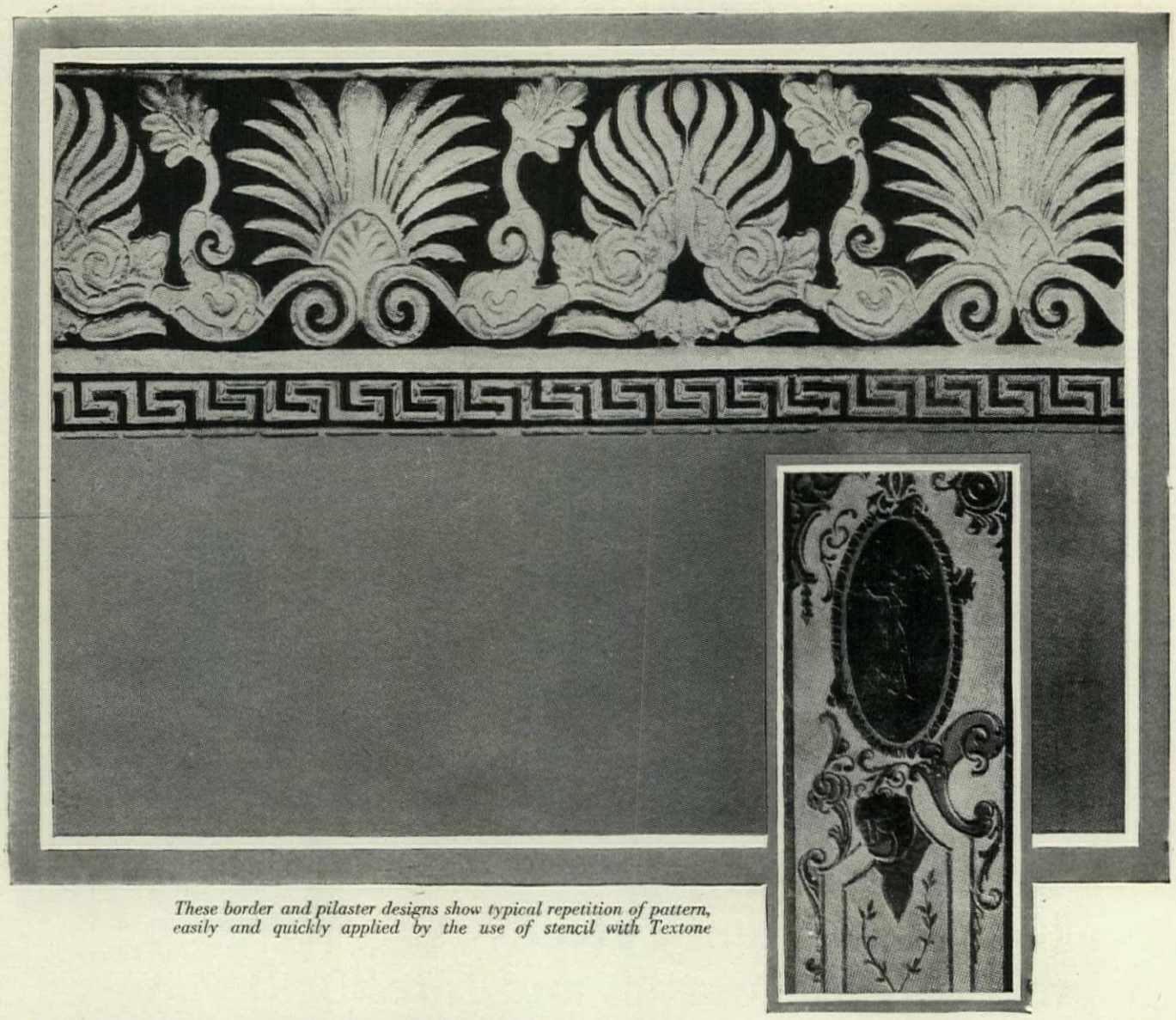
BEST BROS. is the original American made Keene's Cement. It is made by an independent company of 39 years' experience which specializes on this one product and selects its gypsum from the world's richest deposits. The name "BEST BROS." on the sack is your assurance of highest quality.

Free Literature—Write for folders more fully describing BEST BROS. Keene's Cement . . . its uses and other interesting facts.

BEST BROS. KEENE'S CEMENT CO.
1040 W. Second Ave. Medicine Lodge, Kansas
Sales Offices in: New York—Chicago—Detroit
St. Louis—San Francisco—Atlanta (12)

BEST BROS.
KEENE'S CEMENT

Always "BEST" for Plastering



These border and pilaster designs show typical repetition of pattern, easily and quickly applied by the use of stencil with Textone

RELIEF ORNAMENT

at your command

TO add relief ornament to plain walls is a costly process. Now it is brought within easy reach by using stencils with *Textone*, the plastic paint.

Just think of the added richness and variety given by a third dimension in any wall decoration. Think of the widened field for effective use of color.

In creating wall designs and color schemes for smart interiors, you will find in *stenciled Textone* a new means of achievement.

Stencil treatment is only one of many interesting and attractive methods of applying *Textone*. This modern material makes beautiful and enduring textured walls. It is the preferred plastic paint in the shops of today's decorators.

We have prepared for architects authentic information about *Textone*, with directions for its effective use. A treatise on textured walls is yours for the asking.

USG STANDARD BUILDING MATERIALS

UNITED STATES GYPSUM COMPANY, *Dept. 128*
General Offices: 300 WEST ADAMS STREET, CHICAGO, ILLINOIS

USG STANDARD BUILDING MATERIALS

TEXTONE

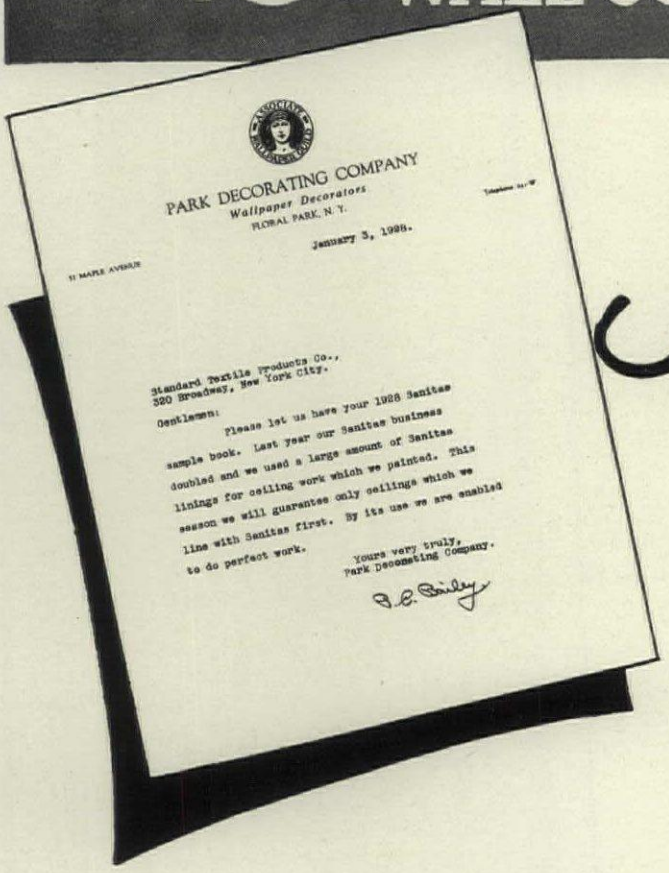
Reg. U. S. Pat. Off.

THE PLASTIC PAINT

Made by the United States Gypsum Company

SANITAS
MODERN WALL COVERING

SANITAS STANDARD STP TEXTILE PRODUCTS BRAND REG. U.S. PAT. OFFICE


PARK DECORATING COMPANY
Wallpaper Decorators
FLORAL PARK, N. Y.

January 3, 1928.

Standard Textile Products Co.,
320 Broadway, New York City.

Gentlemen:

Please let us have your 1928 Sanitas sample book. Last year our Sanitas business doubled and we used a large amount of Sanitas linings for ceiling work which we painted. This season we will guarantee only ceilings which we line with Sanitas first. By its use we are enabled to do perfect work.

Yours very truly,
Park Decorating Company.

P. C. Bailey

for Ceilings also

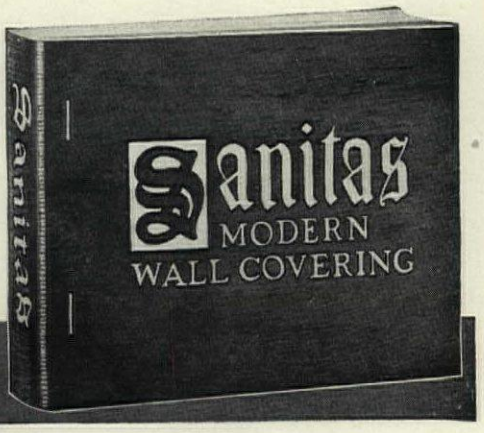
HOW to finish a ceiling may be answered in many ways, but one thing is certain, if you want ceiling decorations to be durable, use Sanitas as a base and satisfaction will be assured.

The tensile strength of Sanitas adds longer life to a ceiling, cracks will not show through. No flaking or peeling.

Sanitas is the cloth wall and ceiling covering that has been on the market for twenty-five years, giving good service in all parts of the world, in all kinds of climate.

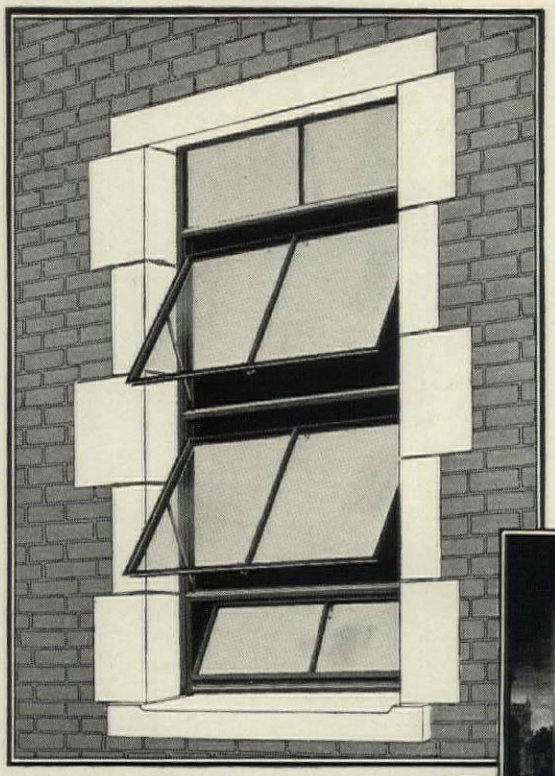
There are Sanitas styles for every room in the house, from the simplest plain dull finished tints to the ornate Metalline Brocades for the richest effects.

