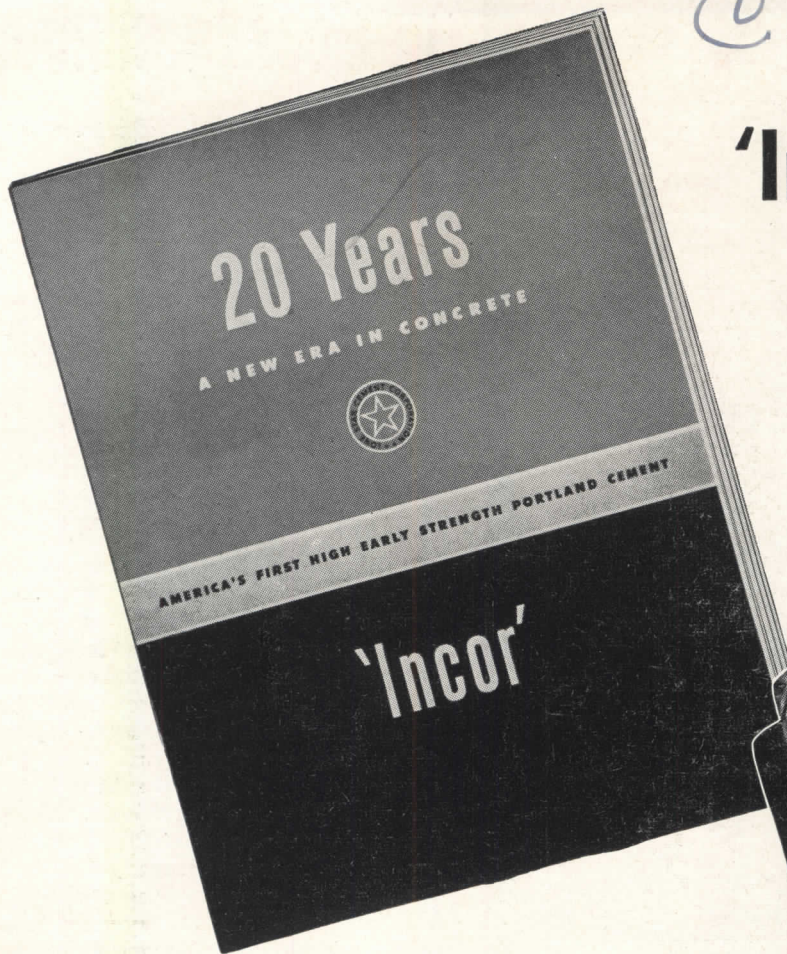


Please return to  
O. H. Connelly.



## 'Incor' Makes Construction History



**A** NEW era began, in 1927, with the introduction of 'INCOR', America's FIRST high early strength portland cement. By doing away with lost time waiting for concrete to harden, 'Incor' made concrete a ready-to-use, year-around construction material.

Twenty years' performance has clearly established the time and money savings produced by dependable 'Incor' high EARLY strength. Now what about ULTIMATE strength and durability? On this point, a Condition Survey of 'Incor' jobs after two decades of wear and tear and exposure speaks with equal clarity. This cross-section of 'Incor' performance shows that economies through maintenance-free service in use, match 'Incor' economies in construction.

Just off the press, this report to Specifiers, Users and Dealers points the way to savings which are greater today than ever — because the higher the cost of construction, the more money 'Incor'\* saves, at the outset and through the years. Write for copy of 'INCOR' 20-YEAR BOOK — address Lone Star Cement Corporation, 342 Madison Avenue, New York 17, N. Y.

\*Reg. U. S. Pat. Off.

### 'INCOR' 20-YEAR PERFORMANCE ADDS UP THIS WAY

#### HIGH EARLY SAVINGS

Highest construction efficiency . . .  
faster, smoother schedules . . . 50%  
less forms . . . fast, economical  
winter construction.

#### HIGH ULTIMATE QUALITY

Stronger, durable concrete . . .  
lowest annual cost, through years  
of maintenance-free service.

# LONE STAR CEMENT CORPORATION

Makers of LONE STAR CEMENT • 'INCOR' 24-HOUR CEMENT • LONE STAR AIR-ENTRAINING CEMENT • LONE STAR MASONRY CEMENT

Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS. • KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 15 MODERN MILLS, 27,000,000 BARRELS ANNUAL CAPACITY

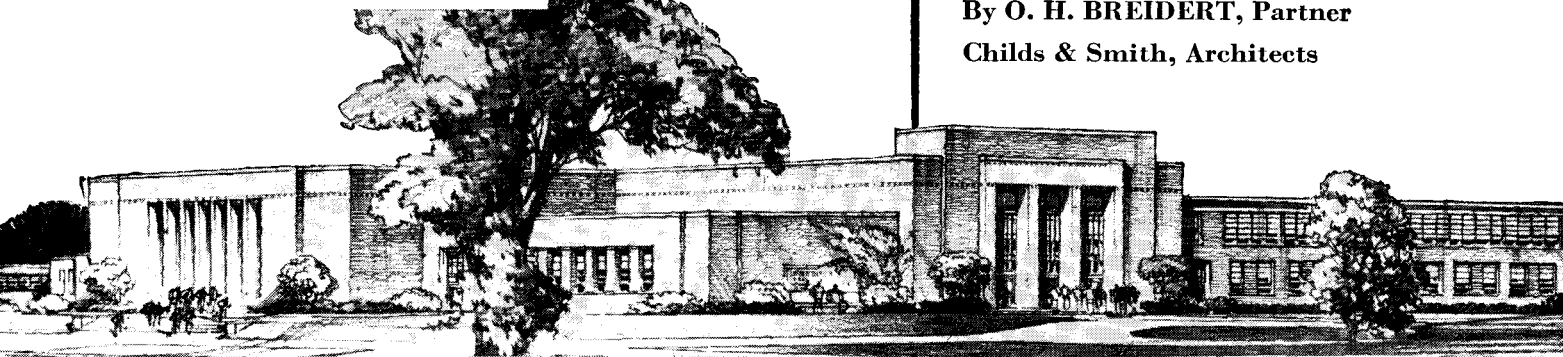
### Modern Flooring Techniques:

No. 1 of a series of articles on the use of asphalt tile flooring prepared by leading architects and building authorities for the information of the architectural and building professions.

*The Tile-Tex Company, Inc.,  
pioneer maker of asphalt tile.*

# THE USE OF ASPHALT TILE IN MODERN SCHOOL DESIGN

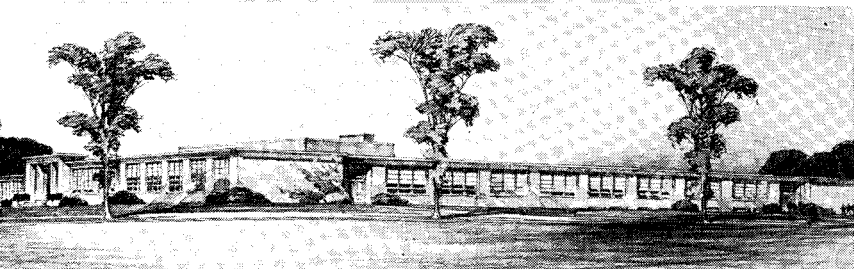
By O. H. BREIDERT, Partner  
Childs & Smith, Architects



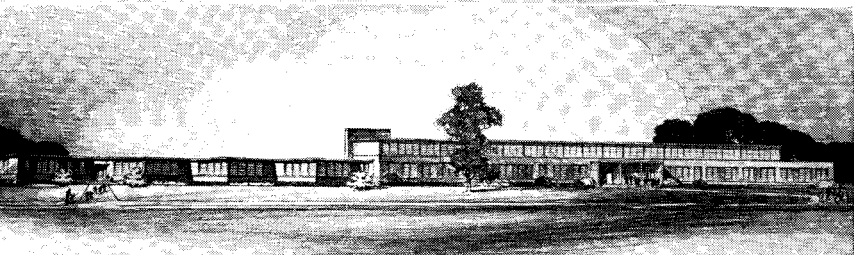
In a senior high school, as illustrated above, we find that asphalt tile floor covering and base is most practical and economical throughout *all* rooms and corridors, with the exception of the gymnasium, shower, locker and toilet rooms and industrial arts department.



Postwar school model. Asphalt tile to be used here in all except general toilet areas. Where community activities require constant use of the combination gymnasium-auditorium, an asphalt tile floor is recommended.



Our plans for a junior high school call for asphalt tile in all rooms and areas except the gymnasium and general toilet and locker rooms where ceramic or terrazzo floors will be specified.



In elementary buildings (kindergarten through sixth grade) asphalt tile can be used throughout all rooms with the exception of general toilet rooms, where ceramic or terrazzo floors are recommended.

*The architectural firm of Childs & Smith, Chicago, Illinois, has been in constant touch with problems of school design for 35 years. Its current school work consists, in part, of elementary, vocational, junior and senior high schools and junior colleges plus other special school buildings for these and other communities: Hinsdale, Ill., Shelbyville, Ill., Watsika, Ill., Wilmette, Ill., Kankakee, Ill., Flossmoor, Ill., Cedar Rapids Iowa, Clinton, Iowa and Wisconsin Rapids, Wis.,*

**I**N A continuous practice of architecture over a period of 35 years, we have found that a floor and base of asphalt tile is the most practical and economical type of floor covering for new educational buildings both from the standpoint of initial *and* maintenance costs.

Asphalt tile floors, if properly cleaned, waxed and buffed after installation, require a minimum amount of maintenance throughout the year to keep them clean and bright in appearance. Thorough cleaning and waxing by an efficient janitorial staff several times a year along with regular daily sweeping, will keep an asphalt tile floor in excellent condition for many years.

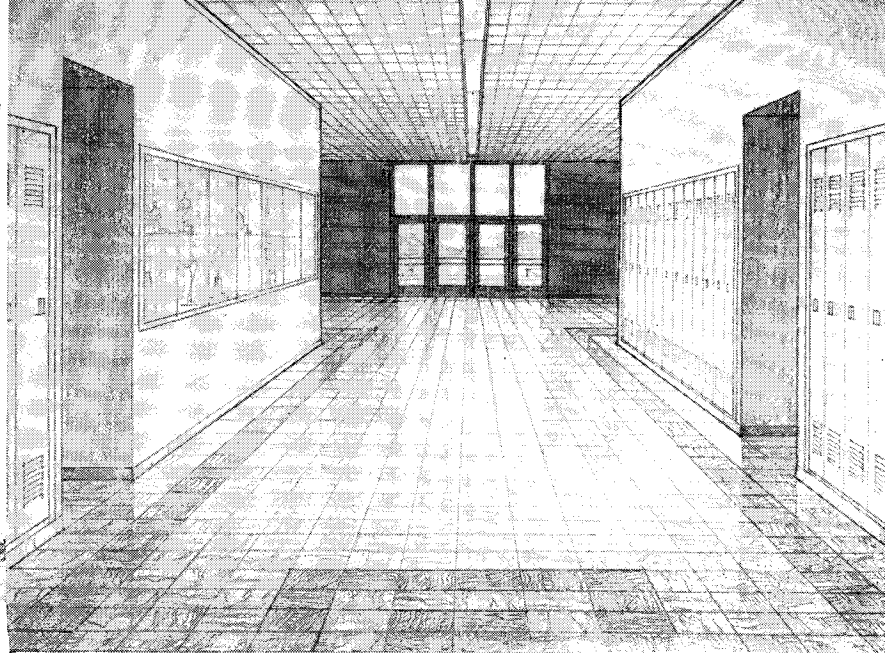
With the proper handling of design and color combinations, the architect may use asphalt tile to design school floors to fit any decorative requirement. Asphalt tile can be obtained in a variety of colors and sizes. This makes it possible to use simple designs employing one marbled color throughout the classroom or more complex decorative design in entrance lobbies, foyers, corridors and special rooms.

Asphalt tile is the only type of resilient flooring which can be installed safely over concrete sub-floors in direct contact with the earth. Its performance is not affected by normal moisture and dampness.

### Recommended uses of Asphalt Tile in specific areas

**Corridors** • Asphalt tile is a most practical flooring for corridor and stair hall use because of its long wearing qualities. Attractive pattern and pleasing color combinations may be devised to add color and interest to these areas. Where corridors must necessarily be narrow, asphalt tile floors can be laid out to give the effect of greater width. Recommended, too, is the use of directional lines to indicate student traffic.

**Classrooms** • An asphalt tile floor laid over concrete and with a set-on base is ideal for all classrooms in elementary through junior college buildings. In the classroom sketched at right, light colored marbled tile in  $\frac{1}{8}$  inch thickness in standard 9 x 9 or 12 x 12 inch sizes is indicated. Light colored asphalt tile provides needed light reflection and conforms to the modern trend in classroom color schemes, namely, natural colored furniture and light wall and ceiling decoration.



A marbled floor in one color is recommended because it doesn't distract pupils and is easiest to maintain.

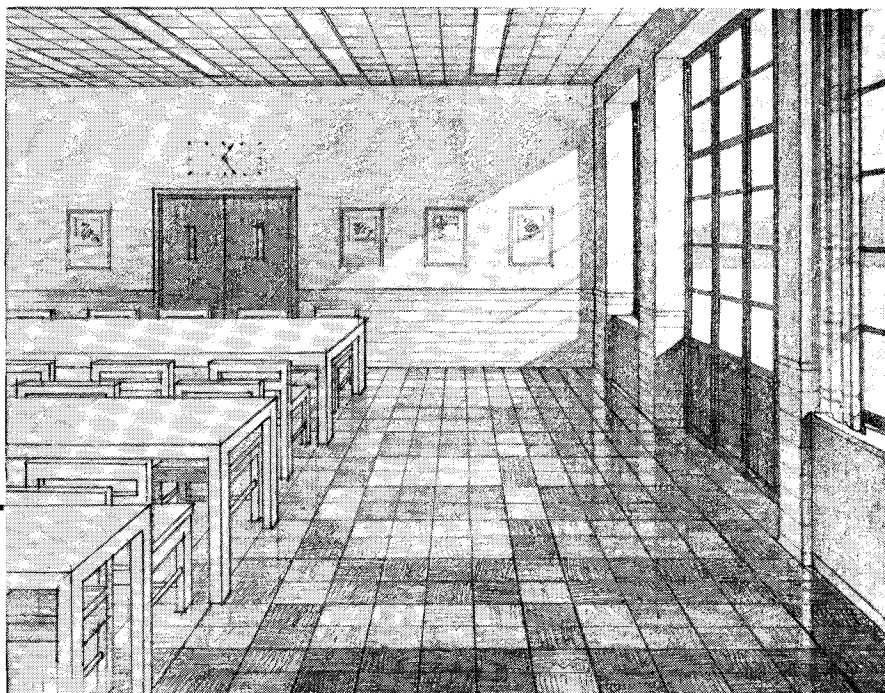
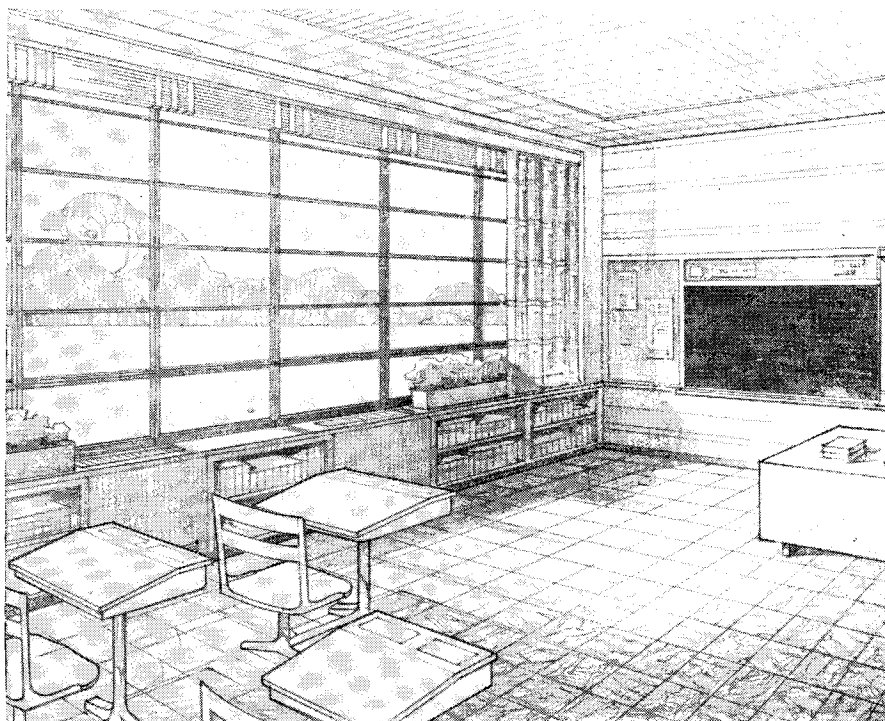
**Lunchroom, Cafeteria and Kitchen** • A greaseproof 3/16 inch asphalt tile is advised for all food serving or dining areas. An interesting floor pattern is important because these, like all rooms under the modern school plan, should be designed for a dual function. The cafeteria dining area shown at right below can be converted quickly into a room for school parties and dancing. A properly treated asphalt tile floor is an excellent surface for dancing.

**Kindergarten or Play Rooms** • Asphalt tile floors have many advantages in elementary (kindergarten through sixth grade) schools, especially in play room areas where game and court lines are required. These lines can be set in a plain, light colored asphalt tile in a field of medium colored marbled tile, thus eliminating constant repairing and repainting of the lines. Attractive floor designs are particularly important in modern educational programs for younger children.

**Toilets and Lavatories** • Asphalt tile is an excellent floor covering for small toilet rooms and lavatories in connection with kindergarten and lower grade rooms, toilets in administration and health departments and teachers' rest rooms. For large general toilet rooms, showers and locker rooms, ceramic tile, terrazzo, art marble or marble are more practical materials.

**Renovating and Rehabilitation** • In addition to new educational structures asphalt tile is being used in the rehabilitation of existing schools to reduce floor maintenance costs—to solve the problem of floor repair economically—to provide a more comfortable floor—and to change the purpose and character of specific rooms.

*The Tile-Tex Company is proud of the role that Tile-Tex\* Asphalt Tile has played in the building of America's Schools. This quality asphalt tile flooring has been thoroughly proved in over 23 years of service in school buildings. For more information or reprints of this article, write The Tile-Tex Company, Inc. (subsidiary of The Flintkote Company), Chicago Heights, Illinois. Sales offices in Chicago, New York, Los Angeles and New Orleans.*

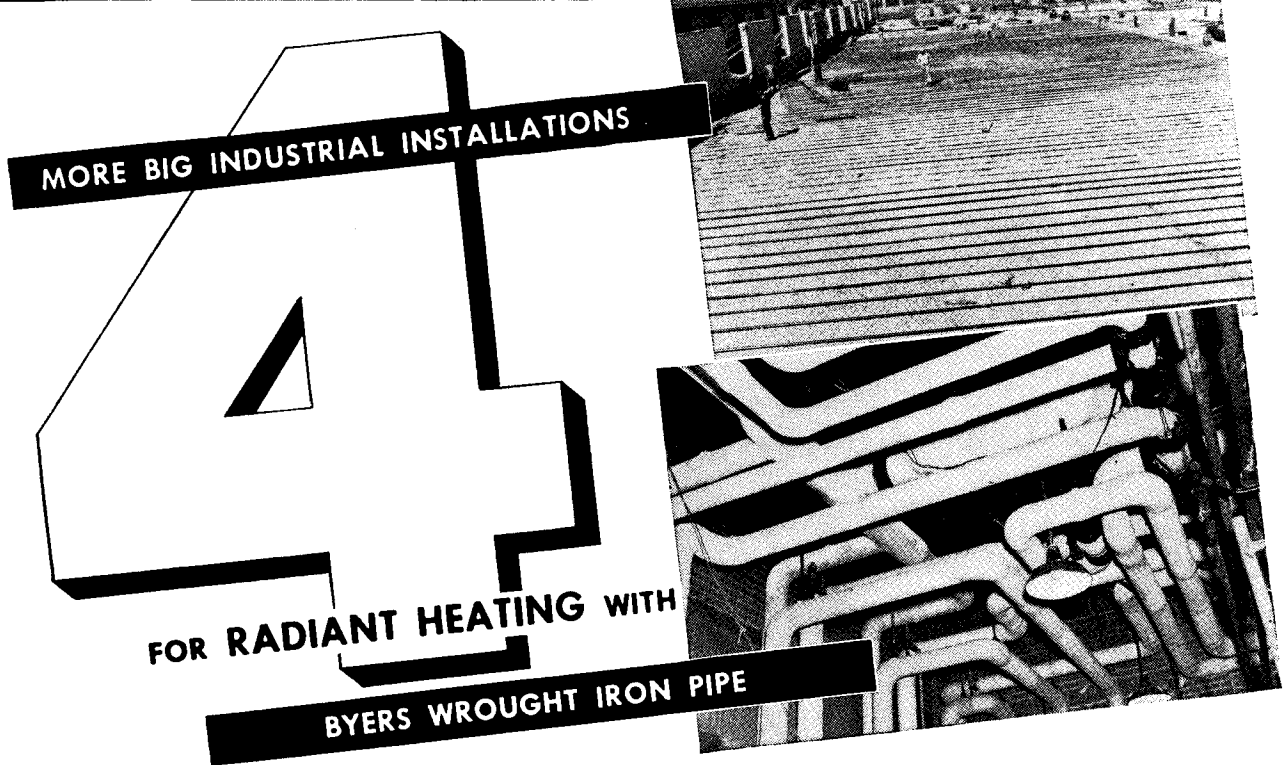
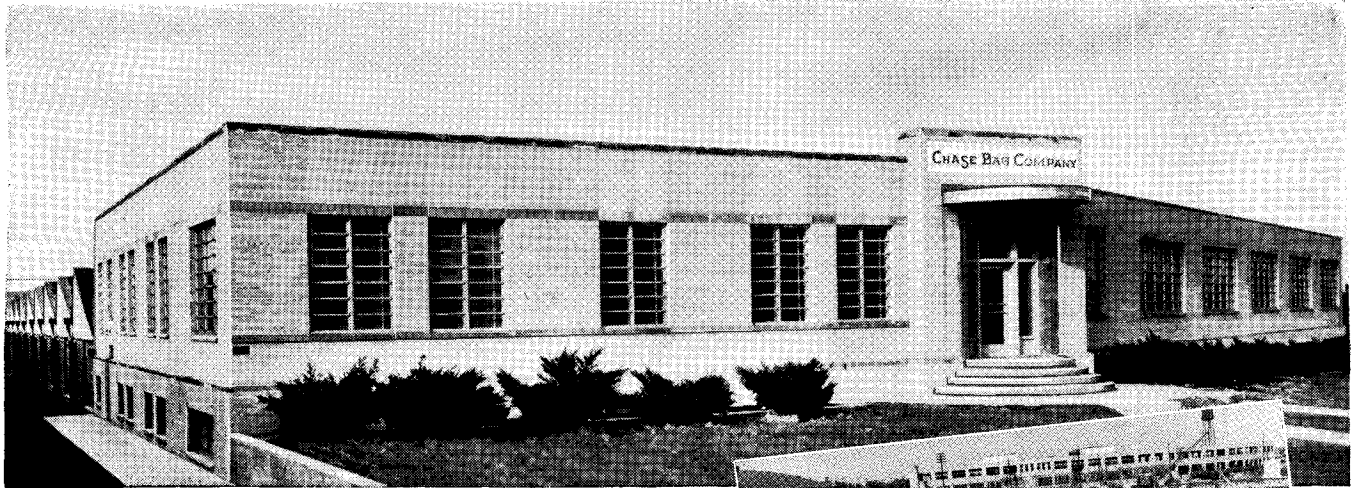


**The TILE-TEX Company**

CHICAGO HEIGHTS, ILLINOIS



\*REGISTERED TRADEMARK OF THE TILE-TEX COMPANY, INC.



The Chase Bag Company recently celebrated its 100th anniversary by completing three new factories and a factory addition. All of these modern structures have radiant heating, and more than 25 miles of Byers Wrought Iron pipe, in sizes from 1 1/4 to 5-inch, were used in the various installations for the heating coils and for auxiliary lines.

**MAXIMUM EFFICIENCY—MAXIMUM COMFORT**

The illustrations show typical design and procedure. Pipes were welded into grids for manufacturing, warehouse and garage areas, formed in sinuous coils for second floor areas. Hot water is used for heating. The building was divided into zones with individual circulators used for each. Shortly after one building was completed, out-

side temperatures dipped to 15° below. Comfort conditions within the plant were reported as "excellent."

**UNIQUE PROPERTIES**

The almost universal use of wrought iron pipe for radiant heating results from engineer recognition of its unusual advantages. It is easily formed and welded. It has high heat emission. It expands and contracts at practically identical rates with concrete, avoiding the danger of thermal cracks, and loss of bond. Finally, its superior corro-

sion resistance has been conclusively demonstrated.

**HELPFUL LITERATURE**

Our bulletin, "Byers Wrought Iron for Radiant Heating", gives complete technical information on calculation, design, and layout. Ask for a copy.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, Salt Lake City, Seattle, San Francisco. Export Division: New York, N.Y.

CORROSION COSTS YOU MORE THAN WROUGHT IRON

**BYERS**  
**GENUINE WROUGHT IRON**  
**TUBULAR AND HOT ROLLED PRODUCTS**  
 ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

# ARCHITECTURAL RECORD



Copyright 1948 with all rights reserved F. W. DODGE CORPORATION • Publishing Director, Magazine Division, H. Judd Payne • **EDITORS:** Editor-in-Chief, Kenneth Kingsley Stowell, A.I.A.; Managing Editor, Emerson Goble; Senior Associate Editor, Douglas Haskell; Associate Editors, John W. Ragsdale, Florence A. van Wyck; Western Editor, Elisabeth Kendall Thompson; Associate in South America, Edmund J. Whiting, A.I.A. • **ART DEPARTMENT:** Myron S. Hall, 3rd, Director; Frances Torbert, Assistant; Peter Piening, Consultant; Sigman Ward, Drafting • **CONSULTANTS:** Industry Relations Consultant, Thomas S. Holden; Statistical Consultant, Clyde Shute; Building Economics Consultant, Norbert Brown; Field Research Consultant, Clifford Dunneis, Jr.

Architectural Record (combined with American Architect and Architecture) is published monthly by F. W. Dodge Corporation, 10 Ferry St., Concord, N. H., with Editorial and Executive Offices at 119 West 40th Street, New York, N. Y. Western Editorial Office, 2813 Channing Way, Berkeley, Calif. Thomas S. Holden, Pres.; Howard J. Barringer Vice-Pres. and Treas.; Irving W. Hadsell, Vice-Pres.; Chauncey L. Williams, Vice-Pres.; Sanford D. Stockton, Jr., Secy.; Walter F. De Saix, Asst. Treas.; Edwin H. Freed, Asst. Treas. Member Audit Bureau of Circulation and Associated Business Papers, Inc. Architectural Record is indexed in Reader's Guide, Art Index and Industrial Arts Index. Subscription rates: United States and Possessions, Canada, Cuba, Mexico, Central and South America, and Spain, \$4.50 the year, \$7.50 for two years, \$9 for three years; elsewhere, \$6.50 the year, \$11.50 for two years, \$15 for three years. Single copy, \$1. Circulation Manager: Marshall T. Ginn. Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage. Other Dodge Services: Real Estate Record & Builders' Guide, Sweet's Files, Home Owners' Catalogs, Dodge Reports & Dodge Statistical Research Service.

**PRECEDENTS, PROTOTYPES AND PLAGIARISM . . . . . 91**  
An Editorial . . . by Kenneth K. Stowell

**JEFFERSON MEMORIAL COMPETITION WINNERS . . . . . 92**  
Saarinen, Saarinen and Associates Win \$40,000 Top Prize in Architectural Competition for Jefferson National Expansion Memorial for St. Louis Commemorating Louisiana Purchase

**A SMALL HOUSE OF IMPRESSIVE STATURE . . . . . 104**  
House for Dr. and Mrs. Alex J. Ker, Marin County, Calif. Fred Langhorst, Architect

**BUILDING TYPE STUDY NO. 136 . . . STORES . . . . . 109**

**CURRENT TRENDS IN STORE DESIGN . . . . . 109**  
By Morris Ketchum, A.I.A.

**PROJECTS**

- Lord & Taylor's Westchester Store, Starrett & Van Vleck, Architects; Raymond Loewy, Associates, Designers; George A. Fuller & Co., Builders. . . . . 111
- Bullock's Palm Springs Store, Calif. Walter Wurdeman and Welton Becket, A.I.A., Architects . . . . . 123
- Salon Lenthéric, New York City. Harrison & Abramovitz, Architects; Ruby Ross Wood, Interior Decorator; Lighting by Feder . . . . . 128
- Camera Store for Photo Art Company, Trenton, N. J. J. A. Fernandez, A.I.A., Architect . . . . . 132
- Selby Shoe Store, West Palm Beach, Fla. Igor B. Polevitzky, A.I.A., Architect . . . . . 134
- Bostonian Shoe Store, Chicago, Ill. Morris Lapidus, A.I.A., Architect . . . . . 135
- Carver's, Custom Tailors, Los Angeles, Calif. Burke & Kober, Designers . . . . . 136
- Florist's Shop, New York. Marvin J. Neivert, Architect . . . . . 138
- Lindel's Jewelry Store, Toledo. Bellman, Gillett and Richards, Architects . . . . . 139
- Irene Burke, Long Beach, Calif. Kenneth S. Wing, Architect . . . . . 140
- Guild House, Long Beach, Calif. Kenneth S. Wing, Architect . . . . . 142
- Liquor Mart, North Station, Boston, Mass. David J. Abrahams, Architect . . . . . 144

**ARCHITECTURAL ENGINEERING . . . . . Technical News and Research . . . . . 145**

**PRACTICAL ASPECTS OF THE HEAT PUMP . . . . . 145**  
By W. E. Johnson

**SANDWICH PANELS TESTED FOR THE SMALL HOUSE . . . . . 150**  
Resin treated paper cores make a stiff, strong panel for structural use

**TIME-SAVER STANDARDS . . . . . Store Lighting Practices . . . . . 152**  
Recommendations of the Store Lighting Committee, Illuminating Engineering Society

**PRODUCTS . . . . . for Better Building . . . . . 154**

**MANUFACTURERS' LITERATURE . . . . . 160**

**THE RECORD REPORTS . . . . . News from the Field . . . . . 7**

**CONSTRUCTION COST INDEXES . . . . . 26**

**AN ARCH IS AN ARCH IS  $y^2 = 2px$  (SOMETIMES) . . . . . 28**

**REQUIRED READING . . . . . 180**

**EMPLOYMENT OPPORTUNITIES . . . . . 228**

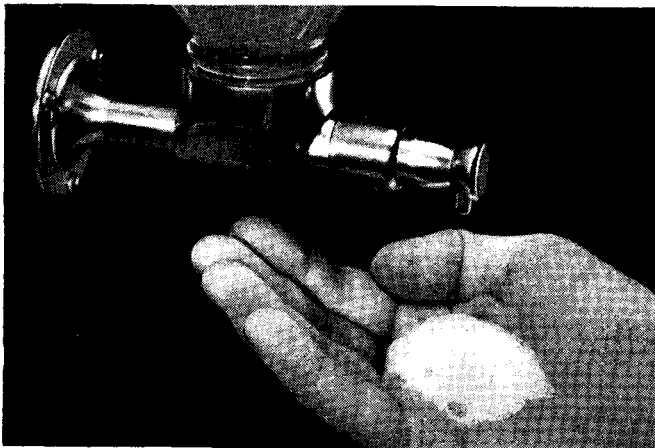
**INDEX TO ADVERTISEMENTS . . . . . 244**

# WATROUS Liquid and Lather SOAP DISPENSERS

**THE MOST COMPLETE AND ADAPTABLE  
LINE ON THE MARKET**

WATROUS has been making equipment for liquid soap systems for well over a quarter of a century. During these years there has been developed a complete array of dispensers, valves and fittings—to fit every type of service in every type of building, however large or small.

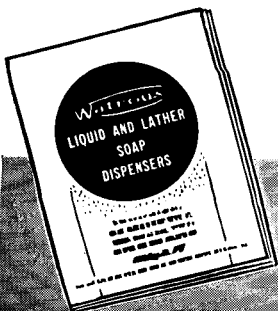
This long experience has resulted, too, in refinements of design and manufacture that set Watrous apart as the finest in soap dispensing equipment. With this recognized quality and broader line, it is no wonder Watrous has been chosen for so many of the nation's foremost buildings. You can specify Watrous soap dispensing equipment with full assurance that it will be as trouble-free and attractive as it is convenient and economical.



## Watrous LATHER Dispensers

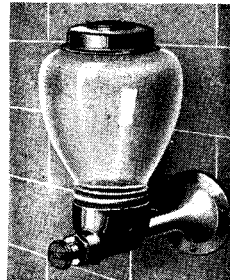
Dispense a firm, full-bodied lather of just the right consistency, using any standard liquid soap. Reduces waste to save as much as 65% on soap, yet provides even greater washing satisfaction. A special patented self-cleansing device assures against clogging. Available in wide range of individual dispensers or valves for gravity systems

**THE IMPERIAL BRASS MANUFACTURING CO.**  
1240 West Harrison Street, Chicago 7, Illinois

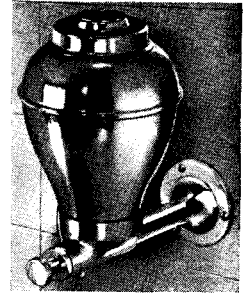


For complete information on Watrous Liquid Soap Dispensers see our catalog in Sweet's, or write for Catalog No. 470 which describes over 40 different types of dispensers.

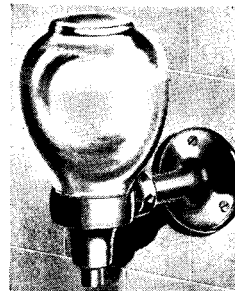
## WATROUS INDIVIDUAL WALL DISPENSERS



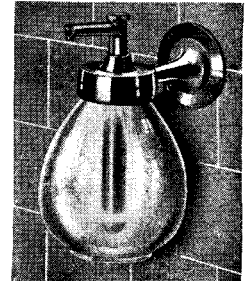
M-807 Horizontal type, glass container



M-807-MJ Horizontal type, metal container

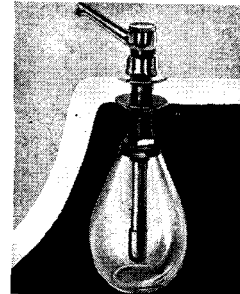


M-815 Push-up type

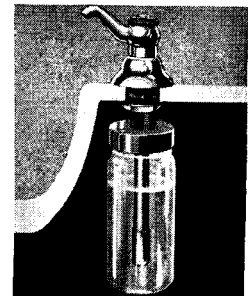


M-826 Push-down type

## WATROUS INDIVIDUAL LAVATORY DISPENSERS

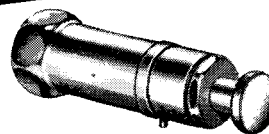


M-801 Pear shaped glass container

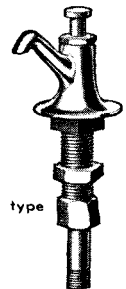


M-829 Narrow glass container

## WATROUS VALVES FOR GRAVITY SYSTEMS



C-860 Horizontal type



C-866 Push-down type

# Watrous

# SOAP DISPENSERS

# THE RECORD REPORTS

## New Housing Legislation Begins to Shape Up Construction Activity Centers Shift to West and South • Costs Are Approaching Average

Housing stir in Congress this year ranges beyond the much-noised extension of rent controls and emergency financial aids. New legislation is taking shape. While, as this is written, it is early enough to get a bird's eye view of proposals, whether enactment will actually come before adjournment is not clear.

A look at both Administration and Congressional thinking gives a good idea of what is in the wind.

Administrative thinking is effectively summed up in President Truman's recent communication to Congress in which he asks for an integrated housing program to obtain "more housing at lower cost, both in the immediate future and for the long run."

In requesting an additional \$2 billion of insurance authorization until March, 1949, he advises special emphasis on rental housing. He wants further to reduce costs, assist communities in low-ten projects, and help cities rebuild run-down areas, and recommends steps for better distribution of building materials.

Other points:

1. Yield insurance for large-scale rental projects.
2. An integrated program of building research.
3. Modernization of building codes to permit prompt use of technical advances.
4. Loan guarantees before regular mortgage loan financing is available (for on-site construction).
5. Extension of production loan guarantees for prefabrication to cover entire period from start in plant to erection on site.
6. Insurance of loans to housing cooperatives.
7. Financial aids and expanded building services for rural housing.
8. 100,000 public housing units each year for the next five years.

### Plans in Congress

On the Congressional side of the ledger, many of the Administration's ideas are duplicated, some modified, and others added. A paramount point in Congress is the establishing of a national housing policy. (House Banking Committee Chairman Wolcott's stress on this was set forth recently in the ARCHITECTURAL RECORD.) Senator McCarthy's draft bill on housing projects a

policy which would include (a) a decent home for every American family, (b) elimination of slums, (c) a stabilized building industry, (d) chief reliance on private enterprise; it specifies the types of federal assistance to be given.

In his report as vice chairman of the Joint Committee on Housing, Senator McCarthy recommends encouragement of rental housing, transfer of Veterans Administration housing functions to FHA, restricting present public housing to low-income groups (he favors separate legislation on public housing), coordination of research in HIFA, as well as work on standard building codes, enactment of a long-range slum clearance program separate from public housing and restricted to cities without cost-increasing building codes, increased salaries for housing agency heads, and more personnel for apprentice training.

The report, discussing cost reduction techniques, commends modular coordination as "perhaps the most fertile field in which to bring about lower costs in home construction." On financing, it supports aid to veterans cooperative housing ventures.

Joint Committee Chairman Gamble emphasizes the separation of slum clearance and public housing, pointing out

that slum clearance is urban redevelopment and not necessarily tied to housing.

Senator Wagner, in a study of slum clearance, reports that an overwhelming majority of governors, mayors and prominent private citizens (responding to a survey) urge the need for federal aid in housing for low-income families and endorse slum clearance.

### Price Controls Unlikely

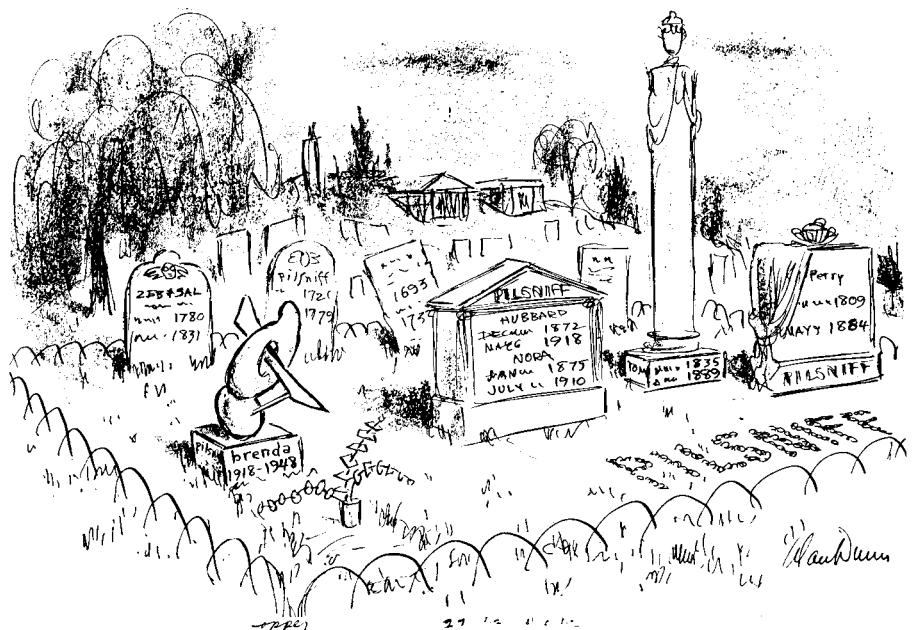
Price controls apparently are not in the cards during the present session of Congress. Any favor that may have carried over from the fall session was largely dissipated by the tumble in commodity markets. The rise in steel prices renewed control talk slightly. It brought action by President Truman, who asked the Justice Department to look into factors causing the rise in such a basic commodity. However, legislators doubt passage of a new law on prices. Export controls, on the other hand, are due to be continued.

The Justice Department, it should be noted, has been given more funds by the House to carry out its Anti-Trust Division work. The Division has various cases pending in the field of building.

### Voluntary Allocations

In carrying out the voluntary agreements program enacted by the Congress in its special session last fall, the Department of Commerce has set up an Office of Industry Cooperation with one of the seven staff members to deal with building materials. Mathias W. Niewenhaus, who will work with the building trades industry, entered government service

(Continued on page 10)



— Drawn for the RECORD by Alan Dunn

# A GREAT NEW COIL JOINS

## TRANE Announces a Major Advancement in Non-Freeze Coils

Here is a radically improved line of tube-within-a-tube coils. The steam distributing tubes in these new coils are equipped with *kinetic orifices*.

These amazing orifices feed steam faster; cause condensate to be eliminated faster. Protection against freezing is multiplied. The coils are non-stratifying. There is greater steam modulation. Coil capacity is sharply increased.

With an ordinary tube-within-a-tube coil, steam is released to the condensing tubes through a series of small, flush holes in the steam distributing tubes. In practical operation, steam from these small holes strikes the walls of the condensing tubes and mushrooms in all directions. This retards condensate flow; actually holds it up in the tubes. Result: the coil has the capacity of a *hot water coil*.

Trane's new *kinetic orifices* overcome these difficulties. Extending beyond the surface of the steam distributing tubes, they induce a jet flow of steam **IN THE SAME DIRECTION THE CONDENSATE TRAVELS**. Kinetic energy of the steam is imparted to the condensate, literally pushing it out of the coil, and *bringing live steam in rubbing contact with the condensing tubes*. Result: the great new line of Trane SD Coils

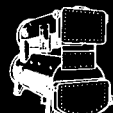
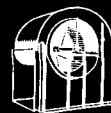
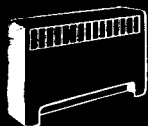
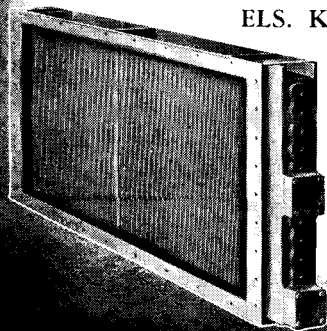
delivers **FULL STEAM CAPACITY**—a capacity increase of 15% over old types—without any increase in size, weight, or price.

We sincerely believe that the announcement of this remarkable Kinetic Orifice marks the greatest advancement in non-freeze coils since the introduction of the steam distributing tube.

The Kinetic Orifice is an example of the constant effort of Trane engineers to keep the great Trane line of heating and air conditioning equipment in the forefront of industry. So complete is this line that architect, engineer and contractor can select exactly the right combination for any application.

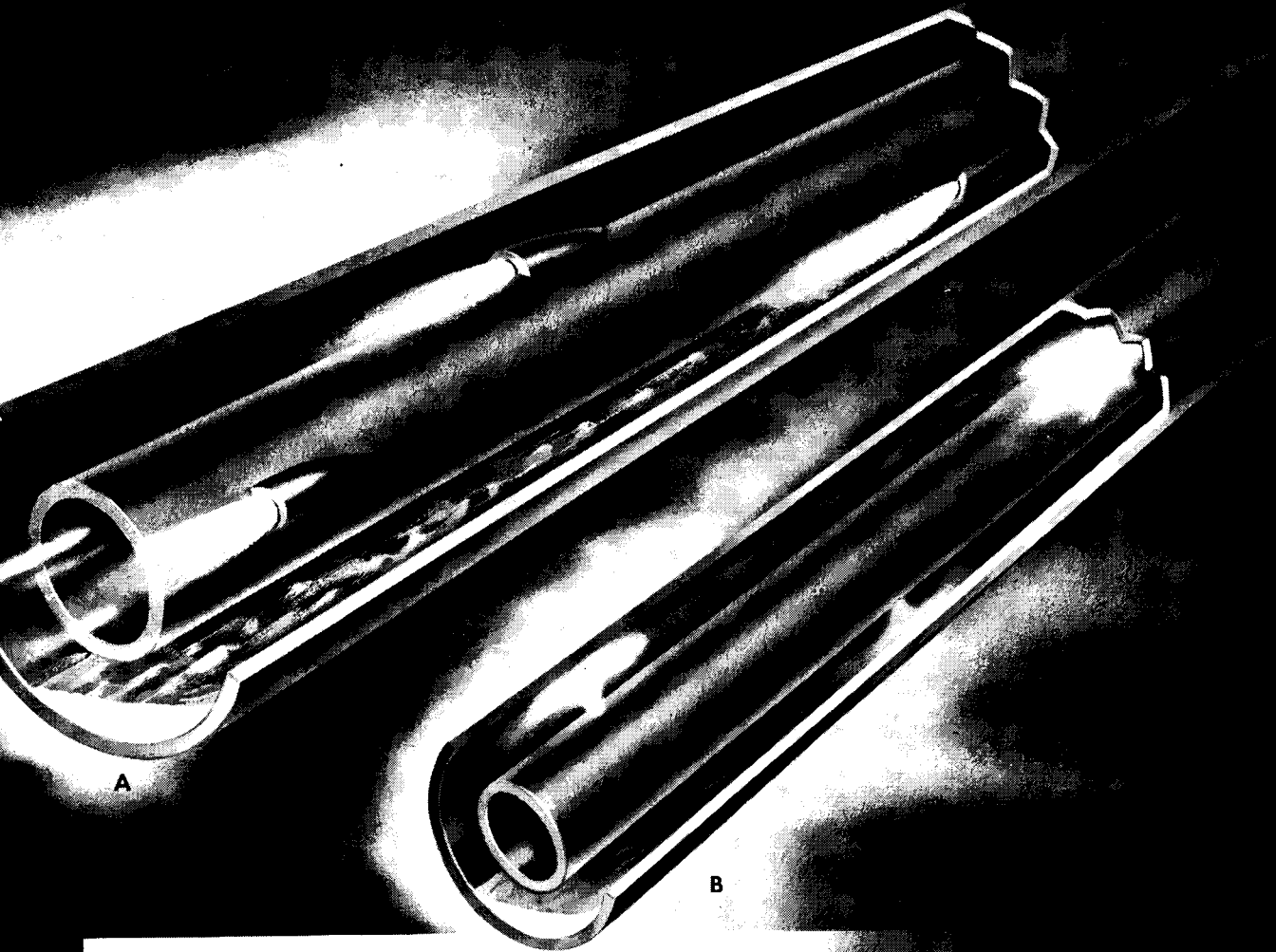
And since these products are designed together and built together for use together, a perfectly integrated, up-to-the-minute system is secured. You have a made-to-measure system; an undivided responsibility system.

