JANUARY 1930

PENCIL POINTS

A JOURNAL FOR
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Of the architects who are responsible for this beautiful architecture, Holabird & Root are among the best known.

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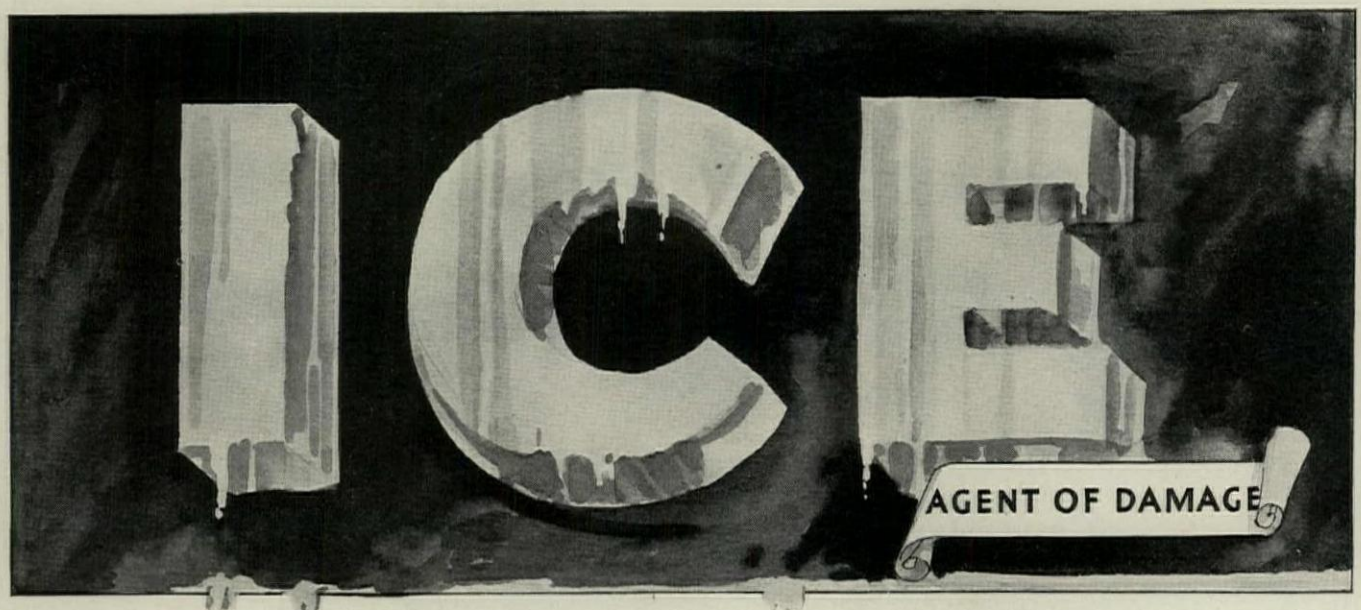

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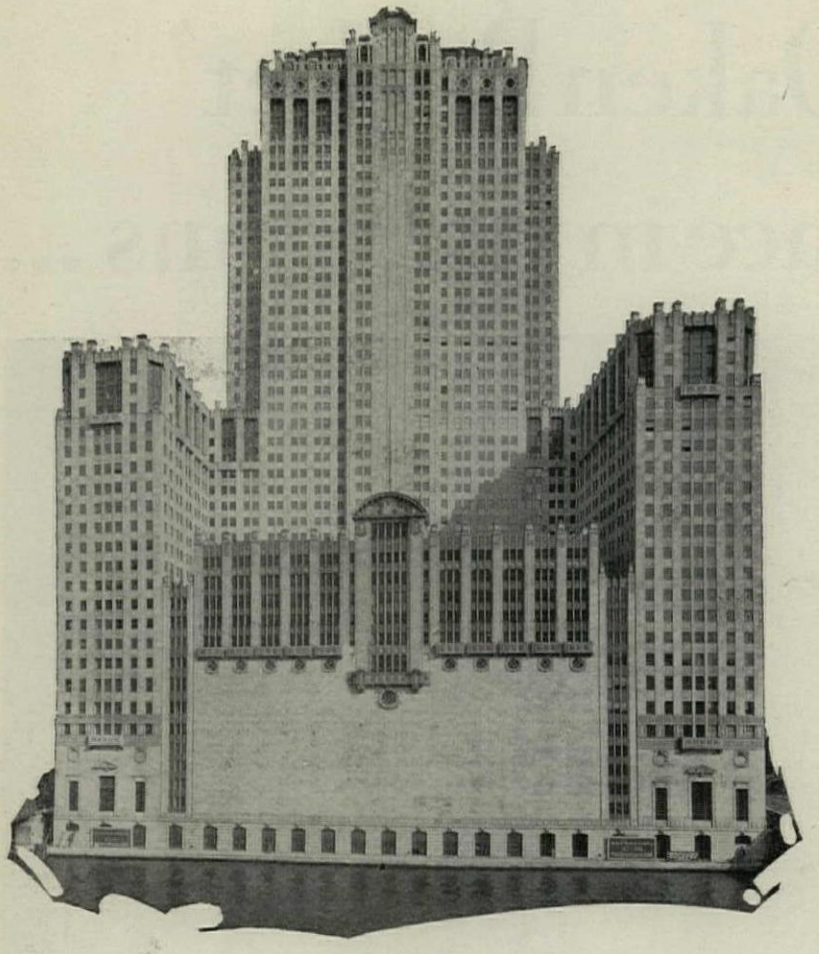

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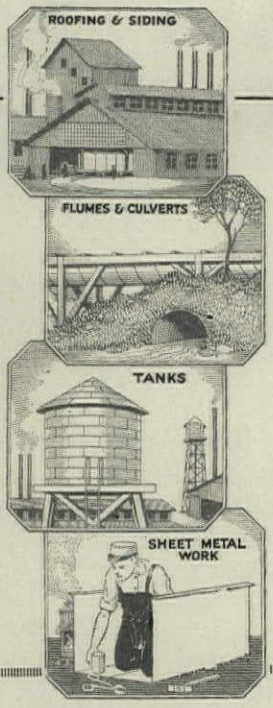

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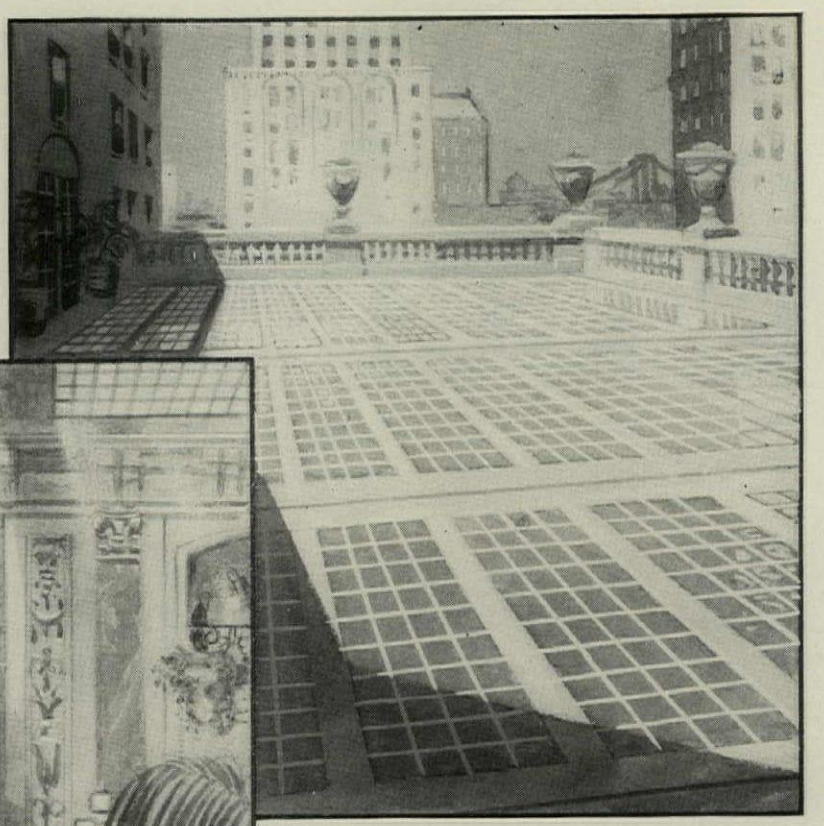

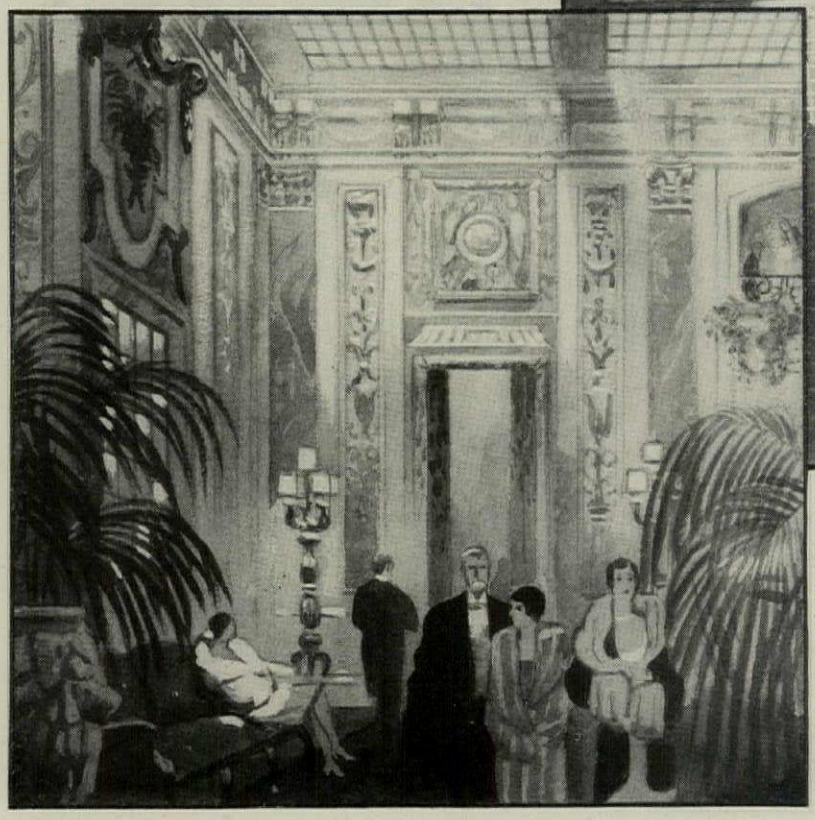

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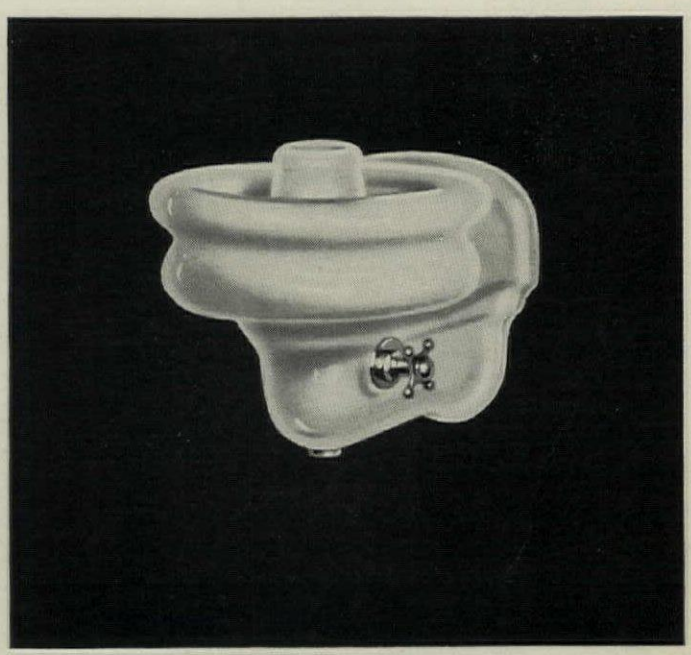

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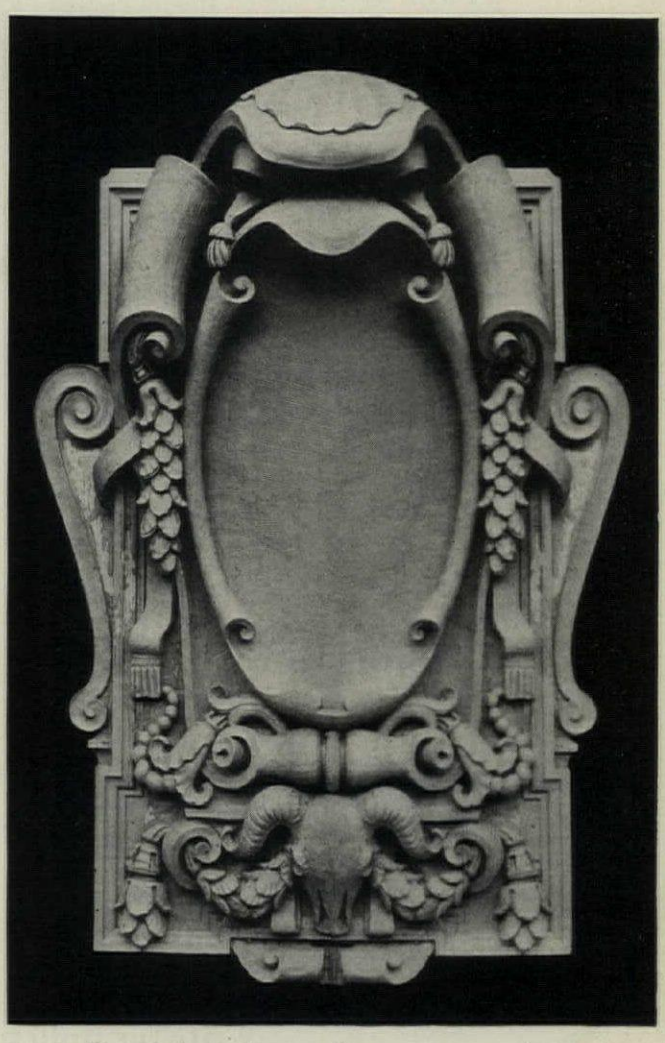

Terra Cotta cartouche at upper setback

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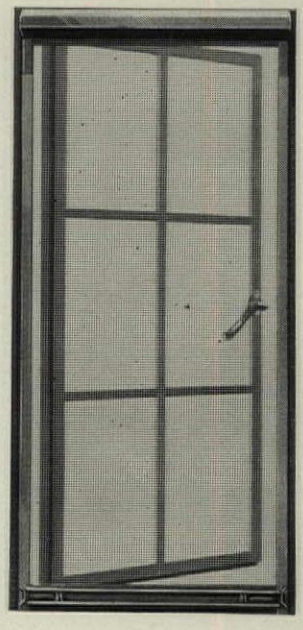

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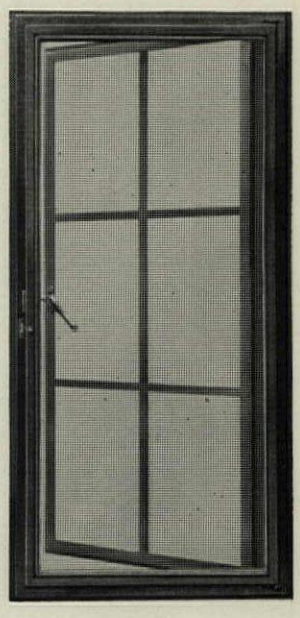

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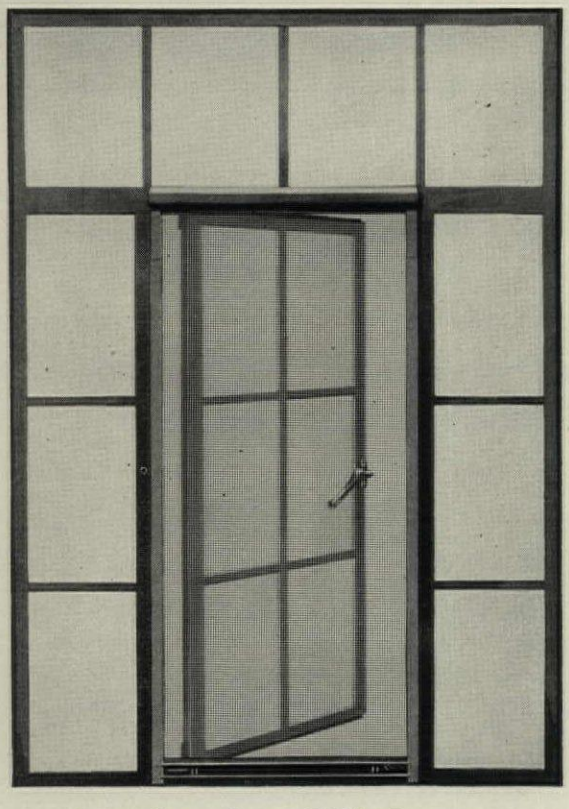

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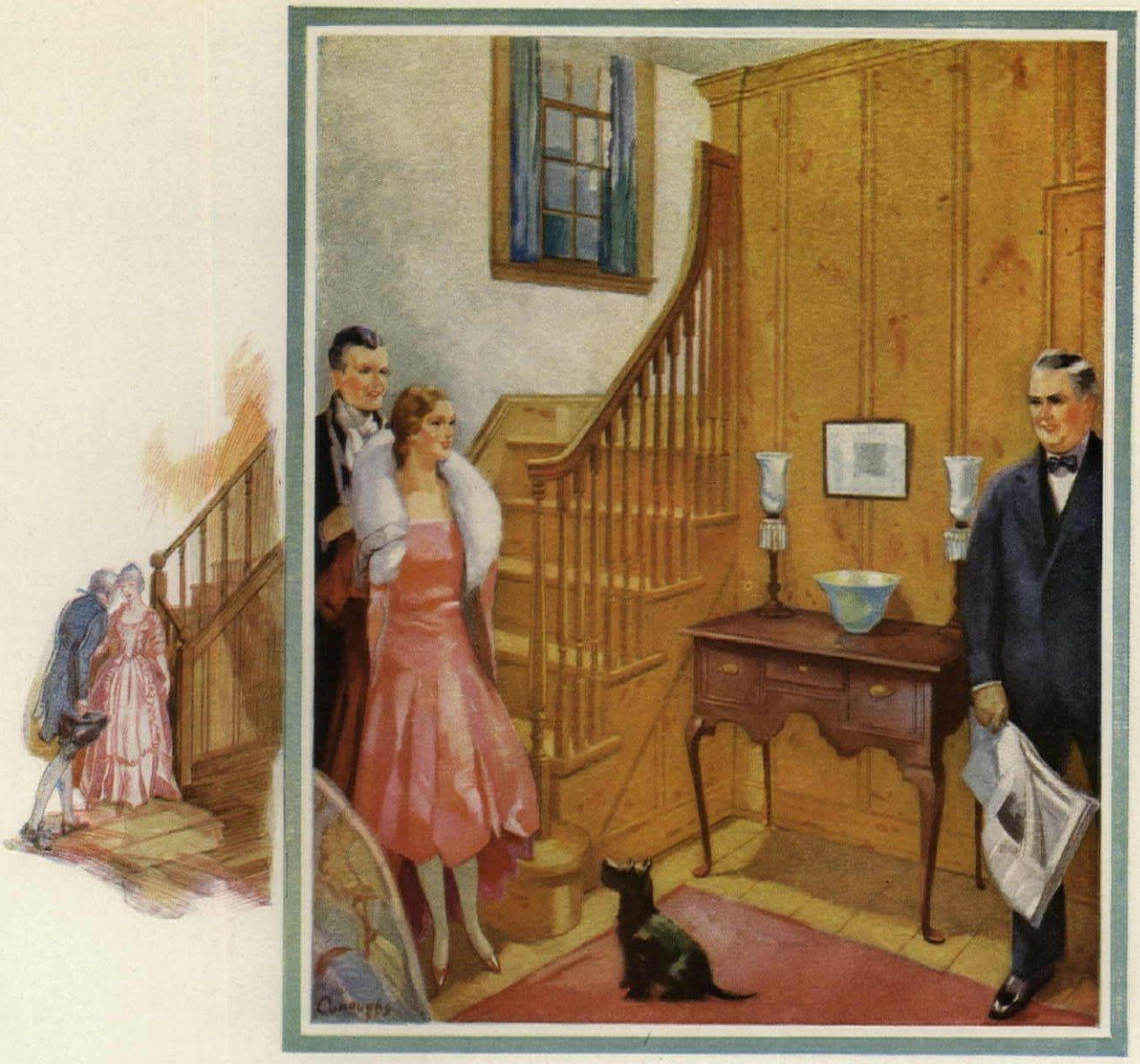

A pine-walled hall lends enduring charm to the two-hundred-year old colonial cottage at Smithtown, New Hampshire, and to the smart, modern home at Rye, New York. N. M. Woolsey, Architect.

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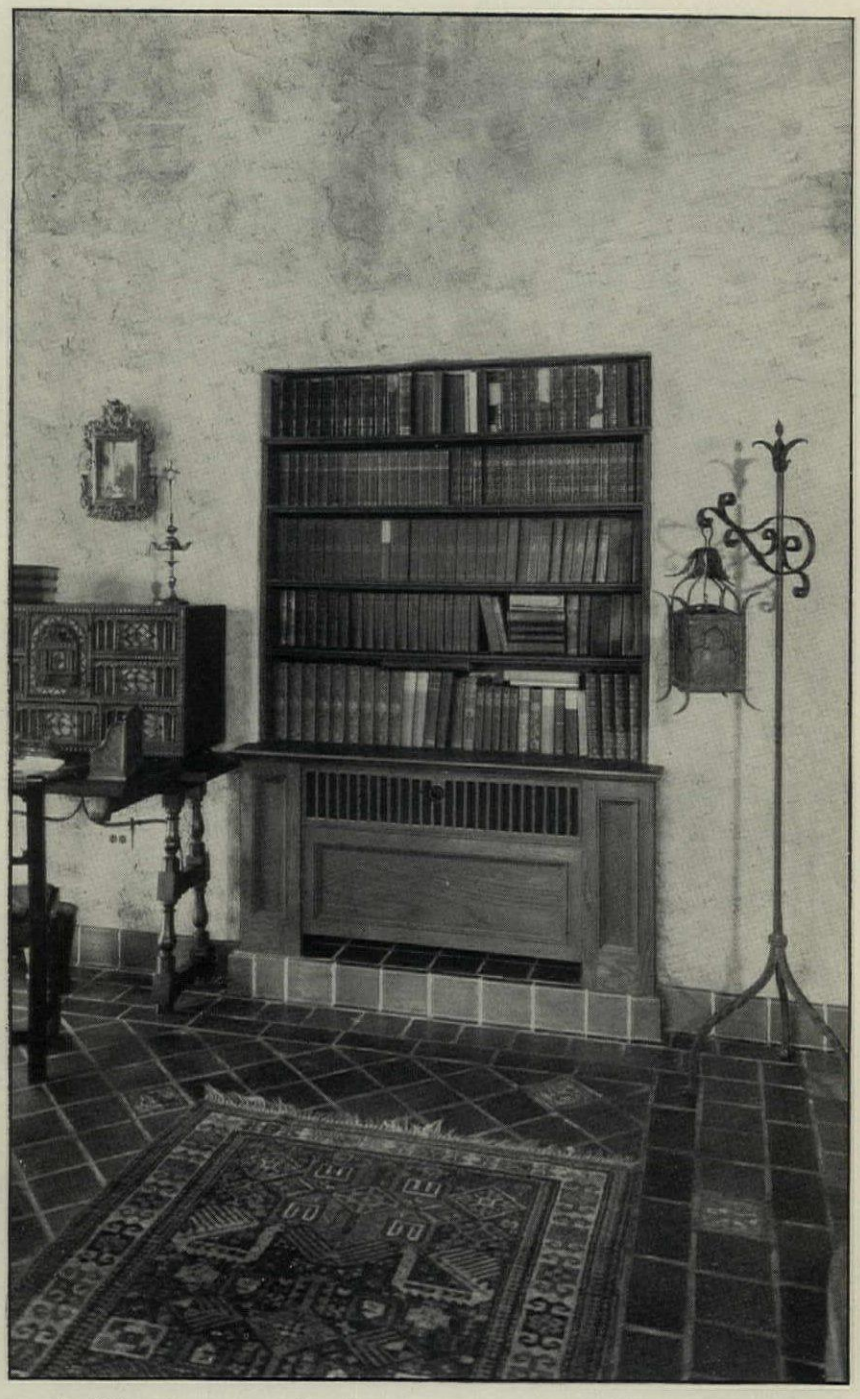

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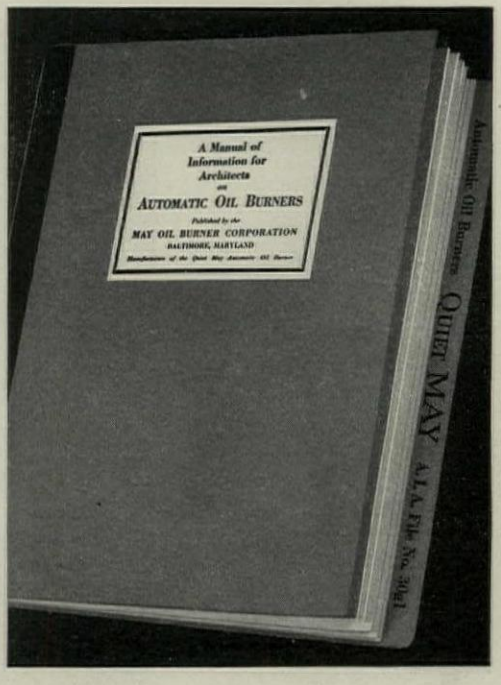

We imagined an architect being asked for professional advice regarding the installation of an Automatic Oil Burner . . . We thought of the dozens of questions that he might have to answer.

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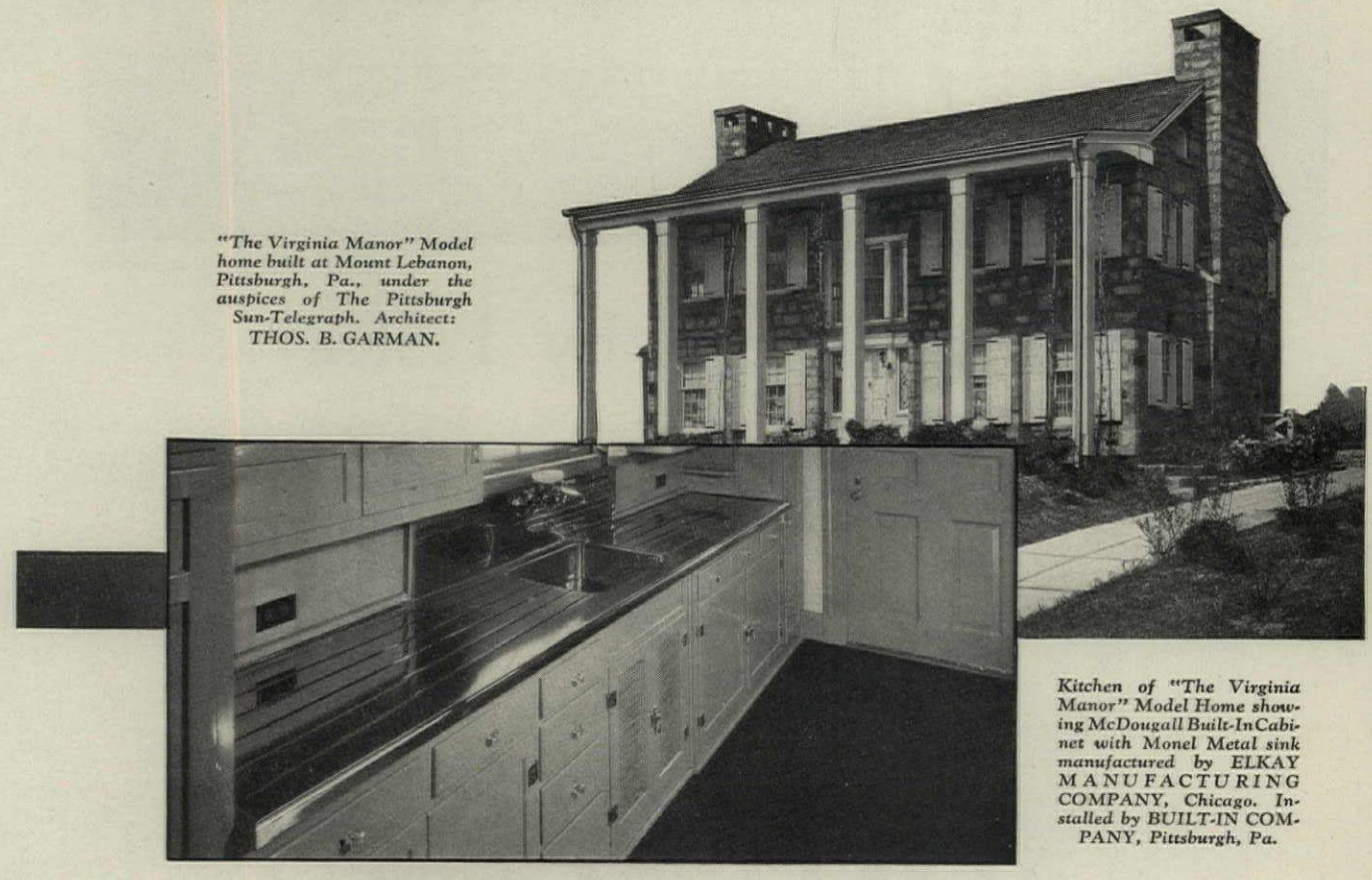
a modern kitchen in...

A Model Home



"The Virginia Manor" Model home built at Mount Lebanon, Pittsburgh, Pa., under the auspices of The Pittsburgh Sun-Telegraph. Architect: THOS. B. GARMAN.

Kitchen of "The Virginia Manor" Model Home showing McDougall Built-In Cabinet with Monel Metal sink manufactured by ELKAY MANUFACTURING COMPANY, Chicago. Installed by BUILT-IN COMPANY, Pittsburgh, Pa.

Beauty—*Convenience*—*Cleanliness*—in this *Monel Metal* Sink-Cabinet Combination

IN planning modern kitchens, many architects are now taking advantage of the possibilities of Monel Metal sinks and other kitchen equipment.

By specifying Monel Metal for such units as the one illustrated, it is practicable to plan a kitchen that is individual in size and arrangement and thus obtain the utmost in convenience and attractiveness.

Monel Metal, besides being beautiful in appearance, has many practical advantages that recommend it to both architects and home owners. Its silvery beauty is always harmonious...with any color scheme...in any surroundings.

Since it is an alloy of nickel and copper, it cannot rust in any kind of service. It resists corrosion. It has no coating to chip and wear off. It has all the strength of steel with none of steel's disadvantages.

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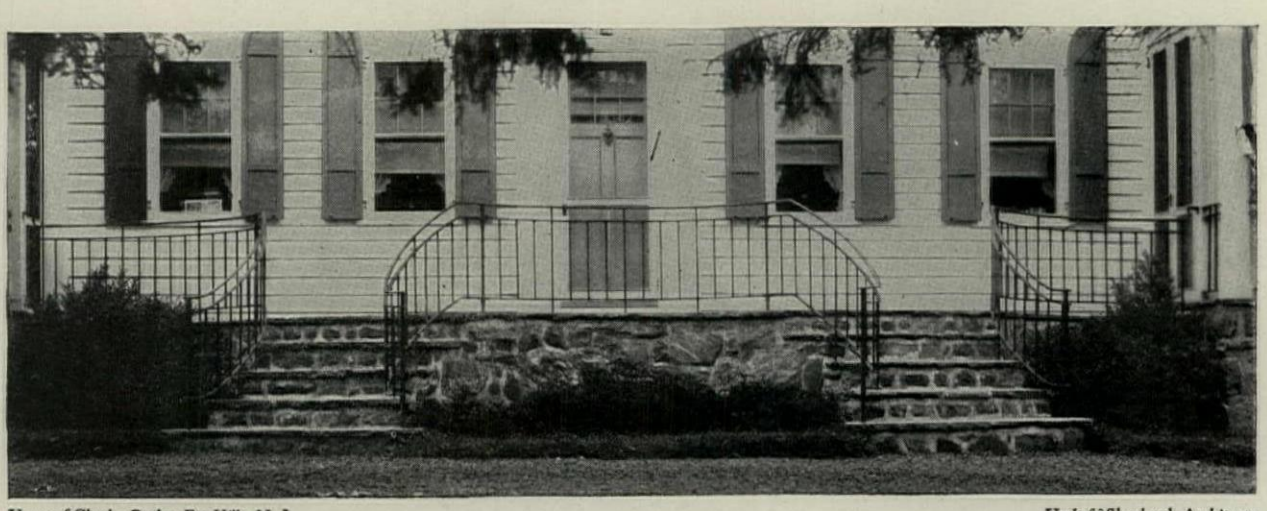

Home of Charles Butler, Far Hills, N. J. Hyde & Shepherd, Architects

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Whether it's a simple stair-rail or heavy ornamental balustrade, FISKE with over 70 years of experience in this highly specialized work is prepared to fulfill the most rigid requirements of architect and builder.

"Metal work by FISKE" has become a familiar expression among architects whose confidence in the artistic and productive ability of FISKE has been bred in years of close cooperation. And FISKE points with pride to scores of owners completely satisfied with the artistic appearance, durable construction and perfect detail of its installations. Write for illustrated catalogue of ornamental metal work.

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ESTABLISHED 1858

Stairway to upper deck,
Asbury Avenue Pavilion
Asbury Park, N. J.

Associated Architects:
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Ernest A. Arend
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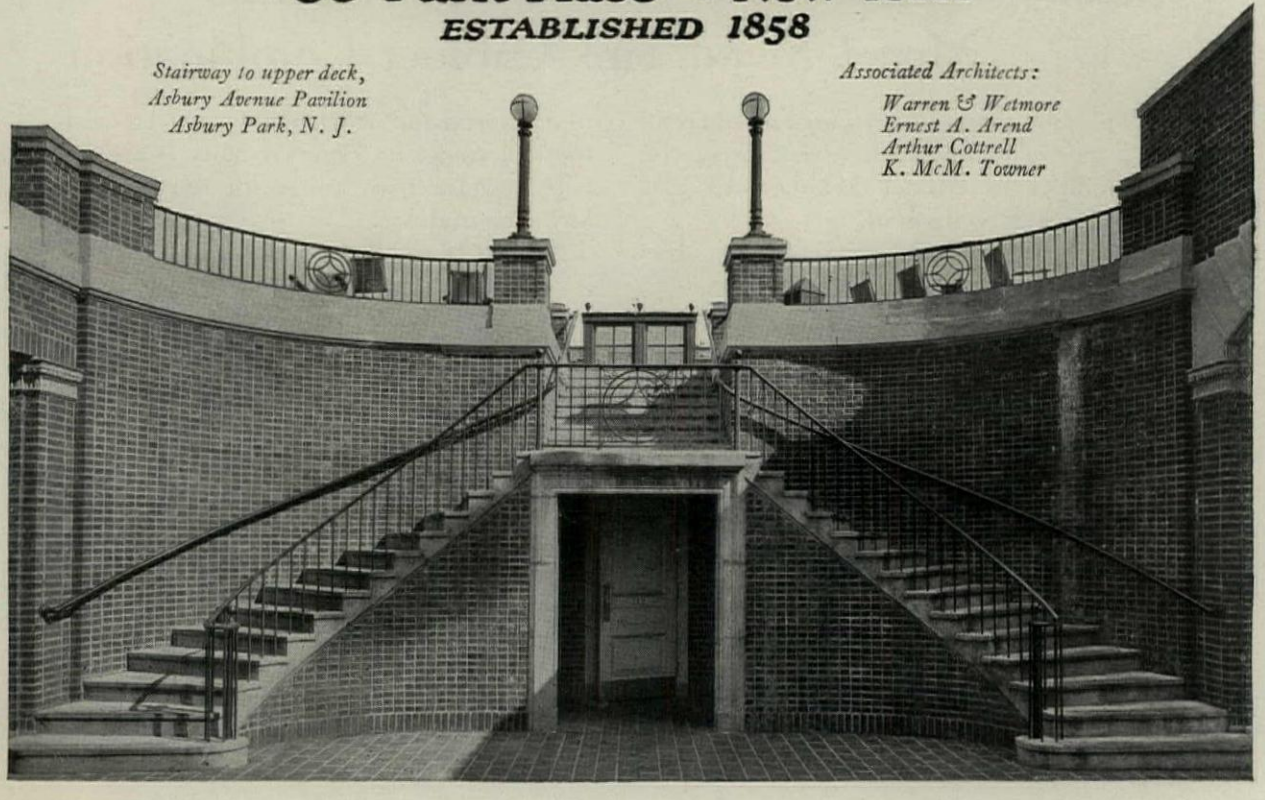

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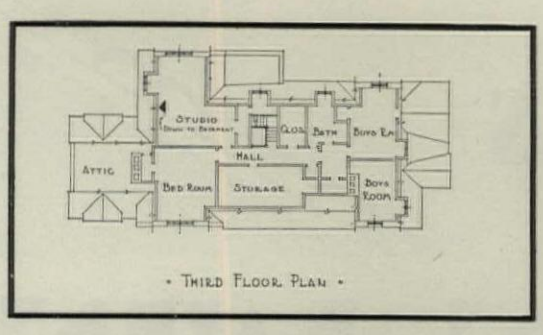
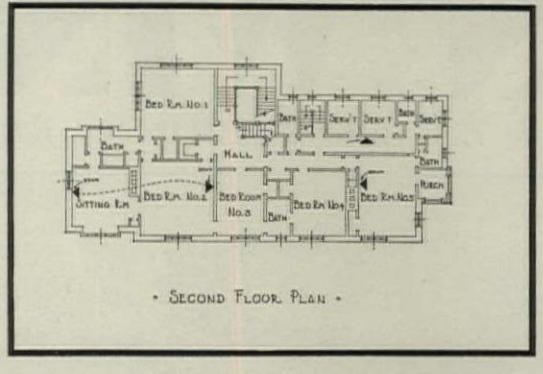
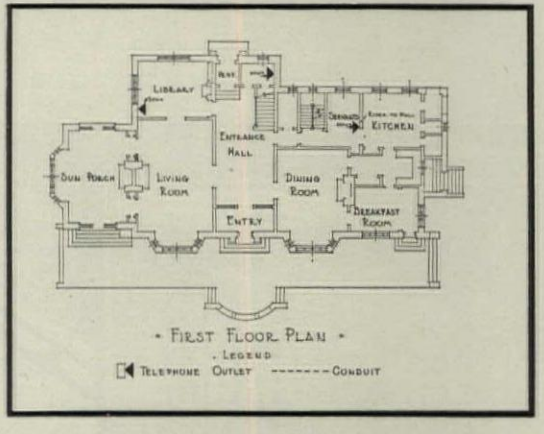
New Beauty and Smartness— with Modern Telephone Convenience



• THIRD FLOOR PLAN •



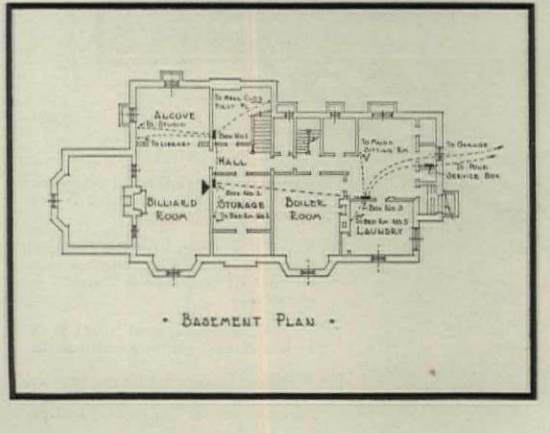
• SECOND FLOOR PLAN •



• FIRST FLOOR PLAN •

LEGEND

TELEPHONE OUTLET -------CONDUIT



• BASEMENT PLAN •

In the residence of Mr. Philip N. Lawes, 56 Highland Avenue, Montclair, N. J., there are ten telephone outlets, including one in the garage and one in the basement. Conduit built into the walls and floors conceals the telephone wiring. W. LESLIE WALKER, Architect, *New York City.*

A FEATURE of modern telephone convenience which is of particular interest to architects is that it adds to the *appearance* of a house, as well as providing greater convenience and comfort for the occupants. Telephones today are not only an indispensable means of communication, they have become a part of home decoration. Planning for the telephone arrangements in advance of construction makes it possible to utilize modern facilities to full advantage.

Conduits are placed within the walls to all points where telephone service may be desired immediately or in the future, avoiding the necessity of exposed wiring at any time. Underground service entrances conceal the wires coming from the outside. Attractive wall niches or cabinets for instruments and directories are constructed in some instances, especially where space is limited. Many other things contribute to utility and smartness.

It is desirable that architects consult freely with representatives of the telephone company in planning for telephone convenience in new or remodeled houses. No charge is made for this service. Just call the Business Office.

AMERICAN TELEPHONE & TELEGRAPH CO. BELL SYSTEM AND ASSOCIATED COMPANIES

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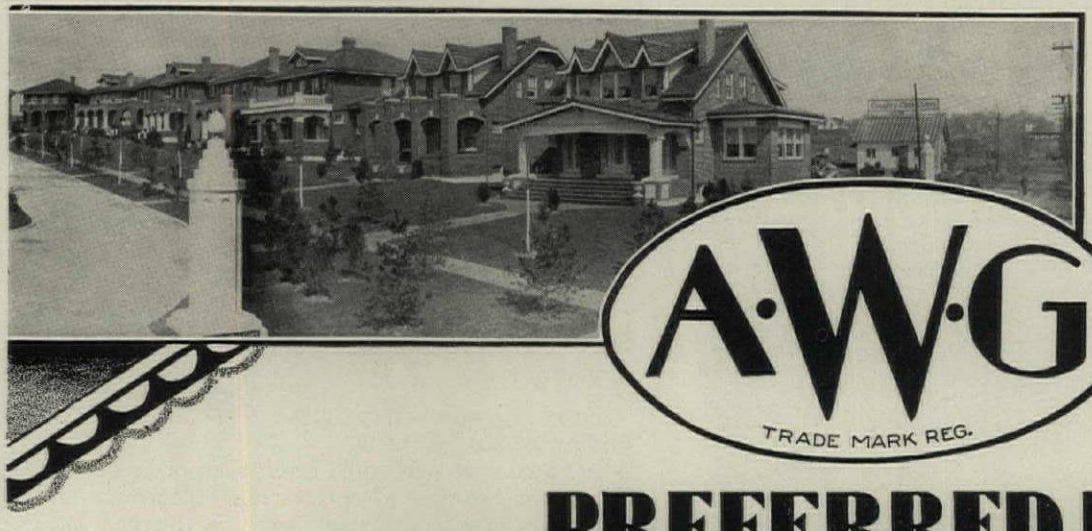
OF WINDOW GLASS



PREFERRED BY ARCHITECTS

[5] Nimmons, Carr & Wright, architects; Hegeman-Harris Co., Inc., contractors.

[6] Samuel S. Silverman, Inc., builders and owners; B. Goldsmith, glazier.

[7] Chas. H. Agree, architect; Longacre Construction Co., contractors; Schroeder Paint & Glass Co., glaziers.

[8] C.B.J. Snyder, architect; Samuel Epstein, Inc., glazier.

[9] Abram Garfield, architect; John Gill; Croive & Little, contractors; Century Glass & Paint Co., glaziers.

The impressive number and character of "A.W.G. CO." installations is proof positive of the quality of the glass manufactured by American Window Glass Co.

"A.W.G. CO." Window Glass has been the preference of architects for more than a quarter of a century.

AMERICAN WINDOW GLASS CO.

World's Largest Producer of Window Glass

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Walls *and* Ceilings *are* 80% of an Interior

Build them of

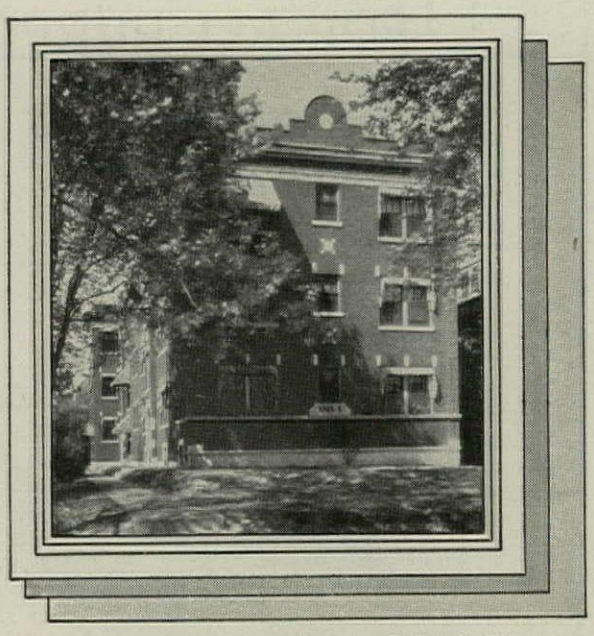
ARCH LATH

made of

COP-R-LOY

Reg. U. S. Pat. Off.

THE COPPER ALLOYED SHEET STEEL



Apartments: Cabanne Avenue, St. Louis, Mo.
V. A. Chinberg, Owner, Architect and Contractor
ARCH LATH installation throughout

The use of COP-R-LOY in Arch Lath is an added factor for long life. This refined steel insures a permanence never before achieved in walls and ceilings. The rigidity of the Lath and the unique arch design enables the plasterer to secure the desired results with the least use of material and labor. Specification of Arch Lath permits firesafe plaster base without additional cost.

Considering the factor of fire-safety, alone—walls and ceilings reinforced with Arch Lath are armored for maximum protection which your clients cannot afford to miss.

WHEELING CORRUGATING COMPANY, Wheeling, West Virginia

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One sheet of Arch Lath [27x96] grips the plaster at 8,064 points, making the wall an integral unit of rigidity and strength, while minimizing possibility of cracking.

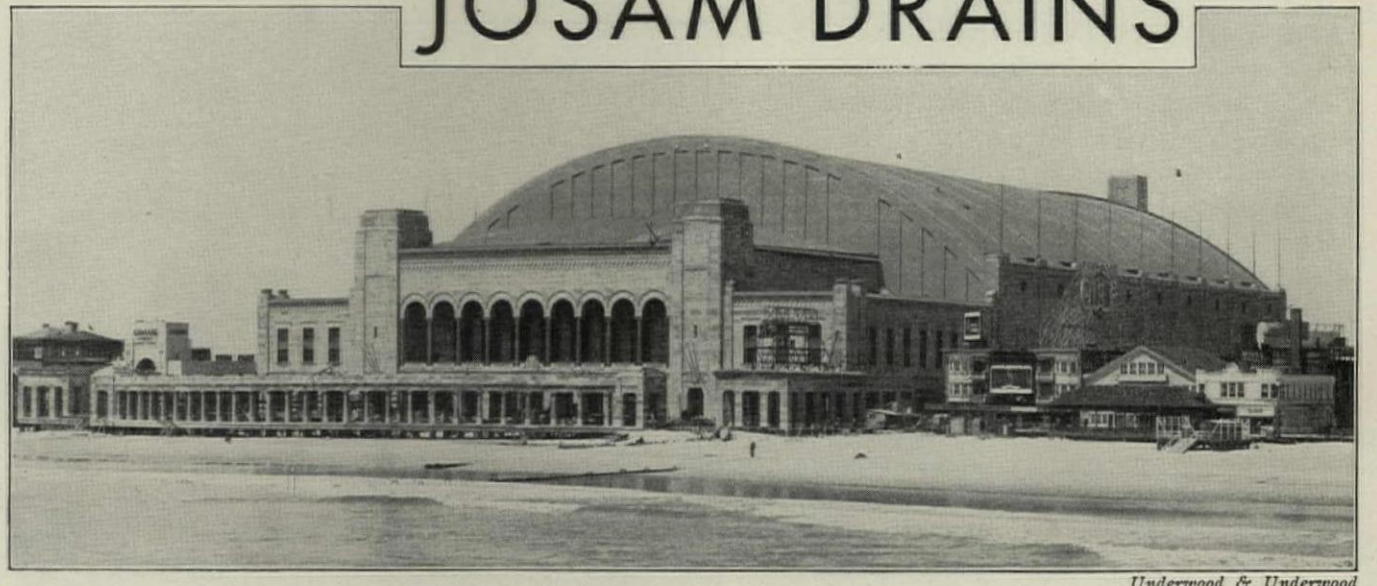
Wheeling
CORRUGATING COMPANY

Reg. U. S. Pat. Off.

Cop-R-Loy is also available in building materials such as Spanish Metal Tile, Roofing Ternes, Diamond Lath, Corner Bead, Picture Mold, Base Screed, Coal and Ash Pit Doors, etc., Spanish Metal Tile adds distinctive charm to any home besides giving protection against fire and lightning.

Spanish Metal Tile

ADDING VERSATILITY TO THE LARGEST BUILDING OF ITS KIND IN THE WORLD WITH JOSAM DRAINS



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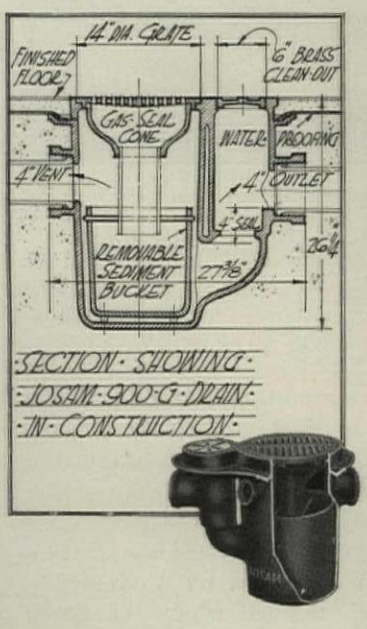
Atlantic City, N. J.

ONE day a circus—the next a plumbers' convention. One day a prize fight—the next a flower show. The Atlantic City Convention Hall adds the art of versatility—rapid-fire, overnight changing—to its mammoth size.

But versatility can never be accomplished without having the drains geared up to take care of all cleaning and waste water, and condensation from pipes—without placing drains not only at the usual places but at every point in the building to guard against seepage and inadequate draining. Furthermore, Josam Drains play a very important part in saving the beauty of the building and protecting it forever against the depreciating effects of deterioration.

Josam Drains are installed throughout—in the roof, floors, ramps, areaways, entrances, boiler room, lavatories.

Josam Drains are protecting thousands of notable structures. Josam engineers, working together with architects, are finding new uses for Josam Drains. Architects are specifying Josam Drains not only at the obvious places but at every vital point where an extra measure of protection must be added.



The Josam Catalog "G" which recommends hundreds of uses for Josam Drains and other Josam Products will be sent gladly upon request.

The Josam Manufacturing Co., 4908 Euclid Bldg., Cleveland, O.
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SEE OUR CATALOGUE IN SWEETS

Josam Products are sold by all Plumbing and Heating Supply Jobbers

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The Josam Line Includes:
Josam Drains for Floors, Roofs, Showers, Urinals, Garages and Hospitals; Josam Swimming Pool Equipment; Josam-Marsh Grease, Plaster, Dental and Surgical, Sediment and Hair Interceptors; Josam-Graver Floor-Fed, Gas-Fired Portable Garbage and Rubbish Incinerators; Josam Open Seat Back Water Sewer Valves; Josam Open Seat Swing Check Valves; Josam Adjustable Water and Gas-Tight Closet Outlet Connections and Bends.

There are no Substitutes for Josam Products

INSIDE THIS BUILDING:
165 modern kitchens
165 Sealex Tile floors

APARTMENT-LIVING gives the kitchen a new importance. It is no longer "servants' quarters," but a room which tenants themselves use freely and frequently. New standards of beauty and cleanliness mark the modern apartment house kitchen or kitchenette—which explains why those who visit residential buildings with an eye to leasing or buying apartments are invariably pleased when they find that a far-sighted management has provided floors of *Sealex* Linoleum or *Sealex* Treadlite Tile in the kitchen.

Sealex floorings are quiet, colorful and comfortable. They are likewise spot-proof and stain-proof—being manufactured by the exclusive *Sealex Process* which *seals* them against dirt, grease and liquids.

The city dirt which drifts into apartment house windows is easily removed from the smooth, sanitary surface of *Sealex* floors. A dry mop or fine floor brush is all that is necessary. And if things are spilled—fruit juices, hot fat, etc.—they can be wiped up with a damp cloth and not a trace of damage remains.

Sealex Linoleums—plain, battleship, jaspé, inlaid and embossed inlaid—are laid from the roll. *Sealex* Treadlite Tile—a resilient, cork-composition tile which comes in many sizes and colors, including rich marble-ized effects—is laid by hand in made-to-order patterns.

Sealex floors are *all-purpose*, modern, resilient floors. Buildings which serve residential or business tenants are using them more and more—to attract tenants and to cut costs.

Write our Department I for facts and figures.

CONGOLEUM-NAIRN INC.
General Office: Kearny, N. J.
Manufacturers of materials for Bonded Floors. Authorized Contractors are located in principal cities.

BERESFORD APARTMENTS, New York City
Architect: Emery Roth
Contractors: H. R. H. Construction Co.
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SEALEX Floorings are sold under the broad guarantee of "Satisfaction or Your Money Back."

When *Sealex* materials are installed by Authorized Bonded Floors Contractors, the owner is assured of expert workmanship by a firm that has been investigated and endorsed by Congoleum-Nairn Inc. Bonded Floors of *Sealex* Linoleum and *Sealex* Tiles are backed by a Guaranty Bond, issued by the U. S. Fidelity and Guaranty Company, Baltimore, Md.

*Un*welcome Gifts that Santa Claus Left

BOXES, crates, wrappings and packing materials! What to do with them? . . . With coal fired heating equipment they may be fed to the furnace — slowly, little by little — a bothersome, laborious job. But with oil or gas there is a real problem. The heating plant is out of the question, rubbish in the basement is UNSAFE, and bonfires are prohibited by ordinance in most cities . . . When you specify oil or gas heat, a Kernerator should be written in, too — for convenience sake. Otherwise there is the continual problem of "what to do with waste and rubbish?" . . . You can specify Kernerator with confidence — confidence in the product, for it is built by the pioneers of incineration — confidence that it is correctly installed, for trained men supervise every job — confidence in the service that will give because of the universal satisfaction that Kernerators have given for more than seventeen years . . . In specifying Kernerator you are giving your client incineration of proven dependability. Kerner Incinerator Co., 703 E. Water St., Milwaukee, Wis.

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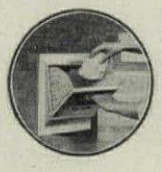

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HERE we present another pleasing example of the use of BEST BROS. Keene's Cement in the home . . . . in this case a beautiful residence on an estate in Westchester County, N. Y.

This work is of the three-coat type, BEST BROS. Keene's Cement being used in all three coats. The result, as usual, was of three-fold satisfaction . . . . to architect, plasterer and owner. A job of unusual beauty and of lasting strength.

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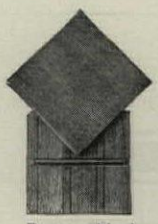
Architect, Arthur T. Remick, 47 W. 43rd St., New York City.
Contractors, Northeastern Construction Co., N. Y.



Front and back of 6¾" block

Each block is a complete unit of three or more flooring strips, in oak, walnut, maple, beech, red gum, light and dark "Oriental"—either beveled or square edge. 6¾", 9" or 11¼" squares, 13/16" thickness, all grades. *CELL-ized by a chemical treat, to reduce the tendency to change in size. Insect and decay resistant. See our catalog in Sweet's—24th edition.

Ballroom in the Tower of the Stevens Hotel, Chicago. Laid by Kaucher Engineering Co., Chicago.

Dance Floor in the Silver Slipper Night Club, Memphis Laid by R. Cluck Flooring Co., Memphis

*Embassy Club—Toronto, Canada. Approximately 2500 square feet oak *CELLized Floor Blocks. Jonckheere Construction Co., Contractors.*

*Ballroom in Lord Nelson Hotel, Halifax, Canada, operated by the C. P. R. White and red *CELLized oak floor blocks laid alternately.*

Three outstanding features

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The beauty and homelike attractiveness of a design wood floor, in addition to durability and economy in upkeep, is a valuable asset likewise in guest rooms, where Wood Floor Blocks, relieved by "scatter rugs," strike a new note in hotel appointments.

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*CELLized wood floor blocks are guaranteed by *CELL-ized Oak Flooring Inc. when laid by Licensed Flooring Contractors. The names of those licensed to use this label in your locality will be supplied upon request.

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for concrete reinforcing

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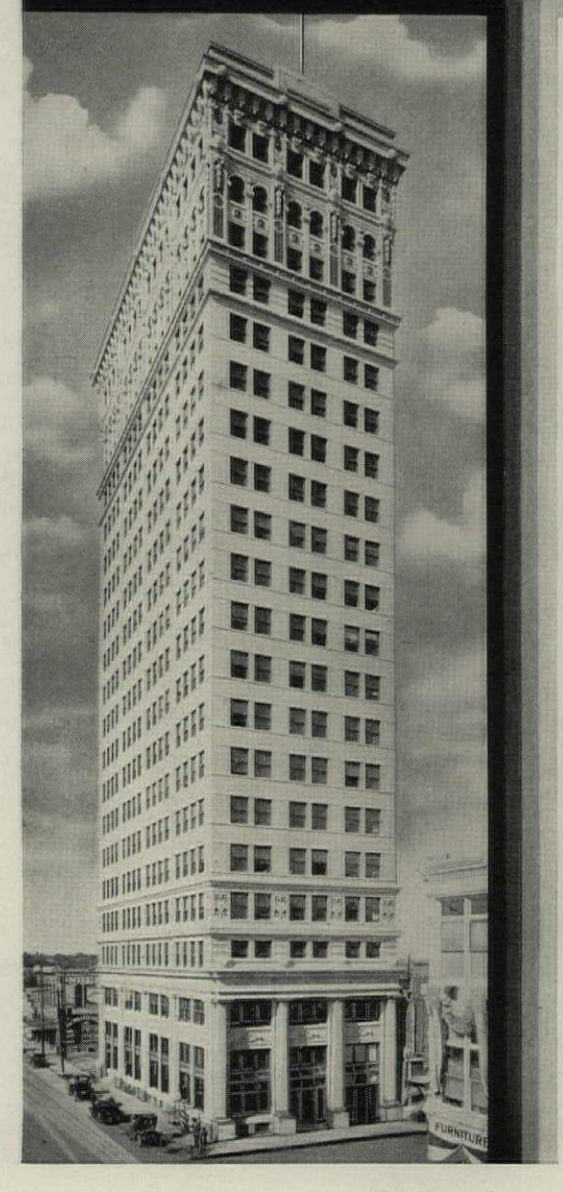

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lower another fire loss

AGAIN Dahlstrom Equipment has confined a potentially serious fire to its place of origin . . prevented its spread from office to office . . . . and reduced damages to a minimum.

The final economy of Dahlstrom installations entirely compensates the slightly greater original cost. Dahlstrom Metallic Doors and Trim not only lower maintenance costs but their prevention of irreparable loss of records and serious damage to office equipment, inspires and keeps the confidence of tenants.

To specify "Dahlstrom" is a guarantee of satisfaction and excellence . . . . a guarantee made positive by the experience of more than a quarter of a century.

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for Homes and Smaller Buildings

BORN of more than 60 years experience in boiler building, here is a boiler especially designed, engineered and built to meet the demand for a *better residence heating boiler.*

Actually—it is a climax in the development of steel boilers—a product well worthy to take its place in the Kewanee line—the most complete in the world.

In Type "R" will be found all that correctness of design; sturdiness of materials; and skilled care in manufacturing which has kept Kewanee foremost among steel heating boilers.

Even to the smallest details it is built UP to the rigid Kewanee requirements—a **boiler that can be relied upon to give many extra years of service**—not a boiler built DOWN to a price.

NOW—there's a Kewanee Steel Boiler

for COAL, OIL or GAS

For Oil

Features of Design

A *bigger, higher combustion chamber* provides plenty of space for the fuel gases to mix with air and burn completely. Fewer firings are needed because the firebox permits carrying a larger bed of coal.

The *"right-side-up" crown sheet*—a distinctive Kewanee feature—is self-cleaning and self-draining. Sediment and scale cannot collect above the hottest fire zone. This construction also adds strength.

The Double-Pass gives longer travel of gases as they are given a "Forward Pass," then a "Backward Pass"—*twice the length of the boiler*—before reaching the stack. All of the useful heat is thus absorbed by the water in the boiler.

A *more generous steam space* provides ample storage capacity, and prevents "priming."

Features of Construction

Thicker, *heavier steel plate*, with all flat surfaces stiffened with threaded and riveted-down staybolts, gives Type R a strength which insures **many extra years of service.**

Castings are heavier—the smaller pieces being of tough malleable iron.

All *doors are surface ground and fitted* tight to frame. Doors exposed to heat are protected with high temperature insulating material, preventing escape of valuable heat.

The base, of very heavy cast iron, goes into the basement *in one piece*, completely assembled.

Grates operate on trunnions fitted into removable sockets which rest in the base.

The damper and balanced draft doors are *back of the boiler*, and instead of being operated by chains dangling in front, are both operated by a single rod.

Conservative Ratings

Catalog Ratings are in conformity with the Steel Heating Boiler Institute's Code for low pressure heating boilers.

CAST-IRON BASE,
GOES INTO BASEMENT ALL READY ASSEMBLED

They will carry the total radiation load listed as their capacity and in addition will *easily handle large overloads*, with long firing periods and with low stack temperatures.

Extremely Efficient

In tests—made as nearly as possible under actual working conditions—efficiencies ran far better than the average for low pressure heating boilers.

For Coal, Oil or Gas

Specially designed and built for burning various kinds of fuel—hard or soft coal, oil or gas—there is a Type "R" for every locality.

In sizes to heat from 370 to 1960 square feet of steam, and from 590 to 3140 square feet of water radiation. Details in Catalog No. 88.

KEWANEE BOILER CORPORATION
division of American Radiator and Standard Sanitary Corporation
Kewanee, Illinois
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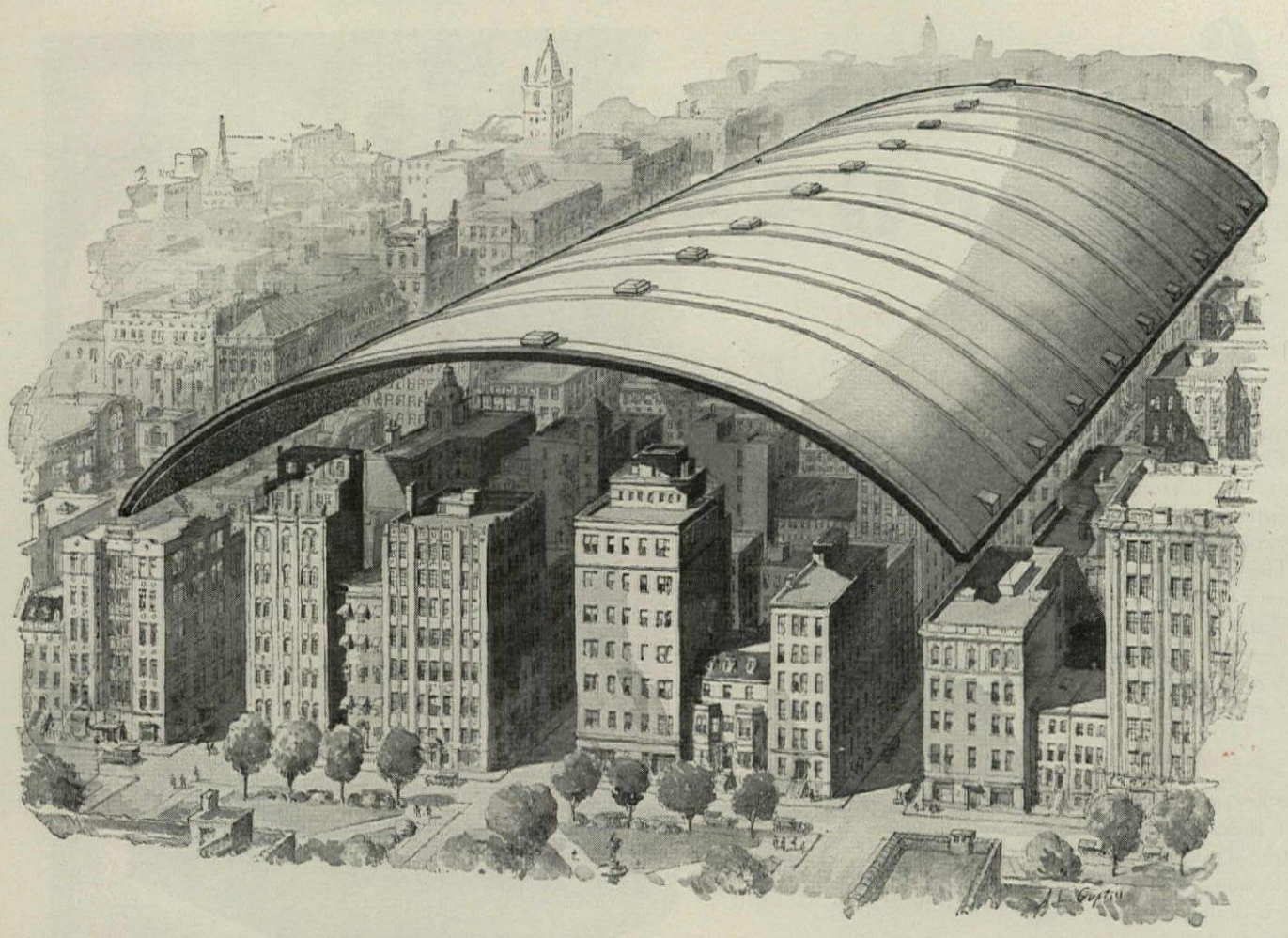
to heat every size and type of building



Four city blocks covered by one Gypsteel Pre-Cast Roof—

THE Atlantic City Auditorium has the largest single-span roof in the world, covering 175,000 sq. feet, more than the area of 4 city blocks 200 ft. square.

