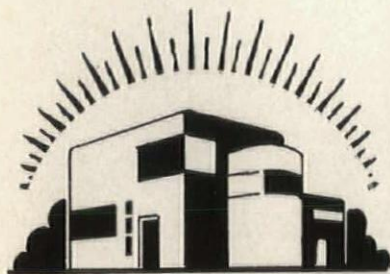


E S I G N

# PENCIL POINTS

MARCH  
1939





*Bridges  
the Gap*



**STREAMLINE**  
PIPE AND FITTINGS DIVISION  
**MUELLER BRASS CO.**  
PORT HURON, MICHIGAN

## BETWEEN "OUT MODED" AND MODERN PIPING LINES..

● No modern architect would specify, nor would a realtor of today think of using kitchen and bathroom fixtures of fifty years ago; in fact, practically all materials used in building construction have been greatly improved or even completely changed during the last fifty years.

Every architect, building manager, realtor or home owner knows that reliable piping for plumbing and heating is the most important thing in the building. Unfortunately, this vital matter is not always given thorough consideration. Much more time or money may be spent on handsome and modern fixtures for bathroom and kitchen, for instance, and although this is commendable, very often the fact is overlooked that unless these fixtures are supplied with a permanently dependable piping system, their efficiency in a very short time will be greatly impaired.

To use out-moded, rustable pipe with its old-fashioned threaded fittings to supply modern fixtures and radiators, is as impracticable as it is inconsistent.

STREAMLINE Copper Pipe and Solder Fittings that cannot rust or clog is the ultra-modern piping system that bridges the gap between out-moded and modern piping lines. It is the permanently reliable conducting system that insures efficient service from up-to-the-minute fixtures and radiating units, year in and year out. The first cost of STREAMLINE Copper is about the same, or very little more than rustable materials, and under normal conditions it will outlast the building. Investigate this system that prolongs the life of the fixtures and actually enhances the value of the property, before you specify or install.

STREAMLINE Copper Pipe is manufactured in three wall thicknesses—K, L, and M. M is most generally used for plumbing and heating purposes.

# STREAMLINE

TRADE MARK REG. U. S. PAT. OFFICE

# COPPER PIPE AND FITTINGS



VOLUME XX NUMBER 3

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PENCIL  
POINTS

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*The Monograph Series*  
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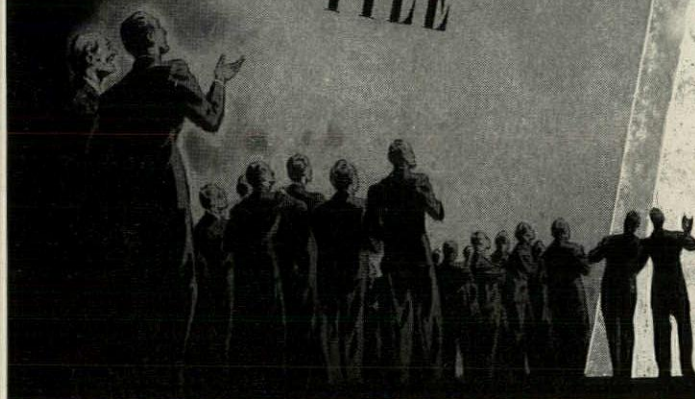
Aluminum Windows are fabricated from Alcoa Aluminum extruded shapes supplied by us to leading window manufacturers. These companies are listed in the book, "Windows of Alcoa Aluminum," together with drawings and descriptions of their various types of windows. For a free copy, write to Aluminum Company of America, 2166 Gulf Building, Pittsburgh, Pennsylvania.



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- ★ Permanent color that actually grows lighter with exposure.
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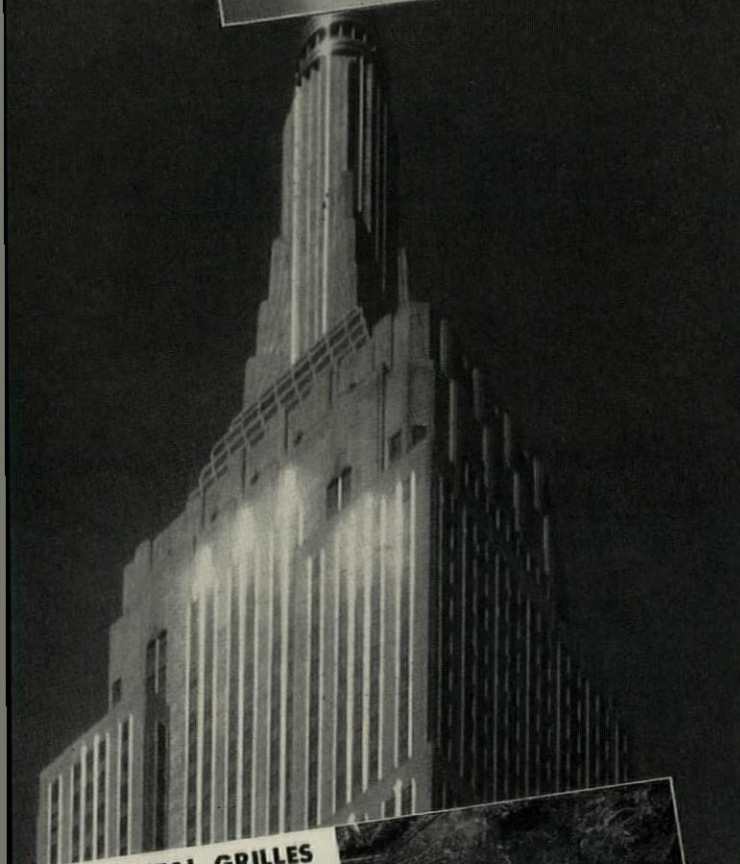
THE ARCHITECT'S "NATURAL" FOR  
ANY CONSTRUCTION ACTIVITY



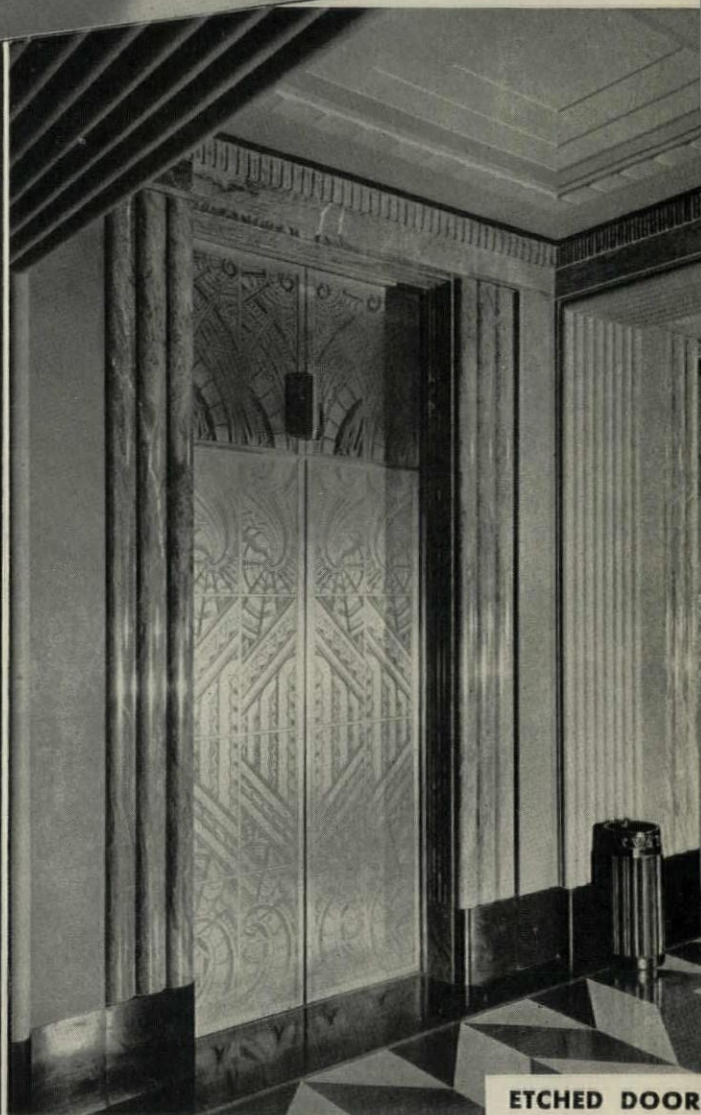
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# 4

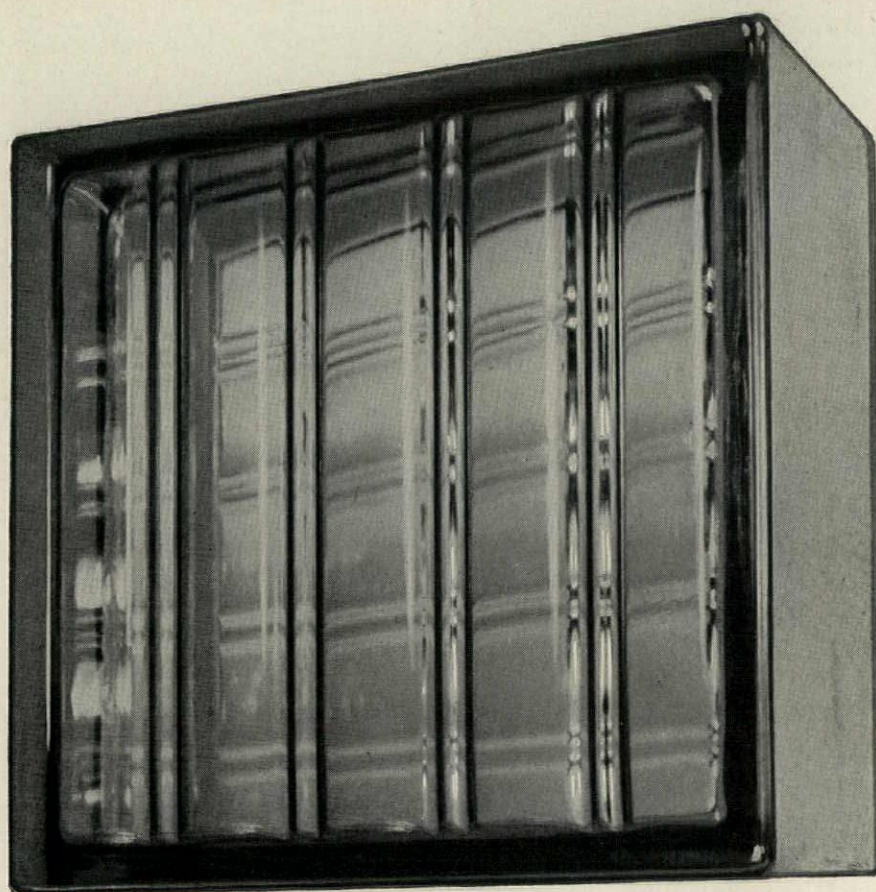
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# OWENS-ILLINOIS INSULUX GLASS BLOCK COMPETITIONS \$15,000 IN PRIZES

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**SMALL HOUSE.** \$2,500 in prizes. Competition closes May 22, 1939.

**THREE SHOPS.** \$2,500 in prizes. Competition closes August 21, 1939.

**DAIRY.** \$2,500 in prizes. Competition closes November 20, 1939.

**NEWSPAPER PLANT.** \$2,500 in prizes. Competition closes February 19, 1940.

**Plus \$5,000** in five GRAND AWARDS on a predetermined point system to competitors who place highest in the above competitions.

The program for Competition No. 1 is published in the March 1939 Architectural Forum. The programs for Competitions Nos. 2, 3 and 4 will be published in future issues of The Architectural Forum.

OWENS-ILLINOIS GLASS COMPANY, INSULUX PRODUCTS DIVISION • TOLEDO, OHIO

---

This competition has been approved as a Secondary Competition by the Special Committee for Secondary Competitions for the territory of the New York Chapter, American Institute of Architects. Full participation is permitted to all Institute members.

CONDUCTED BY THE ARCHITECTURAL FORUM



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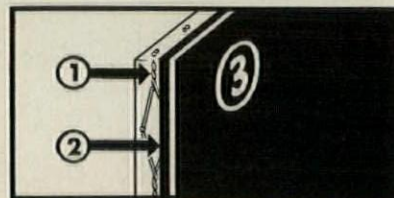
### OPTEX IS ECONOMICAL

Optex Wire Glass Blackboards are not expensive and cost nothing to maintain. Uniformity of size, thickness and color reduce installation costs... they can be cut into smaller sizes with the same ease as any wire glass used in building construction. Optex is available in either black or green—standard length of 60" and any height up to 60". Lengths up to 120" maximum are obtainable on special order. Write today for descriptive literature and samples.

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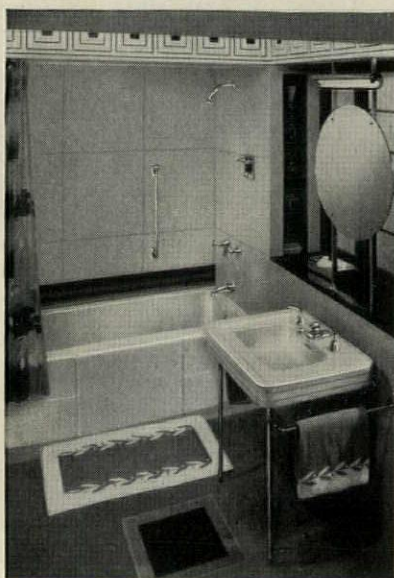
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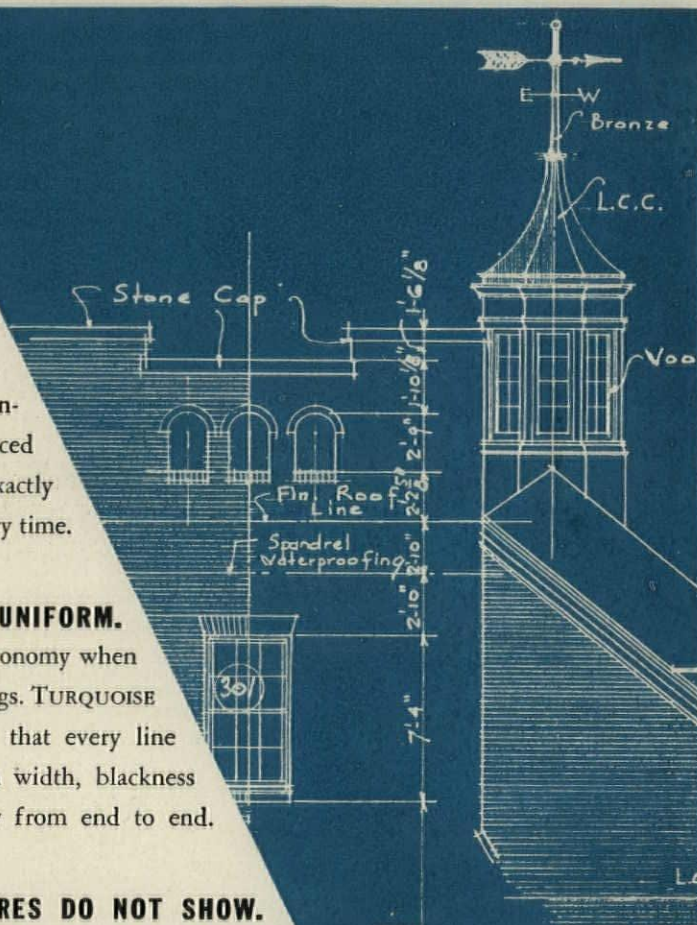
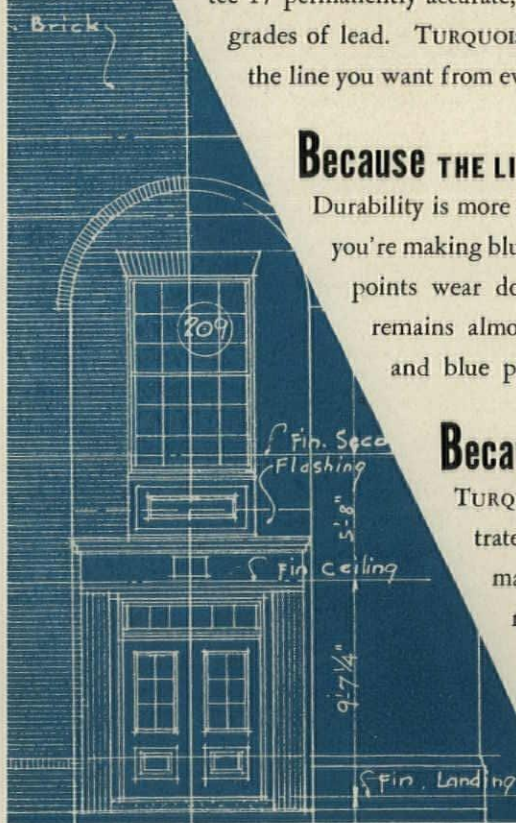
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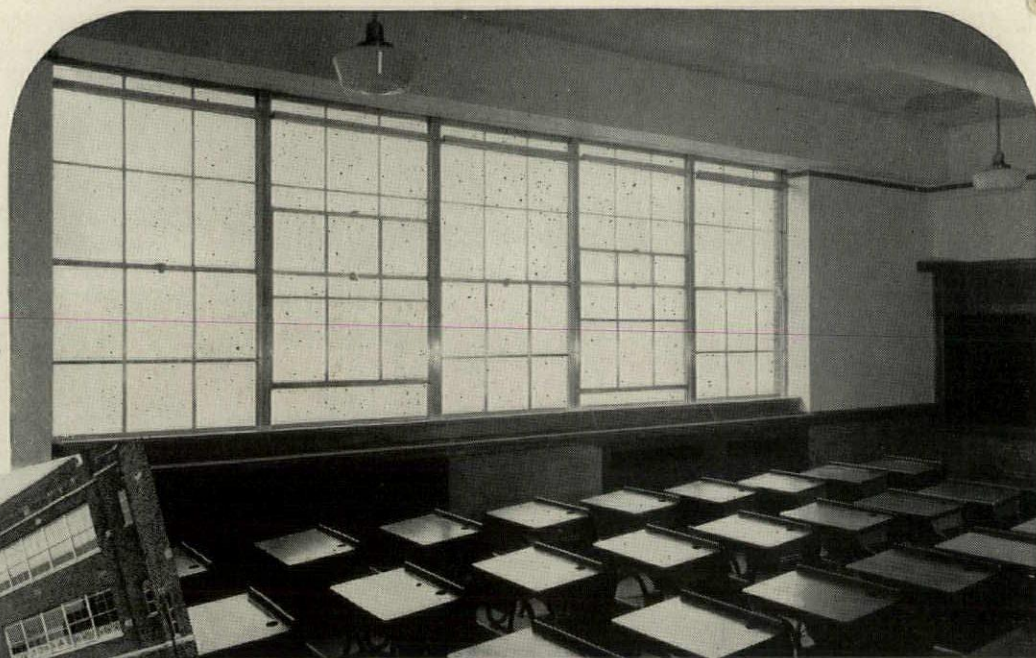
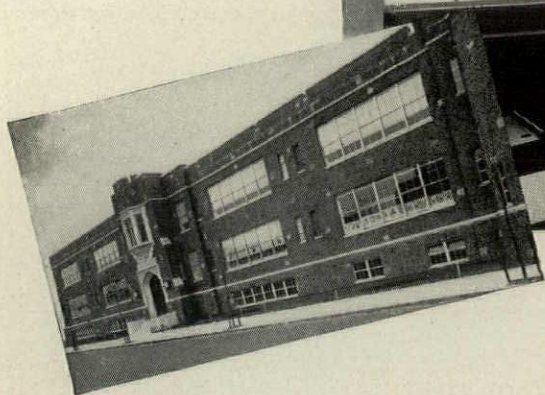
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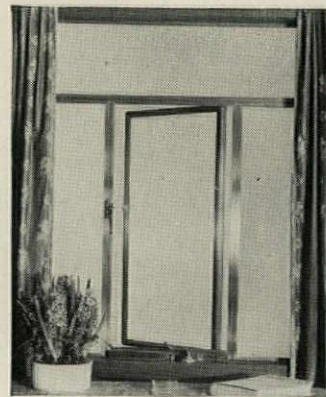
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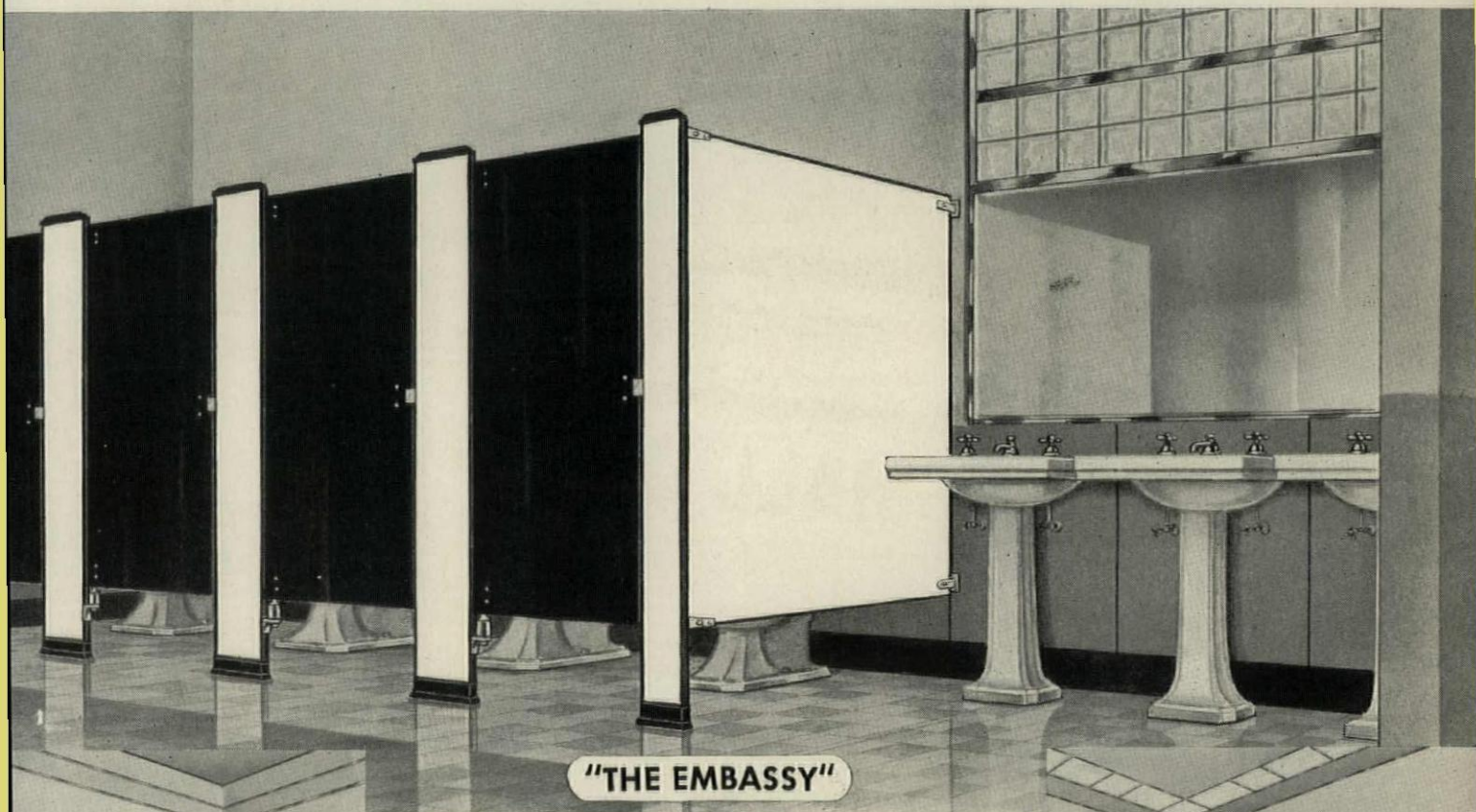


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# UNRESTRICTED FREEDOM IN CREATING MODERN TOILET ROOM ENVIRONMENTS



"THE EMBASSY"

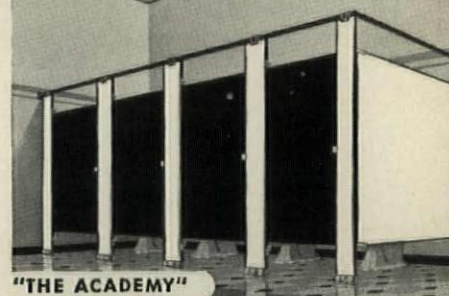


"THE NORMANDIE"



"THE FLUSH TYPE"

● With so many types of buildings and with each type requiring a different standard of convenience, the standardization of toilet room environments is unthinkable. The most suitable toilet room environment for a particular building can be created with utmost freedom from Sanymetal's five distinct types of toilet partitions...five types ranging from "The Embassy," with its classic beauty, to the always popular Flush Type, with its conservativeness emphasized by contrast with the modernity of "The Normandie" and "The Academy." Sound mechanical construction insures rigidity and promotes ease of installation. Finishes in either gleaming porcelain enamel—the ageless material—or baked-on paint enamel extend service life beyond the usual span of years. These features establish Sanymetal Toilet Partitions as the standard of comparison. The Sanymetal Representative in your vicinity, equipped with these five types of toilet partitions, can be most helpful in planning suitable toilet room environments. Consult him or write direct to the factory.



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THE SANYMETAL PRODUCTS CO., INC.  
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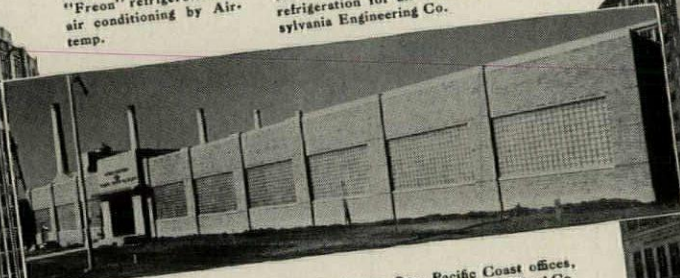




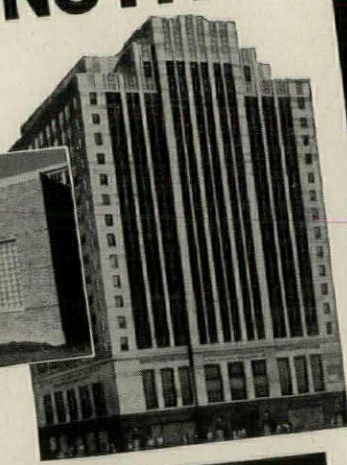
# IN BIG INSTALLATIONS ...



(Left) **Stuart Building**, Lincoln, Nebraska. "Freon" refrigeration for air conditioning by Airtemp.



(Above) **Owens-Illinois Glass Co.**, Pacific Coast offices, San Francisco. Engineered installation by Edward B. Ward Co. "Freon" refrigeration for air conditioning by Westinghouse.

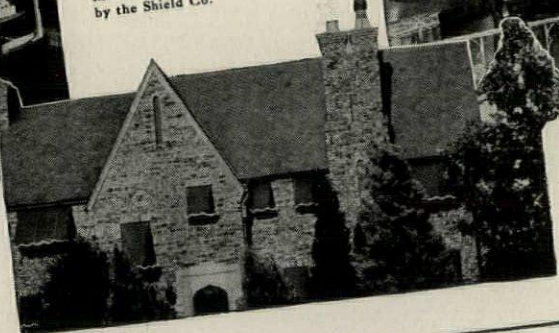


(Right) **Florida National Bank Building**, Miami. George A. Fuller Co., contractors. March & Saxelby, architects. Massena & Du Pont, consulting architects. "Freon" refrigeration for air conditioning by Pennsylvania Engineering Co.

# AND IN SMALL ONES TOO ...



(Above) **Busy Bee Candy Store**, St. Louis, Missouri. "Freon" refrigeration for air conditioning by the Frick Co., Inc.



(Below) **W.A. Moncrief residence**, Ft. Worth. "Freon" refrigerant used in Westinghouse equipment installed by the Shield Co.



(Above) **Black's Tea Room**, one of a number of stores and offices air conditioned in the Palmer Building, Atlanta, by advanced Engineering, Inc. Newcomb & Boyd, consulting engineers. "Freon" refrigerant in Delco-Frigidaire equipment.

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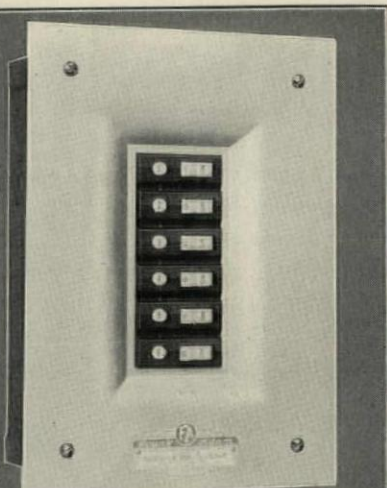
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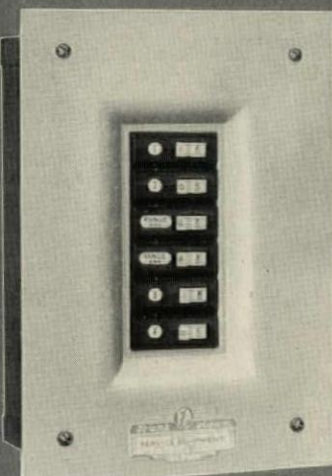
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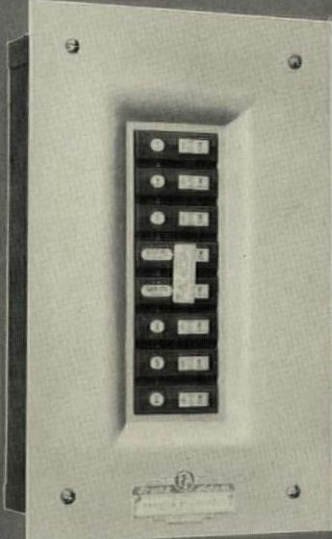
**Frank Adam**  
ELECTRIC COMPANY  
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**FA** Service Equipment with **FA** D. P. 35 Amp. AC Circuit Breakers for range circuit. Also 4 S. P. branch circuits.



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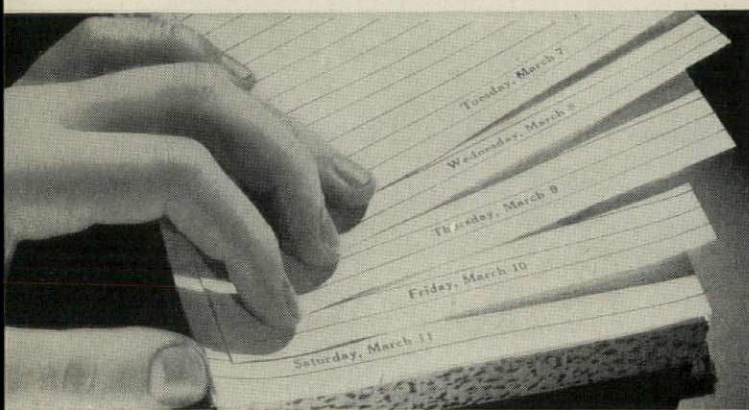
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In your community a strong home financing institution

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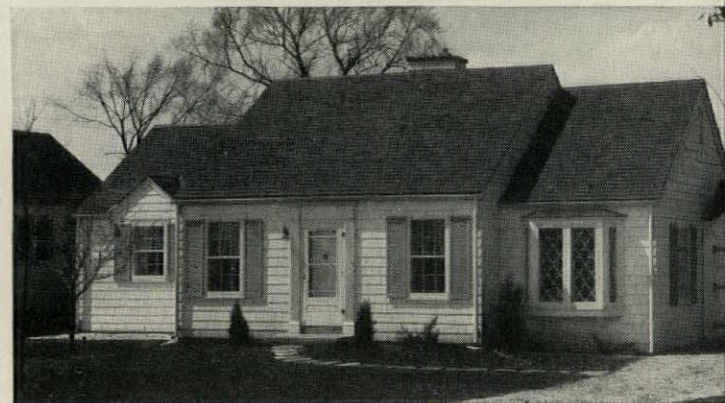
**1. Fast, convenient service—easy to understand.** Applications receive immediate attention—are approved without delay. Appraisals come through fast. Progress payments are on time. Every loan is amortized over a long-term period.



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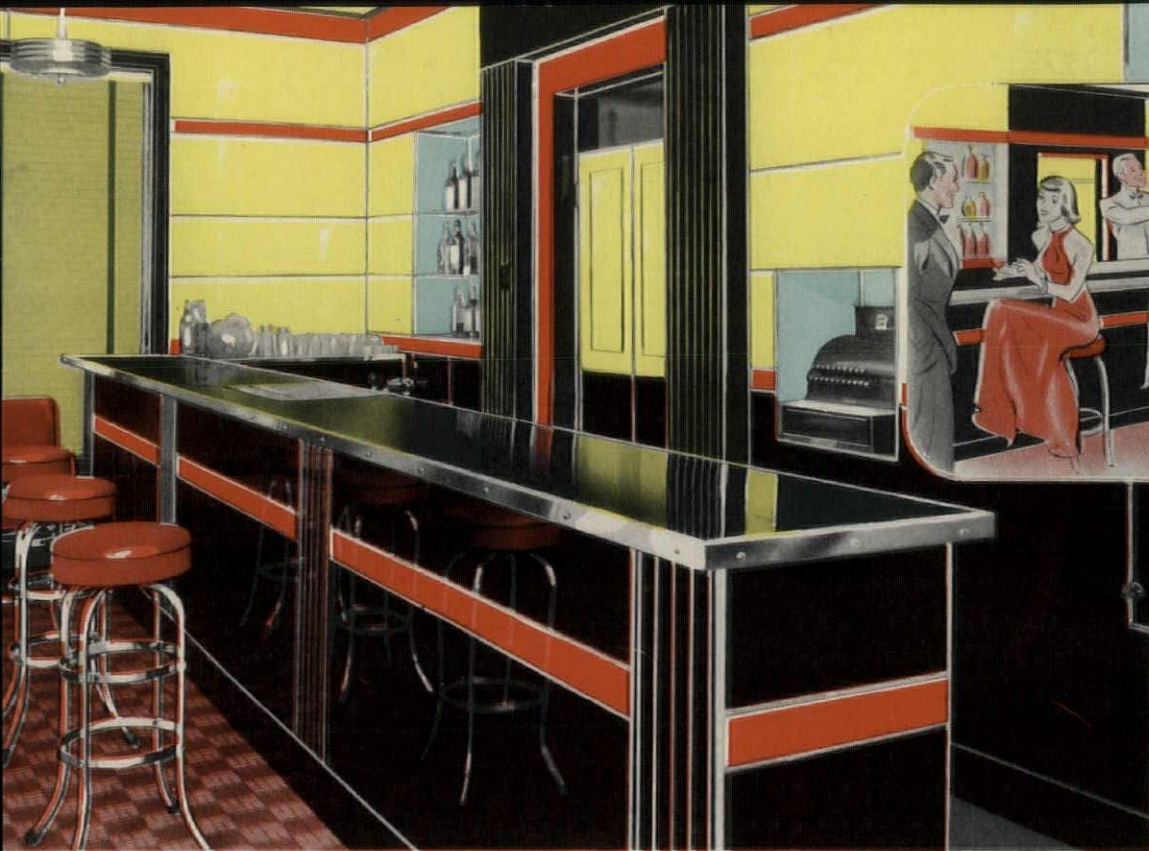
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Ideally suited for interiors of department and chain stores, restaurants, night clubs, hotels, beauty parlors, funeral homes, commercial, office and transportation buildings, doctor and dental offices, banks, etc. It can be used for counter fronts, display windows and cases, elevator interiors, cocktail bars, just as readily as for walls and ceilings.

Convenient coupon below will bring you free book of colorful Marlite interiors and complete product information. The local Marlite representative will be glad to advise how you can use Marlite to good advantage.

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See Our Catalog in Sweet's 11/41 for Complete Product Information

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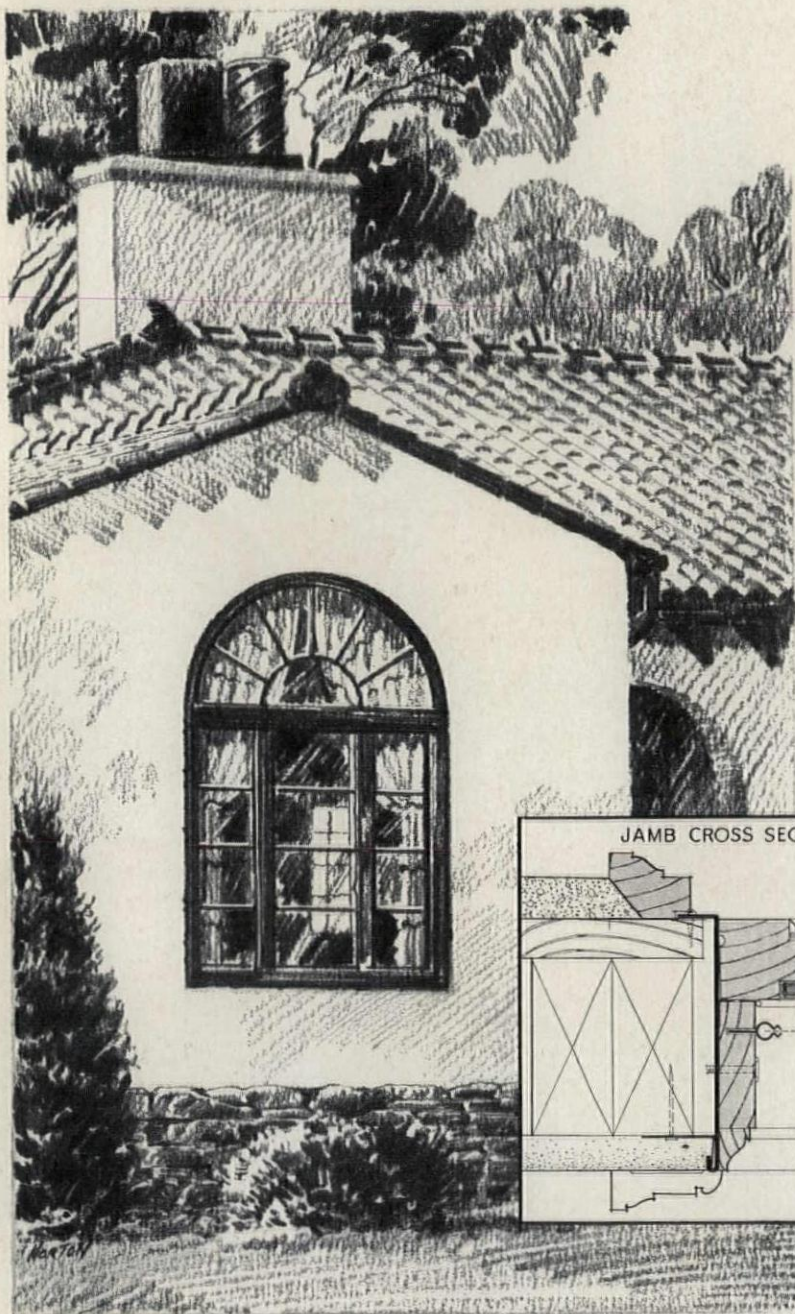
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Firm.....

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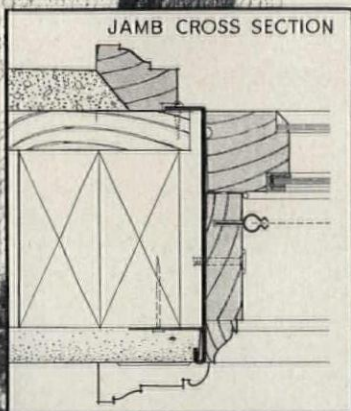


# Pella

## CASEMENTS

-the only complete window  
with a wood lined

## STEEL FRAME



Pella Casement Windows have rigid metal frames made of heavy sixteen gauge rustproof, galvanized (zinc impregnated) steel. These frames are full jamb width — 5 $\frac{1}{8}$ " wide and they are made to fit all types of wall construction. Clear, white pine (other woods if desired) is used for lining Pella Casement frames.

### Other Pella Casement Features

**ROLSCREENED** — famous Pella Rol-screens preserve the architectural beauty of clear, sparkling windows. Always in place — no putting up — no taking down. Guaranteed for 10 years.

**DUAL GLASS** — removable, single panel, Libbey-Owens DSA glass protects against

winter cold and summer heat. Practically invisible.

**SPRING BRONZE WEATHER-STRIPPING** — compression type — that paint can't clog. Tension easily adjusted. Exclusive Pella design.

**SASH** — Genuine white pine 1 $\frac{3}{4}$ " thick. Hung on non-extension, self-cleaning hinges. Underscreen, worm gear operator built in.

### Saves Drafting Time

Pella Casement details can be drawn into your own plans, thus eliminating further drafting on window construction. Authentic designs are available to blend in with and emphasize the character of any style architecture.

### Saves on Wall Cost

Overall Casement dimensions are 20% over-size which saves materially on wall cost. Glass size 9" x 12" — admits 12 $\frac{1}{2}$ % more light. Weather-tight and highly non-conductive to heat and cold, Pella Casements meet rigid requirements of modern heating, ventilating and air conditioning.

### CUT INSTALLATION COSTS

Pella Casements are 100% factory fitted and completely assembled. After uncrating, they are simply set into rough wall openings, caulked and locked in place by means of inside inter-locking fins. Weather-tight installation completed in about 20 minutes.



SEE OUR CATALOG IN SWEET'S

# Pella

CASEMENTS \* VENETIAN BLINDS \* ROLSCREENS

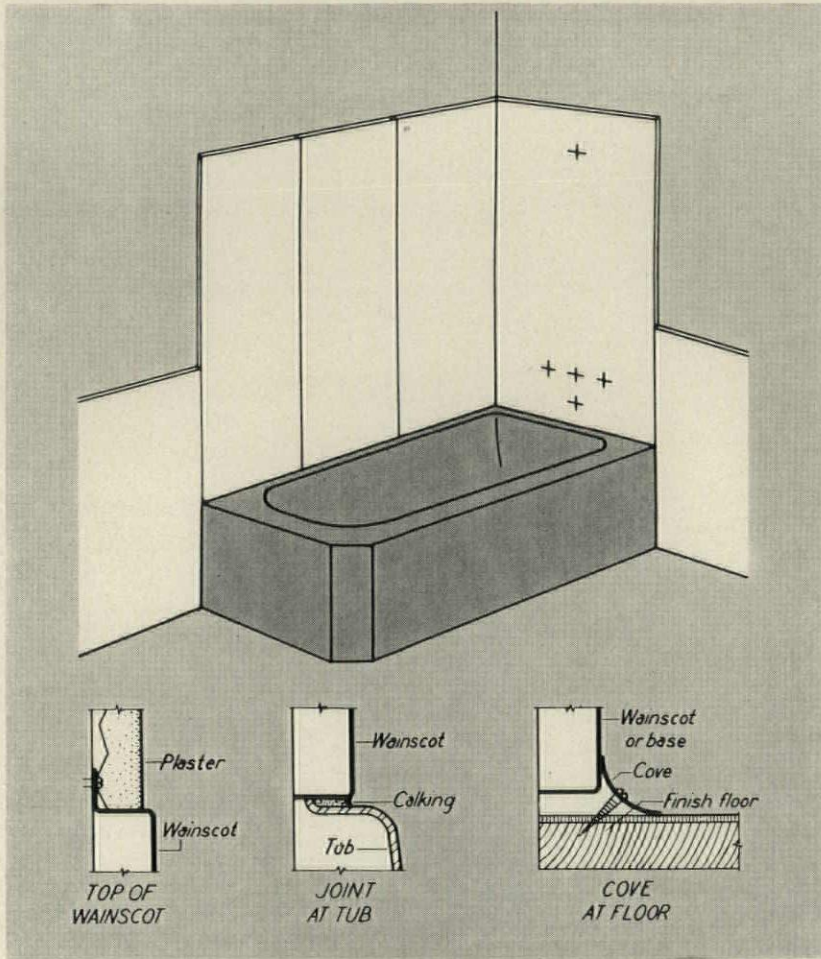
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This interesting book shows progressive installation photos and complete data. It is file size. Get your FREE copy by writing to: ROLSCREEN COMPANY, Dept. P39, Pella, Iowa.





# Porcelain Enamel in Housing



## PANELS IN BATHROOMS AND KITCHENS

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300 bathrooms, paneled in beautiful fadeless porcelain colors, contribute their share to the permanent economy of the homes in Colonial Village at Clairton, Pennsylvania.

Porcelain Enamel finish provides a surface that is not affected by wet or dry conditions,

and one that is readily cleaned. Standardized sizes and patterns provide further economy in materials and in time or speed of installation. Interior trims of Porcelain Enamel add a pleasant tone of color, not only to bathrooms, but to all rooms, including the kitchen.

Investigate the advantages of "Porceliron" panels, trims, sink tops and other parts for home building or remodeling. Write today.

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# HERE, THERE, THIS & THAT

WARREN CHENEY, Sculptor, whose work is represented by the examples shown on pages 157-160 of this issue, is a Californian now living in New York. He has exhibited during the past eight years at group shows in San Francisco, Los Angeles, Dallas, and New York City and has held two one-man shows—in San Francisco, in 1934, and in New York, at the Marie Sterner Galleries, in 1936. His work has appeared in a number of magazines and is being shown this month in *Art Instruction*, in illustration of "Emotional Expression in Sculpture."

A graduate of the University of California, Cheney received European training at L'Ecole des Beaux Arts and from Hans Hofmann. For five years he was Lecturer and Instructor of Sculpture, at Mills College, after which he spent a year teaching at the University of California.

In 1934, Cheney was invited by the Metropolitan Museum of Art to execute a piece for the American Industrial Arts Exhibition. He created the

graceful terra cotta, "Amor Caelestis," now a part of the permanent collection of the San Francisco Museum of Art. Last spring he attracted attention with his three 15-foot sculptures in the primitive manner, used in the setting of "Sacre du Printemps" as presented by the Horton Dance Group at Hollywood Bowl.

JAMES C. ROSE, whose series of articles on a modern approach to landscape design has been presented in the last few issues, explains that he is spokesman for a well-defined group of young designers "held together by the force of belief in group-consciousness and a oneness of ideas about the possibility of restoring landscape design as a dignified profession, through a new departure.

"Finding little professional sympathy with the new developments, Garrett Eckbo and I formed a small group of five members who devoted ourselves exclusively to experiments in the contemporary approach," Rose states. "The group has grown rapidly, and finding great sympathy with the younger members of the profession, now has a large auxiliary body from California to New York. We have plans for traveling model exhibits, and our first book, which explains the whole point of view, is scheduled to

appear in the spring. It will be a completely graphic presentation, and will be illustrated by members' work and the exploration of new dimensions in landscape."

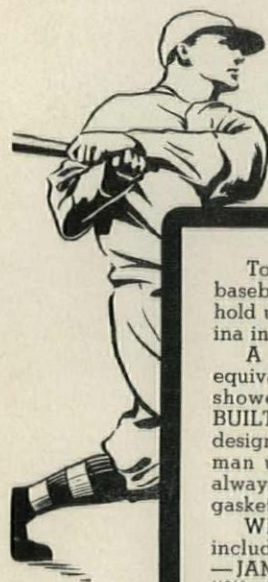
Of his personal background he states:

"I cannot believe that anyone would want to pigeon-hole my background and training to the number of years in this school or that office. I have never thought of my own life in terms of time served in various institutions; and take no pride at all in having studied at Cornell, as an undergraduate, and in the Harvard School of Design, as a graduate. It seems to me that a bland listing of these facts would give rather a blurred impression of my background.

"I was completely tied up in the Beaux Arts system for three years, but gained glimpses into the contemporary approach, from Dean Hudnut, Dr. Gropius, and the illuminating seminars of Prof. Joseph Albers. My study of Architecture under Prof. Henry A. Frost, of Harvard and Cambridge Schools, had a definite and beneficial effect in my transition from the Beaux Arts to the New Approach. He has the qualifications of a truly great teacher.

"I have always thought of training

(Continued on page 22)



## YOU NEED STAMINA

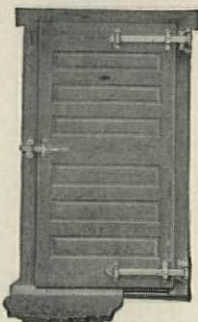
To play 2000 consecutive major league baseball games takes stamina in a man. To hold up under 85 years of service takes stamina in a cold storage door.

A JAMISON-BUILT DOOR stood tests equivalent to 85 years hard plant service and showed *no appreciable wear!* JAMISON-BUILT DOORS have built-in stamina. They're designed for strength to withstand hardest human usage. Insulation stays put. The soft, always-conforming "CD" resilient pure-rubber gasket outwears old types many times.

Wherever cold storage doors are used—including new locker and quick-freezing plants—JAMISON-BUILT DOORS are proclaimed "World Champions", a title earned through rugged performance. Send for free descriptive bulletin to JAMISON COLD STORAGE DOOR COMPANY, Hagerstown, Md., or to branches in principal cities.

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K. Z. S. Panels represent the culmination of years of development in the architectural use of porcelain enamel. They combine the strength, adaptability, and comparative lightness of steel, with the permanence and non-porous nature of glass.

Additional facts will show you why the trend is to K. Z. S. Porcelain Enamel. WRITE NOW FOR NEW ILLUSTRATED BOOKLET.

# Kawneer

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(Continued from page 20)

—as I do of design—as something with no real beginning and no real ending. In this way, all experiences that we have, whether in schools or just idling away time, or in private experiment, can be made to have a definite influence on the work we produce. Even if one were sufficiently naive to have faith in formal education, it would not be possible for a man to receive training in the contemporary approach in any school of landscape at present. Consequently, it must be developed by experiment and what can be learned from those who have already penetrated the gloom of the academic system in other fields.”

### Shortage of Skilled Draftsmen Foreseen

A shortage of skilled architectural draftsmen in the event of a building boom in the near future is foreseen by C. C. Zantzing, Philadelphia, chairman of the Committee on Education of the American Institute of Architects. Opportunities for graduates of architectural schools lie in the possibility of greater building activity, he points out.

Since 1936, Mr. Zantzing reports, enrollment in architectural schools ap-

pears to have been at a standstill, although the consensus of opinion is that the current year will show an increase. In 1935-36 there was an increment of about 250 students over the previous period.

“The Government in its many different agencies employs a great number of draftsmen who have been at-

tracted to Washington from all over the country,” Mr. Zantzing points out. “The question is, will they stay there and consequently create a shortage of men at home, or will they, with a recovery in business activity, be glad to leave their present employment. The permanence of low salaries in Government may have its charm.”

### WHAT DO YOU THINK?

*A well known practicing architect has submitted a manuscript to PENCIL POINTS on the subject of specifications. We would appreciate hearing from any one who has an opinion to express on the existing specification material that has been published and the desirability of a new work on this subject. Have you any preferences as to the form in which it should be presented—card file, bound book, looseleaf? Would you want such a specification writing help at a price of \$10? What value do you put upon it? Write Don Graf of PENCIL POINTS, 330 West 42nd Street, N. Y.*



### HAVING ELECTRICAL TROUBLES? WHY NOT USE WADB?\*

\*Westinghouse Architects' Data Book

You tell him, brother! If he'd rather struggle overtime with wiring diagrams or other electrical details, than to take short cuts with WADB, that's his hard luck. Personally, we'd use the office copy or look in Sweet's for all the easy-to-use details.

J-94024



## Westinghouse

### Keeping Out Of Hot Water By Keeping In It

The New Burnham Yello-Jacket boiler is equipped with a Bilt-in Tankless Taco hot water supply heater.

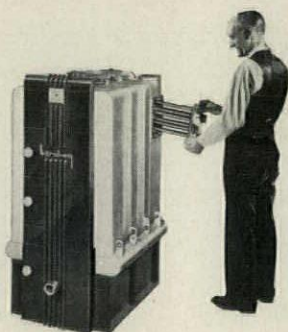
Does away entirely with a storage tank. Insures freedom from all sediment and stains of basin and tub from rusty water. Gives a continuous supply of piping hot water that's always crystal clear. A tempering valve insures a uniform temperature, preventing any possibility of excessively hot water caused by long intervals between use.

The Burnham Yello-Jacket boiler is the only one made today, having a fully Bilt-in Tankless Taco.

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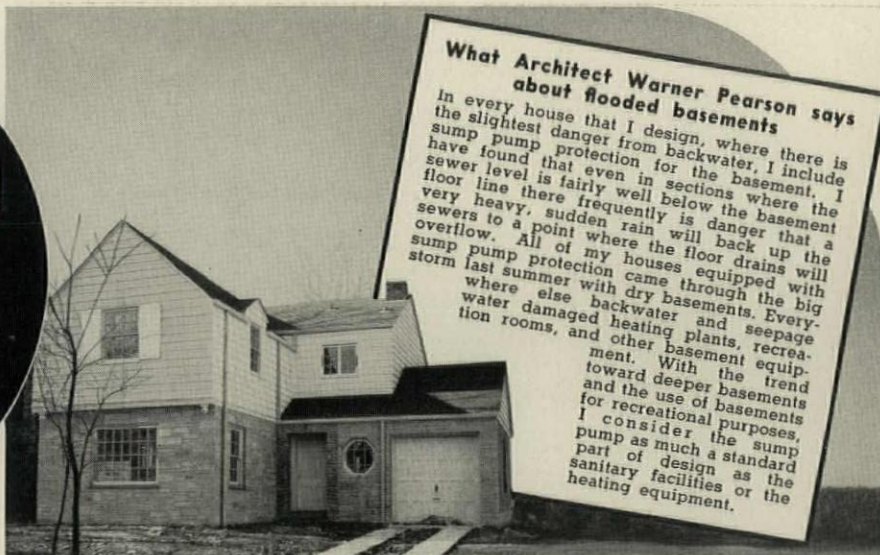
## Burnham Boiler





# PROTECTED

against the  
*"Worst storm  
in 40 years"*



## What Architect Warner Pearson says about flooded basements

In every house that I design, where there is the slightest danger from backwater, I include sump pump protection for the basement. I have found that even in sections where the sewer level is fairly well below the basement floor line there frequently is danger that a very heavy, sudden rain will back up the sewers to a point where the floor drains will overflow. All of my houses equipped with sump pump protection came through the big storm last summer with dry basements. Everywhere else backwater and seepage water damaged heating plants, recreation rooms, and other basement equipment. With the trend toward deeper basements and the use of basements for recreational purposes, I consider the sump pump as much a standard part of design as the sanitary facilities or the heating equipment.

**H**ERE'S a little Colonial house that has just been completed in Wilmette, Illinois, one of Chicago's suburbs. It is typical of thousands of moderately priced houses that are being turned out by architects all over the country.

It is typical and yet there is one big difference—it is protected against "the worst storm in 40 years." When that storm comes, the basements in every house in the block will be flooded by backwater except this one.

In this little Colonial house the recreation room and the modern heating plant are protected by an Imperial "Floatless" Sump Pump. The floor drains and the laundry tubs empty into the sump, and the drainage is then handled automatically by the pump as shown in the hook-up drawing below. Even if the sewer level rises to grade this basement will be absolutely dry. There is no way for backwater to enter.

Read what Mr. Warner Pearson, the architect, says about sump pump protection and then write for the Imperial bulletin that shows how easy it is to incorporate this modern scheme for basement protection in some of your building designs.

## THE IMPERIAL BRASS MFG. CO.

541 So. Racine Ave., Chicago, Ill.

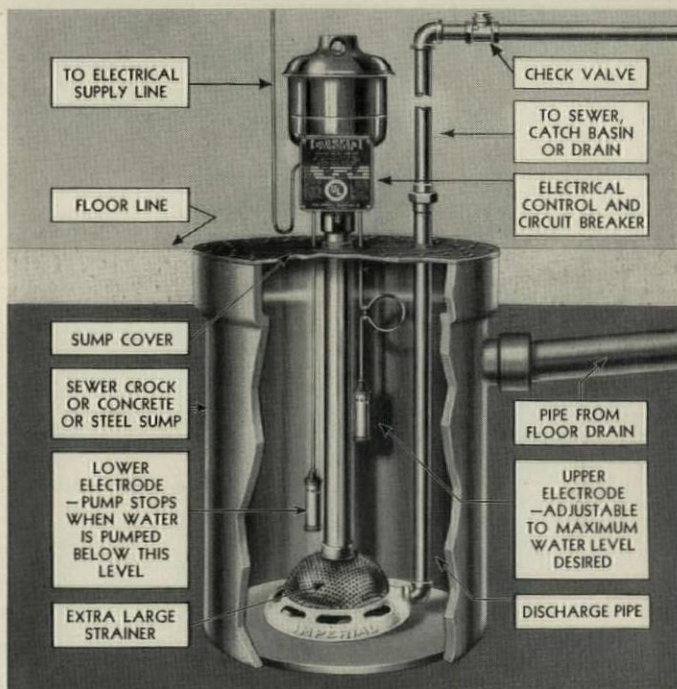
### WRITE FOR BULLETIN No. 438

It will give you typical hook-ups and other information needed should you decide to include a sump pump in your next residence layout. Refer also to Sweet's Section 27 Catalog No. 32 for specification details.



# IMPERIAL "FLOATLESS" Sump Pumps

AUTOMATIC ELECTRIC OPERATION

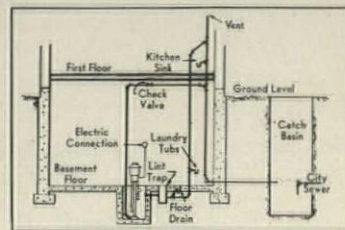


## The IMPERIAL "FLOATLESS" SUMP PUMP is the answer to the Basement Protection Problem

The Imperial Floatless Sump Pump is inexpensive, easy to install, and ends all danger from backwater. Its automatic electrical control is simple, positive and approved by the Underwriters Laboratories. With this control, there is no float to stick or leak or become damaged. Thousands of these floatless sump pumps have been installed by plumbing contractors in every section and they have established a remarkable performance record. Regardless of how long an Imperial Floatless Sump Pump remains idle it always starts up when the water reaches the upper electrode.