You pay no price bonus for Trane products. Trane factories use modern line production, and the mass production economies are passed along to you in the form of higher quality. Over 200 Trane field engineers in 85 principal cities offer their constant co-operation. **THE TRANE COMPANY, LA CROSSE, WISCONSIN.** Also: **TRANE COMPANY OF CANADA, LTD., TORONTO, ONTARIO.**





# A GREAT LINE OF PRODUCTS

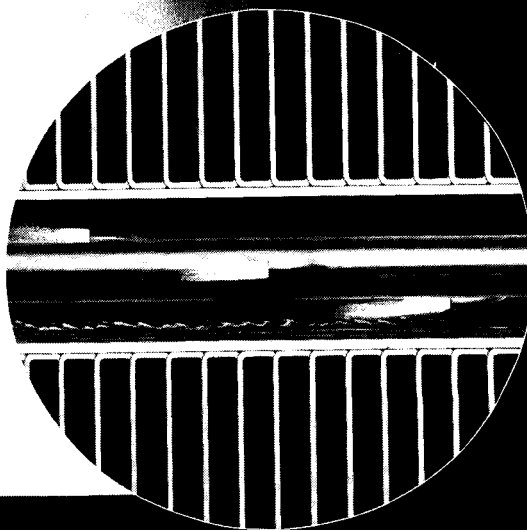


## The Trane KINETIC Orifice

**The Old Way:** Note, at "B," how steam released from flush holes in the steam distributing tube strikes the wall of the main tube and mushrooms in *all* directions. This holds back condensate; reduces coil capacity.

**The Trane Kinetic Orifice Way:** Illustration "A" shows how the Trane Kinetic Orifice is designed to release steam in the direction of condensate flow, causing positive accelerated flow. Mushrooming, stratification, freezing eliminated. Capacity increased 15% without increase in weight, size, or cost.

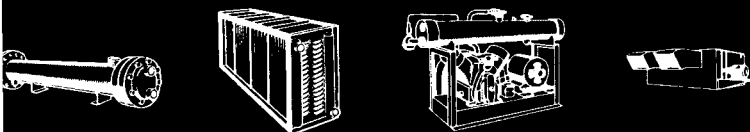
**New Trane Kinetic Orifice Coil\*:** At left is shown a typical new Trane SD Coil, designed for same-end connections. A complete line of the new SD coils is available for either same-end or opposite-end connections.



\*Patents pending

# TRANE

## HEATING AND AIR CONDITIONING



in 1940, having been associated most of his business life in building operations. He was deputy director of WPB's Lumber Division and subsequently director of CPA's Forest Products Division. Until recently he was consultant with a Massachusetts home building firm.

**To Study Panel Heating**

The Department wants Congress to provide more funds for its Bureau of Standards work on building technology. In this connection the Bureau advises that it plans to investigate the engineering features of panel heating and floor-line radiation. It hopes to determine principles to guide engineers in the design of heating equipment and arrangement of heating systems.

First phases of an investigation on new types of concrete reinforcing bars have been completed. Use of these bars, Bureau officials comment, will ultimately save approximately one-third of the steel now needed in some classes of work. In the past year, the Bureau obtained engineering data on the properties of light-weight concretes, which are finding use in building, particularly in prefabricated or partially-prefabricated construction.

**Construction Shifts**

In the years since 1939, U. S. construction has shifted its centers of activity, moving westward and southward. In the course of a detailed study, 1939-1947, staff workers of the Commerce Department's Construction Division find that some areas which gained during the war are holding or even

adding to their gains, others are resuming their prewar standing, and some which lost in the war years are regaining and exceeding their 1939 status.

By the end of the first postwar year, 1946, the East North Central states replaced the Pacific states (which had zoomed from third to first place by 1944) as the leader in construction, and the Middle Atlantic states, first in 1939, fell to third place. The Pacific states were second, although in home building they ranked first.

**South Atlantic Gains**

Almost as significant as the rise of the Pacific group, say CD's fact-finders, is the advance of the South Atlantic states to fourth position. They comment:

"Considered together with population and income changes, the South Atlantic states now offer one of the largest potentials for growth in business activity and certainly exhibit a tremendously significant change from their predominantly agricultural prewar status." In 1946, \$1300 million of construction was put in place against a billion and a half in the Middle Atlantic states which comprise New York, New Jersey and Pennsylvania.

**California Leads**

California became the leading state in construction activity after 1939 and remains so. From 1939 through 1946 it boosted its share of U.S. total construction from 10.7 to 14.2 per cent, the largest gain of any state. In the East North Central region Ohio and Michigan expanded both in construction and, like



Harris & Ewing Photo

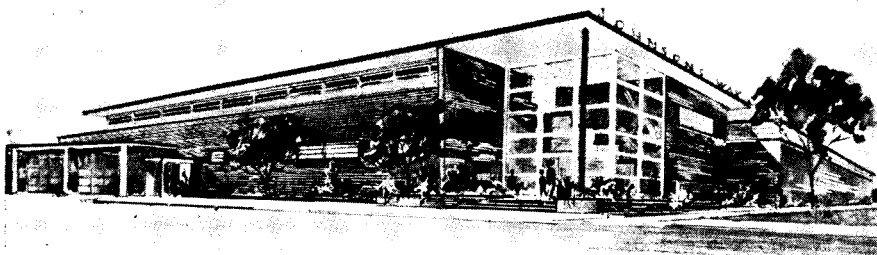
The much publicized White House balcony is now a fait accompli

California, in population. The growth pattern in Texas has been similar to that on the West Coast. Growing population and mounting vacationist business brought a construction boom in Florida in 1946, which lifted the state's share of construction from 2.2 per cent prewar to 3 per cent or nearly \$300 million in 1946.

**Costs Approach Average**

Analyzing construction costs, CD's study shows that building construction costs during the 1939-1946 period tended in each region to approach the national average. The three regions which had relatively low costs in 1939 —

(Continued on page 14)



Brick veneer and glass warehouse under construction for S. C. Johnson & Son, Inc., in Long Island City will provide 35,000 sq. ft. of office and storage space

**BUILDING NOTES**

**New Warehouse**

A new 35,000 sq. ft. office and warehouse for S. C. Johnson & Son, Inc., Racine wax manufacturers, is now under construction in Long Island City, N. Y.,

and is expected to be completed by Sept. 1st. The \$500,000 brick veneer and glass building is designed for modern material-handling equipment, will contain inside truck docks to accommodate four trucks at one time. The office section will be

fluorescent-lighted and air conditioned. Construction is under the supervision of Lockwood Green Engineers, Inc.; John Halama of the Johnson Company is associate architect.

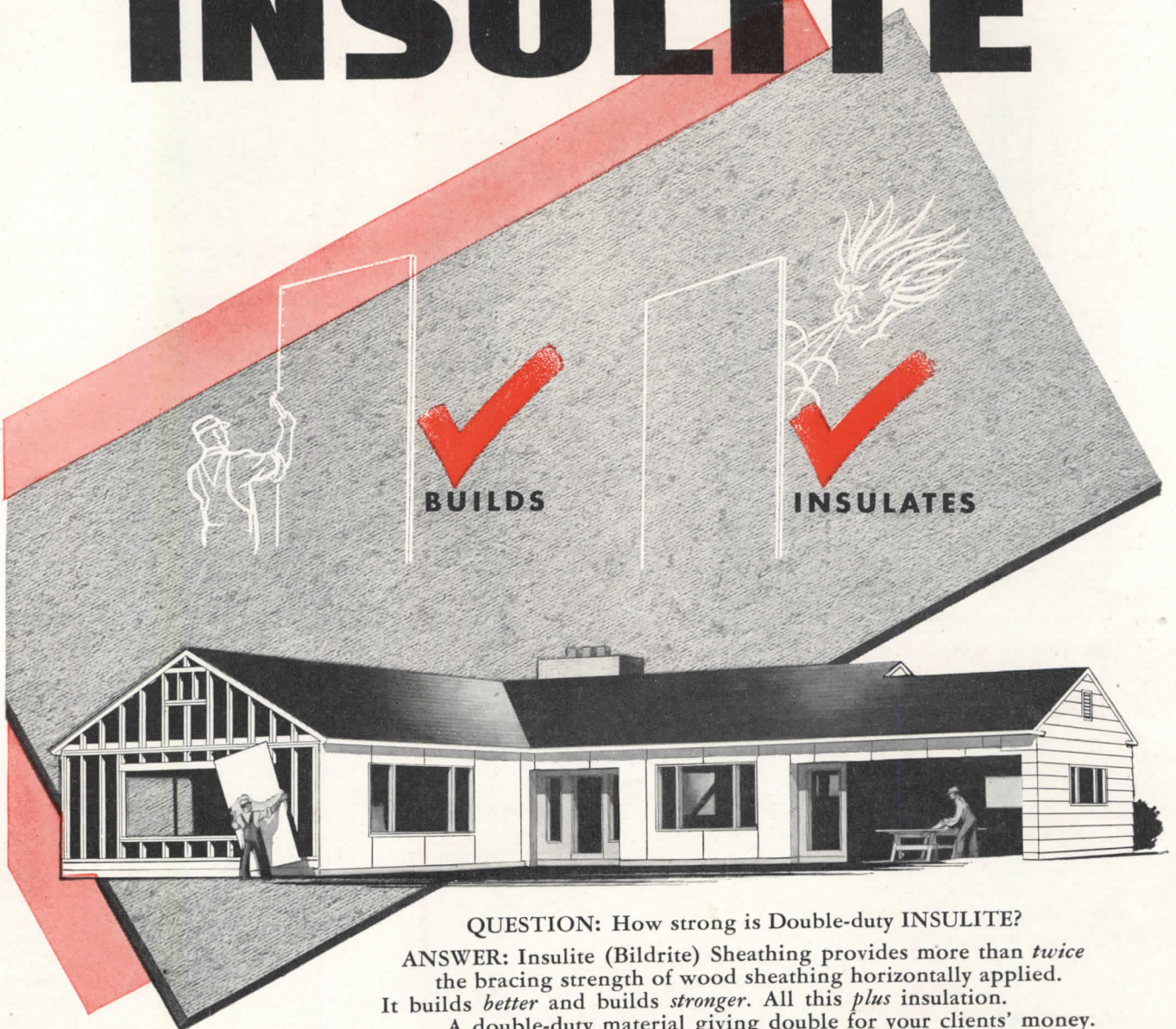
**Medical Center**

Construction of the University section of the New York University-Bellevue Medical Center in New York City will get under way by mid-summer or early fall. Edwin A. Salmon, Director of the Center, has announced.

First buildings to be started will be the Hall of Residence, the Alumni Hall, and new clinical laboratories and classrooms for the College of Medicine. All buildings will be of steel and reinforced concrete construction, with a warm-toned limestone and brick exterior. Architects for the various buildings are Skidmore, Owings & Merrill.

(Continued on page 12)

# DOUBLE DUTY INSULITE



QUESTION: How strong is Double-duty INSULITE?

ANSWER: Insulite (Bildrite) Sheathing provides more than *twice* the bracing strength of wood sheathing horizontally applied. It builds *better* and builds *stronger*. All this *plus* insulation.

A double-duty material giving double for your clients' money. Specify double-duty Insulite (Bildrite) Sheathing, Lok-Joint Lath or Interior Finish.

Refer to Sweet's File,  
Architectural Section 10 a/9

INSULATES  
BUILDS

double-duty  
**INSULITE**

*The* GENUINE

AS IT BUILDS  
AS IT INSULATES

"Insulite" is a registered  
trade mark, U.S. Pat. Off.

INSULITE DIVISION  
PAPER  
MINNEAPOLIS 2, MINNESOTA



MINNESOTA & ONTARIO  
COMPANY

# MACOMBER LONGSPANS

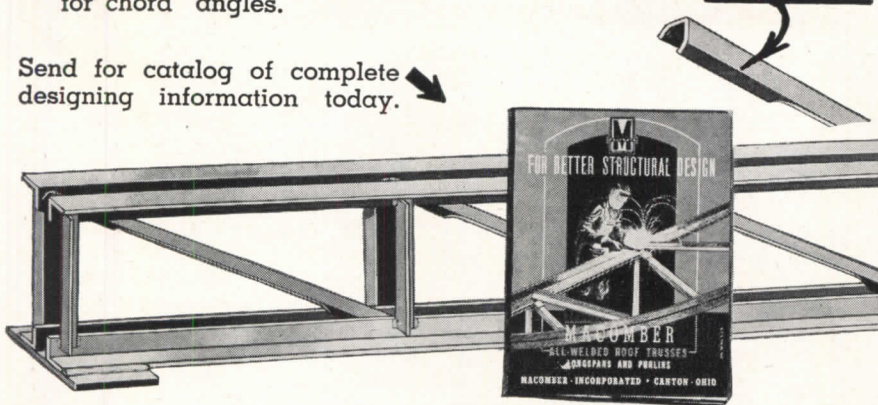


**FOR SPANS UP TO 72 FEET  
ECONOMICAL SUPPORTING  
MEMBERS FOR FLOORS  
AND ROOFS**

If you are designing or redesigning for lower costs, consider Macomber Longspans.

1. USED AS A JOIST supporting floor or roofing materials, the spacing works out to an economical design where span is over 40 feet and a flat roof is desired.
2. WHEN SUPPORTING THE LOAD DIRECT, the closer spacing of Longspans eliminates trusses and purlins.
3. SIX TYPES TO SELECT FROM give ample designing leeway and any pitch required.
4. NOTHING SPECIAL TO DESIGN—just standard catalogued items specified by number for your job.
5. EXCLUSIVE MACOMBER DESIGN! Only the Macomber Longspan has the U shaped diagonal web with its excellent welding face for chord angles.

Send for catalog of complete designing information today. →



V-BAR JOISTS AND PURLINS • V-STUDS • TRUSSES • LONGSPANS • DECKING

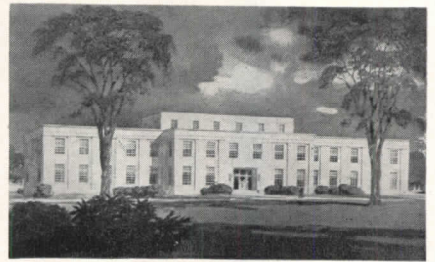


**MACOMBER**  
INCORPORATED  
CANTON, OHIO

STANDARDIZED STEEL BUILDING PRODUCTS

## THE RECORD REPORTS

(Continued from page 10)



The first of Sylvania Center's research laboratories, designed by Aymar Embury

### Physics Laboratory

The first of a series of modern research laboratories for Sylvania Center, Bay-side, N. Y., is expected to be completed by next fall. Fully equipped for scientific research in fluorescent lighting, radio, radar, television and the general electronics field, the building will cost about \$900,000. Architect is Aymar Embury.



Flexibility is the theme of new CBS television studios in midtown New York

### Television Studios

Plans for what is expected to be the nation's largest television studio plant have been announced by the Columbia Broadcasting System.

To occupy more than 700,000 cu. ft. in the Grand Central Terminal Building in midtown New York, the new studios and their associated facilities will be equipped with the most advanced television apparatus.

The studios are planned for flexibility of production allowing for either a number of moderately sized sets to permit immediate scene changing merely by switching from one camera to another, or use of large scale sets for elaborate productions.

Plant facilities will comprise two large studios with associated control rooms, scenery and construction rooms, film facilities, maintenance, wardrobe and property storage quarters, master control room, and offices for operational officials and crews.

sanitary

sanitary

sanitary



Hospitals demand the cleanliness, durability, low maintenance cost and beauty which Marble alone can give.

To keep it clean only the simplest attention is required.

Marble is a *hygienically perfect* surface.

*Information about Marble and Marble Service will be given promptly by the Marble Institute's Managing Director Romer Shawhan, R. A.*

**Marble Institute  
of America, inc.**



108 FORSTER AVENUE,  
MOUNT VERNON, N. Y.

# THANK YOU for being discriminating!

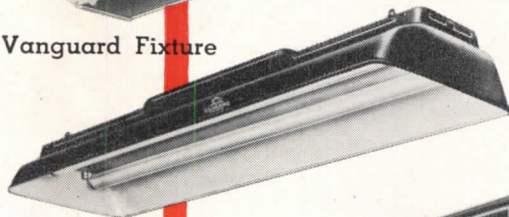
When buyers start demanding  
Quality Lighting Equipment — We're  
happy!

When they want quality Lighting  
Equipment at Economy Prices — we  
bubble over with joy! — Because  
then our business really booms!

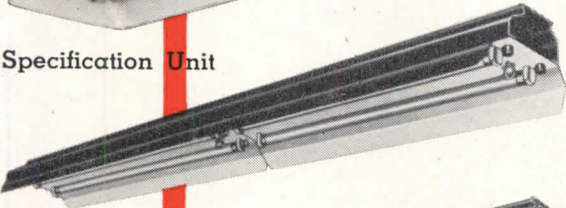
Here is some of the  
**BEST LIGHTING EQUIPMENT**  
money can buy.



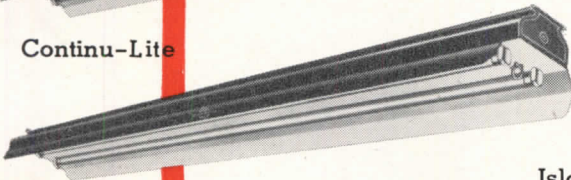
Vanguard Fixture



Specification Unit



Continu-Lite



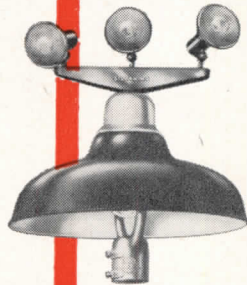
Slimline Unit



Standard Dome Reflector  
RLM Specification No. 1



Alzak Aluminum  
High Bay Mounting



Island Light with attached  
Trough and Flood Lamps

For the complete line of SILV-A-KING Flood-lighting Units, and all other Incandescent Reflectors, send for free Catalog #50.

**NEW CATALOG** →



## BRIGHT LIGHT REFLECTOR CO.

INCORPORATED

Subsidiary of BRIDGEPORT PRESSED STEEL CORPORATION

FAIRFIELD & STATE, BRIDGEPORT 5, CONN.

SALES OFFICES:

Atlanta, Ga.  
Baltimore, Md.  
Boston, Mass.  
Chicago, Ill.  
Cincinnati, Ohio  
Cleveland, Ohio

Dallas, Texas  
Denver, Colorado  
Detroit, Mich.  
Indianapolis, Ind.  
Kansas City, Mo.  
Los Angeles, Cal.  
Minneapolis, Minn.

New York, N. Y.  
Philadelphia, Pa.  
Pittsburgh, Pa.  
Portland, Ore.  
San Francisco, Cal.  
St. Louis, Mo.



## THE RECORD REPORTS

(Continued from page 10)

South Atlantic, East South Central and West South Central — remained below the average in 1946 but to a lesser degree.

No consistent relationship is found between changes in construction volume and costs. On the other hand, the point is made that costs have a more significant long-range effect on a region's economy than the slight short-run effect they may have on new construction. Costs during a period of high building activity, the analysts point out, set the level of structural capital charges for construction which must be paid in the future by the people in the area.

### Modernization Begins

Describing the construction shift westward and southward as the result of manufacturing and commercial development in the newer areas, the analysts comment that structures of some of the older states have become obsolete and modernization is getting under way with the help of public redevelopment plans. They cite the work of the Port Authority of New York, the port rehabilitation work at Boston, the great postwar highway programs of New York and Pennsylvania, and the state-sponsored public housing programs of New York, Massachusetts and Connecticut. Modern factories for light manufactures, new additions to steel plants, increased research facilities, and planned medium-residential communities will serve, they add, to improve the competitive positions of the New England and Middle Atlantic regions industrially and from the viewpoint of dwelling desirability.

### Farm Households Fewer

The nation's households are concentrating more and more in urban areas, the Census Director, J. C. Capt, advises. A sample survey reveals that in April, 1947, about 83 per cent of U.S. households was located in cities, villages and other non-farm areas compared with 80 per cent in 1940 and 78 per cent in 1930. The proportion located on farms has gone down sharply. In 1930, 22 per cent was on rural farms; in 1940, 20 per cent; and in April, 1947, about 17 per cent.

Between 1940 and 1947 the net growth of households was about 12 per cent in the Northeastern states, about 10 per cent in the North Central states, and about 25 per cent in the West. No significant change was found in the South.

The Census Director says the pattern of change in the number of households

(Continued on page 16)



Here's an attractive basement room combining design and construction features that would be welcome in any home, whether new or modernized. Best feature of all is the **ARCOLINER** Wet Base Oil Boiler, which furnishes carefree heating comfort for the whole house. With its handsome Canyon Two-Tone Red jacket, the **Arcoliner** harmonizes with any modern color scheme or remodeling plans. And because of its water insulated base, the **Arcoliner** can also be installed in first floor utility rooms.

**FIRST**

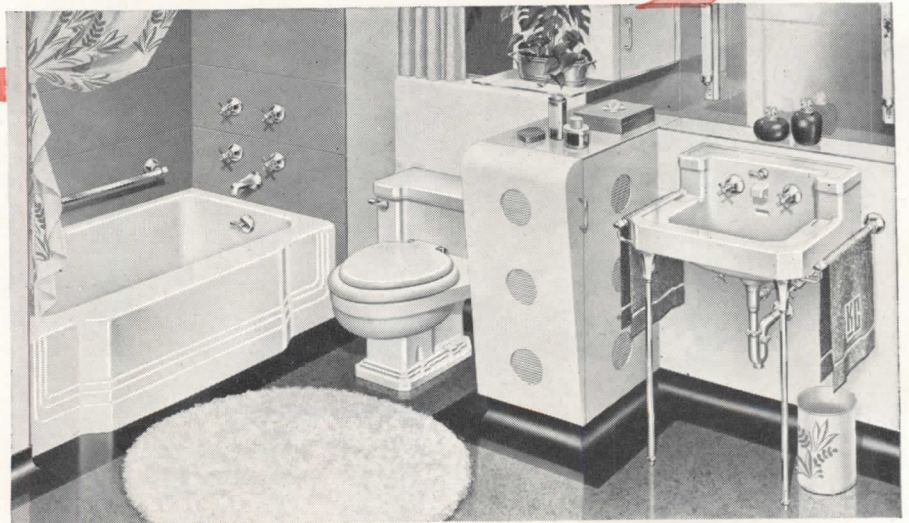
in heating and plumbing . . . because with

**AMERICAN-Standard**

beauty is more than skin deep!

■ There's more to American-Standard Heating Equipment and Plumbing Fixtures than meets the eye. Beneath the smart, trim jackets of the heating units, beneath the graceful lines and appealing colors of the plumbing fixtures, are the finest engineering and best construction that money can buy. That's why more American homes have heating and plumbing by American-Standard than by any other single company. For full information about the complete line, contact your Heating and Plumbing Contractor. **American Radiator & Standard Sanitary Corporation**, P. O. Box 1226, Pittsburgh 30, Pa.

This beautiful bathroom is complete with practical ideas and smart plumbing fixtures to make any bathroom one of the most efficient rooms in the home. The inviting **MASTER PEMBROKE** Bath with its convenient rim seat, low sides and wide, flat bottom is made in both recess and corner models and in various sizes. The **MASTER ONE-PIECE** Water Closet is of genuine vitreous china and has quiet, thorough flushing action. The square bowl, shelf back **COMPANION** Lavatory is also of genuine vitreous china. All three fixtures come in white and many attractive colors.

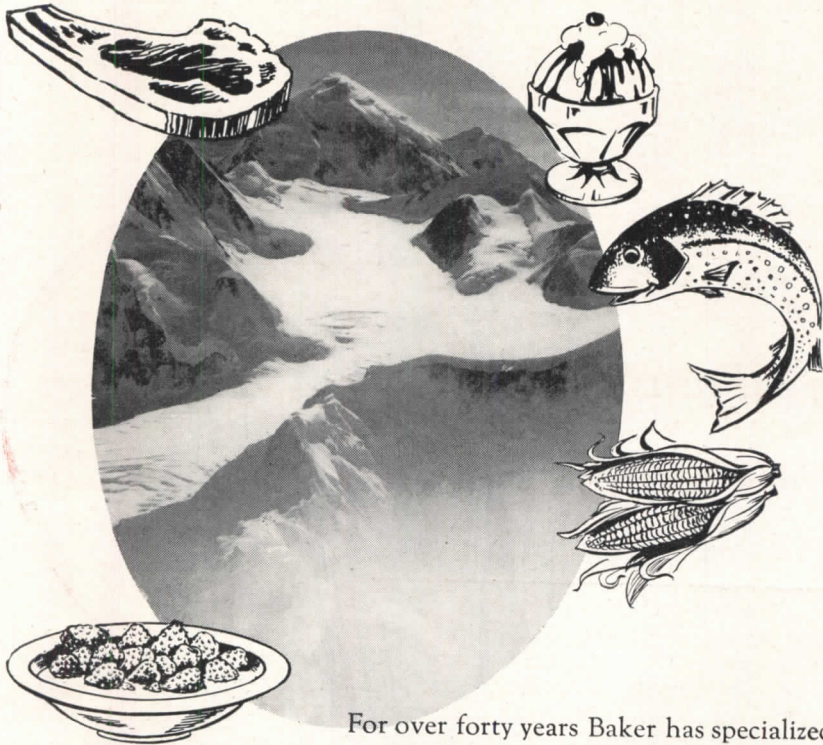


**AMERICAN-Standard**

*First in Heating and Plumbing*

**LOOK FOR THIS MARK OF MERIT**—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, for all fuels—Water Heaters—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships and Railroads.

# They took a trip to "Baker Land" to reach Main St., U.S.A.



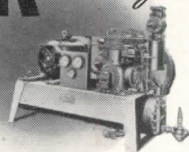
Photograph by Bradford Washburn

For over forty years Baker has specialized in the refrigeration and air conditioning equipment that serve America's food-processing industries. Today, under the magic fingers of Baker controlled cold, billions of pounds of food each year are protected on their often months-long trip to the nation's tables. In Baker's broad line you'll find a wide range of top-quality equipment for both Freon and Ammonia applications. In Baker's expert engineering, you'll find the knowledge to plan top-performance installations. Through Baker's nation-wide network of branch offices and expert distributors, you'll receive prompt service — in plans, installations, and maintenance. Consult Baker before you buy. Baker Ice Machine Co., Inc., South Windham, Maine.

D-1

## BAKER

*Zone balanced • Engineered*



**AIR CONDITIONING  
AND REFRIGERATION**

FACTORIES AT OMAHA, NEB. AND SOUTH WINDHAM, ME. • • HEADQUARTERS: SOUTH WINDHAM, ME.

## THE RECORD REPORTS

(Continued from page 14)

has been similar to the population change. In non-farm areas, however, households increased at a more rapid rate than the population and in rural-farm areas households declined less sharply than the population.

### Odds and Ends

Other construction developments:

1. Prefabricated home dealers will increase substantially in number this year, the Prefabricated Home Manufacturers' Institute reports. Companies surveyed plan to establish 700 new dealers in 1948, a 64 per cent gain over the 1100 authorized last year.

2. The Civil Aeronautics Administration is proceeding with grant offers to local sponsors for airport construction or improvement. A total of \$13,000,000 was granted in 1947 to take care of 127 projects.

3. Non-farm mortgage financing continued to rise in 1947 but at a slower pace. It reached an estimated \$11,400,000,000 — 10 per cent above 1946. Increase in the number of mortgages, however, states the Home Loan Bank Board, was only 2 per cent.

4. Over 500,000 World War II veterans bought homes of their own in 1947 with the aid of government-guaranteed loans under the G.I. Bill. Veterans Administration gives the total as 540,000 compared with 410,000 in 1946 — a total of 1,056,771 since the program started.



### ON THE CALENDAR

*Through April 16:* "The Contemporary House and Its Neighborhood," exhibition sponsored by the New Jersey Society of Architects, and the New Jersey and New York Chapters of the A.I.A., New Jersey State Museum, Trenton, N. J.

*Through April 18:* "Stage Designs for the Ballet Society, 1947-1948," an exhibition of drawings and models, The Museum of Modern Art, New York City.

*Through May 2:* "The Kings College — A History of Columbia University," exhibition of Columbia memorabilia in honor of General Eisenhower's forthcoming inauguration as President of the University, Museum of the City of New York.

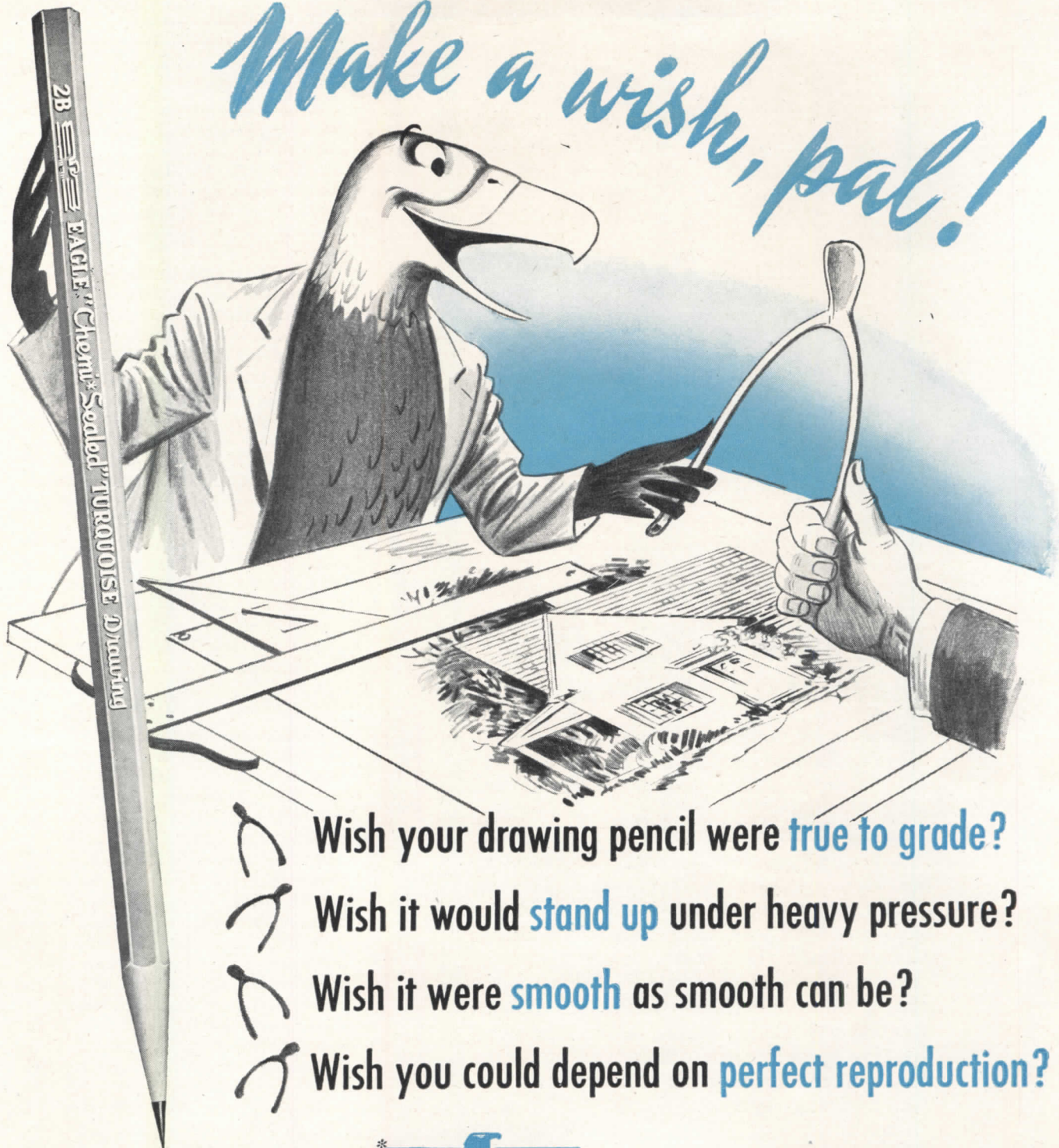
*April 7-9:* Spring Meeting, American Society of Civil Engineers, William Penn Hotel, Pittsburgh, Pa.





*April 7-14:* San Francisco National Home Show, sponsored by the San Francisco Real Estate Board and the

(Continued on page 18)



*Make a wish, pal!*



-  Wish your drawing pencil were **true to grade**?
-  Wish it would **stand up** under heavy pressure?
-  Wish it were **smooth** as smooth can be?
-  Wish you could depend on **perfect reproduction**?



Try an



"CHEMI-SEALED"

(SUPER BONDED)

**TURQUOISE**

*and make your wish come true!*

EAGLE PENCIL COMPANY, 703 E. 13th ST., NEW YORK 9, N. Y.

EAGLE PENCIL COMPANY OF CANADA, LTD., TORONTO

Wish you had a sample?

Ernest Eagle will be glad to send you a Turquoise absolutely free, in any grade you want. When you write, please mention this publication and your regular dealer.

\*REG. U. S. PAT. OFF.

## THE RECORD REPORTS

(Continued from page 16)

Associated Home Builders of San Francisco, Inc., Civic Auditorium, San Francisco, Calif.

April 11–May 9: "Modern Living" exposition featuring a \$7500 two-bedroom house, New York Museum of Science & Industry, RCA Building, Rockefeller Center, New York City.

April 13–16: 18th Annual Safety Convention and Exposition of the Greater New York Safety Council, Hotel Pennsylvania, New York City.

May 2–15: Combined Arts Festival, featuring the Gimbel Pennsylvania Art Collection and an exhibition of about 50 drawings by George Biddle, Pennsylvania State College, State College, Pa.

May 20–21: Annual Spring Meeting of The Society of the Plastics Industry, featuring merchandising, technical and business sessions, Atlantic City, N. J.

June 12–22: Construction Industries Home and Building Exposition of Southern California, Pan-Pacific Auditorium, Los Angeles, Calif.

June 21–25: 51st Annual Meeting, American Society for Testing Materials, Detroit, Mich.

### ARCHITECTS' REGISTER

The first accredited listing of practicing New York architects has been compiled in a yearbook and register issued by the New York Chapter, A.I.A.

The 100-page manual, indexed for quick reference, lists alphabetically by firm name members of the A.I.A. who are in active practice in New York and also gives the types of architectural work executed by the firm or its members.

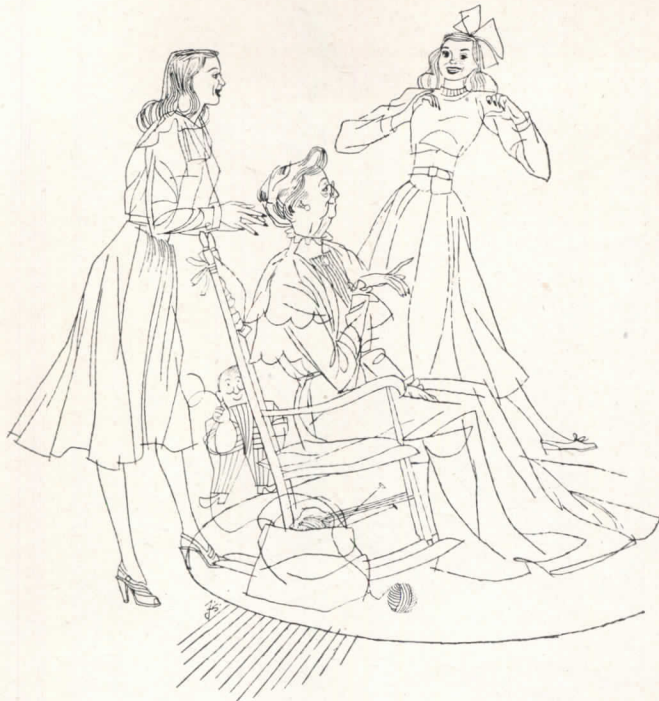
Included under the architect's name is a listing of the awards and honors he has received, his education, scholarships, employment record and experience in practice, as well as the states in which he is registered. A special section gives recognition to winners of architectural awards and honors.

Copies of the register may be obtained from the New York Chapter, The American Institute of Architects, 115 E. 40th St., New York 16, N. Y., for \$5.00 each.

### AT THE COLLEGES New Schools

Columbia University has established a School of Dramatic Arts and a School of Painting and Sculpture which will be combined with the School of Architecture and the Department of Music to form the Columbia University Arts Center. The newly created schools will accept students next September and plans are being made for the location of the Arts Center building which will in-

(Continued on page 162)



## ROOMS WITH *Oak Floors* HAVE STYLE ADAPTABILITY

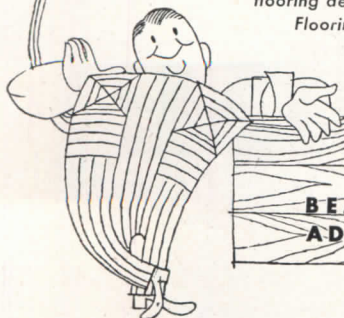
With most of your clients, oak flooring will always be the first choice for new homes because of its inherent natural beauty, durability and lasting economy.

But, as you know, many people want changes . . . new rugs, drapes, wallpaper, paint and furniture. Here, too, oak is recommended because, with its warmth and charm, oak flooring complements the beauty of these new surroundings whatever their style or color.

For wall-to-wall carpet, oak floors offer a smooth, firm—yet resilient—base which protects carpeting and makes cleaning easier. And when carpeting wears out, or owners tire of it, the permanent beauty of oak is always there.

So, for long-time adaptability, start with oak floors.

ASK FOR ARCHITECTS' DATA BOOK—which gives quick and usable information for specifying, laying, finishing and maintaining oak floors. Available from your local oak flooring dealers or from the National Oak Flooring Manufacturers' Association, 814 Sterick Building, Memphis, Tenn.



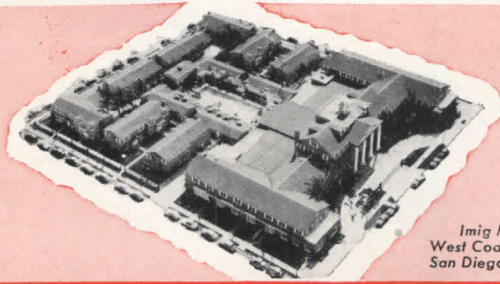
## OAK FLOORS

BEAUTY • DURABILITY  
ADAPTABILITY • ECONOMY

Another famous show place  
SELECTS

**Duran**

ALL PLASTIC UPHOLSTERY



Imig Manor, famed West Coast showplace, San Diego, California.



Eggshell DURAN on chairs and Blue DURAN on walls and door.

**COLORFUL**—luxury emphasis to complement fine planning—smart decorator styled shades —pale pastels or rich, deep colors.

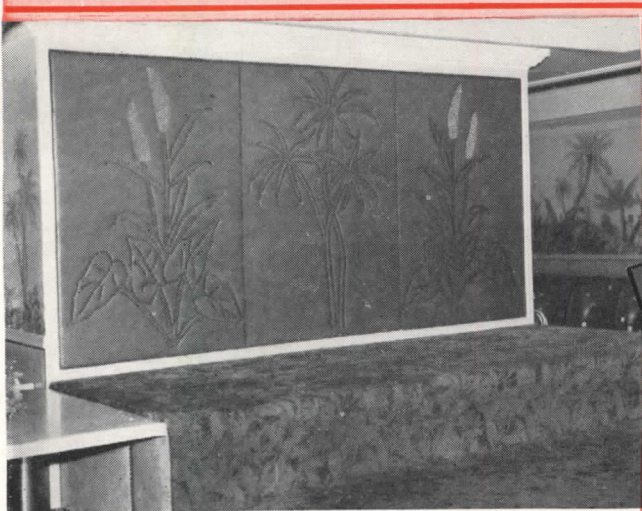
**VERSATILE**—pliant, readily tailored on furniture of all types—tufted walls, doors, stools, booths and panelling.

**LONG WEARING AND WASHABLE**—resists wear, scuffing and fading—easily cleaned —a damp cloth removes most dirt—perspiration, grease and alcohol.

For years of service—lasting client satisfaction—specify nationally advertised DURAN all-plastic—will not peel—an exclusive Masland creation. Samples on request.

Brass nails on Coral DURAN form this attractive panel design. Beige DURAN in lower left corner.

THE MASLAND DURALEATHER COMPANY • 3236-90 AMBER STREET, PHILADELPHIA 34, PA.



masland



Tough and resilient

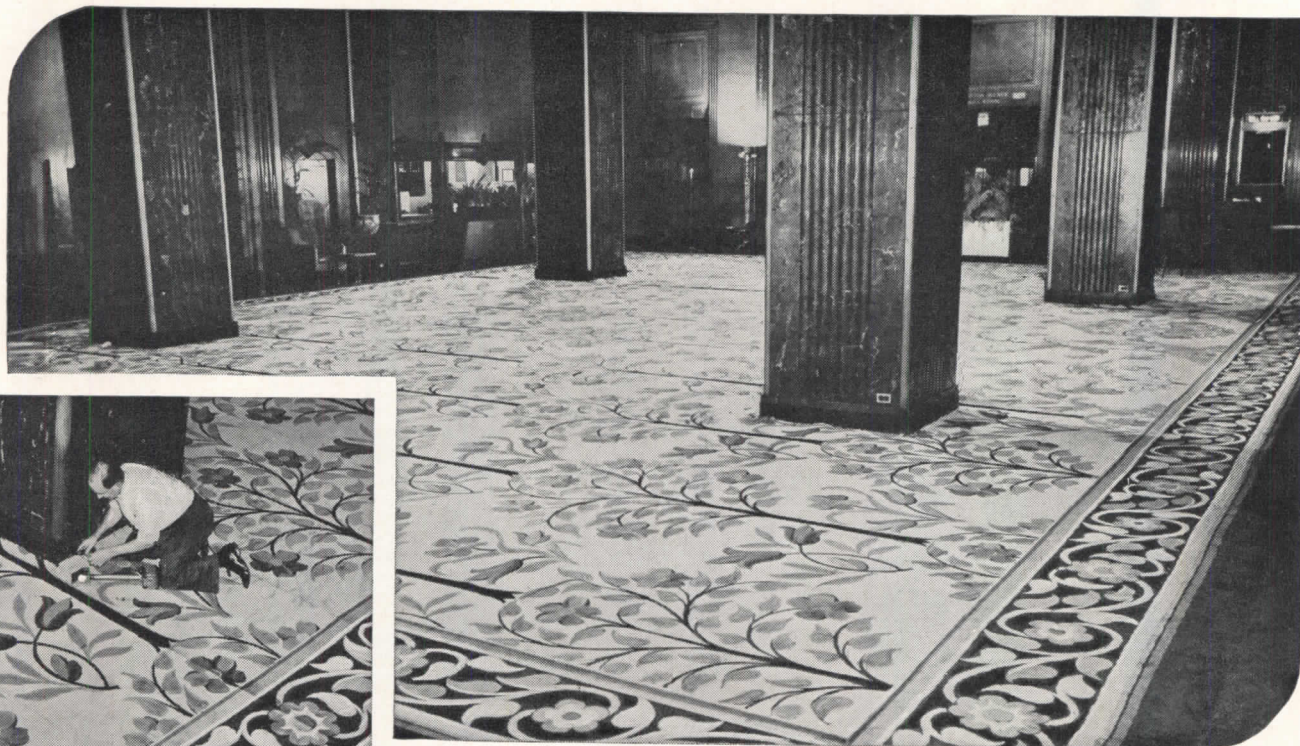


Resists damage from spills —easily cleaned



Fire-resistant—no flaming

Special to the **Waldorf!**  
*Bigelow's 48' x 69' Rug!*



Special to You!

The Same Custom Service for Your Problems!

**Breath-taking in size**—breath-taking in beauty! That's the specially designed and woven Bigelow Rug masterpiece you see above, in New York's famed Waldorf-Astoria Hotel!

Our designers planned it around the World Tree motif—to harmonize with the Scandinavian inspired décor. Our weavers loomed it—the largest rug ever produced by Bigelow—to cover *over 3300 square feet* of the Waldorf's main lobby!

Perhaps this is the most *unusual* assignment ever filled by Bigelow craftsmen. But the Bigelow *service*—

specialized, custom planning by the Bigelow Carpet Counsel—is *entirely usual*.

If *you* have a problem—bring it to our Carpet Counsel. We offer the most complete and efficient service there is.

**Let our Carpet Counsel** experts help you get the most value from every carpeting dollar. Advice on colors and designs. Timesaving recommendations of carpets suited to your problems of beauty and wear. Supervision right through to the final installation. One of our 26 Carpet Counsel offices is near you—waiting to help. Call them in!



Bigelow rugs and carpets

*Beauty you can see . . . quality you can trust . . . since 1825*

# PRACTICAL BUILDER

OFFERS **\$2500<sup>00</sup>** IN Prizes

## FOR THE BEST IDEAS FOR THE "TRUE ECONOMY HOUSE"

Designs to embody the best ideas for the economical utilization of materials and methods—to achieve lower costs at no sacrifice in quality.

### PURPOSE OF THE CONTEST:

To stimulate thinking and action in the direction of providing America with quality home construction and design at the lowest possible cost. The editors of PRACTICAL BUILDER believe that the building industry has the tools, materials and ingenuity to meet the great need for an "Economy House"—a good, substantial home priced to fit the average local weekly paycheck.

We believe that no new inventions are necessary—that the problem can be solved without any revolutionary manufacturing or building techniques. We think a new approach to the design problem, with new ideas, based on materials and equipment now available, plus the utilization of economies inherent in modern materials and techniques can produce the true "Economy House."

But, the benefits will not stop here. Inevitably these ideas and economies will find their way into higher priced homes, also.

Ideas submitted must embody sound construction and employ practical methods. They need not be in accord with any building code, FHA restrictions or labor practices. The ideas probably will not be in use today, even though the materials are. The house submitted may be "minimum" but cost reductions should not be achieved by omitting essential features or merely reducing the size.

The rewards to the winners are more than monetary. There is national recognition for the winners, with national publicity. There is personal glory and pride of achievement which cannot be measured in dollars.

### LIST OF PRIZES

A total of \$2,500 will be awarded by PRACTICAL BUILDER on the following basis:

First Prize . . . . .	\$1,000.00
Second Prize . . . . .	500.00
Third Prize . . . . .	250.00
Fourth Prize . . . . .	150.00
Next Two Prizes, Each . . . . .	125.00
Next Three Prizes, Each . . . . .	100.00
Tenth Prize . . . . .	10.00

In case of a tie, duplicate awards will be made.

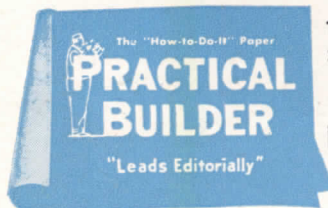
### RULES OF THE CONTEST

1. This competition will continue until midnight, September 15, 1948.
2. The competition is open to anyone in the building industry except employees of Industrial Publications, Inc., publishers of PRACTICAL BUILDER, members of the PB Staff, and members of their families.
3. Entries must be submitted in the form of outline house plans with construction details, where necessary, of the important contributions to cost savings. You need not submit an idea for a wholly new kind of house, but the idea you do submit should be incorporated in a definite house design.  
Entries should be accompanied by an explanation of the idea or ideas submitted telling also why and how you think it will result in cost savings not to exceed 500 words.
4. While drawings, sketches and descriptive material need not be in

- finished form, they must be in such condition as to convey the ideas clearly and quickly.
5. All entries must be postmarked not later than midnight, September 15, 1948. Entries to be returned must be clearly so marked and accompanied by sufficient postage to defray costs.
6. The decision of the judges is final. Awards will be made upon official announcement of the winners in the December, 1948, issue of PRACTICAL BUILDER.
7. In case of a tie, duplicate awards will be made.
8. All winning entries become the property of PRACTICAL BUILDER.
9. PRACTICAL BUILDER reserves the right to purchase at regular rates for publication any entries which do not win an award.
10. PRACTICAL BUILDER reserves the right to use any of the entries in any news releases, announcements or promotional work it chooses, giving proper credit to the contestants who submitted that idea.