LOCKWOOD GREENE ENGINEERS INC., and Cook & Blount, Architects, chose a Gypsteel Pre-Cast Roof for this tremendous span because it did the six things listed to the right better than any other available roof construction. Our engineers will work with you in achieving similar economies with Gypsteel Pre-Cast Roofs for your buildings. Having our roof catalog might help.

The Gypsteel Pre-Cast Roof

1. Permitted economies in the supporting steel, due to its lightness.
2. Gave greater fire-resistance.
3. Eliminated all forms and scaffolding.
4. Required no upkeep.
5. Was installed easily and quickly.
6. Reduced heating costs very substantially.

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Pre-Cast Fireproof Roofs are made only by

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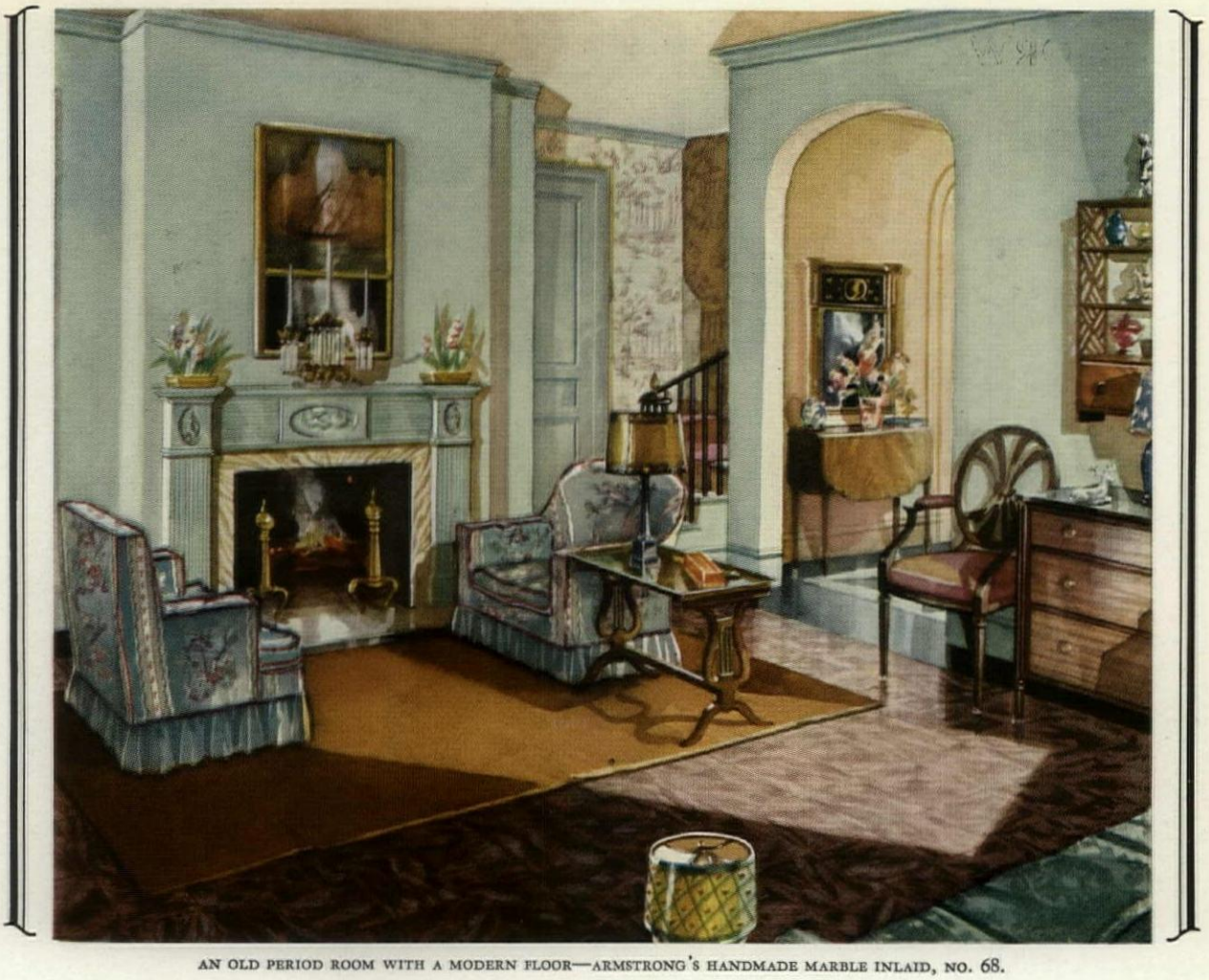

AN OLD PERIOD ROOM WITH A MODERN FLOOR—ARMSTRONG'S HANDMADE MARBLE INLAID, NO. 68.

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

Old Period Effects

. . but Modern Convenience, too

Here's a floor that offers both . . . . . .

TODAY'S home builder finds yesterday's architectural effects charming, but has little patience for old-fashioned housekeeping troubles. So the modern architect draws inspiration from the past, and finds an opportunity for originality in creating old effects from new materials.

Many of these architects, builders, and designers have used Armstrong's Linoleum for this purpose, losing nothing of the original spirit, gaining much in modern color and convenience.

There are Handmade Marble Inlaid designs that might have been the work of Old World master tilers, Embossed Tile patterns that breathe the spirit of the Fifteenth Century . . . yet each is reproduced in the most modern of easy-to-care-for, resilient floor material. No matter what type of room you are creating, no matter what its size, location, or purpose, you will find an Armstrong Floor that will fit in with its atmosphere and its color scheme.

Let us tell you the rest of this modern floor story . . . the hundreds of attractive designs, and the Accolac Process surface that keeps them fresh and bright. Send for our file-size book of information, including specifications and descriptions of linoleum and other resilient floor materials. We will gladly send samples and colorplates upon request. Address Armstrong Cork Company, Floor Division, Lancaster, Penna.

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for every room in the house

"Modern floor materials have made possible the reproduction of period effects with the satisfaction of permanent beauty and ease of maintenance."

HARRY C. STARR, *Architect*

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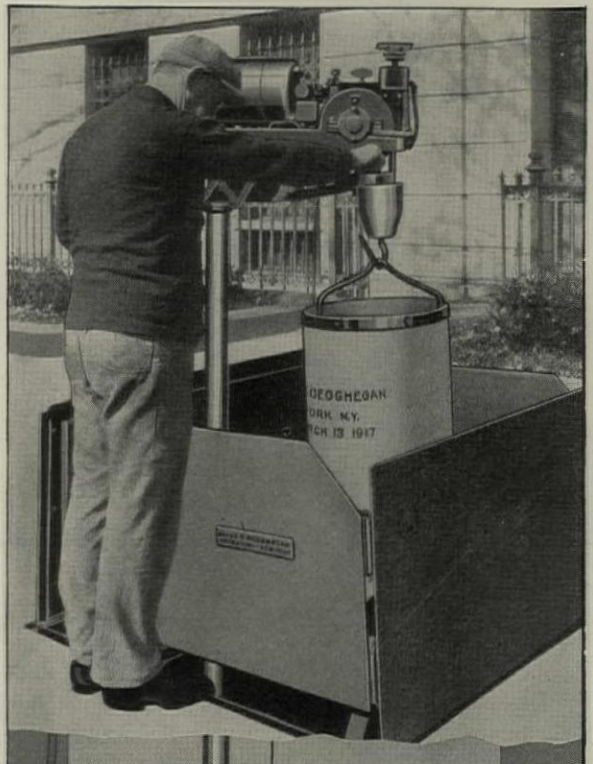
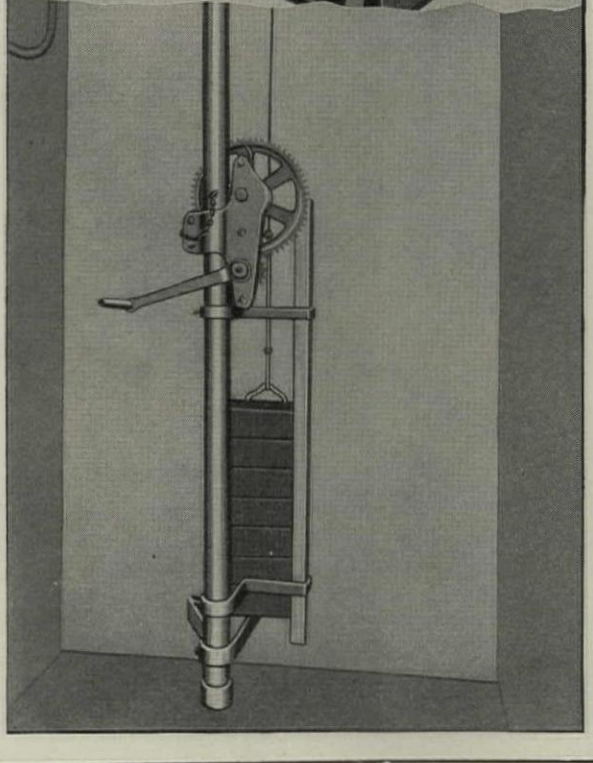
REG. U.S. PAT. OFF.
Telescopic Hoist
With Automatic Stop and Gravity Lowering Device





IN THE CORCORAN ART GALLERY

Washington, D. C.

The Corcoran Gallery of Art was founded and endowed by the late William W. Corcoran in 1869 as a gift to the public, "for the perpetual establishment and encouragement of the Fine Arts." Its collections have grown in extent and value until the Corcoran Gallery is now one of the chief places of interest in Washington.

THE Model E G&G Electric Telescopic Hoist with door equipment, as illustrated, in use at the Corcoran Art Gallery (Charles A. Platt, Archt.), has been repeatedly specified for use in buildings where a modern ash removal system is desired. Its chief advantages are: (1) positive safety because sidewalk opening is protected at all times, particularly when, as illustrated, the opening is away from building wall and four sides are guarded; (2) economy in operation because one man can do all the work and a surprisingly small amount of current is required; and (3) its rugged construction assuring long years of service.

As proof of its low operating cost, tests conducted with Model E Hoists by engineers of the Sprague Electric Works of the General Electric Company, disclosed the following results:

296 cans raised in one kilowatt hour
85 round trips for one cent current cost
227 cans handled in one kilowatt hour
15½ tons of ashes raised in one kilowatt hour
258 cans raised in one kilowatt hour

Differences in rate per kilowatt hour and distance of lift account for variance in results. Detailed figures of these tests are available on request. Hoists tested were regular stock models at actual installations, in use for some time for the removal of ashes.

1,885 schools, 598 banks, 173 Bell Telephone Buildings, use G&G Ash Removal Equipment. The list of satisfied users covers almost every building classification. Electric and hand-power models to meet varying conditions, but all noted for their outstanding economy in operation, positive safety features and extra long life. Our Engineering Department will be glad to work with you on your next project.

Catalog in Sweet's Archt. Cat., 24th Ed., pp. D5116-23
Catalog in Specification Data, 1929 Ed., pp. 226-7

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of Solid Steel and Bronze

—or—

CRITTALL CASEMENT WINDOW COMPANY

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SOUTH CONGREGATIONAL CHURCH	New Britain, Conn.	W. F. Brooks, Archt.
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ST. ANDREW'S R. C. CHURCH	Drexel Hill, Pa.	George I. Lovett, Archt.
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St. Nathanael's Episcopal Church
Philadelphia, Pa.

FURNITURE BY DE LONG

FOR CHURCHES—FRATERNAL AND PUBLIC BUILDINGS

. . . . "most Practical Roof for Long Span Construction"

Cross section of Mahon Steel Roof Deck showing interlocking principle and the application of insulation and roofing material. This deck can be insulated to any degree to meet your specific requirements.

MATERIAL

Mahon Steel Roof Deck Plates are rolled from special, tight-coated galvanized copper-bearing steel, and require no painting or maintenance whatsoever. The bright galvanized ceiling surface, presented by Mahon Deck installed, is a desirable asset from a standpoint of light reflection.

STEEL Roof Deck, due to its extreme light weight, is unquestionably the most practical roof for any building where long span trusses are employed. This type of roof construction is already being used almost exclusively by progressive architects for airplane hangars, field houses, riding halls, arenas, auditoriums, theatres, churches, industrial plants, and other types of buildings demanding long span construction. Basically, light weight is the outstanding advantage of Steel Deck construction . . . . savings amounting to as much as 25% may be effected in the supporting steel alone. This, supplemented by the fire-safety and permanence of steel, makes Mahon Steel Roof Deck a very desirable roof for any building. When considering Steel Roof Deck, investigate the superiority of Mahon design, the gauge and quality of material from which Mahon deck plates are rolled, and the principle of load distribution through lateral continuity. Write for our complete data book and our folder, "Facts and Figures".

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STEEL ROOF DECK

Manufactured in Galvanized Copper Bearing Steel in either 18 or 20 Gauge

Mahon Steel Roof Deck installed on the Tennis Arena at the Brookline Country Club, Brookline, Mass.
Garvin Haddin, C. E., *designer*

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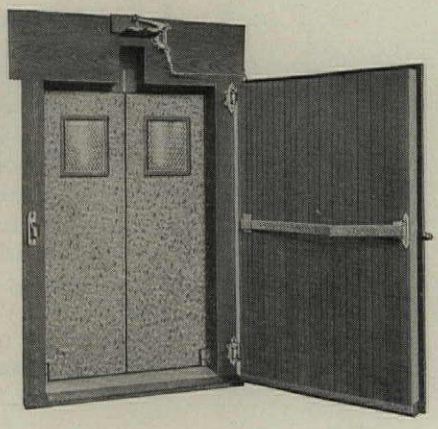
The greatest money-saving door ever invented for busy doorways. The double-swing self-closing doors prevent wasting cold air or inflow of warm moist air. They are always closed except when filled with passing goods or man. Avoids practically all the doorway waste in refrigeration -- pays for itself in a single August. Write for catalog containing complete description.



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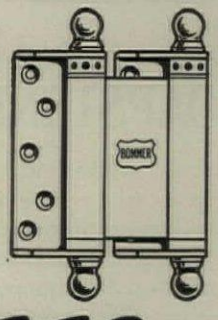

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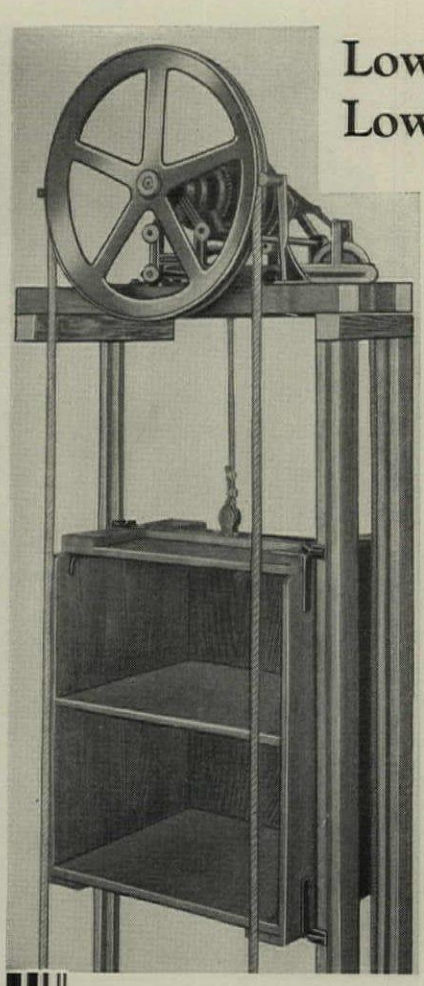

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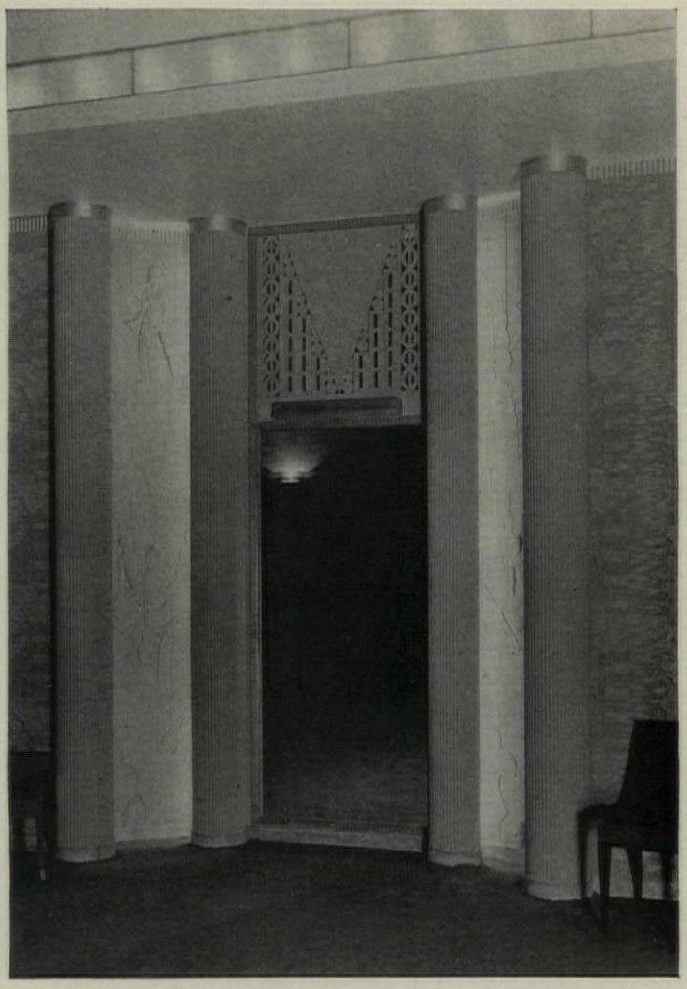
The new Stewart store is a distinguished example of the new vogue at its best, and Jacobson & Company feel honored in having been chosen to co-operate in producing some of its most charming interior effects. The modeling illustrated herewith was executed by them from the designs of Professor Jacques Carlu.

●

The modeling studios of Jacobson and Company under the supervision of Mr. A. D. Jacobson, are uniquely qualified to cooperate with architects in the execution of modern designs

A MODERN STORE... STEWART



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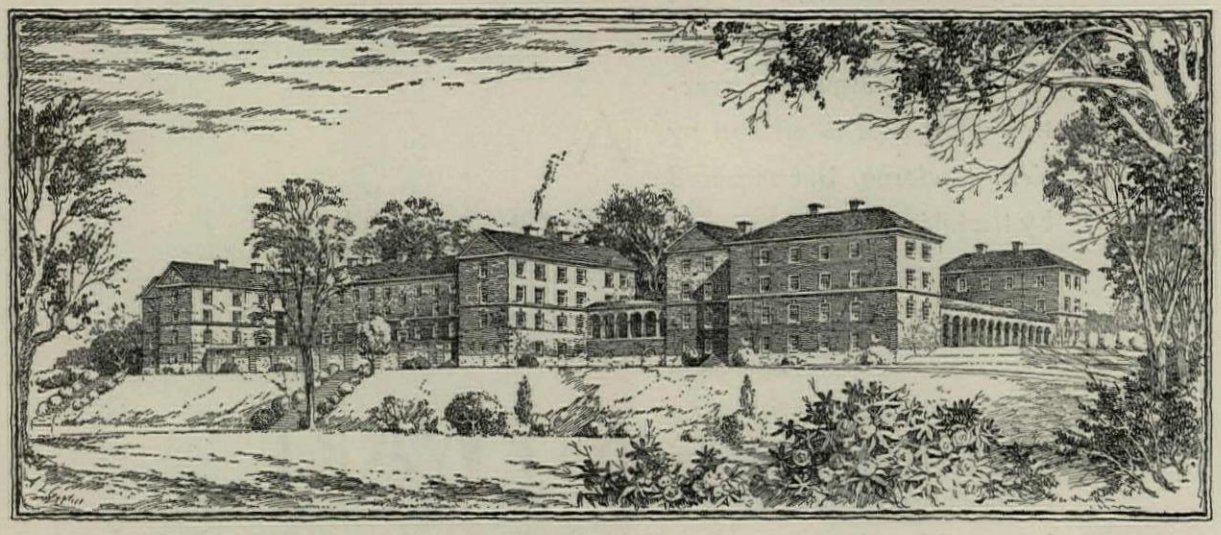

Walter D. Blair, Edmund S. Campbell, R. E. Lee Taylor, John Kevan Peebles, *Architects.*

Glimpse of the New Dormitories at University of Virginia.

Brick—Linking the Historic Past With the Vibrant Present

Being Brick Tale Telling Number XXVIII (A)

IT was one of those time-pausing June afternoons. Two young lads—one rather over tall — have climbed Little Mountain. From its top they catch a glimpse of the scattered homes six miles away of Charlottesville. "Here," said the tall one, "I shall some day build my home."

Over half a century passes and on that site is Monticello. In his famous chair we see a silver haired old gentleman sitting in the sun room. He is looking long and intently through a navy spy glass.

We ask old Joel, the cotton head darky, raking up the first falling leaves, what Marse Jefferson is looking at? In an offended way Joel replies: "Doan you know, boss? Why Marse Jef is seeing what's going on down at de Unibersity, what he done tell 'em on paper how ter build her."

And now only last week Thursday, I looked from that same sun room and saw through the leafless trees the University of Virginia buildings. That monument to architecture upon which, as you know, Jefferson said he was content to rest his fame.

Later in the afternoon in browsing about the University grounds, we found a group of new-old brick buildings. New, in their having been completed but recently. Old, in the time-toned effects of the brick used. Brick which in size are an exact reproduction of those in Monticello. In color—well how can one describe colors that in their mellowness seem to have been made long yester years ago?

Trust you will pardon my mentioning that our folks had a hand in making these bricks, which so fittingly link the historic past with the vibrant present.

OLD VIRGINIA BRICK

Old Virginia Brick Company
Salem, Virginia

Library of the New Physics Building
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FOR study and for play, for the simple tasks of today and the serious work of the world tomorrow, the student needs the God-given gift of good eyesight. And for the conservation of good eyesight nothing is more important than good lighting.

Students should have the benefit of lighting equipment that will minimize glare, that will be restful to the eyes, and that will most nearly reproduce the effects of daylight.

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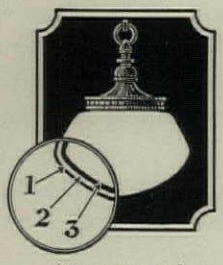

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"Celestialite in Education" is an important chapter of a new booklet, "Out of the Darkness", which we shall be glad to send you free on receipt of the coupon below. Along with it we shall send you a fragment of Celestialite glass.

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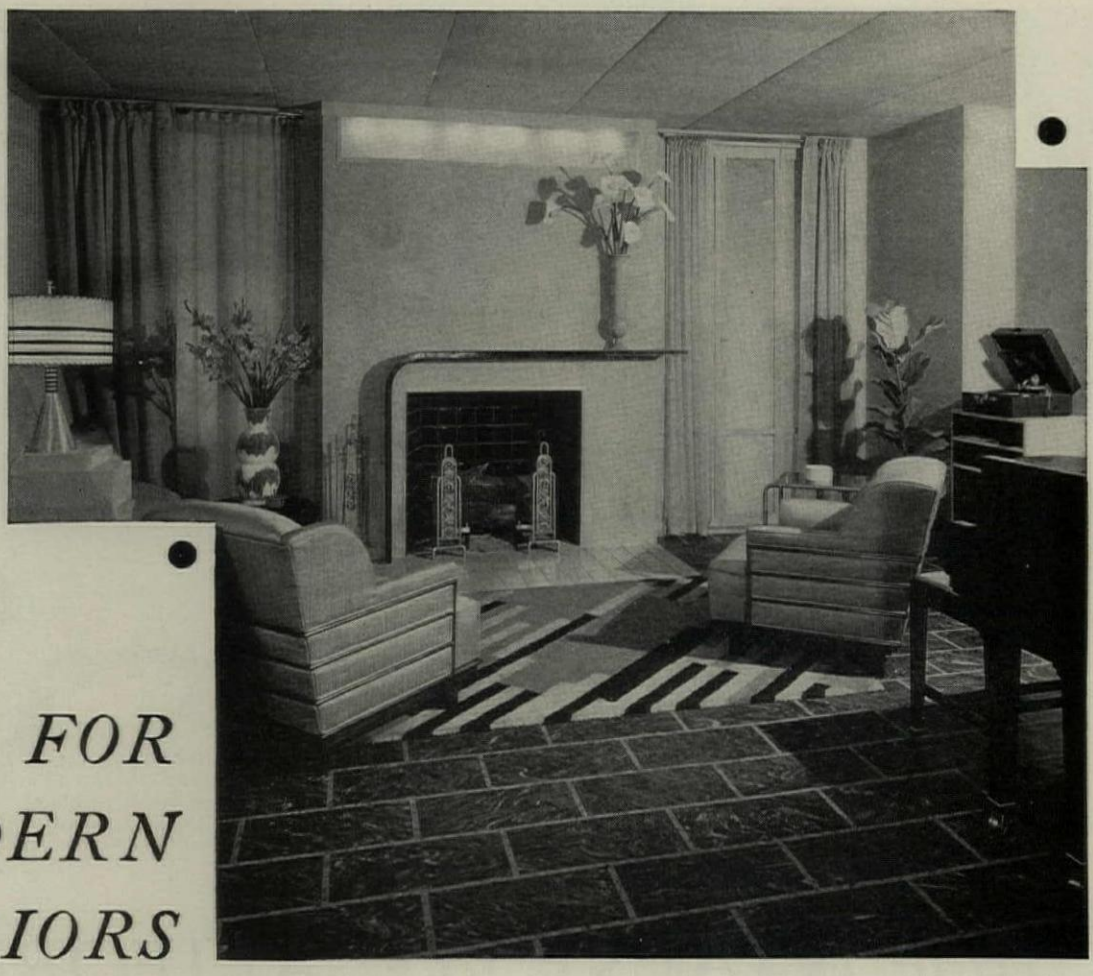

A modern living room especially designed and constructed by Delineator Magazine in the Butterick Building, New York City.

FOR MODERN INTERIORS

DOUBLE-WAXED LINOLEUM

This Service Free to Architects

If you wish practical suggestions in planning linoleum floors, do not hesitate to call upon our Architects Service Department. There is no charge nor obligation involved. You may also have for the asking a copy of the Linoleum Data Book illustrated above. It will help you in preparing specifications. Address: Architects Service Department, W. & J. Sloane, 577 Fifth Avenue, New York City.

IN the living room above, designed and constructed by Delineator Magazine, gray marbleized W. & J. Sloane Inlaid Linoleum leads up to soft gray walls of asbestos board. Gold rayon antique satin is used for the curtains and the two chairs. Comfortable, built-in seats are upholstered in yellow fabrikoid. Almost everything in this very livable room is in modern terms.

Architects are making a wider and wider use of linoleum for modern interiors because linoleum fits so naturally into the modern ensemble. More and more frequently the specifications call for W. & J. Sloane Linoleum, both because of the wide range of colorful patterns and because of its inherent quality.

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

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Write for Bulletin 22

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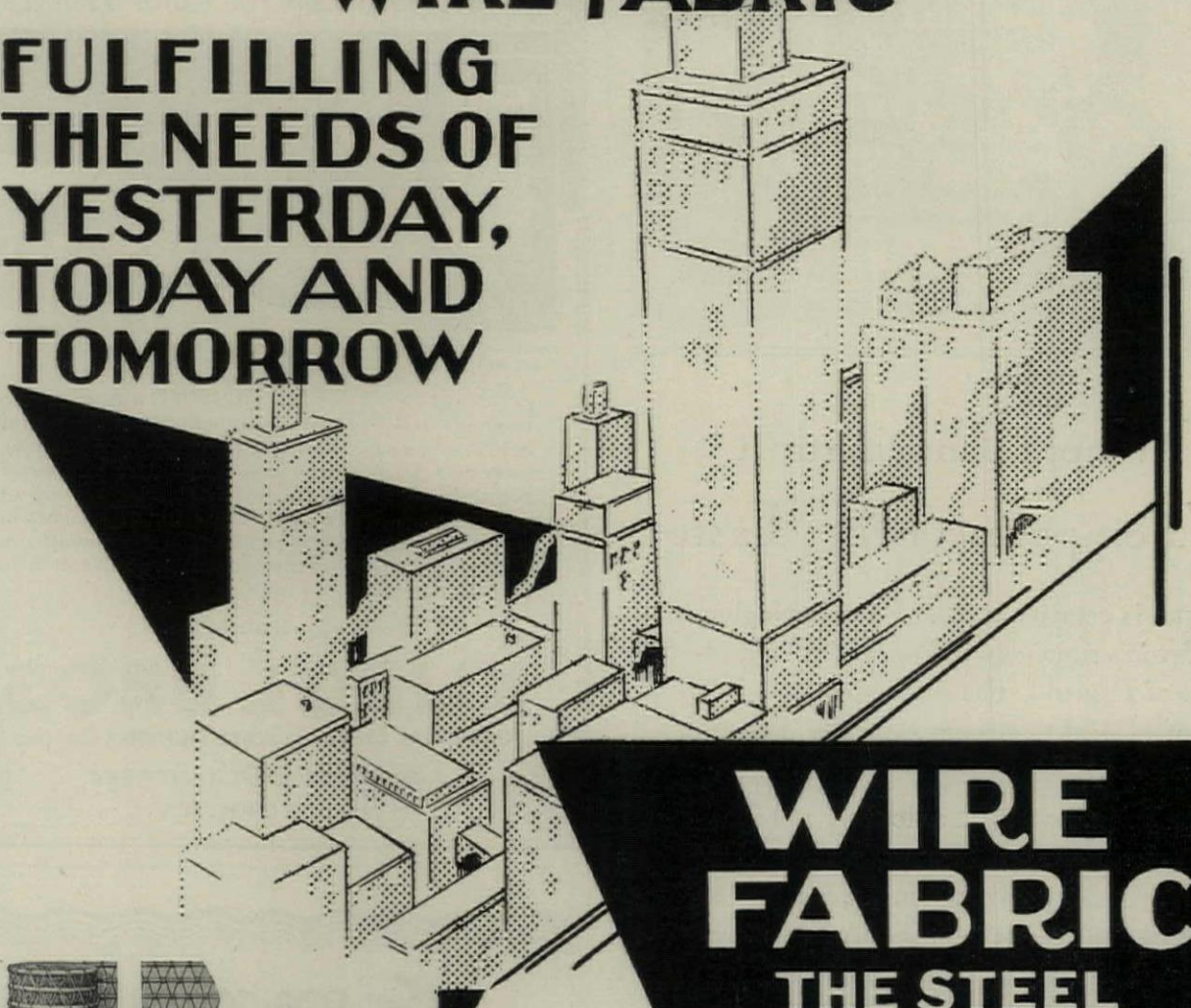
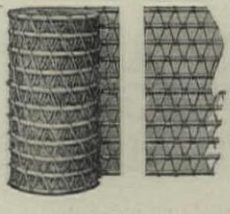


WIRE FABRIC

THE STEEL BACKBONE FOR CONCRETE



TRIANGLE MESH
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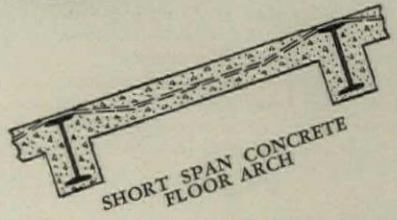
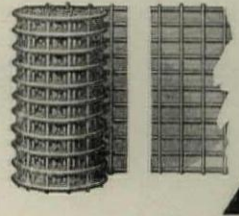


SHORT SPAN CONCRETE FLOOR ARCH



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BRIXMENT mortar, like any other mortar containing water, is not freeze-proof. Nevertheless it is used regularly for mid-winter masonry even in the severest northern climates. In fact during the winter months more BRIXMENT is sold in proportion to the volume of building construction than at any other time.

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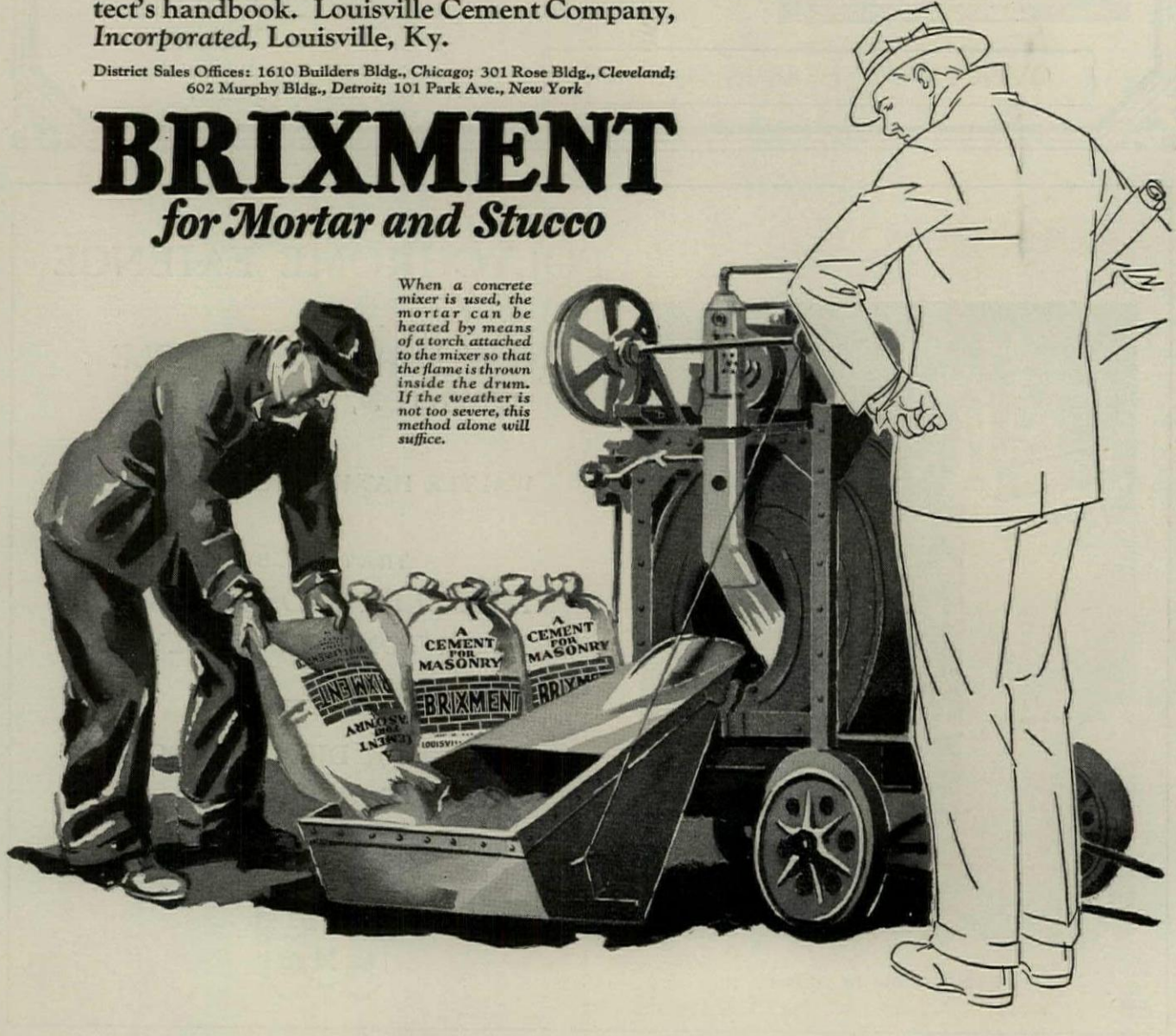

When a concrete mixer is used, the mortar can be heated by means of a torch attached to the mixer so that the flame is thrown inside the drum. If the weather is not too severe, this method alone will suffice.

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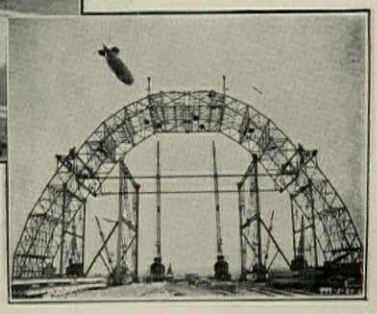


MacArthur Compressed Concrete Piles used for this outstanding structure

. . . because of demonstrated merit

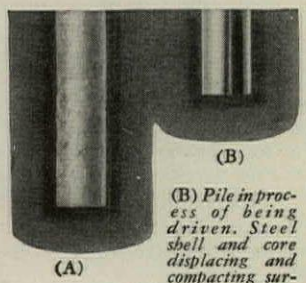
THE importance of the Goodyear-Zeppelin Corporation Airship Factory and Dock at Akron, from the standpoint of its purpose, and also because of its unique structural design, made it imperative that every bit of equipment used be selected on the basis of demonstrated merit.

Important companies in the United States and Canada know that the MacArthur Method not only produces perfect piles on 2 ft. 6 in. centers, but that the compression of the "dry" concrete (just sufficient water to hydrate) gives each pile extra load-bearing value.

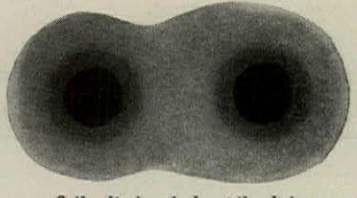
The drawings to the left show relative degrees of compression and demonstrate that the flow of the soil is away from the completed pile.

MacArthur Corporation will welcome the opportunity of presenting pertinent facts regarding their Method and their nation-wide accomplishments to any architect or engineer who is considering a project in which piles may be required.

(A) *Completed pile, formed by compressing a workable, dry mix concrete under 7 tons pressure. This forces dense concrete into intimate contact with surrounding soil, giving maximum skin friction. Shading shows relative compression of soil due to driving and compressing.*



(B) *Pile in process of being driven. Steel shell and core displacing and compacting surrounding soil.*



Soil displaced by pile being driven follows line of least resistance which is AWAY *from the densely compacted soil surrounding the finished pile.*

General Offices: 19 West 44th Street, New York

Branches: Chicago, New Orleans, Boston, Pittsburgh, Detroit, San Francisco, Cleveland

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THE ARCHITECT, THE DRAFTSMAN, AND 1930!

IT IS MORE THAN ordinarily difficult this year to forecast conditions which will prevail with respect to activity in architects' offices during the coming twelve months. At the moment conditions in many parts of the country are far from satisfactory. Many architects have less on the boards than was the case a year ago and more draftsmen are unemployed.

The difficulty of securing funds for building operations has been one of the major problems with which the entire industry has had to contend. That, more than any other single cause, has brought about the decline in total building volume which has occurred during the latter part of 1929. It is generally agreed that money will be easier next year and this should prove to be a constructive factor in many cases. The situation is, of course, complicated by the recent financial disturbance which in some cases will cause hesitation even though the money for the enterprise is available on reasonable terms. Summing up the whole situation it is our belief that 1930 will be at least as good a building year as 1929 and probably a little better. But in one important respect 1930 will differ materially from 1929. Conditions were pretty good a year ago and the trend during the year has been downward. We enter 1930 at a comparatively low point with a strong probability that the trend of the previous year will be exactly reversed.

It seems to us that right now while things are comparatively slack an excellent opportunity is offered to every architect and to every draftsman to do what he can in the direction of educating business men, and others planning to build as soon as conditions are right, concerning the nature and value of expert architectural services. This is a matter to which we have frequently referred in the past and which is being very thoroughly agitated today by groups of architects in all parts of the country. We intend to address a letter to the profession generally during the month of January, making definite suggestions concerning a program to be put into effect at once. Space does not permit the publication of this plan in this issue of PENCIL POINTS.

If we will all use the present opportunity to lay a proper foundation for the increased volume of building clearly indicated for the not far distant future we should all find ourselves vastly better off when the period of greater building activity arrives.

We are strongly of the opinion that there has never been a time when concerted and intelligent effort on the part of every man who makes his living from the practice of architecture, in whatever capacity, can be made more productive than right now.

So let us all face 1930 with courage and with a firm determination to strike a real blow for the profession which will have direct bearing on its prosperity for many years to come.

A happy and prosperous New Year to every PENCIL POINTER!

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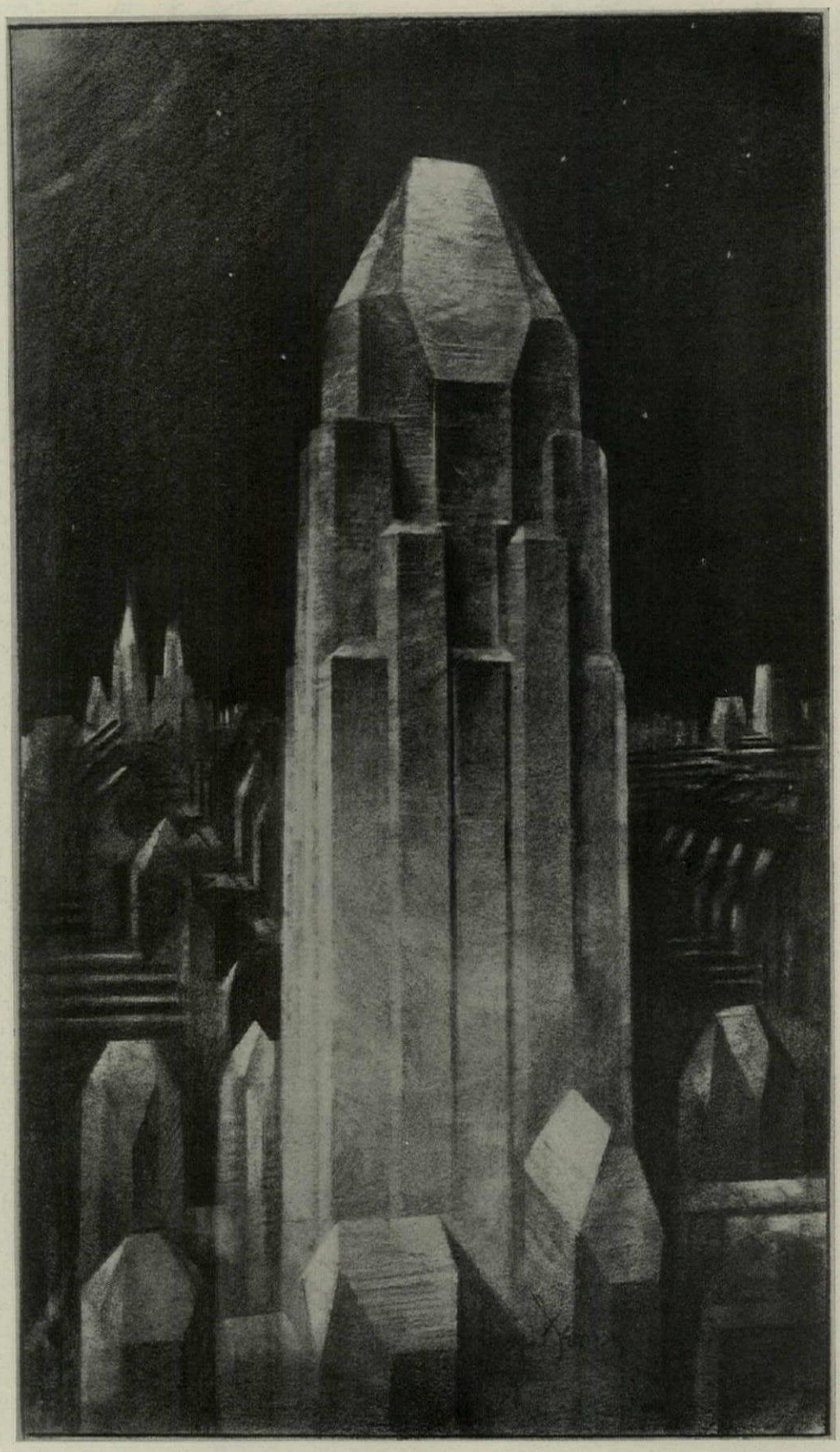


DRAWN BY HUGH FERRISS WITH WOLFF CRAYON, PAPER STUMP, AND KNEADED ERASER

AN IMAGINARY TOWER IN TRANSLUCENT GLASS—SUGGESTED BY CRYSTAL FORMS

(From "The Metropolis of Tomorrow," a recently published book of the designs and renderings of Mr. Ferriss.)

DESIGN IN MODERN ARCHITECTURE

I—WHAT IS MODERN?

By John F. Harbeson

AUTHOR'S APOLOGY: *It is difficult to judge the work of one's own time: it is too close to allow of perspective. But many things that are difficult are also fascinating; it is thus that I find myself with those others who step in where angels fear to tread.*

"IT IS EASY to change the dress of an architecture; to alter its spirit is quite another matter."—
PAUL CRET,
"The Significance of the Fine Arts," Chapter on Modern Architecture.

Modern architecture is, quite simply, the architecture of today, the architecture which attempts to solve the problems resulting from modern social conditions, by modern methods of construction, and using the materials and resources we can now command. Some of it we believe to be good; some of it is undoubtedly meretricious, badly designed or poorly constructed: much of it is mediocre in its artistic qualities; but that is the history of art in every previous age. To us, in the midst of it, it seems to be of very different kinds, some more familiar than others—some novel and interesting or disquieting, depending upon the examples and also on our individual tastes.

But to one looking back at it two hundred years hence there will appear little difference between the works now ascribed to the "modernists" and those done by architects who have been called "traditionalists."

This is inevitable, as the buildings of today are solving the problems of today, under present economic conditions, including transportation, and with the materials, inventions and labor at hand: the differences are more superficial than we realize.

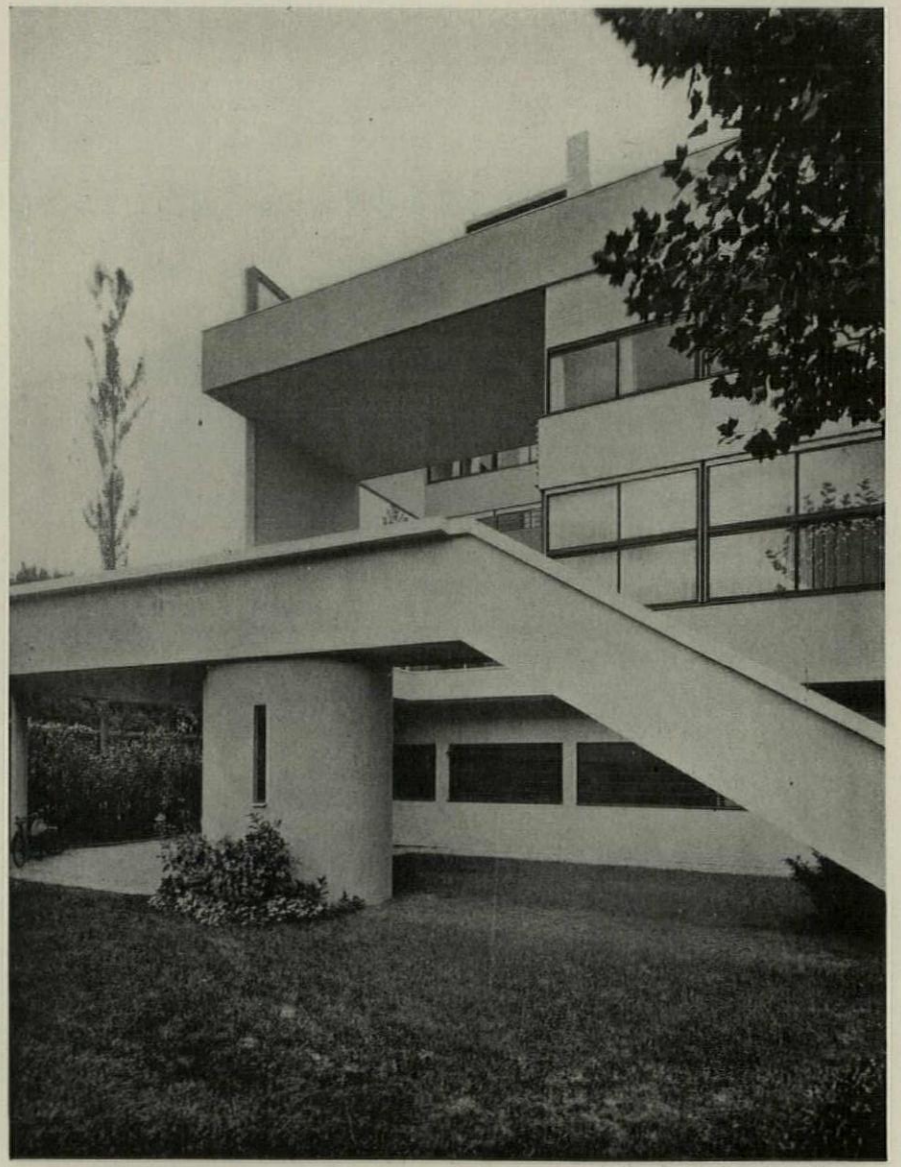
In France, when Charles VIII and Francis I brought back from Italy ideas and workmen who had been thinking in terms of the new study of the antique, some building was done under this influence, while much building continued without such help —no doubt works of the two kinds seemed then to be very different: to us they are strangely alike and all of them are very easily placed in the proper period by anyone with a small knowledge of architectural history.

The architecture of every time—and ours is no exception—has been the outgrowth of what went before, a part of an evolution, usually continuous, sometimes with more or less definite breaks because of changes in civilization, such as the fall of the Roman Empire before the barbarians from the north. The evolution has been faster at some times than at others: undoubtedly the pace has become accelerated, with the more and more rapid spread of civilization, with the improvement in the means of transportation, until today, when the world can be circled in a few days, when the photograph and the book make possible the dissemination of ideas with great rapidity, local schools of art are losing their differences and tending toward a uniformity throughout the world.

Architecture in this country had perhaps seemed static, settled, in the first decade of this Century: the architects and the public were satisfied with structures —many of them answering admirably the requirements of the programs—with a clothing of classic forms, often used with great ingenuity and originality. During the same time painting has gone through many developments: canvases are relatively cheap and may be paid for by the experimenter; buildings are expensive, and not customarily paid for by the designer but by someone else, usually with conservative leanings. But such a static condition could not last, and a change to different modes of

READING ROOM, BIBLIOTHÈQUE NATIONALE, PARIS—
HENRI LABROUSTE, ARCHITECT

One of the early attempts in the use of metal to span large spaces—a problem of modern architecture—there being four light iron columns in the room. The ceiling is entirely of metal and glass, with panels of white faience set between the metal ribs. This served as example for the scheme of roofing of the concourse of the Pennsylvania Railroad Station in New York.

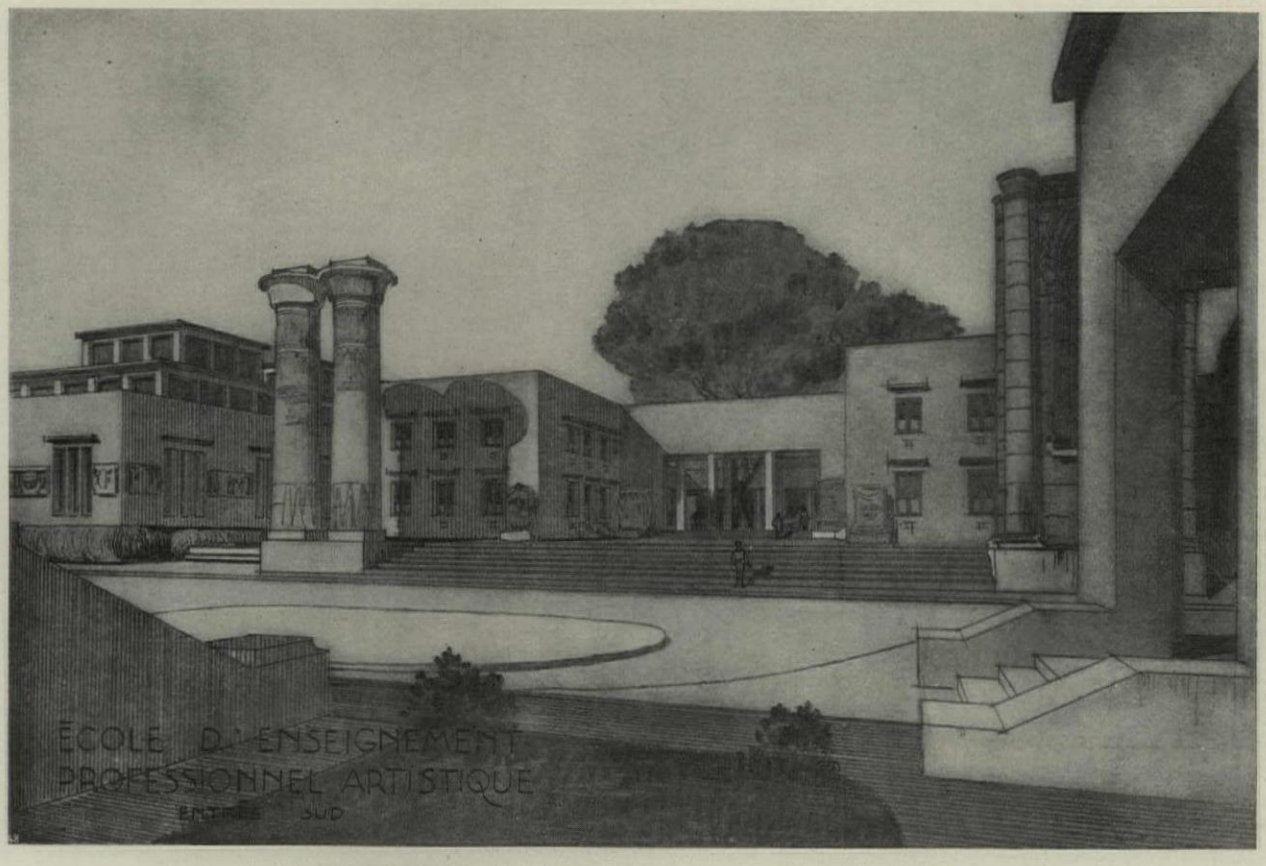


VILLA AT GARCHES—LE CORBUSIER AND P. JEANNERET, ARCHITECTS

This is designed in much the same spirit as a steamboat or a locomotive—a strict economy of materials, particularly in the thicknesses, possible with metal and with concrete reinforced with metal. This results in an absence of reveals, and hence of shadows at openings. The placing of windows on the corner of a mass is another of the effects of new constructive processes on the forms used in modern architecture. So, also, is the horizontality of openings, no intermediate lintel support being needed in the façade.

HANGARS AT THE TEMPLEHOF AIRPORT—H. KOSINA, ARCHITECT (BERLIN)

From "L'Art International d'Aujourd'hui." The solution of a problem resulting from the inventions of the last few (25) years. The great horizontal openings for the airplanes, with long lintels strong enough to support the weight of rolling metal doors, would have been difficult of realization with only those materials known a hundred years ago. Steel and reinforced concrete solved such problems and will inevitably add new "forms" to the vocabulary of the architect.



A PROFESSIONAL ART SCHOOL—TONY GARNIER, ARCHITECT

A part of his big work, "Une Cité Industrielle," in which he designed an entire community for modern life; this is studied primarily from the point of view of plan, and section, with little arrangement in elevation, and almost no ornament. Tony Garnier won the Grand Prix de Rome and is the son of Charles Garnier, architect of the Opera at Paris.

thinking, a return to the progress of evolution in architecture was inevitable; this return seems to us who are in it to be more violent than it really is. The great war had much to do with this starting again of evolution, for it showed up men's minds generally.

But the signs of the approach of such a return to an evolution have been evident for some time: signs indicating that the static order, where architectural forms were being codified, reduced to rules, was to be set going again along the path of time. In 1825, Duc, returning from his fellowship at the French Academy in Rome, formed with his comrades Gilbert, Duban, Henri Labrouste and some others, a group of young innovators, bent on seeking in the monuments of antiquity, and particularly the newly found Greek ones, the reasons of art, of convenience and construction. They were under the influence of the romantic movement liberated by the French revolution. The revolution marked the end of the régime and society began to find new social, economic, and administrative bases.

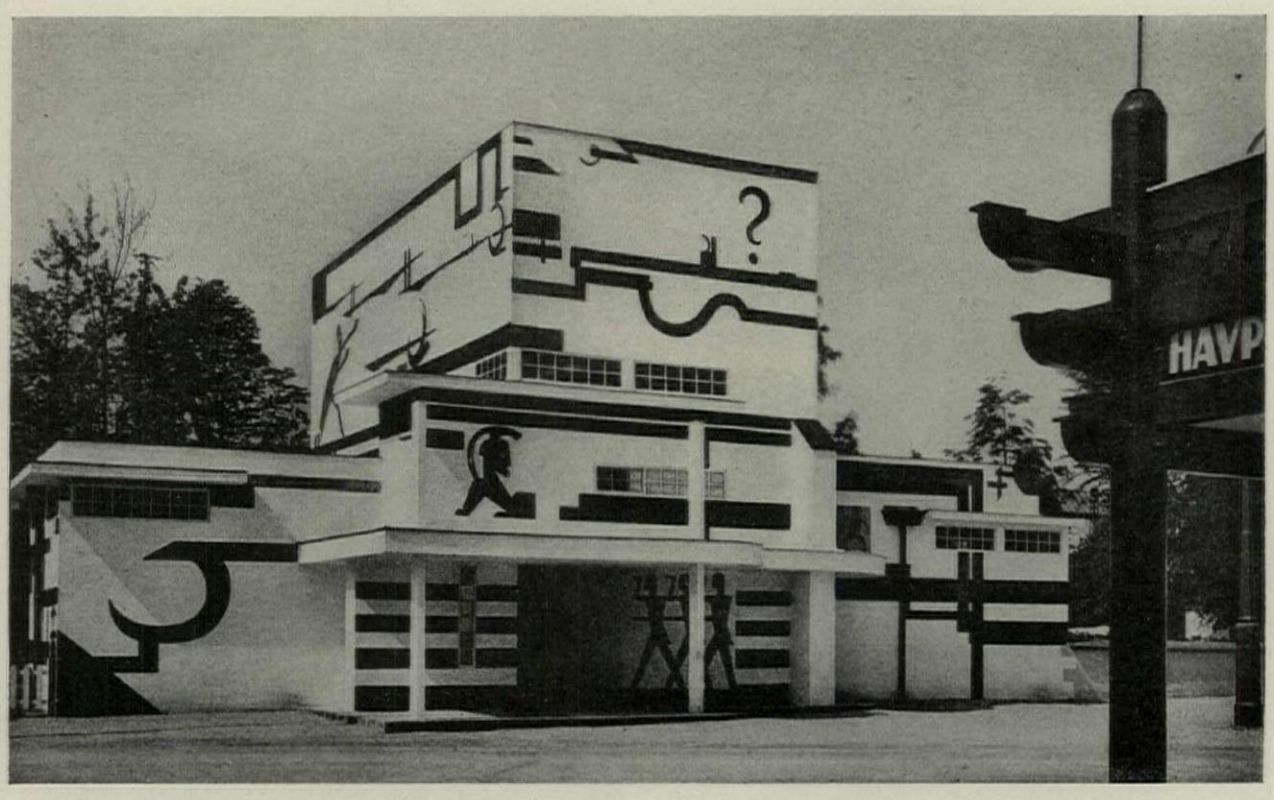
Labrouste held a class in design "with the art of analytical composition," at the Ecole des Beaux Arts. That he felt he was an innovator may be gathered from his statement at the dinner held when his practice compelled his giving up this class, that this was "the first protest against an official method of instruction which had become exclusive, blind, deadly."*

* *Discours d'Henri Labrouste au dîner d'adieu a ses élèves, 18 Juin 1856.*

At the same time he was building, 1840-50, at the library of Sainte-Geneviève, and a little later in the reading room of the Bibliothèque Nationale, in Paris, roofs in which a new material of construction, iron, was frankly accentuated and in a way both characteristic of the material and entirely satisfying to the eye. While working in classic forms he was nevertheless much interested in the spirit of Gothic—in its logic and reason. At the same time Baltard made similar use of iron in roofing the "Halles Centrales" and other markets of Paris. Metal, a new technical element, was thus introduced in building under scientific and industrial impulsion, and naturally transformed somewhat the disposition and expression of some elements of building.

A little later Viollet-le-Duc set forth in his *Entretiens* what he was prevented from teaching in the Ecole des Beaux Arts (where the academic authorities nullified his appointment), an approach to modern problems through the principles of logic, of the expression of truth, both in the use of materials and in the approach to a *parti*—a study in rationalism in architecture. He made his study in Gothic forms because he found there a real logic of form, but he had no thought of using Gothic details or Gothic forms—solely the Gothic spirit of a logical approach to the solution of a problem.

Further tentative experiments in the use of metal

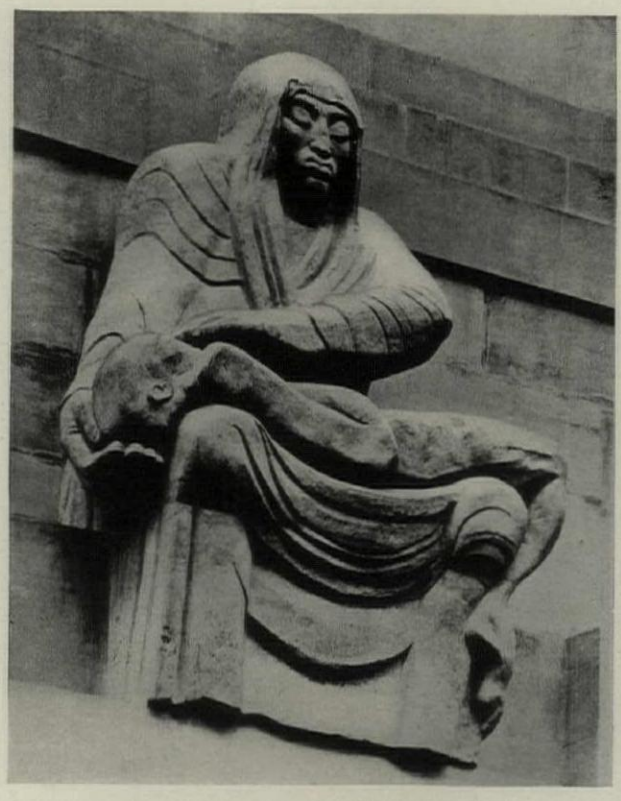


AN EXAMPLE OF POSTER ARCHITECTURE—ONE OF THE PAVILIONS AT THE MUNICH EXPOSITION—MAX WIEDERANDERS, ARCHITECT

Here the poster quality is largely in the decoration, the mass being little out of the ordinary except for the thin overhangs possible with reinforced concrete.