The complete line of 140 styles is shown in the Sanitas Sample Book. This book is issued only to the trade. If you haven't received a copy, write us on your business letterhead and mention wholesaler's name.



THE STANDARD TEXTILE PRODUCTS CO.
320 BROADWAY, NEW YORK
DEPT. 53

Send for this Sample Book



The Batterymarch, largest building in the financial district and second largest office building in the city of Boston. Designed especially for corporations and organizations requiring large unit floor area for general office purposes. Contains more than 2,000 units of Fenestra Office Windows.
Architect: Harold Field Kellogg.
Contractor: The Turner Construction Company.

They're NEW! *Fenestra* OFFICE WINDOWS

Distinctly different in design and more sturdy in construction, these *new* Fenestra Office Windows will add architectural beauty and much-to-be-desired conveniences to your new office buildings. Building owners should be familiar with Fenestra's

Twelve Major Advantages

1. Solid, rolled-steel sections of casement type—rugged—durable—permanent, and look it.
2. Sections pleasingly designed for simplicity, continuity, restraint.
3. Double internal baffle for generous overlap—weathering equal to best casement types.
4. Outside glazing—casement appearance inside, without glazing beads.
5. Sliding-projecting ventilators insure uniform operating ease—stop at any angle.
6. All glass washable from inside.
7. Open-in lower ventilators make separate windshields unnecessary—ventilation without exposure.
8. Permit trouble-free installation in line with best building practice.
9. Hardware in keeping with window design—simple, substantial, attractive.
10. Easily and effectively shaded.
11. Screening arranged for when desired.
12. Priced for economy to owner.

To assist in the proper designing of steel windows for architectural structures, we maintain an Architectural Service Department composed of architects with special training in the correct use of Fenestra in all types of monumental buildings. A word to your local Fenestra representative will place this department at your disposal without charge or obligation, either with direct personal service in your own drafting room or through intelligent cooperation from headquarters in Detroit.

DETROIT STEEL PRODUCTS COMPANY
2246 EAST GRAND BOULEVARD, DETROIT, MICHIGAN

Balsam-Wool is a blanket of fluffy wood fibre that looks and feels like sheep's wool and is its practical equivalent in insulating efficiency. Balsam-Wool is windproof, waterproof, fire-resistant, sanitary and durable.

It tucks in

—the first thing to consider in specifying insulation

It will pay you to remember these simple facts when you are specifying insulation for your residences: Practically all insulating materials now on the market may be classified as either *rigid* or *flexible.*

The rigid type includes the flat, dense "board" types. The flexible materials are of the "blanket" type and are used as a lining in walls and roofs. They are *added* to the walls solely to make it easier and more economical to heat a house.

Balsam-Wool is this type of material. Any carpenter can easily tuck strips of this *flexible* material between studdings and joists and right into every crack, corner and crevice—around window and door frames.

Insulating value also depends on the *thickness* of the material. Authorities say that adequate results—the greatest savings—can be secured only by adding a *full inch* of true insulation throughout a house. Balsam-Wool is the only blanket form of building insulation sold in *full inch* as well as half-inch thicknesses.

A sample of Balsam-Wool and technical data covering its use will gladly be sent on request. The coupon is for your convenience.

WOOD CONVERSION COMPANY
Makers of both flexible and rigid insulation
Mills at Cloquet, Minnesota
Sales Offices in Principal Cities

Balsam-Wool

—the *flexible* insulating and sound deadening blanket

SOLD THROUGH RETAIL LUMBER DEALERS

The Weyerhaeuser Guarantee is behind Balsam-Wool. It assures highest quality and lasting satisfaction to users.

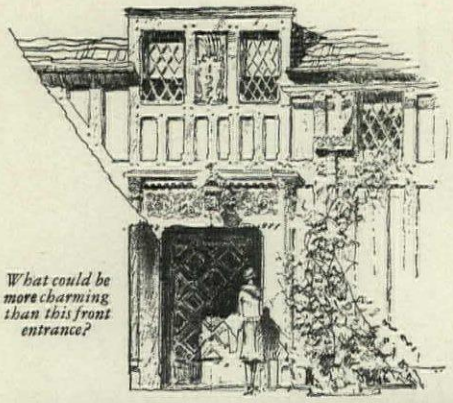
WOOD CONVERSION COMPANY
Dept. 85, Cloquet, Minn.

Gentlemen: Please send me a sample of Balsam-Wool and your technical data relative to its use and efficiency.

Name_____

Address_____

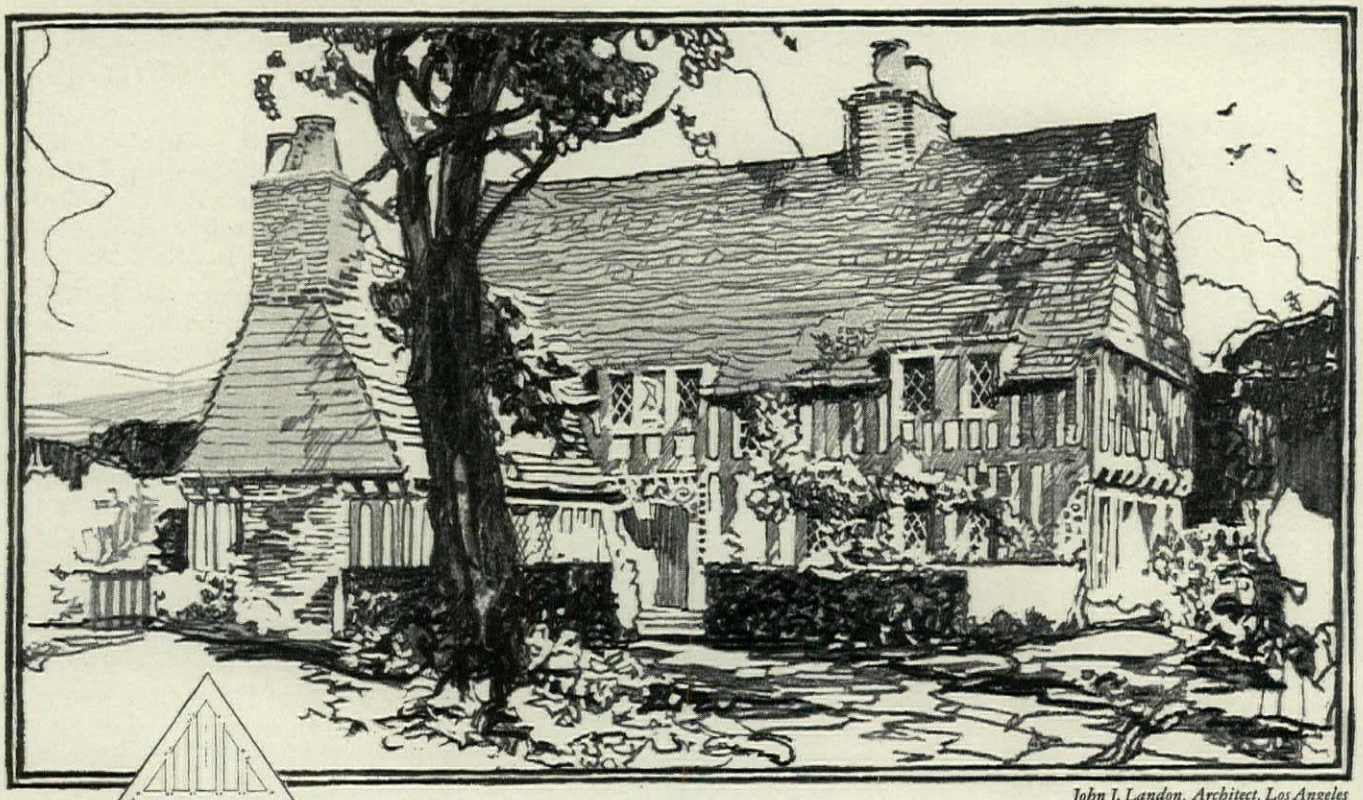
City_____ State_____



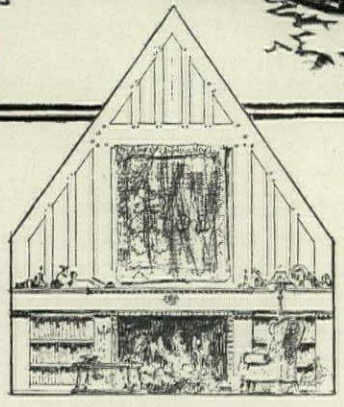
What could be more charming than this front entrance?

An *all*-timbered half-timbered home

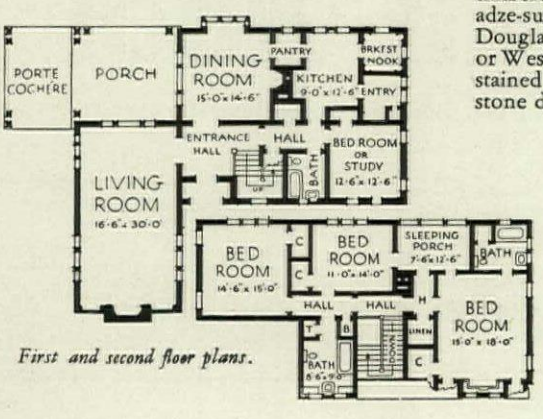
—and it might be in Normandy



John J. Landon, Architect, Los Angeles



This very livable living room is paneled with West Coast Hemlock. It has wood trusses and shows the paneled construction



First and second floor plans.

Awarded first mention in the West Coast woods architectural competition

THE architect designed this very attractive house to reproduce—with West Coast woods—the charm of the cottages of Northern France ... with their steep pitched roofs, timbered walls, carved beams and many other pleasing exterior and interior details.

The unusually attractive *all*-timbered half-timbered effect is obtained by the use of adze-surfaced wide Douglas Fir battens over Douglas Fir plank. Frame of Douglas Fir or West Coast Hemlock. The battens to be stained darker than the panels, with rottenstone dusted over all.