### TO ADVERTISERS AND AGENCIES

Any person, manufacturer, or advertising agency whose client sells to the building field, has a big stake in the ultimate value of this contest. Talk up the contest—tell your friends in the industry about it—show them this announcement.



The HOW-TO-DO-IT Magazine  
Serving the Building Industry

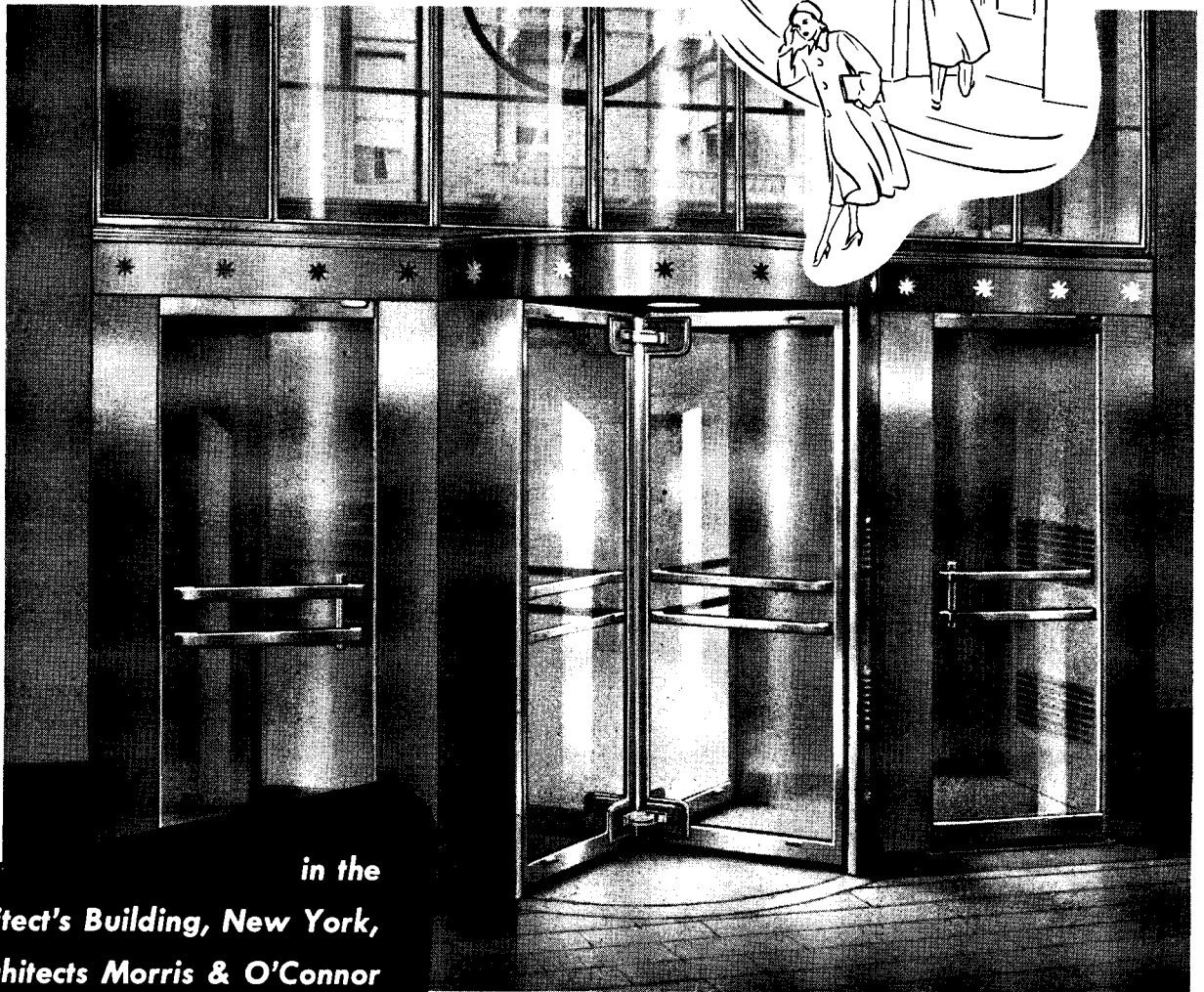
**PRACTICAL BUILDER**  
5. South Wabash Ave.  
CHICAGO 3, ILL.

### JUDGES OF THE CONTEST

The following nationally-known leaders in the building industry will serve on the Jury of Awards.

- |   |   |
|---|---|
| HENRY K. HOLSMAN<br>Holsman & Holsman & Klekamp,<br>architects<br>Chicago           | NICHOLAS F. MOLNAR, builder<br>Cleveland<br>Ohio                                  |
| WM. H. SCHEICK, Director<br>Small Homes Council<br>University of Illinois<br>Urbana | DAVID S. MILLER, President<br>Producers' Council<br>Washington, D. C.             |
| LAURANCE H. MILLS, President<br>Mills & Sons, Inc., builders<br>Chicago             | MRS. MAXINE LIVINGSTON<br>Family Home Editor<br>Parents Magazine<br>New York City |

*On windy spring days . . . nothing stops  
entrance drafts like a revolving door . . .*



*in the  
Architect's Building, New York,  
Architects Morris & O'Connor  
made draft control easy by  
using Revolving Doors!*

The Architects Building, 101 Park Ave., rises in majestic beauty 22 stories above New York's bustling business district. Soon after its completion, drafts through the entrances became a serious problem. If the swing doors were replaced, Architects Morris & O'Connor wanted to know, would revolving doors control the drafts? Would they handle the big traffic volume safely and smoothly? Would they improve lobby conditions? They would and they did! Now serving this busy business center are two revolving doors by International Van Kannel. The one shown above is an all-glass special design of hollow stainless steel. This experience is in no way unusual, for in the past 20 years, over 50 per cent of all revolving doors sold have replaced swing door entrances. If yours is an entrance problem, International's engineers will be glad to cooperate in working out an economical, "sure-fire" solution.

**REVOLVING**  
**INTERNATIONAL VAN KANNEL**  
**DOORS** EVANSVILLE, IND.

DIVISION OF INTERNATIONAL STEEL CO., 1606 EDGAR ST.,

## 6 common conditions

# where **\*WOLMANIZED** PRESSURE TREATED **LUMBER**

## protects against DECAY and TERMITES



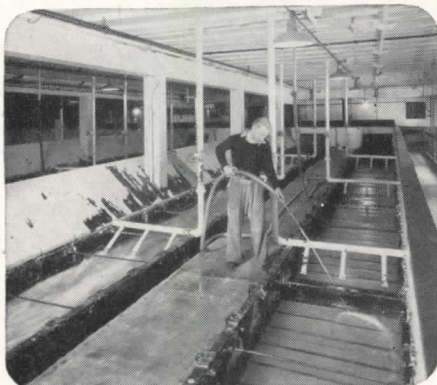
1. Wherever moisture is condensed because of concrete or masonry.



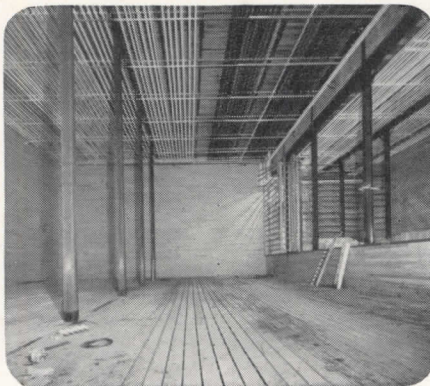
2. Ground moisture and rain held in joints, etc., of outdoor structures.



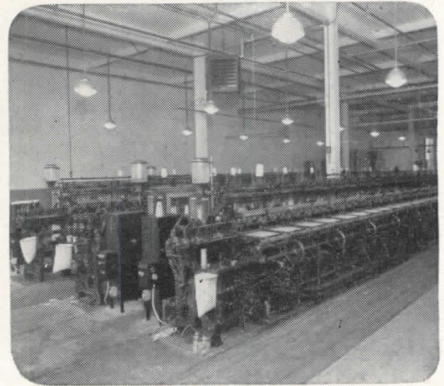
3. Wood used in or near the ground open to attack by termites.



4. Where steam and vapor from industrial processes are prevalent.



5. Walls, floors, ceilings subject to condensation from refrigeration.



6. Wood exposed to moisture in artificially humidified buildings.

## This Treatment COSTS LESS Than "Replacement-Labor"

You offer your clients genuine economy when you write "Wolmanized" pressure-treated lumber into the specifications.

When you consider its lasting protection against wood-decay and termites, this lumber's extra cost is always less than the cost of labor alone in replacing prematurely failing, untreated wood.

What's more, actual service records prove that Wolmanized pressure-treated lumber lasts 3 to 5 times as long as ordinary wood.

Wolmanized lumber is treated

with salts which are toxic to decay fungi and termites. The treated wood is clean, odorless, paintable and non-corrosive to metals. You can specify it with complete confidence that you are improving the building and offering a long-time saving, which will reflect to your advantage with a permanently satisfied client.

For full information and suggested specifications, write today to American Lumber & Treating Company.

The latest information on this proved good will builder

Complete information on Wolmanized lumber, including suggested specifications, is available in this new booklet. Write for your copy today.



\*Registered Trade Mark



Boston 9  
141 Milk Street

New York 17  
420 Lexington Ave.

Washington 5  
831 Southern Bldg.

Jacksonville 2, Fla.  
719 Graham Bldg.

Los Angeles 15  
112 West 9th St.

San Francisco 5  
604 Mission Street

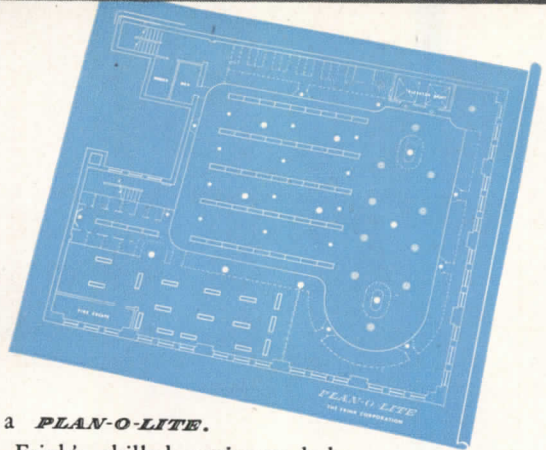
### AMERICAN LUMBER & TREATING COMPANY

General Offices: 332 South Michigan Ave., Chicago 4, Illinois



Men's Clothing Dept., Greenfield's Store, St. Louis, Mo. Five continuous rows of nine fixtures each are recessed in the 11'2" ceiling to produce approximately 40 foot candles maintained. L-I-N-O-L-I-T-E Series 17 two lamp troffers with curved Holophane Controls (17-248) were used for this installation. Architect: Meyer Loomstein.

## Ask for a FRINK *PLAN-O-LITE*



**... it guarantees lighting satisfaction.** If you are planning a lighting installation, take advantage of Frink's unique service. A Frink *PLAN-O-LITE* is an individual lighting layout *custom-engineered* to your exact requirements. Complete satisfaction is *guaranteed*, if Frink specifications are followed. There is no extra charge

for a *PLAN-O-LITE*.

Let Frink's skilled engineers help you attain maximum lighting efficiency by proper planning at the start. We will gladly send you a sample packet of *PLAN-O-LITE* layouts and photos of the resulting installations. Mail the coupon today.

### CLIP THIS TO YOUR LETTERHEAD



THE FRINK CORPORATION  
27-01 Bridge Plaza North, L. I. C., N. Y.  
Without cost or obligation, send your sample packet of *PLAN-O-LITE* fluorescent layouts and photos to the

Attention of .....

( ) also please send catalogue of new Frink fluorescent fixtures.

4-AR

There's a Frink L-I-N-O-L-I-T-E fixture correctly engineered for every commercial fluorescent lighting need. Seventeen standard designs of highest quality workmanship and materials, each available with matching incandescent down-lights if desired. Check coupon at left for your copy of the Frink catalogue today.



## THE FRINK CORPORATION

27-01 BRIDGE PLAZA NORTH, LONG ISLAND CITY, N. Y.



*Beauty* **IN THE BATHROOM THAT**

*Endures*



Sizes: 36" x 36" x 80",  
40" x 40" x 80".  
Corner cabinet.

Terrazzo receptor. White Bonderized enameled aluminum alloy cabinet. Underwriters approved lights. Chromium plated brass door. Non-clogging shower head. 6" center valves. Soap dish.

TODAY, in their bathrooms, new home owners want the luxury of modern design in shower cabinets combined with utility and real durability. Now Tiletone, and only Tiletone, offers a shower cabinet that really graces any bathroom no matter how luxurious. It is Model 75. Here is a shower cabinet that is con-

structed to hold up better—is durable. Made of aluminum alloy, it is non-rusting and is protected by a Bonderized baked enamel finish. Model 75 has a new improved terrazzo receptor—shoulder height shower head, is lighter, yet rigid . . . solid! So it's easier to handle, easier to install.

MODEL **75** **TILETONE**  
*Shower Cabinet*

TILETONE COMPANY • 2323 WAYNE AVENUE • CHICAGO 14, ILLINOIS

# CONSTRUCTION COST INDEXES — Labor and Materials

United States average 1926—1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corporation, from data compiled by E. H. Boeckh & Associates, Inc.

## NEW YORK

## ATLANTA

Period	Residential		Apts., Hotels, Office Bldgs. Brick and Concr.	Commercial and Factory Buildings		Residential		Apts., Hotels, Office Bldgs. Brick and Concr.	Commercial and Factory Buildings	
	Brick	Frame		Brick and Concr.	Brick and Steel	Brick	Frame		Brick and Concr.	Brick and Concr.
1920	136.1	136.9	123.3	123.6	122.6	122.8	122.9	108.6	109.8	105.7
1925	121.5	122.8	111.4	113.3	110.3	86.4	85.0	88.6	92.5	83.4
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9	98.5	97.5
1941	134.5	135.1	135.1	137.2	134.5	97.5	96.1	99.9	101.4	100.8
1942	139.1	140.7	137.9	139.3	137.1	102.8	102.5	104.4	104.9	105.1
1943	142.5	144.5	140.2	141.7	139.0	109.2	109.8	108.5	108.1	108.7
1944	153.1	154.3	149.6	152.6	149.6	123.2	124.5	117.3	117.2	118.2
1945	160.5	161.7	156.3	158.0	155.4	132.1	133.9	123.2	122.8	123.3
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1
Oct. 1947	228.7	231.0	218.5	217.4	213.8	186.9	191.0	165.0	163.0	165.8
Nov. 1947	229.1	231.4	219.0	217.8	214.2	187.3	191.4	165.5	163.4	166.2
Dec. 1947	231.3	234.1	219.8	218.4	215.1	189.3	194.0	166.7	164.5	169.4
Jan. 1948	238.8	242.7	225.1	224.6	220.0	191.9	196.7	168.6	166.7	171.4
	% increase over 1939					% increase over 1939				
Jan. 1948	93.4	98.2	72.2	68.3	69.0	122.6	136.6	77.2	72.1	81.0

Period	ST. LOUIS			SAN FRANCISCO						
	Brick	Frame	Brick and Steel	Brick	Frame	Brick and Steel				
1920	118.1	121.1	112.1	110.7	113.1	108.8	107.5	115.2	115.1	122.1
1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1	98.0
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1941	118.8	118.0	121.2	121.7	122.2	116.3	112.9	120.5	123.4	124.3
1942	124.5	123.3	126.9	128.6	126.9	123.6	120.1	127.5	129.3	130.8
1943	128.2	126.4	131.2	133.3	130.3	131.3	127.7	133.2	136.6	136.3
1944	138.4	138.4	135.7	136.7	136.6	139.4	137.1	139.4	142.0	142.4
1945	152.8	152.3	146.2	148.5	145.6	146.2	144.3	144.5	146.8	147.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
Oct. 1947	210.7	213.0	192.2	191.5	193.4	207.1	206.2	195.4	199.6	198.9
Nov. 1947	212.1	214.0	193.6	192.5	194.5	207.7	206.8	196.2	200.2	199.5
Dec. 1947	217.5	220.9	194.9	193.4	196.3	209.7	209.3	196.8	200.6	200.2
Jan. 1948	220.6	224.0	198.1	200.9	199.6	212.7	210.5	199.8	206.8	202.9
	% increase over 1939			% increase over 1939						
Jan. 1948	100.0	109.2	66.8	67.7	67.7	101.6	102.1	70.1	69.7	74.1

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

$$\begin{aligned} \text{index for city A} &= 110 \\ \text{index for city B} &= 95 \end{aligned}$$

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

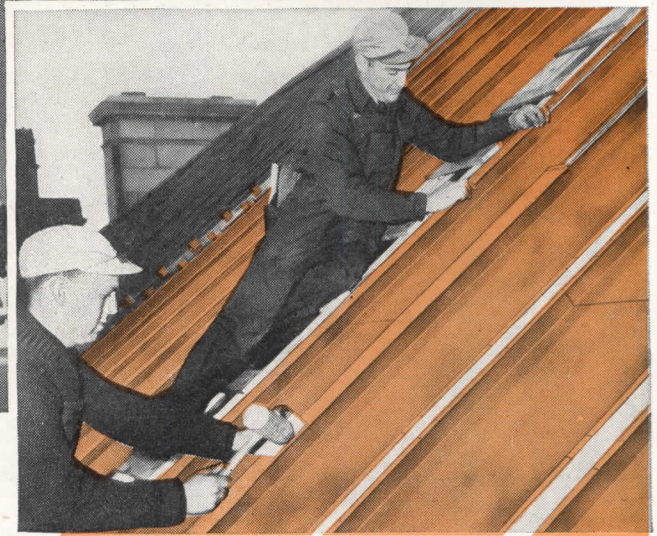
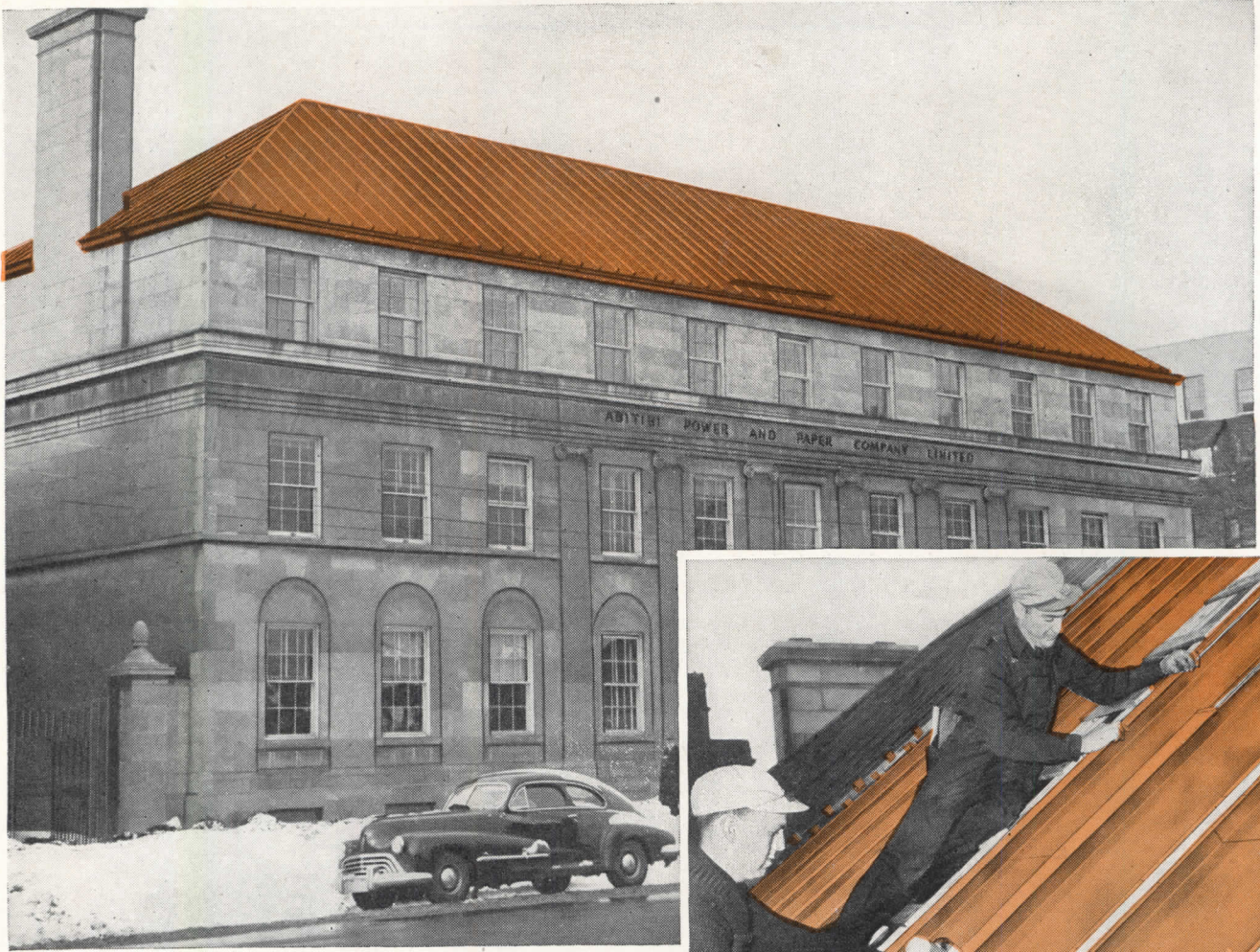
Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear whenever changes are significant.



*In Canada too...*

## THEY RAISE THE ROOF FOR MORE OFFICE SPACE

**I**N ADDING A THIRD FLOOR to its executive office building in Toronto, the Abitibi Power & Paper Company, Limited, had also to provide a new roof.

In harmony with the best traditions of Canadian architecture, Architects Marani & Morris of Toronto selected 16-oz. Anaconda Copper with batten seam construction. Gutters, valleys and cornices are of Anaconda cornice temper copper, the job requiring a total of 9,500 pounds of metal. The firm of Heather and Little, Limited, Toronto, installed all copper work.

Light-weight, corrosion-resistance, non-flammability, low maintenance... these are practical advantages of well-designed, properly installed copper roofing. Throughout the United States

and Canada, countless imposing buildings attest to the durability and desirability of sheet copper for roofing purposes.

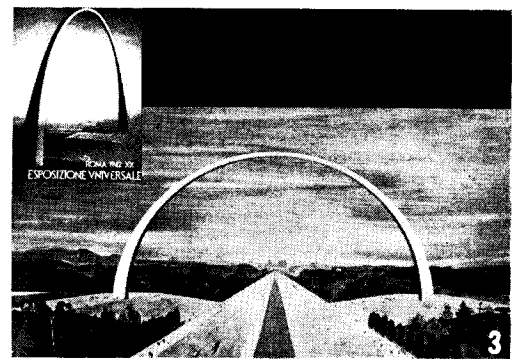
Anaconda Copper in standard weight roofing sheets is readily obtainable from leading sheet metal supply houses.

4855

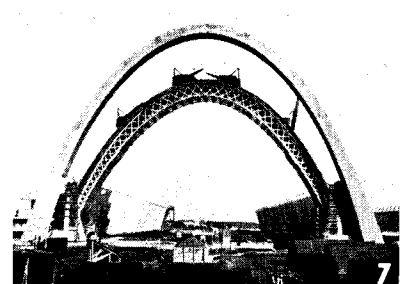
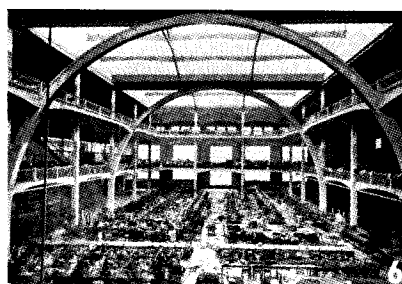
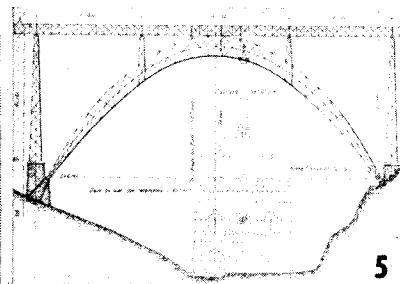
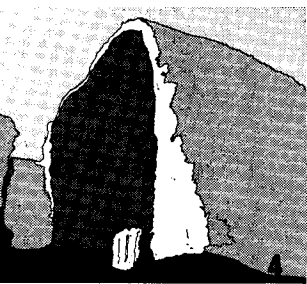
ANACONDA  
from mine to consumer  
  
**Anaconda**  
**COPPER**

**THE AMERICAN BRASS COMPANY**  
 General Offices: Waterbury 88, Connecticut  
*Subsidiary of Anaconda Copper Mining Company*  
*In Canada: ANACONDA AMERICAN BRASS LTD.*  
*New Toronto, Ont.*

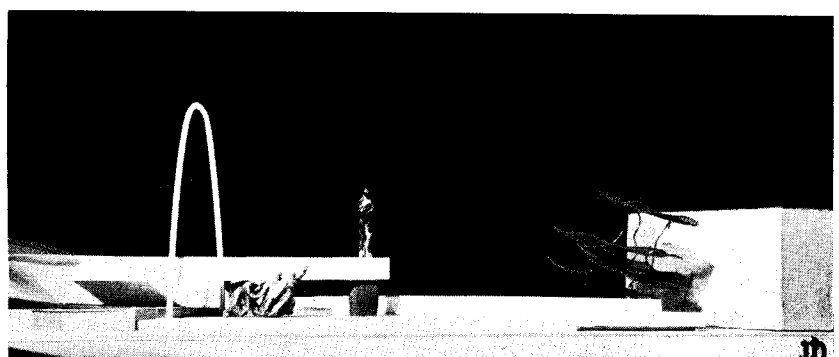
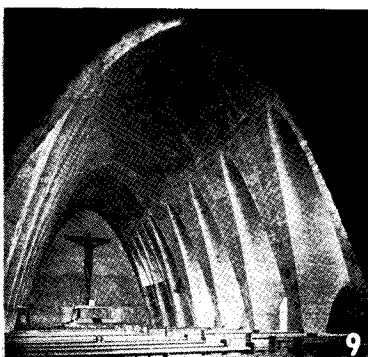
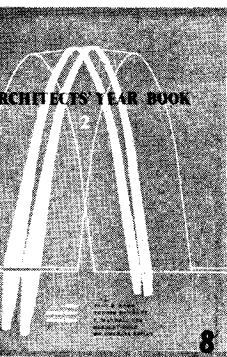
# AN ARCH IS AN ARCH IS $y^2 = 2px$ (SOMETIMES)



A unanimous jury praised the beauty of this 590-ft. Jefferson arch (1) by the Saarinens, symbolising a gateway to the West (2). The chairman of a Fine Arts Commission made newspaper implications of plagiarism from this forgotten arch (3) for Mussolini, which was never executed. Mussolini's arch, when seen fairly head-on, instead of sideways as the chairman presented it (insert) turned out to be round, spreading; not tall nor parabolic. Neither arch wore "Roman Classical" school tie preferred by chairman



Thousands of years before Mussolini, parabolic arches were preferred form of world's master vault builders in Persia, who were able, by 220-640 A.D., to erect this vast parabolic-vaulted palace at Ctesiphon (4). Worn thin by erosion, mud-brick ruin still survives by unique stability of form. Same reasoning motivated engineer Eiffel in his 450-ft. high Garrabit aqueduct back in 1884 (5). Continuity of steel, concrete, made possible bold new attenuation: 1919 Perret factory, round (6); famous hangars, Orly (7), parabolic, built 1918



Credits: 2. Ewing Galloway 3. Herald-Tribune 4. Asia Institute 8. Architects' Year Book 10. Ladislav Rado

By 1948, monumental thin arches were new enough to be exciting, yet familiar enough to symbolize architecture in yearbooks (8); were commonplace in vast structures; had been employed by every Western faith to stimulate worship (9). In no sense a property of fascists, parabolic thin arch was previously used, 1938, by Ladislav Rado (now of New York) in prize-winning design (10) to commemorate Thomas Masaryk. This monument, likewise unbuilt, now serves as sad reminder of the once Jeffersonian Czechoslovak Republic (Continued on page 30)

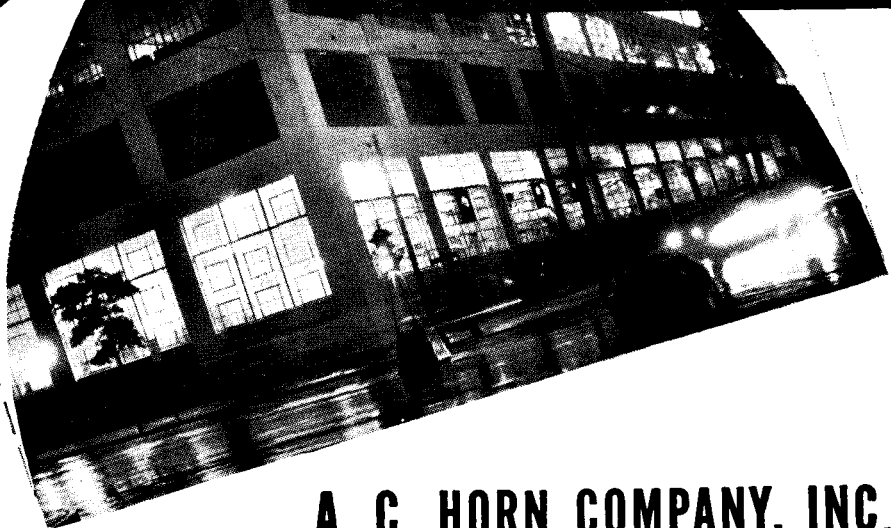
*when  
it  
rains,  
buildings  
need  
raincoats  
too!*

A bad storm spells danger to building walls and contents. Now it's a simple process to protect and to beautify a "weather-beaten" building with a Waterfoil raincoat. Waterfoil consists of irreversible inorganic gels. Scrubbed into the masonry, Waterfoil bonds not only physically but chemically as well. By impeding water penetration,

but allowing the masonry to breathe, Waterfoil prevents rusting of reinforcing bars, spalling or disintegration of masonry. Save the buildings you have. Write for literature of great importance to building owners.

## WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

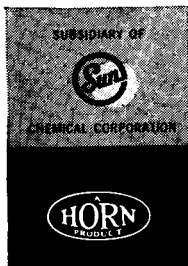


### A. C. HORN COMPANY, INC.

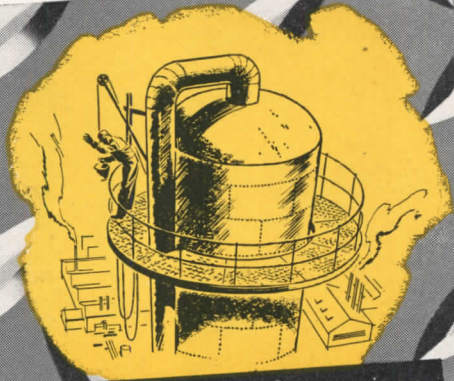
manufacturers of materials for building maintenance and construction

10th STREET & 44th AVENUE, LONG ISLAND CITY 1, NEW YORK

HOUSTON • CHICAGO • SAN FRANCISCO • TORONTO



**X-TRA Safety!**  
**X-TRA Economy!**  
**X-TRA Service!**



**AW SUPER-DIAMOND FLOOR PLATE**  
 GIVES YOU THE EXTRAS, AT NO EXTRA COST



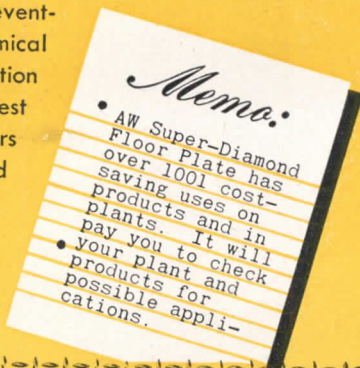
GRIP WITHOUT A SLIP!

EASY TO CLEAN!

EASY TO MATCH!

Want extra safe, extra strong, longer lasting fire escapes, loading platforms, running boards, machine tool bases, and trench covers? Then get AW Super-Diamond Floor Plate now. Its exclusive Super-Diamond Pattern makes it extra safe; wet or dry it grips, preventing costly accidents. It's extra economical—requiring no maintenance. Installation is permanent, and even the heaviest traffic doesn't damage it. Designers specify it for various products, and builders and architects use it for all types of construction. Get more information now.

Clip and Mail for Free 16-Page Catalog



- AW Super-Diamond Floor Plate has over 1001 cost-saving uses on products and in plants. It will pay you to check products and possible applications.
- your plant and possible applications.

**AW SUPER-DIAMOND** FLOOR PLATES THAT GRIP

Alan Wood Steel Company, Conshohocken, Pa.

Please send me a copy of your informative catalog L-33

Name \_\_\_\_\_

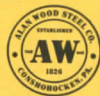
Company \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_



A Product of **ALAN WOOD STEEL COMPANY**

Other Products: Billets • Plates • Sheets • Carbon & Alloy



Ewing Galloway Photos

**AN ARCH IS AN ARCH**

(Continued from page 28)

On February 26, a New York morning newspaper carried a letter referring to the award of \$40,000 for the Jefferson Memorial competition to a team headed by Eero Saarinen (page 97). It was from Gilmore D. Clark, chairman of the national Fine Arts Commission, said "unfortunately the design . . . is not new; it (the big arch) was the central element for . . . Mussolini . . . to celebrate twenty years of Fascism."

Dean Wurster, jury chairman, retorted that "there had probably been hundreds of arches like that" (page 97); Eero Saarinen, denying previous knowledge of Mussolini's arch, said "it was just a basic form"; asked if the Washington monument should be razed because Cleopatra's needle had been built by slaves.

Others asked how Clark would like to see his own Brooklyn memorial denounced for at least equal similarity to Nazi buildings, or his favored free classical style denounced as Communist because it is the official style in Russia.



THE NATIONAL ELECTRIC

# "800" Floor Box-and Service Fittings

FOR CONVENIENCE OUTLETS IN THE FLOOR—FOR LIGHT, POWER, TELEPHONE, SIGNAL CIRCUITS

STEEL FOR PERMANENCE—  
GROUNDED FOR SAFETY



The "800" FLOOR BOX may be used with any steel conduit or steel underfloor duct to provide auxiliary outlets in isolated areas, or for a complete underfloor distribution system.

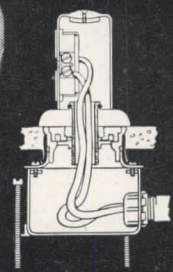
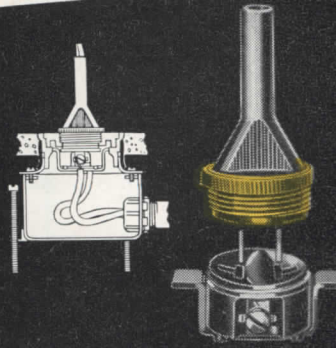
IDEAL FOR: Banks . . . Hotels . . . Commercial Buildings . . . Offices . . . Lobbies . . . Open Aisles . . . Show Windows.

EASY TO INSTALL—EASY TO ADJUST

STEEL FOR PERMANENCE—  
GROUNDED FOR SAFETY

SERVICE FITTINGS FOR LIGHT AND POWER

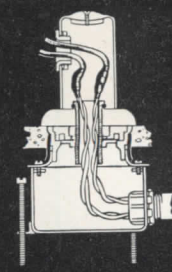
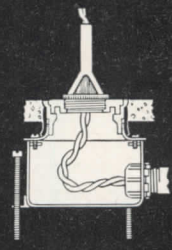
**NO. 830**  
Floor-box receptacle and waterproof plug.



**NO. 803**  
Heavy brass service fitting with duplex receptacle.

SERVICE FITTINGS FOR TELEPHONE, SIGNAL AND BELL SYSTEMS

**NO. 831**  
Floor-box waterproof sheath.



**NO. 804**  
Heavy brass service fitting with insulating bushing. Accommodates terminal block for low potential wiring, buzzer and small signal devices.



LET US SEND YOU OUR ILLUSTRATED FOLDER: "THE '800' FLOOR BOX"

**National Electric Products Corporation**  
Pittsburgh 30, Pa.

How would this story  
fit Your Picture?



# 7 YEARS IN EXACTING SERVICE

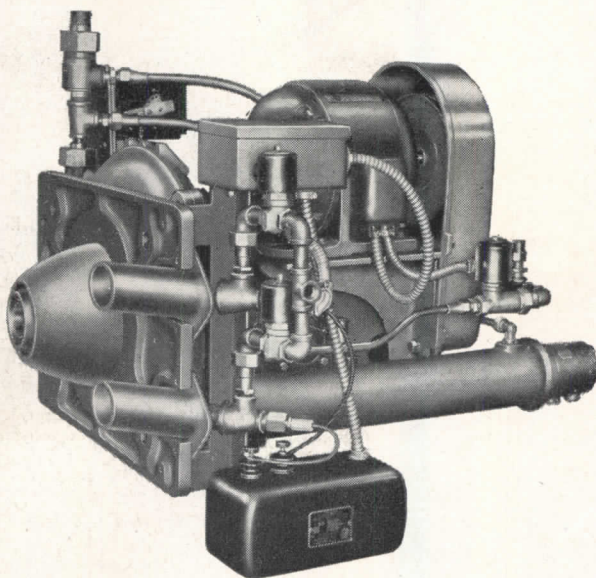
## WITHOUT A SHUTDOWN

... where the right amount of heat  
is the "Backbone of Operations"



The National Container Corporation of California manufactures corrugated and solid fibre containers in its Oakland plant. In the converting process, basic paper first passes through steam heated roller type preheaters, and is then sprayed in a delicate operation requiring just the right steam temperature. To supply the heat for this exacting job, one ENTERPRISE model K2-P automatic oil burner was installed in 1941. This burner operated continuously, 8 to 16 hours a day, until the middle of 1947 when it was taken out of service for cleaning and general overhaul. It was back on the job again in the record time of 8 hours, after a thorough factory overhaul.

Plant Manager F. B. Turner, an enthusiastic booster of Enterprise Burners and service, sums it up this way: "Seven years without a shutdown is a remarkable record, particularly in view of the tough conditions under which our Enterprise Burner must operate. Starch from nearby storage tanks, which permeates machinery and tubing to a great extent, surprisingly has caused no trouble with our burner. I feel that we have had excellent service from our equipment, and have recommended Enterprise burners to others."



ENTERPRISE model K2-P automatic oil burner of the type in service at National Container Corporation of California. Another has recently been purchased for standby duty, installed by E. A. Cornely Company, Enterprise Distributor, San Francisco. Oil and gas-oil combination burners are available in a wide range of sizes for heavy-duty firing applications of all types. Write for full information and descriptive literature.



*Specify*

## ENTERPRISE BURNERS

... Choice of Heating Experts ... Everywhere

**BURNER DIVISION OF ENTERPRISE ENGINE & FOUNDRY CO.**  
18th & Florida Sts., San Francisco, Calif.

*Distributors in Principal Cities*

OIL BURNERS

DIESEL ENGINES

PROCESS MACHINERY



**THE MODERN STYLE IS**

**GENUINE CLAY**

**tile**



*Boston's Bonwit Teller has*

a distinctive decor pleasing to the most fastidious customer . . . smart merchants everywhere know

the importance of clean, attractive powder

rooms and gentlemen's lounges. Here at Bonwit's,

the ladies' lounge is done in a modern color combination

of grey and Kelly green. The grey motif established in the walls and

carpets of the powder lounge is carried through in

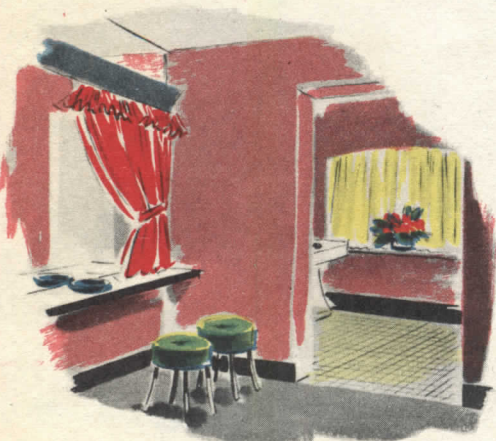
the washroom with French grey genuine clay wall tile and

wainscotting. Used with pink fixtures, this real tile

background is both pleasing and distinctive. Sanitary

cleanliness is assured. The effect is one of beauty, smartness,

and color that will last year after year.



## to defeat demon doodlers

in school corridors, gyms, and wherever else eager hands can reach, choose a permanent, mar-proof surface like genuine clay tile. Public officials appreciate it when real clay tile is specified because tile makes tax dollars go further. Cleaning and maintenance work is easier and less costly. Clay tile is washable and therefore doesn't require waxing, varnishing, or painting to keep it always looking bright and doodle-free.



## THE MODERN STYLE IS GENUINE CLAY IN THE BEAUTIFUL BILTMORE

tile



Even when you enter this world-famous

New York hotel it is hard to realize it was built 34 years ago. Recently, an extensive

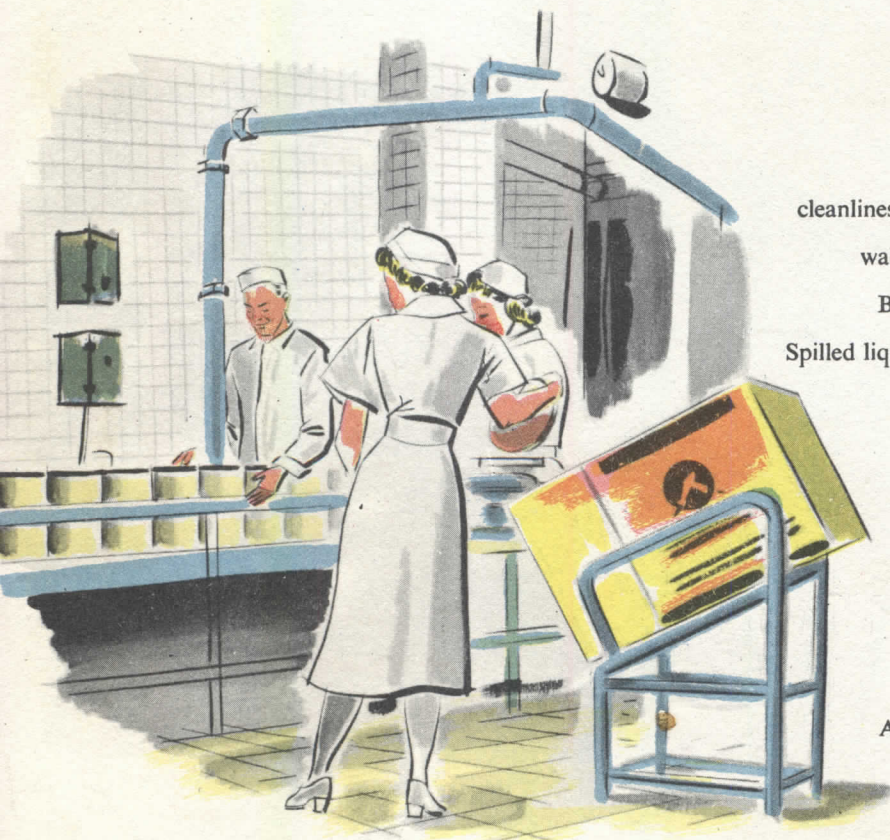
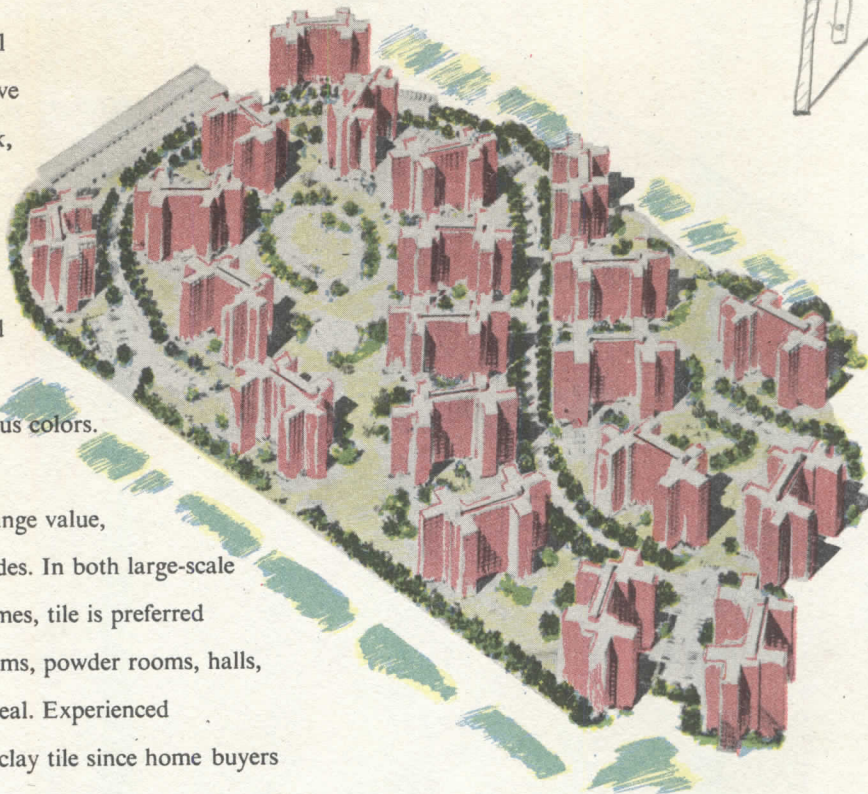
modernization program was undertaken to further enhance its distinctive charm. Original Georgian furnishings are being replaced with "modern Georgian."

Besides keeping beautiful, *all* hotels must also keep maintenance costs low. A guest in the Biltmore who steps into any one of the 550 modernized bathrooms appreciates the smart looking beauty and cleanliness of the walls which have 6' of newly added genuine clay tile. And behind scenes are the easily cleaned, sanitary, tile floors now installed in the 18th floor kitchen and Bowman Room pantry. Equally important to the Biltmore management is the money which will be saved over the coming years by the maintenance economies real tile assures. Keeping beauty bright, and maintenance costs low, in this case go hand in hand.



## "FORESTGATE" IS BECOMING FAMOUS

as an outstanding example of how private capital and management are providing a truly cooperative residential community at Forest Hills, New York, for World War II Veterans. When fully developed, 5,669 apartments of 3½ to 5½ rooms will cover a 55-acre tract in this New York City suburban development. Featured in these well-planned apartments are bathroom walls and floors of genuine clay tile in harmonious colors. The Veteran's Administration, in appraising this and other housing projects, looks for the long-range value, economy, and durability that real clay tile provides. In both large-scale housing projects and individual custom-built homes, tile is preferred for bathroom walls and floors, kitchens, sun rooms, powder rooms, halls, stairs, and porches because it increases sales appeal. Experienced real estate people stress the presence of genuine clay tile since home buyers and renters recognize tile as the hallmark of quality and are willing to pay for its advantages.



