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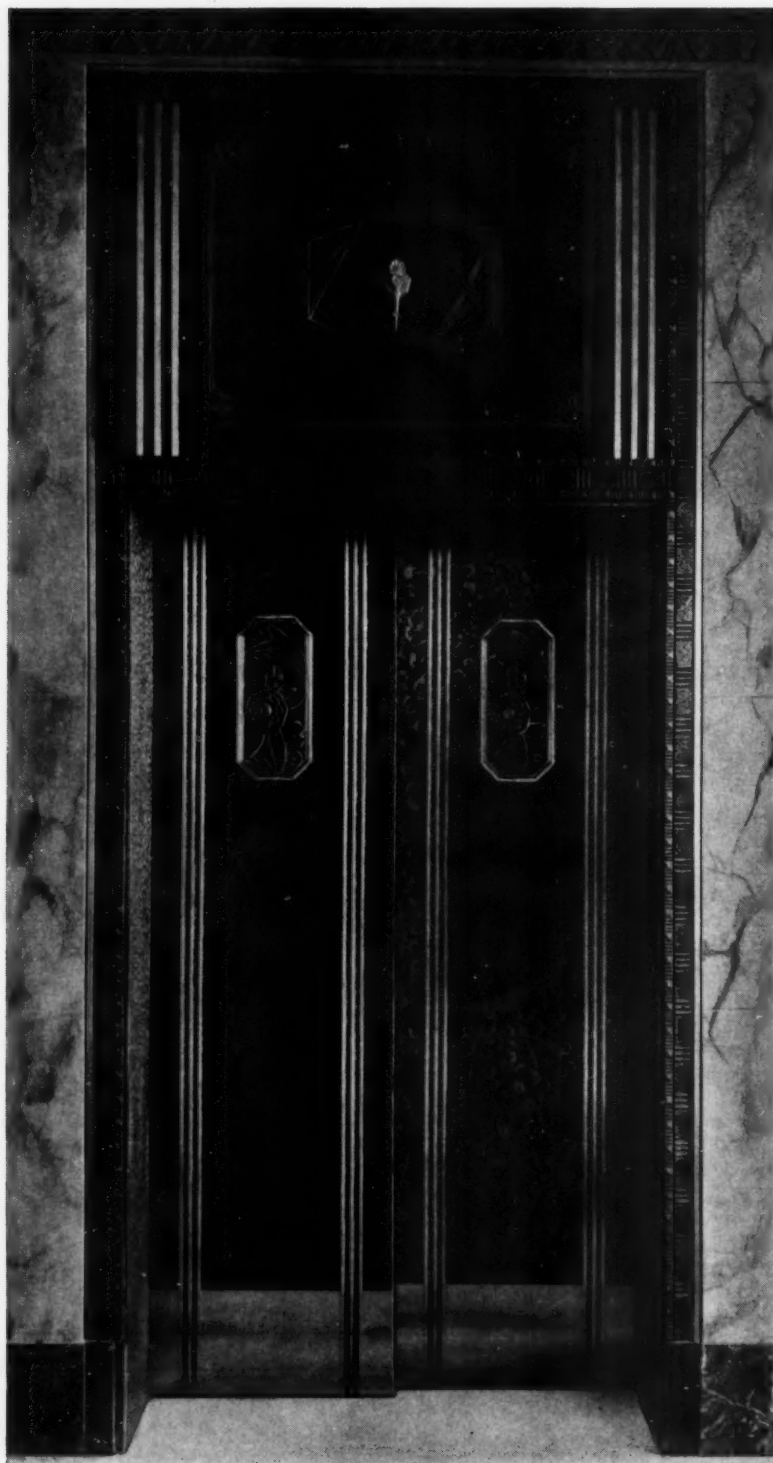
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AMERICAN ARCHITECT

FOUNDED 1876

October 1931



Specify **THORP DOORS**

ANOTHER example of faithful reproduction and expert craftsmanship by Thorp. Elevator enclosures for the new Spokane and Eastern Trust Company building, Spokane, Washington. A. Moorman and Company, Minneapolis, Architects and Engineers.

Doors and jambs are etched steel with applied white bronze stripes and cast white bronze ornamental inserts. The trim and overhead panel are cast steel with white bronze ornamentation.

- Outstanding workmanship knows no geographical limits. On a record of past achievement, "Doors by Thorp" are being written into the specifications for important new buildings in all parts of the country.

THORP FIRE PROOF DOOR CO. Minneapolis, Minnesota

NEW YORK ARCHITECTS USE CORK

for many purposes . . . in many types of buildings

BECAUSE cork is an efficient insulating material, it saves fuel and provides comfort. Because it is unusually resilient, it reduces vibration and quiets moving machinery. Because it absorbs sound, it is valuable for acoustical and sound-quieting treatment.

And because cork is easily installed and does not deteriorate, architects and builders alike prefer to use it wherever its special properties are needed. Armstrong is one of the leading manufacturers of cork products.

On this page are shown or described a few of the New York City buildings for which Armstrong's Insulation products were selected. There are many more—too many to list here. Other large cities tell the same story.

We will gladly send you complete information about Armstrong's Insulation products and their uses. Armstrong engineers are always at your service for consultation regarding any insulation, vibration, or acoustical problem. Armstrong
Cork & Insulation
Co., 936 Concord St.,
Lancaster, Penna.

WESTERN UNION BUILDING. *Armstrong's Corkboard insulates the fresh air intake of the ventilating system. Armstrong's Cork Covering guards brine lines that supply refrigeration to the cafeteria.*

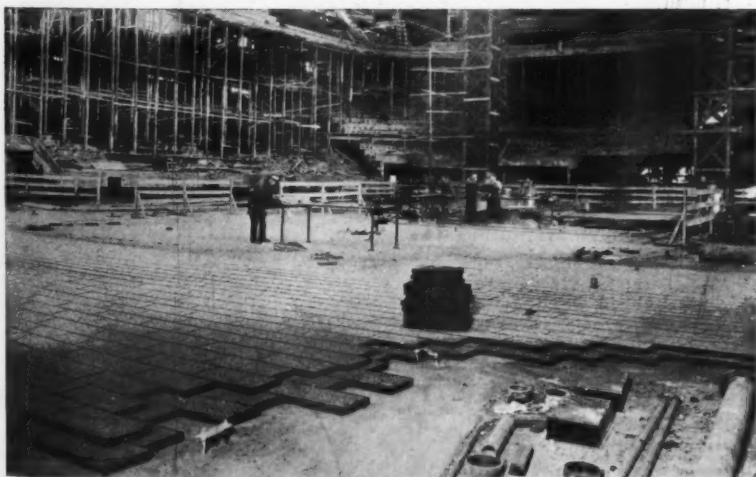


Armstrong's



Product

NEW MADISON SQUARE GARDEN. *New York's "Palace of Sport," calls on Armstrong's Corkboard to insulate its large ice skating rink. Moisture resistance and low conductivity are both important here.*



And these well-known buildings also use Armstrong's Insulation Products

Empire State Building—Seventy-five thousand square feet of roof space is protected with Armstrong's Corkboard Roof Insulation.

Chrysler Building—Refrigerators and cold storage rooms in the Cloud Club near the roof are guarded by Armstrong's Corkboard and Cork Covering.

New Waldorf Astoria Hotel—Three carloads of Armstrong's Corkboard were used in the construction of this building—as roof and cold storage insulation.

Psychiatric Hospital—An unusual use of high temperature insulating brick, Nonpareil Brick, made by Armstrong, line the flue to keep heat out of adjoining rooms. Excellent also for use in hotels and apartment houses.

Salvation Army Building—Here Armstrong's Corkboard insulates the cold storage rooms. Low conductivity, plus resistance to moisture, has made corkboard standard insulation for cold storage work.

Hell Gate Power Station—The largest operating steam power plant in the world uses Armstrong's Vibracork to quiet the noise and muffle the vibration of eight large coal pulverizers.

Armstrong Cork & Insulation Company

CORKBOARD . . CORK COVERING . . VIBRACORK . . CORKOUSTIC . . INSULATING BRICK

BING & BING, INC.

choose SALUBRA Wall Covering for
these *seven* outstanding new apartments



Entrance to 925 E. 73rd St., New York City
Emery Roth, Architect, New York



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999 W. 12th St., New York City
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302 W. 12th St., New York City
Boak & Paris, Architects, New York



45 Christopher St., New York City
Boak & Paris, Architects, New York



140 E. 28th St., New York City
Emery Roth, Architect, New York



920 E. 73rd St., New York City
Emery Roth, Architect, New York

*H*ERE is conclusive evidence of Salubra's practical durability under even the most severe conditions. Bing & Bing, Inc., Builders, Owners and Managing Agents for many of New York's leading apartment houses, chose Salubra for the corridors of their seven outstanding new buildings—"The Mansionettes of 1931".

Salubra's hundreds of exclusive patterns are obtainable in no other wall treatment. Their originality in texture and design has irresistible "eye appeal", adding definite rental value to the entrance halls and corridors of any apartment.

Because Salubra is fadeless—insurance against depreciation—and is really washable, i. e., "SCRUBBABLE" with brush, soap and water, it reduces maintenance to a minimum and eliminates the cost of periodic redecoration.

Owing to the combination of its unique features, leading architects consider Salubra the preferred wall treatment for any type of building—apartments, hotels, clubs, hospitals, residences, etc. For information, write Frederic Blank & Co., New York Central Building, 230 Park Ave., New York, or Marshall Field Annex, 24 N. Wabash Ave., Chicago.

Among other well-known builders of apartments now using Salubra:
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J. H. Taylor Construction Co., N. Y. H. R. H. Construction Co., N. Y.
H. A. Hyman, N. Y. Houston Properties, Inc., N. Y.
Abner Distillator, Builder, N. Y.
and scores of others throughout the country.

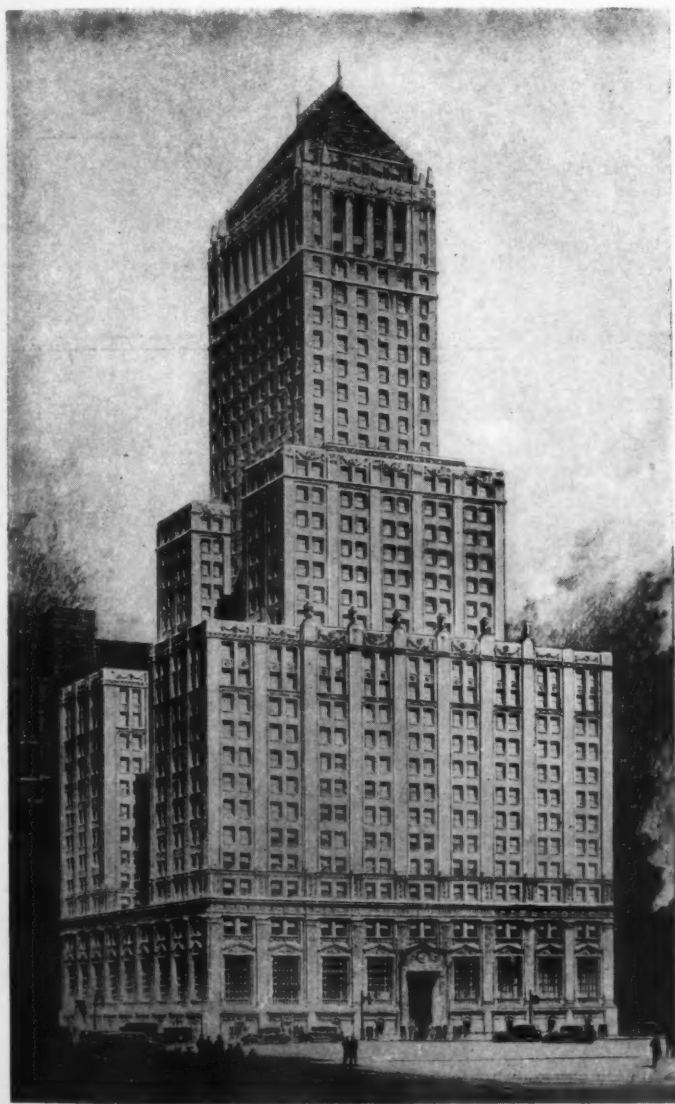
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AMERICAN

STEEL SHEETS *for*



EVERY PURPOSE



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Black and Galvanized Sheets
Keystone Rust Resisting Copper Steel Sheets
Special Sheets, and USS Stainless and Heat
Resisting Steel Sheets and Light Plates

Modern construction demands highest
grade sheet metals. This explains why
AMERICAN products were used in the new

National Newark Building Newark, New Jersey

Architects—John H. & Wilson C. Ely, Newark, N. J.
General Contractor—Starrett Bros. & Eken, Inc., New York, N. Y.
Heating and Ventilating Contractors—
Baker, Smith & Company, New York, N. Y.

A magnificent structure such as this
naturally demands that each feature of its
construction employ good materials, with
expert craftsmanship, and bear closest
scrutiny. To meet the most exacting stand-
ards, over 250,000 pounds of

Apollo Best Bloom Galvanized Sheets

and AMERICAN Black Sheets were used in
the heating and ventilating systems of this
building. Send for our APOLLO booklet.



American Sheet and Tin Plate Company

GENERAL OFFICES: Frick Building, PITTSBURGH, PA.

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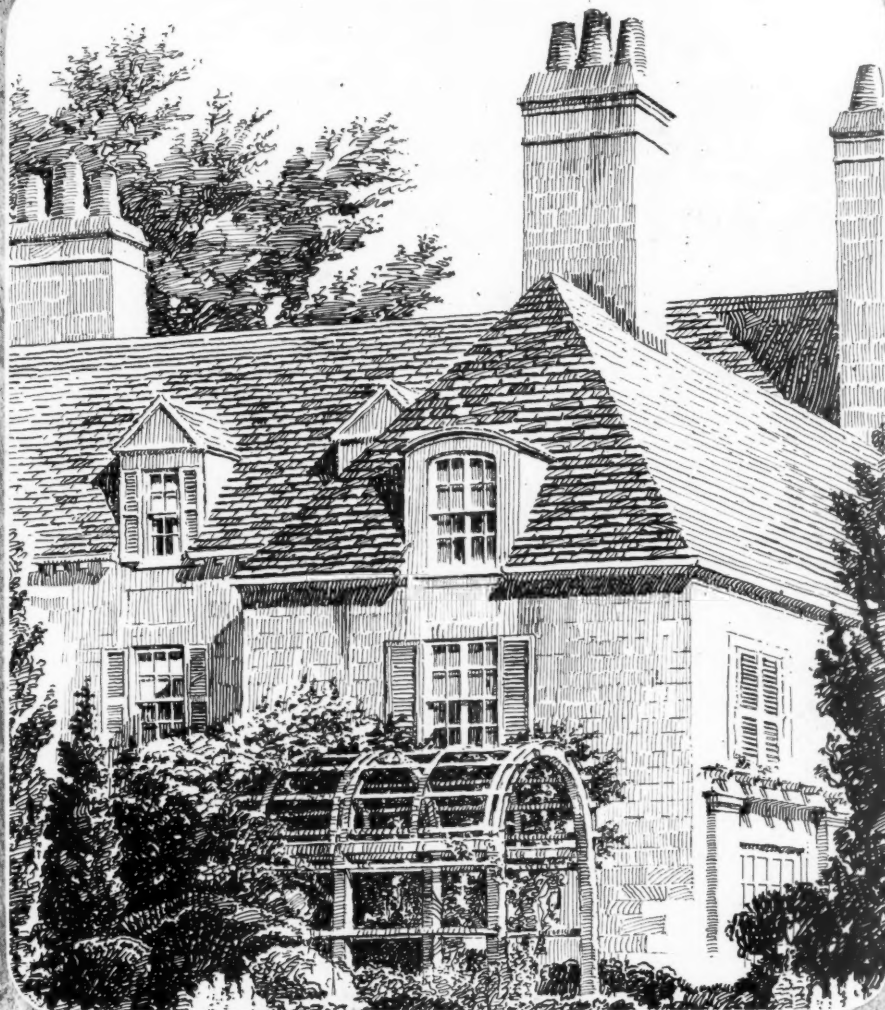


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Rising and Nelson Slate Company

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Architects' Service Department: 101 Park Avenue, New York City

CHICAGO

DETROIT

PHILADELPHIA

BOSTON

Another successful way to use the modern color beauty of Alcoa Aluminum

Because the L. P. Hollander Company Building is a shop for women, the architects keyed the ornamental motifs for the entrance door and display windows to a distinctly feminine note.

The lower panel, occupying two stories, has made use of the rich modern color beauty of Alcoa Aluminum on the store front, main entrance door and the two smaller doors that flank the show windows. In the upper tier, Alcoa Aluminum spandrels were used.

This building, which received the Fifth Avenue Association's Gold Medal for 1930, exemplifies the fact that elaborate designs are possible when executed in Alcoa Aluminum. No matter how intricate or elaborate a design might be, Alcoa Aluminum can be used to the satisfaction of the artist who creates the motif.

In the Hollander Building, Alcoa Aluminum has been used in cast, extruded and sheet form. It can be forged, pressed,

L. P. Hollander Co. store, 3 East 57th Street, New York City. Architects: Shreve, Lamb and Harmon, New York. General Contractors: Starrett Bros. and Eken, New York. Aluminum Metal Contractors: General Bronze Corporation, Long Island City, N. Y.



View showing the rich ornamental panels cast in Alcoa Aluminum used for main entrance. The hardware of the door is also of Alcoa Aluminum.

rolled, machined and welded. It may also be etched or finished in a number of different ways as required by the decorative scheme.

Since Alcoa Aluminum weighs only $\frac{1}{3}$ as much as old-fashioned metals it is much easier to ship, truck and erect. It is tough and durable and, in addition, the weather will not make it streak on to adjoining surfaces. In addition to its many other advantages, the cost of Alcoa Aluminum is moderate.

SPECIFICATIONS

Alcoa No. 43 Aluminum Alloy is recommended for most architectural purposes. To meet the numerous demands for structural stability, Alcoa Aluminum alloys are available in various tensile strengths. In designing and writing specifications for buildings in which Alcoa Aluminum alloys will form a part, may we urge you to accept our co-operation without obligation? ALUMINUM COMPANY of AMERICA; 2440 Oliver Building, PITTSBURGH, PENNSYLVANIA.



REG. U. S. PAT. OFF.

ALCOA ALUMINUM



More than 10 kw. of exterior illumination add to the beauty of the Cinderella Building at night.

LIGHTED *for today's* standards *... wired for* tomorrow's

•

by WERNER WITTKAMP,
designer, St. Paul, Minn.



Lighted cylinders and panels contribute to the decoration and the illumination of this lobby.

LIGHT is used, in the retail store of the Cinderella Cosmetics Company in St. Paul, Minn., to emphasize and add to the appeal of style and beauty that is so important in the marketing of cosmetics and toilet articles.

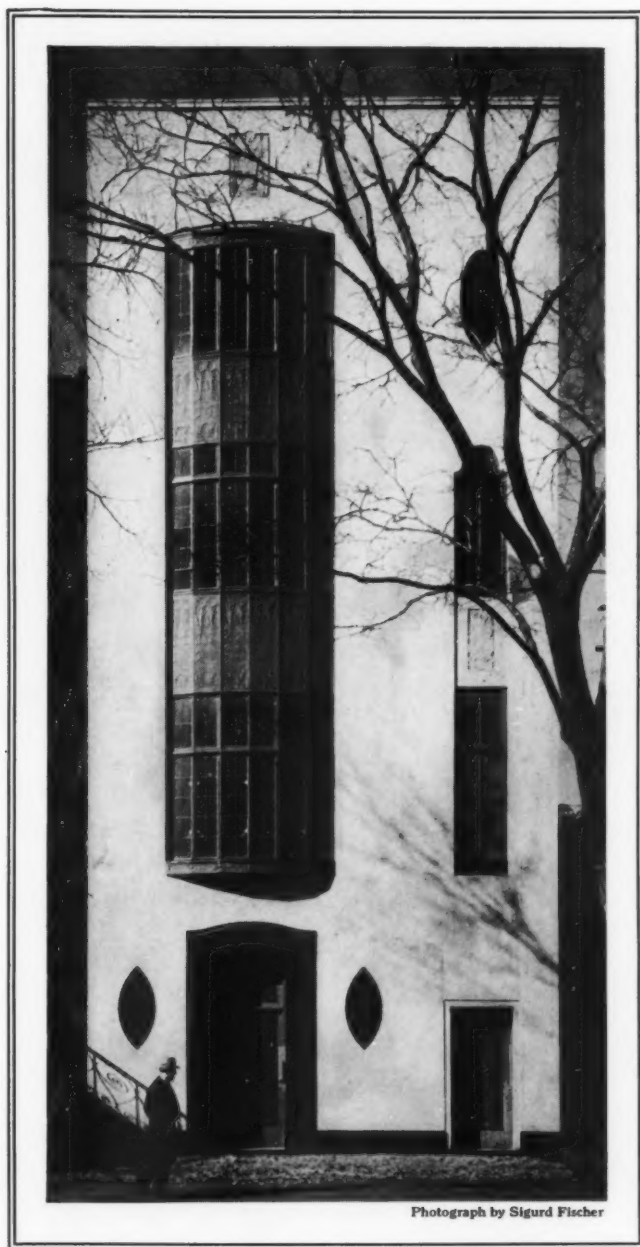
In developing a wiring installation for lighting that would complement and accentuate the modernistic motif of the design the Lighting Bureau of the local electric service company proved to be of inestimable value. Its co-operation and suggestions resulted in a lighting installation that is styled to the surroundings, and one that provides a high standard of modern illumination. At the same time, the wiring installation is designed to make even higher standards of illumination available when future improvements in lighting point to their need.

A lighting load of 30 kw. is used in this Cinderella Building, which is lighted to 10 and 12 foot candles throughout the entire working area. The windows are lighted to 200 watts per running foot and approximately 10 kw. are used in the exterior illumination of the building. The wiring installation is designed to carry a lighting load 60% greater than that now installed, and oversized conduit has been used to make it economical to further increase the lighting installation when desired.

The completed installation, with its flexibility and reserve, is proof of the value of the co-operation of the electric service company's illuminating engineers in helping to make a building adaptable to developments of a kind that are constantly calling for an increased use of electricity.

For information about trends in lighting standards, and about adequate wiring, call on the Lighting Bureau of your local electric service company, or write direct

NATIONAL ELECTRIC LIGHT ASSOCIATION, 420 LEXINGTON AVENUE, NEW YORK, N. Y.



Edward P. Russell Residence,
Chicago, Ill. Holabird &
Root, Architects

Photograph by Sigurd Fischer

WINDOWS FOR THE MODERN TOWN HOUSE

Modern city building and property restrictions have brought about new styles of architecture—not only commercial and monumental but also residential. The unusual town house illustrated above exemplifies one of the unique and effective types of design which have been evolved to meet urban living conditions of today.

Logically, this striking residence is equipped with Crittall Casements. For how better could the architects have assured a maximum amount of air and sunlight for the owner and at the same time secured such a beautiful facade?

The choice of Crittall Casements for this home reflects their wide range of application. Three separate and complete lines are available—Stanwin and Norman Standardized and Universal Custom-Built. All harmonize with both the modern and classic styles of architecture.

Our new catalog is in Sweet's—pages A777 to A841. Turn to these pages for complete details and specifications. Upon request we will gladly furnish you with any special information you require.

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CRITTALL CASEMENTS

FOR OCTOBER 1931

7

Addition to First National Bank Building,

St. Paul, Minn.



Architects and Engineers, Graham, Anderson, Probst and White; General Contractor, Paul Steenberg Construction Company.
The original building occupies the right-hand portion of the above illustration; the taller structure, at the left, is the addition.



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The Herman Nelson Invisible Radiator comes completely equipped with a sturdy steel case of correct design, graduating damper and choice of six authentic outlet grilles. For larger and taller buildings, where access to control valves is required, a special removable panel is provided.

For a residence or any building that will have a steam, hot water, vapor or vacuum heating system, insure your client's satisfaction by specifying Herman Nelson Invisible Radiators. Do you have our catalogue? A request brings it to you.

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ROCHESTER	WASHINGTON, D. C.	EVANSVILLE, IND.	CHATTANOOGA	SPOKANE	MELBOURNE
BUFFALO	BALTIMORE, MD.	CHICAGO	MEMPHIS	PORTLAND, ORE.	TOKIO, OSAKA
PHILADELPHIA	CHARLOTTE, N. C.	PEORIA, ILL.	NEW ORLEANS	SEATTLE	BUENOS AIRES

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Johns-Manville has perfected an economical way of completely filling the side walls and attic floors with J-M Rock Wool, a fire-proof insulation made from molten rock. This insulation is literally blown into the

walls of the house under pneumatic pressure and provides an insulation so efficient that it quickly pays for itself in fuel savings and additional comfort.

For full details, the monograph pictured above is available to you on request. Address—Architectural Service Department, Johns-Manville, 292 Madison Ave., New York City.

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ARCHITECTURAL SERVICE DEPARTMENT

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must be **FLAT** *to be*

CLEAR!



WINDOWS that give a true perspective of the view beyond them...windows that have a fine transparency unmarred by distorting defects...windows that add to the beauty of their surroundings...such windows are an impossibility unless the window glass is truly flat.

It is in this essential flatness that Pennvernon Window Glass so far excels ordinary glass. For Pennvernon, due to our exclusive manufacturing process of flat drawing, has a flatness never before equalled in fire finished glass.

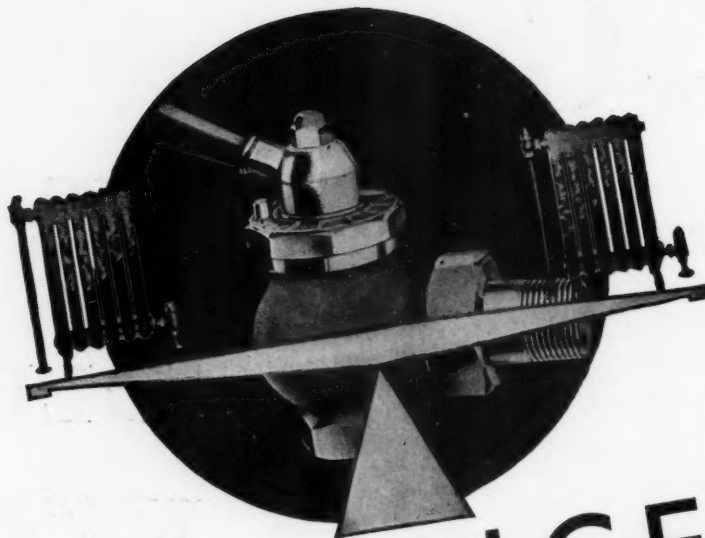
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For dining room, entrance hall, living room.



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Excellent with English oak furniture.



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DINING rooms often have a way of looking too formal. Yet it is so easy to have one that fairly radiates hospitality—a dining room with friendly walls in gay colorings and lively patterns that temper the formality of a properly set table. A dining room that stimulates conversation as well as appetites.

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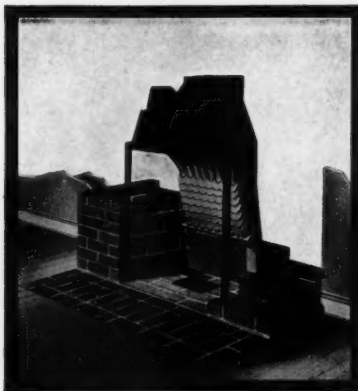
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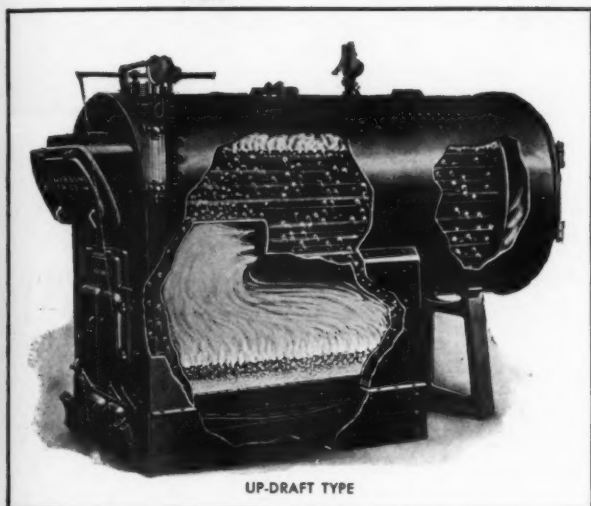
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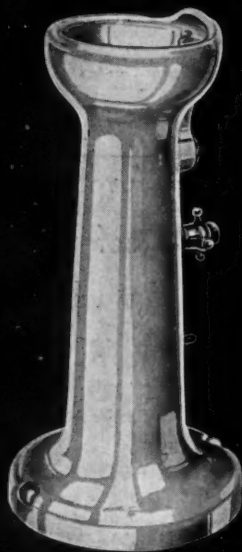
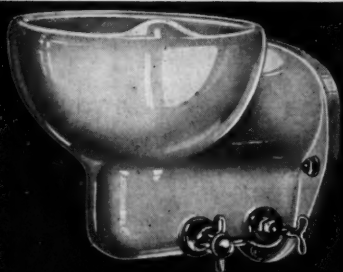
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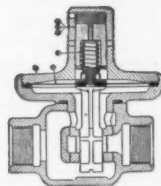
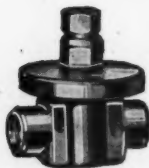
THE beauty and practicability of design—the superlative quality and long, trouble-free service—of Te-Pe-Co Drinking Fountains is a matter of general knowledge.

But—it may be news to you that these nationally famous fixtures are now equipped with Automatic Stream Regulators—and it's good news!

Now those who prefer Automatic Stream Regulators may enjoy this feature in combination with all the other advantages which products of The Trenton Potteries Company have always offered.

SIX POINTS of Stream Regulator Superiority

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Te-Pe-Co literature mailed upon request.

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TRENTON, N. J., U. S. A.

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17th & Sansom Sts.

Branch Offices
Boston and
Chicago

Export Office—115 Broad St., New York City

To help speed sales...

Architects designed these smart Armstrong Floors



Original combination of Armstrong's Plain Linoleum with a special inset makes up this attractive floor in the Chase Brass & Copper Company's New York Showroom.



Public service is sold in this office of the Pacific Telephone and Telegraph Company. Here quiet efficiency and cleanliness dictated lacquer-sealed Armstrong's Linoleum.

MODERN business men know the value of showmanship in selling. They know that people like to shop in smart stores—like to see goods shown in proper settings.

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With plain colors or the new inlaid patterns, you can achieve attractive and smart decorative effects in floors of linoleum. They are also economi-

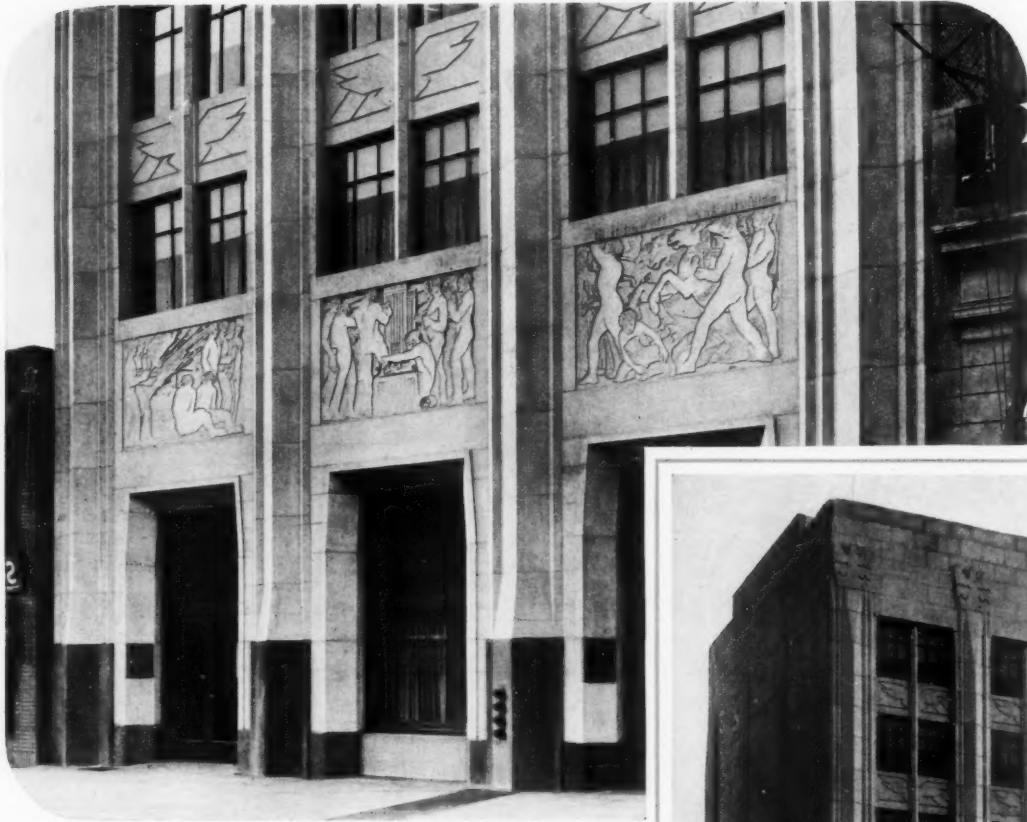
cal floors, for Armstrong's Linoleum stands the daily tread of countless feet. Quickly laid for permanent wear, it is trimly tailored and cemented in place over linoleum lining felt.

We will gladly send you our new file-size specification book, together with colorplates and samples of linoleum on request. You'll find us in Sweet's. Address Armstrong Cork Company, Floor Division, Lancaster, Pa. (Makers of *Product* *cork products since 1860)*

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PLAIN · INLAID · EMBOSSED · JASPÉ · PRINTED · ARMSTRONG'S LINOTILE and CORK TILE

Sharp detail in either white or color with cast stone of Atlas White



Facing of cast stone on the Income Securities Building, Oakland, Calif. F. H. Reimers, Oakland, Calif., architect; C. W. Heyer, Jr., San Francisco, general contractor. Cast stone, made with non-staining Atlas White portland cement, furnished by Stonetex Corporation, San Francisco.

FOR the repetitive designs commonly used on the exteriors of modern buildings, cast stone made with Atlas White offers the architect and builder several advantages. Without sacrifice in detail or loss in strength, the use of cast stone permits the production from the same mould of many pieces similar in form, thus eliminating the infinite repetition of hand labor required in cutting stone. Atlas White cast stone is produced in a number of warm, pleasing colors and textures. Thus the same design may economically be varied both in color and in texture if desired.

Cast stone manufacturers will furnish on request samples of fine cast stone made with either Atlas White or Atlas Waterproofed White portland cement.



106



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Volume CXXXX
Number 2600

AMERICAN ARCHITECT

(Trade-mark registered, U. S. Patent Office)

FOUNDED 1876

OCTOBER
1931



This Month's Cover

A MODERN SCHOOL

THE New School for Social Research, located in New York City at 66 East Twelfth Street, was designed by Joseph Urban and done in his most modern manner. The unusual lighting in this building was illustrated and described in the May, 1931, issue of AMERICAN ARCHITECT.