## POSITIVE PROTECTION AGAINST BACKWATER

The only positive protection against backwater is to cut the basement entirely off from drain connections as shown in this hook-up which is now being used by architects in many sections. This type of layout is used whenever sewer level or sewer capacity makes backwater a possibility. It gives protection even in the most severe cases since the laundry tubs also drain into the sump.







Horace H. Rackham School of Graduate Studies, Ann Arbor, Michigan. Smith, Hinchman & Grylls, Architects, Detroit. 97 Johnson room thermostats operating 231 Johnson valves on radiators. Six ventilation systems are Johnson-controlled also.

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CATALOG IN SWEET'S  
SECTION 26

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## Michigan Jubilee Set This Month

Leaders of the Michigan Society of Architects are completing preparations for a "Silver Jubilee" Convention, March 16-18, at the Hotel Statler in Detroit. A record attendance is expected and Kenneth C. Black, Lansing, President of the Society, has announced that problems of interest to the architects of the state will be discussed.

Commemorating the 25th annual session of Michigan architects, an architectural exhibition and a display of building materials will be featured. The convention will conclude with the Third Annual Building Industry Banquet, given jointly with the Producers' Council Club of Michigan and the Builders' and Traders' Exchange of Detroit.

## F.A.E.C.T. National Officers Reelected

The national officers of the Federation of Architects, Chemists, Engineers, and Technicians were unanimously reelected at the recent convention of that organization, in Washington, D. C. Lewis Alan Berne is president and others of the executive board include Marcel Scherer, vice president in charge of organization; Stuart Green, Minnesota, and Jules Korchien, Washington, D. C., vice presidents; and James A. Gaynor, secretary-treasurer.

A feature of the session was the presentation of a T-square, drafting board and honorary membership in the F.A.E.C.T. to President Roosevelt, through Marvin H. McIntyre, secretary to the President. This presentation, welcoming the President "into the fraternity of architects and engineers . . . as an architect who designed his own summer cottage . . . and as an architect whose social vision has designed, in a broader sense, houses for the American people through a functioning housing program," brought a letter of appreciation from President Roosevelt.

Policies of the F.A.E.C.T., defined at the convention, put the group on record against sectionalism, racial and union discrimination in WPA activities; for legislation in support of WPA; for cooperation with industrial unions and the coordination of activities of white collar and industrial workers; for prevailing rates of pay for technical employees on public works projects; against amendment of the National Labor Relations Act; and for enactment of Wage-Hour provisions for technical employees.



# MAKE OUR EXHIBIT YOUR WORLD'S FAIR HEADQUARTERS

FERRO ENAMEL CORPORATION

extends a cordial invitation to

MR. ARCHITECT

to visit its exhibit at the

New York World's Fair 1939

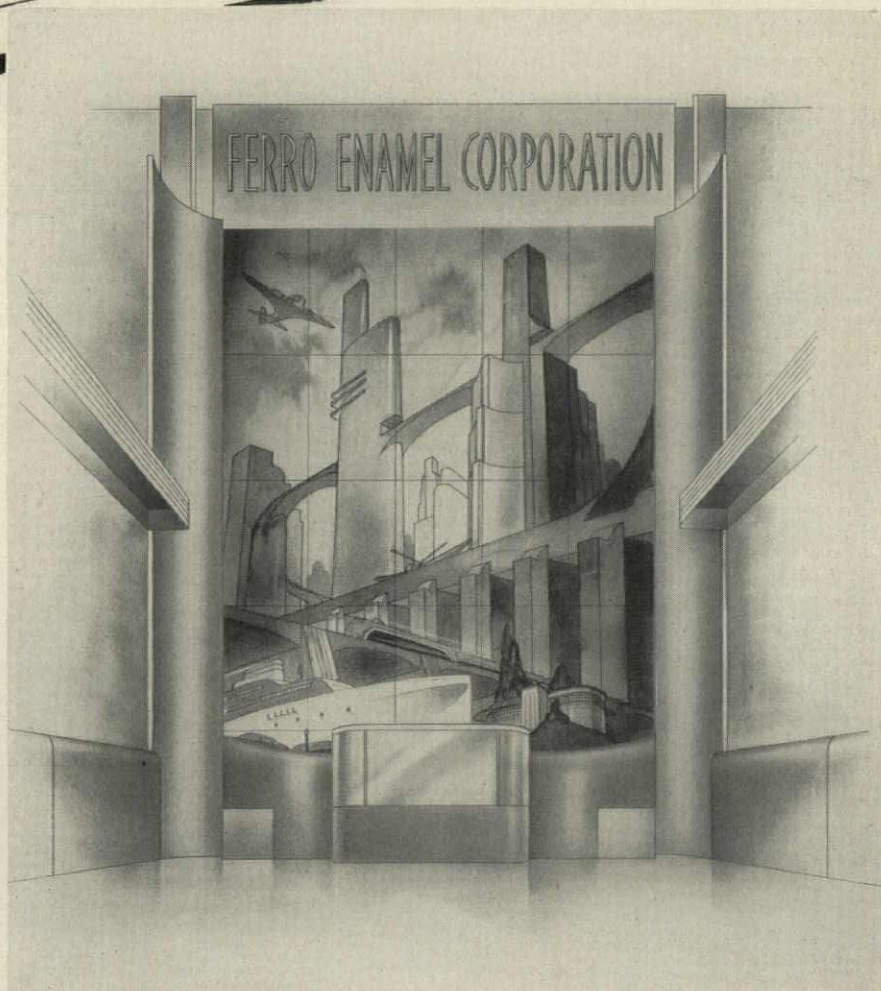
HOME FURNISHINGS BUILDING—SPACE E 8

A sketch of our booth at the World's Fair is shown below. It has been designed to be of maximum interest to architectural men. The polychrome porcelain enamel mural forming the background of our display is the work of Daniel Boza, of Bomat, Inc., Cleveland. It measures 219 square feet in area, and portrays the Porcelain Enamel City of the Future. Our exhibit of sample porcelain enamel applications has been chosen with care to be architecturally interesting and informative. We will be looking forward to seeing you!

WHEN you visit the New York World's Fair you will see the majestic twin pylons in the forecourt of the Communications Building... J. Scott Williams' huge polychrome porcelain enamel mural... the map of the world on the YMCA Building...

Ferro Enamel Corporation supplied these remarkable examples. Visit our booth and let us tell you more about them—and about this modern and versatile building material. See the examples of porcelain enamel which we have on display. They will make you want to insist on FERRO when you are designing in porcelain enamel!

Ferro Enamel Corporation manufactures a complete line of porcelain enamel for architectural uses. We will be glad to send you our A. I. A. Data File 15-H2.



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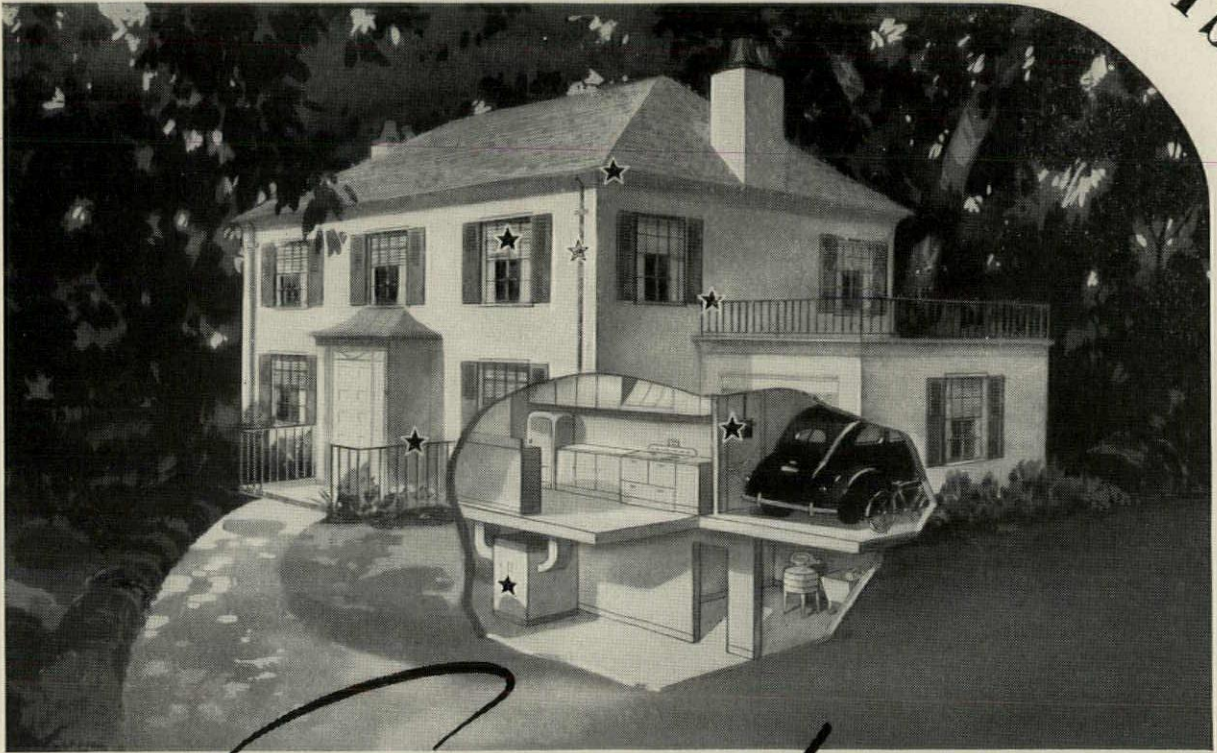
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The well-designed library and spacious drafting room of the McIntire School of Art and Architecture at the University of Virginia, Charlottesville, formerly were the shower and locker rooms and the playing floor of the Fayerweather gymnasium. The building has been remodeled for use of the school during a period of 15 years



### McIntire School Quarters Enlarged

Students of the McIntire School of Art and Architecture at the University of Virginia, Charlottesville, have resumed classes in spacious and well-lighted quarters in Fayerweather Hall, just remodeled for the third time in its 15-year transformation from a gymnasium to an academic building,

reports Edmund S. Campbell, head of the School, who planned and directed the latest changes.

Opened in 1893 as one of the largest and best-equipped university gymnasiums in the South, Fayerweather Hall was outgrown in 30 years and the playing floor was in 1923 fitted under direction of Professor Joseph Hudnut, now Dean of the Harvard Graduate

(Continued on page 30)

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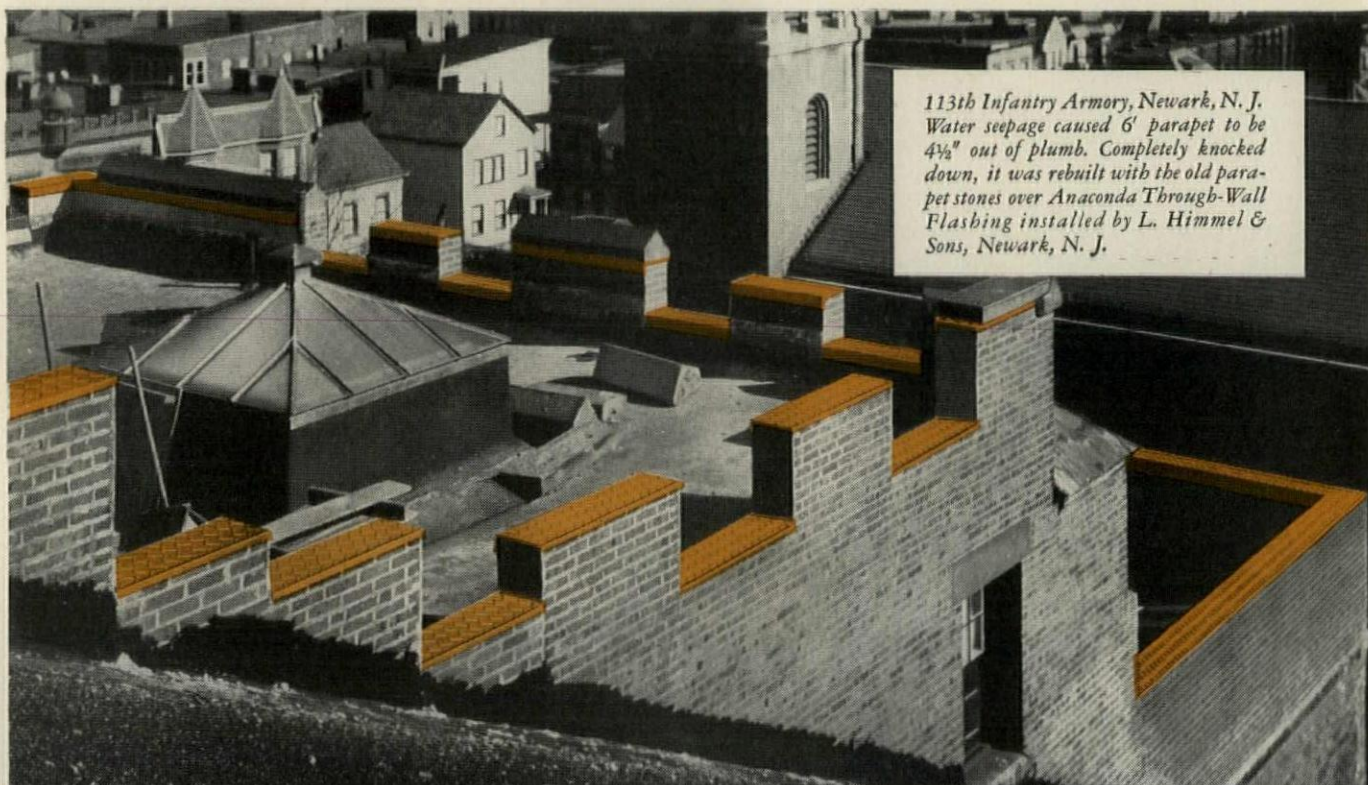
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113th Infantry Armory, Newark, N. J. Water seepage caused 6' parapet to be  $4\frac{1}{2}$ " out of plumb. Completely knocked down, it was rebuilt with the old parapet stones over Anaconda Through-Wall Flashing installed by L. Himmel & Sons, Newark, N. J.

# Anaconda Through-Wall Flashing

## Overcomes Seepage Problems

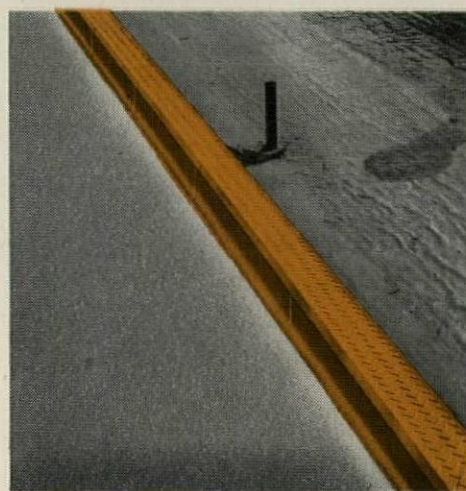
**A**NACONDA Through-Wall Flashing—efficient, positive and durable—is readily adaptable to practically every masonry condition, yet relatively low in cost. Important feature of its design is a series of zig-zag ridges  $7/32$ " high intersected at one end by a  $7/32$ " longitudinal ridge which acts as a dam. The zig-zag ridges prevent lateral movement, while the longitudinal ridge causes any accumulation of water to drain out the opposite face of the wall.

This highly effective through-wall flashing—made of 16 oz. Anaconda Copper, plain or lead-coated—is available in a variety

of types and sizes, including one-piece inside and outside corner flashings. Standard flashing for 8" and 12" walls in five-foot and eight-foot lengths is stocked by leading supply houses. Other types, with special widths, lengths and selvages, are available on order.

Because Anaconda Through-Wall Flashing can be bent and cut to fit on the job, it is doubly economical to use, for it can be installed quickly and easily, with a minimum of delay to bricklayers and masons. Write for Anaconda Publication C-28. It contains complete description and suggested specifications.

38122



Public Service Co. of N. J., Auto Maintenance Shop, Newark, N. J. Water had been seeping through the fire separation wall. Anaconda Through-Wall Flashing and Anaconda 16 oz. crimped copper counter flashing were installed by L. Himmel & Sons, Newark, N. J., to make the wall leak-proof.



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EDDY ROAD AND TAFT AVENUE  
CLEVELAND, OHIO



(Continued from page 27)

School of Design, as a drafting room for the McIntire School, which had been founded three years before through a gift from Paul G. McIntire, of Charlottesville and New York. In 1930, Professor Campbell supervised renovation of the basement, which became a library and study for the School.

Last year, with a grant from the State and other funds, further remodeling was made possible. A balcony provides more space in the drafting room, where excellent lighting through glass brick wall panels and indirect fixtures make drafting less arduous. Ventilating fans and screens make the building more comfortable the year around. A stairway connects the freehand drawing studio, once the swimming pool, with the main drafting room and a balcony on the drafting room level adds to the utility of the library, in which the ceiling has been raised. The exterior of the building also has been altered to be more in keeping with the original university buildings designed by Thomas Jefferson.

### Scarab Convention

The national officers and delegates attending the recent 22nd general session of Scarab Fraternity, professional



architectural group, appear above in an official convention picture made at Cincinnati. Eleven of the twelve active chapters were represented at the convention, at which the officers were all reelected and Los Angeles was selected as the 1939 meeting city. Those shown include: (left to right—first row) Robert Deshon, Bottomley, Verner F. Smith who is national secretary-treasurer, B. Kenneth Johnstone who is national president, Dean Norman S. Schneider of the University of Cincinnati Engineering School, a guest speaker, Professor Lang of the U. of C. Arts College, a guest speaker, and Johnson; (second row) William Guentter, Knight, Lester Thomas, Bilbro, Worsham, Bowers, and Tatum; (third row) Rather, Armstrong,

Courtney, Val Cassels, and Thomas Berger; (fourth row) Herbert F. Heidt, Good, Joseph C. Didingier, Steigler, and William G. Waters; (fifth row) Bliss, George Danforth, Paul A. Wilhelm, Charles S. Ash, Wood, Strieby, and Woodworth.

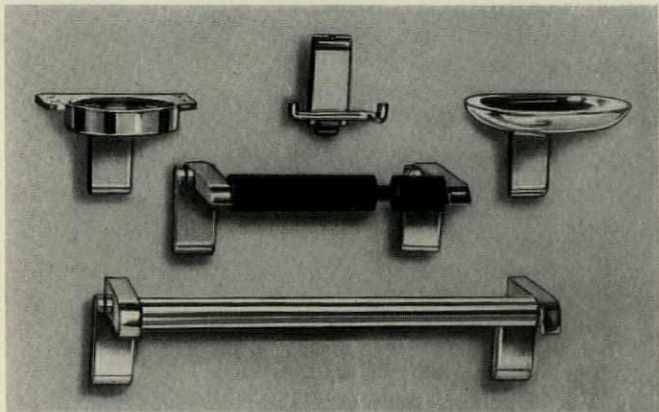
### New Instructor

Appointment of the artist Guy Pène du Bois as instructor in the Cooper Union Day School of Art is announced by Guy Gaylor Clark, Art Director of the Union. Du Bois succeeds Ernest Fiene who was recently commissioned to paint two large murals, covering an area of approximately 2,000 square feet, for the Needle Trade High School, N. Y.

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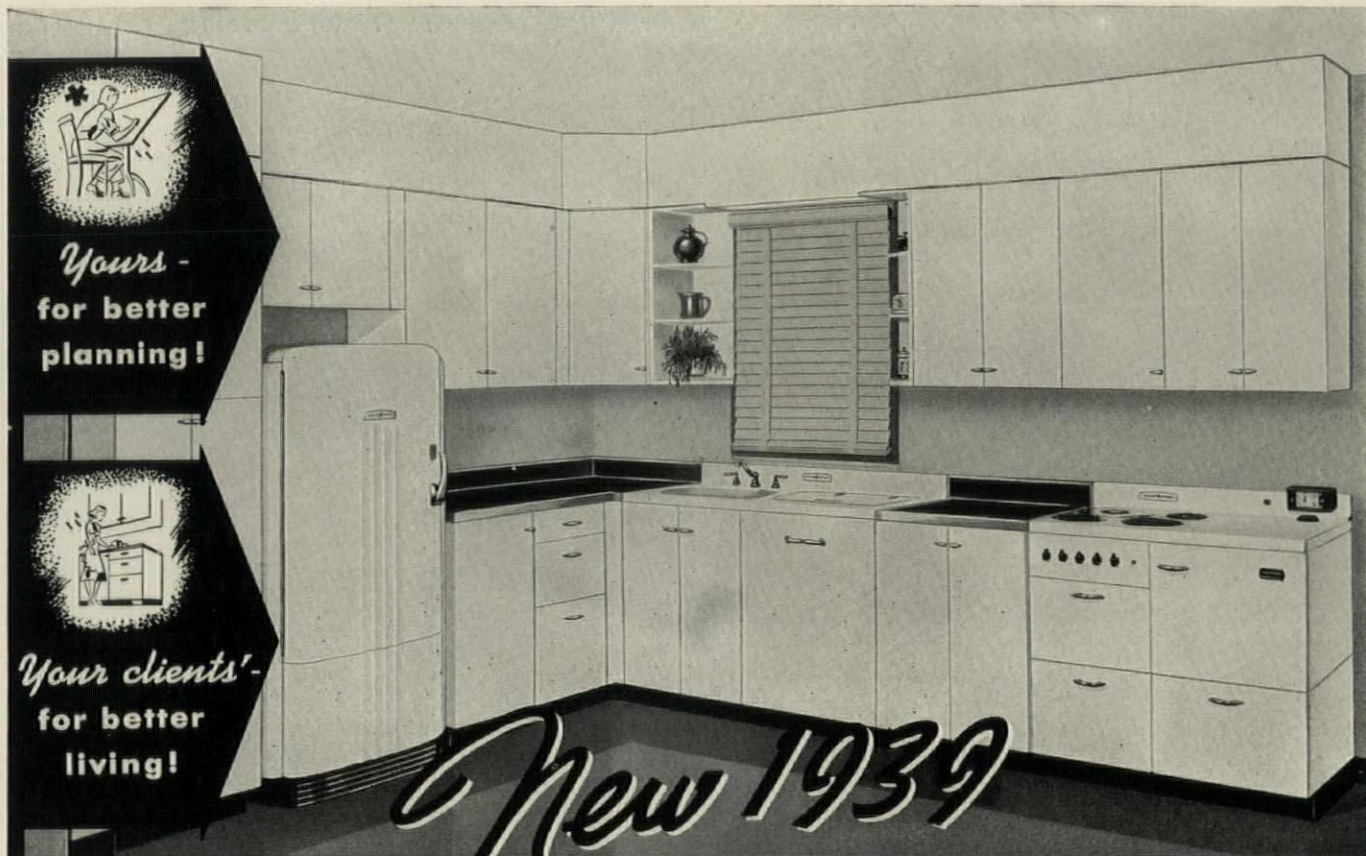




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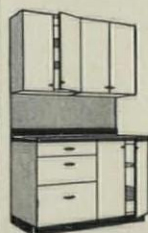
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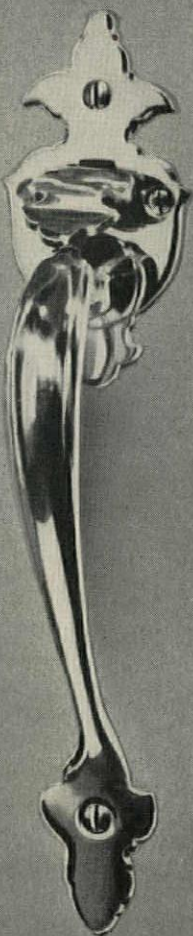


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## N. Y. Unit Holds Guild Election

With the February meeting of the New York unit of the Architectural & Engineering Guild that group started its third year in the International Federation of Technical Engineers', Architects' and Draftsmen's Unions and is well into its seventh year of representing architectural, engineering and drafting employees. The steady growth of "Guild-Local 66" since its affiliation with the American Federation of Labor was reported as "extremely satisfactory" and "keenly watched by the men in all branches of the architectural and engineering field."

Officers and Executive Board members were elected as follows: \*George H. Holland, president; \*J. Lawrence Raimist, executive vice president; Francis Kapp, architectural vice president; \*Gustave A. Newrath, engineering vice president; Charles Karlik, ornamental iron and bronze vice president; \*Frank Wisler, secretary; \*Henry Sasch, financial secretary; John Bernard, recording secretary of the assembly; \*Frederic George, treasurer; Frank Pospisil, sergeant-at-arms.

\*Earl F. Bankes, \*Rose Brophy, \*George Dietz, \*Gabriel A. DiMartino, John C. Ehrlich, \*Albert Fasano, \*Ross Ferry, George Groht, \*John R. Harris, Louis Hoffmann, \*Herman Kaplan, \*Peter Marullo, \*Richard A. Mueller, Jesse Orrick, Frank Pospisil, \*Robert F. Pritzlaff, \*John F. St. George, \*Nicholas J. Tripoli, \*Theodore Voyvodick, \*James Walker, and \*Jacob B. Wallach, Executive Board members.

*\*Officers and members reelected.*

## American Architecture

An exhibition of photographs, models, plans, and charts representing Three Centuries of American Architecture—the complete Architecture section of the collection of American art sent to Paris last summer for showing at the Jeu de Paume Museum—will be on view through March 15 at the temporary quarters of the Museum of Modern Art, 19 West 49th Street, New York.

The exhibition was assembled for the Paris showing under the direction of John McAndrew, Curator of the Department of Architecture and Industrial Art of the Museum of Modern Art, and since its return to this country it has been rearranged as a traveling exhibition by Elodie Courter, head of the Museum's Department of Circulating Exhibitions. The examples range from early adobe and New England dwellings to the trailer camps.



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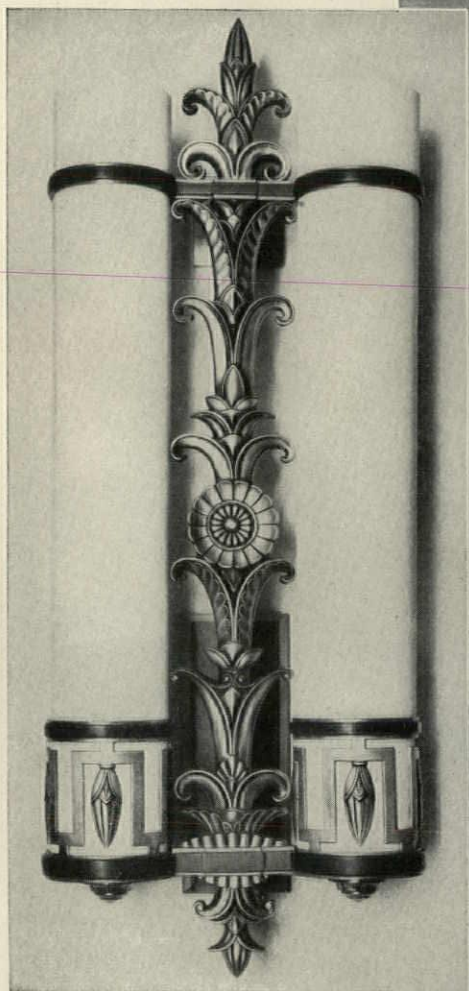
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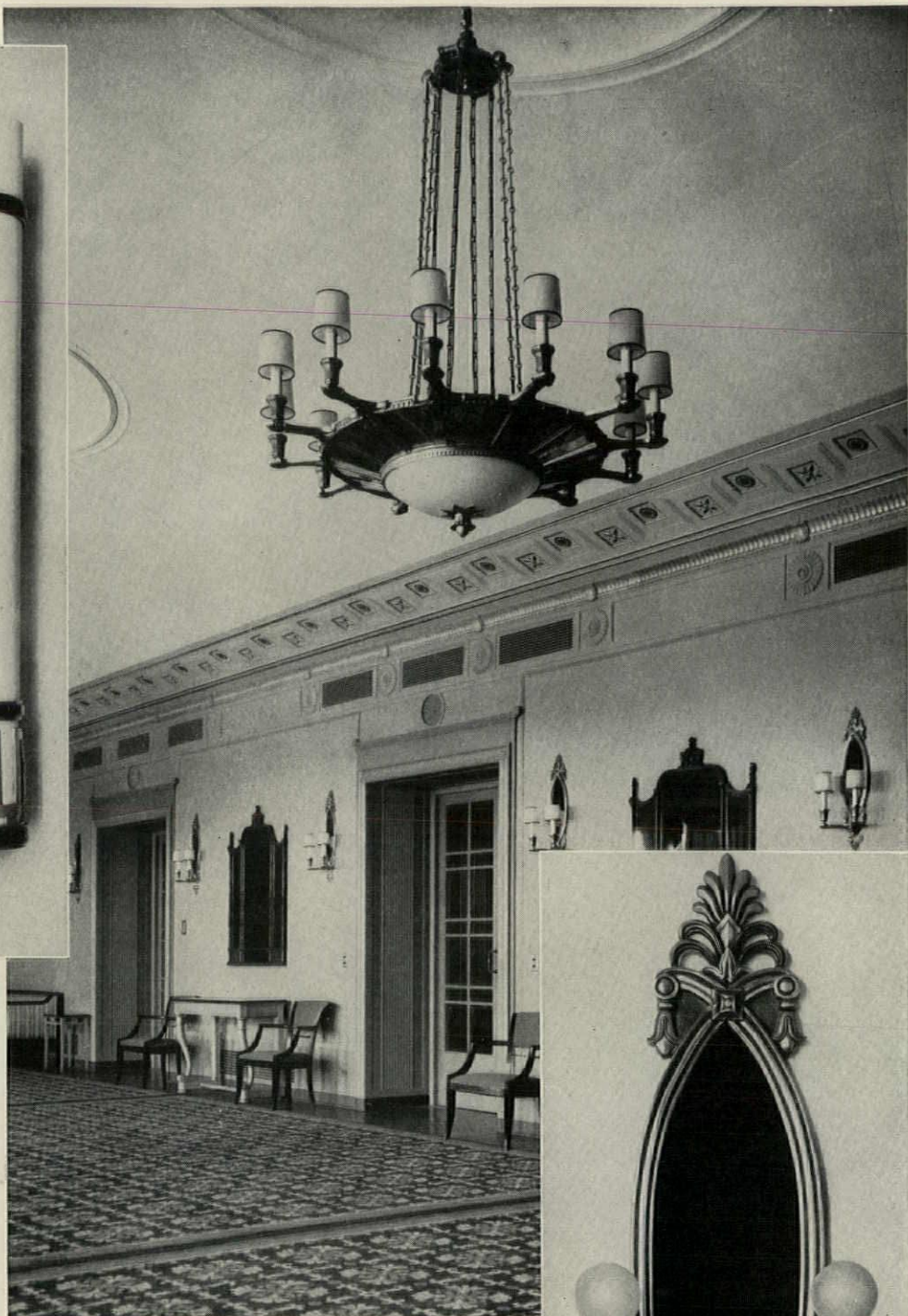
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One of the many CALDWELL fixtures for the HORACE H. RACKHAM SCHOOL of GRADUATE STUDIES at Ann Arbor, Michigan. Architects and engineers—Smith, Hinchman & Grylls, Inc. The fixture shown above was used in the entrance to auditorium.

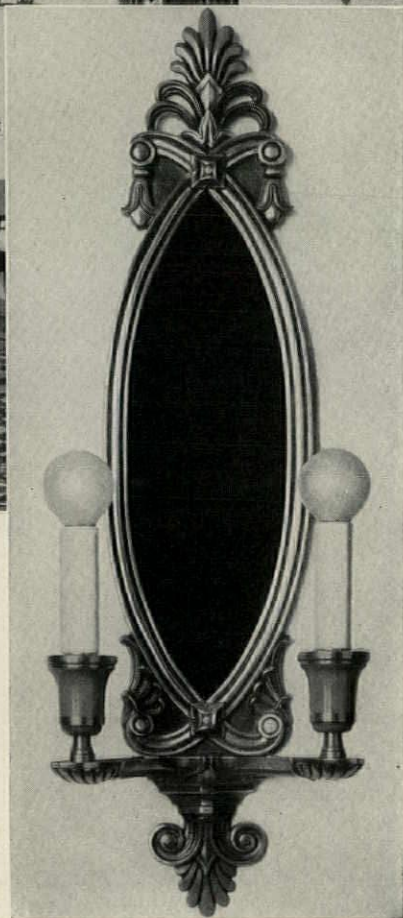


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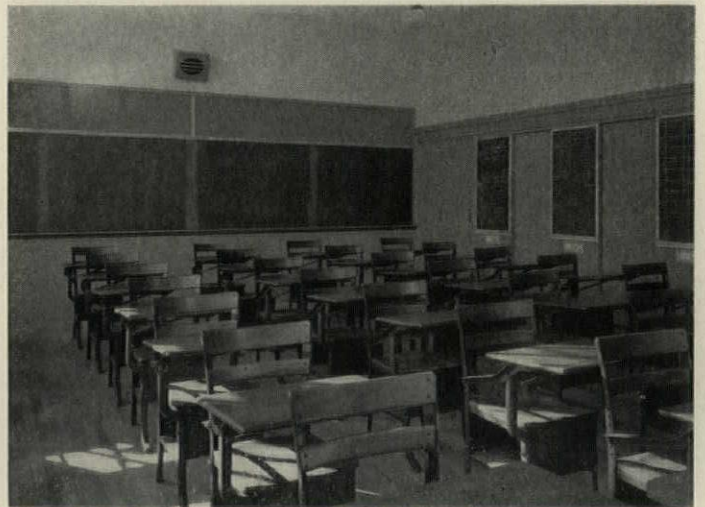
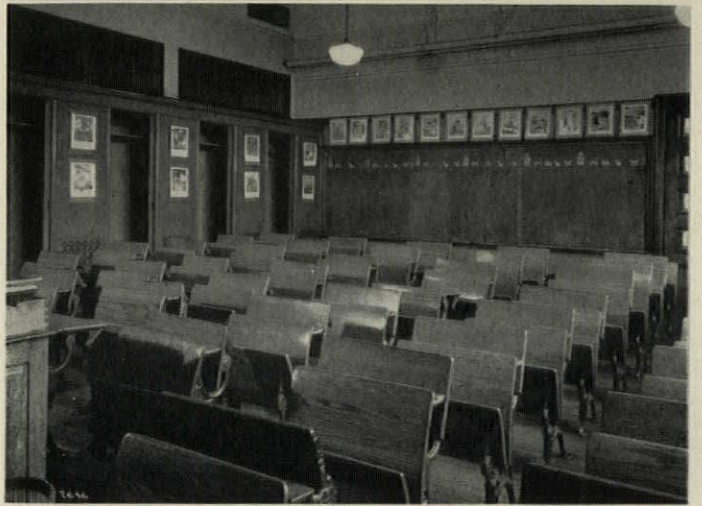
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Larger view of the bracket used in the room shown above.





*The development of the modern classroom—center of any school design—is shown by these photographs in New York public schools representative of successive eras. The 19th Century classroom at the top was devoted to instruction in chair-caning, at Public School 147 Manhattan. The room in the center, in Public School 5 Brooklyn, was built in the early years of this Century when C. B. J. Snyder was school architect. At the bottom is a room in Christopher Columbus High School, designed by W. C. Martin, Architect, and completed February 1, 1939*







# SCHOOLS ARE FOR CHILDREN

BY TALBOT F. HAMLIN

EVER since the days of Horace Mann, a century and more ago, the United States has been preeminently a leader among the nations in the education of the young. Millions of dollars are poured each year into the building of schools—public schools, private schools, progressive schools, conservative schools;—and, especially since the federal government, as a relief measure, has been subsidizing town and municipal construction, school buildings have been rising all over the country. Nowhere does the architect have a better chance to display his skill than in the planning of school buildings, and nowhere does he perform a job of greater importance for the public welfare. Schools should, therefore, be among the most characteristic, if not the best, architectural works of any period, and some examination of schools today should reveal a great deal about American architecture as well as about American life.

In a way, the job has been made easy for the architect. Technical problems have been studied and re-studied. Colleges for teachers and educational research bureaus seem to have examined almost every phase of the problem, from the size of school furniture to the amount of maintenance required for each pupil; and all the result of this research is easily available. The manufacturers of school equipment have large and efficient technical forces. In a sense, then, the work of the designer would seem superficially to be merely that of assembling the various spaces required by these almost standardized essentials into a coherent pattern. Yet the disappointing number of stupid—and even of downright bad—school buildings shows that, even with all of this aid, the task of school design is not a simple one, and the final results must be determined by a great many more things than the mere adding up of square feet within four walls.

In part, the difficulty of the problem lies in something for which the architect has no responsibility—the particular educational philosophy of the school board or committee for which he works. School architecture is espe-

cially sensitive to the exact demands of the individual problem, and that problem in turn is determined absolutely by educational ideals. Education in the United States is in a period of transition and unrest. Some school boards demand the standardized, conservative education of thirty years ago; some seem to be at the mercy of every latest fad. In many cases mere laziness is behind the first type, mere love of novelty behind the second; and with such a basic lack of any exciting, controlling idealism it is perhaps not strange that the programs for building which such bodies produce, and the buildings which they erect, are as inconclusive or as stupid as they are. Even in such an important consideration as the size of schools there is little unanimity of opinion.

If education is founded on the development of the individual, the size of classes and the size of buildings should be small enough to allow the individual to count. If, on the other hand, education is founded on the ideal of producing a standardized type which is deemed desirable, the very large, impersonal building is fitting. In general, American education has been founded on the individual ideal; yet nowhere in the world are larger or more impersonal knowledge factories produced than our typical urban elementary and high schools. There are all sorts of reasons for this fact: the tremendous increase of urban population, the sudden raising of school age limits, the perennial fact that no city ever has a sufficient amount in its budget for school construction, and the supposed economy of large-scale construction and institutionalized maintenance.

Thus, at the very beginning, the American architect is faced with a major inconsistency in the presentation to him of a problem which seems, on the face of it, almost insoluble—that is, how to produce a fit environment for the education of sensitive individual children in a building where five thousand are gathered together in classes all too large. How the architects must look with envy at Holland, for instance, which has set a maximum of 250 children for each elementary school, so that in many Dutch cities there is a small and inti-





Vandamm

*In progressive schools, corridors are often used for displays relating to the things being studied. The children prepare these displays themselves. Here is one, dealing with China, in the halls of the Dalton School, New York*

mate schoolhouse in almost every large dwelling block.

It appears, then, that not only educational ideals determine American school architecture, but other brutal economic and sociological facts contingent on our whole urban make-up. The school is seen merely as another victim of the inordinate desire for centralization which has hampered so many elements in human life. In the less centralized areas the problem is manifestly simpler, and that is why so many of the best schools of the United States are to be found in the comparatively small cities and towns of the Middle West and the Far West, and in the suburbs rather than in the cities themselves.

Once the size of the school has been determined, happily or unhappily, it is the kind of education which the school is intended to produce which will control its design. Essentially, American education is today divided into two camps: those who believe in the so-called pro-

gressive education, and those who feel that the conservative, time-tested arrangements, with the proper modifications to keep them up to date, are the best. We may assume that the principle of the progressive school is that the minimum of exterior discipline should be applied to the child, and that the only true discipline is that which the child himself develops through his relation to himself and to the other children with whom he is so closely associated, and also that knowledge is best gained not through learning by rote but as a result of activity in work and in play.

The progressive school will, accordingly, be a place where such implied disciplines as fixed desks in straight rows are resolutely avoided, and where there is adequate area for play and for manual and artistic work. The school environment will tend to become more nearly like the home environment, and the total area required per person will be tremendously increased; so that the progressive school will require a total area of from  $1\frac{1}{2}$  to 2 times the area of the conservative school for the same number of people.

The conservative school, on the other hand, will require the most efficient and carefully planned classrooms, with a perfection of lighting and an economy, through the careful arrangement of equipment, impossible under the other scheme. It will substitute for the more or less free activity of the first type a more closely organized activity, in which all the members of the school will take part at stated times. The goodness or badness of either type of school will depend on the perfection with which it creates an environment for its functions.

Yet, despite these vast differences, there are many requirements which the two types of school have in common; for both must be based, if they are to express the real ideals of American education, on the individual child himself, first and foremost. There has, moreover, been a constant reaction between the two basic ideals; and even the conservative school today requires, as a matter of course, places where children can work and express themselves in the arts, and places where they can play comfortably and safely. These elements have been accepted for a long time in all schools; and, since they are expressions of ideals now almost a century old, it is not strange that we have worked out many important standards.

The architects, like the educators themselves, often forget the enormously valuable contributions of their predecessors; and, during the last decades of the 19th and the first of



the 20th century, men like C. B. J. Snyder of New York, William B. Ittner of St. Louis, and John Donovan of Oakland, Calif., had worked out definite standards of safety, convenience, and efficiency in school design which should not be forgotten. In our search for the new, the true values of the old must be examined with the greatest care before they are discarded. Take, for instance, the problem of exit stairs: the completely enclosed exit stair, with a wire-glass screen and door between it and the corridor, daylighted, and with a direct door to the outside air, is an element of school design so absolutely necessary for safety, so thoroughly proven in times of emergency, that it is discouraging to note that in some cases school architects, looking for the quality of flowing space or for the free planning so characteristic of our day, and in thoughtless imitation of admired European examples, have gone back at times to the open stair. Will some unnecessary school disaster, through smoke panic, be necessary to prove the danger of this alternative?

The classroom is, of course, the center of any school design, of any type. So much has been written about it, and so much is readily available, that any detailed consideration of its requirements for either progressive or conservative schools is unnecessary; yet here again common sense in evaluation of the old, as in the development of the new, is above all things necessary. If we have the free furniture arrangement of the progressive school, we must of course abandon the ideal of unilateral lighting; but in the conservative classroom any abandonment of this idea is inexcusable. We must never allow any supposed stylisms to interfere with our lighting; and, if it was wrong for the 19th-century architect to allow the necessity for pilasters or individual windows on his exterior to break up the classroom light with ugly shadows and produce on the student's paper a welter of confused cross-shadow from his hand and his pencil, it is equally silly today to allow the desire for horizontal banded windows or vertical expressions, or the use of glass brick, or what not, to produce classrooms that are glaring, too brilliant with violent and disturbing blackboard reflections. In the conservative classroom at least, we have learned, through trial and error, the advantage of a certain amount of exterior wall space at the teacher's end of the room; and stylisms have no more reason to make us forget this lesson today than they did in the past. One has only to go to the New School of Social Research, by the late Joseph Urban, to realize how the desire to get horizontal unbroken bands of

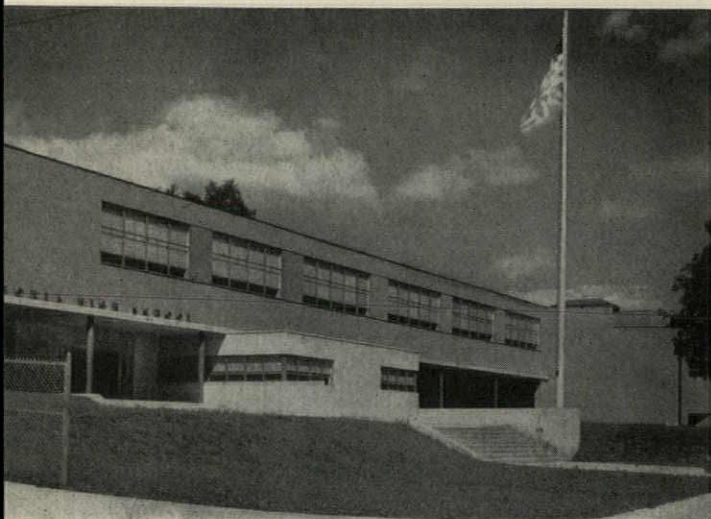
glass on the façade has compromised the planning and even the convenient use of all of the classrooms on the front of the building. Of course the progressive classroom brings more problems, such as the arrangement of necessary working space, its acoustic treatment, and its relation to the study space in such a way that there may be easy supervision and yet no interference; the equipment is as yet unstandardized, and if there is less need for blackboard space there is more for bookcases, cabinets, lockers, and so on.

If the classroom is the center of school architecture, the corridors in any large school are its bane. Their necessary great size and the desirability of natural light bring a host of problems to the planner. Corridors are expensive to build and difficult to supervise, and if the desire is to have all classrooms on one side of the corridor only, for reasons of orientation, the inordinate length which results seems inhuman and wasteful. If the problem of vertical circulation, through escalators or elevators, could be economically solved, it might indicate that for the large school some type of multi-story building was in many ways better than the more extended plan required for a building of one or two stories, since several

*A view in a typical classroom in one of the most advanced progressive schools, the Dalton School in New York, for which the late Richard H. Dana was architect. Note particularly how the furnishings—tables, chairs, shelves—are designed in scale with the children*







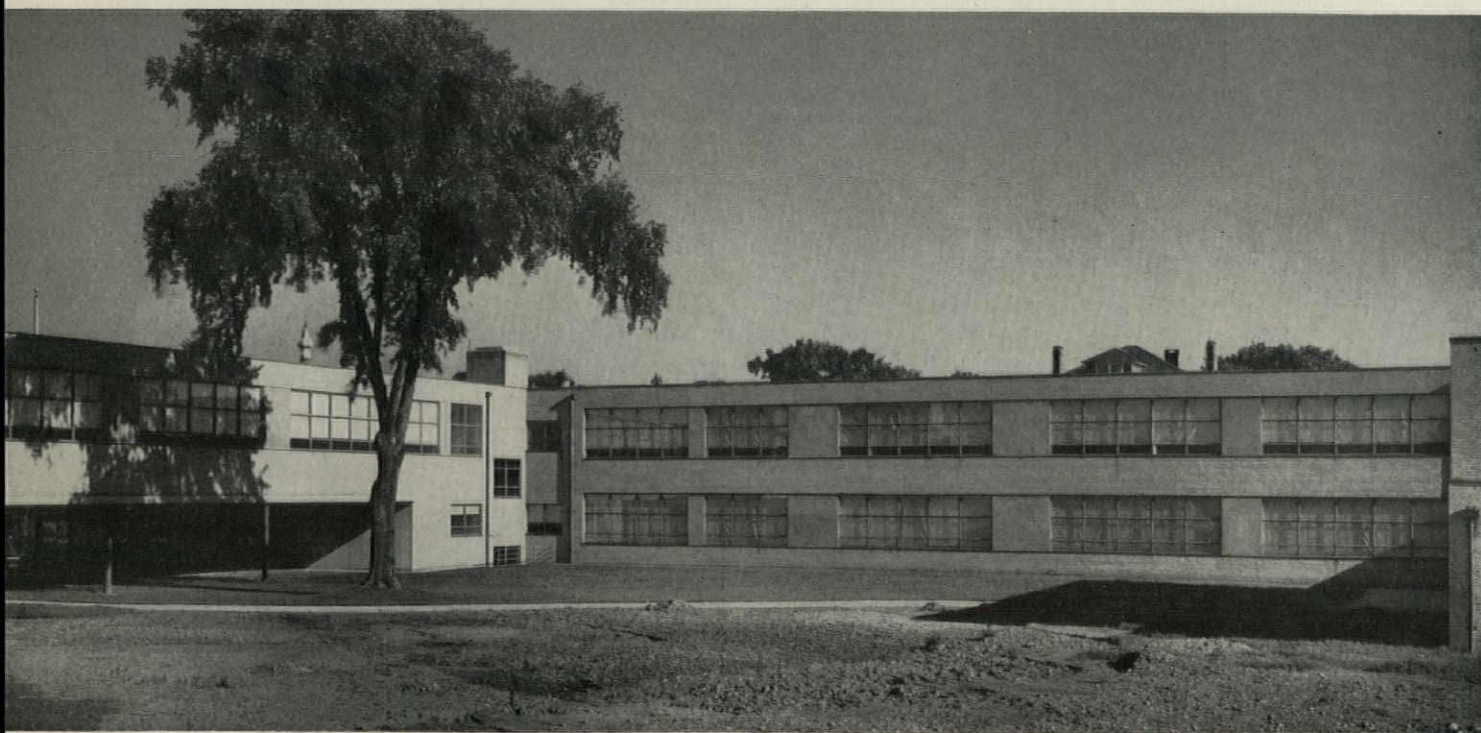
Nyholm

*Street side and, below, courtyard side of the Ansonia, Connecticut, High School. William Lescaze, Architect; Vernon F. Sears, Associate. Its character of simple clarity, its long straightforward horizontals, and its clear color treatment distinguish this building. This is architecture which children can really understand and love*

short corridors are more easily handled than one long one. Little by little, growing familiarity with elevators and growing perfection in their design has made it possible, at least for large urban schools, to realize these advantages; and it is undoubtedly true that on any congested city lot a building of eight or ten stories can be designed which will furnish more light, more air, and more play area than the older type of three or four-story building. It is encouraging to see that in many of the

new designs for New York City schools the multi-story buildings do give precisely those advantages of light, air, and space which the report of the committee of architects appointed by the Board of Education to examine the entire problem signalized as necessary elements in all future school buildings. Nevertheless, all the attempts to solve the problem of the very large school seem, even at their best, mere compromises. Perhaps the problem as stated is fundamentally insoluble, because the over-large school is itself contrary to the highest educational ideals.

The school problem is further complicated by the fact that so frequently the school must serve not only as an educational institution but also as the social center for its neighborhood. From the point of view of mere maintenance, a school plant which is working every evening as well as during the daytime is more economical than one which is only in use a few hours a day. American cities are notoriously lacking in lecture halls, auditoria, and social rooms, and it is a definite addition to the civic amenities if the school buildings can, in part, take their place. The architect of such a combined building is really forced to a double task; and the interrelations of those parts of the building which are used only for education, *per se*, and those parts which are as well used by a larger public, frequently of an entirely different age group from that of the pupils, is a matter requiring the most careful detailed consideration. Here again de-centralization has its virtues, and it is much easier to solve such a problem where the site allows the



Nyholm





*The Fitchburg, Massachusetts, High School obtains its effect through a frank and disarming simplicity. Its architects were Coolidge, Shepley, Bulfinch & Abbott*

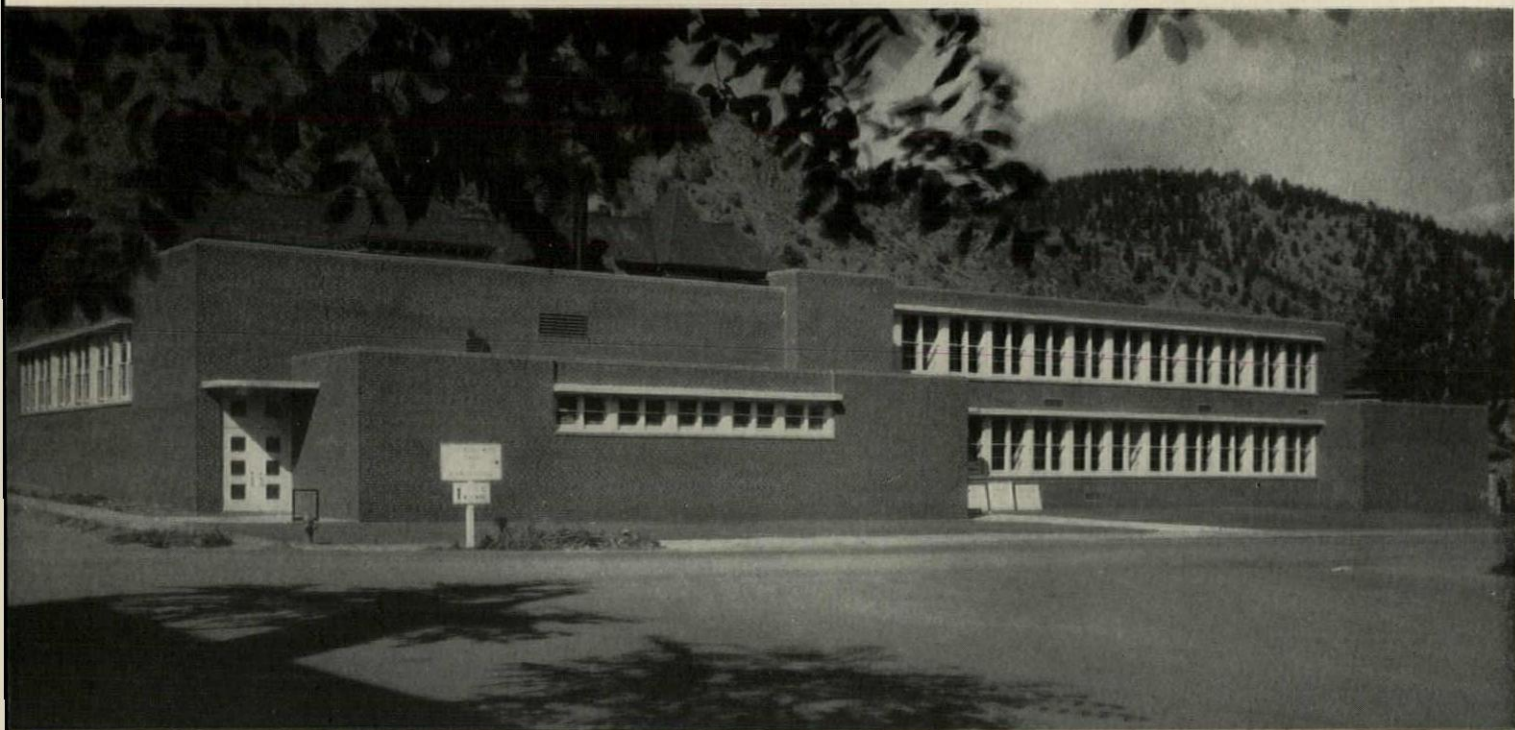
school auditorium, social rooms, and perhaps the gymnasium and swimming pool to be set apart in almost separate wings, which can be easily shut off from the rest of the building.

Nevertheless, despite all these difficulties and complex requirements, we may accept that, in America at least and for American conditions, the basic problems of school planning are well known and frequently well solved. We accept as matters of course that the ideal school must have sun in all its classrooms during some part of the day. We know the special rooms, like studios and some laboratories, which demand north light. We understand the problem of kindergarten and classroom design, and the requirements of gymnasiums, swimming pools, and athletic equipment. We realize the necessity of outdoor play space in the closest connection with all school buildings, and the desirability of school gardens and, in many parts of the country, of outdoor classrooms as well. Yet, even though

we realize all of this, it would indeed be a critic insanely optimistic, if not totally blind, who would claim that the schools of America, by and large, have the attractiveness and beauty which they deserve. It is evidently not in the details nor in the general conception of the planning alone that all the secret of school design lies, and to find out how we may make schools better we must look further and more deeply into the entire school problem.