### *when candy is cookin',*

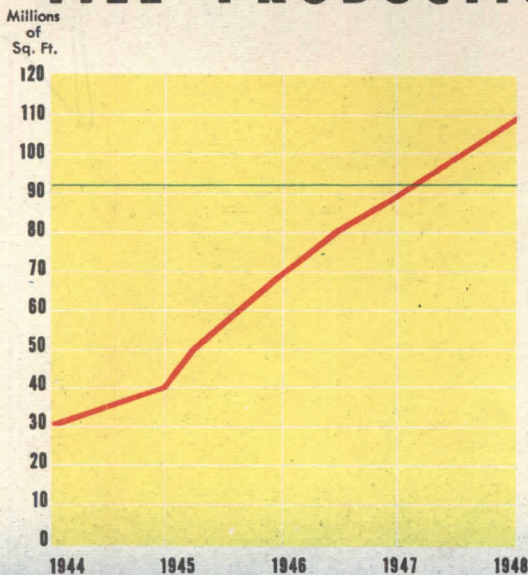
cleanliness counts. Naturally, candy and food factories need walls and floors that are easy to clean and keep clean.

But, ease of cleaning is just one of the requirements. Spilled liquids can penetrate open floor joints and deteriorate rapidly, causing unsanitary conditions.

So, dairies, bakeries, restaurant kitchens, and other places where surfaces might be attacked by food acids or alkaline cleaning agents, rely on real clay tile floors and facings.

Acid and stainproof, clay tile is hard and resistant to warping, chipping, and cracking. All these advantages help assure sanitary conditions.

# TILE PRODUCTION SETS ALL TIME RECORD



Reflecting the increased use of genuine clay tile for all types of contemporary and traditional designs, the industry is today producing more and better tile than ever before in history.

To insure the continued increase of both quality and quantity, tile manufacturers have invested over 10 per cent of their gross sales income since the end of the war in new plants, equipment, and product research and development.

As a result, genuine clay tile can be specified for familiar—as well as for new and exciting—installations, with full confidence that every demand will be satisfied.

## Skilled Contractors and Tilers Available

Throughout America, thousands of tilers bring to the installation job the advantage of years of training and experience in an exacting craft. Today, additional thousands of young men are learning the trade. Together, these trained craftsmen offer the know-how so essential to outstanding installations. Your nearby tile contractor and dealer offers an extensive background of using real clay tile. He is vitally interested in providing specifiers and buyers of clay tile with economical and attractive installations.

## How to get more information about tile

**Tile Council of America**  
 10 East 40th Street  
 New York 16, New York

I would like to receive information about genuine clay tile for walls and floors as checked below. Unless requested, no one will solicit us.

Data Sheet on Tile. 4 pages. Describes the types, sizes, shapes, and colors of clay floor and wall tile manufactured by the tile industry.

Basic Course in Tile Setting . . . Introductory textbook for apprentices. Available free to apprentices and to dealers employing apprentices. Others may obtain this textbook for \$2.75.

We are considering the possibility of using tile and would like to receive specific information regarding available types, sizes, and colors. Please send me a list of local contractors and dealers.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_ STATE \_\_\_\_\_

## TILE COUNCIL OF AMERICA

10 EAST 40th STREET  
 NEW YORK 16, NEW YORK

American-Franklin-Olean Tile Co.

Architectural Tiling Co., Inc.

Atlantic Tile Manufacturing Co.

B. Miffin Hood Co.

California Art Tile Corp.

Cambridge Tile Mfg. Co.

Carlyle Tile Company

General Tile Corp.

Gladding, McBean & Co.

Mosaic Tile Co.

Murray Tile Co., Inc.

National Tile & Mfg. Co.

Olean Tile Co.

Pacific Clay Products

Pacific Tile & Porcelain Co.

Pomona Tile Mfg. Co.

Robertson Mfg. Co.

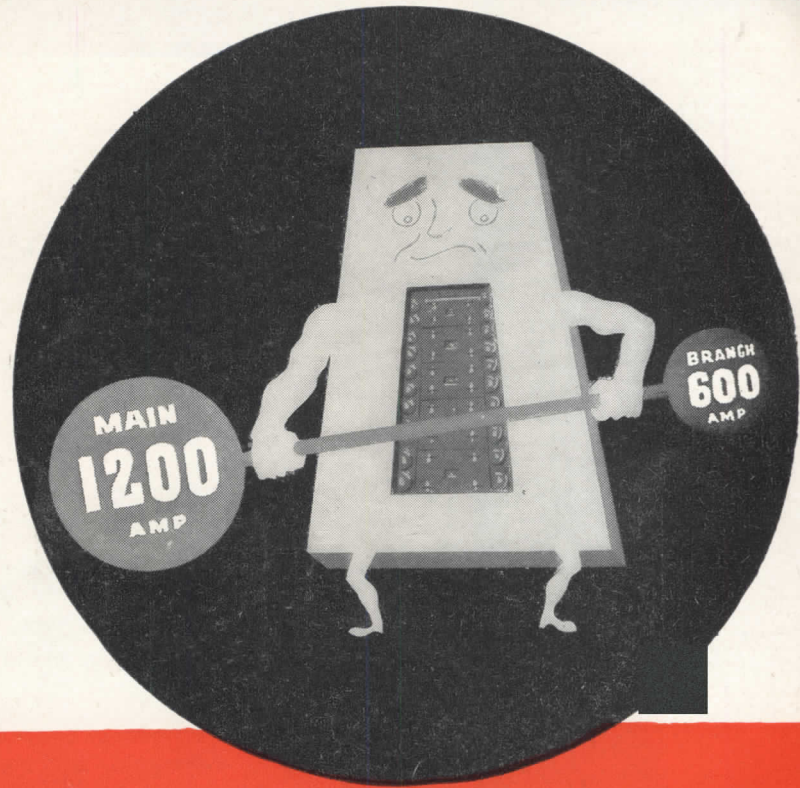
Sparta Ceramic Co.

Summitville Face Brick Co.

United States Quarry Tile Co.

# **I**t's good **electrical** **practice ...**

to limit the main capacity of distribution panelboards to 1200 amperes and the branch circuit capacity to 600 amperes



**It's good  
Electrical  
Practice ...**



To make your branch circuit system Trumbull FLEX-A-POWER. Prefabricated in standard stock lengths (with numerous outlets), this flexible distribution system meets the challenge of change in industry.

FLEX-A-POWER can be installed before machinery is moved into place. When major changes in electrical distribution become necessary, the entire Busway system can be

dismantled, removed and reinstalled, with practically 100% reuse of materials.

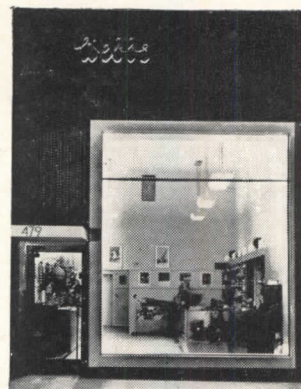
Branch circuits or main feeders, switches or switchboards, motor controls or control centers ... it's always good electrical practice to specify Trumbull, the name that safeguards *your* safe practice. THE TRUMBULL ELECTRIC MANUFACTURING CO., Plainville, Conn. Other factories and offices throughout the United States. Foreign representation.

**MEN WHO OBSERVE THE  
BEST PRACTICES MAKE  
IT A PRACTICE TO USE  
TRUMBULL**

**TRUMBULL**  **ELECTRIC**

# Glass

to bring your  
shopping center  
out in the open



Unity in design—yet with all the individuality required by owners' desires or merchandising requirements.

The open principle of the Visual Front can be used, as above, to unite several individual stores into an integrated group, yet makes each store easy to identify.

Glass makes the modern shopping center outstanding. It provides smartness . . . maintenance economy . . . and good merchandising based on the principle that buying starts with seeing.

Through its advertising program directed to store owners, Libbey-Owens-Ford is selling the Visual Front principle as an important element of sound merchandising. This program emphasizes the need for good architectural design.

Your L·O·F Distributor will answer your questions about glass products for storefronts. For an interesting book of suggested Visual Front designs by leading architects, write to Libbey-Owens-Ford Glass Company, 4548 Nicholas Building, Toledo 3, Ohio.

● Five Visual Fronts in a row . . . each one distinctive, yet each an integral part of this open-front shopping center.

Close-up of Webb's Photo Supply shows how large glass areas put each store interior on display. Architect: Leslie Nichols, Palo Alto, California.

#### L·O·F GLASS PRODUCTS for shopping centers

**POLISHED PLATE GLASS** for large windows to display store interiors.

**TUF-FLEX\*** tempered plate glass for transparent doors that extend the open look.

**VITROLITE\*** colorful glass facing for solid areas on exterior . . . for interior walls.

**THERMOPANE\*** insulating glass to reduce condensation on windows, eliminate drafts.

\*®

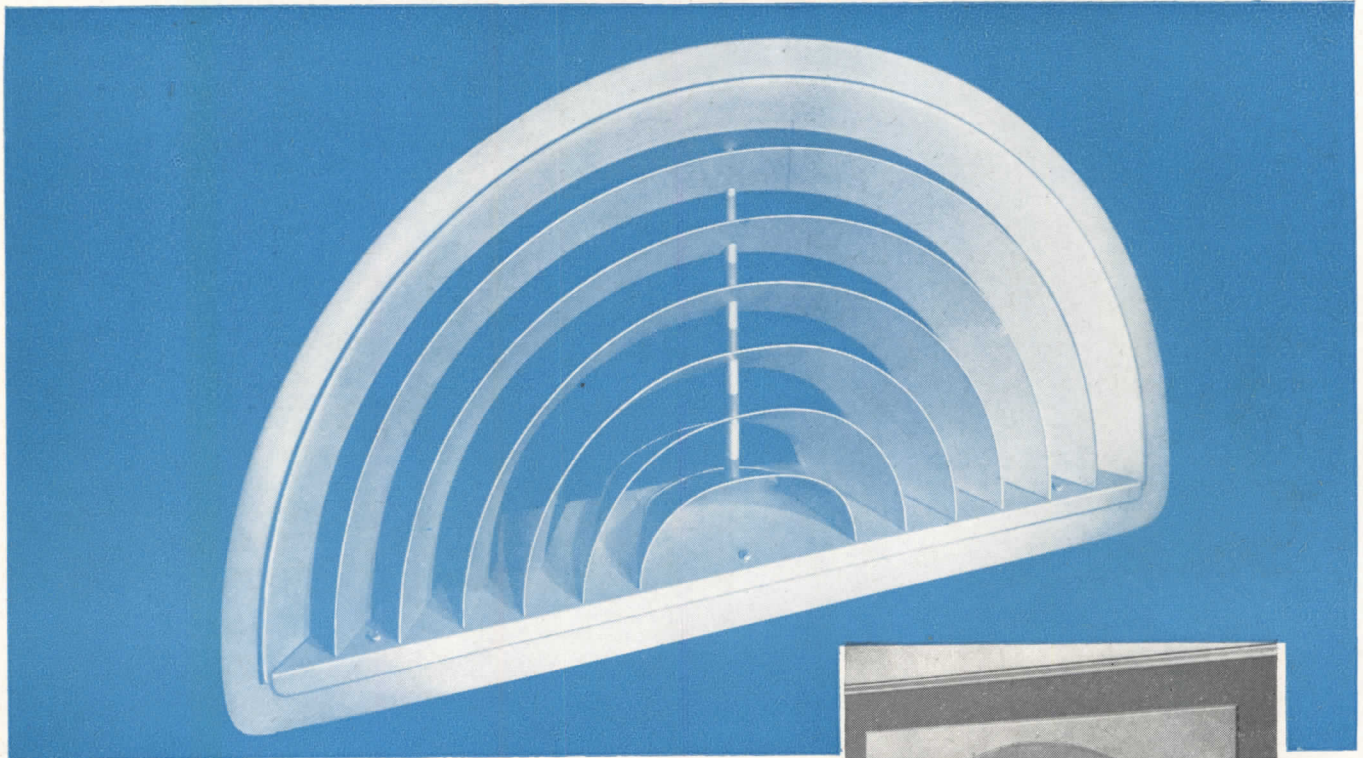
VISUAL  
FRONT  
©1943  
Libbey-Owens-Ford  
Glass Company

**LIBBEY · OWENS · FORD**

*a Great Name in* **GLASS**

**NO OTHER**  
*Wall Type*  
*Air Diffuser*  
**GIVES THESE RESULTS**

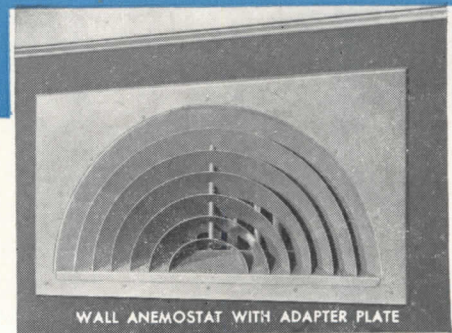
- *No drafts... no stale air pockets*
- *Prompt equalization of room temperature and humidity*
- *Effective diffusion over an area of 180°*
- *Comfortable air motion*
- *Handles any specified number of air changes*



Frequently in either existing or new air conditioning systems, air supply outlets must be located on walls rather than ceilings. This introduces serious air distribution problems which can then be solved by installing wall-type Anemostat air diffusers . . . for only Anemostat offers a method of air distribution which produces draftless comfort under these circumstances.

Anemostats provide proper air diffusion in over 100,000 air conditioning, heating and ventilating installations. Without exception, owners enthusiastically report complete satisfaction.

Plan for Anemostats in new systems. Use them to correct systems that do not provide satisfactory comfort conditions. Our engineers will gladly assist you.



**How Anemostats Work**

*The principle employed in handling air through the Type "W" Wall Anemostat is the creation of a multiplicity of air currents traveling in layers or blankets at a variety of angles to each other, together with the creation of a multiplicity of counter-currents, and the creation of an aspiration effect by which 35% of room air is drawn into the device where the room air mixes with the cooled or heated air before the primary supply air is discharged.*

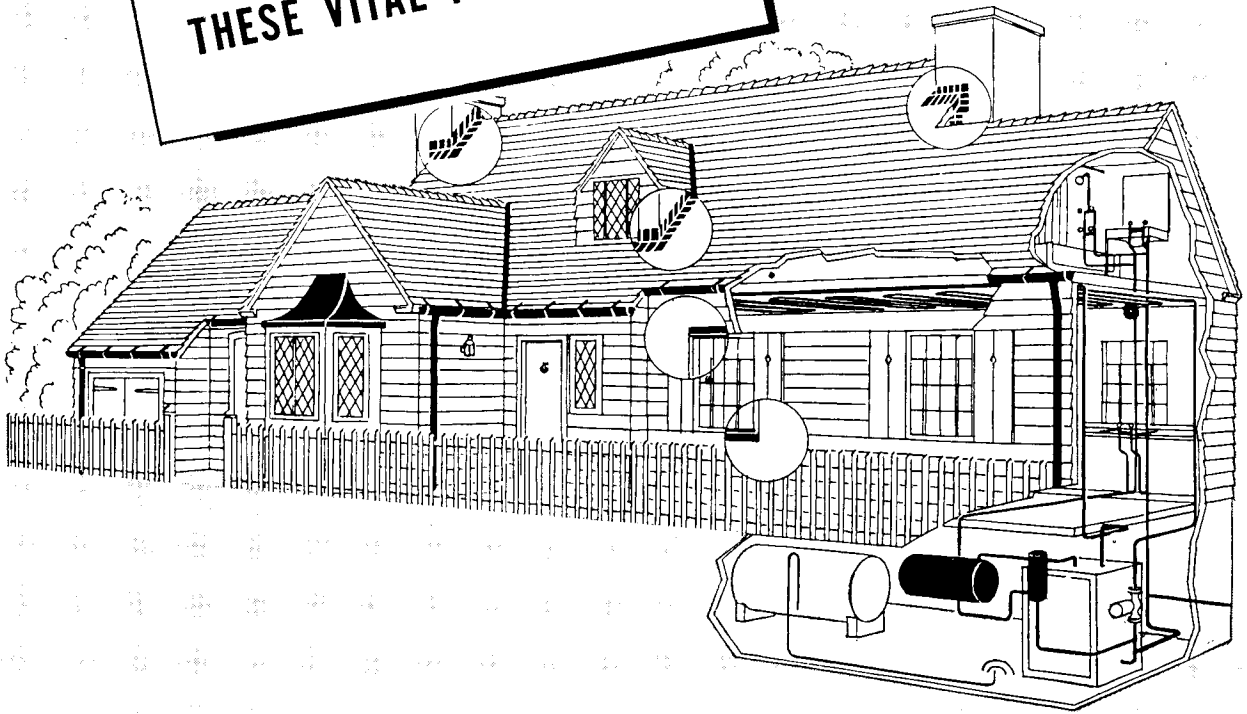
*"No air conditioning system is better than its air distribution"*

**ANEMOSTAT**  
REG. U. S. PAT. OFF.

**DRAFTLESS AIR-DIFFUSERS**  
**ANEMOSTAT CORPORATION OF AMERICA**  
 10 EAST 39th STREET, NEW YORK 16, N. Y.  
REPRESENTATIVES IN PRINCIPAL CITIES

AO-1191

IN EVERY TYPE OF HOUSE  
LET REVERE COPPER GUARD  
THESE VITAL POINTS



**TROUBLE** always costs more than Revere Copper. That's why it pays to let Revere Copper guard those vital points where water will cause other materials to rust, rot or corrode.

**HEATING.** In radiant panel, steam or hot water heating systems, Revere Copper Water Tube insures a lifetime of trouble-free service. Its permanently smooth interior reduces frictional resistance to a minimum. And because it bends readily, and joints are made quickly with solder fittings, it is easier to install, too.

**WATER SUPPLY.** You insure a free flow of sparkling-clear water when you specify Revere Copper Water Tube for hot and cold water lines. Since interiors do not become clogged by corrosion, the lines can usually be a size smaller than would be required with rustable pipe.

**WASTE LINES.** Large sizes of Revere Copper Water Tube are now available for soil, waste and vent lines. Experience has proven that copper provides lifetime-resistance to the corrosion action of ordinary waste materials.

**FLASHING.** Every home, large or small, can now have the protection of copper flashing at all joints where leaks might occur. Consult Revere engineered specifications for every type of construction.

Other Revere products include: Red-Brass Pipe; Sheet Copper and Herculoy for tanks, ducts, pans and trays; Copper oil burner, heat control and capillary tubes...and, of course, Sheet Copper for roofing, flashing and other sheet metal construction. They are handled by leading distributors in all parts of the country.

## **REVERE**

### **COPPER AND BRASS INCORPORATED**

*Founded by Paul Revere in 1801*  
230 Park Avenue, New York 17, New York  
Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.;  
New Bedford, Mass.; Rome, N. Y.  
Sales Offices in Principal Cities, Distributors Everywhere.



# A Suntile job is a blend of

- BETTER TILE
- BETTER INSTALLATION



Better tile *and* better installation. That's the combination you get "packaged" with *one* specification in real clay Suntile.

Quality control follows Suntile throughout its manufacture. Continuing research constantly improves it. It's color-balanced to brighten and blend with every home.

But that isn't all. Suntile carries its quality *right through* to the guaranteed finished job. Authorized Suntile Dealers, carefully selected and trained, see to it that every Suntile installation reflects the excellence of the product they represent.

For better tile—better installation, let us send you the name of an Authorized Suntile Dealer. He can show you real clay Suntile in 16 wall colors. Also impervious unglazed ceramic mosaic Suntile in 15 colors—and Suntile Camargos in 10 colors—in modular sizes.

Refer to Sweet's Catalog for more complete information. The Cambridge Tile Manufacturing Company, Cincinnati 15, Ohio.

COLOR BALANCED

# Suntile

... Bright with color  
 ..... Right for life



*Suntile* OFFERS YOU BOTH— *Better Tile.... Better Installation*

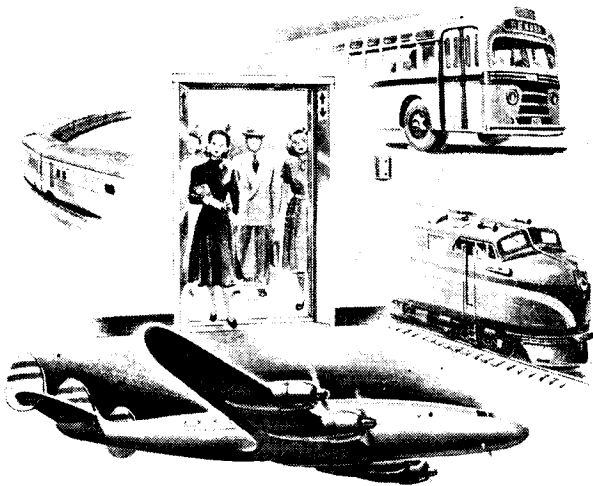
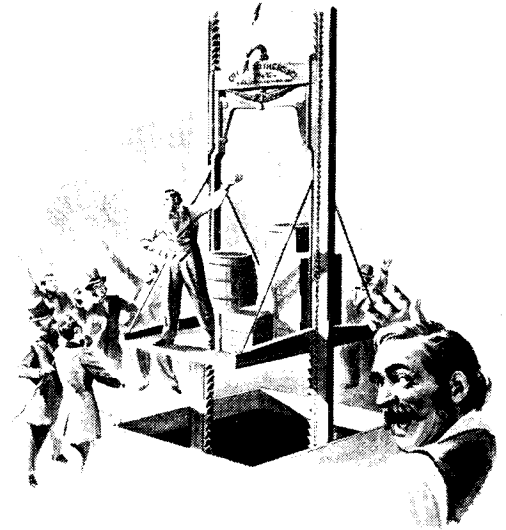


# skylines ... by Otis

*Watch Houston!* In fifty years this thriving Texas city has grown to be the third largest ocean port in the United States. And as Houston reached out into the world, it also reached up. Even its skyline has become famous. And skylines are the business of OTIS. In Houston, for example, OTIS has 893 elevators. That's more than three times the number of all other makes combined!

## CONFIDENCE IN SAFETY.

In 1852, Elisha Otis applied the first 'safety' to a freight elevator. It was intended to prevent the elevator car from falling if the hoisting ropes should break. To convince a doubting public he actually cut the ropes to prove its dependability.

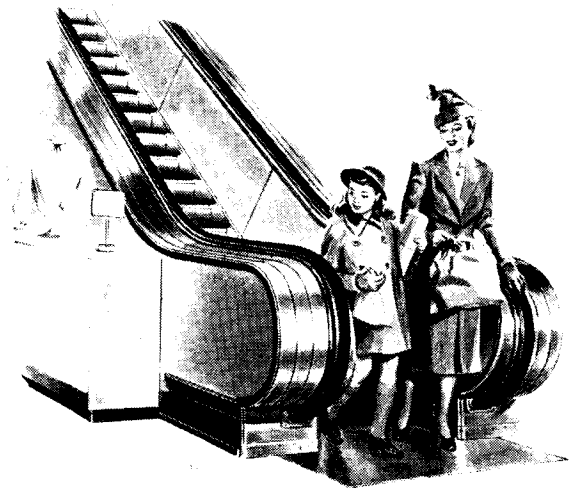


## HOW DO PEOPLE TRAVEL?

Mostly on elevators. Surprising? Last year, elevators handled *eleven* times more passenger traffic than all domestic airlines, inter-city bus lines and railroads combined.

## TRY THIS FOR SIZE.

The newest look in an Escalator is the OTIS "32". It's 32" wide 5" below the handrails. That's exactly where width is needed to permit mother and daughter to ride side-by-side in comfortable safety. And the price of the OTIS "32" permits it to fit comfortably into any store's budget.



With 257 offices located in every state of the Union, OTIS is ready to help you plan, erect and maintain freight and passenger elevators and Escalators for use anywhere.

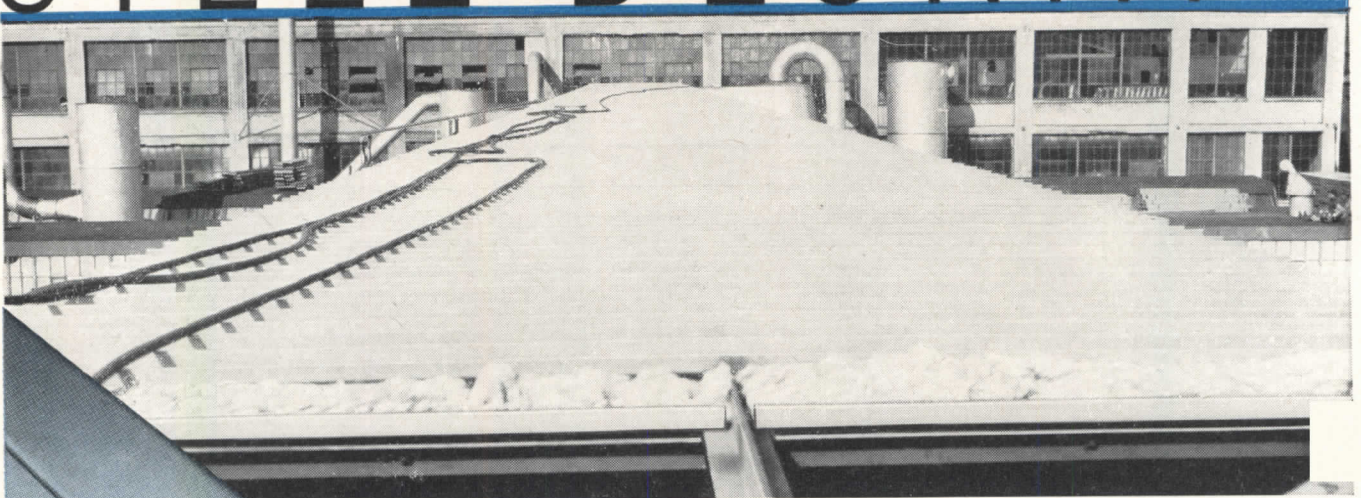
"Escalator" is a U. S. Patent Office-registered trademark of the Otis Elevator Company. *Only Otis makes Escalators.*



## ELEVATOR COMPANY

Home Office: 260 11th Ave., New York 1, N.Y.

# STEEL DECK



## for ROOF, SIDEWALLS and FLOOR

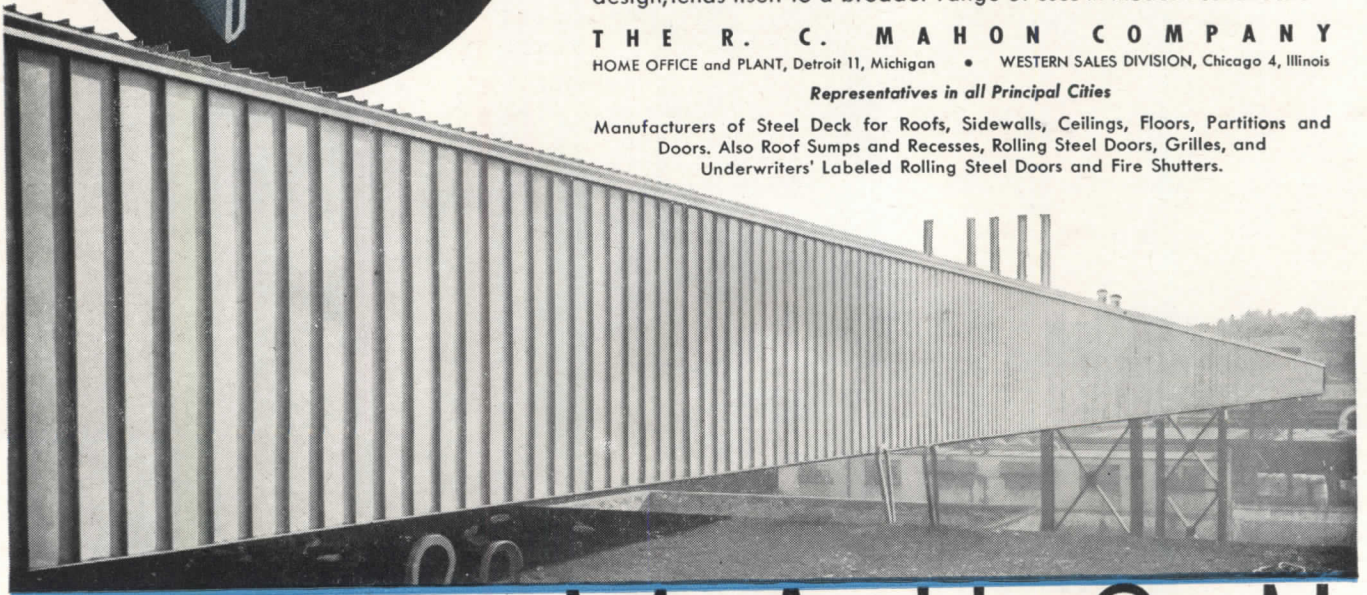
Illustrated here is a Tunnel-Bridge enclosing a continuous conveyor line which spans a river and connects two sections of a large automobile plant. The bridge is enclosed with insulated steel roof, sidewalls and floor, to maintain an even temperature for highly machined parts. Mahon Standard Steel Deck Plates, with two inches of Fiberglas between, were employed for roof and floor. Mahon Prefabricated Steel Wall Panels, also containing two inches of Fiberglas, were used for walls. See Mahon Inserts in Sweet's File for complete information . . . you will find that Mahon Steel Deck, due to its basic design, lends itself to a broader range of uses in modern construction.

### THE R. C. MAHON COMPANY

HOME OFFICE and PLANT, Detroit 11, Michigan • WESTERN SALES DIVISION, Chicago 4, Illinois

*Representatives in all Principal Cities*

Manufacturers of Steel Deck for Roofs, Sidewalls, Ceilings, Floors, Partitions and Doors. Also Roof Sumps and Recesses, Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.



Mahon Prefabricated Insulated Steel Wall Panels in the Tunnel-Bridge Above are One Foot Wide, presenting a Flat Surface Between Interlocking Ribs which are 1'-0" O.C.

# MAHON

# Texas Giant

A landmark for miles around, this imposing office building at Dallas, Texas, is owned by the Mercantile National Bank. The stone-faced structure is thirty stories in height, and has some 377,000 sq ft of floor space.

More than 4000 tons of Bethlehem Structural Shapes were used in constructing the steel framework for this new giant on the Dallas skyline.

**BETHLEHEM STEEL COMPANY**  
Bethlehem, Pa.

On the Pacific Coast Bethlehem products are sold by  
Bethlehem Pacific Coast Steel Corporation  
Export Distributor: Bethlehem Steel Export  
Corporation



*Architect: W. W. Ahlschlager and Associates, Dallas*  
*Structural Engineer: R. O. Jameson, Dallas*  
*General Contractor: Henger Construction Company, Dallas*  
*Steel Fabricator: Mosher Steel Company, Dallas*  
*Steel Erector: John F. Beasley Construction Co., Dallas*



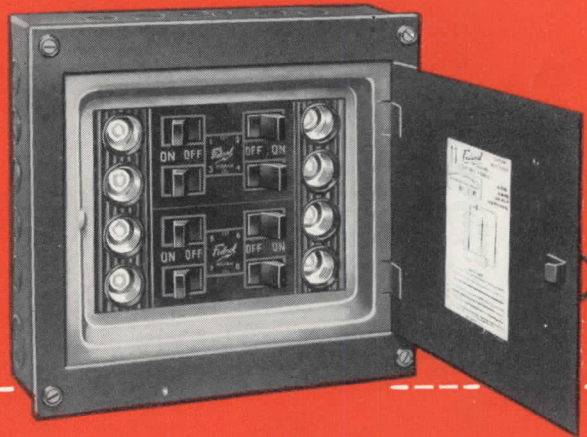
**While  
building  
costs  
go  
up  
and  
up**



The cost of construction continues to soar... but Federal NOARK Panelboard (Type NTPS) still remains America's most economical, quality panelboard! That's why—on every job that requires perfect control protection of lighting and small power circuits—contractors achieve economy without sacrificing quality... by installing reliable Federal NOARK Type NTPS!

*Triple Improved!*

1. Sure contact spring incorporated into switch assembly of stationary parts.
2. Only three current-carrying parts in each circuit... each part heavier and more rugged than ever.
3. Phenolic panelboard unit... handsomely designed... durable.



**FEDERAL NOARK PANELBOARDS (Type NTPS) ARE STILL PRICED AT A COMMON-SENSE LEVEL!**



Executive Offices: 50 Paris Street, Newark 5, N. J.  
Plants: Hartford, Conn., Newark, N. J., St. Louis, Mo.,  
Long Island City, N. Y.  
SALES OFFICES IN PRINCIPAL CITIES

Federal Electric Products Company, Manufacturers of a Complete Line of Electrical Products, including Motor Controls  
• Safety Switches • Service Equipment • Circuit Breakers  
• Panelboards • Switchboards • Bus Duct

**Federal**  
NOARK  
*Panelboards*

Architects have  
enough troubles . . .



without adding  
unnecessary ones . . .



Specify the seat  
known by name  
everywhere



Styles and qualities for every need  
See "Sweets" for details

**Church Seats**

"THE BEST SEAT IN THE HOUSE"

C. F. CHURCH MFG. CO.

HOLYOKE, MASS. Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

AT HOME ON THE HIGH SEAS . . .



**G-E TEXTOLITE\***  
**PLASTICS surfacing**  
**tops them all!**

*G-E Textolite table tops add to the beauty of this smart cocktail and dining lounge aboard a new Grace Line passenger ship.*

You get something extra when you specify General Electric Textolite surfacing material for table, bar, and counter tops.

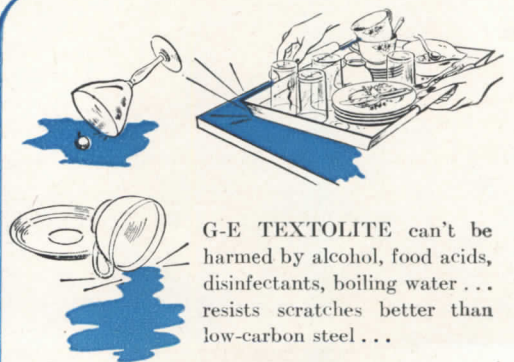
New beauty, yes! G-E Textolite . . . available in a variety of colors and patterns, imparts richness to the decor of any hotel, restaurant, bar, soda fountain, or cafeteria.

And durability plus! With rugged G-E Textolite on guard you needn't worry about wear and tear on working or serving surfaces. Because G-E Textolite actually resists scratching better than low carbon steel. Its rugged laminated construction stands up under shock. And even hot grease or boiling water won't harm it!

You can get more facts about G-E Textolite surfacing material by mailing the attached coupon. Your free copy of the booklet you'll receive shows in full color the many standard Textolite patterns. You'll also find out, in detail, why you should use this beautiful, practical plastics surfacing in hotels, restaurants, and other installations. Plastics Division, Chemical Department, General Electric Company, 1 Plastics Avenue, Pittsfield, Massachusetts.

*\*Reg. U.S. Pat. Off.*

**GENERAL  ELECTRIC**  
 CD48-L1  
**EVERYTHING IN PLASTICS**



G-E TEXTOLITE can't be harmed by alcohol, food acids, disinfectants, boiling water . . . resists scratches better than low-carbon steel . . .

**General Electric Co.**  
**Section AW.4**  
**1 Plastics Avenue**  
**Pittsfield, Mass.**

Send me my copy of "Textolite Decorative Surfacing Materials for Table and Counter Tops."

Name.....  
 Business.....  
 Address.....  
 City.....State.....





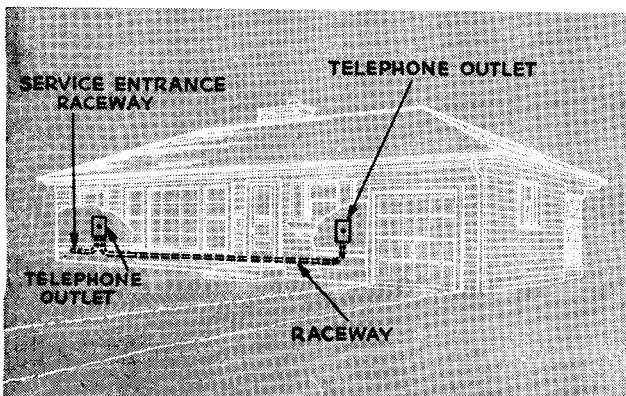
*Bertram Weber—Architect*

## A TELEPHONE RACEWAY COMES WITH THIS COTTAGE

A raceway for concealing telephone wires is an inexpensive feature which adds a lot of convenience to any new home.

Installed within walls during construction, a few sections of pipe or electrical conduit will carry telephone wires to conveniently located outlets. A raceway eliminates the need for exposed wiring on walls or woodwork and assures modern built-in telephone outlets.

Your Bell Telephone Company will be glad to help you plan telephone wiring facilities scaled to cottage or mansion. Just call your Telephone Business Office and ask for "Architects and Builders Service."

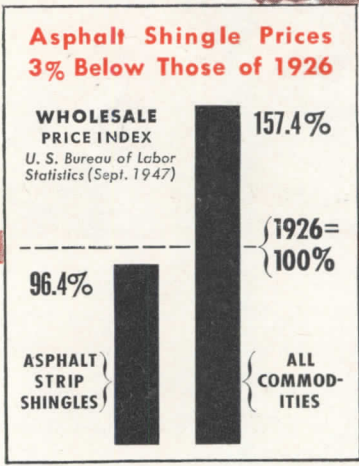


**BELL TELEPHONE SYSTEM**





# FUNCTIONAL ... even to its Color!



## PERFORMANCE-WISE, COST-WISE

### Asphalt belongs in today's plans ...

**Asphalt Shingles** are made to be both practical and beautiful. Year after year they have delivered to the home owner extra value in weather protection, in fire safety, in color, in looks, in long, low cost service.

Today, these extra values are at an all-time peak. With production of Asphalt Shingles at more than 2¾ times the level of 1926, wholesale prices are actually

below those of that active building year. And today's Asphalt Shingles are a better product than ever; better made, better looking, better wearing. They are construction's biggest dollar's worth!

The book pictured above, illustrated in full colors, prepared with the help of architects, offers some new thoughts on the design and color possibilities of Asphalt Shingles. Write for a free copy.

### CONSTRUCTION'S BIGGEST DOLLAR'S WORTH

# ASPHALT SHINGLES

**ASPHALT ROOFING INDUSTRY BUREAU**  
Room 1751 • 2 W. 45th St. • New York 19, N. Y.

SPONSORED BY 28 LEADING MANUFACTURERS OF ASPHALT SHINGLES • ROLL ROOFINGS • SIDINGS • AND BUILT-UP ROOFINGS

**GOLD BOND**

# **ACOUSTIMETAL**

**THE FIREPROOF, WASHABLE  
ACOUSTICAL TILE FOR  
EXACTING SOUND  
CONTROL**



"ACOUSTIMETAL" is the last word in sound conditioning! It provides maximum noise reduction and high light reflection. It's practically indestructible, and of course, it's *fireproof* to fit new building code specifications.

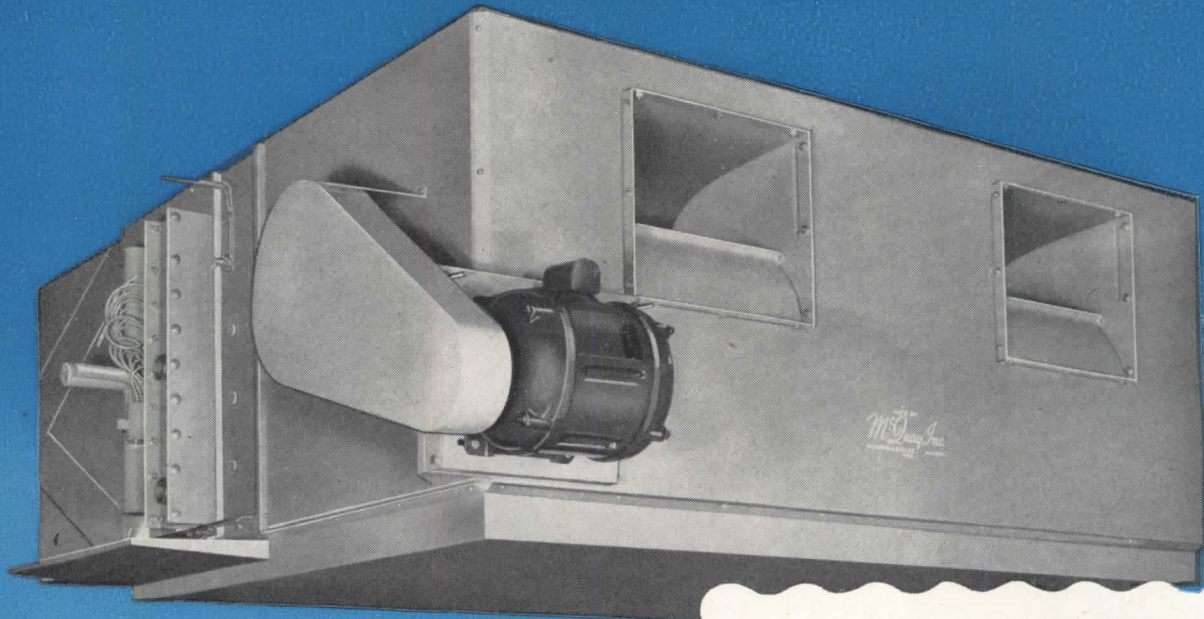
"Acoustimetal" is adaptable to remodeling as well as new building. The perforated Acoustimetal Pan, containing spacer-grid and sound absorbing Acoustipad, is quickly and simply snapped into the patented T-Bars mounted on the ceiling. Ideal for use with modern troffer type lighting. The satin-smooth baked enamel finish is smart in appearance and can be washed repeatedly and repainted again and again without loss of sound absorption. The 12" x 24" pans are quickly removable, for repair

to wiring, piping, and air ducts. True, Acoustimetal costs more than ordinary inflammable sound conditioning, but the savings in maintenance more than cover the difference. For complete details, write for our new illustrated Acoustimetal folder!

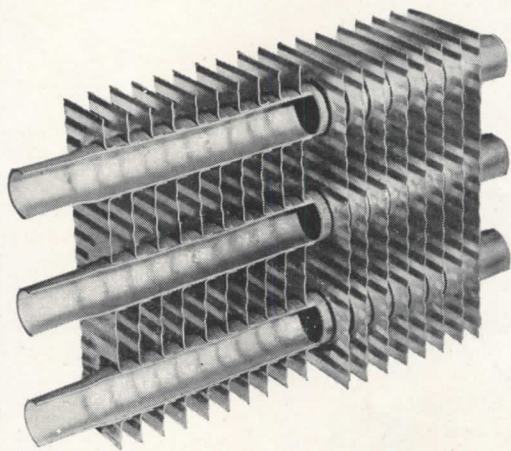
**You'll build or  
remodel better with  
Gold Bond**

**NATIONAL GYPSUM COMPANY • BUFFALO 2, N. Y.**

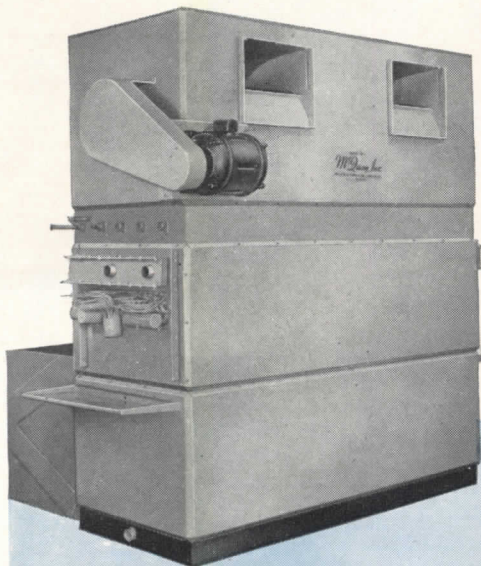
*Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.*



*McQuay* year 'round  
**AIR CONDITIONERS**  
 with **RIPPLE-FIN**  
 coil construction



## MAKE THE SEASONS COME TO YOU



Complete flexibility of operation with McQuay air conditioning units, assures the comfort you want. From factory to small shop, McQuay units provide the right degree of fresh, conditioned air necessary for efficient working atmosphere. Secret of McQuay air conditioning performance is the versatile Ripple-Fin coil, with tubes hydraulically expanded into fins for unmatched heat transfer efficiency. Continuous plate-type construction, tough, vibration-free Ripple-Fin coils mean added years of dependable service. McQuay Year 'Round Air Conditioners are available in horizontal or vertical type models in a wide range of capacities for new or remodeling installations. See the McQuay representative in your area, today, or write McQuay, Inc.

*McQuay Inc.*

1605 Broadway Street N. E. • Minneapolis 13, Minnesota

IN HEATING • AIR CONDITIONING • REFRIGERATION • IT'S THE REAL McQUAY



# WHAT DEMANDS DOES CCC\* MEET ?



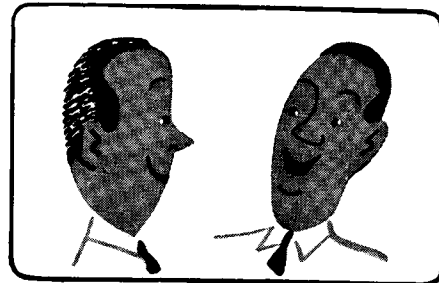
A Columbia dealer knows his "CCC"'s . . . knows what grade and style Columbia shade will best meet *your* institutional or commercial needs. We'll be glad to give you the name of the nearest dealer . . . he'll be glad to amplify the Columbia story, show you the Columbia line.

\*"CCC" means Columbia-Controlled-Construction

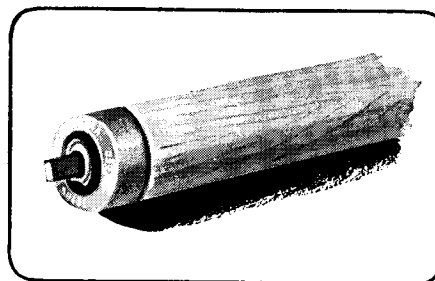
# Columbia

WINDOW SHADES  
AND VENETIAN BLINDS

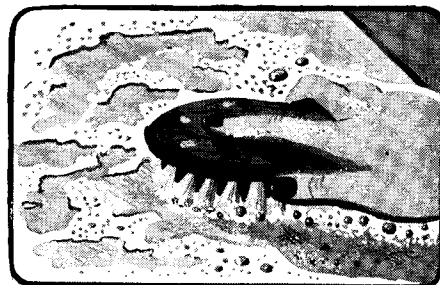
THE COLUMBIA MILLS, INC. • 225 FIFTH AVENUE, NEW YORK 10, N. Y.



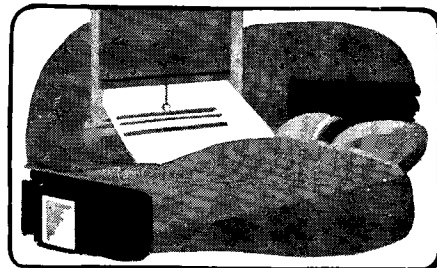
"WINDOW SHADES FOR COMMERCIAL AND institutional use have to meet a lot of practical demands. Buying for thousands of windows, I look for shades to take tough treatment, save me maintenance time and money, last a long time. Let me tell you why I settled on Columbia . . ."