The water color by Leo Rackow of this building offers a contrast between the typical old red brick houses so characteristic of this part of the city, and the most modern type of architecture gradually replacing them.

Mr. Rackow is one of the younger "moderns." He studied at the New York School of Fine and Applied Arts and under Bridgman and Frank Vincent Dumond at the Art Students League. While in Paris a year or so ago, he painted with Leger. A number of Mr. Rackow's water colors have been exhibited in the United States, and some of his posters were shown at the recent Art Directors Show in New York.

BENJAMIN FRANKLIN BETTS, A.I.A., *Editor*

ERNEST EBERHARD, *Managing Editor* WALTER E. DEXTER, *Advertising Manager*
RAY W. SHERMAN, *Editorial Director* R. F. GARDNER, *Business Manager*

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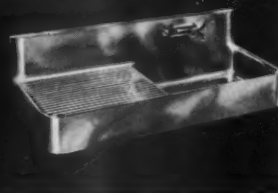
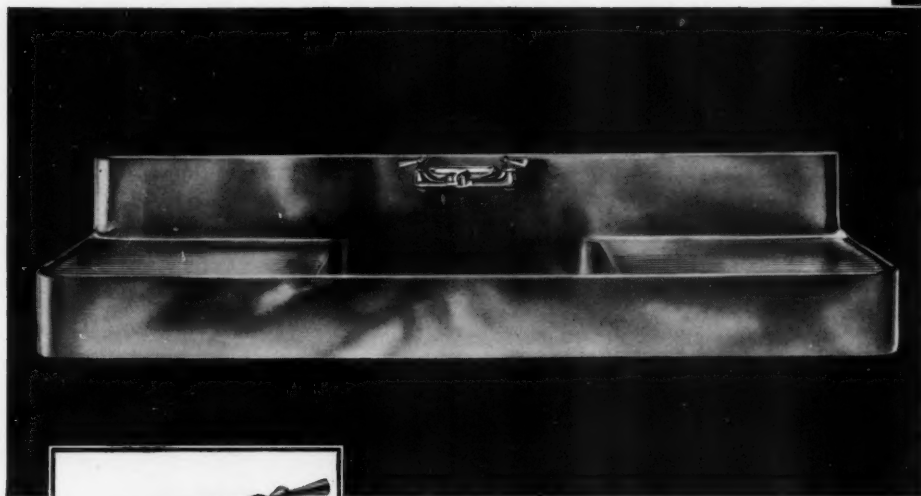
Next Month

METAL WORK—Unusual design in the Irving Trust Building
RADIO CITY—How the roofs and set-backs will be landscaped
APARTMENT HOUSE—Analysis of neighborhood for profit

AMERICAN ARCHITECT, Published monthly by INTERNATIONAL PUBLICATIONS, INC.
Fifty-seventh Street at Eighth Avenue, New York, N. Y.

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Above: Single drainboard Monel Metal kitchen sink. Available in both left and right-hand drainboard models. Made in nominal sizes of 50" x 21" and 41" x 21".

At left: Double drainboard Monel Metal kitchen sink. Made in nominal sizes of 72" x 21" and 60" x 21".



At top: A solid 20 per cent Nickel Silver supply fixture is recommended for all Monel Metal sinks, because it will retain its silvery attractiveness for the life of the sink. All standardized Monel Metal Sinks are regularly supplied, without extra charge, with crumb-catching strainer drain of 20 per cent Nickel Silver, illustrated above.

● The new Monel Metal kitchen sinks are in a class by themselves. There's not another standardized sink on the market that can be compared with them...that offers the same advantages of beauty, durability, inherent cleanliness and increased work space. No other sinks give home owners the same freedom in choosing kitchen colors, for Monel Metal Sinks, with their blendful, silvery tones, permit the greatest freedom...they always harmonize.

When you specify Monel Metal Sinks for your clients' homes, you are specifying the last word in modern sink design and construction. These beautiful sinks are graceful of line and proportion. They have no bulky curves or bulges...no hard-to-clean corners or sharp angles. Their finish is soft and reflective with the eye-pleasing lustre of time-mellowed silver. They are strong, rigid and durable...built to withstand a lifetime of hardest household service.

In addition to these advantages, Monel Metal Sinks are priced within reach of the average family purse...the first time a sink of such beauty and utility has been available at so low a cost.

The architect's folder on these sinks (A.I.A. No. 29 H6) should be in your file. Write for "Data Folder—Standardized Monel Metal Kitchen Sinks".

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A HIGH NICKEL ALLOY
MONEL METAL
NICKEL ALLOYS LOOK BETTER LONGER



THE PRICELESS THING AN ARCHITECT SELLS

By Benjamin F. Betts, A.I.A.

IN a certain American city a building was erected. After its completion a man who worked in it said, "I enjoy working in this building, yet it seems little different from any other building." The man was right—it was not much different from other buildings used for the same purpose.

The building was designed by an architect—who had studied the owner's requirements. He had made it as beautiful as he knew how. Materials had been selected on the basis of their suitability and without any personal monetary consideration. These materials had been used in accordance with good practice, in justice to their producers and the owner's interest.

THE architect had dealt fairly with the contractors. He had written a fair specification, made adequate drawings and had seen to it that the contract was reasonable to all parties. He had not compelled the contractors to execute work that was not clearly demanded, but he had made sure that the owner obtained that for which he paid.

His fee was paid by the owner and he did not receive commissions from other sources. He was a man, liked by his employes because he played fair. Other business men had confidence in him because of his standards of honesty.

The building was to outward appearances little different from many others but the architect had built into it something more, something inherent in architecture since the art began. That something was—integrity.

WHATEVER the code of ethics of those who build or work in the building industry may be, they look upon the architect as a champion of honesty and fair play. Whatever else an architect may sell, he supplies that greatest of all commodities—integrity. Perhaps this is what makes the practice of architecture a profession as well as a business.



How to make a Dry Point

By *Samuel Chamberlain*

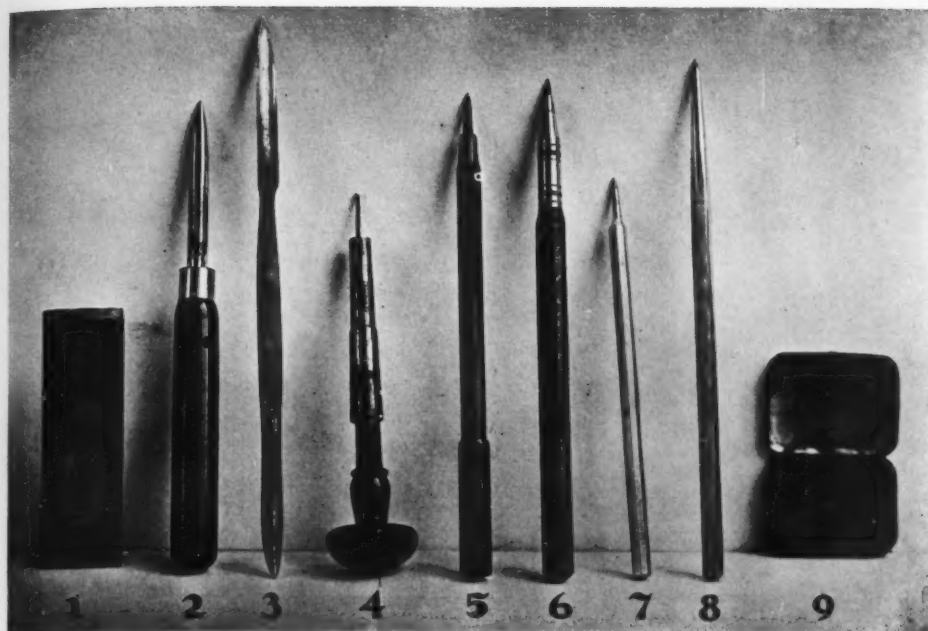


Samuel Chamberlain and his ability to portray architecture as such with pen, pencil, or the tools of the etcher, are too well known to require comment. In this article he tells how he makes a dry point

THERE is no *one* way to engrave a dry point, any more than there is a solitary method, for example, of laying out a perspective or, for that matter, carving a goose. The personal techniques of the etcher, the draftsman or the man who wields the carving knife, enter very prominently into the process. The following brief description deals therefore with but one method, among many, of making a dry point and no suggestion is made that it is preferable to any other procedure.

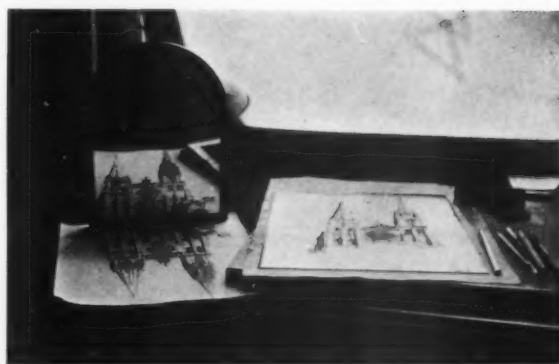
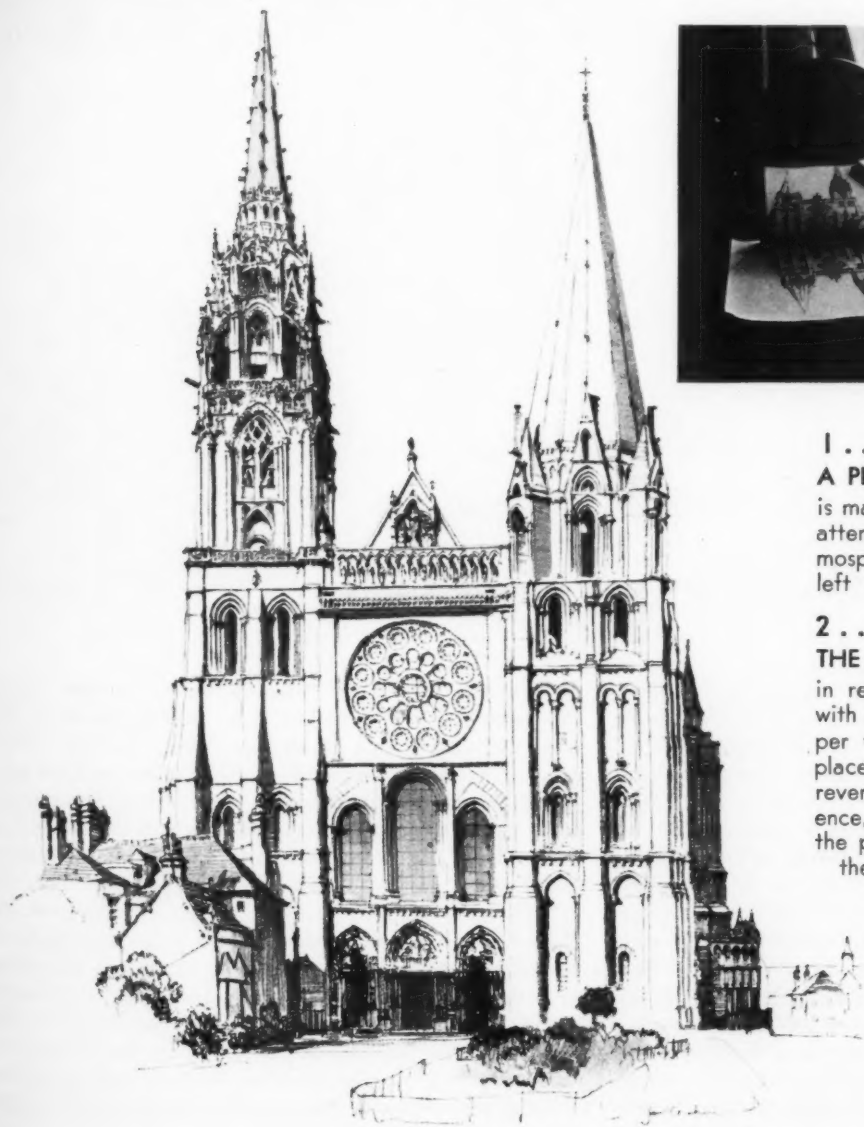
A dry point may be either engraved directly on the

copper plate from nature, or it can be worked up in the studio from sketches. The former method is often preferable in the case of a simple landscape. But when portraits or architectural subjects are being considered, a perplexing difficulty crops up. Like the plate of your wedding invitation, which is possibly now converted into a tray for calling cards in your front hall, a dry point plate must be drawn in reverse to produce a proof which shows the subject in its true sense. To draw directly in reverse requires a prodigious mental effort, especially when the subject is complicated. This usually has an upsetting effect upon the etcher. He finds himself signing his name backwards, eating his breakfast in the evening and adopting a warped view of life in general. Joseph Pennell sometimes neglected to reverse his plates. One of his favorite subjects was the skyline of



ETCHING TOOLS

1, pocket whetstone; 2, burnisher; 3, scraper; 4, burin; 5, diamond point; 6, ruby point; 7, small steel point, a dentist's tool; 8, large steel point; 9, box filled with lamp black and vaseline paste



1...

A PENCIL SKETCH

is made. This is a working drawing, no attempt being made to secure atmospheric effect. The sketch at the left is of Chartres Cathedral, France

2...

THE SKETCH IS TRANSFERRED

in reverse to the plate and re-traced with a ruby point, which cuts the copper very lightly. The pencil sketch is placed in front of a mirror in which the reverse image is available for reference, while etching, as shown above in the photograph, which was taken when the plate had been partly etched

Pencil Sketch
Reduced one-half

COMPLETING THE DRY POINT

... 3

FIRST PROOF

pulled after the towers had been partially engraved with a steel needle. The remainder of the subject had been blocked in with the ruby point, as was explained in step 2

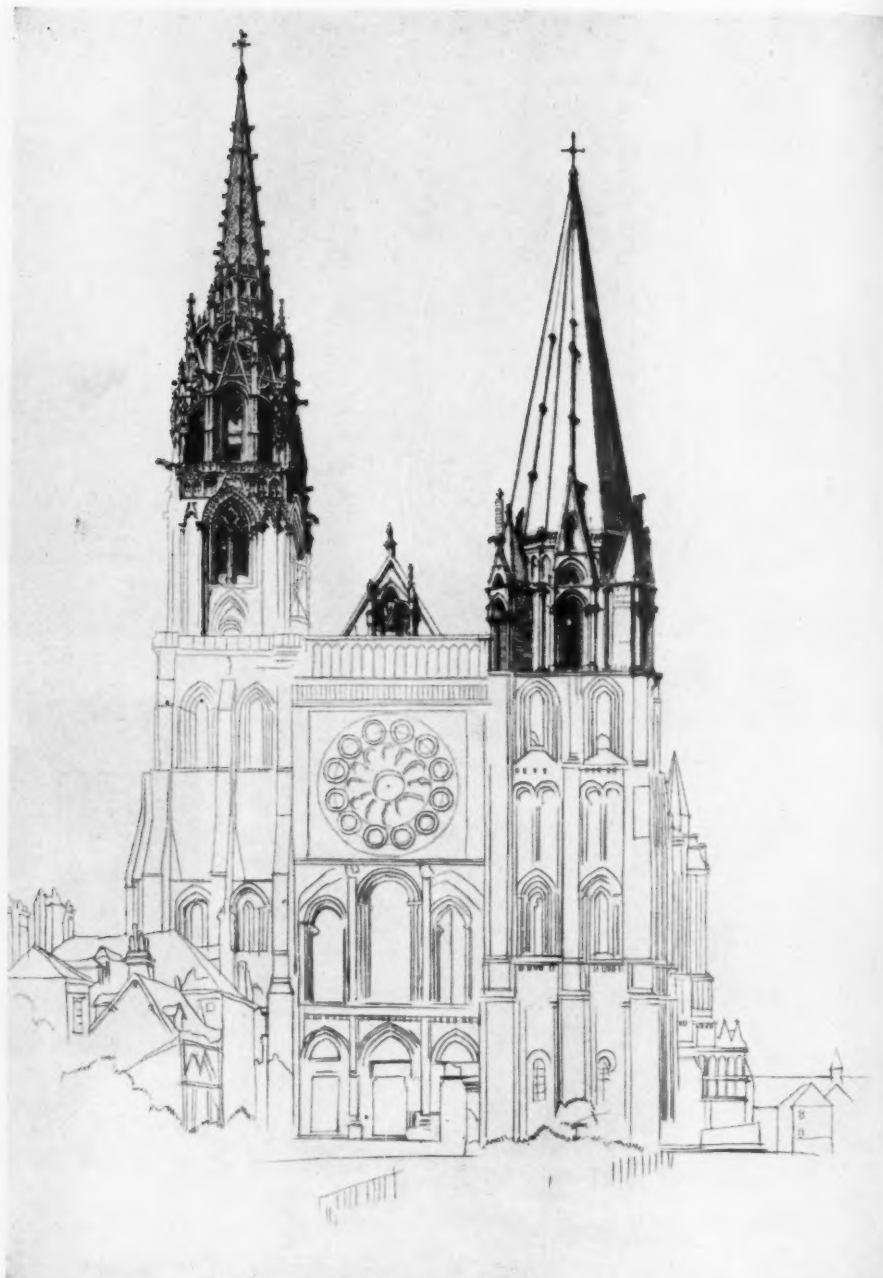


PLATE REDUCED ONE-HALF

lower Manhattan seen from his apartment in Brooklyn. Believe it or not, there are plenty of trusting souls who have figured it out that Pennell lived in Jersey!

With architectural subjects, greater accuracy and more studied effect (not that these are necessarily virtues) can be obtained by working in the studio from careful drawings. The task of transferring the drawing to the plate, in reverse, is something of a bore. The principal lines of the subject are traced with a dry point needle upon a sheet of gelatine paper. Red poncif powder is rubbed into these lines. The copper plate is then waxed and smoked, so that its surface is a dull black. The engraved gelatine paper is placed face down on the smoked plate, and the two are passed through an etching press. This leaves the principal lines of the drawing readily visible in red against the black surface. These

are retraced with a ruby point, which cuts the copper very lightly. Once the lines are entirely retraced, the wax is removed with gasoline and there, at last, is your drawing, outlined in reverse. There are less tedious ways of transferring drawings, but I, for one, have found none so accurate. The original drawing is studied in reverse by the simple expedient of turning it upside down and viewing it in a mirror.

It is now about time for the actual cutting of the plate. Either a steel or a diamond point may be used. The diamond point cuts the copper readily in any direction, but only with difficulty can one obtain depth with it. Also diamond points split with surprising ease. The steel point needs constant resharpening, and is a balky instrument at first, but it produces the fresh rich lines and the velvety tones which are so characteristic of dry



4 . . .

LATER PROOF

pulled when the subject was quite fully engraved, save for the texture of the right spire. The vertical line on the right indicates where the plate, which was oversize, was to be trimmed. This proof was purposely printed dry and wiped clean to show up all of the lines in their true value, and allow corrections to be made

5 . . .

COMPLETED DRY POINT

The plate has been trimmed on the right, and the detail of the spire and some stone texture has been added. The fragment of shaded transept in the distance has been lightened, as have the chimneys on the house at the left. The printing is richer throughout, and a tone has been left on the sky and on the foreground



point. Most etchers agree that the most difficult phase of dry point etching lies in keeping the needle really sharp. Half the battle is won if this is mastered. The cutting is done directly on the copper. Wherever the point ploughs into the metal, a ridge is invariably thrown up on one or both sides of the line. When the pasty etching ink is applied, it clings to these burrs of copper causing the juicy, slightly blurred lines which are typical of dry point.

Visibility is poor on a copper plate. To aid the struggling vision, one can rub a black paste into the lines as they are engraved. This paste is a simple mixture of vaseline and lampblack, and cannot harm the plate. Further aid can be found by working under a screen of white tracing paper or muslin, which is suspended at an angle before a window. The white surface is thus

reflected on the copper, greatly aiding the eyes. Ordinary ceiling reflexions usually are not sufficient.

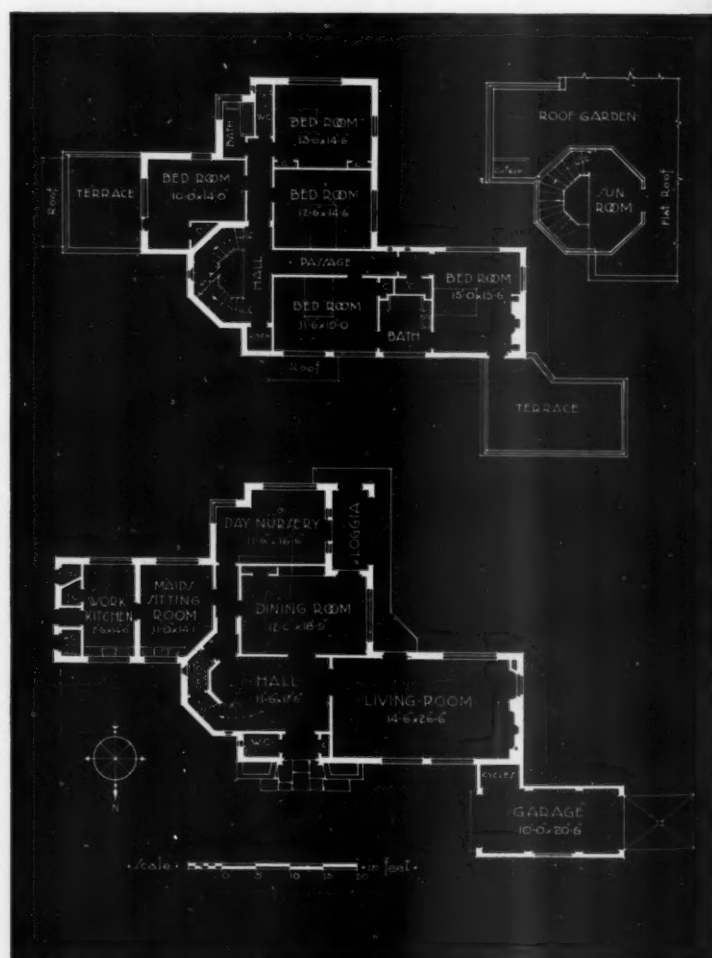
One may stop the engraving of a dry point at any stage or state, to pull a proof of the work already accomplished. This privilege, not so readily obtained from an etching or aquatint, must not be abused, for dry point lines on copper are quickly weakened by the wiping of the plate and the flattening action of the press.

Electrolysis comes to the rescue, once a dry point is finished, and coats the copper plate with an infinitesimal facing of steel. Thus fortified, the plate can stand a hundred proofs or more without apparent weakening, whereas an unfaced copper dry point will usually become weak and lifeless before a dozen impressions are taken. Zinc plates are even less resistant. Proofs of states of dry points are consequently (Continued on page 80)



The Client Wanted
Terraces and
A
SUN
ROOM
on the Roof

House at Brickley
Kent, England
P. D. HEPWORTH
F.R.I.B.A.
Architect





■ **GREEN GLAZED PANTILES** roof the sun room; similar tiles are used as parapet copings. Half of the sun room is occupied by a stairwell, the other half by plants in tubs to satisfy the owner's hobby

THE PROBLEM

A flat roof with a glazed sun room where the owner could grow plants in tubs

Two terraces at the second floor level; one to be a sleeping porch adjoining the master's bedroom, the other to open out from the children's bedroom and to be used as an extra playroom

Five double bedrooms and a nursery well separated from the other rooms of the house

CONSTRUCTION

Walls, brick covered with whitewashed cement stucco

Flat roof, wood joists covered with "thatch-board" and surfaced with asphalt

Exterior trim painted bright red, blue and orange

Heating, two coal burning fireplaces, and electric tubes, thermostatically controlled, along baseboards

Hot water supplied by three insulated storage tanks, located for economy in piping, electrically heated and automatic in operation

CHURCHES ARE NOT WHAT THEY USED TO BE . . .

By Wayne G. Miller

Director, Department of Church
Planning, Christian Herald

If you are one of those architects who practice the art on Sunday morning by dozing over the rotogravure sections, perhaps you have not noticed some things which have been happening to America's churches—some things which intimately concern you.

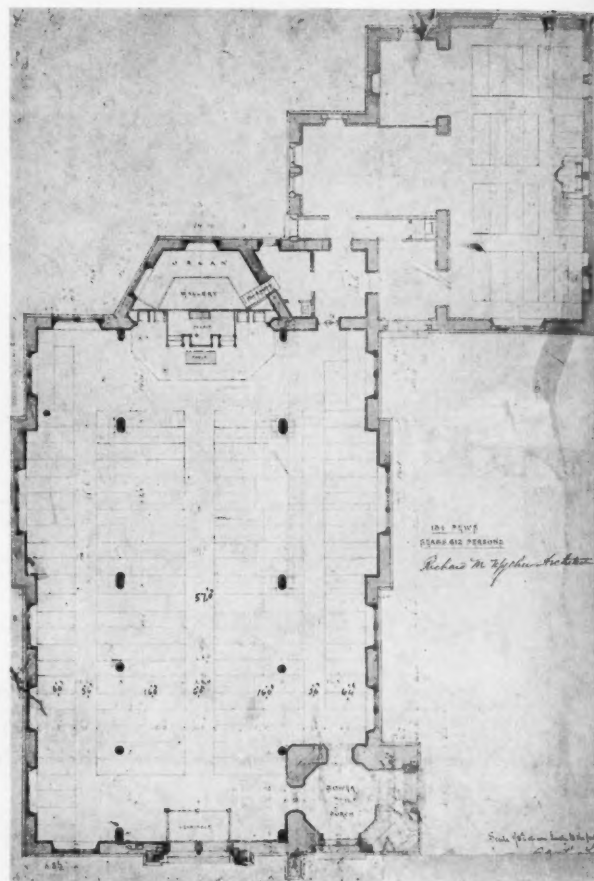
If, however, you have taken little Jimmy to Sunday school, you have at least had frequent glimmerings of new happenings about the old church. You remember when the new educational wing was built five or six years ago. You recall that the residence next door was bought and converted into a parish house. And you will remember recent talk of "doing something" to the main building—you're not sure exactly what, but you hope you will get a chance at the job.

You will recall, also, that Jimmy's Boy Scout troop meets in the church. You sometimes attend a banquet there. Your bowling team meets there two evenings each week, and your wife is a member of two or three church organizations which sew for the orphans and study something about India. As you put all these things together it dawns upon you that the modern church, in addition to being a place of worship, is a social center, a club house, a banquet hall, an educational plant, a gymnasium, a little theatre and a lecture hall.

Architects have been aware for half a dozen years that church buildings are expanding and costing more. Million-dollar churches no longer are unusual; the recently dedicated Riverside church in New York City is said to have cost more than five million. The East Liberty Presbyterian church of Pittsburgh is being planned to cost that much or more. Nearly every large city points with pride to from one to half a dozen churches costing in the neighborhood of a million.

Not only are these buildings costly (no architect objects to that) but they are distinct artistic assets to their communities. For the church is taking on new beauty. Symbolism is coming into more tasteful use. Worship rooms are being planned to incorporate beauty and suggestiveness hitherto regarded with askance at least by sections of the church. The designer will delight in making fullest use of tradition, symbols, properly restrained ornament, balanced mass, and those architectural effects having recognized spiritual implications. His design will come to represent his highest reaches of artistic imagination and disciplined originality.

But there are increasing difficulties, too. Once a church was only a box with a steeple; now it is a highly complex



ERECTED IN 1875

Presbyterian Church at Rye, New
York, Richard M. Upjohn, Architect

building problem which will tax the best architectural ingenuity. Your clients want a host of new features incorporated in the building—features by no means standardized, and ranging all the way from a more elaborate and sensitive use of traditional forms and symbols inside and outside the building to the laying of an up-to-the-minute kitchen for the serving of meals by the thousand.

Two attitudes toward church problems are evident in the work of architects in the last three or four years. The man who emphasizes the artistic opportunities is likely to overlook the fact that this church, while a work of art, is also a tool. He is prone to produce a building whose beauty is an inspiration; its proportions and ornamentation will be dictated chiefly or solely by the purest artistic conceptions; even the arrangement of its units and their proportionate dimensions will be con-

IN 1875

- 1—A sanctuary
- 2—A chapel

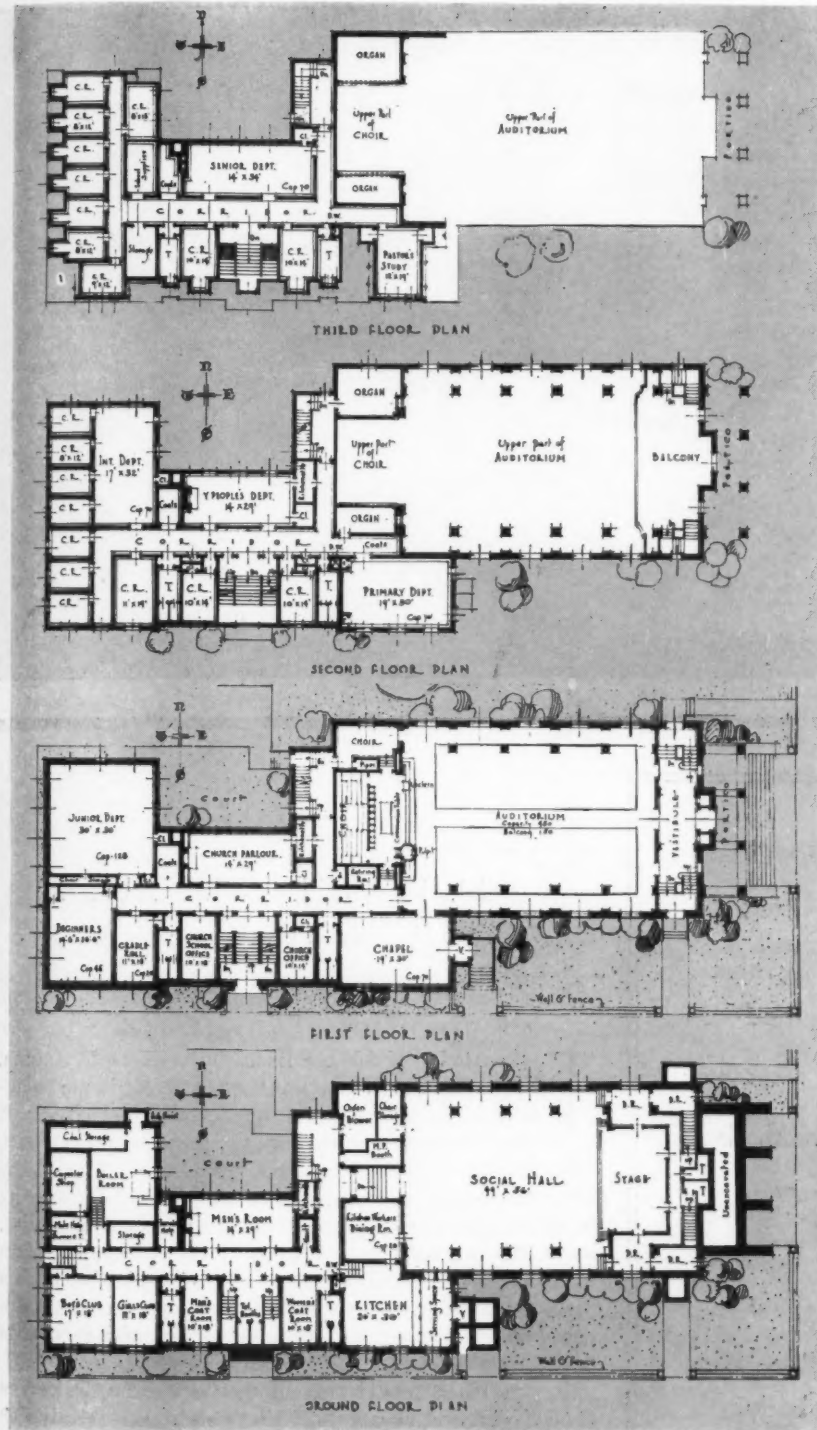
IN 1931

- 1—A sanctuary
- 2—A chapel
- 3—A social hall
- 4—Class rooms
- 5—Primary department room
- 6—Young people's department room
- 7—Intermediate department room
- 8—Junior department room
- 9—Senior department room
- 10—Other educational rooms
- 11—Lounges for men and women
- 12—Boys' club room
- 13—Girls' club room
- 14—Carpenter shop
- 15—Coat rooms
- 16—Kitchens
- 17—Church offices
- 18—Pastor's study
and often a gymnasium,
bowling alleys, and other
facilities for athletic or
social activities

■ TYPICAL OF 1931

First and Central Presbyterian Church, Wilmington, Delaware.

A. G. Lamont, architect



ceived not so much as dependent upon the purposes they are to serve as upon the way in which they shall blend into the architectural whole. He will be impatient with the suggestion that he should study the church's organization, its schedule of meetings, its methods of work and its attitudes on such matters as dramatics, education, amusements and methods of raising money.

The other attitude is not exactly the antithesis of this—that would not be architecture. But the architects who are likely to be longest remembered for their church

work are those who combine unusual dignity and beauty with the accommodation of highly specialized functions. The more the architect sympathizes with the church and understands its attitudes, the more will he have to do in this growing field of practice.

Here a sharp distinction needs to be made between the actual attitude of the church as contrasted with its traditional attitude. The church has not forsaken the ideal of reclaiming hell-bound souls, but is laying chief stress upon the religious (Continued on page 68)

IN JUNE
a Draftsman
Wrote This
Story



STAFF WELFARE comes first
NIGHT WORK not permitted
BOARDING HOUSE, with athletic
facilities, maintained for unmarried men
IN SLACK TIMES, everybody takes a cut
EVERYBODY ON SALARY, even the bosses
MARRIED MEN get 20%
more than single men
NO DRINKING, no smoking
MORNING PRAYER
participated in by everybody
HEALTH EXAMINATION before hiring

THE RESULT

In 25 years, no draftsman has been fired for
lack of work—and no draftsman has quit

By

WM. MERRELL VORIES, LL.D.
of W. M. Vories & Company, Architects
Omi-Hachiman, Japan

THE article "If I Were Boss" by William F. Shuma, in the June AMERICAN ARCHITECT, leads me to describe the workings of an office in which all of Mr. Shuma's suggestions are in actual operation, with several additional features besides. My purpose is not to advertise the office in question, since its remote location precludes any direct benefits from this publicity, but rather to confirm Mr. Shuma and others like him in his convictions and ideals so that when he becomes a "boss"—as one of his caliber is certain to become someday—he will really put them into practice with assurance that they will work.

Let me then report that in this office the draftsmen collectively are boss. And the results of twenty-five years of such leadership are seen in the organization and its work.

First of all, as Mr. Shuma advocates, this office is maintained on the basis of professional service rather than commercialism. It never enters competitions and on several occasions has declined jobs that would have involved violating its principles. Its standards are well known throughout its sphere of influence by contractors and clients, both old and prospective.

The welfare of the staff, from janitor and office boy up, is put ahead of every outside consideration; hence there is 100% cooperation. By welfare, I mean both inside the office and outside, including the men's fami-



→ IN THIS OFFICE

EVERY Draftsman IS BOSS

lies. Working hours are altered according to the season and no drafting is done by artificial light. The drafting room is not an "educated attic," but it is kept neat and clean. The walls are painted a buff color to avoid reflection, and the window arrangement provides cross ventilation. Samples, models and files are kept in order, yet readily available. Pencil sharpening receptacles attached to all drafting boards help to keep the floor clean and the room livable.