Perhaps the greatest secret in the design of schools lies in the architect's basic approach. Schools are for children and for youths; not only for children and youths *en masse*, but for individual boys and girls, your children and mine. Between these two concepts there is an enormous chasm. The school for children *en masse* is bound to be depersonalized, a knowledge factory, with all of the industrial spirit which the factory idea connotes. It will be a building conceived in terms of cubic feet, and not in terms of the child's reaction to it. It will be hard, perhaps even brutal. And it will almost always be stupid. In other words, it will be the average American school, designed for an education that thinks in percentages and



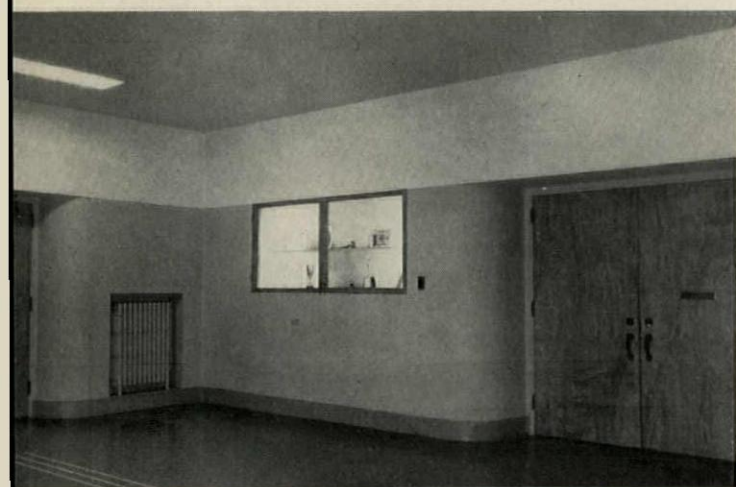


*Interesting and simple forms composed with an intimate scale make the Idaho Springs, Colorado, High School a building which children will take to their hearts. In the corridor view below, the recessed exhibition case, the curved jambs of the doors, and the cutting down of apparent height by the wall treatment show some well expended thought by the architects, Frewen & Morris*

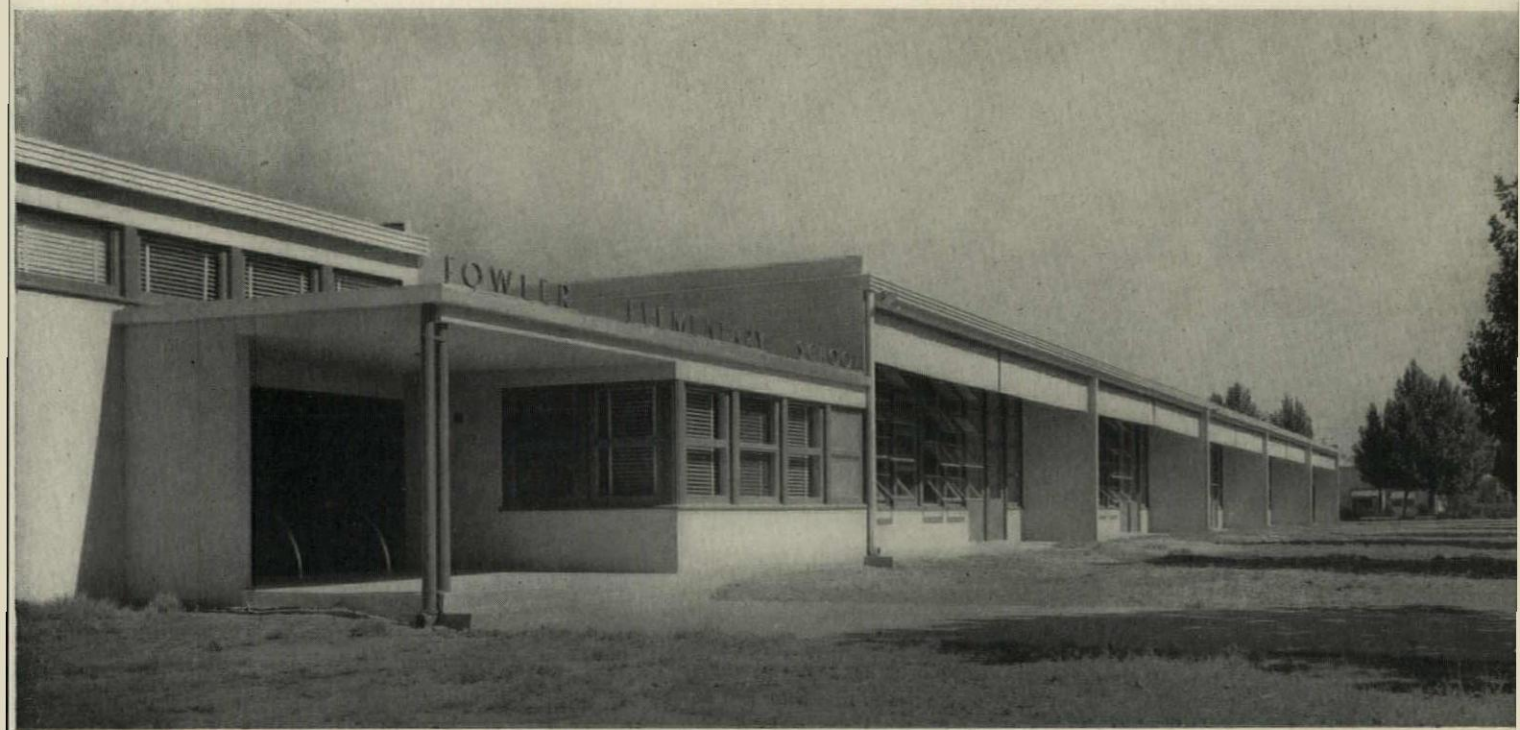
for a school board that thinks only in dollars. It will be a school to which the child will go either as a mere matter of course, because "one does," or even by force, as if to a prison, to escape when possible and to disregard when attendance is necessary. It will be, that is to say, the school of the legendary child who lives only for vacations, and who arrives at the end of the day, or at the end of his course, bored, tired, regimented into a pattern, and rebellious. It will be the school which produces

gangs and gangsterism, headline readers and haunters of the movies. It requires a knowledge of only the most obvious qualities of a large section of American life to realize with what ghastly efficiency it has accomplished this job. This is particularly deplorable, for, if American education has had any constructive ideals to offer to the world, these have been ideals of that individual education which must be the foundation of a real democracy.

If the architects of schools could only accept this tremendous ideal as a controlling attitude, what an amazing revolution in the character of our school buildings might result; for an education of the individual means an education of persons, and it means not only personalized teaching but a personalized architecture. The ideal school architect must understand the tastes of children and of youths as deeply as he understands the qualities of building materials. He must, as it were, design half with the mind of a child, and produce buildings which children will grow to love instead of merely to tolerate. He must, even in the conservative school, as far as he can, personalize his standardized classrooms, introduce bright colors, make his corridors attractive with floods of light, perhaps with plants or exhibition cases. He must keep in mind always the scale of the people for whom the buildings are chiefly designed. This is easier perhaps in the case of children of kindergarten and elementary school age than in the case of the adolescent, and it is generally true that kindergartens and elementary schools are more at-







*The Fowler Elementary School, Fresno, California. Franklin & Kump, Jr., Architects. The close relation of indoors and outdoors found in so many California schools is well shown by this example with its generous glass areas and its human, personal scale. Illustrated more completely in the February Architectural Record*

tractive and better as buildings than the usual high school. The adolescent is in a strange, unstable state, between youth and adulthood, full of timid searching for beauty and truth, and yet frightfully self-conscious about expressing this yearning. He is experimental, arrogant and retiring by turns, at one moment the anarchistic radical, at the next the most hidebound of conservatives. Could there not be in our high school architecture some subtle understanding of this critical state, some quality which will emphasize the timid search for beauty and goodness, and by variety and imaginative quality of form and color aim at preserving and developing individuality? Most of our great high schools seem designed almost as if to deaden and defeat every single one of these "better" adolescent qualities, and to emphasize instead the crudest type of mob reaction by their mechanized vastness and their hard impersonality.

It is, therefore, with all the more pleasure that one comes upon the exceptions, such, for instance, as Lescaze's Ansonia, Conn., high school, with its free planning, its fresh openness, and its clear, gay colors. There are details in the planning, such as the connection between the classroom wing and the auditorium,

which are perhaps not solved as well as they might be had there been a less rigid adherence to the psychology inherent in what is usually called the "International style;" but of the general effectiveness of the whole, of its quality of, shall we say, clear youthfulness, there can be no question. One imagines that it is a school which its pupils will love and be proud of. It brings up the fantastic idea that, with an ideal architecture, one might sometimes have a school spirit based on pride in and love of school buildings, just as intense as that which is today based on football prowess.

Another school, much more conventional in type, the Fitchburg, Mass., high school by Coolidge, Shepley, Bulfinch and Abbott, has, despite its conservative style, some similar feeling of gracious personality. To be sure, it has the many stories, the great red-brick, many-windowed walls, and the trappings of rather conventional ornament which are found in the usual impersonal school building; yet somehow here there is a difference—there is about it all a complete simplicity, a delicacy, and a rather fresh note in its classic revival ornament, which sets it quite apart from the usual Colonialesque high schools of the day, which seem in some ways almost more mechanical and more drearily uniform than even many of the schools of twenty years ago by Snyder or by Ittner. Fitchburg, on the contrary, has a distinction all its own. Perhaps it lies in the simplicity of the plain end walls of brick, broken so pleasantly by the stair window and the exit door below; perhaps it lies in





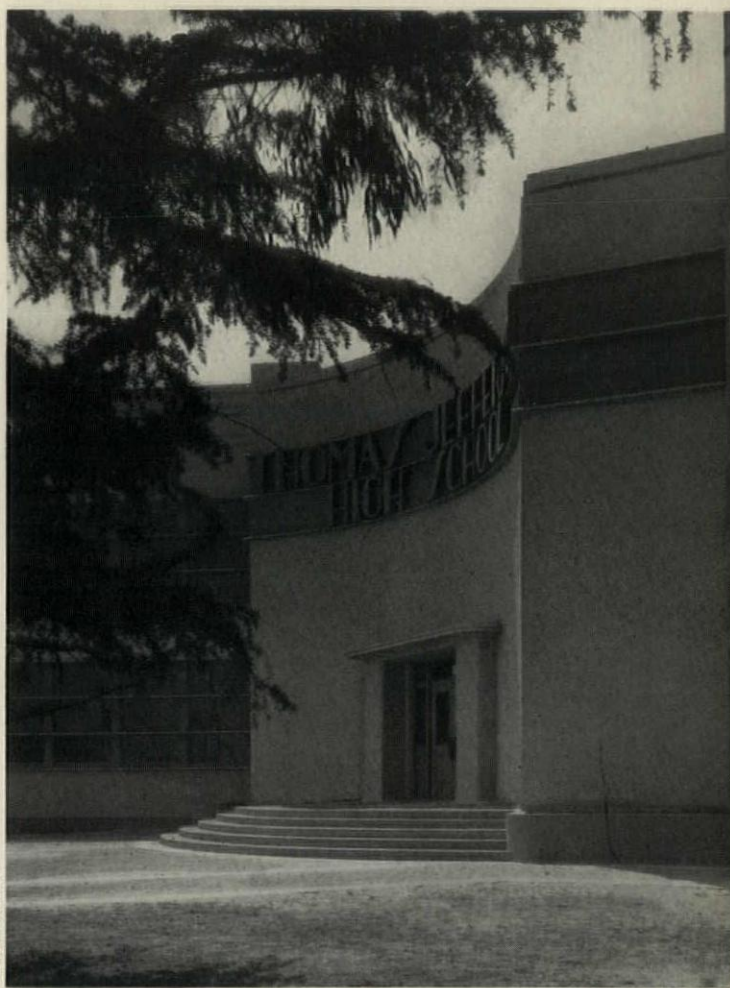


the delicacy of the detail; perhaps it lies in the tying together of all of the windows in continuous bands by white panels. It is difficult to analyze, but the effect—the quality—is certainly real, and it would seem that this too might become a building which its pupils would respect and feel affection for.

Different, too, but equally eloquent of a personalized and not a mass education, are a number of recently built schools in the Middle West, of which the Idaho Springs, Colo., high school by Frewen and Morris is characteristic. Here again there is a distinction of form and of detail which brings personality into the design. There is a simple contrast of windows and of unbroken brick wall which is strong and beautiful, and above all there is a scale which is individual and not monumental, a scale which somehow makes the whole seem a building made for children, a building which children will appreciate.

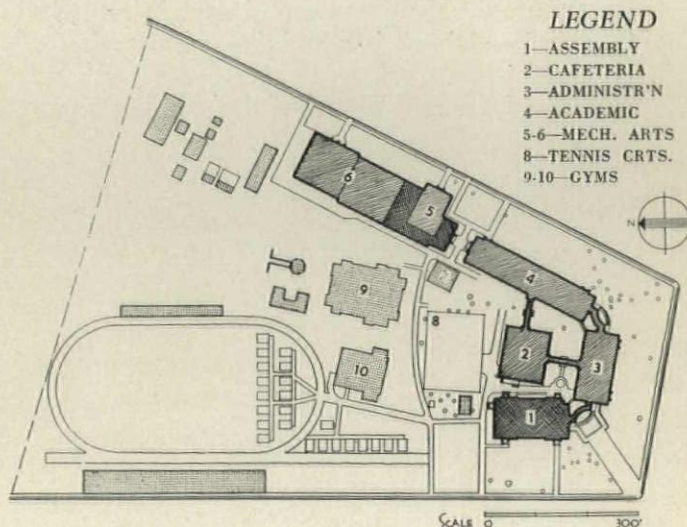
It is in the Far West that the most radical experiments in school design have been made; and, taking the area as a whole, it is undoubtedly the Far West which has in recent years produced the largest number of beautiful school buildings. Of course, the problem in the Far West is more simple. The climate is generally mild, with none of the terrific temperature differences with which the eastern architect has to contend. Outdoor corridors become possible and desirable, and courtyard plans of various types are thus made possible, with all that that means in intimacy and the combination of enclosure and open air. Moreover, the land problem is less acute and sites generally are much larger. Yet these advantages which the West enjoys, great as they are, do not explain the entire difference in character between the schools in the two regions. Western architects have for years been more daring in their attack on the school problem than their eastern colleagues. John Donovan was using the courtyard type of school in Oakland over thirty years ago, and Allison and Allison in the neighborhood of Los Angeles were experimenting in various types of broken-up plans at almost the same time. Obviously either the educational authorities were much more radical, or else the architects were much more alert to the opportunities for leadership; in either case the advance was real, and not merely a matter of climate and land area.

The western courtyard schools are well-known, and the work of Neutra in developing the one-room-deep school, with outdoor classrooms opening off the indoor rooms, has been revolutionary. If his were unique examples, we might accept them as merely the contribu-



Mott Studios

*The inviting character of this entrance and the banded motives which carry around the curves and tie the whole together distinguish this large school in Los Angeles by Morgan, Walls & Clements. The same human character and intimacy are even more obvious in the interior court shown in the frontispiece. This is architecture which has real meaning for the adolescent students*





tions of individual genius; but they are not, and such a school as the Fowler elementary school at Fresno, Calif., by Franklin and Kump, Jr., shows with what charm, with what a sense of the individual pupil, other architects are developing similar schemes.

Nor is this daring, fresh approach limited to comparatively small schools like these, but equally unconventional thinking has gone into many of the large urban schools both of San Francisco and Los Angeles. There, the idea of breaking up a large plant into a group of separate buildings almost like a college campus has been accepted and developed to an extremely high degree of efficiency and beauty. A noteworthy example is the recent Thomas Jefferson high school at Los Angeles, Calif., by Morgan, Walls and Clements. This last example is particularly instructive. Not only does this basic system of planning allow the units to be cut down into buildings of normal human scale, but it also permits a freedom in space and mass composition that is bound to add interest to the group. Besides, the whole, despite its over-heavy pylon forms, is handled with fresh and imaginative detail that is vivid, personal, and exciting; and, whether one likes the particular style of the detail or not, it is impossible to deny its stimulating quality as an expression of the qualities of the concrete of which it is built. The whole somehow has the true school character, without being like any other school, and it has in addition that rare personal quality which will make the school a living thing to its pupils.

This quality is a subtle thing, and difficult to achieve, especially in the larger schools. The new designs for the New York City schools are a case in point. They constitute a revolutionary advance over their predecessors in plan and mass conception; from every point of view with regard to light, air, and convenience they are excellent. Especially brilliant is the 8-story school proposed for West 93rd Street; its airiness is a striking vindication of the multi-story scheme and of the fresh approach of the new board of design. Yet to me,

at least, its character somewhat misses the personal, intimate quality which would appeal strongly to children; for me, it has followed too closely the vertical expression of structure which we have come to associate with commercial work.

The school problem is therefore an even more difficult problem from the æsthetic standpoint than for the mere complexity of its requirements; but, if it is difficult, it is also perhaps the most significant, the most rewarding, and one of the most valuable contributions which the architect can make to American life and to the continued dynamic vitality of American democracy. The school is the first place in which a child comes in contact with his social environment; it is the first place in which he becomes conscious of a milieu larger than that of the family, and the place where his relations to his fellow beings first become important in his eyes. The environment in which this takes place—its decency, its beauty, its cleanliness, its attractiveness—will do much to form these early important conceptions.

If, when the child goes to school, he is forced into a crowded, ill-ventilated, impersonal, institutional kind of environment, in which he feels himself only a unit in a great machine, then his attitude towards society is likely to be conditioned by some basic frustration of individual development, some fundamental feeling of futility, which may damage him for life. If, on the other hand, the school in which the child must pass some of the most formative years of his life is pleasant, bright, airy, personal, so that he may come to feel some definite emotion at its loveliness, as he feels happy in its convenience, he may not only have a feeling of heightened pleasure, of more worth-while activity, but also develop in this congenial environment some sense of social responsibility, of adding his own personality to the whole.

Seen thus, the creation of beautiful schools becomes not only an interesting architectural problem, but a real necessity for the healthy growth of a democratic America.



# MICHIGAN UNIVERSITY'S NEWEST ADDITION

## THE RACKHAM SCHOOL OF GRADUATE STUDIES

SMITH, HINCHMAN & GRYLLS, ARCHITECTS

IN THE design and construction of the building of The Horace H. Rackham School of Graduate Studies, recently completed at the University of Michigan, a rare concurrence of interests aided the Architects, Smith, Hinchman & Grylls, of Detroit. They found at their disposal adequate funds to meet all requirements, the skill of experienced builders, the knowledge of campus authorities, and a precise program which had been prepared by the administrative officers of the University after a careful study of the needs and operations of the Graduate School.

In planning the building, the Architects followed a schedule of space requirements which included the following elements allocated to the lower and upper parts of the structure:

Lower floors—an auditorium or lecture hall to seat 1,200 persons, with speaker's platform, rather than stage, and spacious arrangement of seats in amphitheater form to facilitate discussion from the floor and ease in movement; a covered approach for automobile traffic; main entrances on the south, with an ample entrance hall and coat rooms, retiring rooms, etc., to serve the lecture hall, and auxiliary entrances on the north in view of future campus development; administrative offices of the Graduate School and the Rackham Trust Fund; workrooms and shops; storage area.

Upper floors—study hall with adjacent book and magazine rooms; women's lounge, with writing room and music room adjacent; men's lounge, with writing room and music room adjacent; a memorial room; two small conference rooms; four large exhibition rooms and exhibition corridors; a small lecture hall to seat 250; two meeting rooms; three reception rooms in group with small lecture hall; two small meeting rooms, to seat 60; ten workrooms; coat rooms, store rooms, etc., to serve all above; fan rooms for ventilation of the several parts of the building, to permit joint or separate use; no heating plant, as service is by a tunnel from the University power plant.

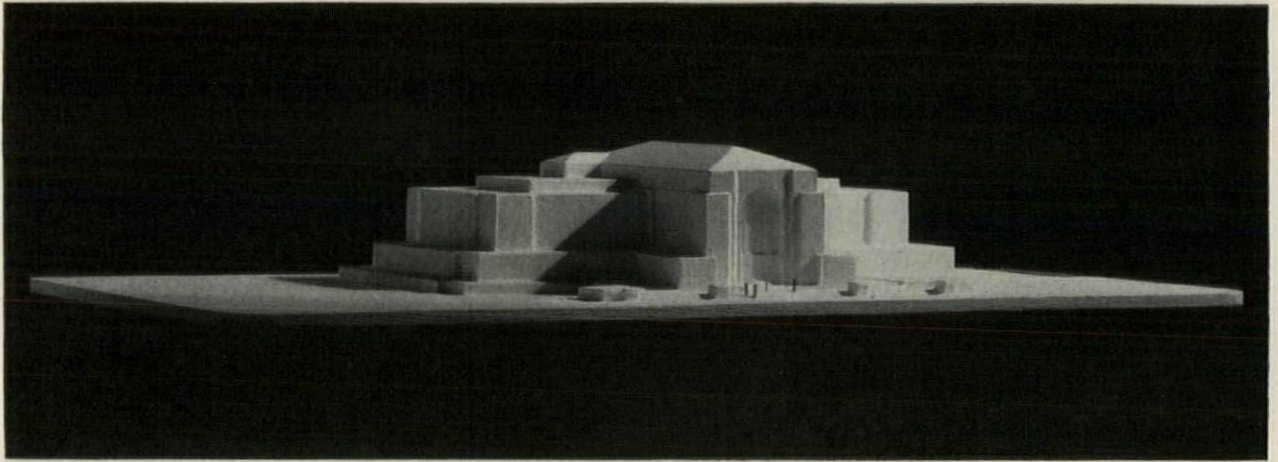
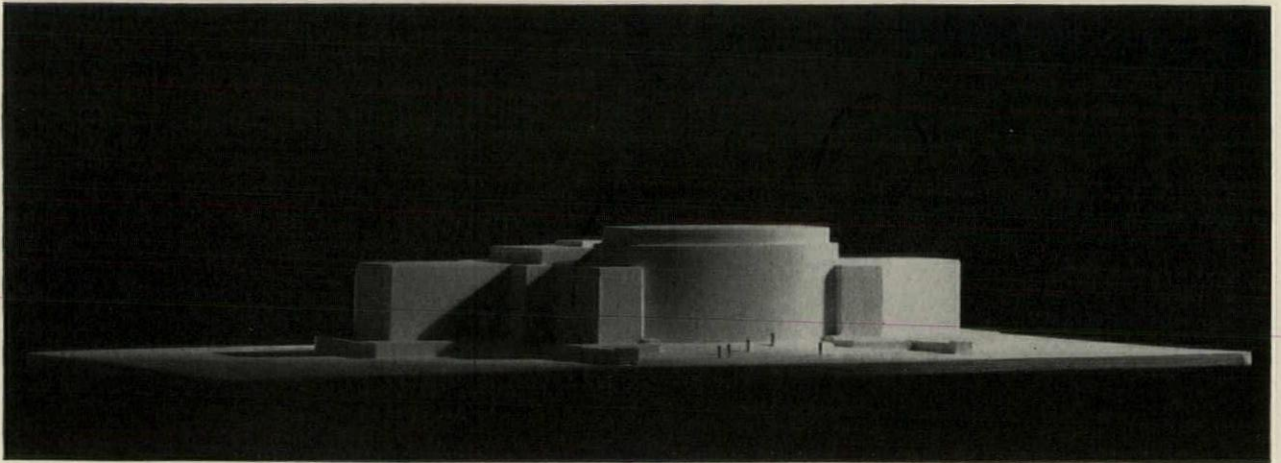
From this schedule, which was prepared in 1935 upon the permanent endowment of the Graduate School by the Horace H. Rackham and Mary A. Rackham Fund, the Architects developed six distinct types of structure. From these, the accepted solution was chosen by the President of the University and the Dean of the Graduate School, with the Trustees of the Rackham Fund. The endowment of \$4,000,000 and the gift of \$2,500,000 for land, building, and furnishings, from the Rackham Fund generously supplement the University's resources for the Graduate School.

To these advantages may be attributed some part of the success the Architects have scored with this impressive structure, which is at once a memorial to Mr. Rackham and a symbol of the increasingly important graduate functions of the University. It was recognized that the requirements of the lower floors, which include the auditorium or large lecture hall in the center, were greater than those of the upper floors. This has been reflected in the disposition of the simple masses; the set-backs providing terraces at several levels of the five-story structure. The exterior walls are of Indiana limestone with a granite base course and few embellishments. Window and door frames are of bronze and the roof is copper.

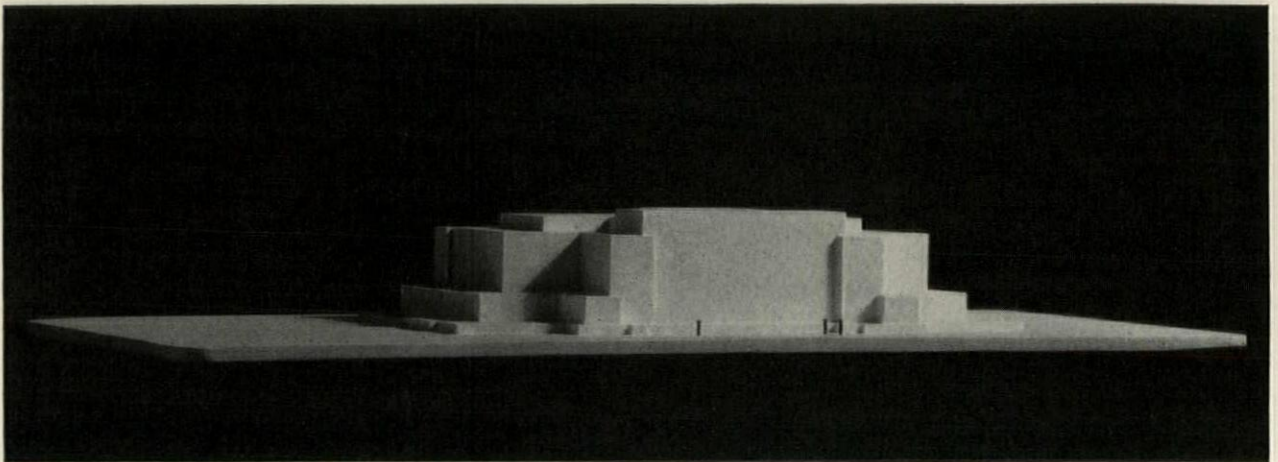
The nature of the problems presented by the program, and the spirit in which they have been met, are indicated by the following comment on the significance of the building, by William E. Kapp, of Smith, Hinchman & Grylls, who handled the work as representative of the Architects from the first sketches until the installation of the furnishings:

"For visitors to Ann Arbor, the building will constitute the most tangible evidence of the School's existence . . . and it is a constant reminder that research and the training of new investigators are indispensable services to society . . . The possibility of intellectual recreation is evident, and the specialist has opportunity to become a scholar."





*Several of the models used in the development of the final solution of the Rackham School are shown here with the corresponding sketches, from which they were modeled, on the opposite page. In addition to these, at least one asymmetric plan was essayed but the sketch at the bottom of the opposite page approximates the structure as built and the model below illustrates the set-back masses and interesting terraces of the formal building*

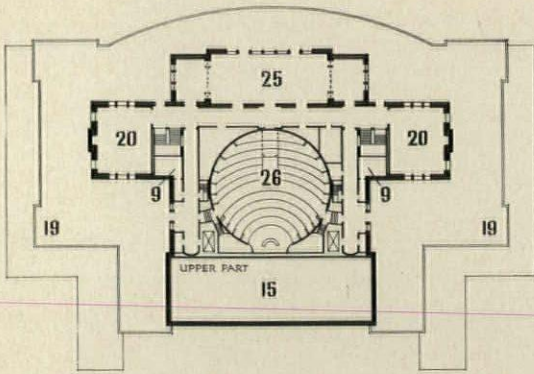




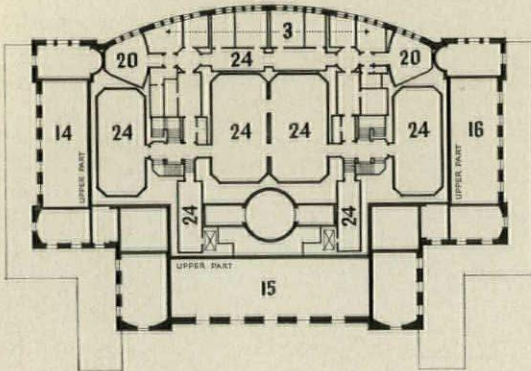




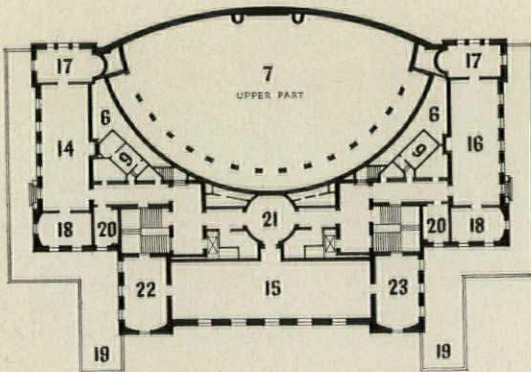
The distinctive character of the new building designed by Smith, Hinchman & Grylls, Architects, of Detroit, for the Horace H. Rackham School of Graduate Studies at the University of Michigan, Ann Arbor, is indicated by the photographic portfolio on the following pages. Points of interest, from the principal façade on the page opposite to interior features that follow, were pictured by R. W. Tebbs, Architectural Photographer, New York and Detroit



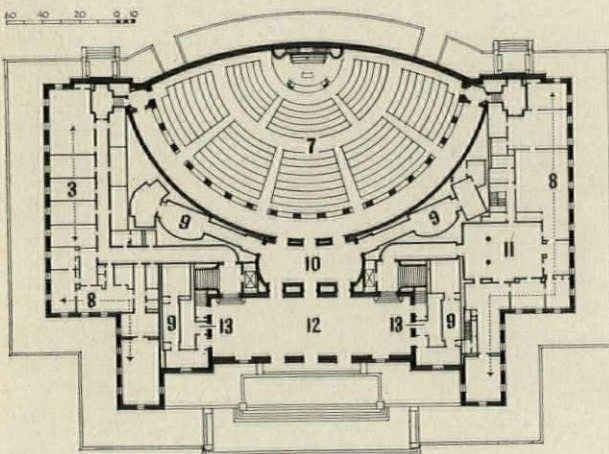
Third Floor



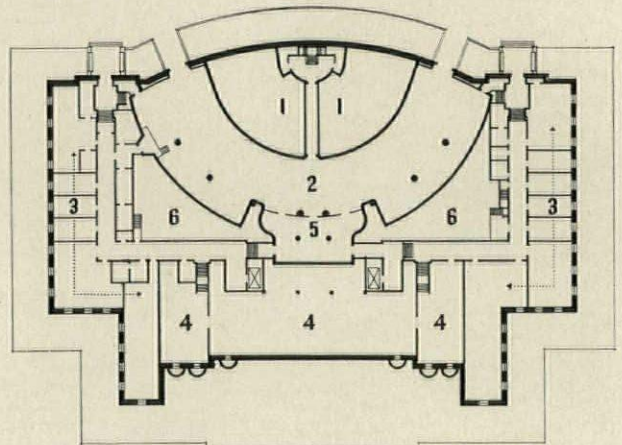
Mezzanine



Second Floor



Main Floor



Ground Floor

#### LEGEND

- 1—PLENUM
- 2—DRIVE
- 3—WORKROOMS
- 4—STORAGE
- 5—FOYER
- 6—MECHANICAL
- 7—AUDITORIUM
- 8—OFFICES
- 9—TOILETS
- 10—LOBBY
- 11—WAITING RM.
- 12—ENTRANCE HALL
- 13—CHECK RM.
- 14—W. READING RM.
- 15—STUDY HALL
- 16—M. READING RM.
- 17—MUSIC RM.
- 18—WRITING RM.
- 19—TERRACE
- 20—MEETING RM.
- 21—MEMORIAL RM.
- 22—BOOK RM.
- 23—PERIODICALS
- 24—EXHIBIT RM.
- 25—RECEPTION RM.
- 26—LECTURE RM.







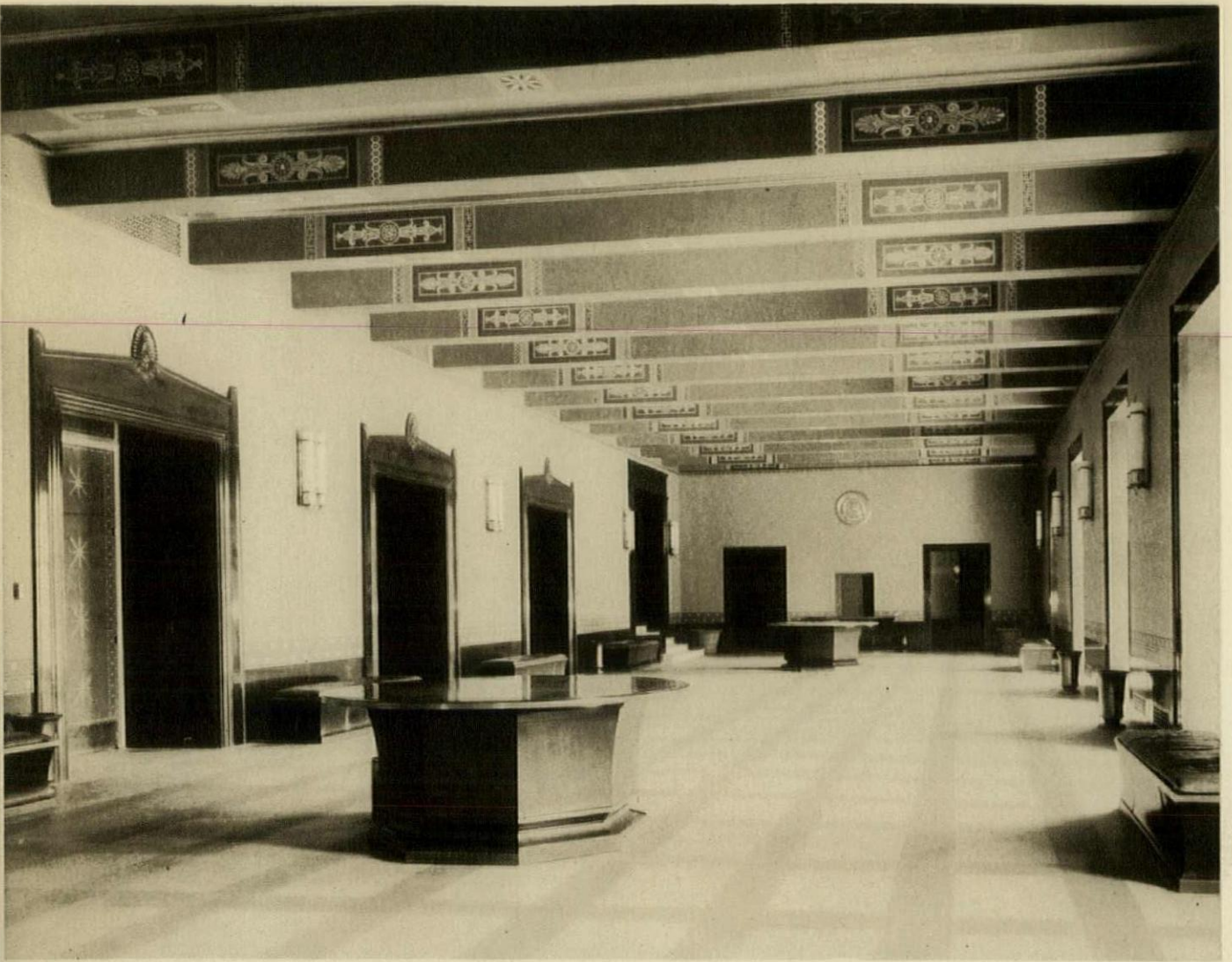


*The principal entrances to the Rackham School are located in the South front, which faces the University Library and a mall between the buildings, and give direct access to a richly-decorated entrance hall, shown on page 148. The detail on the opposite page illustrates the embellishment in the classic manner, modeled by Joseph Parnucci for the this facade, and the dignity of the bronze and glass doors*









*Key to the first floor arrangement of the Rackham School is this spacious entrance hall. The three doorways in the center of the wall facing the entrance, one of which is shown at larger scale on the opposite page, open on an interior lobby and a two-story auditorium or lecture hall beyond. These blue leather, bronze-studded doors harmonize with the blue-green leather cushions of the ebonized furniture. The flanking openings give access to stairs and to side offices and workrooms on this floor. The blue-green ceiling is stenciled in gold and polychrome and the walls of an effective Pompeian red have a black marble base and trim*







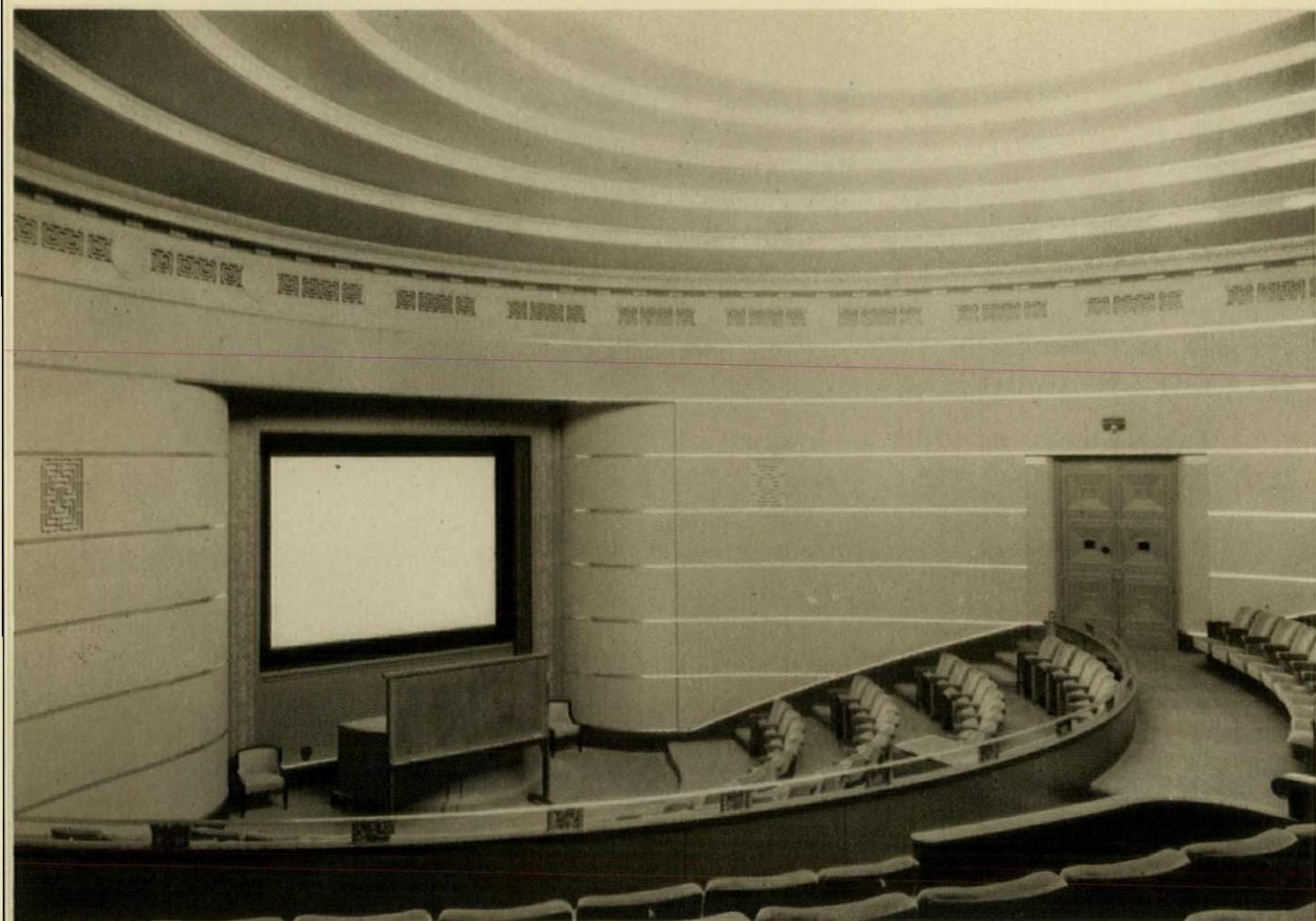


*A reception room in modified Pompeian décor, providing space for dances, informal meetings, and social events, is located on the top floor of the Rackham School, above the elaborately decorated auditorium, from which the detail on the opposite page was taken. The room colors are yellow and gray, with red and gray used in the alcoves at either end and rugs of blue, black, and gray. Doors from this room and adjacent corridors lead to a roof terrace which will be furnished and planted for use in summer months*



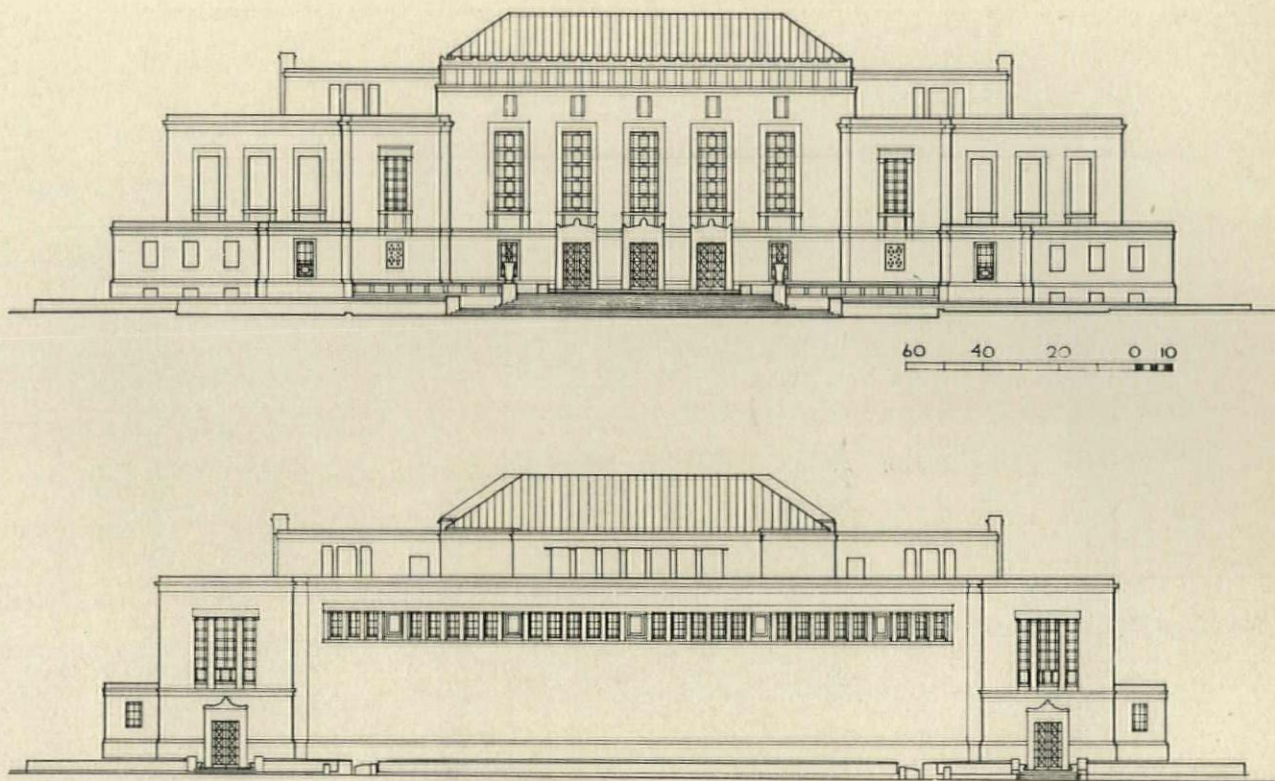




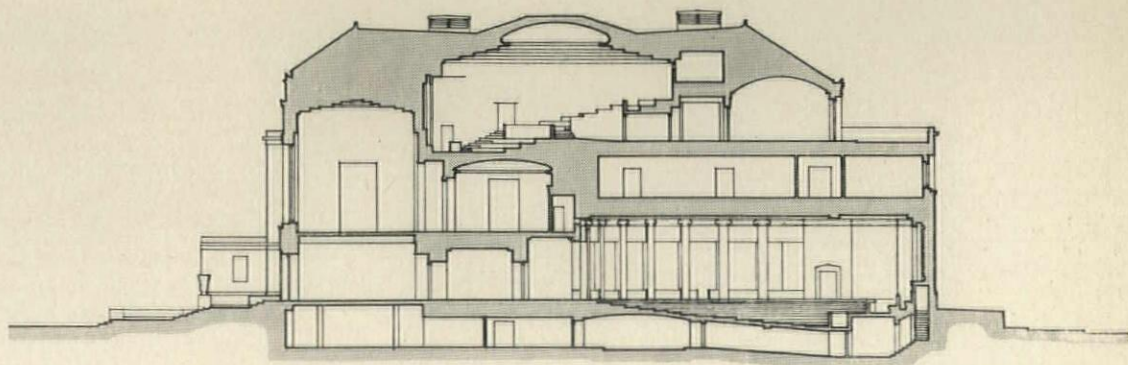


*In the center of the top floor of the Rackham School is this amphitheater seating 250. The steeply-stepped floor affords a perfect view of the picture screen and laboratory table, from any part of the room. The carpet is dark green and the seats a medium green. Horizontal bronze bands and a frieze decorate the brown walls of acoustical material*





*Elevations of the Rackham School, from the office of the Architects, Smith, Hinchman & Grylls, of Detroit, show the north front, at top, and south front of the structure distinguished by the unbroken, curving wall of the auditorium. The over-all dimensions, exclusive of terraces, are 196' x 250' and the arrangement of masses reflects the Graduate School needs, which dictated more space on lower floors. The section below illustrates the complexity of the planning for rooms of varying heights*





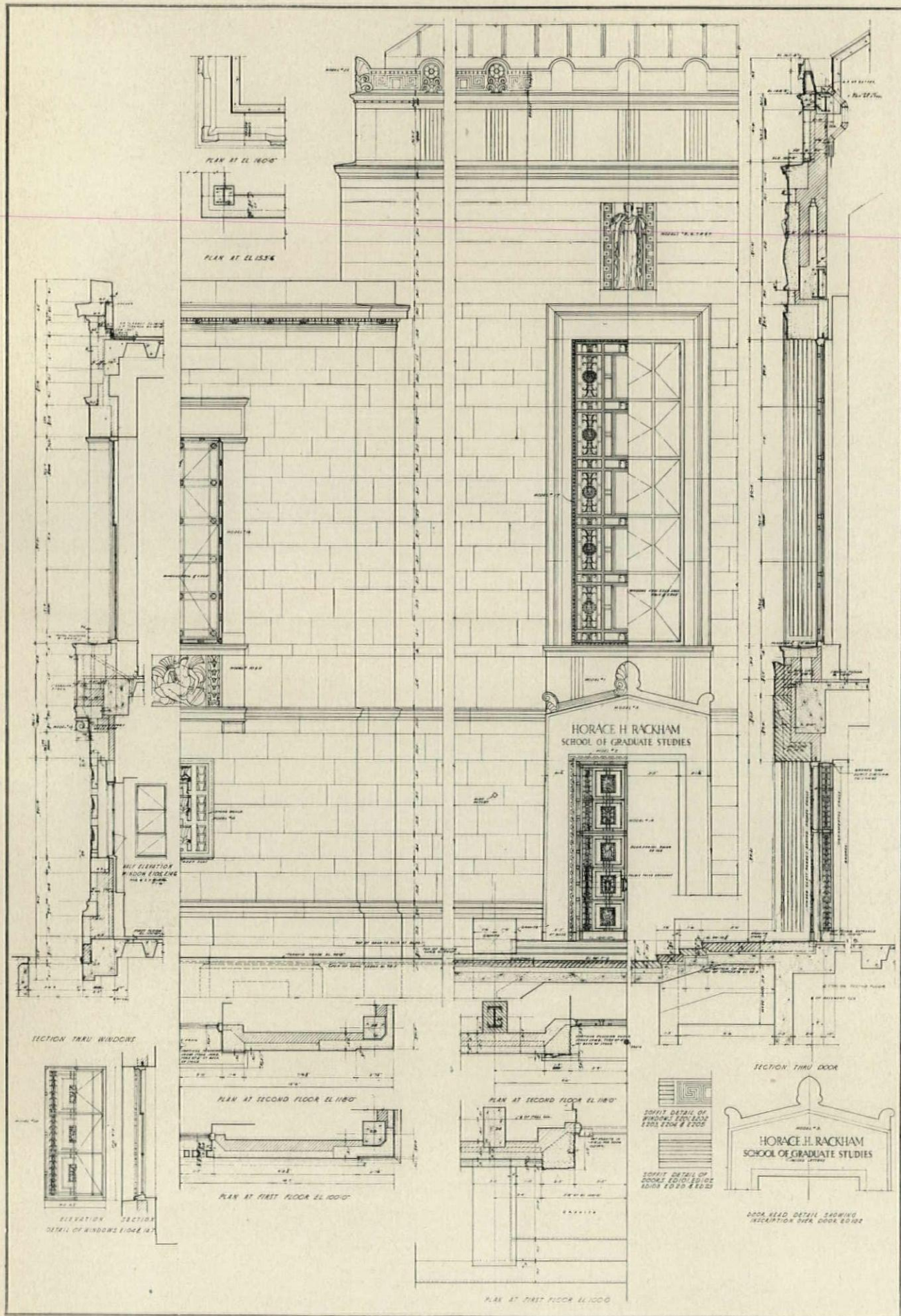


*The restraint in embellishment which characterizes the Rackham School exterior is illustrated by this detail of a window overlooking one of the upper terraces. The view of the study hall on the opposite page shows the richness of the interior decoration and the furnishings*













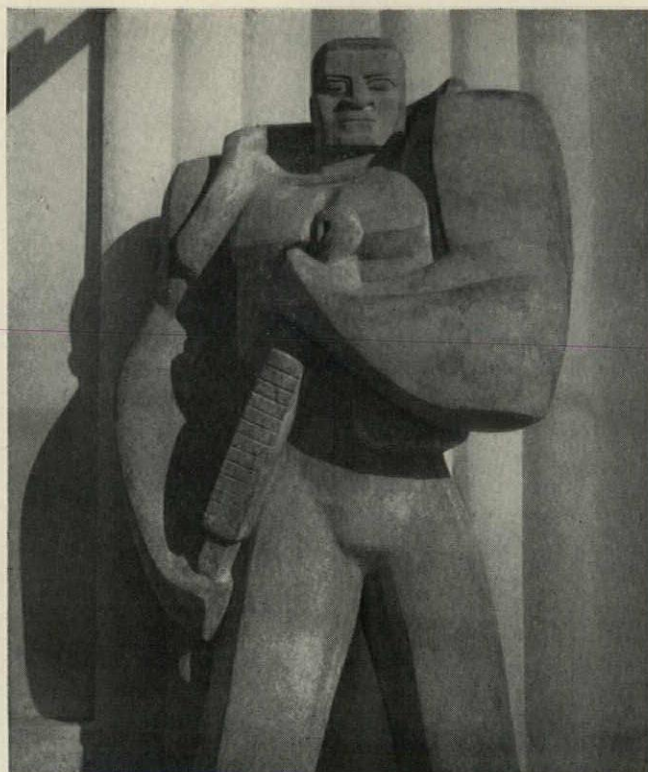
*PYLON OF PEACE*

*Model by Warren Cheney*



## FIGURES FOR TEAMSTERS' HALL

*Outstanding examples of Warren Cheney's dynamic interpretation of familiar subjects are these large-scale figures completed in 1937 by the young California sculptor, now living in New York, for the Teamsters' Union Hall in Oakland, California, designed by John B. Anthony, Architect. Elliott Sandow was sculptor of the over-door relief on the building, on the page opposite*







### “SOURCES OF THE NEWS”

*Symbolized by three figures—Man's Hopes and Aspirations, Power of the Press, and Man's Sorrows and Disappointments—which were designed by Cheney for a newspaper building. The contrast between these works and the sculptor's lyrical terra cottas, such as "Esper" on page 160, has interested critics where he has shown*





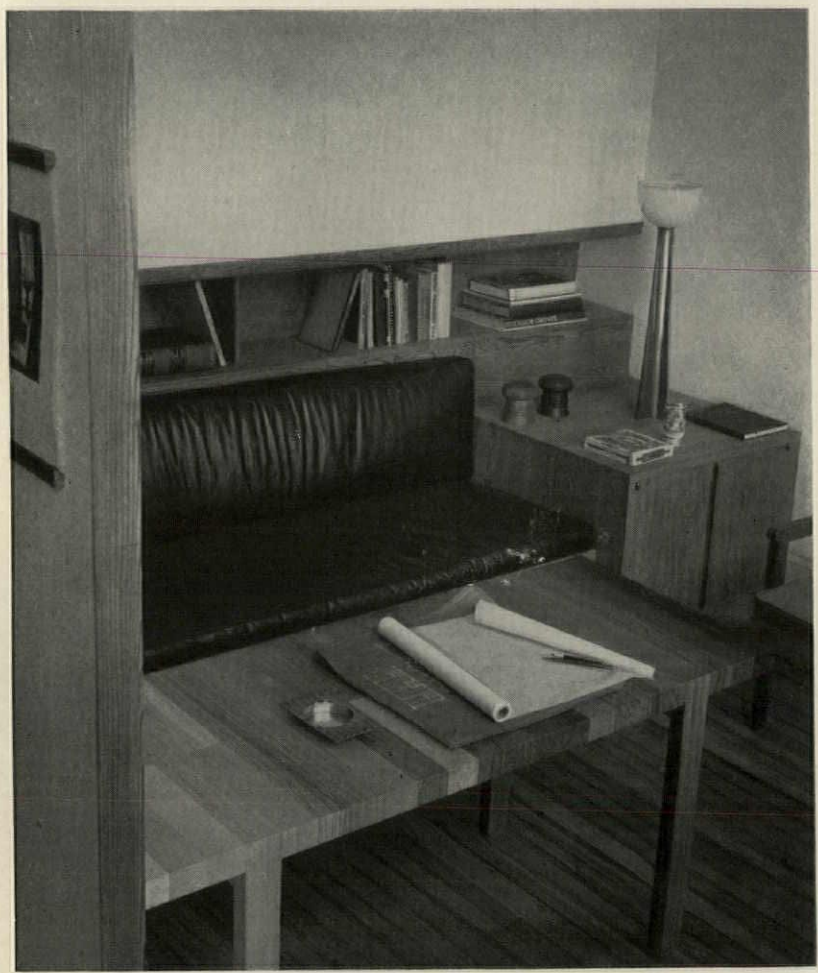
“ESPERE”  
*Terra Cotta by Cheney*



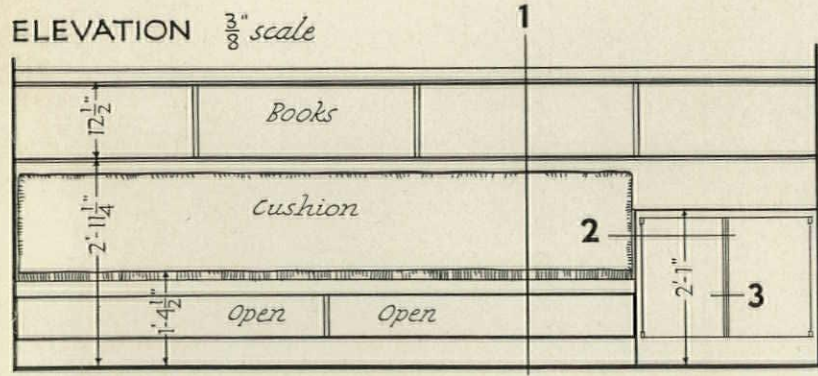
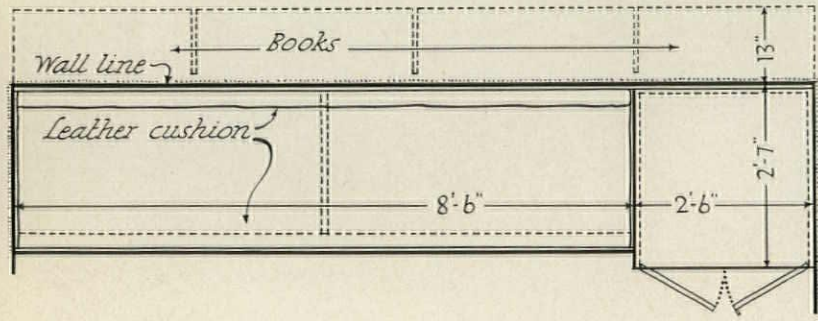
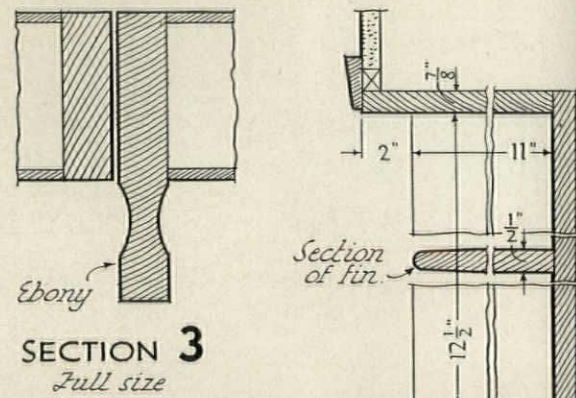
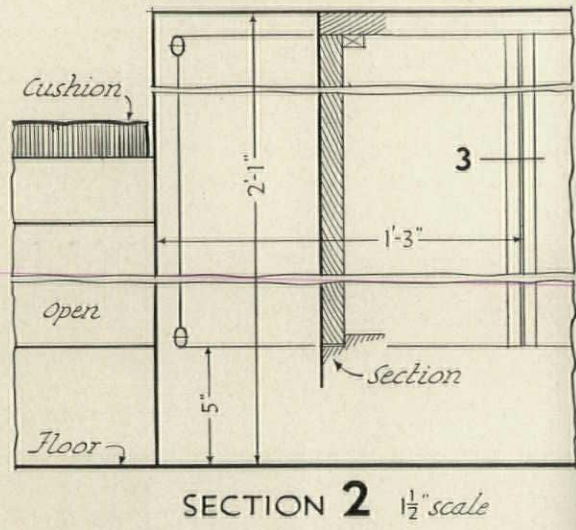