**HIGH QUALITY MEANS TRUE ECONOMY.** Columbia's sturdy rollers are made from wood selected by Columbia in the forests. Steel springs are exactly tempered to give 30%-40% reserve power. Base fabric, finishes, the finest obtainable.



**MAINTENANCE COST IS LOW, TOO.** Columbia shades take weather hazards and rough use in their stride . . . resist cracking, pin-holing, fading. Easy-as-pie to clean, too—some are soap-and-water scrub-able.



**PROPER LIGHT CONTROL.** The Columbia color line is so broad, so versatile, you can suit your special needs. Light-proof shades for hospitals, for example . . . sunny pastels for sunless rooms, duplex colors for inner variety, outer uniformity.

Handmaidens to **A** **T**

**KENCORK**  
floors and walls



"APRIL SHOWERS" BY A. RATTNER — COLLECTION OF MR. AND MRS. ROY R. NEUBERGER

Whether to enhance a fine painting with quiet flattery or to infuse a subtle aura of modernity into your newest interior, we believe Kencork deserves your most earnest consideration. Those architects who know Kencork consider it supreme among interior building materials for its aesthetic values as well as its practical advantages.

You will admire the leafy tans and golden browns on walls and floors—the exquisite, subtle patterns—perfect backgrounds for modern furniture and fabrics. Cork is also well known as a truly practical building medium. And Kencork is *all cork*—with all of cork's unique properties—baked into square and rectangular tiles of tans and browns. As a natural insulator against heat and cold, as a quiet, shock absorbing floor covering, Kencork is building an

ever widening reputation among architects throughout the nation.

To many architects and builders the word Kencork is almost a synonym for luxury. Yet, often, interested customers are pleasantly surprised to learn how moderate in price a luxury like Kencork can be. See your flooring dealer for full details—or ask us for a descriptive color folder. David E. Kennedy, Inc., 71 Second Ave., Brooklyn 15, N. Y.—350 Fifth Ave., New York 1, N. Y.—Ring Building, 1200 18th St. N. W., Washington 6, D. C.—1211 N.B.C. Building, Cleveland 14, Ohio—Bona Allen Building, Atlanta 3, Ga.—Merchandise Mart, 222 West North Bank Drive, Chicago 54, Ill.—Kansas City Merchandise Mart Inc., 2201-5 Grand Ave., Kansas City 2, Mo.—Western Merchandise Mart, 1355 Market St., San Francisco 3, Calif.

# Heat, Ventilate and Air-Condition with ... MULTI-VENT

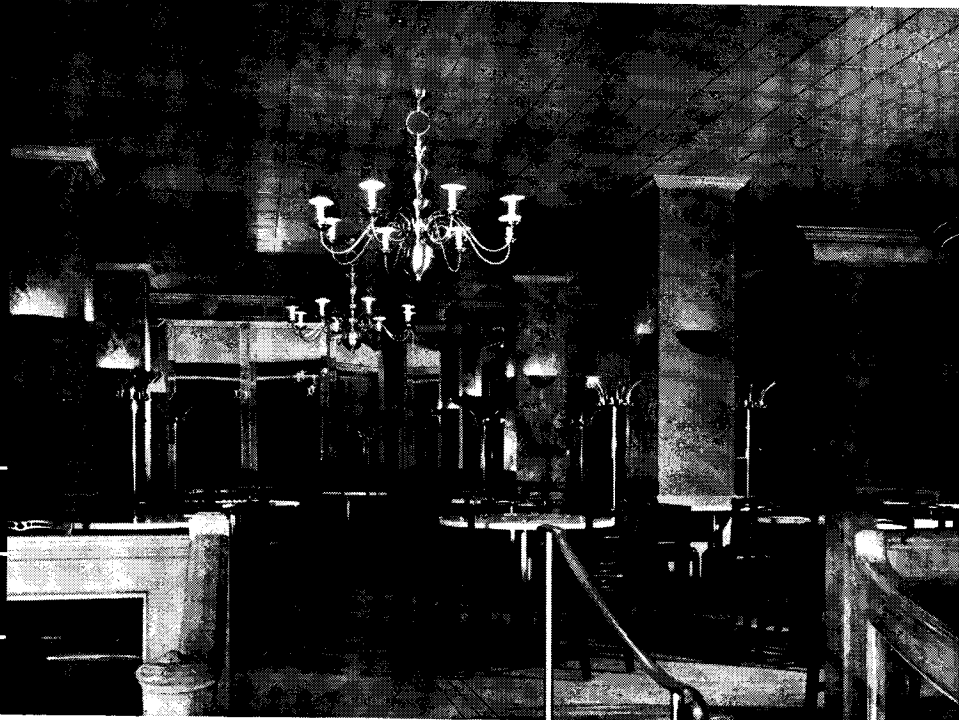
The Only Air  
Diffusion  
System You  
Can't Feel  

---

Can't Hear  

---

Can't See



O'Connell's Restaurant, Michigan Boulevard, Chicago.

Multi-Vent Panels completely concealed by metal acoustical ceiling

**MULTI-VENT** is the only air diffusion system you can't feel because *only* Multi-Vent's exclusively patented total displacement valve and large perforated distribution plate can provide the very low velocity and widespread air delivery necessary to completely eliminate drafts and the subtle, annoying sensations of draft, i. e. uneven room temperatures.

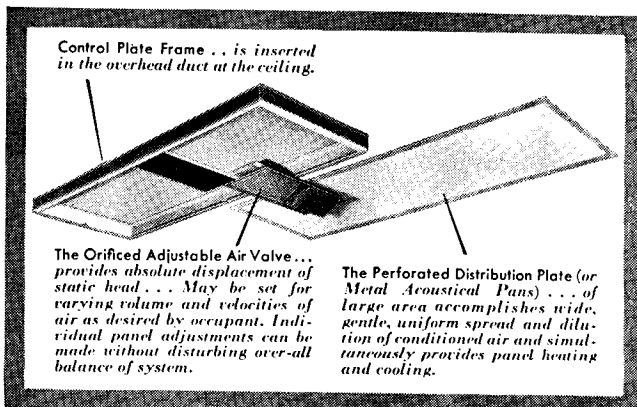
**MULTI-VENT** is an air diffusion system you can't hear, because Multi-Vent's recommended duct velocities and air volume requirements are so low that no audible friction noise is generated by the entering air. In addition, the sound absorption qualities of the perforated distribution plates actually reduces the noise level in any room.

**MULTI-VENT** is the only air diffusion system you can't see, because only Multi-Vent can be completely concealed above the square perforated pans in a *metal* acoustical ceiling. Multi-Vent panels can also be lined up with the creases in *fiber* acoustical ceilings for almost complete concealment. In all other types of installation, with exposed or concealed ducts, Multi-Vent panels are less conspicuous than diffusers of any other make.

**MULTI-VENT**, moreover, is by far the most *effective* and *efficient* air diffuser on the market today! Accurate tests show that Multi-Vent's low velocity air delivery makes possible the use of much

higher diffusion temperature differences without affecting the room occupants' comfort. This in turn greatly reduces the air volume usually required to take care of a given load . . . thereby not only making possible substantial reductions in the tonnage of the basic air conditioning equipment, but also adding greatly to the comfort factor. The result is truly superb comfort. *No drafts . . . no sound of rushing air . . . no protruding ventilating fixtures.* Write for Bulletin for complete information and specifications.

SIMPLE TO INSTALL • QUICK TO BALANCE • EASY TO CLEAN



## THE PYLE-NATIONAL COMPANY

MULTI-VENT DIVISION— 1375 WEST 37th STREET, CHICAGO 9, ILLINOIS

Offices: New York • Philadelphia • Baltimore • Washington, D. C. • Cleveland • Cincinnati • Columbus, Ohio • Detroit • St. Louis  
Kansas City • Omaha • Minneapolis • Denver • Salt Lake City • San Francisco • Greensboro, N. C. • Grand Rapids, Mich. • Winter Park, Fla.  
Canadian Agent: F. W. Chambers and Co., Ltd., West Toronto 5



CONDUIT FITTINGS • PLUGS and RECEPTACLES • TURBO-GENERATORS • LOCOMOTIVE HEADLIGHTS • FLOODLIGHTS

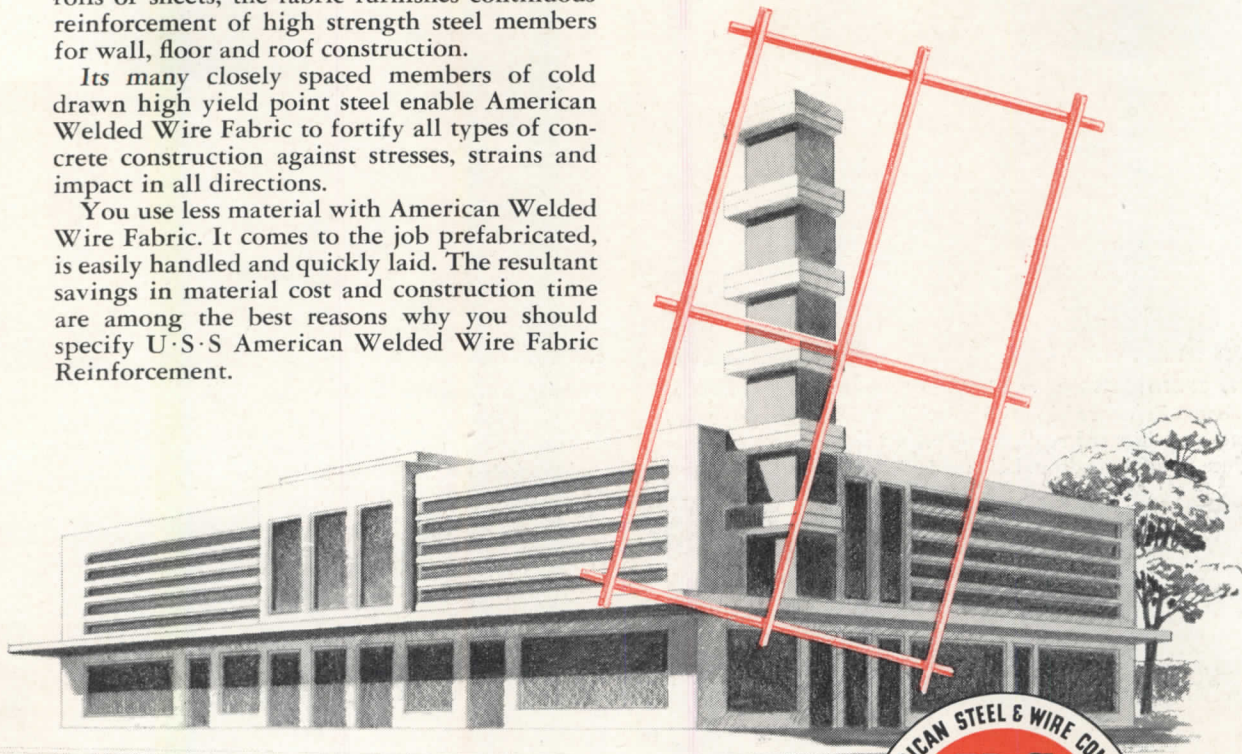
When you specify reinforced concrete . . . . .

**specify** AMERICAN WELDED WIRE FABRIC

● In many modern buildings, architects and construction engineers have made extensive use of American Welded Wire Fabric. Supplied in rolls or sheets, the fabric furnishes continuous reinforcement of high strength steel members for wall, floor and roof construction.

Its many closely spaced members of cold drawn high yield point steel enable American Welded Wire Fabric to fortify all types of concrete construction against stresses, strains and impact in all directions.

You use less material with American Welded Wire Fabric. It comes to the job prefabricated, is easily handled and quickly laid. The resultant savings in material cost and construction time are among the best reasons why you should specify U·S·S American Welded Wire Fabric Reinforcement.



**American Steel & Wire Company**

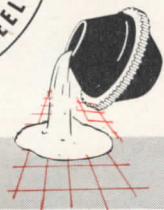
Cleveland, Chicago and New York

Columbia Steel Company, San Francisco, Pacific Coast Distributors

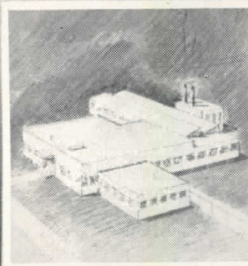
Tennessee Coal, Iron & Railroad Company, Birmingham, Southern Distributors

United States Steel Export Company, New York

**UNITED STATES STEEL**



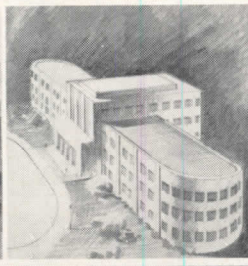
Every type of concrete construction needs **American Welded Wire Fabric** reinforcement.



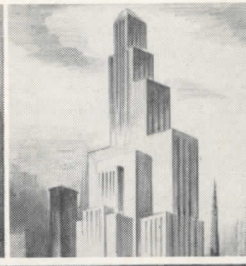
FACTORIES



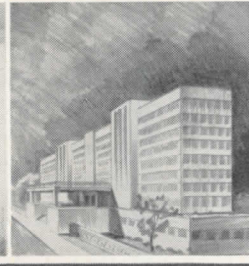
SMALL HOMES



SCHOOLS



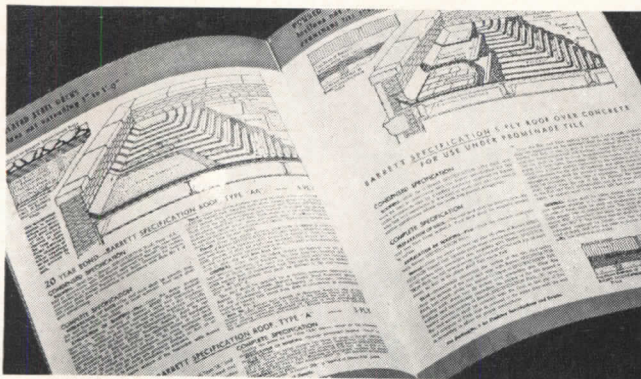
SKYSCRAPERS



HOSPITALS

# Why the Barrett\* SPECIFICATION\* Roof

is the toughest, longest-lasting, best-value built-up roof that can be made



**BARRETT SPECIFICATIONS**, published in Sweet's and also available in the Barrett Reference Manual for Architects and Engineers, stipulate exact quantities and qualities and proved application techniques to produce a uniformly dependable result. They stipulate . . .



**PROPER PREPARATION** of the roof deck, according to type and incline. They specify the number of plies of Barrett Specification\* Felt to be used, the exact quantities of Barrett Specification\* Pitch, and precisely how they shall be applied. They also require . . .



**A FINAL POURING** (not mopping) of Barrett Specification\* Pitch into which, while hot, the gravel or slag is firmly embedded. This forms the famous Barrett armored surface which means extra protection against weather, fire and mechanical damage.



**YOUR FINAL ASSURANCE** of "the finest roof it's possible to build" is the "Section test" made by the Barrett Inspector. This operation provides an unflinching check upon the quantity of materials used and the applicator's adherence to the stipulations of Barrett specifications.

- ✓ 1. Barrett Specification\* Pitch and Felt
2. BARRETT APPLICATION METHODS
3. The Gravel or Slag Armored Surface
4. The Barrett Approved Roofer

**THE SUPERIORITY** of the Barrett Specification\* Roof is due to the combination of highest-quality roofing materials, the protective surface of gravel or slag, and scientifically standardized application techniques used by Barrett Approved Roofers. The result is a roof so good that it can be bonded against repair and maintenance expense for periods up to 20 years—a roof so good that it regularly outlasts the bonded period by many years.



## THE BARRETT DIVISION

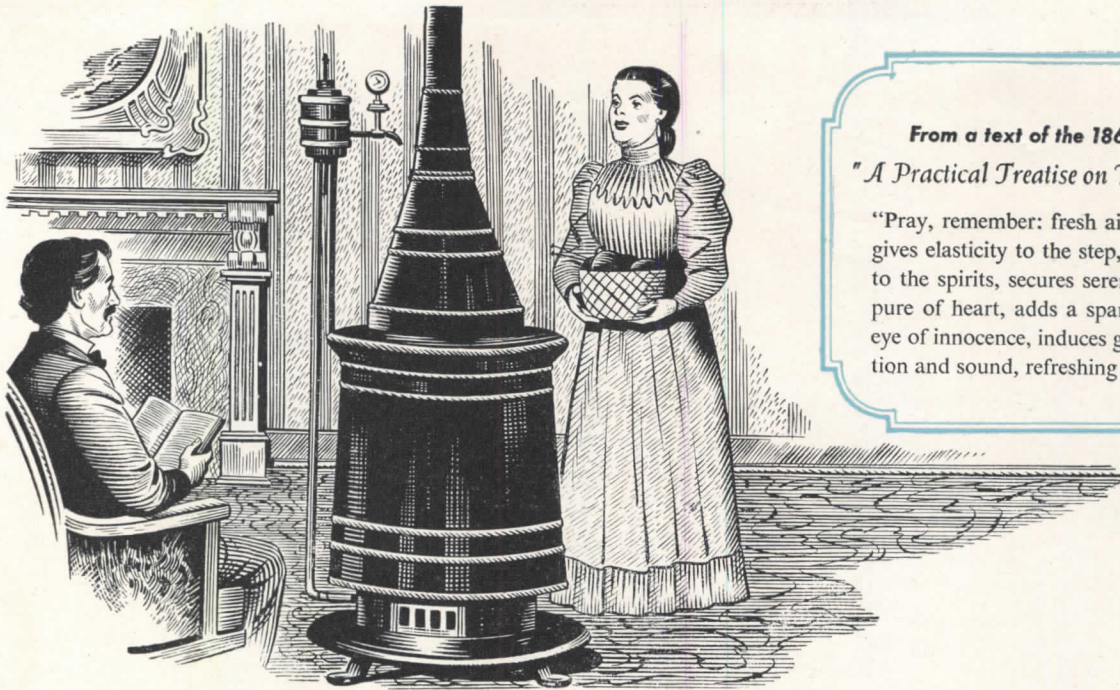
ALLIED CHEMICAL & DYE CORPORATION  
40 Rector Street, New York 6, N. Y.  
36th St. & Gray's Ferry Avenue  
Philadelphia 46, Pa.

2800 So. Sacramento Avenue Chicago 23, Ill. Birmingham, Alabama

In Canada: The Barrett Company, Ltd.  
5551 St. Hubert St., Montreal, P. Q.

\*Reg. U. S. Pat. Off.





From a text of the 1860's...  
*"A Practical Treatise on Ventilation"*  
 "Pray, remember: fresh air, pure air gives elasticity to the step, buoyancy to the spirits, secures serenity to the pure of heart, adds a sparkle to the eye of innocence, induces good digestion and sound, refreshing sleep."

# We've come a Long way since then!

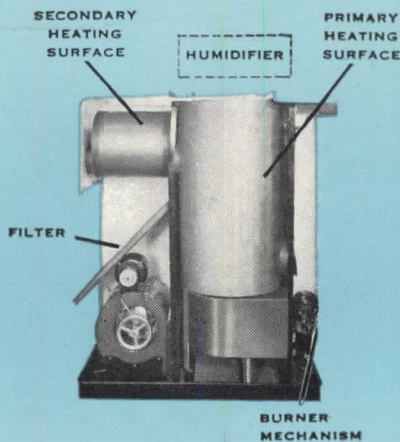


Whether or not Richmond's new Oil Winter Air Conditioner will "secure serenity to the pure of heart, or induce good digestion . . ." (see text above), we really

couldn't say. But, be sure of this: the Richmond Oil Winter Air Conditioner is specifically designed to meet every requirement in small, low-cost home installations.

### Only Richmond Offers All These Features

1. Vaporizing type with unusually low pilot flame—as little heat as a gas pilot. No overheating in mild weather.
2. Automatic control of oil-air ratio at all stages of fire—keeps pot purged!
3. Delivered completely assembled and wired—estimated saving \$20 to \$35 on installation costs.
4. Horizontal design permits quick, easy duct installation on low headroom jobs.
5. Beautiful finish in durable, heavy white enamel.
6. Capacity: 75,000 Btu. at bonnet.



For complete details on the Richmond Oil Winter Air Conditioner, fill out the coupon and mail today.

## RICHMOND RADIATOR COMPANY

AFFILIATE OF REYNOLDS METALS COMPANY

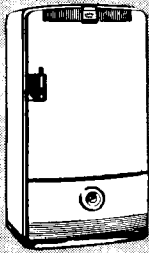
Enameled Cast Iron Ware • Vitreous China • Perma-Gloss • Gas Boilers  
 Oil and Gas Winter Air Conditioners • Gas Gravity Furnaces • Radiators

Richmond Radiator Company  
 19 East 47th Street, New York 17, N. Y.

4AR

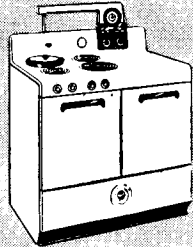
Gentlemen:  
 I am interested in the new Richmond Oil Winter Air Conditioner. Please send me full details by return mail. No obligation, of course.

Name.....  
 Company.....  
 Street Address.....  
 City.....Zone.....State.....



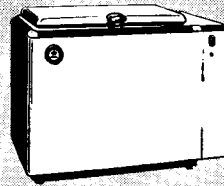
#### REFRIGERATORS

A wide variety, including famous "Cold-Wall." All powered by the "Meter-Miser."



#### ELECTRIC RANGES

A model for every family. Important automatic features, even on low-priced ranges.



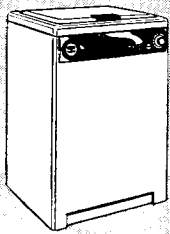
#### HOME FREEZERS

Several sizes from 8 to 16.5 cu. ft. capacities. Heavily insulated, economical to operate. "Meter-Miser" mechanism.



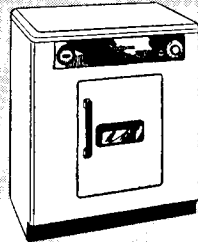
#### CABINETS AND SINKS

Combine all-steel cabinets with refrigerator and range to form efficient work centers. One- and 2-bowl sinks.



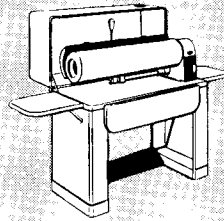
#### AUTOMATIC WASHER

Revolutionary new "Live Water" washing action. Easily installed: no bolting to floor.



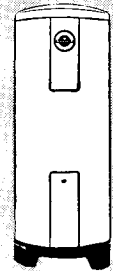
#### ELECTRIC DRYER

Gets clothes ready to iron in 15-25 min. Completely automatic. Simplifies planning.



#### ELECTRIC IRONER

"Prestoe-matic" toe control, "Button-Saver" edge, many other important advantages.



#### WATER HEATERS

Thirty to 80-gal., including "Table-top" model. Put anywhere, no flues; short pipe runs.



*Frigidaire - straight across the board!*

Whether you're an architect, builder, building manager, or owner, there are many good reasons for considering Frigidaire. Here are just a few of them!

**A wide variety** of appliances and equipment to choose from, including Refrigerators, Electric Ranges, Water Heaters, Home Freezers, Kitchen Cabinets, Kitchen Sinks, Automatic Washer, Automatic Dryer, Electric Ironer.

**One single source** for appliances, for service, for warranty. Your nearby Frigidaire Dealer, with his expert facilities for installation and service, is always ready to consult and co-operate with you.

**One high standard** of quality throughout. Skillfully engineered products, precision-built for dependable operation and long life.

**Family appearance** and beauty of de-

sign adds charm to kitchen and laundry. The name Frigidaire builds prestige—builds confidence in buyer or renter—means the backing of over a quarter-century of experience and leadership.

**See your Frigidaire Appliance Dealer** for complete information. Find name in Classified Telephone Directory. Or write Frigidaire, Dayton 1, Ohio. In Canada, Leaside 12, Ontario.

You're twice as sure with two great names



**FRIGIDAIRE** made only by **GENERAL MOTORS**

**INTRODUCING**  
*The First Really*

# **NEW and DIFFERENT**

**FLUORESCENT FIXTURE**

The Achievement of GUTH'S 45 Years of Lighting Leadership

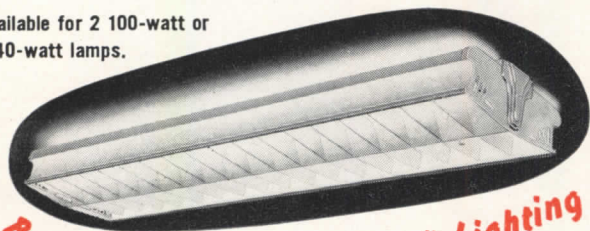
# **Guthlite\***

*-For  
Better Sight*

**Installation Is Fast... Easy!**

The ballast-free channels are hung first—either on the ceiling or suspended—singly or in continuous rows. Then follows simple, straight-through, unobstructed wiring. Finally, the complete reflector unit, which contains reflector, ballast, starter, wiring, lamp holder, lamps, and louvres, is put up in one simple, hook-on operation. That's all there is to it!

Available for 2 100-watt or 2 40-watt lamps.



*Beautiful "Radiant Glow" Lighting*



The GUTHLITE provides efficient, glareless, down light, comfortably pleasing ceiling light, and beautiful soft-lighted sides. There are no horizontal light-reflecting surfaces to gather dust.

The reflector and Exterior are finished 300° PERMALUX WHITE, with satin finish ALZAK aluminum louvres, polished aluminum end ornaments, (removable when used in continuous rows), and decorative die-cut light windows in ends. A truly beautiful luminaire. Write today for detailed information—Bulletin No. 1845D.



Featuring the  
**Exclusive  
"Jackknife"  
Hinge!**

*Lamps Replaced—  
Starters Changed—  
Reflectors Cleaned—  
All Right from the Floor!  
No Ladders—No Fuss!*

Here is the fluorescent fixture that solves, once and for all, every problem in fluorescent lighting! Easy and fast installation. Simple, safe, time-saving maintenance. A fixture that symbolizes the progressive, forward-looking achievements of GUTH—pioneers in lighting!

## **"Jackknife" Hinge Makes It Simple to Service As 1-2-3!**



**1**—A twist of the wrist opens the spring latch — releases the reflector unit to swing down, smoothly and safely, on the "Jackknife" Hinge.



**2**—Reeled spring counter-balance reflector channel; means easy lowering and raising. Circuit is broken as soon as Fixture is opened.



**3**—From the floor, lamps and starters can be changed; reflectors and louvres can be dusted. As an added feature, the entire channel can be unhooked and removed for thorough washing.

**THE EDWIN F. GUTH CO. • ST. LOUIS 3**

*Leaders in Lighting Since 1902*

\*Trade Mark. U. S. & Canadian Patents Applied for



# Why

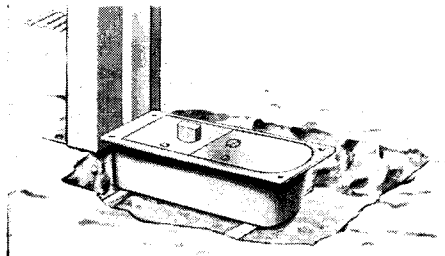
## Overhead Door Closers Cost Less



than Floor Type  
Closers . . . and do  
a Better Job!

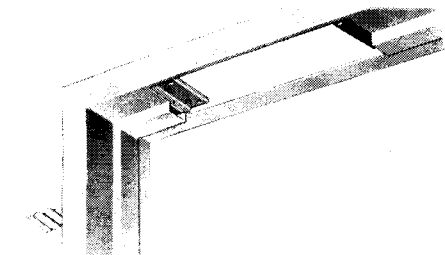
### They are Simpler to Install

The cost advantage of using an overhead concealed closer rather than the floor type begins with installation. With costs of on-the-job work so high these days, the architect must do what he can to keep them down.



Floor type closer set for grouting

To install a floor type door closer a recess must be prepared in the floor, by setting a form while the floor is poured or by chipping out the concrete after the rough floor is in. Beams and conduits often make locating the closer difficult.



Frame prefabricated for overhead concealed closer

If a threshold is used it must be of the box

type or one specially cut and drilled to take the closer, both expensive.

Note that the overhead closer is simply secured into openings blanked out of a metal frame and door at the factory, or easily mortised into a wood frame and door.

### No Expensive Thresholds

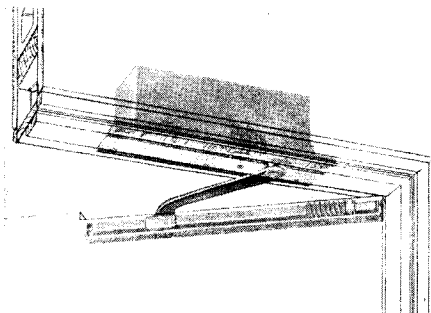
With the overhead closer a simple extruded threshold can be used, or none at all, as conditions require, at a substantial saving.

### No Separate Door Holders

As most types of LCN overhead concealed door closers offer a hold-open feature in the closer itself there is no need for separate door holding devices—another saving in cost.

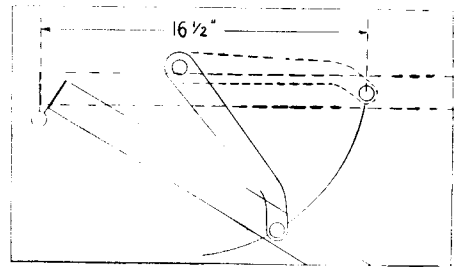
### No Separate Shock Absorbers

Most LCN overhead concealed door closers have built-in "back check" or shock absorbing features, so no separate devices for this purpose are needed—another saving in cost.



Phantom view of LCN Overhead Concealed Closer

### Overhead Closer is More Effective



Since an overhead concealed closer is not in the way of foot traffic, its power can be applied much farther out from the hinge (see diagram) than that of a floor closer. Result: greater leverage, less strain, longer life, lower maintenance.

### We Make Both Types of Closers

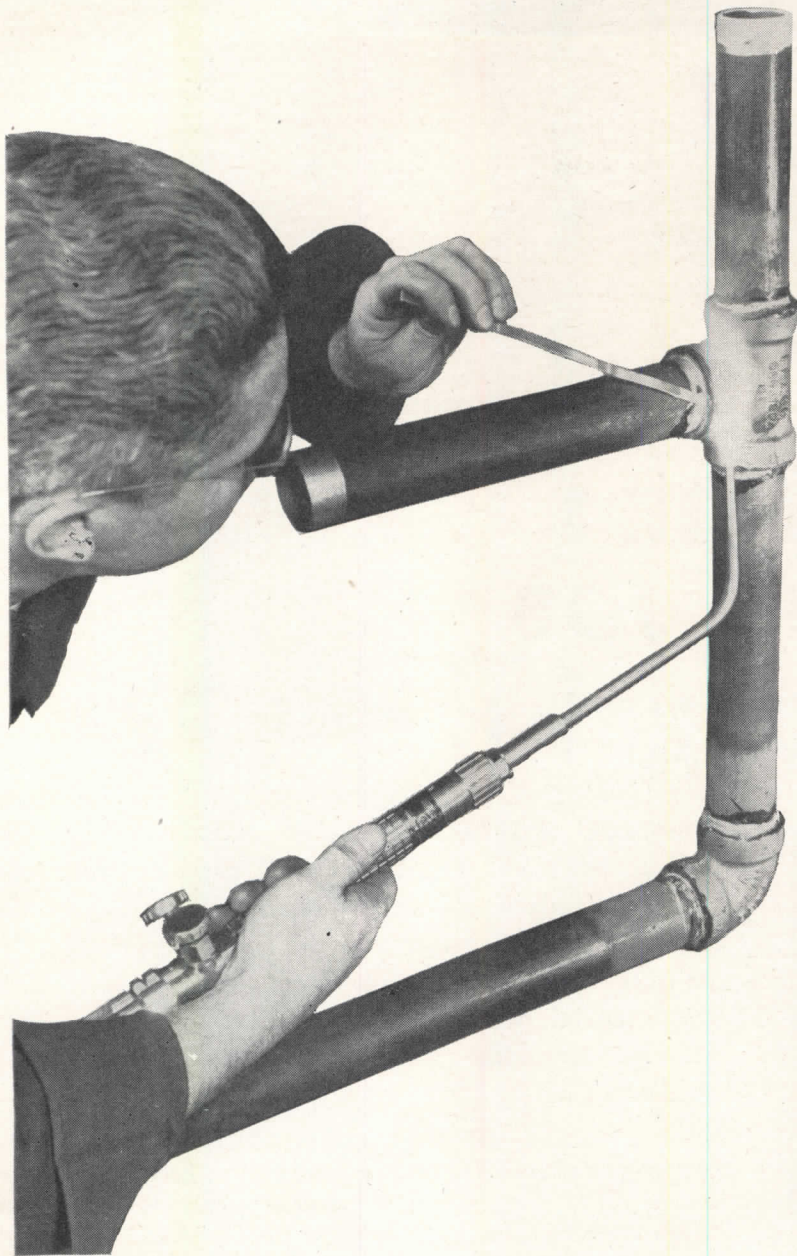
We're not prejudiced. We make three series of LCN floor type closers and believe them the finest of their kind. But we recommend the overhead type wherever possible, as they cost less installed, cost less to keep in shape, and give better results.

### Send for Latest Information

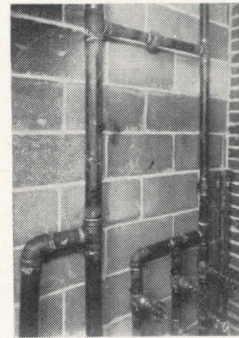
The LCN catalog 11-a is really a handbook of good door control, showing applications of 10 types of concealed closers, principles of operation, getting needed leverage, types of exposed closers, etc. We'll gladly send you a copy. No obligation. Address LCN Closers, Inc., 166 W. Superior St., Chicago 10, Ill.

# LCN

## Overhead and Floor Type Concealed and Surface Type Door Closers



let  
*capillary  
 action*  
 do  
 what  
 strong-arm  
 methods  
 can't



**F**LAGG-FLOW *Threadless* Malleable Fittings make tough piping jobs easy. They can be positioned to face in any direction — precisely and accurately — then Capillary Action draws the Silver Brazing Alloy into the joint to make a perfect, permanent bond. You eliminate backing-off or taking-up to compensate for faulty threads or measurements; there is no distortion strain from manhandling a pipe wrench.

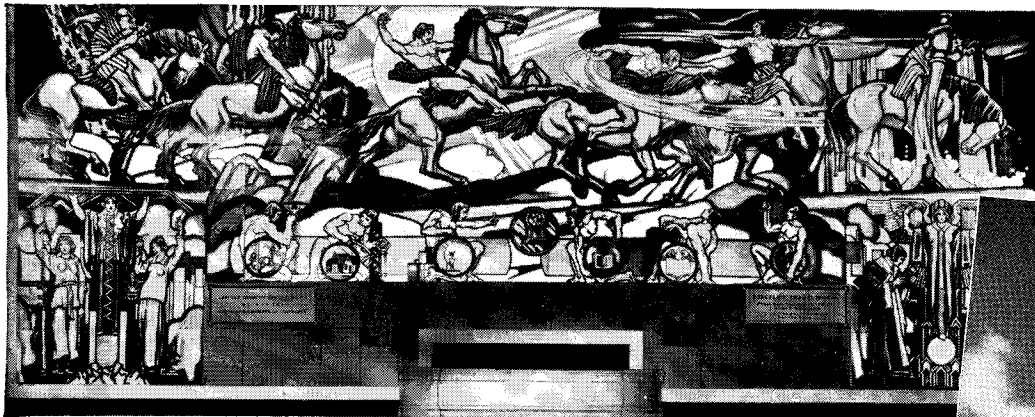
What is more, FLAGG-FLOW can be installed wherever pipe will go and a torch will reach—in tight spots around machinery, or in awkward corners that defy a wrench. Nor is special skill and experience required to make permanent, maintenance-free joints. Any competent pipefitter can make joints as strong as the pipe itself by observing the simple three-step rule: CLEAN — FLUX — HEAT.

Use FLAGG-FLOW *Threadless* Malleable Fittings wherever standard black steel or wrought iron pipe is applicable. Write today for Catalog giving full details.



**STANLEY G. FLAGG & CO., INC.**  
 1421 Chestnut Street, Philadelphia 2, Pa.

MALLEABLE IRON FITTINGS, STD., EX. HVY. AND AAR • CAST IRON FITTINGS • DRAINAGE FITTINGS • FLANGE UNIONS • FLANGES  
 GROUND JOINT UNIONS • BRONZE THREADED FITTINGS • BRONZE SOLDER FITTINGS • UNDERGROUND TANK FITTINGS



Multi-colored porcelain enamel mural, size 72 feet by 28 feet, given to the Union Terminal, Cleveland, Ohio, by the Ferro Enamel Corp., Cleveland. Designed and executed by J. Scott Williams in Seaporcel's plant.

SATTLER'S DEPT. STORE  
Buffalo, N. Y.

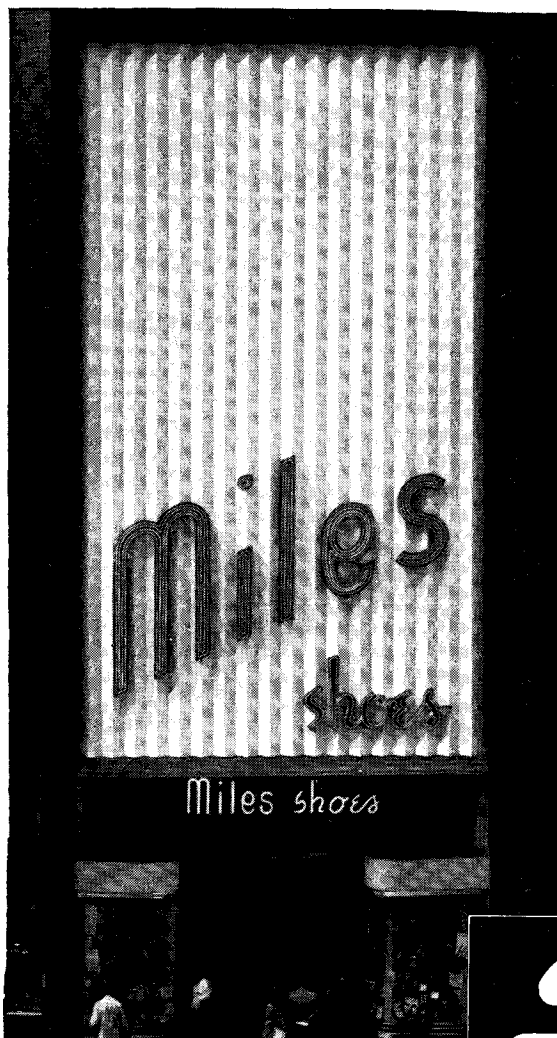


Sign by FLEXLUME SIGN CO.  
Buffalo, N. Y.

## An old FACADE gets a FACE LIFTING JOB



[ A New Store Gets an  
Eye-catching Sign ]



MILES SHOE STORE—34th Street, New York City  
Michael Polom, N. Y., Designer

SEAPORCEL PORCELAIN enamel manufacturing techniques and metal fabricating skill produce store and building fronts which are a distinct departure from the commonplace flat surface designs. Today Seaporcel turns out your project in almost any *odd* shape you want . . . be it fluted, reeded, pyramided or serrated like the Miles Shoe Store Building. Here's a building that certainly was given a master face lifting.

**THE OLD FACADE**—(if we dare say so)—was a wreck. The transformation is a thing of beauty . . . sparkling, colorful . . . 55 ft. high by 25 ft. wide with separate raised letters. Here the designer's ideas were given full sway. Permanence and beauty fully complement other elements of design. Seaporcel can be hung as a curtain to hide outmoded building exteriors.

**MR. ARCHITECT, MR. DESIGNER** . . . here are new avenues of approach for versatile and flexible design. Seaporcel Porcelain Enamel is available in almost limitless colors—and quite a few textures—that remain lustrous in a material that is practically ageless. Light in weight, Seaporcel is easily handled. Installation is by concealed fastenings.

Write today for catalog showing applications and current jobs.

**SEAPORCEL PORCELAIN METALS, INC.**

Formerly Porcelain Metals, Inc.

28-02 Borden Avenue, Long Island City 1, N. Y.

\*Reg. U. S. Pat. Off.

Offices in Many Principal Cities

Complete American Federation of Labor Enameling and Metal Fabricating Shop

# Seaporcel

Member: Porcelain Enamel Institute, Inc

SEE OUR  
CATALOG IN  
SWEET'S

# Granite gives Character to a building—

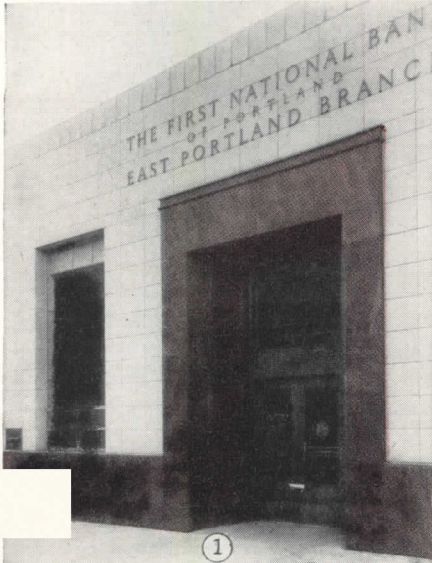
CHARACTER THAT'S RETAINED THROUGHOUT ITS LIFE!

Eleven colors and textures are available in The Rainbow Line of Granites. Architects throughout the Nation are using these granites to establish individuality, dignity and character to their designs. Granite affords a permanency that is otherwise difficult to achieve. Engineering advancements and quarrying and fabricating now bring installation costs within attractive range. Polished surfaces stay clean with simple washing; no other maintenance, for there is no moisture absorption; no expansion

or contraction to these hard, northern, non-porous granites.

Thin, polished granite (vener) is popular for both new construction and for refacing of old buildings. Other thicknesses and dimensions to economically meet every specification. Inquire of a Cold Spring representative near you or write The Cold Spring Granite Company, Cold Spring, Minnesota.

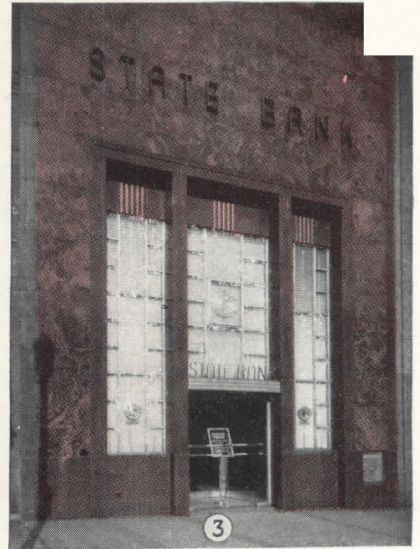
## The Rainbow Line



1



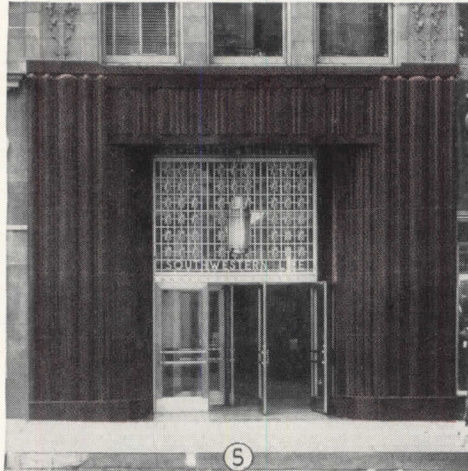
2



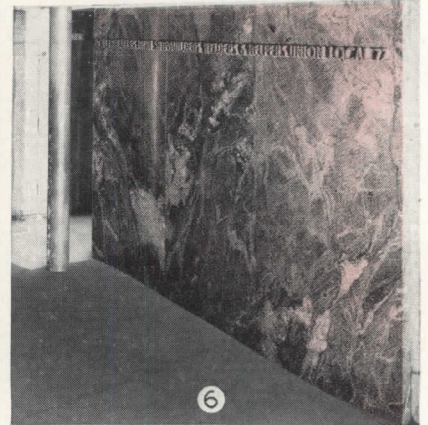
3



4



5



6



7

## COLD SPRING GRANITE COMPANY

COLD SPRING • MINNESOTA

Sweet's file  $\frac{4a}{5}$  shows color reproductions.



8

1. East Branch First National Bank, Portland. Barrett and Logan, Architects. 2. Federal Building, Los Angeles. Gilbert Stanley Underwood, U. S. Supervising Architect; W. E. Reynolds, U. S. Commissioner of Public Buildings. 3. State Bank of Welston, Mo. Bernard Bloom, Architect. 4. St. Louis Daily Record. Mauran, Russell and Crowell, Architects. 5. Southwest Life Building, Dallas. Lang and Witchell, Architects. 6. Boilermakers Union, Portland. Pietro Belluschi, Architect. 7. Carl Greve Jewelers, Portland. Pietro Belluschi, Architect. 8. Bankers Life, Des Moines. Tinsley, Higgins and Lighter, Architects.

**Plan for SAFETY and  
EFFICIENCY in the  
ARTERIES of the building**



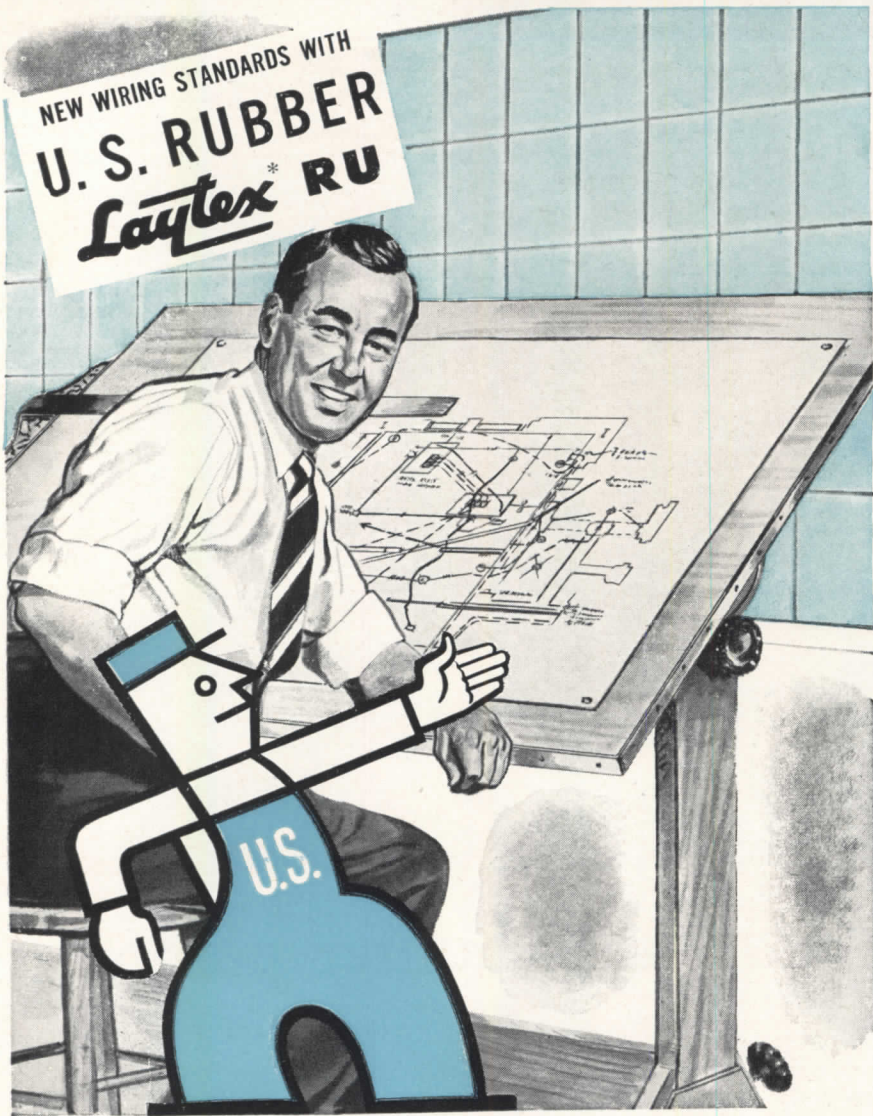
Every architect, building manager, realtor or home owner knows that reliable piping for plumbing and heating is the most important thing in the building. To use out-moded, rustable pipe with its old-fashioned threaded fittings to supply modern fixtures and radiators is as impracticable as it is inconsistent.