MOVABLE PAVILION TO ADVERTISE THE VARIOUS BRANDS OF A CHOCOLATE COMPANY—DESIGNED BY LE CORBUSIER AND P. JEANNERET

This is frankly advertising, but the effects are arranged in three dimensions instead of two.



"NIGHT," JACOB EPSTEIN, SCULPTOR

to make possible the spanning of great spaces were made in the *Galerie des Machines* in the Paris Fair of 1889, now destroyed.

Before the beginning of this century (1898) Tony Garnier, while still a Fellow at the French Academy at Rome, and therefore presumably making studies of the antique, began thinking about truth and logic in architecture, inspired by the later philosophical works of Zola, if one may judge by the quotations in his *Cité Industrielle*. It was he who started to build forms without ornament, forms resulting from a proper solution of plan. He was, and is, guided by the one idea "that architecture, a social work, is a public service in the same class as the Post Office or the Department of Bridges; it is for the people and by the people.

"Little attention is paid to form, or rather the plan (first concern of Tony Garnier) takes precedence over it. In composition he has no rival in skill."**

In contrast, Auguste Perret, a little later, has made himself the champion of reinforced concrete construction, which he handles in a masterly way; he is a great constructive architect. Garnier's interest is solely in the plan; Perret's in the skeleton.

New materials—steel and reinforced concrete—were thus beginning to affect design. When these materials were first used stone forms were copied, but it was inevitable they should be used with more and more freedom as they became better known, as experiments were made with them because of new conditions to be solved. As architects are eminently conservative, whether they will or no, much of the experimenting in new materials which leads inevitably to new ideas of forms is in the hands "of engineers, who are unhampered by esthetics or reminiscences," and who are "inspired by the law of economy and guided by calculation."***

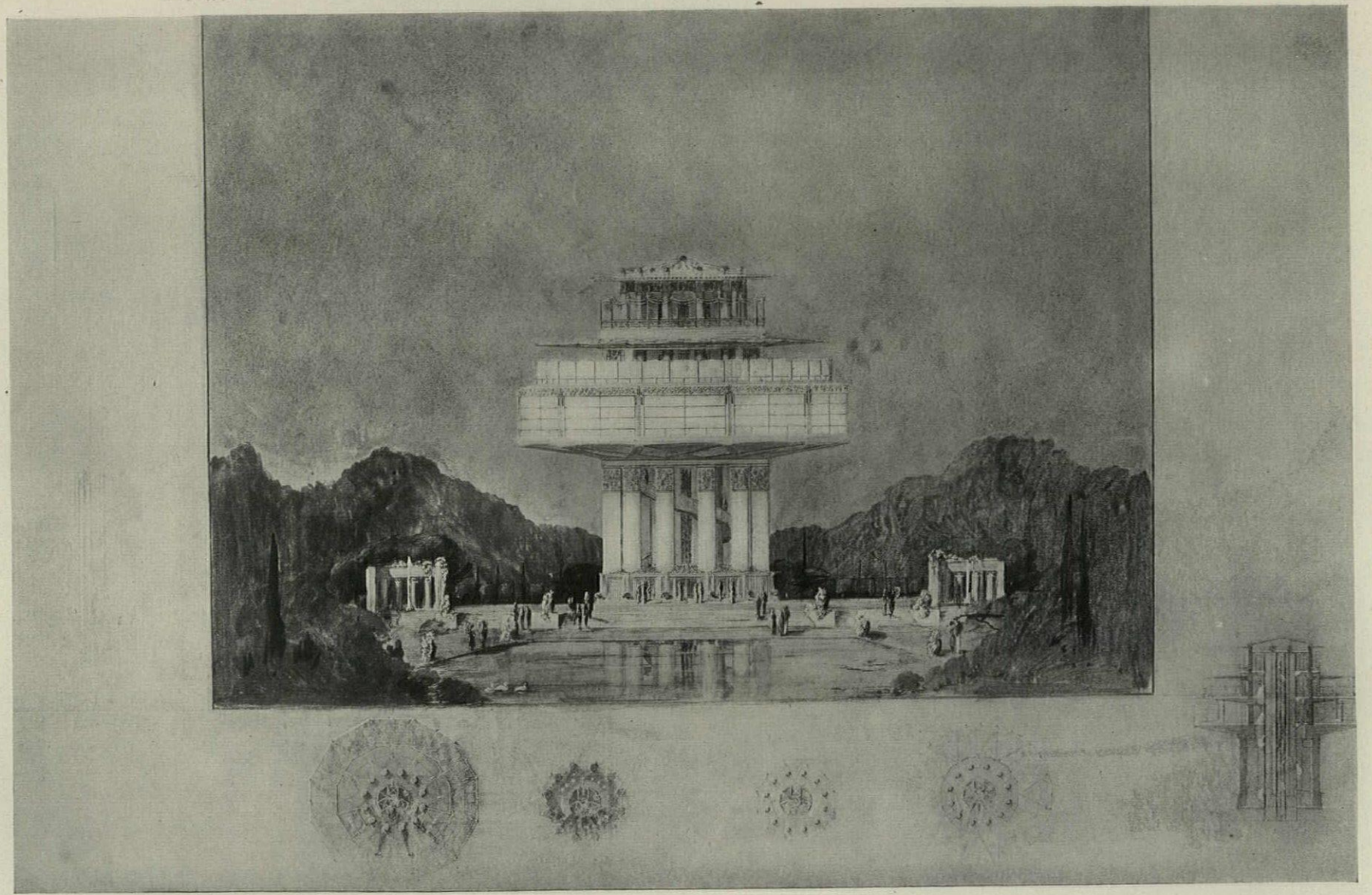
At the same time another economic factor was affecting architectural design—machinery. This has been dramatized by Le Corbusier, who has written several books setting forth his theories, and his followers. Starting with the automobile and the airplane as texts he goes further and says that architecture should be designed to be of service, and if it answers the requirements, beauty will come to it "naturally and abundantly." To him "the machine" is "free from all attachment to a useless past, is the perfect expression of modern man; it is practical, exactly fitted to its rôle. It gets its beauty chiefly as the result of selection, among the forms suggested solely by its use, a selection which strips it of non-essentials." And so he thinks of the house as a machine to dwell in, forgetting that human beings are not yet machines, and vary too much in their tastes to be cared for in this way. But the machine is at work transforming modern architecture in a much more potent way, the

"DAY," JACOB EPSTEIN, SCULPTOR

"Night," and "Day," sculptured groups by Epstein over the portals of the Underground Railway at Westminster. This sculpture, taking the place of the large keystones usual at such portals, meant to be seen at a distance, by people in a hurry, is designed to make an impression on the busy man of today, little interested in art, but still sensitive to such elemental instincts as mother-love.. "Allied to a harsh, logical teaching without minor graces . . . . its only merits are the large rhythmic essential merits of sculpture"—(James Bone in "New York Times Magazine," August 25, 1929). Such merits we are too apt to lose sight of in these days of technical skill.

** *"Tendencies of the School of Modern French Architecture," introduction by Paul Cret. "Architectural Record," 1929, p. 338.*

*** *Le Corbusier, "Vers une Architecture."*



Courtesy "The Bulletin of the Beaux-Arts Institute of Design."

"A RESTAURANT IN THE AIR"—B.A.I.D.—CLASS A, FIRST MEDAL, BY A. ABRAMOWITZ, UNIVERSITY OF ILLINOIS

The program placed the site in a park "that has no elevation from which one can get a view of the surrounding landscape. All that is required on the ground level is an enclosed vestibule for clients, connected with the restaurant by elevators, a staircase and an entrance for service." The restaurant was called for on two levels, high enough to clear the tree-tops, with a still higher level for an observation platform or tea-terrace.

way which has resulted in the decay of craftsmanship—among artisans, among contractors, among architects.

"Modern methods are a synonym for producing something mechanically, i.e., without thought, with a minimum of effort, and at the least possible cost. These are not methods heretofore used for worthwhile work—which is the fruit of effort only, effort that draws on all one's faculties with little thought of financial returns. It is difficult to reconcile quantity production and personality, which is the essential quality of any work of art."*

Much of the architecture of today is in the hands of business men, whose aim, speaking generally, is "to produce something which will look as well as a more expensive something else." This has not been the case in past history; it cannot but lead to changes in the spirit of architectural design.

There is another way in which commercialism is affecting architecture, and this is leading to forms that are quite new. We have become used to the poster as a composition, usually in two dimensions, to express an idea forcefully by overemphasis—a type of art of which the success is judged by the amount of attention it attracts. The attraction of attention is the first essential; this it may do by brilliant color, or by clashing color, by interesting line or idea. But "poster architecture," conceived in the same spirit and intending in the same way to attract attention, is a product of very recent years. There have long been buildings meant to advertise; the Singer Tower, the Woolworth Building, were made higher than any existing building of their day entirely for advertising reasons. The pyramids of Egypt were much larger than a tomb need be, probably for a similar reason. But the designers of these buildings were satisfied with height or size: otherwise the buildings were quiet, and designed in the manner of the times.

Recently buildings, or at any rate structures, have been designed from the same point of view as posters or advertising, to create an effect that would instantly draw attention. They are posters in three dimensions. Naturally traditions of building are not of value—quite the contrary—and new ideas, new "stunts," are used, some of them exceedingly clever. These are usually restless, but many of them suggest ideas that are of value to a designer for more enduring work. For a piece of advertising is not usually very enduring; it is apt to be built for short life, for when it becomes well known, it no longer attracts enough attention to justify its existence.

INTERIOR OF CHURCH AT LE RAINCY, FRANCE—
A. AND G. PERRET, ARCHITECTS

Here reinforced concrete has been used with the minimum sections required by the calculations of stresses. The pierced wall surfaces seem to be of a different scale from the rest and somewhat at a discord as to general stylistic character—they lose the prevailing vertical tendency in a criss-cross that allows the horizontal lines to obtrude on one's perception. But in spite of this the work gives much more the spirit of Gothic principles than many examples of modern attempts at Gothic archæology. From F. R. Yerbury's "Modern European Buildings."

Architecture, then, is changing; but it always has been so. "Architecture is always in a state of evolution. At times this process is slowed by the presence of a group of highly gifted individuals who stabilize design and style for a while—but only for a while. It is then that we have such periods as the height of Athens, and Rome." Architecture changes because social and economic conditions change, because people think and do things in a different manner than their grandfathers did; because inventions are made, processes changed; and principally because, with all these things, life becomes more and more complicated with the passage of time, and these requirements of modern times are reflected in the programs of modern architecture. The problems of today are much more complicated than those of former times: even the home, a comparatively simple problem, is more complicated than the home of fifty years ago, due to improvements in plumbing, heating, and the use of electricity in many ways, to the servant "problem," and to changing economic conditions. Let us start our study of modern architecture with the study of the modern program, through the plan which

* *Paper read before the Philadelphia Chapter, American Institute of Architects, 1925, by Paul Cret.*

is the result of that program. It is here that we see most clearly what is Modern Architecture. This we shall do in the next issue of PENCIL POINTS.

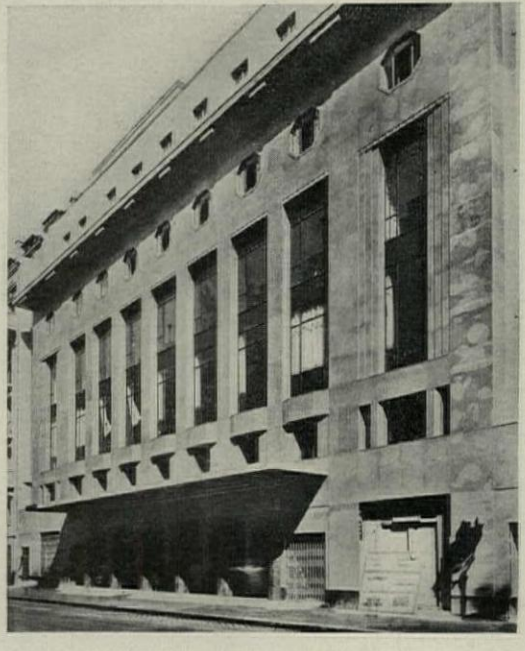
But until we have made some study of what is modern, let us be open-minded enough to realize that, just as there has been good and bad work in all periods of building, there is undoubtedly good and bad in this, and that we cannot say that work is good *because* it is modern in its clothing, and that we cannot say it is bad *because* of modern clothing.*

Never before have architectural designers, as a class, been so well trained before they start designing work to be built—never before have they been so academically trained—trained, that is, in schools, trained to attack a program logically—trained to think out a composition logically—trained to use documents in their work. They use documents to arrange a parti in plan, in section, in elevation; documents for detail, documents for presentation.

Never before, of course, have architectural students had access to so many documents: perhaps after being required to draw the orders meticulously to imbibe some feeling for those principles of design which depend on the proportion of masses, of height, width, and thickness, of void to solid, of light to shadow—small wonder if students fresh from such exercises, advanced to the upper grades of design and freed from inhibitions as to style, stray far afield for inspiration, as young colts turned out to pasture. But they are still in a field—and the patron with his well trained and ingrained feeling for proportion—for design in fact—watches the pasture, and while allowing, and encouraging, the student to seek where he will for documents, harmonizes these elements when criticizing the student's work. The "elements" are new, but the plans, the façades, are still articulated, studied, in proportion: well balanced, with a nice distribution of ornament. Not all students are good students of course, and not all students work. The Beaux-Arts Institute of Design still gives only occasionally a first medal, and very many zeros.

And yet the *average* of the student work is on a much higher plane than that of some fifteen years ago. The best of today may not be better than the best of yesteryear—but it is much harder to pick the best, so good is the average. The students of today are the architects of tomorrow: we should therefore look forward to a good architecture.

* *"I am far from saying that all the artists who have "gone modern" have turned away from the hypocrisy and cant of the periods gone by, and that those who haven't are still sunk in sin. Many who have adopted the external trappings, the color, decorations, and details of modernism are far less modern than others whose work may still bear an external resemblance to that of older periods, but whose conception is fundamentally modern. In fact the same fellows who were hypocritical and dishonest in their art yesterday, are hypocritical and dishonest in their art today, no matter how they may be classified in the public mind."—Raymond Hood: "The Architectural Forum," November, 1929.*



NOUVELLE SALLE PLEYEL, PARIS

AUBURTIN, GRANET, AND MATHON, ARCHITECTS

This façade has a cornice and is otherwise composed as façades have been for several hundred years, except for such signs of today as the large area of openings, compared to the wall surface in which they occur, and a simplification of detail. In plan and section this building is distinctly modern, with the thin points of support and structural members only possible by the use of steel and reinforced concrete. From "Documents d'Architecture Contemporaine."

ADVENTURES OF AN ARCHITECT

III – THE WHEEL OF FORTUNE

By Rossel E. Mitchell

THE COMMITTEE of distinguished-appearing gentlemen filed impressively into the office. A clerically garbed member headed the procession. After the customary introductions the clerical gentleman informed me of the purport of their visit. They were to build a church. Not a little brick affair, but a great stone sanctuary in Gothic of the best period. Here the clergyman, for such he was, demonstrated his erudition by using certain terms peculiar to the technique of ecclesiastical architecture. He spoke of naves, vaulted aisles, clerestories, apses, and transepts.

The other members of the committee were duly impressed. Evidently here was a minister who knew his churchly Bermudas, so to speak. The site was ideal for the purpose. A plat was produced showing metes and bounds of a two-acre plot in the best residential section.

"We want this church to be of the finest Gothic architecture, correct in every detail. A large congregation must be provided for in the sanctuary, and a parish house, or Sunday school, built that will permit the latest methods of religious pedagogy to be put into operation.

"But when all the practical requirements have been met, the entire building group must be an architectural masterpiece.

"We know, by reputation, of the very high quality of your designs. We feel certain you are just the architect to secure for us the most beautiful, worshipful, and useful church group of this magnitude yet erected. There is no limit to be placed on the cost—we want what we want as we want it!"

Sad to relate, the above interview never actually happened. In fact, it never happens except in the imaginative brains of some thousands of young architects throughout America. Every one of them dreams of building a great and beautiful church. Every *architect*, I mean. Your cold-blooded, calculating, engineering practitioner, or your commercial-minded real estate operating moneymaker, to whom the world of architecture is but a fat cow to be milked—these never dream of building churches. Give them the office building, the countless units of a big apartment building, and they are happy. Money talks in the building field, and they want money first, last, and all the time. But the successful professional architect must be a dreamer as well as a doer. He must have the taste, training, and capacity to picture a beautiful structure in the eye of the mind, building up the vision more and more definitely, all the time he is wrestling with the primary requirements of use and arrangement.

A costly church comes nearer to fulfilling an architectural ideal than perhaps any other building. Too often in other buildings symmetry, proportion, and harmony must yield to utility, limitations of site and purse. But expensive churches are intended to be beautiful; in fact, beauty is a prime consideration.

Therefore younger architects yearn to build churches. After a few experiences with unimaginative and parsimonious building committees they lose much of their youthful ardor.

Art is long, and campaigns for church funds are longer. Church enterprises frequently drag through a term of years before the original conception is finally realized.

My first experience with a church building somewhat approximated the dream-interview above recited. But the committee-members did not come to me—Mahomet went to the mountain. They did, however, desire a beautiful Gothic church, with very rigid limitations of cost. Also, after weeks of interviews with several architects, and checking up on their work, they appointed me to have charge of their structure. I was justifiably elated. A certain "church architect" had been very industrious in his efforts to secure the commission. He had displayed photographs of about fifty churches he had built. These were accompanied by glowing letters from satisfied clients. But the committee consisted of educated people: several had traveled abroad.

My own submissions consisted of several costly books of engravings, showing the best English and American churches of the past and present. The pictures submitted by my rival proved his undoing. The committee recognized that he was an architect in name only. Starting as a builder on a small scale, he had "graduated" into architecture by the hammer and trowel route. It is astonishing how such "church architects" have preyed on the public, especially in rural and small city sections of the country. One job leads to another, especially when the "architect" spends ninety per cent of his time on the road drumming up clients to mulct, and the other ten per cent getting out plans for the formless abortions that our smaller cities, especially in the South and West, are afflicted with.

The chairman of the committee notified me verbally of my selection. He was just about to leave for a summer vacation, and advised me to let the matter rest until he returned. In the meantime I took my own little family for a much needed change, and came back refreshed and ready to plunge into the attractive problem of building a beautiful church and a modern building for religious education.

I called on the committee chairman for instructions. He greeted me rather blanky, was obviously embarrassed.

"Weren't you notified what happened?"

I had not been notified, but a sinking sensation advised me that I was now being notified.

"Well, it is most unfortunate. The one member of the committee who has been continually out of town —you never met him, you know—finally got back to the city during my absence. I was acting chairman. The friends of Mr. M——, the man who calls himself a church architect, protested to the chairman that the committee had made a wrong selection. A meeting was called, and I returned from the mountains to be present. I explained that we had gone into the matter with great care. We had unanimously rejected Mr. M—— as totally incompetent for the task. We recited our various interviews, and the reasons that had led up to your selection.

"Friends of this other man asked, 'How many churches has this architect built whom you have chosen?' We told them only six or seven, but that our investigations had convinced us you were the man we needed. They pointed out that their man had built more than fifty (such as they are). So much partisanship developed that the committee chairman, who, by the way, is the largest contributor, finally suggested that for the sake of harmony the committee give up its choice, the friends of the other man to do likewise. He asked permission to go to the telephone, call up a reputable firm of architects in a neighboring city, and ask them to take charge of the work. This was done. The other members of the committee felt very badly about it. Their work of months was practically thrown away."

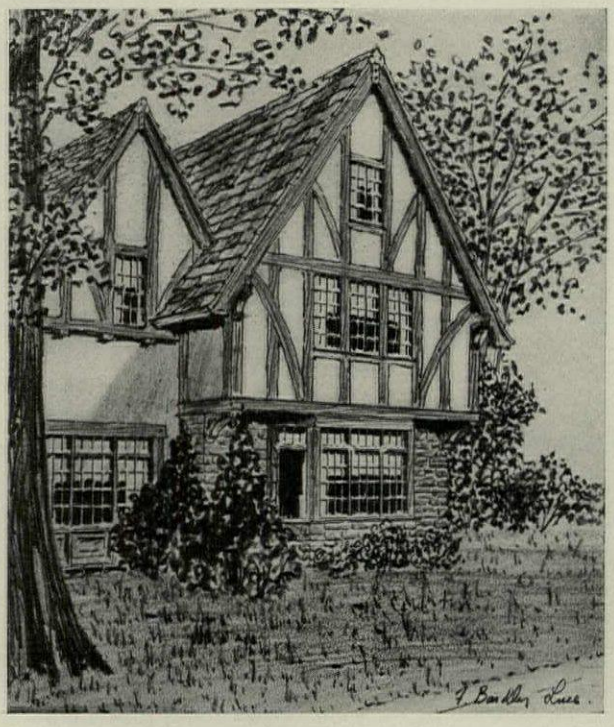
They felt the outcome was unjust to them and to me, but the church could not afford to have a rupture of any kind. The chairman was to have notified me, but had not done so.

This was a crushing blow. Only one, however, of the many that the average architect gets more or less used to, as time passes.

And the irony of fate seemed to be that the acting chairman, who had been largely instrumental in selecting me, now asked me "would I mind" making some alterations to his house? So while a rival firm had a fine commission fall into their lap unsolicited, I had my trouble for my pains, and an unremunerative alteration job besides! However, the house additions proved enjoyable to handle and the sequel most agreeable. The gentleman and his wife were charming people, and to consult with them was a real pleasure.

I succeeded in transforming an old jig-saw nightmare into a very pleasant, Colonial type of house, much to the amazement of the neighbors and natives. Two years later this same gentleman, who happened to be a bank president, gave me the commission to build for him a very fine bank and office building of considerable height. My trouble and pains taken with the house paid big dividends!

And the bank and office building has been the means of helping me to get numbers of similar commissions. So does architecture reverse the law of Nature that whatever you sow you will also reap. In many different ways has the above experience been approximated. Your architect may assiduously sow the ecclesiastical field, looking for a crop of church spires to sprout up like corn, and behold! instead of churches come nice fat pumpkins in the shape of office buildings and banks!



PENCIL SKETCH BY F. BARKLEY LUCE

FOR THOMAS C. ROGERS, ARCHITECT

STAIR DESIGN AND HAZARD

A PRACTICAL DISSERTATION REFUTING THE RULE AND SUBSTITUTING THEREFOR NEW PRINCIPLES OF DESIGN, FOR USE IN THE DRAFTING ROOM AND ELSEWHERE

By Geo. E. Eichenlaub

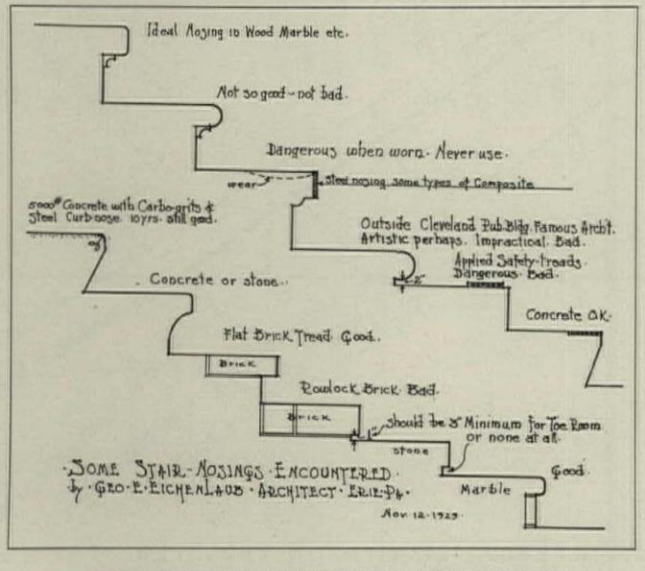
EDITOR'S NOTE:—*The author of this article is a practicing architect and engineer of Erie, Pennsylvania. He is desirous of adding to the statistics he has already collected on stairs and will appreciate the cooperation of our readers, who are invited to send him the information requested on page 20.*

OSBORNE SAID "The Fireplace is probably the first work of Architecture" and I now rise to wonder, if steps and stairs in the hillside did not probably antedate the fireplace? In any event, stairs must be one of Man's oldest institutions—and artificial hazards.

Also, stairs are generally accepted as found, with some complaint surely, but with a feeling of hopelessness because nothing can be done about it.

The "Stair-rule" has been so universally and so long in use, that no one seems to have even raised a question about it. Some may regard it as treason or heresy, or a waste of time to look into and examine the rule that has been used and approved by all and taught by eminent teachers and now is about to be made into a regulation by the great State of Pennsylvania.

And yet, if Edison were willing to agree with all who went before, he would not be "Edison." Perhaps it is worth while to risk broad condemnation by raising the question about the "Stair-rule." Moreover in the light of modern engineering and research, we have come to realize and know that everything the Ancients did is not necessarily right, and, I may say, we of today have improved on their thought and works to that extent where we may regard them largely as amateurs, as one Rogers might say, along with their stairways and rule therefor.



STAIR NOSINGS COMMONLY ENCOUNTERED

Follow with me for a space, and if you feel that we should have a law about it or not—it takes only a moment to write an opinion, to the Department of Labor and Industry, Harrisburg, Pa., which will help guide the officials in their ways.

Kidder's "Building Construction," a standard work used as a textbook at the University of Pennsylvania says: "The rise of the stair should never be more than 8" and that only for inferior stairs. For grand staircases the rise is often made only 5½" or 6", but to the average American this height is nearly as tiresome as an 8" rise.

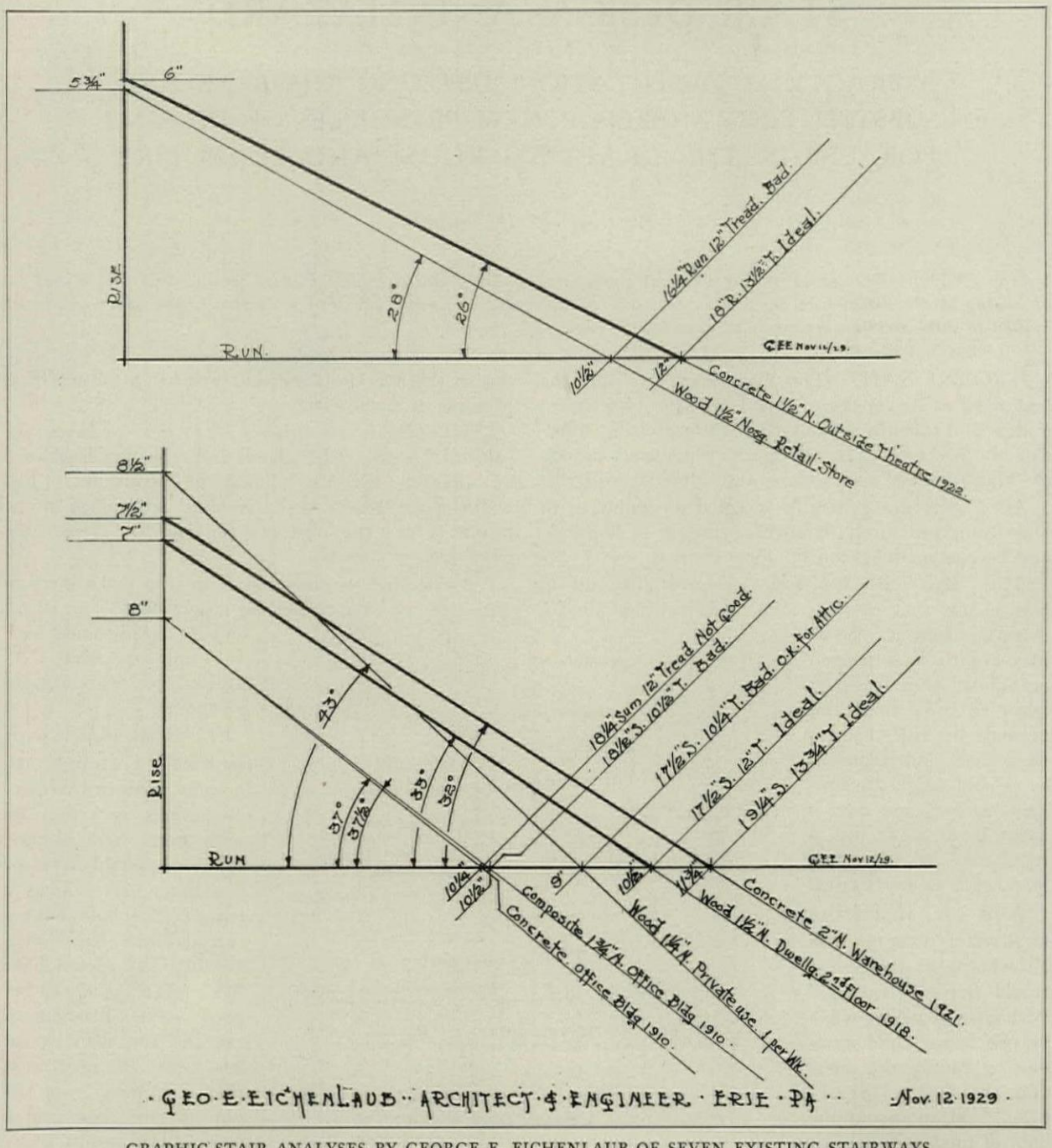
"For ordinary use a rise of 7" to 7½" makes a very comfortable stair. In schools and other buildings used by children the rise should be about 6". The width of the tread (run) should be determined by the height of the rise; the less the rise the greater the tread and vice versa.

"A safe rule for this proportion is to make the sum of the rise and the tread (run) equal to 17" or 17½" and the tread should have a nosing of about 1½" added to the run as given.

"The above rule only applies to steps with nosings. When there are no nosings, as is the case with stone steps usually, the tread should never be less than 12". Thus a rise of 7" should have a run of 10 to 10½" or a rise of 7½" should have 9½" to 10" run. Other good rules: Product of rise and run shall be not less than 70 nor more than 75 inches; or the sum of two risers and a tread [He means run] shall be not less than 24 nor more than 25 inches."

Comment: The writer learned these rules and passed his "quiz" and was duly enrolled among the elect—then later put them to use. In office after office he found the rule as set forth to be quite universal without question—and without discussion or investigation. And all technical books and data appeared to support the same rule. Investigation therefore seemed superfluous. In good time, this scribe thought himself no worse than most other Architects and embarked upon his own practice.

Some sixteen years now past, he was called in by a client who lived in an old house, built as an hotel in 1802, with a good doorway. The main stairway in this house was a single straight flight of steps to the number of fifteen, in itself thereby to be classed as bad practice; the young Architect mounted the stairs



GRAPHIC STAIR ANALYSES BY GEORGE E. EICHENLAUB OF SEVEN EXISTING STAIRWAYS

to the 2nd Floor and then first realized that he had done so without touching or feeling for the handrail. This was a good, though not stout, Colonial handrail with spindles which were all intact in their slender beauty of form and I offer in evidence that for more than one hundred years this stair was subjected to various treatment and abuse and had "come through" with its none too rugged construction because it had grace and beauty. In a word it was designed right, in a rough day, and the pioneers, their progeny, and more comers never found it necessary to lay hold of and hang onto this "Bannister" until it must inevitably disintegrate and be done, to be replaced with a stouter and more modern thing. Remember too, Lafayette stopped at this "Hotel," and Volstead had not yet appeared to gentle us Americans.

Interest aroused, this scribe fetched forth his measuring stick, borrowed a square and the measurements showed up as 7¼" rise, 11" run with 1½" nosing, making a stair-tread at 12½" each. The owners—men, women, and children—all thought it a fine stair and had had some compliments on its ease of ascent before. No accidents of any kind had ever happened on this stair; the children had all been raised here and the stair had never been blocked off because no one had ever been hurt.

Young Architect ponders this—applies the rules; none fit. Could something be wrong with the rule? More investigation, and the rule was discarded.

Before this, young Architect designed a sister's home and figured an easy stair as an essential and made the stair to the minimum of the rule, thinking a woman's

stride is smaller, ergo, make rise 6½", run 9" with 2" nosing. Pitch 37 degrees. So built. Architect makes final inspection and near breaks his neck on said stairs. Found they could not be taken at speed and anyone had to be slow and careful, until he became expert in their use; but that brought a first doubt of the "Rule."

So for long, all stairs have been made 7" x 11" with 1½" nosing and 12½" treads or as nearly as that might be approached. The years have shown that the change is universally satisfactory for all inside utility stairs in public and private buildings, for warehouses, where goods are often carried up and down, for theatres and so on. For a children's home, 6½" rise; for schools, 6¾" rise.

Where this scribe never heard comment, except in condemnation, he now commenced to hear for the first time in his whole life, a favorable, unsolicited comment on his stairs. To date, not one accident has been reported on them. All of which finally leads to conviction and the possibility that perhaps the "Rule" needs revision. Hence this attempt to disseminate good information.

In the writer's own house, 1918, the stairs are so designed, using 7" x 10½" with 1½" nosings. Three babies have grown up here—as they will if given a chance. Not one, or the wife, or myself, or any visitor has so far had a slip or trip leading to accident on our stairways. The head of the stair has never been guarded; the youngsters always preferred to play around these stairs and still do. We have noted that when they take a tumble singly or *en masse*, they always somehow "fetch up" about the third tread below the one from which the tumble started.

No handrails on these steps; when a person misses a step as he sometimes will, with or without cause, I have noted the recovery is always almost instant and does not lead into a "tail-spin" for a "loop" ending at the bottom of the stairway.

On the other hand, I constantly hear of this and that accident on neighbors' stairways. Recently a man carrying his invalid and convalescent wife upstairs (Speculator's job) fell from near the top. His wife will never walk again and he could not be about for months. You also know many of such accidents.

The State of Pennsylvania has instituted rules, booked for rigid enforcement about and after the first of the year. The rule as proposed is written, "—the minimum pitch (rake) shall be not less than 33 degrees and the maximum not more than 36 degrees and the height of a riser plus the tread (run) shall not exceed 17½"—" which indicates how the "Rule" is now become almost a law and a mandatory requirement for nearly all but private dwellings for one family, beyond which, progress will become more or less impossible. This is a serious situation calling for action now. Later, it will be difficult to correct.

The excellent stair of 1802, before cited, at 7¼" x 11" with 1½" nosing would fall without the law mathematically and would just lie within the 33 degree limit graphically; an ideal utility stair at 7" x 11" with 1½" nosing, would be legally wrong both ways.

An excellent concrete stairway used outside a theatre and built at 6" x 12" with 1½" nosing, giving a 13½" tread, would also not be allowed any way it was figured according to the State Regulations. This stair consists of five steps and was imposed by conditions of site that made their use necessary. We are told, it is the only satisfactory stairway in the small town. It is used by thousands of all ages and conditions and has now been in use for six years, in all weathers, and is just that well conceived and executed that no accident of any kind is recorded to date.

The law must, I would say, at least allow limits of slope from 22½ to 38 degrees, with rise and run and nosings proportioned and designed to suit the pitch. I do not yet see how a rule or law can be devised to care for every conceivable condition of practice.

There follow some observations and measurements of existing stairways that are and are not suitable for the conditions as found:

Pitch or Rake given in degrees with the horizontal; Riser in inches from top to top of succeeding treads; Run in inches is the tread without nosing or riser face to riser face; Tread in inches is the run given, plus the nosing, if any.

Pitch	Rise	Run	Nos'g	Tread	Comment by Author.
42½	8 " x	8½"—	1½"	10 "	Office Building, 1870; main stair in one flight or set of steps to 2nd Floor. 19 steps; wood; dangerous in the extreme. Many falls and accidents reported. Still in use. Bad.
40	7½" x	8½"—	1½"	10 "	Old Office Building, 1880; main stair in one flight to 2nd Floor. 21 steps; wood; no landing. Not good and not so bad, especially after considering its neighbor as above. Not so bad.
38	7½" x	9½"—	1 "	10½"	New Office Building, 1927; main public stair to 2nd Floor. 26 steps with one landing in straight line of stairs; steel and tile composite staircase; satisfactory ascending but not for descending; handrail necessary. Not recommended. Treads seem narrow. Not as comfortable as the wood stair in the 1880 Building cited first above, with 1½" nosings. A limit, but no Public use.
34	7⅝" x	11 "—	1½"	12½"	Inside Retail Store for Public. Recommended, but a limit for design. Wood, with rubber mats and raised brass strips near nosings, which is condemned. One quarter-turn landing with first down riser 13" removed from the string-line. This is not a full step or more and is disconcerting. Women trip and misstep here constantly. Practical limit.
28	6¾" x	12½"—	¾"	13¼"	Erie Public Library, 1900, Alden & Harlow, Architects. Main stairway to 2nd Floor. Grand or monumental in character. Marble. Successful to point of an ultimate ideal, artistically and practically. No accidents ever An ideal.

Pitch	Rise	Run	Nos'g	Tread	Comment by Author.
					reported. As a child, as a youth and as a mature person, this writer has found these steps a pleasure, up or down, under all circumstances.
24	6 " x 13 "	— ¾"		13¾"	Erie Public Library; marble stair inside Main Entrance to 1st Floor. One flight of 8 risers; as satisfactory as the Grand Staircase noted above. No accidents. Ideal inside.
23	6 " x 14 "	—0 "		14 "	Erie Public Library; outside North Porch. Stone steps; 3 risers, no nosings; ideal in use. Splendid design. Ideal outside.
31°	6⅝" x 10¾"	—1¾"		12½"	Erie Public Library; easterly stair to 2nd Floor. 16 up to half-turn landing and 14 up to 2nd Floor. Wood with rubber tread covers and brass nosings. Sense of insecurity and danger in use. Railing necessary. Not so good, not bad. Handrail needed.
23	6¼" x 13 "	—1½"		14½"	Erie Public Library; East Entrance to 1st Floor. Wood; treads covered with checker pattern rubber and flat fitted brass nosings. 9 risers inside. A perfect ideal.
30	7 " x 12 "	—0 "		12 "	Concrete outside; 12 risers; very good. Recent (1928).
37	6½" x 9 "	—1½"		10½"	Inside sister's home. Wood. 9 up to half-turn landing and 9 up. 1912. Design by Author. Bad. Uncomfortable in extreme; near dangerous. Never use. Miserable.
20	4½" x 12 "	—1 "		13 "	Outside; brick rowlock risers; 12 used; 1928. Uncomfortable, near dangerous. 1" tread to nosers. Bad.
43	8½" x 9 "	—1¼"		10¼"	Service Stair to Attic; dwelling. A limit for any condition. Practical enough as found for its use. Attic stair, O. K.
37½	8 " x 10¼"	—1¾"		12 "	Public Stair, tall modern Office Building, 1912. Composite Steel stair with Terrazzo treads. Good enough, but a practical limit. Only use if must. Rise too much for Women, though they make it. No accidents. Not good.
37	8 " x 10½"	—0 "		10½"	Same building. Concrete service stair; perpendicular risers; treads have 3" masontype safety treads set later and ¼" above tread surface. Uncomfortable to point of danger. Hazardous up or down. Hazardous.
26	6 " x 12 "	—1½"		13½"	Concrete steps outside, with slant risers. No safety treads; Public use in 5 steps from broad landing. Designed by Author; Theatre, 1922. An ideal.
28	5¾" x 10½"	—1¾"		12¼"	Inside retail store, 9 steps; uncomfortable to point of hazard. Cannot be taken at speed up or down. Wood; covered with rubber treads bent over nosings; not good design; bad practice. No accidents. Bad.
37	6½" x 9½"	—2 "		11 "	Women's retreat. Uncomfortable; avoid in use. No accidents reported. Bad.
32	7½" x 11¾"	—2 "		13¾"	Concrete with slant risers. Warehouse all stairs; No safety treads; No accidents; fifty male users of various sizes and weight all consider it ideal. Author-designed, 1921. 5,000 concrete with carbo-grit in surfaces and steel curb-nosings used. Ideal for men.
37	7 " x 9 "	—2 "		11 "	Main stair; dwelling. Uncomfortable; cannot be taken at speed. Compels a cramped stride. Carpet runner aggravates condition of hazard. Not good.
38½	7⅜" x 9 "	—2½"		11½"	Cellar stairs; residence. Open risers; wood. 13 steps in one flight; the open risers save the design. No trips, slips, stumbles, or accidents in ten years' use. Maids and servants always remark about the comfort. Quite ideal.
33	7 " x 10½"	—1½"		12 "	Main stairs above residence. Wood; no coverings used. Maids again remark the comfort and safety. Baby-tumbles stop at third step. Not steep enough for children to bump-slide their way down at satisfactory speed, for them. A perfect stair in general. General ideal.

A Conclusion: It will be noted now, that the last-named stairway is cited as a generally ideal utility design. Comparing with the proposed Pennsylvania Regulations, it will be found that this stair lies at the end, just within the 33 degree limit of permissible minimum pitch, and again lies at the permissible end limit of MAXIMUM sum of riser and tread which "Shall not exceed 17½"—" While no 7" x 11"—1½" is measured or known about, it is my belief that this 7" x 11" should lie in the center or average of the permissible limits set forth by rule or law.

The pitches vary from 23 to 38½ degrees and are KNOWN in use, to be safe, sane and comfortable, where the rise and run and nosings are all proportioned right in relation to each other. The Warehouse Stairway, 7¾" x 11¾"—2", is clearly outside the State Regulations, yet is known to be an ideal utility stairway for males at least.

The good stairways cited are the limit of the rule at 17½" sum or greater; the Cellar Stairway sums up 16⅜", but is an open riser with 2½" effective nosing. With closed risers and 1½" nosing, this would undoubtedly not be satisfactory at all. Indeed, I have noted some torn spots in the paper used to close this off underneath, which indicates that toe-room is barely sufficient. My judgment would seem to support requirements that would permit pitches of from 22 degrees with the horizontal up to 38, with a minimum sum of one riser and one run of 17" and a maximum of 20" or more. Certainly a minimum should here be

specified where a maximum is mentioned and danger may lie at either end. At least one stairway is cited that would be legal, under the proposed requirements, but which is distinctly a bad stairway.

It then becomes important to specify a minimum width of tread, with its nosing, of at least 11″ but not more than, say, 15″, and all treads shall lie uniformly in a horizontal plane. Nosings should be used on all interior stairways, so designed that the face edge of the tread projects at least 1″ or more beyond the line of riser immediately below, where it members with the first tread below the one in question. Mouldings, if used to cover the joint of tread and riser are discouraged and should not be included in the tread width.

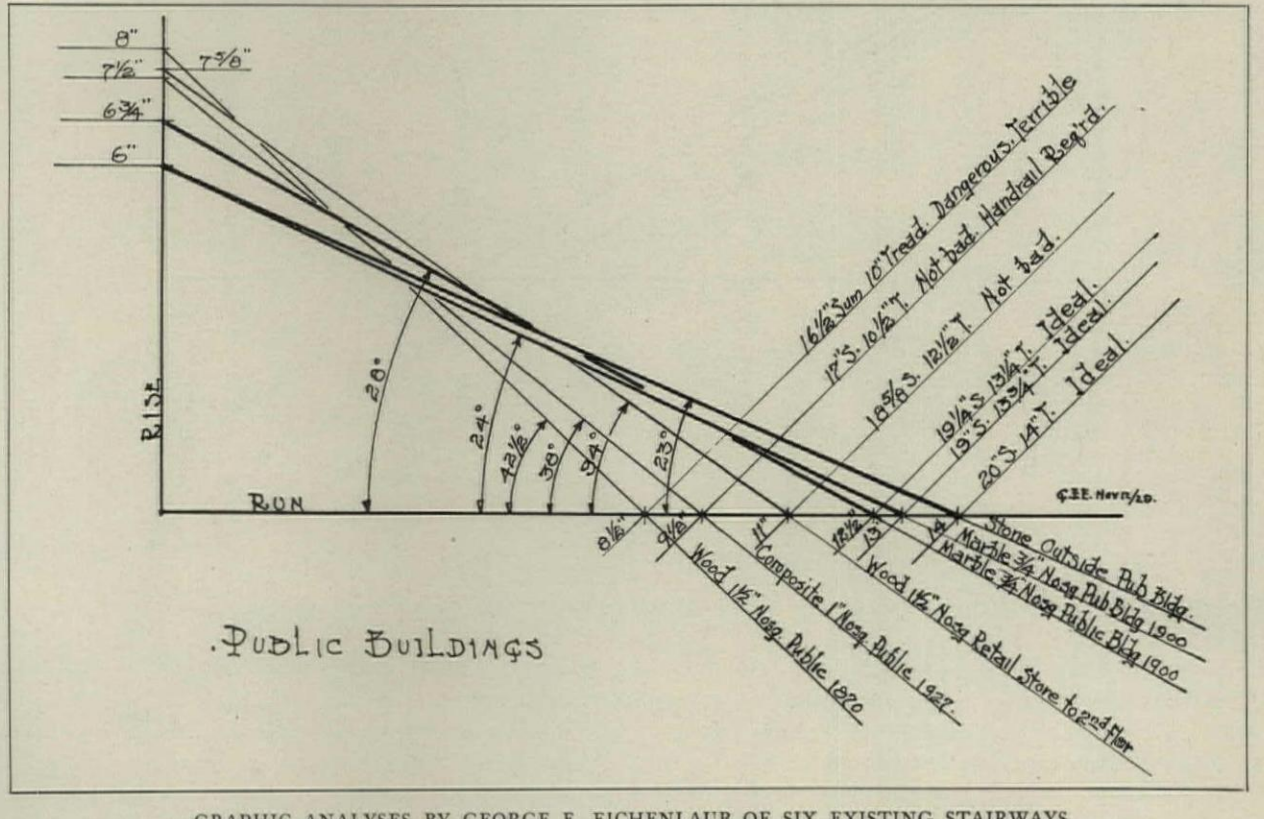
No maximum limit need be established for nosings —the more the better. Of course, it is important that all such nosings be solid and firm, true to line and level on top with the tread surface or plane.

Nosings may have a uniform outward bow or arc not exceeding 1″ in 3′0″ of length. The writer has noticed, in one job at least, that the concrete forms sagged from the weight of the fresh concrete and resulted in a slight bow, which reacted upon the stair-user in such a manner as to keep him to the center of the stairs and was in no wise objectionable, whether he did so or not. This is not a recommendation, but it is felt that no law should be so highly restrictive as to prevent progress through development of new art or science. In really fine buildings, especially of monumental character, it is desirable in many cases to use a curved riser for supreme artistic effect, without hazard. Such are probably used in the Lincoln Memorial at Washington. Shape of nosings is also important. See accompanying drawings. Risers should not be less than 6″ or more than 7¾″ measured from tread to tread perpendicular to the horizontal tread surfaces. It should be recognized that special conditions of space restrictions and use may operate to make it impossible to apply the above rules to achieve the maximum of safety to life, health and property, in which event the rule may be altered by the authorities to fit more properly the special case in question.

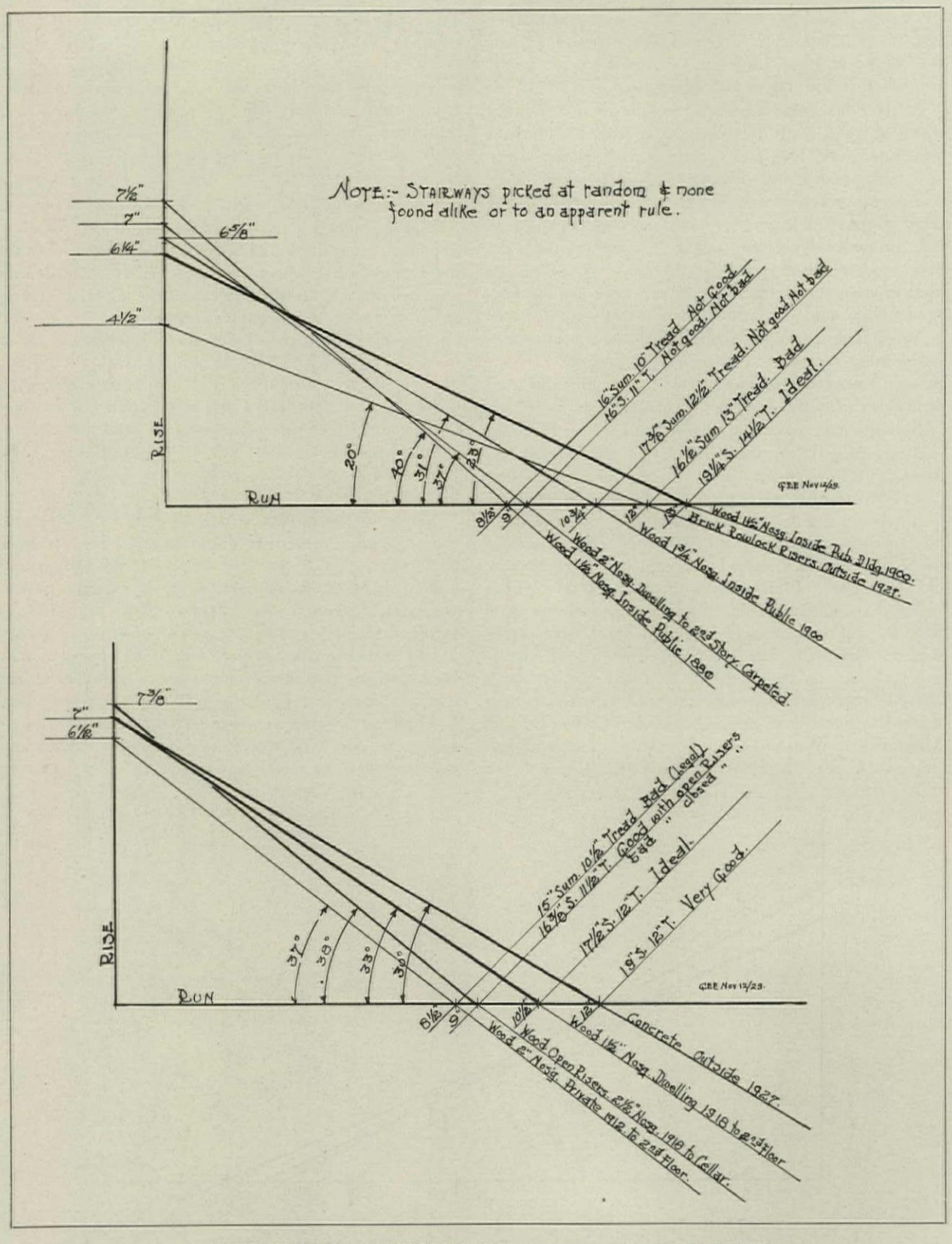
Since no manufacturer can patent or market a merely well-proportioned stairway and since, if he did, the Architect probably would not use it anyway, and since there does not appear to be any well-considered and reasoned matter on the subject in the light of recent research, made to fit modern American people, and that such research is not apt to be undertaken since there is no way, which I can see, in which the results thereof could be capitalized and turned to profit, does it not therefore become a proper function of Government in behalf of the public welfare that such an investigation be put under way by the State, the U. S. Bureau of Standards, or possibly the Russell Sage or the Rockefeller Foundations?

Think of the broken arms and legs, twisted spines, suffering and death that might be prevented from a universal use of proper stairways? If we only knew how to build them, compulsion by law might not be necessary. Even the speculative builder would build better, if he only knew how. No one can argue that a well proportioned stairway, merely by reason of that fact, costs more to install than another of the same size that is a menace for all the years of its too-long life.

While the writer has worked with many building codes, he does not recollect an instance where any code specified the limits of rise and tread and pitch of



GRAPHIC ANALYSES BY GEORGE E. EICHENLAUB OF SIX EXISTING STAIRWAYS



GRAPHIC ANALYSES BY GEORGE E. EICHENLAUB OF NINE STAIRWAYS

stairways. Even Kidder does not discuss the Pitch of Stairways. Such important factors would be covered, did any authentic information by reliable authority exist on the subject; also, I would admit, that the subject somehow could be covered more thoroughly and done better than is herein set forth, but need not necessarily be made into a profound law, at this time.

Although the function of any law be "To guide the ignorant and restrain the unscrupulous," nevertheless, a law is too difficult to change, even though we all find it to be a bad and senseless restriction. Too much law now is a serious burden upon this Nation and all

its parts and too often reacts to throttle invention and progress. Any Architect with an Inter-state practice can vouch for that.

While the safety-tread manufacturers tell you loudly how to make any stairway safe by using their treads, this is another phase of design on which general, authentic, reliable information is lacking.

We consider it dangerous to use the same markings and textures on treads of public stairways for instance, and have happily improved the safety factor and the artistic as well by using two and sometimes three different kinds of textures, markings or/and colors on the succeeding treads. Brass strips, iron bars and such for nosings are avoided. Carpets are often dangerous unless the stair be specially designed for such covering. Even then, I should say, permission should be in order from the authorities if such covering is proposed for use in public buildings, with theatres in particular mind.

How to make up a comprehensive investigation and report on Stairs is another problem. To choose two men and two women, above and below average height and in a none too robust condition; to employ them to charge up and down certain selected stairways and then report their reactions mentally and physically, with a measurement of their heart actions after "hitting the sidewalk," together with observations by a recorder who would have all the data and measurements regarding the stairway tested, might be a start.

Stairways of all kinds are in existence and are just waiting to be tried out; some with various treads and risers might be built if not readily found. One with wide treads and low risers was a main approach to the late Cleveland Railroad Station; it looked so easy because of its slight angle of pitch and was so peculiarly unhappy to all. While I have no record of accidents on this "Walking stair," I do have vivid recollection of muscle-strain and general public complaint. Indeed, many people have no other recollections of Cleveland than this bad stairway. Something, too, might be learned from temporary stairs built in the line of a public walk. Such are used during construction of large buildings on busy streets and are uniformly bad. Different combinations of rise, run, and tread might be used and the results noted from public-user comment. Of course, it would be too much to expect favorable comment here, but the number of trips, slips, falls, etc., could be recorded together with the age, type, kind, color, and condition of the unwitting public benefactor or informant.

Again if Architects, Engineers, Building Owners and so on would measure the steps they consider best and worst in their experience, this data properly tabulated, might produce valuable results. A form of questionnaire being sent to members of the Erie Engineer's Society is given on page 20.

I think the information must be sought through some fairly well paid research department of a worth while organization. Certainly a City or State should conduct such an investigation before undertaking to write a law about it.

Ramps for pedestrians might be included in such a digest. At present, somebody specified a 10% grade as a limit and all other cities and states copied it and many made it into law. I am not satisfied that this is the practical limit for a good and safe inclined walkway or corridor, although we do not exceed that pitch for other practical reasons in our theatres.

In further support of my statement, above made, "This subject is important, and well worth a thorough, modern investigation, leading to more comprehensive and positive recommendations," permit me to quote from the following authorities as found in The Erie Public Library, exhausting their very complete index files: Williams, dated 1914. Preface starts out, "The fact cannot have failed to impress itself upon all students of stairbuilding that something of essential import is lacking in the literature of the science and the art, for on no other ground can one account for the small proficiency in . . . constructing stairways."

Then he says: "In a house a riser of 6½" and a tread of 10" is considered good. A tread 12" wide will be better providing the riser is proportioned to the tread"—no information on this proportion.

Then he tells the student how to proceed to lay out and build a single run stairway with 8" risers and 8" treads, saying, "In this example the treads and risers are the same,"—so we close that book willingly.

Then we open Hodgson, dated 1903. He says to start out by taking any comfortable step and gauge others by that. "A rough and ready rule is to make two risers and one tread equal 24 inches. Nicholson gives a standard of 12" tread to a riser of five and one-half inches. The height of risers should be from 6" to 7" and the breadth of tread not less than 9", etc." Hodgson continues, "A modern writer has given several different proportions adapted to different buildings. His most ample tread is 12" with 5½" riser; then 11½" x 5¾"; 11" x 6"; 10½" x 6¼"; concluding with 9" x 7". While in the foregoing examples the angle of rake (pitch) varies from 24 to 37 degrees, it is often expedient to make the angle less than 24 degrees. Now some people maintain that the tread and riser added together should make 18"; but if 9" x 9" were used, the rise would be too great. Others say the tread and riser should equal 17½", which will give 12" x 5½"; 10" x 7"; 9" x 7¼"; 8" x 8¼". This rule is better than the former."

Both books then devote many pages to weird and complicated geometric problems, setting forth in detail just how these stairs should be built with the flyers, winders, dance-steps and so on, all of which we (Moderns?) have come to regard as dangerous and bad practice and now have pretty much and happily legislated out of public buildings. While this may appear as a good word for law, is it not logical to believe that these bad practices have eliminated themselves through modern education and knowledge?

No other data was found available in the Erie Library and I have resolved not to criticize again because of the dearth of technical books to be found there. I would say they have too many now.

QUESTIONNAIRE ON STAIRWAY ENGINEERING, CONDUCTED THROUGH THE ERIE ENGINEERS' SOCIETY.

Cut this out, fill out, and post to Geo E. Eichenlaub, Archt., Commerce Bldg., Erie, Pa.

Think a moment and choose the most comfortable stairway in your immediate experience, then take your rule or yardstick and measure that stair giving the following information:

Height of riser measured from top to top of treads ..... inches.

Over-all width of treads from riser to edge ..... inches.

Nosing of tread, projection beyond face of riser ..... inches.

Diagonal measured distance from tip to tip of nosings ..... inches.

Width of stairway between closing walls or balustrades ..... feet ..... inches.

Number of risers from landing to landing .....

Reporter's height ..... Weight ..... Male or Female .....

Public, semi-public, private stairs leading from ..... to .....

Stairs are wood, concrete, stone, steel, composite or .....

Risers are open, wood, stone, steel, with or without mouldings.

Treads are plain, covered with carpet, rubber, linoleum or .....

Treads have a brass or ..... shoestrip near nosing edge which is flush with surface of tread, below or above same ..... part of inch, and is, is not, objectionable because .....

About what date built ..... Record of accidents if any .....

.....

Riser, tread and nosing of other stairs you like ..... " by ..... " by ..... ".

Riser, tread and nosing of stairs you do not approve ..... " by ..... " by ..... ".

Reporter's name ..... Address .....

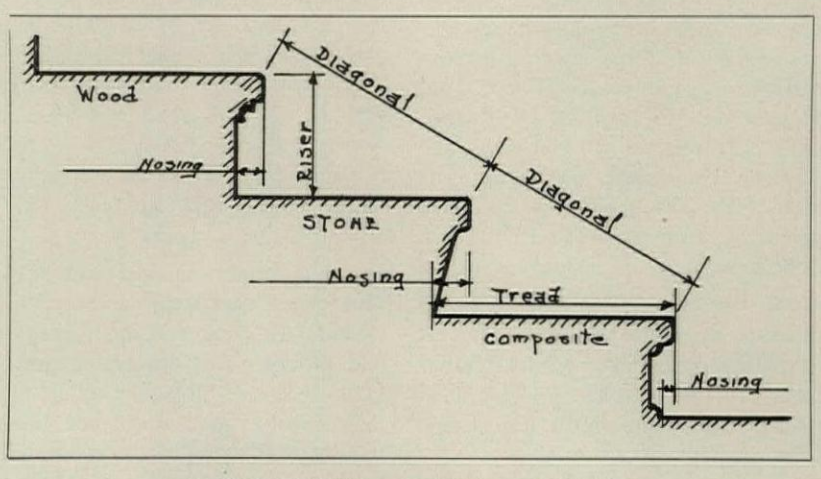
Date .....

Will not be published or used against Reporter without his consent.

A comfortable stair is one that you can mount or descend with a feeling of security at any reasonable speed, without the feeling that you must take them two at a time; you will not seek a handrail for support even subconsciously; you will not trip, slip or fall, but if you do, your recovery will be rapid and without jar. You surely will not tumble to the foot of the stairs.

It will be possible to handle furniture and packages without much trouble, within limits of course.

A record of dangerous and uncomfortable stairs is also needed. Below is a sketch of the required dimensions.



SKETCH SHOWING DIMENSIONS DESIRED

ARCHITECTURAL ABLUTIONS

By William Williams

OF THE MANY things done in the name of efficiency one of the most stupid and far-fetched is the practice of scrubbing down the faces of modern buildings. The real estate gentlemen have disseminated the doctrine that a clean building rents better than a dirty one, and perhaps they are right. The theory probably works out pretty well in practice, but like a lot of doctrines that engage the public imagination it attaches itself to the wrong side of the subject. The cleanliness should be on the inside, not on the outside.

For very few people care what the outside of an office building looks like, as anyone can see by observing the queer looking things that are being built. And, while I admit I am perhaps less observant than most people, I must confess never to have seen the building in which I have spent my working days for the past few years, above the entrance way. Moreover, I hardly think the color of the masonry would interest me, as a prospective tenant, nearly as much as the location of the building and the office space to be had for the rent I could pay. I might consider the elevator service, and make a mental computation of the number of persons per toilet fixture, but these things have little to do with the looks of the building from the street. Houses, we were told, are made to live in, not to look at, and cleanliness in a building, as in a man, as I once heard one of these truck doctors say, should start at the bowels.

But this, of course, is a personal opinion and no doubt, judging by the number of buildings being manicured nowadays, there are other people, less old-fashioned than I, with other opinions on the subject. Yet I cannot help but feel, considering the danger to life and limb entailed by looking up, that to clean down an office building is a pure waste of time and money, to say nothing of the question of "taste" involved.

The present popularity of white brick in the newer skyscrapers may be an indication of the belief held by renting agents of man's susceptibility to this commendable shade. Man cannot resist it, he is drawn to it as he is drawn by instinct to detect the difference between right and wrong. White being the universal symbol of chastity, they reason, men by association with such a building will acquire some of the structure's obvious virtue. Not only will business in such a building be conducted above the level but it will also be of the nature of the building's color. It will typify, in other words, the true spirit of American business, pure and altruistic. Only one thing remains. Let us hope that when (for instance) the Chrysler building is full of unsuspecting tenants and the building's piebald shaft begins to fade under the accumulating soot, the owners will not be found reluctant to clean the building down from its illustrious top to the bottom.

Yet granting the commercial advantages of having an office building glitter in the sun like a blown up headstone, who can account for the necessity of sand-blasting or steam-jetting the Grand Central Terminal? Rain and snow and dust and pigeon's lime have done more, perhaps, to make this structure tolerable than have its architectural merits which, to be sure, are simple enough. And who can tell the urgency of giving the Soldiers' and Sailors' Memorial on Riverside Drive a diluted solution of Muriatic? These are two structures that are not for rent, yet both have been, or are being, scraped and laved. And very nice they look too, except there are spots, stains, and blemishes which do not yield to the cleaners. There are sinkages, recesses, and undercuts where the dirt clings in spite of the acid, the brush, the sand, and the water. A building that a short time ago was beautifully weathered and blended and unified and settled in its surroundings has suddenly lost its dignity, blossomed out in its naked glory, an old lady in tights.

Of course, if architecture has nothing to do with its surroundings, if a building is supposed to have sufficient beauty in itself to chuck the effects of time to one side and stand on the strength of its fine mouldings, splendid proportions, and precise detail, all well and good, sand blast the thing! Let it shine for all it is worth, let the people block the traffic, let them stand in droves before the thing and gaze in wonder and in admiration. Let them cry aloud for the architect and chair him up and down 5th Ave.!