Although night work is not permitted, the few electric lights provided for emergency use have proper fixtures rather than being a cob-web of cords overhead. It is frankly a work room, but not a factory loft.

To insure proper living conditions for single draftsmen, the office maintains a boarding house at the edge of town, with grounds enough for tennis and other sports. The men pay only actual cost of board, the overhead being subsidized by the office.

Married draftsmen automatically receive 20% more salary than single ones for the same work, besides an allowance for house-rent.

There are *no* journeymen draftsmen in this office. If work were slack the entire staff would share the restricted income, rather than fire the most needy ones so that the most able might ride the hardtimes easily. This is a prime factor in 100% cooperation: To employ only *good* draftsmen and to *keep* them.

There is a monthly get-together, on office time, to discuss ways and means of bettering the organization. The men have a voice in any changes in salary standards or special cases needing extra income. Sickness ex-

penses are paid by the office, which makes everybody anxious for everybody to keep healthy.

The salaries of the younger men run higher than in most offices for similar work and those of the more responsible members of the staff somewhat lower; there is a more nearly even distribution of profits. The firm members, as well as draftsmen, all work on salary.

Philanthropic work, in which all are interested, is done by the company, instead of "the boss" being a "philanthropist" on the earnings of his staff. This is not only fair, but it stimulates the enthusiasm, which Mr. Shuma advocates, to feel that "we" are doing something worth while for our community. The youngest draftsman can feel that he is helping to maintain the hospital and the educational institution, and is part giver of some thousands of dollars annually to various charities.

Efficiency and enthusiasm are further maintained by means of a small orchestra, a male chorus, annual art-exhibits of the men's work, and various athletic clubs, among the staff—in which the nominal "bosses" participate, thus incidentally extending their own youth. In the spring and fall staff excursions are taken, at the expense of the office, to our own building operations in various cities and to places of scenic or historic interest.

Men without college degrees are given a fair show. In fact, several of our best men grew up in the office and learned as they worked. "Little" jobs get attention equal to that given the big ones. They are not used as practice work for beginners. The "bosses" giving personal attention to these small (Continued on page 70)

PRIVATE ARCHITECTS NOT WANTED

By Ernest Eberhard

THE time has come for the Institute to discard the polite gloved hand in its dealings with the Treasury Department. Once more the two-fisted policy of D. H. Burnham, which resulted in the Tarsney Act and its enforcement, must be brought into operation.

On August 4, the New York *Herald-Tribune* printed the following statement: "The hope of the American Institute of Architects to have all future government buildings designed by private architects dwindled today when Ferry K. Heath, Assistant Secretary of the Treasury in Charge of Public Buildings, announced that the government's own staff of architects had proved more satisfactory in the present emergency. . . . As a result, it is probable the Treasury will oppose any recommendation to Congress to limit the work of the supervising architect's office to a purely supervisory status, leaving all of the designing to be let out to private architects. The use of outside architects, except in unusual circumstances, will be limited to the present emergency, with which the present staff of the supervising architect is unable to keep pace, it was said."

The statement also said that, "This experience has shown that the government construction has proved much faster than outside professional architects."

FEDERAL ARCHITECTURE ENDANGERED

ROBERT D. KOHN, president of the Institute, rallied to the defense of the profession, saying, "Mr. Heath's discovery that the profession which created the architecture of America, notable throughout the world, is inefficient and slow cannot be taken seriously. Private architects are good enough for the nation's greatest institutions and corporations, as well as for Secretary Mellon, who entrusted them with the monumental public buildings in the 'Triangle' in Washington. . . . Federal architecture is endangered by the inability of new ideas and new impulses to make headway against the fixed procedure of the Treasury Department staff. To this condition, engendering a tendency toward 'stereotyped forms,' I attribute the main delay in Federal building operations. . . .

"The Treasury Department staff has developed a certain way of doing things, and the system thus established does not easily adjust itself to the architects who have been called in from outside to work with the Department. There is probably the usual kind of governmental procedure established by long custom, involving methods by which everything must be done, and which really cause the main delay."

In reply, Mr. Heath said: "Although I was not ex-

actly quoted in the New York *Herald-Tribune*, the substance of the statement expresses my views. The inferences drawn from my statement are the reporter's deductions. . . .

"I did not state, as seemed to be inferred by Mr. Kohn, that government architects are more satisfactory than private architects and that the latter are inefficient and slow. I did say that outside architects have not produced, and are not producing, faster than government architects engaged on similar projects.

"As a matter of fact, private architects employed by the Treasury Department are rendering very satisfactory services considering the conditions they have to meet, which are identical with the conditions which those employed in the Supervising Architect's office have to meet."

TREASURY ATTACKS ARCHITECTS

THE complimentary words uttered by Mr. Heath in the last paragraph of his second statement, made after a storm of protest had been aroused by his statement of August 4, do not agree with an unsigned article which appeared in the July issue of *The Federal Architect*, the three editors of which are all connected with the Treasury Department. This article says in part: "The private architects approach the problem of designing a Government building, therefore, with a good deal of uncertainty, and their work is apt to show this. They are like a man playing golf with a new set of clubs.

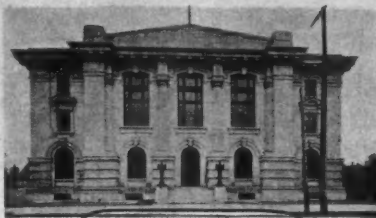
"It has therefore been questioned whether the double expense of a private architect and, in addition, the supervising work of the Government architects is advisable. For larger projects it probably is advisable. For they are usually obtained by architects at the head of the profession, who absorb the problem and bring to it a new point of view.

"But in the smaller buildings there has been noticed a certain nervousness—a touch of buck ague—which is reflected in the buildings they design.

"The practical problem in itself—the skating on new ice—appears to absorb all their resources, so that their completed buildings have not the spontaneity—as though they had worked too hard."

Later in the article, from which the accompanying illustrations are taken, the statement is made, "The good buildings by private architects are a little better than the good ones by Federal architects. The mediocre ones a little more mediocre. And the bad ones a little worse."

Which leads to the unmistakable inference that the



HAMMOND, IND., FEDERAL BUILDING
Private architect, a little hasty

"The private architect would have to consult the Supervising Architect's Office many times during the course of preparing the drawings, causing further delay."

"In the end it would seem to me that the Supervising Architect would have furnished seven-eighths of the brains and labor."

The Government work done by private architects does show, in general, the uncertainty resulting from this hand-in-hand stuff.

The Tarsney Act was revealed in 1913. A list compiled at that time showed that Federal buildings in the following cities had been designed by private architects:



EVANSVILLE, IND., POST OFFICE
Private architect, not very fortunate



NEW FEDERAL BUILDING AT SPRINGFIELD, MASSACHUSETTS

A letter published in the American Architect complained of the designs by the Office of the Supervising Architect as shown above.

A local architect proposed the remedy as shown below.



FOR NEW FEDERAL BUILDING - SPRINGFIELD, MASSACHUSETTS

"But in the smaller buildings there has been noticed a certain nervousness — a touch of buck ague — which is reflected in the buildings they (private architects) design." From "The Federal Architect," edited by men in the Treasury Department.

Supervising Architect's office considers that only a few outstanding architects can do a better job than can Federal architects—and that the job must be very, very good!

The superiority of Federal architects to the average private architect is further upheld in an editorial in the same issue of *The Federal Architect*, which states: "And, since the Government architectural offices are not and would not be called upon to stand or fall by comparison with these, the top of the profession, they are not so modest as to believe they are not superior to the average run-of-the-mine small-town architects."

SLOWNESS CHARGE UNFAIR

THAT accusations concerning the alleged slowness of private architects would be made by the Office of the Supervising Architect was forecast in the article, "Reorganize the Office of the Supervising Architect," which, some ten days before Mr. Heath's statement of August 4, appeared in the August issue of *THE AMERICAN ARCHITECT*: "As the number of private architects selected to design government buildings is increased, it is probable that it will become increasingly difficult for them to obtain prompt decisions through the Office of the Supervising Architect. Later on the result may be that these architects will be accused of being slow and of delaying the progress of the work. Reflection will thus be cast

upon outside architects through no fault of their own. This condition should be foreseen and measures taken to correct the situation."

Back in 1894, the condition was much the same as it is now, at least as regards the pro and con of private architects. Glenn Brown made an analysis of the cost of government buildings compared with private buildings of the same class, which was published in the April 7, 1894, issue of *THE AMERICAN ARCHITECT*. The result, from a dollars and cents point of view as well as from the time required in completing projects, was so overwhelmingly in favor of the private architect that the article played no small part in putting the Tarsney Act into operation.

Today we again hear the familiar plaint of the Office of the Supervising Architect: "private architects take too long," "they can't know the government's problems as well," "their work is inferior," and so on.

In response to such specious arguments, there are always facts to combat them. In Little Rock, Ark., for instance, the newspapers, Chamber of Commerce, and local architects have vigorously protested against the plan and design of a proposed \$1,500,000 government building designed by the Office of the Supervising Architect. The senior member of a leading architectural firm of that city, writing to *THE AMERICAN ARCHITECT* under the date of July 23, stated:

"Please note that this is a (Continued on page 78)

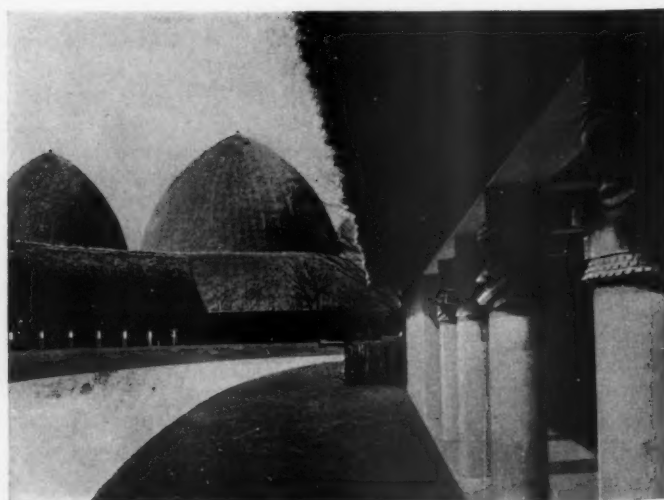


TEMPLE D'ANGKOR, which captured the finest charm of the renaissance before the renaissance was ever heard of BONNEY

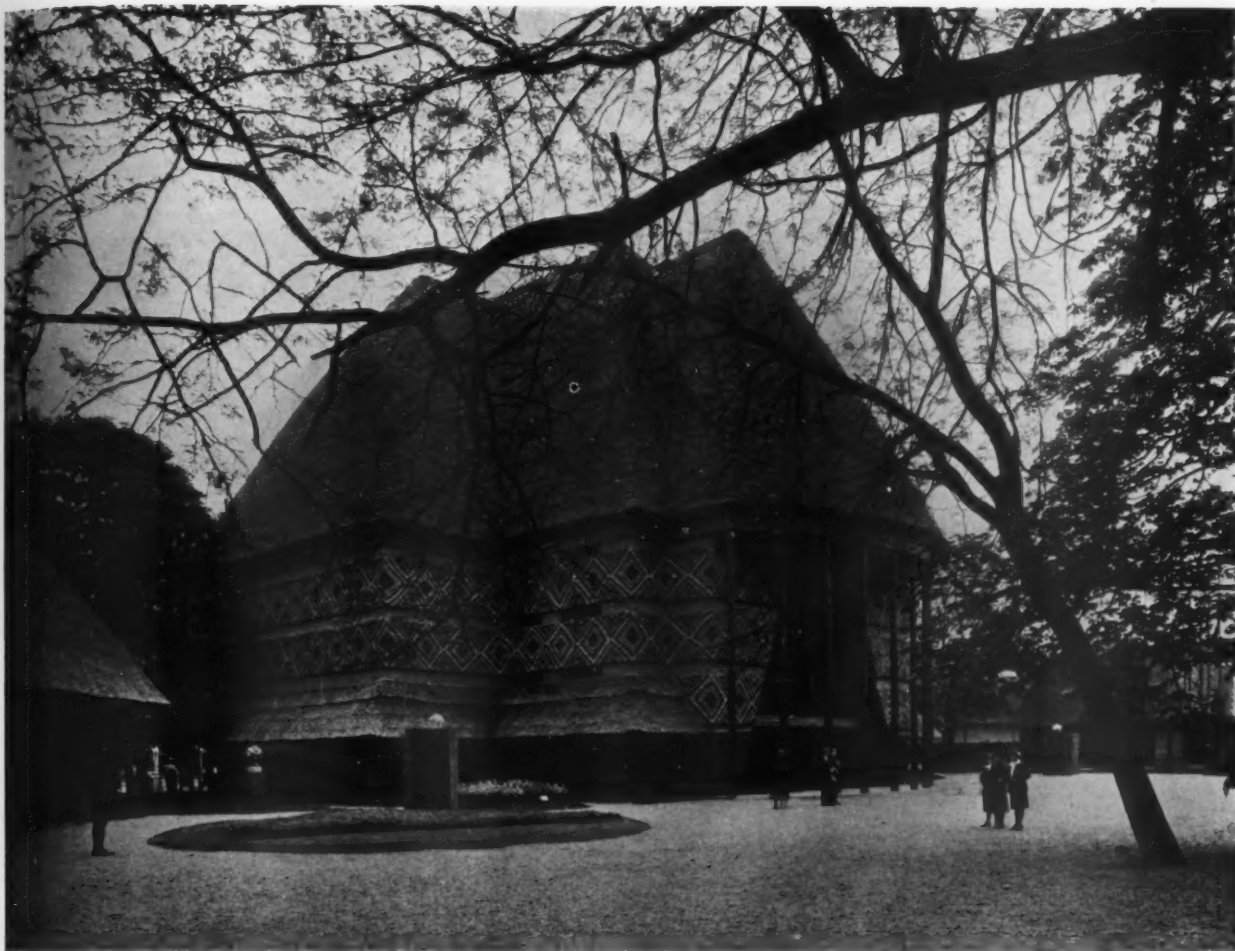


GOOD ANYWHERE. BONNEY Geometrical decoration in a modern spirit, though native inspired **RED COLUMNS,** vigorous capitals in black, white and gold, stir one's imagination

IMPRESSIONS OF THE Paris Colonial EXPOSITION



ACME
AMERICAN ARCHITECT



IN THE CAMEROON GROUP, Louis Boileau had the courage to let his imagination answer a problem with high effectiveness. Coloring like a ripe fig; ornament cream

by Ely Jacques Kahn, A.I.A.

Seen through the eyes of one of our most alert American architects, the Colonial Exposition takes on a new significance. Out of the medley, he draws inspiration that leads to new fundamental ideas in design

SIX years after the Paris Show in 1925, and one is at the Colonial Exposition, trudging through endless paths that are soft and tiring to the foot. For some reason or other this exhibition seems to be bigger than its predecessor—it may be six years added to one's age or the countless refreshment booths that make the jump from one building to another somewhat of an effort. One has the impression, in short, of a larger and more extensive affair.

The French authorities apparently had reason to believe that it was opportune to bring to the capital the tangible evidences of their great Empire. Although other nations participated, their contributions are meagre,



JUNGLE ARCHITECTURE bravely handled with a fine understanding of the "why." Part of Cameroon Group

» » » NATIVE INSPIRATION WAS FAR MORE



ACME



UPPER LEFT . . . Gem of the exposition, according to Auburtin, the great French architect. The Dutch building, recently destroyed by fire, beautiful in composition, fine in scale. Inspired by Sumatra and Dutch East Indian forms. Though the forms are old, the building is thoroughly modern in spirit. Moojen and Zweedyk, architects

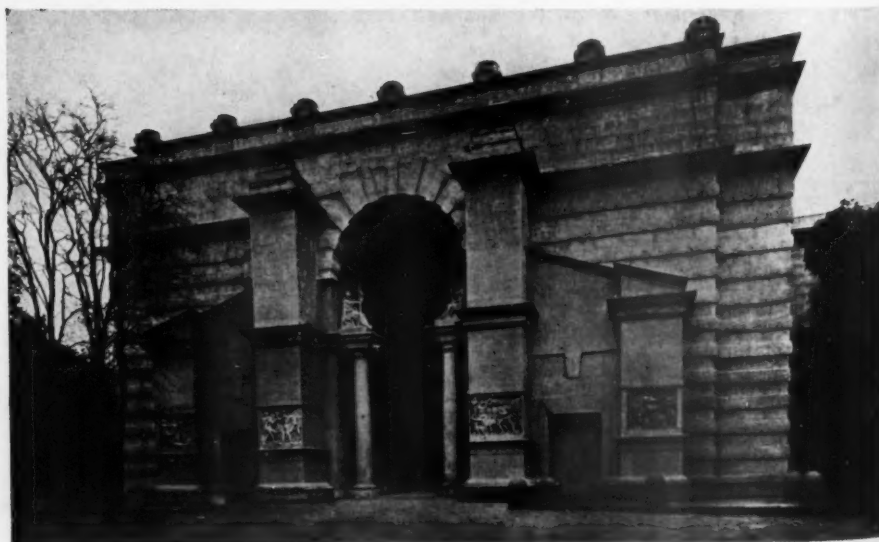
ABOVE . . . L'Afrique Occidentale, more or less a monochrome. Its tremendous scale and utter simplicity are quite striking. Olivier and Lambert, architects

BONNEY

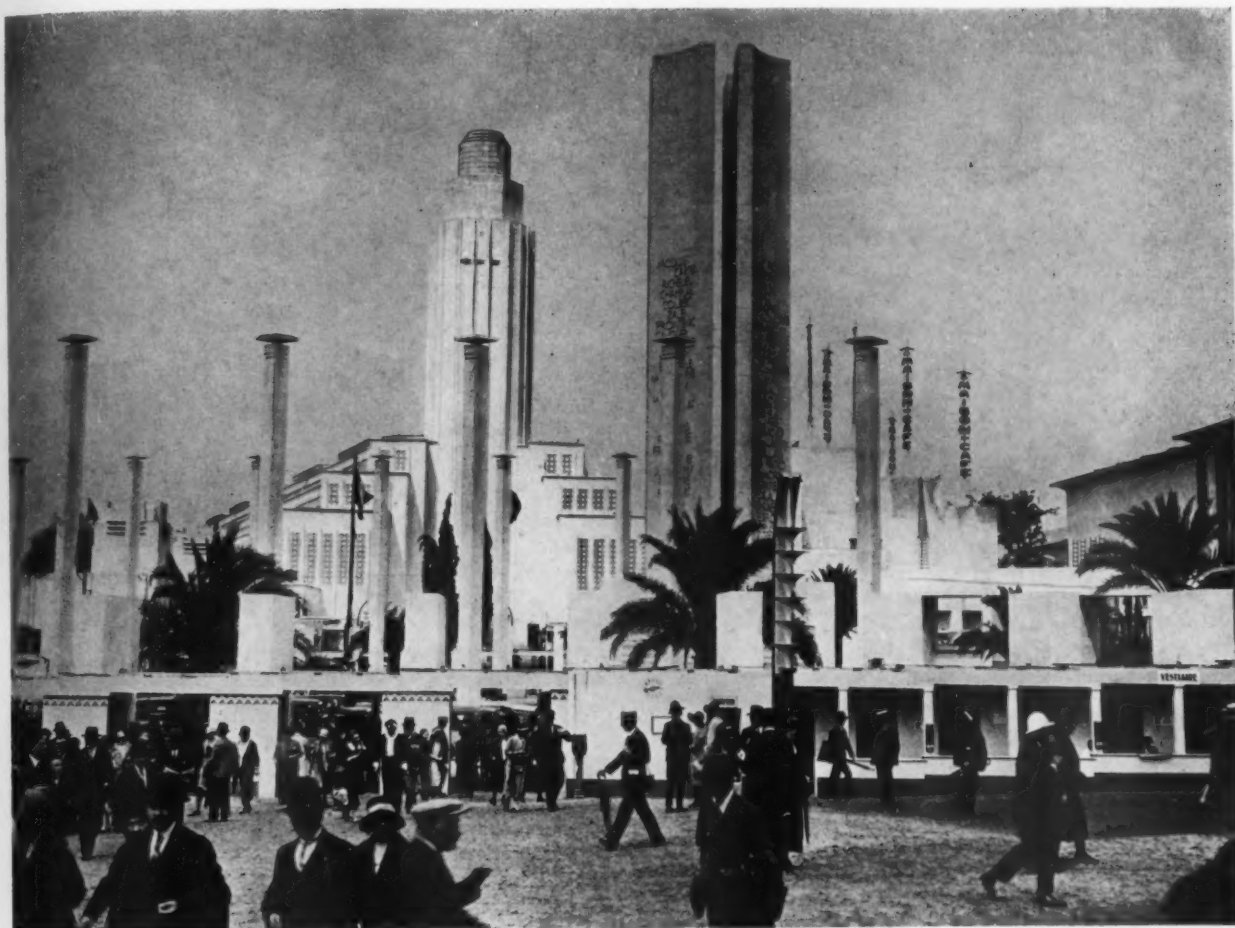
RED MUDLIKE MATERIAL.

A tropical restaurant of the African colonies. Part of L'Afrique Occidentale. Quite apparent that this building belongs to a different race than the Cameroon, though both groups are entirely African

MODERN ITALY in its most stilted and unpleasant mode. Though the forms are Roman, the Romans could never have done anything quite as bad as is this. Reconstruction of la Basilique de Septime-Severe



MODERN THAN THE SO-CALLED "MODERN"



ACME

MODERNISM RAMPANT. The metropolitan section, Andoul, architect. Interesting at night with its brilliant illuminations, but a jumble of unpleasant forms at other times. Note the shell-like lighting units of painted metal—highly effective and one of the best features of the Colonial Exposition

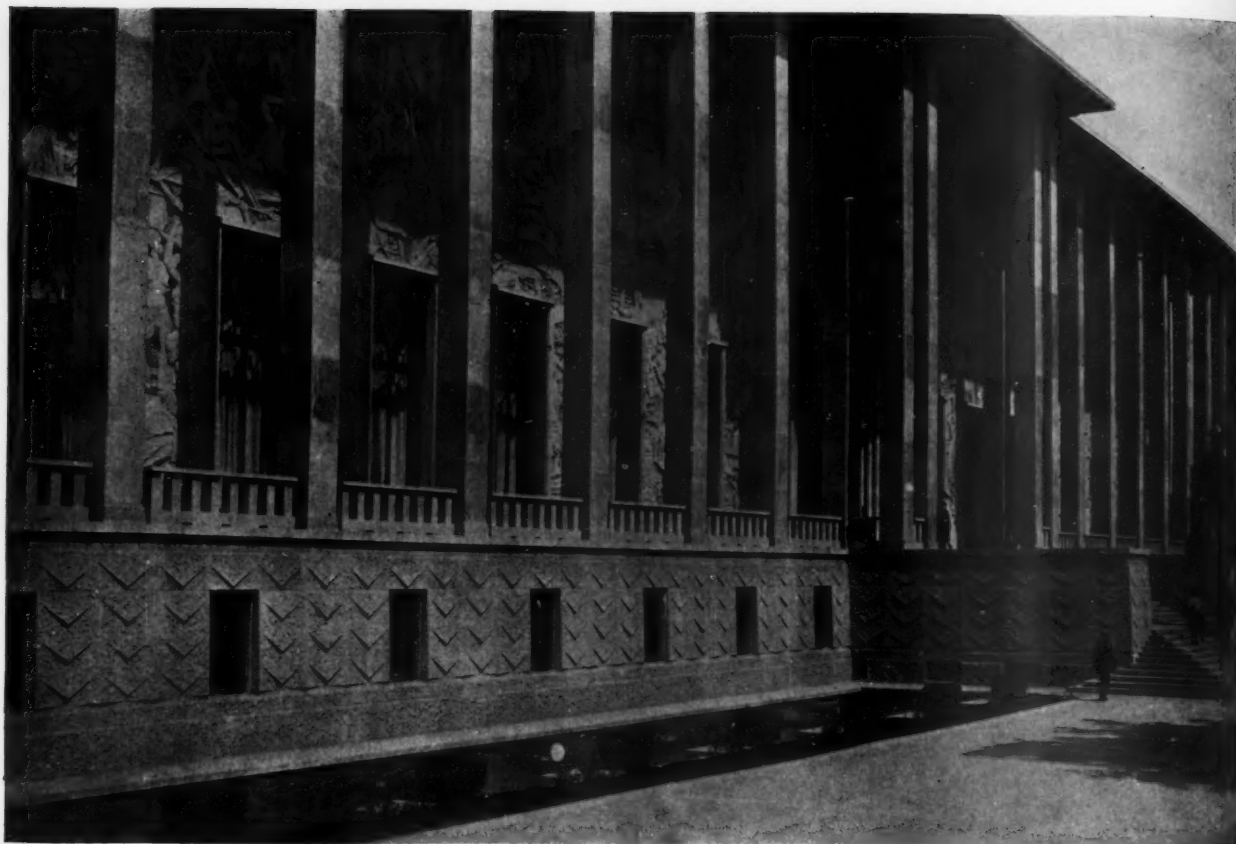
to say the least. Belgium, with its Congo group, was a distinguished contribution, but, in June when the show was already on its way to the end, England was proceeding in a leisurely way to represent India. The visitor could only sense the importance of the French enthusiasm, and from the hordes of visitors it was apparent that they were justified in making the gesture. The crowds were mainly French and French Colonials, further evidencing the national spirit of the show.

It seems to be necessary, by reason of the temporary nature of the whole, that most of the buildings be white and glaring and casual. The few colored structures seem to be somewhat in the nature of strange birds

TRICK ARCHITECTURE, the only virtue being its use of simple stock forms. Pavilion of iron and steel tube interests. The building is made entirely of metal tubes

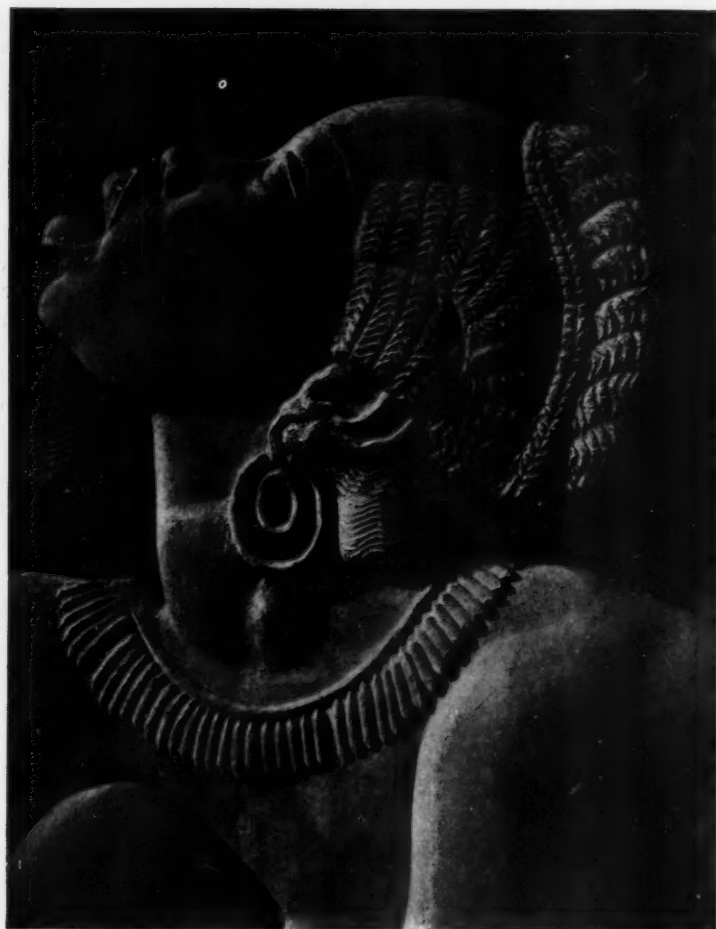


BONNEY



WIDE WORLD

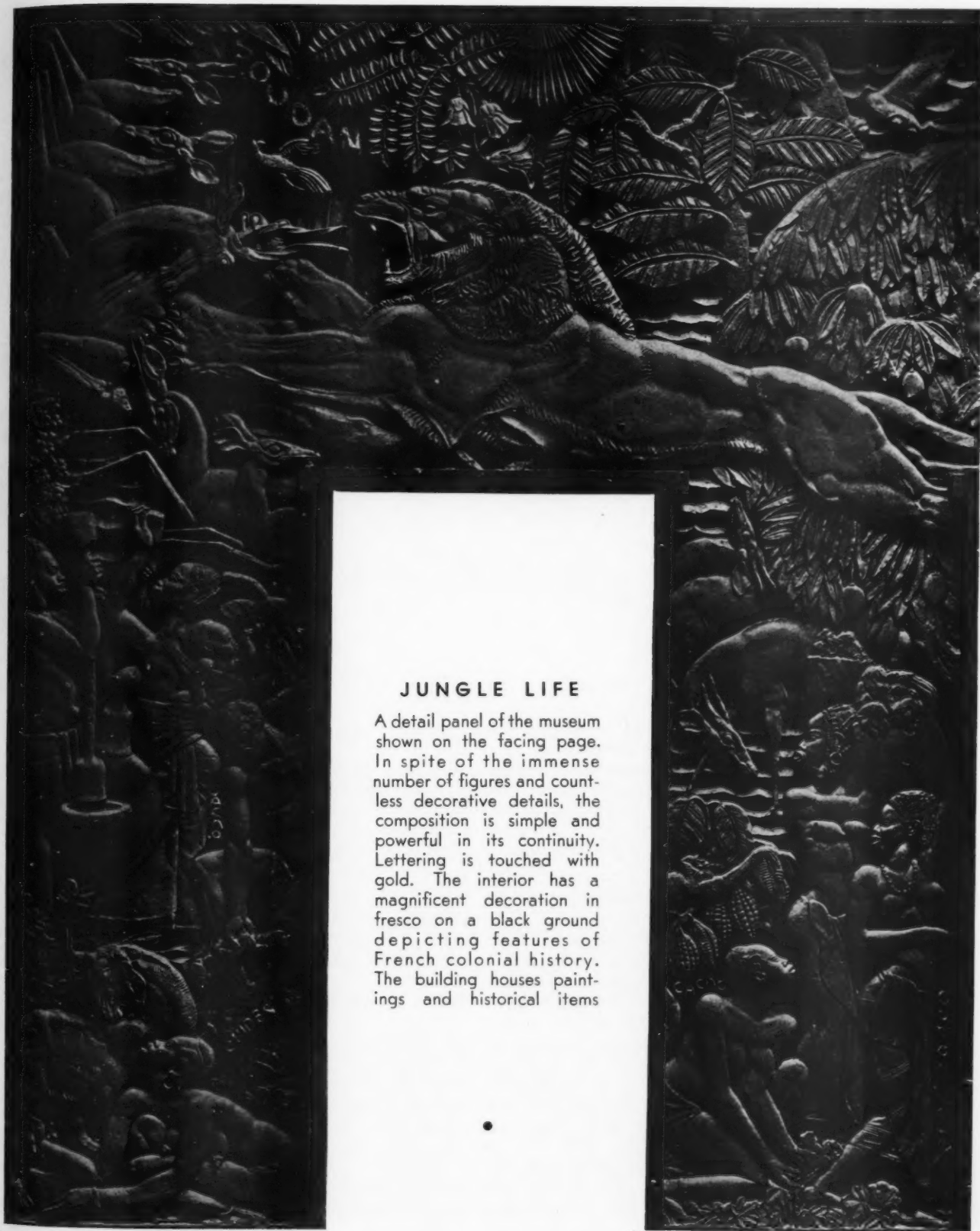
SCULPTURE COVERED WALLS depict the activities of different French colonies, from jungle life to shipping, which merge from one into another without any sacrifice of unity. Columns of granite, walls of warm limestone. Permanent museum of the French colonies. Jaussely and Laprade, architects



VIGOR and strength of composition which is somewhat like old Greek work in its formalism and simplicity. Detail head of figure milking a goat, at lower left of panel on facing page

preening their feathers. There are such units as the group of L'Afrique Occidentale colored in a sort of raspberry brown, the bright reds and blacks of the Belgian Congo, the green and blue of Algiers and Tunis. The main structures that dominate the show, the administration and executive groups, the machinery and industrial buildings, are in the pattern of 1925, white, moderne, and a little tiresome.

What seem to be particularly worthy of attention are certain minor structures built under the direction of an able man who had a rather good (Continued on page 74)



JUNGLE LIFE

A detail panel of the museum shown on the facing page. In spite of the immense number of figures and countless decorative details, the composition is simple and powerful in its continuity. Lettering is touched with gold. The interior has a magnificent decoration in fresco on a black ground depicting features of French colonial history. The building houses paintings and historical items

"NATIVE INSPIRATION THOROUGHLY UNDERSTOOD AND JOYOUSLY HANDLED, DEVELOPED IDEAS WORTH GETTING EXCITED ABOUT"

» » » WHY Can't We Work

According to Mr. Wilde, Mr. Mitchell's article in the July American Architect was good but left some things unsaid.



By WILLIAM WILDE, Architect, Westfield, N. J.

BEFORE the architectural profession will begin to think seriously about the dilapidated state we are now in, I believe that we must have many articles such as "Shall We Give Him This . . . or This," by R. E. Mitchell in the July issue of THE AMERICAN ARCHITECT. What we must get into our architecturally correct heads is that architecture, as practiced today, is a business.

A good proof of this is the fact that every architect, except those who are business men enough to make themselves financially independent, will change anything in a project to suit the client's whims even though it is against his "artistic temperament." He will do so for a very good reason: he dare not lose the client. Why should he? His neighborly colleague will do the same job for less money and the architect can rarely demand the fee he is worth. He has not the appearance or the assurance to do so, nor does he or his office show any measure of success.

I would like to know why this gentle art of designing buildings should not be put on a completely business basis, beginning with a contract for performing architectural duties, and ending by cashing in the final payment from his client, so as not to waste stamps on bills? (If these bills would only be of some use.) Of course, you see that I am discussing the small office. The large offices belong to the class of well conducted business and are not in great need of criticism.

Mr. Mitchell is quite right in stating that there is a

paradox in laymen regarding architects as poor business men, but there are many reasons for this. You never heard of an automobile salesman trying to make a sale by explaining the ingredients of automobile paint, or the history of the development of the mother-in-law seat or its proportions. The man in the street knows nothing about proportion; at best he feels it, and likes the object. With the builders knowing construction better than we, and laymen with the feeling of proportion, we surely would be out of business.

SELL LAYMEN WITH PRACTICAL FACTS

ALAYMAN can be sold quicker on conveniences such as getting hot water instantly, and by the stable qualities of his building than by a discussion of correct architectural design. It is the duty of the architect to design those details of "treatment" correctly, and with taste. The client will like the edifice more without knowing exactly why. The client must be made to realize that the architect will take care of all details and is thoroughly capable of taking the burden off his shoulders.