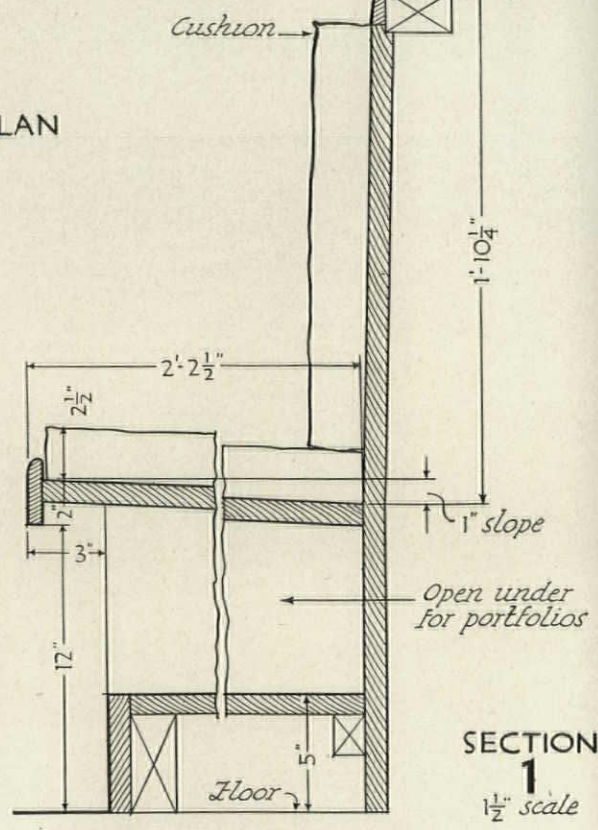


NYHOLM

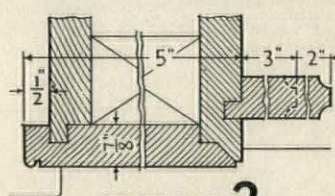
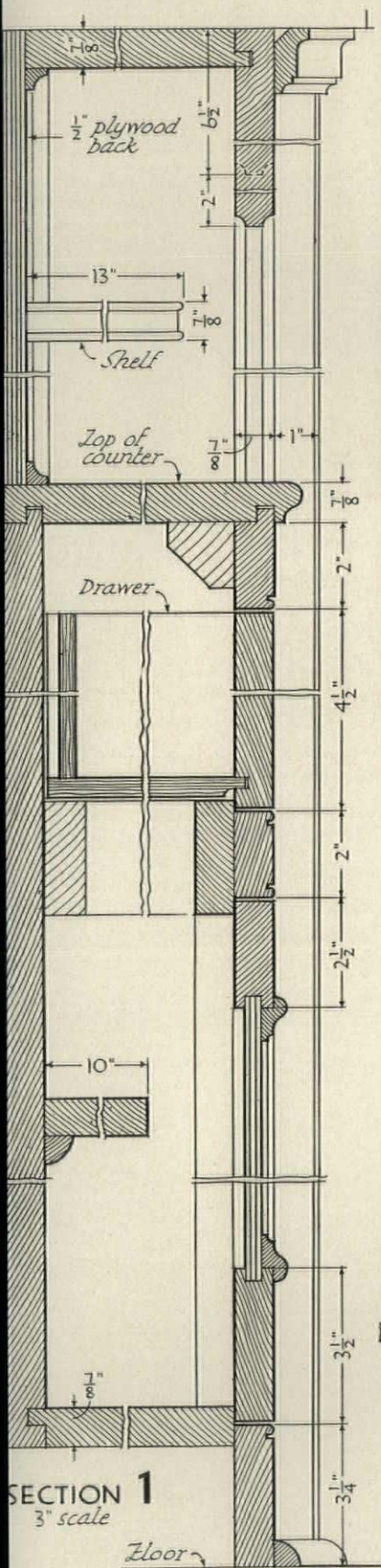


C. COGGESHALL . . . . . Designer

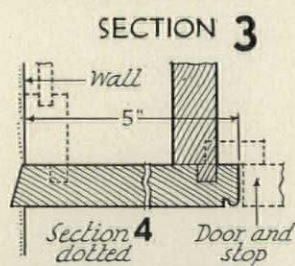
PLAN



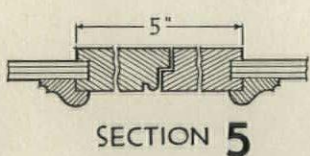




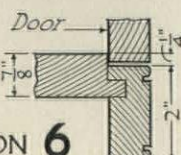
SECTION 2



SECTION 3

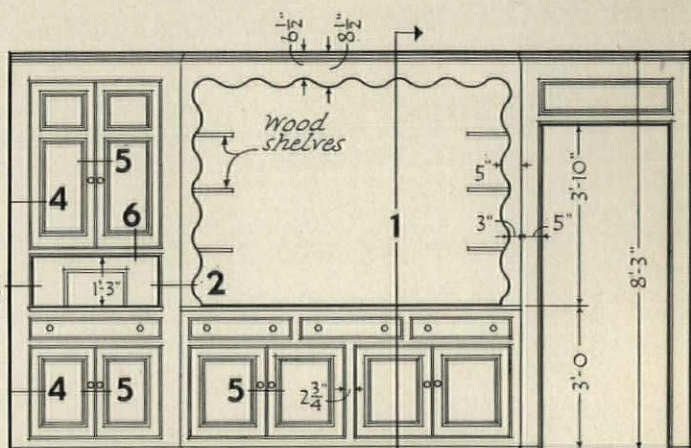


SECTION 4

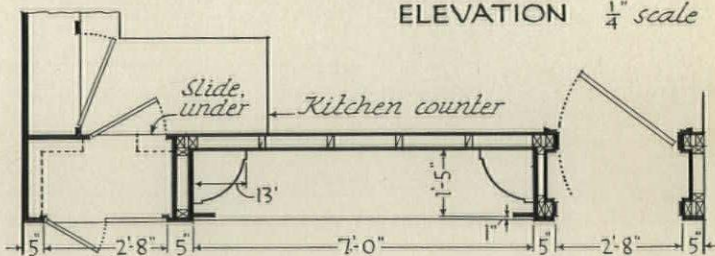


SECTION 5

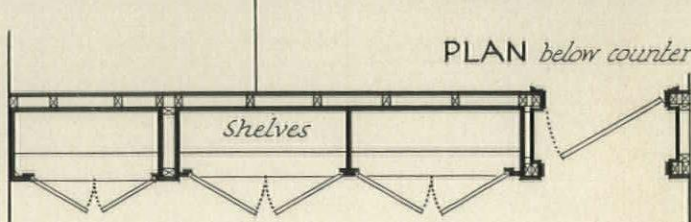
SECTION 6



ELEVATION 1/4" scale



PLAN above counter

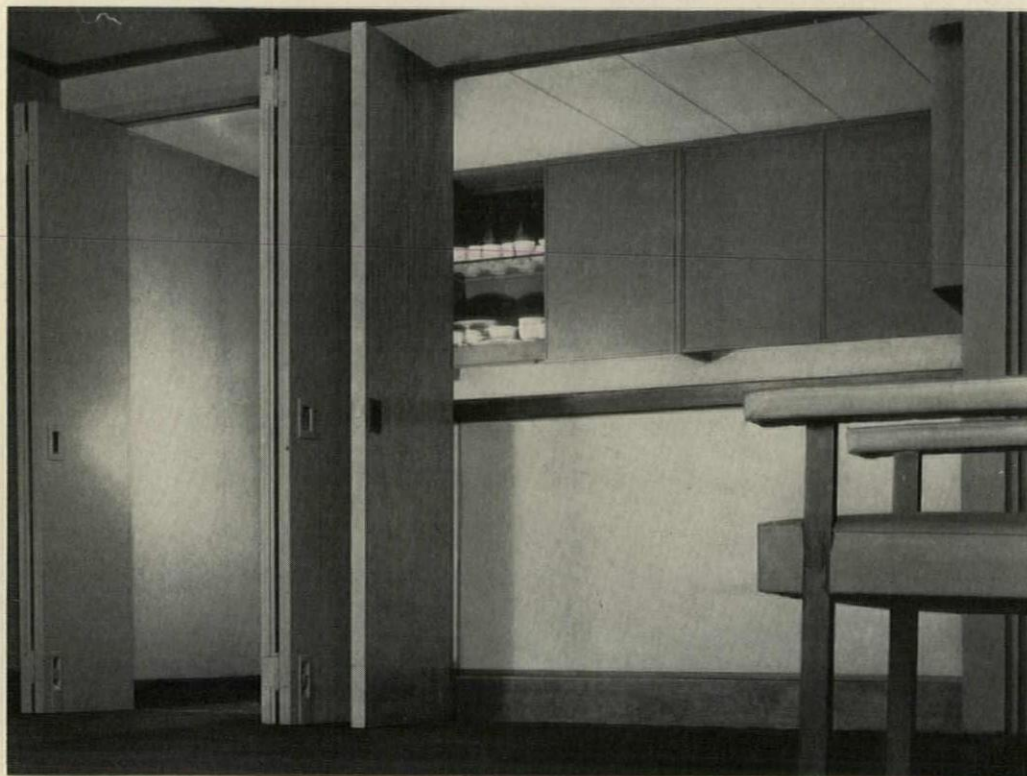


PLAN below counter

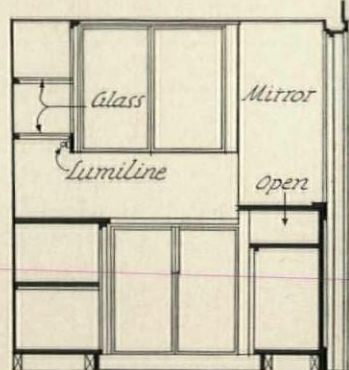
SAVERY, SCHEETZ & GILMOUR  
Architects



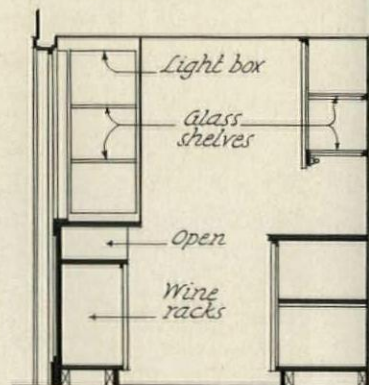
# COMPARATIVE DETAIL



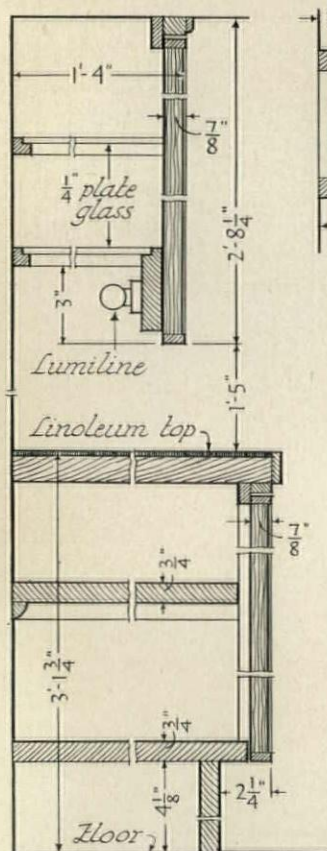
NYHOLM



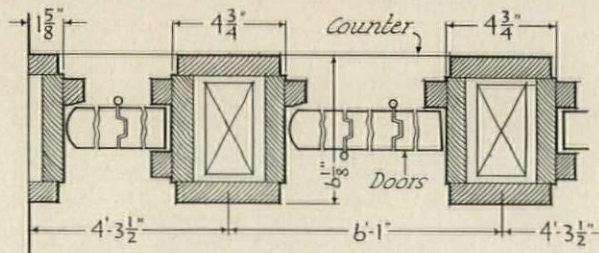
ELEVATION at B



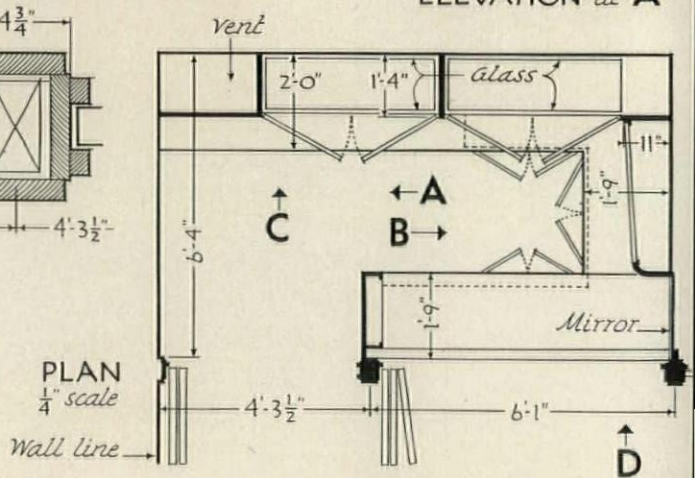
ELEVATION at A



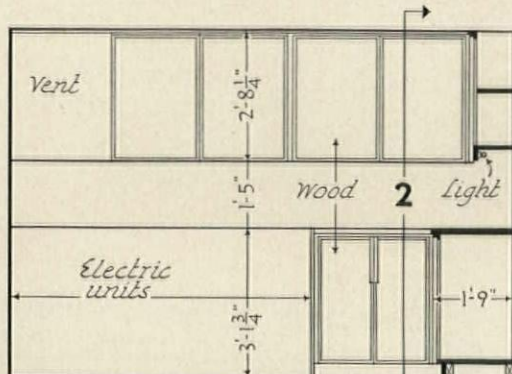
SECTION 2 1 1/2" scale



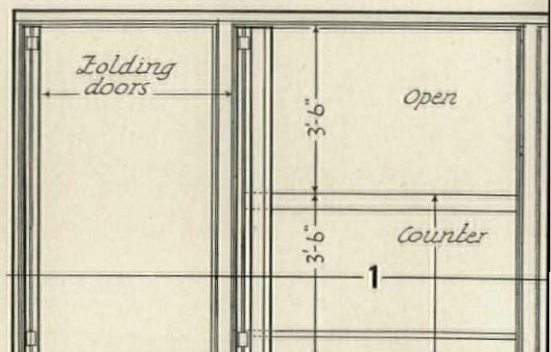
SECTION 1 1 1/2" scale



PLAN 1/4" scale



ELEVATION at C

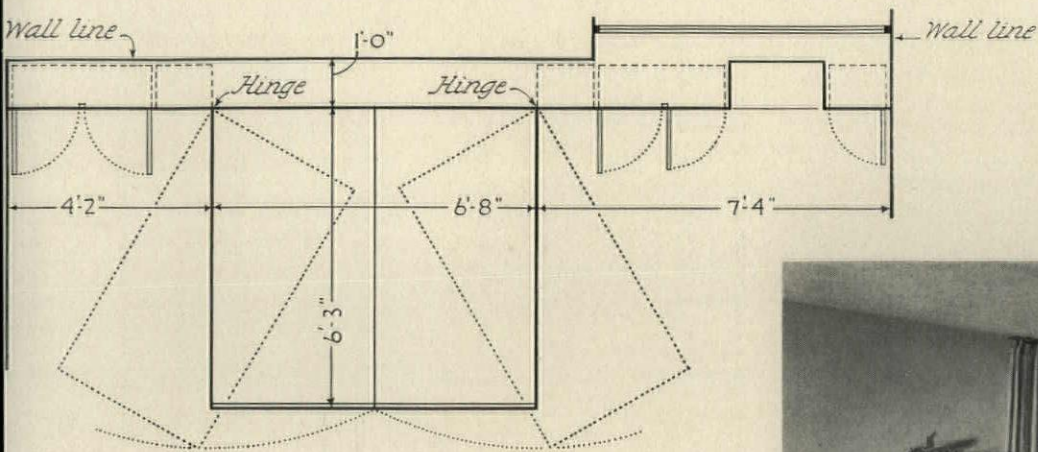


ELEVATION at D

Scale 1/4" = 1'-0"

C. COGGESHALL Designer



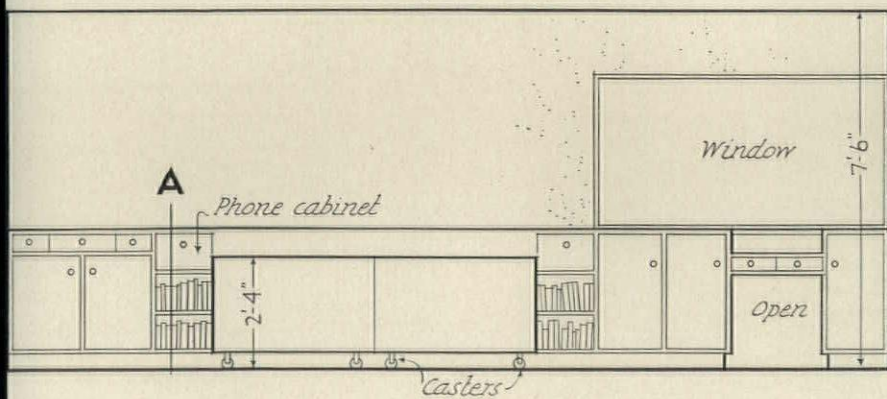


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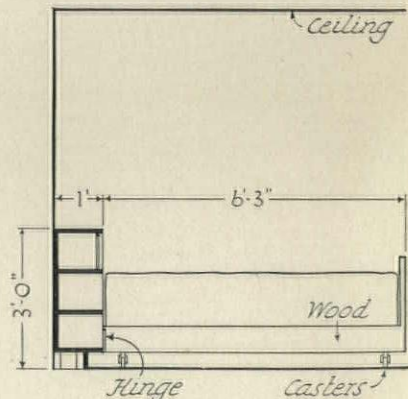


EZRA STOLLER

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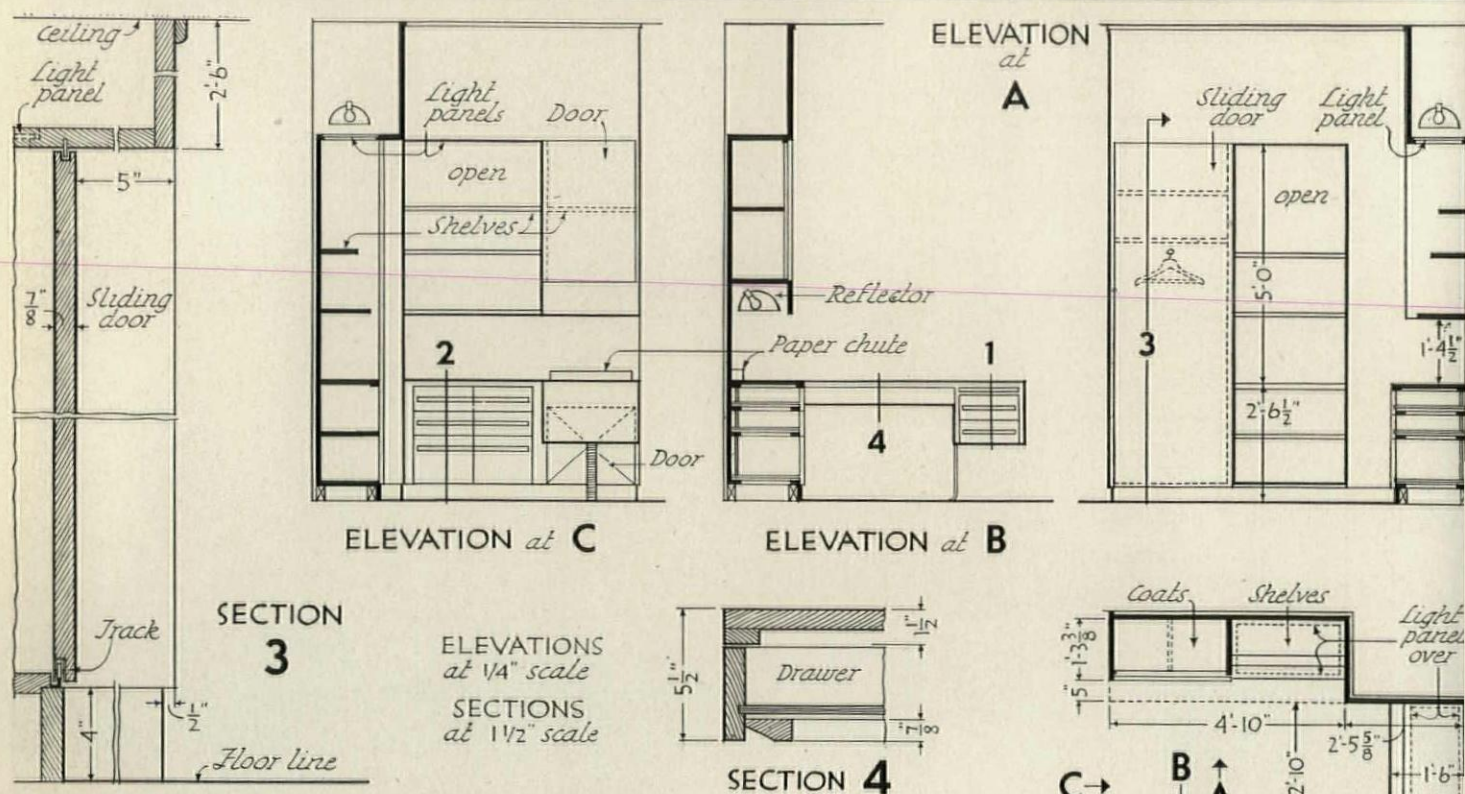
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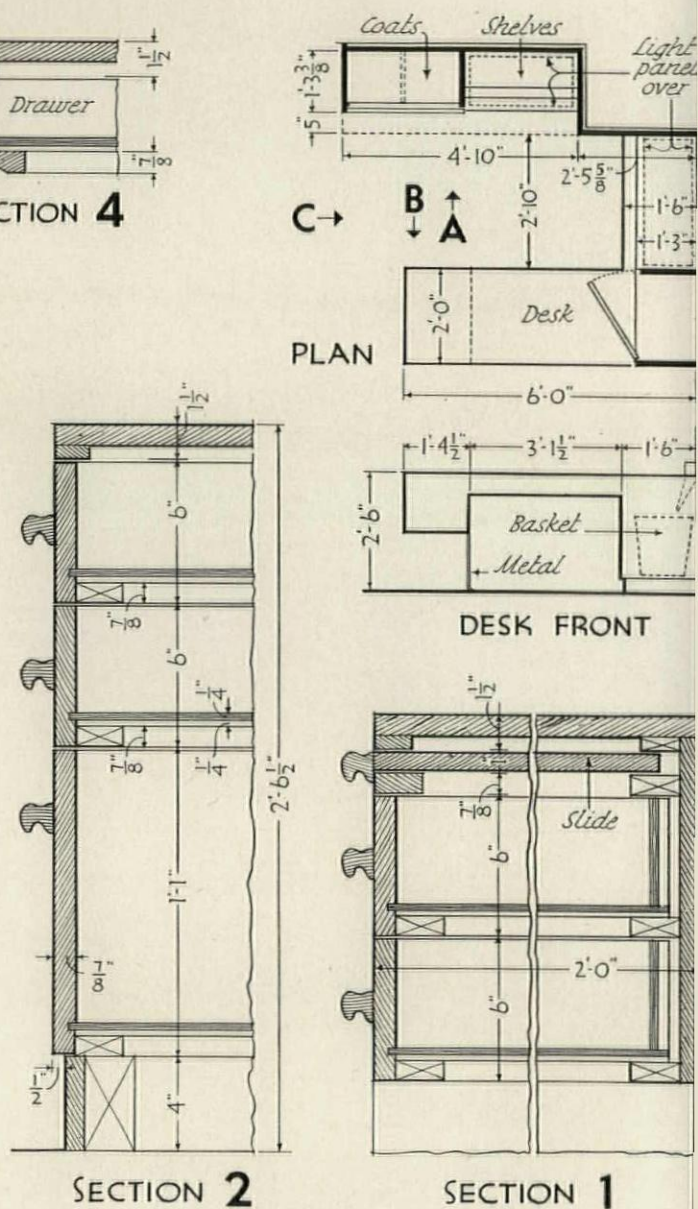
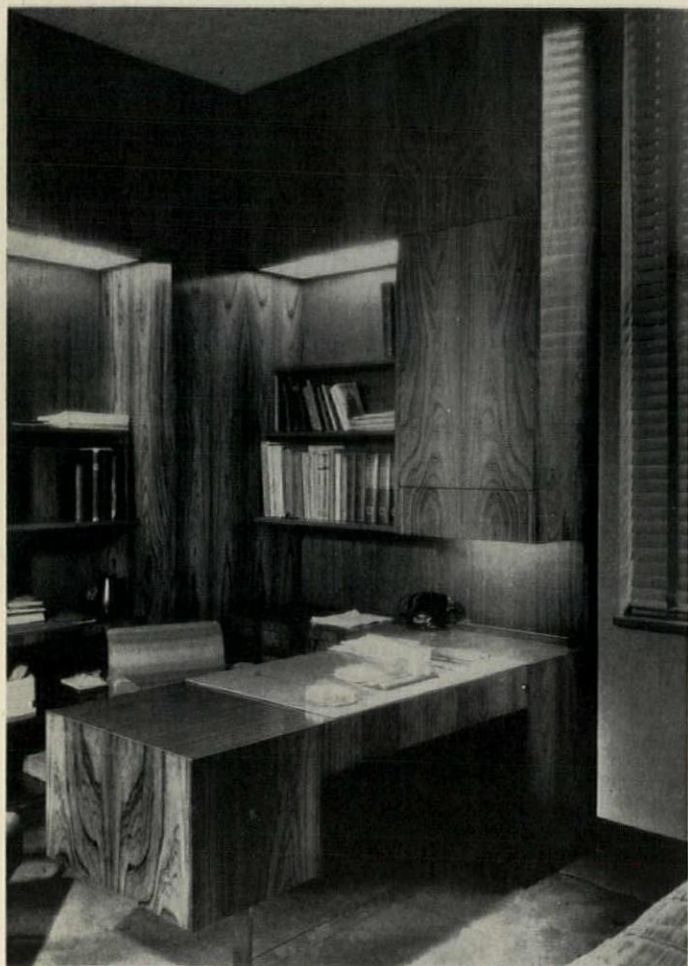
EDWARD D. STONE, CARL KOCH . . . . . Associate Architects



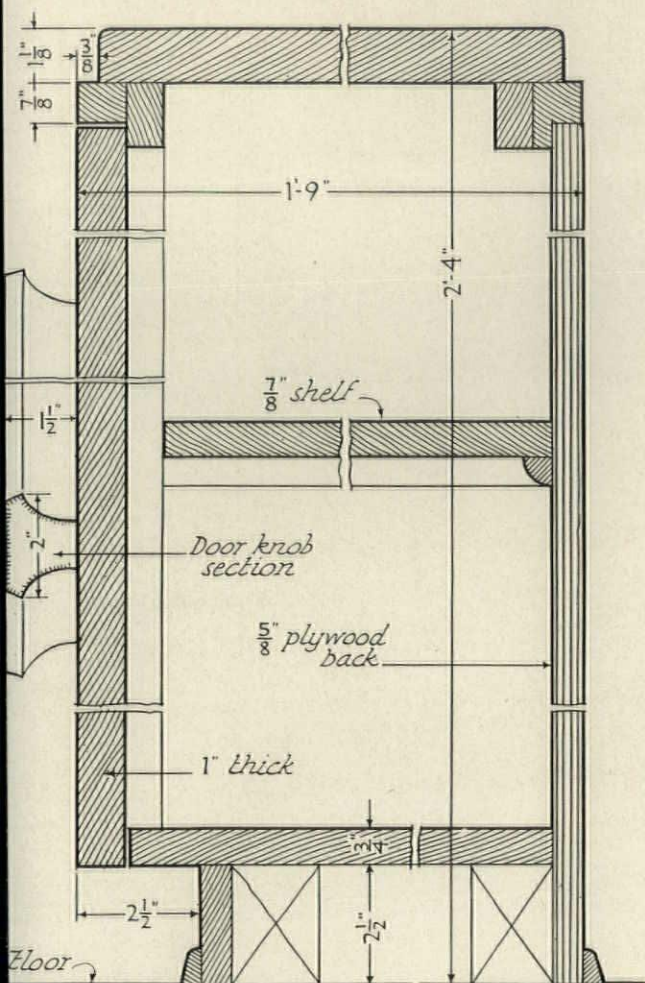
C O M P A R A T I V E D E T A I L



GEORGE H. VAN ANDA

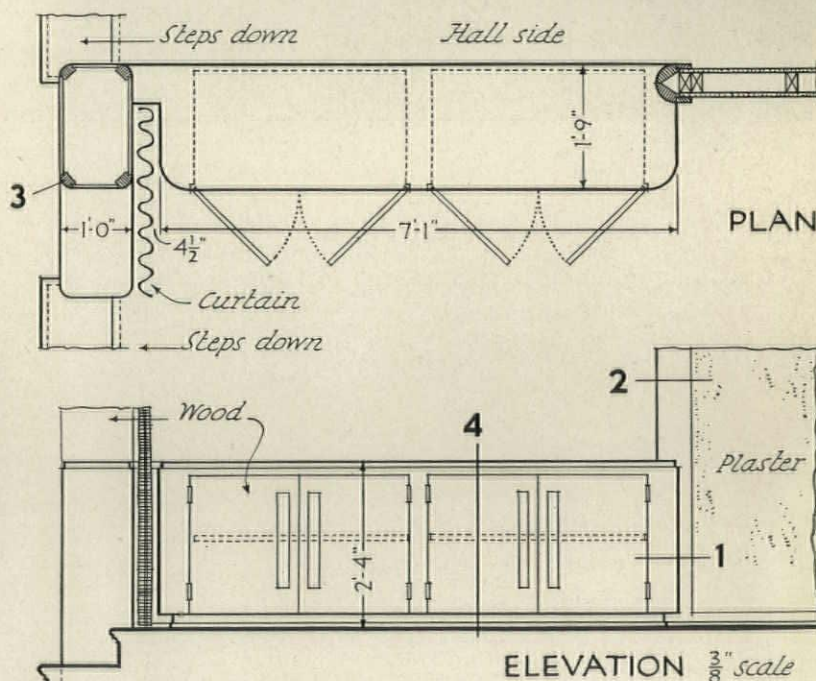
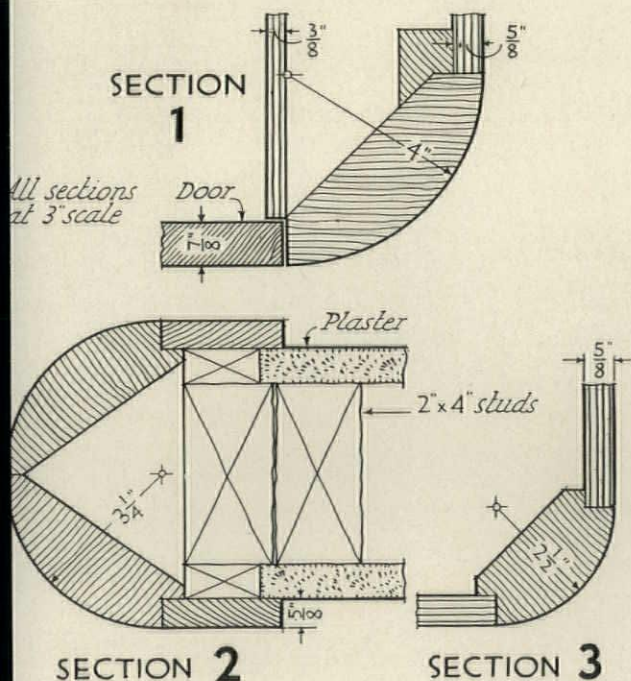
VAHAN HAGOPIAN *Architect*





CARL F. WAITE

SECTION 4



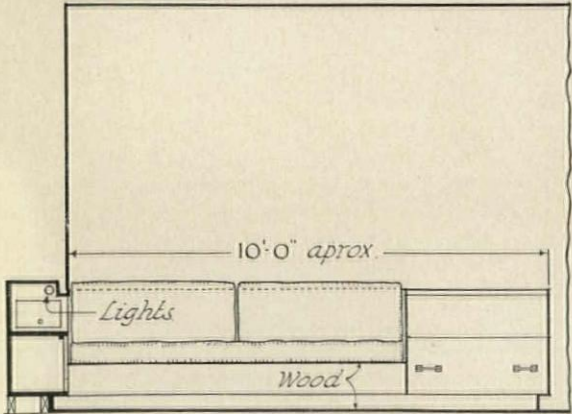
HAYS, SIMPSON & HUNSICKER . . . . . Architects.



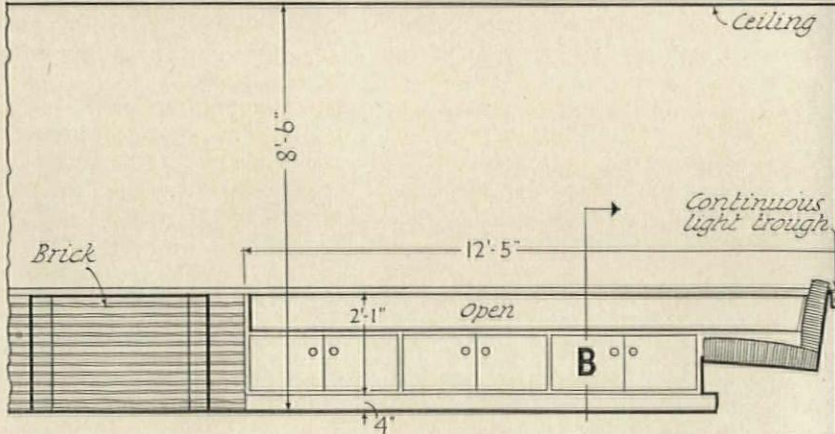


EZRA STOLLE

SECTION at B



FIREPLACE ELEVATION Scale  $\frac{1}{4}''=1'-0''$



EDWARD D. STONE ,    CARL KOCH . . . . . Associate Architects



# THE THRESHING FLOOR

## A SECTION DEVOTED TO BRUTAL FRANKNESS

RICHARD KOCH of Haverford, Pennsylvania, expresses a forcible opinion on the contrast between Bauhaus design and the current architecture in Germany, in this letter about our discussion of them in the January issue.

RECENTLY, in talking to one of your representatives, I suggested that, for a pleasant surprise, PENCIL POINTS show something that is being built by the non-Bauhaus Germany. In the meantime, I perceive, you have quietly gone and done it.

But why the diffidence and apologies? Is editorial conviction already cowed to the point where it must introduce the meritorious German work by the side door? And even if political considerations had a place in PENCIL POINTS, are you so dead sure about your factual information and understanding of what's going on over there to adopt an axiomatic tone about them?

My own information about the developments in Germany, while sporadic, considerably exceeds what can be gained from the domestic press. And I find that their copious cultural productions (i.e. writing, painting, architecture, landscaping, etc.) are not in any disagreement with their politico-social ideas, which stress the organic and personal element. This again is quite consistent with their rejection of the Bauhaus, Gropius, Nolde, Grosz, Moholy-Nagy, et al.; who to them represent what is intellectual, dialectic, fadist, ephemeral, and essentially commercial,—e.g. "Has madam seen the latest in hats? Offhand it seems a little bizarre, but it's really very smart and will be all the rage next season."

Your thesis, as to the source of meritorious work in Germany today, is very engaging. But we must not forget that Hitler himself is a very fertile planner and that among the 17,000,000 who voted for him before 1933 must have been a few gifted architects. Over here, we only hear from the "rejects," who are inclined to be vocative. And I doubt that those addicted to a *Bierstube Gemüt-*

*lichkeit* over there would be of much use in the energetic program of today.

You certainly deserve heartiest credit for having publicly revealed that all is not stagnant in Germany and that it may offer a healthy stimulus here—even if it meant overcoming your personal distaste. But I hope that you will also recollect this letter in a few years when Bauhausism and its related conceits have been packed away for the moths. By that time, a few more open-eyed people will realize that the Youth Hostels, Ordensburgs, Opera Houses, K. d. F. resorts, Haus der deutschen Kunst, etc., over there, not only have some permanent merit, but are the definite expression of the present regime and the human beings who use them.

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*The following suggestions to Ellis F. Lawrence, Chairman of the A.I.A. Advisory Committee on Preparation for Practice, come from a "sadder but wiser" reader, whose name is withheld at his request to permit frankness.*

NOTICING the reasons, listed in PENCIL POINTS, why your Committee should exist, I am suggesting here another point which you should consider. From experience which I have had, future architects should be warned about lurking hazards hidden within the laws for licensing architects.

These laws which have been passed in the various States, controlling the registration of architects, are generally believed by the members of the profession to be helpful to their best interests. However, this is not the point of view of the lawmakers. These registration laws are passed to protect the "People of the State" against the architect, on the theory that the State's police control can regulate matters involving the health, safety, and lives of the people. Examining Boards of Architects are not primarily concerned with the interests of the profession but with the protection of the "People of the State."

Accordingly, in some States, par-

ticularly in New York State, provision is made in the law whereby the "People" can make easy complaint against an architect, on the grounds that he is incompetent, negligent, and deceitful. Such complaints can be made informally in writing, with no great amount of effort, before the Board of Examiners of Architects, who upon hearing them may decide to hear them again in "formal hearings" where the evidence is recorded in minutes. This Board then acts as though it were an impartial one, hearing the complaints for the first time, which of course is not actually the case with some of the members, for they may already have listened to the complaints privately, unknown to the architect. At least they go through the motions of listening like an impartial group of judges. If, after the hearings, they decide to report adversely to the Regents, they may recommend the suspension of the architect's license or other forms of punishment.

Now as simple as this procedure may seem and harmless to the honest architect, it actually is full of dynamite, for it has all the machinery needed if someone wants to "get" an architect politically for certain ideas he may have expressed. It also provides an excellent means of black-mailing an architect at practically no expense and in a manner that is quite legal. It costs the person complaining no money, and he has thrown open for his service the entire legal staff of the Attorney General's office to help his side of the case. The architect is immediately at a disadvantage in defending himself against such an attack, for he will be up against heavy legal fees and will be charged with the cost of the minutes taken at the meetings.

So, now, the complaining "People" can call up the architect on the telephone and threaten him that unless he pays them the money which they are demanding for certain alleged defects in their buildings, they will "smear" the architect's professional reputation. The defects in the buildings to which they refer may be so fantastic that



they dare not bring them up in a civil case against the architect.

The unsuspecting architect, realizing the ridiculousness of the claims of the "People" against him and also how unjust they are, may tell these "People" to go ahead and make their complaint to the Examining Board. He may even be under the delusion that since the board consists of architects they will quickly see through the nature of the fantastic charges. Little will he realize the depths to which the "People" can carry out their threats to "smear" his professional standing. Maybe his legal advisers will tell him to pay the "hush-money" and shut the "People" up and keep the whole thing quiet. It is quite possible though, he may decide to fight it out and not buckle down to such methods of black-mail.

Well, it's just too bad for him, the day he decides to defend himself, because there is no predicting into what difficulties he will get. Secret agents may visit all of his clients and fill them with suspicions concerning his honesty, and any architect knows that it takes little to arouse trouble among certain nervous women clients, when a job is nearing completion. He may suddenly find himself personally charged with negligence because of alleged neglect of his superintendent. What is more, the buildings used as evidence may all be in another State, and he will have the utmost difficulty and expense in getting hold of witnesses to testify for him, because of the laws governing the rights of citizens in different States. It is even possible that he may find himself deprived of his license in his home State, because of the alleged incompetencies in another State, where he continues to hold his license (a situation which even legal minds would not anticipate in their dreams).

He may be deluged with hundreds of petty complaints, kept secret until the moment they are sprung into the evidence, for, unlike a court, no bill of particulars of the complaints need be filed beforehand, so that the defendant may know the nature of the charges and from whom to expect them. Almost anything may be admitted to the evidence for the purpose of padding its pages and creating the impression, by this kind of smoke screen, that there really is some trouble. Obviously no one is going to read with care some sixteen hundred pages of testimony. "Where there is so much smoke, there must be a fire," is the reaction of the public to a professional man up on charges. He may even find the Examining Board so confused and leaning over backwards to protect the "People," that in order to save their faces

they recommend to the Regents the suspension of the architect's license for a year or two (implying thereby that at the end of this vacation from practice that the said architect will then be competent again). No, the chances of the architect are not all simple and rosy, when once the machinery is moved against him and some political oil is poured into its bearings by the legal advisers of the certain "People" who are carrying out their threat to ruin the architect because he wouldn't pay.

Physicians long ago became familiar with these methods of black-mail that are within the law. They found protection through insurance. Your committee ought to consider this growing hazard and warn architects of it and look into this matter of insurance for architects. The laws will not be changed, because they are for the "People" and not the architects.

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*The mere mention, in a recent issue, of a sourish reference to "The Monograph Series" had the happy effect of drawing this constructive letter from an ardent champion of Russell F. Whitehead's diligence and taste in recording the best of Early American architecture. R. L. ULRICH, of Cambridge City, Indiana, knows what he is writing about, since he has visited the historic spots he wants pictured.*

IN THE last few lines of *The Threshing Floor* you mention that you have had a letter panning *The Monograph Series*. While this was likely intended as a trial balloon, I really must defend this feature. This is to me one of the greatest improvements that has been made in the ten years that I have received PENCIL POINTS.

It seems to me that as long as there is unphotographed one house of any interest that *The Monograph Series* still has a place. Anyone traveling through New England can only wonder what its appearance may once have been, and of the presently existing buildings there are many that will not long withstand the attacks of filling stations, high taxes, and other sorts of economic pressure.

This past summer I was able to take a trip through the East and New England in particular. In laying out my trip I was greatly assisted by the *Monographs*. The method was this—taking the names of all places mentioned, they were sorted out by road and district—for example, a great many lie on the coast roads—and the route selected that permitted passing through the greatest number of places without undue backtracking.

Thus a great many places that

would, with any ordinary knowledge, have been mere spots on the map, were included. Of course, no one trip can touch anything like all of the high spots, even. However, I did run across a few places that have been very lightly touched on, or not at all.

Portsmouth, N. H., seemed to me to have been slighted, as I had absolutely no previous idea of the enormous amount of ancient building still remaining. They have seemingly, as yet, been much less "improved" than other of the comparatively untouched towns, Marblehead, Newburyport, Salem, etc.

How your photographer got some of his photos I don't know, as wires are everywhere festooned, and all the latest autos stand in front of the most ancient buildings, all over New England. Despite wires, autos, fog, and a continuous drizzle, I persisted in attempting some 300 shots, and a flatter lot of "snapshots" I never saw, so that your magnificent illustrations are a solace to me, doing what I was unable to. (Incidentally, even with a gunnysack of quarters, I doubt if I could have gotten into some of the houses whose interiors you show.)

Coming back across New York State, whose architecture I was so unfortunate as to find most uninteresting, barring a few houses of peanut brittle rockwork with cut-stone trim, rather more curious than good—across Upper Pennsylvania—and then into New England again, the Western Reserve, and, believe me, this is New England. Here almost every town has a green, and the first I saw, at Canfield, was laid out by an ancestor of mine. His home was in Litchfield, Connecticut, and its plan is repeated, a little smaller, and most unfortunately, without the houses.

At Atwater Center is a church with a very good tower and porch. The body of the church and its side windows are "Gothic," though, and inside it is covered with the most lamentable tin "wallpaper" ever seen.

At Tallmadge there is a remarkable church on a large circular green. The original town was laid out a mile square, with eight radiating streets, and named after its founder, a most eccentric old gentleman.

The greens continue across Ohio, growing smaller, and the old houses less frequent. At Waterville, south of Toledo, there is an old tavern, "The Columbian House," 1820, which looks older, and several good dwellings.

The area which I consider you might "Monographize" are:

*Pennsylvania* — Bedford Stone Houses, Lancaster County, Ephrata, and other of the religious colonies of New England, of which this is one



of the most ancient and most complete.

Massachusetts—Ipswich, more Newburyport, Beverly; New Hampshire—more Portsmouth; Maine—Fryeburg; Ohio—Western Reserve—Dayton, Greek Revival houses and Court House; Urbana, Greek Revival houses, Delaware College Building; Atwater Center Church, Tallmadge Church, Farmhouses, Norwalk, Milan, Portsmouth.

Also, a number devoted to maps showing location of old buildings in towns of New England, something like those of Boston in the special issue.

This has grown into a travel book, but I was and am impressed by the things I have mentioned—especially Ohio—which is so far from what you may justly consider the center of architectural America.

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*The forthright manner in which A. J. SYMONS declared his views on the plight of city dwellers, in a lecture at the Health, Sport, and Fitness Exhibition of the R.I.B.A., in London, appealed to us and is reprinted here in part, with the permission of the R.I.B.A. Journal, which reported it.*

NEARLY ten years ago I was forced to the conclusion that it was impossible for me to live comfortably in London unless some miracle endowed me with an unworked-for fortune; and having no unexpected uncles, I therefore retreated to one of those country villages where there is no gas, no water, and no electric light, but in which I found all the space I needed to use my leisure profitably for the price of a single room in Paddington. Fortunately, my main exercise has always been taken in field walks and walking tours, so that I have been able to maintain a reasonable fitness of body despite the lack of any of those places of organised sport which we are promised for the future. And, meantime, I have thanked my stars for my good fortune; for month by month I have watched the greatest city in the world sliding down an architectural inclined plane, with an ever-increasing momentum, towards the bottomless pit of the minimum life.

The social historian of the future, if there are any historians in the future, cannot fail to be astounded at the nerveless acquiescence of London's population in the continuous fall in their architectural standard of living. To-day, every mews and stable in London is an eligible residence; the artisan dwellings of Chelsea are painted up as smart small homes for the upper middle class; and everywhere we see rising the clifflike prisons in which our children are to be incarcerated.

The Englishman's home used to be called his castle. In London it is fast becoming his cell; a rather comfortable, an almost padded cell, but still a cell. And, pursuing the analogy, it might be said that it is proposed in this (recreation) exhibition to improve the exercise ground for the prisoners. We must certainly be thankful for any concession we can wring from our reluctant gaolers. Sports fields, swimming pools, gymnasiums—by all means. But let us not make the mistake of thanking them too heartily for these distractions or *they* will persist in the mistake of thinking that better exercise yards are what the prisoners really want. What they really want is to be let out.

Who can foresee the end of this continual contraction of the space in which the ordinary man lives and amuses himself? The present stage was sharply brought home to me a week ago, when I visited for the first time the fifth-story place of confinement of an old friend who has just begun a term in one of the more expensive London gaols. The kitchen was a kitchenette, the shoe cupboard was the hall, the sitting-room was the dining-room, the balcony was the garden, and two rival radios from the next door cells contended for the prisoner's attention. This was grim enough, and a pathetic example of progress backwards. But contraction will not end there. Already there are flats consisting of a single room, an ingeniously arranged care-free cell for the service of the minimum life. Is there any reason to doubt that, failing some unexpected change, the day will come when these will be the rule?

Whatever may be said concerning the economic necessity of the minimum flat, of its trouble-saving compensations, of its advantages to the bachelor or city worker, one thing at least can hardly be denied concerning them; that with a few inconsiderable exceptions they are a restraining influence upon family life, and that they limit the employment of leisure to amusements which can be followed elsewhere or which require no space. Which of these is the graver evil from the national point of view I am not called upon to decide. The title I have chosen for this random address is "The Rights of Leisure"; and it is with the limitations of leisure imposed increasingly upon us that I wish to deal.

First, I must remind you what leisure is. The phrase "A man of leisure" is frequently taken to mean "a man with nothing to do," but leisure is not idleness; it is an active state. The dictionary definition is "freedom or opportunity to do something"; "an opportunity afforded by unoccupied

time"; and it is in this sense that I use the word. Leisure is self-chosen activity, and as such it is, perhaps, the most important of all the factors which make for individual happiness.

There is a school of Utopians, the most prominent of whom is Mr. Eric Gill, who hold that a man should be satisfied in and by his work. And so he should. But is it likely, is it possible for the majority to-day, or in as much of the future as we can see, or bear, or dare, to look at? Alas, on the contrary; the majority are bound to uncongenial jobs, stereotyped work, uninspiring labours which yield little or no mental pleasure. What compensations can they find in the minimum flat? What opportunities for more congenial effort? What encouragement for that self-development, which is the most satisfying of all pursuits? The wireless licences are multiplied, the cinema and theatre queues are lengthened and the open roads more and more congested by refugees from the minimum life.

But the consequences do not stop there. Denied even a kitchenette (as he will be before long) the flat-dweller will be driven to choose between the restaurant, which he cannot afford, and the tin. What a choice, between insolvency and dyspepsia . . .

I do not wish my architectural friends, and particularly our distinguished chairman, whose personality and work I have admired for more than ten years, to regard me as an unreasonable caviller at circumstances which are not of their creation, but are the outcome, as I am told, of inevitable economic causes. But I do not believe that they are inevitable. "Inevitable" is the most overworked and most misused word in our vocabulary. It is inevitable, I was told by one of your members last week, that not a single small house should be left in urban London. It is inevitable that the Bloomsbury squares should be destroyed. It is inevitable that rents should go higher and ceilings be lower. I do not for a moment believe that any of these things are inevitable. They may happen; if no steps are taken to stop them it is even *probable* that they will happen; but not inevitable.

The principal reason why the rebuilding of London is taking the form that it is taking is the rise in land values. But it is surely pertinent to ask, to *whom* is the land becoming more valuable? Not to the *users* of it; not to those who are forced to pay more than they can afford for unsatisfactory and diminishing accommodation. Let us realise quite clearly what is happening. We, the consumers, are being forced to accept less and less for our money because estate agents, ground landlords



and speculators, working together, have been able to effect what is virtually a monopoly in the remaking of London. The amenities handed down to us by former generations are at the mercy of financiers who are able to exact the highest return from every eligible site by erecting the greatest number of the smallest flats. It is not sufficient to devise a national fitness plan for the alleviation of the ills which will infallibly be caused by the lowered standard of accommodation offered to us. What is needed is a plan for London whereby its development is controlled; whereby the increase in land values ensures to the benefit of the public as well as the proprietor. Little as State interference in the working of private enterprise is to be welcomed, it must surely be apparent to all except those who benefit by the existing state of affairs that piecemeal effort has been and is likely to be inadequate or even disastrous. And in any event, State interference in this rebuilding is already an established fact. We have town-planning Acts which restrict the height and style of building. We do not permit private enterprise to make our bridges over the Thames. They are a civic responsibility. Is the remaking of our city less a civic responsibility? Since national planning is the keyword of this exhibition, let us consider this flat problem from a national standpoint. The moment we do so the answer becomes apparent. Hundreds of millions of pounds are being spent injudiciously, to the detriment of the public which is paying them. For in the long run it is the public which pays. Little as the flat dweller realises it, he is paying week by week for the buildings which he will never own. His rent includes not only interest on the capital which his landlord has invested, but also the capital itself, which is amortised over 20 or 30 years. By that time his building may be useless for its purpose. But, if so, it will have been paid for by his tenants and he will be left to profit once more by a new rise in land values . . .

I repeat, we are the witnesses of a process of reduction in the amenities of London life which is gathering impetus while we watch. The future of this great city will be decided during the next thirty years. Is it to be left to the haphazard, inefficient, wasteful development that we have so far seen, which will leave it one of the ugliest capitals in the world, or is a plan to be adopted which will restore its dignity as a city and its conveniences to its citizens?

Nor is this finance-engineered onslaught upon leisure the only conspiracy of its kind. Not every Londoner

lives in flats, minimum or otherwise. The alternative surrounds us everywhere. We are encircled by post-war housing estates which in the aggregate must have involved an expenditure during the past 20 years not of hundreds but of thousands of millions of pounds. Heaven may forgive those who built these slums of the future, but the Royal Institute of British Architects ought not to. Badly built, badly designed, hideous to look at, the new suburbs are a monumental demonstration of human ignorance and greed. And even so the standard steadily declines. Competition has reduced the price to the unlucky buyer by lowering the quality of material and labour employed almost to the point of scandal. And here, again, the burden is borne by the public. The long-established English tradition of *personal ownership*, which makes the conception of a flat so repugnant to the ordinary man, has provided a rich opportunity for what is euphemistically known as the building society. The early days of rail-road speculation are the nearest parallel to the post-war mania which has transformed the environs of London into an eyesore which stretches in almost every direction for any distance up to 20 miles.

If ever I am privileged to speak in this Institute again I shall cast my remarks in the form of a three-act play. In the first act the impoverished landowner will be seen selling his acres to a speculator, who is buying them with money borrowed from a building society. In the second the speculator will be observed selling the acres bought with building society money to a building contractor who is purchasing with money from the same source. And in the third you will see the working-man paying down £25 and obtaining the house that Jack built—through the aid of a building society . . .

I hope I shall offend no one if I compare the architectural profession to an ostrich. Many architects realise these circumstances perfectly well, but in some miraculous way they have persuaded themselves that it is no concern of theirs. An unnatural division has established itself in their minds between architecture and building. What is done on a large scale, and is commendable, is architecture; what is done on a large or a small scale which is bad, is merely building. It is natural that individual architects who are conscious that they are doing good work should hold this view. But history will not hold it. Just as we look back at the eighteenth century as a great building age, conscious that, apart from the Adams, the Levertons and the Soanes, there were hundreds of lesser and now anonymous upholders of an excellent

tradition, so the observing eye of the future will confound together all the architectural activities now proceeding and will probably say bluntly that the age of taste was succeeded by the age of hash.

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*An "inside story" of the circumstances attending the preparation and publication of Dr. Werner Hegemann's "City Planning: Housing" books, reviewed by Alan Mather in our February issue, is furnished by W. M. McRORTIE, President of the Architectural Book Publishing Company, Inc., with the comment that it was "most refreshing to read such a review by a man who has obviously studied the subject about which he writes, and who is expressing an honest and considered opinion." His letter follows.*

Naturally, we read your review of the "City Planning: Housing" series in the February issue of PENCIL POINTS with somewhat mixed feelings, but with the strong wish that it had been possible to explain the circumstances surrounding the appearance of these books before the review was written.

Dr. Hegemann originally proposed to us a single book of illustrations and text to continue the subject matter of "Civic Art" from 1922 to 1937. That was the original agreement with him. Later, he came to feel very strongly that it would be impossible to combine text and illustrations in any book of feasible size. Somewhat reluctantly, therefore, we consented to a three volume series. Dr. Hegemann finished the manuscript for "City Planning: Housing" Volume I, but he was a very sick man when it was done. He said, "When this book is finished, I am finished," and so it turned out. That left us with one volume of an announced three volume series, and some obligation to the many people who had bought this first volume in good faith.

There seemed to be another obligation to Dr. Hegemann's family since it was asserted that work on all the volumes of the series had progressed far enough so that the other two volumes could be finished by collaborators.

By reason of this somewhat doubtful obligation, but more because we knew how much Dr. Hegemann wanted his work brought up to date, we consented to continue the series with Dr. Anshen, Elbert Peets, William W. Forster, and Robert C. Weinberg as editors. All these brilliant and devoted people were trying to finish a job started by someone else. All might possibly have worked along other lines except for that fact. All, including the



publishers, certainly went ahead without expectation of much financial reward.

In spite of all these handicaps, "*City Planning: Housing*" Volume III seems to have filled a distinct need since it sells steadily in every civilized country in the world. That, indeed, is the case with all three books of the series, the first two being nearly sold out.

Although we did do our best with this series in the very difficult circumstances described above, we probably should have done much better, and we are very glad, indeed, that your disapproval seems to be confined mainly to our shortcomings as publishers.

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*Can Architects prosper by entering the field of interior decoration, in addition to their established practice? MORTIMER E. FREEHOF, New York Architect, makes a good case for his contention—but we want to know what some others have to say about this.*

THE scarcity of commissions has shunted some architects into the field of interior decoration. Few people build, but many have problems involving decoration and furnishings. It would seem logical that the architect seek to augment a meager income by entering this market. Certain obvious doubts arise. Is he qualified? Is it ethical and professional for the architect to act as a decorator? This letter will attempt to answer these questions.

First, let us examine a little the makeup of interior decoration and its exponents. Is it a truly professional enterprise or a commercial business? One difference between these two is that business is concerned principally with making profit, whereas the term "profession" implies the rendering of expert service in the best interests of others. Somewhere between the two, and imbued with the attributes of both, lies interior decoration.

This field of endeavor evolved from the realization that average people need advice in selecting furnishings. Its range has been enlarged to include entire ensembles, utilities, and even construction problems. This comprehensive scope makes it essential that decorators be thoroughly trained, experienced, and ethical. Since it involves design, highly expert service, and the handling of expenditures as agent in the interest of others, the practice of decoration assumes a professional aspect. Inasmuch as it is customary for the decorator to sell merchandise to the client at a profit, it is also a business. Since business is concerned with profit, and since what is best for the client

may tend to reduce such profit, a delicate situation results.

Let us make a few comparisons. The architect's function is like the decorator's in many respects. The practice of architecture is kept strictly professional in that the client pays a fee for services only. Labor and materials are charged at face value, with no profit to the architect. It is the general contractor who assembles all the various prices and commodities which go into a construction job, and makes a business profit on the operation. One of the principal objections to awarding a contract to a builder who employs his own architect is that the client loses the benefit of disinterested supervision. Decorators assume a dual role akin to the combination of architect and general contractor. They render professional service and make profits on the items which they furnish. This system gives the decorator a status which calls for highest integrity and the confidence of the client.

Perhaps a closer analogy is that of the advertising agency. Here, as in the case of the decorator, we have a professional advisor and creator whose profit comes from sales. The important distinction is that the publications allow the agent a standard rate of discount which is known to the client. In the case of lawyers, doctors, and other professionals, the fee, as such, is paid directly by the client. It would seem, then, that interior decoration is the only field involving the professional aspect in which the client is not aware of the fee he is paying. Perhaps this needs clarifying.

Until rather recently, employment of an interior decorator was considered a luxury only to be afforded by the wealthy. Through the cooperation of supply outlets, quantity production, and standardization, the practice became more general. Information as to discounts became somewhat more widespread. The point was reached where the purchaser employed the decorator not only for expert service, but in order to gain the benefit of lower prices by sharing in the discounts. Hence arose the paradox of the client expecting to obtain merchandise *plus professional service* at a lower cost than that of the merchandise alone.

The conscientious decorator renders a tremendous amount of service. Shopping, designing, selecting, co-ordinating, supervising, and infinite attention to painstaking details involve a lengthy and costly procedure. Inasmuch as most orders are for comparatively small amounts, discounts have been established at percentages large enough to leave a fair margin of profit after service costs are deducted.

Many legitimate decorating concerns

made a percentage charge beyond the discounts.

The natural desire to get the most for one's money brought about keen price competition. The same tactics and pressure were brought to bear upon decorators that were once used with life insurance agents. Instead of the choice of a decorator being based upon conception of ability, it was determined in many cases by the percentage of discount to the client. One result was that many concerns catering to decorators established a series of graded discounts from high list prices. The deduction of regulation percentages still left a set of retail prices. This system tended to satisfy the purchaser's demand for bargain rates, and allowed a residue for the decorator in the additional, unrevealed discounts.

Under pressure of competition, many decorators offer an arrangement on the alleged basis of absolute, net, wholesale prices, with a ten percent charge for services. Except on large scale orders, no decorator can work on this low margin and do a conscientious, capable job. The result is of the public's own making—the collection of commissions at both ends, and an elaborate machinery for disguising transactions from clients. Scrupulous decorators use the system to obtain only reasonable profits. Unprincipled ones use it for all the traffic will bear. The client seldom knows which is which.