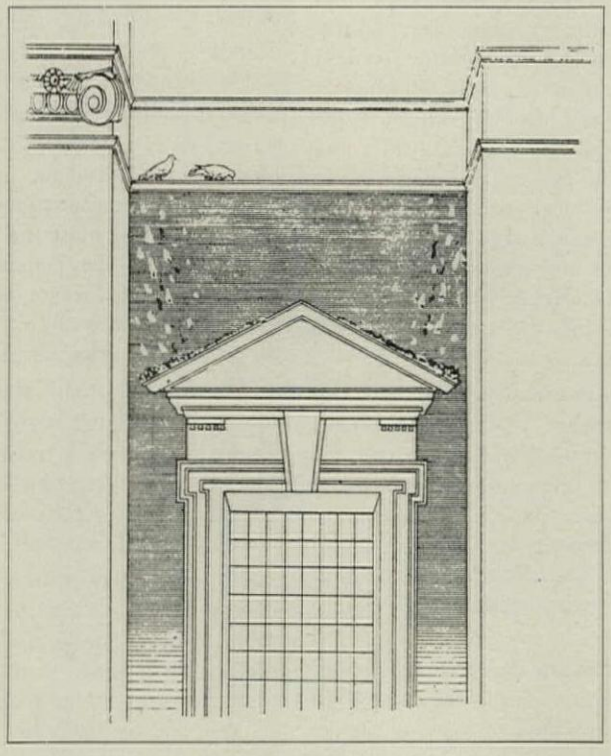
I have seen many strange things, lovers gazing at the moon, young men panting in Carnegie Hall, young women in a trance in front of a still-life up at the Museum, long-haired chaps buried in books at the Library, but never have I seen a tear fall at sight of a building on Manhattan.

But this may simply indicate again my shallow observance, tears may have dropped and I have missed them. For I do know of a man who, upon seeing for the first time, from the office window, the blue medallions at the top of the Lefcourt Colonial, said: "I don't know whether to laugh or cry when I see stuff like that." There are reasons to believe, however, that had he wept they would not have been tears of æsthetic emotion and would not therefore have been to the point. He is, in any case, an oversensitive man and it is probably well that he should never see the building in its entirety.

All of which is beside the mark, my purpose being to remind the champions of the steam-jet that a building has, in its way, an individuality, and as such deserves respect, no matter how weak its claims to architectural fame. And its individuality, inseparable from its environment, begins to come into its own as soon as the builders leave the thing. More often than not the new building is an eyesore until it begins to soften and mellow with time and settle into the scheme of its surroundings, after which it no longer obtrudes

itself but falls into place with that natural ease one observes in people who feel at home. It is this quality in a building which makes it criminal to violate the natural effects of time upon its face. And just as an old lady lays herself open to censure and ridicule by tripping around like a flapper, so a building of another generation looks ridiculous groomed to a point of conspicuity. To grow old decently is one of the supreme achievements of mankind, and by substituting one noun for another I hold it a maxim for a building also.

The reader may detect in the argument a trace of sentiment, but architecture, it will be found, *is* largely a matter of sentiment. An old brick wall, covered with moss and lichen, will often induce the layman to believe himself confronted by the marks of architectural genius. And many a quaint edifice commands respect by virtue of its survival against the onslaughts of time. And while, in America, we rarely let a building stand long enough for it to become associated with its locale, we greatly appreciate and venerate the signs of age abroad. I make the plea, therefore, in consistency, and gently pass the suggestion along to the various committees for the preservation of the beauty of our cities, that suitable legislation be enacted to provide against the possible growth or continuance of the present practice of sand-blasting, steam-jetting, scraping, scrubbing, mopping, sponging, scouring, and swabbing the externals of our buildings.



AN ILLUSTRATION FOR
"A PLEA FOR THE WASHING OF STONE BUILDINGS"
From the "Journal of the Royal Institute of British Architects," November, 1929.

THE GEOMETRY OF ARCHITECTURAL DRAFTING

PART 6—REALM OF THE SLIDING TRIANGLES

By Ernest Irving Freese

EXTRANEOUS LINES are the outlaws of the drafting-board. Freed from the rectangular restraint of the board-patrolling T-square and the T-square-traversing triangles, they spread out in all directions other than those that are established and controlled by the single or combined instruments in their normal "working positions."

Here then, we enter the exclusive and undisputed realm of the "sliding triangles." The T-square becomes merely an extensive straightedge. Its heretofore valuable function as a parallel ruler ceases to exist, for it is no longer tied to the edge of the board. And no longer are the triangles tied to that edge through its agency. The triangles have become deputized "free-lances," operating always in *pairs*—one doing the directing, the other doing the straight shooting. And they produce the required "outlaw" every time—as you shall see.

There are but two classes of extraneous lines: those that must be determined by *construction*, and those than can be produced by *manipulation*. For lines in the first class, *two* points must be given. For those in the other class, but *one* point need be given; the *direction* being established by a known parallel, an existing perpendicular, or a given inherent angle in reference to another extraneous line. In other words, there are but four extraneous lines possible: one in the first class and three in the second. And presently I shall show you that the master "outlaw" of the first class—the line that must be drawn through *two* points, or projected from one through a second to locate a third—can also be managed by simple manipulation: that is to say, that this bugbear of even the experienced draftsman will be brought into conformity with the one easy and fast system of precise linear projection heretofore promulgated in Parts 4 and 5.

Now consider Figure 52. Here I have brought together, named and classified all the significant extraneous lines employed in the working out of the geometric problems incident to the illustration of the subjects presented and discussed in foregoing Parts of this work. This drawing substantiates a statement made in Part 2: namely, that "drafting is a universal and visible *language*." This drawing *talks*. And if you'll "listen in" attentively and studiously, you'll learn many things therefrom that can be applied in a number of ways differing from the applications shown.

While extraneous lines are certainly in the minority when the immense field of architectural drafting is encompassed, yet, when such lines *are* required, they become the most important lines of the board. These are the lines which, in their fixation and projection, require the closest approach to accuracy attainable. They call for ingenuity and resource on the part of the draftsman in the ready determination of the most expeditious and convenient set-up or combination of the instruments to produce them. And they demand extreme care in the placement and holding of those instruments in position, as well as precise manipulation and technique. Few draftsmen, indeed, are masters of the art of projecting extraneous lines—it is the one common deficiency in the expert's "bag of tricks." Wherefore, be you student, cub, just plain "plugger," or chief, *reach for your triangles* and work out again every "problem" here shown, this time in conformity with the technique of precise rendering now to be applied to the projection of extraneous lines. This technique is progressively diagrammed in Figures 53, 54, and 55, herewith. And now for a very few instructions to supplement these "talkative" diagrams.

You will note in Figure 52 that an *AB* line, except one carrying an alternate set of key letters, must have *two* points given in order to fix it on the board. The *CD* lines are drawn through *one* point and in a direction *perpendicular to a given line*. The *EF* lines are projected through *one* point and in a direction *parallel with a given line*. In the two latter cases, the required *direction* is therefore established by manipulation instead of by two-point construction. You will also note that in the instances where a line carries two sets of key letters, such a line can be determined from either of the two thus-indicated conditions. The lines *C'D'* are measuring lines established by the mere act of laying the scale perpendicular to a given line. All diagrams carry the reference letters used in the former working out of these problems in foregoing Parts. If you get "stuck," a back reference table is given in the upper left-hand corner of the Figure.

In Diagram "1" of Figure 52, the point *f* is a tangent point. It is therefore a normal point. Hence, since a tangent is always perpendicular to a normal at the point of tangency, the required tangent, *af*, can be projected either through the *two* given points *a* and *f*, or through the *one* given point, *f*, and in a direction perpendicular to *gf*. In the latter case, it will then, of necessity, pass through the *other* given point *a*. Similarly, the normal, or joint line, *fm*, can be projected through the *two* given points *g* and *f*, or through either *one* of them and in a direction perpendicular to the tangent *af*.

In Diagram "2," the rail line, *mm*, can be drawn either through any *two* points established by perpendicular measurement from the paralleling line *ff*, or it can be drawn through *one* such point and in a direction established by its parallel.

In Diagram "3," the perpendicular bisector can be drawn through the *two* points, *l* and *k*, established by the well-known Euclidean construction for bisecting a

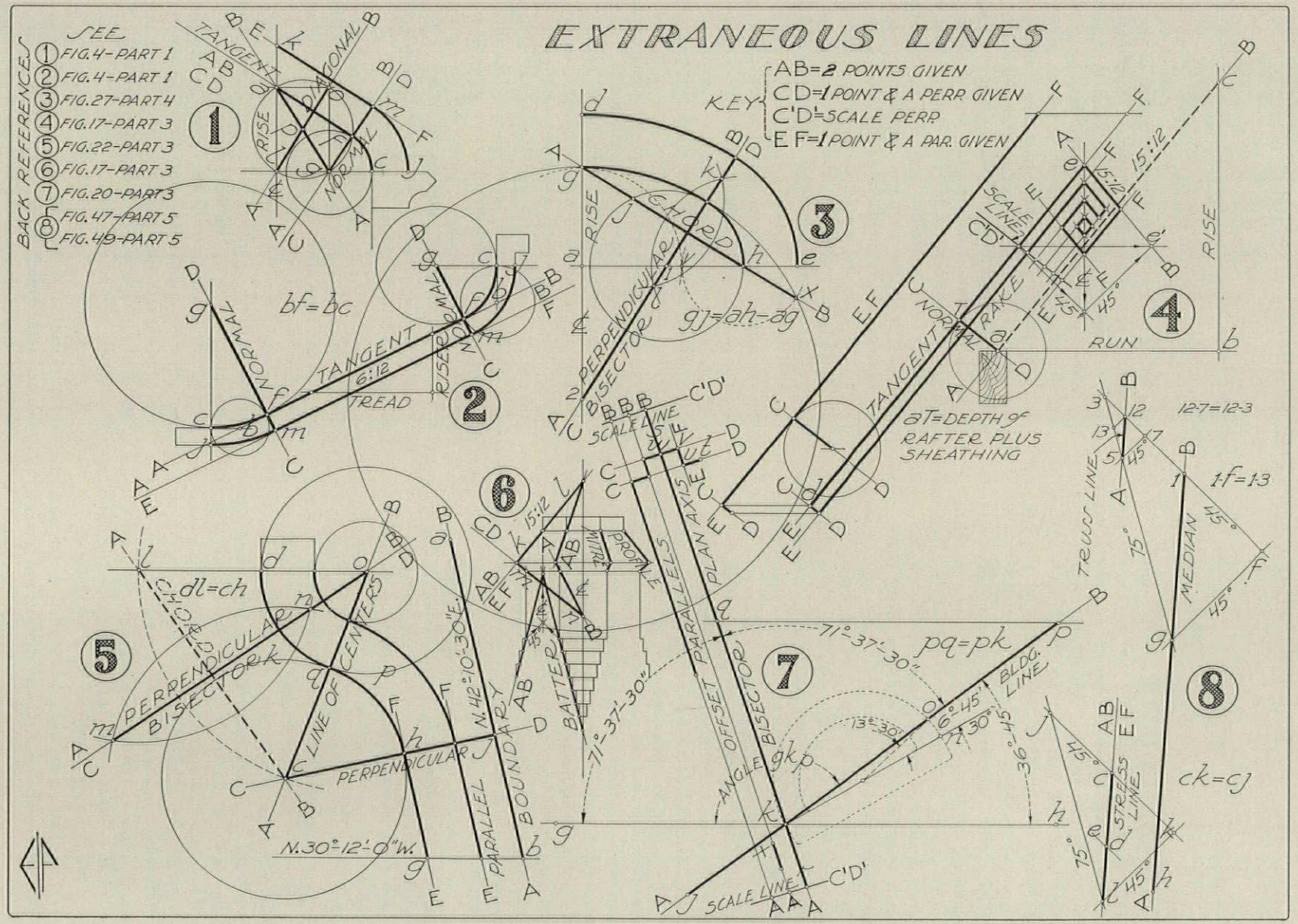


FIGURE 52—THE "OUTLAWS" OF THE DRAFTING BOARD

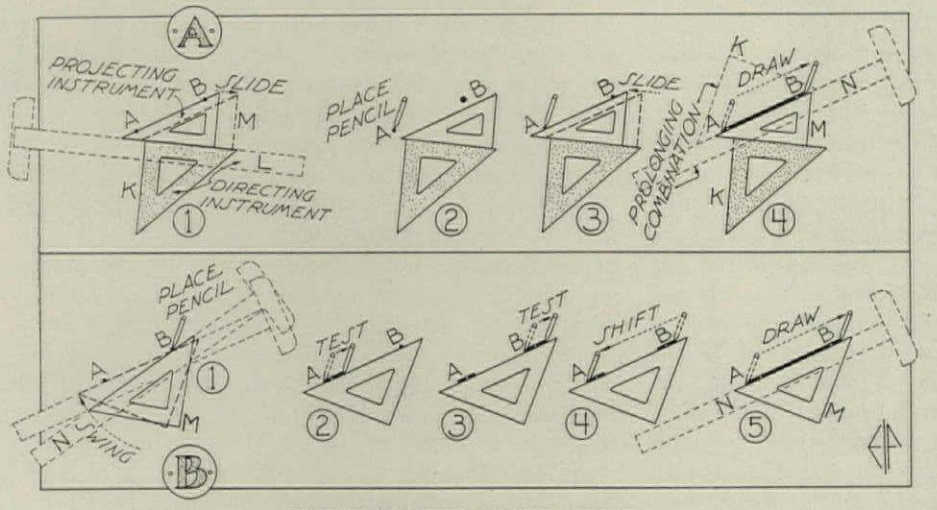


FIGURE 53—TWO POINTS GIVEN

straight line, or it can be projected through any *one* point equidistant from *j* and *h*, and in a direction perpendicular to the chord *jh*.

In Diagram "4," the *AB* line, *ee'*, of the opposite-sloping rake is established in direction by symmetrical construction about the center line of the gable. This construction is done without measurement; the process being as indicated by the directing arrows shown in the Diagram—in this case utilizing the "inherent" lines of the T-square and 45-degree triangle to locate the point *e'*. The required rake line *ee'* is then projected through the *two* given points *e* and *e'*. Each other respectively-sloping line of the rectilinear scroll is then drawn through *one* given point on the center line, and in a direction paralleling the line *ee'*.

In Diagram "5," it has been made apparent that the line *mo* is the perpendicular bisector of the chord *lc*. Hence, the center *o* could be located by projecting a line *no*, perpendicular to *lc*, through the *one* point *n*, or through any other one point equidistant from the ends of the given chord *lc*.

In Diagram "6," the upper slope of the outstanding profile of the chimney top weathering, which here conforms to the roof slope of Diagram "4," could be independently established by *two* points from the given "rise and run," or it could be drawn through any *one* predetermined point and in a direction paralleling the corresponding rake of the roof. The batter line of the offset brick courses is a "construction" line that marks the intersection points of the vertical and horizontal faces of the stepping. Any such line, once determined, can be used to determine the opposite-sloping batter by applying the principle of symmetrical construction suggested in the Diagram: this being done, however, by employing the "inherent" lines of the instruments as indicated by the directing arrows.

In Diagram "7," the offset parallels are assumed as being too long for the triangles and are here drawn with the working edge of the T-square placed in line with their far-apart extremities: the points marking these extremities being determined by equal rectangular measurement from the given bisector or plan axis. This is the one rare case where parallels are produced by construction rather than by manipulation. Where many of these long paralells occur, it would prove more expeditious, and far more convenient, to shift the drawing on the board so as to bring these awkward extraneous lines into congruency with some "inherent" line of the instruments: which process has been fully explained and exemplified in Part 3.

In Diagram "8," the required stress line *ce* must parallel the given truss line *12-5*. Hence, as explained in Part 5, this line could be produced by constructing a similar triangle of which *cl* would be the median corresponding to the median *12-5* of the given triangle *3-7-5*, or it could be projected through the *one* given point *c* and parallel with the given truss line *12-5*, or parallel with the median *1g* of another similar triangle, *3fg*, or parallel with the prolongation *gh* of this median. The bounding lines of the triangles are here seen to be "inherent" obliques, but the "median" is an *extraneous* line.

Now refer to Figure 53, Diagram "A," which indicates the progressive technique of producing the most notorious "outlaw" of them all—it might be any one of the *AB* lines of Figure 52, or it might be any other extraneous line that requires to be projected accurately through *two* given points that come within reach of a triangle hypotenuse. With the point of the dividers, slightly indent the two given points, *A* and *B*, and identify them with a penciled ring. Then bring together the two triangles that you reached for a while back. Call one of them *K*. This is the *directing* triangle. Call the other *M*. This is the *projecting* one—the one that does the straight shooting. Now,

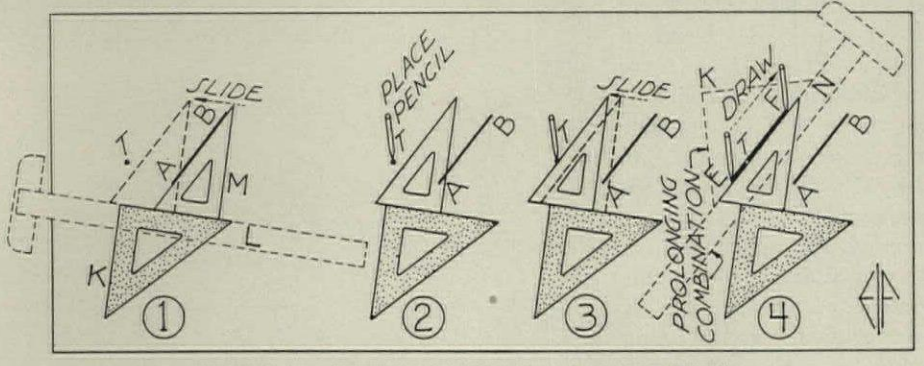


FIGURE 54—ONE POINT AND A PARALLEL GIVEN

maintaining the two in solid conjunction, and making use of *both* hands, move an edge of *M* into full contact with the two points—not for the purpose of *drawing the line*, but for the purpose of *establishing its direction*. There's a vast difference: for the latter purpose the instrument can be brought into actual touch, or into exact center alignment, with the two points, whereas, for the former purpose, a guesswork allowance must be made for the thickness of the line and the condition of the pencil point. Now observe that, by virtue of a *two-part* straightedge, the projecting portion can be slid backward or forward on the firmly-held directing portion without altering the established *direction* of the former's ruling edge. Hence, by finger-operation of the hand that now holds *K* firmly to the board, slide *M* on *K*, out of touch with the given points. Place the pencil at *one* of the given points, say *A*. Slide *M* into touch with the pencil and project the required line which, *of necessity*, will register exactly with the other given point *B*. In choosing the *one* point of the given two, determine on the one from which or through which the required line can be drawn by dragging the pencil instead of pushing it. In the case of point projection, rather than line projection, the pencil, after the projecting triangle has been slid to a gentle stop thereagainst, can be directly shifted either one way or the other along the edge of the instrument to the vicinity of the third point required. So, always, when you must draw an accurate extraneous line, reach for *two triangles instead of one*. That's the whole secret. It's easy. And, once the habit is acquired, any such line can be drawn with the utmost precision and dispatch. Of course, if it appears more convenient, the T-square, *L*, can be utilized as the directing instrument, or sliding-base, instead of the triangle *K*. But now suppose that the required line must be prolonged beyond the reach of the projecting triangle's edge, as, for example, the building line, *jp*, of Diagram "7," Figure 52, or the extended line *1h* of Diagram "8" in the same Figure. In the one case, the *two* given points are *k* and *o*, and in the other case they are *1* and *g*. In both cases these points are within triangle reach, but the required line must be projected beyond such reach. All right: in each case call the given points *A* and *B*, and refer again to Figure 53, Diagram "A." Proceed as there indicated up to and including stage "3," that is, slide the projecting triangle into *touch* with the pencil *but draw no line*. Instead, remove the pencil and, as shown at stage "4" by the dotted outlines, shift *K* into contact with the ruling edge of *M*, meanwhile holding *M* firm. Then hold *K*, slide *M* out of the way, place the T-square, *N*, in touch with *K*, slide *K* out of the way, and project the required line along *N* with the same pencil that originally stopped *M* in correct drafting-position relative to the given points. This projecting should be done in accordance with the "finger-walking" technique heretofore fully explained in Part 4 (in connection with the analogous free use of the T-square for the prolongation of horizontals) and illustrated therein at Figure 28. Or, as an alternate method often usable, a required third point in either direction beyond the reach of the projecting triangle can quickly be located in accordance with the method shown in Part 5, at Figure 48, for the prolongation of inherent obliques: that is, by sliding *M* along the directing edge of the shifted triangle *K*. This, of course, obviates the use of the T-square in such cases.

At "B" in Figure 53 is shown the common "eye ball" method of drawing an extraneous or "Euclidean" line between two given points. Note that but one "ruler" is used instead of two. Hence, the *one* instrument, either a triangle or the T-square, must be brought into *drafting-position alignment* with the two given points by a time-wasting series of "try-it-and-see" tests as shown. It is slower in actual execution than the two-ruler method explained above. In only one rare instance need it be resorted to: namely, when the two given points occur no closer together, or can not be brought any closer together, than the length of the longest hypotenuse of the available triangles. In this one case, the points should *then* be fixed *as far apart as possible* and still remain within reach of the T-square. In this way, any possible error of deviation from the true projection of the line would then be *diminished* at any intermediate point on the line, whereas, if the points were closer together, necessitating a prolongation, the error would be *increased* at any point on the prolongation, thus reaching a maximum accumulated deviation at the end of the line. A case in point is the projection of the T-square-drawn

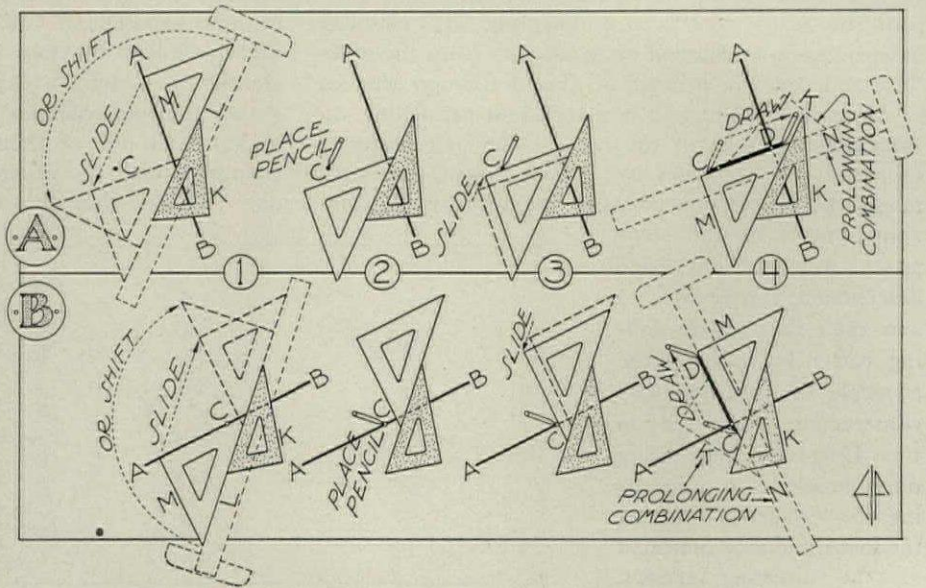


FIGURE 55—ONE POINT AND A PERPENDICULAR GIVEN

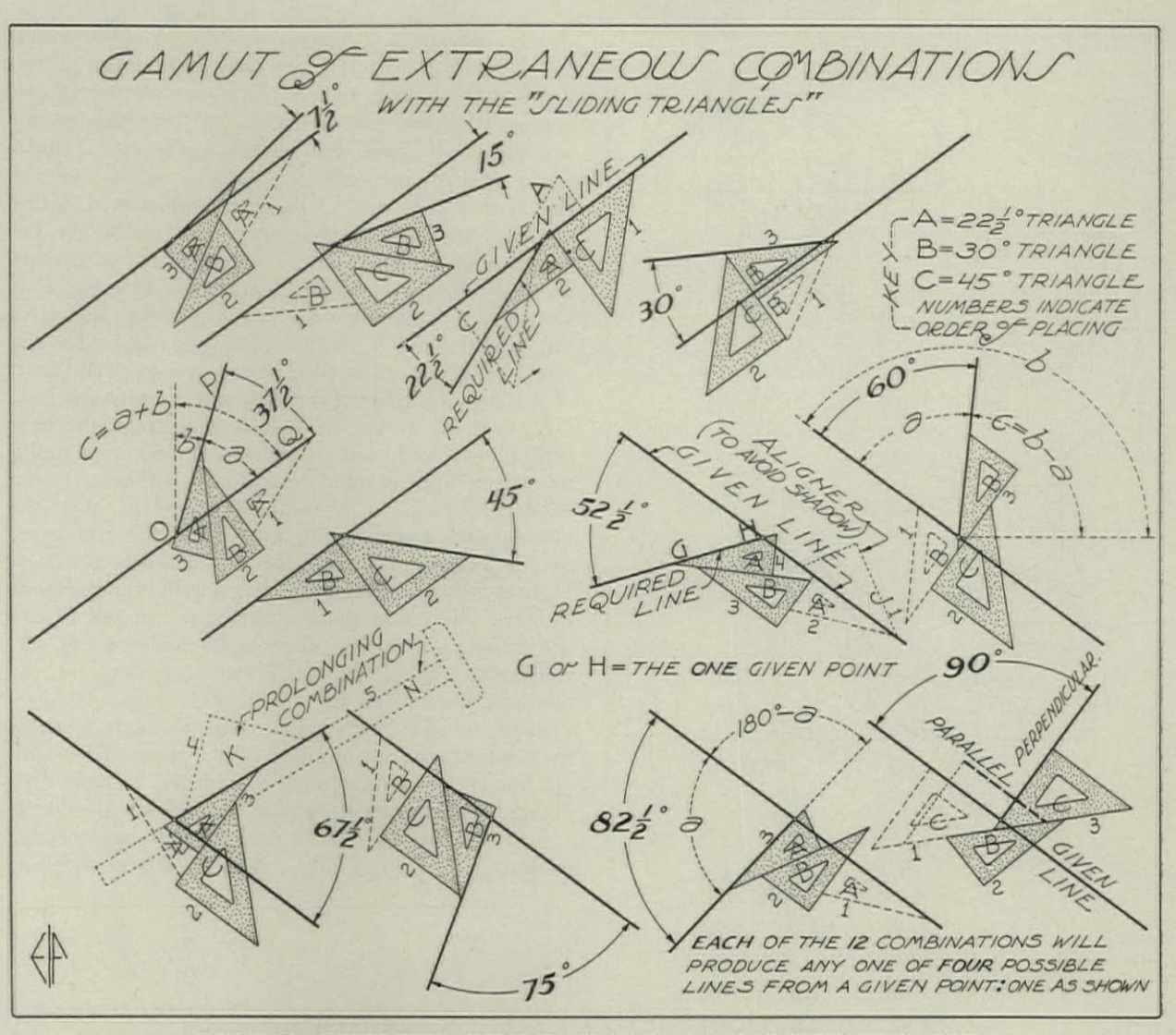


FIGURE 56—"INHERENT" ANGLES REFERRED TO A GIVEN EXTRANEOUS LINE

offset parallels of Diagram "7," Figure 52. The possible error of accumulated deviation has here been avoided by fixing the given points at the far-apart extremities of the needed lines—in fact *beyond* the extremities. Finally, in the cases of tangents, normals and perpendicular bisectors, the condition of having to draw such a line between *two* given points can, as indicated by the two sets of key letters which such lines carry in Figure 52, be entirely avoided by reducing the condition to *one* given point and referring the *direction* to another given line. The notations heretofore given pertaining to the diagrams of Figure 52 make these alternatives evident.

Figure 54 dictates the manipulation and technique of projecting extraneous parallels. The *one* given point is *T*, and it is required to draw a line through this point paralleling a given line, or direction, *AB*. The resultant required line is *EF*. It is representative of all the *EF* lines of Figure 52, being the rake line, *de*, of Diagram "4" in particular. The relative position of the instruments in the initial set-up at stage "1," Figure 54, will, of course, be governed by the relative positions of the given point and the given line. A little ingenuity and practice on the draftsman's part will enable him to cope successfully with any condition that could occur on the board—even though the given point and the given line be nearly the board's length or width apart. An instance of this is shown at Figures 47 and 49, in Part 5, which Figures indicate alternate methods of placing and manipulating the sliding instruments to project the given point *c* (shown herewith at Diagram "8," Figure 52) in a direction paralleling the given truss line *12-5*. Figure 54 makes it clear that, after the initial set-up of the instruments is determined, the process of projecting an extraneous parallel through *one* point, is identical with the process of projecting any extraneous line through *two* points. In other words, it's just *slide, slide, draw!*

The two "slowed down" reels of four exposures each, shown in Figure 55, apply to the projection of extraneous perpendiculars. The *one* given point is *C*, and it is required to draw a line through this point that shall be perpendicular to a given line, or given direction, *AB*. At Diagram "A" the given point is not on the given line, but at Diagram "B" it is. Otherwise the two methods are identical. The resultant required line is *CD*, and it is typical of all *CD* lines of Figure 52. As before, after the initial set-up has

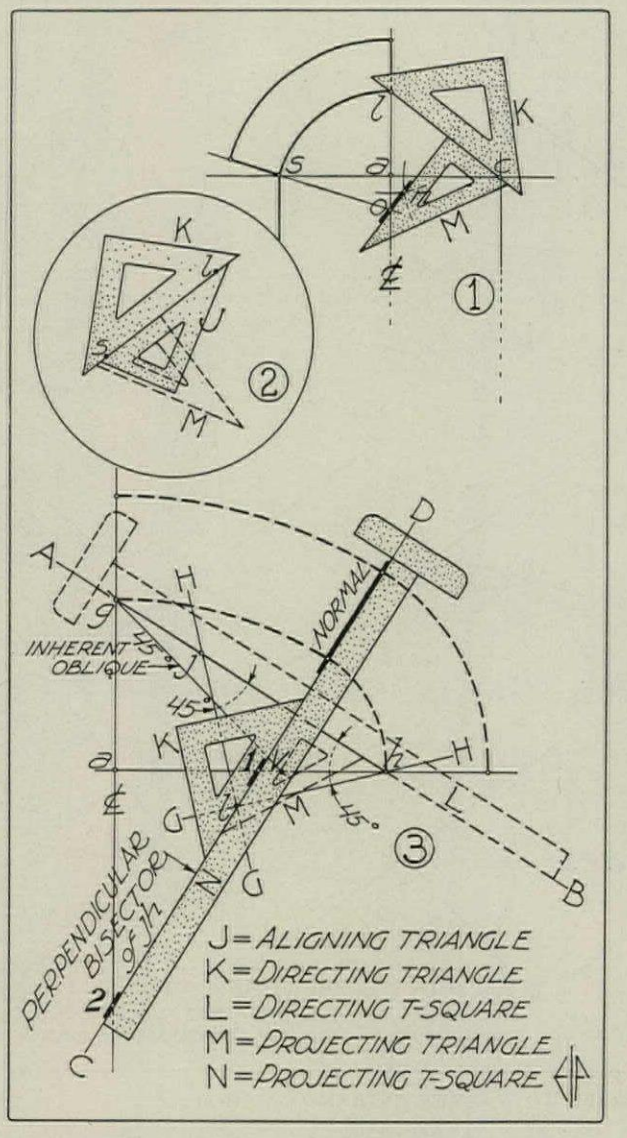


FIGURE 57—SOME INSTRUMENTAL MANIPULATIONS

been made, it's merely a case of *slide, slide, draw!*

Figure 56 shows the manner of placing and manipulating the "sliding triangles" to produce the fourth and last "outlaw" of the four—the line that always takes a direction making an "inherent" angle with a given extraneous line. The *one* given point is either *G* or *H*, depending on whether it occurs off or on the given line. The given line, so designated in the 22½-degree, 52½-degree and 90-degree diagrams, is *any* extraneous line on the board. The given angle is any one of the 12 possible angles shown in the Figure—any one of them being producible by the combined triangles shown thereon when referred to the given line as a base. The resultant required line is *GH*, so designated on the 52½-degree set-up. In case the given line is not extensive enough to accommodate the placing of the first triangle, then, as indicated on the 22½-degree diagram, the initial set-up can be accomplished as shown in *dotted* outlines, and the directing triangle, *C* in this case, then slid along *A* to the required position shown in *solid* outline. Then transfer *A* from the dotted-outline position to the solid-outline position designated as *2* in this diagram. In the 52½-degree diagram, it is supposed that the given line would be placed in shadow by the direct placement of triangle *A* therealong, thus rendering an accurate registration with the line doubtful. Where this would actually be the case, first place the aligner *J* (which could be any other triangle, say *B*) on that side of the line which leaves the line unshadowed. The aligning triangle, *J*, then accurately establishes the *direction* of *A*, which latter is then placed in contact as shown and the aligner removed. Triangle *B* is then placed in contact with *A*, and *A* is then shifted to the hypotenuse of *B*, the latter being firmly held to the board. The pencil is then placed at the given point, *A* is slid into contact therewith, and the required line, *GH*, drawn. In the 67½-degree diagram, the now well known combination, *K* and *N*, for prolonging *any* triangle line is indicated in dotted outlines. In the 90-degree diagram, it is plainly evident that the placing and manipulation, as well as the technique, exactly corresponds with the detailed procedures of Figures 54 and 55 for projecting parallels and perpendiculars. Three of the diagrams given in this Figure are indicative of the typical geometric addition and subtraction of angles. In the 37½-degree diagram, for instance, the "inherent" combination angle of 37½ degrees added to the given extraneous angle *b*, yields the required extraneous angle *c*, or a required extraneous line *OQ*, in which case the *given* line becomes *OP*. Hence, the placement of the instruments should be adjusted to the line *OP* to produce the above results, instead of to the line *OQ*. The 15-degree diagram

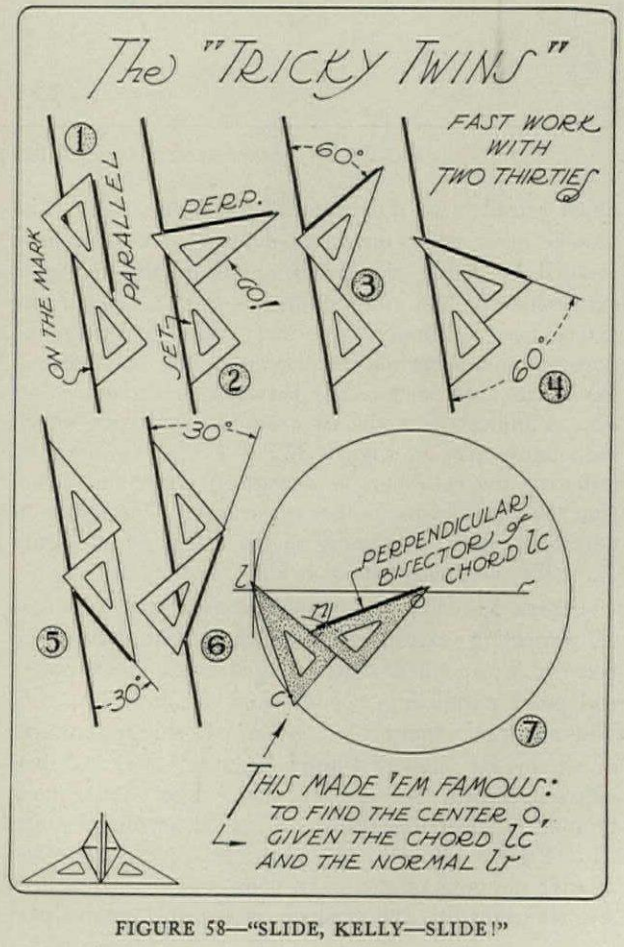


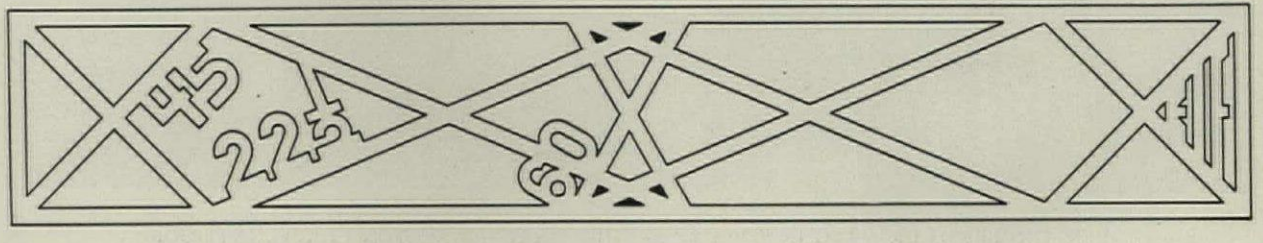
FIGURE 58—"SLIDE, KELLY—SLIDE!"

suggests the arrangement, though the angle is different. Again, in the 60-degree diagram, the inherent angle of 60 degrees is subtracted from the given extraneous angle *b*, thus yielding another required extraneous angle *c*. Finally, as the 82½-degree diagram depicts, the supplement of any given or constructed angle is easily procured by simply prolonging one line of the two past the common point of intersection: that is, by subtracting the angle from 180 degrees.

One of the most useful extraneous lines on the board, considered in its geometric significance, is the perpendicular bisector of the chord of a circular arc. *It always passes through the center of the circle.* Hence, its projected intersection with a given "normal," or with a "line of centers," or with any "radial" or diametral line, or with the perpendicular bisector of another chord of the same circle, *immediately locates the required center.* For instance, in Figure 57, Diagram "1," assume that *c* and *l* are the given spring and crown points of half of any segmental arch. The vertical center line is also given. Locate any *one* point, *n*, equidistant from the ends *c* and *l* of the imaginary chord *cl*. *This point will lie on the perpendicular bisector of that chord.* Hence, by the exceedingly simple manipulation shown in the diagram, the center, *o*, can be found. It is merely the process of projecting the one given point, *n*, in a direction perpendicular to the given chord *lc*. Note that this could be applied to the problem of Diagram "5," Figure 52—the same reference letters being used in both instances. If the given chord (or the given points defining its extremities) happens to occur in a position on the board where the directing triangle *K* would cast the points in shadow, and thus render accurate alignment therewith impossible, then first place an aligning triangle *J* on the *other* side of the line or points and place *K* in touch with *J*. Then, holding *K* firm, shift *J* to position *M* to project the required perpendicular. This alternate aligning method to avoid shadowed lines is indicated at Diagram "2," in Figure 57, and is another application of the same expedient heretofore noted in connection with the 52½-degree diagram of Figure 56. It is of general application, and should be borne in mind in all cases where such a condition must be met.

Diagram "3," of Figure 57, illustrates some purely instrumental manipulations which, in this case, eliminate the use of the compass entirely. It is here supposed, as in the original presentation and alternate solution of this same problem in Part 4, that the arch is to be laid out full size. Hence, all required extraneous lines are longer than can be directly projected with the triangles. This is how: From *g* project a 45-degree inherent oblique to *v*. With a paper strip, transfer *vh* to *gj*. From *j* and *h* project extraneous lines making an angle of 45 degrees with *jh*. Their crossing locates *l*, which is a point on the perpendicular bisector of *jh*, since, by construction, it is made equidistant from the ends thereof. Place *L* in line with *gh*. Hold *L* and slide *M* into contact with the pencil placed at *l*. This establishes the perpendicular, but it is not long enough. Hence, hold *M*, remove the pencil, and place *K* in contact with *M*. The edge of *K* then precisely establishes the *drafting position* and the *direction* of the prolonging T-square. Wherefore, hold *K* firm, remove *M*, substitute *N*, slide *K* out of the way and project the required perpendicular along the edge of *N* with the same pencil that was used to stop *M* at *l*. Points *1* and *2* are the centers sought. Harness the T-square to pins placed at these points, after the manner illustrated at Figure 51, Part 5, and draw the arch ring curves. The two arcs of each curve will meet tangent to one another on the perpendicular bisector which, in this case, is a normal *common to both arcs—another* thing worth remembering.

Figure 58 acquaints you with some interesting and speedy capers of the 30-degree "twins." The stunt staged at act "7" is particularly "happy," especially when the required perpendicular bisector is just out of reach of a single triangle's edge. This performance, as you will note, bears the same reference letters as heretofore used at Figure 52, Diagram "5," and Figure 57, Diagram "1," thus indicating its application to those cases. It is also a practical and useful alternative of the "shadow-avoiding" expedient suggested in the second diagram of Figure 57.



PEN AND BRUSH DRAWING IN SEPIA BY ARTHUR HAAS—PRINCETON CHAPEL INTERIOR
Size of original, 23½" x 30"

THE RICKER MANUSCRIPT TRANSLATIONS—X

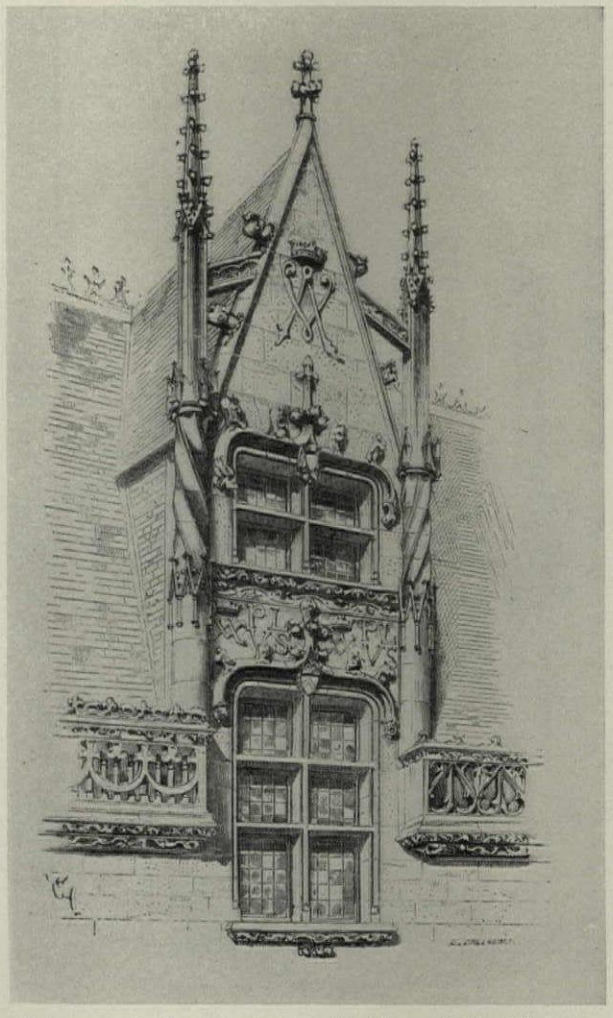
VIOLLET-LE-DUC'S "RATIONAL DICTIONARY OF FRENCH ARCHITECTURE FROM THE ELEVENTH TO THE SIXTEENTH CENTURY," VOLUME VI

by Thomas E. O'Donnell

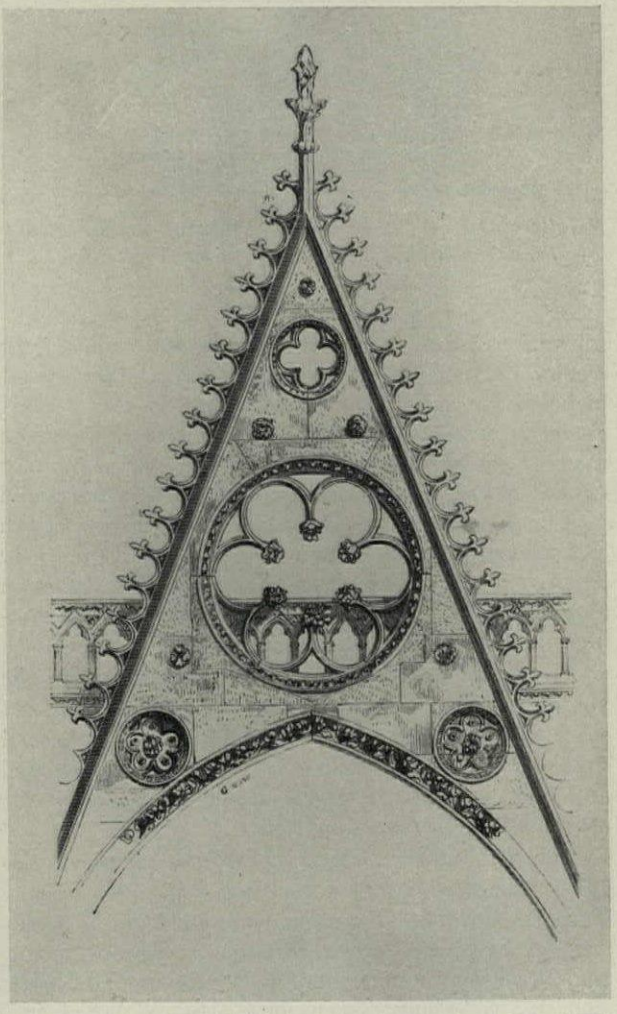
THE SIXTH VOLUME of Viollet-le-Duc's Rational Dictionary carries the same sustained interest as the earlier volumes of the set. The student of French architecture of this period—Eleventh to Sixteenth Century—will find here a wealth of material offering suggestions and inspiration. Throughout the volume there is a reflection, and often a detailed account, of the life of the French people of the period, and thus the various accounts make up an excellent background to a study of French architectural forms of the Middle Ages, and their meaning.

About one hundred terms of architectural significance are covered, all of which have been translated and included in the Ricker Translations. The original, in keeping with the other volumes, is generously illustrated by fine engravings, most of which were executed from the original drawings by Viollet-le-Duc. The illustrations of this article are taken from the original volume, while the text is a review of the translation.

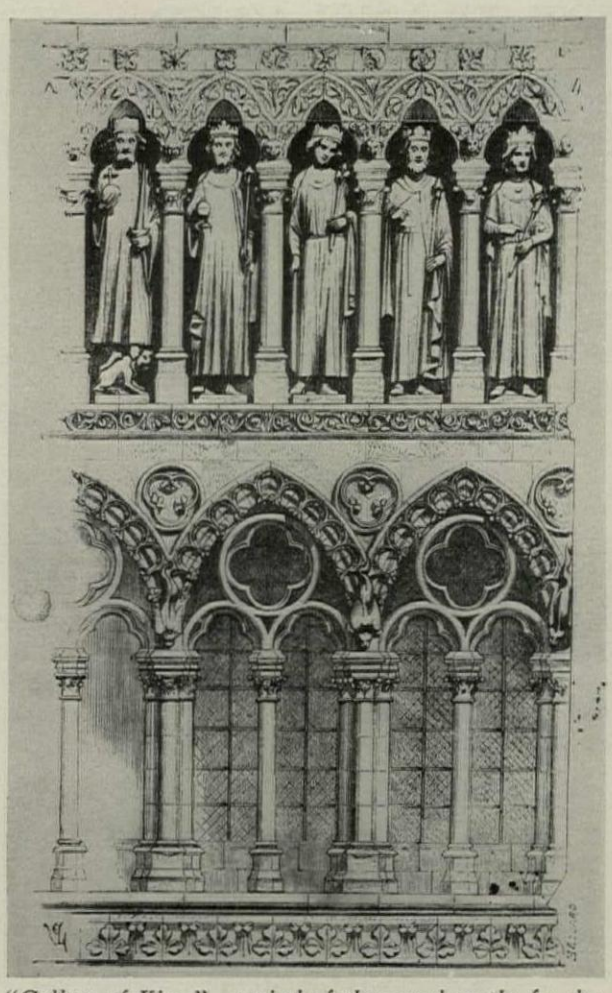
Of the many subjects treated in this volume, the following are perhaps of the greatest interest to the average designer and draftsman: the *gable*, especially those beautiful French tracery or pediment gables such as are found over the front entrance of the Cathedral of Rouen; the *gallery*, particularly those of the "kings" and "saints" which form ornamental bands across the façades of the French Cathedrals, such as those of Notre Dame, Paris; French door *knockers*, of curious Gothic design; the *gargoyle*, its use and its varied and grotesque forms; the *grille*, many beautiful examples of ornamental copper, bronze, and iron grilles



A dormer of the late French Gothic period. The steep roofs of this period were greatly enhanced by their decorative features. From Viollet-le-Duc's article on "dormers."



A tracery gable, typical of those on French cathedrals of the fully developed Gothic work. These were to accent or crown the main portals, and permitted the use of a gallery back of them.



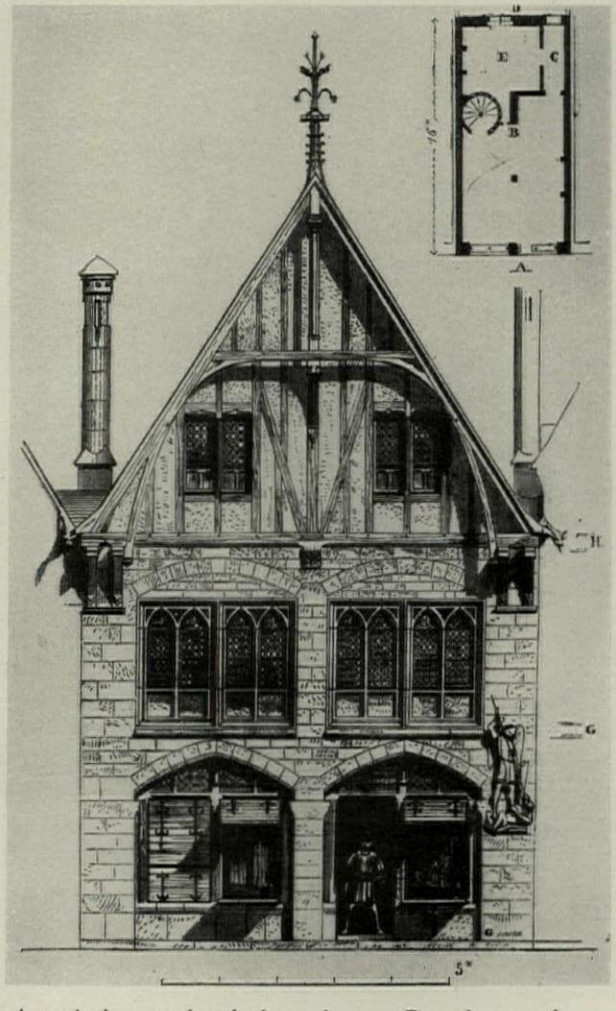
"Gallery of Kings"—typical of those used on the façades of French Gothic cathedrals. From Viollet-le-Duc's article on "galleries."

for various forms of screens, guards, and railings; the history and early use of *clocks*, and many other devices included in architectural ensembles of the period; *dormers*, of the varied and interesting types found on many French structures of the time; the *maison* or *French house*, is shown in its many different phases and uses, both town and country types; *tracery*, its design and construction is shown and explained in every detail; and such a subject as *joinery*, which includes an almost infinite variety of forms, is fully and interestingly presented.

All of the above subjects and many others in the volume are well worthy of a full detailed account, but space here will permit of a consideration of a limited number only, which will be reviewed in some detail and may be taken as typical of the treatment of the other subjects in the volume.

The first subject treated is the *gable*, as it was developed in the churches and cathedrals of northern France. Viollet-le-Duc traces its origin from its beginning in carpentry, down through its various forms, translation into stone, and finally into those fantastic stone-lace creations which were used to crown the entrances to some of the finest cathedrals of France, such as the one illustrated here.

His next subject is the *gallery*, which he discusses in its many forms, the most interesting being those exterior galleries—which served both as narrow passageways and as decorative bands across the façades of churches and cathedrals of the period. In the translation we read: "The architects of the Middle Ages established, in their great monuments, service corridors at different heights in order to make the oversight and maintenance easy. The high façades of cathedrals, for example, were divided into several stories by galleries that allowed communication from the interior to the exterior. Our French cathedrals in the north, built about the beginning of the XIII Century, whose façades have been completed, are decorated by superimposed galleries. The façade of Notre Dame of Paris, which was erected between the years 1210 and 1225, presents over the portals a first gallery, very rich in effect, and whose intercolumniations are filled by colossal statues of the Kings of Judah." This is commonly called the "gallery of the Kings." The cathedrals of Amiens and Rheims also have galleries of this type above the portals. The gallery of the kings on Notre Dame is considered the oldest, and serves as a crown from the portals. That on the Cathedral of Amiens occupies a similar position

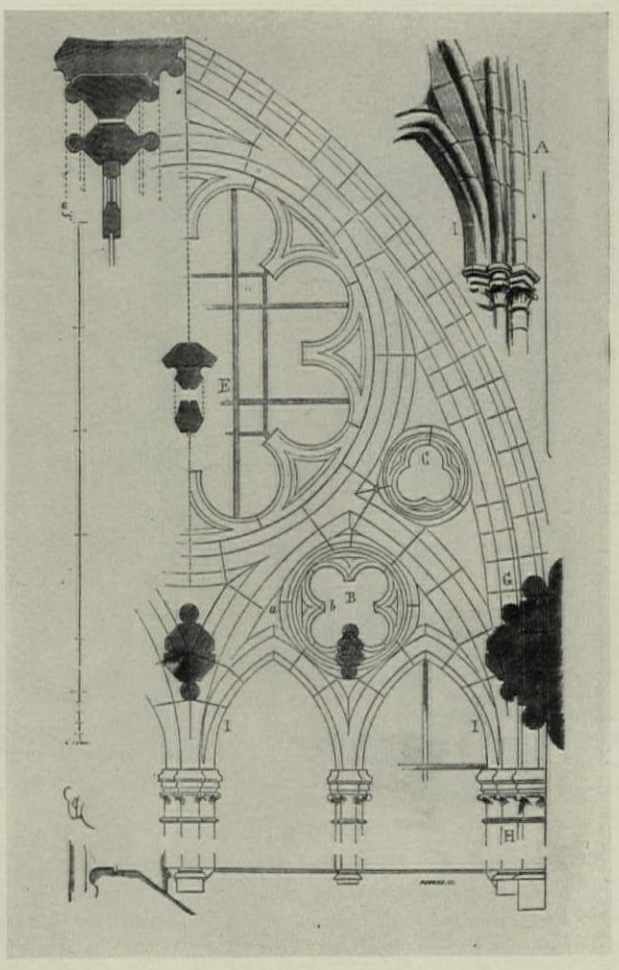


A typical example of the maison or French town house of the Middle Ages. These were often a combination of shop, below, with living quarters in the two upper stories. From Viollet-le-Duc's article on the "maison."

over the portals, and is considered one of the most beautiful examples.

The *gargoyle*, which dates from the beginning of the XIII Century in French architecture, is given due consideration by Viollet-le-Duc. He traces its origin and development and uses and shows it in many of its naïve forms. Strange as it may seem, gutters were not used on great church edifices until the first centuries of the Middle Ages, the water from the roofs falling directly upon the streets by means of the projection of the cornices. After gutters were introduced the water was carried off through grooves provided for this purpose. Gargoyles seem to have been first used about 1220 on certain parts of the Cathedral of Laon. Even at this early date the gargoyle had been developed in the form of fanciful animals. "The architects of the XIII Century soon recognized that there was a considerable advantage in dividing the water spouts," thus carrying off the roof water at many points rather than at a few. This "avoided long slopes in the gutter, and reduced each stream to a very small streamlet of water which would not injure the lower construction. Thus the gargoyles were multiplied, and in increasing them they could be cut finer and more slender, and the sculptors took possession of those projecting stones to make an ornamental motive for the edifices. Many of them are masterpieces of sculpture; there is an entire world of animals and persons composed with great energy and boldly cut by skillful hands. The diversity of forms given to gargoyles is prodigious," and according to Viollet-le-Duc, "no two of them are alike in France." A large group of gargoyles were shown in his original volume.

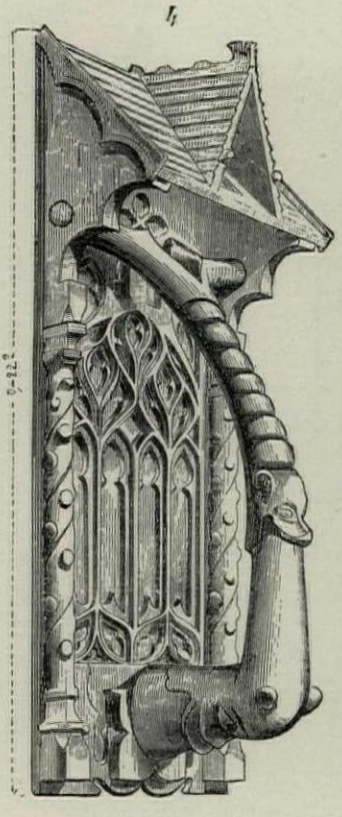
A decorative niche, in the form of a tracery window, with small niches containing statues set into the inner panels. From Viollet-le-Duc's article on the "niche."



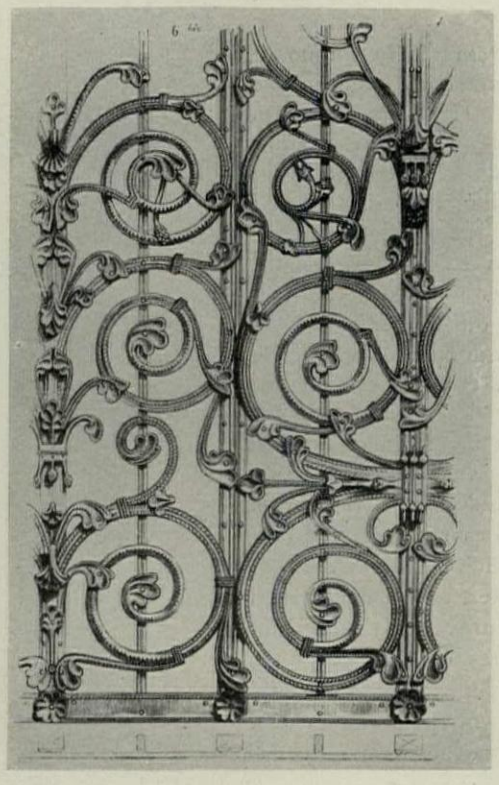
A detail of French Gothic tracery, showing method of laying-out, sections, etc. From Viollet-le-Duc's article on "tracery."

The *grille* or enclosure of ornamental bronze or iron is discussed and illustrated in a very interesting and comprehensive manner. Anyone who is interested in designs and details of construction of French ornamental grille work of the Middle Ages will find useful and authentic material here. Viollet-le-Duc traces the historic development showing the changes in materials, method of working and resulting designs, which were characteristic of that period. He explains in detail how each part was formed and how the whole design was assembled, and gives many detailed sketches showing the construction.

Although some of the oldest preserved grilles to be found in France are of bronze and of Roman or Byzantine inspiration, yet "wrought iron was in common use from a very early period in Gaul, and was by preference adopted for all open enclosures made in France during the Middle Ages. The art of



A French church door knocker, in Gothic design. Many beautiful examples of these still exist. From Viollet-le-Duc.



An example of a decorative wrought iron grille, typical of metal-craft work of the Middle Ages. From Viollet-le-Duc's article on "The Grille."

The "Tree of Jesse"—typical of the sculptured symbols on French churches of the Middle Ages.

the smith was highly developed and singularly perfected during the XI and XII Centuries." All work of the fabrication of the metal was, during that period, done by hand forging and the hammer work of the artisan was ever present on the finished product. This distinguishing feature is of course lacking in the modern machine-made product, consequently modern work is not so highly prized. After showing the different steps made in the structural development of grille work, Viollet-le-Duc then discusses the different types of grilles designed for specific purposes; such as railings, gates, window grilles, protective grilles, etc. An excellent collection of illustrations accompany his discussion.

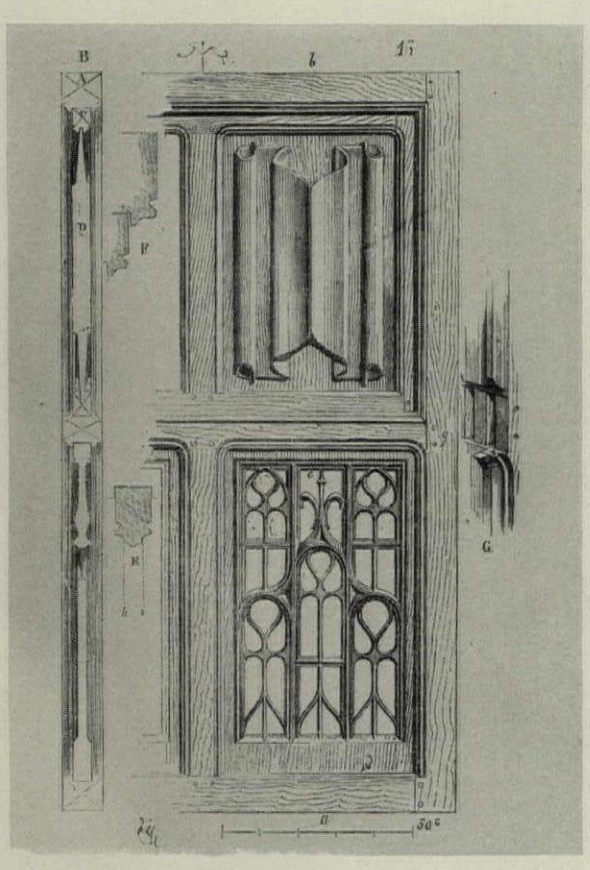
The *lucarne*, or dormer, is another interesting subject considered in this volume. The history of the dormer and its use are traced through the various stages of development to the very fanciful and decorative types of the late Gothic period. According to Viollet-le-Duc dormers may be divided into two groups according to their construction and position on the roof; first, those having stone or masonry front wall, which wall usually comes immediately above the cornice line, or may even be an upward extension, through the cornice, of the main wall of the building; second, dormers of carpentry, usually much smaller, and often constructed higher up on the slope of the roof. In either case the purpose of the dormer is primarily to light the attic space. But the French architect has made the most of this utilitarian device and has turned it into a beautiful roof decoration. The dormer came as a logical requirement of the steep, high roof of the Gothic period, where it often became economically necessary to use the attic space. The disposition of dormers on the roof, their construction, covering, decoration, etc., are all carefully considered, and well illustrated.

For those interested in the French *house* the discussion given on the *maison*, for either town or country, will be of interest. The various elements entering into the plan of the French house are all carefully considered in view of the use of the house, and the customs of the French of the Middle Ages. When these are understood, the many motives, which seem out of place to us, seem logical enough, and a better understanding of the French house will be the result. The history and development of the several types—country houses, town houses, and provincial manor houses—are each treated somewhat in detail.

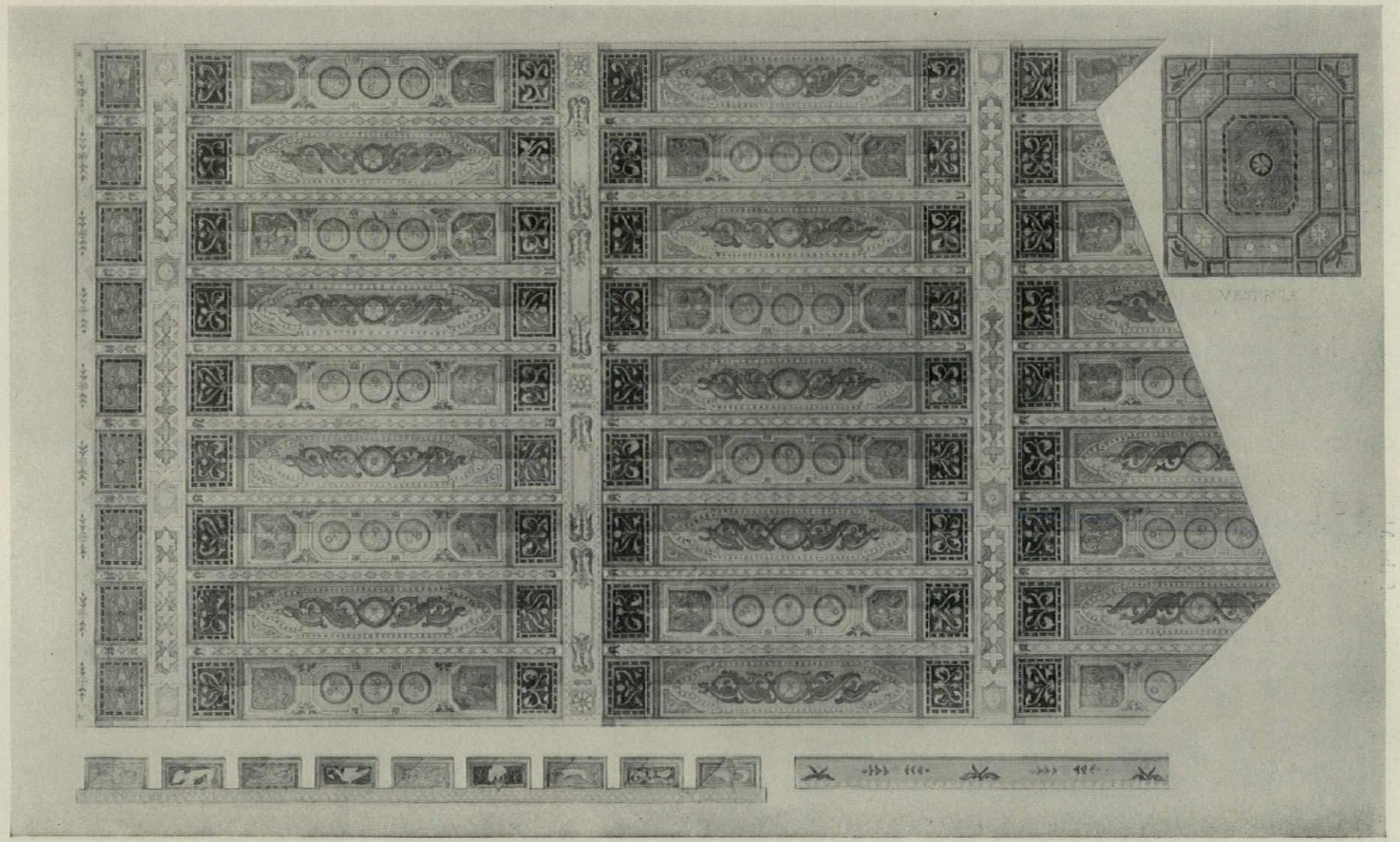
A subject of interest to the student of French Gothic architecture is that found here on French *tracery*, which is explained and illustrated in detail. The plates showing the method of laying out tracery work, and details of construction seem to be of special value. French *joinery* of this period is also treated in a detailed manner, and is illustrated by many plates showing methods of construction.