In one case, a man who had just retired from business proceeded as follows in building a little house for himself and his wife. He went to a realtor, a friend of his, who suggested a builder. This builder agreed to build a house, just like the one on Crooked Street, for \$15,000. The next step was to get "blue prints" from an architect. The business man did not want supervision, for fear of

On a Business Basis?

the many details. He did not want any specifications thinking that such a procedure would raise the cost of the house, but it happened that someone told the client that his contractor was not very responsible, and advised him to get specifications from the architect. He did so. The builder did not protest because the realtor was going to take care of the whole matter. For this, the realtor was getting the sum of \$400 from the owner, and his usual commission from the builder for selling the house. This sum would have more than paid the architect's fee. The owner got burned, but you know that people do not usually build more than one house, and they do not brag about any mistakes, so that his lesson does not do the rest any good.

INEFFICIENCY OFFENDS BUSINESS MEN

NOW, how can the average architect impress any layman that he is a successful business man when he usually types his own letters? An architect's time should be valued higher than that of a stenographer. When he does her work, he pays too much for his typing, and no business man is willing to pay for inefficient business methods. Any man in business realizes the existence of an overhead even in a small undertaking, and the architect must impress him that he also has overhead expenses, but that they are kept within bounds. People pay more for food in better restaurants where they pay for higher overhead, and like it. In this business of ours, you also can impress a client that his money is spent wisely. Every time you do some research in regard to a job, show your client the results. Let him know what you gain for him. Show him all different stages of studies and the qualities of the achieved end, so he will know he does not pay just for five sets of blue prints.

Many architects are afraid to mention the word contract to the client, but they will make out contracts for every sub-contractor to protect the client's investment.

Their own business, however, they will do on friendly terms. They forget and, in most cases, do not ever realize that they also have such a thing as an investment. You architects ask yourselves how much it costs for your equipment every year, and see if you can answer this without first sitting down for quite a few hours at a desk? And even then I doubt. . . .

Another thing that goes against the progress of our profession is the fact that architects forget that their draftsmen are often the future architects and that they are doing something to help the production of the work the architects call their own creation.

Due to this condition, the draftsman does a little work on his own hook, and here is the embryo of an architect. Of course, he will work at home, and extra money is usually good money, no matter how underpaid he is for his work. He will continue until he has enough work to think that it is time to hang out his own shingle and begin to build up his own business. At the same time, the city has one more place where plans can be bought for next to nothing—new competition for good archi-

tecs. Yes, a strong competition, for the man in the street doesn't know yet the difference between good and bad architecture. These architects can never afford to study and turn out work in a manner which would justify their staying in the profession. They always lament the fact that they never have a chance to do their chef-d'oeuvre. Poor chaps, they don't realize that it is all due to a wrong and premature start. It is a tough proposition to raise such a practice to a higher level even after the short-comings are evident.

We are driven to the same practice by another fault, which is the worst of all, and that is the fact that we are not properly united. The low estimation of our profession by the man in the street can never be raised until we ourselves show how strong and capable we are.

Mr. Mitchell is right in advising us that we ought to present the laymen with the finished product. Of course, our ethical organizations wouldn't tolerate our entering into the "building business." The time will come, however, when there will be no middle men to obtain profits over the head of the architect and his clients.

The architects should be heading building concerns instead of being just hired by builders on a salary basis to do the drafting for them. Such concerns could aim to satisfy the client as sincerely as any architectural office of today. In that case, there would be no need of protecting the client against contractor's substitutions, and the like fallacies of that business. Think of all the builders who know "everything" about construction! What wonderful managers, estimators and superintendents they would make in a construction department of such an architectural concern! And, incidentally, many of them would earn a lot more than they do now.

WHY SHOULDN'T ARCHITECTS BUILD?

OF course, many think that if architects built there would be nobody to protect the client's interest, but it is a known fact that not all of the architects do it now even though they don't build. Some people are quite assured that architects receive commissions from producers for specifying their products. Surely these people don't think much of our profession, so why worry about them so much?

In the future, architectural firms will submit sketches, arrange the financing, and before the tracings are printed, give their clients a guaranteed price of the completed structure with the assurance that the design and specifications will be carried out to the most minute detail. With this procedure, the owner would absolutely know that his project was within his investment ability, and consequently his mind would be free from the many worries that he is now compelled to bear under the present method.

With this complete service, "the man in the street" will learn what architecture really is.

He will not come to us for blueprints, and realtors will no longer think that architects are saps who "draw up" pretty pictures free on the promise of getting a job.



Decoratively used in "The Delineator" reception salon, the tubes flood the room with a softly diffused light.

NOW LOW VOLTAGE FOR TUBE LIGHTING

By Eugene Clute

REVOLUTIONARY improvements in the production of light by glass tubes filled with neon gas and other rare gases, which become luminous when a current of electricity is passed through them, together with improvements in the practical application of this light, have made it adaptable to the architect's requirements as never before.

Most important of all is the recent practical development of low voltage tubes. These low voltage tubes are operated on the ordinary electric light current, either alternating or direct, with certain auxiliary equipment. The older type, the high voltage tubes, necessitate the use of a transformer to raise the voltage to the required high tension. Since the high voltage tubes operate only on alternating current, a converter is required where the current supplied is direct. The low voltage tubes yield more light than the high voltage tubes for the wattage of electric current consumed.

This introduction of low voltage tubes has given a new impetus to the use of luminous tube lighting in architecture, where its application has been limited. Though the glowing gas-filled tubes of the high voltage type have been seen in advertising signs for some years, there have been comparatively few interiors or exteriors of buildings lighted by this means. However, a number

of excellent installations were made with high voltage tubes and they were the forerunners of luminous tube lighting of buildings that is further made possible by the low voltage tubes.

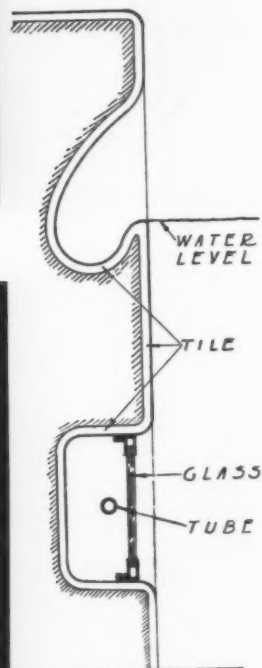
One of the interesting possibilities of low voltage installation is the close approximation of daylight. The John Levy Galleries, New York, has utilized it in order that paintings on exhibition may be seen in their true colors. This is accomplished by means of three tubes placed side by side in a trough reflector unit recessed in the ceiling, with refracting lenses set flush below. Each of these tubes gives light of a different color; red, blue and green. These colored lights are blended by prismatic lenses to produce a synthetic daylight which is directed downward and towards the walls upon which the paintings are shown.

A simpler light source of the same general design has only two tubes, red and green. It produces a white light that is near enough like daylight for use where true color is not required.

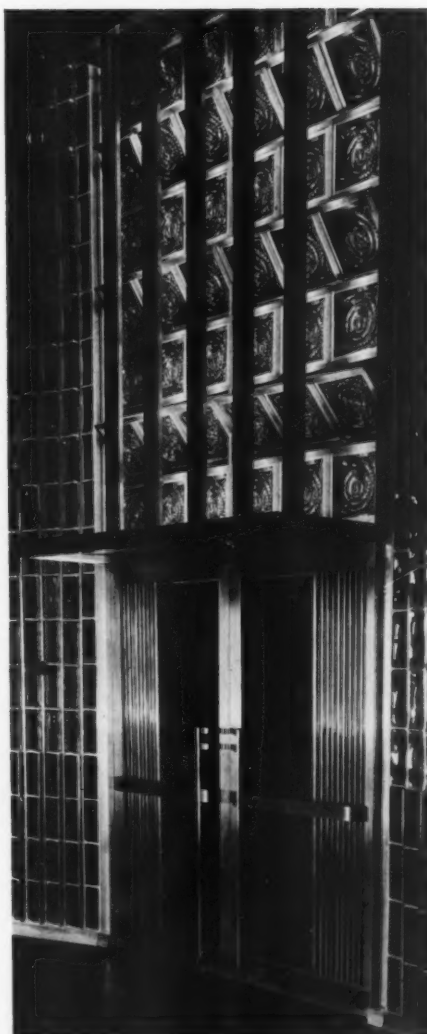
The decorative use of luminous tube-lighting in a modern interior is shown by the photograph of the reception salon of the *Delineator*. Here three tubes, red, blue and green, are enclosed in cylindrical light sources of frosted glass with caps of (Continued on page 64)



SWIMMING POOL Christian R. Holmes estate, Port Washington, L. I. The tubes are recessed below the water level and protected by a glass facing which need not be water-tight



SIGNS INCORPORATED in the design of the Trans-Lux Theatre, New York, meet the owner's requirements for display and forestall additions which might clash with the architectural scheme.
Thomas W. Lamb, architect



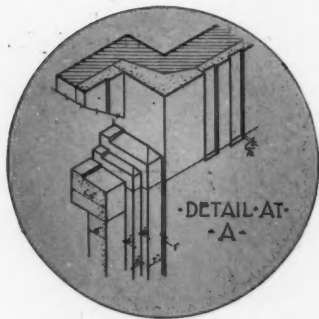
LUMINOUS TUBES in vertical trough reflectors project light against the molded glass over the door. This light is broken up by the faceted surfaces of the glass in an iridescent effect. By Eugene Schoen

» » » Two Good Solutions

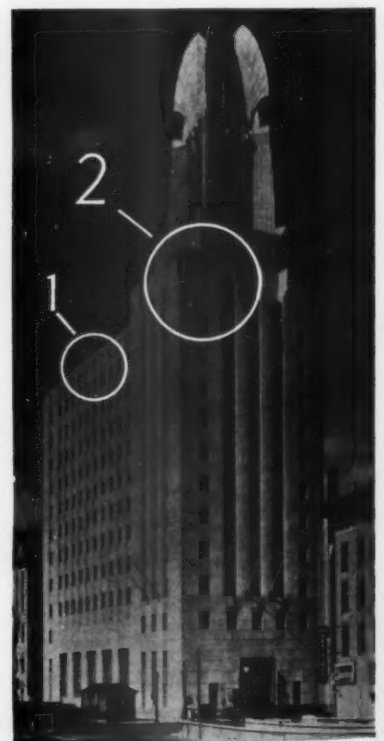
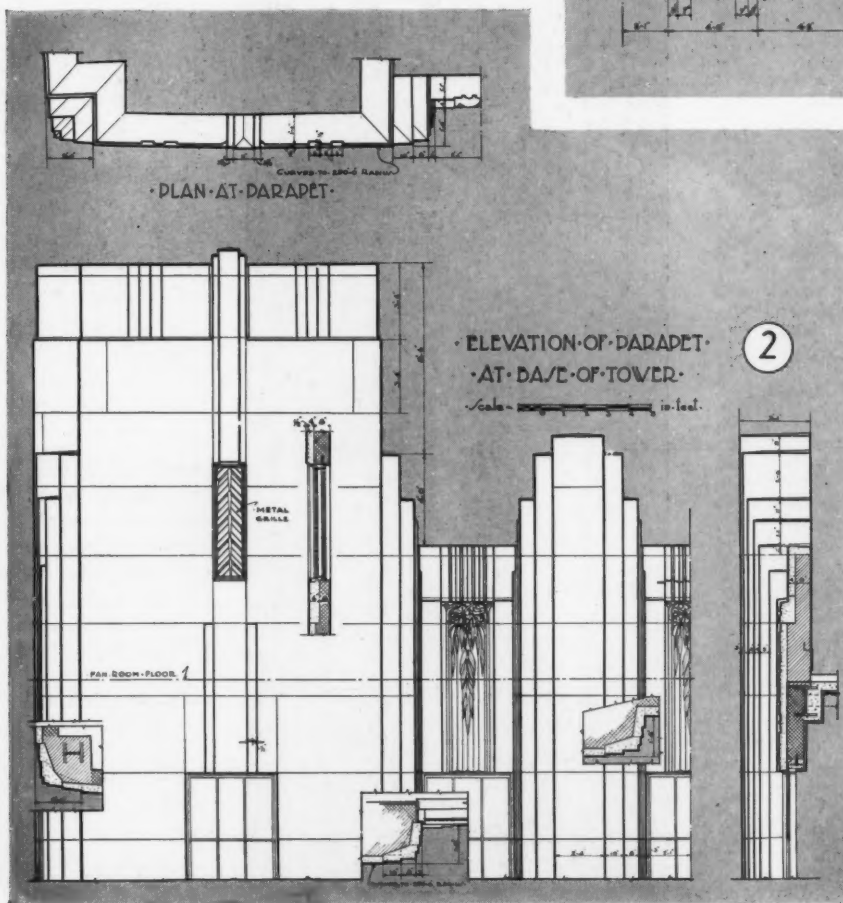
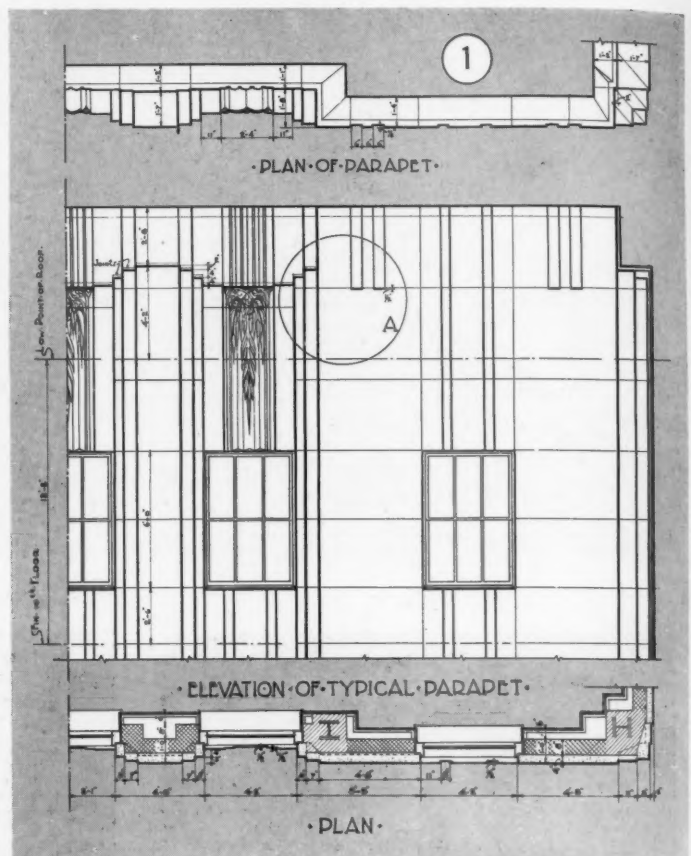
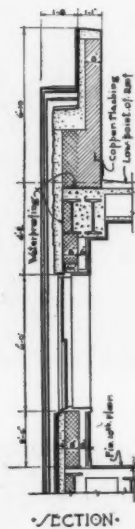
GENESEE VALLEY TRUST CO. BUILDING

ROCHESTER, N. Y.

Voorhees, Gmelin & Walker, Architects

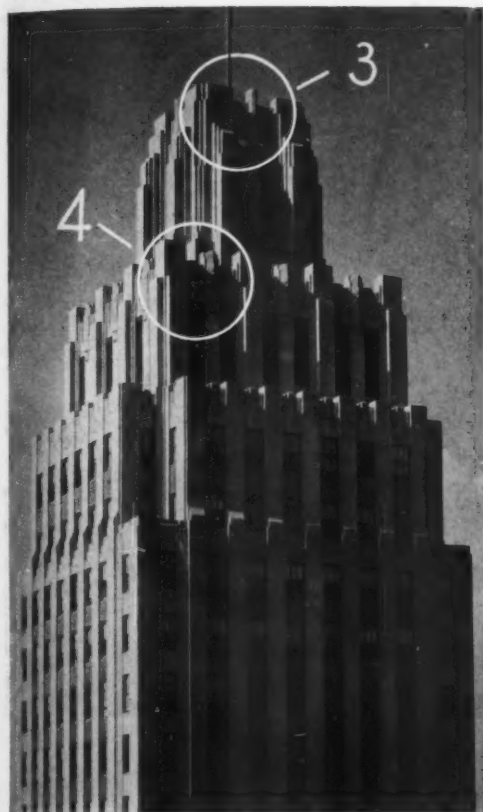


DESIGNERS usually agree that it is difficult to obtain a satisfactory solution of the parapet problem on high buildings. Two types of parapet are illustrated on these pages

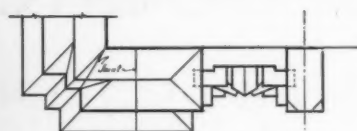


FALMER SHANNON

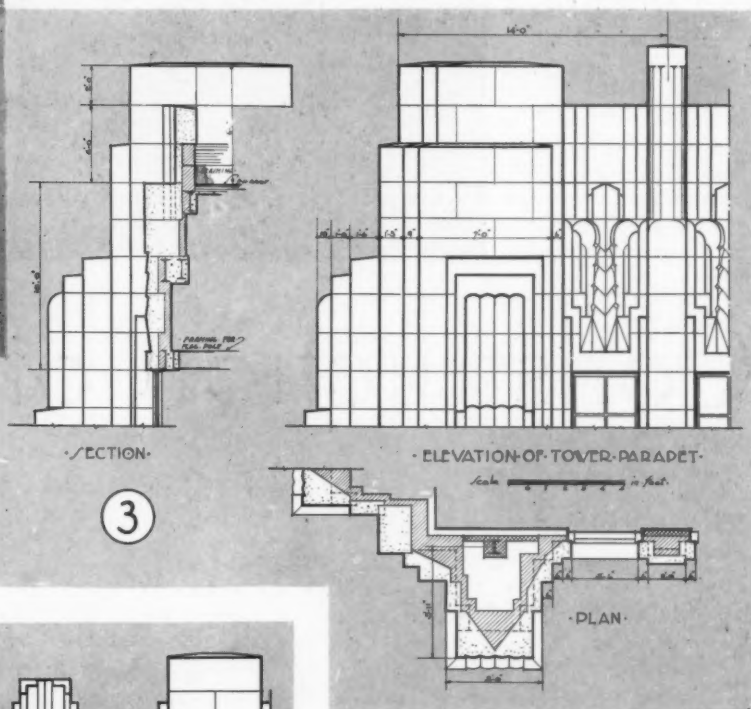
S of the PARAPET PROBLEM



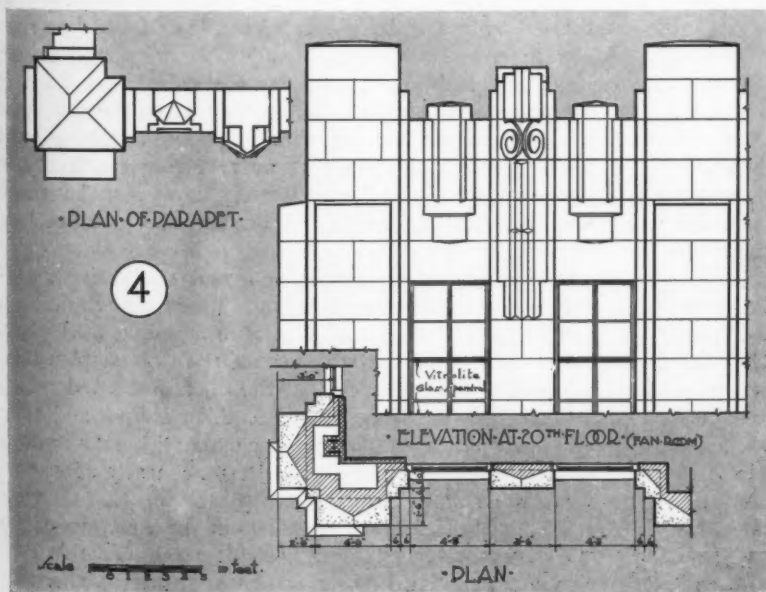
TEBBS & KNELL, INC.



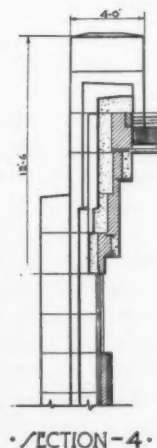
PLAN OF PARAPET-3



3



4



SECTION-4

REYNOLDS TOBACCO COMPANY BUILDING WINSTON-SALEM, N. C.

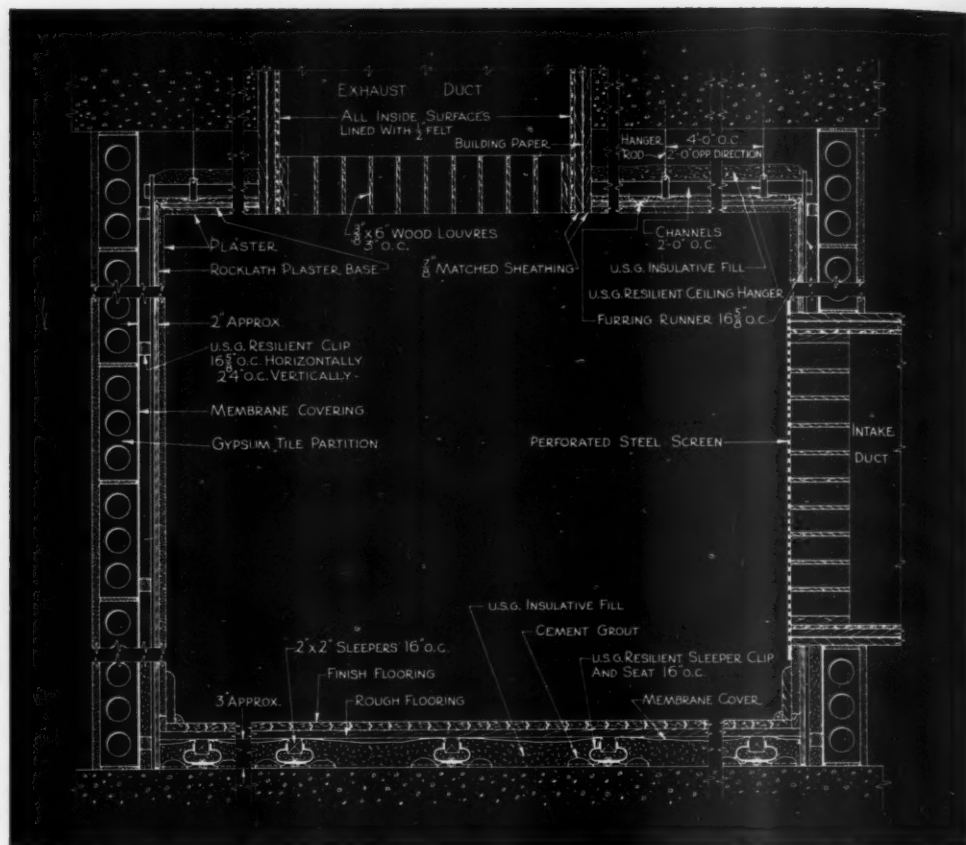
Shreve & Lamb, Architects

Detail Drawings by Arthur H. Gilkison

PARAPETS of set-backs are generally viewed as an opportunity to express a transition between different planes. The uppermost parapet should terminate, as one man expresses it, "as the skyrocket burst of glory." This sense of growth up out of the ground to a burst of flower or fruit at the top is frequently seen in nature

THE IDEAL parapet is probably yet to be designed. A difference of opinion exists on the question of finishing the vertical piers flush with the top or projecting them above the wall. Argument against the latter is that the projections in perspective are exaggerated and are thus less pleasing than when stopped at the top

A ROOM FLOATED
within a room pre-
vents transmission to
the interior of the
studio of outside
noise and vibration



Construction of a Sound-

» » » FOR MAKING SOUND

By JOHN KLENKE
General Electric Co.

THE requirements for a sound studio in which talking motion pictures are to be recorded demand that no outside sound of any kind be transmitted into the studio. This is not so easy a task when it is necessary to exclude sounds of all frequencies. It is not so difficult to keep out the sounds of the average city street, but it is quite a problem to exclude all the high and low frequency sounds that emanate from a factory in which are installed motors and generators that have whirring sounds ranging all the way up and down the scale; steam and air whistles; large and small trucks; electric and steam railroad locomotives; the low thump of heavy revolving machinery, and a few others, some of which are transmitted through the ground and the frame of the building.

Early sound motion picture work at Schenectady was carried on in a building located in the midst of just such conditions as described. In addition there was an old elevator which made considerable noise, just 25 feet away from the studio. The studio was on the fourth or top floor of the building which was one advantage, and another was that there was no revolving machinery in the same building. Unfortunately, however, the studio was located on filled-in ground and this did not help matters.

When plans were made for a new studio, it was decided to use the same building. There was available a space of about 40 by 35 feet with a ceiling of 16 feet. After consulting several acoustic firms a plan was adopted which provided that the floor, walls and ceiling be floated in the space provided. All windows and other exits except two doors were closed with masonry. A cleared space was provided having a concrete floor, concrete walls and ceiling. From the ceiling tie-rods were suspended which were anchored in the concrete and to which was fastened a network of steel. To this steel frame a wall board plaster base was fastened. The walls



TRACKS INSULATED

from the structure proper carry lights and other equipment that must be handled from overhead and prevent transmission of outside noise through this apparatus

space under the new floor construction was filled.

Two coats of ordinary plaster each $\frac{1}{4}$ " thick were applied to the walls and ceiling. A second floor of maple was laid over the subfloor.

The doors to the studio are of standard Kalamine construction, treated with half-inch thick felt on the inside. Each door is approximately four inches thick. The jambs were specially treated with felt and sponge rubber, and the door must be closed by slamming. They are fitted with panic bolts and open with but little effort.

In the acoustical treatment of the studio, a reverberation was desired of 0.6 of a second for music and similar recordings, and 0.24 of a second for speech. It was necessary to settle on one of these and then use portable material to change the room to meet the other condition. It was decided to treat it so that a .6 period of reverberation would be secured from acoustical plaster ceiling and walls, which meant that the entire space in the studio be used for an orchestra when music was to be recorded.

The studio will accommodate an orchestra of 35 pieces.

After considering several kinds of material, it was decided to use Sabinite plaster, and two quarter-inch coats of this were applied to the four walls and the ceiling.

Just before the Sabinite plaster begins to dry it is floated with a cork float. The object is to open up the pores and take the "fat" away that collects on the surface. This "fat" forms a kind of seal which prevents the sound waves from passing inside where they are absorbed and their energy given off as heat waves—which is the theory of the system. The second coat is applied in the same manner and when finished the surface is rough. With a microscope one can see quite a distance into the wall—and this is as it should be. This treatment requires constant work; at least three plasterers must be kept on the job or the plaster will set before it is floated and it will have to be removed and a new coat applied.

When speech is to be recorded the set is dressed and then lighted. Behind the lamps on the sides of the set are placed a number of

(Continued on page 66)

Proof Studio

MOTION PICTURES

were "floated" with steel springs in the shape of a U with extensions at the top, bent out and fastened to the concrete. Over the springs were fastened wall board forming, like the ceiling construction, a base for the plaster. The floor construction consisted of much larger steel springs but similar to those used on the walls. These springs were fastened about every two feet to "sleepers." Extensions on the springs were provided so that they could be nailed to the floor, which left the sleepers supported between the springs. To this base of floating two-by-fours was nailed the sub flooring. The spacing of the two-by-fours depended upon the weight to be supported and the elasticity desired in the finished floor.

In between the wall board and the plaster base, and the outside concrete wall was placed three inches of fire proof insulating composition from the bottom of the floor up. It was not necessary to continue this to the ceiling as it was determined that sound originating along the floor would not travel upward more than two or three inches. Between the two ceilings was placed about three inches of the same material and the entire

RIGHT DOWN to the



"He was plenty pleased with the purty pictures"

ARCHITECTS are the easiest competition on the face of the earth.

You, being one of them, may not relish that statement, but I think you will agree with me when I give you my experience in going up against them. 'Member my telling about the little salesboy that hooked my astute old uncle for \$55,000.00 for a forty-thousand-dollar bank building, or, maybe thirty-five? Well, that boy started a germ hatching in my dome and I didn't let him get out of town until I'd cultivated it a little.

As my coz-in-law, Isabel, said, when we had lunch together that same day, "There's one thing your little

coz has learned, watching these big business men get separated from their capital, and that is, when one of them gets so wise that he knows he can beat the other fellow at that fellow's own game, right then is when Mr. B. B. M. is dead ripe and itching for slaughter. Your beloved avuncular relative is so proud of the job he did making himself that he's been ready for the picking for quite some time. It will amuse me no end to sit back and watch them take him into camp."

I looked at my watch and figured we'd better be getting back, on her account. Unc was sore as a boil, as I knew he'd be.

"What have you two been up to?" he demanded, suspiciously. I bet he thought we were planning to get married. Then he added, "By the way, Chet, if I were in your place, I wouldn't show myself quite so con-

» » » How "'Chester Howard'" started
competing with Architects—As told
to W. W. BEACH, Architect, Chicago

BLOTTERS on the Desk

spicuously around town. It's just barely possible they might still be wanting you in connection with those exposition building frauds, you know. Those cases aren't settled yet."

"No?" I looked surprised. "Did they get you, Uncle?"

"What are you talking about?" he spluttered. "You know I wasn't in on any of their crooked deals. I was simply an investor like all the rest of the victims around here."

"Oh, yeh?" I says, as aggravating as possible. Then, "All right, of course, if you can get away with it."

"Is that so? Well, let me say to you, you young smart-Alec, that if you and that man, Becker, hadn't started for California or Florida, or wherever it was, when you did, they'd have you behind the bars right now. So my advice to you is to lie low in this section and get away as quick as possible."

"And make you an accessory after the fact, if not before? No, Uncle, I don't think that would be right. My conscience tells me I ought to give myself up and take my medicine. It seems the only honest thing for both of us to do. Let's do it and come clean; what say?"

I left him, frothing at the mouth, and went back to the hotel and looked up the sales-boy. "Well, what can I do for you?" he patronized.

"Not a thing," I assured him. "Only, having nothing in particular on hand this p.x., I just dropped over to get better acquainted, see?"

"Well, I'm sorry, but this is my busy day, so you'll have to talk fast. Do I understand that you are Mr. Howard's son?" He bristled with suspicion.

"No, nephew," I corrected. "But I'm not bragging. They say 'the good Lord gives us our relatives.' By the way, it's quite a fancy little trimming you're fixing to give the old boy, I notice."

I sat on the bed and helped myself to one of his cigarettes.

"Who says so?" he wanted to know, looking pretty uneasy.

"Oh," I says, "no alarm, no alarm. No one but li'l Chester speaking, and only to hear hisself talk. The one thing I can't understand, though, is why you stopped at \$55,000. Why didn't you make it sixty or sixty-five?"

"Simply, because the building will only cost between fifty and fifty-five," says he, with icicles. "I don't suppose that, unless you are in the banking business, you know about our company. Just for your information, we are the largest concern of the kind in the country, absolutely above reproach or suspicion. Your uncle looked (Continued on page 86)



"I left him
frothing at the mouth"

WHAT ARCHITECTS



PHOTOGRAPH, FIELD MUSEUM OF NATURAL HISTORY
MOST ARTISTIC HOUSE in Kano, a large town in Northern Nigeria, West Africa. The ornament is made by men who mold the wet clay with their hands

OWN-YOUR-OWN-HOME clubs, similar to the Christmas and vacation savings clubs, is urged by Joseph P. Day, prominent New York real estate man. Early in September, he invited the presidents of savings banks and life insurance companies in New York City to participate in a conference on the subject.

A NEW national safety code for elevators has been announced by the American Standards Association, 29 West 39th Street, New York. One of the features of the new code is elimination of all speed limits for passenger elevators. Another feature is operation of more than one elevator in one shaft. Two-story cabs are also permitted. Although there is no speed limit in the code, it is expected that practical speed will not be more than about 1,200 ft. per minute because of the discomfort to passengers resulting from rapid change in air pressures.

BUILDING and loan associations in the United States were inspired by those formed in England, where they are known as building societies. Concerning their prosperity, Sir Enoch Hill, chairman of the National Association of Building Societies, said on his recent visit to the United States: "Last year was the best year in the history of the British building societies since the first

Own-Your-Own-Home Clubs Urged

National Elevator Code Ready

1930 Best English Building Society Year



ROMANESQUE CAPITAL from a portal exhibited in the Museum of Fine Arts, Boston, Mass.

one was founded 150 years ago. The business showed an increase of 18 per cent over the previous year and was one of the very few that was not affected by the general depression.

"ENGINEERING earnings do not decline seriously with age," states the report of a survey by the American Society of Mechanical Engineers. Earning power of the typical mechanical engineer is greatest at the age of 55. The maximum professional income in 1930 of one-half of those 55 years old was \$7,600. Twenty-five per cent of the group earned \$12,500; one tenth earned more than \$25,000. Median earnings of men over 63 practically equal those of men from 48 to 52 years old. Managers, consultants, and teachers show little falling off in old age, but designers, research men and technical operating men show an age drop after 50.

Apart from railroads and academic institutions, the differences between industries as regards salary opportunities are not great at most ages. "The differences in earning power between men whose work is exclusively technical and those who combine with their technical ability the capacity to handle independent businesses or to manage men or affairs, are great—so great as to

ARE TALKING ABOUT

Engineers Earnings High After Sixty

A. I. A. Cooperates on Simplified Practice

License Structural Engineers in California

indicate the importance of most engineers seeking to develop themselves in this respect, and of engineering schools bending their curricula somewhat towards this end."

PERTINENT material on simplified practice recommendations will be gotten into the hands of members of the American Institute of Architects through arrangements completed between the Institute and the division of simplified practice of the National Bureau of Standards.

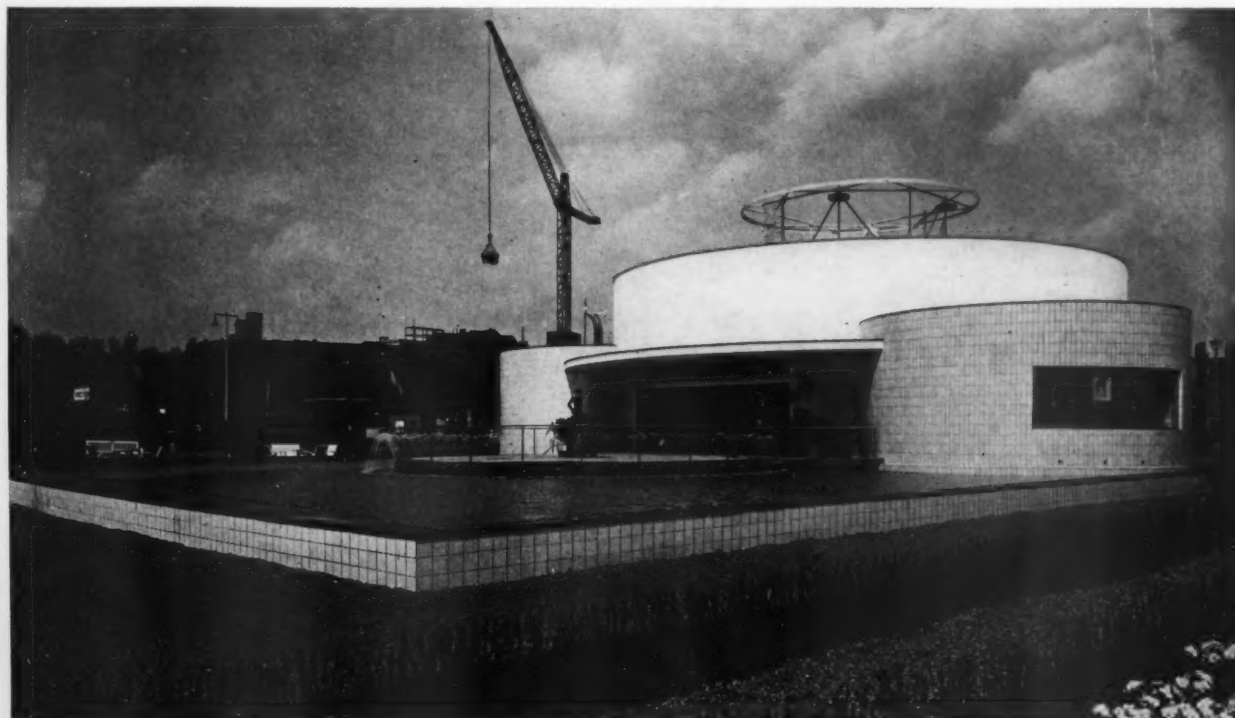
CIVIL engineers in California must now submit evidence of qualifications to practice, according to a bill recently passed. The title "structural engineer" is also limited to registered civil engineers who have qualified as structural engineers, by the terms of another bill passed.