Exponents of interior decoration range from pretentious establishments down to painting contractors and upholsterers. Here let it be said that there are many capable, conscientious decorators who are thoroughly trained, experienced, and ethical. Unfortunately, most of them are not. Public credulity and the mania to purchase at wholesale offer a tremendous market to *dilettantes*. There are many of these, mostly women, who enter the field without proper qualification. They have a wide acquaintance and do most of the work in urban dwellings. Some are wives of busy men seeking genteel employment of their time. Others are in need of additional funds. Some in furnishing their own homes have evoked such admiration from friends of doubtful taste as to feel that here is the call to a career. All have discovered a field with easy pickings. These women are of the same stamp as those who attend lectures on psychoanalysis and practice superficial part-truths on friends and family. They are one with those who attend scattered courses in music or art, and set up as critics.

The preparation of those in this group consists of a short home or Saturday course and the acquisition of a vocabulary of such terms as *Directoire*



and Regency. Many of the astute gather momentum rapidly, profit by experiment, and use their clients as guinea pigs. A few are sincere, with good taste. These might serve a useful purpose as consultants on furnishings. Most of those in this amateur group reach out far beyond their limited understanding and rely upon keeping one step ahead of an uninformed clientele.

While sad experiences are not inevitable, neither are they exceptional. There are many such practitioners in the field. In spite of a trail of tragedies they persist, and succeed in winning approval where capable exponents fail. Quackery often is fostered by victims.

It is difficult to understand approbation in the face of damning evidence. The writer questioned fifty women whose homes had been expertly criticized as being poorly and expensively decorated. Only one had the temerity to confess error in choice. The husbands mostly professed indulgence, but when pressed, confidentially admitted practical objections, mainly concerning comfort and cost. Any statement critical of aesthetics can be set aside as constituting a difference of opinion. There are no inflexible rules of taste. Certain forms, values and relationships create favorable sensuous reactions which establish standards among cultured people in any current, local civilization. The approach may be varied, but if such established principles as fitness, scale, and harmony are contradicted the result is unpleasant. The incompetent decorator rationalizes such result by persuasion on the ground of the client's alleged lack of sophistication. To express dissatisfaction is to admit the allegation.

The American Institute of Interior Decorators advocates that the education and training of its members should be, basically, the same as an architect's. The properly-trained interior decorator is one who has studied for three years or more in a qualified school, or who has had the equivalent under able guidance. Study should be augmented by apprenticeship of several years. Preparation should include drawing, composition, design, and color. It should cover elementary construction and lighting principles, history, architecture, character and composition of materials and methods of execution. It should promote familiarity with fine arts in all media, such as painting, weaving, sculpture, cabinet work, and ceramics. It should include, also, information as to financial values, and the development of ability to deal with craftsmen.

This list is not more formidable than the requisites of any other profession. The aggregate provides a fund of information from which the able

decorator draws in solving even the simplest problem. Such background is required to know the wearing qualities of fabrics, the construction of furniture, the varieties and intrinsic fitness of materials. It is essential to thorough understanding of color, usually a subtle problem. Further, profundity in certain matters brings an understanding of one's limitations in others.

The architect's preparation and experience, augmented by special study, are perfect for this function. A check-up in many of the best decorating concerns discloses licensed architects among the personnel. This would be surprising information to most clients. They do not understand the problems involved, and in particular, do not realize the need of structural sense in decoration. This lack of understanding most often results in giving precedence to the dictates of the decorator over the suggestions of the architect when both are employed. One of the architect's greatest problems in entering this field is that of convincing the client of his aptitude. Time after time arises a situation where the infinitely more sophisticated experience of the architect is set aside and the impractical theatrics of the untrained decorator prevail. To the uninformed client the architect seems to be entering a new field. Actually, he is merely carrying his work to a logical conclusion by handling the entire job.

One of the most important functions of an architect is the conservation of the client's finances. This has been true, especially, in recent years. He has developed to a remarkable degree the ability to achieve results at minimum expenditures. Limited budgets and disproportionate demands of clients have resulted in economical design. The architect keeps a zealous watch upon all costs, if for no other reason than to keep the project from expiring with the taking of bids. This same tendency, applied to interior design, should make for tremendous savings for the clients. It has been the custom to limit the architect and to open the purse strings to the decorator. Even the desire to boast of expense, and the tendency to measure successful execution in terms of high cost, might give way in the face of proven savings.

The establishment of a satisfactory system of fees for the architect-decorator is another difficult problem which calls for an education program. People who have been misinformed are not readily convinced by a denouement, unless it is given wide publicity. As a professional, the architect-decorator should be paid a fee for services, and the client should be given the benefit of the lowest possible costs.

This is no simple matter to bring about.

Still another difficulty is raised by the practice of purchasing at wholesale and selling at retail. Wholesale furniture or fabric concerns will not sell to architects at lowest discounts. Most furniture concerns will not even sell to decorators at wholesale unless the purchaser is an organization with established credit and a retail store for re-sale. Another point is that wholesale houses do not favor the sale of merchandise to the ultimate customer at wholesale rates. It is necessary for the decorator to purchase the items as a dealer and re-sell to the customer, just as the storekeeper does. With this arrangement, the architect loses his professional standing and becomes a merchant. Further, he becomes directly responsible for the quality of the merchandise. Often, too, he must finance the project for a considerable period.

Under the existing system, then, the architect-decorator must choose between evils. He may maintain professional status by proposing that the client pay the actual costs based upon net, wholesale bills and add the fee. In such case he runs the risk of losing the order because the fee, if adequate, will seem exorbitant to a client who has been quoted a ten percent arrangement by a decorator who intends to collect at both ends. As alternative he may feel that to get business, he must follow the established method and let his conscience be his guide. The chances are that under this arrangement the architect will adhere to his ethical standards and not overcharge. In such case, however, the professional aspect becomes cloudy. The very fact that remuneration becomes an unknown quantity, concealed from the client, opens the way to suspicion and to temptation.

It would seem to the writer that decoration offers a wide field of possibility to the architect. Before this market can be exploited properly, a tremendous job must be done.

First—those who would seek to do this work must equip themselves with certain specific information for proper qualification. They must become thoroughly familiar with all such details as may have been extraneous to their practise as architects, and thus avoid such errors as are committed by superficially trained decorators.

Second—the widest possible publicity must be disseminated as to the proper qualifications of a decorator and the fact that an architect has these qualifications.

Third—the buying public must be informed of such trade secrets as the decorator's actual mark-up, wholesale discounts, and the decorator's operat-



ing costs. Some arrangement akin to that of the advertising agency would then become possible.

Fourth—wholesale concerns must be prevailed upon to cooperate by accepting the architect on the same purchasing basis as the decorator.

If such a program could be devised and successfully propagated, architects would be in a position to practice decoration on a professional basis.

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*Probably of more than local interest is the struggle against "red tape" described by ELI BENEDICT, Architect, of New York and New Jersey.*

I SUBMIT as a subject for discussion in your section called *The Threshing*

*Floor* the experience of architects practicing in New York City with the local Department of Buildings.

The Commissioner of Buildings of New York City was recently questioned by the Chamber of Commerce of Queens Borough as to the causes of delay in the reading and approval of plans filed by architects in that Borough. His explanation, as reported in the public press, was that the defective plans filed by so many architects caused a slowdown in the handling of all plans, good, bad, and indifferent. When the plans are read by the plan examiners, a long list of objections are necessary and many corrections have to be made by the architect, thus slowing up the action on all current work because

all applications are considered in their sequence of filing.

He did admit, though, that a larger plan examining staff might help. Are the architects so sloppy in their work? Or, is it a case of departmental red tape? Will New York City architects back up the Commissioner if he applies for a larger appropriation of funds for an increase of staff?

The writer has had over 35 years experience in dealing with the Building Department and has never felt like commending it for speed even when his plans were perfect from the building code standpoint. Brutally and frankly, should the department be renamed "Department of Building Obstruction"? How do architects feel?

## NEWS LETTERS FROM OUR CORRESPONDENTS

### Potomac Patter

The annual Open House of the College of Architecture of Catholic University, held last month in the main drafting room over the gym, (if there are other drafting rooms, don't look now), marked another progressive year in the development of one of this nation's better architectural schools. But again we cannot help reiterating the fact that of the facilities available at C. U.'s Architectural School the most important is a handicap—paradoxical as that may be. We make reference to the place—Where. The How and When are facilities indeed, remembering that C. U., under the able leadership of Fred V. Murphy, has gained the reputation of consistently contributing winners and placers in major traveling scholarship competitions. But this most discordant Where. It is remarkable that this handicap doesn't take a greater toll—yet an explanation may be found in the fact that, as Undergraduate James Shulman, our host, pointed out, the spirit of true architectural learning runs so high that environment gives way to heredity of traditional achievements.

This lack of Where reflected greatly on the exhibition of student work—past and present. To have attempted to hang a characteristic architectural exhibit in the above-referenced main drafting room over the gym, would have required extensive interior remodeling at a cost of time and money prohibitive. However, the best was done under the circumstances. The walls were completely covered with colorful and interesting renderings, the larger pieces hung high—for gazing purposes only—and the smaller

drawings so placed that critics such as you and you and the architecturally-intelligent public could, if the spirit moved, climb over the well-worn drafting tables to give them "the works."

Included in the show, of course, were the so-called "permanent exhibit" drawings. Postgraduate Bill Lockard, an evening student with daytime duties at Procurement, proudly proclaims that today's drawings, compared with the masterpieces of the past, are just as rich, fresh, and free and that more room will be needed to house those new additions to the "permanent exhibit." A true disciple, so help us! Of student work, Bill says, "The individuality in problem solutions that C. U. stresses is evidenced by the fact that the great majority of designs are modern, notwithstanding that the immediate surroundings abound with more or less excellent examples of Classic and other deep-rooted styles."

Speaking of excellent examples, the famous McLean Residence, in the heart of Washington's business section, is now being torn down to make way for one of the largest office building projects in America since The Depression started. The wrecking of the beautiful Italian Renaissance residence will no doubt sadden the architectural gentry hereabouts and elsewhere; for this work of John Russell Pope, executed in the very early years of this century, has since become the subject of copyists throughout the land. With its passing will go an example of craftsmanship of which there are already too few. Its exterior and interior metalwork were *objets d'art*; its brickwork a skillful tapestry daringly

joined. Its interior marble stairway was the *pièce de resistance*; for which, even now, architect, builder, or debutante would pay a pretty penny. One of them probably will.

It appears that the effort to save the Decatur House has taken a most prolific form by dint of Congressional action. Senator Tydings (Maryland) and Representative Rogers (Massachusetts) have both introduced Bills to their respective legislative bodies to save this historic house. "As a museum for relics and records pertaining to Commodore Stephen Decatur," whose heroism during the War of 1812 deserves national recognition, this building and its original appointments (well-preserved) would serve well the general public but as architects we should support these Bills for the more personal affiliations which this architecturally historic precedent has for us. The Decatur House can and should be a shrine to the first professional architect to come to these shores bringing with him skill and beauty and implanting a new thought in architecture. Benjamin Henry Latrobe, a pioneer of the Greek Revival in America, rightfully deserves to be remembered. What could be a more fitting tribute than to permit his first private commission in Washington, the designing of a residence for a national hero, to stand as a reminder that architecture in America was influenced by an Englishman, with a French name, who specialized in Greek? Your support is solicited. Write your Congressman.

Apropos of the thoughts above-recorded, it may be that the Honorable Thomas R. Ball, Representative from Connecticut, the first architect elected to Congress, will exercise his profes-



sional ability as both architect and legislator so that Congress may be convinced that \$300,000 to preserve the Decatur House is a small sum to pay for a monument—and no cherry trees are involved. RED

### Can Spring Be far Ahead?

As daily a problem as ever posed the seeker for underlying worthiness is that of identifying the true hot-air-artist. To put it another way, when does a *prima facie* bull-thrower motivate any bit of useful progress? Such a one would not then be the pure berry, but a probable asset, garrulously inclined, with a little hypertrophic distemper in the thyroid to account for it. Architecture is a platinum mine for suspects, as every pursuit must be which cherishes ideas for their own sake, without relating them immediately to a profit-motive.

Harkening back a piece to Lipp's (Boulevard St. Germain) I recollect many artists in embryo who may since have become great masters. Foregathered there for "une brune" or two, these young Americans loved to take a helicopter flight into the realm of ideas or opinions, abstract or concrete (1:3:5), on the propulsion of Mr. Lipp's beer. "Let's discuss something," would be the lead-off. "Shall we take trial marriages, nudism, the single tax theory, or Canadian reciprocity?" It would be apparent from the selections that some of the subjects had figured in recent college courses, while the others stemmed from the heart, but in every case they produced nothing but malted hot-air. Occasionally a phase of architecture might be chosen, but that left the painters and writers partly out of it for they were quantitatively shy on trade terms and catch-phrases.

It is a local fact that the florid and ecstatic handling of architectonic discussion has almost vanished before humorless modernity. "Fine great," "Swell big," and such old reliables have been hewn away from the simple noun and discarded. In their place we have new favorites like "wart," "bulge," "soft-bilge," "wallop" (meaning an ungodly hunk of something, adscititious or otherwise), and "brain-storm" to succeed "creation."

The Boston Architectural Club's annual initiation of novices took place on February 8th. Massier George R. McClellan and his fellow officers inducted the lads into full atelier membership with ritual and traditional observances. President Loring's short address stressed the importance of mental alertness, authentic original thought, and liberality towards another man's point of view.

Like an Easter sermon, advice to a young man idealistically handled admits of few variations, but it has to be reiterated because its fulfillment is so much a matter of self-discipline and honest sweat; a fact which keeps up its market value in season and out. So Archangelo Cascieri urged co-operation between students and with older men, and John Alter, Robert Bellows, and James Ford Clapp added more *voussoirs* to the arch, of which the key-block is the student's own response to academic stimuli. (Note: In these days of the declining arch one should amend the above to read, "added more concrete to the slab, of which the cantilevered portion is," etc.) Pete Larsen (Niels H. to you) represented the first class to have graduated from the B.A.C. atelier, and President Whitmore, of the B.S.A., outlined a plan for professional assistance, by which a group of unselfish architects will help the apprentice variously, during the now so-difficult early years. He urged decentralization with respect to locales for the practice of architecture, having evidence that numbers of young men have gone to smaller cities and flourished. After the formalities there was a plentitude of food and drink, and the opportunity to view a general exhibition, high in quality, of this year's work from the atelier.

A few days later the writer had ocular proof of the truth of President Whitmore's theory of deploying, when he met Architect M. E. Witmer of Portsmouth, New Hampshire. Here was a Boston man who had really found spiritual and economic satisfaction in a provincial city, after having looked the States over; even New York.

On February 17th a meeting of the Architectural League of Boston produced a pair of instructive points. The first was a check-up of all the two hundred odd architectural offices listed in Boston's telephone directory. There was usually someone present who knew what was going on in any given office, and it led to the slogan, "Stay West, Draftsmen." Except for temporary injections of PWA adrenalin and the few establishments that cater to great wealth, the picture was drab. What about housing? Ho-hum. Some are beginning to think it can't happen here (Feb. 20).

The second event of the League's meeting was a talk by James H. Sheldon, Secretary of this city's Trade Channels Council who knew much about attempts at economic organization among technical and professional employes, and was the more convincing for having no specific knowledge of the current architectural scene.

The term "prevailing wage" was most competently shown to be an indeterminate quantity, relatively speaking, outside of well-stratified industries having reasonably continuous employment. He described the thorough and complicated process for obtaining WPA prevailing wage rates, which locally give the architectural man about \$1.59 an hour. On the average, he averred, the formula for establishing such rates, in a professional field, is far less exhaustive, and the result depends more on who sets them than on mathematics or the value of services rendered.

With a February thaw turning snow and ice into water the report is out that Maurice Feather has shined up his trowel and scraped his mortar-box for the 1939 campaign. When the long twilights come M. F. habitually flings down his 6B and hurries home for a bout with the stones. His estate bears testimony to the work of a master-mason, and an ambitious one.

Jim Holden used to rattle with his grounds, in hard manual combat, but having subdued them for the nonce he is burning up the famed Holden energy in badminton.

Walter Pratt, another wisher for a sudden spring is tying trout flies and oiling reels. Gordon Kunz might be painting a neat, preparatory G. K. on golf balls at this season, but his approach to connubial bliss is too absorbing to permit the paint job.

Boston lays claim to giving Ed Stone his architectural education, even though he gave her the go-by after returning from his Rotch scholarship. We emphasize this after hearing about the 2nd and 3rd in the Festival Theatre Competition. However, William F. Hartmann and Bissell Alderman came through for us home-townners.

As an adjunct to efficiency in the modern office, a friend has advocated Monday morning pep-talks. This reminded the writer, an old likker salesman, of similar blasts from the sales manager, back in 1933. "Boys we've got a carload of Old Peach Orchard pints just in. I want you to go out and make every last citizen (euphemism) Peach Orchard unconscious by tomorrow night. Project the old personality boys, and don't take 'No' for an answer." This could be easily refurbished in the more genteel media of architectural intercourse, after which the boys, instead of rushing out into a cold world (against S. S. Pierce competition) with sample case under arm and the holy light of inspiration in their eyes, could trot back to drafting tables saying, "I mustn't soldier, I mustn't soldier," over and over again. LEON KEACH



# PENCIL POINTS DATA SHEETS

*Prepared by* DON GRAF, B.S., M.Arch.



# THE DISREGARD OF THE OBVIOUS

This department has been on the verge of busting into print on various occasions with purely personal digressions on the illogic of architectural education.

For instance, we think the Beaux Arts system of teaching design is unfair because juries cannot standardize good taste, beauty, or logic in architecture. It is discouraging to many because reward bears little, if any, relation to effort or sincerity. It breeds dishonesty—for the student of design can "play the jury" and prosper academically—or follow his own convictions with extremely uncertain results. Through the agency of the

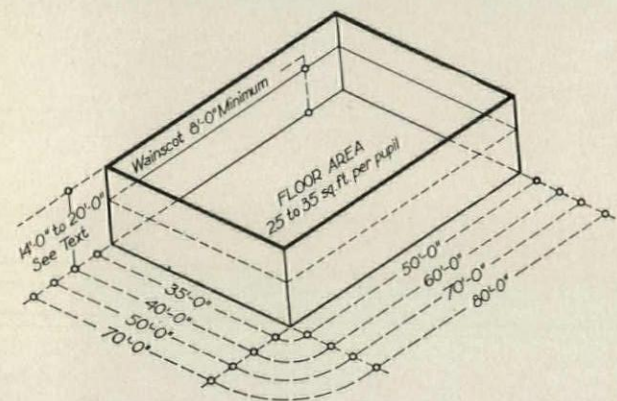
*esquisse* it puts an undue and punitive emphasis on the danger of a single mis-step in the analysis of the "programme"—

Also, in our humble opinion, there are a number of other brunette hairs in the butter of architectural pedagogics. The solemn mummery of teaching the architectural neophyte how to design plate girders, calculate the shear in rivets, and analyze stresses in hundred-foot king-rod trusses, all strikes us as silly. Especially when he is kept completely in the dark regarding such matters as a lintel for a four-foot-wide window or the rafter

## PHYSICAL EDUCATION

Index No.  
**D14n**  
PLANNING

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF



### DIMENSIONS OF GYMNASIUMS

The floor dimensions should be computed on the basis of 25 to 35 square feet per pupil and will depend upon the enrollment, the school organization and the age of the children.

Recommended dimensions are shown on the drawing above. In elementary schools, the ceiling should be not less than 14 feet for floor areas of 2400 square feet or less; the ceiling to be 16 feet for floor areas over 2400 square feet and less than 3500 square feet.

High school gymnasiums should have a ceiling height of 18 to 20 feet.

### SPECTATOR PROVISIONS

Seats along sides, which begin at or near the floor level, are to be preferred over other means of seating.

### VENTILATION

Mechanical ventilation should be provided.

### ORIENTATION

Southern exposure is desirable.

### LIGHTING

Locate window sills at least 6 feet from the floor. Bilateral lighting is preferred.

Equip windows with suitable shades.

Artificial lighting should correspond with the standards established by the American Engineering Standards Committee.

### FLOORS, WALLS AND CEILING

Finish floor should be marked with painted or stained lines for games. Floors should be of such material and so installed as to provide suitable resiliency, freedom from slipperiness and splintering.

Provide a wainscot to the height of at least 8 feet, of brick, glazed structural tile, wood, linoleum, cork tile or other suitable material.

The ceiling and areas above the wainscoting should receive acoustical treatment to keep the time of reverberation to a reasonable limit.

### DEPENDENCIES

Necessary rooms for instructors of both sexes should be provided.

Storage and apparatus room of such required dimensions as to carry out the physical education program should be provided.

### SANITARY PROVISIONS

Provide one or more drinking fountains of the recessed wall type.

Place sanitary water-flushed cuspidors near drinking fountains.

## UNION WAGE RATES

Index No.  
**G8f**  
DRAFTSMANSHIP

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF

Average union hourly wage rates in the building trades, by region and size of city, May 15, 1937

Trade	U.S. averages	Cities having a population of							
		Over 1,000,000	500,000 to 1,000,000	250,000 to 500,000	100,000 to 250,000	40,000 to 100,000	North and Pacific	South	North and Pacific
All building trades <sup>1</sup> .....	\$1.260	\$1.342	\$1.248	\$1.215	\$0.989	\$1.136	\$1.034	\$1.118	\$1.118
Journeyman.....	1.363	1.432	1.339	1.355	1.151	1.217	1.100	1.184	1.184
Asbestos workers.....	1.360	1.451	1.354	1.339	1.167	1.197	1.142	1.250	1.250
Boiler makers.....	1.517	1.600	1.350	1.571	1.171	1.201	1.167	1.375	1.375
Bricklayers.....	1.493	1.508	1.509	1.522	1.376	1.446	1.409	1.612	1.612
Carpenters.....	1.290	1.358	1.283	1.295	1.061	1.161	.962	1.162	1.162
Cement finishers.....	1.316	1.345	1.323	1.308	1.178	1.239	1.231	1.463	1.463
Electricians (inside wiremen).....	1.406	1.465	1.449	1.391	1.186	1.245	1.004	1.095	1.095
Elevator constructors.....	1.360	1.368	1.410	1.426	1.236	1.201	1.113	1.241	1.241
Engineers, portable and hoisting.....	1.555	1.706	1.514	1.547	1.116	1.379	1.125	1.219	1.219
Glaziers.....	1.360	1.611	1.270	1.220	.952	1.088	.847	1.043	1.043
Granite cutters.....	1.177	1.222	1.052	1.137	1.000	1.044	.....	1.090	1.090
Lathers.....	1.454	1.481	1.460	1.445	1.319	1.383	1.250	1.311	1.311
Machinists.....	1.344	1.500	1.352	1.468	.991	.....	.933	1.278	1.278
Marble setters.....	1.439	1.490	1.342	1.482	1.215	1.428	1.288	1.370	1.370
Mosaic and terrazzo workers.....	1.296	1.374	1.206	1.257	1.196	1.390	1.203	1.370	1.370
Painters.....	1.312	1.405	1.248	1.214	.990	1.057	.928	1.001	1.001
Plasterers.....	1.509	1.583	1.492	1.508	1.254	1.403	1.254	1.344	1.344
Plumbers and gas fitters.....	1.407	1.468	1.391	1.383	1.363	1.257	1.295	1.207	1.207
Roofers, composition.....	1.201	1.203	1.223	1.186	.....	1.154	.600	.953	.953
Roofers, slate and tile.....	1.339	1.397	1.451	1.245	1.095	1.207	1.139	.900	.900
Sheet-metal workers.....	1.299	1.391	1.280	1.271	1.146	1.218	1.180	1.068	1.068
Sign painters.....	1.527	1.755	1.479	1.359	1.289	1.198	1.115	1.229	1.229
Steam and sprinkler fitters.....	1.421	1.478	1.376	1.399	1.372	1.243	1.261	1.221	1.221
Stonecutters.....	1.298	1.329	1.172	1.359	1.002	1.138	.....	1.138	1.138
Stonemasons.....	1.448	1.453	1.425	1.503	1.404	1.450	1.394	1.308	1.308
Structural-iron workers.....	1.438	1.468	1.474	1.483	1.154	1.352	1.179	1.263	1.263
Tile layers.....	1.375	1.409	1.329	1.358	1.196	1.331	1.250	1.304	1.304
Helpers and laborers <sup>2</sup> .....	.818	.917	.810	.748	.520	.776	.544	.785	.785
Building laborers.....	.774	.889	.754	.686	.486	.713	.490	.767	.767
Elevator constructors' helpers.....	.991	1.010	1.004	1.031	.862	.865	.797	.829	.829
Hod carriers (masons' tenders).....	.822	.832	.914	.815	.615	.848	.648	.803	.803
Marble setters' helpers.....	.994	1.072	.911	.839	.....	.825	.500	.....	.....
Plasterers' laborers.....	.992	1.066	1.013	.944	.609	.939	.536	.956	.956
Steam and sprinkler fitters' helpers.....	.945	1.084	.830	.856	.674	.677	.719	.750	.750
Tile layers' helpers.....	.925	.969	.840	.882	.....	.811	.500	.....	.....

<sup>1</sup> No city in South of this size.

<sup>2</sup> Insufficient number of southern cities to compute an average.

<sup>3</sup> Includes also plumbers' laborers and composition roofers' helpers, not shown separately because of the small number of quotations obtained for these trades.

<sup>4</sup> Charleston, W. Va., only.

<sup>5</sup> Dallas, Tex., only.

<sup>6</sup> Chicago, Ill., only.

<sup>7</sup> Nashville, Tenn., only.

<sup>8</sup> Portland, Maine, only.

<sup>9</sup> San Antonio, Tex., only.



loading on a five-room Cape Cod bungalow roof.

And French! That's required in many schools—presumably so you can revel in the abstractions of Viollet-le-Duc. (We found Madrus' *Mille Nuit et Une Nuit* much more entertaining.)

Then there were (in our scholastic career) the matters of entropy, and calculating the economical thickness of pipe insulation for the long distance transmission of high pressure steam. But nobody in our Heating class ever found out how big to make a radiator to heat a room!

We studied "The Calculus" and analytics and textiles and hygiene and military tactics and God only knows what else. To attend the class in acoustics, however, we "architects" had to get special permission from the Dean of the School of Music—this course having been especially included in the University curriculum

for the co-eds with more or less unfounded expectations of appearing at the Metropolitan. How comforting it must have been to them later to think that their ambitions were frustrated because the time of reverberation was too prolonged in the various concert halls where they appeared!

## DATA SHEET NEWS OF THE MONTH

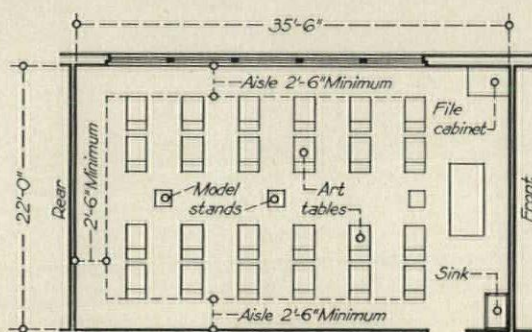
We have over 50 *Data Sheets* in preparation for a number of the country's best known building product manufacturers. Watch the advertising pages of PENCIL POINTS carefully in the forthcoming months for announcements of these new free sets. They will contain material never before covered in *Data Sheet* form and all of them will contribute greatly to the value of your *Data Sheet Library*.

DON GRAF

## ART AND MECHANICAL DRAWING

Index No.  
**D14p**  
PLANNING

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF



PLAN

### ART ROOMS

Rooms devoted to art instruction should be so located as to receive north light.

Not less than 30 square feet of floor area per student should be provided.

Provide adequate arrangements for electric connections, water supply, ventilation, display spaces and storage facilities.

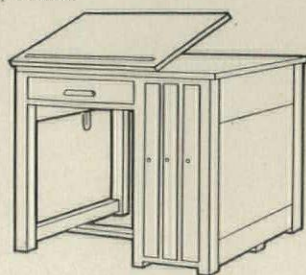
A typical art room plan is shown above.

### MECHANICAL DRAWING ROOMS

The provisions for mechanical drawing rooms are practically identical with those of art rooms and where class schedules allow, the same room can be and often is used for both purposes.

Rooms devoted to mechanical drawing should be so located as to receive north light, and artificial lighting should be provided to correspond with the standard set by the lighting code of the American Engineering Standards Committee.

At least 30 square feet in gross floor area per student should be provided.



ART TABLE

Special rooms suitably equipped should be considered for the purpose of duplicating or blue printing.

### TABLES

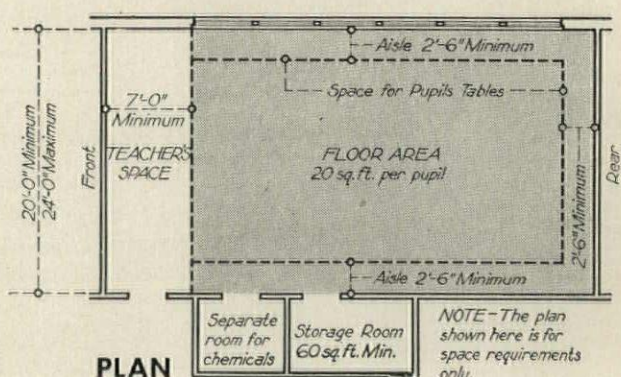
Illustrated at the left is a typical drawing table with adjustable top. Boards, instruments and materials are stored in the compartments. A general drawer is provided for class room equipment.

Dimensions of the table shown are 2'-10" long, 1'-8" wide, and 2'-6" high.

## SCIENCE LABORATORIES

Index No.  
**D14m**  
PLANNING

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF



PLAN

NOTE—The plan shown here is for space requirements only.

### SET

15

MAR

1939

### DIMENSIONS OF LABORATORIES

Laboratories should be not less than 20'-0" wide and not more than 24'-0" wide.

Laboratories should be standard as to light, heat and ventilation. (See *Data Sheets* D14h and D14i.)

At the front end of the laboratory, provide a minimum of 7'-0" between the first student's table and the front wall for teacher's space.

Allow 2'-6" for aisle space on both sides and rear of the room.

For each pupil, allow a minimum of 20 square feet of floor area in addition to the 7 feet of teacher's space.

### DEPENDENCIES

Provide a storage room not less than 60 square feet in floor area for apparatus and supplies, which opens directly into the laboratory.

Provide a separate room which is vented, for the storage of chemicals. One storage room for apparatus and equipment and another for chemical storage may be placed between 2 laboratories to serve them both.

### TEACHER'S TABLE

The teacher's table should have an acid-resisting top, acid-resisting sink and drain.

Each table should be provided with an electrical connection and a direct current supply is desirable.

Cold water is mandatory at the sink, and hot water is desirable.

A gas connection should be provided.

### STUDENTS' TABLES

Allow a minimum of 2'-6" of table length for each pupil's station. Gas, water, electric connections should be convenient to each station. Table tops should be acid-resisting.

### OTHER REQUIREMENTS

Provide both translucent and opaque window shades of approved type. Provide an electrical outlet which is suitable for a projection machine. A bulletin board of at least 15 square feet should be provided.

A notebook case is desirable. A minimum of 20 linear feet of blackboard with at least 10 linear feet in the teacher's end of the room should be provided.

### SPECIAL REQUIREMENTS

For chemistry, provide a fume hood for light and heavy gases. For biology, provide an aquarium with a water supply and drain. For general science and biology, a germinating bed is desirable.







# A MATERIAL OF VERSATILITY

## PORCELAIN ENAMELED IRON SHEETS

BY D. H. GROOTENBOER AND DON GRAF

**EDITOR'S NOTE:** *This is the first in a series of articles stressing the properties, characteristics, and construction methods of materials and equipment. The following subjects will be treated in forthcoming issues: Paint, Plastics, Adequate Wiring, Air Conditioning. Others will be announced from time to time and readers are urged to suggest technical subjects in which they are especially interested and upon which information would in their opinion be particularly useful.*

**P**ORCELAIN enamel is very, very old. Yet, after thousands of years, porcelain enamel is, today, finding new utility in exciting and unprecedented ways. Ceramics, metallurgy, engineering, art and architecture have contributed to the developments which place this material of the ancients in the rank of the world's most modern building products. British tumuli and barrows have yielded enameled ornaments and weapons . . . the pylons in front of the Communications Building at the New York World's Fair 1939 are built of 1,000 porcelain panels. Artists of the Renaissance decorated watch cases and locket with delicate miniature paintings on a background of white enamel . . . J. Scott Williams has just completed a 2,000-square-foot mural in porcelain enamel. Three hundred years ago, porcelain enamel panels were used in the doors of a Russian church . . . at Girardville, Pennsylvania, a brand new school building is now being occupied, believed to be the first in history to have an exterior entirely of porcelain enamel.

The Egyptians knew the art of vitreous enameling. One of the early methods of enameling is now known as *champlevé*. At the time of the Roman occupation of Britain, the Gauls and Britons seem to have employed this process. Depressions were cut into bronze and filled with enamel, which was afterward fired. A writer of 240 A.D. said, "The barbarians pour colors into bronze molds; the colors become hard as stone, preserving the designs."

In the 800's, *cloisonné* was introduced in Western Europe. The designs in cloisonné are outlined with bent wire secured to a metal ground. The areas between the wire are filled with an opaque enamel. The Chinese excel in the manufacture of small objects by this method.

Up to about 1450, the objects to which porcelain enamel was applied were really pieces of metal-work. At this time, however, a number of goblets and small



*Photograph by Metropolitan Museum of Art*

*This medallion of the Nazarene is one of the many porcelain enamel objets d'art which are on exhibition at the Metropolitan Museum in New York*

plaques appeared, in which both the background and the design were executed in porcelain enamel and ceramic colors. This was the departure that eventually led to the modern "continuous-coat enameling."

One of the early instances of the modern process of porcelain enameling on iron sheets especially made for the purpose, was the manufacture of porcelain enamel water closet tanks to supersede the older tin-lined wood tanks. Sometime around 1910, porcelain enamel ice-box linings were introduced. Then the stove manufacturers adopted porcelain enamel door panels and splash backs. Kitchen pots and pans, table tops, kitchen cabinets, washing machines, plumbing fixtures joined the porcelain enamel cavalcade which had started thousands of years before.

Although the first enamel covered dwelling was built in Germany in 1895, it was not until 1928 that the material began to make progress as a wall material in the United States. The first American porcelain enamel covered house was built in 1932. The Century of

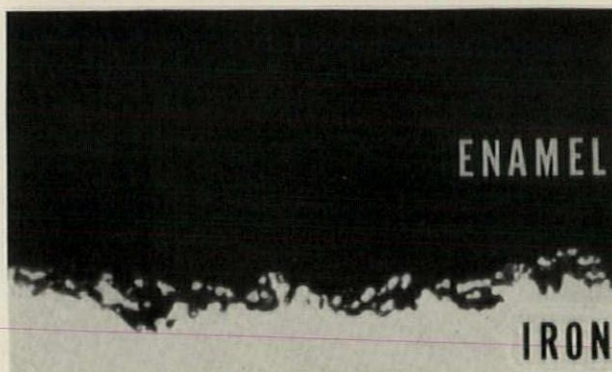


Progress Exposition in 1933 at Chicago exhibited two residences finished in porcelain enamel.

Because of its color range and brilliance, porcelain enamel as a wall material first received its widest recognition in commercial structures. One drug store reported an 80% increase in business after installing a porcelain enamel front. Gas stations, hot-dog stands, bus terminals and other business buildings appeared with increasing frequency. To meet this growing demand, manufacturing units came into being over a wide geographical range, creating a fortunate condition for the distribution of architectural enameled products. Because of this and the short processing time, custom-made jobs today may be completed and delivered quickly. Prompt deliveries by rail, motor express or manufacturers' trucks are possible at a minimum expense and minimum danger of damage from shipping.

Porcelain enamel is essentially an opaque glass, and should not be confused with either brushed or baked organic enamels belonging in the category of painters' materials. Porcelain enamel is composed entirely from minerals, having no organic ingredients. The versatility of porcelain enamel proceeds from its mineral composition and the method of manufacture. History records no permanent colors except in the field of glass and ceramics. Porcelain enamel offers a complete range of lasting colors of any value or intensity, as well as stippled effects and designs printed by a screen process. Being a vitreous material, it is non-porous and non-absorbent and is as easily cleaned as a china dish. It has unusual resistance to abrasion and can be supplied in acid-resisting finishes. It has almost unlimited possibilities of surface contours. It can be applied to welded, stamped or drawn shapes. It is light in weight, the finished product usually weighing less than 3 pounds to the square foot. In many cases, porcelain enamel construction can be completely salvaged for re-use. It is vermin-proof, fire-resisting and non-inflammable. It is reasonable in cost.

The backing material to which the porcelain finish is to be applied requires careful preparation. Since the porcelain is a ceramic material, it has to be fired to render it vitreous. Iron sheets, therefore, have been developed, which have the same coefficient of thermal expansion as the finish coating. These sheets are referred to as *enameling sheets*. Enameling iron is far removed from usual iron and steel sheets. It must be uniform in composition; flat for panel work; ductile for drawn, formed and embossed designs; and free from all defects that would cause blemishes in the finished porcelain enamel. Above all, enameling iron must provide surpassingly strong adherence if the porcelain enamel is to bond tenaciously to the base metal. As a general rule, 16 or 18 gage sheets are used, but 20 gage is sometimes employed if the finished panel is carefully backed up or veneered to provide the necessary rigidity. Before enameling, the sheets are sheared, bent, drawn, punched or formed to meet the conditions of the design. Fluting, reeding, louvers (not *louvre*s) or other special forming



*Courtesy of The American Rolling Mill Company*

*The intimate bond created between the enamel cover coat and the special iron sheets is shown in this photomicrograph. The illustration does not indicate the relative thicknesses of the two materials*

may be required. Flanges, clips and pieces for installation connections are welded in place and filed smooth. Holes are punched or cut preferably at this time—although a portable electric ceramic hole-saw can be used on the job in emergencies to make holes in the finished porcelain enamel sheets.

The fabricated sheets are cleaned of all dirt and grease and then *pickled* in an acid bath. The pickling removes rust and scale and etches the metal. The result of the etching is not visible to the naked eye, but a magnifying glass will show a roughening of the surface which provides a bond for the adhesion of the ground coat of porcelain enamel. Some of the mineral ingredients for the ground coat are referred to as *adherence oxides*, and are so compounded that they have an affinity for the metal and will fuse with it. The minerals are melted together at temperatures up to 2500° F. By sudden immersion of the molten mixture into water, it is shattered by thermal action into light, airy granules which are called *frit*.

The frit is ground with clay and water to make a liquid which passes a 200-mesh screen—comparable to the fineness of flour or face powder. The metal is dipped or sprayed with this liquid mixture. The pieces are then dried at about 200° F. The water is driven off, leaving a layer of powdered material. The sheets are then fired at about 1500° F. A dark-colored glass-like coating is created, which fuses into the metal and creates an intimate bond with it.

A standard enameling furnace accommodates panels up to about 4' x 10', thus limiting the size of pieces that can be safely fired. Because such large units are difficult to handle during fabrication, the maximum practical size is generally taken as from 2'-0" to 3'-0" wide by 4'-6" to 5'-0" long.

Porcelain enamel may have either one or more *cover coats*. Monochrome panels for architectural work should have two cover coats. If only a single cover coat is used, the tendency is to apply it too thickly in order to make sure of hiding the ground coat. Two thin coats



are generally agreed to produce the most desirable result for architectural use.

The cover coats are applied in a similar manner to the ground coat. The frit used is of a different composition, however, being composed principally of feldspar (aluminum silicate), cryolite (sodium aluminum fluoride), and fluorspar (calcium fluoride). Feldspar is commonly used in making artificial teeth and opalescent glass. Cryolite produces opacity in glass. The liquid coating for cover coats will also contain pigments in the form of mineral oxides. The fusing temperature of the cover coats is lower than that of the ground coat, to prevent the second and subsequent firings from loosening the ground coat from the metal.

Panels of porcelain enamel in polychrome generally require that the lightest color in the design be applied over the entire piece. After firing, the next lightest color is dipped or sprayed on and dried. A stencil is then imposed over the piece and the unwanted areas are brushed off. The piece is fired, and the process repeated until all the colors of the design have been applied.

A comparatively recent development is acid-resisting porcelain enamel. It is non-porous to a degree that repels the attack of every injurious acid that conceivably would be encountered in building service. For all exterior uses, it is recommended by a number of the enameling manufacturers.

Porcelain enamel may be specified in a finish variously termed glossy, glaze, or lustrous, or in a matte finish. Up to this time, the glossy finish has been most used, because of applications demanding brightness and, consequently, high attention value.

In an article by Paul V. Blackburn, appearing in the *Enamelist*, the author describes some new surface textures for architectural enamel. The breaking up of flat surfaces by means of corrugations and other embossed patterns presents many interesting decorative possibilities. Narrow corrugations and fine crimped patterns produce results which are surface textures rather than features of design. In one example,  $3/16"$  corrugations are accentuated by spraying at an angle a darker blending color than the base color. One side of each corrugation picks up the darker color while the other side shows the original base color. The corrugated panels may also be enameled in solid color, creating a surface not unlike the tooling of stone. By placing panels with corrugations at different angles, a variety of checker-board or striped effects could be produced in a wall be-

cause of the angle of the incident light. The crimped process corrects the tendency of large, flat surfaces to accentuate slight waves in the material. Highlights are reduced to a large extent by the minute corrugations in one direction. The reduction is still greater if the surface is broken with crimping in two directions. In a flat area, even the matte enamel produces a fair image of reflection. A dead matte surface is not practicable in porcelain enamel because such a surface would readily collect dirt and would not have good weathering properties. Therefore, for illuminated displays, these crimped enamel surfaces serve the purpose of a true dead matte and non-image-reflecting finish. A still further advantage of the corrugated method is the great stiffness which is added to the metal and the consequent possibility of using lighter gages.

An analysis of the manufacturing procedure shows that six steps may be required:

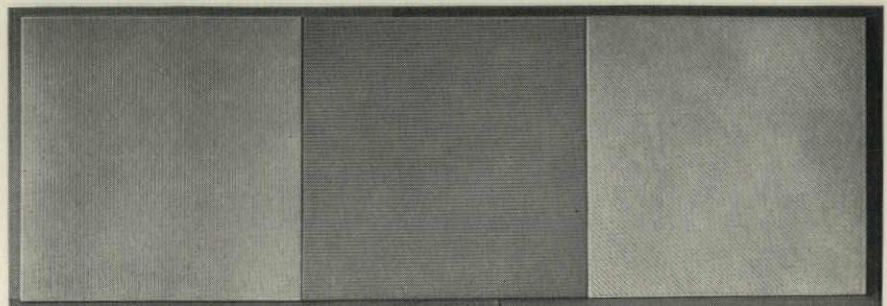
1. Manufacture of the frit
2. Manufacture of the enameling sheets
3. Fabrication of the sheets
4. Enameling the metal
5. Backing of the enameled sheets (if specified)
6. Installation of the finished pieces

According to R. M. King, Technical Director of the Porcelain Enamel Institute, lack of experience on the part of contractors and mechanics in the erection of enameled panels resulted in unsatisfactory work in some of the first installations. Because of this, several manufacturers took upon themselves the responsibility for all steps in the manufacturing process—even performing architectural work in a few cases. At the present time, it will be found that there are a number of manufacturers who perform two or more of the manufacturing functions, but encroachment of the manufacturers on the prerogatives of the architect are happily being discouraged by the Porcelain Enamel Institute. At some time or another in the history of almost every building product there have been manufacturers who have had the bright idea of superseding the architect in order to further the sale of the product. It is fortunate that in a new and growing industry such as that of porcelain enamel, the producers are being advised by their technical director "that the professional architect be included in any scheme of distribution."

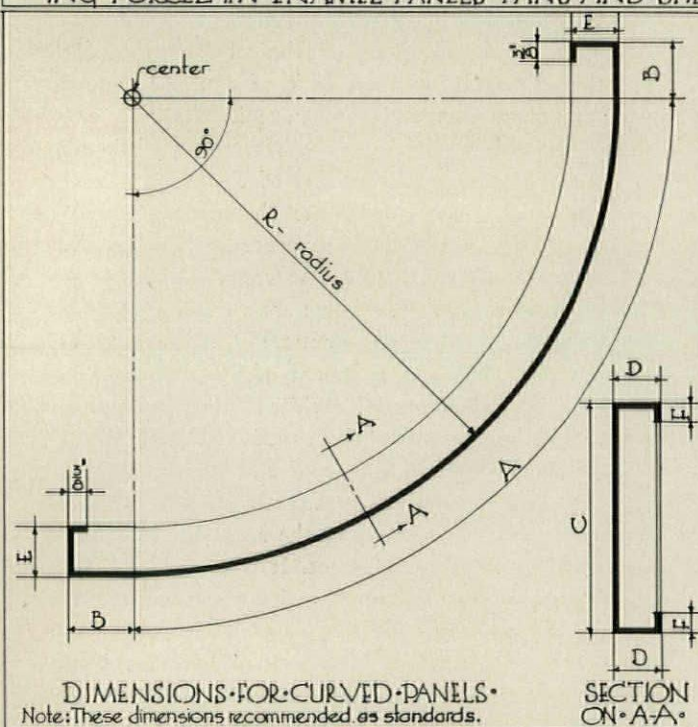
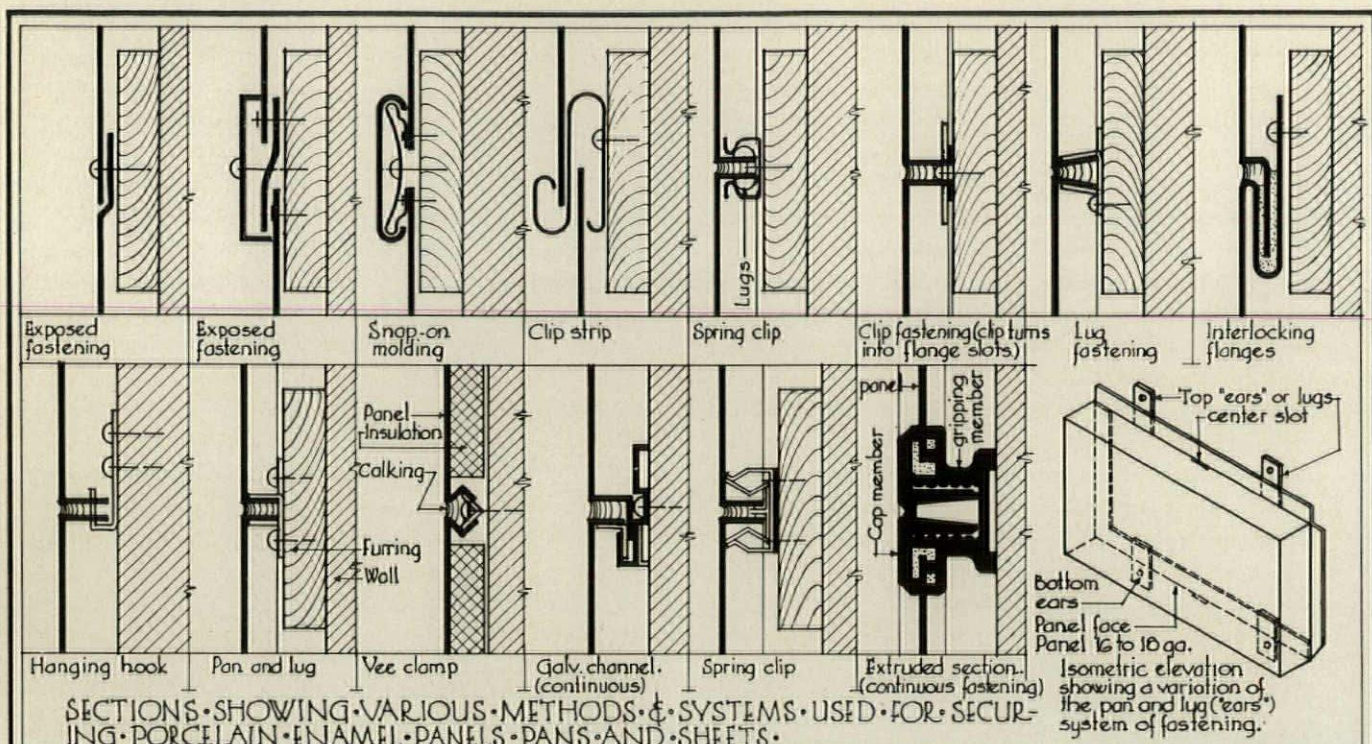
The fairly recent and sudden discovery of the new design and utilitarian possibilities possessed by porcelain enamel, naturally resulted in a great deal of confusion.

*Courtesy of Ferro Enamel Corporation*

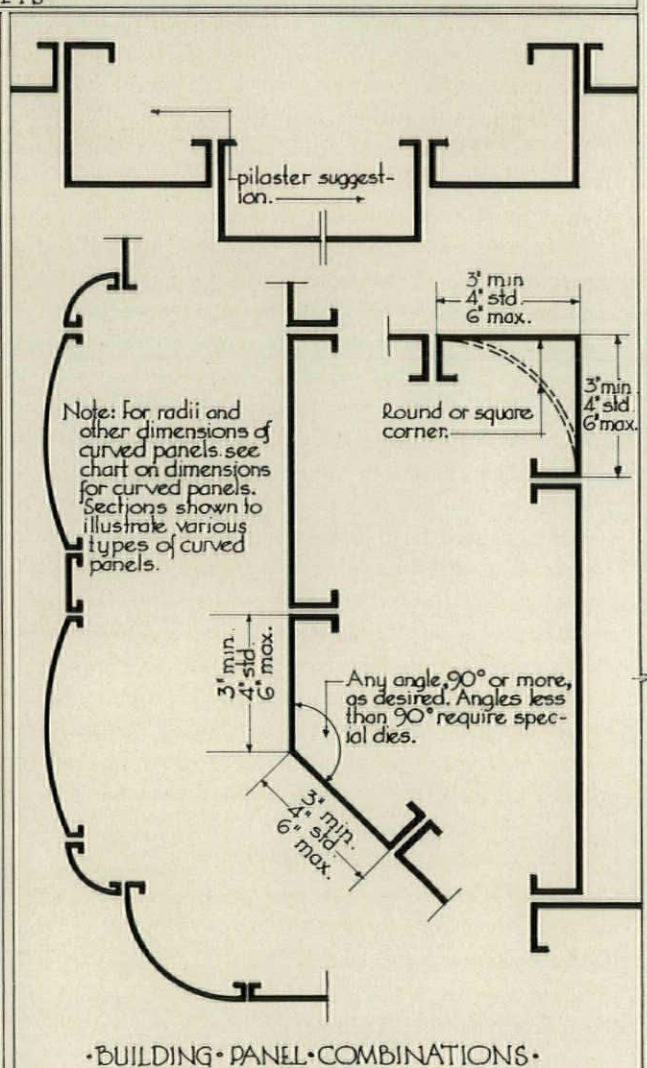
*Three panels with  $3/16"$  corrugations placed vertically, horizontally, and diagonally. It will be seen that a great variety of patterns can be produced by using these three panels in different combinations. The corrugations create a dull or matte effect and correct the tendency of slight waves to be accentuated*







R radius	A = max.	B Possible	B Recommend	C	D	E max.	F.
3'	1/4 circle approx. 4 3/4"	1' to 8'	1 1/2' to 6'	6' to 44"	1"	1"	none
12'	1/4 circle approx. 18 3/4"	1' to 4'	ditto	6' to 44"	1"	1"	none
18'	1/4 circle approx. 28 1/4"	1 to 4 1/2'		6' to 44"	1"	1"	3'
5'-15"	45°	none		7' to 44"	1, 2 or 3	3"	3'
10'-0"	48°	none		7' to 44"	1, 2 or 3	3"	3'
15'-5"	48°	none		7 1/2' to 44"	1, 2 or 3	3"	3'

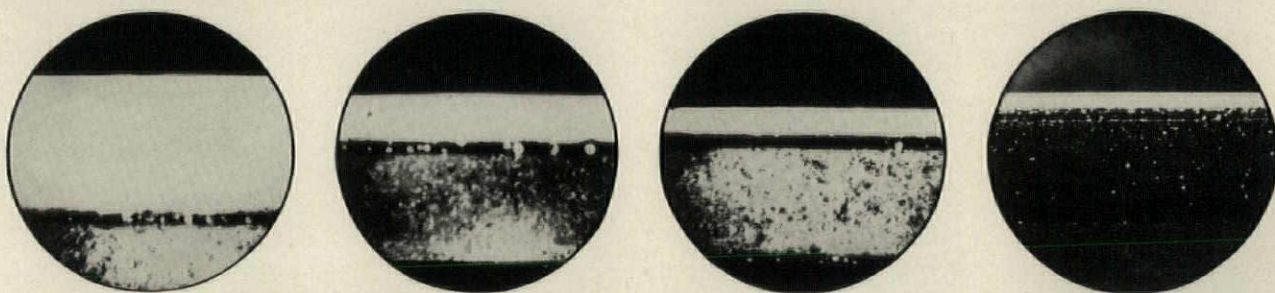


Available not only in sections shown above by Philip G. Knobloch, porcelain enamel is also made with backing of any required thickness to be used as load-bearing material to take the place of equivalent thicknesses of masonry



The architectural imagination, being what it is, quickly outdistanced the manufacturers' facilities for supplying required information. (In one of the better-known architectural references, we still find porcelain enamel products cleverly grouped with roof scuppers, sidewalk doors, flagpoles, leader shoes, door knockers and bronze memorial tablets!—it should be said, through no fault of the porcelain enamel manufacturers, however.) It has been determined that architecturally trained men design about 70% of the new buildings of this country, and about 50% of all remodeling work. The makers of porcelain enamel have, in the architectural profession, a tremendous potential market for their product. These companies are rapidly developing their service, distribution and manufacturing technique. Constant vigilance in the maintenance of standards for the industry as improvements and developments take place, and carefully planned servicing of architectural organizations

the ground coat on ware with a good bond. Careful shop practice in manufacturing, combined with proper handling on the job will result in an installation having as high or higher impact strength than many traditional materials customarily used without question. There is nothing delicate about good porcelain enamel. The ordinary kitchen sink is a porcelain enameled iron product which receives more abuse in a year than a building surface would take in many years. Porcelain enamel sinks of a vintage of the last decade do not chip. Earlier porcelain enamel sinks chip because the enamellers thought they needed many coats to make it wear well. Experiment has proven that the thinner the cover coats of porcelain enamel are, the more durable the product is and the more severe the blow will have to be to chip the material. A recent development in the manufacture of frit for the cover coats allows about 40% reduction in the thickness. Chipping is practically eliminated be-



Courtesy of Ferro Enamel Corporation

with the finest reference drawings and clearest text matter obtainable, together with technical advice on request, will pay generous dividends to the enameling industry.

Generally speaking, there are four major types of porcelain enamel construction. These are:

- (1) Flat sheets
- (2) Flanged sheets or "pans"
- (3) Flanged sheets with auxiliary backing, not load-bearing
- (4) Load-bearing auxiliary-backed sheets

Each of these types will be found to have its own advantages for specific building problems. Methods of attachment for each type have been developed—some of which are shown on the accompanying drawing. In selecting a type of construction and method of attachment the designer will want to consider several points. Is the attachment positive? Does it allow for expansion and contraction? Is it desirable to have the panels removable and replaceable in case of damage?

The question usually asked by one unfamiliar with porcelain enamel design is, "Will it chip?" A truthful answer can only be, "Of course it will chip!" (So will granite, glass, tile, paint, cast iron, plaster, concrete—if you strike them hard enough.) The fact that porcelain enamel *will* chip under very heavy impact, proves its flintlike hardness. *It is this extreme hardness that makes it enduring.*

Chipping is a break or chip within the enamel itself, not usually exposing bare metal or extending down to

*The more nearly a practical application of cover coat approaches a zero thickness, the greater will be its resistance to mechanical failure under stress of tension and compression. These photomicrographs show the progress made by a manufacturer in the last ten years in increasing the opacity of cover coat enamel frits, and the resulting thinness of application. The white band represents cover coat enamel, the darker band just beneath it is the ground coat under which appears the steel itself*

cause of the much thinner application prevalent today.