Many accessories to the architecture of the Middle Ages are briefly but clearly described, such as *clocks*, *weathervanes*, door *knockers*, *labyrinthe* floor tiles, *mosaic*, *inlays*, *chimneys*, and *chimney caps*, French *gardens*, and *loggias*.

Taken as a whole, this sixth volume of Viollet-le-Duc contains much of interest, and although it is concerned in portraying the character of the architecture of the Middle Ages, yet it imparts a store of information that every architect should know and offers inspiration in certain fields that may be readily applied in modern work.



An example of French joinery of the Middle Ages. Churches and cathedrals contained many beautiful screens, etc., of carved wood. From Viollet-le-Duc's article on "joinery."



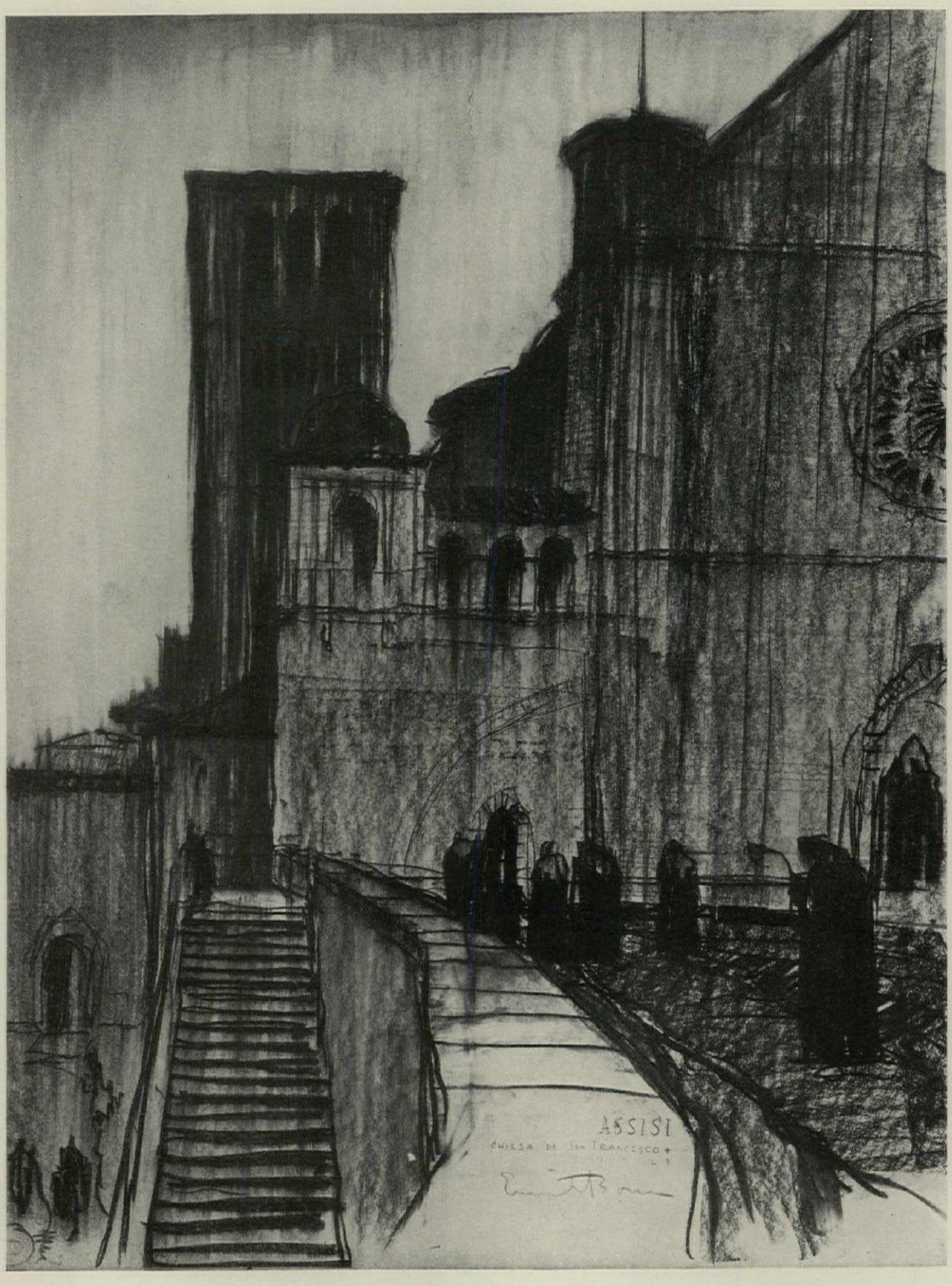
DESIGN FOR DECORATED WOOD CEILING FOR RESIDENCE OF MRS. MARY MORICE, FLOURTOWN, PENNSYLVANIA

BY CARLO CIAMPAGLIA, PAINTER, IN COLLABORATION WITH HARRY STERNFELD, ARCHITECT

A detail of this drawing is reproduced in color in this issue to supplement this black and white reproduction which shows the complete drawing. The room measures 35 feet by 18 feet.

PENCIL POINTS FOR JANUARY, 1930
VOLUME XI NUMBER 1

This drawing by Ernest Born was made with black crayon on a creamy-white paper. It shows the upper and lower churches at Assisi. Like his other drawings shown in the November, 1929, issue this example was done at a generous size, the original being approximately two feet high.



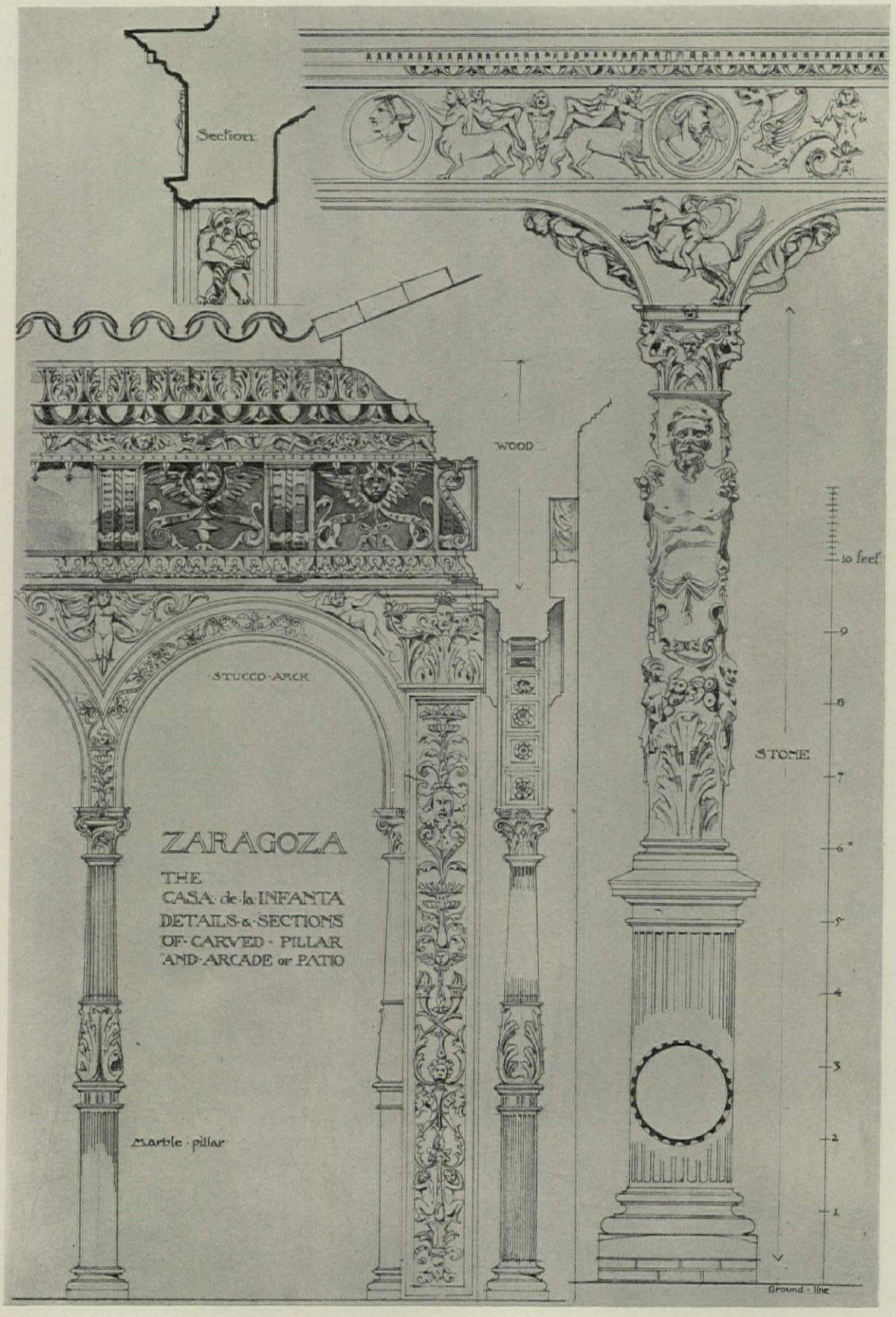
FROM A CRAYON DRAWING BY ERNEST BORN

CHURCH OF SAN FRANCISCO, ASSISI

PENCIL POINTS FOR JANUARY, 1930
VOLUME XI NUMBER 1

"Some details and sections of carved pillars and first-floor arcade of patio are shown on this plate."

A. N. PRENTICE.



RENAISSANCE ARCHITECTURE AND ORNAMENT IN SPAIN

A PLATE FROM THE WORK BY ANDREW N. PRENTICE

PENCIL POINTS SERIES
of
COLOR PLATES

The decoration for this ceiling, which is shown in black and white elsewhere in this issue, was designed and executed by Carlo Ciampaglia in full collaboration with Harry Sternfeld, architect of the residence in which it occurs. The room was 18 feet by 35 feet in plan and about 11 feet high. The big cross beams were 12" wide, which will give an idea of the scale of the ornament. The portion of the drawing reproduced in color measured 9½" x 12¾" in the original. The decoration was first drawn carefully in pencil on illustrators' board and a transparent wash was run over the whole layout to simulate the color of the wood. The shadows were then cast and the colored ornament was finally rendered with transparent water color using sufficient pigment to cover the initial wash. Chinese white was used for the white portions of the design.

PORTION OF DECORATED WOOD CEILING FOR RESIDENCE OF MRS. MARY MORICE, FLOURTOWN, PENNSYLVANIA

FROM THE DRAWING IN WATER COLOR BY CARLO CIAMPAGLIA, PAINTER

WESTERN UNION TELEGRAPH COMPANY BUILDING, NEW YORK—VOORHEES, GMELIN, & WALKER, ARCHITECTS

FROM AN OIL PAINTING BY CHESTER B. PRICE

PENCIL POINTS SERIES
of
COLOR PLATES

Chester B. Price is known particularly for his drawings in black and white but occasionally he works in color. The subject of this plate is one of his recent paintings in oil. It was done on shade cloth and measured 25½" x 36½". Preliminary studies for composition were made in charcoal at small scale and at the final size of the painting. After the composition was determined, a color study in thin oil was made about 12" high. The perspective layout for the final drawing was made with a hard pencil directly on the shade cloth and the painting was begun with thin oil and finished with full body color.

FROM A PENCIL RENDERING BY SCHELL LEWIS

ROCHESTER BLIND ASSOCIATION BUILDING, THOMPSON, HOLMES, AND CONVERSE, ARCHITECTS

PENCIL POINTS FOR JANUARY, 1930

VOLUME XI NUMBER 1

We are glad to present here a rendering by Schell Lewis showing a small, well designed building. On another page in this issue we have reproduced a portion of this drawing at the exact size of the original.

Courtesy Goodspeed's, Boston

FROM A DRYPOINT BY SAMUEL CHAMBERLAIN

FANEUIL HALL—BOSTON

PENCIL POINTS FOR JANUARY, 1930
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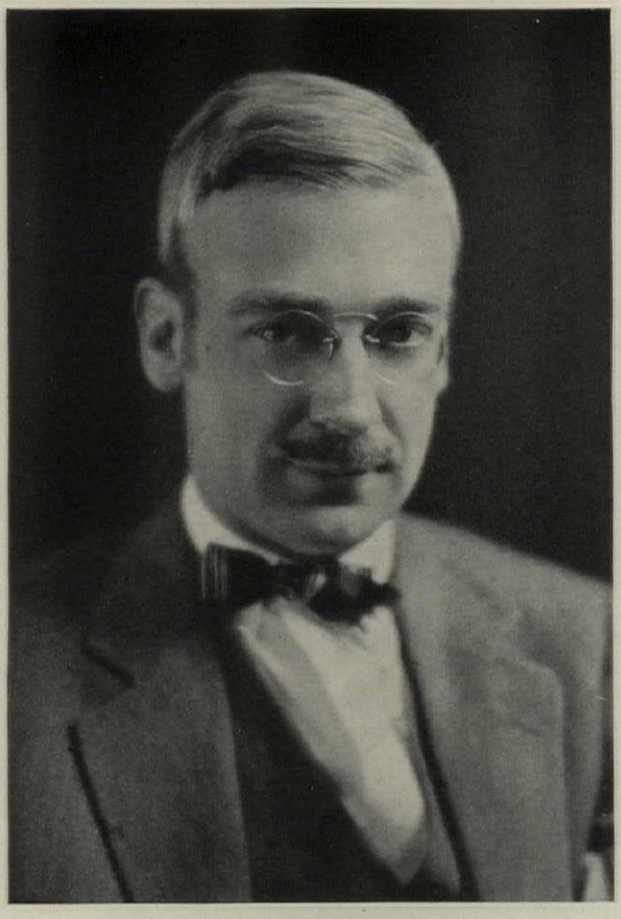
This recent drypoint by Samuel Chamberlain demonstrates that the artist is as much at home with an American subject as he is with those of old Europe. It is reproduced here at the exact size at which it was drawn on the copper.



JOHN F. HARBESON

WE ARE GLAD to present in this issue the first of a series of articles by Mr. Harbeson on *How to Design in the Modern Manner*. Mr. Harbeson is well known to our readers as the author of "The Study of Architectural Design" which ran several years ago in PENCIL POINTS and has since been published in book form.

Mr. Harbeson was born in Philadelphia in 1888. He began his architectural training at the School of Architecture of the University of Pennsylvania, where he received his B. S. in Architecture and the Arthur Spayd Brooke Gold Medal in Design in 1910 and his Master's Degree in 1911. While at the University Mr. Harbeson was an editor of the *Pennsylvanian* and art editor of the *Class Record* of 1910 and was a member of Sigma XI Honorary Fraternity. In 1913 he won the Cope Prize of the Philadelphia Chapter of the American Institute of Architects and T-Square Club. He was President of the T-Square Club from 1914 to 1917 when it built its new clubhouse on Quince Street.

Mr. Harbeson is now an associate in the firm of Paul P. Cret, Chairman of the Departments of Architecture and Landscape Architecture at the School of Fine Arts of the University of Pennsylvania; an instructor in Perspective, and an architectural adviser in the Sculpture Class in Composition at the Pennsylvania Academy of Fine Arts in Philadelphia.

ARCHITECTURAL COMPETITION FOR A WAR MEMORIAL, CITY OF CHICAGO

REPORT OF THE JURY OF AWARD

ONE HUNDRED AND FOURTEEN sets of drawings were submitted in this competition, and of these a large number were high in excellence, so much so that the Jury had a long first day's work in eliminating, by unanimous vote only, enough to bring the group down to a number making possible real consideration.

At the end of the first day six sets of drawings had been selected and placed in a separate room, and in the morning of the second day's work this number was reduced to four. The final vote was unanimous for number 94, submitted by Eric Gugler and Roger Bailey. The feeling of the Jury was that this solution gave a response which satisfied not only the monumental demands of the program, but had a strong spiritual appeal, in that it created an enclosed space in which the sarcophagus, representing those men whom the war had not left with us, had the dignity of resting in the seclusion created by the surrounding colonnade.

This monument was also commended as open in design so that the lake could be seen through it from the city. Its isolation as an island on which it could be set among its own foliage surroundings also appealed to the Jury.

The scheme awarded the second prize, submitted by Benjamin H. Marshall, had also been liked by the Jury from the first, but had been set aside for various reasons, one being the likelihood of its extreme cost. It had, however, some of the qualities of the first prize, in that it would not block off the view of the lake from the city, and in that it created the same seclusion for the memory of the dead. The vote for second prize for this project was also unanimous.

The other two projects which were placed in the separate room and which we might unofficially call three and four, could not, under the terms of the program, be officially placed, as only the first and second prizes are to be of official record. One of these submitted, by Voorhees, Gmelin, and Walker, showed a magnificent progression of stone verticals, projecting into the lake in the shape of the prow of a vessel, and rising into the sky as they progress. This was rightly admired as a striking and original design. The last of the four, submitted by Nimmons, Carr, and Wright, was admired by the Jury as the best of a series of solutions of the shaft type. The plan is almost irreproachable, and it is an open, well studied presentation of the subject.

In making the recommendations and awards the Jury made no effort to learn the identity of the various competitors and remained in ignorance of such identity until after the awards were made.

(Signed for the Jury of Award) JOHN MEAD HOWELLS.

The winning designs and some of the others will be published in the February issue of PENCIL POINTS.

THE JAMES HARRISON STEEDMAN MEMORIAL FELLOWSHIP IN ARCHITECTURE

THE GOVERNING COMMITTEE of the James Harrison Steedman Memorial Fellowship in Architecture announces the fifth competition for this Fellowship, to be held in the Spring of the year 1930.

This Fellowship is founded in memory of James Harrison Steedman, M.E., Washington University—1889, First Lieutenant U. S. Naval Reserves, Assistant Engineer Officer U. S. S. Oklahoma in 1917 and 1918, who at the age of fifty, suffering from a malady curable only by rest, refused to quit his post and knowingly made the great sacrifice.

The value of this Fellowship is represented by an annual award of Fifteen Hundred Dollars, to assist well qualified architectural graduates to benefit by a year in travel

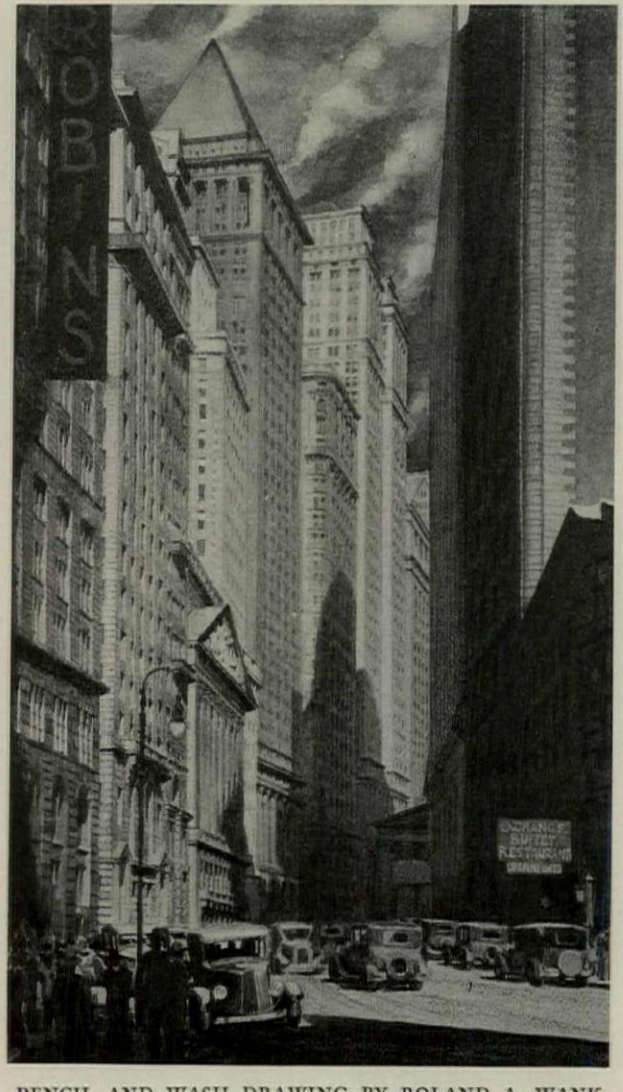
and the study of architecture in foreign countries, as determined by the Committee and under the guidance and control of the School of Architecture of Washington University.

This Fellowship is open on equal terms to all graduates in architecture of recognized architectural schools of the United States. Such candidates must be American citizens of good moral character, and shall have had at least one year of practical work in the office of an architect practicing in St. Louis, Mo., before being entitled to assume the benefits of the Fellowship. All candidates shall be between twenty-one and thirty-one years of age at the time of appointment to this Fellowship.

Application blanks for registration can be obtained at any time upon written request addressed to the head of the School of Architecture of Washington University, St. Louis, Mo., to whom application blanks properly filled out must be returned not later than January 25, 1930. Any requests for supplementary information relative to the rules and regulations governing the Competition shall be made at the same time.

Any candidate who holds a degree not conferred by Washington University must submit with his application a transcript of the record of his scholastic work.

Each application must bear the endorsement of three members of the American Institute of Architects, one of whom at least must be a resident of the City of St. Louis.



PENCIL AND WASH DRAWING BY ROLAND A. WANK

PRATT ARCHITECTURAL CLUB

THE ANNUAL FALL DINNER of the club, held at the Fraternity Club in New York, was one of the happiest and most enthusiastic gatherings in the club's history—which is no faint praise. With Mr. Joseph Cummings Chase, nationally known portrait painter, decorator, author, and fellow Pratt alumnus, as our guest-speaker, all present came expecting a good time, and found it.

Mr. Chase, in a charming talk interwoven with reminiscences and philosophy inspired by a busy and happy life of achievement, held his audience captivated to the end. The formal closing of the dinner was merely the excuse to gather around the piano to sing all the old time songs in a loud and lusty, if not always an entirely harmonious, manner.

A number of new faces appeared that night which encouraged the Membership Committee greatly. Our big objective for this year is "500 members and a permanent home." With the help of all good Pratt Architects we are sure to make it.

The Tuesday luncheons will continue all through the year at the Fraternity Club. All Pratt men and their friends are welcome.

The next social event will be the Bridge-Dance on Saturday, February 1st. (Please note the change from previous date.) Special notices will be sent out giving full details in ample time for all to practice up on their cards and their footwork.

BOSTON ARCHITECTURAL BOWLING LEAGUE

THE STANDING of teams in the Boston Architectural Bowling League on December 4th was as follows:

TEAM	*W.*	*L.*
Densmore, LeClear and Robbins	31	9
N. E. Power	31	9
Coolidge, Shepley, Bulfinch, and Abbott	30	10
Monks and Johnson	25	15
Hutchins and French	20	20
Chas. T. Main, Inc.	16	24
J. W. Beal Sons	15	25
J. H. Ritchie and Associates	15	25
Adden, Parker, Clinch, and Crimp	13	27
J. D. Leland and Co.	4	36

FIRST TEN AVERAGES

1.	Davis—(H. and F.)	96-11/30
2.	Reid—(D. LeC. and R.)	95-19/30
3.	Biagi—(C. S. B. and A.)	94-29/30
4.	Bullock—(D. LeC. and R.)	93-18/30
5.	Werner—(N. E. P.)	93- 5/21
6.	Wilson—(M. and J.)	93- 6/30
7.	Gader—(N. E. P.)	92-16/30
8.	Maker—(M. and J.)	91-16/30
9.	Buckley—(N. E. P.)	91-12/30
10.	Distefano—(A. P. C. and C.)	91- 9/30

A further report on the standing of the teams will be issued next month.

ARCHITECTURAL LEAGUE OF GREATER MIAMI

THE NEXT ANNUAL exhibition of the Architectural League of Miami will be held during the month of February in the News Tower Building on Biscayne Boulevard. The League holds monthly meetings at which time various problems are discussed. Richard Kiehnel is president; and Anthony de H. Zink is secretary.

AMERICAN ACADEMY IN ROME

COLLABORATIVE PROBLEM FOR 1929

THE SUBJECT OF the collaborative problem for 1929 was *A Combined Casino and Bathing Pool for a Rich Gentleman's Country Estate.* The program was as follows:

Program

The available ground is level, and measures 100 feet by 100 feet; it is backed by a long retaining wall about 15 feet high, from the top of which the land raises at about 30° for a considerable distance. An abundant supply of water at the top of the hill may be utilized. The hill faces south.

REQUIREMENTS:

(1) A hall where tea may be served as well as where the bathers may gather. It is to be handsomely decorated.
(2) The swimming pool.
(3) About a dozen cabins.
(4) Service rooms for the preparation of teas.
(5) Toilet rooms.
(6) Painters and Sculptors are to decorate any desired portions of the scheme, and the art of the Landscape Architect should be in evidence upon the hillside.
(7) The style shall be that of the classic antiquity or its Italian derivatives.

ADDITIONAL REMARKS:

(1) There is to be no outside assistance in the finishing of drawings, paintings or models.
(2) There will be criticism by only Messrs. Stevens and Fairbanks, but only after the first week.
(3) The studios will be closed for the first two weeks.
(4) The Landscape Architects are to be employed in a consulting capacity, but they will not be expected to make more than free-hand sketches.
(5) The expenses of each team, including one-third of the expenses incurred by the Landscape Architects, are to be borne equally by the Architect, Painter, and Sculptor of each team.
(6) The prize money is to go in equal proportions to the Architect, Painter, and Sculptor of the winning team.

The teams competing were composed of:

TEAM A

C. Dale Badgeley, Architect; Dunbar D. Beck, Painter; and David K. Rubins, Sculptor.

TEAM B

Homer F. Pfeiffer, Architect; Donald Mattison, Painter; and Joseph Kiselewski, Sculptor.

TEAM C

Cecil C. Briggs, Architect; Deane Keller, Painter; and George H. Snowden, Sculptor.

Richard K. Webel and Michael Rapuano, Fellows in Landscape Architecture, worked together as a firm, and were consulted by all three teams competing.

The drawings were shipped from the Academy in Rome to New York and were judged by a jury composed of: Charles A. Platt, *Chairman*, Wm. Mitchell Kendall, John Gregory, Eugene F. Savage and Ferruccio Vitale.

The winning team was team "A," whose design is shown on the pages following.

TO FORMER PUPILS OF THE ECOLE DES BEAUX ARTS

WILL FORMER PUPILS of the Ecole please send contributions to the treasurer of the *Grande Masse,* 51 Rue de Seine, Paris, France.

RUTH PERKINS

RUTH PERKINS is the sixth woman licensed to practice architecture in the State of Illinois; at the present time she is employed by William T. Braun, Architect, Chicago, as chief designer. Miss Perkins received her architectural training at the University of Michigan and has since specialized in residence work.

In 1927 and 1928 she was in charge of the Women's Architectural Exhibits at the Woman's World's Fair.

SIXTH ANNUAL SMALL SCULPTURE COMPETITION

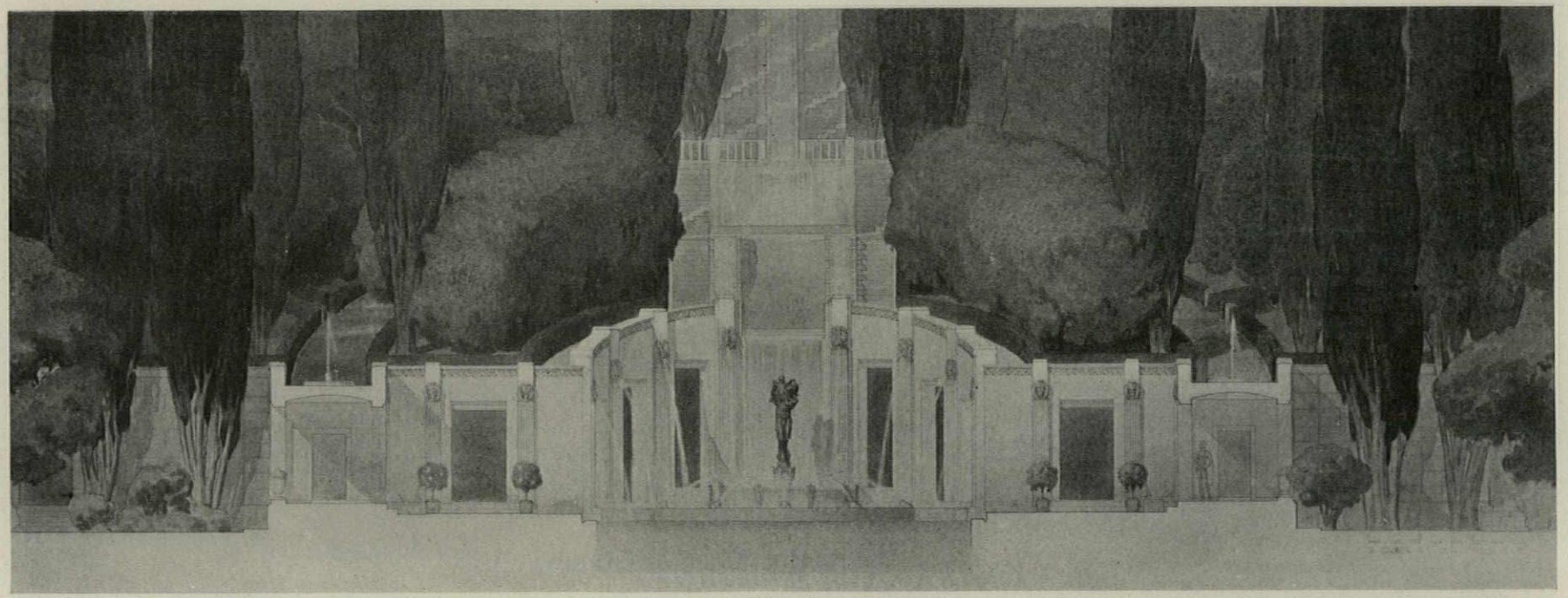
THE SIXTH ANNUAL COMPETITION for prizes offered by the Procter and Gamble Company for small sculptures, using white soap as a medium, is announced by the National Soap Sculpture Committee, 80 East 11th Street, New York. The competition closes May 1, 1930. For amateurs ninety-six prizes totaling $1,850.00 will be awarded.

The Jury of Award will be composed of George E. Ball; C. J. Barnhorn; Alon Bement; Gutzon Borglum; Harvey Wiley Corbett; Harriet W. Frishmuth; Charles Dana Gibson; Leo Lentelli; Dr. Gustave Straubenmuller; and Lorado Taft.

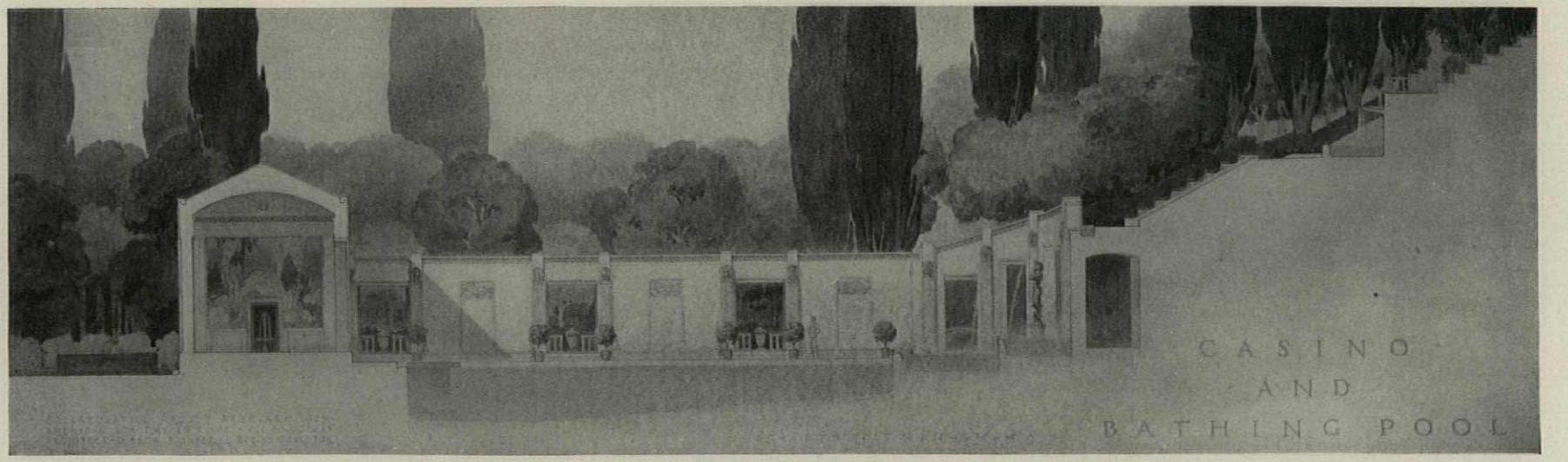
For further information, entry blanks, and instruction books address the National Soap Sculpture Committee, 80 East 11th Street, New York.

NEW YORK ALUMNI CHAPTER OF ALPHA RHO CHI HOLDS EXHIBITION

THE NEW YORK ALUMNI CHAPTER of Alpha Rho Chi, a national architectural fraternity, is holding an exhibition of sketches, etchings, renderings, and photographs of the work of its members in the exhibition rooms of the Architectural League of New York. The show will be on until January 4th.

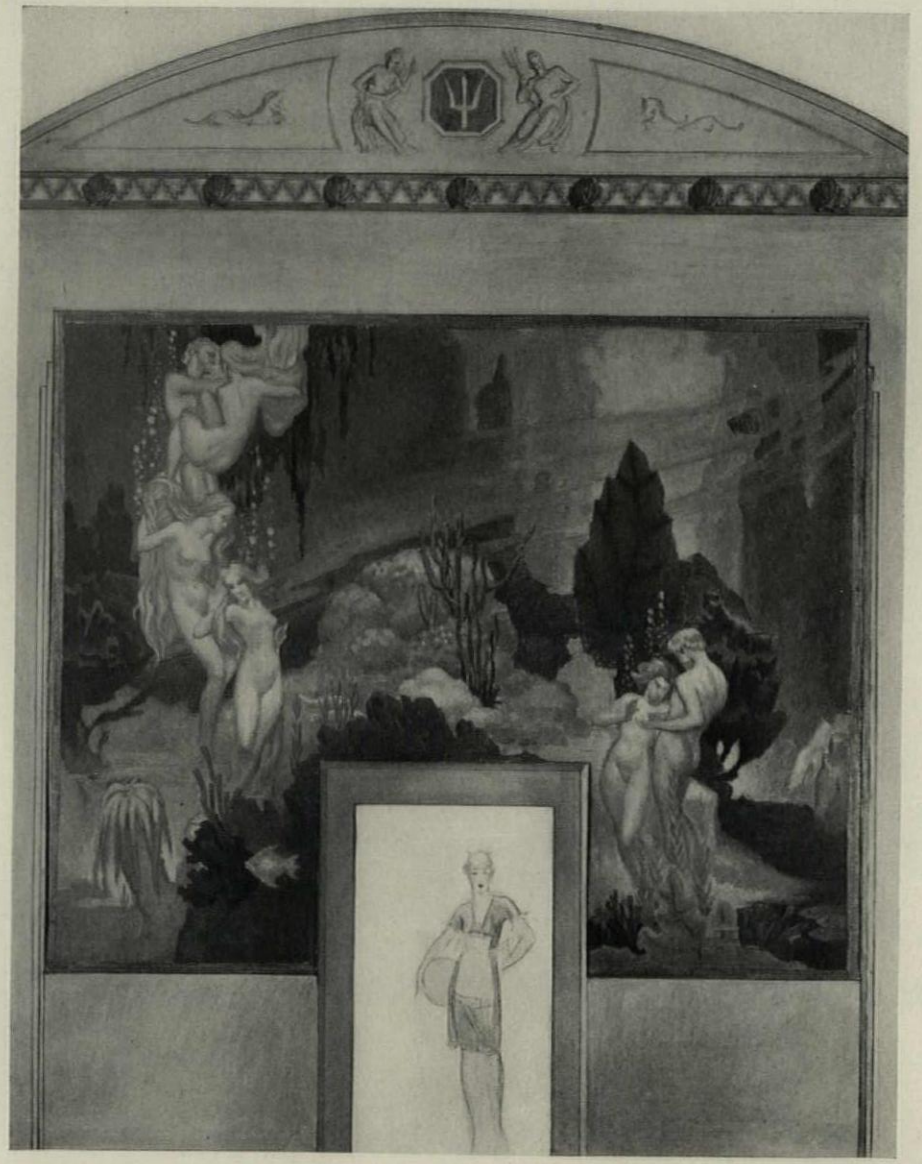


Elevation

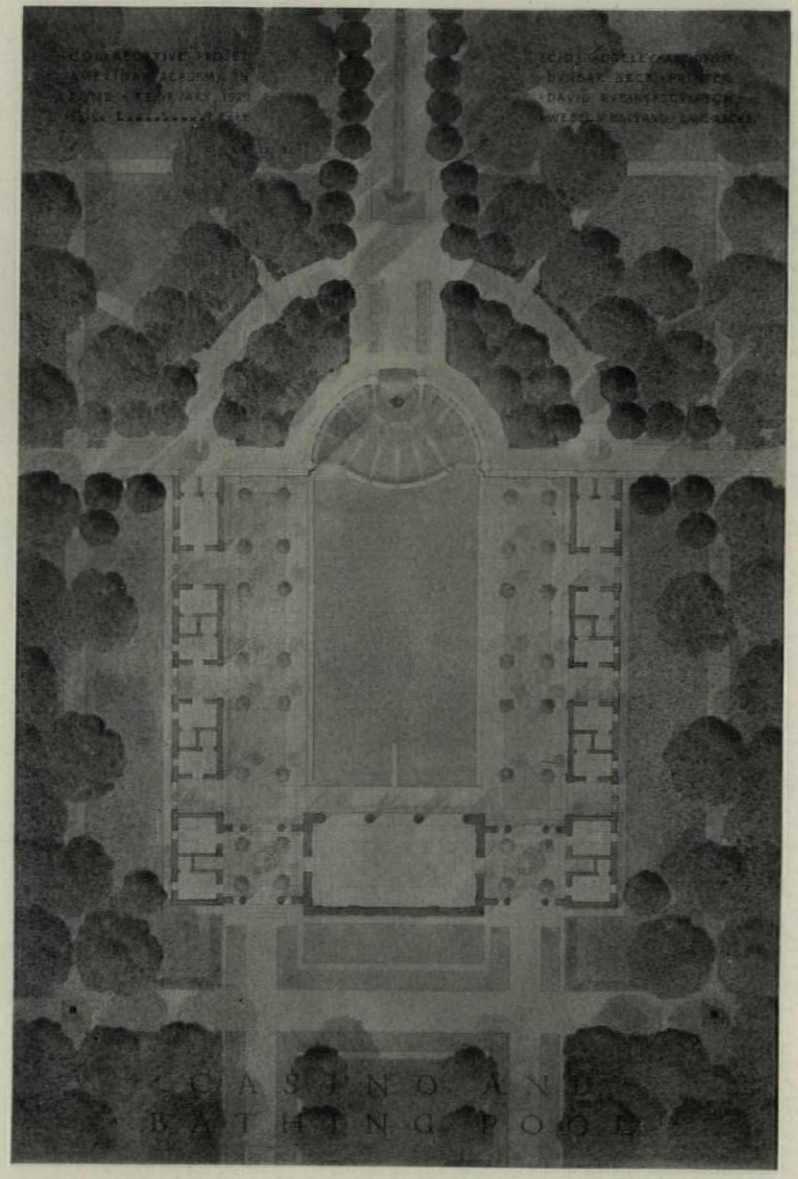


Section

WINNING DESIGN FOR "A COMBINED CASINO AND BATHING POOL FOR A COUNTRY ESTATE"—BADGELEY, ARCHITECT; BECK, PAINTER; RUBINS, SCULPTOR
AMERICAN ACADEMY IN ROME COLLABORATIVE PROBLEM FOR 1929



Detail of Painting



Plan

WINNING DESIGN FOR "A COMBINED CASINO AND BATHING POOL FOR A COUNTRY ESTATE"—C. DALE BADGELEY, ARCHITECT, DUNBAR D. BECK, PAINTER, DAVID K. RUBINS, SCULPTOR

AMERICAN ACADEMY IN ROME COLLABORATIVE PROBLEM FOR 1929

MORE ABOUT THE STOCK PLAN QUESTION

THAT OPINIONS ON the Stock Plan may be just as diverse in the far west as they are in the east is shown by the interchange which has recently been taking place on the pages of our excellent contemporary, *The Architect and Engineer* of San Francisco. There is a most interesting column in this architectural journal, headed "The Architect's Viewpoint," to which four prominent western architects contribute in rotation. Harold W. Doty, A.I.A., of Portland, Oregon, writing in the July, 1929, issue, had the following to say:

"While this is being written there is in progress a nationwide competition for small house designs, which is sanctioned and aided by members of the American Institute of Architects. After the prizes are awarded the designs will be purchased, or in other ways will become the property of a privately owned bureau or corporation. These house designs will then be published in a book, and working plans and specifications for the houses will be available to the public for a nominal fee. Is not this bureau in direct competition with the architects themselves?

"Most architects, perhaps, are not interested in small house work, in which the resulting fees are necessarily small, and in order to cope with the poor stock plans usually offered to the public feel that any improvement in these plans is to be heartily encouraged. Perhaps these architects have office organizations trained only for large projects, who handle domestic work in the same manner as an office building, and a small residence becomes the curse of the office.

"The elevating of the lay taste is one of our principal tasks, if not the very first one to consider, but there are other means of accomplishing this than providing stock plans. Many of the architects who feel that such bureaus are their own difficult competitors, work valiantly in the Institute, giving their time and money in support of æsthetic helps and civic improvements, therefore these men cannot be expected to laud the work of such plan bureaus.

"It is the practice of one of these home institutes or bureaus to write to architects whose work has been published in the trade journals and offer royalties for the use and sale of their plans. An architect who allows a plan to be duplicated which he has made for one of his clients, in a sense violates a trust. Can a client be expected to glory in the fact that his home is identical with fifty others, and if these others are not identical, then the caricatures are the same.

"The best houses are usually evolved by the careful working out of client's needs and site conditions. The resulting distinction will grow common and meaningless if the design is repeated elsewhere. Both the design and superintendence of any building, that pretends architecture, cannot be separated one from the other. Can the architect of plan bureau houses see his brain children grow?

"A few years ago, one of these competition houses was built several times in varied localities. It was interesting to note how the original design lost its character and charm increasingly with each rebuilding. The one in Peoria was less charming than the one in Philadelphia, and the one in Kansas was downright hard. The size and quality of the houses now included in those available in the bureaus have been constantly increasing. It is a prediction, that if we continue to encourage this work enough, plans for any type of structure may be had in the same manner. The only excuse for the existence of plan bureaus which have the sanction of the American Institute of Architects, is that the architect's services are prohibitive in cost to some people. This point is granted in the case of very small houses of low quality, but the bureaus have not been featuring that particular type lately.

"It may have been the cucumbers in the salad, and it might have been the lost ball on the water hole that causes these remarks, but it takes more than good sportsmanship to cheer when an organization encourages a movement which is detrimental to the work and ideals of its own members."

In the August, 1929, issue of the same magazine, Mr. Doty was answered by Charles H. Alden, F.A.I.A., of Seattle, Washington, as follows:

"Is not the profession of architecture suffering from a confusion of ideals when it attacks the small house architectural problem? The editorial 'we' conducting this presentation of the Architect's Viewpoint is responsible for introducing this subject in a previous issue when the question was propounded, 'The Small House—Is It Architecture?' One of its successors has given some interesting side lights on the æsthetic angle and your contributor of last month deplores the present-day attempt at a solution of the problem and the endorsement extended by the American Institute of Architects.

"The ready-made plan service, which is now before us as a solution of the architectural problem of the small house, is a popular ground for attack by members of the profession. It is said there are too many small house competitions, attention is called to the loss of character when designs are produced in other environments, and the encouragement given by the American Institute of Architects to the ready-made plan movement is considered 'detrimental to the work and ideals of its own members.' An Architects' League protests against this interference with the architect's legitimate function and the attitude of this League gives a popular magazine reason for offering for discussion such a question as 'Isn't it better to have each residential problem, even though it be only a six-room house, planned and built under competent supervision?'

"The present writer of these columns still believes that the small house *is* architecture, and that it is incumbent on the architectural profession to initiate or support *some* method of giving it architectural consideration to meet modern conditions. We do not believe there are too many small house competitions when conducted in the interest of good architectural design and we believe the American Institute of Architects, in endorsing small house plan movements, is acting in consistent accord with its ideals and we don't think the question of whether it 'isn't better to have a house designed by an architect' is worth a re-statement—of course it is better—so are custom-made clothes better than the ready-made production but many of us who have to use the stock product still remain reasonably comfortable and happy!

"In the words of an historic President 'It is a condition and not a theory that confronts us.' There are millions of worth while Americans scattered throughout the country who want their own homes. Can all of these, or any considerable proportion, be expected to have houses especially

designed for them by competent architects? We all know they cannot. What chance is there that a man in an isolated village will get a competent architect to design and supervise the construction of his modest $3,500 home? None whatever. Competent architects do not exist in isolated villages and in the modern conditions of architectural practice the prospective home builder cannot employ an architect in a distant city. The owner would not approach an architect with such a problem and the architect could not afford to undertake the work at any reasonable figure.

"The American Institute of Architects gives in the preamble to its Constitution a clear statement of its objects with no conflict of ideals. Its endeavor is to make the profession of architecture 'of ever increasing service to Society.' With the profession unable to reach the small home problem under modern conditions, earnest consideration was given by the Institute and its members to see how this situation could be met. It remained for a group of its members in Minnesota to definitely work out a solution. This was the Architects' Small House Service Bureau, producing complete stock plans made by architects, national in its scope, with publicity and sales provided for in a businesslike manner. It was to be a non-profit enterprise, thus avoiding confusion of ideals.

"The enterprise was thoroughly considered by the Institute through its Board of Directors and the Convention of 1921 and enthusiastically supported. The Bureau was to be a separate organization endorsed and controlled by the Institute and it also received the endorsement of Secretary of Commerce, now President Hoover, a professional engineer who pledged the cooperation of his department of the Government.

"What a Utopia it would be if each of us could have individual expert professional service to take care of each individual problem. If we could all be constantly advised how to regain or maintain our health on every occasion with the advisor properly compensated for his professional service; if everyone could have competent legal advice to protect him from any legal pitfall and give sound advice on practical affairs. Doctors would then not be called upon to render free service and it would not be necessary for us to be bewildered with irresponsible advice in the transaction of our affairs. Then every one who builds could have an individual architect to care for all angles of his problem and there would be no need of any building plan service. Until that time comes the professional architect and his organization must recognize some responsibility towards providing effective means for the small home owner to get some measure of architectural service. If it cannot be furnished by individual architects on the professional basis they desire to maintain, how better can it be done than by properly supervised and professionally controlled ready-made plan services?"

In the November issue, just to hand, Mr. Doty comes back:

"The remarks made in the last contribution to this column by this writer concerning stock plans were directed chiefly against a privately owned corporation which conducted a recent house competition. Although the houses in the first book this organization published were small, many of the prize and mention designs in the last competition would cost twenty thousand dollars and more to construct.

"It is contended that a house of this size is of sufficient import to warrant the employ of an architect, at least from the architect's standpoint, and especially from a Portland, Oregon, architect's standpoint—the standpoint being that of making a living. It is my prediction that if plan bureaus, institutes and similar corporations are properly encouraged in the future, plans for any type of building will be available in the same way, and at bargain prices. Then what will become of the architect?

"Another contributor to this column stated that the plan bureau stock plans were comparable to ready-made clothes and filled the same sort of need. In the case of very small houses this undoubtedly is true, and especially in the sparsely populated areas of our country. However, in the cities there are usually many young architects who can and do design comparatively small houses, and in their case the advertisement in the tailor's window tells the story. 'You pay for a tailor-made suit, why not have one?' "

The last word has perhaps not been said. We will look for further discussion in future issues of *The Architect and Engineer*.

ILLINOIS SOCIETY OF ARCHITECTS' PUBLICITY CAMPAIGN

October 31, 1929.

PENCIL POINTS.

Gentlemen:

"Replying to yours of recent date re. the privilege of reproducing folder *Just What Does an Architect Do for His Client?* issued by the Illinois Society of Architects, we wired you yesterday as follows:

" 'Permission is granted as requested. Letter will follow.'

"We not only do not object to your reproducing this folder, but take great pleasure in having you do so. We shall be very glad to co-operate with any other architectural society who will undertake the same task for their community as we are undertaking for ours. Material which we have prepared, we will be glad to have others use.

"Our plan may be briefly outlined as follows:

"(1) We have noted that most of the legal trouble from which an Architect suffers is due to an erroneous conception on the part of the legal profession as to the true function and purpose of an Architect. One would expect better things of another learned profession; nevertheless, lawyers are accustomed to advise their clients regarding their relationship to their Architect exactly opposite to the relationship which they expect their client to maintain toward them.

"(2) In building operations, bankers insist on the legal opinion of title before they will make a loan on a building, but they do not hesitate to make loans on buildings to builders where there is no Architect to safeguard their interests.

"(3) In brokerage transactions real estate men in their dealings expect 3% brokerage fee on their transactions where their operating expenses in proportion to the volume of business are not one-tenth what an Architect's operating expenses are, and yet they advise their clients that an Architect ought to do work for 1½% to 2%.

"(4) Judges seem to have conceived the idea that plans and specifications are merchandise and fail to understand that the real merchandise which an Architect has to offer is not plans and specifications but personally skilled service. This misconception has been the cause of many legal decisions adverse to Architects.

"(5) Prosecuting attorneys fail to make a distinction between qualifying conscientious architects who are rendering full and complete service and the incompetent reckless and careless architect who is defrauding his client.

This is due to their misconception of what really constitutes full and complete architectural service.

"The Publication Committee of the Illinois Society has concluded that since the above five different groups of people to a large extent influence the welfare of the Architect, that a campaign particularly directed to the personal attention of these groups would be most effective.

"They have therefore devised a series of educational folders setting up the functions and services of an Architect and are mailing these with a personal letter to each of the important members of these groups, letters being especially prepared to clear up the peculiar misunderstandings of each group.

"We are enclosing herewith a copy of each of the several form letters which we are sending out; with the exception of the real estate men and lawyers these letters are being personally addressed and all letters personally signed by some officer of the Society."

(*Signed*) EMERY STANFORD HALL,
Chairman Publication Committee,
Illinois Society of Architects.

A Brief Word to the Legal Profession:

"Irrespective of which side of a case an attorney finds himself on, it is clearly important that he shall know the customs and practices involved in the subject matter in controversy.

"Building including public works, ranks second in all of the industries of this country, and involved on the average for 1926, '27, and '28, an annual expenditure of about $8,000,000,000.00. Deducting public works there was for these years, an average expenditure on buildings of $5,599,000,000.00. Of this enormous expenditure, Architects acted as designers and chief executive officers on buildings costing $4,157,000.00

"Therefore, although this profession is few in comparative number, in magnitude of guidance of expenditure this profession ranks first of all professions.

"To assist you to a better understanding of just what the professional Architect is expected to do in order to maintain the commendation of his fellow practitioners, we are sending you the enclosed folder which we hope you will find convenient for reference.

"Other informative folders concerning architectural relationship and responsibility will be forwarded you from time to time."

To Architects Not Members of the Society:

"You think your public does not appreciate you? What can you do about it? Certainly you can accomplish nothing alone, but co-operatively, your service may be the one connecting link that saves the day.

"The Illinois Society of Architects has undertaken a state-wide campaign for educating the public in an appreciation of the value of an Architect's service. They are doing this work for every Architect in this state. It is only fair, if you are to derive a benefit, that you share in the expense and give your moral support to this work. We feel sure that you will wish to join with us. We are enclosing an application blank for your membership in the Illinois Society of Architects.

"It is difficult and dangerous to sell a product to the public that is not up to the standard. The enclosed folder sets up the standard of service which the Society expects its members to maintain. If your service is not up to this standard, make it so. We want every Architect who is registered and engaged in the independent practice of architecture as a profession in the state of Illinois to be a member of this Society, but, much as we want members and influence, we do not want members who are unwilling to put their practice on a plane of service in accord with the spirit of this folder.

"This folder is being mailed individually with an appropriate personal letter of transmission to the following groups of people: Members of State Legislature, Governor, Lieutenant Governor, Attorney General, State's Attorneys, Judges, Bankers, School Authorities, Real Estate Men, Architects not Members of the Society, and All Members of the Society.

"Other folders will be mailed direct by the Society, one each month to the above list during the next seven or eight months. In addition, we are asking each Architect in the State to agree to distribute these folders regularly to a selected list of his clients, prospective clients or friends. If you will aid in this distribution ask for additional copies.

"Your co-operation in this work is urgently solicited."

Personally Addressed to Judges:

"In your judicial capacity, it frequently becomes your duty to review the evidence as to cases involving Architectural practice.

"In the discharge of this duty you may find yourself puzzled with conflicting evidence as to what constitutes proper and competent practice.

"It is with a purpose to help you in solving this problem that we present you herewith a statement as to what the profession believes to be the service, integrity and competence which an Architect should give to his client and to the public as it may be involved in the building problems over which he has supervision.

"Other folders dealing with present-day Architectural practice will be sent you from time to time. We hope you may find them helpful."

A Brief Word to Real Estate Men:

"Most of us agree that the value of real estate depends on its ability to produce a return on the investment, and that return is determined by the improvements. Vacant real estate, except for farm purposes, is a dead loss without productive improvements.

"Because we believe you will be interested in getting a clearer conception of the ways in which an Architect can help enhance the return from improvements, we are enclosing a folder which has just come from the press.

"This folder and others which will be sent you from time to time, indicate just what the worth-while Architect does for his client, and, incidentally, what the incompetent Architect does not do.

"You will find the services of a competent, trustworthy Architect an important guarantee of the success of your building projects. And you cannot afford to operate without his help. But you should select him with care.

"Engage no one that is not able and willing to fulfill the duties of an Architect as set forth in this folder. Remember, too, that the laborer is worthy of his hire; that no man can do his best work when he is inadequately paid."

Personally Addressed to Attorneys:

"As a prosecuting officer of this State, it is part of your duty to prosecute violators of the various State registration acts, including that of Architectural Registration.

"To perform this duty intelligently, you, of course,

(Continued on page 68)

JOHNSON GRASS

LIGUSTRUM

RETANA OR HORSEBEAN

SHADOWGRAPHS

By Samuel E. Gideon of the University of Texas

OUR MOST COMMON and most familiar forms often become exotic and beautiful when presented in another light, and so it is with the accompanying illustrations which were made on Van Dyke paper in the following manner:

The leaves were arranged on the sensitized paper tacked to a drawing board and over this was placed a sheet of glass, weighted down. A little experience will determine the amount of exposure in the light or sun necessary to obtain suitable results. Van Dyke paper must be developed in "hypo," but blueprint paper, which can also be used and which is easier to operate than Van Dyke, is simply washed in water after exposure. Most of the illustrations are our commonest back yard, wood, lot, and prairie weeds, though some of them are cultivated plants and a few are like turnip tops, pomegranate leaves and honeysuckle.

The process is an old one, quite similar to the vogue of silhouettes and the tracing of shadow outlines. The writer was inspired to make these experiments after Gutzon Borglum, the sculptor, in a lecture to the Department of Architecture, University of Texas, urged the students to use native fauna and flora in their decorative forms rather than copy the antique, such as the "Egg and Dart," "Acanthus Leaf," and "Dentils." The architects of the new buildings for the University of Texas have been urged to develop this

GRAPEVINE MESQUITE

RAGWEED

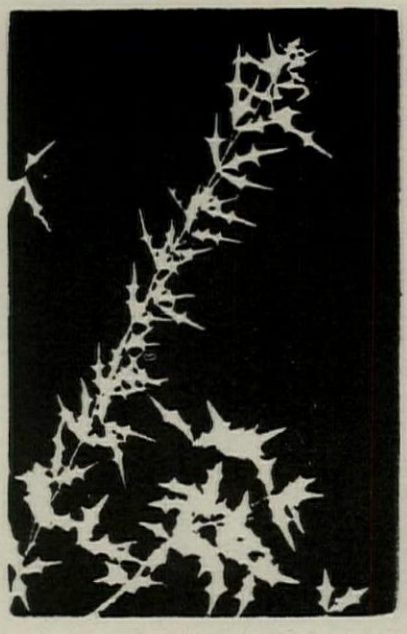
SPRINGARI

SHADOWGRAPHS BY SAMUEL E. GIDEON—MADE AS DESCRIBED IN ARTICLE

CARROT

idea since they have already begun to incorporate such intimate things as "Cattle Brands" in their decorative panels and friezes. Mr. Albert Kelsey, architect for the University of Texas Baptist Church, used the State flower, the "Bluebonnet," in color, in the glazed terra cotta entrances.

Some of the designs are most suitable for ceramic decoration, in fact all forms of decorative art, but particularly in embroidery. The writer has made effective use of weeping willow branches and ghost plant (or granddaddy's beard) for lamp shades and the despised Johnson grass and tie vine made a stunning portable screen. Agarita branches furnished an attractive motif for a Christmas greeting. The leaves are not much unlike holly leaves. Holly trees unfortunately have been cut down for Christmas trees so many years in Texas that they are now rare, but agarita is quite abundant. A panel of this agarita on the Van Dyke paper made white leaves on a dark brown ground and this was reduced to Christmas card size in the form of a zinc etching and printed on Japanese rice paper. Fire screens lend themselves well to this form of decoration and one of the most effective uses of the process is to secure the design between two sheets of glass cut to fit the panels of a wrought iron lamp or lantern.



AGARITA BRANCHES

PRIZES AWARDED IN CHURCH BUILDING COMPETITION

The office of John Russell Pope, of New York, has been awarded the first prize of $1,000 in the recent Church Building Competition conducted by *The Christian Herald*. The first prize is to be equally divided between the winning building, The First Presbyterian Church of New Rochelle, N. Y., and its architect, the office of John Russell Pope.

The Jury of Award, composed of Philip Hubert Frohman of Boston and Washington, D. C., Elmo Cameron Lowe of Evanston, Illinois, and Hobart Upjohn of New York, commended this church very highly, both for its excellent architecture and the adequacy of its plan.

Second prize of $300, also divided between church and architect, was awarded to the First Presbyterian Church of Clinton, Iowa. The firm of Coolidge and Hodgdon, Chicago, Illinois, was architect of this church.

Third prize of $200 went to the First Christian Church, Watsonville, Calif., W. H. Weeks of San Francisco being the architect.

Fifty churches from twenty-one states, the District of Columbia, and two foreign countries, Canada and Japan, entered the competition, which was limited to churches with a seating capacity not greater than six hundred persons and to churches constructed within the last two years. The conditions eliminated also churches which have no facilities for the departmentalized Sunday School or for fellowship and recreation.

In addition to the cash awards, the Jury honored four churches with Honorable Mentions and six others with Mentions. Those so rewarded were:

First Honorable Mention: St. Paul's Protestant Episcopal Church, Norwalk, Conn., P. L. Fowler Company, Trenton, N. J., Architect.

Second Honorable Mention: Overland Christian Church, Overland, Mo., Hoener, Baum & Froese, St. Louis, Architects.

Third Honorable Mention: Mariemont Community Church, Mariemont, Cincinnati, Ohio, Louis E. Jallade, New York, Architect.

Fourth Honorable Mention: First Church of Christ, Scientist, Fillmore, California, H. Roy Kelley, Los Angeles, Architect.

Mentions were awarded as follows:

First Christian Church, Oakland, Calif., W. H. Weeks, San Francisco, Architect.

Huntington Baptist Church, Huntington, Long Island, Bruce Conklin, Huntington, L. I., designer, American Baptist Home Missionary Society, Consultants.

Storrs Congregational Church, Storrs, Conn., Perry and Bishop, New Britain, Conn., Architects.

First Baptist Church, Birmingham, Mich., Muehlman and Farrar, Detroit, Architects.

Irvington Presbyterian Church, Indianapolis, Ind., Harrison and Turnock, Indianapolis, Architects.

First Methodist Episcopal Church, Green Bay, Wis., Sundt, Wenner and Jansson, Philadelphia and Chicago, Architects, Methodist Episcopal Bureau of Architecture, Consultants.

SALESMANSHIP

Reprinted from the Monthly Bulletin of the Illinois Society of Architects.

TRAINING IN SALESMANSHIP is the one essential thing which is so often omitted from the education of an architect. Inadequacy in this line accounts for the frequent victimizing of members of this profession by the various agencies of fraud that seem to operate in every community. Why are architects often defrauded of their just dues?

First—Because they have something worth while to give. If architects did not have something worth while to give, they would not ever be the victims of the smooth promotor or unscrupulous builder. Whoever heard of a farmless hick being the victim of con-men. If he were not a good farmer, he would not be a farm owner. If he were not a farm owner, he would constitute no temptation to the fraudulent schemer.

Second—Because architects as well as farmers have been too greatly specialized, either too much design and too little construction, or too much construction and too little design, or plenty of technique in both design and construction and no general business. How many architects know the real meaning of overhead expense, or how much it actually costs to get out a job?

Third—No adequate advocate. The public has so long assumed that anything worth having is adequately presented that it believes that everything is adequately presented. The public rates things as they are presented not as they are. There is no use crying about it or denying the fact. It is so and must be made the best of. The public can no longer seek out that which it has need for and find it because the public has lost, outside of its own specialized line, the art of research. The incompetent architect gets the business, not because he is technically incompetent, but because he employs competent sales skill, sales skill which if applied to the sale of real competent, honest-to-goodness service would get much larger returns for efforts expended.

On account of the personal nature of architectural service, the individual practitioner is often embarrassed in a personal presentation of the merits of architectural service, since he may find it difficult, if not impossible, to separate the personal from the abstract. It is hardly to be expected that those technically expert architecturally should be likewise technically expert salesmen. In fact the natural assumption would be that mental and temperamental qualities peculiarly adopting the individual for real success in architectural production could not be expected to be common with those natural qualities that would make a successful salesman. Let the facts be faced as they are, what is the solution? There are several solutions from which to choose, the following suggest themselves. The profession must choose and proceed.

First—Architectural organizations could be formed consisting of specialists in architectural design, construction, specification writing, business, supervision and salesmanship. Experience shows that combinations of this kind which do now exist are generally unable to produce as high a type, from an artistic standpoint, of architectural production as separate practitioners. Probably this is due to universal tendency for the salesman-member of the firm to assume that because he brings in the business he ought to dominate production, a function, which by the very nature of things, he is incompetent to perform.