Roof is of vertical grain Western Red Cedar shingles or shakes with doubled ridges and eaves, and laid with a gradually lessening weather exposure as they near the ridge ... fastened with zinc coated or copper nails to insure a permanent roof.

Interior paneling of West Coast Hemlock. Beams and posts of Douglas Fir—all to be stained and antiqued. The entrance hall and stair rail of Douglas Fir with sand-etched design.

Living room to have exposed trusses of Douglas Fir. Dining room paneled in West Coast Hemlock—ceiling beamed with sand etched Douglas Fir. Bedrooms in Douglas Fir, West Coast Hemlock or Sitka Spruce.

Floors to be of wide Douglas Fir or West Coast Hemlock, pegged and grooved, and stained dark brown.

We will be glad to send you, without charge, a brochure of the designers' sketches and construction suggestions for this and many other of the designs submitted in the West Coast Woods Architectural Competition, together with a book describing the four outstanding woods of the Douglas Fir region. *Address* West Coast Lumber Bureau, 217 Mt. Hood Building, Longview, Washington.

Durable
Douglas Fir
America's Permanent Lumber Supply

Important West Coast Woods—Douglas Fir - West Coast Hemlock - Western Red Cedar Sitka Spruce

PARTITIONS *of Common Brick are actually sound-proof . . . . and of course permanent, and a positive protection against fire*

At Your Service—

These District Association Offices and Brick Manufacturers Everywhere

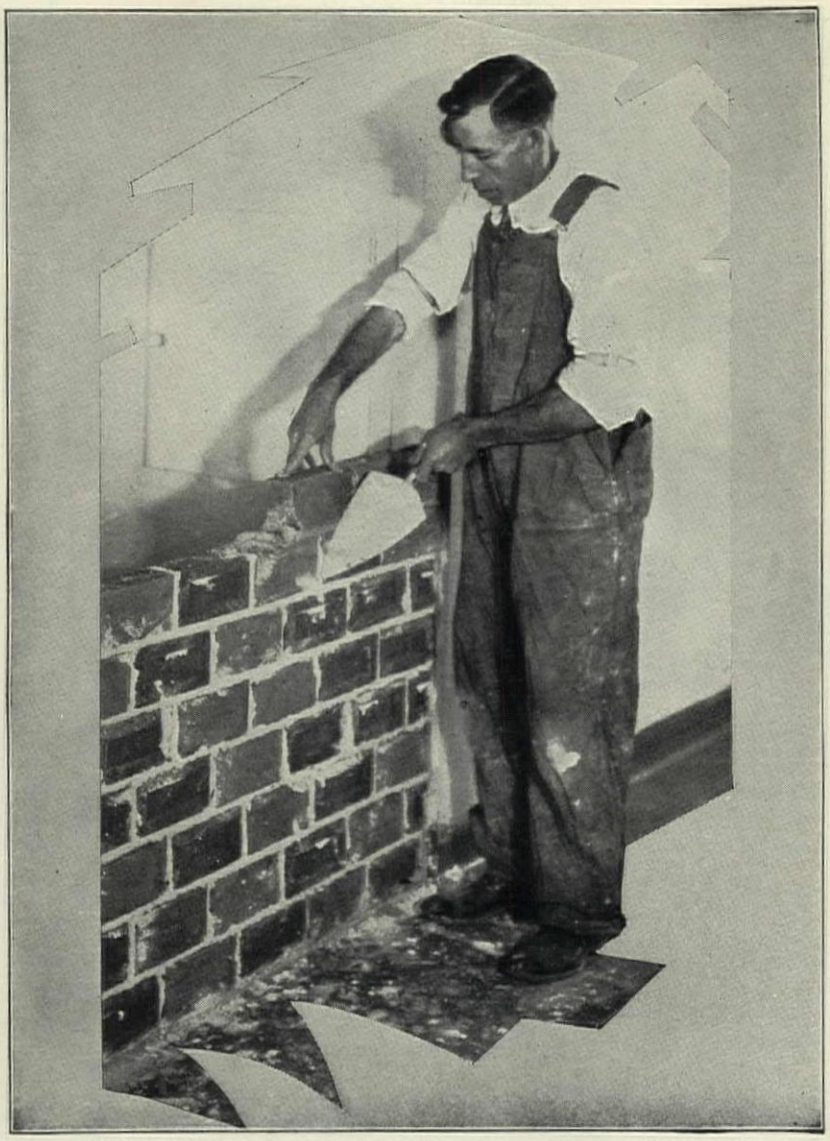
Boston	11 Beacon Street
Chicago	605 Builders Bldg.
Cleveland - Ohio Association	2124 Guarantee Title Building
Denver	1735 Stout St.
Detroit	400 U. S. Mortgage Trust Bldg.
Hartford	226 Pearl St.
New York City	1716 Grand Cent. Terminal
New York State District	Post Office Box 773, Rochester, N. Y.
Norfolk	112 West Plume Street
Philadelphia	1420 Walnut Street
Pittsburgh	702 First National Bank Bldg.
Raleigh, N. C.	508 Commercial National Bank Bldg.
Salt Lake City	301 Atlas Blk.
Seattle, Wash.	913 Arctic Bldg.

Write for "Homes of Lasting Charm," an interesting book of 120 practical small homes, actually built and lived in by satisfied owners. It includes floor plans and suggestions for beautifying garden and grounds.

Check coupon below—send cash or stamps to nearest office

- ☐ *"Homes of Lasting Charm"*—25c
- ☐ *"Skintled Brickwork"*—15c
- ☐ *"Multiple Dwellings of Brick"*—10c
- ☐ *"Farm Homes of Brick"*—5c
- ☐ *"Farm Buildings"*—5c
- ☐ *"Brick Silos and Storage Structures"*—15c
- ☐ *"Brick, How to Build and Estimate"*—25c
- ☐ *"The Heart of the Home (Fireplaces)"*—25c

Check above books wanted or send $1.25 for all of these books.



THE U. S. Mortgage Trust Building of Detroit, in which Common Brick partitions are standard construction, is an outstanding example of their efficiency. A single thickness of brick, laid on edge, provides ample strength and stability, with the highest degree of sound resistance. A light plaster coat on each side finishes the job.

Consult our engineering service for help on any industrial construction problem—no obligation.

SEE OUR CATALOGUE IN SWEETS

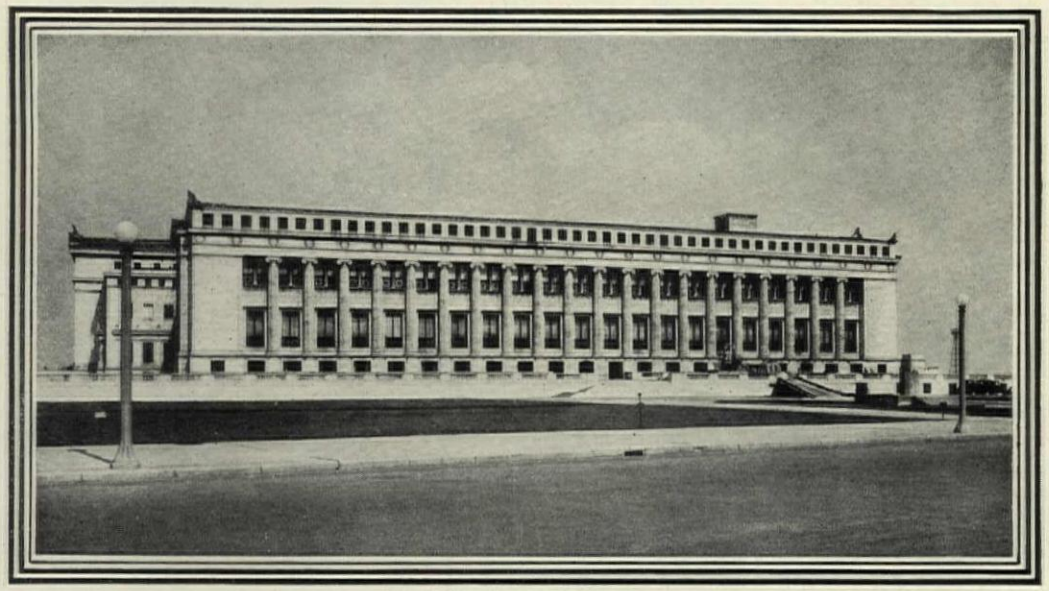
COMMON BRICK MANUFACTURERS' ASSOCIATION *of* AMERICA
2159 Guarantee Title Building, Cleveland, Ohio

BRICK *forever*—

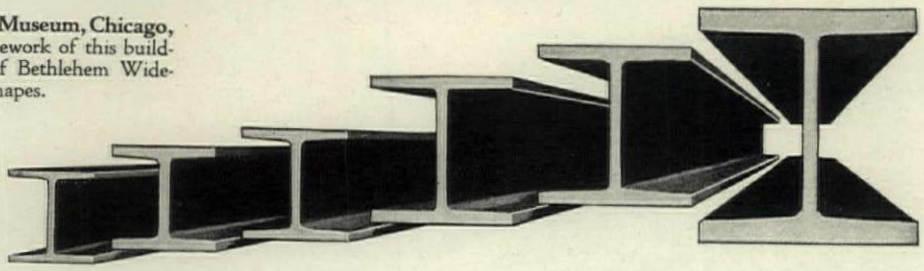
PREFERRED BY ARCHITECTS

BETHLEHEM *Wide-Flange* STRUCTURAL SHAPES

(Fully Protected by U. S. Patents)



The Marshall Field Museum, Chicago, Illinois. The Framework of this building is constructed of Bethlehem Wide-Flange Structural Shapes.



"BETHLEHEM SECTIONS"—the Wide-Flange Structural Shapes—have long been used by Architects, Engineers and Contractors for the steel framework of all types of structures.

From Coast to Coast, in every part of the United States, as well as in many foreign countries, Bethlehem Sections have been used extensively because of their outstanding advantages of high quality and economy in weight and fabrication.

The large capacities of our special mills for rolling Wide-Flange Shapes at Bethlehem, Pa., and at Lackawanna, N. Y., insure prompt deliveries.

BETHLEHEM STEEL COMPANY : : *General Offices:* BETHLEHEM, PA.