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. With the possible exception of extremely abnormal water conditions, STREAMLINE will out-last the building in which it is installed. There will be no future repair bills.

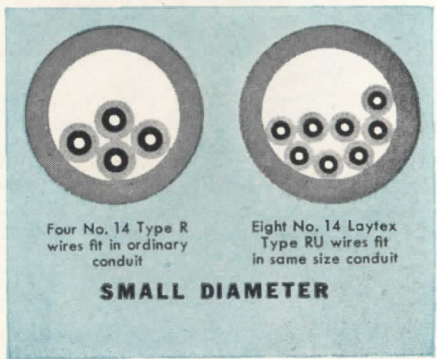
A STREAMLINE Copper plumbing or heating piping system is the most practical to install. It combines reasonable cost with long life and efficient service. Rustable piping may afford satisfactory service for the first few years—then expense and trouble commence. Install a STREAMLINE Copper system for the postwar home or building. It will be just as good tomorrow and all the succeeding tomorrows as long as the building stands.

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





United States Rubber Company's unique dip or pass method applies the insulation in *perfectly uniform* layers. Moreover, this insulation is 90% pure rubber, unmilled in order to preserve its high physical qualities. The extra strength of natural rubber, plus a strong fibrous cover and special finish gives extra protection against mishandling, sharp bends, moisture and flame.



Yet, despite the unusual safety features of Laytex RU, this wire is smaller in diameter and lighter in weight than any other natural rubber covered wire on the market. Not only is Laytex unsurpassed in physical and electrical qualities, but it will also permit *more wires per conduit*.

*The tensile strength* of Laytex RU is over 7 times that of Type R, and twice that of Type T. Its insulation resistance constant is over 3 times that of Type T, and over 8 times that of Type R. Add all these advantages up, and no wonder Laytex RU is the finest building wire on the market today.

U. S. Laytex RU is labeled by the Underwriters' Laboratories and listed in the National Electrical Code as an all-purpose wire. Send for a sample and free booklet. Write Wire and Cable Department, United States Rubber Company, 1230 Avenue of the Americas, New York 20, N. Y.  
\*Reg. U. S. Pat. Off.

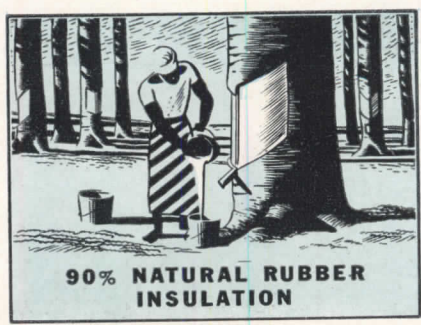
"This Wire's got Safety and long Life...It's **Laytex RU.**"



PERFECT CENTERING

So says Mr. USRUBBY, the Wire Engineer. And you, Mr. Architect, will agree with him. For when you specify U. S. Laytex RU, you are

getting a wire that will not suffer from the dangerous thin spots formed on ordinary wires. Why? Because



90% NATURAL RUBBER INSULATION

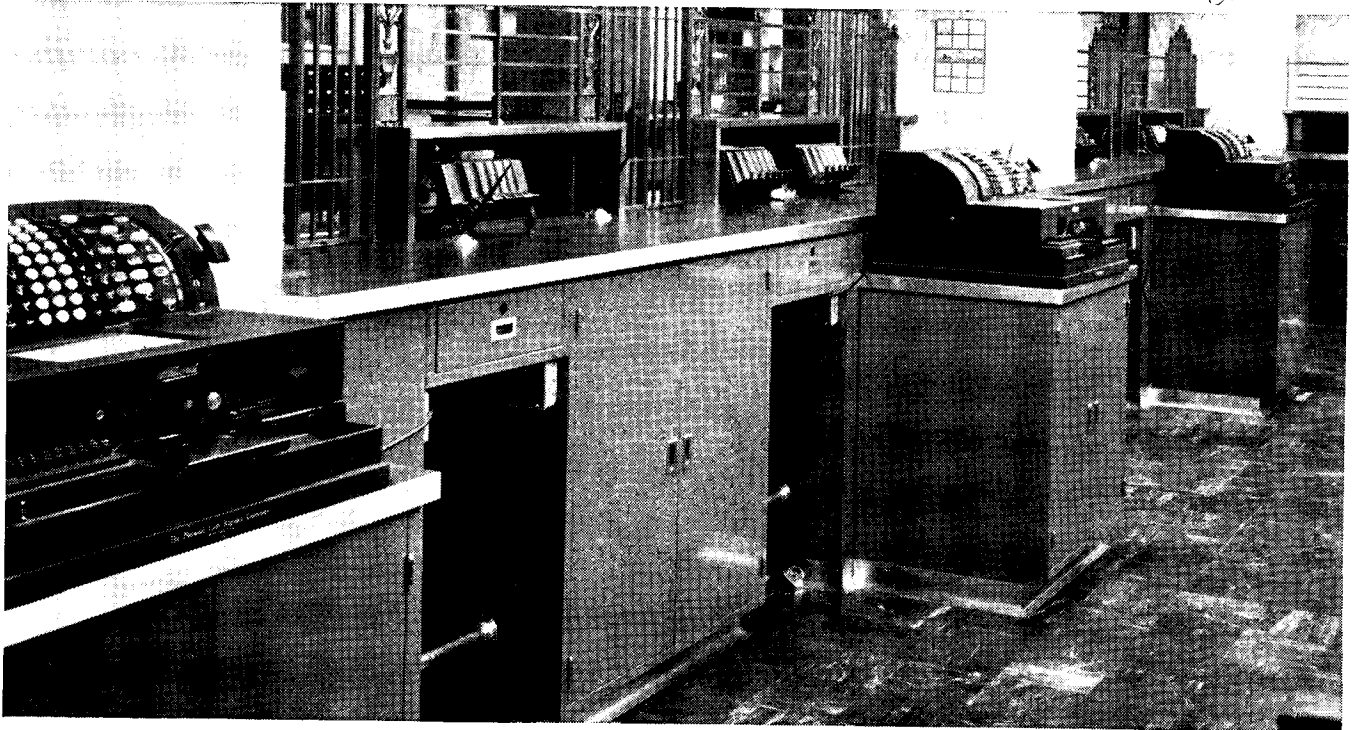


A PRODUCT OF  
**U.S. RUBBER**  
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

*All wiring with* **RU?**

**better** over-the-counter service



requires **expert** under-the-counter planning

*This behind-the-scenes view of the recently remodeled banking room of the Commerce Trust Company, Kansas City, shows a typical modern Herring-Hall-Marvin counter work installation.*

More and more banks and their architects are depending upon Herring-Hall-Marvin engineering service in planning bank equipment arrangement and installation.

At no cost or obligation, the Herring-Hall-Marvin expert first surveys your client's needs . . . studies them . . . then submits a detailed recommendation to you. Many architects have found this expert counsel saves time as well as costly unforeseen construction changes. It's yours for the asking.



Write for free folder . . . "Today's Master Architect and the Modern Bank." It further describes engineering and architectural cooperation available. For immediate information on bank vaults and vault entrances, see our catalogue 24g in Sweet's File.

2

**HERRING-HALL-MARVIN  
SAFE COMPANY**

General Offices • Hamilton, Ohio

**BRANCH OFFICES:**

In New York, Chicago, Boston, Washington, St. Louis, Atlanta, Houston, Philadelphia, San Francisco, Los Angeles, Detroit, Pittsburgh, Omaha, Indianapolis, Minneapolis, Charlotte.

**OTHER AGENCIES ALL OVER THE WORLD**

# "Like Going to Florida"



says this owner of a B & G  
Hydro-Flo Panel Heating System

Here's a report on B & G Hydro-Flo Heating that requires no further comment: "In 1945 your company made a layout for a radiant heating job

which was to be installed in a new home which we were to build and occupy. To my knowledge, this was the first job of this kind in this immediate neighborhood.

"The house was completed and occupied in the Spring of 1946. We have now completed one full heating season and want to tell you how very much we enjoy this luxurious heating.

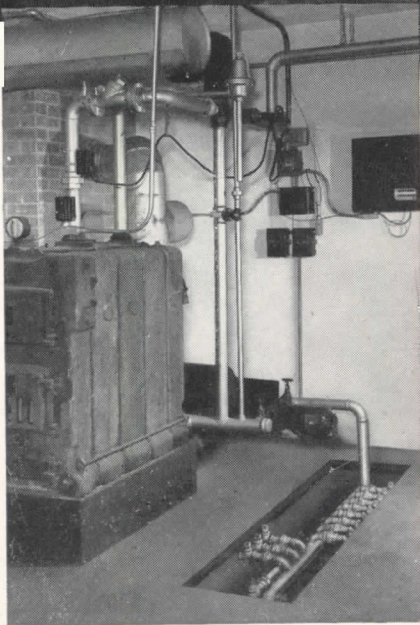
"To go home is like working in the cold all day and then going to Florida for the night. It is hard to describe the comfort that this type of heating provides.

"We have used much less fuel than we anticipated—at least a third less. The house has been comfortable, no drafts, less

dirt, and warm floors all of the time. The room temperature is carried at 68° to 70° and we were actually very comfortable.

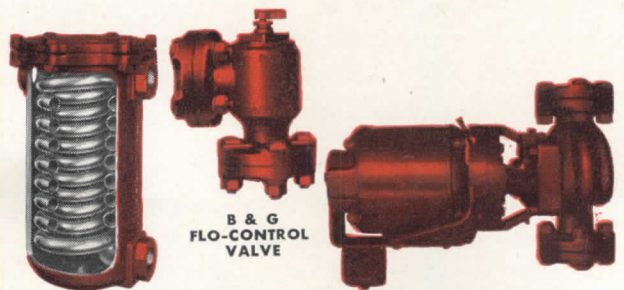
"Our boiler has been fired with a Winkler self-feed stoker, the coal bin being between the utility room and the garage which are connected together as one unit. We have a one-story house with no basement. We used wrought iron pipe with concrete floors throughout. The garage is heated also, although at a lower temperature than the house. The pipes in the bathroom are four inches apart and the balance of the house, twelve inches apart. They are eighteen inches apart in the garage.

"I appreciate the engineering information furnished by your company and want you to know all of the B & G equipment is performing 100%."



Boiler room photo shows the returns from the panels carried to a pit for draining the system if ever necessary. Square head cocks permit adjustment of water flow.

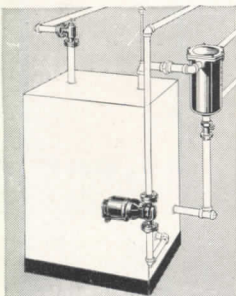
The Basic  
Units of a B & G  
Hydro-Flo  
System



B & G INDIRECT HEATER

B & G BOOSTER

B & G Hydro-Flo Heating equipment can be installed on any hot water boiler. Its simplicity is a warranty of dependable service-free operation. Send for descriptive literature.

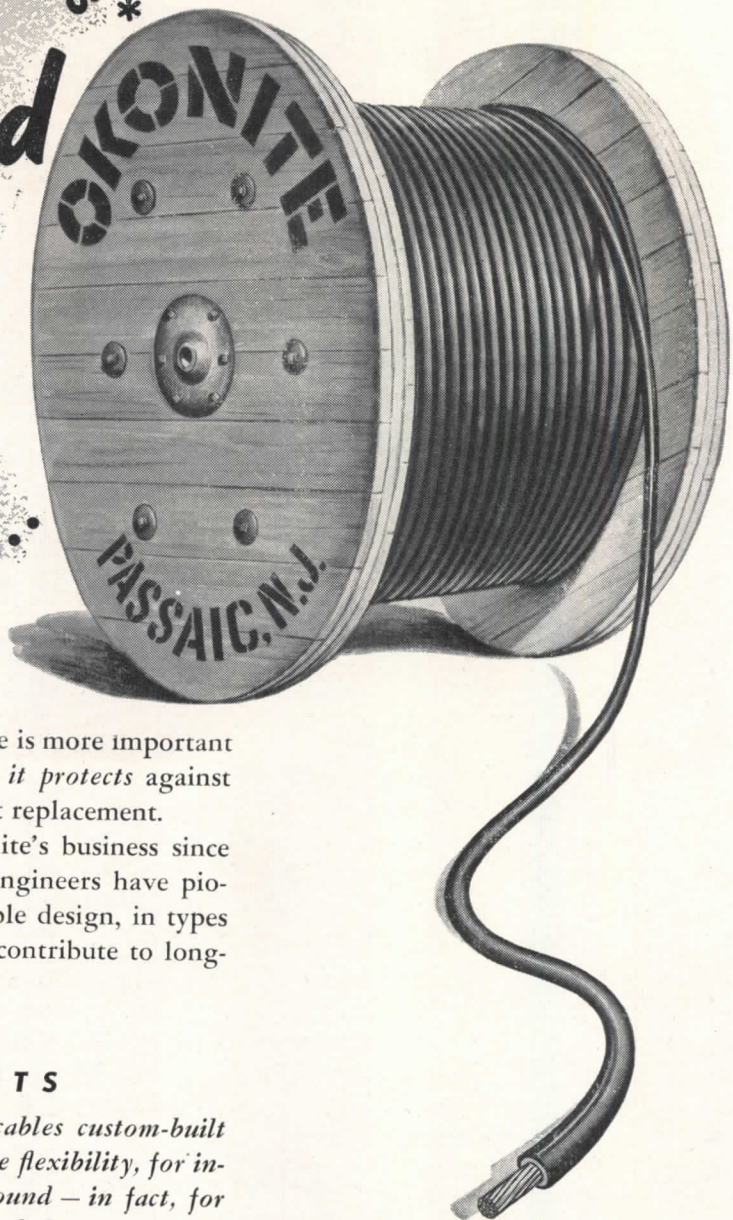


## Hydro-Flo<sup>\*</sup> HEATING

BELL & GOSSETT COMPANY  
Dept. AM-32, Morton Grove, Ill.

\*Reg. U. S. Pat. Off.

with today's installation costs \*  
 only the  
**Longest-Lived**  
 will be economical...



With costs as high as they are, choosing a cable is more important than ever. And no one can afford a cable *unless it protects* against unnecessary repairs . . . against removal . . . against replacement.

Building true value into cable has been Okonite's business since 1878. In the company's seven decades, Okonite engineers have pioneered advance after advance in insulation, in cable design, in types of assemblies, in methods of manufacture which contribute to long-lived, failure-free operation.


**...FOR INDUSTRIAL PLANTS**

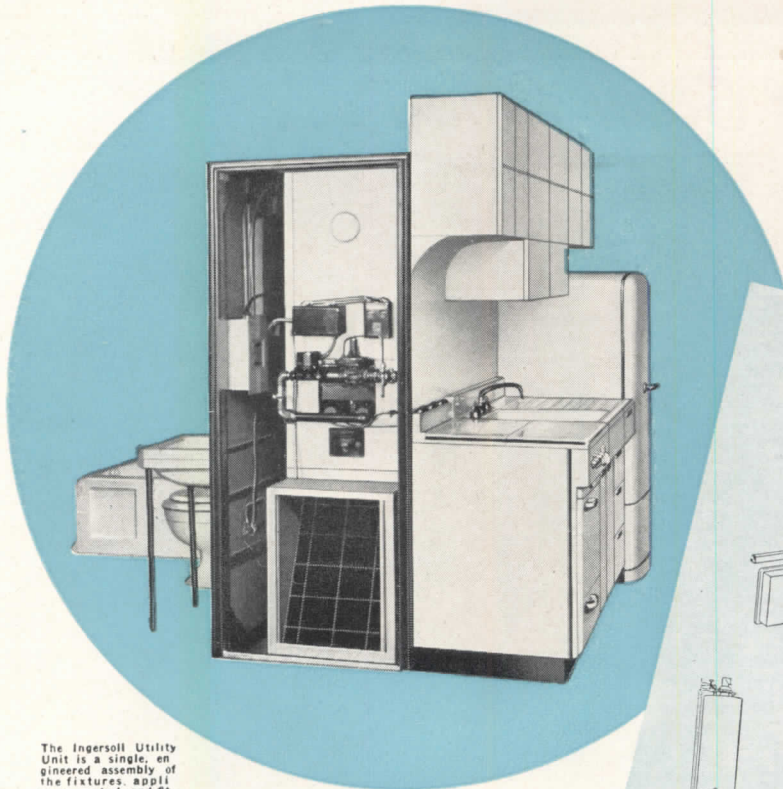
*are specific types of Okonite wires and cables custom-built for hot spots, for wet locations, for extreme flexibility, for indoor and outdoor use above or below ground — in fact, for use wherever insulated conductors are needed regardless of the external difficulties.*

What goes into an Okonite cable to make it do a better job . . . what tests it must pass . . . what care is taken to control its electrical characteristics — all this and other data are found in 32-page Research Bulletin 101. For a copy, address The Okonite Company, Passaic, N. J.

\* The lifetime cost of a cable rather than its first cost is the only true measure. Okonite wires and cables, built to stand up better and longer, can offset high installation costs.

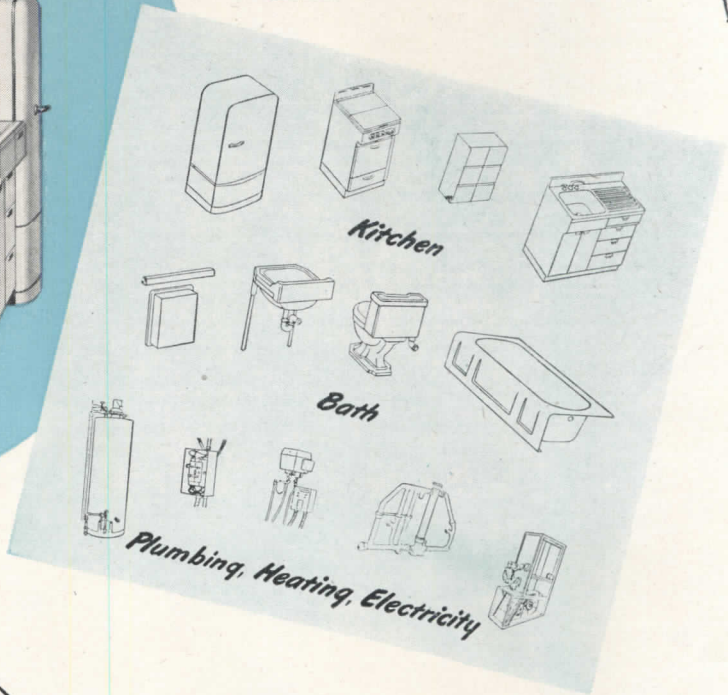
6286

**OKONITE**  **insulated wires and cables**  
**THE BEST CABLE IS YOUR BEST POLICY**



The Ingersoll Utility Unit is a single, engineered assembly of the fixtures, appliances, controls and fittings of Kitchen, Bathroom and Heating Plant, plus basic plumbing and electrical lines.

*Package  
Purchase  
Installation*



**Ingersoll**  
UTILITY UNIT  
TRADE MARK

**Now Available To Meet Local Code Requirements,  
Fit Individual Plans, Schedules and Needs**

*Permits Architects and Builders To Give Greater Value, Speed Up Small Home Construction*

You can give greater value, come out with a good profit, and do the job easier and faster if you figure the Ingersoll Utility Unit into your small home construction plans. With installations in 416 cities throughout the country, architects and builders have found that the convenience, adaptability and economy of the Unit is giving them a real competitive advantage in housing projects, large or small.

Now being produced to more efficiently help you meet local code requirements and to fit individual needs, the Ingersoll Utility Unit is adaptable to a wide variety of plans in single homes and multiple dwellings. Its completeness and compactness simplifies time-consuming specifications, helps cut construction time, and its quality parts insure home-owner satisfaction. Send for complete details on how Ingersoll's "One Purchase, One Package, One Installation" plan will benefit you.

Installations in <sup>416</sup>316 Cities Prove That Unit Meets  
Local Requirements, Fits Individual Plans and Needs



GET THIS  
NEW  
ARCHITECTS  
MANUAL

**Ingersoll**  
UTILITY UNIT  
TRADE MARK

Ingersoll Utility Unit Division  
Borg-Warner Corporation  
321 Plymouth Court, Chicago 4, Illinois

MAIL THIS COUPON TODAY

INGERSOLL UTILITY UNIT DIVISION  
Borg-Warner Corp., Dept. M-4  
321 Plymouth Court, Chicago 4, Ill.  
Please send me your new "Architects Design Data" manual.

Name .....

Firm .....

Address .....

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

*because of Steel Pipe . . . .*



## **father and baby are "doing fine"**

Mother, too . . . safe and smiling just down the hall, secure in the knowledge that modern aseptic practices have virtually banished the old causes for a father's fear at "blessed event" time. And baby, in his germ-free kingdom of cribs, will live to learn that any boy may grow up to be president!

Asepsis (freedom from harmful organisms) is best achieved, says a nationally known physician, by the "frequent and copious application of hot water, soap, and elbow grease."

Yes, good health and good water go hand in hand. Every hospital, every doctor's office, every home can be practically infection-free when

pure water is generously utilized to promote cleanliness.

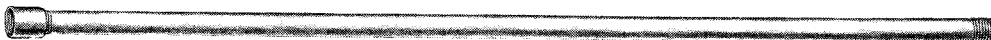
*Steel pipe makes it possible!*

For steel pipe is economical, adaptable, serviceable and durable . . . qualities which make practical its unrestricted use in the transmission of water, gas, oil, steam and other fluids wherever or whenever they contribute to the health, safety, comfort or convenience of mankind.

The interesting story of "Pipe in American Life" will be sent upon request.

COMMITTEE ON STEEL PIPE RESEARCH of American Iron and Steel Institute, 350 Fifth Avenue, New York 1, N.Y.

## **STEEL PIPE MAKES IT POSSIBLE!**

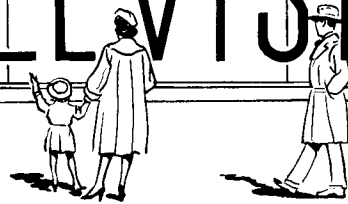


*. . . better living through pipes of steel for plumbing and heating purposes.*



**STORE  
FRONTS**  
*with*

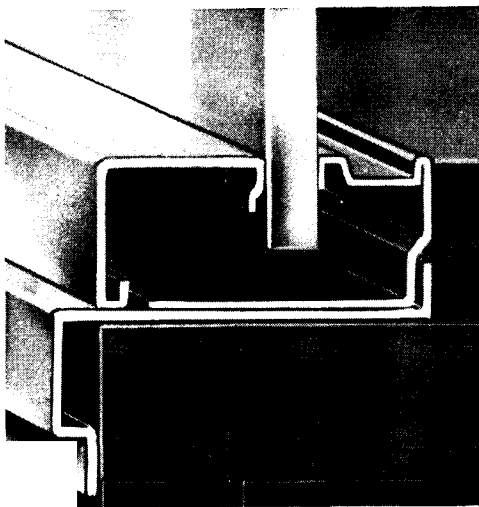
**SELLEVISION**



**ENTICING** the shopper with a preview of the attractions inside through an all-revealing glass front — that's *Sellelevision*. It offers a good show and few can resist its subtle appeal to eye and purse. But store fronts with *Sellelevision* require construction especially designed for the purpose. That's why Brasco created **SAFETY-SET**.

*Safety-Set* members are expertly fabricated in heavy gauge metals, strongly reinforced, to sustain the larger glass loads required by *Sellelevision* fronts. The sash exposes more glass than other settings because its height is substantially lower. An unequalled degree of glass safety is achieved with **FINGERTIP SETTING** — a Brasco exclusive which eliminates screws and other pressure devices.

Wide choice of attractive sash and sill combinations in stainless steel or anodized aluminum permits individuality in architectural treatment with standard stock members. Investigate *Safety-Set* Construction when you plan a *Sellelevision* store front ... it shows more ... and sells more.



One of the five new Brasco  
*Safety-Set* Sash, actual size

★ A COMPLETE LINE FOR EVERY DESIGN ★

**Brasco**  
**SAFETY-SET**  
**STORE FRONTS**

**BRASCO MANUFACTURING CO**  
**HARVEY • (Chicago Suburb) • ILLINOIS**

*Specialists in Metal Store Front Construction for more than 35 Years*

Copyright 1948 by Brasco Manufacturing Co.

# Wrestling with a *Carpet Problem,*



EMBARRASSED because your client...or client's wife...or his girl friend (girl decorator-friend, that is) is asking a lot of technical carpet questions you don't have the answers for?



AT YOUR WIT'S END trying to figure the relative merits of Velvet, Wilton or Axminster...whether 3/4 is a better buy than 12/4?



RELAX, BROTHER! Just call in an Alexander Smith sales representative or contractor. He's a carpet specialist, and he'll make you one - as far as your job in hand goes - in no time at all.

No matter whether you're figuring on a new job or a renovation...a six-figure project or just a rent-payer...a store, theatre, hotel, club, institution, housing development - anything that involves carpet, you'll save yourself time, worry and money by calling in an Alexander Smith sales representative or contractor at the outset. He will:

1. Cut your cost by keeping yardage down.
2. Save on upkeep by advising the most

*Consult a  
Contract Carpet  
Specialist!*

economical weave and quality for each specific location.

3. Increase your satisfaction by suggesting designs and colors which harmonize best with your interiors.

Alexander Smith sales representatives and contractors handle both the Alexander Smith and Masland lines which include a complete range of weaves, qualities and colors suitable for every type of carpet installation. They will be glad to furnish you with samples.

## ALEXANDER SMITH ★ MASLAND

*Contract Carpets*



# Mr. Architect?



Illustrated: Masland's "Scranton", 1129/35, a Wilton carpet especially suitable for hotels and stores.

*Write*

Contract Service Department  
 Alexander Smith & Sons Carpet Company  
 295 Fifth Avenue, New York 16, N. Y.



There are Alexander Smith sales representatives and contractors in practically every city in the United States. A letter or postcard will bring you the names and addresses of those nearest you.

**1. Extra Width.** KIMSUL blankets provide fully insulated fastening edges.



**3. Many-layer Stitched Construction.** High thermal efficiency. ("k" factor of dependable KIMSUL is 0.27.)



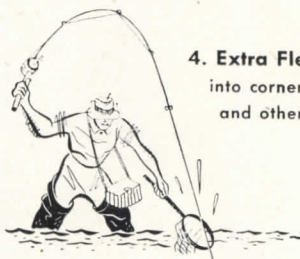
**2. Handy Compressed Package.** Comes in light, compact rolls—reduced to 1/5th installed length. Easy to handle—easy to apply.



No other insulation gives you these 6 exclusive building advantages



**4. Extra Flexibility.** Fits snugly into corners, behind pipes and other "tight spots".



**5. Caulkability.** Cut strips are excellent for caulking around windows and door frames.



**6. PYROGARD† Fire-Resistant Cover.** Even its cover is entirely treated to resist fire and flame. A unique KIMSUL feature.



What's more, KIMSUL\* insulation is pre-cut to fit standard spaces between studs and rafters. It's permanent—won't sag or settle. Clean—no sharp particles to irritate workmen's skin. Adds little to structural load. (1,000 sq. ft. of Standard Thick KIMSUL weighs only 115 lbs.) Resists fire, moisture, vermin and fungi—and it's termite-proof. KIMSUL comes in

three thicknesses for the proper balance of efficiency and economy. Specify Commercial Thick (about 1/2 in.) and Standard Thick (about 1 in.) for walls, attics and floors; Double Thick (about 2 in.) for attics.

**FREE INSULATION BOOKLET**

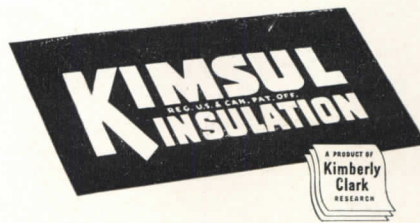


A brand new manual filled with technical data you can use. Prepared by the makers of KIMSUL. Write us for your free copy on your business letterhead.

**KIMBERLY-CLARK CORPORATION**  
KIMSUL Division, Neenah, Wisconsin, U. S. A.

Insulate when you build.

Over-all insulation  
means ready salability.



\*T. M. Reg. U. S. & Can. Pat. Off.  
†Trademark

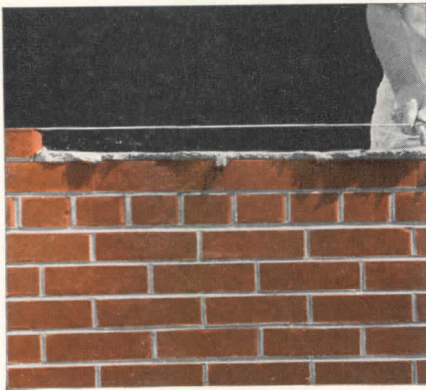
# BRIXMENT Makes Good Workmanship EASIER!

The pictures below show an example of good workmanship — and of bad workmanship. They also explain why mortar such as Brixment makes it *easier* for the bricklayer to deliver good workmanship.

No. 2 OF A SERIES—

## THE RIGHT WAY AND THE WRONG WAY—IN BED JOINTS

When absorbent brick are used, especially in hot weather, mortar should be spread out over only a few brick at a time. The brick should be placed on this mortar immediately, before it can stiffen.



The mortar should be spread over a few brick only.



So the mortar will still be soft and plastic when the brick are bedded.



Then the mortar will stick to the brick on top of it as well as to the brick below it.

**BRIXMENT** makes good workmanship *easier* because it holds its moisture longer than ordinary mortars, when spread out on the wall. This enables the bricklayer to properly bed the brick before the mortar has stiffened too much.

Brixment mortar has greater plasticity, higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

LOUISVILLE CEMENT COMPANY  
*Incorporated*  
LOUISVILLE, KENTUCKY

If the mortar is spread out too far, or if any delay occurs between spreading the mortar and placing the brick, the mortar will be sucked dry and will not stick to the brick placed on top of it.



Mortar for this bed joint was spread out on the wall too far.



So the mortar dried out too much before the next course of brick was placed on top of it.



Therefore the mortar did not stick to the top brick. A good bond was not secured.

One -



Two -



Three - Out!

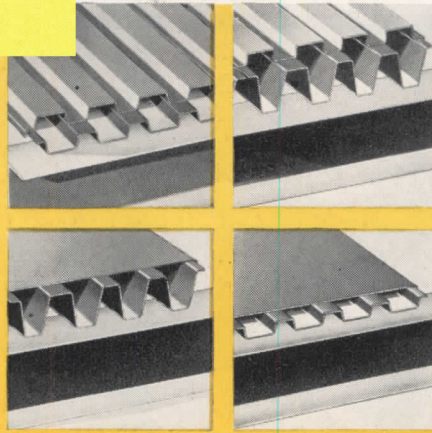
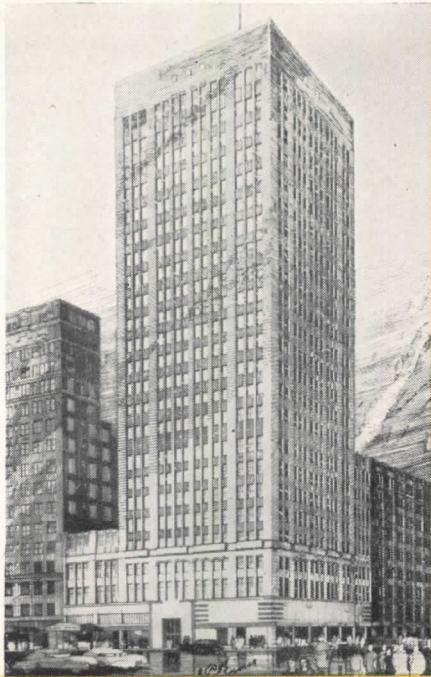


There's no fire here, no panic, no rush or hurry. But . . . if there HAD been a fire or a panic, the exit doors would have operated just as surely as they did in this fire drill . . . for these doors have been equipped with genuine drop-forged Von Duprin Self-Releasing Fire and Panic Exit Devices.

These sturdy, precision built devices provide the safest, fastest, surest means of exit known . . . and, because of their long, trouble-free life, their cost per year is astonishingly low.

# Von Duprin

VON DUPRIN DIV., VONNEGUT HARDWARE CO., INDIANAPOLIS



▲ The Q-Floor is available in a variety of depths suitable for whatever load-bearing strength is required. They are welded to the steel frame. Two men can lay 32 sq. ft. in half a minute, the main reason for the speedy construction. The dry steel floor becomes an immediate working platform for all other trades.

▲ National Standard Bldg., in Houston, Texas, was designed by Alfred C. Finn, Architect, W. E. Simpson, Struct. Eng., and R. F. Taylor, Mech. Eng. By using steel Q-Floors by the H. H. Robertson Co., of Pittsburgh, Pennsylvania, construction time is usually reduced 20 to 30%. These complete 4-hour floors, weighing less than forty pounds to the sq. ft., account for the remarkable building feat told in this story.

Construction is dry, free from forms and shoring; incombustible and clean. There is no delay for wet materials, another factor making for early completion date, a point much in mind with owners. Q-Floor, with suspended ceiling, weighs less than forty pounds per sq. ft., yet earns a four-hour fire rating.

## NATIONAL STANDARD BLDG. USES Q-FLOOR originally designed for 8 extra floors... got 14

The largest and most progressive postwar buildings have specified steel Q-Floor by the H. H. Robertson Company. Main reasons are that construction time saved makes for early occupancy date, offsetting possible occasional delay in delivery of steel.

Also, the electrical availability over the whole floor appeals to architects and owners alike. It saves architects great expense in the drafting room and increases the building's earning power. The Q-Floor

fittings can be seen at any General Electric construction materials distributor's.

National Standard Building in Houston was originally designed for eight monolithic stories to be added. W. S. Bellows Construction Co. was able to add fourteen stories because of the light weight of steel Q-Floor.

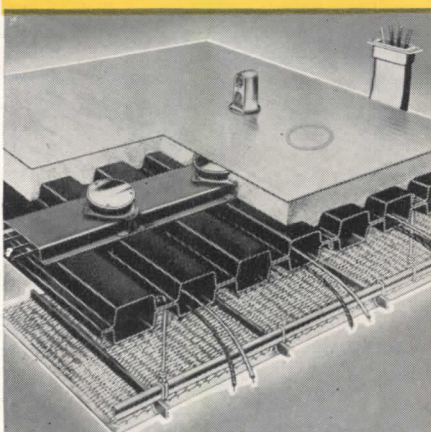
For details and cost (they cost less than the carpet that covers them) write to the

### H. H. ROBERTSON CO.

2404 Farmers Bank Building  
Pittsburgh 22, Pennsylvania

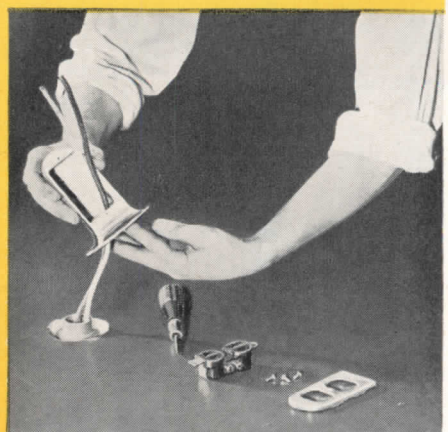


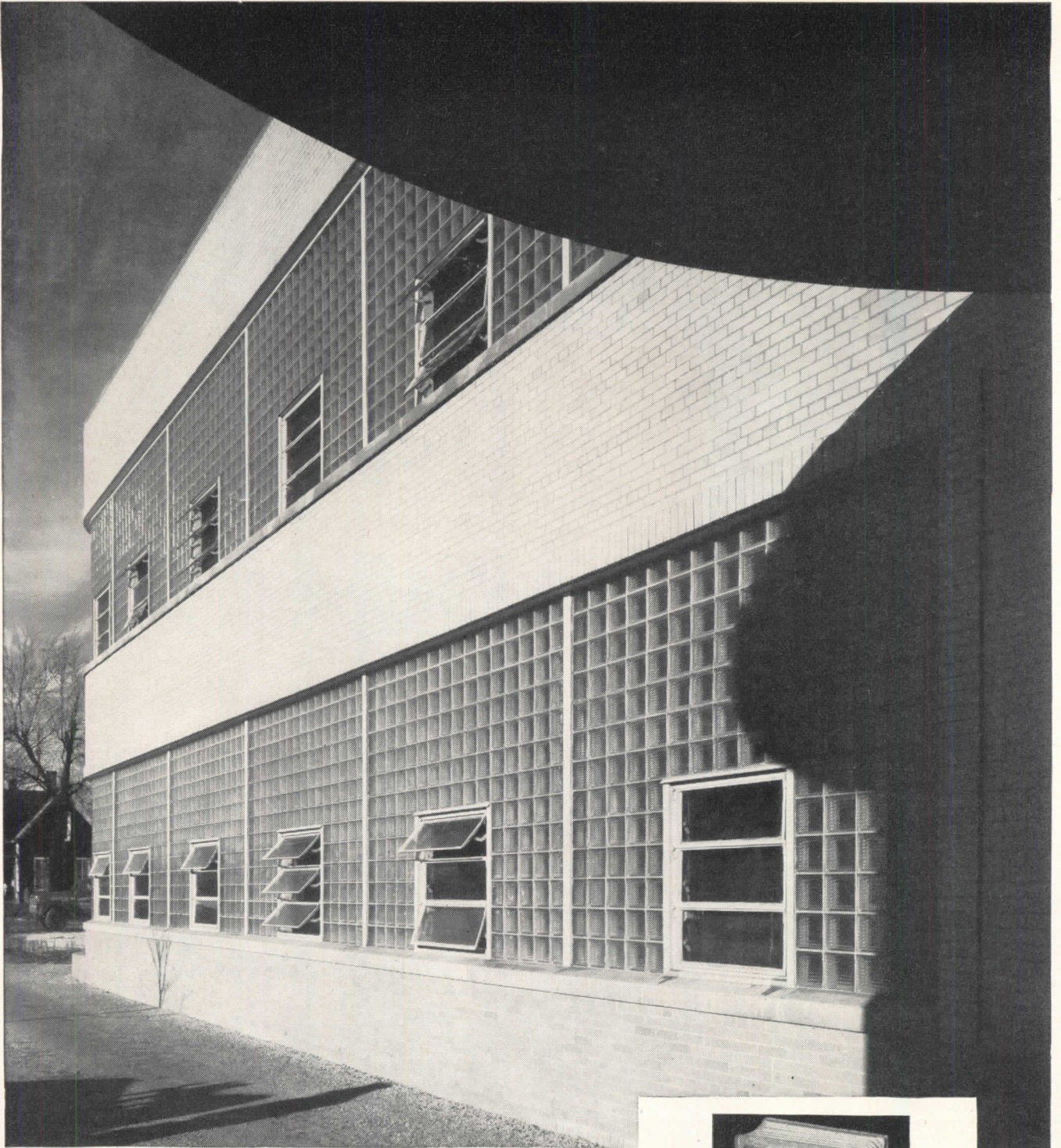
Offices in 50 Principal Cities  
World-Wide Building Service



◀ Tremendous amount of drafting room headache is saved by Q-Floor's electrical flexibility. The steel cells are crossed over by raceways for wire of all electrical services. An outlet can be set up on every six-inch area of the exposed floor. Layouts are permanently flexible. Outlets and partitions can be located after occupancy.

An electrician merely drills a small hole ▶ to establish an outlet. No fuss, no trenches. This relieves architects of need for costly electrical planning. The floor plans are always modern because Q-Floor is prepared for any electrical device, even those not yet on the market.



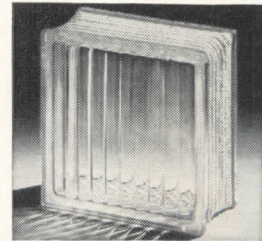


DEAN MILK COMPANY, HUNTLEY, ILLINOIS.  
 ARCHITECT: VICTOR L. CHARN, CHICAGO. CONTRACTORS: RAGNAR-BENSON, INC., CHICAGO.

**Grade "A" daylighting:** Continuous Insulux Glass Block panels bring excellent daylighting to interior of this modern creamery. Insulux reduces infiltration of dust and dirt, helps maintain high sanitation standards. Window inserts furnish necessary ventilation.

For details consult GLASS section of Sweet's Architectural Catalog or write Dept. E-5, American Structural Products Company, P. O. Box 1035, Toledo 1, Ohio.

American Structural Products Company is a wholly owned subsidiary of the Owens-Illinois Glass Company. It has taken over the manufacture and sale of Insulux Glass Block and other Owens-Illinois structural products.

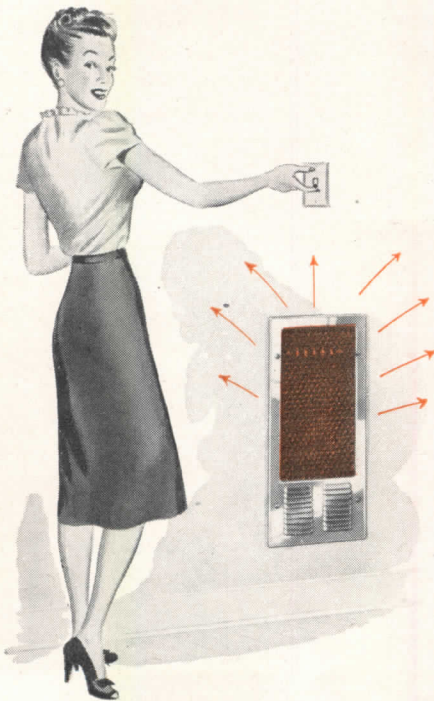
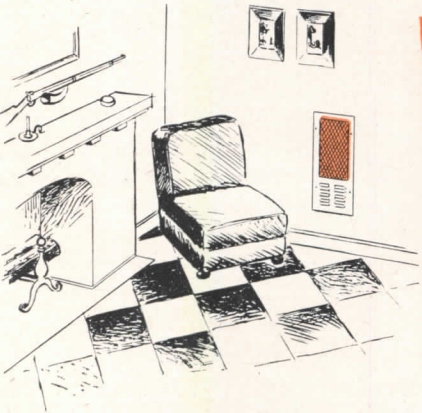
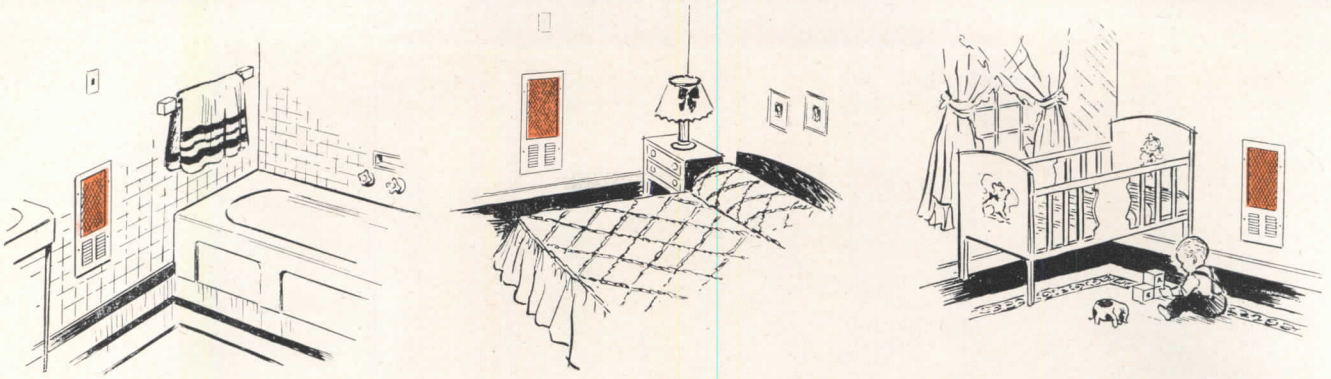


## INSULUX GLASS BLOCK

AMERICAN STRUCTURAL PRODUCTS COMPANY

Subsidiary of

OWENS-ILLINOIS GLASS COMPANY



the **FA** *ELECTRIC* **QUIKHETER**  
 adds to the comfort, convenience and value of the home

Some days only auxiliary heat is needed . . . some days only regular heat . . . but efficiently designed heating plans now call for both.

The **FA** Quikheter blends perfectly into a situation such as this. It provides instant, early morning heat and comfort to normally chilly bathrooms, bedrooms, nurseries . . . or wherever and whenever extra heat is needed . . . at a cost of only a few cents per hour of continuous operation.

Quick-acting, requiring only the flip of a conveniently located switch, these noiseless, long-lasting units are specifically designed to meet the need for variable heating requirements in the home.

Attractive in appearance, low in cost and easy to install in new or old homes, the economy-famous Quikheter is complementary to any room . . . and adds substantially to the overall comfort, convenience and value of the home.

Available in single units of 1000 and 1500 watts and twin units of 2000 and 3000 watts. Separate control switch can be placed anywhere for your convenience . . . with thermostatic control also available, if desired.

See your electrical contractor for details or write for Bulletin No. 77.

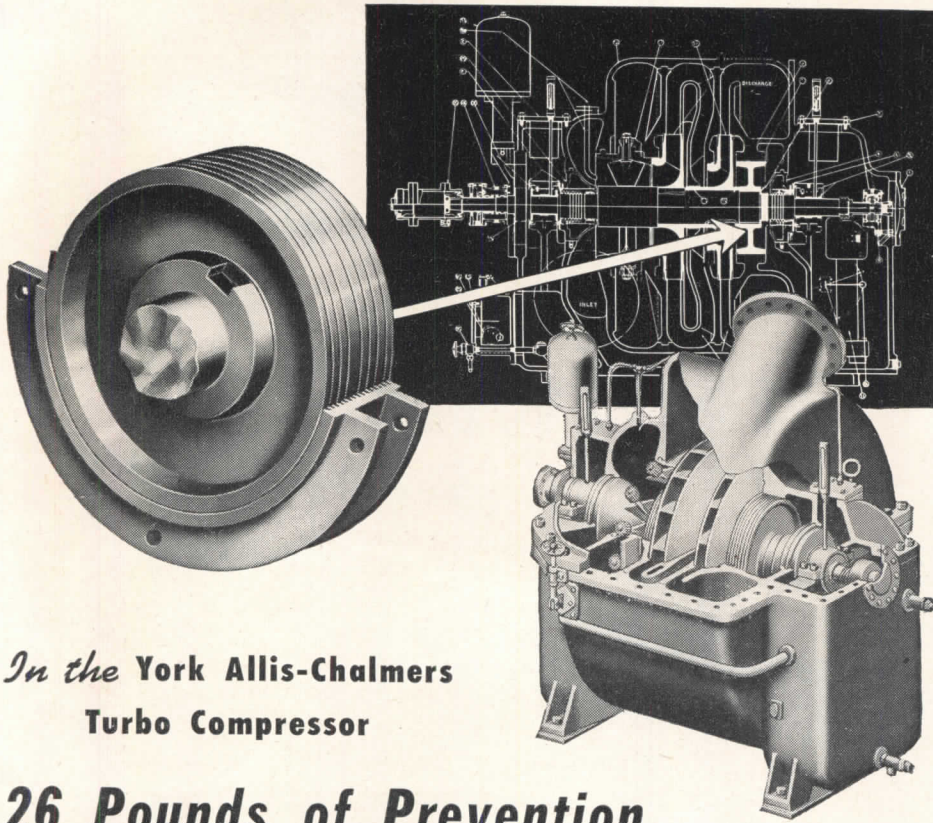


**Frank Adam Electric Co.**

ST. LOUIS 13, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

# Weigh all the advantages



*In the York Allis-Chalmers*  
**Turbo Compressor**

**26 Pounds of Prevention**  
**are worth a ton of cure**

Shaft-thrust on higher speed machinery, such as turbo-compressors creates thrust bearing wear.