Second—Individual architects or firms might employ salesmen to dispose of their product in just the same way as merchandise is sold, these salesmen to have nothing to do with the professional work of the firm and no control over its production. In such cases they would be required to sell on merit of past performance, education and experience of personnel. This might be a practical method, but from the present viewpoint, it would no doubt be viewed as unethical. Laying aside all preconceived notions and looking at the matter purely from the standpoint of actual known fact, this second possible solution is not any more open to question than the first, both are now practiced to a limited extent.

Third—Architects might combine in a professional association and sell the architectural profession to the public in the same manner as is now done by the various manufacturing and material trade associations. If this method were used means would have to be found to finance this association on the same broad scale as that on which the great trade associations that now push the sale of the product of the dominant building material interests; for illustration, such organizations as the Cement Association, the Terra Cotta Society, the Face Brick Association, the Cut Stone Association, etc. Procedure in this way would mean large flat membership dues or a small percentage of receipts from all business handled. The contractors now do this boldly and charge it up to their customers as an item of building cost. When the contractor gets a commission, as a fee for service, it is always larger than the commission fee paid the architect for a much greater service and it is a net fee, while the architect's fee is a gross fee out of which he must pay all of his operating expenses.

The architect's real problem at this time is fundamentally a problem of sales. It should be faced squarely and discussed frankly. If the problem of uniform sales of professional service can be solved sanely and without jeopardy of the high professional ideals that have distinguished this calling from all others, the profession can drive on to yet greater and greater attainment. If the problem cannot be solved so as to keep the control of architecture in the hands of those who are actuated by high professional ideals, then the future of art in architecture is not promising.—EMERY STANFORD HALL.

PEN AND INK DRAWING BY R. E. CURTIS, OF AUSTRALIA
"THE ELEVATED SERPENT," NEW YORK

FROM A WATER COLOR RENDERING BY HUGHSON HAWLEY FOR J. H. DE SIBOUR, ARCHITECT

CLUB ATLANTIC, BRIGANTINE BEACH, NEW JERSEY—SIZE OF ORIGINAL DRAWING, 45″ x 18½″

THE DRAFTSMAN'S LIBRARY

Theatres, by Joseph Urban; 49 plate pages, 9½" x 12"; price $7.50; published by Theatre Arts, Inc., New York.

Joseph Urban has long been connected with the Theatre and is well known to its patrons as a forceful and original designer. In this book he shows six of his most interesting creations—the Ziegfeld Theatre in New York, the Paramount Theatre in Palm Beach, Florida (these two have been built), and his studies for the proposed Metropolitan Opera, the Reinhardt Theatre, the Jewish Art Theatre, and the Music Center (all designed for New York). The Ziegfeld and Paramount houses are shown by means of photographs as well as by plans, sections, and perspectives, while the other four conceptions are necessarily presented in the form of drawings and models. We are sure that any designer worthy of the name will find much in this volume to interest him and a good deal which will call for admiration. Each of the six problems demanded an entirely different solution and the solutions are strikingly original and bold. Mr. Urban sees the theatre in a big way and is not hampered by precedent in his search for the correct expression of each type. An introductory text by the author explains the problems and their solutions.

The Metropolis of Tomorrow, by Hugh Ferriss; 140 pages, 9" x 12"; price $7.50; published by Ives Washburn, New York.

A collection of sixty drawings by Hugh Ferriss cannot fail to be of interest to American draftsmen and architects. No other delineator has depicted the skyscraper, and the conglomeration of skyscrapers which makes the modern city, with anything approaching the imaginative power which is his. Most of the drawings shown have been published before—some as advertisements for the American Institute of Steel Construction and the Lehigh Portland Cement Company, some as illustrations for various articles on the New York Zoning Law and other subjects concerning tall buildings—but here they are for the first time all together in permanent form with significant comments by the artist.

The work naturally divides itself into three parts—"Cities of Today," "Projected Trends," and "An Imaginary Metropolis." The first part shows Mr. Ferriss' conceptions of a number of contemporary tall buildings; the second isolates for pictorial study a number of the principal trends shown in current work as well as presenting in definite form the developments which leading architects are thinking and talking about but which have not as yet been put into effect; the concluding part tackles the ultimate development of these ideas into an imaginary city of tall towers widely spaced—huge buildings covering three or four and even six or eight city blocks and rising to heights of a thousand feet or more. It is all very stirring and somehow terrifying, yet it is what we, as architects of the future, have to consider.

Aside from its very great architectural significance the draftsman who is a renderer will find that this book will give him many pointers on pictorial composition. For the same reason that we revere Piranesi we can admire Ferriss. One of the plates from this book is reproduced as a frontispiece in this issue of PENCIL POINTS.

The Year Book of the Boston Architectural Club, Containing Examples of Modern Architecture; 102 plate pages, 10½" x 13½"; published by the Boston Architectural Club, Boston.

In a foreword, signed by Ralph T. Walker, it is stated that the editors of this volume have not presumed to select the best in modern architecture but rather have chosen a representative group of buildings showing the general character of what is being done over the entire country. Well, perhaps they haven't selected the whole best and nothing but the best, but they have presented an excellent cross section of our contemporary commercial architecture. The buildings shown are not all new—for example Cass Gilbert's Army Supply Base in Brooklyn rubs shoulders with the new Irving Trust Company building by Voorhees, Gmelin, and Walker, now being erected—but they all show that their designers were not leaning too heavily on precedent.

But for the guarded statement in the foreword we might quarrel with the editors for some of the inclusions and some of the omissions. With that in mind, however, we must admit that they have given us a useful record in the form of photographs and drawings of the work of architects who are striving with considerable ability towards a new architecture.

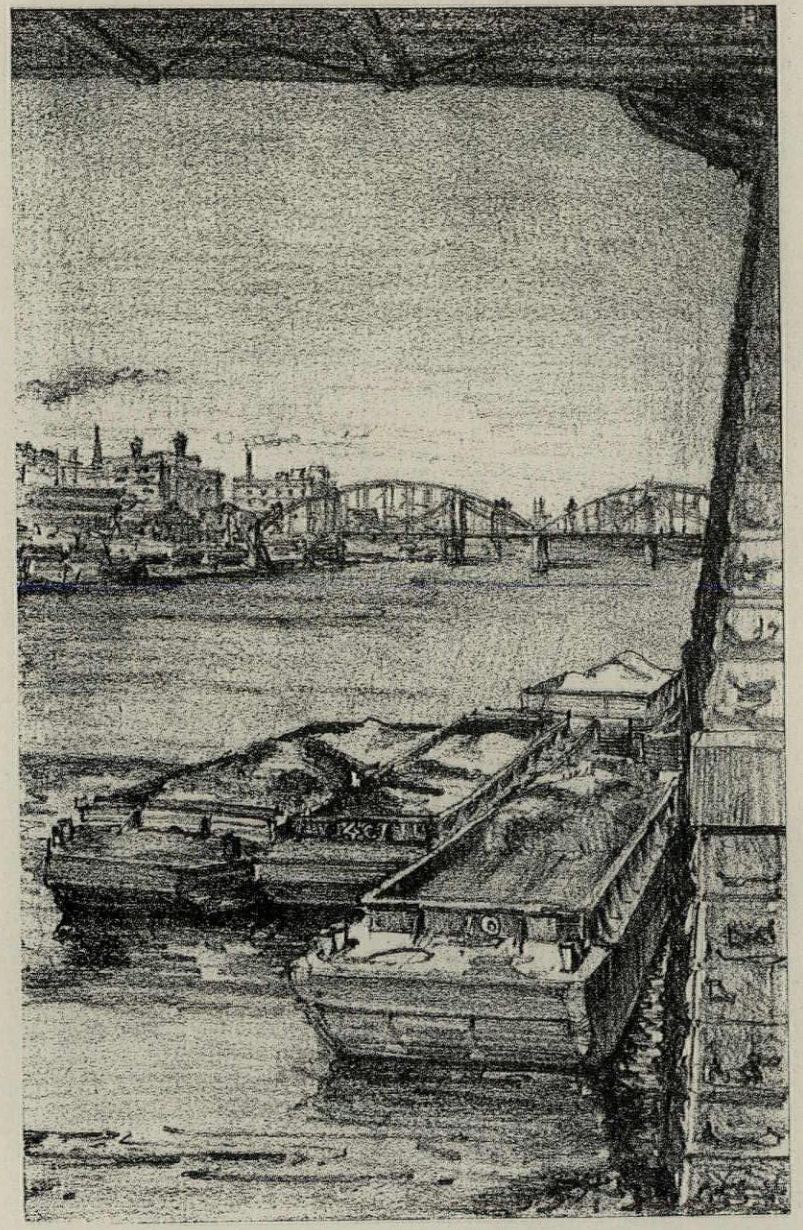
A number of detail drawings make the volume of real use as a reference for the draftsman and designer.

The Year Book of the Annual Architectural Exhibition, Philadelphia, 1929; 320 pages, exclusive of advertisements, 9¼" x 11¾"; price $2.50; published by The 32nd Joint Exhibition Board of the American Institute of Architects, Philadelphia Chapter and the T Square Club, Philadelphia.

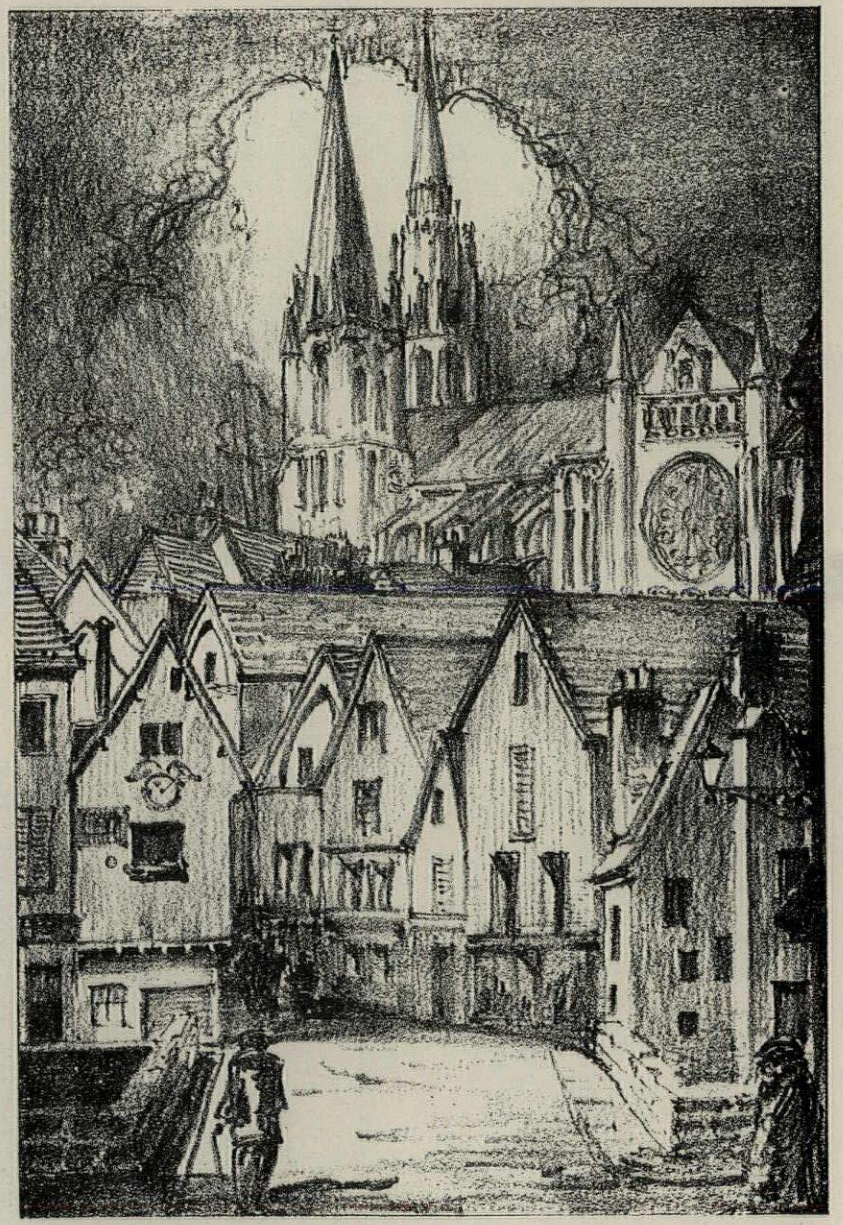
Philadelphia is the home of an unusually large group of extremely able architects. If you doubt that, just turn to this 1929 Year Book in which is preserved a record of their recent activities. In residence work, in churches, in schools, and in a variety of commercial work they strike a very high average and many of the works shown come near to being architectural masterpieces.

As a book, however, this volume is less useful than it might have been made. Its pages and plates are not numbered, so that it is necessary to search for a particular subject you wish to find. This seems a pity, and is hard to excuse, especially since we find that the advertising pages are carefully numbered and indexed. A more serious obstacle to the book's utility, however, is the absence of plans, of which only a negligible few are included. This lack, we feel, places the book more in the category of "Pictorial Records" rather than that of "Reference Works" and as such it will have less appeal to those whose designs do not happen to be included. But perhaps that was the intention of the editors.

In spite of its shortcomings we are glad to say that the book increases our admiration for the work of Philadelphia architects and makes us not only regret that we did not attend their Thirty-second Architectural Exhibition, held last year, but also look forward eagerly to see what they will do during 1930.



ON THE ALLEGHENY RIVER



IN OLD CHARTRES

FROM LITHOGRAPHS BY RODY PATTERSON OF PITTSBURGH, PENNSYLVANIA

A CHAMPION COMES FORWARD!

FROM *Nation's Business* FOR JANUARY:—"*In September, 'Nation's Business' published an article, 'Give the Contractor a Chance,' written by Thomas Thorne Flagler, president, the Associated General Contractors of America. In this article, Mr. Flagler condemned a great many practices in the construction industry and placed a part of the blame on the architect. No recent contributor to 'Nation's Business' has evoked such a storm of denunciation and applause. Quite generally the contractor agrees with Mr. Flagler. The architect, just as generally, disagrees.*

"*From the wealth of letters and articles submitted in answer to Mr. Flagler's statements, 'Nation's Business' can publish only one. It is by Rossel Edward Mitchell, a Washington, D. C., architect, and was forwarded to us by* PENCIL POINTS." *(See "Nation's Business" for January for the complete article by Mr. Mitchell given here in part.)*

"A CHAMPION WANTED!" is the title of a leading editorial in PENCIL POINTS for September. The editors call attention to certain statements of Thomas Thorne Flagler, president of the Association of General Contractors of America, in the September *Nation's Business.*

Some of these statements, they note, imply that the average architect is incompetent. The editors express the hope that "some prominent architect, competent to speak for the profession, may have an opportunity to write for *Nation's Business* the architect's side of the story." The writer of these lines does not pretend to qualify in respect to either of the above conditions.

Prominence is a relative term. As to speaking for the twenty-odd thousand or so architects in America, I must enter a demurrer. Further, after reading Mr. Flagler's article, I find myself more inclined to question his literary manners than to dispute his statements. To be candid, it strikes me that he has "said a mouthful," but said it in a way calculated to do great harm and very little good.

Mr. Flagler appears to believe that the building business will be helped by his various and sundry innuendoes implying general incompetence in the architectural profession. But will it? In the closing portion of his article he appeals to architects to stop the practice of putting irresponsible contractors in competition with responsible ones. Mr. Flagler must know that reputable architects everywhere advocate this policy and that tight-fisted owners frequently override their architects and insist on "cheap" bidders being put on the list.

This class of owner does not think the architects are fully competent to be judges of such matters. Mr. Flagler's statements apparently verify the suspicion of Mr. Tightfist, and I am sure that his article will confirm their contempt for the architect's disinterested advice, and make them still more inclined to invite such bidders as they please, thus throwing the building industry into still greater confusion.

Mr. Flagler enters a preliminary disclaimer against reflecting on the skill, integrity or responsibility of the average architect or engineer. He then lays about him lustily cracking indiscriminately the heads of architects, builders, material people and bondsmen.

Some of his statements as to architectural practice are so unfair and misleading in their implications that they demand rejoinder. The profession of architecture, like that of general contracting, is sick. Neither will be cured by mutual recrimination and assault.

Mr. Flagler complains that "Mr. Average Man has an implicit but often misplaced confidence in the so-called specification. This mysterious document consists of from 50 to 250 or more pages, frequently copied from previous specifications, old textbooks and literature put out by energetic manufacturers and material venders."

Well, what of it? Does he expect an architect to originate every new specification out of the raw cloth? Is not the best lawyer he who first informs himself on basic things (textbooks), precedent (old specifications), and recent decisions (literature put out by reputable manufacturers, trade associations and engineering bureaus)?

And when did it become disreputable for an architect to use tried and true clauses of specifications that have stood the test of use? Or when did architects or builders either become so omniscient they could afford to disregard the wealth of invaluable technical information put out so carefully and scientifically by leading manufacturers and trade associations?

The architect who would venture to disregard these fundamental sources of information would simply classify himself as a fossil too prehistoric for recognition outside a museum.

The president of the G. C. A. now jumps to an absurd illustration of a Chicago architect who specified Vermont granite for a building within sight of Stone Mountain, where fine granite grows wild. Has he never seen Oregon apples on the bill of fare of up-state New York hotels? Or California grapes?

My own information on this particular point is that Georgia granites are usually white or nearly so, while Vermont and other New England granites may be obtained in very beautiful colors. If a client wants a beautiful building to crown the crest of Stone Mountain, or some other Georgia hill, and is willing to pay for what he wants, must he, after the contract is let, permit his builder to furnish plain white granite instead of sea-green, because, forsooth, his builder informs him it is ridiculous and unfair to make him pay freight on granite from Vermont when he figured on Georgia granite, the specifications notwithstanding?

One of the axioms of good architectural design for a quarter of a century to my own knowledge, and I do not know how much longer, is that good architectural design and logical structural elements are so closely interwoven as to defy separation. The structure is the bony skeleton, the design is the flesh and blood. The successful result is the body fitted and fashioned to its uses, comely in appearance, graceful or rugged in outline as its duties dictate.

As to what Mr. Flagler designates finally as the kernel of the reason for the disorganization of the constructive industry (as he calls it)—the belief of many architects and most owners that they can save money by dealing with irresponsible contractors—it is to be regretted that he did not get immediately to the kernel without dressing it in so much hull.

He practically admits that most architects agree with him as to the dangers and fallacies of such practices. But he dulls the point of his very sound and salutary arguments about the advisability of dealing only with reputable builders by a series of sweeping attacks on technical practices which are likely to do great harm to an army of highly trained and, usually, pitifully underpaid practicing architects.

Not satisfied with this, he attempts to belittle the super-

vision which architects are supposed to be employed to give to buildings they plan. Again his illustration is trifling.

It seems that his concern employed an engineer in a minor capacity for a month, and discharged him as incompetent. Then his firm was shocked because the same man became the architect's supervisor on the identical job!

I might be mean enough to suggest that perhaps that young man's discharge by the builder nominated him to the architect as a good one to put on the watch. What probably happened is this. The young engineer had a type of experience that made him valuable to the architect but not so valuable to the builder. There is a wide difference, both in outlook and execution.

Many practical and successful architects, men of fine training and wide experience, would have a hard time holding down a job in a contractor's office. A builder usually makes a good architect's superintendent. A good architect or engineer does not always, by any means, make a good practical builder.

Mr. Flagler concludes by asking, "When?" will the evils of the building industry be corrected. He answers his own question by saying it will be done when the building public abandons the idea of getting something for nothing. True enough.

But the building public will probably never abandon that idea as long as it believes that architects are usually impractical dubs, and builders more often than not irresponsible crooks. Neither of these things is true, but the tendency of Mr. Flagler's article is, in my opinion, calculated to confirm that impression.

Every experienced architect has at some time had just that kind of a proposition put up to him by a "practical" builder, who seems to regard a specification as a "mysterious document" and, something like a contagious disease, to be avoided if possible!

Mr. Flagler's next complaint is that "not one set of plans in a hundred is made entirely by the architect and his men." This is interesting, if true. Right here, may I ask in all earnestness, is one building in ten thousand built entirely by the general contractor and his men? Is it not a fact that a more descriptive name for the General Contractors' Association of America would be, the Building Contract Brokers' Association?

If the general contractor is at liberty to sublet every single item of labor and material in and around the building which he has contracted to erect, will he deny the architect the privileges of subletting portions of his drafting work?

"If there ever was a case of hitching the cart before the horse this is it," again quoting Mr. Flagler. "Instead of leaving the design of the frame to the last, as is the present practice, it should be the first and most important consideration after the preliminary layout of the room arrangement."

Surely here is a Solomon come to judgment! I have been engaged in architecture as a draftsman and practitioner for 26 years. I have worked for a number of architects big and little, been associated with some others, and employed many as draftsmen. It is news to me that it is customary among architects to make the structure frame the last thing to be considered.

I have never known that to be done in a single instance, unless it happened to be one of those rare cases of design of monumental building when the matter of architectural design, or the ultimate effect, as the client views it, is deliberately sought after regardless of cost.

NOTE:—In addition to Mr. Mitchell's reply we also received the following:

From W. H. D. Grant, of Minneapolis, Minn.

Pencil Points Press, Inc.

Gentlemen:

"Your editorial, 'A Champion Wanted,' in the October issue forced me to read Mr. Flagler's article in *Nation's Business*.

"You evidently still believe in fairies, Santa Claus, and 'specs' to demand a champion. It is far more fitting to employ an attorney for defensive rather than offensive action.

"In a general way, *Nation's Business* article is too tame, too polite, having the 'yours respectfully' attitude. Their illustrations may be amplified a thousand times a thousand and only scratch the surface. The heart of the article is contained in the very last paragraph, and, the solution of the problem is just as pithy—contractors to bid on request only.

"I am utterly unable or competent to heed your plea for a champion as there is no defense, but I am willing to assist anyone for better construction, better methods and better specifications.

"Ethics have advanced but little over the Neolithic age, yet methods are improving daily in spite of the architect. Hail, for more Flagler constructive criticism. Rome was not built in a day. However, if it was, we would read in modern 'specs' a penalty clause for delayed completion when the delay was caused by time wasted in unravelling the mysterious 'specs' and futile attempts at co-operation of various sub-contractors and the dark secret of whether the penthouse was on top of the roof or in the sub-basement. Selah!"

From William M. Haussmann, of Philadelphia, Pa.

The Editor of Pencil Points:

Sir:

"Mr. Flagler, naturally, speaks from the viewpoint of a contractor. I wonder, however, whether he has not absorbed some of the undertones which color his viewpoint from actual conditions. His error in confusing ornamentation with architecture, for instance, can perhaps be attributed to the way in which problems of design are often treated. It is true that the skeleton of the building is often done outside of the architect's office. What is more to the point, that skeleton is regarded by many architects as only the background for the real architecture, which may consist, in an interior, of decorative plaster work tied to that frame by an intricate system of angles and wire.

"Now while it would be narrow in the extreme to insist that the enclosed voids which compose a building be governed solely by the mathematics of an economical structural requirement, surely the construction should be given great consideration in design. If the logic and the æsthetics of good planning were to be linked with respect for the structural system in mind, a more consistent result might be obtained. The broad vision with which the architect approaches a problem should be complemented with a knowledge of the practical side. Such knowledge should help and not hinder.

"Mr. Flagler is hardly to be blamed for the narrow angle with which he views the situation. The degree of that angle has been established by the unwillingness of architects themselves to see their problems in greater light. The controversy of which you speak can arise only from misconception."

HERE AND THERE AND THIS AND THAT

CONDUCTED BY E.L.C.

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

To SAY THAT we're very proud of our new heading is putting it mildly! The number of entries received and the high quality of all the contributions is far beyond our fondest hopes and we consider our entry into HERE AND THERE to have started off with great gusto. We can only ask that all our contributors will stand by to help us keep up the good work.

Anthony Hartig of Ridgewood, L. I., is the winner and his drawing is reproduced above. Our check for twenty-five dollars has already been sent to him along with our sincere thanks.

Elliott L. Chisling of New York carried off second place and a fifteen dollar prize. As one E. L. C. to another we like his design very much indeed and will present it for our readers' approval next month.

The third prize went to Stephen V. D'Amico of Pittsburgh, Pa. This heading will be used in March.

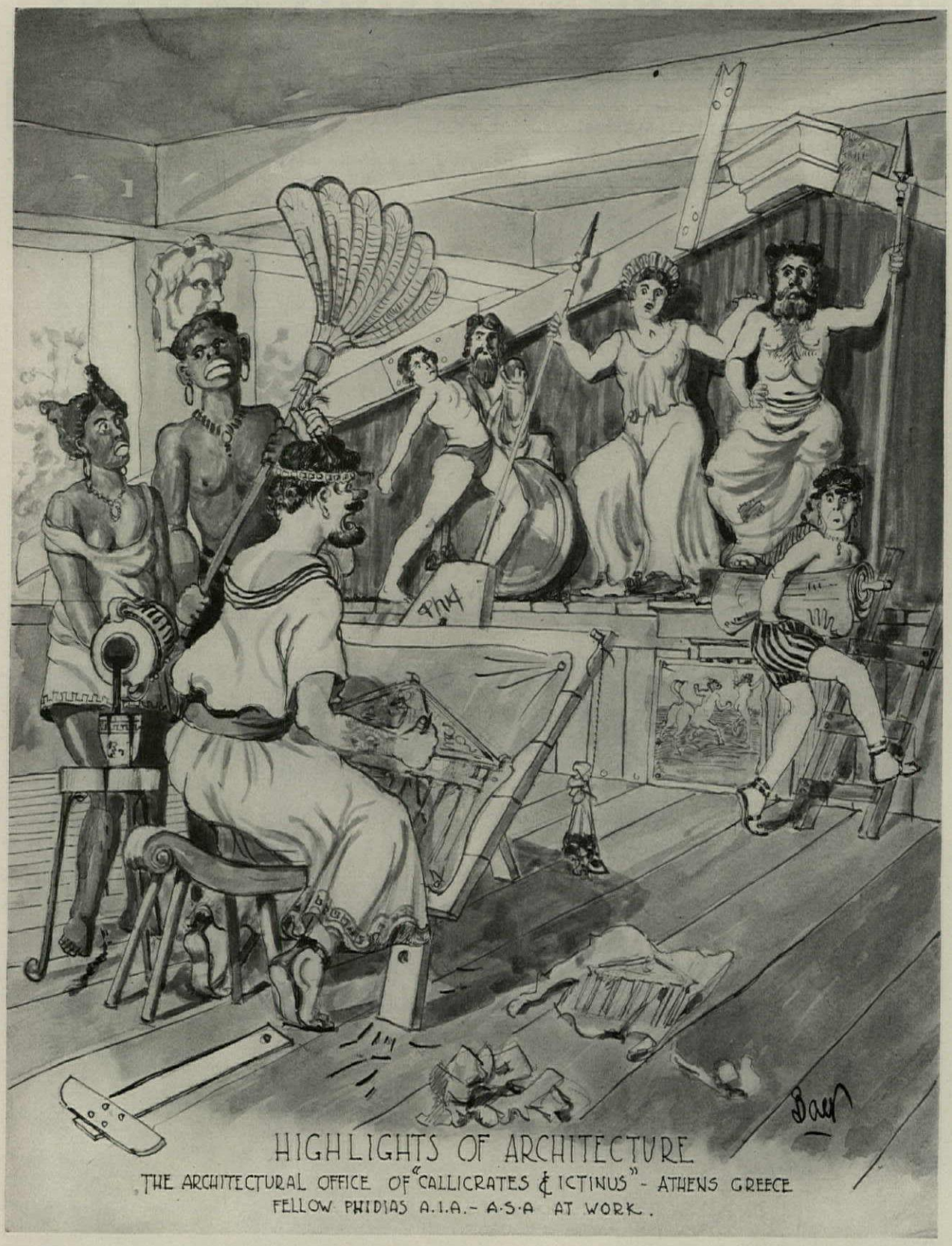
All entries other than the winners will be returned to their respective owners in due time—all of which means we are going to show our readers a number of the drawings next month.

Don't forget our Christmas Card Competition—it's open until the 6th.

Prizes in the regular monthly competition have been awarded to:

Class I—Alexander Z. Kruse, of Brooklyn, N. Y.
Class II—Hannah Bolz Espie, Forest Hills, N. Y.
Class III—Arthur F. Baer.
Class IV—Lawrence Wright.
Good Wrinkle—John D. Jeffers, Oklahoma City, Okla.

FROM A LITHOGRAPH BY ALEXANDER Z. KRUSE—THE SECOND AVENUE "L"
(PRIZE—*Class One—December Competition*)



THE FIRST OF A SERIES OF CARTOONS BY ARTHUR F. BAER, OF CLEVELAND, OHIO, DEPICTING HIGHLIGHTS OF ARCHITECTURE

(PRIZE—*Class Four—December Competition*)

"THE TIGER"—BY LAWRENCE WRIGHT

This linoleum block print was made by Mr. Wright from three blocks, in yellow, black, brown, and red. The red eyes and red mouth were on the brown block.

WHEN WE WERE VERY YOUNG

(with apologies to A. A. Milne)

By Hannah Bolz Espie

(PRIZE—*Class Two—December Competition*)

TO ALL AND SUNDRY NEAR AND FAR,
NEW YORK TOWN IN PARTICULAR!

"Another new building rises today"
Is an ad we read in the papers each day.
And then there is more,
All written in prose,
But buildings so fine
Should be written in rhyme,
And so I have done it,
And here's how it goes:
As business grows and methods improve,
And executives think it is time for a move,
To their critical tastes
Each building
Bows
Low:
"I'm here for the future as well as today—
For how much of space that you use do you pay?
How is it divided? And is the site right?
Do the elevators run in the day and the night?
These are the questions and then many more
My builders expected would come to the fore.
But here they are answered. One stroke of the pen
Can buy at a fair price for shrewd business men,
Space, quite selective, divided just right,
Including, quite gratis, the beauty and light,
Convenience and comfort that come with the new
Good Sirs!
May I offer
This building
TO YOU?"

IT ISN'T OLD TO US

John D. Jeffers Submitted this Prize Winner

THIS MAY BE an old wrinkle instead of a new one, nevertheless I have never seen anyone who used it until I explained it to them; most of them liked it so I pass it on for what it may be worth.

It is nothing more or less than a method of figuring vertical brick dimensions mentally, especially when a standard size brick is used with a half inch joint. First of all I assume "units," a unit being four courses or 11″; to visualize this I would suggest setting down the progression something like this:

1 unit = 11″
2 units = 1′-10″
.....
11 " = 10′- 1″
12 " = 11′- 0″

} Note that the full feet is one less than the number of units,

13 units = 11′-11″
14 " = 12′-10″
.....
24 " = 22′- 0″

} and in this group that the full feet is 2 less than the number of units.

It will be noted that the summation of the number of feet plus the number of inches equals 11 up to and in-

LINOLEUM BLOCK PRINT BY LAWRENCE WRIGHT OF LIVERPOOL, ENGLAND

This charming print of St. Peter's, Rome, was printed from four blocks in brown, red, black, and buff.

cluding 12 units where there is a change and the summation is 22, corresponding changes occur at all multiples of 12. However, it is rare that this is of any real value above 24 units as above that multiples of 11′-0″ for every 12 units is easier, namely 11′, 22′, 33′ et cetera.

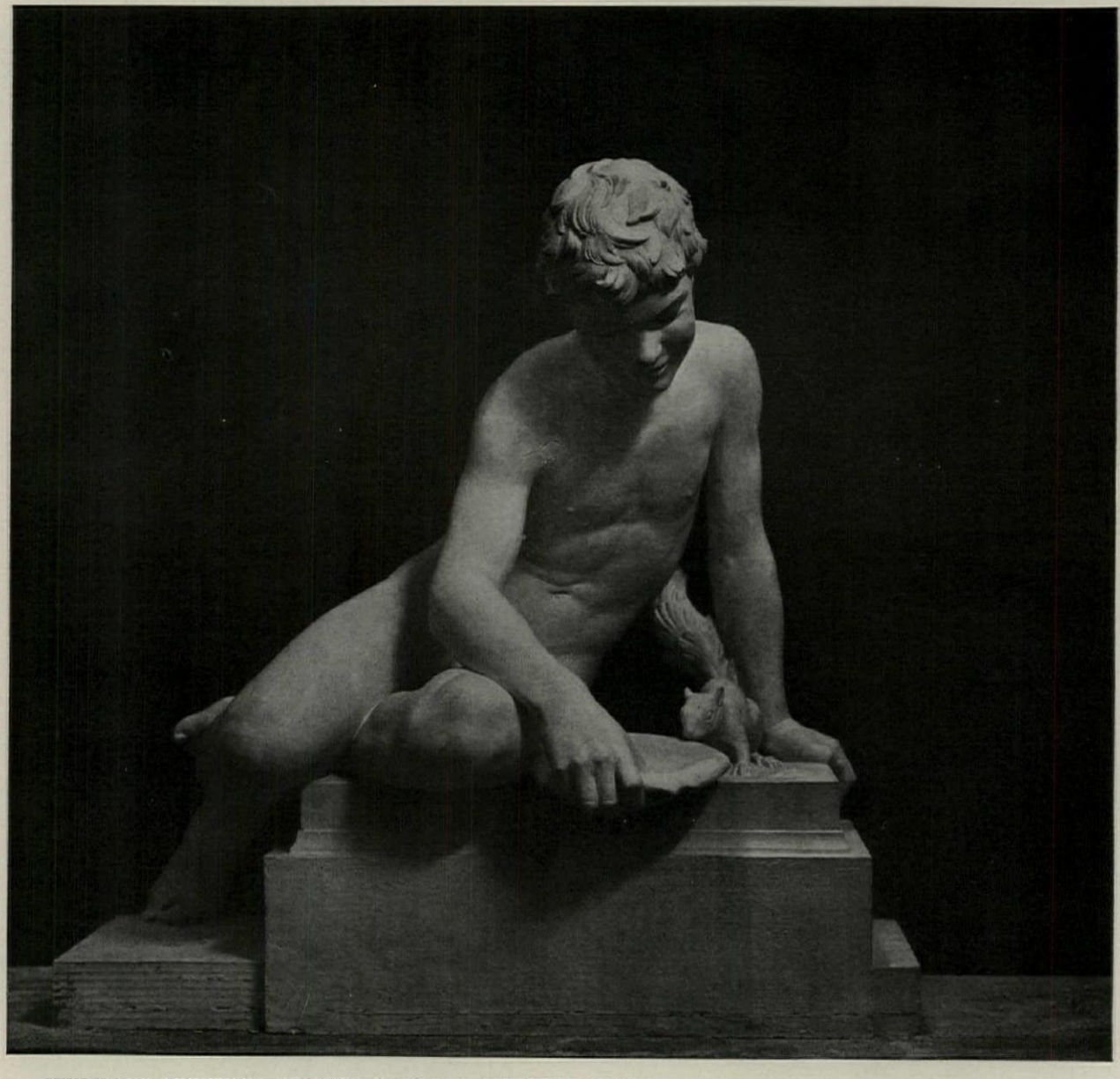
For example of applying this method:
36 courses = What dimension?
36/4 = 9 units
and 9-1 = 8 the number of full feet
then add to 8 enough to make a total of 11 which of course is 3
therefore the required dimension is 8′-3″

And 64 courses = What dimension?
64/4 = 16 units, this is in the second group of 12 so the summation
is 22 and is figured thus
16-2 = 14 and
14 and 8 = 22
therefore the required is 14′-8″

And again 45 courses = What dimension?
45/4 = 11¼ units (temporarily drop the ¼)
11-1 = 10 and
10 and 1 = 11
therefore 10′-1″ and 2¾″ for the ¼ unit = 10′-3¾″

For checking purposes the system works still easier, for example:
20′-5″ is a figured dimension, the full feet places it in the second or the 22 summation group and
20 and 2 = 22 therefore 20′-2″ is a full brick dimension and the remaining 3″ is ¼″ long over a single course. Apparently the correct dimension would more likely be 20′-4¾″.

The above may look involved and is certainly difficult to explain; however, one thorough visualization of it settles it for all time and makes brick dimensioning a mere mental pastime. As for other units—one can work out his own system; personally I make my calculations in 11″ units then make corresponding corrections.



STUDY FOR FOUNTAIN—WALKER HANCOCK, SCULPTOR, FELLOW AMERICAN ACADEMY IN ROME, 1925-1928

THE SPECIFICATION DESK

A Department for the Specification Writer

BURNT CLAY—PART II

By David B. Emerson

Tile, which is derived from the Anglo-Saxon *tigel*, which in turn is a derivative of Latin *tegula*, from *tego*, to cover, can be said, without the least attempt at a pun, to cover a very wide range of material, over a very wide area of territory and a vast expanse of time. Just when and where the making of tile commenced is not known, but it certainly goes back into the earliest civilizations, as the art of the clay worker is one of the oldest known to history. The earliest tiles of which there is any record are the blue and green glazed tiles which, according to Prof. Rexford Newcomb, were made in Egypt in the First Dynasty, about 4700 B. C., and the tomb chambers in the stepped pyramid at Sakkara, built in the Third Dynasty, were lined with blue-green tiles with slightly convex faces, provided on the back with a square tenon perforated horizontally with a hole for attaching the tiles to the wall, either by means of flexible wooden rods or by copper wires. In one of the sepulchral chambers the door was enframed with painted figured tiles with raised hieroglyphs, in either red, blue, green, or yellow, on a fawn-colored ground. The Babylonians and Assyrians were making enameled tiles as early as the Eighth Century B. C.

One of the greatest developments of the ceramic art in the early days, was made by the Persians, who began their work with the founding of the Empire by Cyrus the Great in 558 B. C. and who have continued it down to the present time. The golden age of the ceramic art in Persia was from the Tenth to the Sixteenth Centuries, when it is safe to say that their own work was seldom equalled, and never excelled. From Persia the art of tile making was carried back across Syria to Turkey, Egypt, and North Africa.

The Tunisians derived their inspiration from the Persians, whose work they copied carefully at first, but they very soon developed a style of their own. The industry flourished up until the Eighteenth Century, when the art was practically lost until after the arrival of the French in 1881, when it was revived. Today Tunisian tiles are being recognized as one of the great products of the ceramic industry.

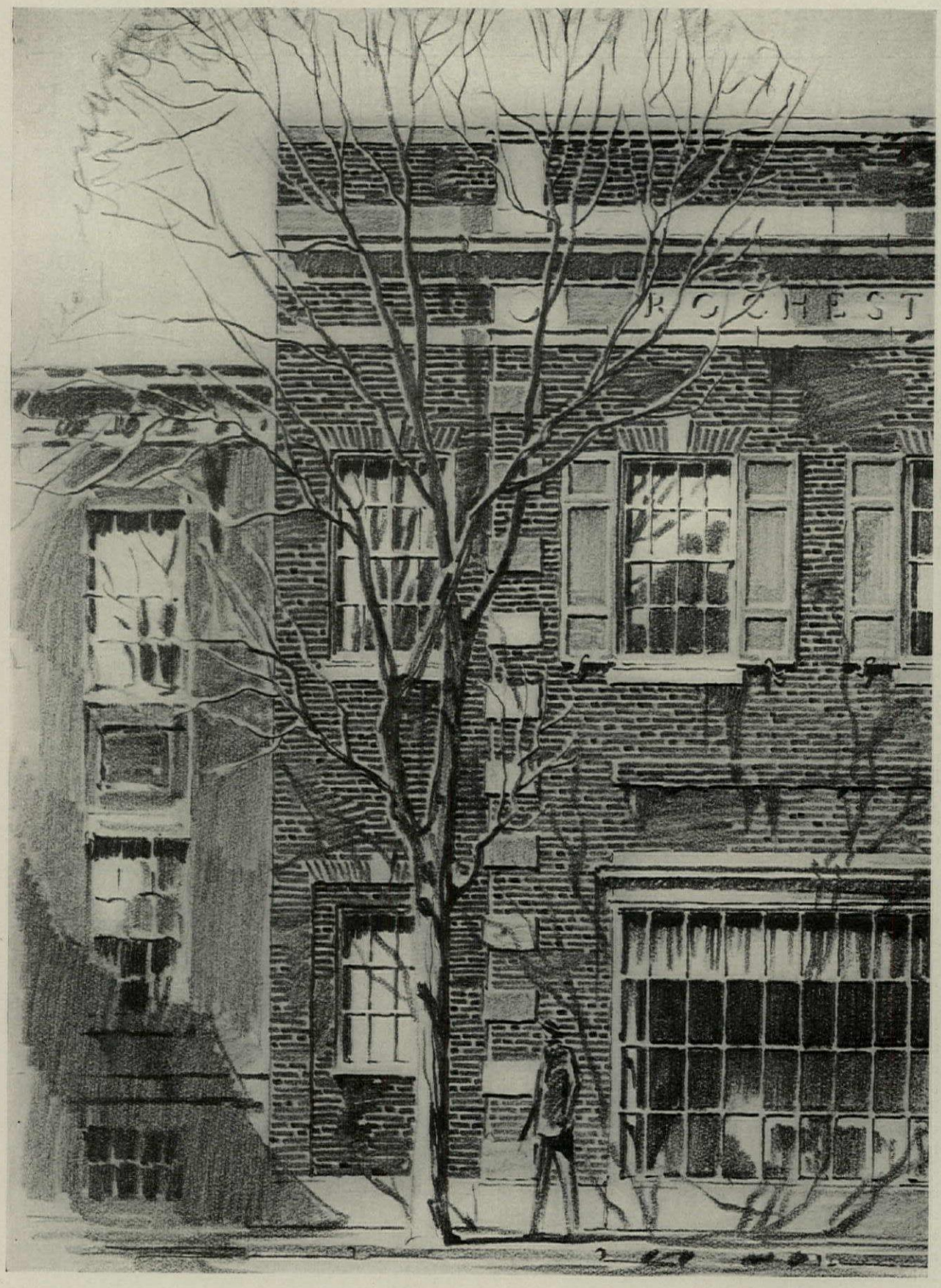
From North Africa the Moors carried the art into Spain, and established it on such a footing that the Spanish are at the present time making some of the most beautiful tiles in the world. From Spain can be traced practically all the development of the ceramic art in Europe. In Italy the art was introduced from Spain in the Twelfth Century. The French, in 1384, imported Spanish artisans to make pottery and tiles in the Spanish fashion, although in both countries a certain amount of ceramic work had been done before the coming of the Spaniards. The Dutch undoubtedly learned the art of making fine tiles through the Spanish and Portuguese Jew refugees, who found asylum in Holland after their expulsion by the Inquisition. The tile industry of Holland in the seventeenth and eighteenth centuries was probably the largest in the world. England was a big customer, and I don't think that I exaggerate when I say that thousands of Delft tiles were exported to the American Colonies.

In England the great impetus in the development of the tile industry was not until Dutch artisans settled in Staffordshire in 1690, although tiles had been made in the country during the Middle Ages. Perhaps the oldest tilework in England is in one of the apsidal chapels of the ruined abbey of St. Augustine in Canterbury which has been excavated some few years now. Those tiles must date back at least to the Thirteenth Century and perhaps earlier. The Lady Chapel at Gloucester Cathedral and the Chapter House at Westminster Abbey, also have tile floors which undoubtedly date back to the Fourteenth or Fifteenth Century.

In this country the tile industry is a mere infant, as the first attempt at making tile, so far as there is any authentic record was in 1876, when Samuel Keys organized the Star Encaustic Tile Company in Pittsburgh, Pa. This venture was so successful from the start that a similar plant was established the next year in Zanesville, Ohio. From these beginnings an industry has grown up, which is equal to that in any other country at the present time.

Tiles are made either by hand or by machine, and either from natural clays or from different kinds of clays, feldspars and flints obtained locally or imported from other countries, carefully selected, proportioned and mixed according to the kind of tiles to be manufactured. Two processes are used in making tiles, the "plastic," and the "dust pressed." In the plastic process the clays are mixed with water and run through pugging machines until a uniform plastic consistency is reached. The plastic clay is then pressed into dies or moulds either by hand or by machine, and after drying is put into burned clay containers known as "saggers," in which they are sent to the kilns and fired.

In the dust pressed process, the materials are finely ground, mixed with water, and passed into filter presses, where the excess water is pressed out. The resulting mass is dried and pulverized, then pressed into metal dies by machine. Each piece is inspected, fettled if necessary to remove all feather edges, then put in saggers, sent through the kilns and fired. Faïence and similar tiles are made by the plastic process, and vitreous and semivitreous tiles and "bodies" of some types of glazed tiles are made by the dust pressed process. All tiles are given one or more firings in kilns, at a high temperature. Unglazed tiles are given one firing which produces their respective degrees of vitrification, colors, and surface textures. The colors in



PORTION OF RENDERING BY SCHELL LEWIS REPRODUCED AT THE EXACT SIZE OF THE ORIGINAL
DRAWN FOR THOMPSON, HOLMES, AND CONVERSE, ARCHITECTS—SEE PAGE 41 FOR ENTIRE DRAWING

unglazed tiles are produced either by the selection of clays which will burn to the desired colors, or by the addition of certain metallic oxides such as the oxides of cobalt, chromium, and so on. The nature of the raw materials, and the color ingredients determine that some mixtures can be fired to complete vitrification, while others do not permit of this, as physical destruction of the product would result. Due to this, unglazed tiles are burned either vitreous or semivitreous according to their colors. In producing glazed tiles, the "green" tiles which are to be given a glazed surface, are first fired in a "biscuit" kiln, at a temperature of over 2000 degrees Fahrenheit. This produces the "biscuit," "bisque," or "body" which is made either by the plastic or the dust pressed process. After firing the biscuit is coated with the glazing liquid, which is made from pulverized flint, feldspar, clay, and a flux, and then placed in the gloss kiln, where it is subjected to slightly lower temperatures than in the first firing, which produces the glaze, and unites it with the biscuit. Lead and tin are also used in some glazes, in which case they can not be subjected to as high a temperature as the feldspar glazes. Colors in glazed tiles are produced by the use of various metallic oxides, mixed with zinc to distribute the color, which stain the base or flux of the glaze while it is in a state of fusion.

The colors in dust pressed vitreous tiles are white, celadon, silver gray, green-blue, green, light blue, dark blue, pink, cream, and the granites of these various colors; and the colors in the dust pressed semivitreous tiles are buff, salmon, light gray, red, chocolate, black, and the granites of these various colors. Glazed tiles are classed as "glazed," "enameled," or "dull finished." Tiles having a white body and a bright finished colorless glaze are called "glazed" tiles; tiles having a white body and a bright finished colored glaze are called "enamels," and all tiles having a dull or matt finish, either colored or white are called dull finished.

Faïences are produced in many colors and are frequently modelled and ornamented in relief, and with raised line decorations. Quarry tiles are a large size machine made tile 6″ x 6″ and 9″ x 9″, ¾″ and 1″ thick. The Welsh quarries are made from clay and are repressed; the American quarries are made from shale, with an auger machine. The Welsh quarries are either red or brown, and the American run in various shades of red and buff. The buff tiles are made from shale mixed with fire clay. At the present time the variety of tiles produced by the American manufacturers is actually bewildering, and in addition to the domestic product a large variety of imported tiles is on the market, from Asia, North Africa, Spain, Holland and France, and it is not difficult to obtain antique tiles from Persia, Tunis, Spain, and Holland, if you know where to go for them.

Roofing tiles have been used ever since man decided to have a better and tighter roof than thatch. When or where they were first made no one knows, probably in Asia Minor, and probably not long after in China, and surely several centuries before Christ. One of the very earliest records we have are tiles found in the ruins of the Temple of Hera at Olympia, dating nearly one thousand years before Christ. These tiles are of the pan and cover type, and are quite similar to the same type of tile used at the present time, except that they are of a wide segmental section, whereas the present-day tile is practically a half circle in section.

Both in Greece and Etruria the early temples were roofed with tile using a broad flat pan with flanged edges and segmental tapered covers, this form of clay tile was the forerunner of the marble tile of the Periclean Age in Greece. The Chinese, Coreans, and Japanese have all made very beautiful roofing tiles for centuries, and some authorities claim that they have treated tiles in an artistic manner approached by no other ancient country except Greece and Italy. By far the most widely used form of tile is the pan and cover type, called "mission tile" in this country. These tiles have been used for centuries on both sides of the Mediterranean, in North Africa, Spain, Portugal, Southern France, Italy, Greece, and Asia Minor, and introduced by the Spaniards into the West Indies, Mexico, California, and the Spanish settlements of South America, and by the Portuguese into Brazil. In Normandy, Brittany, and England the flat shingle tile was used almost exclusively. In the south of England one sees hardly anything but red tile roofs; it is safe to say that seventy-five per cent of all the roofs in Salisbury are tile and almost every parish church in Canterbury has a tile roof. In Sussex the tiles average 10″ long, 6¾″ wide and ⅝″ thick. In other parts of the country they were about 9¾″ long, 5⅜″ wide and ½″ thick. In addition to tiling their roofs, it was quite a common practice in the south of England during the late Seventeenth and early Eighteenth Centuries to hang the walls of dwelling houses with tile. The tiles which were used for this purpose were either the plain rectangular, half-round or fish scale and the Vee shape.

Crooked or Flemish tiles, a type of interlocking tile, were used on low pitched roofs in England. In Belgium, Germany, and the Scandinavian countries various types of interlocking tiles were used, and in certain parts of Germany shingle tiles were used. The first roofing tiles made in the United States were probably made by Indians in California, under the direction of the Spanish padres. These tiles were the pan and cover type similar to those made in Spain. They were made by hand, and tradition has it that they were moulded over the thigh of the worker. The first roofing tiles made in the English colonies were made in Montgomery County, Pennsylvania, by German settlers, about 1735, and the Moravians at Bethlehem made roofing tiles as early as 1740. These were shingle tiles patterned after German tiles. At Germantown, Ohio, about 1814 an enterprising German made enough shingle tiles to cover his own house, and at Zoar, Ohio, about 1820, the Zoarites, a religious sect, made shingle tiles by hand and some of the old buildings roofed with these tiles are still standing. All of these early attempts at tile making were tentative and purely local in their character, and it was not until 1888, that the making of roofing tiles on any scale was started, when the Celadon Terra Cotta Company, was established at Alfred, New York. This plant is still in operation, and is now a part of the Ludowici-Celadon Company, the original company having merged with the Ludowici Tile Company, who started making tile at Chicago Heights in 1893.

The roofing tiles of a few years ago were not what could be called an artistic success, the most common type was an "S" shaped interlocking tile called "Spanish" mostly because such a tile was never made in Spain. Several other types of interlocking tiles were also made, all of which were too mechanical to be beautiful, but all of that has changed during the past twenty years, and today our American tile manufacturers are turning out tiles which are really beautiful, and not far behind the old tiles of Europe.

At the present time several factories in different parts of the country are making very good mission tiles, both in straight barrel and tapered barrel types, and two factories

that I know are making very good shingle tiles, so good that when properly laid they would easily be mistaken, in photographs, for English tile of a century ago. In addition to these exceptional tiles, the various types of interlocking tiles are to be had. Roofing tiles are made either from shale or from mixed terra cotta clay and shale, and are made mostly by machine. The colors other than the natural burning colors of the shale and clay, are produced with slips, practically the same as described for terra cotta.

A small amount of tiles is imported into this country from Belgium, but the demand is not very large. When Mr. Deering, the multi-millionaire plough manufacturer, built his mansion at Miami some fourteen or fifteen years ago, it was not thought possible to obtain a modern American tile that would give the desired effect, so agents were sent over to Cuba, where they bought the tiles on a number of old roofs. These were sent to Miami, and re-laid on the new roofs. It was found that some of these tiles had originally been made in Spain, and shipped over to Cuba, as they bore the Spanish makers' marks. More recently a New York millionaire who is building a residence on Long Island, purchased the tiles from several old roofs in Normandy and Brittany and had them shipped over here to be re-used.

Now in closing let me say, that I am not attempting to give a full and complete account of the clay industry, but merely to write an epitome that may be of some help to the young specification writer in getting a little better general knowledge of these materials and their uses.

ILLINOIS SOCIETY OF ARCHITECTS' PUBLICITY CAMPAIGN

(Continued from page 52)

want to know just what constitutes proper architectural preparation and practice in order that you may be able to distinguish them from inadequate preparation and improper practice. We believe you will find the enclosed folder very helpful in this respect. Architectural registration is intended solely as an Act for public benefit. The profession, as represented by this Society, is fully aware of the fact that any incompetent, dishonest or reckless practice on the part of an Architect is a crime against the community and a reflection against the good name of our profession.

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FURTHER COOPERATION FOR BETTERMENT OF CONDITIONS IN THE BUILDING INDUSTRY

THE CONVENTION OF the sixteen Southern Chapters of the American Institute of Architects and the Producers' Council held at Memphis, Tennessee, during the week of October 9th to 16th has led to steps being taken toward a closer cooperation of the two bodies in matters of the broadest consequence both to the architectural profession and producers of building materials, and equipment. At no previous convention has there been shown such appreciation of the mutual interdependence of the several branches of the construction industry—the planning or architectural groups, the material producing group and the group which erects buildings from plans and materials furnished by the other two.

This was the keynote of an address delivered for the producers by Mr. F. P. Byington, President of the Producers' Council, to a combined luncheon of the Institute Board of Directors, visiting chapters, members of the Producers' Council and contractors. Speaking of a plan now being worked out to uphold and strengthen the leadership of the architectural profession in the conduct of the country's building operations, Mr. Byington pledged the united support of the building material group, which in the industries represented in Producers' Council membership comprehended over two million persons employed in over nine thousand plants, mills, and factories having a total capital of over twenty-two billion five hundred million dollars.

The program for closer cooperation between the Institute, Council and organizations representing general contracting interests will be worked out in conference with a committee appointed by the Institute to meet with a committee of the producers at an early date.

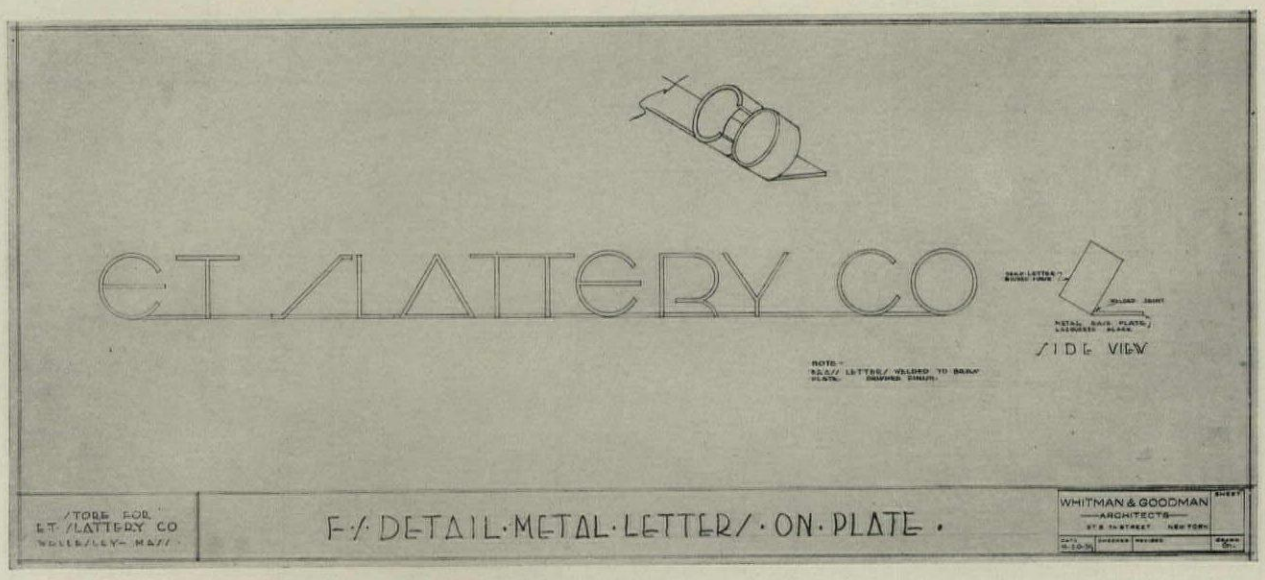
EXHIBITION OF THE ARCHITECTURAL LEAGUE OF NEW YORK

THE ARCHITECTURAL LEAGUE of New York will hold its Forty-fifth Annual Exhibition of Architecture and the Allied Arts at the building of the American Fine Arts Society, 215 West 57th Street, New York, from Saturday, February 1st to Sunday, March 2nd, inclusive.

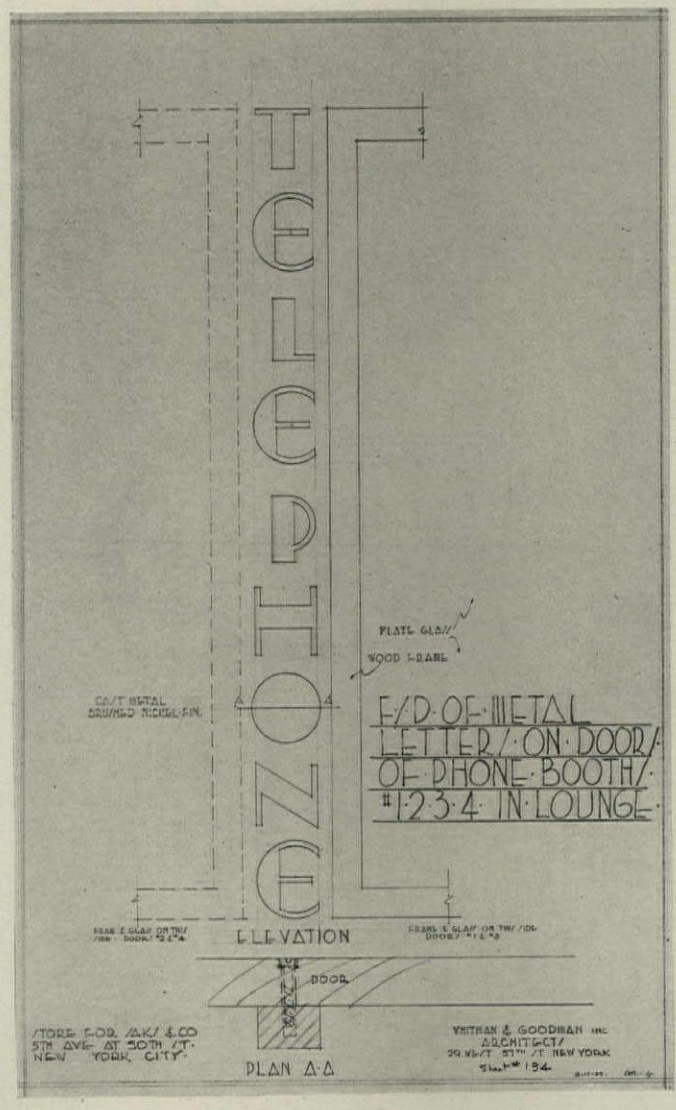
The Jury of Award for the Medals of Honor in Architecture, Decorative Painting, Sculpture, and Landscape Architecture is composed of: Raymond M. Hood, ex-officio chairman; Gilmore D. Clarke, William Adams Delano, John Gregory, Arthur Loomis Harmon, Henry V. Hubbard, Ely J. Kahn, H. A. Mac Neil, Edward McCartan, Hildreth Meière, Austin Purves, Jr., Eugene Savage, Ralph Thomas Walker, and Ferruccio Vitale.

A CORRECTION

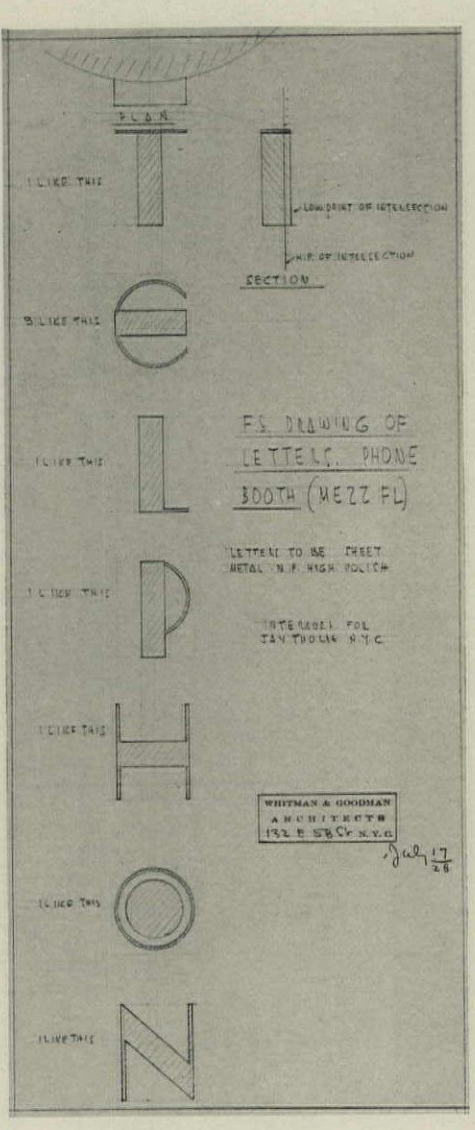
IN THE ADVERTISEMENT of the Nailcrete Corporation in our October issue in which the Loyola College Building is illustrated, the architect was incorrectly stated. T. Franklin Power, of Los Angeles, is the architect.



IN THE ORIGINAL DRAWING THE LETTERS ARE $1\frac{11}{16}$" HIGH

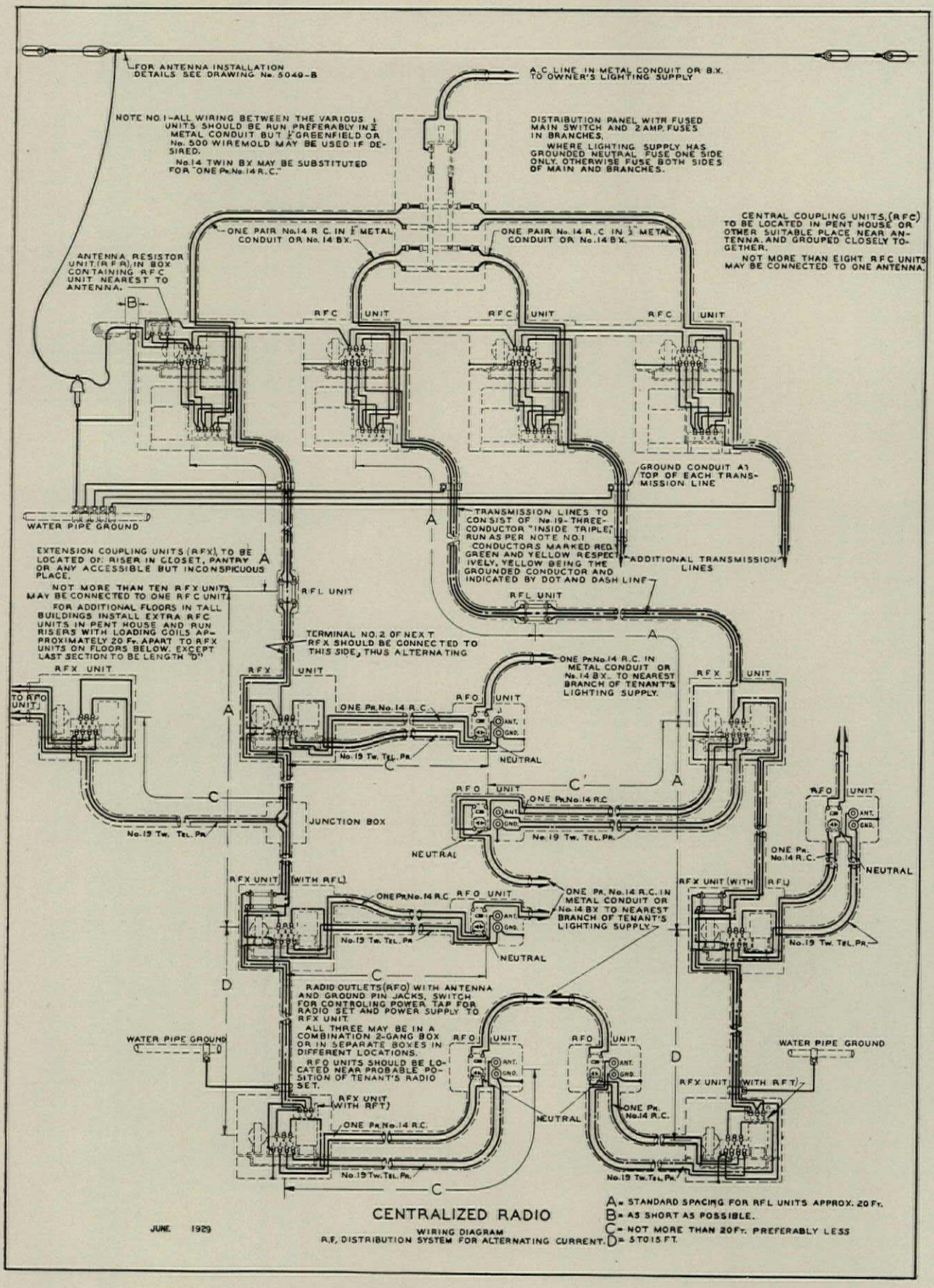


THE "E"S ARE $1\frac{7}{8}$" HIGH ON THIS DRAWING



"N" MEASURES 2" IN HEIGHT

FROM SOME FULL-SIZE DETAILS BY WHITMAN AND GOODMAN, ARCHITECTS



TYPICAL LAYOUT OF WIRING DIAGRAM FOR CENTRALIZED RADIO INSTALLATION

CENTRALIZED RADIO EQUIPMENT

By E. Jay Quinby

Centralized Radio Engineer, Engineering Test Dept., Radio-Victor Corporation of America

PROBABLY WE CAN all agree that wherever we live it is very desirable to be entertained, and certainly radio is one of the important vehicles of entertainment today.