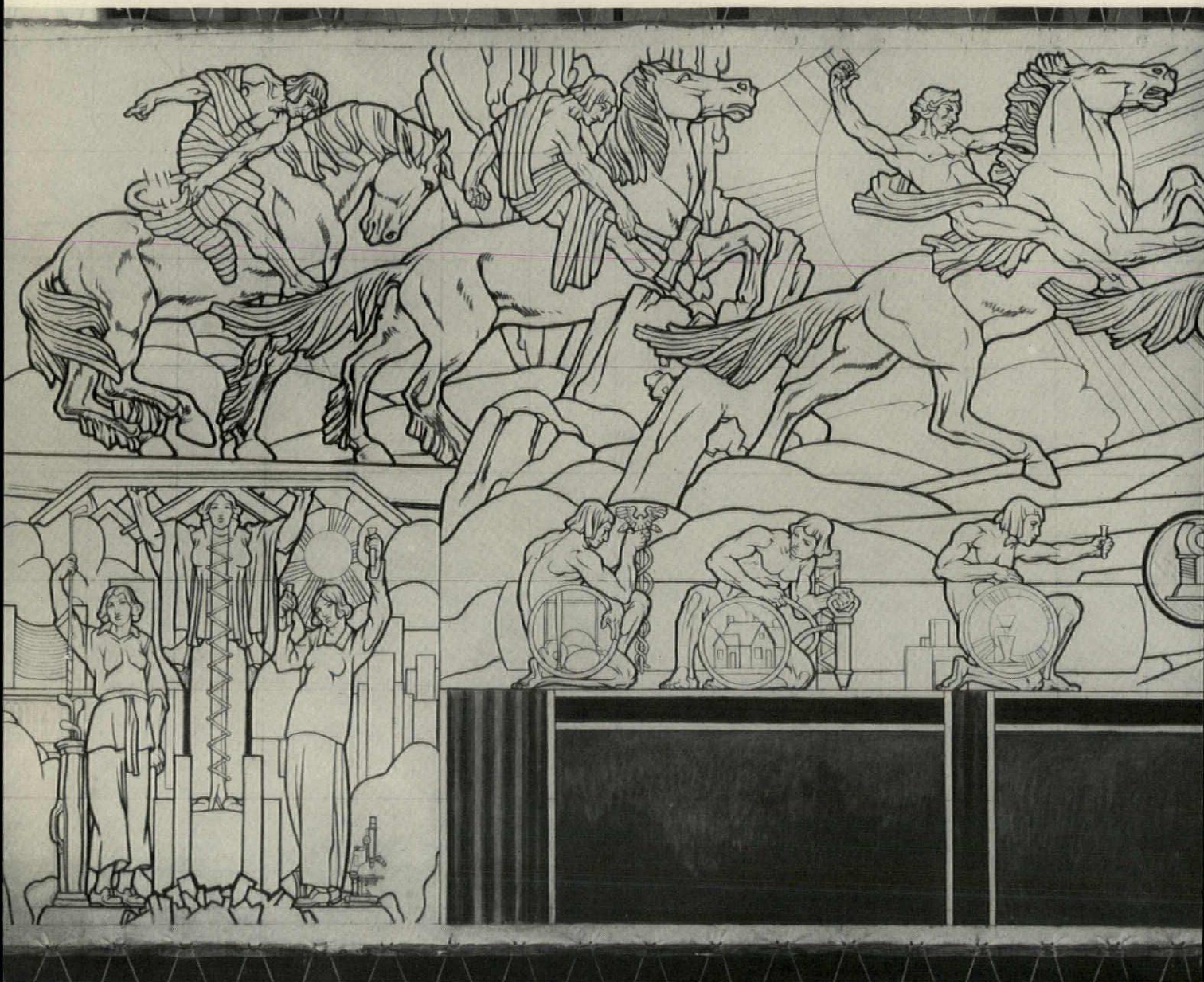
The word *versatility* occurs frequently in the descriptions and advertising of porcelain enamel. And not without reason. It is unusual for a material to combine so many desirable qualities of function and decoration.

The impermeability of porcelain enamel makes it a highly satisfactory surface where sanitation is a requisite. In the food industries, in hospitals, dental and medical offices, kitchens and bathrooms, washrooms of public buildings, soda fountains and bars—in all these places the remarkably small maintenance effort required makes porcelain enamel a useful material.

There are many types of buildings which call for the *appearance* of sanitation for instilling in the mind of the observer the thought of absolute cleanness. In this category we have such uses as the exteriors and interiors of dairies, bakeries, laundries, barber shops, restaurants, beauty parlors.

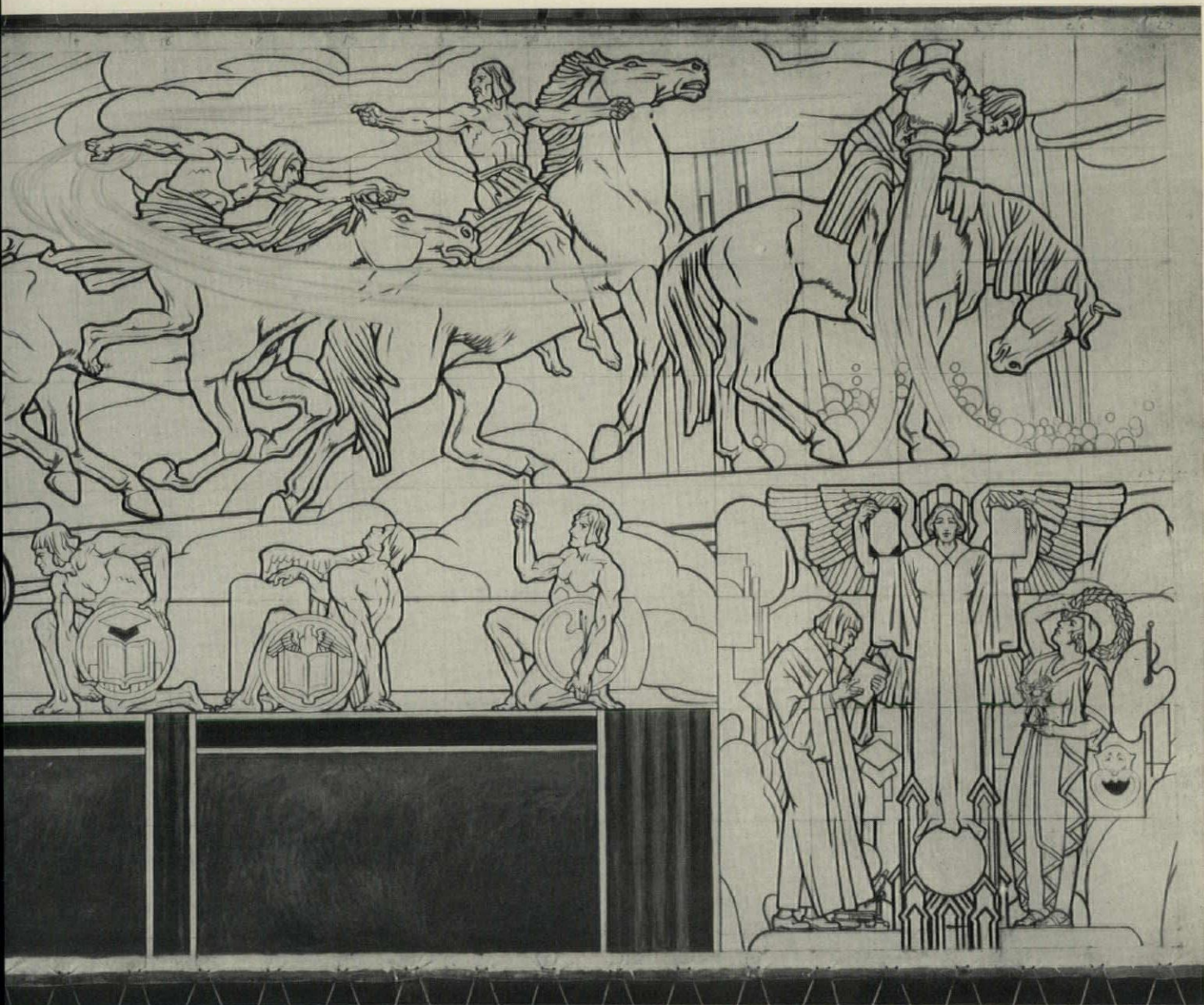
The advertising and publicity value of the colors ob-





Artist J. Scott Williams' quarter-size cartoon for the huge ferro enamel mural being placed above the entrance portal of the Shelter Building at the New York World's Fair. The mural, 28 feet high and 70 feet wide, dramatizes the elemental forces in nature in Man's conquest for better living. From left to right, the large figures symbolize: (1) Snow and Winter; (2) Cold and Frost; (3) Sun; (4) Wind; (5) Lightning and Thunder; (6) Rain and Flood. The kneeling figures (middle): (1) Recreation, Sports and Toys; (2) Shelter; (3) Public Welfare; (4) Education; (5) Religion; (6) Art. A completed section measuring approximately 13 feet by 14 feet, photographed from a temporary assembly in the factory appears below, at right



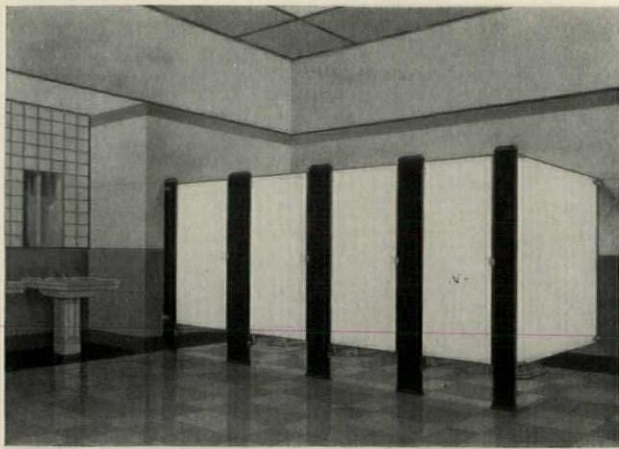


Wide World





Courtesy Briggs Mfg. Co.



Courtesy The Sanymetal Products Company

*Bathroom walls and fixtures are of porcelain enamel, in the illustration at the left, creating a pleasing unity of surface as well as a room that is sanitary and readily maintained. Porcelain enamel toilet partitions such as those at the right should not be confused with those having baked-on paint enamel finishes. The porcelain enamel partitions are made of two pan-formed sheets, porcelain enameled on both sides. The sheets are then assembled and cemented under pressure to a  $\frac{7}{8}$ " thick rigid fiber core. The doors are made the same way*

tainable in porcelain enamel, and the ease of maintaining its original brilliance, have prompted the use of the product for such applications as theater fronts, gas stations, bus terminals, food stands, store fronts, bar rooms, and many other places.

A combination of the properties possessed by porcelain enamel has recently been responsible for an entirely new and unprecedented adaptation which dates from the association of D. H. Grootenboer and Philip G. Knobloch in architectural practice in Pottsville, Pennsylvania. Both of these men having come from large cities where school buildings were constructed of fire-resisting materials, were amazed at the number and size of wood school buildings in the Pennsylvania mining section. To them, it was little short of criminal to house children for hours each day in buildings which were veritable fire traps.

Investigation proved, however, that there was a structural reason for the frame construction—the people of the mining community apparently loving their offspring with the same parental intensity that obtains in other localities. It was found that the buildings had to be light-weight construction so as to withstand the earth

movements caused by sub-surface mine workings. Earth movements did not always result from activity directly under the buildings affected—sometimes they took place from operations hundreds of feet away on an adjoining slope or hillside. Workings directly under the buildings caused vertical subsidence which is easily remedied by proper footing design. Workings at a distance, however, caused a sidewise slipping. Frequently both conditions were encountered on the same plot of ground. The illustration shows what happens to conventional construction under such conditions.

Frame buildings constructed upon reinforced concrete foundations seemed to withstand the strain because of the truss action of the light skeleton members. The architects devoted considerable time over a period of three years in trying to arrive at a solution which would combine light weight, practical cost and non-inflammability. When the architects were commissioned to handle a high school building for the town of Girardville, Pennsylvania, they decided to utilize porcelain enamel for the exterior, as a result of their research and observations. The solution was so interesting and satisfactory that laymen and individuals in the building field journeyed from many sections of the Eastern United States to view this new type school. The foundation walls of this building are reinforced with concrete. The superstructure is of light weight structural steel



*This illustration shows a typical instance of the results of mine workings upon buildings in the Pennsylvania coal region. Notice that the frame second story has successfully withstood the stresses which have cracked the more unyielding masonry below. Architects Grootenboer and Knobloch studied these buildings and found the solution in light steel framing with porcelain enamel panels*



members, so braced and arranged as to withstand the peculiar strains that are caused by the mining operations. The exterior walls have structural channel studs spaced about four feet on centers. To these studs the porcelain enamel units are secured by an ingenious method of fastening developed by the architects.

The plates or panels are of the pan or flanged type, on 18 gage enameling sheets. One-half inch thick rigid insulating board is cemented to the back of each piece. Joints between the finished panels are pointed with a plastic pointing compound applied by means of a calking gun. The exterior walls are finished on the inside with metal lath mounted directly to the channel studs and plastered in the usual manner. The wall spaces are filled with mineral wool insulation, blown into place.

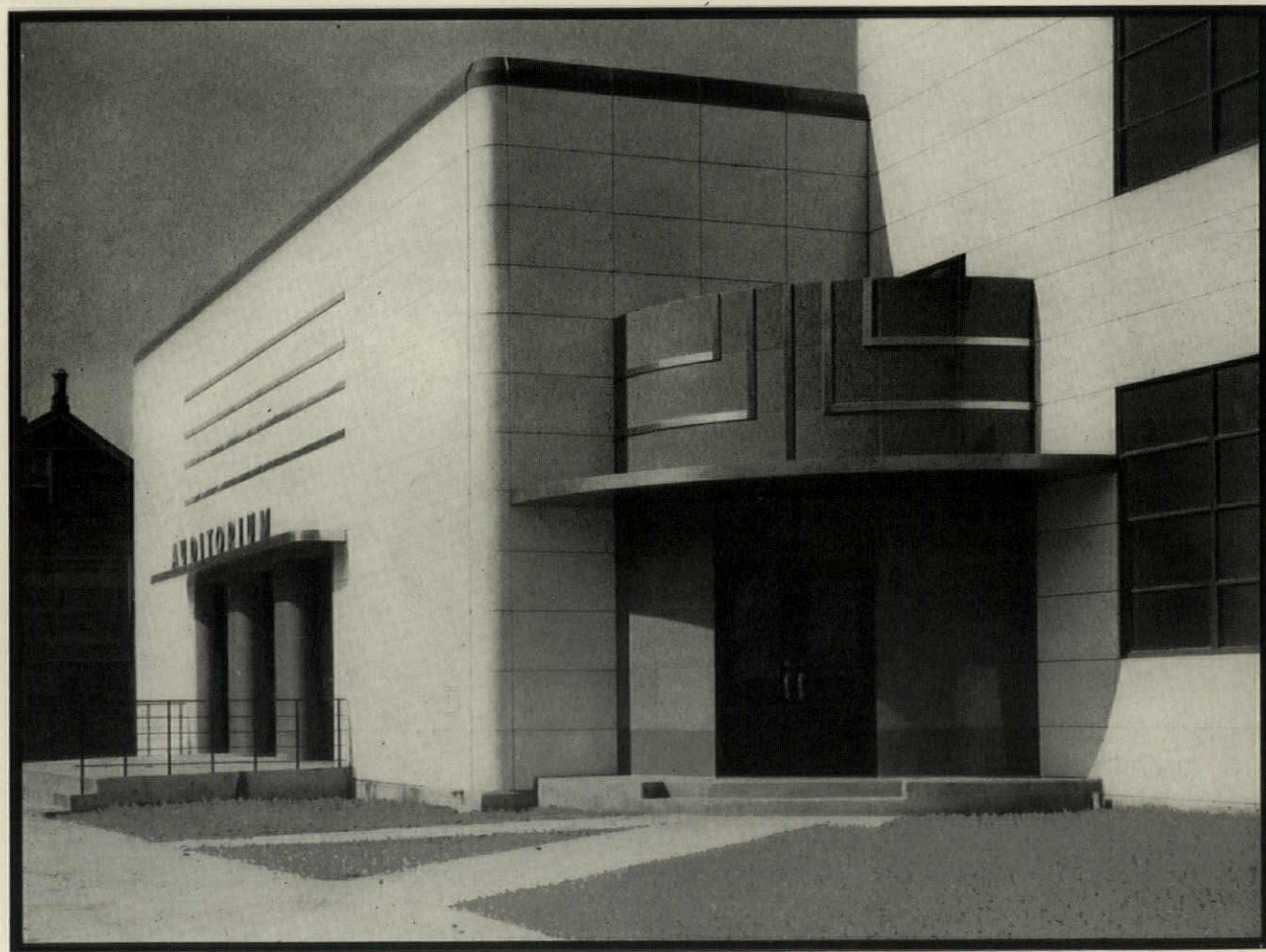
The pride of the pupils of this school is no doubt invoked for the better care and respect of their fine new building by the use of the high school colors for the exterior. The walls are oyster white with deep blue trimmings. It has been found that the building is practically self-cleaning—an important virtue in an area where the handling of coal creates a dirt-laden atmosphere.

Before adopting porcelain enamel for this school building, the architects conducted some office tests of the type with which every architectural man is familiar. These tests would probably raise the eyebrows of the Bureau of Standards and the ASTM—but who is to say



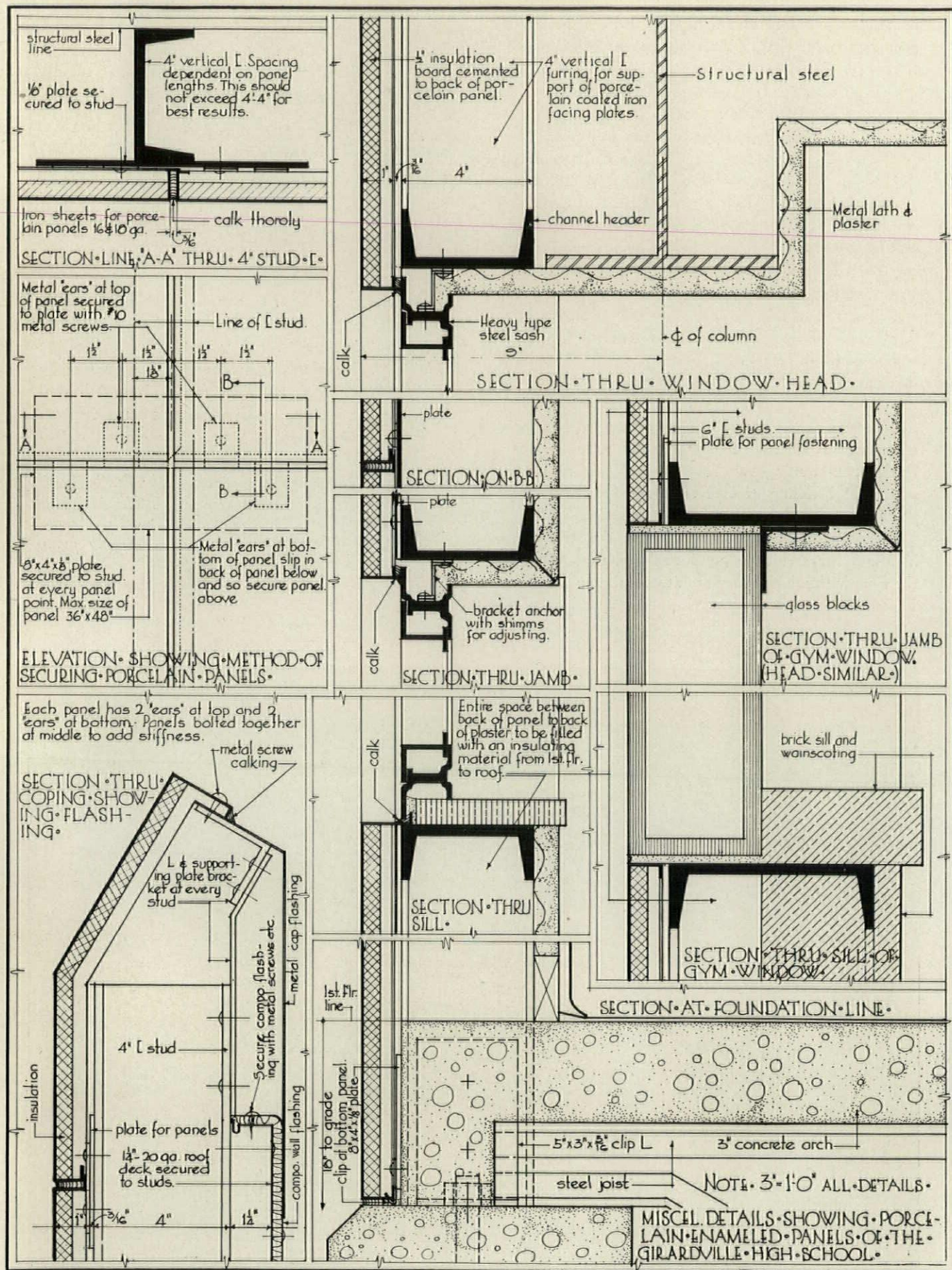
*Courtesy of Republic Steel Corporation*

*A general view of the world's first all porcelain enamel school building, located at Girardville, Pennsylvania. The Architects were D. H. Grootenboer and Philip G. Knobloch. The combination gymnasium and auditorium in the Girardville High School is contained in a wing, so planned that access from outside may be had without entering the classroom portion. In the entrance Architects Grootenboer and Knobloch have taken advantage of the flexibility of the material to create a circular motif. The dark blue of the entrance is relieved by stainless steel trimmings, and the doors themselves are painted black*



*Courtesy of Republic Steel Corporation*





In the Girardville High School, Architects Grootenboer and Knobloch evolved a unique scheme for attaching the porcelain enameled iron panels directly to the steel studs. The stud spaces were filled with mineral wool





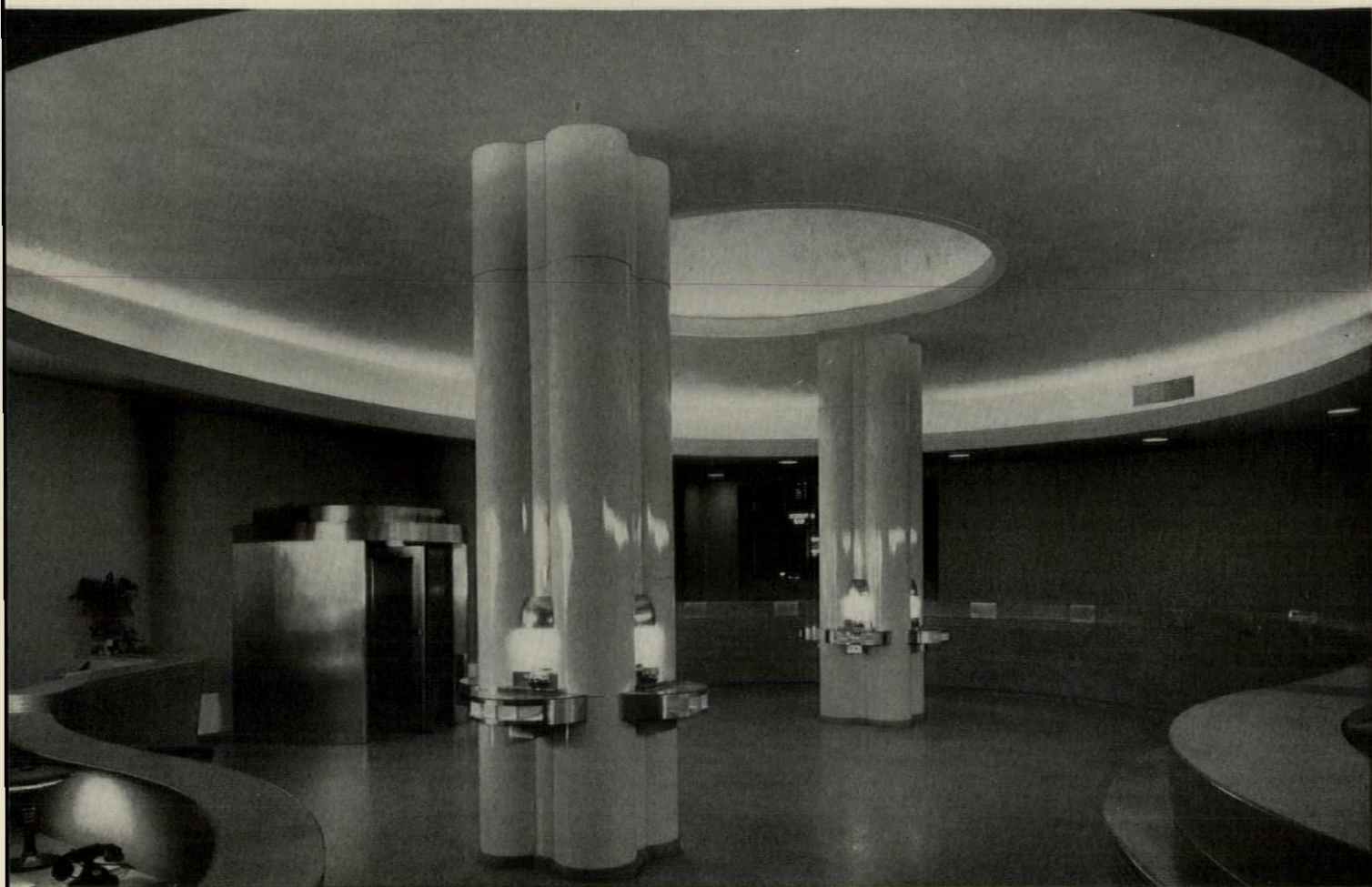
Courtesy of Republic Steel Corporation

*In the Girardville High School, the spandrels between first and second floor windows contain louvers to supply fresh air for the ventilating system. The letters are formed of porcelain enamel iron, are free standing and cast interestingly deep shadows on the white background. The auditorium entrance is marked by a stainless steel marquee with stainless steel bands on the wall surface above and porcelain enamel letters. Jambs are of dark blue enamel*



Courtesy of Republic Steel Corporation





*Photographs by F. S. Lincoln*

*A general view in the Chase National Bank, Rockefeller Plaza, designed by Reinhard & Hofmeister, New York Architects, showing the porcelain enamel sheathed columns. A clever handling of materials and an interesting movement of line emphasizes the design possibilities of combining modern materials. Note the detail on opposite page. This is said to be the first use of porcelain enamel for this purpose, for which it seems to be satisfactory*



whether laboratory tests or the abuse conceived by the architectural mind best reveals the rigors that a material will have to withstand in actual use? At any rate, samples of porcelain were pounded with hammers, thrown on a concrete floor, bent to see how soon the porcelain surface would crack. Acid was poured on the samples and other tests were made which may have been unorthodox but which convinced the architects of the feasibility of the product for this particular use.

There has been achieved in the finished structure a building that is fire-resistive, weighs approximately the same per linear foot as a well-constructed frame building, maintenance costs are very low, and its cost is comparable to first-class brick-and-stone trim construction.

In writing specifications for porcelain enameled iron, architects should be careful to specify *enameling sheets*, and that the gage shall be 16 or 18, depending upon the size and type of panel to be used. Sometimes 20 gage material is used, but it is not recommended unless properly backed up, or for small units. Also specify the kind of flanging required, and here, a good porcelain enameler should be consulted as most enamellers have distinctive methods of their own. If the architect intends to take competitive figures from the suppliers of the enameled sheets, it will be necessary to determine whether or not the distinctive methods are patented or are of such a nature that competition will be eliminated.

Is the porcelain to be regular, weather-resisting, or acid-resisting? Enameled surfaces should withstand the Porcelain Enamel Institute standard tests for specified properties and classification. Weather-resisting enamels should be specified for outside exposure. Regular enamels may be used for interiors when not subjected to corrosive materials. Acid-resisting enamels should be specified for especially corrosive conditions and are recommended in many cases for regular exterior use. The type and number of coatings should be stated definitely. If a backing of insulation board or other material is desired, specify its thickness and that the materials are to be combined at the factory. For convenient and economic installation of the porcelain enamel panels the jointing should be detailed to limit the size of any unit to about 10 square feet, with the greatest dimension not exceeding 5'-0". The method of attachment should be clearly shown and specified, whether by concealed clamps, bolts, moldings, or other method. Joints must be calked with a plastic material especially adapted to porcelain enameled iron, and the calking should be forced in with a gun to a depth of not less than one-half inch.

If there are any soffit plates, louvers, or lettering, and any special shapings required by special conditions of design, don't forget to specify that the building shall be thoroughly cleaned with warm water and a good grade of soap. Kitchen abrasives should be used only where necessary to remove grease, paint, or calking. No cleaning acids should be used, even on acid-resisting enamel, because of the harmful reaction on the calking.

Panels should be individually wrapped by the manufacturer for shipment. They should be stored flat in a weather-proof shed. *Insist on this requirement.* If the panels have been transported by truck in rainy weather and the wrappings have become wet, see that the paper is immediately removed. Porcelain that is not acid-proof may be stained by wet wrappings.

The architectural specifier, fortunately, can obtain an excellent reference work to help him in the writing of porcelain enamel specifications. The Technical Research Section of The Porcelain Enamel Institute, Inc., has prepared an 8½ x 11 booklet of 28 pages, entitled *Recommended Materials and Practice for Architectural Porcelain Enamel*. This brochure can be obtained by writing to the Institute at 612 North Michigan Avenue, Chicago. Information in this handbook is reliable and authentic. It is recommended that it be used as the guide for obtaining the best of the fine qualities of porcelain enamel for architectural purposes. The data are compiled by a committee of leading designing engineers drawn from the porcelain enamel industry. The Institute will be glad to supply, in addition, any available information of a special nature which is not covered in the handbook.

During the manufacturing process, there is very little that the architect can do in the way of supervision, for a large majority will have no occasion to become familiar







*Courtesy of Structural Porcelain Enamel Company*

*The Marlyn Apartments, Washington, D. C., Harvey Warwick, Architect. It is believed that this building is the first example of the use of flanged porcelain enameled sheet spandrels. The enamel is light cream in color, with two burnt-orange vertical stripes*



*Courtesy of Maul Macotta*

*In the Ford Motor Company Exhibition Building at Dearborn, Michigan, by Architect Albert Kahn, porcelain enamel forms the field and border of these panels. The figure is of porcelain enameled cast iron. There are seven figures similar to this one on the building*



with porcelain enamel shop procedure. However, one can require tests of the base metal, submission of color samples, check detailed shop drawings, and observe the usual architectural precautions for fabricated materials.

In superintending the field work, particular attention should be paid to the erection of the first or lower panels. These should be carefully aligned, leveled, and plumbed. Much future trouble will be obviated if the first pieces are properly erected. See that all fastenings are pulled up tight and that the calking is forced to the proper depth. Do not allow the interior of the wall to be closed in until the calking and fastenings have been rigidly inspected from the rear.

The erection of porcelain enamel is so simple that any average workman can apply the panels. It should be observed that in most unionized sections of the country, the structural steel workers claim jurisdiction. The selection of a responsible manufacturer is fully as important in avoiding job difficulties in the use of this material as it is with any other building product.

Because of the rapidly increasing use of porcelain

enameled iron in new ways, the designer should understand that building laws do not, in all localities, allow the full capacity of porcelain to be realized. Right at the moment, for example, the Building Code for the City of Pittsburgh requires that walls be of 12-inch masonry for fireproof buildings within the city limits. An attempt is being made to secure a revision of this mandatory legislation to permit the erection of porcelain enamel light-gage steel structures. It is quite possible that success in securing such a change in Pittsburgh will point the way to bringing other restrictive codes up to date.

The following list of manufacturers of porcelain enameled iron products will provide an architectural organization with sources of supply and information. These companies will be found willing to cooperate with the architect in solving specific problems. Neither the completeness nor the correctness of this list is guaranteed. If any persons discover errors or omissions, they are invited to communicate with PENCIL POINTS, and a list of corrections will appear in an early issue.

## SOURCES OF FURTHER INFORMATION ON PORCELAIN ENAMEL MATERIALS

### *Trade Association*

Porcelain Enamel Institute, Inc., 612 N. Michigan Ave., Chicago

### *Manufacturers of Enamel Frit*

Chicago Vitreous Enamel Products Co., 1425 So. 55th Court, Cicero, Ill.

Ferro Enamel Corp., 4150 E. 56th Street, Cleveland, Ohio

O. Hommel Company, Pittsburgh, Pa.

Ingram-Richardson Manufacturing Co., Frankfort, Indiana

Porcelain Enamel & Manufacturing Co., Baltimore, Md.

### *Manufacturers of Enameling Sheets*

American Rolling Mill Co., 1938 Armco Ave., Middletown, O.

Bethlehem Steel Company, Bethlehem, Pa.

Carnegie-Illinois Steel Corp., Carnegie Building, Pittsburgh, Pa.

Empire Sheet & Tin Plate Co., Mansfield, Ohio

Granite City Steel Co., 20th and Madison Avenue, Granite City, Ill.

Great Lakes Steel Corp., Detroit, Mich.

Inland Steel Co., First National Bank Bldg., Chicago, Ill.

Jones & Laughlin Steel Corp., 311 Ross Street, Pittsburgh, Pa.

Newport Rolling Mill Co., Newport, Ky.

Otis Steel Company, Cleveland, Ohio

Republic Steel Corporation, Republic Building, Cleveland, Ohio

Sharon Steel Corp., Sharon, Pa.

Youngstown Sheet & Tube Co., Youngstown, O.

### *Suppliers of Architectural Porcelain Enamel*

Ace Porcelain Steel Corp., 46 Gt. Jones St., New York City.

Acme Metalon Company, Detroit, Michigan

Art Porcelain Products, Inc., New York City

Artercraft Sign Co., Kibby and Black Sts., Lima, Ohio

Atlas Enameling Co., St. Louis, Mo.

Baltimore Enamel & Novelty Co., P. O. Box 928, Baltimore, Md.

W. A. Barrows Porcelain Enameling Co., Cincinnati, Ohio

Beaver Enameling Co., Ellwood City, Pa.

Bettinger Enamel Corp., Grove St., Waltham, Mass.

Bronx Porcelain Co., New York City

California Metal Enameling Co., Los Angeles, Calif.

Challenge Stamping & Porcelain Co., Grand Haven, Mich.

Chattanooga Stamping & Enameling Co., Manufacturers Road, Chattanooga, Tenn.

Chicago Vitreous Enamel Products, 1425 So. 55th Court, Cicero, Ill.

Davidson Enamel Co., Clyde, Ohio

Davidson Enamel Products, Inc., 800 East Kibby St., Lima, Ohio

Enamel Products Co., 300 Eddy Road, Cleveland, Ohio

Erie Enameling Co., Erie, Pa.

Federal Electric Co., 8700 So. State St., Chicago, Ill.

Ferro Enameling Co., Oakland, Calif.

General Porcelain Enameling & Mfg. Co., 4139 W. Parker Avenue, Chicago, Ill.

Independence Stove & Furnace Co., Independence, Mo.

Ingram-Richardson Manufacturing Co., Frankfort, Ind.

Ingram Richardson Manufacturing Co., Beaver Falls, Pa.

Lansdale Porcelain Enamel Corp., Lansdale, Pa.

Maul Macotta Corp., 1640 E. Hancock Avenue, Detroit, Mich.

Modern Porcelain Products Co., Plainfield, N. J.

Newark Porcelain Enameling Co., Bloomfield, N. J.

Porcelain Enamel Products Co., 2402 Market St., Philadelphia, Pa.

Porcelain Metals Corp. of Louisville, Inc., 1400 So. 13th St., Louisville, Ky.

Porcelain Metals, Inc., 28-20 Borden Avenue, Long Island City, N. Y.

Porcelain Products Co., Cicero, Ill.

Porcelain Service Company, New York City



Quality Porcelain Enameling Co., Trenton, N. J.  
 Samuel Stamping & Enameling Co., Chattanooga, Tenn.  
 Sani-Porcelain Products, Inc., New York City  
 John Seasholtz & Sons, Inc., Reading, Pa.  
 Standard Porcelain Products Co., American and Luzerne, Philadelphia, Pa.  
 Structural Porcelain Products Co., Washington, D. C.  
 Tennessee Enamel Manufacturing Co., Nashville, Tenn.  
 Texlite, Inc., 2828-52 Factory St., Dallas, Texas  
 Toledo Porcelain Enamel Products Co., 2275 Smead Avenue, Toledo, Ohio  
 United Cast Stone Company, Bellevue, Michigan  
 U. S. Porcelain Enameling Co., Los Angeles, Calif.  
 Vitreous Enameling & Stamping Co., 1381 Sedgwick Ave., New York  
 Vitreous Steel Products Corp., 6705 Grant Avenue, Cleveland, Ohio  
 Wolverine Porcelain Enameling Co., 3350 Scotten Avenue, Detroit, Mich.  
 Zouri, Niles, Michigan

#### *Attachment Devices and Moldings*

Bailey Company, Amesbury, Mass.  
 Colonial Sales Co., 928 Broadway, New York  
 General Porcelain Enameling & Manufacturing Co., Chicago, Ill.  
 Insulated Steel Construction Co., Middletown, Ohio  
 Kawneer Company, Niles, Michigan  
 Porcelain Metals Corporation, Louisville, Kentucky  
 Pyramid Metals Co., 455 N. Oakley Blvd., Chicago, Ill.  
 Revere Copper & Brass, Inc., 230 Park Avenue, New York  
 Small Buildings Corp., Builders Bldg., Chicago, Ill.  
 Toledo Porcelain Enamel Products Co., 2275 Smead Avenue, Toledo, Ohio

#### *Pointing Compounds*

A. C. Horn Company, Long Island City, New York  
 Minwax Company, Inc., New York City.  
 Parr Paint & Color Company, Cleveland, Ohio  
 Pecora Paint Company, 3501 No. 4th Street, Philadelphia, Pa.  
 Tremco Manufacturing Co., Cleveland, Ohio  
 Tropical Paint & Oil Co., Cleveland, Ohio

*A sizable interior installation of porcelain enamel is to be seen in the new laboratories of the Chicago Vitreous Enamel Products Company. Porcelain enameled iron was employed for walls, some of the furniture, lighting fixtures, columns, shower and toilet stalls, and ceilings in two sections of the laboratories*



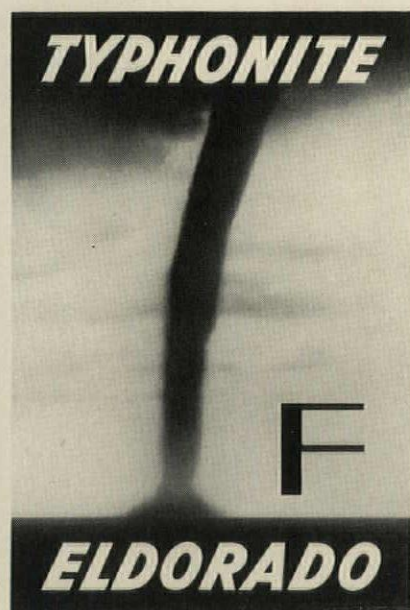


# TYPICAL HOSPITAL EQUIPMENT SYMBOLS

Because of an extensive, country-wide building program of hospital facilities, \*Typhonite Eldorado offers this month selected equipment symbols for use in hospital work. The aim is to aid in standardizing symbols of equipment used repeatedly on working drawings. These symbols will supplement the usual and well-known equipment symbols of plumbing fixtures, etc.

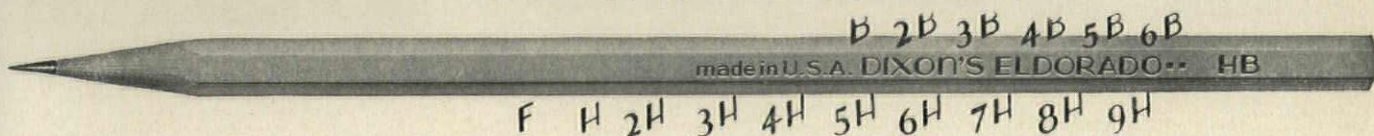
The original drawing reproduced here was made with a Typhonite Eldorado F, on "Penciltex" drawing cloth. On tracing paper an HB would probably have been the degree to choose.

Free. An actual size blue print is offered for your file by the maker of Typhonite Eldorado, The Master Drawing Pencil. Just write: Pencil Sales Department. 167-J3, JOSEPH DIXON CRUCIBLE COMPANY, Jersey City, N. J.



	INFANTS' BATH
	SURGEONS' SCRUB-UP SINK
	SLOP SINK
	A.S.-ALBERENE SINK A.D.-ALBERENE DRAIN
	BB-BACTERIOLOGICAL BENCH U.C.-UNIT OF CUPB'DS ABOVE U.D.-UNIT OF DRAW'S BELOW
	BLANKET WARMER
	I.S.-INSTRUMENT STERILIZER W.S.-WATER STERILIZER U.S.-UTENSIL STERILIZER D.S.-DRESSING STERILIZER
	BED PAN STERILIZER
	BED PAN RACK
	BED PAN WASHER
	INSTRUMENT TABLE
	X-RAY VIEWING BOX
	I.C.-INSTRUMENT CABINET S.C.-SOLUTION CABINET

\*TYPHONITE is a new form of natural graphite, used exclusively by Dixon in making leads for Eldorado, The Master Drawing Pencil. Typhonite graphite consists of extremely minute particles produced by a whirlwind or typhoon of dry steam. This new exclusive Dixon process is one of the reasons why Eldorado pencils hold their points longer, give off freely, and make opaque lines and figures.

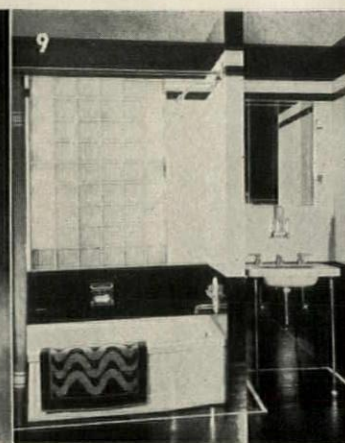
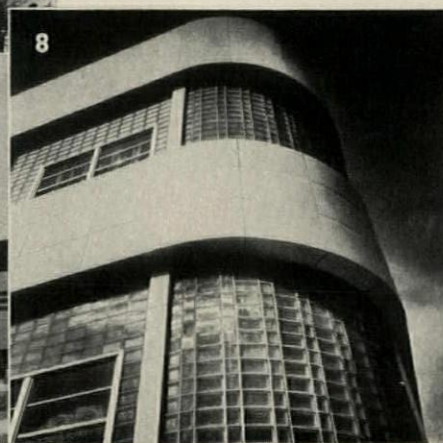






# WHEN YOU *Remember*

**1.** View of Craig Service Station, Erie, Pa., that suggests how effectively porcelain enamel can be adapted to this type of building. Almost any color combination may be used and the strong adhesion of porcelain enamel to the Armco Enameling Iron base provides a surface that will withstand extreme abuse. **2.** Said to be the largest all-porcelain enamel faced structure in the world, this department store building in Lansing, Mich., dominates its surroundings. Only by color reproduction could you hope to get the true effect of its attractively colored porcelain enameled macotta exterior. The base metal is Armco Enameling Iron. **3.** Showmanship in porcelain enamel distinguishes this Pittsburgh, Pa., theatre exterior. The smooth surface and attractiveness of the wide tower expanse is a tribute to skilful enameling on Armco Enameling Iron. **4.** Porcelain enamel on a base of Armco Enameling Iron gives this electric sub-station, Middletown, Ohio, a durable exterior that will always be bright and attractive. Maintenance costs are reduced to a minimum. Clip-Strip was used for attachment and trim of the porcelain enamel panels. **5.** Advertising power is essential to a restaurant front. In Benny Leonard's New York restaurant it was achieved by generous use of porcelain enamel on a base metal of Armco Enameling Iron. The result is an exterior that looks clean and inviting and suggests a like interior at all times.

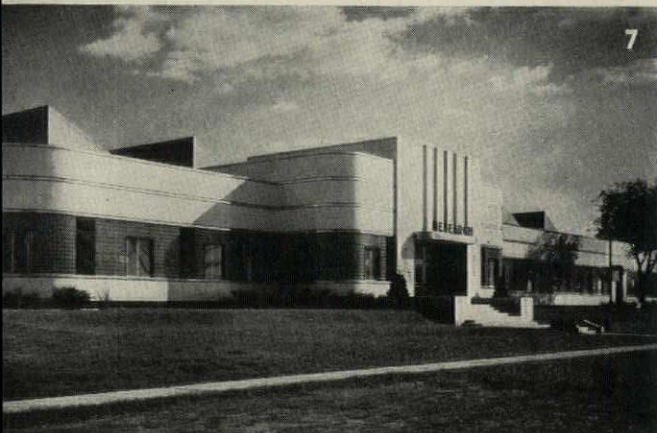


**OTHER ARMCO METALS:** For information on Armco sheet metals send for a free set of Don Graf Data sheets.



# DESIGN FOR PORCELAIN ENAMEL

## *the Base Metal is Important*



6. Attractiveness and durability feature the exterior of this Louisville, Ky., Greyhound bus station, all porcelain enameled on Armco Enameling Iron. It will not fade, tarnish, rust nor wear appreciably. Rapid temperature changes have no effect on porcelain enamel because of its high resistance to thermal shock. 7. The modern design and construction of this Armco research building, Middletown, Ohio, makes it a notable example of porcelain enamel architecture. It houses a complete porcelain enamel research laboratory whose skilled staff collaborate with enamellers and architects on architectural building problems. 8. Approximately 5,200 square feet of porcelain enamel on Armco Enameling Iron was used in remodeling and enlarging this American Stove Company research building, St. Louis, Mo. The color scheme of ivory with black trim will never turn dull nor fade. 9. Formed metal plumbing ware, porcelain enameled on Armco Enameling Iron, will please even the most discriminating client. The refreshing lines and unusual color possibilities lend new inspiration to the architect's decorative talents. 10. This night view demonstrates the dramatic effects that are possible with porcelain enamel. In this San Francisco, California, store attractive porcelain enamel on Armco Enameling Iron provides a fitting exterior for the porcelain enameled products on display in the showroom.



**FREE DUCT CALCULATOR:** An Armco duct calculator is offered to help you figure air conditioning ducts.

• There is something about porcelain enamel you should know . . . This hard, rich mineral finish can be no better than the base metal on which it is fused.

This is why so many exacting manufacturers and enamellers have for years standardized on Armco Enameling Iron. Not only was it the first special enameling iron, but today is more widely used than any other base metal. The exceptional flatness, uniformity and ductility of this highly refined iron—its specially processed surface that bonds smoothly and tenaciously with the porcelain enamel—these and other vital technical qualities make your specification of Armco Enameling Iron a safe and satisfying one.

It will be reassuring to you to know that Armco Research has collaborated with architects and enamellers since porcelain enamel was first used in building construction. Naturally a great deal of useful information has been accumulated, which we are glad to make available to you.

Another valuable aid is the Armco architectural reference service. Before you design for porcelain enamel, write to us and we shall put you in touch with competent enamellers, men who will work with you closely and intelligently in reproducing your designs. Just use the coupon, or write us on your firm letterhead. The American Rolling Mill Company, 681 Curtis Street, Middletown, Ohio.

### MAIL FOR ARMCO REFERENCE SERVICE

Please put us in touch with competent porcelain enamellers in our territory. We are thinking of using porcelain enamel for:



NAME \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_



# S E R V I C E D E P A R T M E N T S

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

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

**FREE EMPLOYMENT SERVICE.** In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions.

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

*Notices submitted for publication in these Service Departments must reach us before the twelfth of each month if they are to be inserted in the next issue. Address all communications to 330 West 42nd Street, New York, N. Y.*

## THE MART

Eugene A. Stopper, Liberty Trust Building, Philadelphia, Pa., would like to purchase a copy of the November, 1932, issue of the *Architectural Forum*.

Edward B. Lee, 1210 Chamber of Commerce Building, Pittsburgh, Pa., would like to purchase the following copies of *PENCIL POINTS*: June through December, 1920; January through April, 1921. Will pay any reasonable price plus postage.

J. Valentine Grady, 956 Lincoln Road, Grosse Pointe, Michigan, would like to obtain a copy of the Frank Lloyd Wright issue of the *Architectural Forum*, published the early part of 1938.

**SPACE TO RENT:** Office space is available in architect's office on the 12th floor of the General Electric Building, New York, for an architect or draftsman who wishes to carry on his own business. Details may be discussed with Mr. Prentice Sanger, Architect, 570 Lexington Avenue, New York. Mr. Sanger's architectural library would be available for use.

Hyman Rubin, 1010 Intervale Avenue, Bronx, New York, would like to obtain copies of *PENCIL POINTS* for July, August, September, and October, 1936. He has for sale the following: February, 1935, *PENCIL POINTS*; December, 1932, and May, 1933, *Architectural Forum*. In excellent condition.

## PERSONALS

WYATT C. HEDRICK, INC., *Architects and Engineers*, have opened new offices at 405 Nixon Building, Corpus Christi, Texas. This new firm will be known as Hedrick & Fox, Inc., and will operate in addition to the parent organization at Fort Worth, Texas.

MERTON E. GRANGER, *Architect*, has removed his offices from the Empire Building to the Foote Building, 316 South Warren Street, Syracuse, N. Y.

KENNETH D. STORMENT, *Architect*, has opened an office for the practice of architecture at 725 Hutton Building, S. 9 Washington Street, Spokane, Wash.

JAMES EARLE MILLER, *Architect*, formerly Architect-in-Charge, Public Works Projects, U. S. Department of Agriculture, has opened an office for the practice of architecture at 303 East Walnut Street, Hanover, Pa.

WILLIAM A. LOUMOS, *Architect*, has established an office for the general practice of architecture in Suite 509 Winthrop Building, 7 Water Street, Boston, Mass.

FRED L. MARKHAM, *Architect*, has established an office for the general practice of architecture at 45 North University Avenue, Provo, Utah.

CARL L. SVENSEN, *Architect and Engineer*, has moved his office to 1509 Avenue K, Lubbock, Texas.

MILLS, RHINES, BELLMAN & NORDHOFF, INC., Toledo, Ohio, *Architects and Engineers*, announce that Mr. Reeve Kelsey Biggers has been admitted to membership in the firm.

ERNST JONSON, *Designer*, has opened an office at 17 East 42nd Street, Room 1030, New York, N. Y. Mr. Jonson's work includes the designing of furniture, textiles, posters, packages, mural decoration, etc.

## FREE EMPLOYMENT SERVICE

**ARCHITECTURAL PARTNERSHIP WANTED:** An architect who has conducted a practice in a western city, largely residential, will be glad to discuss a partnership with an architect located in or near New York City. Is especially interested in interior design. Can successfully handle any part of the work in an architect's office, including the preparation of specifications. Box No. W. C. A.

YOUNG MAN, 21, High School graduate, Night School student in architecture, desires position in architect's or construction office. No experience but willing to start at bottom. Harold Howard Richman, 52 McDaniel Avenue, Jamestown, New York.

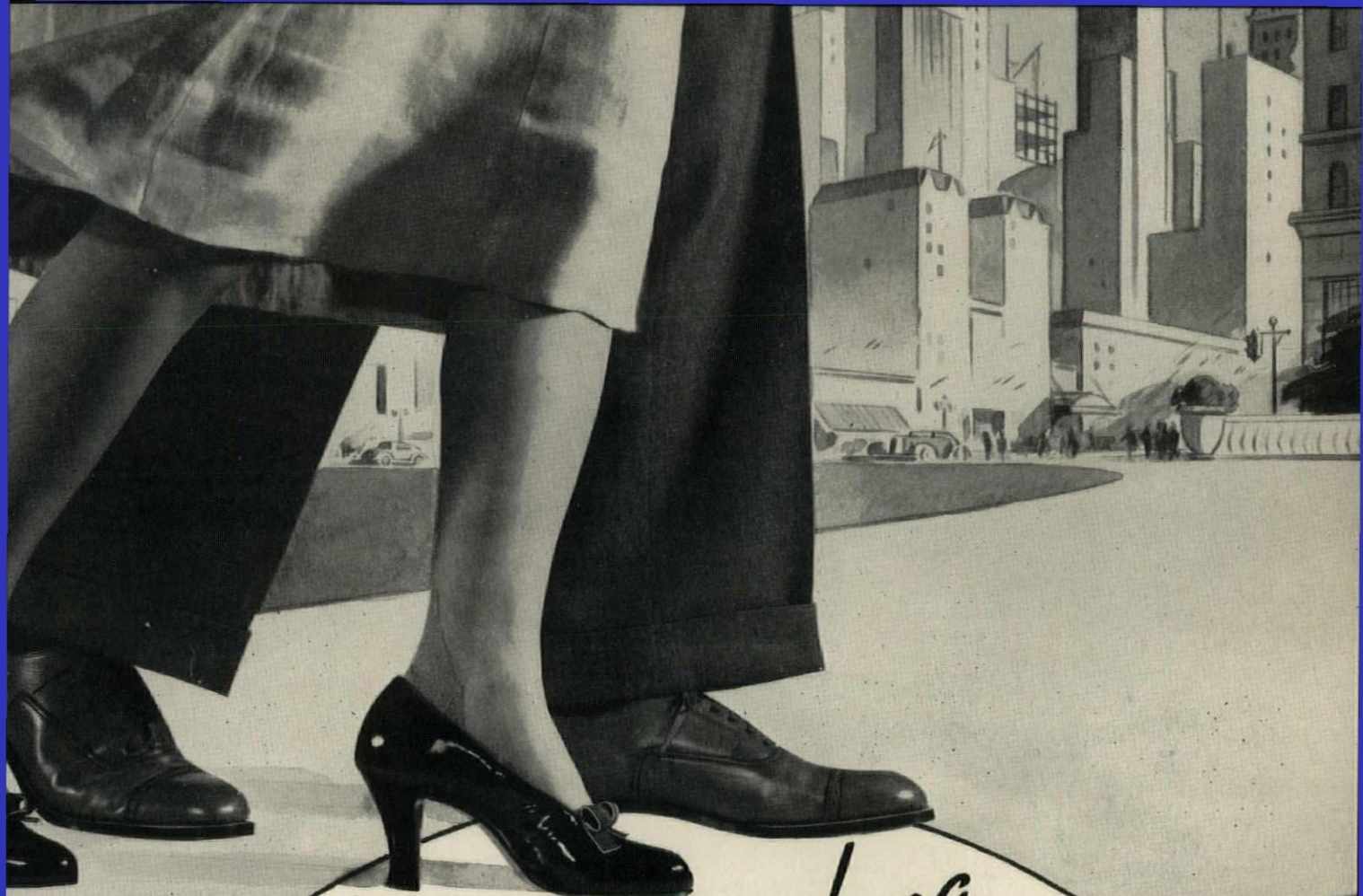
**ARCHITECTURAL DRAFTSMAN**, ambitious young man, five years' experience making drawings, new and alteration work, familiar with city departments, graduate of Cooper Union Institute winning second prize. Box No. L. H. L.

**ARCHITECTURAL DRAFTSMAN**, 26, desires position in architect's or builder's office; six years' experience in designing, making working plans, specifications and personal supervision of small homes and stores. Go anywhere for reasonable offer. John Mancinelli, Jr., 44 Elizabeth Street, New York.

**DESIGNER and DRAFTSMAN** desires affiliation with progressive concern. Collegiate and graduate training in architecture, landscape architecture and city planning. Estimating building costs, four years' office experience with reputable architects and landscape architects. Age 28. Christian, 1st Lt. Inf-Res., willing work anywhere. Detailed information furnished on request. Arthur F. Hoffman, 315 Pearl Street, Hartford, Conn.

*(Continued on page 52, Advertising Section)*





*Marching along  
together*

# STEEL.. STYLE.... COMFORT



Sheets - Plates - Pipe and Tubular  
Products - Conduit - Tin Plate - Bars  
Rods - Wire - Nails - Unions - Tie  
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Except for steel, the shoes we wear would be little better than medieval sandals, with their shapeless ugliness and destruction of foot health.

The arch which assures comfort, safety, lasting appearance, is made by a steel brace concealed in the leather. Heels are possible because of steel nails. Steel eyelets keep the laces from tearing the leather. The laces thread easily because of steel tips--to say nothing of the steel machinery vital to processing the leather and making the shoes themselves.

It takes almost 100 pieces of steel to make most pairs of modern shoes, and they are only a small fraction of the thousands and thousands of pieces of steel you use every day to make life comfortable and safe. Steel makes possible your electric light, home heating plant, canned food delicacies, automobile, office building and factory, railroad--in fact steel makes possible the standard of living on which civilization depends.

For almost every one of this multitude of uses a special steel is required, and Youngstown maintains a great laboratory and special staffs of research and field experts to find exactly the right steel for every modern use.

**THE YOUNGSTOWN SHEET  
AND TUBE COMPANY**

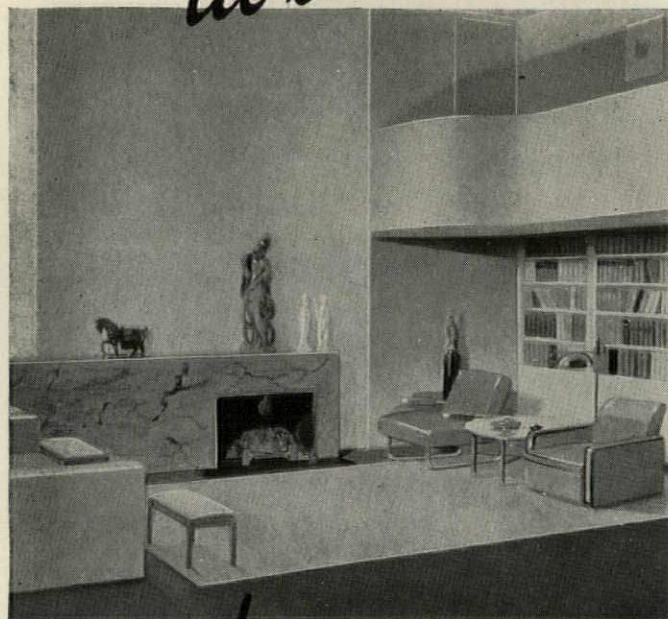
Manufacturers of Carbon and Alloy Steels  
General Offices  
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# YOUNGSTOWN



How to get interiors  
that are bright, color-  
ful, charming

*at low cost!*



*Specify* **TEXOLITE**

Texolite\* is a development of modern paint chemistry—a paint with which you can se-

cure colorful, fine appearing, durable decoration at a cost so low and at a speed so fast that it will astound you.

**MOST JOBS—ONE COAT**—One coat of Texolite will usually give superior coverage over most surfaces.

**DRIES FAST**—No need for you to have rooms out of order for a week when you decorate with Texolite. Under most conditions it dries in less than an hour.

**ECONOMICAL**—One gallon of Texolite usually covers from 500 to 700 square feet of finished plaster surface—more than the wall area of the average room.