DISTRICT OFFICES:

New York Boston Philadelphia Baltimore Washington Atlanta Pittsburgh Buffalo
Cleveland Detroit Cincinnati Chicago St. Louis San Francisco Los Angeles Seattle Portland

Bethlehem Steel Export Corporation, 25 Broadway, New York City, Sole Exporter of Our Commercial Products

BETHLEHEM

WHEN Berry Brothers' Paste Wall Finish was selected for the magnificent new Grosse Pointe, Michigan, school it was a well earned victory for this new product.

A number of different manufacturers submitted samples of their products, which were applied to various walls in the building. They wrote on the walls, scratched matches on them and subjected them to abuse of all kinds.

When washed the walls surfaced in Berry Brothers' Paste Wall Finish were as good as new. So clearly was the superiority of this product established that it was used on the walls throughout the building.

Here's a finish distinguished for permanence and beauty, yet one that is extremely economical in application. Costs less to apply than any product the paint contractor ever used. First coat on bare plaster seals the wall — no air checks or lime burns. It will cover 750 feet to a gallon.

Manufacturer of wear-resisting architectural finishes

BERRY BROTHERS INC.
Varnishes Enamels and Lacquers
Detroit, Michigan *1858—70th Anniversary—1928* *Walkerville, Ont.*

Architectural department will furnish complete details

ARKANSAS SOFT PINE

Satin-like Interior Trim

for WHITE ENAMEL
PAINTED WOODWORK
STAINED EFFECTS

No Rosin—No Raised Grain—No Discoloration

Close grain—fine texture—even absorbing qualities—applied finishes become integral with the wood's fibre.

Lasting Beauty ***Moderate Cost***

Hand book, grading rules, book of architectural competition house plans—natural and finished samples on request.

SEND FOR THESE NOW!

ARKANSAS SOFT PINE TRADE MARK REGISTERED

TRADE MARKED

GRADE MARKED A B & BTR

Arkansas Soft Pine is produced from virgin timber by mills of the first class only—is scientifically dried and is sold through local dealers east of the Rockies

ARKANSAS SOFT PINE BUREAU

LITTLE ROCK ARKANSAS

Von Duprin

Self-Releasing Fire Exit Latches

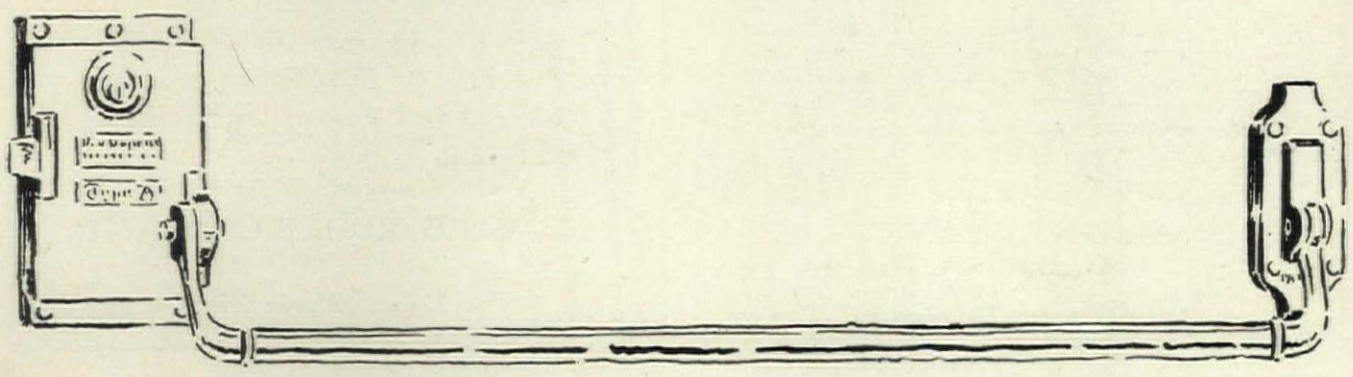
Sweets, Pages B2036-2039

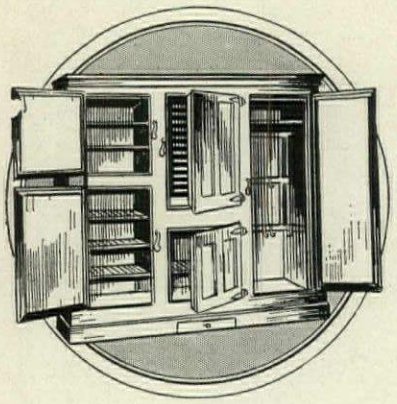
AIA 27c5

If it were simply a question of making self-releasing latches to stand up under the constant operation of a busy door, we could take less pains in making them. But Von Duprins have to do this, and still have the reserve strength to meet the terrific demands of panic conditions.

ADA

VONNEGUT
HARDWARE CO.
Indianapolis, Ind.





For Every Refrigerator Need

ARCHITECTS appreciate the completeness of McCRAY service—not only in stock models for every purpose, but in built-to-order equipment to meet specific needs

McCRAY refrigeration engineers are ready and willing at all times to consult with architects about the specific refrigerator needs of their clients.

For 38 years we have held to an unyielding standard of quality in refrigerator design and construction. Our reward is an army of satisfied users—more than 250,000!

For electric or mechanical refrigeration of any type—or ice—McCray refrigerators insure efficient, economical service. Remember, whatever the refrigerating agent may be, the refrigerator itself determines the character of service that is delivered.

Every architect should have the McCray portfolio, prepared by our engineers especially for architectural use. It contains valuable information on every type of refrigerator equipment—standard specifications—and many other facts for architects.

McCray refrigerators are available for every purpose—in homes, hotels, clubs, restaurants, hospitals, institutions, florist shops, stores and markets. Have you the McCray catalogs in your files? A postcard will bring them, without obligation.

McCRAY REFRIGERATOR SALES CORPORATION
863 Lake St., Kendallville, Indiana

McCRAY REFRIGERATORS

Chancel, Christ Lutheran Church, Harrisburg, Pa.
RITCHER & EILER, Reading, Pa., Architects
Complete Chancel and Seating by DE LONG

THE CHANCEL COMPLETE

THE Chancel illustrated above was executed and installed by De Long craftsmen, following the architect's drawing reproduced in the De Long advertisement in last month's issue.

A comparison of the original design with the photographic view of the completed Chancel, noting particularly the carved wood pulpit and altar and the carving surmounting the finial of the reredos, shows how faithfully the architect's conception was realized. In this, as in all De Long installations, only wood of finest quality, and specially treated for atmospheric conditions, was used.

It is this ability to interpret and perpetuate in exquisite wood carving the architect's ideals, plus De Long's authoritative knowledge of differences in symbolic design and church appointments, that has led architects and draftsmen to repeatedly seek the friendly cooperation of the De Long organization on all problems related to church furnishings.

For information address Department G, De Long Furniture Company, 1505 Race Street, Philadelphia.

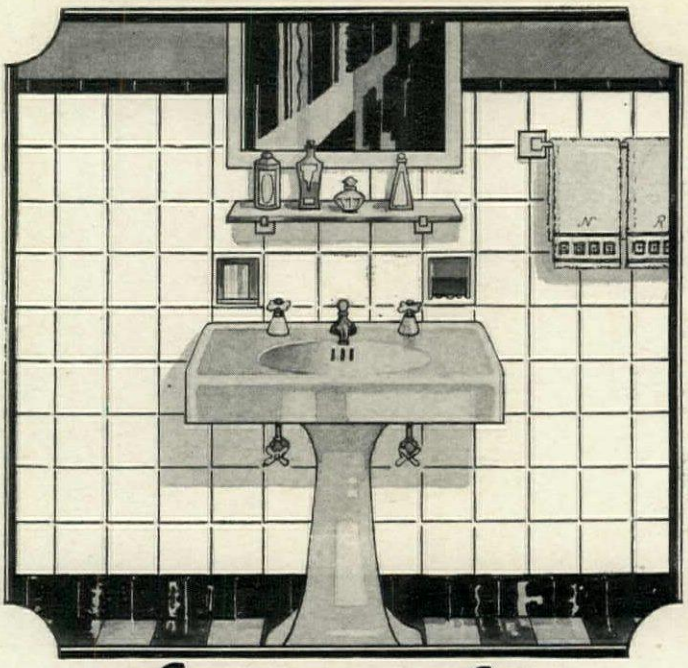
FURNITURE BY DE LONG

FOR CHURCHES • LODGE BUILDINGS • PUBLIC BUILDINGS

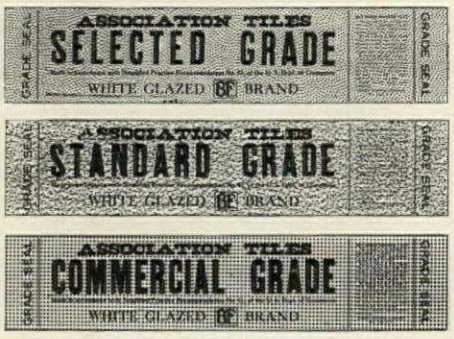
Floor in "U. S." Tile types T-4 (field) and T-35 (spot)

THERE is real artistry in the work of the modern floor-builders! In this interesting office interior the richly toned browns, reds, and blacks of the "U. S." Tile Floor deftly complete and enhance the plan of decorative architecture. The colorful beauty of "U. S." Tile finds practical balance in its remarkable durability, resilient quiet, comfort, and minimum maintenance cost. Here is the ideal floor for office workers—a resiliency that eliminates fatigue and increases efficiency. Made and laid by the United States Rubber Company—famous for fine rubber floors since 1897. Our latest architectural catalog is now on the press. May we send you a copy for your files?

UNITED · STATES · US · RUBBER · COMPANY



Make sure the *Specified GRADE* of White Tiles *goes on the wall*



Look for the GRADE SEAL on barrel head, and *Grade Certificate* in every barrel. *Master Grade Certificate*, covering entire shipment, furnished on request.

VARIOUS Grade names for white glazed tiles are now used by architects, manufacturers, and contractors without definition, and new designations are from time to time applied to established grades or to mixed grades of tiles, which are indefinite and confusing, and tend to encourage misrepresentation and substitution.

The first precaution toward eliminating substitution is to specify tiles only by the recognized GRADE names, viz.:

"Selected"
"Standard"
"Commercial"

The second precaution is to demand that the barrel heads be closed with proper GRADE SEAL, and that a GRADE CERTIFICATE be found in each barrel. In addition, a Master Grade Certificate can be obtained, covering all the tiles in any one shipment.