AFTER making a study of the average radio audience, the Federal Bureau of Education issued an instruction sheet to broadcasting stations which states: "Do not overrate the

(Continued on page 94)



RESIDENCE HALL at the Medical Center, Columbia University, New York, named in honor of Dr. Samuel Bard, first professor of medicine in King's College. James Gamble Rogers, architect. The gift of Edward S. Harkness. Cost, \$2,500,000



PROPOSED WOMEN'S CLUB in Berlin building exposition. Designed by Professor Peter Behrens



» » » by W. B. PROCTOR

TENNESSEE WAR MEMORIAL, Nashville, drawn with a lithograph pencil on smooth finish bristol board

PROCTOR

PLACE DU PEYRA, VENCE, in southern France. A rough composition study for a canvas hung in the Grand Salon in Paris, and later exhibited in New York

WALLIS





and FRANK WALLIS



OLD CABIN on the Thomas Jefferson highway, just south of the Kentucky line. The hundred year old log part has been used as a school, church, store, dwelling

PROCTOR

LA LAGONDA, an old monastery on Lake Garda in northern Italy, now used as an inn. A study in composition

WALLIS

AN EASY WAY TO SIZE Soil and Vent Stacks

By HAROLD E. BABBITT

Professor of Sanitary Engineering, University of Illinois

TO be washed off of the seat of a toilet is both surprising and uncomfortable. The experience is probably no more surprising nor less uncomfortable whether it occurs on an upper floor or in the basement. It is more likely to occur in the basement because a common error in the installation of soil stacks results in a partial stoppage at the base of the stack where the direction of flow changes from vertical to horizontal. The partial stoppage will cause the building up of a back pressure which finds relief by suddenly expelling water from nearby fixtures.

If stacks in tall buildings change direction at intermediate floors, back pressure may develop in improperly vented fixtures resulting in the forcing of the seals of fixture traps on nearby floors. One of the 5-in. soil stacks in a twelve-story building was turned horizontally at the fourth floor to pass over the lobby. A test of this stack on the fourth floor revealed a high back pressure which blew water to the ceiling from a fixture trap on the fourth floor. The condition was relieved by the installation of vents of extra capacity.

Suction, or vacuum, in a soil stack is commonly feared more than back pressure because it withdraws water from the seal of nearby traps, leaving the atmosphere of the building unprotected from sewer odors. Suction will be caused in any soil stack of sufficient height, regardless of the design of the stack, because the velocity of the falling water will entrain air with it in its fall, thus exhausting the air from the stack. The effect on fixtures can be avoided only by proper venting. The intensity of the vacuum created depends upon the height of the stack, its diameter, and the amount of water falling down it. The greater the amount of water the greater the vacuum, but small rates of discharge down the stack, when mixed with much solid matter, will cause as large a vacuum as a high rate of discharge of clean water. Vacuums with an intensity as great as eight feet of water have been observed in tests of some inadequately vented stacks.

The highest vacuum is usually to be found at a distance of ten to fifteen feet below the top opening of the stack. If the top of the stack is sealed by frost or other obstruction an almost perfect vacuum may be formed. A vacuum of eight feet of water was observed on the eleventh floor of the twelve-story building previously mentioned. Only proper venting will protect traps against such intensities of suction. The use of a larger soil stack will be unavailing to relieve suction, or vacuum, because solid matter mixed with relatively smaller amounts of water falling down the larger stack will aid in developing vacuums of equal intensity and greater power or volume for drawing water from traps.

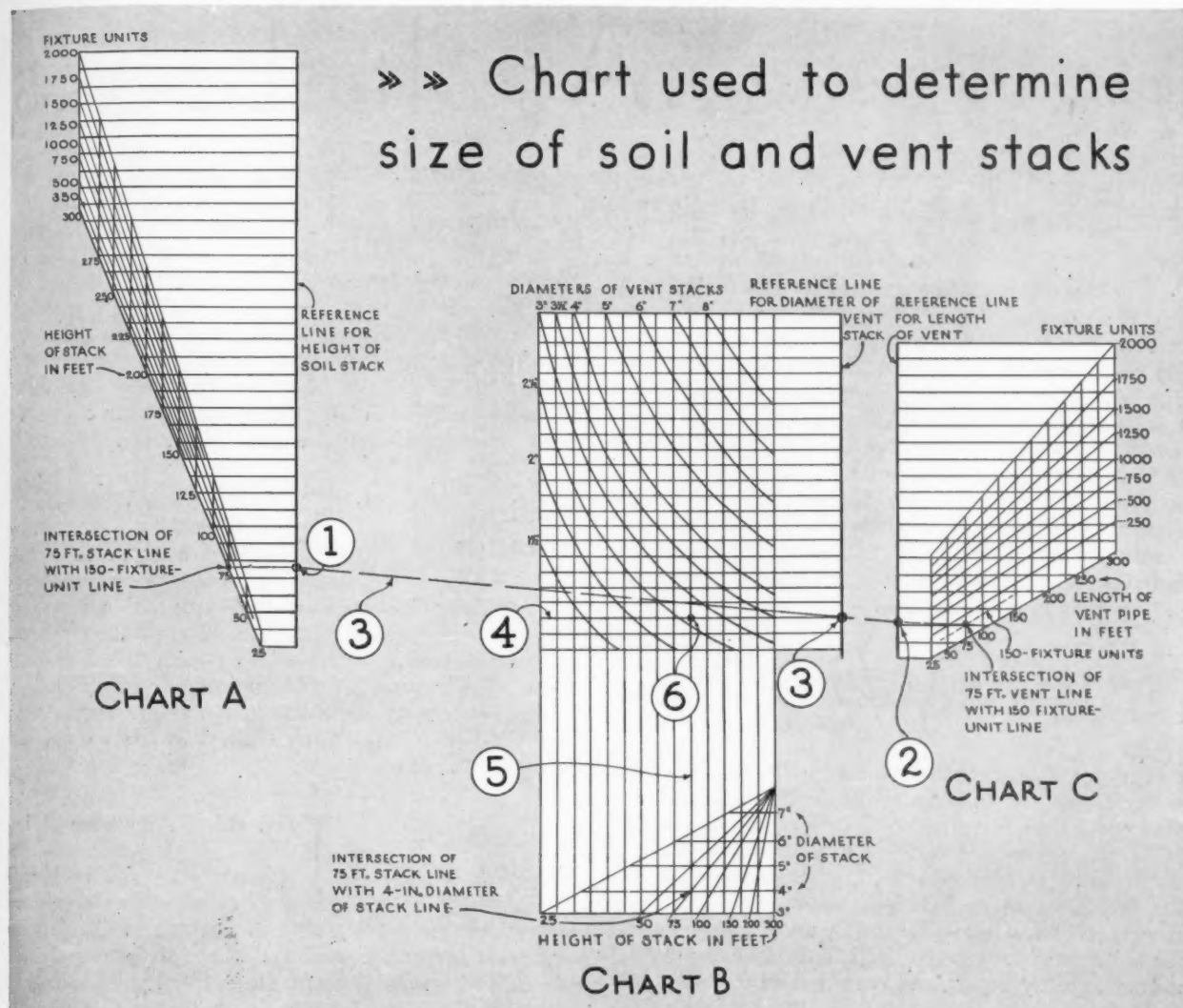
Empirical rules, the recommendations of building codes, and the dictates of experience are usually relied upon in the selection of the size of soil stacks. Until recently tests to determine the capacities of soil stacks have been meagre, the most recent tests being those made by the United States Bureau of Standards, the results of which have been published in a bulletin of the Department of Commerce entitled, "Recommended Minimum Requirements for Plumbing in Dwellings and Similar Buildings"; and by the Engineering Experiment Station of the University of Illinois, the results of which have been published in two bulletins entitled "The Hydraulics and Pneumatics of House Plumbing," part I, and part II. The results of the tests and the recommendations made by these agencies have yet to be adopted by designers of plumbing, who feel more assured of safety when following successful precedent than when adopting new principles not yet widely proven in practice.

IN reporting on tests to determine the capacities of soil stacks it is stated in these bulletins that "the capacity of a stack should be determined by the capacity of the inlet fitting," and that "the maximum rate at which water will enter a soil stack freely from one horizontal waste pipe is fixed by the type of the connection admitting water to the stack and by the velocity of approach. Water can be made to enter a stack at a higher rate by allowing the pressure to increase in tributary horizontal waste pipes, by using more than one waste pipe at the same or different levels, by using special types of fittings to connect horizontal waste pipes with the soil stack, and in other ways. . . . The indications are that the maximum rate at which water will fall down a soil stack is high and that a four-inch stack will take all of the water that would be delivered to it in a five-story building; that a three-inch soil stack would take all of the water that would be delivered to it in a 3-story building; and that a two-inch pipe is unsuitable for use as a soil stack."

The required sizes of soil and waste stacks, as recommended by the Bureau of Standards, are shown in Table I on page 72.

Three-inch soil stacks are not commonly used because of lack of experience with them and a feeling that their use may result in clogging even though their size may be sufficiently large to carry the greatest amount of clean water which may be discharged into them from an ordinary residence. Some municipal building codes prohibit their use, but both research authorities quoted above have found, as a result of tests, that three-inch soil stacks can be properly and safely used. The tests on

» » Chart used to determine size of soil and vent stacks



HOW TO USE THE CHART: Example, assume 150 fixture units connected to a 4 inch diameter soil stack, having a maximum fall of 75 feet. What diameter vent stack having a length of 75 feet is required? Figures other than those given on the chart are found by interpolation.

1. Chart A. Locate point of intersection of 75 ft. stack and 150 fixture units. Project this point horizontally to reference line for height of soil stack.
2. Chart C. Locate point of intersection 75 ft. vent pipe and 150 fixture units. Project this horizontally to reference line for length of vent.
3. Chart B. Connect points 1 and 2 with a straight edge (line 3) and mark intersection point 3 on reference line for diameter of vent stack.
4. Chart B. Project point 3 horizontally to point 4.
5. Chart B (bottom). Locate intersection of 4 in. soil stack and 75 ft. length. Project this point vertically (line 5) to intersect line 3-4 at point 6.
6. Chart B (at top). Curved line passing through point 6 gives size of vent stack required. In example given this diameter is 2 1/2 inches.

three-inch soil stacks were made with clean water and with clean water with solid matter mixed with it. The solid matter used in the Bureau of Standards tests is described as follows:

"To study the effect of introducing fecal matter and paper with the discharge from a water closet, pieces of thin-walled rubber tubing were filled with water and the ends tied and introduced with a quantity of toilet paper. The use of such matter with the discharge from a single water closet produced measurable but erratic effects

which became less noticeable with increased volume of discharge."

The solid matter used in the tests at the University of Illinois is described as follows:

" . . . consisted of a wad of cotton waste which would just pass through the pipes. Each wad formed an almost air-tight piston which fitted the pipes so closely that it became stuck occasionally. . . . The wads were inserted in the discharge pipe through a hand hole immediately below the fixture to (Continued on page 72)

. . . As It Looks

Employees Talk Architecture

EMPLOYEES of the New York Trust Company at 22 East 40th Street, New York, are making the most of their new quarters. When a stranger comes in, he is told that the metal used for the counter screens is the same as that used on the Chrysler tower, that the soundproofing on the ceilings is like that used in broadcasting studios, and other information about materials that makes this seem like a very friendly bank indeed. Interested visitors are invited down to see the stainless steel vaults and are told quite a bit about the decoration and construction of the bank's new quarters. The attendants even know the name of the architects! The result of all this is that the bank is humanized—it seems to be good business, and certainly has aroused a pride in the employees that is rather unusual.

Circuits for Flashlights

WITH the development of flashlight bulbs that operate on any lighting circuit, for the use of photographers in taking interior subjects, architects are faced with another new problem in the design of halls where photographs are often taken of the people attending an affair. A convenience that will be appreciated is a separate circuit or two, controlled by its own switch, for the exclusive use of flashlight bulbs. Such circuit or circuits will make it possible for a photographer to insert the bulbs in advance, make his exposure at any desired moment, quietly depart, and later remove the bulbs.

Apologies to Mr. de Sibour

"FIFTY Years of Agitation," an article in the June issue of AMERICAN ARCHITECT, mentioned the employment of J. H. de Sibour as consulting architect on a number of government building projects which had been let to private architects. In writing this article the author had no intention of casting any reflection upon the ability or integrity of Mr. de Sibour.

THE AMERICAN ARCHITECT has been informed that the employment of Mr. de Sibour as consulting architect was in every case pursuant to contract with architects to whom governmental awards had previously been made, and it is understood that such employment was in no case suggested by the Office of the Supervising Architect. Several of the architects contracting with Mr. de Sibour have informed AMERICAN ARCHITECT that his services were well worth their cost.

The criticism made in the article referred to the system in control in Washington. The use of the word "graft" was not intended to have any connection whatever with the name or activities of Mr. de Sibour and AMERICAN ARCHITECT is glad at this time, and in this way, to make clear that no reflection upon the personal or professional reputation and integrity of Mr. de Sibour was intended in the article in question.

Railroads and Airports

INACCESSIBILITY of airports is holding back the development of aviation. Since railway terminals and tracks in large cities cover large areas, it is quite likely that some day they will be remodeled into combination railway-airports. In fact, Francis Keally, A. I. A., has prepared drawings showing how this idea could be adopted in New York City by the Pennsylvania Railroad. So little ground is available in large cities that no other comparatively economical solution may present itself.

Dentists Advertise

DENTISTS in Wilkes Barre and Scranton, Pa., have started a cooperative advertising campaign in an experiment to determine the educational value of advertising as it may apply to their profession. There will be twenty-six articles dealing with various phases of educational work. The expense of the campaign is being divided among the dentists participating. An advertising agency, McNelis-Weir, Inc., New York, has been appointed to handle the campaign.

Canadians Petition

THE Royal Architectural Institute of Canada has requested the Canadian Government to refrain from enlarging its architectural offices, and to contract with private architects for public buildings contemplated for the alleviation of unemployment. The petition points out that in June, 1929, 560 independent practitioners belonging to the component societies of the Institute were employing 1180 persons; in June, 1930, this number had decreased to 710. The salaries of architectural assistants and draftsmen are given as from \$75 to \$300 a month, with \$110 being a fair average, so that unemployment in architectural offices makes a loss in the country's purchasing power of about \$50,000 a month.

Doctors Want Advertising

ADVERTISING of the medical profession is being championed by physicians all over the country, and it is probable that more medical than architectural societies are advertising at the present time. It has just been learned that the Los Angeles County Medical Association has joined the ranks of advertising physicians; it is using a radio campaign. Dr. Carl Howson, president of the association, expresses regret that ethical doctors have lost ground by refusing to employ advertising. He says, and his words sound strangely like those of architects who face the facts, "The regular medical profession has failed lamentably to educate the public to an appreciation of the value of scientific medical care. The cults and the quacks have succeeded because they have appreciated the importance of publicity and have spent money with a lavish hand to obtain it."

to the Editors . .

How Mayans Disappeared

ONCE upon a time, the Petan District of Guatemala was a fine lake country. Only two thousand years ago the Mayan empire flourished there. Soil was rich and crops abundant. But gradually the lakes dried up and became swamps. Malaria bearing mosquitos multiplied rapidly. Disease weakened the mental and moral power of the Mayans, ruining their civilization as disease once ruined that of the ancient Egyptians. Then came the jungle. So runs the story told by Dr. C. Wythe Cooke, of the United States Geological Survey, who was sent to Guatemala by the Carnegie Institution, Washington, D. C.

Floodlighting Helps Sales

IS floodlighting a sales aid? A gasoline service station wanted to find out. So a record was kept of receipts for a month; then floodlighting was installed, with a 25% increase in sales. The floodlights were then turned off for two months, and the sales dropped to their original figure. Turning the floodlights on once more restored the 25% increase, which is still on the up grade.

Practical Study For Future

STUDENTS of a high school in Alameda County, California, are organized into groups according to the vocation which they desire to follow. Representative citizens act as vocational leaders for these groups, advising the students what books to read, courses to follow, and giving them practical information as to the requirements of the outside world. This year, an architectural group has been started under the leadership of Henry H. Gutterston, secretary of the State Board of Architectural Examiners and president of the Northern California Chapter, A. I. A. This is an idea which schools in general should be glad to adopt, for it brings schools and the business world closer together.

Steel Buildings and Lightning

DURING a thunder storm this past summer, lightning struck the mooring mast of the Empire State Building. Newspaper accounts said that a shower of sparks was sent into the small room inside the top of the mast, but that no one was injured and no damage was done. An architect working in his office one evening last year says that he saw a remarkable electrical display about the tower of the Chrysler Building. He described it as a sight both beautiful and spectacular.

Electrical engineers maintain that steel buildings, being well grounded, are safe from damage from lightning. The copper flashings of most high buildings are connected with the steel frame, which assures their acting as gigantic lightning rods that carry the electrical discharge safely to the ground.

Shadows Open Doors

WAITRESSES in the Stevens Hotel, Chicago, no longer push against the swinging doors between kitchen and dining room. Instead, application of the photo-electric cell makes it possible for their shadows to open the doors as they approach. The magic of ten years ago seems to be the commonplace of today.

Government in Business

THE principal present need of the United States is for its leaders in both public and business life to learn, as their forefathers knew, that, in the long run, the less government there is in business the better it will be for both business and the public," states Railway Age in an editorial in a recent issue. While the Government is not in the building business, it is still doing considerable architectural work, and, if recent newspaper reports are correct, the Supervising Architect's Office intends to remain in the business of architecture.

Demanded An Apartment

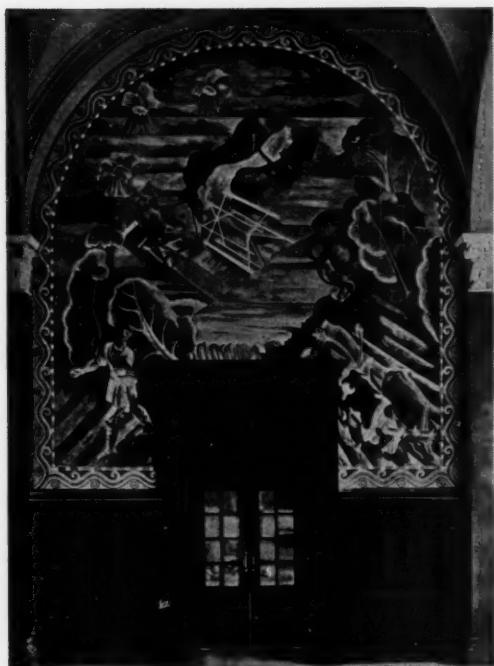
WHEN the New School for Social Research was built in New York, the occupants of the former building on the site had a long term lease and demanded that they be provided with a place in which to live. As a result, an apartment in which the former tenants reside was provided on the sixth floor of the school. Building certainly presents many unusual problems. That is one reason why it is such an interesting business and attracts to it men who like to solve real problems.

Indiana Society Advertising

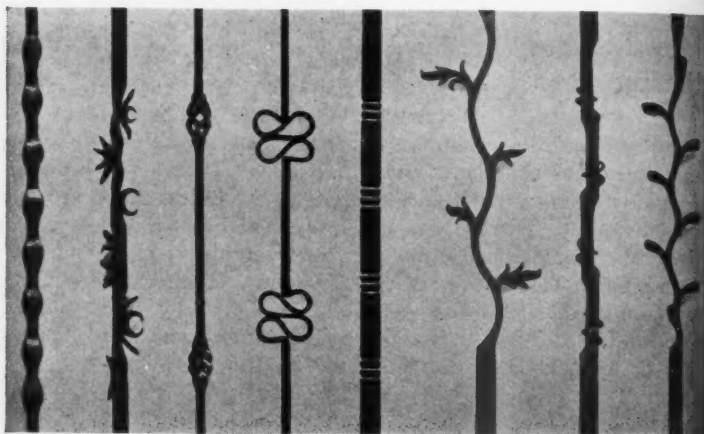
TANGIBLE results from advertising can seldom be obtained except over a period of considerable time. But if the Indiana Society of Architects maintains the good start it has made this year, it should not be long before the architects of that state should begin to see results. In co-operation with other interests in the building industry, the Society is carrying on a paid advertising campaign. The Publicity Committee of the Society has reported there has been bought 40,516 agate lines of newspaper space in ten mediums having an estimated reading public of 1,393,485 persons. In addition, sixty-two newspapers in the state of Indiana published news releases on architecture, furnished by the Society, to the extent of over 47,264 agate lines that reached nearly a million and a half people.

It is the constant dripping of the water that wears away the stone. If the architects in Indiana keep impressing the people in that state with their slogan "Build Now" and "Remember it pays to build well," it should not be long before they see tangible results from their well directed efforts. Incidentally, the Society realized that it knew little about advertising and engaged an agency to handle the campaign.

... and ABROAD



MURAL in Stock Exchange, Bergen, Norway. Executed in fresco designed in the modern manner. Colorful, decorative, and composed with a fine sense of rhythm. Designed by Axel Revold. From "Diekunst"



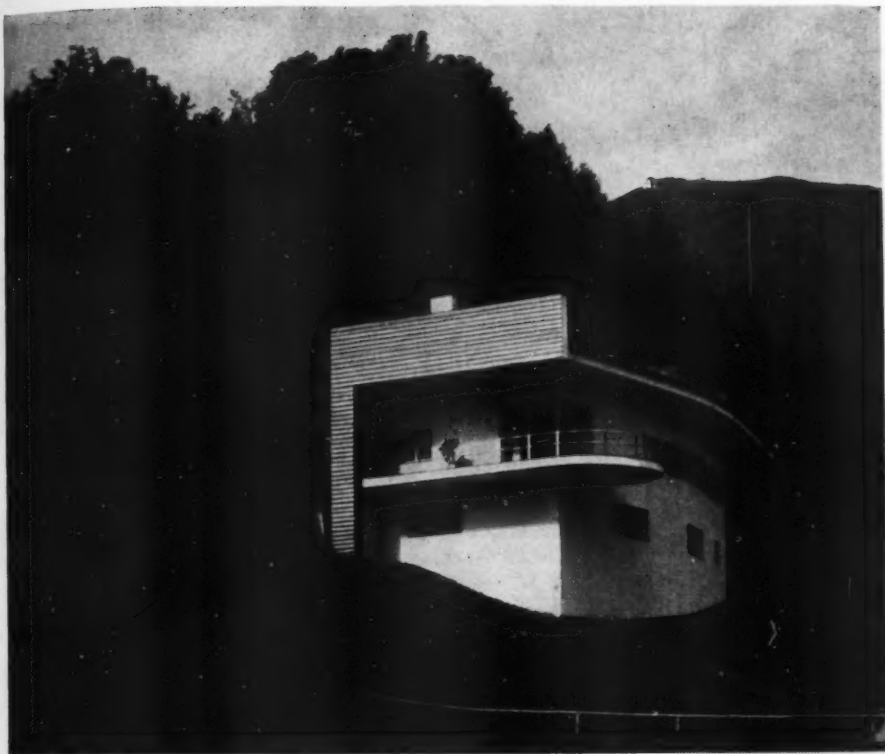
STUDENTS' WORK in the Technical School for Forging Work, Kerschensteiner Trade School, Munchen, Germany. A few examples illustrating possibilities in the design of wrought iron that are adaptable to modern forms and technique. From "Modern Bauformen"

STAIRCASE in a building at Stuttgart, Germany. Designed by Paul Lang-Kurz and Hermann Stumpp. From "Modern Bauformen"



VERTICAL WINDOW extending through several stories of the Roman Catholic church built of reinforced concrete at Vrsovice, Prague. A decorative detail, as well as a practical solution of adequately lighting stairways that have in the past often been too poorly lighted for safety or comfort. Joseph Gocar, architect. From "The Architects' Journal"





SUITED TO SITE, the horizontal lines seeming in character with the background and surrounding country. One can well imagine that a fine view is to be had from the large bank of windows. The design satisfies both aesthetic and practical requirements. Bruchroithner House, Zell on the Lake, Innsbruck, Switzerland. L. Welzenbacher, architect. "Diekunst"

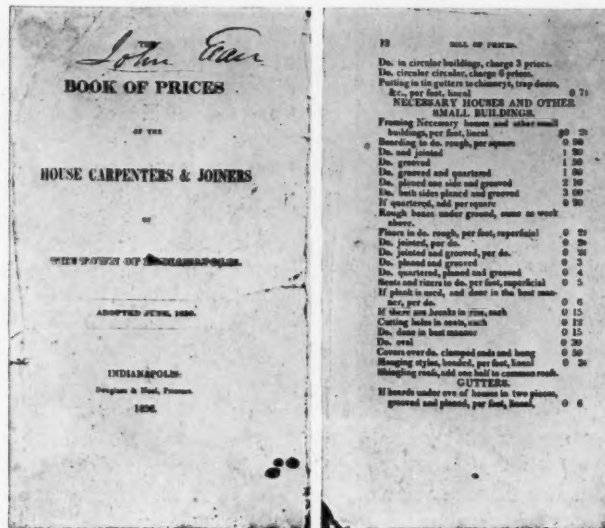


WROUGHT IRON door panel in a building at Breslau, Germany. A type of design that demands the services of a versatile craftsman. The design forms an interesting study in composition and technique. Designed by Jaroslav Vonka. From "Diekunst"



MODEL of an office building for the Salamander-Konzerns, Berlin. It indicates a modern tendency to emphasize the floor construction without neglecting the vertical movement. Professor Heinrich Straumer, architect. From "Modern Bauformen"

THE READERS Have a Word to Say



• "THE SPECIALIST" IN 1836

Editor, THE AMERICAN ARCHITECT:

I AM enclosing photostats of two pages from the book of prices of house carpenters of Indianapolis in 1836. I think that many of your readers will be interested in knowing that the subject often discussed by "Chic" Sale was covered in an authoritative way in Indianapolis nearly a century ago.

Any reference to this material should say that it is from the collection of Mr. Kenneth Loucks, who has many valuable papers relating to the early history of Indianapolis.—*Lee Burns, Burns & James, architects, Indianapolis, Ind.*

• VIBRATION OF BATTLEDECK FLOORS QUERIED

Editor, THE AMERICAN ARCHITECT:

THE article in your July issue, "Battledeck Floor Construction," was very interesting. As this system was merely the application to buildings of a method of using metal that had been in use for fifty years in other construction, I wondered why it had not been done before. Upon making inquiries, I learned that the vibration of this building is so great that the floors had to be covered and the columns enclosed in concrete.

I don't know whether this is true or not, but obviously there is another side to the question and I should like the AMERICAN ARCHITECT to give us both sides.—*John Graham, A. I. A., architect and engineer, Seattle, Wash.*

Note:—Mr. Graham's letter was sent to Henry Penn, author of the article, and district engineer with the American Institute of Steel Construction. Mr. Penn's reply follows:

Editor, THE AMERICAN ARCHITECT:

Dear Sir:

The A. O. Smith Building was at one stage of the construction a complete metal framework including metal floors. Under this condition it is well known that the velocity of vibration transmission would be very high. It is well known that steel will transmit vibrations and stresses at a very rapid rate. Other materials may have the characteristic of transmitting vibrations at lower velocities. In general, the softer these materials, the lower the velocity of transmission.

To test this building without any partitions in place, without any plastered ceilings or without cover of any type on the floors would really be gathering useless information. As I understand it, the A. O. Smith people carried out certain tests of floor panels as to their qualities in transmitting vibration. The only covering materials used in these tests were wood floors laid directly on the steel with a mop coat of asphalt, a concrete topping three inches thick, and the Smith grid floor armor.

Their purpose in carrying out these tests was to find the relative value of these coverings in dampening the vibration in the steel. They did not make a comparison test between ordinary floor construction completely finished with partitions, equipment, etc., in place, and the battle deck floor completely covered with, say, a wood floor and with all partitions and equipment in place.

The problem of vibration and sound transmission in floors resolves itself into the use of materials of various specific gravities between the sound source and the ear of the listener. This can be as readily accomplished in battle deck floor by the use of felt layers and other soft materials below the surface finish. Absence of sound transmission has always been one of the assets of the steel frame building and it is because of the use of many different materials in floor construction.—*Henry Penn, District Engineer, American Institute of Steel Construction, Inc., New York.*

• STAGGERED TREADS AND RECESSED HANDRAIL

Editor, THE AMERICAN ARCHITECT:

YOUR reference under the title "All in the Day's Work" to the staggered treads of the stairway in the Northern Life Tower Building, Seattle, as being a "unique" solution of such a problem seems to overlook the fact that it was a commonplace device of the medieval architect and is mentioned in many technical books on stairways.

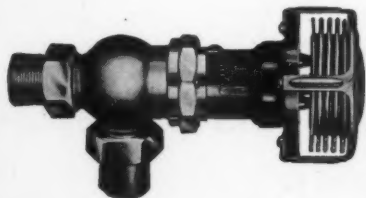
The device for conserving the width of stairways is also a commonplace one and may be observed in buildings erected at various times during the last five centuries. The author's use of a metal corner bead to form the rounded outer edge of the recessed handhold is, however, a new idea and well worth remembering.—*A. Blair Ridginton, architect, St. Louis, Missouri.*

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• WHAT IS GOOD ARCHITECTURE?

Note: Comments were requested by the editors of *Building Age* and *The American Builder* upon an article which recently appeared in that publication, "What Is Good Architecture." W. D. Sawler sent a copy of his comments to the editors of *AMERICAN ARCHITECT*, which are printed as an interesting analysis of the reasons for poor architecture.

I HAVE read your yarn, "What Is Good Architecture?" with amusement. You asked for comments and I shall gladly give mine.

It is true enough that most people disagree in their taste for house architecture, just as they do in everything else. This world would be a drab old place were all of us alike. Yet this mere variance in our tastes does not change the requirements of good architecture, namely, balance, proportion, harmony of detail and mass.

The principal idea I get from the yarn is that current small house architecture is presumably good, in all that that quality implies, because people have chosen it. That is a ridiculous premise which is insupportable in respect to any art. People have chosen jazz. Is formal symphonic music then to be relegated to an inferior position? We have chosen the jig in preference to classic dancing. What will we deduce from this? The public taste for sculpture can be seen in graveyards and on village public squares. No responsible person finds it good.

Beauty—good taste—harmony live. This is just as true in a house as in a painting, a statue or a musical composition. Many of the so-called "moderns" in both art and architecture so far violate every precept of good taste that their efforts are doomed to certain failure. The horrible splashes of the radical modern artist are just as laughable as the millions of hopeless hodge-podge houses that freckle this country.

The point is that people commonly do not have such a cultivated taste for architecture as to make their decisions in regard to it worth much consideration. And, neither do they know enough about it technically, aside from considerations of good taste, to make worth while giving much weight to their decisions.

American small home buyers accept nondescript house designs simply because they don't know better and little else is available. Consider the nation today with the crop of homes built in the last twenty years. How much real beauty is there—how much artistry? Many of these architectural "gems," laughable today, were the pride of the "moderns" of their day. Yet woefully few have withstood the test of time.

The author attempts to support the proposition that because people have elected to build the kind of thing they have built is in itself justification for that character of building. The answer to that proposition is to look at the evidence. In an attempt to capitalize that taste, small houses which have been evolved from public taste or by untutored draftsmen have already proven to be ephemeral, transitory, ugly. People with even the shallowest kind of training in architecture, with only a modicum of good taste, find them grotesque, horrible. Furthermore, we know them to be uneconomical because the elements which have been employed to get the effects which they exhibit are often costly. These houses have a terrific rate of depreciation. When this is charged against

capital cost of building, they become enormously expensive.

If it is to be supposed that architects and competent builders are lacking in this capacity to design and build houses that fit the requirements of modern points of view, I would say the reverse is really true. Architects and competent builders know how to get effects with the simplest devices. The modern tendency is to omit meaningless detail, characterless ornament, mere multiplication of materials for purposes of added interest.

We know that true architecture has its qualities through balance and mass, through the disposition of very simple things. Typical houses in our streets, on the other hand, are elaborate beyond all words.

Now, my opinion is that neither of these two houses shown in the story are architectural gems, neither the "prize winner" nor the "best seller"—yet they might have been designed by prominent architects for all I know. Furthermore, if the best seller sold more often, one of the manifest reasons for that is that it would be markedly less expensive to build and because it is smaller. I can say no one would like this "best seller" very long. The charge off to accumulated dissatisfaction that would go along with this property is just bound to be great.

If period architecture is on the wane—a point on which I disagree, then it is not because of lack of appeal in most cases but due to the careless use of period names to designate mongrels.

Many of the small house designs in various styles which architects and competent builders have come to look upon as masterful, represent a natural selection from a great flood of house building which has taken place through many centuries. Recognizing and using those fine qualities which have made these houses masterpieces and which continue to engage the admiration of men is certainly no sin against the artistic consciousness of the people. We can use these forms today successfully, vitally, and from the point of view of modernistic concepts of practicability with the utmost of economy.

The author of the story says he does not believe contractors should be architects, as dealers should not be contractors. To see how some have overstepped this principle, observe almost any collection of designs that have gotten together in the countless books and catalogues of house designs that are offered by them. Most of the designs are trash in every sense of the word—structurally, from the point of view of the plan, from the point of view of external appearances.

When architects debase their art for the purpose of supplying what "public taste" demands, whether or not that public taste is dictated by lumber dealers or builders, their art will not be worth anything. Again I point to these rows upon rows of ugly, grotesque, misfit houses as proof of this point.

Indeed, there is great need for the closest cooperation between architects, builders and dealers in building materials.

I suppose one of the basic difficulties behind all this thing is the commonly held view that any man can design his own house better than anyone else can do so and the erroneous assumption that contractors are competent to design simply because they are also competent to construct. These are fundamental errors.