**WIDE COLOR RANGE**—Texolite is available in a wide range of colors. It comes ready-mixed in 9 soft-hued pastels and 9 brilliant, deep colors. With the Texolite Deep Color Mixing Guide you can accurately secure and match over 40 other variations of these standard colors as well as the "dusty" colors so popular with interior decorators today.

Send today for the Texolite Deep Color Mixing Guide and the 40-page book "Modern Principles in Paint and Decoration"—and learn how you can save money on your next decorating job.

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## PUBLICATIONS ON MATERIALS AND EQUIPMENT

*of Interest to Architects, Draftsmen and  
Specification Writers*

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

**K. Z. S. ARCHITECTURAL PORCELAIN ENAMEL STORE FRONTS.**—Folder announcing the addition of K. Z. S. architectural porcelain enamel facing panels to the complete line of Kawneer store front construction. Included are sections for key elevations, standard shapes and full descriptive and erection data. 4 pp. 8½ x 11. The Kawneer Co., Niles, Mich.

**MARLITE FOR CREATING BEAUTIFUL HOME INTERIORS.**—Brochure describing and illustrating Marlite, a modern wall covering for bathrooms, kitchens, recreation rooms, living rooms, breakfast rooms, etc. Included are suggested designs, color charts, ceiling layouts, etc. 16 pp. 8½ x 11. Marsh Wall Products, Inc., Dover, Ohio.

*Published by the same firm, "Marlite for Creating Beautiful Commercial Interiors." Catalog illustrating applications of a type of wall covering in commercial and institutional interiors. Standard panel designs. 16 pp. 8½ x 11.*

**BRADLEY TYPE EH AND EF WASHFOUNTAINS.**—A.I.A. File No. 29-h. Bulletin announcing and describing a new line of semi-circular washfountains in enameled iron and stainless steel for small or narrow washrooms of stores, offices, schools, institutions, factories, etc. 4 pp. 8½ x 11. Bradley Washfountain Co., Milwaukee, Wis.

**MAJESTIC BUILDING NECESSITIES FOR THE MODERN HOME.**—New catalog covering a complete line of Majestic products, including garbage receivers, kitchen ventilating fans, incinerators, milk and package receivers, coal chutes. Circulator fireplaces, grilles, fireplace dampers, radiator furniture, etc. 28 pp. 8½ x 11. The Majestic Co., Huntington, Ind.

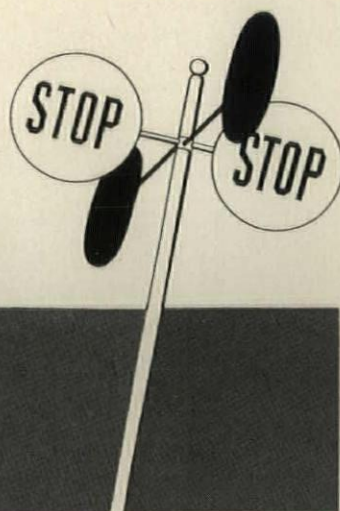
**WOODWORK THAT LIVES IN LIVABLE HOMES.**—Attractive brochure, dealing with the subject of Arkansas soft pine, discusses the advantages of this wood for the interiors of homes. Included are directions and specifications for finishing. Profusely illustrated. 16 pp. 8½ x 11. Arkansas Soft Pine Bureau, Boyle Bldg., Little Rock, Ark.

**CARRIER AIR CONDITIONING — REFRIGERATION — HEATING.**—A.I.A. File No. 30-f-1-2. New catalog presenting air conditioning equipment, for the many uses from a single room to an entire building. As an easy means of quick reference, all products are listed according to application and type of equipment. In addition to air conditioning for homes, stores and offices, refrigeration and heating equipment are included. Each type of product is described according to application, function, advantages, operation, installation, dimensions and sizes. 16 pp. 8½ x 11. Carrier Corporation, Syracuse, N. Y.

*(Continued on page 46, Advertising Section)*



*Where traffic is a problem*



## The answer is a floor of Armstrong's Asphalt Tile

**H**ALLS and corridors call for special floor treatment. Many architects have found the solution in Armstrong's Asphalt Tile, the resilient flooring that withstands heavy traffic.

This low-cost, durable flooring can be installed over any type of subfloor—and it is the only type of resilient floor that can be installed over concrete in direct contact with the ground, on or below grade.

There's plenty of scope for attractive designs when you use Armstrong's Asphalt Tile. Its many plain and marble effects may be combined in a wide range of colorful floors. The marble patterns are especially suited for entries, since tracked-in dirt is less visible against these grainings.

Asphalt Tile is easily cleaned and kept clean. Daily sweeping and occasional washing and waxing keep it neat and serviceable for years. Scuffing feet do not wear off the colors, because they run through the full thickness of the material.

### See Sweet's

You'll find complete information about Armstrong's Asphalt Tile in *Sweet's*. Or write for a file-sized copy of color-illustrated "Asphalt Tile Floors." Armstrong Cork Company, Building Materials Division, 1206 State Street, Lancaster, Pa.

Armstrong manufactures the only complete line of resilient floorings: Asphalt Tile, Linotile (Oil-Bonded), Cork Tile, Rubber Tile, and Linoleum. Therefore, our Architectural Service Bureau is in a position to give you unbiased advice on floors for every requirement.



PLANNED FOR TRAFFIC is this entry hall floor in the McCaskey High School, Lancaster, Pa. Architect Henry Y. Shaub specified Armstrong's Asphalt Tile, Corkoustie, and Linowall for many important areas in this school.

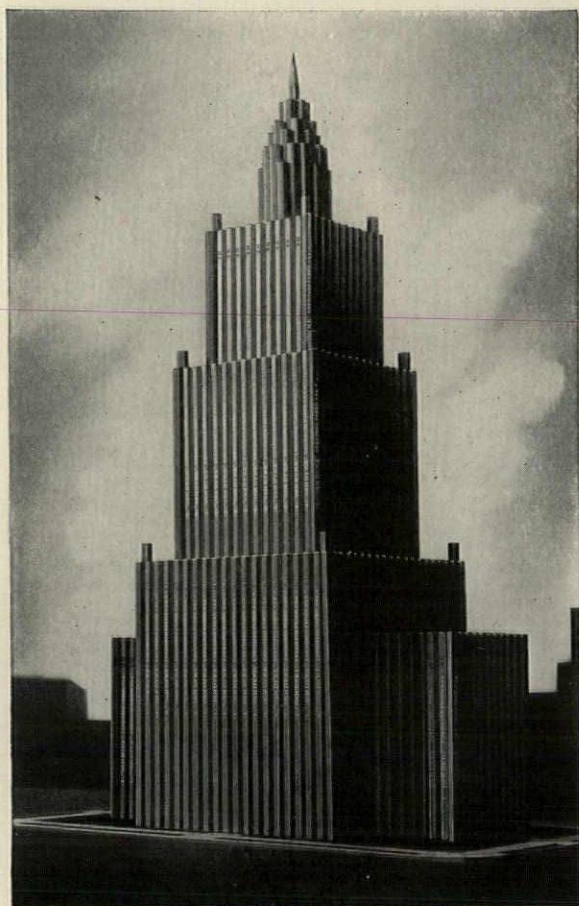


RUBBER TILE • LINOTILE (OIL-BONDED) • ASPHALT TILE

*Armstrong's* **LINOLEUM**  
and **RESILIENT, NON-CERAMIC TILES**

CORK TILE • LINOWALL • ACOUSTICAL CEILINGS





This unique Model was constructed with MICROTOMIC VAN DYKE Drawing Pencils by A. G. Law, nationally known scale-model builder

## BUILT WITH PENCILS

Architects and Draughtsmen will recognize the basic truth of the point we illustrate here—namely that all buildings are first "built" with PENCILS. Experience shows that there is no more responsive and satisfactory tool for the purpose than the MICROTOMIC VAN DYKE. It is strong, smooth, always dependable. Its MICROTOMIC lead possesses superior covering qualities because it is denser, finer-grained. Excellent for blue-print work. Complete opacity prevents ragged edges. Erases cleanly, eliminating blue-print "ghosts"—and you will find each of the 18 degrees from 7B to 9H accurately graded and uniform throughout. Also obtainable with Chisel Point Leads in degrees: 4B, 2B, HB, 2H, 4H and 6H.

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## PUBLICATIONS ON MATERIALS AND EQUIPMENT

(Continued from page 44, Advertising Section)

**BAR-Z SYSTEM PARTITIONS.**—Manual for architects, engineers and contractors presenting pertinent data and details relative to the Bar-Z system of non-bearing hollow-plastered steel stud and metal lath partitions, also the Bar-Z system of free standing wall furring. Specifications, test data, etc. 24 pp. 8½ x 11. The Consolidated Expanded Metal Co's, Wheeling, W. Va.

**JOHNS-MANVILLE DECORATIVE ASPHALT TILE FLOORING.**—A.I.A. File No. 23-M. New brochure, Form FL-20A, devoted to Johns-Manville asphalt tile flooring, explains in detail the physical properties of this type of resilient flooring with special attention being directed both to the decorative qualities of the various color schemes and patterns which can be obtained with this material. Included are color chart together with numerous full color illustrations showing installations in homes, apartment houses and apartment buildings. 12 pp. 8½ x 11. Johns-Manville, 22 E. 40th St., New York, N. Y.

**TYLER ELEVATOR ENTRANCES, CARS AND ARCHITECTURAL METAL WORK.**—New catalog No. 751 describing and illustrating a line of interior and exterior architectural metal work, elevator doors and entrances, elevator cars and accessories, store fronts, window frames, marquees, etc. 20 pp. 8½ x 11. The W. S. Tyler Co., Cleveland, Ohio.

**ANKORTITE BUILDING PRODUCTS.**—Catalog giving a complete description and illustrating typical applications of a line of building accessories for masonry and for floors, walls and doorways. Indexed. 16 pp. 8½ x 11. Ankortite Products, Inc., 14th and Chestnut Sts., Kansas City, Mo.

*Published by the same firm, "Ankortite Dividing Strips and Bars." A.I.A. File No. 22-e. Folder covering a line of dividing strips and bars for terrazzo floors. 4 pp. 8½ x 11. "Ankortite Concrete Accessories and Specialties."—Folder showing a line of concrete reinforcing bar accessories and specialties. 4 pp. 8½ x 11.*

**PARKAY FLOORS.**—Folder presenting descriptive and specification data also instructions for laying Parkay ready-finished genuine hardwood floors. 4 pp. 8½ x 11. Wood-Mosaic Co., Louisville, Ky.

**THE NEW WAY TO WIRE A HOUSE.**—Illustrated brochure presenting detailed description of the advantages of plug-in strip, a new method of home circuits wiring. 12 pp. 8½ x 11. National Electric Products Corp., Pittsburgh, Pa.

**MODERNFOLD DOORS.**—A.I.A. File No. 19-e-61. Folder with descriptive data and details covering the Modernfold door, built with an accordion type precision-made metal frame which forms a foundation to which fabrics are attached, for use in homes, clubs, hotels, hospitals, etc. 4 pp. 8½ x 11. New Castle Products, New Castle, Ind.

**OTIS HIGH-SPEED ELECTRIC DOOR OPERATOR.**—A.I.A. File No. 33-g-3. Folder B-540, superseding Form B-540, illustrates and describes the improved type A Otis high-speed electric door operator, with former bedplate and brake eliminated and with better layout arrangement. Specifications. 4 pp. 8½ x 11. Otis Elevator Co., 11th Ave. and 26th St., New York, N. Y.

(Continued on page 48, Advertising Section)





NEW YORK: U. S. Fidelity & Guarantee Co., Virginia Black Serpentine Spandrels; John H. Knubel, Architect.

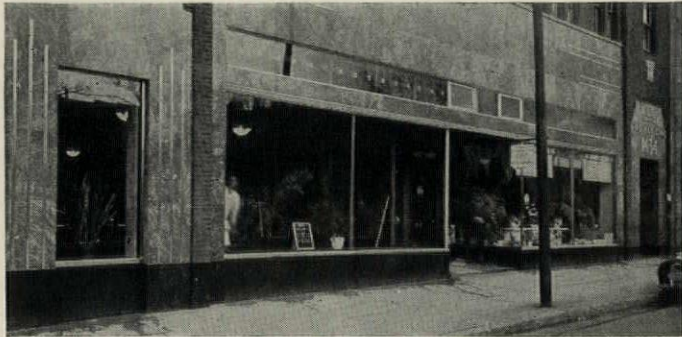


A seven year old installation influenced the use of Virginia Black Serpentine bulkheads and panelling in this group of East Orange, N. J., shops.

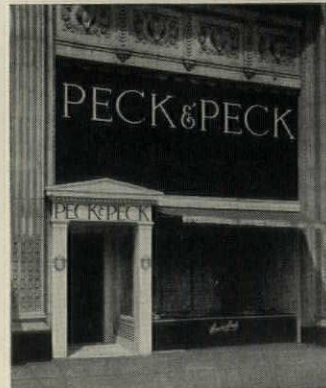
## Are you dressing-up your Main St. with these $\frac{7}{8}$ " THIN stone veneers?



BUFFALO: Segall Store, F. C. Backus, Architect, Virginia Black Serpentine door trim and bulkheads.



MONTREAL: Empire Life Building, Virginia Green Tremolite base.



E. ORANGE: Branch of Peck & Peck: Virginia Black Serpentine bulkheads and trim are used on these outstanding modern shops in several cities.



GRAND RAPIDS: Central Bank of Grand Rapids; entire exterior facing; Knecht, McCarthy & Thebaud, Inc., Architects.

The dark stones from the Alberene quarries have become extremely popular for new construction, as well as for remodeling, on Main St., U. S. A. They meet the demand for dark exterior materials which can be installed at moderate cost and on which upkeep will be negligible. They polish naturally to a rich, deep satiny finish, not reflective or mirror-like. Having great toughness and density, facings, bulkheads and spandrel panels can be cut into sections as thin as  $\frac{7}{8}$ ". The buildings shown on this page are typical examples of what can be accomplished at *moderate* cost.

A set of samples, conveniently boxed, showing the range of stone, including mottled dark blues and greens, from the Alberene quarries will be sent gladly. . . . Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York, N. Y. Quarries and Mills at Schuyler, Va. Sales offices in principal cities.



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Vellum  
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Dayton  
Gem City Blue  
Print & Sup. Co.  
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H. R. Meininger  
Co.  
Detroit  
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Fort Wayne  
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Print & Supply  
Co.  
Fort Worth  
Majestic Repro-  
duction Co.  
Houston  
Gulf Blue Print  
Co.  
Indianapolis  
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Print & Litho. Co.  
Kansas City  
Western Blue  
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## PUBLICATIONS ON MATERIALS AND EQUIPMENT

(Continued from page 46, Advertising Section)

**ANDERSEN COMPLETE WINDOW UNITS.** — A.I.A. File No. 19-e-13. New brochure covering the Andersen line of casement windows, Narroline double-hung windows and basement windows. Specifications, details, sizes and typical installations. 18 pp. 8½ x 11. Andersen Corporation, Bayport, Minn. Published by the same firm, "Andersen Wood Casements." Folder explaining outstanding features of a line of wood casement windows. Table of sizes. 6 pp. 8½ x 11.

**GOODRICH RUBBER TILE FLOORING.** — New catalog describing the Goodrich line of Rubber tile flooring. In addition to listing sizes and thicknesses of both tile and accessories, the catalog contains illustrations of over thirty different color selections. It also pictures several typical patterns which can be made by combining tile in various color combinations. 12 pp. 8½ x 11. The B. F. Goodrich Co., Mechanical Rubber Goods Division, Akron, Ohio.

**METAL LATH NEWS.**—A.I.A. File No. 20-b-1. January issue features metal lath construction in theatres, schools, stores, residences, etc. Included are specifications for expansion-type anchors for attaching suspended ceilings to concrete construction and for hangers for suspended ceilings. Also blackboard and jail cell details. 16 pp. 8½ x 11. Metal Lath Mfrs. Assn., 208 S. La Salle St., Chicago, Ill.

**CALCIUM CHLORIDE AND PORTLAND CEMENT.**—Useful publication for architects, engineers and contractors shows clearly and concisely the exact effects of calcium chloride on portland cement mixes, including setting time, early strength and ultimate strength. It shows how calcium chloride affects curing and why the addition of calcium chloride permits a reduction in water cement ratio with a resulting increase in density and water resistance. In addition it contains data concerning the marked effects of varying temperatures on the strength of concrete. Two sections of the book are devoted to technical facts and three sections to practical information. Structural concrete, paving concrete, and concrete products are each dealt with separately. 48 pp. 6 x 9. Solvay Sales Corporation, 40 Rector Street, New York, N. Y.

**HEIL COMBUSTION OIL HEATING.**—Bulletin No. 130-A giving detailed description of the construction features of model ISS Heil combustion oil burner. 4 pp. 8½ x 11. The Heil Co., Milwaukee, Wis.

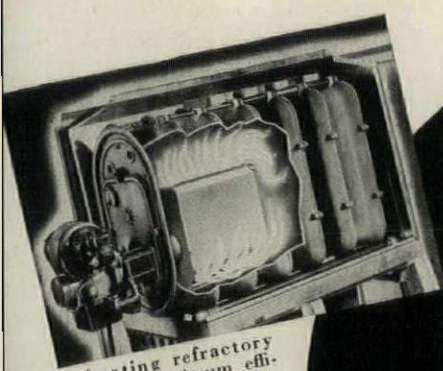
Published by the same firm, "Heil Water Softeners." Bulletin WS-151A describing the construction and operation of a line of water softeners made for semi-automatic operation or for manual operation. 4 pp. 8½ x 11.

**Heil Activ-Flo Boiler-Burner Unit.**—Bulletin No. 175K covering a type of boiler-burner unit for hot water heating service in new homes, duplexes, small apartments, greenhouses, country estates, etc.

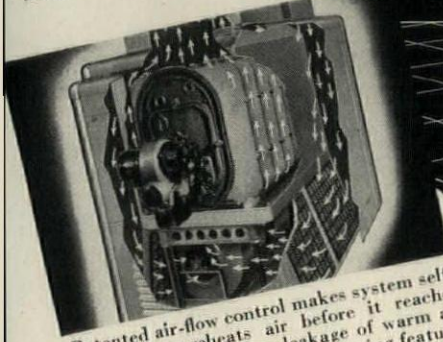
**EMERSON ELECTRIC FANS FOR 1939.**—Catalog No. X3349 describes and illustrates a complete line of electric fans, including kitchen ventilating and exhaust fans. Tabular matter, prices, etc. 24 pp. 8½ x 11. Emerson Electric Fan Co., St. Louis, Mo.

(Continued on page 50, Advertising Section)

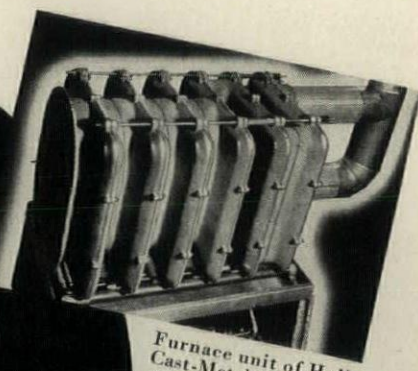
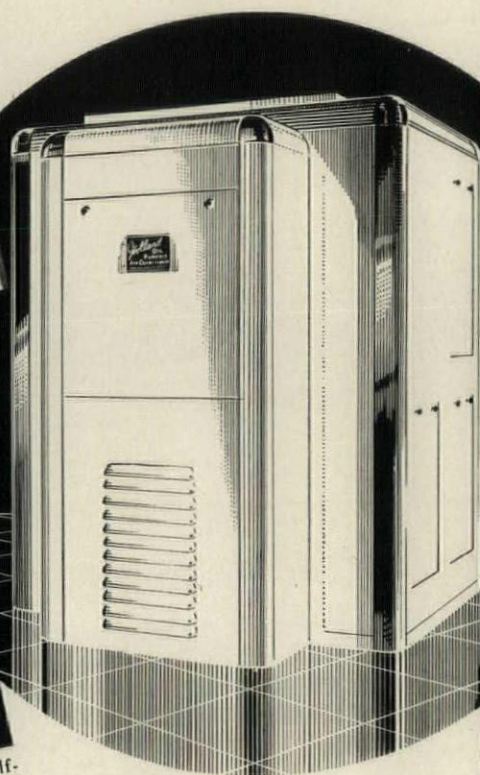




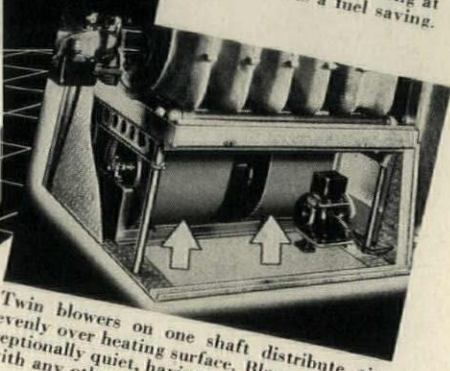
Instant-heating refractory chamber gives maximum efficiency immediately—burns oil in suspension—spreads flame to all parts of combustion chamber, utilizing bottom, top and sides.



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Furnace unit of Hollandized Cast-Metal heats rapidly and continues to radiate heat after burner stops. Burner does not operate so often nor so long at a time—effects a fuel saving.



Twin blowers on one shaft distribute air evenly over heating surface. Blowers are exceptionally quiet, having no metallic contact with any other part of the system.

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# GIVES LOWEST COST WINTER COMFORT

**B**EFORE a single Holland Automatic Furnace Air Conditioner was sold, Holland engineers had spent many months checking and re-checking performance figures, not only in the laboratory but in actual home installations. As a result, they were firmly convinced that the average installation would certainly cost no more to operate than coal-burning equipment of comparable capacity. This opinion has since been fully confirmed.

Thousands of Holland Automatic Furnace Air Conditioners in use in regions where average prices prevail for all fuels have consistently shown lower

operating costs than the equipment they replaced. In many cases the savings effected by Holland were truly remarkable.

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*World's Largest Installers of*

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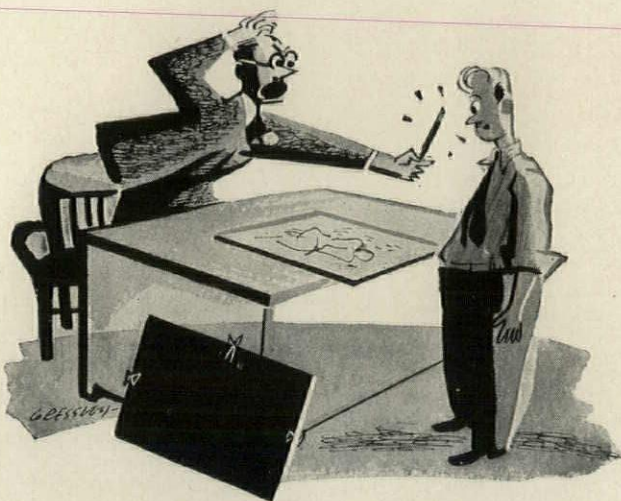
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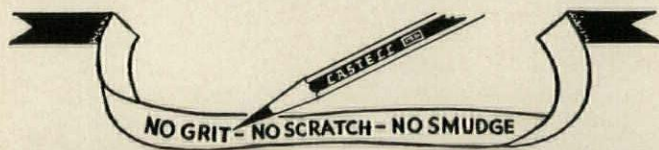


The Art Director tore his hair,  
 "This drawing's smudgy, have a care—  
 Before you draw another sketch  
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## PUBLICATIONS ON MATERIALS AND EQUIPMENT

(Continued from page 48, Advertising Section)

**MARKS BROS. COLORED GLASS BRICK.**—Set of folders with descriptive, setting and specification data covering a line of colored glass brick for numerous architectural and decorative purposes, including store fronts, facia, doorways, windows, partitions, fireplaces, bars, walls, panels for indirect lighting, etc. 8½ x 11. 4 pp. Marks Bros., Inc., 470 E. 133rd St., New York, N. Y.

**WEBSTER-NESBITT SERIES F UNIT HEATERS.**—A.I.A. File 30-d-11. New catalog, W-N105, presenting specifications, descriptive and technical data covering a line of unit heaters for heating lobbies, corridors, offices, showrooms, etc. 8 pp. 8½ x 11. John J. Nesbitt, Inc., Holmesburg, Philadelphia, Pa.

## MANUFACTURERS' DATA WANTED

**CARL L. SVENSEN, Architect and Engineer,** 1509 Avenue K, Lubbock, Texas. (Data on churches, equipment, etc. Also A.I.A. data.)

**WILLIAM A. LOUMOS, Architect and Engineer,** Suite 509 Winthrop Building, 7 Water Street, Boston, Mass. (Data on building materials and construction, samples for a display of building materials, and complete A.I.A. file data.)

**JAMES EARLE MILLER, Architect,** 303 East Walnut Street, Hanover, Pa.

**KENNETH D. STORMENT, Architect,** 725 Hutton Building, S. 9 Washington St., Spokane, Wash.

**HEDRICK & FOX, INC., Architects and Engineers,** 405 Nixon Building, Corpus Christi, Texas.

**FRED W. LANGHENRICH, Architect,** 611 National Bank of Commerce Bldg., Charleston, W. Va. (Data on housing, institutions, schools, also technical data.)

**DALE A. WHITE, Architect,** 20 West Main Street, Carrollton, Ohio. (Data for use in the designing of a boys' training camp to house about 500 youths, to be constructed mainly of wood, for year-round occupancy.)

**WILLIAM R. KLESSE, Architect,** 83-a South Drive, Valley Stream, N. Y. (Data on residential work, store fronts, public buildings, etc., for A.I.A. file.)

**M. F. STERN, Architect,** Grand Hotel, Muizenberg Cape Town, So. Africa. (Data on materials and equipment from manufacturers, particularly those who have representatives or agents in Africa.)

**B. WADE EATON, Designer,** 205 Bacon Street, Waltham, Mass. (Data for complete A.I.A. file, descriptive data on materials and equipment, samples.)

**KENNETH R. WALLER, Designer,** 2418 13th Street, Moline, Ill. (Complete data for A.I.A. file small residential work, store fixtures, interiors and store fronts.)

**C. V. BARNES, Designer,** P. O. Box 2, La Junta, Colorado. (Complete data for A.I.A. file and data on residential work.)

**JACK C. WHITWORTH, Draftsman,** 711 West French Place, San Antonio, Texas.

**ERRATUM:** In last month's issue of PENCIL POINTS in this column, Mr. R. R. Haselton of 29 Marion Avenue So., Glens Falls, New York, was listed as an architect. This is incorrect as he should be listed as a Designer and Builder.



# Put Porcelain Enamel where you want

## PERMANENCE BRILLIANCE AND COLOR AT LOW COST



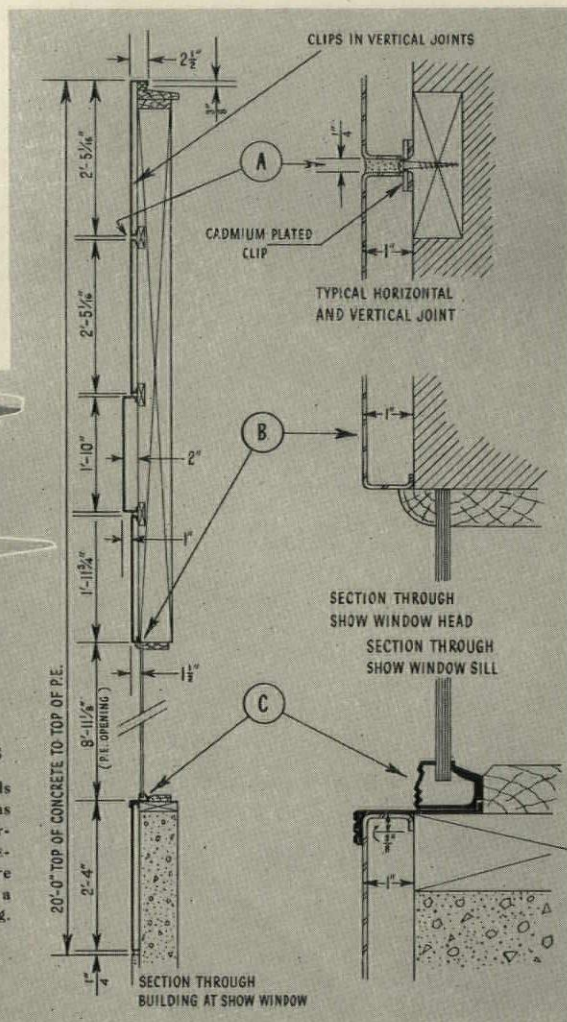
AS a decorative material, porcelain enamel is one of the oldest mediums on record. But as an architectural material, porcelain enamel is new—so new that only relatively few of the more common architectural applications have thus far been explored.

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For schools, clubs, hotels, institutions, industrial buildings and homes Weisway leak-proof Cabinet Showers represent the modern advance over all previous types of shower bath construction. Besides the VP model, illustrated and described, there are Weisways suited to all classes of construction from low cost to most luxurious.

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Combines permanent strength of steel with light weight in one-piece unit. Requires no reinforcement of building floor. Vitreous porcelain inside and out. Foot-Grip, No-Slip floor, equally safe wet or dry, rustproof, non-absorbent, sanitary, easy to clean.



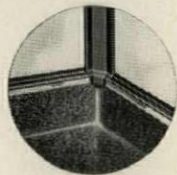
### ★ VITREOUS PORCELAIN WALLS

Long recognized as the unequalled finish for bathroom fixtures because of permanence, sanitation and lustrous beauty, vitreous porcelain enamel, fused on Armco iron wall panels of the VP Weisway, combines the hardness and smoothness of glass with the strength of steel.



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An ingenious interlocking assembly at corners and connections of sidewalls to receptor eliminates bolts and screws, makes completed cabinet virtually an integral unit which cannot leak. Simplicity of design and precision manufacture make installation quick, easy, fool-proof.



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A GOOD working drawing man on medium size work consisting of houses and store buildings. Would like to have one who is accurate and fairly fast on drawings. Box No. 642.

### POSITIONS WANTED

CAPABLE all-round draftsman on general work, checker of shop, working drawings and architect's superintendent on alteration and new work. New York. Box No. 301.

ARCHITECTURAL draftsman, Mass. Inst. of Technology graduate, 26 years old, 3 years' experience. Design, perspectives, sketches, working drawings, color. Neat worker. Box No. 302.

RENDERINGS in various media, exterior or interior. Am now in a position to offer economical service to architects. Have also developed a method of making inexpensive models for study or exhibit which are helpful in design problems as well as explanatory to clients. Will send sample calendar to architects on request. Morse Guilford, Higganum, Conn., R.F.D.

DESIGNER-DRAFTSMAN with talent, but practical, wishes position in New York or Connecticut vicinity. Can make renderings, do development work and supervise drafting room. Some supervision and specification writing. 15 years' experience in general practice. Box No. 303.

AMBITIOUS man, 22, one year training at Dunwoody Inst. Desires position with architect, builder or lumberman. Wages secondary. Ed. Luthi, 2008 Lynedale Ave. South, Minneapolis, Minn.

STUDENT at Columbia University School of Architecture, three years' civil engineering training at City College School of Technology, graduate of Mechanics Inst. of N. Y., four-year course in architectural drafting and design with some office experience, desires summer employment anywhere in U. S., Mexico or South America. Age 21. Ken Brehm, 116-13 Jamaica Ave., Richmond Hill, N. Y.

YOUNG man, 18, desires position. High School training in architectural drafting. Neat and willing worker. Charles J. Ellmer, 4718 Shelmire St., Philadelphia, Pa.

MAN AND WIFE, 30, white, Protestant, New England born, want work, go anywhere. Man—architect, muralist, cartographer, experienced woodsman (Canada). Wife — laboratory technician — x-ray. Both fingerprint experts, can handle rifle, good sailors. Best of references. Correspondence invited. Box No. 304.

(Continued on page 54, Advertising Section)





# NOISE WENT DOWN PROFITS WENT UP WHEN ARCHITECTS SPECIFIED ACOUSTONE



*Guests will appreciate the superior appearance of Acoustone, with its interesting texture and wide range of soft pastel colors making possible decorative effects of unusual charm.*



*Acoustone ceiling brings lasting quiet to this restaurant—plus a rich dignity which immediately lifts the room out of the "ordinary" class.*

**UNITED STATES GYPSUM COMPANY**  
**BUILDING MATERIALS**

\*Reg. Trade-mark



For many types of buildings today, noise reduction is a No. 1 essential. In a restaurant, for example, reduced noise definitely increases patronage. In offices—theatres—churches—schools, proper sound control is often an indispensable part of the specifications.

One material—Acoustone\*—assures scientific, lasting noise-quieting and acoustical correction . . . PLUS a far greater degree of decorative charm. Acoustone, with its harmonious colors and appealing texture, fits into any decorative scheme . . . never calls attention to itself as a sound control material. Furthermore, Acoustone is incombustible . . . high in light reflection . . . thoroughly sanitary. Maintenance consists only of periodical vacuum cleaning . . . and Acoustone can be painted without damage to its noise-absorbing ability. Let Acoustone widen your scope of sound control service in the buildings you plan. Complete facts are yours for the asking.

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Perfatone, Quietone and the USG System of Sound Insulation. The competent advice of experienced USG acoustical engineers costs nothing—and is yours for the asking. Write us today for full information.



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Please send me my FREE copy of "How to Have the Home You Want."

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Address.....

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



## FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Continued from page 52, Advertising Section)

HAVE you a "beginning job" and \$20 per week to exchange for the willing and loyal services of a would-be-architect, 23, who will type, do junior drafting or whatever you say to the best of his ability? Studying evenings. Will go anywhere. Walter J. J. Phane, 109 Northampton Ave., Springfield, Mass.

LANDSCAPE ARCHITECT, graduate of Mass. State College, experienced in the use of transit and level, capable of tracing and design, willing to do construction work. Herbert H. Johnson, 26 Metcalf Street, Roslindale, Mass.

ARCHITECTURAL draftsman, age 35, well educated, good appearance, can execute beautiful renderings and working drawings. Will work for \$30 a week. Box No. 305.

REPUTABLE practicing architect, 42 years of age, married, 22 years' experience, desires employment with a reputable architect, or to associate with a retiring architect who wishes to be relieved of responsibility. Box No. 306.

YOUNG registered architect wishes to contact practicing architect desiring service. Compensation by share of commissions with possibility of percentage partnership. Can make modest investment. Box No. 307.

BRIGHT, ambitious architectural student desires position with architect. Simple drafting, perspective, renderings, models, general usefulness. Salary no object. Box No. 308.

ARCHITECTURAL draftsman; seasoned man on complete working drawings, especially hotels, hospitals and schools, open for engagement in southeastern states. Will accept temporary employment provided transportation is paid. Salary \$60 per week. John B. Fletcher, 1050 Seybold Building, Miami, Florida.

ARCHITECTURAL draftsman, age 31, desires position in office of architect or builder. I.C.S. Graduate, 6 years' experience residential drafting, 2 years' mill-work, 5 years' carpentry and supervision. Go anywhere. Jos. D. Kost, 148 Grove St., Torrington, Conn.

DRAFTSMAN: Registered architect—12 years' experience. Engineering drafting 5 years' experience. Secretarial and accounting experience. Samples of work submitted upon request. Box No. 308.

AMBITIOUS young man 21 desires position with architect, builder or engineer in and around Chicago area. At present studying architecture at I.C.S. Box No. 309.

ARCHITECTURAL draftsman—steady or part time employment 6 years' experience on residential work. Capable making complete working drawings from sketches. Three years' experience on all types of concrete structure. Box No. 310.

FIRST CLASS architectural designer and excellent renderer in color, charcoal, pen and ink. Part time or free lance work. Box No. 311.

ENGINEERING draftsman: University of Pennsylvania graduate. Three years' experience design and detail. Most work done with reinforced concrete. Adaptable to new work. Beginning salary immaterial. Alvin Berger 1297 Kaighn Avenue, Camden, New Jersey.



Lamont Infirmary. Phillips Exeter Academy, Exeter, N. H.

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There is more to marble than beauty and durability—more than economy of upkeep or the quality of being different from other building materials.

Marble is a tradition. It has always stood for the best. It's a symbol of integrity.

Walls patterned in Vermont marble are an investment in character.

The illustration shows how architects Cram & Ferguson used Vermont marble as a trim for the exterior of the Lamont Infirmary at Exeter.

For Bulletins on various forms of marble construction—Random Ashlar, Marble Trim, Store Fronts, Mantels, Markwa, the Marble Tile, Lumar, the Luminous Marble—write Vermont Marble Company, Proctor, Vt., or any of the following branches: Albany, 75 State St.; Boston, 44 School St.; Chicago, 228 No. LaSalle St.; Cleveland, 4300 Euclid Ave.; Dallas, 1513 Wall St.; Houston, 310 Brighthouse St.; Los Angeles, 727 West 7th St.; New York, 101 Park Ave.; Philadelphia, 22nd & Westmoreland Sts.; San Francisco, 525 Market St.; Tacoma, 1120 East "D" St. In Canada write Ontario Marble Co., Ltd., 403 Manning Chambers, Toronto.

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# *Vitrolite* **STRUCTURAL GLASS HARMONIZES WITH MODERN BATHROOM AND KITCHEN DESIGN**

Vitrolite, colorful structural glass, is today a proved material for modern kitchens and bathrooms. It harmonizes with modern architectural trends.

Being glass, Vitrolite has a glistening, reflective, sanitary surface that is non-sorbent. Walls and wainscots of this durable glass will never become odorous. Being glass, Vitrolite will not wear

out. Neither will it become unsightly due to the action of steam, moisture or changing temperatures. Being glass, Vitrolite is completely indifferent to dust, grease, smoke, soot. It is easily cleaned. Redecorating, of course, is never needed.

Soffits of color-fused, tempered Vitrolite provide flattering, softly-diffused, overhead illumination. L-O-F polished

plate glass mirrors, clear or in colors, complete these modern ensembles.

Build with glass, today! We will be glad to cooperate with you on any unusual design problems. Meanwhile we invite you to write for our latest literature illustrating Bathrooms and Kitchens of Vitrolite. Libbey-Owens-Ford Glass Company, 1309 Nicholas Building, Toledo, Ohio.

(Member Producers' Council.)

Make sure your Vitrolite Installations are made by a Franchised L-O-F dealer

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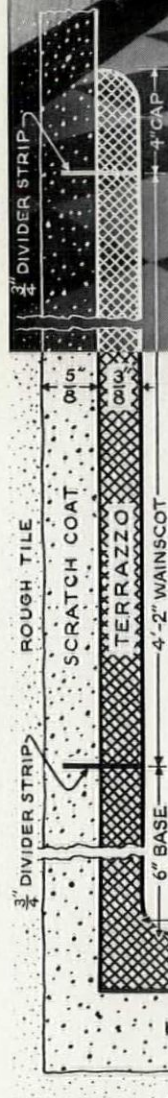
*Vitrolite*  
**COLORFUL  
STRUCTURAL** *Glass*

Visit the Libbey-Owens-Ford Exhibit at the Golden Gate International Exposition, San Francisco, 1939.





*What a floor  
for a school!*



*Despite Terrazzo's rugged durability, it lends itself to rich, colorful patterns. Note the cheerful school floor above.*

**SHOES...AN ARMY OF THEM, SCUFFING AT THE FLOORS, KICKING THE WALLS...TERRAZZO RESISTS EVERY ABUSE...ALWAYS LOOKS CHEERFUL.**

WHEN you think of a school floor today, you think of something friendly in appearance, inviting—nothing that looks like an “institution.” Yet school floors and walls must withstand almost every variety of punishment.

Durable, attractive, easy to keep clean, low in maintenance costs—these are the requirements. And experience proves that Terrazzo fills these requirements to perfection. In fact, Terrazzo, a combination of marble and cement—either white or gray—is the architect's own material. Usually mixed right on the job, it is completely

adaptable to his treatment and design. The range of colors and patterns which he can use is limitless. No two designs need be alike. And he can be sure that the finished job will turn out exactly as planned. Patterns will be clear, colors rich and bright—and permanent.

Terrazzo is so durable and costs so little to maintain that it is used in theatres, stores, hotel lobbies, railroad stations, even for streets. Get the latest data on Terrazzo and its uses. Write The National Terrazzo and Mosaic Association, 1406 G Street, Washington, D. C.

• For school stairs, floor and wainscoting, Terrazzo is the ideal material. It can be placed in a plastic condition or precast and placed in units.



• This cross-section drawing was made from a typical plan for building up a Terrazzo floor, border, base, wainscot and cap, as used in schools and other types of public buildings. The Terrazzo surface is practically impossible to stain or mar, and will stand up for the life of the building, under the relentless daily tread of marching feet.

**THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION**



Architectural Concrete, made with Universal Atlas Cement, helped to build this U. S. Government Post Office at Northampton, Pa. Architect—Louis A. Simon, Procurement Division, U. S. Treasury Dept. Contractors—Mutual Construction Co., New York City.



# Uncle Sam BUILDS A NEW OFFICE WITH CONCRETE

TO THE simple lines of this modest utilitarian structure architectural concrete brings a clean, rugged beauty. But this United States Government Post Office tells only half the story.

You can use architectural concrete to lend distinction to the large as well as the small structures whether the building you are designing calls for simplicity of form, or whether it must combine decoration with strength. You will find it adaptable to an infinite variety of building types and almost unlimited in its decorative possibilities.

Architectural concrete, made with Universal Atlas Cement, provides permanence and fire-safety—usually at a saving in cost. It requires little or no maintenance. It is a practical, economical and enduring material for both engineer and architect.

The coupon will bring you more information on how and where architectural concrete is being used. Fill out the coupon today. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Building, New York City.



Detail over doorway of Northampton, Pa., Post Office shows a little of the decorative possibilities in architectural concrete.

Universal Atlas Cement Co.  
135 East 42nd Street, New York, N. Y.

PP-AC-3

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# Universal Atlas Cements



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## COVE WALL BASES

- ★ LOOK BETTER
- ★ LAST LONGER
- and are
- ★ INSTALLED FASTER
- ★ MAINTAINED EASIER

**but** do you know you can now have every advantage of the best flexible base for 25% to 40% less when you

SPECIFY

# FLEX-O-BASE

COVE BASE

In the past you have probably specified expensive flexible cove bases because you knew they were installed right against the finished wall (without recessing or keying) — because you knew their smooth, even surfaces and perfect fit meant good looks — because you knew they didn't show mop marks or scuffs — because you knew they never needed repainting. Now you can have all these advantages for as much as 40% LESS COST. FLEX-O-BASE, the great modern improvement in cove bases, is the answer. You should be completely informed about this new item. Write David E. Kennedy, Inc., today, for full details without any obligation.

\*Trade Mark Reg.

Specify  
**FLEX-O-BASE**

FOR GREATER  
ECONOMY and EFFICIENCY

FOR DETAILED INFORMATION WRITE TO  
**DAVID E. KENNEDY, INC.**  
58 Second Avenue, Brooklyn, N. Y.

## AT LARGE IN THE LIBRARY

A MINIATURE HISTORY OF THE ENGLISH HOUSE, by J. M. Richards (3/6d., 72 pages 6" x 8 3/4", illustrated—The Architectural Press, 9 Queen Anne's Gate, Westminster, S.W. 1, London, England).

RENAISSANCE ARCHITECTURE OF ENGLAND, ITS SOCIAL AND HISTORICAL DEVELOPMENT, by A. Thornton Bishop (\$6.00, 112 pages 9" x 12", 50 plates of pencil drawings by the author—John Wiley & Sons, Inc., 440 Fourth Avenue, New York).

A HISTORY OF SPANISH ARCHITECTURE, by Bernard Bevan (\$7.50, 215 pages 6 1/2" x 9", profusely illustrated—Charles Scribner's Sons, 597 Fifth Avenue, New York, and B. T. Batsford, Ltd., 15 North Audley Street, London, W. 1).

What! Another history of the English house! Yes, but this time only a miniature whose illustrations have been taken from Nathaniel Lloyd's much longer standard work on the subject. Brief notes here help tell the history of English domestic architecture and enough illustrations have been added to cover the Nineteenth Century and the first third of the Twentieth.

But, alas, the compiler again confronts us with the formularized statement that we are viewing the documentary evidence of social evolution, whose continuous tradition can be fully appreciated in the English house. Why can't these architects get their ideas straight? Why must history and the social viewpoint continually tie and

(Continued on page 60)



ST. MARY-LE-STRAND  
LONDON

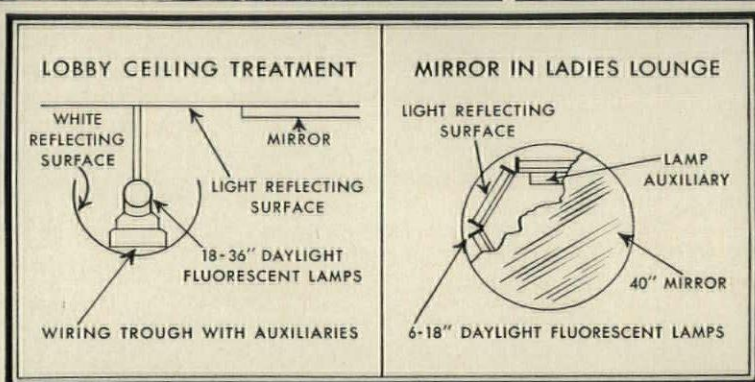
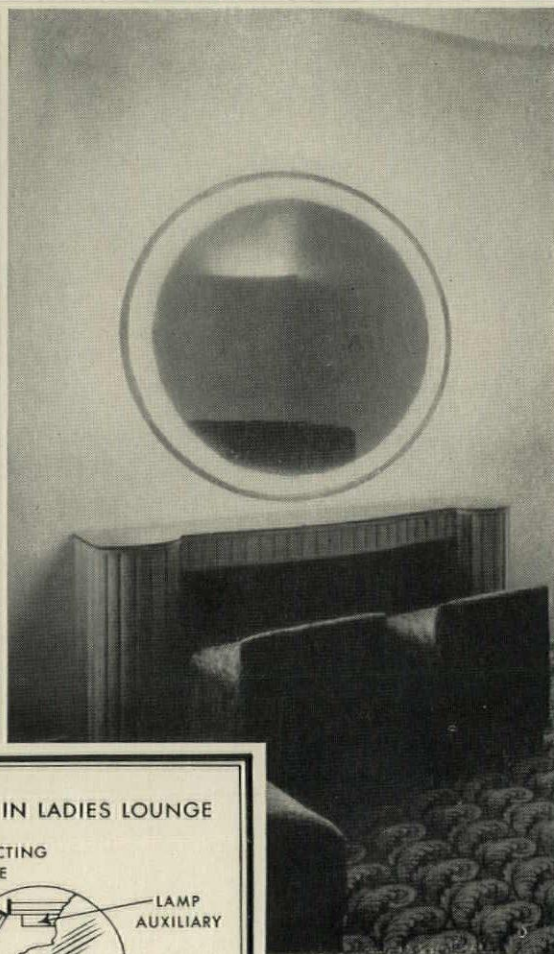
From A. Thornton Bishop's "Renaissance Architecture of England"



# HOW G-E FLUORESCENT MAZDA LAMPS ENHANCE THEATRE ARCHITECTURE



The new Lakewood theatre lobby in Dallas is lighted with daylight fluorescent MAZDA lamps, used in silhouette strip lighting of the mirror ceiling. E. C. Zrenner of the Interstate Circuit, and H. F. Pettigrew, architect, planned this installation.



Daylight fluorescent lamps behind the mirror provide well-diffused light in the ladies' lounge. A wall urn with incandescent lamps can be seen in the mirror.

**T**HE new G-E Fluorescent MAZDA lamps offer architects several distinct advantages in designing theatre lighting. They give several times more light than incandescent lamps of the same wattage and color. And since, for the same amount of light, they are 50 per cent cooler, they put less burden on air conditioning plants.

With the daylight fluorescent lamp, which gives the closest approach to real daylight ever produced at high efficiency, architects can build "indoor daylight" into theatres to enhance the beauty of murals and other architectural designs.

The new Lakewood Theatre in Dallas, Texas, offers a good example of the effective use of fluorescent lighting. In the lobby, daylight fluorescent MAZDA lamps have been used for silhouette strip lighting of the mirror ceiling.

Available in pink, blue, green, red, and gold, in addition to warm white and daylight, G-E Fluorescent MAZDA lamps provide a wide range of lighting application for marquees, foyers, auditoriums, lounge rooms, and displays.

For further information, write to General Electric Co., Nela Park, Cleveland, Ohio.



G-E Fluorescent MAZDA lamps come in 18, 24, and 36-inch lengths and in several wattages. Because they are essentially arc lamps, they require special control equipment which is available.

General Electric Co., Dept. 166-PP-C  
Nela Park, Cleveland, Ohio.  
Please send me your new free booklet giving useful information about G-E Fluorescent MAZDA lamps.

Name.....  
Company.....  
Street.....  
City.....State.....

**GENERAL  ELECTRIC**



# ARE YOU LOOKING FOR A HINGE?

That will enable you to express yourself—to secure a different effect without having a protruding butt or hinge to be considered?

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HINGES**

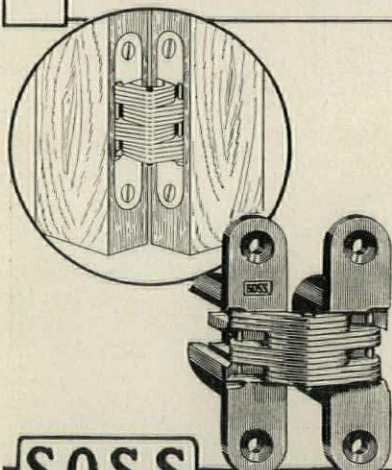
*"Are there but not seen"*

They are conspicuous by their absence!

Adaptable for anything that hinges.

Write for complete data.

**SOSS MANUFACTURING CO.**  
653 E. First Ave., Roselle, N.J.



**SOSS**

**INVISIBLE  
HINGES**

(Continued from page 58)

twist themselves into Indian knots?

For the second book, "A Renaissance Masque with Text and Settings by Mr. Thornton Bishop" seems a more suitable title—for in spite of the author's assurance and the glowing preface by Harvey Wiley Corbett, it is difficult to see just what it has to do with the social development of the Renaissance in Great Britain. It seems more plausible that the publishers thought Mr. Bishop's beautiful pencil drawings needed some historical accompaniment, to which was tacked the timely sub-title used. Certainly, there are many who will want and treasure the book for the drawings alone, which are exquisite in their sensitive interpretation of loved monuments.

Publishers, and writers, of architectural books seem not to have learned yet that chronology is not history—any more than royal cotillon favors and merchants' account books tell the whole story of society and economics. However, here we are again with the familiar buildings from familiar viewpoints.

The knowledge that most of the monuments reverently shown in the book are actually threatened with the destruction that has overtaken many of their contemporaries—as social and economic impedimenta of modern England—nullifies much of the "inspirational" quality Mr. Corbett attempts to cast over them in the preface. But as the last pages of the book are read, we find magnified that nostalgic lament which, in echo, underlies the movie travelogue ending with "a fond farewell to Beautiful England of the Renaissance."

Since the Civil War in Spain, a no less nostalgic note attaches to the illustrations and comments on Spanish architecture, by Mr. Bevan, who has sought to provide "not a collective study of individual buildings" but a "condensed evolutionary study." Because this includes the architecture of Spain in his Colonial manifestations, some of the more exotic Mexican churches are illustrated.

Evolutionary or not, the author has succeeded in collecting under one cover information that has not always been readily available, even to scholars and archaeologists. The book affords a broad glance over the subject. The chapters on Pre-Romanesque, Romanesque, and Mudéjar phases make welcome additions for those already familiar with the world-famed masterpieces of Spanish architecture of other periods.

L.R.W.

(Continued on page 62)



**Add this NEW  
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**The New MESKER BROCHURE  
"Should Windows Last the  
Life of Your Buildings?"**

is an important addition to the Mesker Catalog in this year's Sweets catalog file. It is full of facts and figures that bring to light a new perspective on windows and their relation to your buildings.

**WHAT** is good rust prevention?

**WHERE** is the weak spot in all windows?

**HOW** can the architect avoid window failure?

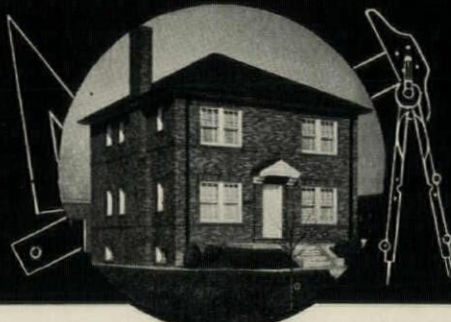
**THIS BROCHURE** answers these questions in a straight forward, fact finding truthful manner.

*Write Today . . .*  
for "Should Windows Last the Life of Your Buildings?"

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Orval E. Williamson, Indiana

Architects:  
Chester H. Disque, Kentucky  
Oliver Popp, Missouri

Architects:  
Carl Cooper, Alabama  
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The homes shown here are typical of thousands in which greater durability, increased comfort and lower upkeep have been attained through the use of building products perfected by modern research. In these new developments, Carey Research has been an important factor, aiding materially in reducing the cost of home ownership without sacrifice of established architectural standards.

Carey Building Products, developed in the Carey Research Laboratory and proved in actual service

throughout the nation, offer new advantages, wear longer and cost less to maintain. Some Carey Products give permanent, fireproof service and never require paint protection. Others provide new comforts and effect savings in fuel and maintenance that make their use a definite economy to the home owner. When you specify these and other Carey Products you serve the best interests of your clients. For further details of Carey Products, see our Catalog in Sweet's or write Department 54.

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The Shingle with outside mineral surface for protection; cork underside for insulation. Provides roof and roof insulation for roof cost alone. Saves fuel.

## CAREY ROCKTEX HOME INSULATION



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ENDURING BEAUTY



Fathers' Reception Room at the Sutter Memorial Hospital, Sacramento. Armstrong's Tan Linowall No. 706 installed as a 54½" wainscot.

## ... at half the cost

ARMSTRONG'S Linowall is to walls what Armstrong's Linoleum is to floors. It is permanent, waterproof, and easy to clean. Despite its advantages, it costs only about half as much as other permanent finishes. It is resilient, does not chip, crack, or craze, and its resilience renders it less subject to cracking than rigid materials.

Linowall fits in with any type of decoration. A wide range of colors and patterns is offered for both residential and commercial installations. Unique, original designs can be created by inlaying or appliqueing Linowall with glass, metal, carved wood, or carved linoleum designs.

Sweet's Catalog contains full information—or we will gladly send you complete details of this new and versatile wall covering. We will also give you the name of your local Linowall dealer. Write the Armstrong Cork Company, 1206 State St., Lancaster, Pa.



**Armstrong's  
LINOWALL**

Made by the makers of  
Armstrong's Linoleum

(Continued from page 60)

PILLAR TO POST, by Osbert Lancaster (\$1.75, 100 pages, 6½" x 9¼", with drawings by the author — Charles Scribner's Sons, 597 Fifth Avenue, New York).

And now a fresh note in architectural publishing—humor! Amused as the reader is sure to be by a flippant account of the devious ascent/descent from the Doric Order to the lally column, he will not catch the author-critic far afield from facts just because he has dropped the customary formality. Rather this *English Architecture Without Tears* is a reliable miniature history more readily understood than most.

Sly and not-so-sly satire at the expense of the succession of styles and building methods to which the architects, commercial builders, and others have resorted through the ages is abundant. The later chapters, devoted to the by-paths into which English designers have muddled in recent years, probably will be most enjoyed by those American readers who can readily identify the corresponding vagaries followed in this country. But the earlier "essays," on the historic styles cannot fail to entertain even the casual reader.

Lancaster's lively drawings add much to the pleasure afforded by the volume, aptly illustrating such original divisions of the subject material as *Public House Classic*, *Municipal Gothic*, *Stockbrokers' Tudor*, *Marxist Non-Aryan*, *By-Pass Variegated*, or *Bankers' Georgian*. That the author was fully aware of his temerity in poking fun at a subject usually reserved for unctuous academic murmuring is indicated by his thoughtful note: "All the architecture in this book is completely imaginary, and no

reference is intended to any actual building, living or dead." C.M.

THE BEAUTIFUL NECESSITY, by Claude Bragdon (\$2.50, 111 pages 6" x 8", illustrated — Alfred A. Knopf, Inc., 501 Madison Avenue, New York).

When Claude Bragdon issued the original edition of *The Beautiful Necessity* in 1910, he wrote in reference to his theory of architectural cycles:

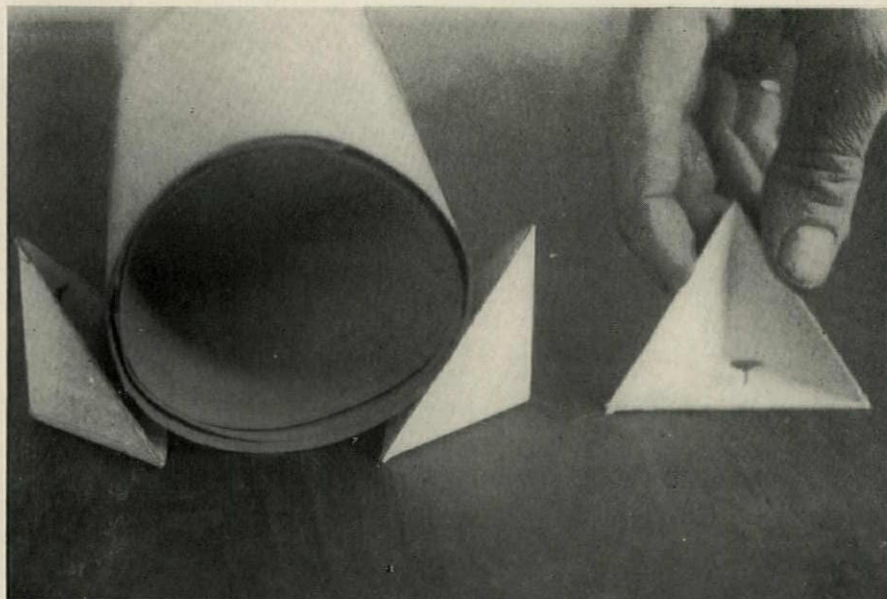
"It is not unreasonable to believe that the movement toward mysticism, of which modern theosophy is a phase and the spiritualization of science an episode, will flower out into an architecture which will be in some sort of reincarnation of, and a return to, the Gothic spirit, employing new materials, new methods, and developing new forms to show forth the spirit of the modern world, without violating ancient verities."