These precautions and safeguards are explained in Simplified Practice Recommendation No. 61, issued by the U. S. Department of Commerce.

Rossman "BF" Brand White Glazed Tiles are *graded, sealed* and *certified* in strict accordance with these recommendations, hence if you specify "BF" Brand, your worries about substitution are at an end. Moreover, you are assured of a quality of tile long recognized for its beauty of glaze and dependable qualities, at no extra cost over that paid for tiles of uncertain grade and indifferent quality.

ROSSMAN CORPORATION

NEW YORK, N. Y.

Everything in Tiles

BF BRAND
ASSOCIATION TILES

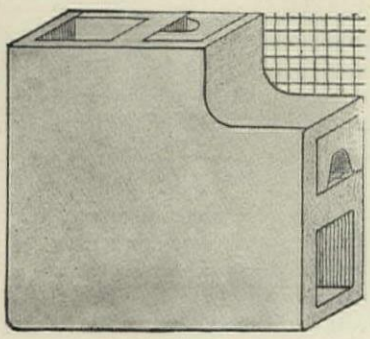
Rossman WHITE GLAZED TILES

"Barreled in Bond"

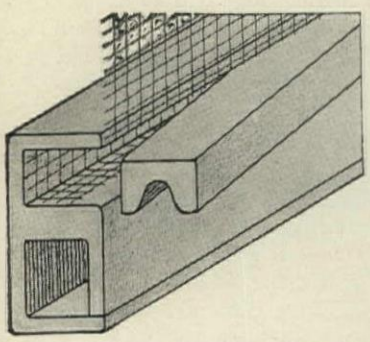
ORANGE SCREENS

MAYFLOWER PLYMOUTH HOTEL
NEW YORK
Emory Roth, *Architect*
Henry S. Lion, *Associate Archt.*
Joseph E. Gilbert, *Builder*

This residential hotel is screened with Orange Aluminum Frame Screens. Light frame means easy removal in the fall. Thin frame means compact storage



Welded corners are stronger and neater than the old style reinforced and riveted corners. Firm welded corners make the whole frame into one piece.



Detail section of extruded Aluminum Frame with screen cloth in place showing lock moulding which, when snapped into place, holds screen cloth in vice like grip.

Orange
ALUMINUM FRAME
Screens

These aluminum frame screens with their perfect welded corners have the tensile strength and stiffness of structural steel. Even under a severe "wrack test" neither fracture nor distortion occurred at the corners.

. . . . .

Advantages of Aluminum Frames:

Aluminum has many recognized advantages. Light and strong, it has replaced heavier metals in many industries. From industry to the home was just a step, for capital, with unlimited resources for experiment, long has led the way for improvement in home building.

The alloy used in the manufacture of Orange Aluminum Screens was developed for our use by the Aluminum Company of America, and is exclusive with the Orange Screen Company.

It is one of the strongest non-ferrous alloys; light, with great tensile strength, extreme elasticity, and rigidity that makes it unsurpassed for metal screen frame construction. Orange Aluminum Screens will not rust, corrode or oxidize. Aluminum forms no colored salts and therefore will not discolor or stain draperies or other materials that may come into contact with it.

These screens are of close grain structure with natural smooth finish that permits engaging parts to slide freely. The surface is excellent for lacquer, enamel, or any finish desired.

The metal is formed in long bars by a process known as extrusion, which gives strength equal to steel or bronze with only one-third their weight.

The corners are carefully mitered and welded to form a solid, seamless frame. The wire cloth is held securely in place by an extruded aluminum bar forced into a channel on the back of the frame and locked in by friction.

This improved construction eliminates unsightly ridges, irregular corners, and uneven or corrugated surfaces that would mar the beauty of the frame.

Orange Aluminum Screens combine the desirable qualities of Beauty and Durability at a price in keeping with their value.

Service and Dependability

Write to our Maplewood, N. J. office for information or estimates and we shall instruct our nearest branch office to take care of your inquiry.

Orange Aluminum Frame Screens are manufactured and sold on a guarantee by the Orange Screen Company, a company which is backed by financial responsibility and 18 years of manufacturing experience.

ORANGE SCREEN COMPANY

Maplewood . . . . . *New Jersey*

A Free Employment Service for Readers of Pencil Points

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

OPPORTUNITIES FOR MEN OF ARCHITECTURAL TRAINING WITH MANUFACTURERS IN THE BUILDING FIELD: we occasionally receive at this office inquiries from manufacturers of building products of various kinds who are seeking sales representatives who have had architectural training. Any men desirous of making such connections are invited to communicate with this department.

DRAFTSMEN who have had experience in architects' offices find our service (founded 1893) very satisfactory in locating suitable positions. No advance charge; reasonable service fee depending on position. New vacancies coming in continually. Address Architectural Department, The Engineering Agency, 53 W. Jackson Boulevard, Chicago, Ill.—*(ADV.)*

WANTED: Engineers for commercial activity who are experienced in sales work and able to obtain sales results. Several openings with a large manufacturing concern specializing in steel building products. Executive ability desired. Permanent, lucrative connections for dependable progressive workers. In first letter state education, experience, age, salary expected and when available. All information treated confidentially. Box No. 800-A, care of PENCIL POINTS.

A PROMINENT New York manufacturer of a material having broad structural and decorative uses desires to secure the services of a young man with architectural training to call upon architects, take off quantities and make estimates in handling the details of the jobs. Headquarters in New York City but a certain amount of travelling will be required. Box No. 801-A, care of PENCIL POINTS.

REPRESENTITIVES WANTED: Manufacturer of high class concrete specialties located in Philadelphia wants part time or sideline salesmen who have established trade with architects and builders to handle their line on liberal commission basis. References required. Box No. 802-A, care of PENCIL POINTS.

REPRESENTATIVES WANTED: The Sanitary Equipment Co., 16th & Holmes Streets, North Kansas City, Mo., would like to increase the number of its representatives in various parts of the country. They make a line of reasonably priced incinerators suitable for use in residences, institutions, industrial buildings, etc. For further particulars write to Mr. B. I. Hall, Jr., Manager.

REPRESENTATIVE WANTED: One of the largest and best known manufacturers of an important material used generally in building work, with offices in New York City, has an opening for a young man (preferably living in New Jersey) who has had an architectural or engineering education, as promotional sales representative. Box No. 803, care of PENCIL POINTS.

REPRESENTATIVES WANTED: Manufacturer of a building product, located in New York City, has openings for salesmen between the ages of 25 and 35, architecturally trained, for work in the Metropolitan district. Drawing account and commission. Box No. 804-A, care of PENCIL POINTS.

WANTED: First class all-round draftsman, one especially accustomed to school work. Brown and Von Beren, 185 Church St., New Haven, Conn.

WANTED: Draftsman capable of designing and making working drawings and detail drawings, in small office located in city of 25,000 population. Permanent position to right party. W. Brown Van Dresser, 31 W. Fulton St., Gloversville, N. Y.

POSITION WANTED: Young lady desires situation in an architect's or builder's office in a stenographic-secretarial capacity. Six years' experience, capable, thoroughly familiar office routine. Box No. 824, care of PENCIL POINTS.

WANTED: Three architectural draftsmen. Office located three hours from New York and two hours from Philadelphia. Experienced and thoroughly capable of developing working drawings as to architecture and construction on high grade work. Designing not nesessary but will be given extra consideration. Give full particulars as to age, education, experience and salary. Address Chief Draftsman, Box XYZ, care of PENCIL POINTS.

WANTED: Opportunity for young technical school graduate as junior draftsman. Must be resident of Northern New Jersey. State age, technical training and salary. Bernard F. McGuire, 210 Market St., West Englewood, N. J.

WANTED: Draftsman capable of executing working drawings and details. Salary $40 or $45 per week, can insure steady employment to right man. Myron S. Teller, 280 Wall St., Kingston, N. Y.

WANTED: A 30 year old printing and furniture trade journal publishing plant with advertising department requires experienced artist. Furniture subjects and room settings, line, wash, color, important part of work. Present art staff six. Progressive, fast growing organization in most desirable section of the South. City 80,000. Interested only in one seeking permanent connection with opportunity. State experience. Give references. Southern Furniture Studios, Queen City Printing Co., Charlotte, N. C.

POSITION WANTED: Young college student, one year's architectural training, would like position in architect's office starting not before the last part of May. H. E. Reed, A.C. Box 22, Wilmore, Ky.

POSITION WANTED: Young man with an architectural degree and three years' experience in first class offices, desires position in New York City or vicinity. Good all-round man. Working from sketches to finish, scale and full size detailing. Box No. 822-A, care of PENCIL POINTS.

POSITION WANTED: Designer-draftsman, age 27, graduate of good architectural college, four years' practical experience, and now employed. Capable of carrying work from preliminary stage to completion, also perspective work. Desires connection with good southern or mid-western firm. Box No. 805-A, care of PENCIL POINTS.

POSITION WANTED: Young man, architectural student, desires position as beginner or tracer with architect or builder. S. Oliver, 115 Pulaski St., Brooklyn, N. Y.

POSITION WANTED: Architect practicing in Florida past two years desires connection with architectural firm in New York or vicinity. Five years' experience in Chicago. Seeks permanent connection with firm where there is possibility of advancement. Thirty years old, married, university graduate. Box No. 806-A, care of PENCIL POINTS.

POSITION WANTED: Architectural draftsman seeks connection with first class firm. Office building, residence, store, factory building, heavy construction and calculation experience. Can calculate sizes of members, full size details and scale drawing. Box No. 807-A, care of PENCIL POINTS.

POSITION WANTED: Artist on decorative interiors, perspective renderings in any medium, murals, for ecclesiastical and domestic wall decoration, also stained glass in all its branches. Will go anywhere. Joseph Sloman, 423 New York Ave., Union City, N. J.

POSITION WANTED: Superintendent, specification writer, or detail draftsman, thoroughly experienced in country house work. Best references. Box No. 809-A, care of PENCIL POINTS.

ANNOUNCEMENT

Guy Lowell Memorial Competition

THIS scholarship is given in memory of Guy Lowell, 1870-1927, a distinguished architect, who believed in the importance of foreign study and travel, and who was a generous and sympathetic friend of all students.