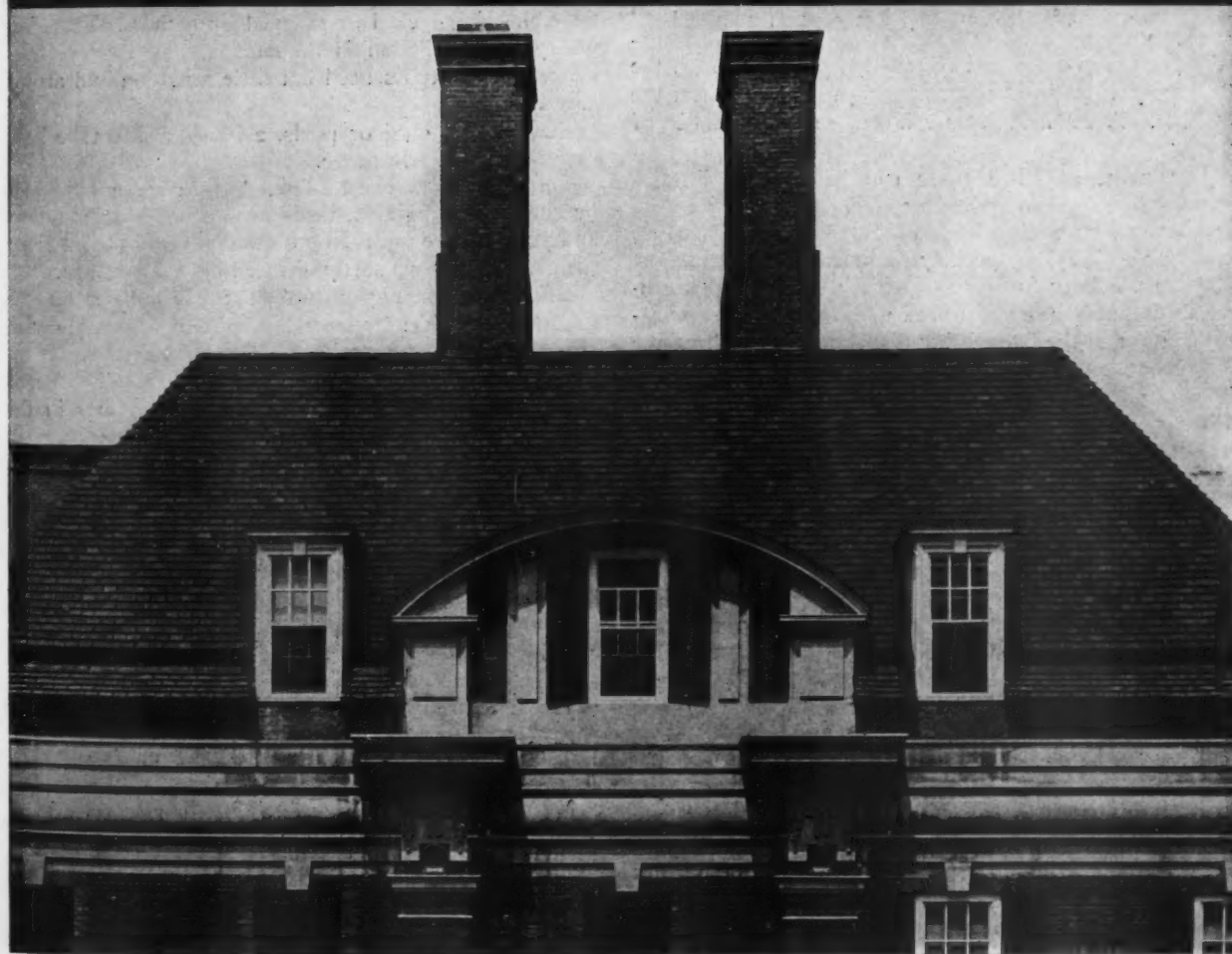
In conclusion, may I

(Continued on page 96)

The New BRITISH EMBASSY



at Washington, pictured here, is the only work of Sir Edwin Lutyens in this country. Typically British in design, it is a fine example of the modern English school. In specifying materials for the embassy, Sir Edwin decided on Ludowici Tile as the best for our American climate and the one providing the inherent character and charm of English-made tile. Ludowici Tile is available in patterns, colors and textures appropriate for all types of architecture and all sizes of buildings. It affords protection as perfect and lasting as its beauty. Our representatives are always at your service and our pages in Sweet's contain helpful information.



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FOR OCTOBER 1931

Tube Lighting

(Continued from page 43)

white metal at the ends. These fixtures are 6'-6" long and about 3" diameter. The frosted glass is enlivened by gleams of the colors of the tubes, while the room is flooded with a softly diffused white light.

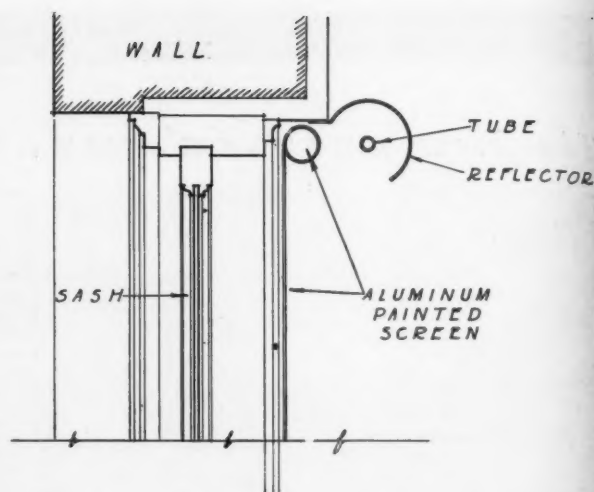
Though this is a high voltage installation, completed before the low voltage tubes were perfected, it shows one of the many ways in which low voltage tubes can be used. In fact, the same effect can now be obtained economically with the low voltage tubes. Two tubes, red and green, instead of three, will produce an attractive lighting effect for such a room as this.

It may be well to note at this point that, though this is a high voltage installation, no hum of transformers is heard. Here the transformers are back of the walls, but there need be no annoyance from this cause if they are properly installed. Low voltage tube installations are free from the possible "hum" of transformers since the auxiliary equipment required is small in size. No transformer is required in the circuit that passes through the tube, only a small transformer being required to heat the cathode. A small starting coil will serve a number of tubes.

Luminous, gas-filled tubes can be used in interior lighting in a wide variety of ways. They can be recessed in the wall or ceiling back of glass panels, placed in coves or enclosed in specially designed lighting fixtures. The long, slender forms to which these tubes lend themselves naturally harmonize well with modern interior architecture and the light, being distributed throughout the length of the tubes and of no great intensity at any point, is easy upon the eyes. There are many other special advantages and possibilities in luminous tube lighting which will become apparent as the installations of different kinds represented here are studied.

BESIDES illuminating rooms with artificial daylight it is possible to flood them with the healthful ultra-violet rays of sunshine by using these tubes, for there is a special ultra-violet tube for this purpose. One method of installing such a tube is to attach it horizontally just above a window, enclosing it in a metal trough reflector which will prevent glare and direct the rays upon a window shade sprayed with aluminum paint on its inner side, so that the ultra-violet rays will be reflected and diffused into the room. This places both the tube and the reflecting surface out of the way and the window shade does double duty.

The subaqueous lighting of swimming pools is advantageously accomplished by means of luminous tubes. The tube is set in a simple recess along the inside of the wall of the pool, below the water line. It is not necessary to keep the water away from these tubes as this is a "cold light" and there is no danger of breakage from contact with the water. The connections at the ends of the tubes are easily made water-tight. Therefore the water



AN ULTRA-VIOLET TUBE may be installed just above a window, its rays being reflected upon an aluminum painted window shade, thus giving a diffused light

of the pool can be allowed to flow around the tube. The plate glass cover in front is not water-tight; its function is merely to prevent accidental breakage of the tube through being kicked or grasped by bathers. This simplicity of installation is accompanied by easy maintenance, for the tubes need but little attention and are of long life.

For lighting outdoor pools, a bluish white tube light may be used to advantage.

Fountain basins can be lighted from under the water by simply curving such tubes around the inside; arbors and pergolas are lighted by luminous tubes placed along their tops, casting a softly diffused light downward.

Effects resembling moonlight are produced in the grounds of residences by using light of a soft blue tint from such tubes in special flood lighting units.

Though the high voltage neon tubes have been used for some years upon the exteriors of buildings in the form of advertising signs, little effort has been made to incorporate them in the architecture. The attempts at such decorative lighting have usually consisted in outlining architectural members with luminous tubes in such a way as to ruin whatever architectural character the building may have possessed or in draping the building with crude designs. Often these things have been added after the architect was through. But fortunately an increasing number of architects are taking into account the owner's and tenant's needs in the matter of advertising and display decoration and they are forestalling such "improvements" by designing the signs and exterior illumination as a part of the building. An interesting example of the successful incorporation of the signs in the design of the front of the building is the new Trans-Lux Theatre in New York.

One of the ways in which luminous tube lighting can be used effectively is seen in the photograph of a building entrance for which Eugene Schoen was awarded the Architectural League Medal for excellency in craftsmanship at this year's exhibition. The light from luminous tubes in vertical trough reflectors of metal is projected against the moulded glass in a metal frame work over the door. In each reflector there are three tubes, red, blue



Compare this fire alarm station with the architecture of the tower. Both were designed by Shreve, Lamb & Harmon, Architects.

And now— Architecturally Designed Protective Equipment



The interior mechanism, designed by A. D. T.—the nation-wide service organization that has been a symbol of security since 1873.



WHEN the architect designs a beautiful structure, he desires that all appointments be in harmony. Now even the fire alarm stations can be made to conform to the architecture of the building.

The Empire State Building, for instance, is completely protected by A. D. T. Central Station Service. By means of a Permanent Wire Connection to its central office A. D. T. watches the watchmen, provides positive and individual

fire alarm service, and insures constant operative ability of every detail of the Sprinkler System. A local A. D. T. Fire Line Signal and Telephone System gives comprehensive fire pump signals and telephone communication in case of need.

The fronts of the fire alarm stations in the Empire State Building were designed by the architect. Cast in aluminum and beautifully finished, these stations give maximum protection without destroying the beauty of this world famous building.

Controlled Companies of
American District Telegraph Company
155 Sixth Avenue, New York, N. Y.

and green, so proportioned in intensity and color that the resulting light is of a pale orchid tint which is broken up by the faceted surfaces of the glass in a pleasing iridescent effect.

The earlier luminous tubes were filled with neon gas. These tubes are now filled with various mixtures of other rare gases as well as with neon gas. Each of these gases gives off a light of characteristic color when electric current is passed through it. The color produced by neon gas is the familiar orange-red frequently used for advertising signs. The various colors of light produced by different tubes are due primarily to the nature of the gases with which the tubes are filled, though colored glass is used to some extent in securing some colors.

The long life of luminous tubes has been demonstrated by the large electric signs composed of these tubes on the top of the Hotel St. George in Brooklyn, N. Y. These signs have been in use for the past six years and it is reported that they still have eighty per cent of their original tubing. A similar record was made by a large sign on a manufacturing plant in Long Island City which was put up six years ago and it had eighty per cent of its original tubing when it was recently taken down. Cases are known where luminous tubes have been in use for five or six years without requiring any service. In the laboratory of the makers is a tube that has been burning for the last six years day and night without interruption excepting for two days when the laboratory was moved, and to all appearances it is likely to continue in operation almost indefinitely. The minimum life given for the high voltage tubes is 10,000 hours. The life of the new low voltage tubes has not as yet been fully determined but it is stated as more than 3000 hours.

The details of installation of luminous tube lighting vary with special requirements and are worked out by the engineering staff of the makers to suit each case.

The following data will give a general idea of the practice. The tubes commonly used are 25 millimeters in diameter, for low voltage and 15 millimeters high volt-

age, and they are used as small as 5 millimeters. Airport beacons have been made of tubes as large as 33 millimeters, while even larger tubes are used in some instances.

The length of tubes varies with the nature of the gas content, the diameter of the tube, the voltage of the supply, but more particularly with convenience in handling. In high voltage installations the maximum length of a 15 millimeter tube, operated on a single transformer, is between 50 feet and 60 feet for all colors excepting white, for which a length of 25 feet may be regarded as practicable. The maximum length of an individual tube seldom exceeds ten foot in high voltage lighting, but several are often connected in series on the same transformer. Only about one-half as much white and gold tubing can be used on one transformer as of the other standard red, blue and green colors. This is due to the fact that white and gold tubes contain a mixed gas.

The colors obtainable in tubes of the high voltage type include red, blue, green and amber in various shades, also white. By combining tubes of the primary colors, practically any tint may be secured as well as various qualities of daylight from cold north light to a warm sunlight effect. In low voltage tubes red, blue and green are obtainable. Other colors are produced by using two or more tubes. There is not as yet a single low voltage tube producing a white light; when white is required it is produced by combining red and green tubes or for more exact daylight effects red, green and blue as described above. By combining light from tubes of the primary colors in different proportions an almost unlimited range of tints can be produced in low voltage luminous tube lighting.

Recent developments in this kind of lighting have opened an entirely new field and provided the architect with a new, interesting and distinctly modern means of lighting his buildings, within and without, that is beginning to have far-reaching effects upon lighting practice in general.

Construction of a Sound Proof Studio

(Continued from page 47)

wallboard "gobos" which change the period of reverberation of the studio to 0.24 seconds. This method has proven successful.

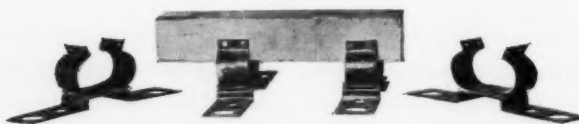
An efficient ventilating system has been installed which is almost noise-

proof. The machinery is located in a pent house on the roof and large wooden ducts lined with felt and fitted with baffles placed every few feet, lead into and out of the studio. It is possible to record sound with the ventilating system working.

All the construction materials used in this studio with the exception of the flooring and ducts are fireproof.

The stands for the lighting equipment are made of welded steel.

Incoming power lines are brought in through boxes



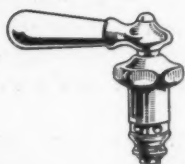
Clips used to float floor, wall and ceiling construction

located every few feet on three walls—each box having a capacity of 150 amperes, 110 volts continuously. The power lines have a continuous capacity of over 1000 amperes at 110 volts.

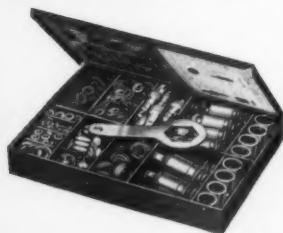
The recording apparatus is located in a sound-proof booth, the front of which has a $\frac{3}{4}$ " plate glass observer's window about 3 feet square.

All cameras are operated in the studio with no booths to hinder the camera men. All moving parts have been silenced by the use of fibre gears and bronze bushings, and by covering the stationary metal parts with sponge rubber. A leather covering which fits closely over the film magazines and camera, has been found to help materially.

ONE UNIT



ONE KIT

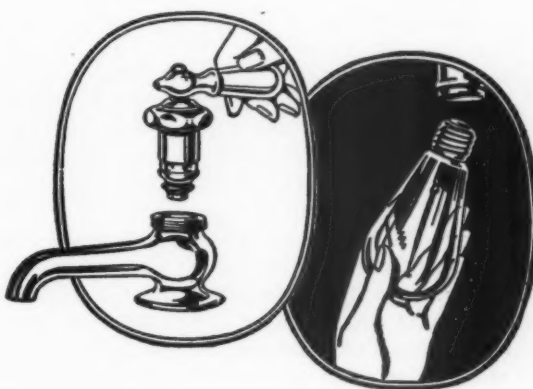


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(Signed) M. E. Sears,
Maintenance Engineer,
Railway Exchange, Chicago.



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Churches Are Not What They Used to Be

(Continued from page 29)

nurture of childhood and youth. It no longer looks upon the natural impulses as inherently sinful; instead it frankly utilizes the whole of human nature in its service. At every point the attitude of the church is more rational and more intelligent than ever before. The architect who does not understand this will not know what his client is talking about much of the time.

I know many will say this attitude of understanding the client's business is at the very heart of professional ethics. Maybe so—but in most communities there are concrete evidences that not all architects have discovered that the church has changed. The Akron type of building, to cite an example, is as heartily and reverently damned by church leaders now as it was praised by them a decade ago. Within a few years the entire present system of small Sunday school class rooms seems likely to be passé, and a new system in vogue.

THE profession owes much to a number of denominational architectural bureaus, maintained by most of the larger church bodies, which extend an advisory service to any congregation grappling with a building program. The advice extends from the selection of a site and methods of financing to the exercises of dedication. For five years these bureaus have stimulated a holy dissatisfaction with the former sort of church building, and have educated building committees to spend hundreds of thousands instead of tens of thousands of dollars. They have introduced unit construction rather than curtailment to meet an immediate budget. They have shouted themselves hoarse in behalf of the architect, insisting that every church job of whatever size have architectural service. One of these bureau heads was quoted recently in daily papers from coast to coast when he seriously proposed that his own denomination launch a \$250,000,000 building program for the early modernization of its antiquated buildings.

It is true, some denominations have set up staffs and have rendered a complete architectural service to their churches; but lest the competition-conscious architect criticize this practice too severely let it be stated that much of this work has been done for small mission congregations unable to pay architect's fees; that even under this system more church work was created for architects than was done by the bureaus; and that as more and more architects learn what the modern church building is, the bureaus tend to become consultant and advisory agencies only. And, incidentally, they recommend that the church pay a fee based on a commission percentage big enough to stimulate an architect to do original and outstanding work.

These bureaus have never formulated a set of standards for the modern church, feeling that any such statement might cramp necessary evolution. Moreover, so varied are the local church problems and so different are the various denominational points of emphasis that any such standard would be a pretty slim document. However, certain trends seem to be emerging which indicate

points where the architect's work may be checked against official practice.

1. There is a definite return to greater dignity. Sanctuary interiors are more formal. Pipe organs, pulpits and choirs are being subordinated to such symbolic representations of the faith as an altar or a communion table. The entire atmosphere is built up with worship in mind as the chief thing. Symbolism and a restrained use of color and ornament are utilized to induce reverence. And let no hapless architect refer to the worship room as an "auditorium."

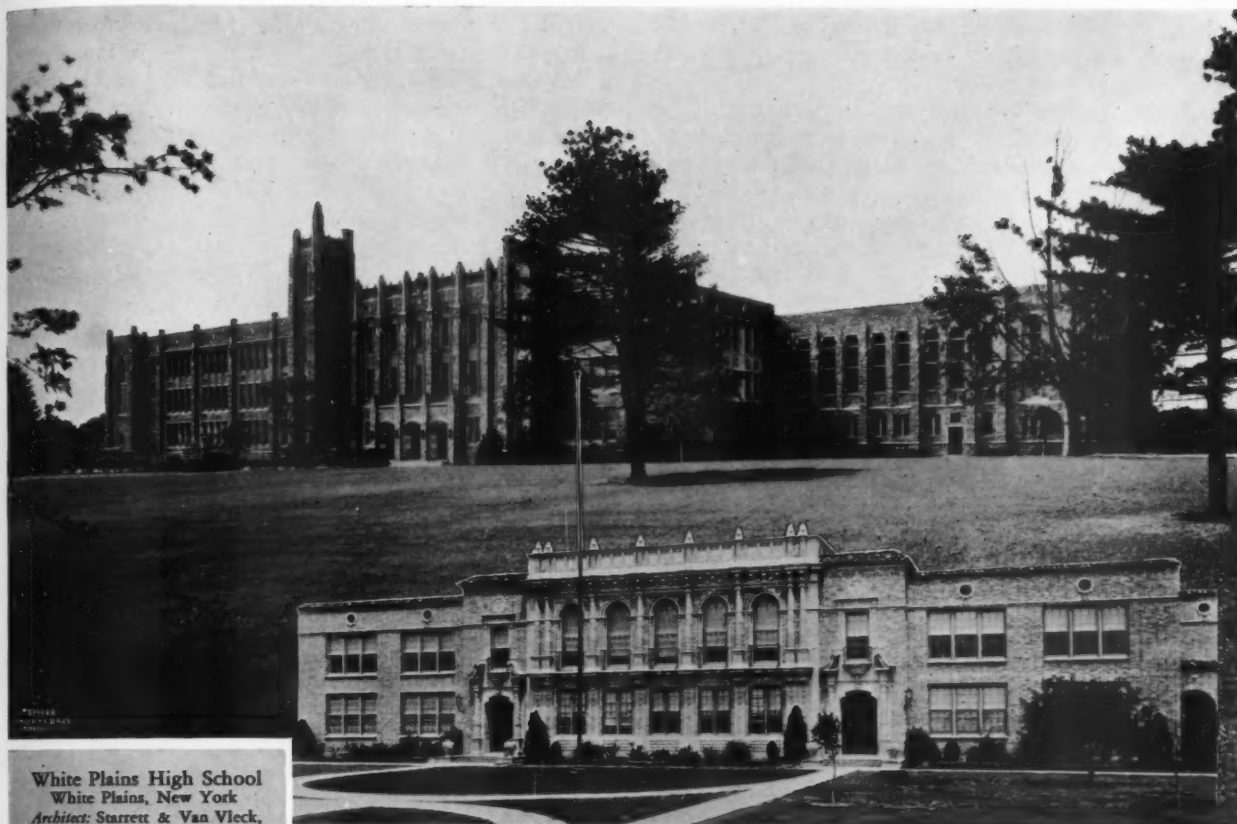
2. The educational section, with more floor space than the sanctuary or the social portion of the building, must communicate easily and naturally with the sanctuary, but must be apart. Pupils are as strictly classified as in the public schools, and each age group has its own kind of program. The use of departmental assembly rooms surrounded by or adjacent to small class rooms seems likely to give way soon to a simpler plan of large class rooms without departmental assemblies. The Sunday school—it's called Church school now, and holds weekday sessions, too—never meets en masse except once or twice a year in the sanctuary or the social hall. A pamphlet on the subject of the educational requirements of the modern church has been published and can be obtained from the International Council of Religious Education.

3. The worship needs of children are met by a special children's chapel, suitably furnished, and designed in smaller scale but with the same dignity and reverence as the main sanctuary. This is used successively by groups of children.

4. The social life of the church requires a large hall which may also be used for banquets and for dramatics. Moving and sound pictures equipment is used and proper stage lighting and settings for simple plays are provided. One or more smaller dining rooms and an up-to-date kitchen are essentials. Kitchenettes are placed adjacent to young people's assembly halls and women's parlors, and dumb waiters may connect these portions with the main kitchen. Toilets are provided on each floor, and small size fixtures are installed for the smaller children adjacent to their rooms. Men's and women's lounges, gymnasium and locker and shower rooms, game room, bowling alleys and several committee rooms are included in large churches.

5. The administration of a building of this magnitude must be provided for in the general plan. The minister's study will be semi-secluded, but will communicate directly with the administration offices where other members of the staff are provided for. Gymnasiums, game rooms and lounges must be supervised. Access to the building must be under observation and control. Special offices must be provided for the director of religious education and the Church School secretary, treasurer and librarian.

6. Storage space must be provided for stage equipment, banquet tables, chairs, dishes, sewing machines,



White Plains High School
White Plains, New York
Architect: Starrett & Van Vleck, New York City, Gen. Contr.: Wm. Busse, Portchester, N.Y., Heating Contr.: Frank Farrell, Newark, N.J.

Harlingen High School
Harlingen, Texas
Architect & Engr: Dewitt & Washburn, Dallas, Gen. Contr: W. A. Velton Constr. Co., Brownsville, Tex., Heating Contr: Dallas Heating & Vent. Co., Dallas, Plbg. Contr: McCarty Plbg. Co., Harlingen

Junior High School
New Rochelle, N. Y.
Architect: Starrett & Van Vleck, New York City, Heating Contractor: Gillis & Geoghegan, New York City



Buildings Worthy to Inspire the COMING GENERATION

THE beauty, dignity, and appropriateness that have characterized American school architecture more and more in recent years, are well illustrated in the splendid buildings here shown. Comfort, convenience, and enduring usefulness have been provided for in all the details of planning and equipping them, within and without.

For the services in which pipe has an important though inconspicuous place, in these as in other like examples from New York to Texas, the major tonnage was NATIONAL Pipe. Thus, in the designing and construction of schools, as with large building enterprises generally, the preference for NATIONAL has definitely established it as—

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Subsidiary of United  States Steel Corporation

NATIONAL PIPE

cooking utensils, fuel, and for literature and supplies belonging to organizations ranging from Boy Scouts to choir.

7. Living quarters for the custodian frequently are included in the general plan, and increasingly there is a tendency to group the minister's house with the church.

8. Each portion of the building should express by its external appearance the functions to be carried on in it, and at the same time blend with the entire structure in architectural treatment. The whole should cluster about the sanctuary in a manner to emphasize the worship function as the major and the others as minor elements of the religion for which the institution stands.

9. The element of truth should be expressed in every portion. False stone work, imitation granite, or imitation anything, should be taboo. There is increasing impatience with the current practice of erecting churches in imitation of those built before concrete, structural steel or other modern building products were available. Let the church be built of modern materials, erected according to modern construction methods, and its design be based on present day possibilities, transcending the limitations which bound architects and craftsmen of the Middle Ages.

To consider the present state of church building is to

state the opportunity which the architect faces when asked to design a church. He may erect a monument to his own artistry; he may contribute immeasurably to the architectural beauty of his community; he may discover new principles of design which will be used in churches throughout the world and give their author immortality. The very unsettled state of this practice opens the way for monumental achievement.

Too many designers conceive ecclesiastical architecture as essentially either Gothic, in imitation of European cathedrals, or Georgian, in more or less authentic imitation of the work of Sir Christopher Wren, with a remote possibility of Classic, or Byzantine, or Spanish Colonial as alternatives. True, there is no occasion for a too abrupt break with the architectural patterns of the past; they lend validity and continuity to what we build now.

But too few architects are making outstanding contributions of their own original resourcefulness to the church architecture of America. Some day someone will build such a church as will retain the richness and charm of the ancient traditions and at the same time face positively toward the richer future; that is what Wren and the early Gothicists did. Some day someone will dream a church, and will translate that dream into a composition which will make him worthy of sainthood.

In This Office Every Draftsman Is Boss

(Continued from page 31)

items act as a stimulus to younger men to do their best on the smallest details. Besides, it is a fact that small jobs need economical use of every dollar even more than big ones, and so demand the most experienced brains.

Now as to the "Yardstick." How do we get draftsmen of high enough capacity to carry out this system?

"Recommendations 2 inches," yes; "exhibits 2 inches," yes; "sales-talk 0 inches," yes; "performance" comes afterward on actual test, and we give a three to six months' trial for admission; then a *three-years'* trial before anyone can become a part of the permanent staff, —which is why we have no journeymen. But before that comes a health-certificate from a reputable physician, and this is supplemented by a rigorous inquiry into the applicant's habits and living standards to insure against future impairment of health. No draftsman—or other member of the company, for that matter—uses either alcohol or tobacco. This gives us a staff in normal health, working without either abnormal stimulant or narcotic and, incidentally, a drafting-room free from purple smoke-fog or the stench of stale tobacco. It also makes for absence of nervous temperamentality and gives cheerful efficiency in working hours.

If anyone suspects that some of our requirements are unreasonably restrictive, he must remember that all of them have been voted by the draftsmen themselves, and that every applicant has the office's principles and practices fully explained to him before entering our employ. I can further assure him that we have never had a promising man voluntarily quit, whereas our best men frequently refuse to go elsewhere, even for more money.

It may sound old-fashioned, and perhaps you have already surmised it, but the fact is that this office deliberately set out in the beginning to discover if it were possible to operate in the twentieth century on the principles of Jesus. It is in reality a more radical and ahead-of-the-times experiment than that of the Russian Soviet, and it began some years earlier.

One final feature that makes for cooperation and unity of purpose is the fact that, instead of punching a time-clock, the entire staff assembles at the beginning of each work day for morning prayer, which is led by the men themselves in turn.

That this method of draftsmen-boss cooperation will work financially seems to be demonstrated by the fact that in twenty-five years we have never had to dismiss a draftsman from lack of work.

Lest anyone should conclude that our experiment was made under exceptionally favorable conditions which would not obtain in an American city, I ought to add in closing that, quite to the contrary, we have had to contend with keen competition from numerous contemporary architectural firms; that most of the contracting companies offer "free" plans to those who employ them on building operations; and that the eight-hour day and Sunday-rest are almost unknown outside our firm.

Ferguson & Auer, Inc., architects and engineers, is the name of a new firm recently organized for the general practice of architecture with offices at 1900 Euclid Ave., Cleveland. W. S. Ferguson is president; H. E. Auer, vice president and treasurer; and H. M. True, secretary.



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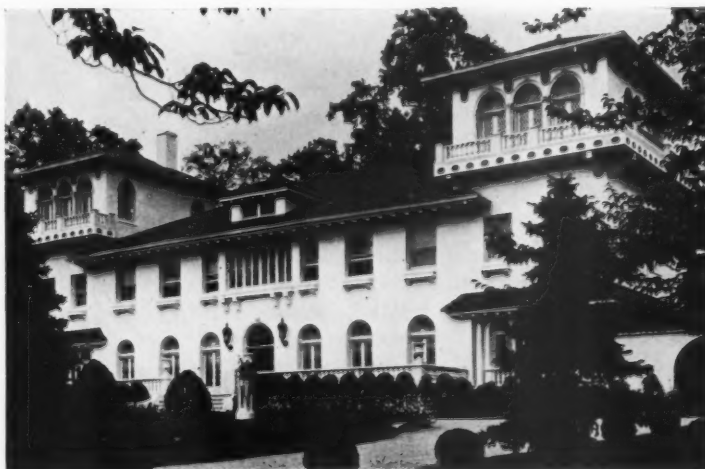


Architects are finding many interesting ways of employing the new mechanically made Atlantic Terra Cotta Wall Units. These illustrations of a residence at Englewood, N. J., from the plans of Mr. J. C. Hameetman, Architect, and built by Limouze Brothers, Inc., of West New York, N. J., show how advantageously the entire exterior may be faced with these Units in combination with hand made Terra Cotta decorative trim. . . . These new Atlantic Wall Units possess many features of particular note to Architects who may not be familiar with this important development in Terra Cotta manufacture. Cost is lowered by mechanical production. The large symmetrical unit size makes for ease of erection, which also effects a saving. The surface may be glazed or rough, in any texture and in any desired color. The Units are fire-resistant, have a high insulating value, are as enduring as hand made Atlantic Terra Cotta, and require the very minimum of maintenance. They are unequalled for facing corridors, lobbies and other interior walls, and for general exterior facing of almost every type of structure. We shall be glad to give you complete information. WRITE FOR ILLUSTRATED BOOKLET.

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Soil and Vent Stacks

(Continued from page 55)

be discharged. . . . It is to be expected that such wads of solid matter would produce pressures much greater than those produced by water alone, and also greater than the pressures which would be produced by the ordinary mixtures of solids and liquids discharged from a water closet."

It is recommended that "no water closet should discharge into a soil stack less than three inches in diameter.

TABLE I
Required Sizes of Soil and Waste Stacks.

Number of fixture units	Stacks inches	Maximum vertical distance, in feet, above the lowest connected fixture	Number of fixture units	Stacks inches	Maximum vertical distance, in feet, above the lowest connected fixture
1	1¼	45	37 to 72	3	75
2 to 8	1½	50	73 to 300	4	100
9 to 18	2	55	301 to 720	5	150
19 to 36	2½	60	721 to 1080	6	200
			1081 to 1920	8	300

Not more than three water closets or their equivalent in fixture units should discharge into a three-inch soil stack from one three-inch branch, and not more than two such branches should connect to a three-inch stack at the same point of level."

Among the advantages accruing from the use of a three-inch soil stack, over the more commonly used four-inch stack, are lower cost of piping, slightly lower installation costs, and the fact that the piping can be concealed in a four-inch stud partition.

Continuous and loop vents are installed in small and tall buildings. The continuous vent is the more common and is more widely applicable to conditions encountered, the loop vent being most suitable for a battery of fixtures discharging into the same soil stack. Various empirical rules have been suggested for the determination of the size of vent pipes but the number of conditions affecting their size makes the wording and the mathematics of the rules somewhat complicated. The sizes are sometimes more easily expressed in tabular form but a large number of tables is necessary to cover all possible conditions.

A diagram, based on the Model Plumbing Code prepared by the Illinois State Department of Public Health, the tables in which were compiled from the tests made in the Engineering Experiment Station of the University of Illinois, is shown in the accompanying illustration. The factors taken into consideration in this diagram are: the size of the soil stack, the number of fixture units discharging into it, the height of fall of water in the stack, and the length of the vent pipe. The desirable diameter of the vent stack can be determined from the diagram if these four conditions are known. The number of fixture units is based upon the recommendations published by the United States Department of Commerce. These rates are shown in Table II. It is to be noted that one fixture unit is equivalent to the discharge of one cubic foot per minute.

In the use of the diagram the total length of branch vent pipe and vent stack is not to exceed the height of fall of water in the soil stack and the number of fixture units discharging into the soil stack is not to exceed the amounts fixed in Table I. The height of fall of water in the stack is to be taken as the vertical distance from the highest fixture connection to the base of the stack and the fixture units to be used on the diagram should be the total number discharged into the stack.

The solution of an example will aid in explaining the use of the diagram. Assume that 150 fixture units are to be connected to a 4-in. stack with a maximum fall of water in the stack of 75 feet. The diameter of a vent stack with a length of vent of 75 feet is desired. At the left of the diagram will be found a group of lines representing number of fixture units and height of soil stack.

First. Find the intersection of the line representing a 75-foot height of stack with the line representing a rate of discharge equivalent to 150 fixture units and project a line horizontally from this intersection to intersect the "reference line for height of soil stack," and mark this point.

Second. Proceed to the right of the diagram, where there is a group of lines representing number of fixture units and length of vent pipe. Find the intersection of the line representing a 75-foot length of vent pipe with the line representing a rate of discharge equivalent to 150 fixture units and project a line horizontally from this intersection to intersect the "reference line for length of vent," and mark this point.

Third. Place a straight edge on the points just located and mark the intersection between the straight edge and the "reference line for diameter of vent."

Fourth. Draw a line horizontally to the left through this point.

TABLE II
Fixture Units

Fixture	Units	Fixture	Units
One lavatory or wash basin	1	One combination fixture..	3
One kitchen sink.....	1.5	One shower bath.....	3
One bathtub.....	2	One floor drain.....	3
One laundry tray.....	3	One slop sink.....	4
One urinal	3	One water closet.....	6

Fifth. Proceed to the group of lines near the bottom of the diagram where there are horizontal lines representing the diameter and sloping lines representing height of the soil stack. Find the intersection of the horizontal line representing the 4-in. soil stack to be used, with the sloping line representing a height of stack of 75 feet and draw a line vertically upward from this point.

Sixth. The desired size of vent pipe will be found to lie on the curved line indicating vent stack diameter which passes through the intersection of this vertical line and the horizontal line drawn in the fifth step. In this case the vent stack diameter is shown as 2½ inches.

An announcement

KEASBEY & MATTISON COMPANY announces that . . . effective immediately . . . the sale of Fireproof Ambler Asbestos Shingles, Waltile, Linabestos, Corrugated and Ebonized, manufactured by its affiliated company, AMBLER ASBESTOS SHINGLE & SHEATHING COMPANY, will now be handled through a *combined sales force*. This merger of selling organizations will enable K & M to offer a better and unified service to industry, and a complete line of Asbestos and Magnesia products which have been noted for their quality since 1873.