York meets the thrust problem by *eliminating* virtually all of this force. By means of the Balance Disc, an exclusive York feature, the thrust built up in one direction by the differential in gas pressure between suction inlet and discharge outlet, is equalized by directing suction pressure against one of the balance disc faces to impose an equal thrust in the opposite direction. The result is a balance so complete that there is but little for the thrust type bearing to do, other than position the shaft.

York Corporation, York, Pennsylvania.

**YORK** *Refrigeration and*  
*Air Conditioning*



HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

**York's**  
**Engineering**  
**Assistance**  
**backs up York's**  
**Outstanding**  
**Equipment**

Experience and practical technical assistance unequalled elsewhere are available to you as a York customer . . . *wherever you may be.*

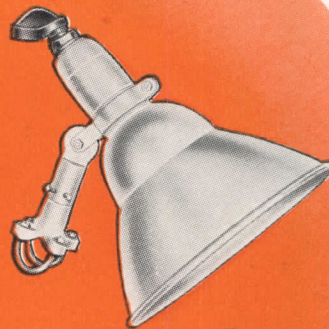
In the Southern District, for example, Manager Crout located in Atlanta, assisted by ten York-trained sales engineers, is at the service of York customers in this district. The highly practical, up-to-the-minute assistance and advice of these gentlemen are available to you at all times, whether you are planning, purchasing, installing or operating refrigeration or air conditioning systems or equipment.



**M. M. CROUT**  
*District Manager*

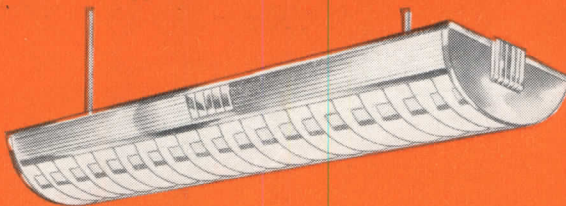
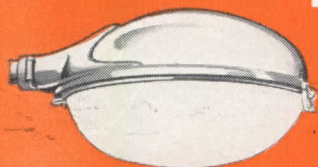
*Assisted by*  
R. C. Barnes  
R. A. Chandler  
M. P. Echols  
E. C. Harper  
O. W. Hogan, Jr.  
J. C. Malone, Jr.  
Walter May  
D. P. Schiwetz  
Ned C. Scott  
R. A. Warnock





They're all  
**ALZAK**  
**REFLECTORS**

made by leading manufacturers  
of lighting



In every style you require... **ALZAK**\* ..the most efficient reflector

Indoors, out of doors, for factories, schools, or airports, install the best lighting on the market . . . reflectors of Alcoa Aluminum finished with the top-efficiency Alzak\* Reflector Surface.

Alzak Reflectors have reflectivity efficiencies as high as 83% . . . are light in weight to reduce loads on supports and to make installation easier . . . are aluminum all the way through, will not spall if dented. They're easy to keep at high reflecting efficiency . . .

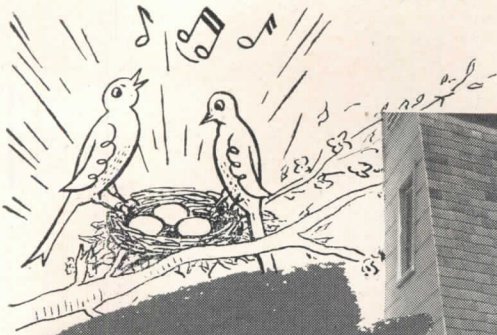
soap and water wash away normal dirt and grime.

Leading manufacturers of lighting make Alzak Reflectors in all styles and sizes to handle lighting or heating lamps. The best lighting on the market . . . Alzak Reflectors, Alcoa Aluminum Reflector Shells, and hangers and fittings of Alcoa Aluminum Tubing. ALUMINUM COMPANY OF AMERICA, 1474 Gulf Bldg., Pittsburgh 19, Penna. Sales offices in 54 leading cities.

\*Patented Process

**ALCOA** FIRST IN **ALUMINUM**





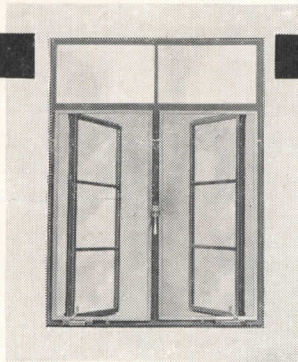
# Cut Spring Homebuilding Costs 3 Ways!



• Springtime is building time and for the budget-minded builder Ceco offers 3 ways to cut costs of new or remodeled homes. Consider the money-saving building suggestions below and call on Ceco for full details.

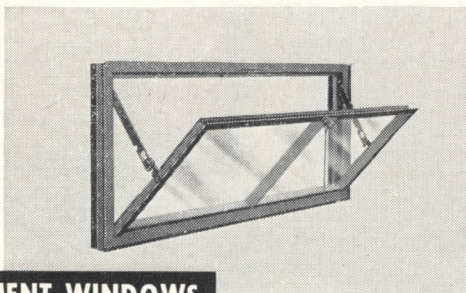
## STEEL CASEMENTS

• Cut installation costs 80% because there are no hidden costs to overlook such as hardware, prime coat, accessories, planning or fitting. No need for repair.



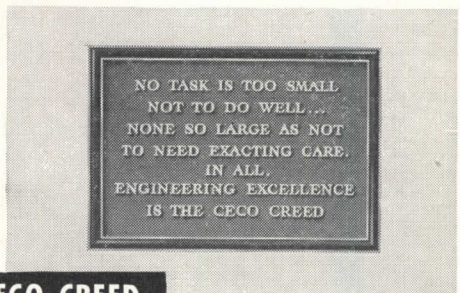
## METAL SCREENS

• Factory finished, on-the-job painting unnecessary. Precision made, ready to install without fitting or trimming. Standard types for every purpose.



## BASEMENT WINDOWS

• Standard sizes ready to install and easy to do, too. No fitting, trimming or painting necessary. Cannot rot and need no repair.



## THE CECO CREED

• Here is your guarantee of Engineering Excellence in Ceco products. Call on Ceco's 23 offices for help in reducing building costs.



## CECO STEEL PRODUCTS CORPORATION

General Offices: 5701 West 26th Street, Chicago 50, Illinois

Offices, Branches and Fabricating Plants from Coast to Coast

*In construction products* **CECO ENGINEERING** *makes the big difference*

# Jenkins PRACTICAL PIPING LAYOUTS 30

How to plan a  
**COMBINATION  
 WET PIPE  
 AND DRY PIPE  
 SPRINKLER SYSTEM**

A typical sprinkler system for multi-storied buildings, that conforms to underwriters' codes, is shown here. It uses a wet pipe riser to supply sprinkler heads in heated areas, and a dry riser serves the sprinkler heads in parts of the building where pipes might be subject to freezing.

Both wet and dry pipe risers are fed by a dead riser from the primary supply source. In addition, a siamese connection is required for the fire department house outlet.

Individual risers are provided in each system so that ample warning can be given to building occupants. The wet pipe alarm is actuated by the flow of water, while the dry pipe system generally has a low pressure air alarm in addition to the water flow alarm.

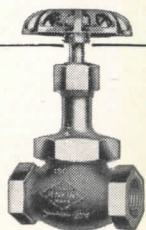
Consultation with accredited piping engineers and contractors is recommended when planning any major piping installation. Copies of Layout No. 30, enlarged, with additional information, will be sent on request. Just mail coupon.

**A CHOICE OF OVER 500 VALVES**

To save time, to simplify planning, to get all the advantage of Jenkins specialized valve engineering experience, select all the valves you need from the Jenkins Catalog. It's your best assurance of lowest cost in the long run.

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal.

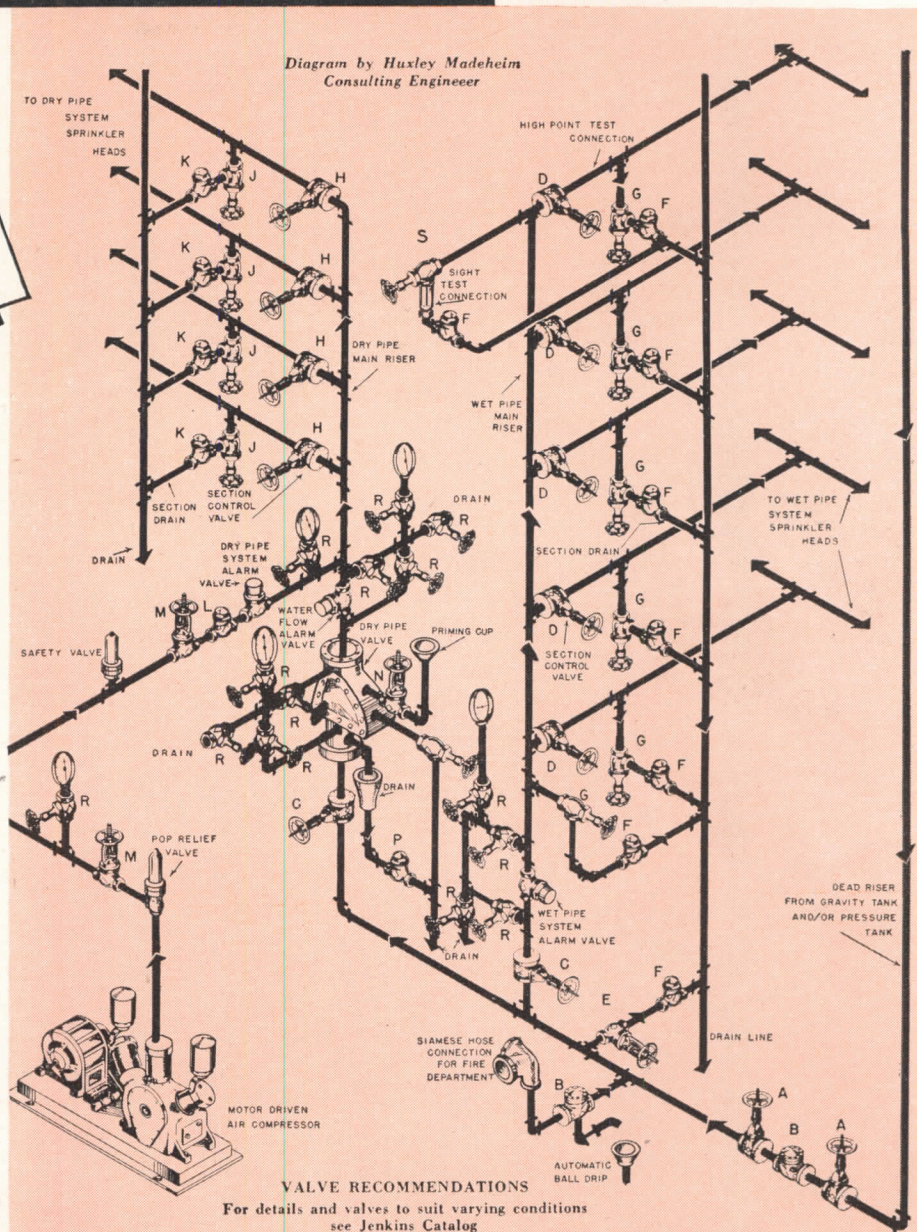
LOOK FOR THIS  DIAMOND MARK  
 Since  1864



## JENKINS VALVES

For every Industrial, Engineering, Marine, Plumbing-Heating Service... in Bronze, Iron, Cast Steel and Corrosion-resisting Alloys... 125 to 600 lbs. pressure.

Sold Through Reliable Industrial Distributors Everywhere



Code	Quan.	Jenkins Valves	Service
A	2	Fig. 825 I.B.B.M. O.S.&Y. Gate	Dead Riser Shutoff
B	2	Fig. 629 I.B.B.M. Swing Check	Prevent Back Flow to Dead Riser
C	2	Fig. 825 I.B.B.M. O.S.&Y. Gate	Dry and Wet Pipe Shutoffs
D	5	Fig. 825 I.B.B.M. O.S.&Y. Gate	Wet Pipe Sectional Control
E	1	Fig. 275-U Bronze Gate	Riser Drain
F	8	Fig. 352 Bronze Swing Check	Prevent Backflow from Drains
G	6	Fig. 108-A Bronze Angle	Wet Pipe Section Drain
H	4	Fig. 825 I.B.B.M. O.S.&Y. Gate	Dry Pipe Section Control

Code	Quan.	Jenkins Valves	Service
J	4	Fig. 108-A Bronze Angle	Dry Pipe Section Drain
K	4	Fig. 352 Bronze Swing Check	Prevent Backflow from Drains
L	1	Fig. 352 Bronze Swing Check	Prevent Water Back Up to Air Compressor
M	2	Fig. 275-U Bronze Gate	Air Compressor Shutoff
N	1	Fig. 275-U Bronze Gate	Priming Water Shutoff
O	1	Fig. 108-A Bronze Angle	Drain of Dry Pipe Valve
P	1	Fig. 352 Bronze Swing Check	Prevent Back Flow
R	13	Fig. 106-A Bronze Globe	Pressure Gage Controls and Drains
S	1	Fig. 108-A Bronze Angle	High Point Test Connection

JENKINS BROS., 80 White St., New York 13, N. Y.  
 Please send me a reprint of Piping Layout No. 30.

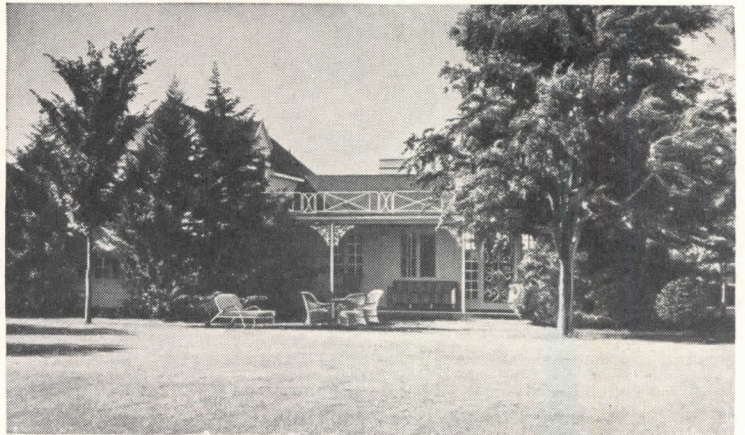
Name.....  
 Company.....  
 Address.....

# Through every season...

COMFORTABLE TEMPERATURES!

JUST-RIGHT HUMIDITY!

FREEDOM FROM DUST!



**KANSAS**—Edwin G. Bradley of Wichita enjoys a perfect indoor climate every season of the year—thanks to his Servel All-Year Gas Air Conditioner.



**CALIFORNIA**—Mrs. Gordon R. Howard of 225 South Valley St., Burbank, says, "Our Servel has created ideally comfortable and healthful living conditions for our two small children and ourselves."

# Give your new homes twelve-month comfort with Servel *All-Year* Gas Air Conditioning



**TEXAS**—The home of builder John W. Taylor, 4329 McFarlin Boulevard, Dallas, is kept comfortably cool all summer, cozily warm all winter by Servel *All-Year* Gas Air Conditioning system.



**OKLAHOMA**—"Our entire family praises our Servel *All-Year* Gas Air Conditioner, and we are always proud to have visitors come in," writes Mr. G. W. Athey, of 1106 W. York Street, Enid.

**Y**OU GIVE your clients a real plus in modern home construction when you plan your new homes around Servel *All-Year* Gas Air Conditioning. For this wonderfully efficient year-round conditioner offers the peak in indoor climate control . . . every season of the year.

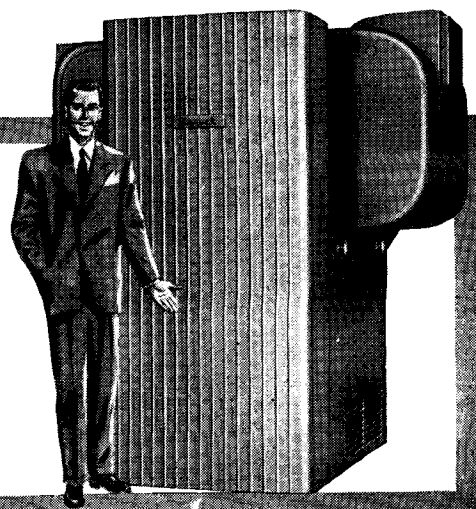
In summer, the Servel *All-Year* Gas Air Conditioner refrigerates the air, removes sticky, wilting humidity. In winter, this same unit floods the home with warmth, adds just the right amount of moisture for comfort. In between seasons, Servel circulates air without drafts or "layers" of hot and cold air. Year round, Servel filters out

dust, dirt, and irritating pollen. A flick of the finger controls all operations, through every season.

Owners everywhere praise Servel air conditioning. Many say it's the finest feature a new home can offer. Shown on these two pages are a few of the many hundreds of installations now operating successfully from coast to coast. So you can be sure you're on safe ground when you recommend Servel *All-Year* Gas Air Conditioning.

Ask your local Gas Company for detailed information about specific types of applications. Or write direct to Servel, Inc., 8801 Morton Avenue, Evansville 20, Indiana.

**Servel**  
*All-Year* GAS AIR CONDITIONER



# Six Basic Designs for an UPSON CEILING



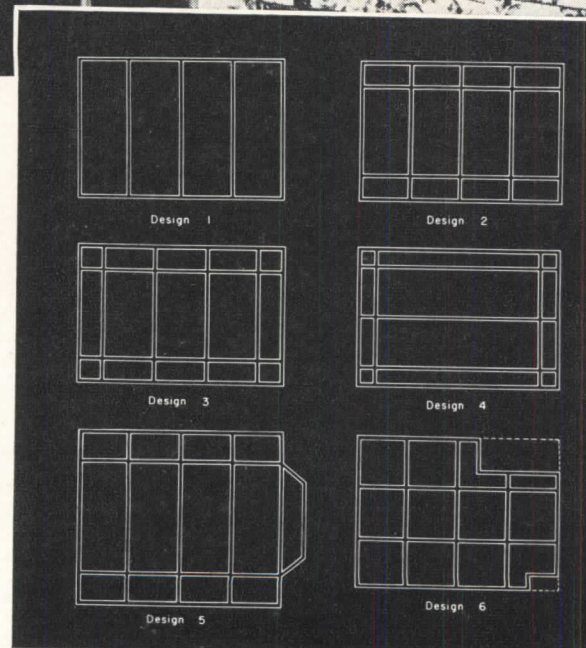
*As an architect, you know the beauty and dignity of paneling.*

You know that the basic designs pictured here are only the beginning of a great number of variations which you can originate for clients.

Any paneled ceiling can be produced with Upson Panels—Kuver-Krak for application over unsightly and unsafe ceilings, Strong-Bilt for application direct to joists.

And with Upson Panels, you have a wide choice of decorative trim to enhance the charm of ceiling patterns. You can work with Upson Shad-O-Line Mouldings, Upson Decorative Blocks, and Upson Relief Ornaments. Or of course you can use standard wood mouldings. And for pretentious jobs, special wood mouldings of your own design.

See Sweet's for details or, better yet, write for samples.



Easily Identified By the Famous BLUE Center

**THE UPSON COMPANY, Lockport, New York**

Pacemaker in Crackproof Panels for 35 years. 6 Ply Strong Bilt—for new construction • 5 ply Kuver-Krak—for re-covering cracked plaster • 5 ply Dubl-Thik Fibre Tile—for baths and kitchens • 4 ply Upson Panels—for general use • 3 ply Easy Curve Board—for displays and industrial uses.



*In the mood... to demand the best in heating:*

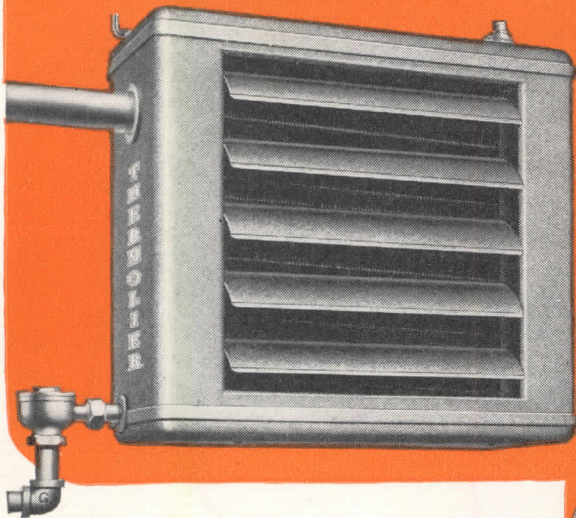
## THERMOLIER UNIT HEATERS

Last winter's heating headaches have not been forgotten. Plant managers everywhere are fed up with *paying* for heat but not *getting* it. That's why, in drawing up plans for renovations or new construction, it's worth making doubly sure that your clients will have economical heat *where they want it.*

Thermolier's 12 points of superiority make it first choice for efficient,

trouble-free service... guarantee full value from fuel dollars. Moreover, your clients will immediately recognize that you've specified the best because they're presold through continuous, aggressive Grinnell advertising in the industrial publications.

You'll find the whole story on Thermolier detailed in Catalog 6-E in Sweet's Architectural Files. Grinnell Company, Inc., Providence 1, R. I.



### WHAT THERMOLIER'S SUPERIOR FEATURES MEAN TO YOUR CLIENTS

- Maximum radiation from all surfaces at all times, because exclusive internal cooling leg provides continuous *drainage* of condensate. This feature also permits use of a thermostatic trap, the simplest and least expensive type of trap.
- Quiet, trouble-free operation. Pronounced pitch of the tubes assures complete drainage of condensate. Annoying and destructive water hammer is eliminated.
- Safety and durability are assured with leak-proof tube-to-header construction.
- Damaging strains caused by expansion and contraction are eliminated by "U" type expansion tubes.
- Additional desirable advantages from eight other features.

**GRINNELL**

FOUNDED 1850

WHENEVER PIPING IS INVOLVED

# In this new "city within a city" *It's Bruce Block Floors!*



Over 11,000 Manhattan families will live in Metropolitan Life Insurance Company's two new housing projects (Stuyvesant Town to the left and Peter Cooper Village on the right.) *Architects:* Board of Design — Gilmore D. Clarke, Chairman; Irwin Clavan, Architect. *General Contractors:* Starrett Bros. & Eken, Inc. *Flooring Contractors:* John T. Swanson Co.

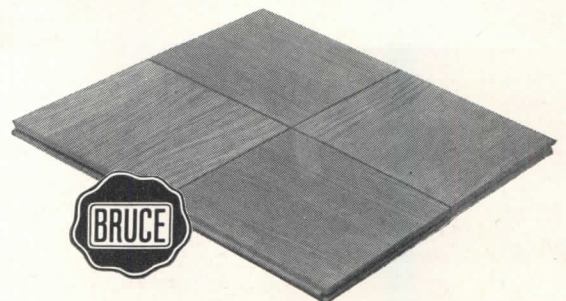
**Stuyvesant Town and Peter Cooper Village** will have the ideal floors for modern apartment projects—Bruce Hardwood Blocks. Architects and owners have found there is no other type of flooring so satisfactory on these five most important considerations:

- (1) Easily and economically installed over concrete.
- (2) A permanent part of a building, not a floor that must be replaced every few years.
- (3) Distinctive, modern and beautiful.
- (4) Comfortable—warm, resilient and quiet underfoot.
- (5) Easily maintained in perfect condition.

Bruce Blocks are so popular that production cannot match present demand. Specify this flooring on projects being planned now for future construction. See our catalog in Sweets.

**E. L. BRUCE CO., MEMPHIS, TENN.**  
**World's Largest Maker of Hardwood Floors**

## **Bruce Block** **HARDWOOD FLOORS**

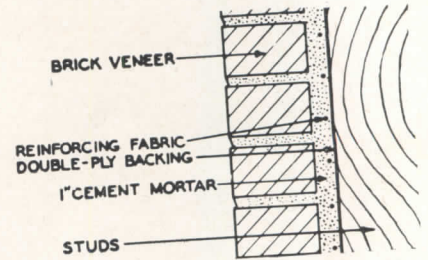
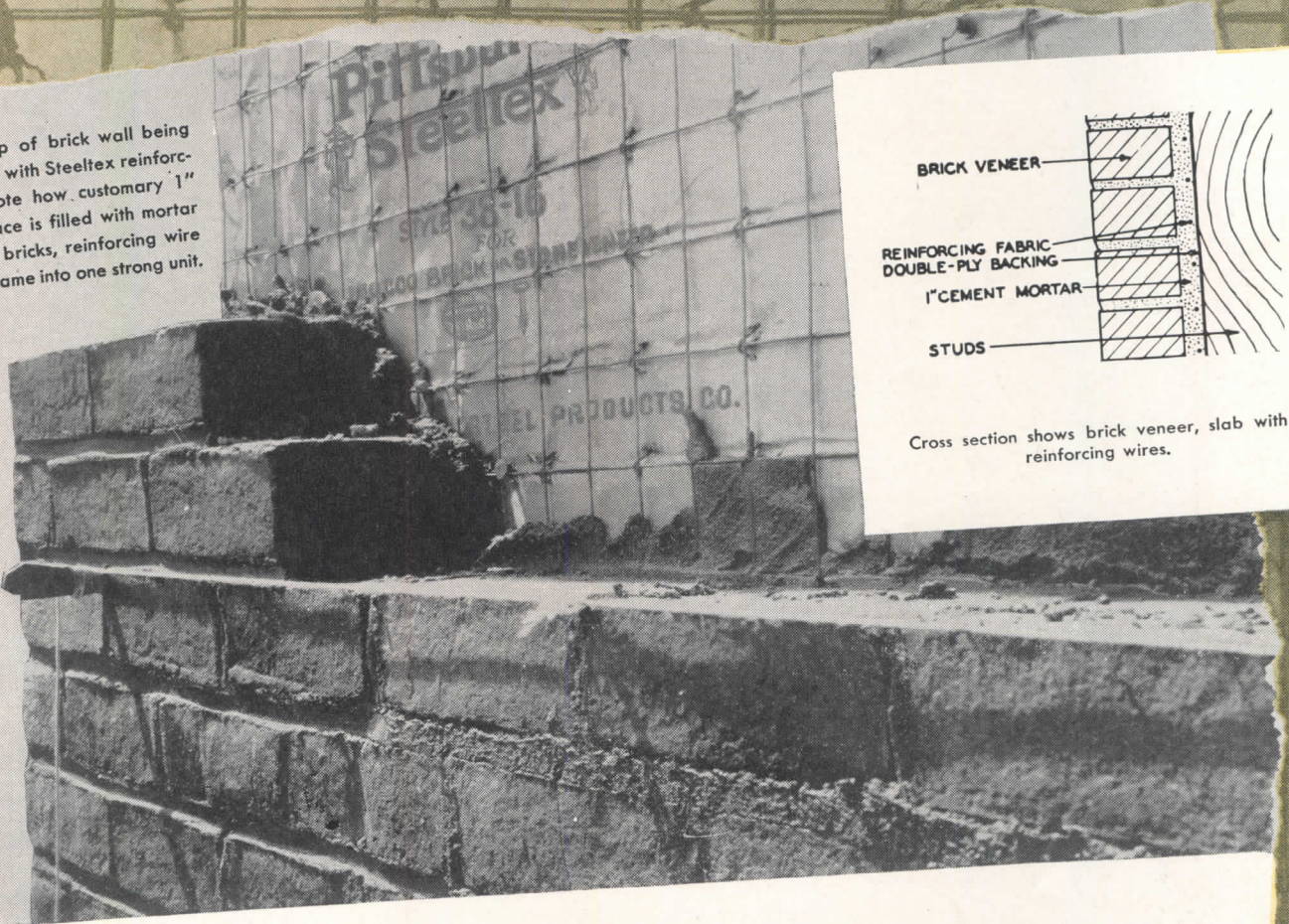




# YOU GET SHEATHING, BUILDING PAPER, PLUS REINFORCED CONSTRUCTION

All in One With **Pittsburgh Steeltex** for Veneer

Close-up of brick wall being laid-up with Steeltex reinforcing. Note how customary 1" air space is filled with mortar to tie bricks, reinforcing wire and frame into one strong unit.



Cross section shows brick veneer, slab with reinforcing wires.

Pittsburgh Steeltex for Veneer provides sheathing and building paper all in one. But better than that it gives you strong walls of reinforced brick or stone construction with economy. Steeltex will make you proud of the permanent house you have built—make the owner sing your praises as an architect or builder.

Construction with Steeltex provides many advantages—a monolithic concrete slab completely around the structure—positive protection from moisture penetration—greater fire protection through elimination of dead air space and resulting flue action—all mortar joints completely filled—reduces upkeep. In addition it is easy to apply, requires no special tools or methods and takes the place of sheathing and building papers. Many architects and contractors have found it makes for better construction—they specify it on all their jobs.

Pittsburgh Steeltex for Veneer is a combination of cold drawn, galvanized steel wire, welded into two-inch square mesh, laced to a double-ply waterproof backing that is sealed with mastic. The absorbent face of the backing provides a suction bond with the mortar. The mesh provides reinforcing for the mortar which is slushed in behind the veneer. When dry, the wall is a strong unit of brick or stone and reinforced concrete slab, attached firmly to the frame as an integral part of the structure.

The better construction and savings with Pittsburgh Steeltex for Veneer will appeal to owners—you will like the ease with which it is applied. Specify it for all your jobs. For your copy of our catalog D. S. 132, write today to Pittsburgh Steel Products Company, 3233 Grant Building, Pittsburgh 30, Pennsylvania.

*This background photo shows Steeltex—  
one-third actual size.*

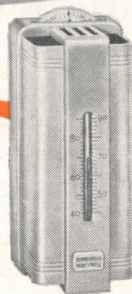
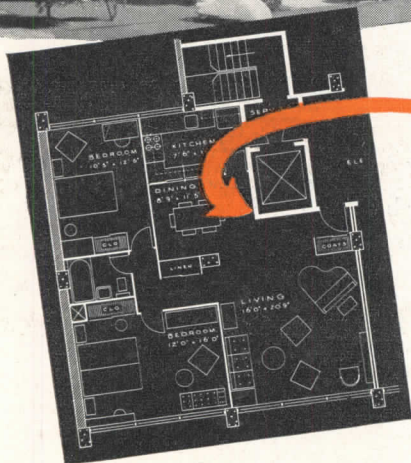
**Pittsburgh Steel Products Company**  
Subsidiary of Pittsburgh Steel Company



New Radiant Heated  
Apartment will have...

# HONEYWELL

## P.H.C.\*



**PROMONTORY APARTMENTS, Chicago**

Herbert S. Greenwald; President, Promontory Construction Corporation  
Raymond Epstein, Robert H. Friedlaender, Morton B. Weiss; Trustees,  
Promontory Apartments Trust  
Plonsker Engineering Company; Heating Contractor

**UNIQUE** in both design and construction, the 21-story Promontory Apartments, now under way on Chicago's South Shore Drive, represent a splendid modern example of reinforced concrete construction.

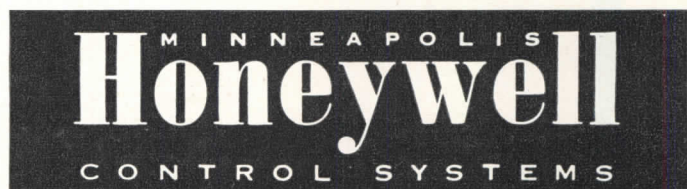
Specially designed steel frame picture windows used throughout the 122 suites take full advantage of the lake shore view overlooking Promontory Point. Other distinguishing features include sound-insulated double walls and radiant heating with Honeywell Personalized Heating Control. With a thermostat in each apartment, every tenant will select just the individual temperature desired. This means not only the comfort of home heating in every apartment, but important operating economies as well. Tests prove that among present installations P.H.C. systems are saving fuel at an average rate of *20 percent*.

And in existing buildings, too, Personalized Heating Control brings these same benefits. Installation is fast, simple—without inconvenience to tenants. Get complete facts about P.H.C. now. Write Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Toronto 12, Ontario.

**Here's why you'll want to specify Honeywell P.H.C. for your clients**

- Saves fuel—heating costs average 20% less
- Increases tenant satisfaction—easier rentals
- Promotes longer leases, less turn-over
- Tenants will pay higher rentals for P.H.C. comfort and convenience.

\* PERSONALIZED HEATING CONTROL—Honeywell's home-heating comfort contribution for apartment dwellers.



67 BRANCHES FROM COAST TO COAST WITH SUBSIDIARY COMPANIES IN: TORONTO • LONDON • STOCKHOLM • AMSTERDAM • BRUSSELS • ZURICH • MEXICO CITY

## PRECEDENTS, PROTOTYPES AND PLAGIARISM

**A**RCHITECTURE has amassed an unprecedented amount of precedent. If one cares to probe into the past, he probably can find a precedent or a prototype for the form of each and every part of any structure. Architectural progress has been evolutionary and each improvement in form or detail has been, for the most part, a modification or mutation of a previous development. Our architectural vocabulary is based on the permutations and combinations of geometric forms, all well known for centuries — straight lines and curves, surfaces and areas, solids and voids. The art of architecture is therefore necessarily eclectic, i.e. based on making free choice of forms — the architect choosing and combining them to suit his purposes. There is nothing new in the forms themselves — the only novelty or originality is in the way in which those forms are combined, arranged and used. (Eclectic is not used here in the narrower sense of choosing a “period style.”)

It is therefore beside the point to criticize or cast aspersions on the use of a particular form just because it, or a similar form, has been used before for a particular purpose. Such natural and traditional use of precedent is inherent in architectural development and it should not be implied that plagiarism is involved. If every design had to be judged as good or bad on the basis of having or not having precedents or prototypes, we would have no good designs. It is not surprising either to find that two minds, when facing similar problems, should arrive by analysis and reasoning at similar solutions, similar design forms. And no plagiarism is involved in such cases though the designs may stem from the same prototypes.

Eclecticism in its broad sense should not be condemned; it is, in fact, essential to the progress of good design. The quality of the eclecticism is what counts. The skill and judgment of the architect in choosing the form that is most appropriate to his purposes, whether materialistic or esthetic, merit our praise or scorn. The question is — not has he used a form that has been used before (for what form hasn't?) — but has he chosen a form or combination of forms, materials, colors and textures best suited to both the “practical” and the “esthetic” implications of his problem? And, has he arrived at a solution that indicates an improvement on such precedent as there may be? Does the design he has evolved (for he must evolve it out of forms already known) constitute a more fitting or more pleasing expression of the purposes of his structure? “More fitting” can be judged on many counts — economy, durability, efficiency, functioning, visual expression and current esthetic standards, fads or fancies.

Eclecticism becomes plagiarism only when the choice of form or design is in the nature of a “cold crib,” the copying of prototypes without any significant contribution, modification, or improvement on the part of the designer. Plagiarism is unintelligent eclecticism — originality is imaginative eclecticism. Let us have no fear of eclecticism; it should carry no stigma. And let us not confuse plagiarism with the intelligent, imaginative use of design precedents and prototypes.

*Kenneth K. Stowell*

EDITOR

# JEFFERSON MEMORIAL COMPETITION WINNERS

*Photographs on these two pages show final winning*

*design of Saarinen, Saarinen and Associates*

---

When Dean Wurster handed the \$40,000 first-prize check to Eero Saarinen and his associates, it was done with congratulations on "a work of architectural genius." There was no denying the warmth of the occasion.

This warmth had relatively little to do with the size of the check — even though the total of \$50,000 to the winners, counting in the \$10,000 received at the end of the first stage, was a record amount for architects in competition. The warmth had to do mainly with the sense of an arduous 15-year project brought to a pre-eminently successful conclusion.

The jury had been unanimous on the very first ballot, and with general enthusiasm.

The other competitors were prompt and vocal in their praise. It was easier to lose first place when the winner had so obviously been inspired.

Still other factors contributed to general good feeling. Second place had gone to a group of advanced students from the University of Illinois — giving them \$30,000 with which to complete their education and making it seem that competitions were a means of rewarding ideas independently of reputation. It was a happy day, and not only for the St. Louis businessmen who had invested a cool quarter of a million. It remains so in memory, beyond reach of malice. Consensus was that the whole profession should press for final construction, undiminished. D.H.

All photos by W. C. Runder unless otherwise noted





**T**HE Jefferson Memorial competition took place as the culmination of a 15-year effort. In 1933 there was formed, by the citizens of St. Louis and neighboring territory, the Jefferson National Expansion Memorial Association, known more simply as "Jenniema."

It sponsored the creation in 1934 of a Congressional Committee of somewhat similar title, and passage by Congress in 1935 of the Historic Sites and Buildings Act. The City of St. Louis voted a \$7,500,000 bond issue the same year in aid of the project, and the President by executive order designated the Park Service as Executive Agency to acquire and develop the site of Old St. Louis as an Historic Site. The President allocated \$6,750,000 of government funds for the purpose, to be matched by \$2,250,000 from the city.

Between 1936 and 1940 the Park Service made its property acquisitions and prepared legally for demolition of existing buildings, carried through 1940-41. The war interrupted further activity until 1947.

In 1947 public-spirited citizens contributed \$225,000 to the Association to conduct the competition for a memorial by architects and practitioners of allied arts.

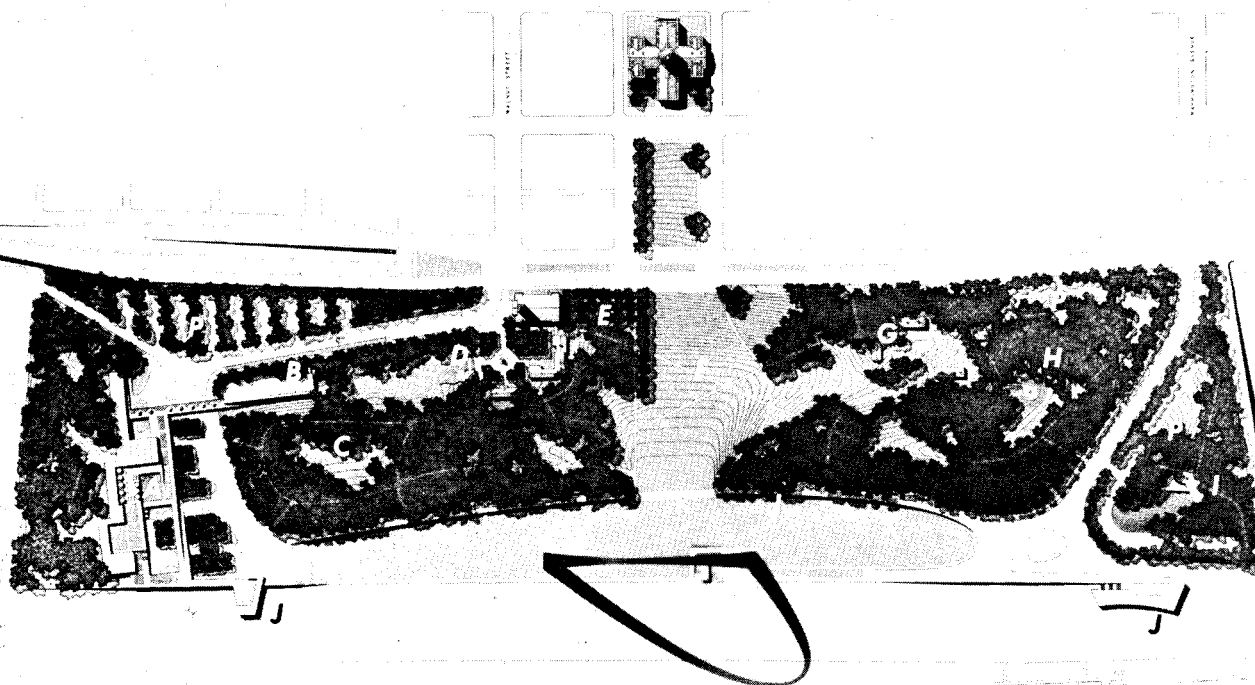
**I**N THE first, more general, phase there was far more emphasis on a "living memorial" and broader reliance on cooperation from institutions such as railroads, neighboring communities. It called for several groups having to do with (a) an architectural memorial or memorials to Jefferson; dealing (b) with preservation of the site of Old St. Louis — landscaping, provision of an open-air campfire theater, reerection or reproduction of a few typical old buildings, provision of a Museum interpreting the Westward Movement; (c) a living memorial to Jefferson's "vision of greater opportunities for men of all races and creeds"; (d) recreational facilities, both sides of the river; and (e) parking facilities, access, relocation of railroads, placement of an interstate highway.

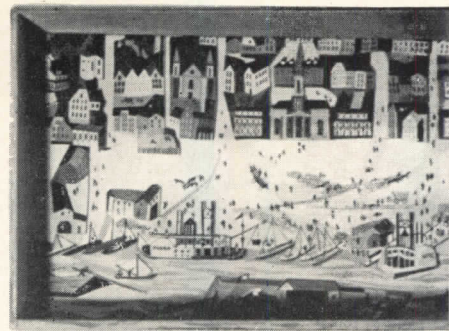
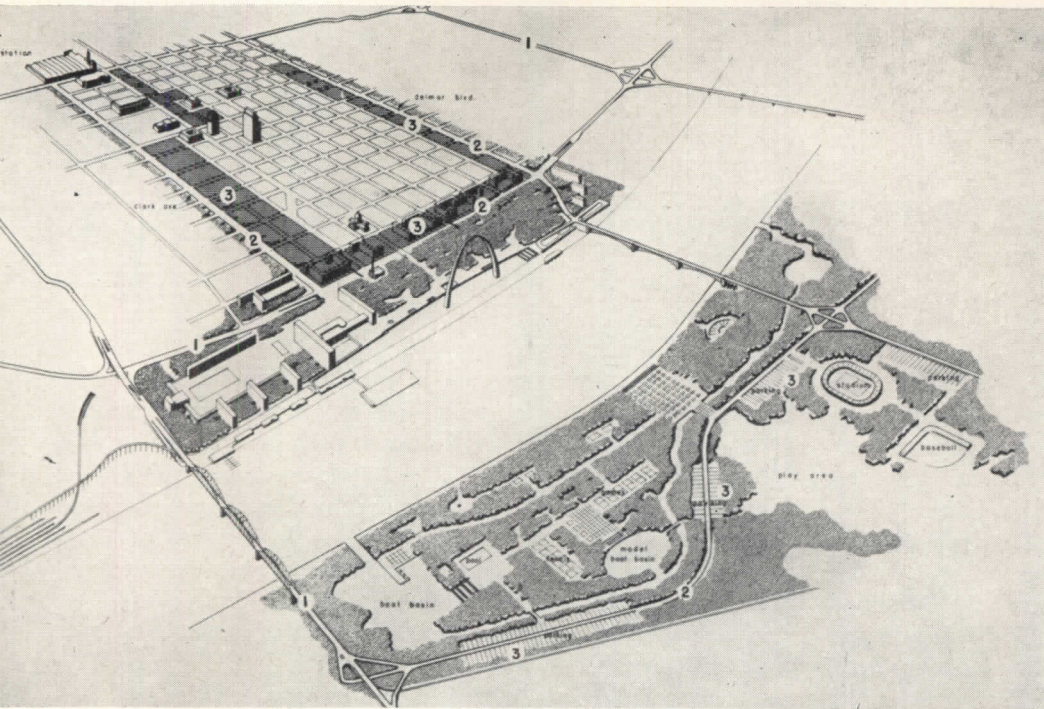
The second phase limited the area to that *between* the levee and city; eliminated the "living memorial"; required that the architectural memorial be "essentially non-functional"; placed numerous restrictions; anticipated easy Park Service maintenance, step-wise completion. Most competitors were actually obliged to "start all over," to meet the revised requirements.

- P. PARKING
- A. THE MUSEUM
- Terrace and cafe above
- B. ARCHITECTURAL
- C. THE MEADOW
- D. CATHEDRAL SQUARE

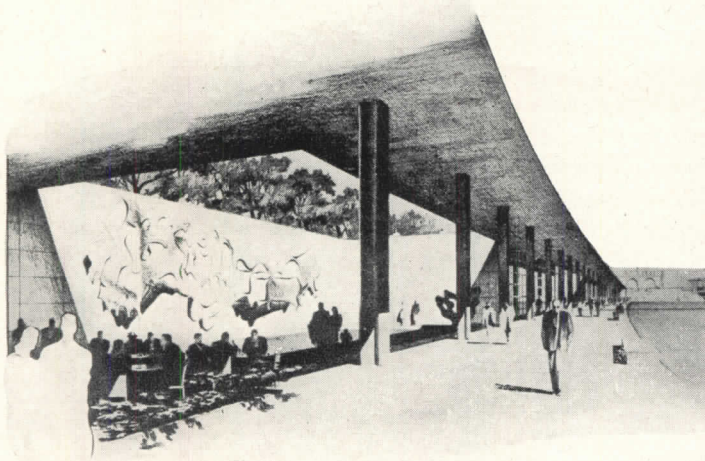
- E. THE GROVE
- F. THE MALL
- G. FRONTIER VILLAGE
- H. CAMPFIRE THEATER
- I. TEA PAVILION
- J. RESTAURANT

- K. HISTORIC ARCADE
- a. Louisiana Purchase
- b. The Pioneer Movement
- c. Life on the Mississippi
- d. Trapping and Fur Trading
- e. Lewis and Clark Expedition





FIRST STAGE OF DESIGN shows arch of square section; character of allied arts; across-the-river recreational development; more extensive building (Final design is shown on the two preceding pages of this story)



"This entry placed in the First Stage, for it contains intrinsically the very features aspired to by the Program . . . a memorial, a park, balanced harmony and fine grouping of buildings. The success of the plan does not depend upon the carrying out of a suggested collaboration of communities on the eastern bank of the Mississippi though it suggests to the full the advantages of such a possibility.