The value of this scholarship is represented by an annual award of $1000 to assist draughtsmen, and students in Schools of Architecture whose previous preparation has been in offices, to benefit by six months' travel in foreign countries as may be determined by the committee in charge.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-nine years of age, and who have had at least three years of office experience.

The competition will be held the last Saturday and Sunday in April.

The scholarship is under the direction of a managing committee of three, composed of the Chairman of the Committee on Education of the Beaux Arts Institute of Design, the Head of the Department of Architecture at the Massachusetts Institute of Technology, and a practicing Architect in Boston.

Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the committee in charge, but these drawings must be sent to Boston for judgment.

All questions and applications should be addressed to Mr. H. P. Richmond, 12 West Street, Boston, Mass., and should be received on or before March 19th.

ANNOUNCEMENT

Massachusetts Institute of Technology Competition for Two Scholarships

TWO scholarships of four hundred dollars each are offered in the academic year 1928-29 for *special students* in the third or the fourth year of the course in Architecture at the Massachusetts Institute of Technology. They will be awarded as the result of a competition in design under the direction of the Committee on Design of the Department of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The competition will be held from May 19 to May 28.

Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the Committee, but these drawings must be sent to Boston for judgment.

Applications should be received on or before April 9, addressed to Professor William Emerson, 491 Boylston Street, Boston

SCHOOLS

A FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Other items on pages 126 of the advertising section and 255 of the editorial section)

POSITION WANTED: Draftsman, 7 years' experience in class work, desires position in a good office. Middle-west location preferred. Box No. 817-A, care of PENCIL POINTS.

POSITION WANTED: Beginner in architect's office, 1 year City College and Cooper Union evening student. 18 months' construction experience, fireproof apartment jobs. Salary secondary to opportunity. Fenick A. Vogel, 1628 Lincoln Place, Brooklyn, N. Y.

POSITION WANTED: In New York City by former head draftsman and practicing architect. University and Beaux-Arts training. Designer and renderer of real ability. Bank, office, hotel, apartment buildings. Especially able in Spanish Renaissance. Office desiring conscientious worker of above qualifications communicate with Box No. 823-A, care of PENCIL POINTS.

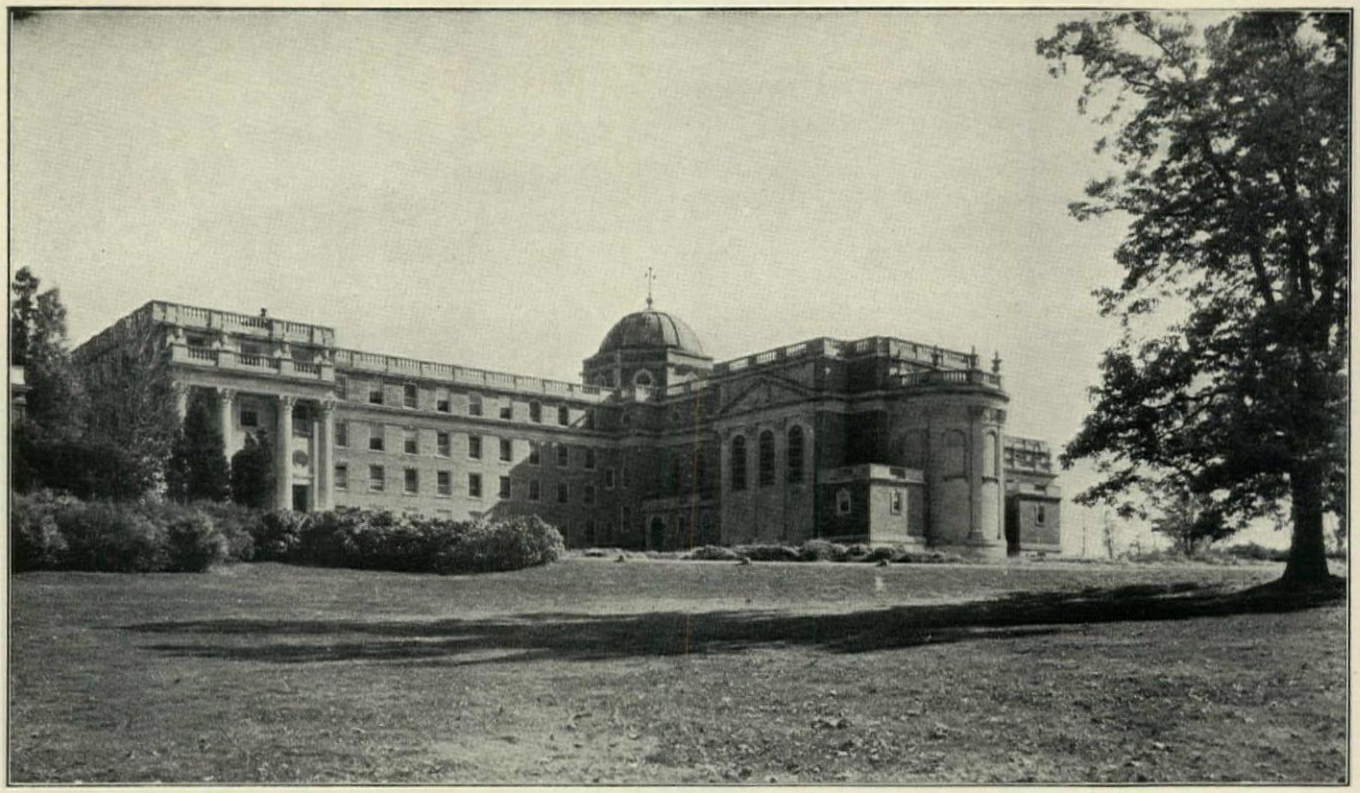
POSITION WANTED: Architectural draftsman, university training and 5 years' experience. Capable of handling work from sketches to completion. References. New York, Philadelphia, or vicinity of either preferred. Box No. 818-A, care of PENCIL POINTS.

POSITION WANTED: Architect, designer, etc., experienced, versatile and elderly been partially invalided, seeks light occupation any department of practice. Part time acceptable, remuneration least consideration. New York City or vicinity. Box No. 819-A, care of PENCIL POINTS.

POSITION WANTED: Young man wishes position in architect's office in New York City. Now studying at Columbia University evenings. Three years' practical experience and 1 year construction superintendent. Best references. Box No. 820-A, care of PENCIL POINTS.

POSITION WANTED: Graduate architectural engineer wants position as superintendent of construction. West preferred. Six years' construction experience and four years on board. Will consider part time inside work. Correspondence solicited. Box No. 821-A, care of PENCIL POINTS.

POSITION WANTED: Architectural student, 18, desires position in architect's office. Jack Kapelson, 1251 Grant Ave., Bronx, N. Y.



Par-Lock Protects House of Studies

THE serene beauty of this stately House of Studies, at Weston is but a counter-part of its innate worth. The plastered inner surface of its outer walls is effectually damp-proofed and keyed by a preliminary application of Par-Lock.

Par-Lock also keys the plaster of ceilings, soffits, beams and columns throughout the building.

This splendid building is the work of Architects Maginnis and Walsh of Boston. The General Contractor was J. P. Keating and the Plastering Contractors Nicholson, Ferris & Sheehy. Par-Lock applied by the Par-Lock Appliers of New England, 45 Commercial Wharf, Boston. One of the most impressive educational buildings in America its construction and equipment is reputed to have cost $15,000,000.

There is a Par-Lock Applier near you ready to advise on questions of damp-proofing and Plaster Key.

THE VORTEX MANUFACTURING COMPANY
1975 West 77th Street · · Cleveland, Ohio

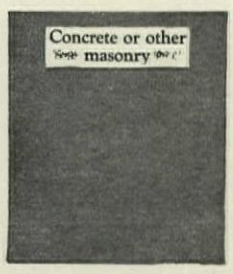
Par-Lock
PLASTER KEY

Par-Lock Appliers

ALBANY,
425 Orange Street
BALTIMORE,
613 West Cross Street
BOSTON,
45 Commercial Wharf
BUFFALO,
958 Ellicott Square Bldg.
CHICAGO,
111 West Monroe Street
CLEVELAND,
218 Hunkin-Conkey Bldg.
COLUMBUS,
751 South Cassingham Rd.
DETROIT,
2544 First National Bldg.
KANSAS CITY, MO.
2035 East 19th Street
MINNEAPOLIS
200 Builders Exchange
NEWARK, N. J.
24 Commerce Street

Par-Lock Appliers

NEW YORK CITY,
50 Church Street
PHILADELPHIA,
1700 Walnut Street
PITTSBURGH,
207 Fulton Building
SCRANTON, PENNA.
Cedar Avenue
ST. LOUIS
906 Chemical Building
TORONTO,
2258a Bloor Street, West
TRENTON,
339 Broad St. Bank Bldg.
YOUNGSTOWN,
503 City Bank Building
WIKES-BARRE, PENNA.
904 Second Nat'l Bank Building
PAR-LOCK CORK INSTALLATIONS
United Cork Companies,
Lyndhurst, N. J.



WITH AND FOR OUR ADVERTISERS

ADVERTISING OFFICE, 419 FOURTH AVE., NEW YORK, N. Y., PHILIP H. HUBBARD, *Advertising Manager*
District Offices: 1050 Straus Building, Chicago; 1211 Swetland Building, Cleveland; 216 Marvin Building, San Francisco.