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Impressions of the Paris Colonial Exposition

(Continued from page 39)

time, apparently playing with new inspirations. Boileau in the buildings for the Cameroon did a real job. Just how many of the visitors to this section knew where the Cameroon Colony was or what its economic importance may be, is questionable. One thing was certain and that was by comparison with the infantile display of the United States, Cameroon might claim a major nation's importance in artistic value, in intelligence of the presentation of its activities. Boileau apparently studied just enough of the native art to appreciate its spirit, and buildings that for sheer beauty would make a trip to Paris worth while. Photographs could hardly do justice to the quality of the work. The color, texture and pattern were excellent—good work by a modern designer, respecting influences and material prescribed for him. It was interesting to hear the comment of a number of American confreres while viewing these buildings. Whatever their opinion might be they could not help but be interested in the result.

There was no attempt to force a 1925 style or one of 1931, no functional glass boxes or white walls or gas pipes. Boileau simply had the courage to let his imagination answer a problem. One of the American architects standing before the buildings somewhat grudgingly admitted the excellence of the result, and in the discussion that followed it was suggested that the intelligence and skill that Boileau had displayed might have permitted him, given the opportunity, to design a large building in New York that would be as functional, normal, reasonable in design, and quite as respectful of American tradition as one might desire. It becomes a tiresome fact that the functionalists and internationalists and the remainder of the modern brood are balanced in their blind enthusiasms by their conservative brethren who, in a series of protective spasms, are equally stubborn in recognizing achievement as marked as that of Boileau's.

The surface brilliance of Expert's building for the Metropolitan section and Marrat's Palais de Beaux Arts indicates reasonably well the lack of substantial development in French modern design. Expert, in particular, proved how clever composition and completely meaningless plan can be associated. His contribution meant nothing but that a facile designer, addicted to the new mode, was out to produce a result that should be different. One could sense the very drawing that preceded the building and smile at the shallowness of the conception.

Marrast's building had neither dignity, plan, nor anything but another variety of ingenious surface ornament. Laprade's permanent building, with its row of slender granite, columns accenting an enormous limestone bas relief that formed the entire facade, did not seem to be convincing. The location was unfortunate and the result will hardly be remembered as epoch making in the sense that the Grand Palais of 1900 became part of monumental Paris. 1925 has apparently left, as its main heritage, various tricks of surface pattern, recessed forms, a vague mixture of functional simplicity and over decoration. It did release men of the Boileau type to fresh action and this, at least, is progress.

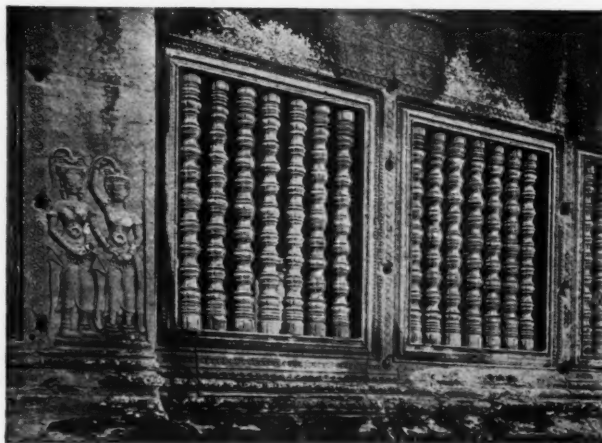
The reproduction of Mount Vernon as the contribution of the United States is too pathetic to merit much discussion. Some facetious wag proposed that in a Colonial show the Americans naturally exhibited themselves as English Colonists—that might be some reason for a silly performance.

In comparison to the efforts of the Belgian and Dutch governments and countless French colonies, the United States ignored its own living architects to present to the world a

country residence indifferently copied, with a back porch on which stout ladies from the Middle West lolled in rocking chairs and kitchen furniture to the edification of the black men of the next exhibit. The director of the American building no doubt did the best he could under the circumstances. One was reminded of the story of the poor piano player—don't shoot, he's doing the best he can.

The exhibition as a whole lacked the sparkle of detail of 1925 due, no doubt, to the absence of foreign exhibits of the Swedish, Polish and Austrian groups, and more particularly in that the major industries of France—clothing, fabrics, decorative arts—were barely suggested. In the Dutch building, recently destroyed by fire, in the reproduction of the magnificent group from Angkor, there was a new note of inspiration. One was startled at the variety, dignity, the grandeur of composition that did not have to start from a philosophic thesis of negation.

Perhaps the world, at least the greater mass of its people, does like sentimental colorful architecture. It is one thing to assume that completely abstract reasoning—and its product, a rational and purely functional structure may satisfy an instinct for accuracy—machine perfection. There is still a human demand for beauty, whether that takes the form in one race of proportion



IF STANFORD WHITE had designed this grille from the eleventh century Temple d'Angkor, it would have been hailed as a masterpiece of early Italian Renaissance because of its delicacy and charm of proportion

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and simple masses or, in another environment, of whimsical detail and surface enrichment. The native dances at the Fair, the strange music, unusual postures, conventionalization emanating from a long history, would not necessarily have to be compared to music of Beethoven, of Ravell or Debussy. The plays and dances had little in common with our theatre or our folk dances. Were they less beautiful for not being familiar to us?

WHEREVER the pompous self-conscious attitude of the typical Western architect appeared, one had things like the Italian monstrosity, the mongrel Spanish of the Portugese pavillion. The native work, inspired most directly from Africa or the Far East, had, as far as the exhibition showed, virility and living force. Is it conceivable that one welcomed this naive expression for its quaintness or novelty alone or is it possible that, fundamentally, one is tired, so tired of theory and explanation—philosophy explaining every step, directing the designer first and later warning him that he is already a few years behind the times.

This native, aboriginal spirit seemed to smile a little at time. In the East, a thousand years sees so much scurrying and scrambling of little foreign men, dashing about with their banners, knocking off chips of great works of art in their hurry to improve the world. The works of art, themselves, will remain for another thousand years unless the little men decide that the entire world must be perfected at all costs. Everything will have to be sanitary, functional, stilted and free of sentimentality.

There may still remain a few wise men of the East who will smile at the thought that a philosopher can be an artist. The artist does philosophize, for to express himself he must understand his people, his time. His work, if it has lasting quality, might refute the theory of the fireside critics that design is purely a product of the brain aided by the combined wisdom of a literary group propounding their annual theories.

Automobile vs. Real Estate Taxes

COMPARISON of automobile and real estate taxes has been made by the American Automobile Association, the comparison being based on the original cost of an average automobile, which was \$808 in 1930, and the average life of an automobile, which is seven years.

The average price of the automobile over the seven year period was \$208.16. Taxes were \$29.74 per year, or a total of \$208.16 for the period. The annual tax on the average value of the car was 14.5%; for the life of the car, seven years, the tax was 101.1% of the average value of the car.

Compare these figures with real estate. Rural real estate bought in 1924 for \$808 would have had an average value of \$748.20. Taxes at \$10.98 per year, or 1.5%, would amount to \$76.84 in seven years, or 10.3% of the average value of the land.

Taxes on urban real estate, which is assumed to have either held or increased its value so that its average value is still estimated at \$808, would average \$19.40 per year, or 2.4%, which would amount to \$135.75 in seven years, or 16.8% of the average value of the land.

These figures indicate the tax economy of acquiring permanent rather than impermanent property.

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Private Architects Not Wanted

(Continued from page 33)

building five stories and basement, housing the Little Rock Post Office (the largest, and clearing post office of the state), all of the departments of the national government represented here such as various courts with their attendant services, marshals, clerks, etc.; the Internal Revenue Department, Income Tax, etc.; the Veterans Bureau; Departments of Interior, Commerce, etc.

"Having this in mind, note that all people doing business with the post office must do it in the general lobby, entered through two quite minor entrances on one street and contacting with all entering the building for business with the departments above. It occurs to us such crude planning could not be considered in any private office, however weak.

"Our protest concerning the design will probably be without effect. . . . The building will therefore be a monument to the incapacity of the Office of the Supervising Architect unless we find some means of correcting the evils. . . . The architects in this city feel that more than a mistake is being made."

[N Seattle, Wash., there happens at this moment to be a direct comparison between the work of the Office of the Supervising Architect and local architects not only as regards speed of production, but also as regards quality of drawings. The situation is well explained in the August 15 issue of the *Pacific Builder and Engineer*, which, in an editorial, states:

"An admirable opportunity to compare the quality and speed of the work of private architects with the quality and speed of the work of the U. S. Treasury Department's architectural office is found in two Federal buildings of similar magnitude in the same city.

"In June, 1930, newspapers reported that the acting supervising architect had started plans for Seattle's Federal office building. A month later John F. Miller, then congressman, announced that plans would be completed in September and bids called in October, 1930. Bids were not called, however, until June, 1931, an apparent delay of about nine months. More than 13 months elapsed from the time plans were started until bids were opened July 21, 1931.

"On December 17, 1930, John Graham and Bebb & Gould, Seattle architects, were retained to design the Marine Hospital. On January 8 the preliminary or cabinet sketches were presented and approved. On February 18 the eighth-scale drawings were approved. On March 18 the complete architectural, structural and mechanical plans were completed in every detail, and formally submitted. On March 30 the plans had been approved. Just three months elapsed from the time the private architects signed their contract with the government until the plans were ready for the bidders. Bids on this structure were opened May 18, more than two months ahead of the bid opening on the superstructure of the Federal office building, plans for which had been started six months before architects had been retained for the Marine Hospital.

"Here were two Federal structures of approximately the same cost, one designed by Federal and the other by private architects. Despite a six-month lead, the Federal architectural office trailed

(Continued on page 80)



IMPORTANT ANNOUNCEMENT



to building owners and managers BY OTIS ELEVATOR COMPANY

AT A "round-table" meeting at the Convention of the National Association of Building Owners and Managers last year, it was agreed that *the elevators* should get first consideration in any building modernization project. Here's why:

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It is because of this urgent need for elevator modernization in many buildings today that Otis has instigated the *Otis Modernization Survey Service*! This Service embraces an engineering survey of any building using elevators, no matter where it is located. From the Survey, a detailed report is made to the building owner or manager, together with recommendations and estimates of cost of modernizing the elevators from top to bottom. The Service is **FREE!**

The last few years have brought many major improvements in elevators . . .

improvements of which the public is fully *conscious*. If your elevators are not in accord with modern standards, get in touch with the nearest Otis office. The Otis Modernization Survey Service is yours for the asking. The Service report will tell you whether or not it is necessary to replace some of the major parts or merely to change minor features . . . and whether it will pay you to do so.



One more point! *If your building needs revisions other than in elevator-equipment, call in your architect. You will find him prepared to give you a full report on what your building should have to bring it up to date and put it on a competitive basis with new and modern structures.*

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★ *This is a reproduction of the full-page Otis advertisement appearing in current issues of publications read by building owners, managers, superintendents and engineers. We believe that modernization offers a wide and legitimate field of architectural and building activities during this period when new construction is slow.*

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THE long moment when a caller stands at the entrance, waiting for his knock to be answered, is a moment of critical observation. The materials, the workmanship, the color—these are now more than a general effect; they are seen as details. The drab monotony of gray mortar is at its worst.

Color takes a place of equal importance with form and balance and all other elements of the beautiful. Fading color can mar an effect just as surely as a line out of plumb, or an ill-proportioned feature.

Hence, color in brickwork is more than a matter of selecting a particular brick. It is more than the specification of "brown" or some other hue for the mortar. It involves the selection of a mortar stain that produces the same color for the first course of brick that it yields for the last—a stain that will look the same to your grandchildren as it looks to you.

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the private architects by more than two months in awarding their contract.

"This is no reflection on the individuals who comprise the staff of the acting Supervising Architect. They are capable and conscientious, but they are handicapped by an organization which is perforce unwieldy.

"So much for the time element. A professional quantity surveyor who is recognized as fully qualified to pass upon the workmanship in architects' plans, is authority for the statement that the plans and specifications on the 3-month Marine Hospital were complete, simple and explicit, while the 12-month plans on the office building were involved, ambiguous and confusing. The 3-month private plans comprised an easy task for the quantity surveyor; the 12-month Federal plans presented innumerable pitfalls for him. In other words, one set of plans was complete and easy to read; the other was not so easy to read. Score another point for the private architect."

It seems evident that the Office of the Supervising Architect, realizing the sound arguments which can be presented for its reorganization upon more efficient lines, to the benefit of the country at large, is beginning to prepare the groundwork for its defense. This defense, when the matter comes up before Congress, is almost certain to be: "We have tried out the extensive use of private architects and have found them wanting."

A policy of watchful waiting on the part of the Institute may quite likely make it possible for the Office of the Supervising Architect to easily appear to prove its case. Aggressive action by the Institute, careful examination of every possible argument, is essential if the case is to be fought to a successful conclusion. The time has come for action—not further procrastination.

How To Make A Dry Point

(Continued from page 25)

few in number, as a rule.

Corrections can be made on the plate as long as any copper remains. Lines which are too strong can be lightened immediately with a triangular scraping instrument or a smooth rounded burnisher. Nor is it difficult to strengthen lines and tones, but the task of completely removing mistakes from the smooth surface of the copper is a veritable calvary of toil and patience.

The printing of a dry point is another problem. As a rule it does not yield a good impression as readily as an etching plate. To obtain a rich print and yet lose none of the integrity of the lines is the difficulty which worries many a printer. Some solve the matter by barely heating the plate when inking, and by using a terrific pressure on the press.

But such weighty considerations need not concern an enthusiastic beginner. A sketch on copper is not much more difficult than one on paper, to be quite truthful. Anyone in search of mild adventure on the next sketching trip might do well to slip a couple of copper plates in with the conventional pads and pencils. There lies ahead that quite unforgettable moment when the first proof of one's first dry point is pulled from the press. That is worth a lot. Besides, it is about time America produced another Whistler.



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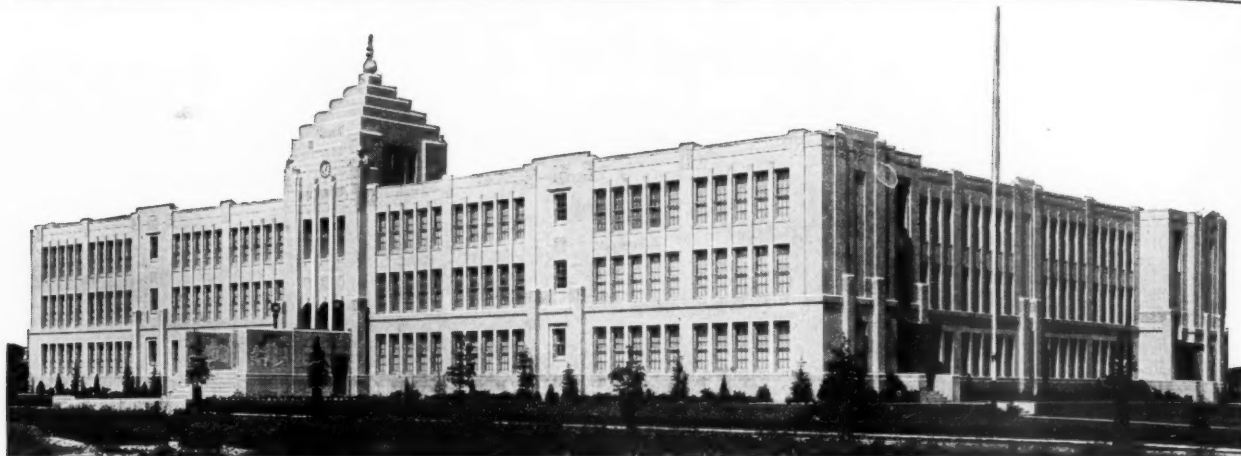
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PLANNING THE MODERN OFFICE IN WOOD

191 . . . Illustrated booklet by Roger B. Whitman and issued by Wood Office Furniture Associates, Inc., 420 Lexington Ave., New York. Contains pictures of interesting offices, information on planning a layout, conference and directors' rooms, etc.

OAK FLOORING WORK SHEETS

192 . . . Data sheets issued by the Southern Oak Flooring Industries, Boyle Building, Little Rock, Ark., under the sub-head of "Simplified Practice for Specification Writing." Explains how to specify floor construction, sub-floors, and sleepers; laying and nailing; finishing; etc. A. I. A. file 19 e 9.

TILE ILLUSTRATED

193 . . . The first issue of a publication issued by the Associated Tile Manufacturers, 420 Lexington Ave., New York, with the primary intention of familiarizing interested persons with current tile design and usage, and also to serve as a permanent record of tile achievements. Contains a short article on "Tile Design" by Arthur D. Pickett, A. I. A., 18 full page plates of tile work of various types, a list of architectural monographs available to architects, and a list of the members of the Association.

WELDOLETS AND THREADOLETS

194 . . . Folder issued by the Bonney Forge and Tool Works, Allentown, Pa., illustrating and describing the making of welded Tee junctions by means of products called "Weldolets" and "Threadolets."

FOR WATERTIGHT MASONRY

195 . . . Folder issued by the Rockland & Rockport Lime Corp., 50 East 42nd Street, New York, discussing leaky walls and efflorescence and masonry mortar specifications. Also discusses Rockland Waterproof Lime Mortar, a new product stated to make walls permanently water-tight.

FIXTURES THAT LEND DIGNITY TO THE BATHROOM

196 . . . Folder illustrating and giving sizes of china bathroom accessories made by the Ashfield-Johnson Corp., 132 Willoughby Street, Brooklyn, N. Y. Includes a new feature, a recessed built-in toothbrush holder.

TIME CONTROL IN THE SCHOOL

197 . . . Illustrated booklet of the International Business Machines Corp., 270 Broadway, N. Y. Explains the system of time control sold by this company for the purpose of regulating classes, also public address system, fire alarm, telephone and laboratory experimental equipment.

BEHIND THE PAYROLL

198 . . . Describes supervised time control for industries. Published by the International Business Machines Corp., 270 Broadway, N. Y. Discusses payroll machines, job time recorders, time stamps, etc.

AMERICAN GREENHOUSES

199 . . . Brochure of 192 pages, 12x15, illustrating and describing various kinds of conservatories, show houses, palm houses, and solariums made by the American-Moninger Greenhouse Mfg. Co., 1365 Flushing Ave., Brooklyn, N. Y. Many of the illustrations are in color. There are also blueprint reproductions of various sizes of green houses, layout suggestions, entrances, construction details, sash operating machinery, etc. Also specifications and other data.

ALL ALUMINUM SCREENS

200 . . . The Orange Screen Company, Maplewood, N. J., has issued an illustrated folder on aluminum screens for every commercial and industrial project. A. I. A. file 35 p 1.

SOLVING THE GROWING PROBLEM OF NOISE

201 . . . How noise affects people and what it is forms the subject of material in a new booklet of Johns-Manville, 292 Madison Avenue, New York. Explained is the development of J-M sound-absorbing treatment, benefits resulting from it, materials used, and similar data pertinent to the subject.

DECORATIVE SILK NEWS

202 . . . A multigraphed publication issued once in a while by Cheney Brothers, 509 Madison Avenue, New York, containing information about silk and samples of new fabrics or patterns.

GOOD PRACTICE IN ORNAMENTAL IRON WORK

203 . . . Loose leaf series of ornamental iron work details illustrating the use of stock patterns. Issued by J. G. Braun Company, 537 West 35th Street, New

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York. Intended to create a better understanding of finished ornamental iron work and to direct the attention of the architect to matters of good shop practice, correctness in construction, etc. A number of these will be issued. A. I. A. file 15.

HANDBOOK ON HEATING BUILDINGS

204 . . . "Handbook on Heating Buildings with Bryant Gas Furnaces," issued by the Bryant Heater & Mfg. Co., 71 Vanderbilt Ave., New York. Contains a detailed description of all models of Bryant gas furnaces and controls, as well as technical information of value to the architect and heating engineer. A. I. A. file 30 b 1.

THERMAX—INSULATION PLUS FIREPROOFING

205 . . . Booklet of the Thermax Corporation, 228 North La Salle Street, Chicago. Gives specifications and technical data about this fireproofing structural insulation. A. I. A. file 37 a 1.

FRENCH TILES BY GEORGES MARTEL

206 . . . Booklet illustrating in colors reproductions of tiles made in the 17th and 18th century in various French towns, these being highly pictorial. Made by Georges Martel, Desvres, France; C. H. Vanderlaan, Inc., 103 Park Avenue, New York, sales agents. A. I. A. file 23 a 2.

WESTINGHOUSE VERTICAL PARKING MACHINE

207 . . . Booklet issued by the West-

inghouse Electric and Manufacturing Co., East Pittsburgh, Pa., illustrating and describing a parking device by means of which, for instance, 144 cars may be housed on a ground space of 50'x50'. The parking spaces are located on an endless chain drive. Time of delivery claimed as one minute.

GUTH FAN CATALOG

208 . . . Catalog No. 3 of the Edwin F. Guth Company, St. Louis, Mo., illustrating and describing this fan used in conjunction with lighting fixtures, in elevator cabs, etc. A. I. A. file 31 f 23.

"OVER-THE-TOP" DOOR EQUIPMENT

209 . . . Equipment for operating vertical doors overhead, particularly private garages, is illustrated and described in this catalog of the Frantz Mfg. Co., Sterling, Ill. Contains drawings showing construction and installation. A. I. A. file 27 c 6.

MODERN CHURCH LIGHTING

210 . . . A text book on church lighting, issued by Rambusch, 2 West 45th Street, New York. Explains how to take advantage of the latest developments in the field. Discusses various lighting problems and their solution, including chancel lighting, pulpit lighting, sanctuary lighting, etc.

ACID-PROOF CHEMICAL WARE

211 . . . Catalog of the General Ceramics Co., 71 West 35th Street, New

York, illustrating and describing acid-proof chemical ware.

KALMAN STEEL DOOR FRAMES

212 . . . Booklet of the Kalman Steel Company, New York, illustrating and describing modern doorways by this company. Gives advantages of the Kalman steel door frame. A. I. A. file 16.

RIC-WIL CONDUIT SYSTEMS

213 . . . Folder issued by the Ric-Wil Company, Union Trust Building, Cleveland, Ohio, containing a set of installation photographs and a description of the various steps thereof. Also illustrates different types of Ric-Wil conduit systems and explains some of the exclusive features.

SOUND CREEPS IN

214 . . . Folder of the Compound and Pyrono Door Company, St. Joseph, Mich., describing this company's sound insulating doors. Explains constructions and manner of installation so as to keep sound out. A. I. A. file 17 a 5.

FIREPROOF WOOD DOORS

215 . . . "A Fireproof Wood Door Made to Harmonize in the Period or Style of Your Building," is the title of a folder issued by the Compound and Pyrono Door Company, St. Joseph, Mich. Illustrates construction of the fireproof wood doors made by this company, and retaining the natural beauty of the wood. A. I. A. file 16.

MINNEAPOLIS-HONEYWELL MODUSTAT

216 . . . Illustrated booklet on the Modustat automatic orifice system of individual room temperature control for public buildings, offices, hospitals, schools, apartments, hotels, large residences, etc. Published by the Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Contains a number of charts, pictures of buildings in which installations have been made, etc. A.I.A. file 30 f 2.

ROOMS COOLED BY NEW CARRIER ATMOSPHERIC CABINET

217 . . . "Solid Comfort" is the title of a folder issued by the Carrier-York Corp., 1541 Sanson Street, Philadelphia. It illustrates and describes units that heat, humidify and ventilate in winter, and that also cool, de-humidify and ventilate in summer. Can be installed in one room or in every room.

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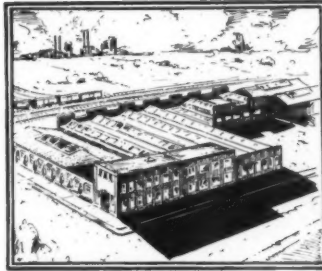
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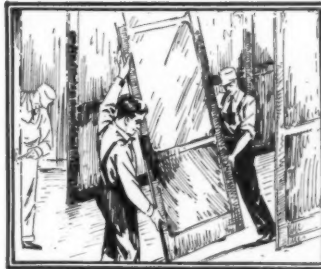
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HAUSERMAN MOVABLE STEEL PARTITIONS

Right Down to the Blotters on the Desk

(Continued from page 49)

us up in both Dun's and Bradstreet's, and knows who he's doing business with."

"Yeh; the old fox would," I admitted. "Those two are just one jump ahead of the Bible and Shakespeare with him. And he probably swallowed your flash literature, just as he did your fake estimate this a.m. But keep your shirt on, young man, while we cut out the bushwah, and get down to cases. If it will make you feel any better, I may as well tell you, I'm not disturbing the sack you tied over old Shylock's head. And I wouldn't care a sou markay if you tightened the puckering-string round his scrawny neck enough to squeeze out another five or ten grand. That's between you and him and I'm not interfering. Far be it from me to stick in my jib when a fellow-craftsman is plying his trade."

"What d'you mean, fellow craftsman? What's your line?"

"Well, all's I want is just and only one little mite of info," I tried to reassure him. "What I crave is to ascertain what divvy your concern allows its high pressure boys, in addition to their expenses? That's all and only."

"High-pressure?" he echoed. "We don't use salesmen of that type. We only employ high-class men in keeping with the character of the company."

"Oh, piffle! But have it your own way. Just how much is the drag, old thing?"

"I can't see that it's any of your business," he retorted. "And, if your uncle sent you around to get information, you can just tell him the same thing for me."

"Oh, come off your high-horse," I advised. "Don't send crazy messages to your latest prospect, 'cause, I'm telling you, you as good as got him landed. He's swallowed hook, float, sinker, line and all. No, boy, you got me wrong. I'm proposing to join up with your company and sell fancy bank buildings to old tight-wads who don't know how to conserve the interest they screw out of their customers. If you don't want to fraternize, that's your business. I reckon you're right, at that. You're not so high-pressure as might be. Come round and take a peek at li'l' Chet in a month or so and get a few lessons in how to do it a little better in every way, every day."

I GATHERED up a few pieces of his expensive literature and walked out, drove the sixty miles to the city, sold the car, caught the night train to Chicago and kept right on to New York. First time I'd been there, but I didn't spend any time looking round. Never was much of a hand to allow sight-seeing to interfere with business.

I had some difficulty getting an appointment with the sales-manager of the bank building concern. He insisted that they weren't putting on any salesmen, but I persuaded him to grant me a few minutes, which he did, late that afternoon. He had himself surrounded with a lot of dog and dignity, but I eventually got him warmed up. You see, having once been a high-pressure boy himself, he habitually discounted everything that was said to him

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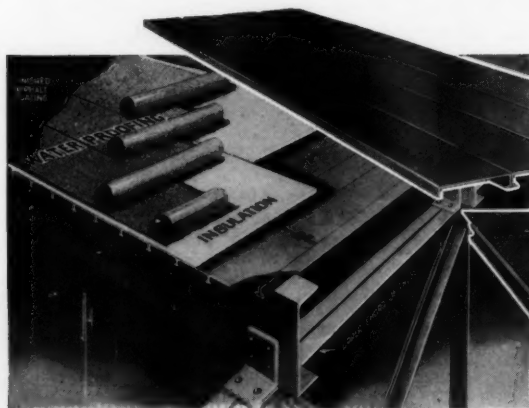
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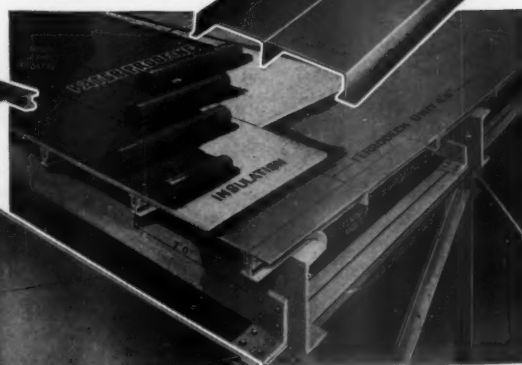
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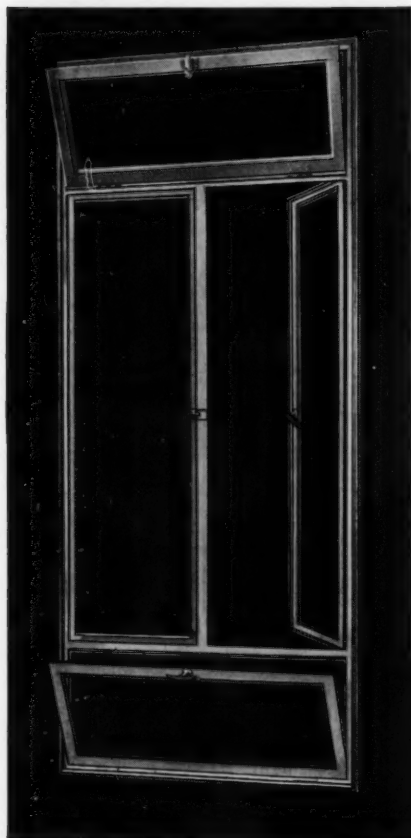
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—second nature, you know. I asked how much his best salesman made.

"Anywhere from fifteen to thirty thousand a year," he said. "How much have you been drawing down?"

"I refuse to brag," I said. "But it hasn't been less than thirty thousand per, for the last three years."

"Well," says he, "Supposing you fill out this application-blank, including references to your former employers, so we'll have it on file when the next vacancy occurs."

"Just a moment," I begged. "I didn't come all the way from Chicago and points west just to fill out a cheesy little application-blank. I came to sell building service for you. What I'm trying to find out is, what are the inducements? If you want references, you can wire any or all of three Chicago banks, where I have on deposit over fifty thousand per each. That ought to be enough reference for a salesman."

He didn't throw me out. That hundred-and-fifty grand had him licked.

"But what do you know about the building game?" is all the comeback he had.

"Not a blooming thing," I conceded. "But I know the selling game better than to sell an old fool like my uncle a forty-thousand-dollar job for fifty-five thousand, when a little real effort would have produced sixty-five."

"But, I'm afraid—" he temporized.

"I know you are," I said. "That's just what's the matter. You're afraid to take me on—'fraid I'll sell too many beautiful bank jobs for you. Now, come on out and let's have dinner somewheres and talk this thing over right. There's a few features to this building stuff that I admit I got to know, but my observation is that closing a deal is about ninety-five per cent selling ability."

HE admitted the truth of this and accepted my invitation to dinner, though he had to shake me for another date afterwards. But I had him sewed up and the upshot of it was that, in the morning, he agreed to send me out on a lead that I might develop into a prospect. It was in another chap's territory, but he hadn't gotten round to it. I'd have to split with him, but I didn't mind, for the first job. The manager gave me a kit and a few instructions, but about all I needed to know was how to estimate costs, and that was so simple it wasn't even funny. All I had to do was to compute the cubic contents of a building from basement floor to top of cornice, then reckon the cost at so much per cubic foot, depending upon the grade of the building. We had four grades, based upon character of materials and equipment. We always included equipment and furniture, because that was the company's main drag, you know—"right down to the blotters on the desks," you remember.

Right from the jump-off, the whole proposition was so easy that sometimes I was afraid my high-pressure attainments would get rusty from lack of use. As is so often the case, the first prospect was a set-up. It was a bank-and-trust company in a city of a hundred thousand, and the officers wanted to make a splurge. They'd been getting our high-priced literature for a year or more and were completely sold on us, as I readily doped out. They had been solicited by some second-rate archi-

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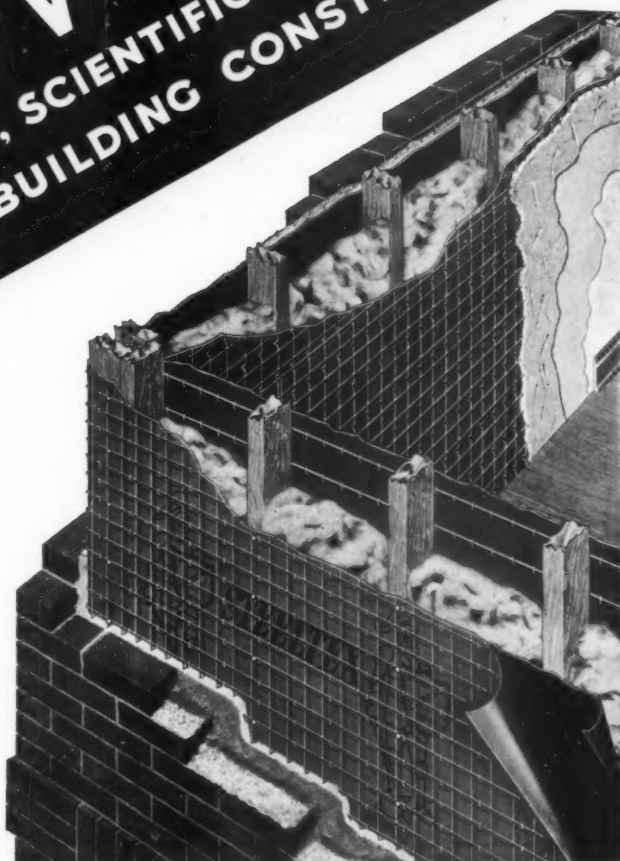


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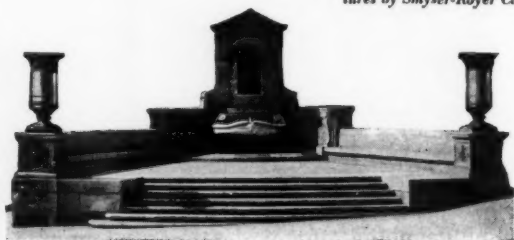
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fects, whilst the big professional guys sat back, as usual, waiting to be approached.

Naturally, I was somewhat coy at first, it being my maiden attempt. But the managing vice-president was quite willing to say it all, including that they expected to spend about \$200,000.00, though one architect had told them they could get what they wanted for ten thousand less than that. Then I handed out some hokey about what lovely artists were architects, including those employed by our concern, but felt compelled to admit that as business-men and estimators, they were strictly punk. I could think of scores of things that wouldn't be included in their cost guesses. Then I got all the dope and hustled back to the office with it and had one of the firm's artists make a perspective and a couple of layouts. The manager congratulated me on my quick work and told me to put my estimate at \$235,000.00 with a guaranty at two-fifty. On this latter amount, the other salesman and I would split four per cent, which would net us five thousand apiece.

"O. K., I said, "only I understood that the commission was to be five per cent, not four."

"Five on work up to two hundred thousand," says the smooth guy. "I had no idea this was going to run so high, or I would have been more explicit."

"But it's charged in as part of the cost, isn't it? I argued.

"Sure," he admitted, "but what difference does that make when we guarantee the cost? It eventually comes out of our profit, you see."

I saw. "All right," I says. "I'll try how the first one goes."

Next day, I kept my appointment with my new friend, the vice-president. He was plenty pleased with the purty pictures but cooled down considerable when I told him that the building, complete, including furnishings in keeping, would cost close to \$275,000.00. We argued a little, I handing out just enough ego-wash to keep him feeling good, and finally showing what a good sport I was by splitting the difference between two-fifty and two-seventy-five, providing I could persuade the firm to guarantee that figure. By that time, he had quite forgotten that we had started at an even two hundred, and signed up at \$262,500.00.