In his preface to this, the fourth edition, he states:

"No subsequent increase of knowledge has caused me to distrust the essential soundness and validity of the ideas here set forth."

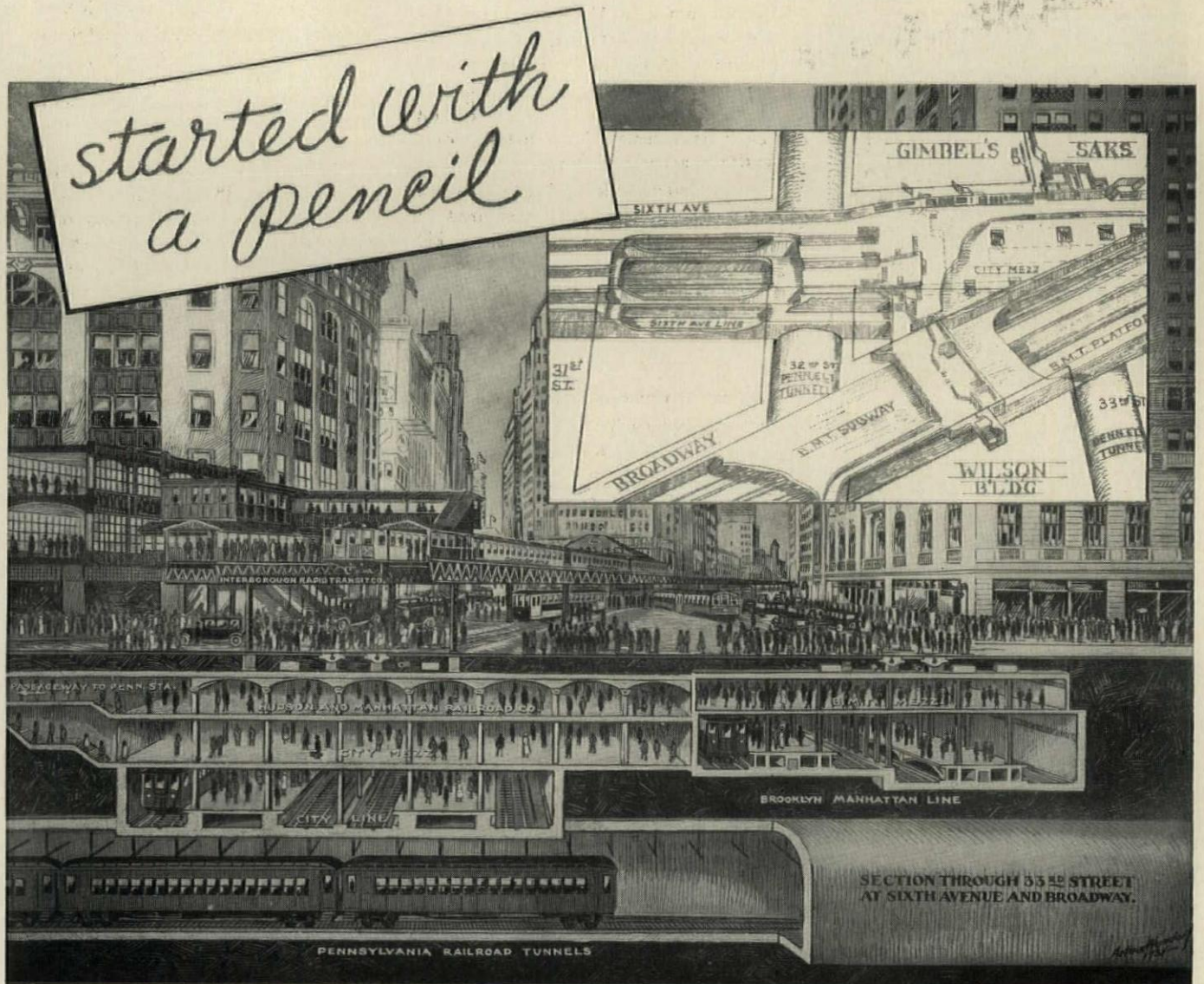
His story of how the same Beautiful Necessity determined the characteristics of much of the widely-separated periods of architecture, and of how some of the more obvious laws of natural beauty have been applied to architecture, still holds a goodly amount of stimulation for one who will take the trouble to read it. L.R.W.

Practical for holding rolled prints or drawings the draftsman likes to have in arm's reach are corners cut from cardboard boxes and thumb-tacked to the table or desk top, points out Frank Bentley, Draftsman, of Clinton, Iowa





# WORLD'S MOST COMPLICATED SUBWAY



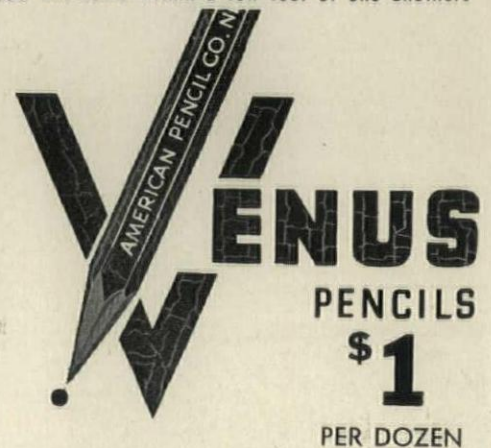
*Courtesy Board of Transportation, City of New York*

**D**ID you ever stop to think how important pencils are in the production of a great engineering and architectural project such as this? From preliminary sketches to finished drawings and specifications, pencils are responsible for the speed and facility with which ideas are put on paper.

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With only the slightest variation in grade, the Sixth Avenue Subway will actually weave over and under four other subways from 4th Street to 53rd! Of the many obstacles to the construction of this 52 million dollar subway, the network of underground railroads at 34th Street was the greatest challenge to engineering genius. Here the new Sixth Avenue Subway, the B. M. T., the Hudson & Manhattan Railway and the Pennsylvania Railroad will come within a few feet of one another!



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Rain, snow, and dirt, window's worst enemies, play no favorites with school windows. That's why so many architects are specifying **MESKER STEEL WINDOWS**

with  
**Genuine**

**RUST-RESISTING  
Wrought Iron Sills**

for new school buildings today!

Rusty or rotten sill members are often responsible for poor fitting, drafty windows . . . and many times cause premature window failure.

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## Maginnis Pleads For City Planning

Normal security will return to the United States in 1939, if a European war does not intervene, Charles D. Maginnis of Boston, president of the American Institute of Architects, declared in a recent forecast calling "ugly communities" the nation's outstanding artistic problem.

City dwellers, Mr. Maginnis points out, are so patriotic that they find "a curious relish in local disorders." He expresses confidence, however, that an aroused public sensibility will overcome the architectural "stultification" of the cities . . .

"Hopefully we note exceptionally intelligent enterprise here and there, as in the beautiful development of the New York Park system which proves what can be officially accomplished in the face of public inertia. The talent is copiously available in America by which our cities can be brought to the impressive standards of order which obtain in the best communities of Europe.

"The architectural profession, which is supremely qualified for this challenge, has so far been permitted to deal with units of the city scene rather than with the whole of it. It must be enlisted into this larger relationship if our cities are to vindicate the pretensions of our national culture."

Two of a series of fresco paintings by Alice McNair Tenney, young Minnesota artist, depicting the March of Minnesota for the taproom of a Minneapolis hotel are pictured here. Regarding fresco painting, which can be lighted without the disturbing "shine" or highlights of oils, as adaptable to modern decorative requirements, Miss Tenney has developed light-weight, portable fresco panels of soft finish plaster applied directly on the rough surface of Celotex board. The usual rough plaster foundation coats were omitted by Miss Tenney, who found that the completed panels can be moved easily, even flexed slightly, and fixed in place, without cracking or otherwise damaging the frescoes. The completed panels, 7 by 8½ feet, weigh approximately 175 pounds each, as compared to Diego Rivera's portable murals approximately the same size painted on two coats of plaster over steel lath and reinforced wood backing, which weigh up to 1,200 pounds each. Her fresco panels can thus be moved easily



**DULUTH CITIZENS DIG A CHANNEL TO THEIR HARBOR**

A number of years ago the harbor of Duluth was a mere inlet. The citizens of Duluth were determined to dig a channel to the harbor. They were helped by the government. The channel is now a great harbor.



The harbor of Duluth is now a great harbor. It is the result of the efforts of the citizens of Duluth. They were helped by the government. The channel is now a great harbor.



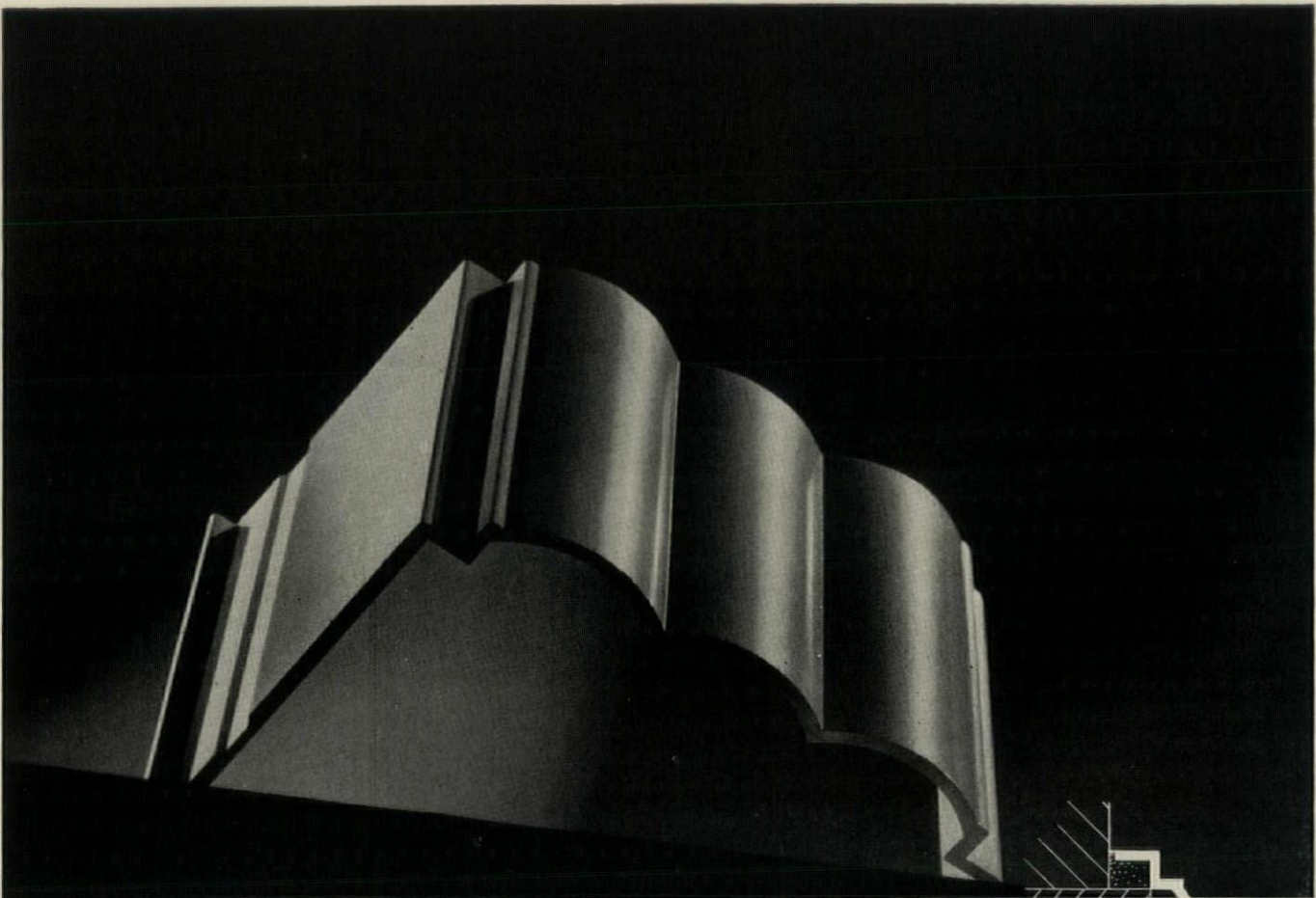
**THE ALBERT LEA HORSE RACE**

The harbor of Duluth is now a great harbor. It is the result of the efforts of the citizens of Duluth. They were helped by the government. The channel is now a great harbor.



The harbor of Duluth is now a great harbor. It is the result of the efforts of the citizens of Duluth. They were helped by the government. The channel is now a great harbor.

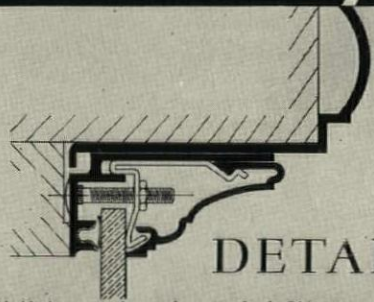




## LATITUDE IN DESIGN

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At the New York World's Fair, see the full-size Pittco Store Fronts of the "Street of Tomorrow" in the "Forward March of America Building," and the miniature Pittco Fronts in the Glass Center Building; or, at the Golden Gate International Exposition, see these miniatures in the Homes and Gardens Building.



### DETAIL:

Half-size section of a typical Pittco moulding, expressing the grace, beauty and distinction characteristic of the entire Pittco line. This moulding was effectively used on the distinctive store front designed by W. G. Clarkson and Co. for W. C. Stripling Co., Fort Worth, Texas.

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STORE FRONT METAL

PITTSBURGH PLATE GLASS COMPANY





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**COMPETITION ANNOUNCEMENTS**

Eero Saarinen, Ralph Rapson, and Frederic James, all of Cranbrook Academy of Art, Bloomfield Hills, Michigan, have been announced as the prize-winning team in the American National Theater and Academy educational competition for the design of a Festival Theater and Fine Arts Building for the campus of the College of William and Mary, Williamsburg, Va.

The prize-winning designs in the competition were to be on exhibition at The Museum of Modern Art, 14 West 49th Street, New York, until March 15.

A. Conger Goodyear, president of the sponsoring organization, in announcing the award of the \$1,000 first prize, expressed full approval of the jury's choice and praised the designs submitted in the competition, which opened November 15, 1938, and closed January 31, 1939. Kenneth Stowell, A.I.A., Editor of *House Beautiful* was the Professional Adviser.

Both the second and third prizes, totaling \$1,000, went to Philip L. Goodwin and Edward D. Stone, Associated Architects, of New York, in the judgment conducted with strict anonymity. Honorable mentions and \$100 each went to Richard Neutra, Los Angeles; Hugh Stubbins and Marc Peter, Jr., Boston; Bissell Alderman and William Hartmann, Cambridge; Henry E. Hebbeln, Cranbrook Academy; and to Will Rice Amon, of New York.

The jurors, announced after the judgment, were Lawrence B. Ander-

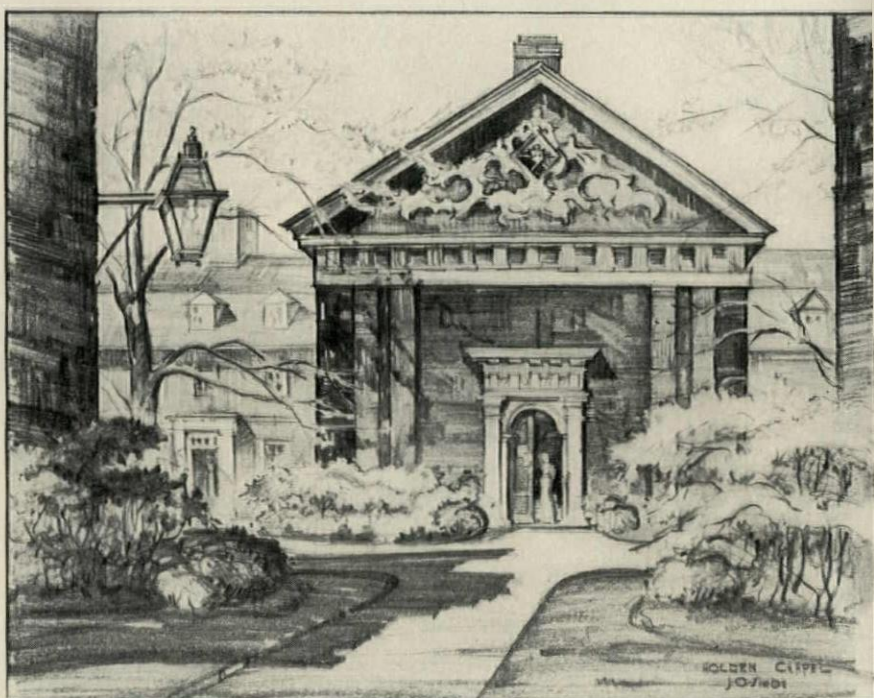
son, M.I.T. Assistant Professor; Leslie Cheek, Jr., head of the College of William and Mary Fine Arts Department; Antonin Raymond, Architect; Louis Simonson, Scenic Designer and Theater Consultant; and Roland A. Wan, Principal Architect of T.V.A.

Saarinen is associated as an Architect with his father, Eliel Saarinen, and he had competition experience and he practised in this country and Europe. James, now studying painting under Zoltan Sepeshy at Cranbrook Academy, has had wide experience in the theater and stage productions. Rapson was a prize winner in the *Ladies' Home Journal* small house competition and is now studying town planning under Eliel Saarinen at Cranbrook Academy.

*Columbia Prizes*

The Hamlin Prize of the Columbia University School of Architecture has been awarded to Vincent G. Kling, East Orange, N. J., third-year student for the best design of a memorial porch in an urban housing group, it has been announced by Dean Leopold Arnaud. The Illuminating Engineering Society Prize for the most effective solution of an illuminating problem in architecture goes to Carl E. Stovel, graduate student, 540 West 123rd Street, who last year won four student medals at the School.

The Hamlin Prize was founded in memory of Alfred Dwight Foster  
(Continued on page 68)

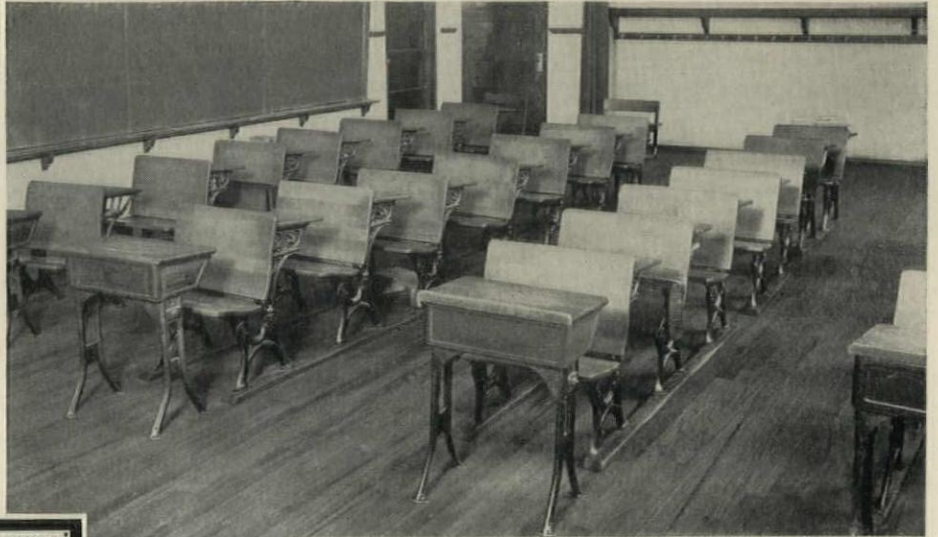


*J. Ormsbee Simon made this crisp sketch at Harvard*

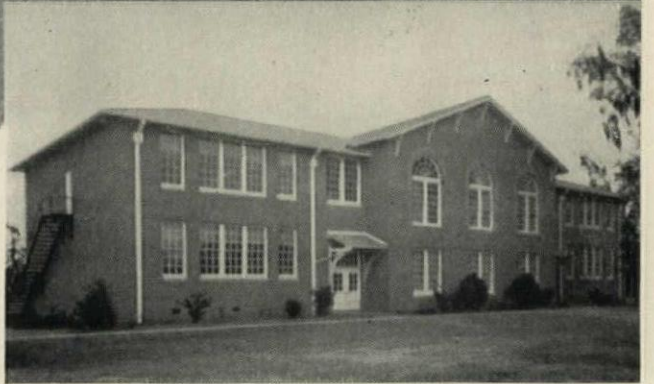


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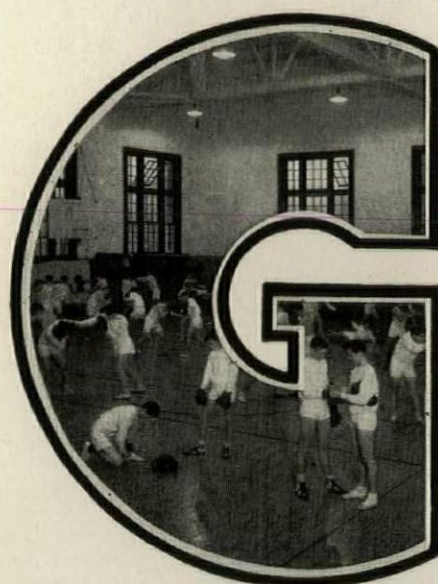


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(Continued from page 66)

Hamlin, professor of the history of architecture, who was a member of the faculty of the School from 1887 until his death on March 21, 1926, serving several years as executive head.

### B. S. A. Award

The annual prize of \$100 offered by the Boston Society of Architects to students in the schools of Architecture of Harvard University, the Massachusetts Institute of Technology, and the Boston Architectural Club, has been awarded to John G. Kelley, graduate student at the Institute.

This year's design subject was "A Dance Pavilion in a Municipal Park." It was imagined, for the purposes of the problem, that a city of importance had a beautiful, wooded park area where a dance pavilion was required to relieve overcrowding.

Kelley, whose design was one of 55 submitted, is the fourth successive M. I. T. student to win the annual contest. He is the son of Mrs. Alice G. Kelley, of New York City. After receiving his Bachelor's Degree at Princeton University last spring, he is now studying at Technology for a Master's Degree in Architecture.

### Glass Block Series of Competitions Listed

Architects and designers are offered cash prizes totaling \$15,000 in a series of four consecutive Insulux Glass Block Competitions to be conducted by the Owens-Illinois Glass Company, expected to bring about a broader understanding of the correct application of glass block, its limitations, and its capabilities.

The subjects of the competitions will be Small Houses, Three Shops, A Dairy, and A Newspaper Plant. Each of these is to extend over a period of three months and to carry cash awards as follows: first prize, \$1,000; second, \$750; third, \$250; fourth through eighth, \$100 each. In addition, on the basis of points scored in the four competitions, the company offers grand prizes of \$1,500; \$1,250; \$1,000; \$750; and \$500.

Each of the competitions will be judged in a different city, by outstanding Architects of the area about that center. The first will be judged in Chicago by John Wellborn Root, Alfred Shaw, William Peirera, George Wallace Carr, C. Herrick Hammond, George Fred Keck, and Paul Schweiker. The others will be judged in San Francisco, Cleveland, and New York. Henry H. Saylor, A.I.A., of the *Architectural Forum* editorial staff, will be the Professional Adviser.

(Continued on page 70)

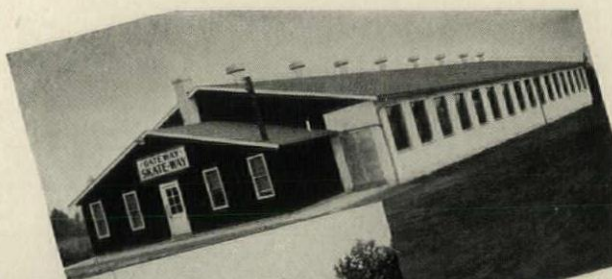
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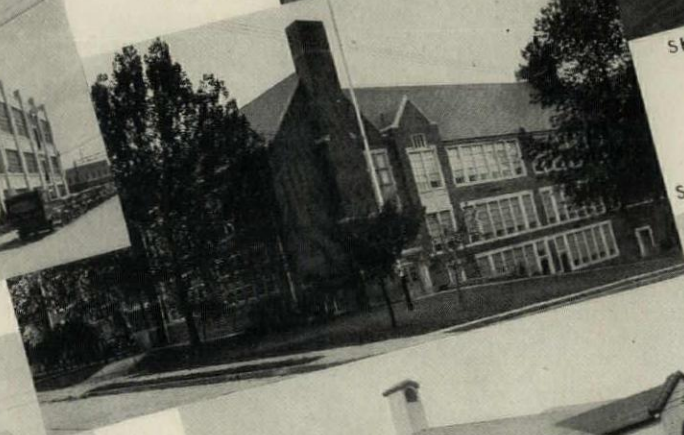
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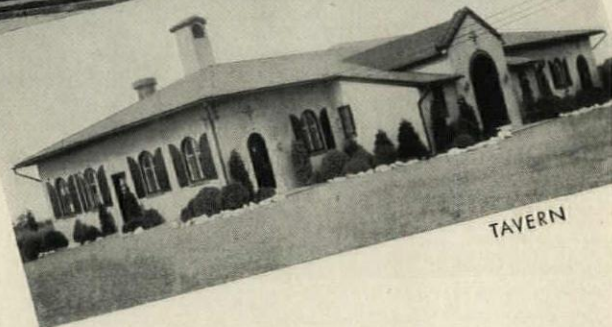
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## Martí Monument

Awards in the inter-American competition for the design of a \$500,000 Monument in Havana, to the Memory of José Martí, National Hero of Cuba, conducted during the past five months by a Government Committee, have been announced following the recent meeting of the jury composed of Government and professional leaders of Havana. The first prize of \$10,000 was not awarded and that amount was used to increase the remaining awards.

The highest prize, \$5,000, with Silver Medal and Diploma, went to the design submitted by Jean Labatut, Architect and Professor of Architecture at Princeton University, Enrique L. Varela and Raul Otero. G. Waterland and F. Herrera, Sculptor, also collaborated in the design.

The third prize, increased from \$2,000 to \$4,000, went to the design submitted by Luis Echevarría, Esteban Betancourt, and Manuel Alvarez. A fourth prize of \$2,500 was created by the jury and awarded to Nicholas D. Vassiliev and Alexander Sanbunac.

Seven remaining prizes of \$1,500 each, instead of the five \$1,000 prizes originally offered, went to the designs

submitted by: Eugenio Batista, Aquiles Mazas, Raul Macías, and Juan José Sicre; Evelio Govantes and Felix Cabarrocas; Manuel Tapis Ruano, Victor Morales de Cárdenas, and Jesus M. Casagrán; Humberto Bartolomeu and Gabriel Martina of Brazil; Walker & Weeks and Fischer & Jiroud of the United States; Mario Pani and Armando Quezada of Mexico; Pedro Serafín Marco and Teodoro Ramos Blanco. All are of Cuba unless otherwise noted.

Honorable mention was received by Ignacio Asunsulos, A. Balzaretto, and Carlos Herrmann, of Mexico; Mauricio Gómez Mayorga and Enrique Motlán, of Mexico; Frederick Cleveland, of the United States; Enrique Aragón and Adolfo Fonsanelli, of Mexico; Mario de Paria Zambrano and D. A. Waranka y Mazzucachalli, of Brazil; Alberto Manrique Martín and Gustavo Arcilla Uribe, of Colombia; Carlos Obregon Santacilla and Juan Leonardo Cordeiro, of Mexico; Nicolaás P. LLuy and Angel Martí Cobo, of Cuba; Arnol Perretton and Edgar Keen, of the United States; Serafin de Lara and Guillermo Tolentino, of Manila, P.I.

It is understood that the Committee is discussing the possibility of ex-

ecuting the design by Labatut and his associates, as the focal point of a new civic center for the Cuban capital.

## Stewardson Scholarship

The Managing Committee of the John Stewardson Memorial Scholarship in Architecture has announced its 39th competition for a \$1,000 traveling scholarship for the study of architecture in this country or abroad, under supervision of the Committee. Applicants are required to forward to the Committee, not later than March 17, 1939, the information called for in Registration Blanks obtainable from the Secretary, Edmund R. Purves, The Architects Building, 17th and Sansome Sts., Philadelphia, Pa.

The competition is restricted to those who have studied or practiced architecture in Pennsylvania for at least one year immediately prior to the scholarship award, having completed four years of college and/or office experience, and who are not less than 22 years old or more than 30 years old on March 25. From those who qualify, the Managing Committee will choose five to enter a competition, the rules and dates for which will be announced.

## Booth Fellowship

The College of Architecture, University of Michigan, announces that the George G. Booth Traveling Fellowship in Architecture will be offered again this year, and the competition in design will be conducted during the two weeks beginning April 7.

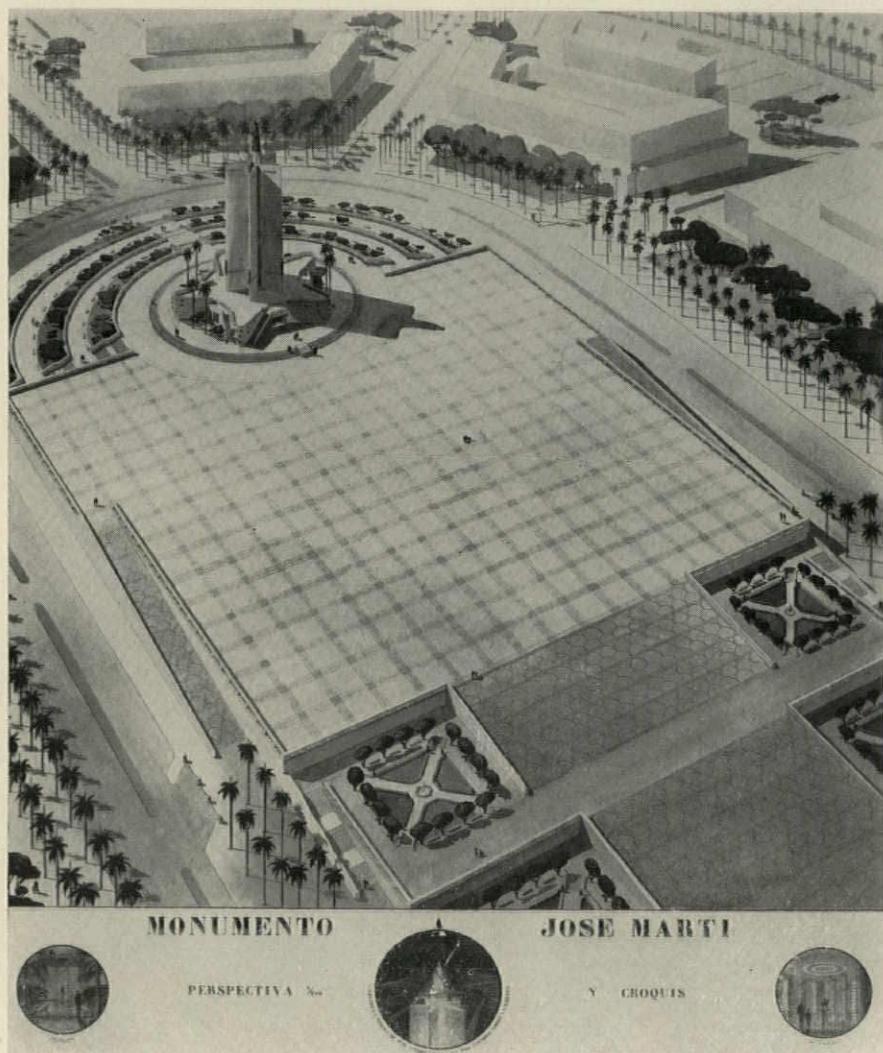
This competition is open to all graduates of the school who have not reached their 30th birthday on that date. Prospective candidates should write to the office of the College of Architecture, University of Michigan.

## Princeton Prizes

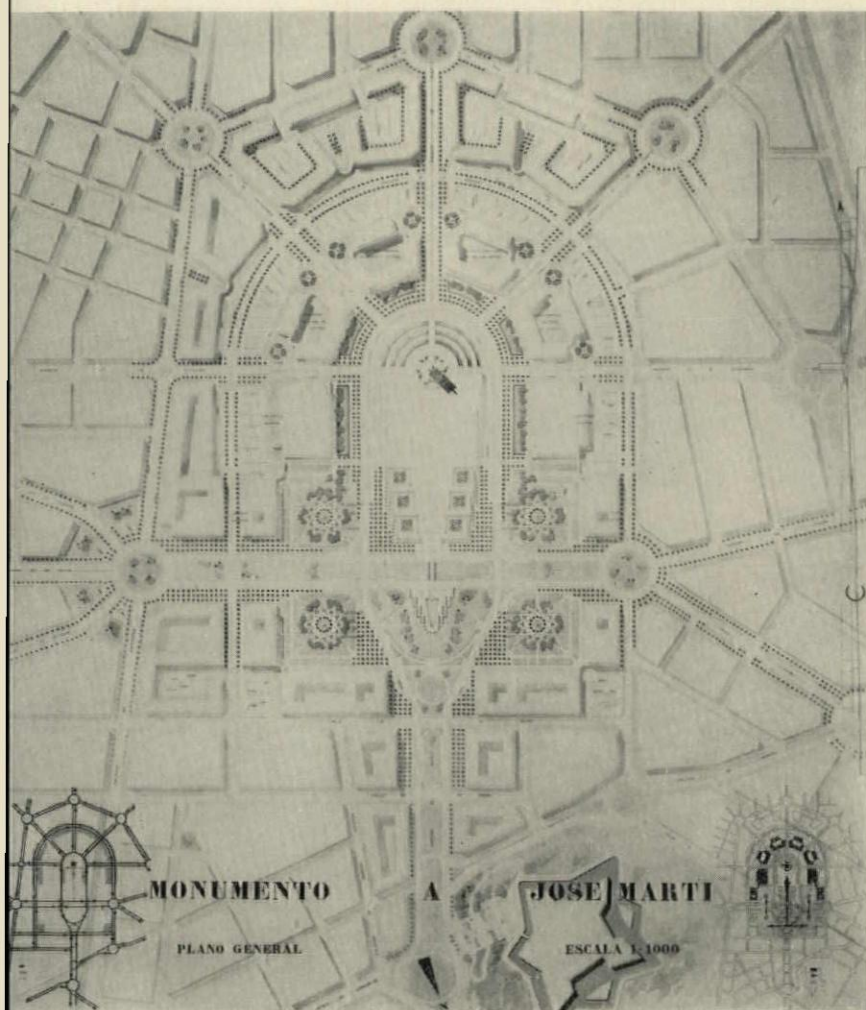
Two competitive prizes of \$500 each, in the School of Architecture, Princeton University, have been announced for 1939-40. The purpose of these prizes is to permit men of unusual ability, who desire to complete their professional training, to profit by the opportunities offered by the School of Architecture, the Department of Art and Archaeology, and the Graduate School of Princeton University.

The prizes will be awarded as the result of a competition in design to be held approximately April 17 to 28, 1939. The right is reserved to withhold either or both awards in case no candidates are considered to have reached the required standard.

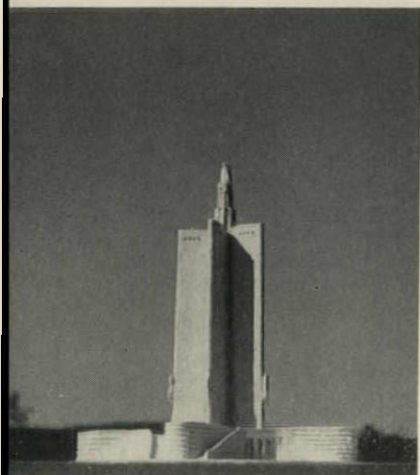
For application blanks, write to M. L. Beck, chairman, Princeton Prizes, McCormick Hall, Princeton, N. J.







the prize-winning drawings in the inter-American competition for the design of a Marti Monument in Havana as the focal point of a civic center for the capital — by Jean Labatut, Princeton University Professor and Architect, and his Associates — are shown above and on the opposite page. The photograph below shows a model of the monument, whose star-plan recalls the Cuban flag in architectural form



### Barre Granite, 1939

The Contest Committee of the Barre Granite Association has announced that the nationwide Select Barre Design Competition will be repeated this year, with \$1,500 in cash prizes to be awarded by vote of those attending the conventions of the Memorial Craftsmen of America, the Association of American Cemetery Superintendents, and an expert jury of the Society of Memorial Craftsmen and Designers. The sponsor will again be National Alliance of Art and Industry.

Rules of the annual competition have been revised to permit residents of Canada to participate, and the restricting phrase "moderate cost" has been omitted in calling for designs for memorials. The area of the front elevation of the memorials also has been increased from 20 to 30 square feet.

As in the 1938 competition, three sets of prizes will be awarded. In each case, the first prize will be \$200; second, \$100; and third, \$50; with six honorable mentions of \$25 each. The competition deadline is September 1, 1939. Full information may be obtained from T. Tracy Lawson, Barre Granite Association, Barre, Vt.

(Continued on page 72)



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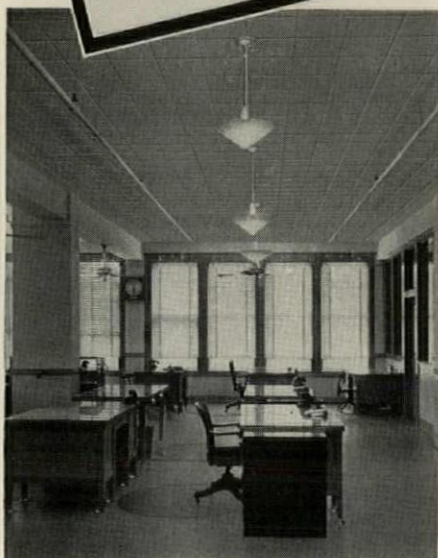
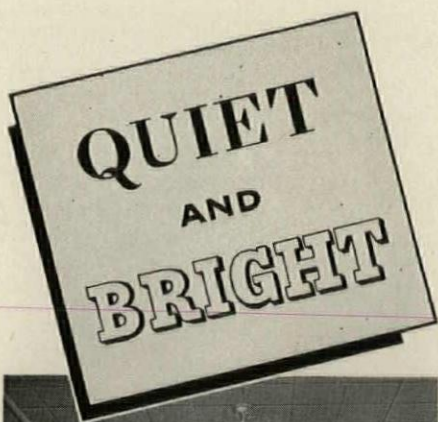
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for noise-quieting and  
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(Continued from page 71)

### Preliminary Awards

The preliminary judging of 250 entries in the Plexiglas Sculpture Competition took place in New York, February 20. The judges were Katherine S. Dreier, Robert Laurent, and James Johnson Sweeney, all of New York. The Competition was sponsored by Röhm & Haas, Philadelphia, makers of Plexiglas, and the Museum of Modern Art, New York. Gilbert Rohde, design consultant to Röhm & Haas, acted as technical advisor.

The judges made no attempt to award specific prizes. The entries were in sketch form only and five sketches were chosen to be executed in Plexiglas. The awards of prizes will be made late in April on the basis of executed designs. Artists, whose sketches were chosen for execution are: Alexander Calder, New York; C. K. Castaing, Stony Brook, Long Island; Werner Drewes, New York; Herbert Matter, New York; and Xanti Schawinsky, Edgewater, New Jersey. Harold Barnett of New York City and Lawrence E. Roberts of Pasadena, California got Honorable Mention.

The winner, who will be chosen just prior to the opening of the New York World's Fair, will receive a cash prize of \$800. In addition, his sculpture will be shown in the Exhibit of Röhm & Haas in the Hall of Industrial Science, Chemicals, and Plastics at the New York World's Fair.

### Rome Alumni Prizes

The Alumni Association of the American Academy in Rome has announced the winners of the prizes and medals in the 13th Annual Collaborative Competition for students of architecture, landscape architecture, painting, and sculpture. Prizes of \$400, given in memory of the late Robert W.

Gardner, by a group of his friends, were awarded as follows:

First Prize of \$200 to team from Cornell University: O. H. Dahlstrand, Architect; A. W. Atkinson, Landscape Architect; Miss R. E. Rogers, Painter; and Miss E. Abbe, Sculptor.

Medal and \$50 to teams from Cranbrook Academy of Art, Bloomfield Hills, Mich.: H. Hebbeln, Architect; Miss V. Beatty, Sculptor; D. Scholes, Landscape Architect; R. Rapson, Architect; H. Weese, Landscape Architect; C. West, Painter; and Donald Gregory, Sculptor.

Medal and \$50 to team from University of Pennsylvania and Pennsylvania Academy of Fine Arts: J. W. Fitzgibbon, Architect; S. Bernstein, Painter; A. Kirtcheff, Sculptor; and J. D. Gilchrest, Landscape Architect.

Medal and \$50 to team from New York University: L. Israel, Architect; H. Hollander, Landscape Architect; Anna P. Fried, Painter; and Harry Allen, Sculptor.

Mentions were awarded to teams from other schools, and criticisms of each design were recorded at the judgment 15, 1938, and the competition. The problem was "A Summer Theater." The program was issued on October 15, 1938, and the competition closed on February 11, 1939. Fifty-eight teams entered from 16 art schools.

### Stockholm Congress

The International Federation for Housing and Town Planning, of Brussels, has announced an International Congress, July 8-15, in Stockholm, Sweden, when topics of current interest will be discussed by Continental authorities. Those who may attend are urged to notify Mrs. Paula Schäfer, Federation Secretary, 47 Cantersteen, Brussels. Reports on the various topics will be published a month in advance.

### Calling All Gossips

As regular readers will have noticed, perhaps, the monthly contributions by our Boston and Washington correspondents have been promoted in this issue to a position in the main body of the magazine immediately after *The Treshing Floor*. We have discovered that, although Messieurs Keach and "Red" write ostensibly about matters pertaining to their own localities, they have attracted the continued interest of readers in all parts of the country. The same is true of our Los Angeles correspondent, Paul Hunter, who is not represented this month.

We are calling particular attention to these letters at this time in the hope that we may be able to discover hidden talent in other cities—men who would be willing and able to write as entertainingly and informatively about the architectural goings-on in their respective communities. It might be too much to ask for a contribution from each city every month, but surely there must be someone in Detroit and St. Louis and Cleveland and Atlanta and Milwaukee and Chicago and Seattle and Philadelphia, and other centers of architectural good fellowship, who could write us at regular intervals in a gossipy way for the edification of their fellow professionals.



Horace H. Rackham Graduate School, University of Michigan, Ann Arbor, Mich.

Architects: Smith, Hinchman & Grylls, Detroit, Mich.

General Contractors: W. E. Wood Company, Detroit, Mich.



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# School days are comfort days in the many **FITZGIBBONS** heated schools



A fine "R-Z-U" installation in the William H. Hall High School, West Hartford, Conn. These boilers are of rear smoke outlet design for oil firing. Heating Contractor, T. G. Shaffer. Consulting Engineer, P. D. Bemis of Hartford, Conn.



The battery of four Fitzgibbons steel boilers in the North High School, Binghamton, N. Y. These boilers have front smoke outlet. On this job the architects were Lester J. Kaley and Edward A. Dwyer, of Binghamton. Engineer, A. R. Acheson, Syracuse. Heating Contractor, S. J. Evans, Endicott, N. Y.

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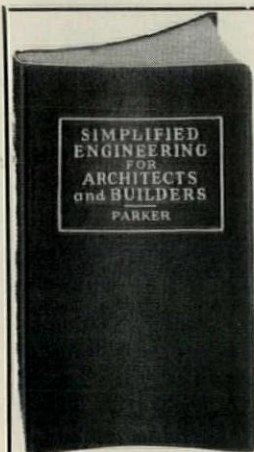
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The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The competition will be held from May 6 to May 15.

Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the Committee, but these drawings must be sent to Cambridge for judgment.

**Applications should be received on or before April 10, addressed to Dean William Emerson, 77 Massachusetts Avenue, Cambridge, Massachusetts.**

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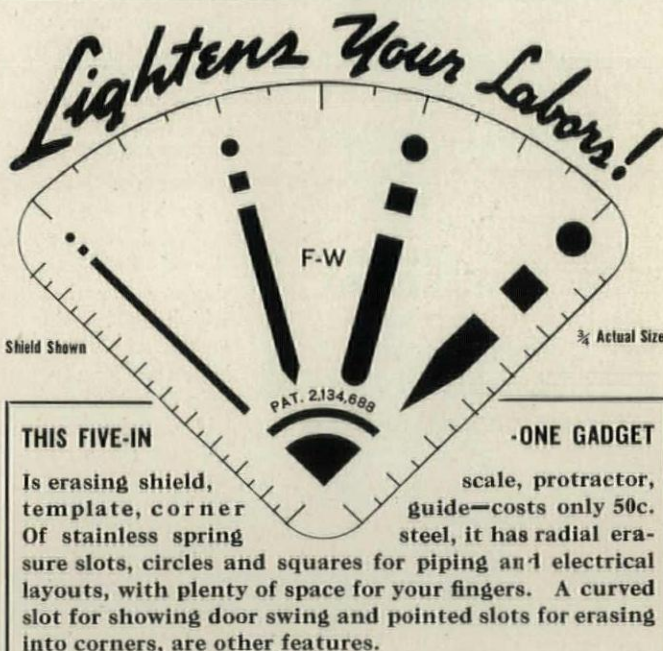
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# NEW PRODUCTS

## *Changes in Personnel, etc.*

### NEW PENCIL DRAFTING CLOTH

Under the name Pencil-tex, the Frederick Post Co., Chicago, Ill., recently introduced a new pencil drafting cloth which, it is claimed, may eliminate the use of ink in drafting rooms.

Of similar appearance to fine tracing cloth, Pencil-tex has a new and patented velvety surface with a remarkable affinity for pencils of all degrees of hardness. It is claimed that even the hardest of hard pencils will leave a sharp, uniform, ink-dense line in its wake. This line intensification, together with a glass-like transparency, permits the production of a blue print with the sharp contrast of prints made from fine ink tracings. Prints made through Pencil-tex are said to be completely without the characteristic fuzzy line and foggy unworkmanlike appearance of blue prints made from ordinary pencil drawings.

### NEW INCINERATOR USES ONLY WASTE AS FUEL

A new low-cost home incinerator that consumes all wet or dry garbage and burnable rubbish, yet uses only the waste itself as fuel, has just been announced by the Majestic Company, Huntington, Ind.

This new No. 30 Majestic incinerator, a neat, compact, portable unit only 24 in. in diameter and less than three feet in height, has a capacity for three bushels of



waste material. Installation is very simple, as the unit connects to any furnace flue and will not interfere with the operation of any type of heating equipment.

It has a specially designed, slotted lining in the fire chamber, which, it is said, materially deodorizes the burning refuse, by forcing all smoke and gases to pass

through the flames and rubbish before entering the flue. Odors cannot escape into the basement.

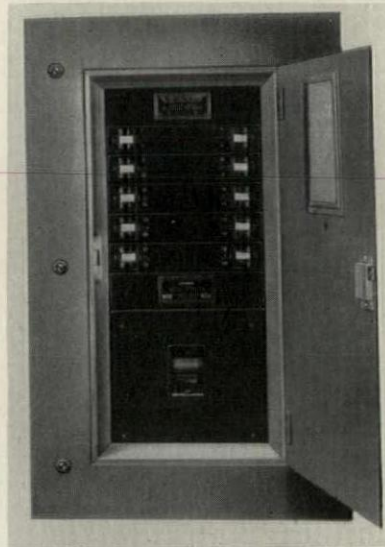
Beneath the fire chamber is a draw grate which can be pulled out to allow ashes and unburnable material to drop into the ashpit. The access door, located on top, is large enough to admit bulky odds and ends, and contains a draft opening which can be regulated as a hot blast, to speed the drying and burning of garbage and refuse. Another feature is its continuous, round base which rests flat on the floor, so that dirt cannot collect beneath the incinerator.

The shell is of steel, finished in heat-proof aluminum and trimmed in black. Top, liner, grates and bottom plate are of heat-proof cast semi-steel. Shipping weight of the unit is 255 lbs.

Another model, the new No. 3 Majestic incinerator, is identical in appearance and most features, but being designed especially for use where only dry refuse is to be burned, it does not have the slotted inner lining.

### NEW TYPE MULTI-BREAKER PANEL

The Square D Co., Detroit, Mich., announces the introduction of a line of multi-breaker panelboards which have been designed to meet the need of a moderately priced circuit breaker panel for schools, store buildings,



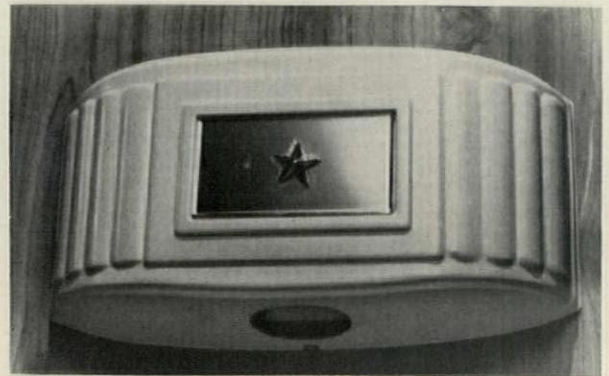
office buildings, public institutions, large houses, industrial plants, etc.

The type NMM is shown with main circuit breaker but is also available with main lugs only. This type can be furnished with any number of single pole or double pole breakers in branches except any one panel is limited to 40 breaker poles.

Several types are available and all are equipped with adjustable mountings for the interiors so that the interiors and trims may be set plumb and true in the box and flush with the wall surface.

### NEW NOTE IN DOOR SIGNALS

Incorporation of architectural themes in door signals to harmonize with interior motifs, is a new feature of a group of modern door chimes for homes, designed by Onnie Mankki of Designers for Industry, Inc., Cleveland, for the Edwards Company, Norwalk, Conn. The dignity and pleasing lines of these signals are in complete harmony with the soft musical notes that announce a caller, as exemplified by the Moderne model



illustrated. The case, 8 1/4" x 4 1/2" x 2 1/4" is a standardized housing in varied finishes and decorations for the mechanism of tubular chimes or concealed xylophone bars, the latter being most satisfactory for small homes.

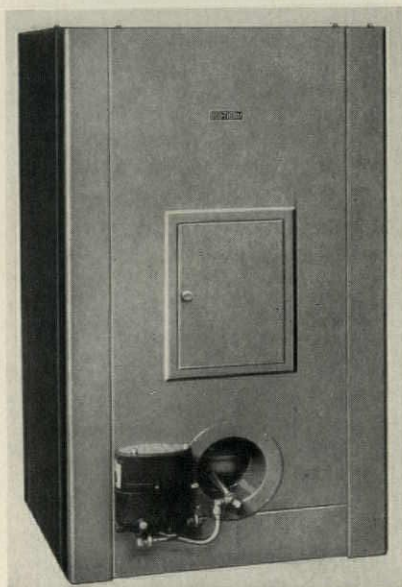
Further indicative of the variations in the four new styles are the Colonial in ivory suede with American eagle and Colonial star in brass relief (burnished brass tubes); the Patrician in oyster-white suede and satin-silver lyre embossed on Wedgwood blue (satin-silver tubes) for Georgian, Empire, Directoire and similar interiors; and the Ironart, a two-tone forged iron effect in suede with embossed steel and black crest on antique burgundy (Oxidized steel tubes) for Italian, Tudor, French Provincial and early American interiors. With tubular chimes the signals are 44 inches high. The housings with concealed xylophone bars are termed junior chimes.



## DUO-THERM ANNOUNCES LOW-COST FURNACES

Specifically designed to meet modern small home requirements, a new line of low-cost fuel oil burning utility furnaces has been announced by the Duo-Therm Division of Motor Wheel Corp., Lansing, Mich.

Adaptable to both basement and utility room installations, the new Duo-Therm units are said to successfully fill a long-felt need for a modern automatic oil burning central heating plant, priced well within reach of the average three, four or five-room house.



Available in both manual and thermostatically-controlled models the furnaces are offered in two sizes — 50,000 and 75,000 BTU output. All models are equipped with Duo-Therm's bias baffle dual chamber burner, which permits of high-low operation, eliminating cold floors and stratification. This feature, plus a super-sensitive room thermostat, is said to produce

straight line temperature control with more uniform heat circulation throughout the entire home.

Other features include a built-in waste stopper or economizer, double casings, large capacity humidifiers, attractive square type outer cabinets, latest type controls, automatic draft regulators, simple low-cost installation, rigid braced construction details, etc.

Where forced circulation is desired two types of units are available. One of these is a low cost package fan which is installed beneath the base of the furnace. The other is a complete filter-blower unit.

## NEW CONCRETE FLOOR PAINT

A new paint for concrete floors is announced by the National Chemical & Mfg. Co., Chicago, Ill., manufacturers of casein paste paint for interiors and synthetic resin and casein paint for exterior masonry. In general, it has a binder composition similar to outside Luminall.

The new paint will be called Luminall cement floor paint and has a binder of synthetic (alkyd) resin and casein with a high strength metallic oxide pigment. It is said to have the tenacious bonding power that is characteristic of alkyd resin. Other characteristics include extremely easy applications and high coverage per gallon. The film retains its elasticity which gives it longer life. It does not chip, flake, alligator or powder off. It comes in paste form and thins with water.

## MILCOR TO OPEN LARGE BRANCH PLANT IN BALTIMORE

The Milcor Steel Company, Milwaukee, Wis., announces the establishment of a large branch plant and warehouse in Baltimore. The entire line of Milcor fireproof building materials and sheet metal building products will be carried at the Baltimore branch, which will be in charge of R. S. Schmieder who has been appointed as manager.



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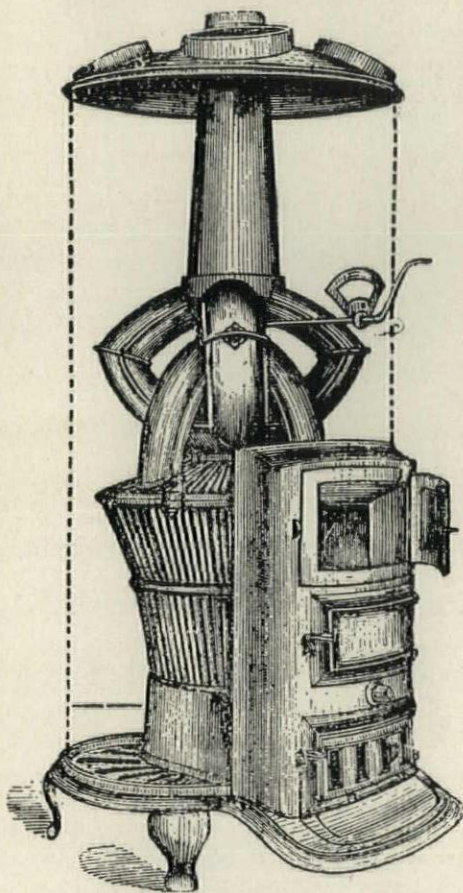


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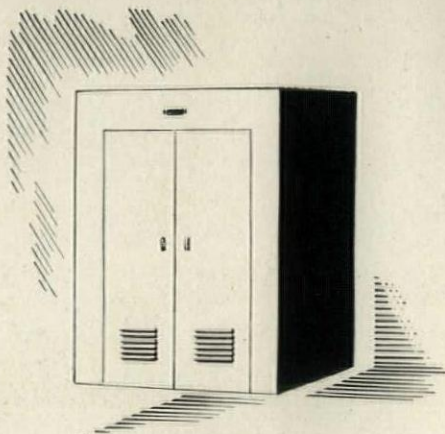


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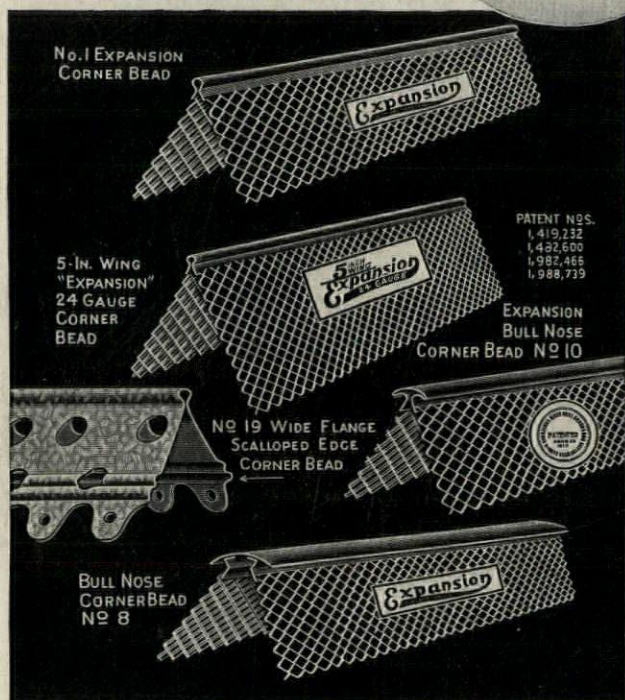
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