Adam Electric Company, Frank 44
Alberene Stone Company 47
American Abrasive Metals Co. .. 30
American Brass Company 56a
American Enameled Brick and Tile Company 80
American Lead Pencil Co. 129 & 136
American Radiator Company .. 20
American Seating Company 40
American Sheet & Tin Plate Co. 116
American Tar Products Co. 14
American Window Glass Co. ... 39
Andersen Lumber Company 73
Angel, H. Reeve & Company .. 129
Ankyra Manufacturing Co. 31
Architectural Metal Products, Inc. 52
Arkansas Soft Pine Bureau 113
Armstrong Cork Co. (Linoleum Division) 40a
Armstrong Cork & Insulation Company (Cork Tile) 57
Armstrong Cork & Insulation Company (Roof Insulation) 3
Associated Tile Mfrs. 64
Atlantic Terra Cotta Co., The 1

Barrett Company, The 4
Berry Brothers 112
Best Brothers Keene's Cement Co., The 101
Bethlehem Steel Company 111
Bloomington Limestone Co. 43
Bommer Spring Hinge Company 55
Bonded Floors Company, Inc. .. 75
Boyle & Co., Inc., John 53
Braun, J. G. 81
Bull Dog Floor Clip Company .. 48
Burnham Boiler Corporation .. 18

Cabot & Co., Inc., Samuel 58
Carnegie Steel Company 26
Casement Hardware Co., The .. 22
Clow & Sons, James B. ..... 8 & 9
Columbia Mills, Inc. 7
Common Brick Mfrs. Assn. 109
Congoleum-Nairn, Inc. 76
Cornell Iron Works, Inc. 114
Curtin Valve Company, A. F. .. 54
Cutler Mail Chute Company .. 48

Dahlstrom Metallic Door Co. .. 120
DeLong Furniture Company 119
Detroit Steel Products Company 105
Dietzgen Company, Eugene 123
Dixon Crucible Company, Joseph 71
Donley Bros. Co., The 53
Dunham Company, C. A. 46
Duplex Hanger Co., The 100

Edwards Mfg. Co., The 10
Energy Elevator Co. 59

Faber, Eberhard 127
Federal Cement Tile Company 6
Fiske Iron Works, J. W. 29
Franklin Pottery 28
Frink Company, Inc., The 79
Fulton Sylphon Company, The.. 99

Galloway Terra Cotta Company 31
Georgia Marble Company 74
Gillis & Geoghegan, Inc. 54
Gleason-Tiebout Glass Company 25
Goodyear Tire & Rubber Co., Inc. 45

Hamlin, Irving 135
Hamilton Mfg. Company, The .. 135
Hart & Hutchinson Co., The ... 83
Hess Warming & Ventilating Co. 114
Higgins & Son, Chas. M. .... 88a & b
Howell, Field & Goddard, Inc. .. 61

Indiana Limestone Co. ... 2nd Cover
International Casement Co. 106

Jacobson Mantel & Ornament Co. 52
Jamison Cold Storage Door Co. 63
Janes & Kirtland 16
Jenkins Bros. 66
Johnson Service Company 34
Josam Mfg. Co. 131

Kawneer Company, The 32
Kellogg-Mann & Company, Inc. 58
Ketcham, O. W. 87
Keuffel & Esser Company 132
Kewanee Boiler Company 70
Kinnear Mfg. Company 94
Kliegl Bros. Universal Electric Stage Lighting Company .. 94
Koh-I-Noor Pencil Company .. 133
Kohler Company 89

The Dahlstrom Metallic Door Company of Jamestown, N. Y. announces the opening of its new studio at 475 Fifth Avenue, Suite 1002-A, New York City, in charge of Mr. Howard E. Watkins, the well-known designer. Those interested are cordially invited to call and learn of the many possibilities in decorative design applicable to Metal Doors.

A new floor and trim varnish has been developed by Berry Brothers, Inc. of Detroit, manufacturers of varnishes, enamels and lacquers. This new varnish is called Four Hour Floor and Trim because four hours after application the floor is hard enough to walk on. The manufacturer claims that this product is entirely waterproof and will not turn white. This quick-drying material takes its place with other similar products in the Berry line formulated to meet the needs of this fast moving century.

Appointment of three vice-presidents of the Truscon Steel Company of Youngstown, Ohio was made this week by Julius Kahn, president of the Company. Mr. C. I. Auten, has been named vice-president in charge of sales in the Standard Building Division of the firm. Mr. M. T. Clark is vice-president in charge of sales of the Steel Window Division. Mr. C. D. Loveland has been appointed vice-president with headquarters at Newark, N. J. He will be in charge of Truscon distribution in that state.

The Milwaukee Corrugating Company announces the addition of Mr. Julius A. Pfeiffer as Director of Sales of the Fireproof Material Division of this company. The reorganized sales organization includes also Mr. H. B. Spackman, special representative in the fireproofing line; Mr. C. C. Banholzer, who has been assigned to the Wisconsin and Northern Michigan Territory; Mr. J. B. Decker, who will have charge of the Northwestern Territory and Mr. G. C. Lendon in charge of the Detroit Territory.

Yeomans Brothers Company, Chicago, manufacturers of sewage ejectors and pumping machinery, announces the appointment of H. F. Kircher and Company, Lehman Building, Peoria, Illinois to represent them in the central part of Illinois.

The Master Builders Company of Cleveland, makers of Colormix Floors, have developed a product known as Stainproof, which has been successfully used during the past few months. It is a thick liquid which is applied to the floor like paint. It dries to a tough, stain preventing, wear resisting coat that is left on until all building operations are complete. It is removed by soaking with water and then scrubbing off. Stainproof can be used on tile, marble, composition, terrazzo and concrete floors.

Masterseal is a new material affording complete protection from moisture penetration. It too has been developed by the Master Builders Company of Cleveland. It is transparent and colorless and is applied like paint. Masterseal protects the walls of a building from disintegrations, stain, efflorescence, mildewing and other disfigurations.

Pencil Points welcomes to its advertising columns the following new advertisers: Bloomington Limestone Co., Donley Bros. Co., J. W. Fiske Iron Works, D. A. Motot Co., Mississippi Wire Glass Co., The Mohawk Carpet Mills, Safety Car Heating & Lighting Co., Security Fire Door Company, and Stewart Iron Works.

Leonard-Rooke Company 116
Libbey-Owens Glass Company .. 3C
Lord & Burnham Company, The 68
Louisiana Red Cypress Bureau 69
Louisville Cement Company ... 21
Ludowici-Celadon Company 110
Lupton's Sons Company, David 50

McCray Refrigerator Sales Corp. 118
MacArthur Concrete Pile Corp. 55
Macomber Steel Company 100
Major Equipment Company 30
Master Builders Company, The 19
Matot Co., D. A. 31
May Oil Burner Corporation .. 41
Mid-West Incinerator Corp. 56
Mills Company, The 121
Milwaukee Corrugating Co. 144
Minwax Company 95
Mississippi Wire Glass Co. 4th Cover
Modern Bronze Store Front Co. 143
Mohawk Carpet Mills, The 16
Mueller Mosaic Company 94
Murphy Varnish Company 56b

Nailcrete Corp., The 78
National Bldg. Granite Quarries Assn. 77
National Lumber Mfrs. Assn. .. 15
National Terra Cotta Society .. 97
National Tube Co. 137
North American Cement Corp. .. 67
Northwestern Terra Cotta Co., The 12

Orange Screen Company 125

Pease Company, The C. F. 49
Pecora Paint Company 55
Peelle Company 93
Pelican Works Gunther Wagner 133
Pfaudler Company, The 10
Pierce, Butler & Pierce 17
Portland Cement Association .. 24b
Premier Standardized Woodwork 114

Ramp Building Corporation 11
Raymond Concrete Pile Co. 5
Richards-Wilcox Mfg. Co. 3rd Cover
Rising & Nelson Slate Company 104
Rixson Company, The Oscar C. 30
Roddis Lumber & Veneer Co. .. 96
Roessler & Hasslacher Chemical Company, The 60
Rossman Corporation 120b

Safety Car Heating & Lighting Company, The 23
Samson Cordage Works 10
Sargent Granite Company, J. D. 116
Security Fire Door Company .. 141
Sedgwick Machine Works 53
W. & J. Sloane 42
Smyser-Royer Company 117
Sonneborn Sons, Inc., L. 35
Soss Mfg. Company 94
South Amboy Terra Cotta Co. .. 83
Standard Textile Products Co., The 103
Stevens' Master Specifications, Inc. 27
Stewart Iron Works 59
Structural Slate Company 100
Swartwout Company, The 44
Sykes Company, The 13

Taylor Company, The Halsey W. 98
Thatcher Company, The 37
Truscon Steel Company .... 90 & 91
Tuttle & Bailey Mfg. Co. 38

Union Metal Mfg. Co. 65
United Metal Products Corp., The 62
United States Gypsum Co. 33 & 102
United States Rubber Company 120a

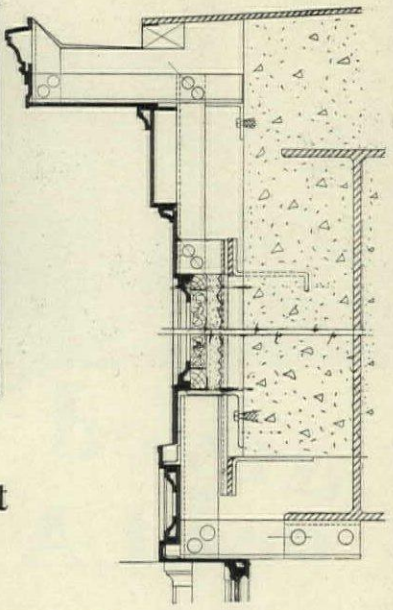
Vermont Marble Company 92
Vonnegut Hardware Company 115
Vortex Manufacturing Company 140

Wagner Manufacturing Co. ... 40b
Warren-Webster Company 51
Weber Company, F. 132
West Coast Lumber Mfrs. Assn. 108
Wheeling Corrugating Company 2
Wilson Corp., J. G. 48
Wood Conversion Company 107

Yeomans Brothers Company ... 62

Zenitherm Company, Inc. 24 & 24a

Side elevation—MARCUS CO. STORE, WORCESTER, MASS
CUTTING, CARLETON & CUTTING, *Architects*

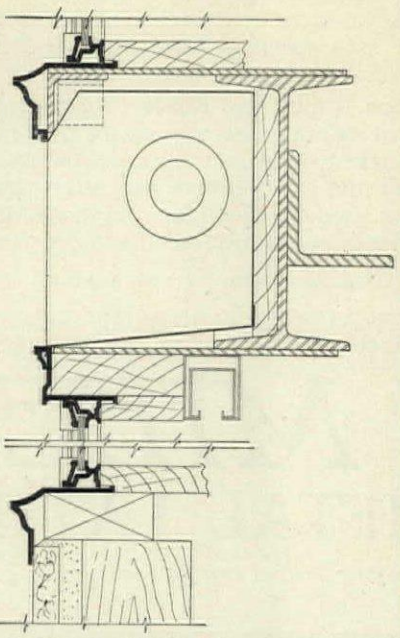


Another example of exterior treatment with Extruded Bronze

A rather unusual treatment is shown in the side elevation of this store. Extruded mouldings were used from the cornice down to the sidewalk and include the mouldings that retain the marble in place. The sections shown here are typical of stock shapes for immediate delivery and are priced on a basis that allows for general use.