The problem of gaining good radio reception in a private dwelling is comparatively simple, and any means which are necessary for obtaining good radio reception affect no one but the individual who dwells in the house.

However, if we have a number of families under one roof, as we have in the case of an apartment house, the different methods used by each family to get good radio reception are not only very likely to affect the next door neighbor, but they are most certain to do so.

In the apartment house, if we want to install a radio receiver, we must—that is, under present conditions—either engage a service man or do the work ourselves of rigging up an antenna on the roof, probably trailing a lead-in wire outside the building, down over the front or the side or down through an internal court. We must bore some holes through the window casing, trail a wire around the room to the location of the set, and rig up a ground connection on the water pipe or steam pipe.

All very well, except that when we have a large building, with say anywhere from thirty to one hundred or possibly four hundred families, all trying to get a good antenna on the roof, with good down lead wires, then we run into trouble, as you probably have experienced. The tenants get into trouble between themselves, and they go to the landlord about the thing.

They have to rig up masts on the roof. They eventually erect a forest of wires on the roof that looks something like an African jungle, and from time to time one wire belonging to one man will drop across not only one but several other wires belonging to other tenants, and disrupt the whole scheme of things, so that the programs are interfered with.

Now, we have been evading this issue for a number of years. It is gradually getting more and more important. Let us turn back the calendar to the period between about 1900 and 1904, when apartment houses were first putting in electric lighting. You will recall that the first apartment houses had electric light provisions only in the living room and the dining room, or, the parlor and the dining room, as they were called in those days, but the bedrooms, kitchens, etc., were not equipped. They had gas fixtures in those rooms.

Then gradually the electric lighting companies convinced apartment house builders that the thing to do would be to equip every room in all the apartments for electric light, and gradually to do away with those gas fixtures, because the electric system had become sufficiently reliable and superior to furnish illumination, and the gas fixtures were no longer required.

Now, today in the radio industry we are facing very much the same situation. We have to convince apartment house owners and builders that something should be done to accommodate the tenants with respect to good radio reception, and not to leave each tenant to shift for himself.

The following possibly is a very far-fetched comparison, but I am going to draw it, anyway. Imagine how silly it would be for a tenant to move into an apartment and find there was no provision for water supply. He'd have to go up on the roof and rig up a tank to catch his rain water and run a pipe down to his apartment somehow or other,—the best way he could—and each time a tenant moved out he would, of course, take his equipment with him, and the new tenant would put in some more equipment according to his own individual ideas. That is a rather far-fetched comparison, but nevertheless, it is worthy of consideration.

Today our incoming tenant rigs up brackets. He cuts holes in your walls. He has to chip plaster in order to get his insulator brackets fixed. He has to lash makeshift masts to the ventilator pipes on the roof, and he is not so careful about the waterproofing materials on your roof. Leaks are started, and repairs must be made. Probably you have been through that experience.

Then again, we come to the modern apartment house, which is a good deal taller and accommodates many more families. With the new building laws we have the "setback" construction, so that as we gradually approach the top of the building the roof space dwindles down until we get practically no roof whatever. In some cases it winds up in a steeple or pyramid of some kind, and it becomes more and more difficult for each tenant to rig up an antenna on a roof of that kind.

So, to meet that condition, there is now available a system called the multiple receiver antenna system. It is a branch of our centralized radio industry, and it is now possible to erect a central antenna, ideally located where it will pick up a maximum of the desired radio energy and a minimum of the undesirable interference, and electrical noise (electric disturbances) and then to feed the energy picked up by that antenna into central coupling units located near the top of the building, for instance, in a penthouse or the top of an elevator shaft or any inconspicuous but accessible position.

Then, out of these central coupling units conduits are run, with conductors, down to each apartment much the same as for electric lights; in each apartment a small coupling unit is located in an inconspicuous but accessible position, we will say in a pantry, closet, or foyer hall, wherever you might locate a fuse cutout or electric meter.

From that position a branch is run to the probable location of the radio receiver, somewhere in the living room, we will say. That branch terminates in a small wall plate, the size of an ordinary two gang plate. That little plate provides a power outlet for the radio set, and a radio connection to the antenna above.

There is a switch on that plate, so when you turn the switch on, you immediately start your set up. At the same time that switch controls the coupling unit I just spoke of, in the foyer or pantry. Immediately the tenant is connected to the central antenna.

That system is so successful that it provides reception as good as or better than you could get from an individual antenna put up for each receiver. You get really better results in most cases than you could possibly get by running a separate antenna for your own receiver.

Furthermore, it avoids the troublesome interconnection between the multiplicity of receivers all using separate antennae on the same roof. In other words, whatever one tenant does on his particular branch will never affect a tenant on any other branch throughout the building.

A man on one branch can have any type of radio re-

ceiver. He can have a regenerative set or radio frequency set or any of the modern circuits or ancient circuits—it makes no difference. Whatever he does on his particular extension can never affect any one on any other extension. Furthermore, we have eliminated the troublesome pick-up of electrical disturbances and interference due to the long down lead outside the building or down through the court.

Once we get a good clean signal into the central coupling unit that radio program or radio signal is kept perfectly clean and free of disturbances all the way down on every branch throughout the entire system. Furthermore, the man way down at the bottom of the building gets exactly the same results as the man right up at the top. In the past, the man at the top of the building had the advantage because he was closest to the antenna and did not have to use the long lead-in.

The trouble with a long lead-in is that it is shielded from the useful radio waves which we want to pick up. At the same time it is exposed to the undesirable interference, such as the sparking of all the switches throughout the building, all the various forms of violet-ray machines, washing machines, electric refrigerators, and X-ray machines in buildings where we have doctors and dentists.

With the new system the lead-ins or transmission lines, as we call them, which connect each tenant with the central antenna, are completely shielded from these disturbances and can transmit only useful radio programs.

These transmission lines bring down from the antenna the entire broadcast prism. All the wave lengths, all the frequencies are brought down from the antenna, just in the form which they were picked up by the antenna, and are available at every extension.

Furthermore, as the television era dawns, we will have to depend more and more upon transmission lines of this kind, because television is not going to be practical with the ordinary antenna system. Something of this sort must be used for television, and I think we will all agree that reception of sound combined with reception of television (optical or visible effects) is going to be a fine thing.

It is here now, but it is not yet reduced to an economical basis. We can't hope to have television receivers in all the apartments under present conditions. It is a little bit too expensive, but it merely remains to put television on an economical basis, so that it will be available for everybody.

Now, for equipping new buildings, it is a comparatively simple problem, and I would say comparatively cheap. It is a good deal cheaper than wiring an apartment for electric light, because you don't have to put in a whole network covering all the rooms in each apartment. One outlet is sufficient per apartment. It is quite practical to run an extension from that one outlet down along the baseboard or underneath the carpet to a set located any moderate distance from that extension or outlet. It is not necessary to equip more than one room in any apartment except, in the case of the more de luxe apartments, where you have two floors. Then it is advisable to provide an outlet on both of those floors.

The system, as it is at present designed, places the coupling units in each apartment on the tenant's meter. He pays for the current which supplies that coupling unit. There is a vacuum tube device in that coupling unit, which allows the radio energy from the transmission line to be fed to the set, but which prevents any energy from being fed back from that set onto the transmission line.

The central coupling units up at the top of the building are connected to the owner's supply. There are vacuum tubes in those coupling units, and they are intended to operate twenty-four hours a day. Under present conditions, one central coupling unit will take care of ten apartments and as many as eight central coupling units may be placed on one antenna, so with one antenna wire on the roof as many as eighty apartments can be supplied.

Let us consider a building that has one hundred and sixty apartments. We would then put up two antenna wires on the roof and we'd simply duplicate the system as already described for the remaining eighty apartments.

The biggest building we have yet equipped is four hundred and twenty apartments. They don't often come that large, and there have been some instances where we have had to put in equipment for only a few apartments or a few stores.

Very often a building owner has an opportunity to rent a store down on the ground floor for a radio business, but it is impractical to operate a radio enterprise in that store on account of poor radio receiving conditions, and the solution to that problem then would be to put in one central coupling unit and one extension coupling unit, so as to connect that store with an antenna at the top of the building. So, it is advisable, in some cases, to equip just one extension in a big building, in order to put over a radio enterprise of that kind.

I am simply giving you the two extremes—anywhere from one to four or five hundred extensions are perfectly practical.

What I have described is the system which has been develop for apartment houses where the tenants own their own furniture and bring their own equipment into the building.

We have another system which is designed to accommodate buildings of the apartment hotel type.

Briefly, the apartment hotel is one in which the guest or tenant does not own the furniture. He rents the place completely furnished, and in that case he would not wish to be bothered with moving in his own radio set and connecting it up. For large buildings of this kind we have another system known as the centralized radio system with AF distribution (audio-frequency distribution).

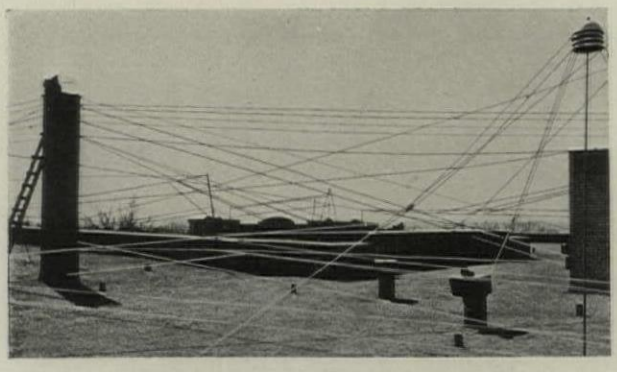
In this case, our central station is not just a group of coupling units. Our central station is then a group of complete radio receivers with amplifiers and the branches extending from that central station go to loudspeakers which are placed in each apartment or each room.

These loudspeakers may be obtained in the flush wall type, so that they can be sunk right in the wall with a little metal grille and controls right on the face plate of the box. Upon entering that apartment, in order to get good radio reception, it is merely necessary to turn one of the knobs to the desired volume, and you may turn the other knob to any one of several channels, giving you the choice of several programs on any extension.

That is what we use in the hotels, but the first system which I described is the one which is most important for the apartment house building.

Geography has a big influence on your problems, but we can all agree that good radio reception is desirable, no matter where we are, and that the radio issue in the apartment house field has been evaded quite long enough. Something definite should be done and we are making it possible and practical for you to do something to accommodate the tenants in this respect.

We have known of instances where the tenants were dissatisfied on account of the extremely poor radio conditions and simply moved out of the building. We have known of test suits in which lack of good radio facilities was a basis for breaking leases. There always



TYPICAL ANTENNA "JUNGLE" ON A NEW YORK APARTMENT HOUSE

have been lots of excuses, but that is just one more.

However, it is safe to say that if two apartment houses were built side by side, similar in every respect with the exception that the one was completely equipped with centralized radio, it would be easier to fill the one apartment than the other, and a lot more convenient for the tenants, and possibly better for the landlord or the owner.

The question is frequently asked us concerning this equipment, "Can the tenant get any station he wants, or is he limited to stations that are connected at the top?"

The answer is, that with the apartment house system, which we call the multiple receiver antenna system, the whole broadcast prism is transmitted through the entire building so you can get any station that is on the air with sufficient field strength to affect that locality; you can get any station that you could get with your own individual antenna, and get either as good results or better.

We are often asked if this system is as practical for the purpose as the underground antenna. The results obtainable from this system are far superior to anything that could possibly be obtained by an underground antenna. An ordinary stock set of any design or type which would work on a separate antenna, may be used on this system.

Concerning the Radiotrons required, we have a group of central coupling units up in the penthouse at the top of the building. Each one of these has a vacuum tube device within it that burns twenty-four hours a day, so that this service is available at all times. This group of coupling units is normally connected to the owner's lighting system, so that this current is registered on the owner's meter. There is a vacuum tube device connected on the meter of each tenant, as in each apartment we have an extension coupling unit. It has been common practice to let the tenant pay for this Radiotron, although he obtains it from the superintendent of the building. This Radiotron is placed in a little box about six by eight inches sunk flush in the wall. When the tenant turns on his switch this Radiotron begins to function. The minute he shuts it off, his set and this device cease to function.

If a Radiotron burns out in one of the central coupling units, it would be perfectly obvious that this has happened, because all the tenants on the corresponding line would be affected, but it is common practice to replace them before the end of their normal life has been reached.

The object of putting in the coupling units, is to provide one way valves so that energy will be transmitted down from the antenna to each apartment, but nothing will be returned from any apartment to the antenna to cause interference with the neighbors. However, it does so happen that these devices do act as amplifiers, which is another advantage of this system.

The operating expense which is imposed upon the owner is the cost of the central coupling unit Radiotrons plus the current to run them. He bears no expense for operating the extension coupling units, as these are taken care of by the tenants through the superintendent. When a tenant wants a new Radiotron for his extension, he rings up the superintendent, and the superintendent makes replacement out of his stock. He should carry a small stock, not more than three or four Radiotrons for this purpose, because as fast as one is used he can get another one.

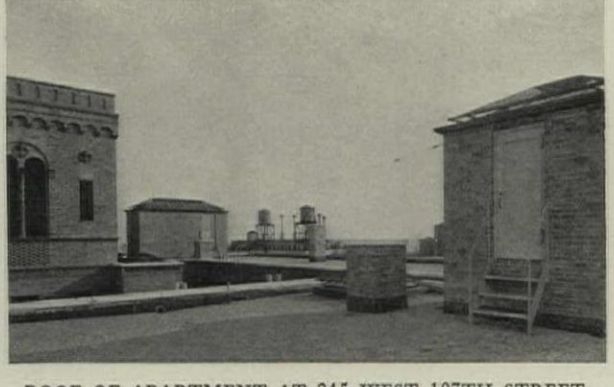
We are often asked if the small antenna devices which plug into the electric light sockets would not be just as good as the system just described.

Let me make clear how such devices function. In some localities we have overhead electric light supply lines on poles. It is possible that the device will be satisfactory in those localities, due to the fact that the overhead wires will pick up a certain amount of the desirable radio energy. On the other hand, they do pick up a lot of disturbance at the same time. The results obtainable from such devices will be very widely variable, but the results obtainable from the system I have just described are absolutely fixed, and at all times it will be superior in performance. The small antenna devices will pick up the same disturbances that the long lead-in wires to the ordinary antenna on the roof will pick up—often more.

The trouble with such devices is that your "pickup" is right in the heart of all the interference. You are picking up possibly 80% of energy from surrounding electrical devices which are noisy (such as vacuum cleaners and arcing switches and elevator contactors, X-ray machines and what-not). However, with this multiple receiver antenna system your antenna is so located that it picks up, let us say, more than 90% of useful radio energy and less than 10% of the undesirable disturbance.

All kinds of apartments, from the smallest, say two or three stories high, up to twenty-five or thirty story buildings, have been equipped with Centralized Radio Systems. We have just finished the Allerton Hotel in Chicago, which is a twenty-eight story building with 1000 rooms, and we have just completed the apartments at 245 West 107th St., New York, and the Beresford Apartments on Central Park West, at Eighty-eighth Street, New York.

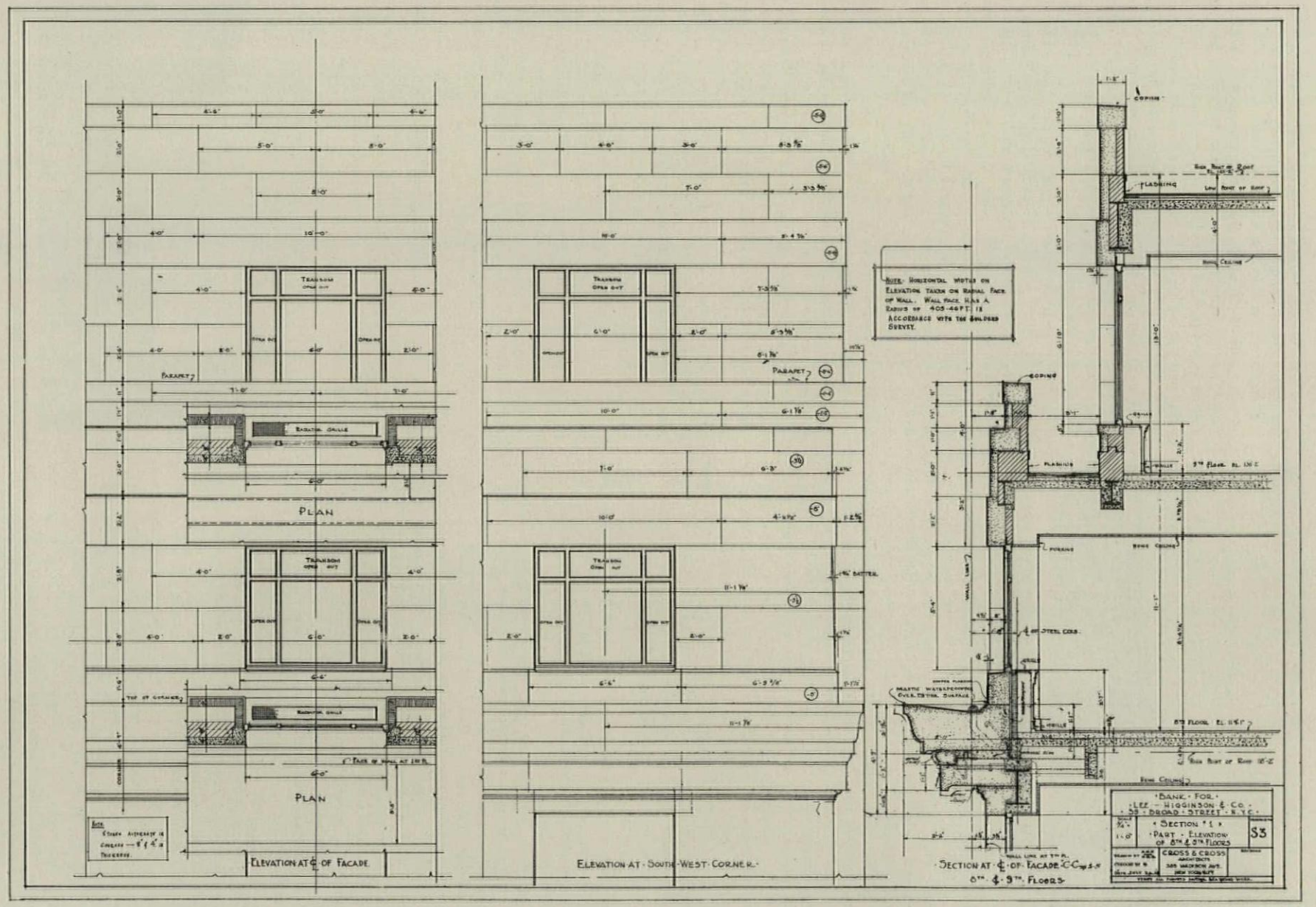
The cost of the equipment and labor can be compared with the cost of wiring that building for electric light, with the same number of outlets. It would probably cost the same for each radio outlet as it would cost for each electric light outlet. In existing buildings, surface conduit may be used.



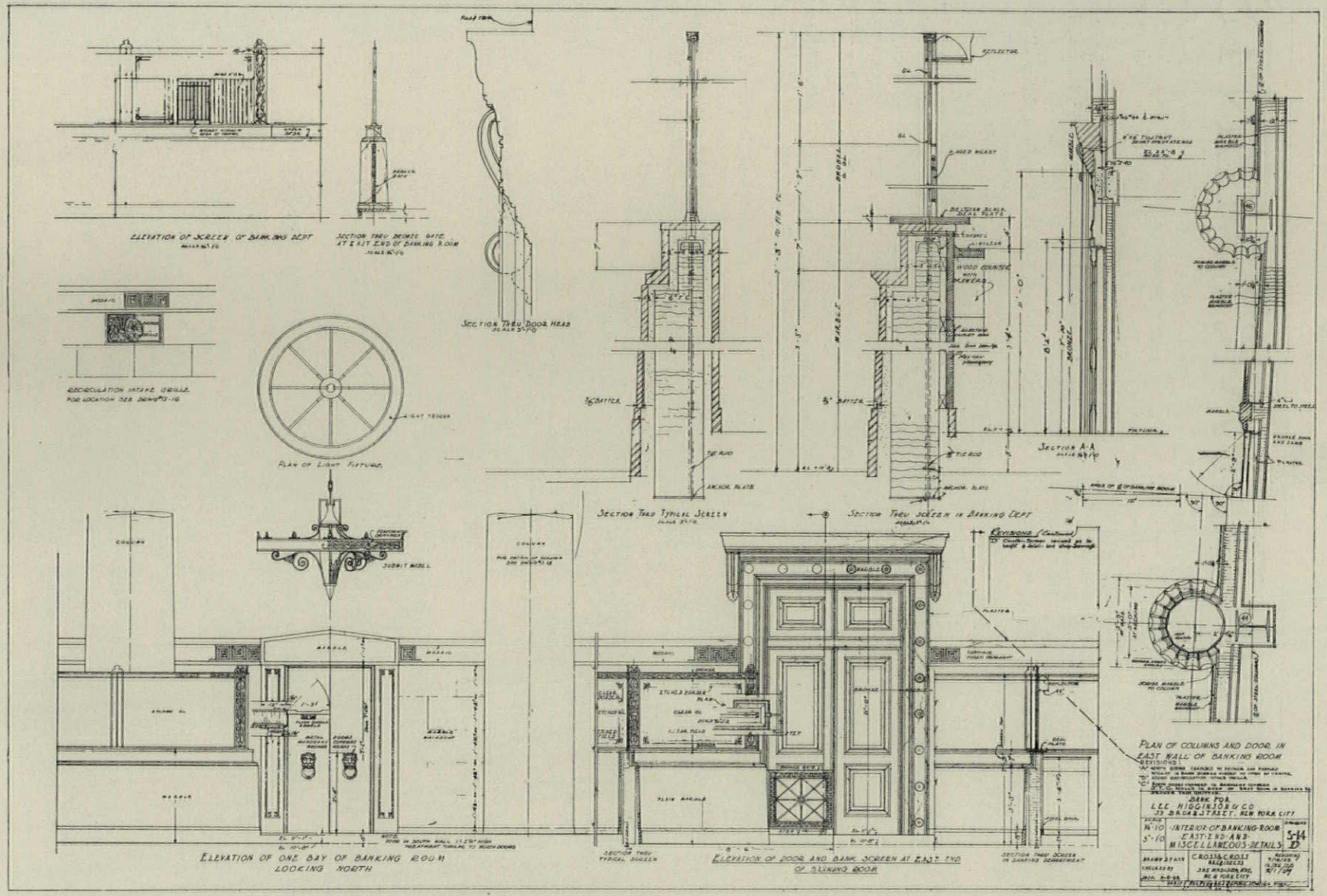
ROOF OF APARTMENT AT 245 WEST 107TH STREET, NEW YORK

SUGARMAN AND BERGER, ARCHITECTS

Showing central wire erected to feed the entire building of 117 apartments using the system herewith described.



DETAILS OF CONSTRUCTION—PART ELEVATION OF EIGHTH AND NINTH FLOORS, BANK FOR LEE, HIGGINSON AND COMPANY, NEW YORK



DETAILS OF CONSTRUCTION—INTERIOR OF BANKING ROOM FOR LEE, HIGGINSON AND COMPANY, NEW YORK

CROSS AND CROSS, ARCHITECTS

(See also pages 880 and 884, December issue)

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.

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

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

THE MART

H. Tilford Moore, 850 Charles Street, St. Paul, Minn., would like to obtain Volume II, No. 3, and Volume III, No. 4, of *The White Pine Series of Architectural Monographs.*

David Zoethout, 255 Marguerita Lane, Pasadena, Calif., has the following copies of PENCIL POINTS for sale: April, May, June, August, September, October, and November, 1926; February, March, June, July, September, October, and December, 1927; January, February, and March, 1928.

Piper & Brooker, Empire Bldg., 14 Swanson Street, Auckland, New Zealand, wish a copy of June, 1924, and August, 1925, PENCIL POINTS.

Raymond Pitcairn, 1830 Land Title Bldg., Philadelphia, Pa., would like to secure a copy of the November, 1925, issue of PENCIL POINTS.

Arthur W. Hodgkins, 2145-C Street, N. W., Apt. 714, Washington, D. C., would like to have a copy of the September, 1926, issue of PENCIL POINTS.

S. Abrams, 622 Mifflin Street, Philadelphia, Pa., has for sale a drawing board 6'8" by 3'4¼" by 1¼", adjustable to any angle, in good condition.

J. C. Gardner, 9500 Jones Mill Road, Chevy Chase, Md., would like to secure a copy of the September, 1926, issue of PENCIL POINTS.

Smith Solar & Smith Miller, Bolsa De Comercio, Oficinas 330-331-332, Santiago de Chile, South America, would like to have the January and February, 1928, issues of PENCIL POINTS.

H. W. Lang, 160 S. Wilson Avenue, Pasadena, Cal., has the following copies of PENCIL POINTS for sale: complete volumes for 1927, 1928, and 1929, in perfect condition; December, 1924; April, May, June, August, and September, 1925, in fair condition. Ten dollars for the lot, expressage to be paid by purchaser.

W. A. Wall, 502 So. Grand Avenue, Bozeman, Montana, will sell for fifty cents each, the following copies of PENCIL POINTS: August, 1928, to May, 1929, inclusive.

Charles A. Rais, 40 King Street, Westfield, Mass., has for sale all copies of PENCIL POINTS from June, 1920, to the present date in good condition, with six PENCIL POINTS binders.

Fred F. Florig, 711 Collins Avenue, Pittsburgh, Pa., wishes the January, February, and March, 1929, issues of PENCIL POINTS.

John H. Liebau, 238 Main Street, Hackensack, N. J., has for sale a complete up-to-date A.I.A. file, complying with the Standard Construction classification for Filing. Price $50.00 without steel cabinet; $70.00 with cabinet.

D. W. Polhemus, c/o New York Telephone Company, 158 State Street, Albany, New York, would like to have the January, February, and March, 1929, issues of PENCIL POINTS.

PERSONALS

MAX HORN, formerly of Horn & Ligeti, is now engaged in the practice of architecture and engineering at 1501 Broadway, New York, N. Y., and 171 Beach 75th Street, Arverne, L. I., N. Y.

E. FORD TIRRELL has moved his office from 932 Purchase Street, New Bedford, Mass., to 10 Devonshire Street, Boston, Mass.

J. G. BRAECKLEIN, JR., formerly of Los Angeles, Calif., has become a full partner of J. G. Braecklein. The firm will practice under the name of Braecklein & Braecklein at 220 Kresge Bldg., Kansas City, Kansas.

CHARLES W. FRANK has moved from the Akron Savings and Loan Bldg. to 8 South Adolph Avenue, Akron, Ohio.

FREE EMPLOYMENT SERVICE ITEMS WILL BE FOUND ON PAGES 84, 88 AND 89 IN THE ADVERTISING SECTION

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PUBLICATIONS

OF INTEREST TO THE SPECIFICATION WRITER

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

Artstone Stucco and Tuckahoe Plaster.—A descriptive book containing many illustrations showing the uses to which Artstone Portland Cement Stucco and Tuckahoe colored interior plaster are being put. Complete stucco and plaster specifications are included, also series of plates showing textures. 24 pp. Standard filing size. Artstone Products, Inc., 52 Vanderbilt Ave., New York, N. Y.

Quieting Noise with Soundex.—A.I.A. File No. 39-b. Attractive new brochure with color photographs of this tile and complete information covering its uses for absorbing sound in offices, auditoriums, schools, hospitals, and factories. 8½ x 11. The Stockade Corp., Builders Exchange, Chicago, Ill.

Concrete Floors for Residences.—Publication contains detailed description of three types of reinforced concrete residence floors—solid slab, tile and joist, and ribbed, with drawings showing typical designs and construction methods. Design and form details for reinforced concrete beams and columns are also given together with information on floor finishes. 20 pp. 8½ x 11. Portland Cement Association, 347 Madison Ave., New York, N. Y.

Erection and Protection of Refrigeration Insulation.—Bulletin with much valuable data on the subject of refrigeration insulation as applied particularly to cold storage buildings. Specifications for materials, and methods of application are included. 8½ x 11. Lewis Asphalt Engineering Corp., 30 Church St., New York, N. Y.

Designers' Pads.—Booklet with samples of ruled drawing and letter paper, tracing cloth and natural tracing paper. Carl Schleicher & Schull, 17 Madison Ave., New York, N. Y.

Acoustolight.—A.I.A. File No. 25-c. New document with descriptive data and directions for using this decorative finish for acoustical surfaces. Profusely illustrated. 12 pp. Standard filing size. U. S. Gutta Percha Paint Co., 19 Dudley St., Providence, R. I.

Permutit Water Softeners.—Looseleaf binder with series of illustrated bulletins giving complete engineering data and specifications covering this line of water softeners, water filters and filtration equipment. Standard filing size. The Permutit Co., 440 Fourth Ave., New York, N. Y.

Roddis Doors for Hospitals.—Illustrated bulletin with descriptive data covering this type of door especially adapted for hospital installations. 16 pp. Standard filing size. Roddis Lumber and Veneer Co., Marshfield, Wis.

Published by the same firm, "Roddis Doors for Hotels." Bulletin setting forth the features of this door for hotels and apartments and illustrating numerous representative installations. 16 pp. 8½ x 11.

Youngstown Buckeye Conduit.—A.I.A. File No. 31-c-51. Attractive illustrated brochure for architects and electrical engineers contains information and data on this type of conduit. Dimension drawings and tables. 20 pp. Standard filing size. The Youngstown Sheet and Tube Co., Youngstown, Ohio.

Published by the same firm, "Youngstown Pipe." A handbook of useful technical data including dimensions, weights, threads, etc., covering this line of tubular goods. Includes brief description of the processes used in the manufacture of welded and seamless pipe. Convenient pocket size. Indexed. 62 pp.

Guth Lighting Equipment.—A.I.A. File No. 31-f-23. Catalog No. 24, just off the press, lists and illustrates a large and varied assortment of new and modern designs of lighting fixtures suitable for hospitals, schools, commercial and public buildings. Indexed. 36 pp. Standard filing size. The Edwin F. Guth Co., Jefferson and Washington Aves., St. Louis, Mo.

Roe Safety Door.—A.I.A. File No. 19-e-15. Illustrated bulletin with complete data and details covering this new type of door fitted with a steel grille, insect screen and secondary glass door for use in cottages, apartments and residences. Standard filing size. Roe Safety Door Co., 228 No. La Salle St., Chicago, Ill.

Evernu and Never-Split Seats.—A.I.A. File No. 29-h-22. Catalog H describes and illustrates this complete line of hard rubber and wood toilet seats. 32 pp. Standard filing size. Never-Split Seat Co., Evansville, Ind.

1930 Edition—Everything in Tiles.—A.I.A. File No. 23-a-2. New publication with descriptive and application data and numerous color plates showing glazed and unglazed tiles, both floor and wall, as well as decorative tiles for panels, inserts, etc. Outline specifications. 16 pp. Standard filing size. Rossman Corporation, 160 E. 56th St., New York, N. Y.

Johns-Manville Floridene Stone.—A.I.A. File No. 22-a-2. New illustrated folder with complete information on this type of decorative stone adaptable for wall treatments, pilasters, columns, wainscoting, floors, steps, mantels, etc. 8½ x 11. Johns-Manville Corporation, 292 Madison Ave., New York, N. Y.

Published by the same firm, "Johns-Manville Insulating Board." A.I.A. File No. 37-a-1. New brochure, just issued, describes the various applications for this type of insulating board. Condensed specifications, detail drawings. 24 pp. Standard filing size.

"Johns-Manville Tile Flooring, Type A." A.I.A. File No. 23-m. New publication, with series of color plates and detail drawings, explains the characteristics and advantages of this flooring material for use in all types of buildings. Specifications. 16 pp. 8½ x 11.

Bayley Plexiform Fan.—A.I.A. File No. 30-d-1. Catalog No. 29p is devoted to detailed descriptions of this type of fan for use in heating, ventilating and air conditioning installations. Includes application data, capacity tables and a brief outline of typical buildings and purposes to which Plexiform fans may be and have been adapted. 80 pp. 8½ x 11. Bayley Blower Co., 732 Greenbush St., Milwaukee, Wis.

Published by the same firm, "Chinookfin Heaters." A.I.A. File No. 30-d-11. Bulletin No. 29c presents complete descriptive and engineering data covering this type of indirect heater. Capacity tables, dimension charts, piping diagrams. 32 pp. Standard filing size.

Mars Pencils.—New booklet showing this complete line of drawing, copying, Polycolor artists' colored and colored chalk pencils. J. S. Staedtler, Inc., 53 Worth St., New York, N. Y.

Mesker Cruciform Heavy Duty Sash.—A.I.A. File No. 16-e. Bulletin with descriptive data, specifications, installation details, sizes, standard sections covering this type of center pivoted sash furnished in steel and genuine wrought iron. Standard filing size. Mesker Brothers Iron Co., 421 South Sixth St., St. Louis, Mo.

Published by the same firm, "Mesker Wrought Iron Sash." A.I.A. File No. 16-e. Illustrated bulletin devoted to subject indicated describes the manufacture and advantages of genuine wrought iron as a sash metal. 8½ x 11.

Cheney Interlocking Wall Flashing.—A.I.A. File No. 12-h-1. Folder with descriptive data, details and specifications on this type of flashing. The Cheney Company, Winchester, Mass.

Kohler Electric Sink.—New illustrated folder describing this electrified modernized sink. Kohler Co., Kohler, Wis.

Published by the same firm, "K of K Hygienic Closet Seats." Folder with descriptive data covering this new line of closet seats.

And Now Dry Lumber.—A standard filing size booklet for architects, engineers and all specifiers of lumber containing full explanation of the moisture content maximum provisions recently adopted by the Southern Pine Association. 12 pp. Southern Pine Association, New Orleans, La.

Crittall Metal Windows.—Valuable new catalog for architects on the subject of solid steel and bronze windows. Descriptive data, specifications, many pages of detail drawings, types and sizes and installation photographs. This entire catalog is included in the 1930 edition of Sweet's Architectural Catalog but duplicate copies are available to architects who need an individual catalog for their files. 68 pp. Standard filing size. Crittall Casement Window Co., Detroit, Mich.

Blazek Cold Storage Doors.—Catalog 29 D. Looseleaf document prepared especially for architects and engineers describing and illustrating this line of doors for all cooler and freezer purposes. Specifications, blue print details. Indexed. 34 pp. Standard filing size. Blazek Cold Storage Door Co., 2232 West Lake St., Chicago, Ill.

Air Filter Calculator.—A useful device, in the form of a wheel calculator, for architects and specification writers, which affords a quick and convenient data table for figuring air filter installations. The calculator is available without cost to all those desiring copies. Midwest Air Filters, Inc., Bradford, Pa.

Buffalo Wetboy Unit Heater.—A.I.A. File No. 30-d-2. Illustrated folder describes the construction and operation of this unit heater that cleans and moistens the air in addition to heating it. 8½ x 11. Buffalo Forge Co., P.6. Box 985, Buffalo, N. Y.

Swartwout Condensed Catalog.—Bulletin S-10 illustrates and describes briefly this line of power plant equipment for the regulation and control of steam and water. 8 pp. 8½ x 11. The Swartwout Co., 18511 Euclid Ave., Cleveland, O.

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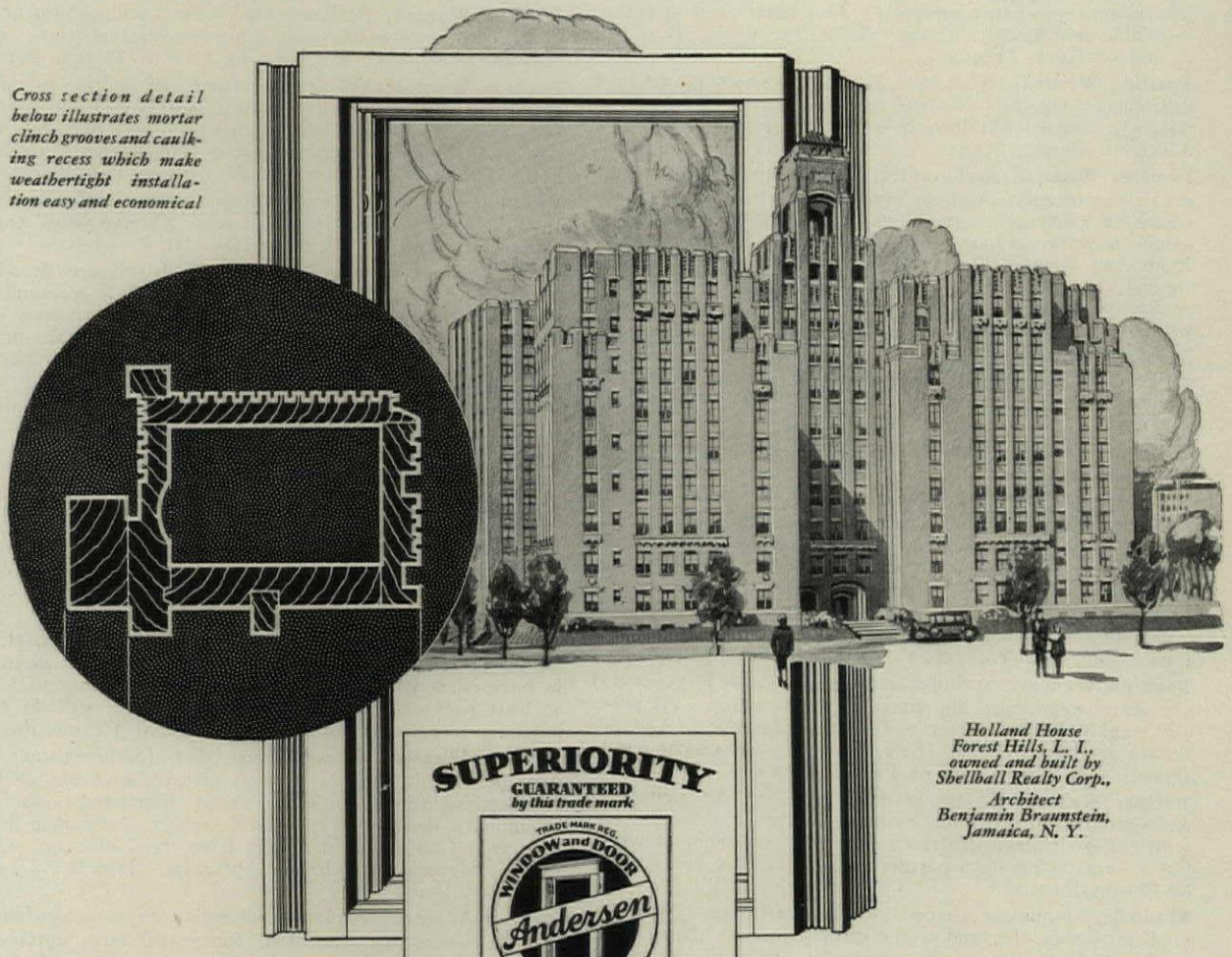

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Position Wanted: Architectural draftsman, 26 years old, eight years' experience on all type of work. Can carry job from sketches to completion. Also some superintending. Available immediately. Salary $65.00 per week. Box No. 2, care of PENCIL POINTS.

Position Wanted: Architectural student seeks position as draftsman. One and one-half years' experience in drafting. Salary secondary. Willing to work out of town. Box No. 3, care of PENCIL POINTS.

Position Wanted: Architectural draftsman and superintendent of construction. College graduate. Twenty years' experience all types of construction. Squad boss. Can handle complete work. Chain store experience. Best references. Registered New York and New Jersey. Can also do designing, specifications and general work. Box No. 4, care of PENCIL POINTS.

Position Wanted: Stenographer-Secretary. Thoroughly experienced in architectural and construction work. Knowledge of Real Estate. Correspondent. Reliable, rapid and accurate stenographer. Call Tremont 1829 (New York City).

Position Wanted: Young man, four years' architectural cast stone experience, desires position as draftsman in architect's or builder's office. Box No. 6, care of PENCIL POINTS.

Position Wanted: Chief draftsman, age 30. Thoroughly familiar with requirements of New York Building Department; ten years' experience all types of buildings. Handle job from sketches to completion. Designing, detailing. Specification writing, supervision. Desires permanent position with responsibilities. Jules L. Haut, 80 Van Cortlandt Park South, New York, N. Y. Telephone, Kingsbridge 9662.

Position Wanted: Architect and engineer with Degrees and six years' experience all phases of construction. At present employed as designer with large Railroad. Age 30. Salary $60.00 per week. New York City or Chicago preferred. Box No. 7, care of PENCIL POINTS.

Partner Wanted: College graduate Architect, practicing for six years in Illinois and Indiana, desires to communicate with college trained draftsman, architect or engineer wishing to enter office on a partnership basis. Box No. 8, care of PENCIL POINTS.

Wanted: Monument concern wants draftsman. Must be good on perspective and water color sketches. New York City. Apply by letter only and mention training and salary required. Box No. 9, care of PENCIL POINTS.

Position Wanted: Registered architect, twelve years' private practice and office manager New York City and middle west, wishes to make connection with reputable architectural office as office manager or in executive capacity. University graduate, extensively travelled, A.I.A., thoroughly versed in all phases of architectural practice. Box No. 10, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, University training, five years' practical experience, specializing in residential work, desires to connect with architect or contractor, doing similar work. Will consider part or whole time work. Box No. 11, care of PENCIL POINTS.

Position Wanted: Practicing architect with unusual European and American experience wishes to find work for spare time. Box No. 12, care of PENCIL POINTS.

Position Wanted: Capable and hard working young man wishes to locate in architect's office as field representative. Can take full charge of any building operation and handle all sub-contractors. Can do some estimating and will prove valuable in this line. Full information on request. Box No. 13, care of PENCIL POINTS.

Position Wanted: With view to permanent connection with organization. Can take complete charge of office. Location no object. Box No. 14, care of PENCIL POINTS.

Position Wanted: College trained practical draftsman desires drafting work after office hours. Box No. 16, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, five years' experience. Box No. 21, care of PENCIL POINTS.

Wanted: Architectural engineer, one who is capable of handling electrical, plumbing and heating and structural design in Mid-western architect's office. Box No. 17, care of PENCIL POINTS.

Position Wanted: Secretary, draftsman, receptionist. Young lady, five years' experience, desires position with architect where knowledge of drafting and stenography will be of value. Box No. 18, care of PENCIL POINTS.

Position Wanted: Designer, modeler and sculptor for architectural work. Twelve years' experience in high class work. Best of references. Box No. 19, care of PENCIL POINTS.

Position Wanted: Young man would like position as junior draftsman with architect or as beginner in civil engineering line. Two years' experience in tracing, some detailing, also know a little about chaining, taking field notes and rodding. Highest references. Box No. 20, care of PENCIL POINTS.

Position Wanted: Designer, perspectives, details, in New York City. Thirty-five years of age. Twelve years' varied experience. Box No. 22, care of PENCIL POINTS.

Contractors may have their scale and full-size drawings (ornamental and construction shop layouts) economically and expertly done by an experienced chief draftsman who is thoroughly familiar with the requirements of the architect's office. Woodwork, stone, terra cotta, iron work and plaster. Box No. 23, care of PENCIL POINTS.

Position Wanted: Thoroughly experienced and competent architectural draftsman who has had ten years' experience in Germany specializing in the building of estates and country houses desires position with architect where there is a chance for advancement. Will locate anywhere. Box No. 24, care of PENCIL POINTS.

Position Wanted: Young man, twenty-four years old, two years' experience. Can trace and work on small plans. Middle west location. Salary no object. Box No. 25, care of PENCIL POINTS.

Position Wanted: Young man, 23, good education, studying architectural drafting at night, desires position as junior in busy office where he will be given opportunity to learn, at least part of time. Expects living wage, will do most anything to earn it. Box No. 26, care of PENCIL POINTS.

Position Wanted: Hospital specialist (architectural) desires permanent position with progressive architect or firm guaranteeing future for advancement. Can handle job from preliminary sketches to finished drawings, check shop drawings, etc. Can get good results from men under my supervision. Sixteen years' broad experience. Box No. 27, care of PENCIL POINTS.

Position Wanted: Architectural and terra cotta draftsman, age 40, University education, ten years' terra cotta, five years' architectural experience, desires position with architect, art stone or cut stone company. Capable designing, working drawings, full size details, all classes of building. Best references. Any location. Box No. 28, care of PENCIL POINTS.

Position Wanted: Young man, age 20, as assistant modeler with a reliable firm doing sculpture work to learn sculpture. Samples of work submitted upon request. Salary no object. Address V. McC., care Koeth Architectural Company, 51 N. Main Street, Room No. 7, Hendersonville, N. C.

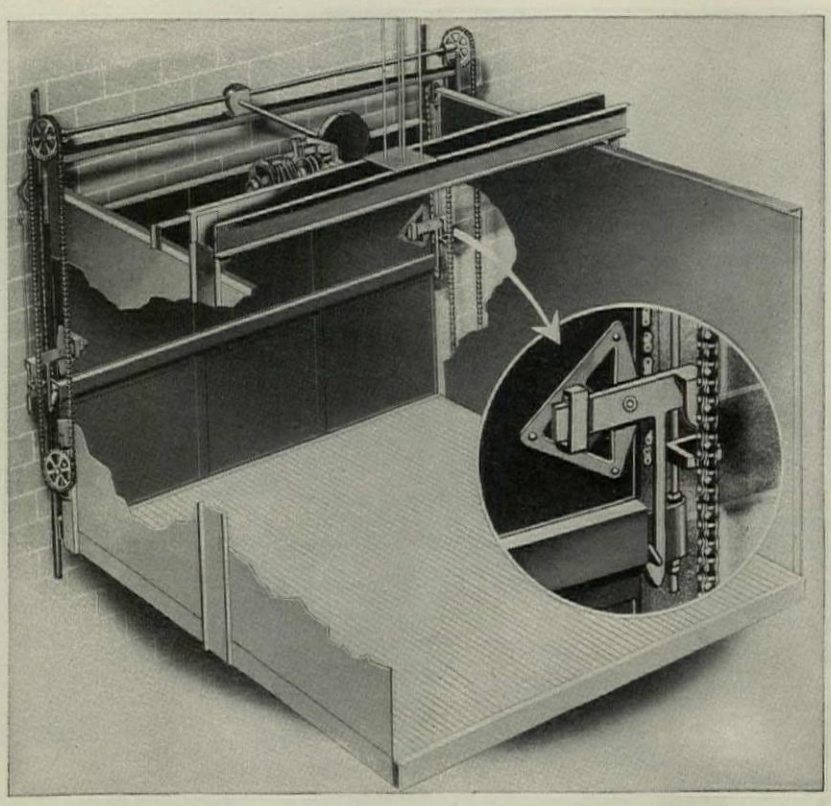
Position Wanted: Young man, 23 years old, five years' experience in good office. Can prepare sketches, working drawings and details all types of construction, new and old. Also supervision of construction and drafting of specifications. Box No. 29, care of PENCIL POINTS.

Position Wanted: Competent first class architectural draftsman, 22 years' experience in all types of work, capable of carrying working drawings through to completion. Detailing, etc. Box No. 30, care of PENCIL POINTS.

Position Wanted: Young man desires position as draftsman in architect's office. Can carry work on all types of buildings from sketches to completion. Graduate of Drexel Institute, five years' office experience. Free to travel anywhere. Charles A. Scott, 1224 Hamilton Ave., Trenton, N. J.

Position Wanted: Secretary and assistant estimator in architect's or general contractor's office. Young lady with tact and personality. Eight years' experience in bookkeeping and stenography, can read plans and take off quantities for estimating. Apartment A-1, 3400 Wayne Ave., New York.

(Continued on pages 88 and 89, Advertising Section)



A cutaway view of a typical Freight Elevator Door installation, showing how the electric door operator can be mounted in any convenient location on top of the car. The chains are operated by enclosed bevel-gear drive and short, straight-line shafts. Details of the latch tripping and door-lifting mechanism are shown in the circle.

★AUTOMATIC SILL-LEVELING DEVICE

★This is No. 6 of a Series outlining the advantages of the "St. Louis" system of Freight Elevator Door Control.

In its automatic Sill-Leveling Device, the St. Louis system of freight elevator door control has marked advantages. Permanently pre-set, it is more practical than any "Adjustable Stops", which, by their very nature, are always liable to get out of adjustment.

Actual conditions within a building are often not ideal. Sills and floors often get out of plumb and are unlevel. Yet, regardless of such conditions, the Sill-Leveling Device of a St. Louis Door automatically levels itself to meet these unfavorable conditions. It always rests even with the sill, providing straight line trucking surfaces from the elevator to the floor beyond.

Thus time-saving and uninterrupted use of the elevator is gained by these practical Sill-Levelers. Tying together, as they do, the door and sill, they relieve supporting chains, sheaves and guides from the shock of heavily bumping loads. Functioning as "buffers", they permit great abuse without injury, thereby adding to the life of the entire equipment.

So definite is the gain in strength and stamina resulting from this and other features, that, in view of the high quality of material and workmanship used, we are able to guarantee St. Louis Doors installed by us for a period of five years.

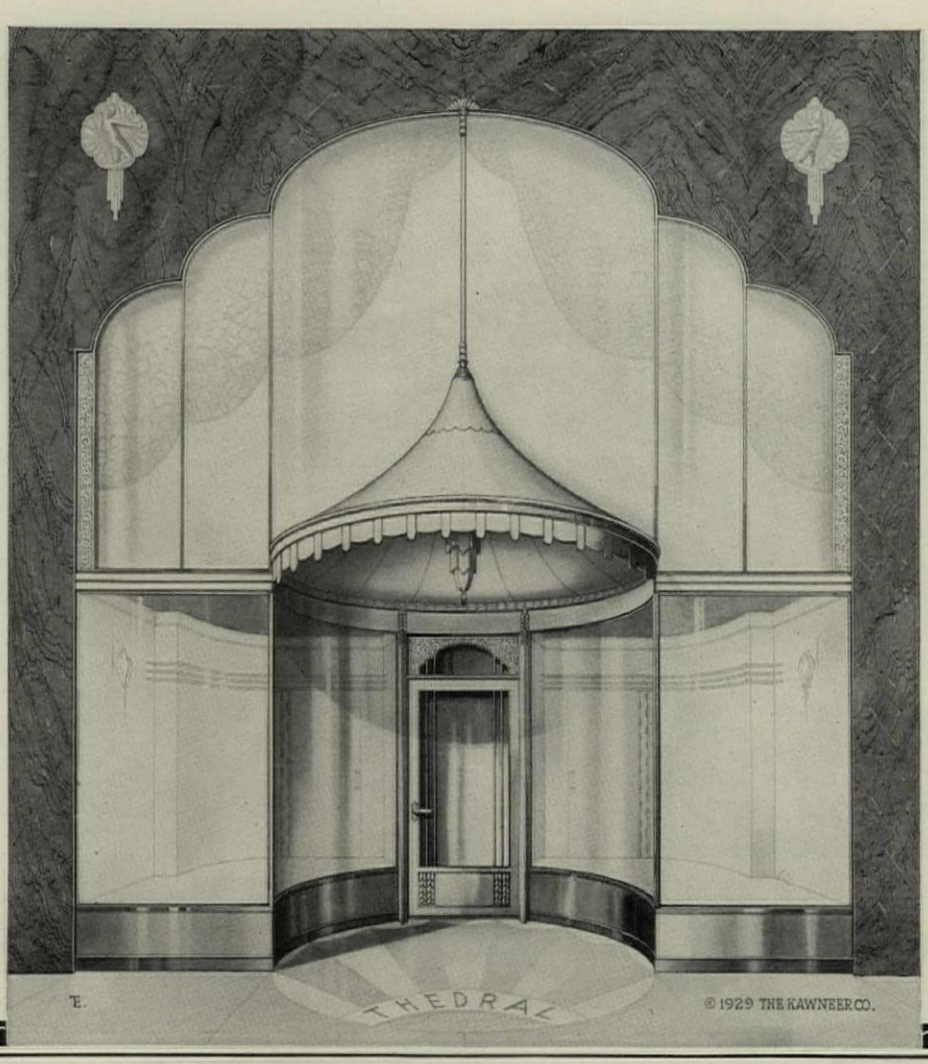
The St. Louis System of Freight Elevator Door Control offers so many real advantages to the building owner that everyone concerned with building equipment ought to be familiar with it. May we send you a list of nearby installations, together with our literature?

SEE OUR CATALOGUE IN SWEETS

ST. LOUIS FIRE DOOR CO. ▾ *Manufacturers of all kinds of Fire-Proof Doors and Door Controls* ▾ 1138 S. 6th St. ▾ ST. LOUIS, MO

ST. LOUIS DOORS

ELECTRICALLY OPERATED FOR FREIGHT ELEVATORS



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in
Bronze, Chromium Nickel Aluminum Alloy and Copper

For excellence of workmanship, true reproduction of design and sound construction we advocate the fabrication of store fronts at our factory. A corps of skilled workmen trained by an institution with twenty-five years' experience in store front building is your assurance of satisfaction. Below is shown an ensemble of "B" Construction which is now available in the metals mentioned above. Send for Circular on "B" Construction and Full Size Details.

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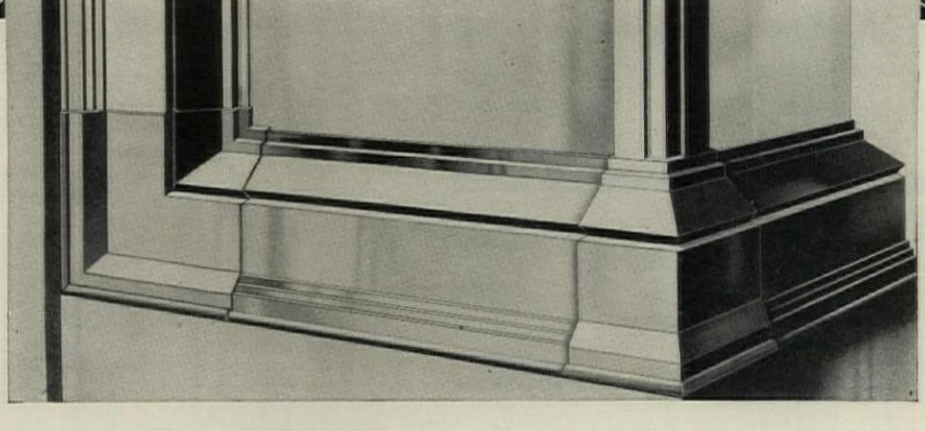


FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Other items on pages 84 and 89, Advertising Section)

Position Wanted: Registered architect wishes position in busy architect's office in New York City. University graduate, European travel and study and has had broad experience on many types of buildings as designer, colorist and executive. Box No. 32, care of PENCIL POINTS.

Position Wanted: Experienced designer wishes position with busy firm. Can handle work from start to completion. Box No. 33, care of PENCIL POINTS.

Position Wanted: Junior draftsman, Cooper Union Graduate, three years at Columbia University, two years' experience in architect's office. Salary $35.00 per week. Box No. 35, care of PENCIL POINTS.

Position Wanted: Young man desires position in architect's office as draftsman. Chicago or vicinity. Two years' College training in architecture. At present attending night school. Nine months' practical experience. Moderate salary. Ralph Cunningham, 6234 Blackstone Ave., Chicago, Ill.

Position Wanted: Registered architect in New York and New Jersey wishes position in first class office. Fifteen years' practical experience, full knowledge of design, planning, detail, steel. Location immaterial. Herbert Lilien, 234 Highland Ave., Newark, N. J.

Position Wanted: Beginner in architect's office, age 19, three months' experience. Good letterer and tracer. Attending evening school. George F. Niedelman, 1226 Sherman Ave., New York, N. Y.

Position Wanted: Junior draftsman. High School Graduate. Last year at Cooper Union (Night Architecture). Been employed by Jacobson Mantel and Ornament Co., A. E. Lefcourt. Julius Gornick, 956 East 172nd St., New York, N. Y.

Position Wanted: Office or field. Construction superintendent. Good executive thoroughly capable directing supervision, expediting building projects, buying subcontracts and placing material orders, accustomed handling and distributing shop drawings, details, etc. Location immaterial. Box No. 36, care of PENCIL POINTS.

Position Wanted: Stenographer-secretary desires position in New York. Has had good architectural and other experience. References. Telephone, Monument 2721, Apartment No. 63.

Position Wanted: Registered architect and engineer desires responsible position with an architect. Eight years' experience. Young man, married. Only permanent position considered. References and experience in detail furnished on request. Box No. 38, care of PENCIL POINTS.

Wanted: One of the very large paint manufacturers has an unlimited opportunity for a real architectural salesman in Chicago. A record of successful selling to Chicago Architects is essential but paint experience, while helpful, is not absolutely necessary. This is a wonderful connection for the right man. Box No. 37, care of PENCIL POINTS.

Position Wanted: Draftsman and stenographer in architect's office. New York or Brooklyn, desired by woman graduate architect. Box No. 39, care of PENCIL POINTS.

Position Wanted: Junior draftsman, architect, two and one-half years' experience on plans, details. Good tracer, ambitious, neat and hard worker. Box No. 42, care of PENCIL POINTS.

Position Wanted: Tracer, six years' experience, letters, maps, etc. Some stenography and typing. Box No. 43, care of PENCIL POINTS.

Position Wanted: Architect, thoroughly experienced in modern chain store design through long association with leading syndicate seeks connection with a similar progressive organization on either a salary or fee basis. Registered architect in New York and New Jersey. Box No. 44, care of PENCIL POINTS.

Position Wanted: Draftsman, residential work. Can take job through from start to finish. Quarter, three-quarter and full-size details. Good knowledge of construction and beam and lintel computation. Eight years' experience. Box No. 48, care of PENCIL POINTS.

Position Wanted: Architectural draftsman and registered architect wishes to make change. Columbia graduate. Seventeen years' experience, designer, also specialist in Georgian. Can take job from start to completion. Perspectives. References. Box No. 46, care of PENCIL POINTS.

A FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Other items on pages 84 and 88, Advertising Section)

Position Wanted: Assistant superintendent, material clerk or draftsman. Young man, 24 years old desires position in office of builder or architect. Six and one-half years' experience as draftsman and assistant superintendent. Box No. 47, care of PENCIL POINTS.

Wanted: A large manufacturer of paints, varnishes, enamels and lacquers has an excellent opportunity for a young architectural salesman, whose headquarters will be in Detroit. He will travel through Michigan and part of Ohio, calling on the architects. Paint experience is not necessary. A general knowledge of architectural selling is helpful. Salary open. An excellent opportunity for a young man to learn architectural selling. Box No. 41, care of PENCIL POINTS.

Position Wanted: Draftsman, fifteen years' experience. Thoroughly familiar with various styles and construction, take charge small office. Good interior designer, detailer and delineator desires permanent position with a future. Can carry job through from start to completion. Partnership or other interest in office desired. Protestant, married, 33 years of age. Salary $85.00. Box No. 49, care of PENCIL POINTS.

Position Wanted: Head draftsman or assistant to executive. Senior draftsman, experienced on various types of buildings and construction. Specification writing, outside superintending, business training. New York City Municipal department routine experience. Box No. 50, care of PENCIL POINTS.

Partner Wanted: Registered architect, 25 years' experience, who is in a position to secure several million dollars worth of architectural work on contingency basis, desires partner who can finance office overhead and handle work from preliminary sketches to superintendence of construction. Box No. 51, care of PENCIL POINTS.

Position Wanted: Designer and draftsman wishes to work in New York City. Seven years' actual office experience and six years in Southern school, Massachusetts Institute of Technology and Fontainebleau, France. Varied experience all types of architecture and construction. Capable, fast, neat and reliable. Box No. 52, care of PENCIL POINTS.

Position Wanted: Draftsman-designer, experienced on high grade buildings, also superintendence experience. Would like to become associated with small progressive firm with opportunity for advancement. College training. Will locate anywhere. Good references. Box No. 53, care of PENCIL POINTS.

Architect Desires to Connect with Manufacturer: Man experienced in educational and institutional buildings with broad knowledge of planning and design desires position with manufacturer who could use his services as draftsman, architectural adviser and to interview architects. Salary of secondary importance. Box No. 54, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, 30, desires position in architectural or construction office as draftsman or estimator, or superintendent on the job. Ten years' experience. I.C.S. training and at present studying C.T.C. course in Chicago. Box No. 55, care of PENCIL POINTS.

Position Wanted: Architectural draftsman experienced in high class residence work. Can take job from sketches and develop. Full-size details and superintending. Good references from Chicago residential architects. Five years' experience. Will locate anywhere. Box No. 56, care of PENCIL POINTS.

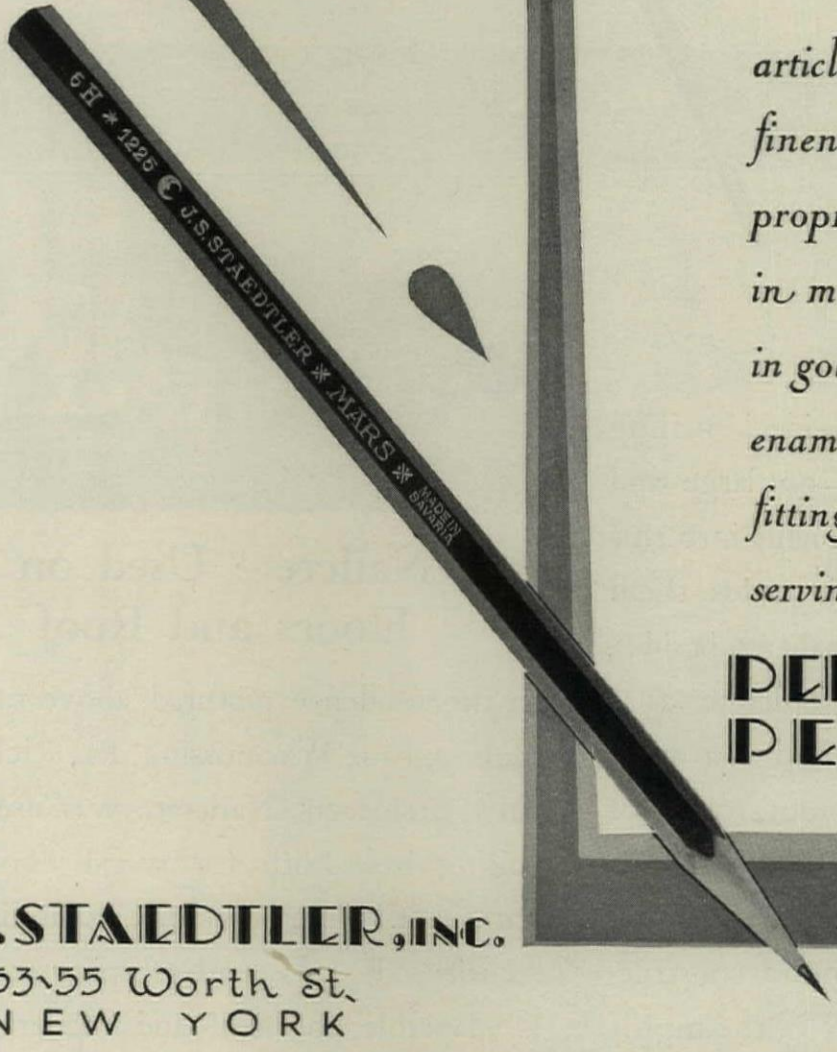
Partner Wanted: An architect with a good deal of work on hand will consider taking in a partner who is competent to assist in conducting the business of the office and who is prepared to make a small investment. Box No. 57, care of PENCIL POINTS.