WHEN I laid a copy of the contract under the manager's nose, I couldn't tell whether he was just plain mad, or what ailed him. He wanted to know by what right I had added \$12,500.00 to his estimate.

"No right at all," I admitted. "But it seemed a crime to make those babies a present of that amount."

"But they didn't sign it," he says, observing that the dotted lines were still in the nude.

"Oh, yes, they did," I contradicted. "The signed copy is right here in my pocket."

"Well, hand it over then, and take this," says he.

"All in good time," I says. "You know there's the little matter of my commission, first."

"But we agreed yesterday that it would be five thousand," he reminds me.

"That's what you said, after saying something quite different the day before. Now, you listen while I tell you something. You're trying to find out what kind of a

J U D G M E N T

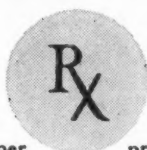
In building as in investing, profits are the reward of judgment. Judgment eliminates costly errors, bad locations, impractical buildings, inferior materials. Judgment sets a premium on economy; a ban on cheapness. Judgment makes success possible. Lack of

it makes failure inevitable.

The reason you hire an architect is because he alone can supply judgment in building. To let anyone but him dictate specifications is to wilfully forego the most important factor in successful building.

Valves  **CRANE**  Fittings

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO
NEW YORK OFFICES: 23 WEST 44TH STREET
Branches and Sales Offices in One Hundred and Ninety Cities



"Here's a prescription. Never mind it; give me some cheaper medicine." The judgment of a man who would thus address his druggist could well be questioned.

In their fields, your architect and contractor are just as much specialists as your doctor is in his. Their speci-

fications like your physician's prescription, result from a careful diagnosis of your conditions and needs.

Their advice is well worth heeding. Just as it costs more to stay ill than get well, it costs more to build a structure that doesn't sell or doesn't rent than to build one that does.

Valves  **CRANE**  Fittings

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO
NEW YORK OFFICES: 23 WEST 44TH STREET
Branches and Sales Offices in One Hundred and Ninety Cities

Doing a job for the architect which he cannot do for himself

In every one of its millions of four-color page ads addressed to the public, Crane Co. urges the fact that for satisfaction in home and bathroom planning an architect is essential. Here are illustrated two ads from another series which Crane Co. has dedi-

cated to building investors and promoters. Aggressively these point out that good judgment in building consists in relying on an architect. So Crane Co. is striving to win for the architect just recognition among both home and speculative builders.

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO
NEW YORK OFFICES: 23 W. 44TH STREET
Branches and Sales Offices in One Hundred and Ninety Cities



salesman I am. Well, I'm showing you that I'm the kind that gets the maximum out of a prospect and then fixes his own commission. In this case, it's \$17,500.00, see? I know as well as you do that the selling end of this game is the whole show, and this is one little salesman that's going to be remunerated accordingly, or else—"

"Or else, what?"

"Or else, use your imagination," I finished. "I can think of about a hundred 'elses' and, no doubt, you can too. Now, let's get down to cases, Mr. Wilson."

"You win," says he, "but the best I'll do is to split the overrun with you."

"And the original five per cent," I persisted. "Le's see, that makes two and a half per cent of \$262,500.00 —\$6,562.50, plus \$6,250.00, is \$12,812.50, plus expenses. O. K. I'm ready to turn in this contract and sign up with you at your convenience."

"All right," he laughed. "I guess you got me licked. But soft pedal on these overruns. Our estimates are high enough as is, in most cases. We mustn't run a good thing into the ground, you know."

"What have the estimates got to do with that?" I slammed back. "You have every advantage if they're high, because any time you want to make a showing, it's easy to say it cost less."

"Are you intending to imply, young fellow," oozes his dignity, "that we bill our structures at other than actual cost? The one thing, more than any other, on which we have built our reputation, is the absolute honesty of all our dealings."

"Is that so?" I said, with all the reverence I felt. "I may look young and inexperienced, but, if anyone hap-

pened in from Mars and asked me, I'd say you'd built your reputation mostly on what you've said about yourself in your flash literature. However, le's not quarrel. I'll admit you're holy and virtuous from heart to hide. And I'm really not interested in what your buildings cost, but in what I can make selling them. Le's sign up. I'm anxious to get out after the next."

"WAIT a minute wait; wait a minute," he begged. "I'll admit, Howard that you're a good salesman—perhaps almost as good as you think you are; and I want you with us. But you're inclined to be just a wee trifle swift for an old stager like me. I'll take you on at your terms, providing you keep them to yourself; but, first, I'm going to run over and see that vice-president and check up on the impression you made, see?"

"Good," I agreed, "only, there's just one thing—in talking to him, be sure and cuss me out for tying you up for two-sixty-two-five when I should have gotten two-seventy-five. In fact, I had to beg real hard to get you to sign up at such a low estimate; get me?"

He laughed for the first time—the beginning of a perfect friendship. On his return, he reported everything jake and had the cashier give me a check for my commish and expenses, as per agreement. In a day or two, he called in a backward lad from the great Southwest, and I hot-footed out there, without having seen more of New York than a few shows and a boat-trip to Coney. I worked my territory plenty and profitably for nearly two years and what I failed to learn about the cost-plus building game simply isn't. Sometime, I'll give you all an earful of the gruesome details.

Putting Your Conceptions Into Metal

Designing and executing exquisite hand forged metal work, such as this graceful fireplace screen, is part of the dependable service our shops extend to you.

Our craftsmanship supplements yours, each scroll hand wrought, each ornament developed and placed with infinite skill and judgment.

This service is yours to command, for a single piece of metal work or the metal work on an entire building.



This is one of six wrought iron fireplace screens, designed and executed by Halback, for the residence of J. Lester Parsons, Llewellyn Park, New Jersey.

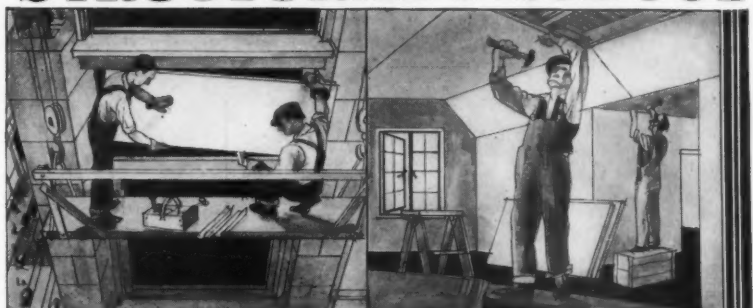
HALBACK
C. E. HALBACK & CO.
Banker Street, Brooklyn, N.Y.
WORKERS IN METALS FOR ARCHITECTURAL PURPOSES

STEELCLAD INSULATION

a new

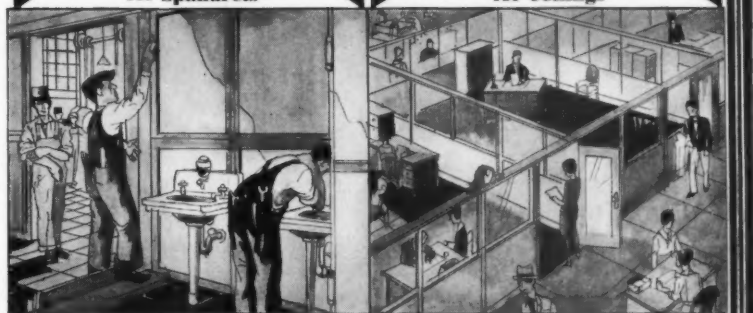


STRUCTURAL PRODUCT



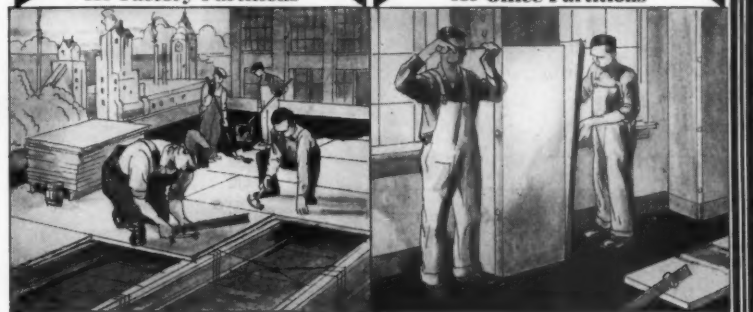
for Spandrels

for Ceilings



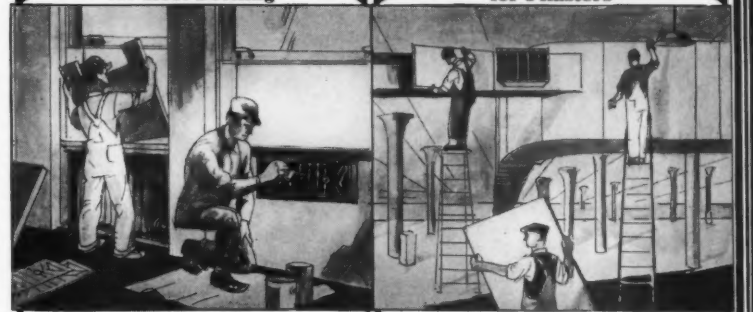
for Factory Partitions

for Office Partitions



for Roof Decking

for Pilasters



for Radiator Covers

for Heating Ducts

FERROCLAD—A new product that offers heat, cold and sound insulation to any degree and has an outer surface of tough steel or non-ferrous metal. Ferroclad has structural strength, it is firesafe and moisture-proof, air-tight and sanitary. Sheets are 42" by 120" maximum and can be cut and drilled easily. The uses are unlimited—the cost is low. Write for information and sample.

TRUSCON
FERROCLAD
INSULATION
PATENT APPLIED FOR

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO

What Architects Are Talking About

(Continued from page 51)

intelligence of your listeners. Present your specialty on the level of a thirteen year old child."

NEARLY twenty-three acres of glass has been ordered from the Pittsburgh Plate Glass Company for use in Radio City. This is stated to be the largest glass contract ever let for building purposes.

RECONSTRUCTION of the lower East Side, New York, will be studied in the light of city planning principles in the 1931-32 architectural course at the New School for Social Research. Considered will be the desirable size of block and height of buildings, open spaces, transit, number and type of schools, types of apartment houses, costs, and rentals in relation to income classes. Fifteen to eighteen applicants will be selected to work under the following members of the committee: Ely Jacques Kahn, Raymond Hood, Wallace K. Harrison, Joseph Urban, Albert Mayer and Ralph Walker.

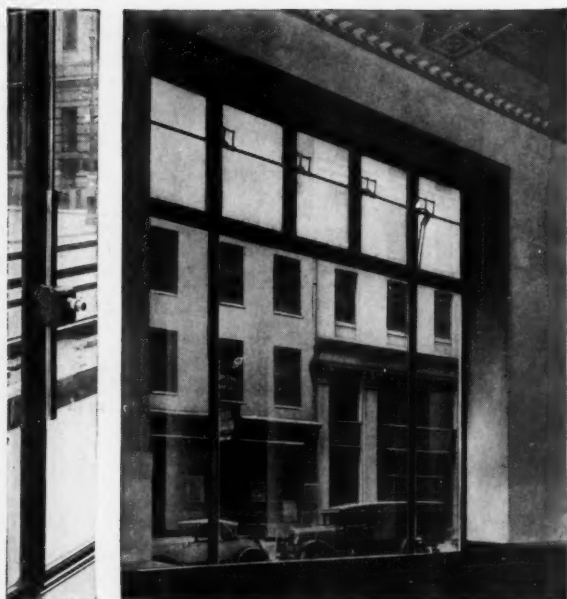
Another course will be on present day problems of architecture and construction.

CHICAGO will have the largest post office in the world, it is claimed, 800'x350' in plan and 200' high. It is an air rights development. Cost, \$30,000,000. Architects, Graham, Anderson, Probst & White.

ELEVATOR control making use of the photo-electric cell is being tested in a New York City department store. Two beams of light are projected across the front of the elevator cab and focussed on two photo-electric cells on the opposite side of the cab. When the beams of light are intercepted, the doors are prevented from closing.

AN inspection and certificate service for structural clay tile has been established by the Underwriters' Laboratories, 207 East Ohio Street, Chicago. This service is intended to assist the industry in maintaining a product of standard uniform quality, and to supply such information as may be needed by regulatory and insurance rating bodies.

THE word "realtor" has for the thirteenth time been held to be the property of members of the National Association of Real Estate Boards, which originated it. The decision was handed down by the Supreme Court of the District of Columbia; the Washington Real Estate Board and the National Association of Real Estate Boards having been plaintiffs in bringing suit to prevent a non-member from displaying the word "realtor."



Windows in the main offices of the International Telegraph & Telephone Co., Broad and Beaver Sts., New York City. (Left) Detail at gear case, showing screw thread covers.

Providing Safe Operation for Bottom Hung Sash

At this building transom sash above the large plate glass windows are bottom hung. Chains and latches were used, to permit the opening of these sash for natural ventilation.

There was no positive assurance that the latches would be properly fastened. And there was an ever-present hazard of accident with these heavy sash, under wind pressure.

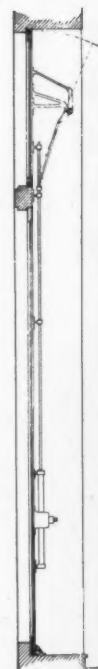
Lord & Burnham's screw thread operators now hold these sash securely shut, or rigidly in any other desired position. No dangerous poles are required. Operation is entirely by means of a detachable crank, from a convenient point on one of the mullions of each window.

Lord & Burnham Co.

SASH OPERATING DIVISION

Graybar Building, New York City

Representatives in principal cities of the United States and Canada



Vertical section through window

SEEPAGE · LEAKS · EFFLORESCENCE

BARRED

FOREVER

CHENEY

INTERLOCKING THRU-WALL FLASHING

Eliminates Maintenance Expense Caused By Seepage and Leaks

Thru-flashed at every floor—Parapet and Building Wall, both the interior and exterior of this new building are everlastingly protected from the destructive effects of seepage, leaks and efflorescence, and the consequent maintenance expense.

Due to its design—the Cheney Flashing installed in this building carries off the seepage in small individual channels preventing the horizontal accumulation of moisture which would occur had plain copper been used.

Cheney Flashing is the only proved ready-to-use Thru-Wall Copper Flashing that runs entirely thru the masonry wall and forms a positive mechanical key-bond in every direction with the mortar bed.

CHENEY SERVICE—Our engineers are available to assist in supervising installations and in detailing plans and specifications.

THE CHENEY COMPANY
WINCHESTER, MASSACHUSETTS

New York

Philadelphia

Pittsburgh

Chicago

In Canada: Corporate Steel Products, Limited, Montreal

Baltimore City Hospital

New Nurses' Home

Baltimore, Md.

Architect: Palmer & Lamdin

Sheet Metal Contractor:

William F. Zeller Co., Inc.



DOES NOT BREAK THE BOND

You'll see this seal on the letterheads of progressive manufacturers whose products will stand thorough examination by the keenest, most progressive buyers.



AT CLEVELAND — IN JANUARY

MANUFACTURERS who are not content to sit back and let business adjust itself,

—who have created new products or improved old ones

—will exhibit their newest and best for your inspection and comparison.

Thousands will be here to see and profit. Will you?

AN INTERNATIONAL EVENT HELD EVERY TWO YEARS

*Under the auspices of the
American Society of Heating & Ventilating Engineers*

Managed by the
International Exposition Company

⊕ 1050

PERSONALS

O'Meara & Hills, architects, and Clair W. Ditchy, associate architect, have announced their association for the practice of ecclesiastical architecture with offices in the Fisher Building, Detroit, and at 5709 Waterman Boulevard, St. Louis.

Victor Joseph Kinz, specialist in architectural design and delineation, has located his studio and office at 6806 Alexander Street, St. Louis.

John T. Simpson, architect and engineer, has moved his offices to 744 Broad Street, Newark, N. J.

Ferguson & Auer, Inc., architects and engineers, is the name of a new firm recently organized for the general practice of architecture with offices at 1900 Euclid Ave., Cleveland. W. S. Ferguson is president; H. E. Auer,

vice president and treasurer; and H. M. True, secretary.

Talbot Faulkner Hamlin, architect, has moved his office to 19 West 44th Street, New York.

DEATHS

Philip Allain Cusachs, A. I. A., died August 31 at the age of 42. Mr. Cusachs graduated from Tulane University with an engineering degree and went to New York to work in an architect's office. Later, he studied architecture in Paris. Mr. Cusachs was chairman of the Paris prize committee of the Beaux Arts Institute of Design in 1928.

The Readers Have a Word to Say

(Continued from page 62)

add that I do not lose sight of the fact that many good contractors are also good architects. This is so because they have been trained in both fields.—*W. D. Sawler, Director of Sales Promotion and Advertising, Morgan Woodwork Organization.*

P. S.—It is not necessarily true that public taste is inherently bad, but that people tend to reproduce, in their houses, the things with which they are familiar. They are familiar only, as a generality, with jazz houses. Thus they beget more of them. *I maintain that a reasonable familiarity with good architecture would inspire people to reproduce that kind.*

Again, small house architecture in any age has been good when it has expressed the living conditions of the times. If one looks for an expression of this factor in these misfits of today, no such expression of living can be found.

Indiscretions At Washington

THE indiscretions of the wayward assistant secretaries in Washington are really becoming appalling, according to an editorial in the "Nation," which states: "Apparently they have little loyalty either to the philosophy or the policies of the Hoover Administration. There is, for example, the statement of Ferry K. Heath, Assistant Secretary of the Treasury in Charge of Public Buildings, in which he declares that the Treasury has had enough of hiring private architects to design public

*Another G.E. development for greater comfort
and convenience in the home*

The New General Electric Heat Regulator

ONCE MORE General Electric offers a contribution to modern living which is of special interest to architects.

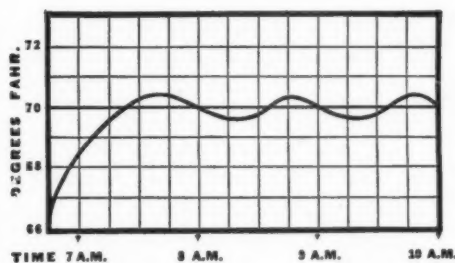
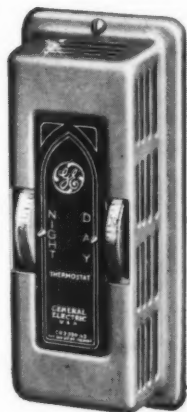
The General Electric Heat Regulator, designed and developed in the G.E. Laboratories and tested in the field for three years, brings greater efficiency to household and building-heating than has ever before been possible.

It reduces costly fluctuation in temperature to a minimum. By reason of its exclusive patented features, there is less than one-half of one degree variation from the exact temperature desired, regardless of outside weather-conditions.

For example: instead of having furnace-drafts (or fuel-valves) completely open or completely closed, the new G-E Heat Regulator gives *graduated* control, with the drafts always in the precise position required.

It has a special coil in the thermostat which *anticipates* rises in room-temperature and slows down the heat as the selected degree is approached.

It has a safeguard which works automatically in case the electric house-current is interrupted, preventing excess heat and at the same time keeping the fire from going out. The General Electric Heat Regulator fits every type of



**The temperature you want
...as long as you want it**

Note the accuracy of the General Electric Heat Regulator in arriving — and staying — at the desired temperature. It varies less than $\frac{1}{2}$ of 1 degree either way. This accuracy is made possible solely by its exclusive features. Without them a fluctuation of several degrees is unavoidable.

heating-system. It comes in two models: a single-range model; and a double-range, with an electric timing-device for automatic adjustment of day and night-temperatures.

We will gladly send you a special folder, designed to fit the A. I. A. files, which explains this new General Electric development in full detail. Penn Heat Control Company, National Distributors, Franklin Trust Co., Philadelphia.

GENERAL  ELECTRIC
HEAT REGULATOR

FOR EVERY TYPE OF HEATING SYSTEM



*now you can be sure
that all your*

C Y P R E S S

Specifications will be filled . . .

When you make specifications, you naturally want them to be filled. Otherwise you wouldn't make them. And now, when you are planning a structure, you can make any cypress specification you like . . . knowing that it will be filled.

The Florida Louisiana Red Cypress Company is a base of supply for cypress dealers everywhere. Here they can fill any cypress specifications you make. And every piece of cypress we market is genuine "Tidewater Red" trade and grade marked . . . from the deep swamps of the Withlacoochee, the Suwannee and the St. Johns rivers in Florida and the Atchafalaya in Louisiana.

No longer need you worry about whether or not your cypress specifications will be filled. You know in advance that they will be. Because of our association with several of the largest cypress manufacturers in this country, we are able to make the following pledge: "Now, and for many years to come, you can get all the cypress you need."

**FLORIDA LOUISIANA RED
CYPRESS COMPANY**

JACKSONVILLE, FLA.

*Tide
Water Red*
Cypress
"The Wood Eternal"

works. Why? Because the past year's experience has proved that the government's own architects are better.

"In order to speed the President's emergency building program, Mr. Heath explains, the Treasury let out a large number of designing contracts which otherwise would have been handled by the government staff. For some inexplicable reason, the private firms could not compete in speed and efficiency with the government's own construction. Now this may all be true, but how does it look for an under secretary to confute in the public prints the President's confirmed belief that private agencies are invariably preferable for such work—provided they are given adequate remuneration?"

"Were Mr. Heath alone in his misbehavior, it might be dismissed as an inadvertence. But there is also the Assistant Secretary of Agriculture, R. W. Dunlap, who has been justifying wage cuts in private industry—in a speech which he delivered only a few days after President Hoover had repudiated Secretary Lamont for his letter to the same effect.

"We are all for getting to the bottom of this reprehensible insubordination and commend these instances to the Republican National Committee as evidence of another conspiracy to discredit the Administration."

Good Buildings Weather Depression

SHODDY buildings are poor collateral and, in order to protect the building public, closer cooperation between loaning companies and the construction industry is necessary, according to Lancelot Sukert. He says:

"Experience has been bitter and costly. Today many of the loaning companies are adding registered architects to their staffs, with responsibility to pass upon collateral for loans. Plans and specifications are examined with a fine tooth comb to make certain that the building is so planned and the materials so specified as to insure a sound, safe investment.

"The major cost of any building project is in labor. The labor involved in erecting lasting materials is very slightly more than that required to erect short-lived materials. The difference between the original cost of a 'cheap' building and one in which good materials are used is wiped out in a very few years by the cost of maintenance and upkeep. At the end of so short a period as five years the better building, costing more to build, will actually be found to have cost less.

"Good planning is of even greater importance. There are, in Detroit, for example, a number of apartment buildings which were erected ten or even fifteen years ago and which are still paying dividends, but there are hundreds of them which are now a dead loss. While there are several important considerations entering into the reasons for the success of the few, they would all fall by the wayside if these buildings had not been thoughtfully, sanely, and carefully planned.

"Some of the loaning companies now realize that they can write their own prescriptions for safe investments by demanding that buildings which are to become collateral be designed by experienced, registered architects who will specify only quality materials and who will supervise the construction to see to it that these materials are used and that the workmanship is of the best. This applies not only to large investment buildings but to residences, even down to the smallest homes.



A. C. Holden, A.I.A., was the architect of this remodeled farm house described in Good Housekeeping.

The difference is vital to the architect

A man who knows architecture said recently that the work of Good Housekeeping Studio of Architecture and Furnishings "surpasses any attempt being made to educate the public to an appreciation of good architecture."

This, of course, might be a matter of opinion. There are

other magazines which have well conceived departments devoted to home building interests. But none of these which can be compared with Good Housekeeping in scope or fundamental interest has at best more than 300,000 readers.

On the other hand, Good Housekeeping reaches nearly

2,000,000 readers, largely people who by environment, ideals and incomes are logical prospects for the architect's services.

There is this vital difference about Good Housekeeping: It is doing its good for architecture in a way that does the architect the most good.

GOOD HOUSEKEEPING

Everywoman's Magazine



Trinity Evangelical Lutheran Church
Chambersburg, Pennsylvania
John B. Thomson, Philadelphia, Pa.,
Architect



Detail of Reredos

*Another
Fine
Church*

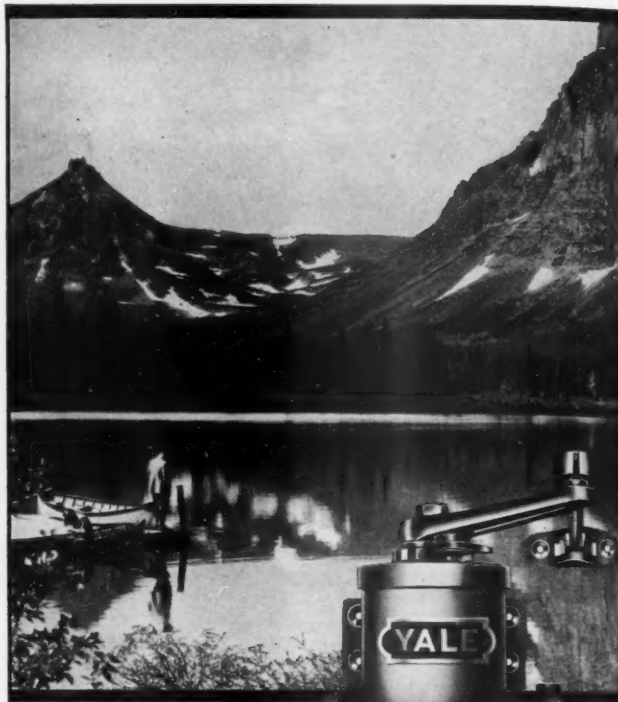
INSTALLATION *by Kundtz Craftsmen*

BEAUTIFUL church interiors all over the country are glowing tributes to the excellence of Kundtz craftsmanship. Whether the design calls for intricate carving or restrained simplicity, these skilled wood carvers execute it exactly according to the architect's details. Write for information . . . no obligation.

THE THEODOR KUNDTZ CO.
Cleveland, Ohio

KUNDTZ CRAFTSMEN
CHURCH AND SCHOOL FURNITURE

Q U I E T



...IS ESSENTIAL
TO COMFORT

TO specify Yale Door Closers is a mark of thoughtful planning. It is an insurance of the lasting comfort which silent, efficient and dependable control of doors will give to the occupants of the building you design.

Yale Door Closers are made with the precision that distinguishes the construction of any fine engine. Each is subjected to thorough working tests. There is a range of models and sizes to meet all requirements.

Illustrated folders gladly
sent on request

THE YALE & TOWNE MFG. CO.
STAMFORD, CONN., U. S. A.

... and at The
Greenbrier Hotel



**VICTORIA
VENETIAN
BLINDS**



At this famous White Sulphur Springs resort—the Greenbrier—known far and wide for its beautiful appointments, Victoria Venetians add a finishing touch.

Selected by the decorators, Rorimer-Brooks Studio Co. of Cleveland, not only because of good design and color but mechanical excellence as well, Victoria Venetian Blinds mean never-ending client satisfaction.

See Sweet's for detailed specifications.

THE BOSTWICK-GOODSELL CO.

Blinds since 1894

Norwalk, Ohio

Representatives in Principal Cities

**VICTORIA
VENETIANS**

The Better Blinds



FOR OCTOBER 1931

Insulate with U. S. MINERAL WOOL

The Perfect Insulator

**COLD PROOF, HEAT PROOF, FIRE PROOF
SOUND PROOF, VERMIN PROOF**



An Unfailing, Continuous Money Saver

Insulating with U. S. Mineral Wool is a constant source of saving, year after year. Not only does it protect from cold, heat, sound, fire and vermin, but it actually reduces annual fuel bills by about one-third. This saving continues as long as the building lasts—U. S. Mineral Wool is indestructible and never requires renewing.

The first nominal cost is the last cost which will be saved many times over in the years following installation.

Insulation is not an added building expense but a practice of real economy. It supplies the greatest living comfort obtainable in a home and protection from the elements.

Send for our FREE booklet which describes in detail the saving, protection and comfort supplied by U. S. Mineral Wool. Free sample accompanies booklet.

U. S. Mineral Wool Company
280 Madison Avenue, New York

Western Connection

Columbia Mineral Wool Co. - South Milwaukee, Wis.

U. S. MINERAL WOOL CO., DEPT. F
280 Madison Ave., New York

Send FREE sample and illustrated booklet to

Name.....

Address.....

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



THIS new Eternit Tapered Asbestos Cement Shingle combines beauty of color, massiveness, long life, strength and fire-proof qualities at a moderate cost.

Investigate.

Eternit

ASBESTOS CEMENT SHINGLES

ETERNIT, Sales Division of The RUBEROID Co.

Offices: BALTIMORE, MD., CHICAGO, ILL., ERIE, PA., MILLIS, MASS., MOBILE, ALA., NEW YORK, N. Y.

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THE CUTLER MAIL CHUTE

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

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

Full information, details and specifications on request.

CUTLER MAIL CHUTE CO.

General Offices and Factory
 ROCHESTER, NEW YORK

Charmingly Original

CHARACTER in design springs from a loyalty to proper proportioning. It is based on a harmonizing of every individual element. And very important to any work of merit, modest home or tallest skyscraper, is the selection of high-quality finishing equipment.

For every type of building Sargent offers hardware that is outstanding in its correctness of design. Simple or elaborate, delicate or rugged, conservative or extreme, Sargent Hardware adds actual beauty. It is the jewelry of a well-planned structure. Sargent & Company, New Haven, Conn.; 295 Madison Avenue, New York; 150 N. Wacker Drive, Chicago. Belleville-Sargent & Co., Ltd., Belleville, Ont., Canada.

The Sargent line is adequately represented in Sweet's, 1931 edition, volume C, pages C3780 to C3878.



Design, arrangement, woodwork, Sargent Hardware and furnishings all here blend effectively to produce a home of character. EDWARD CANBY MAY, Arch., Wilmington, Del.

SARGENT

LOCKS AND HARDWARE

FOR OCTOBER 1931

TWO APPROVED METHODS FOR LAYING BLOXONEND FLOORING



1 In Gymnasiums, Playrooms and similar locations where utmost resiliency is important, BLOXONEND is laid over strips unattached to slab. Millions of feet of BLOXONEND laid by this method in leading schools and universities including Ohio State, Harvard, Princeton, Louisiana State University.



2 In school shop and factory service, BLOXONEND is laid by lateral nailing directly over wood floated slab. This method also specified by Government for Postoffice work rooms.

BLOXONEND is the *one* end grain flooring that is scientifically designed to stay smooth. It lasts a life-time.

WRITE FOR SPECIFICATIONS

CARTER BLOXONEND FLOORING
COMPANY

KANSAS CITY, MISSOURI—"IN SWEET'S"

BLOX-ON-END FLOORING



Lays Smooth
Stays Smooth

SCOTTISH RITE TEMPLE

Philadelphia, Pa.

Theatre architects who insist on the best, invariably specify Peter Clark stage equipment. A typical instance of this is the Scottish Rite Temple in Philadelphia, Pa.



another
PETER CLARK
installation!
May we help you with your next theatre job? We will be glad to cooperate with you in suggesting and designing the stage equipment.

PETER CLARK, INC.

Stage Equipment Specialists for Over 25 Years
544 West 30th Street, New York City

TUBULAR FURNITURE

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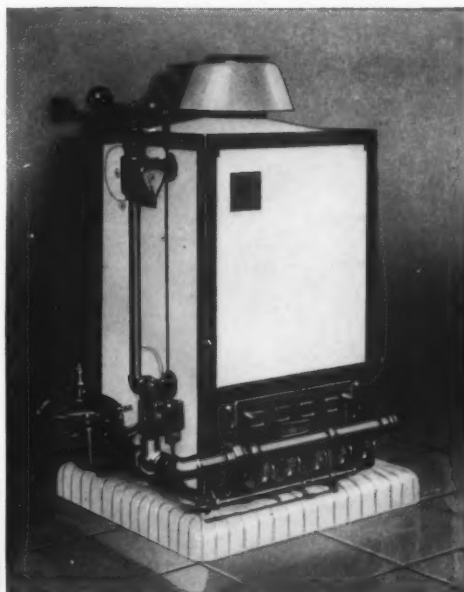
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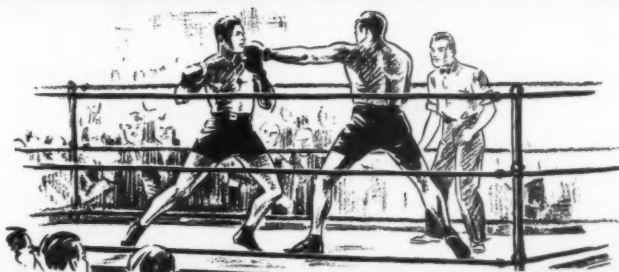


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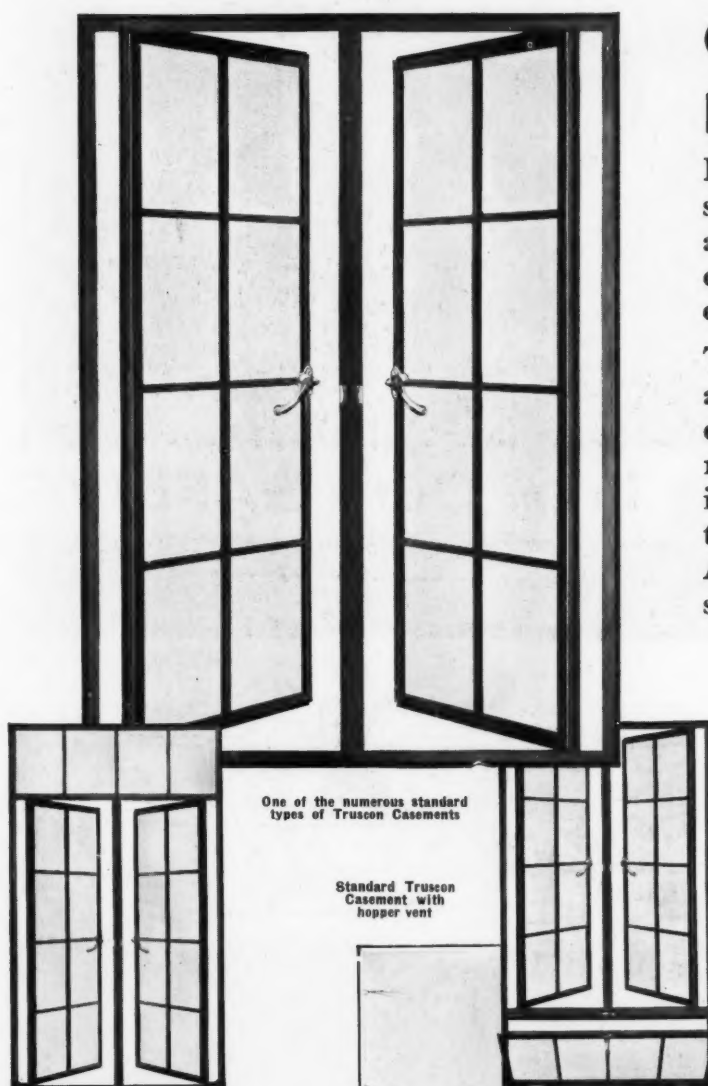
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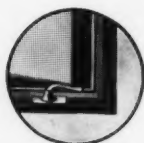
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