Where decorative effects are required, sections such as ornamental cresting, enrichments, caps and bases, et cetera, are available in cast Bronze and are used direct in relation with the Extruded sections.

We welcome the opportunity of submitting drawings and details.



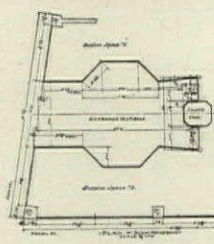
VERTICAL SECTION

Modern Bronze Store Front Co.

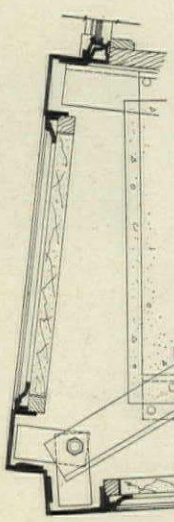
And Associated Companies:

International Distribution — Zouri Drawn Metals Company, International Store Front Company, Standard Store Front Construction Co., Zouri Company of California, Zouri Drawn Metals Co. of New York, Inc. — *Names on Request*

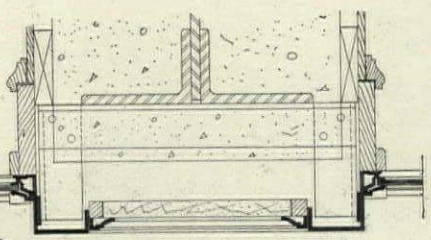
Factory and General Offices: Chicago Heights, Illinois



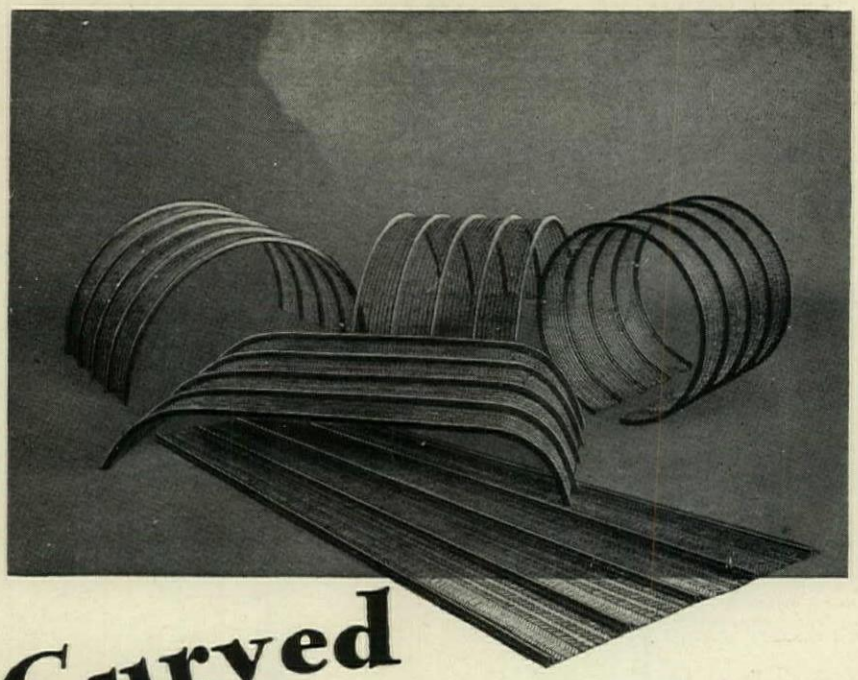
PLAN OF STORE



PART HORIZONTAL SECTION



ZOURI KEY-SET EXCLUSIVE Safety FEATURES STORE FRONTS



Curved or FLAT LATH

WHATEVER your requirements may be in rib lath for reinforced concrete construction . . . . . whether you need lath curved to specified forms, or flat lath . . . . . Milcor is prepared to deliver *with speed!*

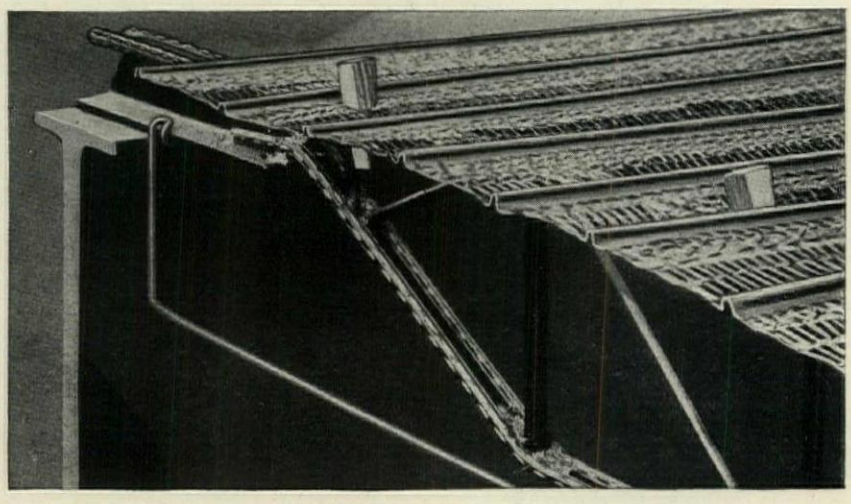
Milcor ¾-inch Stay-Rib No. 3 is the superior type of reinforcing lath that engineers prefer, because . . . it has fewer ribs, therefore more mesh for concrete to grip . . . . ribs are corrugated, to insure greater stiffness and maximum safety before and after pouring . . . . it is the only rib lath reannealed after forming, to increase its toughness . . . . it has no jagged points to cut workmen's hands; it can be handled speedily, with safety.

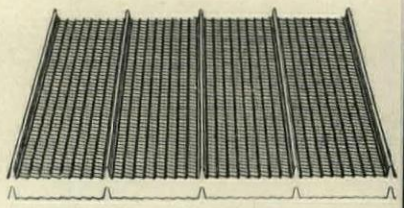
Convince yourself by comparison! Actual samples, free, on request.

MILWAUKEE CORRUGATING COMPANY, *Milwaukee, Wis.*
CHICAGO, ILL., KANSAS CITY, MO., LA CROSSE, WIS.

MILCOR METAL LATH *for* SAFETY

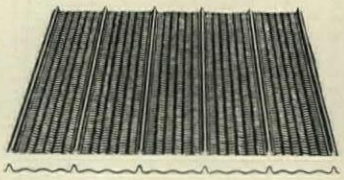
A popular type of bar joist with Milcor ¾-inch Stay-Rib No. 3 in place, ready for concrete to be poured.





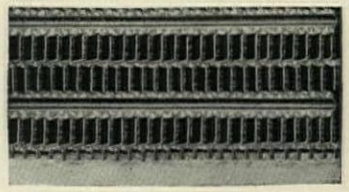
¾-inch Stay-Rib No. 3

Sheets 24″ (covering width) Standard lengths 4, 5 6, 7, 8, 9, 10, 11 and 12 ft. Made from Steel "Coppered Metal," painted, No. 28 Ga., No. 2 Ga., and No. 24 Ga.; or No. 28 Ga. Galvanized; from ARMCO Ingot Iron, painted, No. 26 Ga., an No. 24 Ga., or from Galv. ARMCO, No. 28 G Ribs 6″ on centers; ¾″ high.



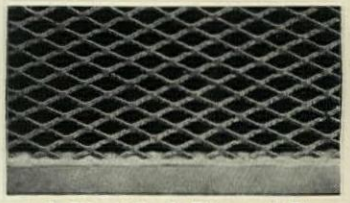
⅜-inch Stay-Rib No. 2

Sheets 24″x96″. Made from Steel, "Coppered Me al," or pure ARMCO Ingot Iron, painted black, four weights; or from galvanized sheets in tw weights.



Stay-Rib Metal Lath No. 1
—the great plaster saver!

Sheets 24″x96″. Made from Steel, "Coppered M al," or pure ARMCO Ingot Iron, painted black four weights; or from galvanized sheets in t weights. Stay-Rib No. 1 is famous for its plast saving feature.



Netmesh Metal Lath Diamond Expand

Sheets 24″x96″. Made from Steel, "Coppered M al," pure ARMCO Ingot Iron, painted black, in f weights; or from galvanized sheets in two weigh or from pure Zinc, or pure Copper.

Now Ready!

New 96-page edition of the Milcor Manual

Use this Coupon

— for your free copy of this new data book.

Name.....

Address.....

City.....

State.....

FoldeR-Way partition door hardware was specified by Robinson & Campeau, Grand Rapids architects, for the recently constructed Y. W. C. A. at Lansing, Mich. Four lounging rooms can be converted into one large gathering place. Space does double duty.

Save Space—
by providing for convertible rooms

In a minute—with FoldeR-Way partition door hardware—you can change a large room into two, three, or any number of smaller ones. That's because they slide easily and noiselessly . . . a vast improvement over ordinary folding and sliding door equipment.

Leading architects and builders specify FoldeR-Way partition door hardware for lodge rooms, hotels, schools, Y. W. C. A.'s, or wherever it is necessary to provide a number of quiet rooms or one large one on a moment's notice.

FoldeR-Way equipment does not sag, stick or rattle. It meets all the fine requirements necessary in modern building equipment.

Write us for full information. Richards-Wilcox engineers will be glad to aid you in solving any doorway problem.

Richards-Wilcox Mfg. Co.

"A Hanger for any Door that Slides."

New York · · · **AURORA, ILLINOIS, U.S.A.** · · · Chicago

Boston Philadelphia Cleveland Cincinnati Indianapolis St. Louis New Orleans Des Moines
Minneapolis Kansas City Los Angeles San Francisco Omaha Seattle Detroit

Montreal · RICHARDS-WILCOX CANADIAN CO., LTD., LONDON, ONT. · Winnipeg

ting of Pencil Points by The Gillespie Bros., Inc., Stamford, Conn.

EVERY prism in "Aurora", the quality glass for doors and partitions, is cut at an angle to insure maximum illumination. A new Mississippi process assures a plate glass finish and uniformity of quality heretofore unknown.

It is the most efficient pattern because it is scientifically designed to deflect the light *where it is needed.* Aurora can be had wire or plain. Let us send you samples of the new Aurora.

FOR PARTITIONS

Specify "MISSISSIPPI

MISSISSIPPI GLASS COMPANY

220 Fifth Avenue New York

Chicago St. Louis