A Good Designer Seeks Connection: A graduate of a good architectural school with seven years' experience, competent designer, would like to connect with a good eastern office. Box No. 58, care of PENCIL POINTS.

Position Wanted: Young lady would like position with advertising agency, or firm specializing in magazine and newspaper art work. New York City. Box No. 61, care of PENCIL POINTS.

Position Wanted: Woman tracer, High School art teacher, capable of creating, sketching, designing. Good at lettering. Experience in Underwriters' Engineering Department. Drafting and tracing. Two years at Pratt Institute. Box No. 62, care of PENCIL POINTS.

what's new



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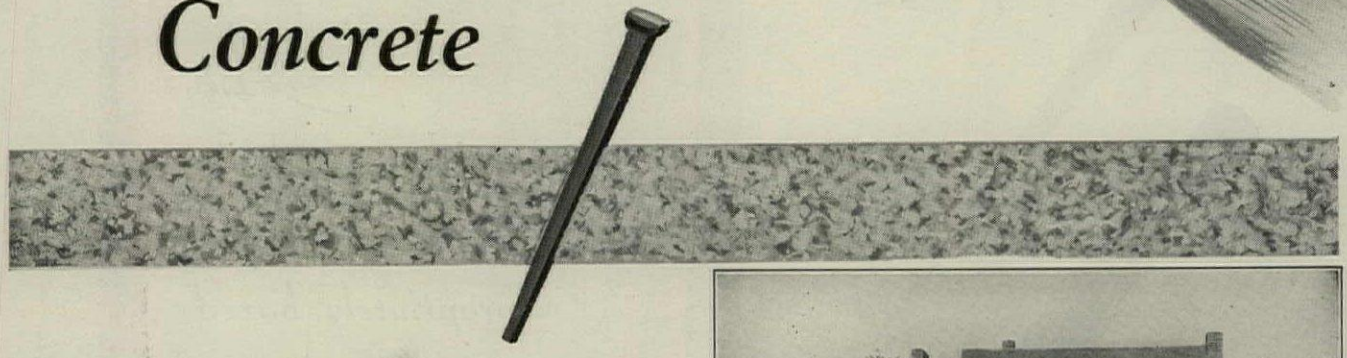

NAILCRETE is the ideal nailing base for roofs and floors—on large and small jobs. You can drive nails into this remarkable concrete and it holds them firmly. There are other qualities, besides, which have established Nailcrete as a preferred building material—for a wide variety of uses. It is fire-proof, rot-proof and vermin-proof. It never swells or shrinks. Hence, in addition to its saving of money, time and weight in construction, Nailcrete contributes, too, the highly important factor of added safety.

Nailcrete Used on Floors and Roof

In the residence pictured above of E. R. Meinig, Esq., Wyomissing, Pa., Richter & Eiler, architects, Nailcrete was used as a nailing base both for wood floors and slate roof. The economy, durability and security of this nail-gripping concrete is adaptable to small and moderate size jobs as well as to large construction.

Write for our informative illustrated booklet—"Nailcrete"

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East High School, Paterson, N. J. Eleven shop rooms floored with Bloxonend. Fanning & Shaw, Architects.

A Life-time Floor

BLOXONEND FLOORING is a complete departure from the usual type of wood flooring. The tough end-grain fibres are presented to wear. This guarantees "butcher block" durability. The flooring is furnished in 8 ft. lengths which are laid with tongues and nailed laterally to each other. The entire floor is formed into a compact unit. Any slight wear must be uniform insuring *lasting* smoothness.

Bloxonend is comfortable under foot, handsome in design and splinter-proof. It is being specified for gymnasiums and shops by nearly all prominent school architects. Write for Specifications and sample.

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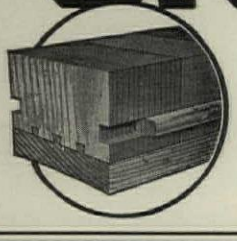
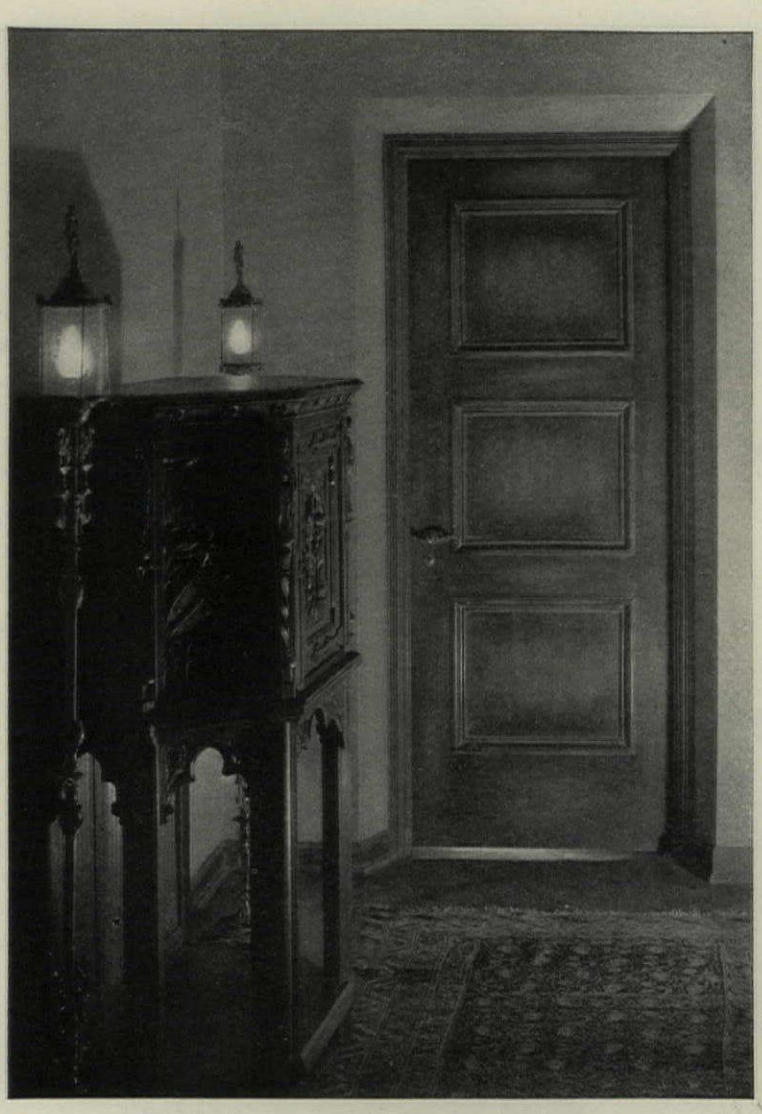
BLOX-ON-END FLOORING



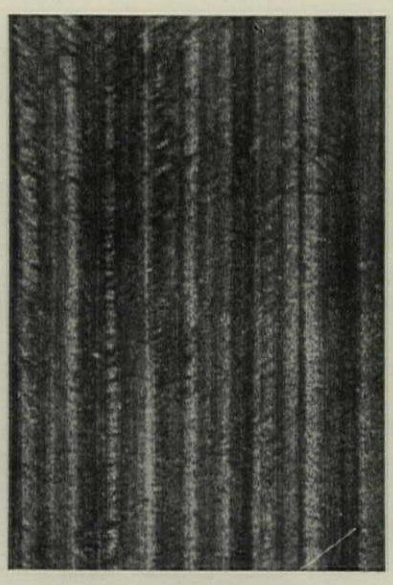
Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dovetailed endwise onto baseboards.

Lays Smooth Stays Smooth



PHILIPPINE LAMINEX 3X PANEL, RAISED MOLDINGS

LAMINEX — "WON'T WARP"



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BELLEVUE-STATEN APARTMENTS, OAKLAND

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From the Philippines has come a hardwood so beautiful and so practical, it is taking the entire country by storm. Those who love fine woods are completely won by the graceful slender ribbons of its grain, and by its chameleon adaptability to dozens of finishes. Those held to economy welcome its surprisingly low cost — particularly in stock millwork. Such stock doors and trim, known to the trade as "Philippine Laminex" (won't shrink, swell, or warp), are something on which you should be informed. For a copy of the Philippine Laminex manual, free, tear off this coupon and mail today.

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RUBBER TILING of three-eighths inch thickness offers to architects a virtually permanent and noiseless flooring especially suitable for libraries, public institutions and other buildings where traffic is severe and silence and cleanliness are demanded.

The unusual thickness and weight are responsible for the wearing quality of this tiling and the fact that it stays in place without buckling or loosening from the foundation is evidence of its superiority.

Made in square blocks of solid color. Twelve rich colors are available making it possible to harmonize the floors with any color scheme. Colors are permanent and will not wear off as the color extends through full thickness of the tile.

In the laying of Rubber Tiling a special cement is used which seals the joints and secures the tiles to the foundation by firmly gripping the corrugated under surface of the tile.

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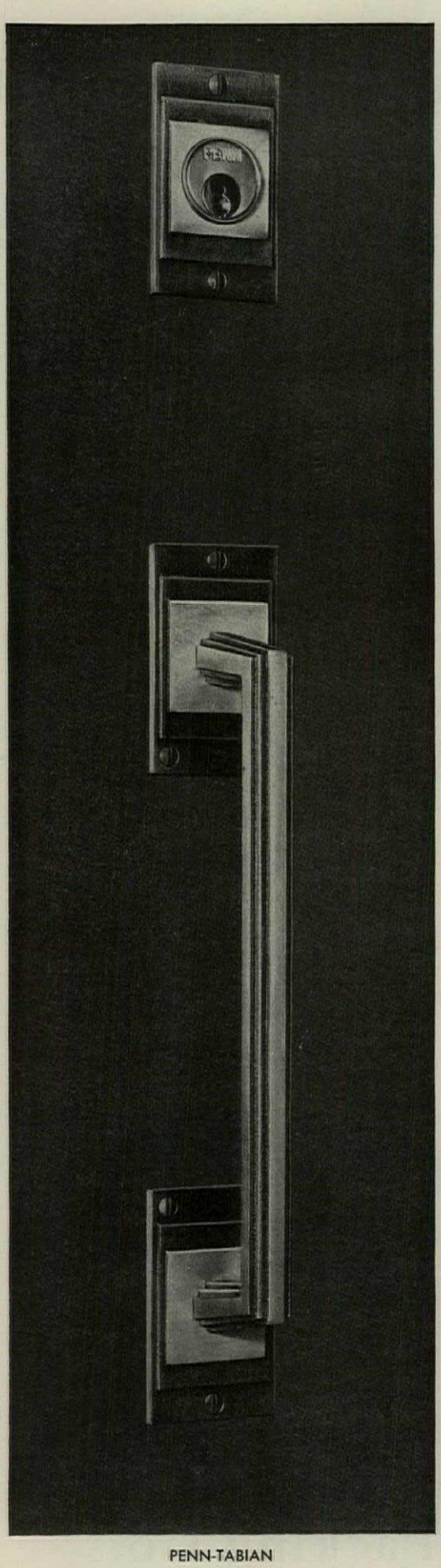

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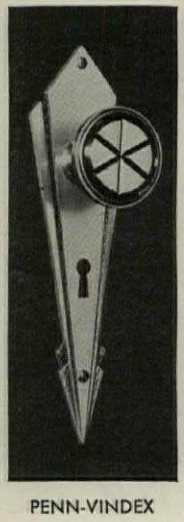
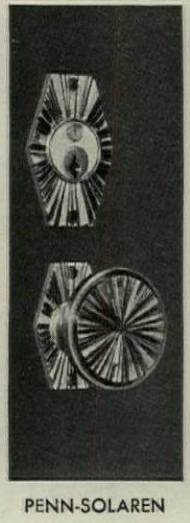


PENN-VINDEX



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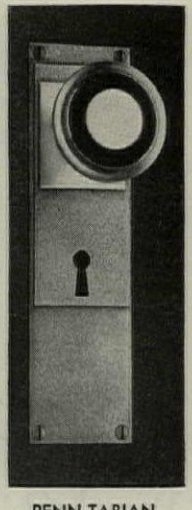

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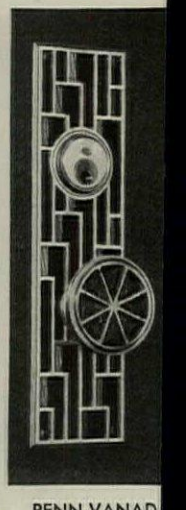

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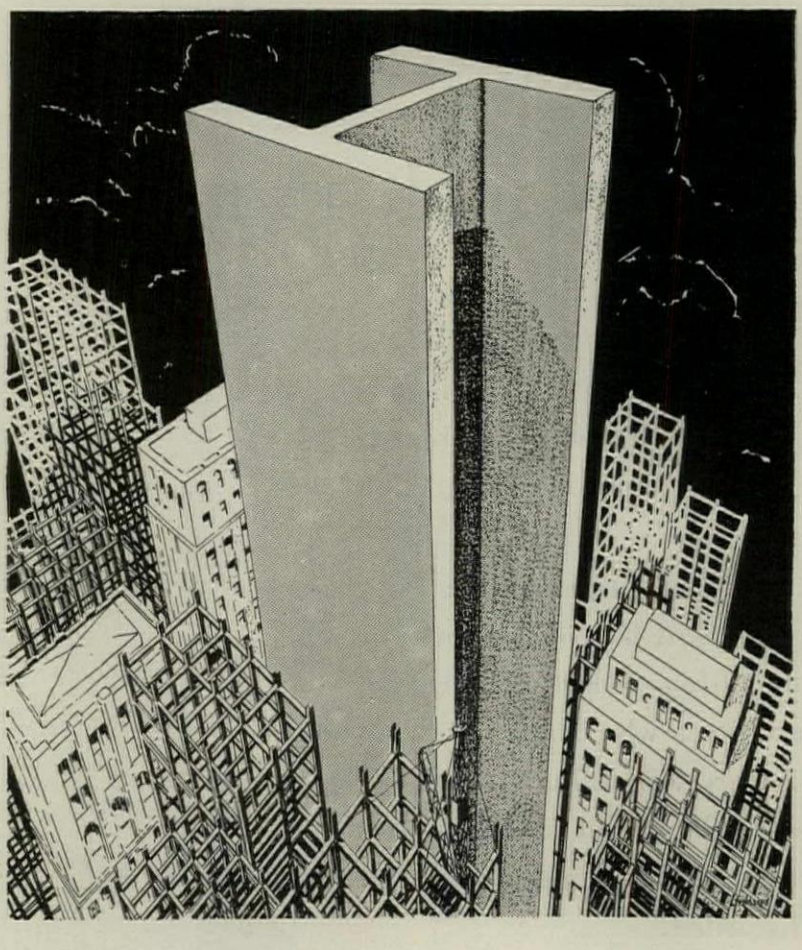

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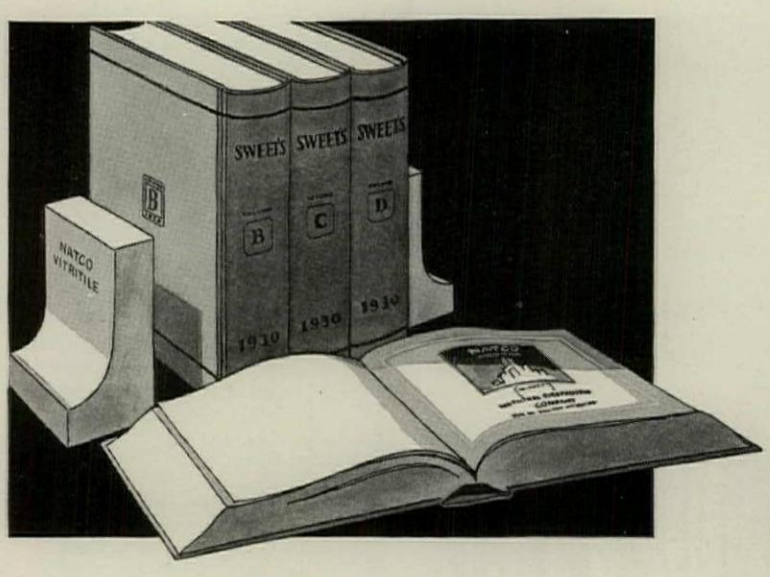
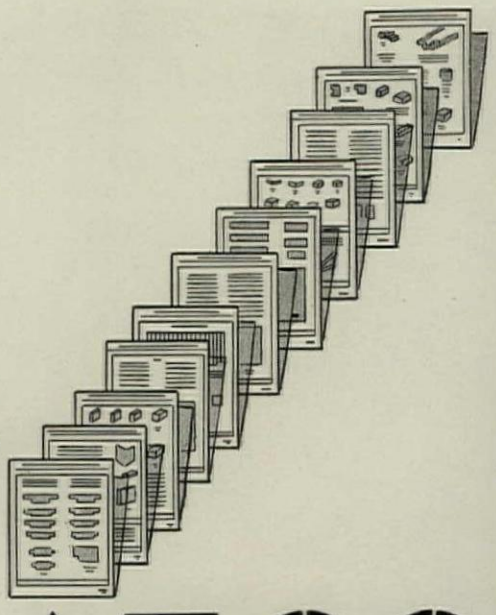
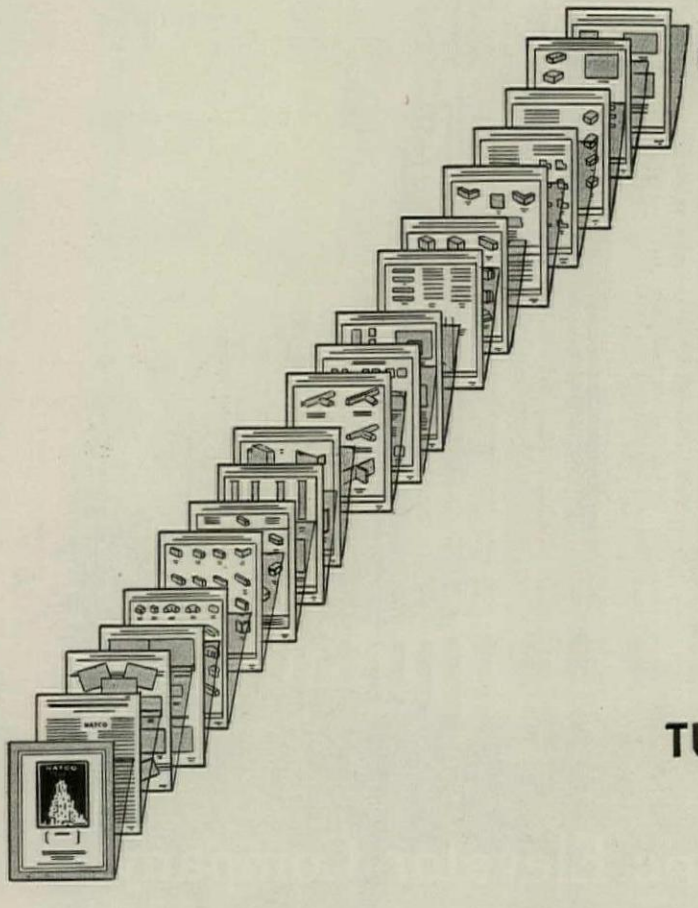




A *Complete* NATCO ARCHITECTURAL CATALOGUE



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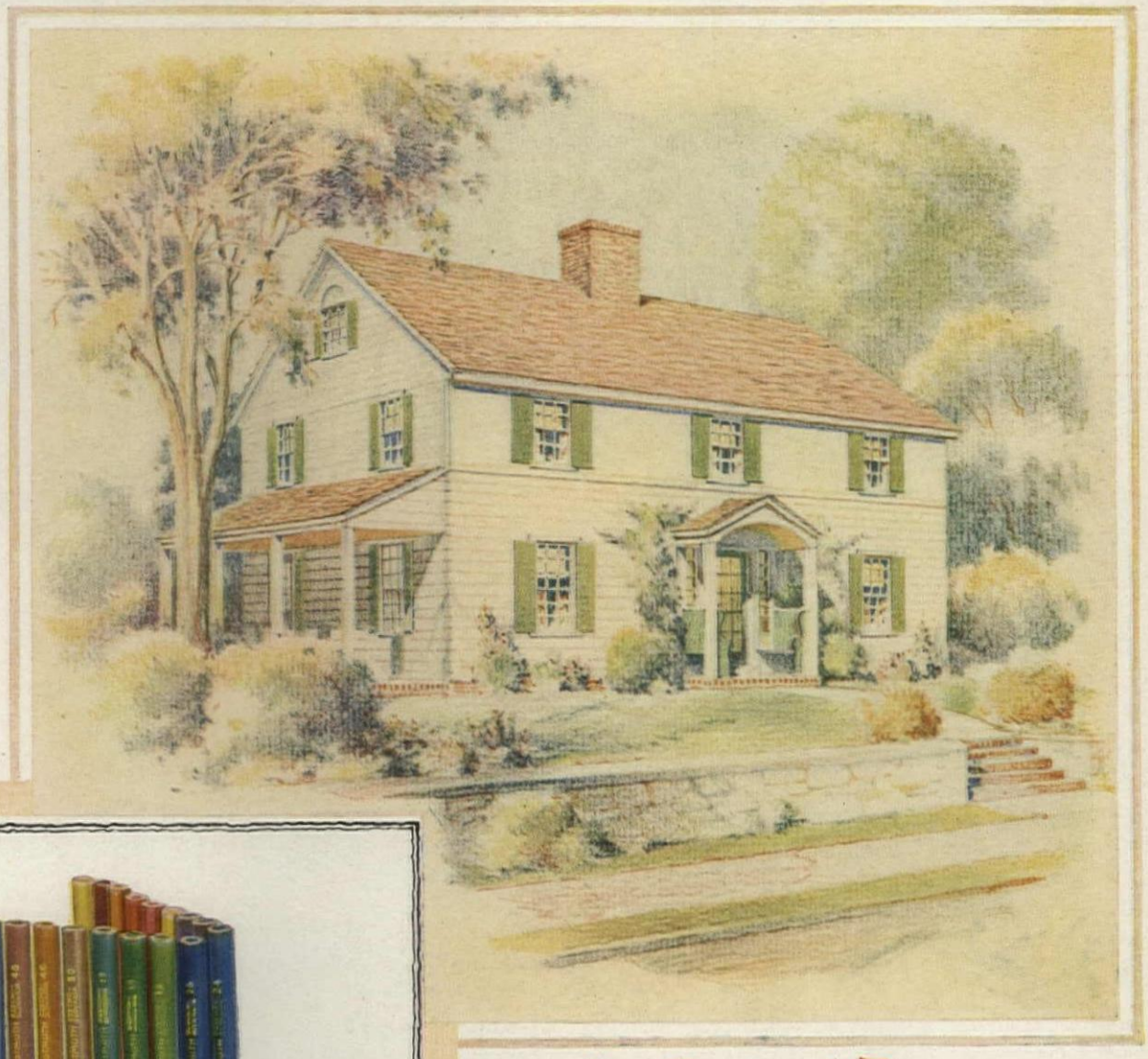
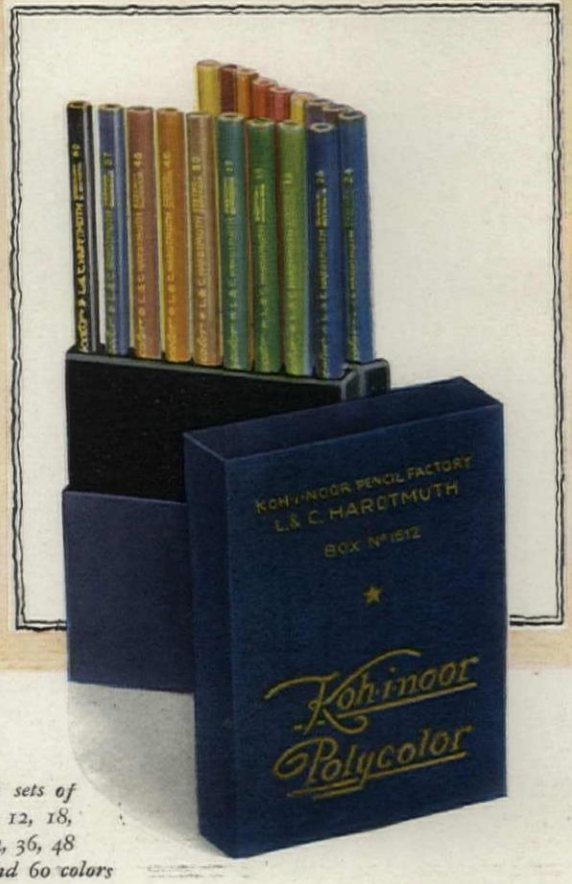
Koh-i-noor for Color!

A SERIES OF SUGGESTIONS FOR STUDENTS AND DRAFTSMEN BY A. L. Guptill





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4, 36, 48
nd 60 colors*

On Tinted Papers

EFFECTIVE as the "Mona Lisa" Colored Oil Chalk Pencils and Crayons and the "Koh-i-noor" Polycolor Wax Crayons are when used on white paper, as demonstrated in the previous drawings of this series, one is not acquainted with their full possibilities until he experiments with their use on colored papers. Especially when original effects are sought this field offers unlimited opportunities.

The above rendering for a proposed residence shows one such combination. This was quickly rendered on tinted charcoal paper over an instrumental layout, the tone of the paper itself being to no small extent responsible for the harmonious effect of the whole. For some purposes darker papers such as browns or greens or grays are better. Frequently the paper itself is left to represent the walls, roofs, shadows or other essential tones. Rough papers are perhaps more popular than smooth as their textural character makes possible interesting effects with a minimum amount of drawing. Tracing paper "floated" on to colored board offers further possibilities.

KOH-I-NOOR PENCIL COMPANY, Inc.
34 EAST 23rd STREET, NEW YORK

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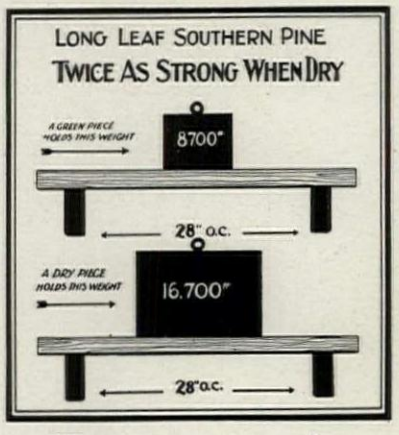
Where Strength is Needed.....

Only DRY Lumber will Do!

WHENEVER strength is needed in construction, make sure you use *dry* lumber . . . lumber bearing the official SPA grade-mark of the Southern Pine Association.

The strength of Southern Pine, as proven by governmental tests, (Department of Agriculture Bulletin 556), is doubled when it is dry. Drying also eliminates the danger of shrinkage, warping or checking. It renders the lumber less subject to decay, enables it to resist the damaging attacks of insects, and makes it ready for painting or any other treatment.

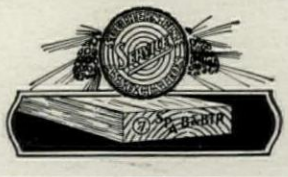


For these reasons moisture content limitations were incorporated in the grading rules of the Southern Pine Association.* Now, when you see the mark of SPA on a stick of lumber you know it is *dry*—double-strength lumber, reduced to the moisture content proper for the use for which it is intended.

Demand the official mark of SPA. It is the sign of lumber safety. Protecting you and those whom you serve

Southern Pine Association

NEW ORLEANS



Send for the Southern Pine Association Moisture Content booklet, . . . "And now, dry lumber."

TIME—THAT TOUGH OLD TESTER . . .

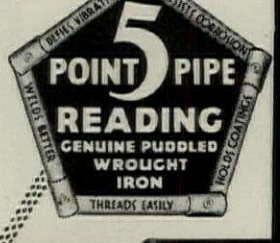
Meet Time, that tough old tester of everything in this world. To his aid, Time calls all the destructive forces of the universe. Years come and go, storms and sunshine, heat and cold make their accustomed rounds, while Time, the tough old tester, broods over the world, trying, testing, destroying.

Yet Time, the tough old tester, does have his troubles. Against one material devised by man, Time and his serving-men falter. That material is genuine Puddled Wrought Iron — the metal of which Reading 5-Point Pipe is made. Watch for the next coming of Time, the tough old tester—you can learn about pipe from him.

READING IRON COMPANY, Reading, Pennsylvania

For Your Protection
This Indented Spira
Forever Marks

All



Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Wrought Iro

The NEW Architectural edition of the DUNHAM HANDBOOK is in Sweet's

Over 800 installations in all types of buildings, many of them replacing other heating systems, show fuel economy that can only be described as remarkable. Savings from 25 to 40% are fully authenticated. Combine this with control so perfect that occupants are not conscious of the heating system and you will see why those who know Dunham Heating are enthusiastic about it.

Complete data on the exclusive design and operating features of Dunham Differential Heating is published this year as a 58 page section of Sweet's Architectural Catalogs. All the essential information for heating system layout is included in convenient form, with tables of pipe sizes, radiation requirements, dimensions, and installation and operating data as well as specifications adaptable to all types of buildings.

This handbook will be supplemented by the complete Dunham service which is available from each of the 80 sales offices listed.

Look through the blue-cover Dunham section in Volume D of Sweet's 1930 Catalogs now. Consult its 58 pages of data when you plan the heating system for any client who will appreciate 25 to 40% fuel savings PLUS the finest character of heating service.

C. A. DUNHAM CO.

Dunham Building

450 East Ohio St., Chicago, Ill.

Vertical Transportation *for* Office Buildings

The Otis Signal Control Elevator is the outstanding development in Vertical Transportation today

YEARS of research work in the world's largest elevator organization have culminated in the development of this finer, more efficient elevator, which is giving greater service, more speed and comfort with the same inherent Otis features of assured safety and freedom from excessive repairs and costly maintenance.

For office buildings of smaller size the long-established standard Otis Car Switch Control Elevator provides maximum service for buildings which do not require the highest speed, intensive service.

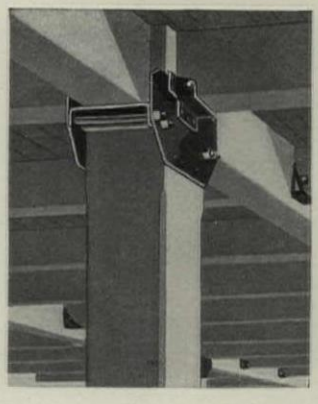
Otis Engineers are at the service of architects and builders without obligation.

A telephone call to our nearest office will receive immediate attention

OTIS ELEVATOR COMPANY

OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD

Minimizing Maintenance Cost with DUPLEX Timber Fittings



Typical installation showing DUPLEX Steel Post Caps for four-way construction and Duplex Malleable Joist Hangers.

A Reference Book of Mill Building Construction, called by many the most comprehensive work ever published on mill construction, is available, without cost, to Architects and Engineers.

THE years that follow the completion of a structure prove the value of the Architect's endorsements.

Our 38 years of experience in the manufacture of Timber Fittings has built a strong confidence in Duplex among the leading architects and engineers, as a line free from the necessity of replacement or frequent inspection.

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BEST SINCE 1890

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CLEVELAND, OHIO ESTABLISHED 1890

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WALL HANGERS
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POST BASES
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THIS covers planning and designing to secure working economies. Likewise the furnishing of standard equipments, and special labor saving items for preparing and serving food. Over a half century in business. Finest of installations to our credit.

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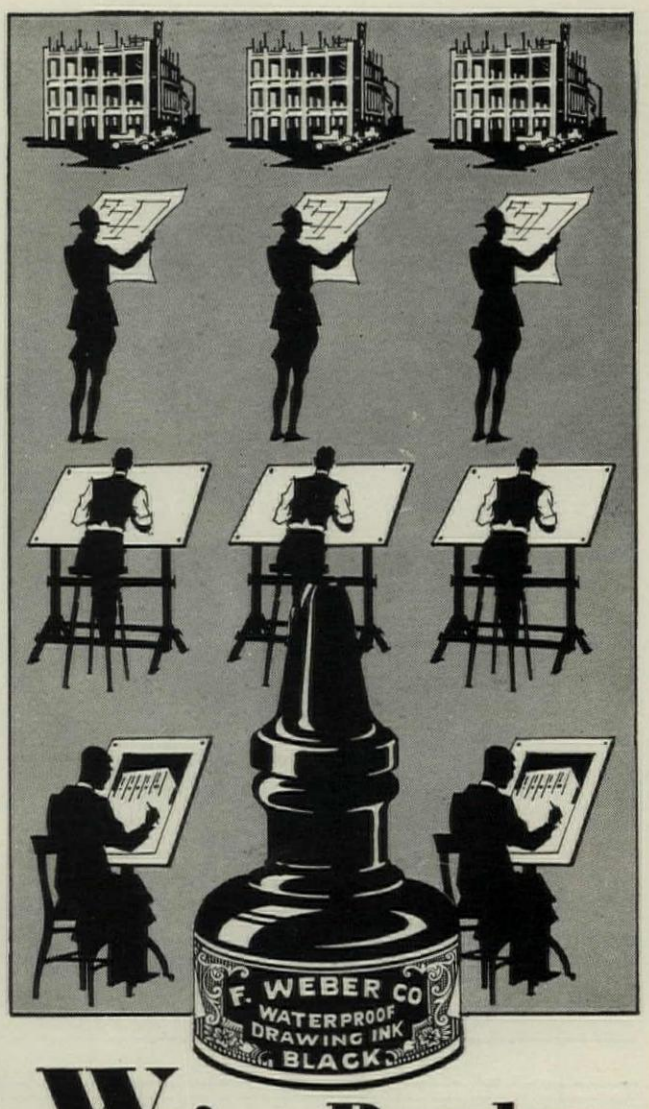

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BILLIONS for Government, state, municipal, railroad, public utility and industrial construction during 1930 . . . the greatest peace time expansion program ever undertaken . . . America's answer to President Hoover's call for continued prosperity.

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No time to take chances with faint, wishy-washy reproductions. No time to harass over-taxed draftsmen's eyes with glary drawing ink.

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RODDIS LUMBER & VENEER COMPANY
127 Fourth St. MARSHFIELD, WIS.

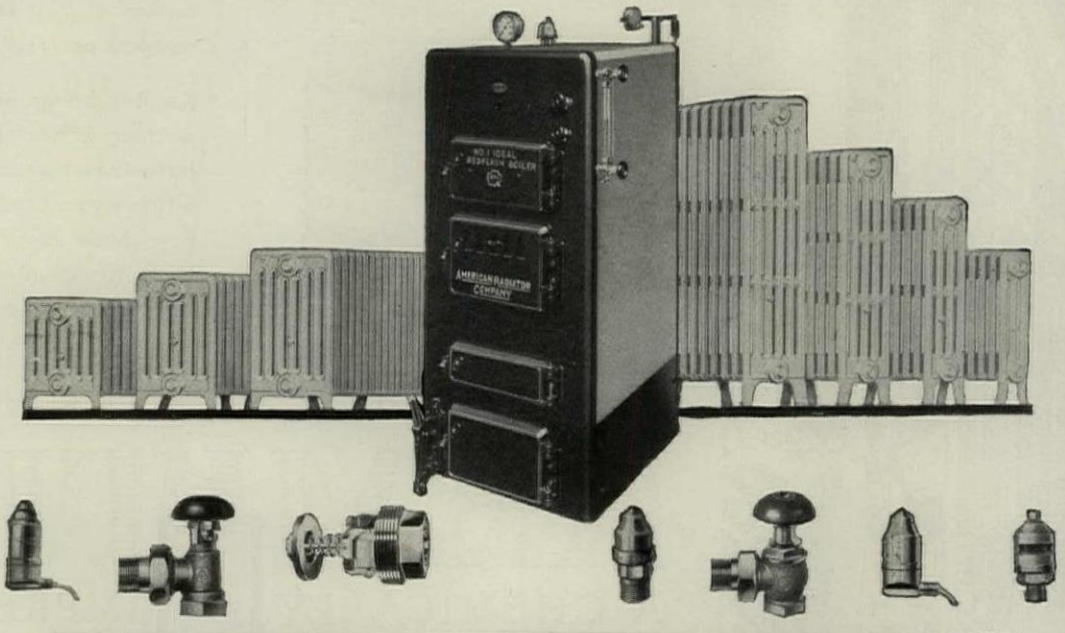
Distributors In All Principal Cities
Manufacturers of Flush, French, Panel and Custom Built Doors

This Red-White-Blue Dowel Trade Mark is on the edge of the Roddis Flush Door: it is the Roddis mark of identity and quality.

RODDIS FLUSH DOORS

This "ALL-AMERICAN" INSTALLATION actually pays the owner $120 a month

A FOUR-APARTMENT building in Newark was modernized last year by the installation of a complete American Radiator Heating system. The tenants were more than satisfied, all agreeing to an increase of $30 a month in their rent—The installation has already paid for itself, and the increased rent is velvet for the owner. When you specify "All-American" Heating you are assuring your clients real dividends from their investment—dividends in money, dividends in comfort, dividends in health. And you are insuring yourself a thoroughly satisfied customer.



AMERICAN RADIATOR COMPANY

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THE PERTINENT FACTS*...

*This advertisement was suggested by a prominent Architect.

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"As many useful facts as possible... all the data and no drama"...

SPEED HEATERS are suspended electric blower-type steam heaters for industrial and commercial applications. Very rapid action. May be thermostatically controlled. Extremely economical in first cost and operation.

"Facts, with the least insulation possible"...

SPEED HEATERS have two operating speeds. High speed for quick heating. Low speed for maintaining set temperature. All models equipped with high pressure Aerofin... for steam pressures up to 350 lbs. Vertical louvres spread air steam over wide area. Units are very quiet.

Sturtevant men are in principal cities ready to figure on short notice. Our "blue" catalog contains complete working data for Architects and Engineers. Copies distributed by our local offices. The coupon awaits your pencil.

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Kindly send me a copy of the SPEED HEATER DATA BOOK.

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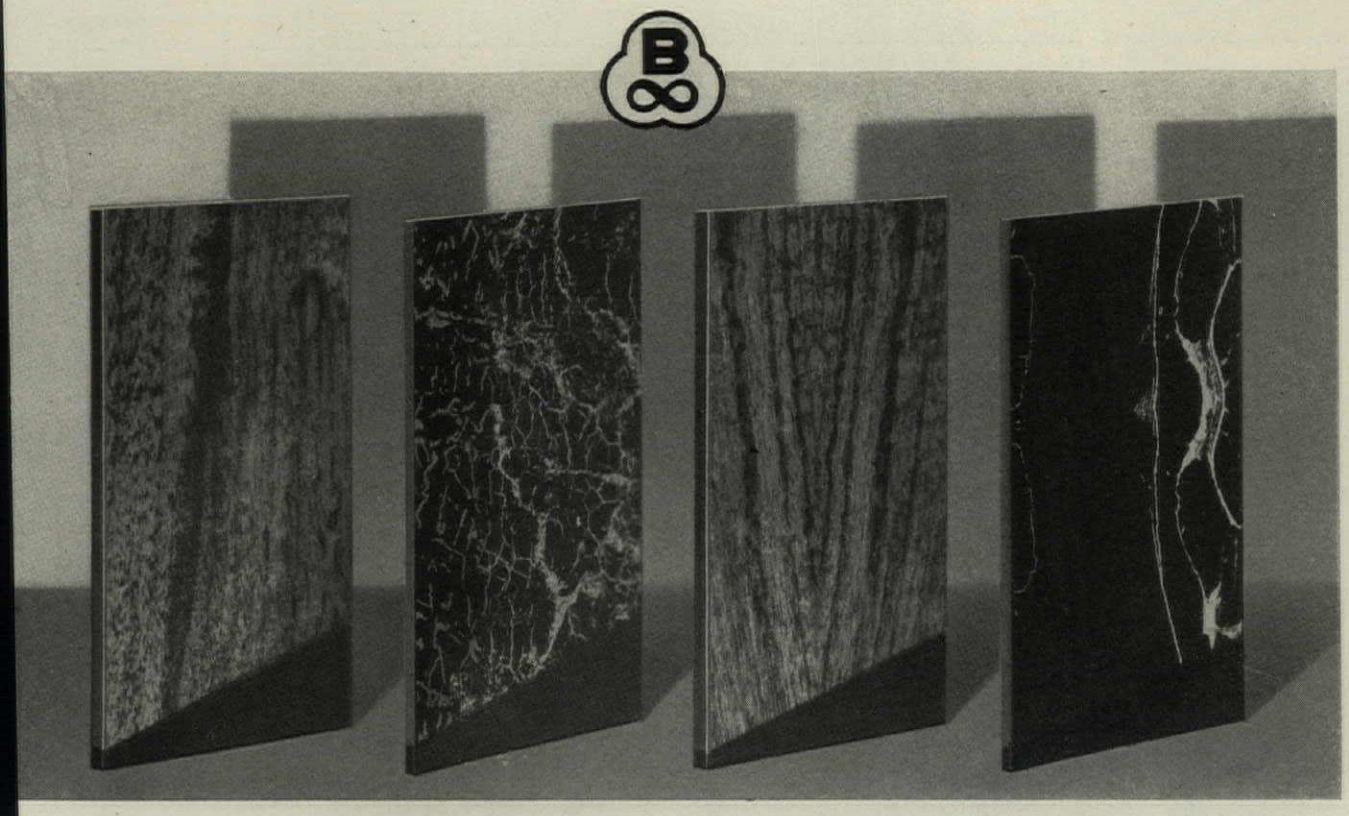
"More Heat Less Steam"



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LIGHT in weight but very strong, Bakelite Laminated is a material that causes no trouble through swelling, shrinking or splitting. It leaves the factory a finished product that requires no painting, varnishing or rubbing. It resists moisture, may be washed like glass, and it is non-inflammable. Under all ordinary conditions both color and lustre are permanent.

The colors and markings of rare marbles and fine woods are faithfully reproduced in Bakelite Laminated. It is also made in black and in various colors, affording the architect or decorator wide latitude in working out his ideas. It is splendidly adapted for rooms designed in the modern style.

Bakelite Laminated is being used with marked success for wall and ceiling paneling, window sills and trim, counter facing and tops, baseboards, store fronts and for furniture. Full information and samples may be obtained from our licensee, Formica Insulation Co., Cincinnati, O.

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"The registered Trade Mark and Symbol shown above may be used only on products made from materials manufactured by Bakelite Corporation. Under the capital "B" is the numerical sign for infinity, or unlimited quantity. It symbolizes the infinite number of present and future uses of Bakelite Corporation's products."

THE CASANOVA APARTMENTS
Shorewood (Milwaukee Suburb), Wis.

Owner, Casanova Realty Co.; Engineer and Contractor, F. J. Hinton; Associate Architects, Velguth & Papenthien; Plumber, M. D. O'Leary; Jobber, Milwaukee Plumbing & Heating Supply Company

····80% leased *in advance*
····*colored* plumbing fixtures·

The bathrooms of the Casanova's thirty-six apartments were furnished with Kohler plumbing fixtures in *Autumn Brown*, with handsome decorations in black and green.

Here is the result, as reported by the builders. "Eighty per cent of the apartments were leased before the completion of the building, this being due largely to the installation of colored plumbing fixtures."

This is not an unusual experience. Many architects have found that Kohler fixtures in color make houses and apartments so much easier to sell or rent that their reasonable extra cost is repaid with interest . . . See Kohler fixtures in *livable* colors, including the new TUSCAN, at a Kohler Display Room.

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PLUMBING FIXTURES

LOOK FOR THE KOHLER TRADE MARK ON EACH FIXTUR

TERRA COTTA Buildings
Clean Like New

Above: Old Inter Ocean Building. Chicago, Ill.

Exterior readily made new by simple washing after long neglect.

Below: Pacific Mutual Building, Los Angeles, Cal. John and Donald Parkinson, Architects.

Built in 1908, 1915, 1929. Terra Cotta of all three sections matches perfectly after a simple cleaning.

ALL architectural materials can be cleaned to the extent that some part of the accumulated grime can be removed.

But only in Terra Cotta can the original color and freshness of surface be fully restored, as is apparent every time an addition is made to an existing building.

The old structure however cleaned never quite matches the new work except where both have been executed in terra cotta. This is of outstanding importance where future additions or extensions may be involved.

Strong cleaning acids are unnecessary and injure the terra cotta. Write for our circular on cleaning.

NATIONAL TERRA COTTA SOCIETY

230 PARK AVENUE NEW YORK, N. Y.

(On behalf of the Terra Cotta Manufacturers throughout the United States)

NEW-

"Mongol Colored Pencil FILLS A LONG-FELT WANT"

wrote THOMAS HASTINGS, architect

"THE Mongol Colored Pencil which you have at last found a way to produce," he wrote, "fills, it seems to me, a long-felt want—a pencil in color with a thin lead and one which can be used in almost the same way as the ordinary black lead pencil."

A colored pencil with a thin lead. Takes a needle point. Wears away slowly. And the point will not snap! Guaranteed not to break in ordinary use.

In our opinion no single pencil has ever awakened such immediate public response from professional men and laymen alike. Dollar bills pinned to coupons such as the one below—are being received by the hundreds.

Try it yourself. You'll be amazed. Sharpen a Mongol Colored Indelible Pencil—punch it through stiff cardboard. It will not break!

Send the attached coupon and $1.00 for the handy easel-type box of 12 new Mongol Colored Indelible Pencils.

Water colors, too, from the tip of this pencil

Take any one of the 12 Mongol Colored Indelible Pencils. Shade in the colors with the pencil. Run over the marks with a wet brush. The result is a smooth, even wash, hard to distinguish from fine water-color work.

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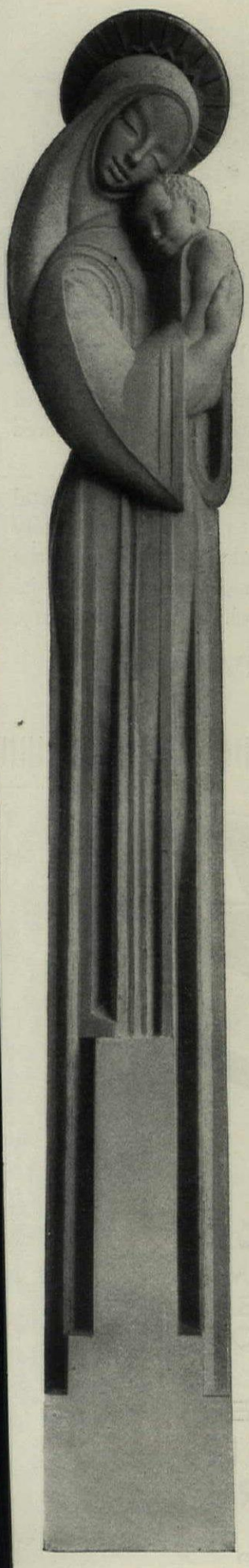

THIS modern conception of Madonna and Child, as well as other ornamental features of St. Thomas the Apostle School, was produced by sculptors of The Northwestern Terra Cotta Company, after design, Shattuck & Layer, Architects.

For the delicate modeling of those fine designs which give character and beauty to a building and mark it with the individuality of its designer, Northwestern Terra Cotta is the ideal present-day material. It reproduces with great fidelity the designer's finest conceptions; the sculptor's masterpieces. Besides these advantages, the repetition of decorative motifs in terra cotta distributes the original modeling cost fractionally to each piece, thus linking high quality with true economy.

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Sugarman & Berger, *Architects*

WINDOWS GLAZED WITH LIBBEY-OWENS FLAT DRAWN SHEET GLASS

LIBBEY-OWENS GLASS COMPANY

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HIDDEN POWER *in RIXSON* "30! & 40"

DOUBLE ACTING FLOOR CHECKS

VERY much alive! Pushing and pulling eternally against the unequal forces of air resistance, wind, and the hurried tugs of humanity passing above. Rixson No. 30 and 40 Double Acting Floor Checks have been on the job for 15 years closing heavy entrance and vestibule doors gently and silently under the severest conditions. They are built for the heavy duty demands of office buildings, department stores, hotels, churches, and theatres.

The reputation of No. 30 and No. 40 for reliability is largely due to their patented construction with double sets of springs and checks in each unit. One set swings and checks the in-swing, the other the outswing, and they are independently adjustable.

The mechanical details of No. 30 and No. 40—drop-forged, case-hardened parts, and ball-bearing design—are impressive to the man who knows floor checks. To others, who want records of performance as their guide, we can designate such installations as those on the Woolworth, Kresge, Kress, McCrory and Grant chain stores.

In each Rixson product special merit, durability and convenience are provided. That is why architects say:

"You can stake your reputation on RIXSON Specialties."

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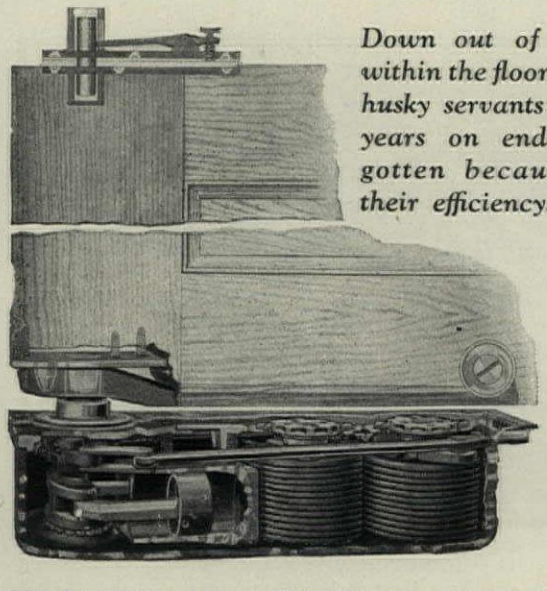

Down out of sight within the floor these husky servants work years on end—forgotten because of their efficiency.

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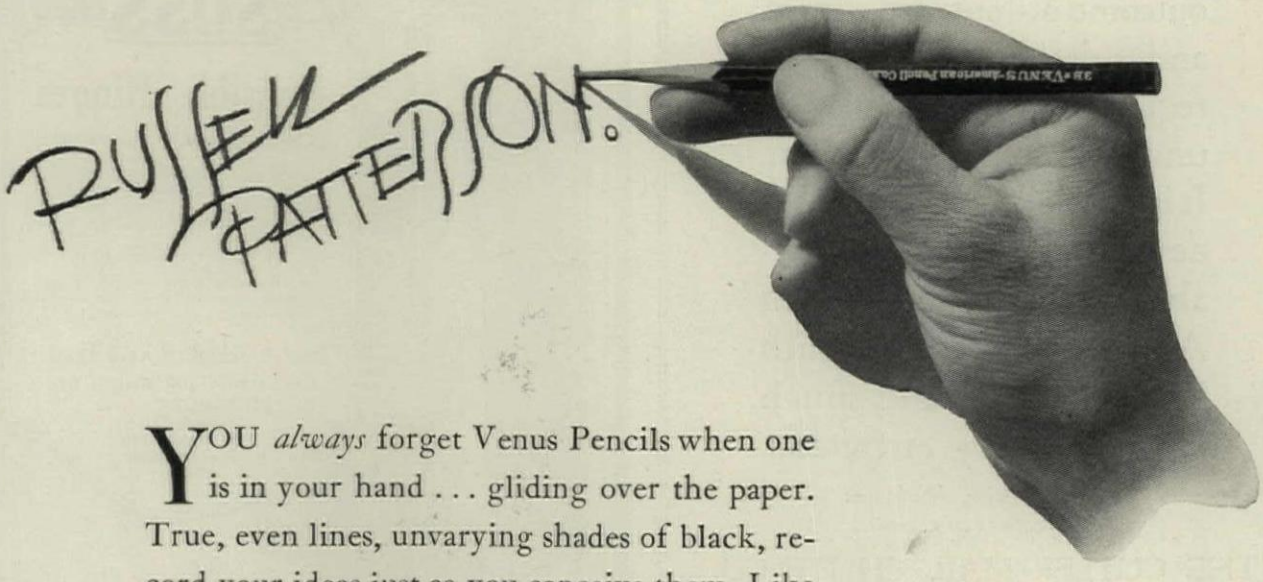
RIXSON

Improved Mechanisms in Builders' Hardware

There's one time when you *can* forget Venus Pencils



The hand in the photograph is that of RUSSELL PATTERSON, *famous artist, whose delightfully human drawings are so well known.*

YOU *always* forget Venus Pencils when one is in your hand . . . gliding over the paper. True, even lines, unvarying shades of black, record your ideas just as you conceive them. Like any good instrument, Venus Pencils do not disturb your attention when you use them.

Down to the final stub, Venus Pencils are perfect—strong, and true to degree. They are made with the precision the professional man *requires* in his work.

If you wish to compare a Venus with the pencil you are now using, indicate on the coupon below the degree you wish. We'll send you the pencil free. Give the Venus a test by using it in your own most exacting work. If it meets your needs, buy it anywhere and you will find it always the same.

Trademark
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VENUS

he pencil of 17 shades of black

(Of course you know about Unique Thin Lead Colored Pencils . . . and Venus Erasers . . . made by the makers of Venus)

AMERICAN PENCIL COMPANY,
Venus Building, Hoboken, N. J.

Without obligation, please send me a Venus Pencil of the following degree.....

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City and State.....

Occupation.....

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District Offices: 1050 Straus Building, Chicago; 953 Leader Building, Cleveland; 703 Market St., San Francisco.

Production of a machine-made tile to meet the Faience effect at a moderate price, and with greatly reduced cost to install, is announced by the Flint Faience & Tile Company, Flint, Mich. The new machine-made tile is called Flintcraft. This new line of tiles will serve those architects who are favorable to a precision type tile installation as compared to the artistic, such as results from the use of genuine hand-made plastic units, or Faience. Flintcraft permits of securing the same depth and beauty of color as Faience but at a considerable saving in cost, and is equally suitable for wall or floor. They are available in a palette of pleasing colors and standard shapes.

The Milwaukee Corrugating Co., Milwaukee, Wis., has established a New York district office in the Pershing Square Building, 100 East 42nd St., New York, N. Y.

Sidney F. Heckert, President of the National Fire Proofing Company, Pittsburgh, Pa., has just been elected President of the Eastern Hollow Building Tile Manufacturers Association. This association has its headquarters at 420 East 23rd Street, New York City, and is composed of the leading manufacturers of structural clay products on the Eastern Seaboard. Mr. Heckert, at this time, is also serving as President of the Structural Clay Tile Association of Chicago, the national organization in that industry, with which body, however, the eastern manufacturers are not affiliated.

At the annual meeting of the Mac Arthur Concrete Pile Corporation, New York, N. Y., the following officers and directors were elected:—Morgan W. Jopling, President; R. E. Sperry, Vice President; R. E. Talmadge, Secretary and General Manager; Board of Directors: Wm. M. Chadbourne, Chairman; Morgan W. Jopling, Donald R. Hyde, Roger B. Emmons and R. E. Talmadge.

The Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa., announces the introduction of a new shingle known as the No. 90 Colonial Tapered to be produced in five colors. It measures ¼ in. thick at the butt tapering to ⅛ in. at the top, 18 in. long and is furnished in random widths of 6 in., 9 in., 12 in. and 18 in. The standard size will be 9 in. x 18 in. The butts are left uneven instead of being trimmed off squarely, in order to produce irregular roof lines.

Announcement is made by the National Fire Proofing Co., Pittsburgh, Pa., that its stockholders, in a special meeting, approved the plan proposed by the stockholders' committee for the re-organization of the company's corporate structure, there having been deposited with the Commonwealth Trust Company stock in excess of 75 per cent of the company's outstanding stock in favor of the change. The new company will be known as the National Fire Proofing Corporation. All of the assets, liabilities and business of the National Fire Proofing Company will be sold to the new corporation when it becomes effective January 1st. S. F. Heckert, President of the National Fire Proofing Company reports that business booked for 1930 is in excess of the corresponding period of 1929. Sufficient orders are on hand to keep plants manufacturing glazed ware, Tex-Tile and Vitritile products in operation for over six months. In addition to its present large list of products, the company contemplates the marketing of four additional specialties within the coming year.

walls that retain their *Original Beauty*

The general use of *Milcor* metal building products in fine homes . . clubs and other buildings of architectural merit has been an inevitable development. In no other way can the original beauty of walls and ceilings be permanently preserved . . . . Stay-Rib Metal Lath . . *Milcor's* outstanding contribution to better building . . is a definite advance in the design of expanded met plaster bases. Reinforced, as it is, with longitudinal rib of exclusive *Milcor* design, it is unusually strong. special reannealing process contributes towards perm nence. It has a mesh design that firmly imbeds th plaster with slight pressure and provides an entire adequate key without waste.

Milcor Expansion Corner Bead is simila ly an outstanding development. Its pa ented wings of expanded metal grip th plaster tightly, right up to the head an distribute shocks and blows over the e tire wing. In this way *Milcor* Expansi Corner Bead permanently preserves an protects the sharp, true corners and gra ful, accurate curves which it creates. Wh used over Stay-Rib Metal Lath, the pl ter keys through the wing of the be and the mesh of the lath giving ad tional strength at these vulnerable poin

MILWAUKEE CORRUGATING C
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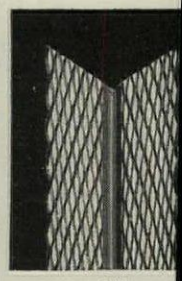
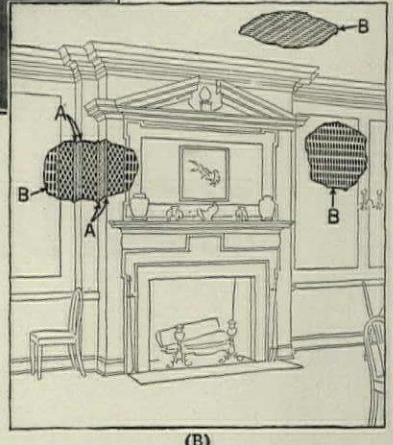
DINING ROOM
MILWAUKEE COUNTRY CLUB.
Architects:
FITZHUGH SCOTT, Milwaukee,
ROGER H. BULLARD,
New York City.



(A)
Milcor Expansion C Bead is also distingu by its expanded wings. This feature Milcor patent—perm perfect grip on the p and prevents chippi due to unavoidable



(B)
Milcor Stay-Rib Metal Lath is reinforced by longitudinal ribs of unusual strength. It has the rigidity and mesh design of an ideal plaster base, providing maximum protection against plaster cracks.

Save with Steel

Armco Ingot Iron
Copper Alloy Steel

Complete information covering the use of MILCOR metal building products is contained in the "MILCOR MANUAL". You should have a copy handy in your files.

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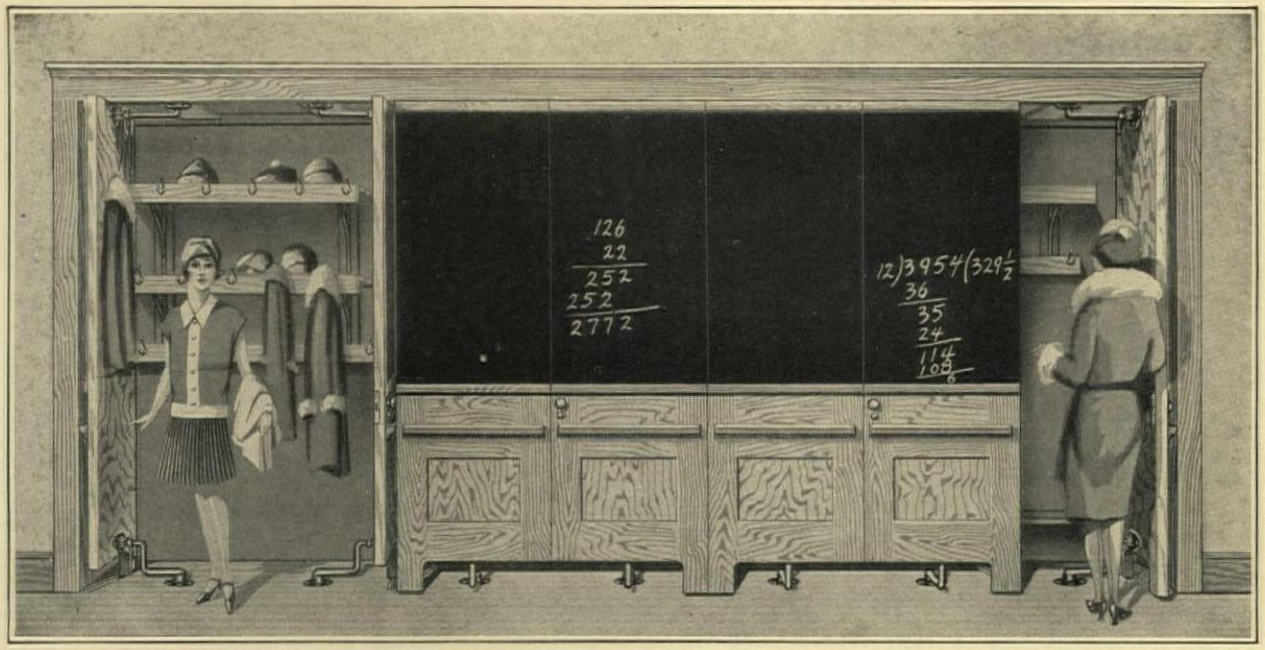

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and improve classroom ventilation with R-W School Wardrobes

You can save floor space and considerably reduce the cost of heating school buildings with R-W Disappearing Door Wardrobes. Eliminate ordinary cloakrooms altogether . . . wraps are kept in the classroom, free from the possibility of pilfering. Ventilation is greatly improved by air currents which pass under and through R-W wardrobes, carrying odors, dampness, and germs from clothing out through ventilating grills.

Another distinguishing feature of R-W equipment is the continued easy, quiet, trouble-free operation assured by special designing. Compound Key Veneered flush or panel doors are guaranteed against warping, swelling, and rough usage.

Richards-Wilcox assumes full responsibility for complete wardrobe installations with disappearing doors in any wood finish, with or without continuous blackboards, as illustrated and described in Catalog No. A-53.

Send today for your free copy of this new catalog profusely illustrated in colors and containing floor plans of many types of R-W wardrobe installations.

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"A Hanger for any Door that Slides"

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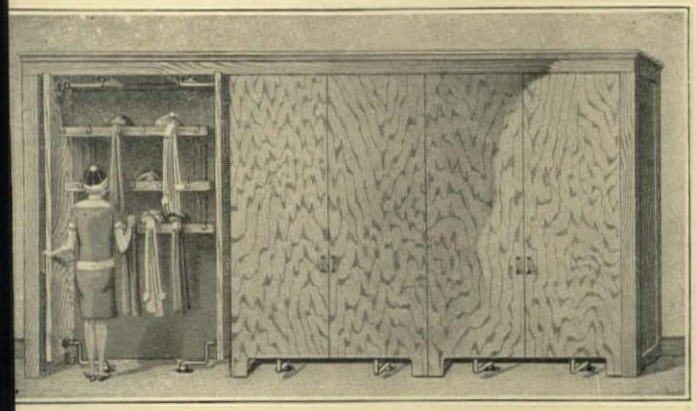

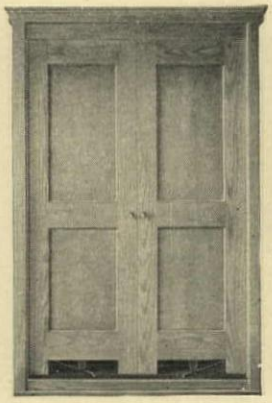

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