"The Second Stage resulted in an enriched and improved plan with no diminution of any of its initial excellencies. It tends to have the inevitable quality of a right solution. The Monument suggests the historic past

### WINNERS OF FIRST PRIZE (\$40,000)

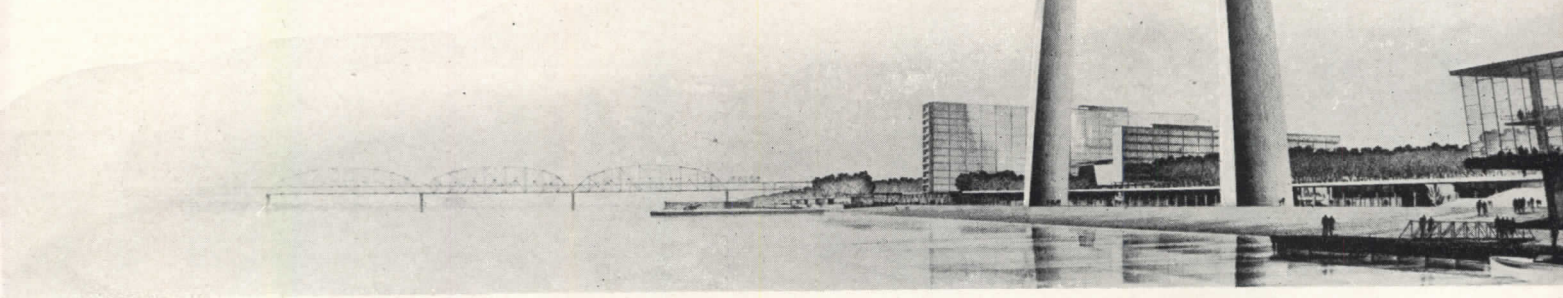
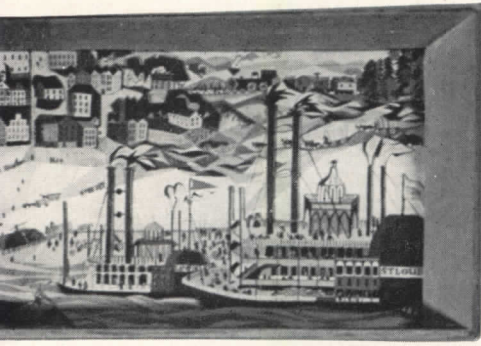
Saarinen, Saarinen and Associates, Architects. From left to right: J. Henderson Barr, associate designer; Alexander Girard, painter; Dan Kiley, landscape architect; Lily Sann Saarinen, sculptress; Eero Saarinen, designer; Dean William W. Wurster, chairman of the jury of award

Across-page: the award dinner. Members of jury, three governors, prominent citizens on dais; competitors seated at long table immediately forward; part of audience in foreground

Jury members were: S. Herbert Hare, F.A.S.L.A., Kansas City; Fiske Kimball, F.A.I.A., Philadelphia; Louis LaBeaume, F.A.I.A., St. Louis; Charles Nagel, Jr., A.I.A., Brooklyn; Richard J. Neutra, A.I.A., Los Angeles; Roland A. Wank, A.I.A., New York; William W. Wurster, A.I.A., Cambridge, Mass., chairman

W. C. Runder Photos





of St. Louis as the Gateway to the West. It is large in scale, yet does not dwarf other structures, and by its very form is sympathetic with the Courthouse dome. The use of the Manuel Lisa Warehouse as an entrance to the Memorial is a peculiarly happy instance of the brilliant effect to be gained by the occasional close juxtaposition of old and new.

"The park gives promise of shade in the warm season. The treatment of roadways is an effective guard against traffic intrusion. The approach to the Old Cathedral and its adjacent dependencies insure a proper setting for that dignified structure. The treatment of sculpture

commemorating historical episodes is particularly engaging as it gradually unfolds along the levee edge. A frontier village in the wooded area recalls the flavor of the time of the Western Expansion. Restaurants on either end afford vistas of the Memorial area and the Mississippi. Feature by feature a masterful plan reaches desired fulfillment.

"The entire concept, full of exciting possibilities for actual achievement, is a work of genius, and the memorial structure is of that high order which will rank it among the nation's greatest monuments."

— From Report of the Jury

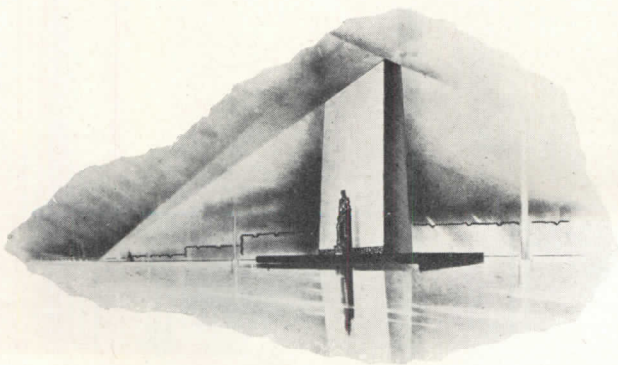
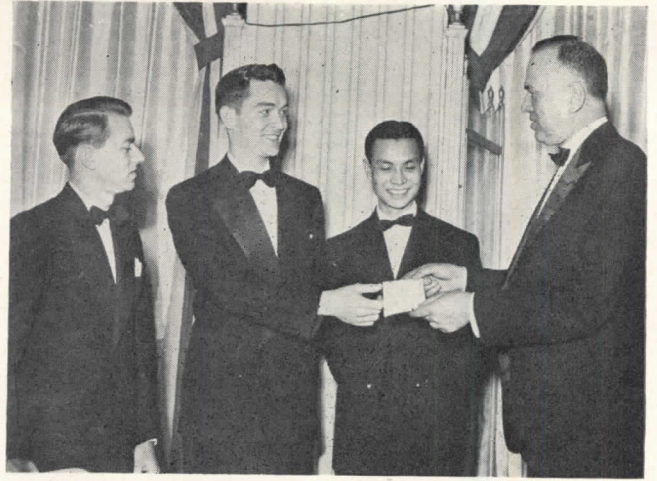
Eugene Taylor



## SECOND PRIZE:

\$20,000

Left to right: Gordon A. Phillips, William Eng, both architects; George N. Foster, painter, and, again, Dean W. W. Wurster



Pylon, from first stage, is typical detail by competitors

**S**IMPLE and broad in conception, this design has an uncluttered terrace with the memorial gaining strength from the repeat of shafts commemorating historical events. A band of thickly planted trees gives respite from the traffic and city noise." — Dean Wurster.

"Emphasizes the natural fall of the site by placing the long museum building and the restaurant with its panoramic view on highest ground . . . immediately accessible from the city center . . . creates direct connection between park and courthouse. . . ." — Jury



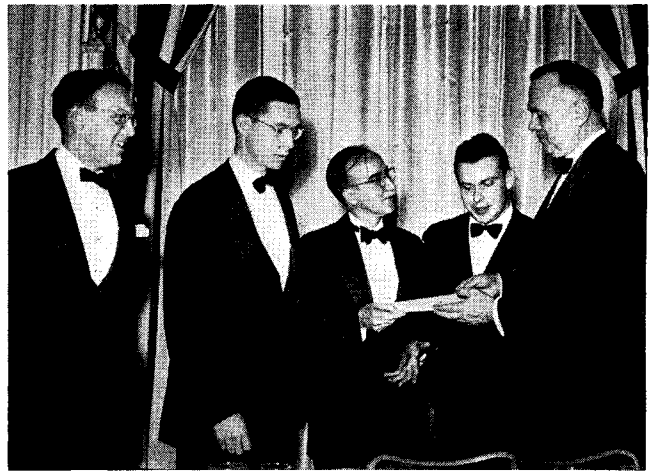


## THIRD PRIZE:

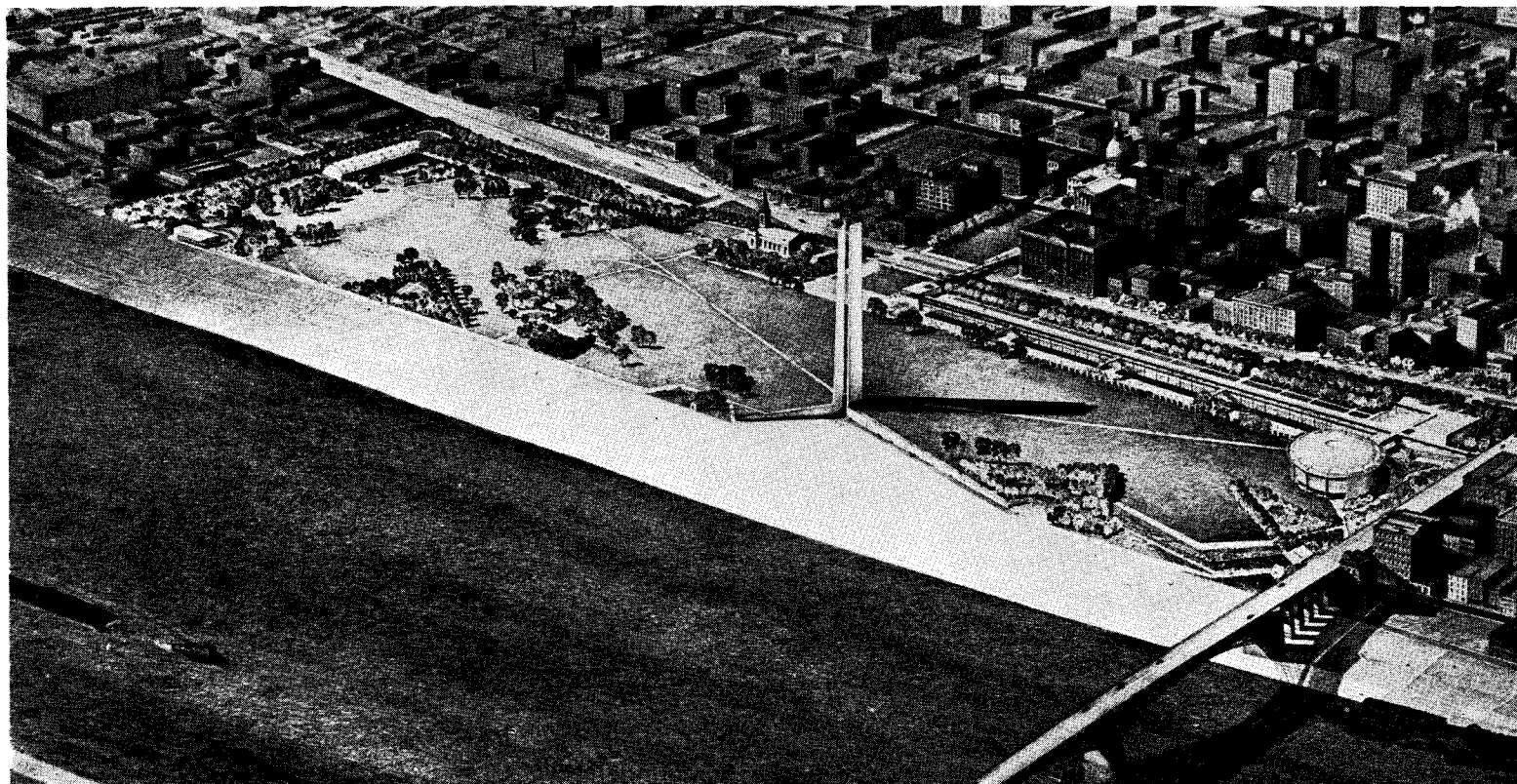
\$10,000

---

Equal team-mates: Ralph J. Menconi, sculptor; George S. Lewis, Caleb Hornbostel, William N. Bregar, architects



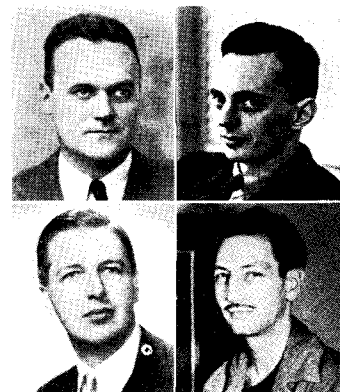
W. C. Runder Photos



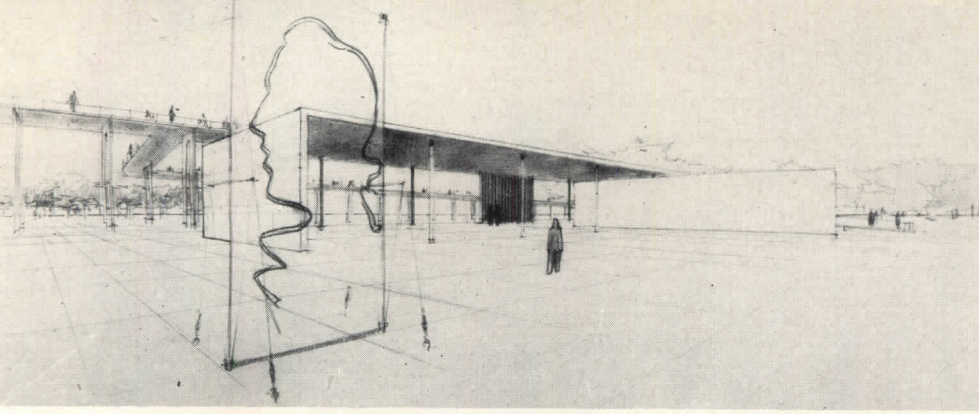
**A** SINGLE great idea carried through with conviction in the form of a terrace earned a place in the first group of five.

“In the development of the second stage a monument was introduced which has beauty and a stately symbolism. This symbolism is to emphasize that through this one city were funneled the countless settlers to spread through the West. The terrace museum is retained on the high ground and an intimate grouping of old buildings developed at the levee. The picnic and restaurant areas at each end all contribute to the human scale which would make it a pleasant place in which to relax.” — *Report of the jury*

“The historical structures find themselves as of old close by the levee.” — *Remarks of Dean Wurster*



Other equal team-mates: top left, Donald L. Kline, landscape architect; top right, Allen Gould, painter; bottom left, Christopher Tunnard, landscape architect; bottom right, Andre Schwob, painter — the “eastern team”

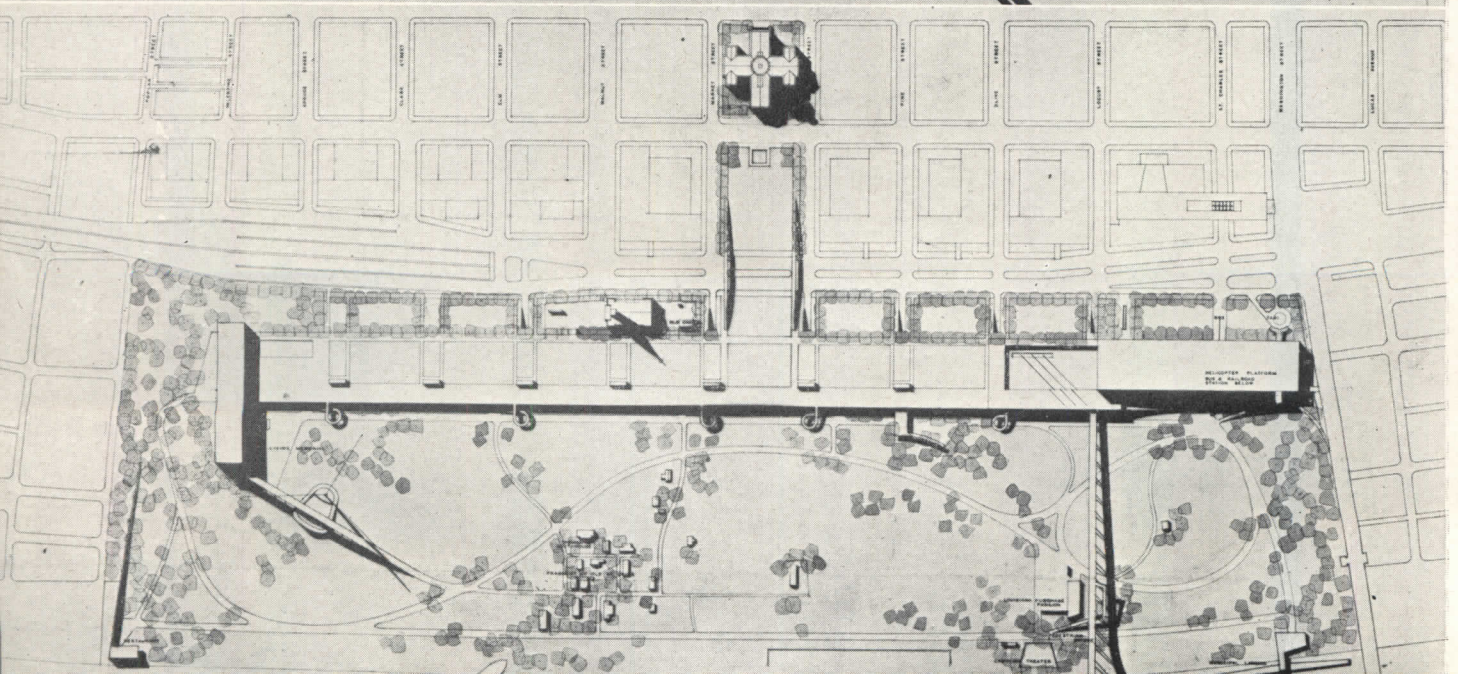
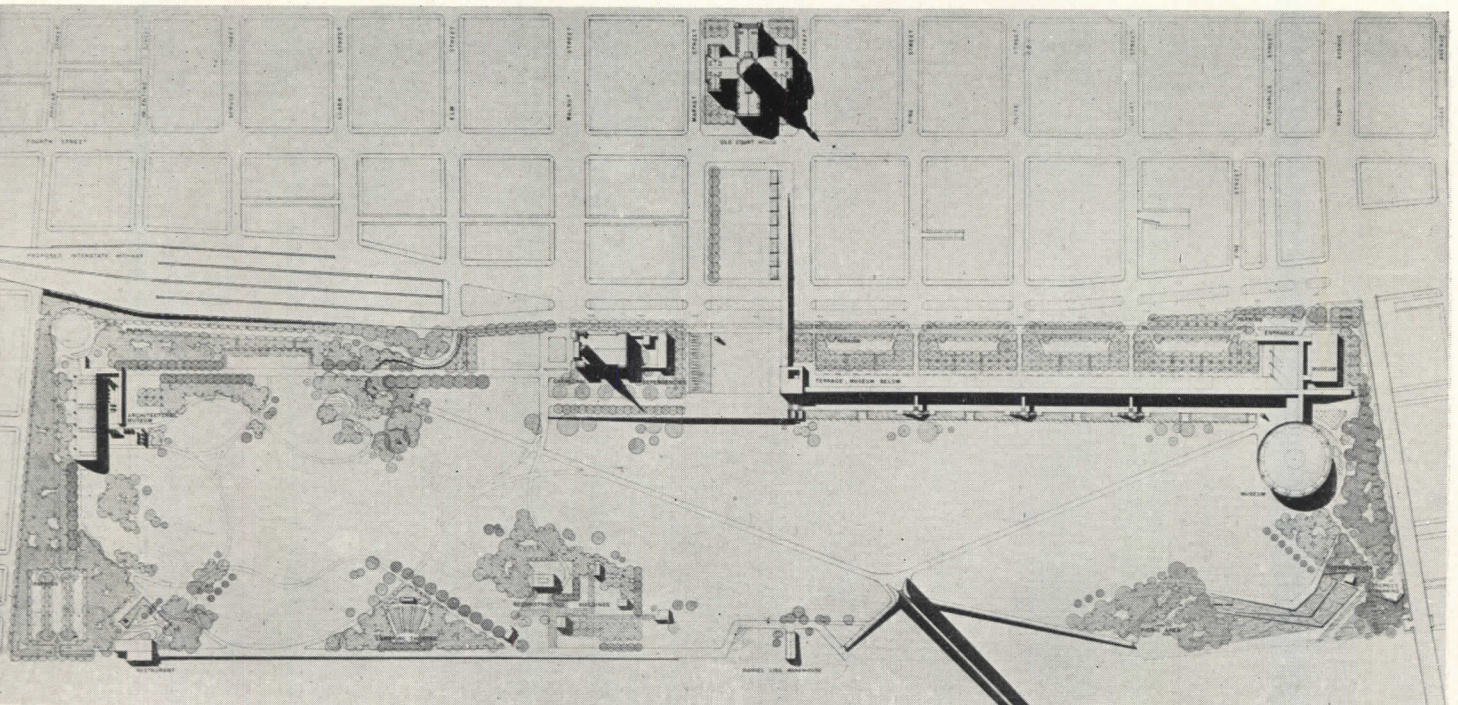


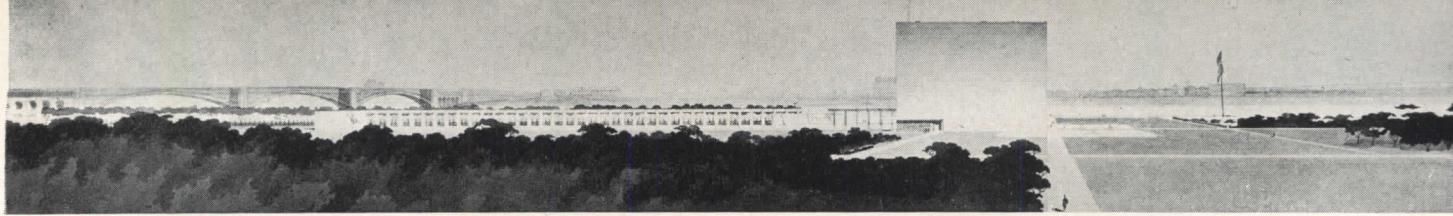
*Living memorial of first phase was open pavilion; pictorial elements included large transparencies. In all plans, the cross-shaped domed building on axis is the Old Court House; the old Cathedral is further forward, offset toward the left*

Shift from first plan (lower) to second (upper) in this project is typical of the changed program. First stage emphasizes long terrace over three vast parking floors taking up change of grade; to right is bus and railroad station, helicopter landings on top; to left, "living memorial" centered on a broadcasting station con-

tinuing Jefferson's interest in dissemination of knowledge. In second stage, parking is at grade on terrace at right wing; long structure with round terminal is museum; the other museum, extreme left, is for what advisor George Howe charmingly designated as "architectural remains cherished for sentiment"

W. C. Runder Photos

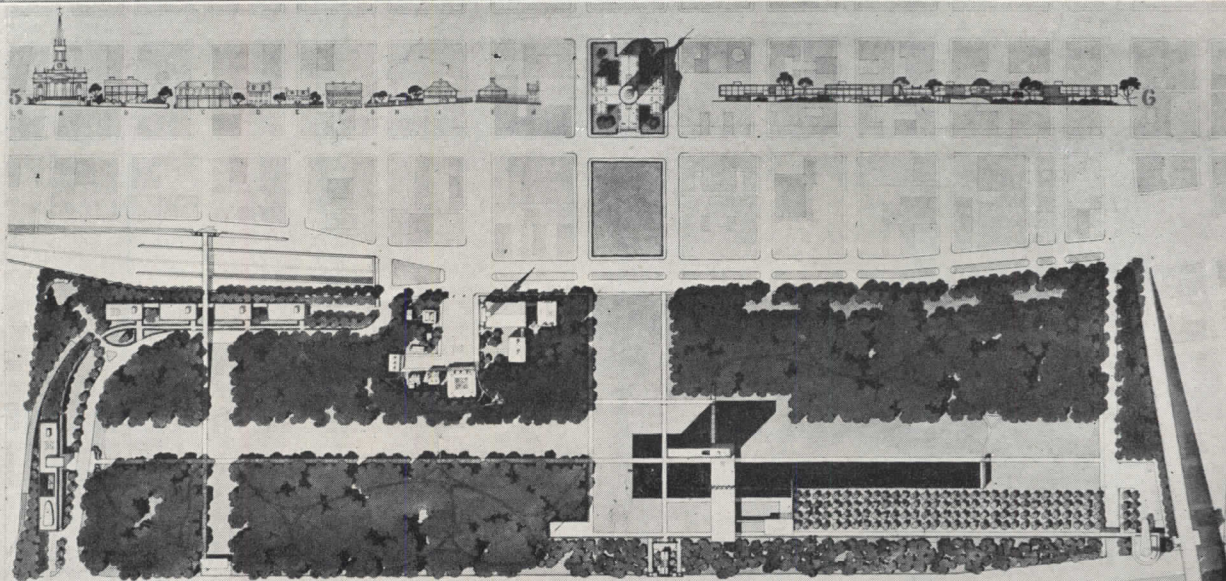
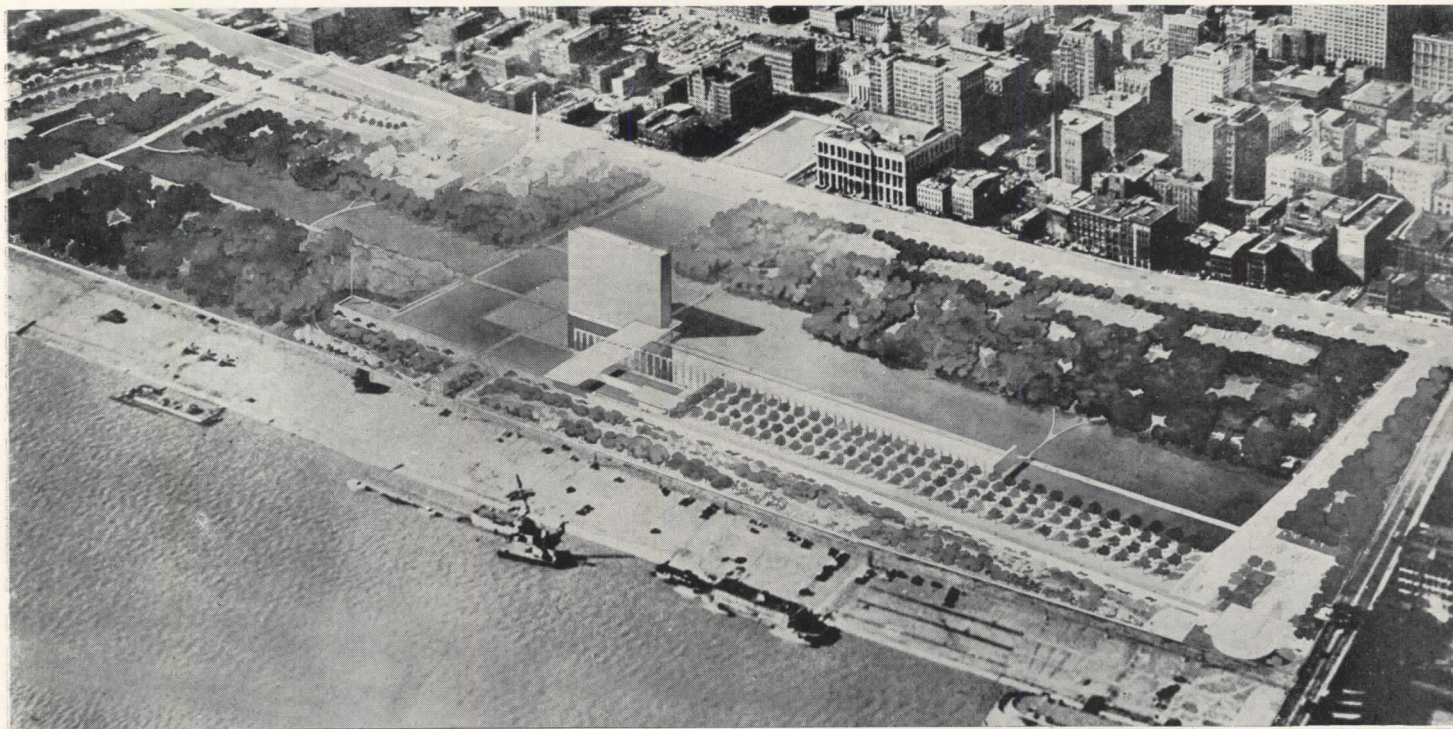
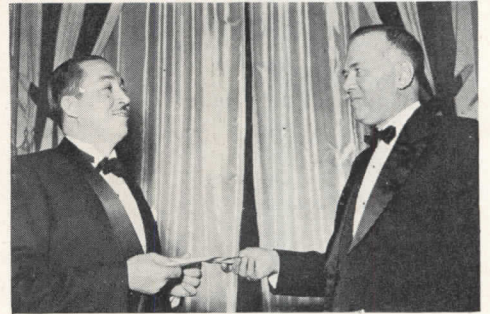




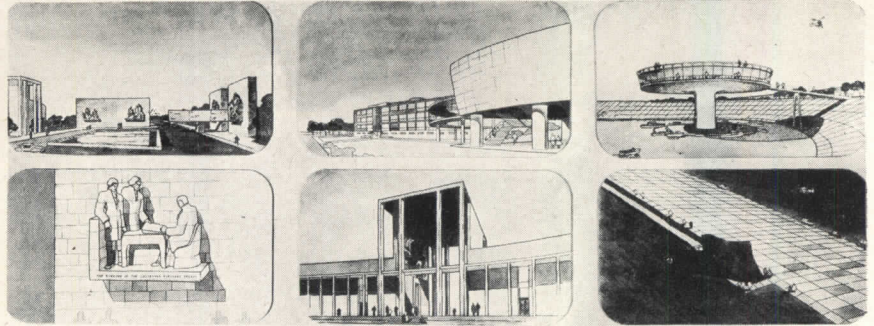
## RUNNER-UP: \$2,500 Prize

Harris Armstrong, Architect

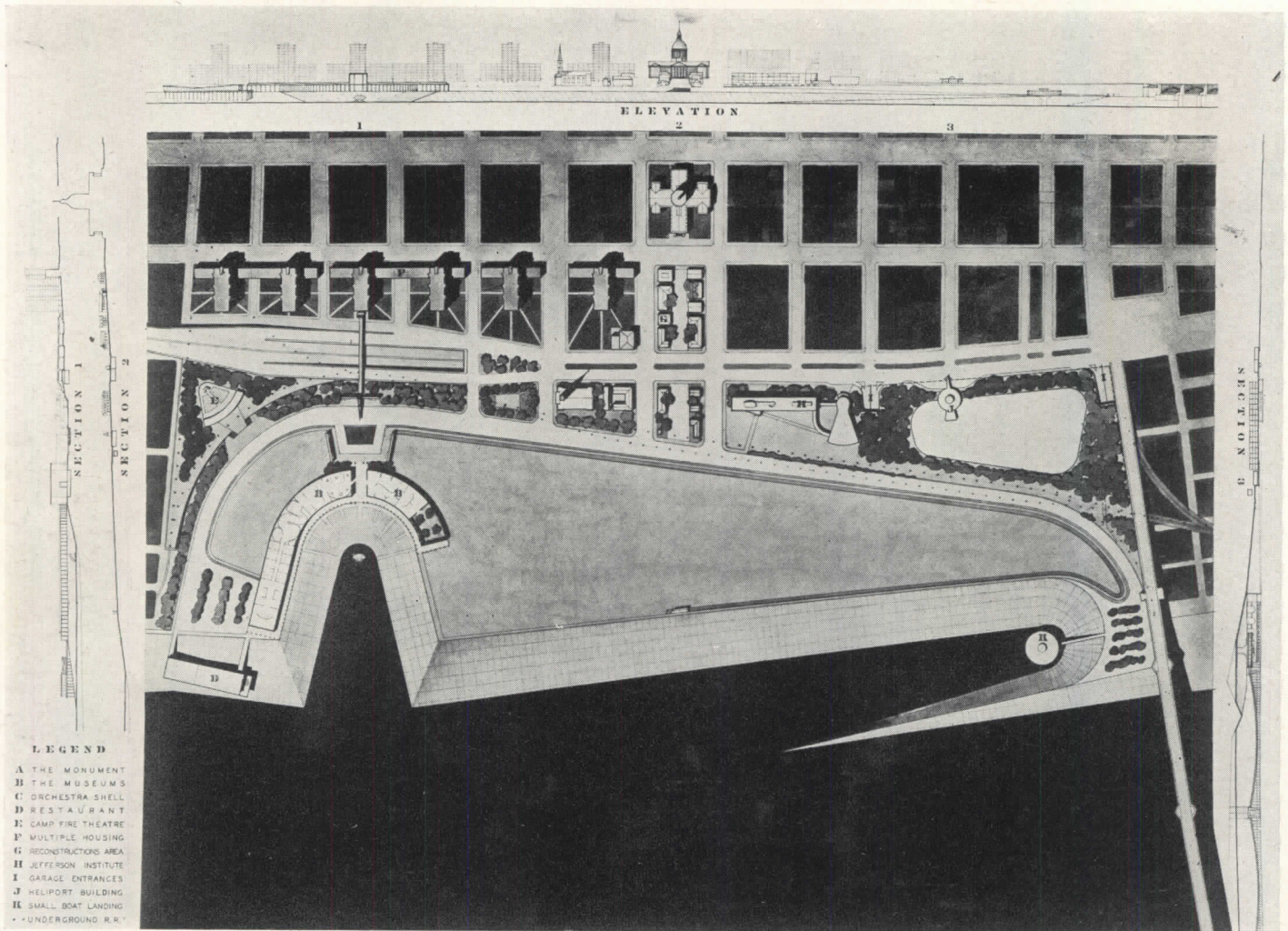
**R**EAL study of the site brought, in the Second Stage, a memorial structure that in its simple mass would stand clear of the existing structures on either river bank. Great sensitivity brought the need of presenting the view from the city which is day-by-day truth. The Cathedral close and the tree-shaded areas are pleasant in scale and concept." — *Report of the Jury*



Details of Armstrong's first submission included slab monument facing pool above left-hand inlet, where the key letter "A" has been obscured in reproduction



W. C. Runder Photos



"The first submission (of Harris Armstrong) raised high the symbolism of the levee although in doing so it violated possibility," said the Jury. "A broad conception which by its very austerity would mark it as a monument amidst the natural turmoil of commerce."

In its "austerity," which one might be more inclined to call simplicity, this design typified the quality which set off all winning designs from unsuccessful submissions. The number of separate facilities asked for in the first program was so great that most of the 172 schemes entered appeared to be greatly overcrowded: the other

common failing was that it would have been impossible, with these submissions as the only guide, to arrive at any accurate notion of *scale* — how big the area was in fact and in effect.

So entirely fresh was this "ground-sculpturing" concept of Mr. Armstrong, as also that of Isamu Noguchi on page 103, and so possible of realization, that there was some regret when the approach was ruled out.

"Alternate" competitors named after the first stage were Percival Goodman, Suren Pilafian, Hugh Stubbins, Jr., and their respective associates, in that order.

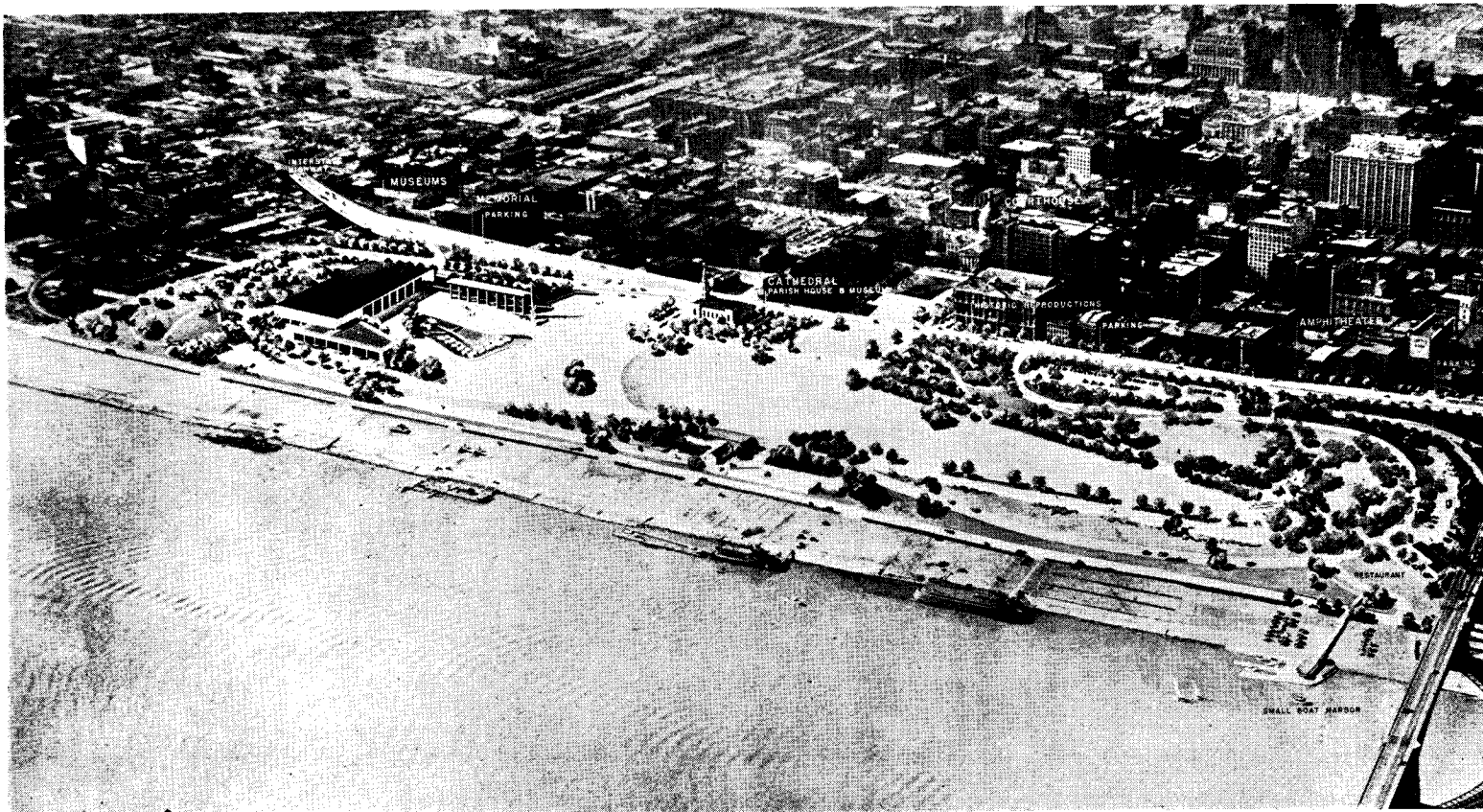
## RUNNER-UP: \$2,500 Prize



**A**n orderly but informal park with welcome open space, surrounded by the structures required, brought this scheme up for further consideration.

These qualities were retained in the second stage, with the monument developed as a minor structure in relation to the museum buildings. The cathedral has been used successfully as a means of transition from a fully contemporary plaza to an area of historical flavor."

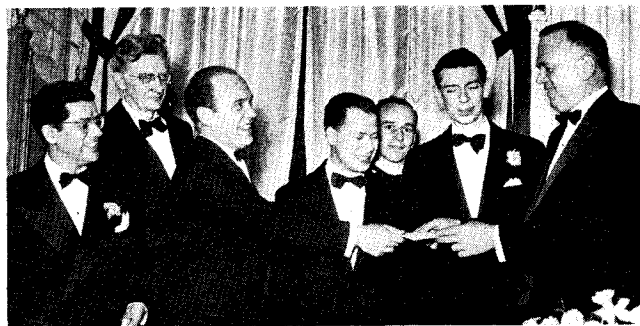
— *Report of the Jury*

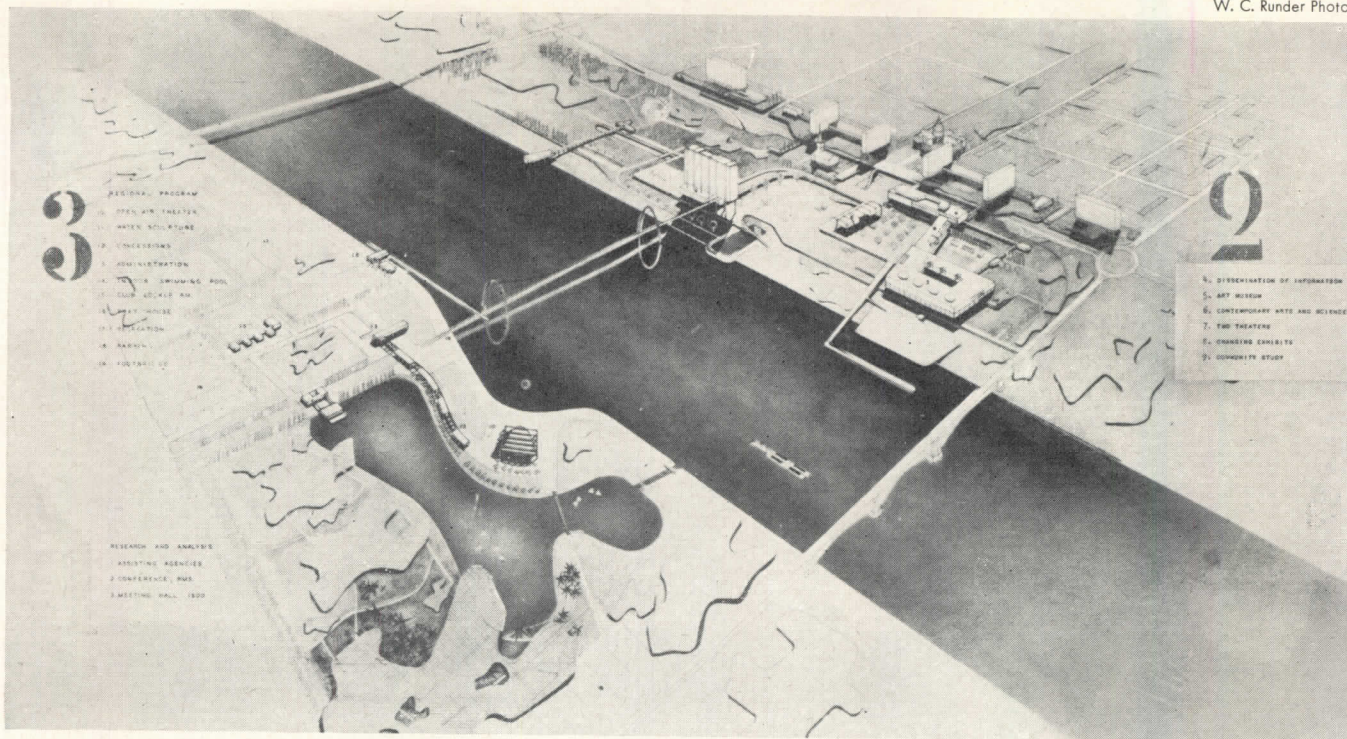


Upper view shows First Stage submission; large photograph the Final Submission of these middle-western competitors

Left to right: Robert S. Robinson, painter; Julian F. Bechtold, sculptor; T. Marshall Rainey, architect (receiving the prize); John F. Kirkpatrick, landscape architect; Robert A. Deshon, planner; John B. Sheblessy, engineer-planner

Final note on winning teams: no winner came from the Far West, which was represented by some 20 submissions

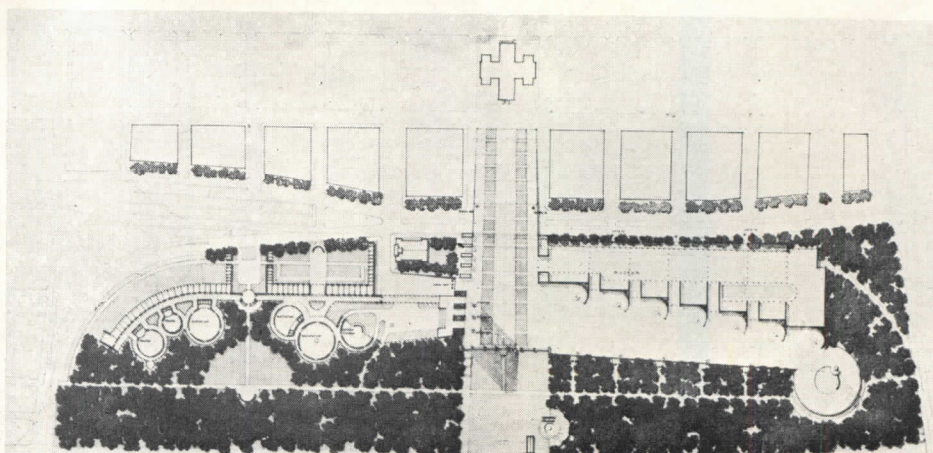


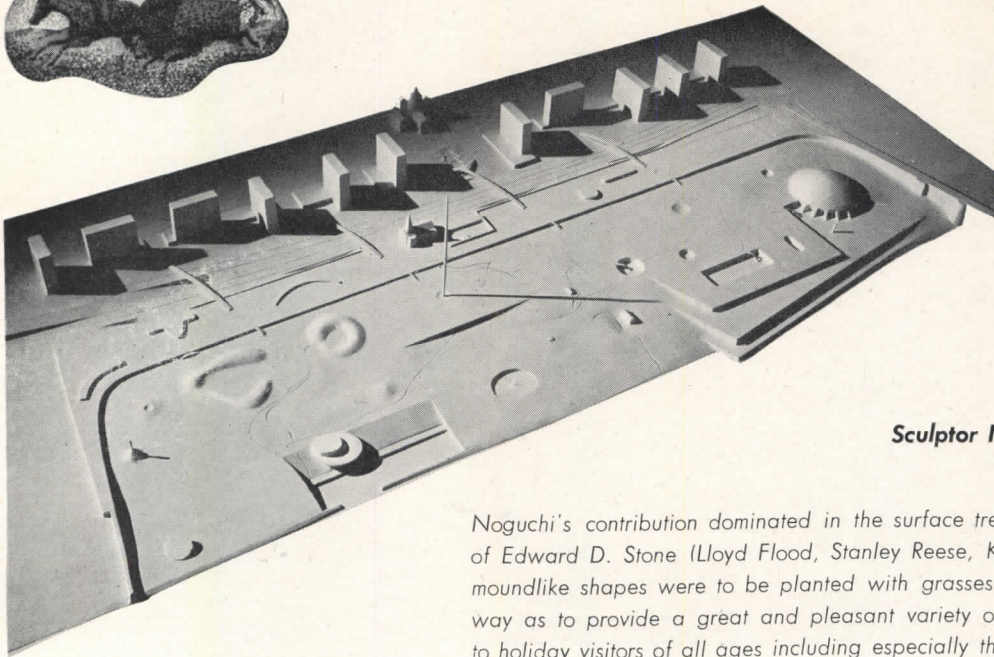
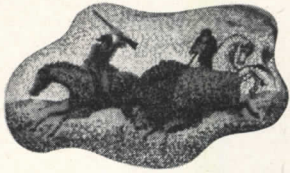


**Architects' Collaborative goes in for hard work, carefree play**

In common with most competitions, "Jenniemy" produced a great many remarkable ideas among unpremiated projects. The Architects' Collaborative, for example, took very seriously Jefferson's role of scientist (a modern research center) and of educator (center for dissemination of knowledge); provided regional programs, got a plethora of facilities together in good order, played gaily in art and sculpture (painter, Xanti Schawinsky; sculptor, Bruno Innocenti; museum consultant, Alexander Dornier; historian, James Gore King). One of the most generic and creative ideas was Isamu Noguchi's (working with Edward D. Stone) who proposed putting most of the buildings underground, treating the surface as a modern kind of Indian mound which would not only please the eye by its sculpturesque shapes but give climbing, rolling, tumbling children a new experience of Mother Earth. This would be a new integration of architecture and sculpture, of art and play.

Hardest worker among all concerned was probably patient, fair, witty George Howe, professional adviser, adopted son of the city.



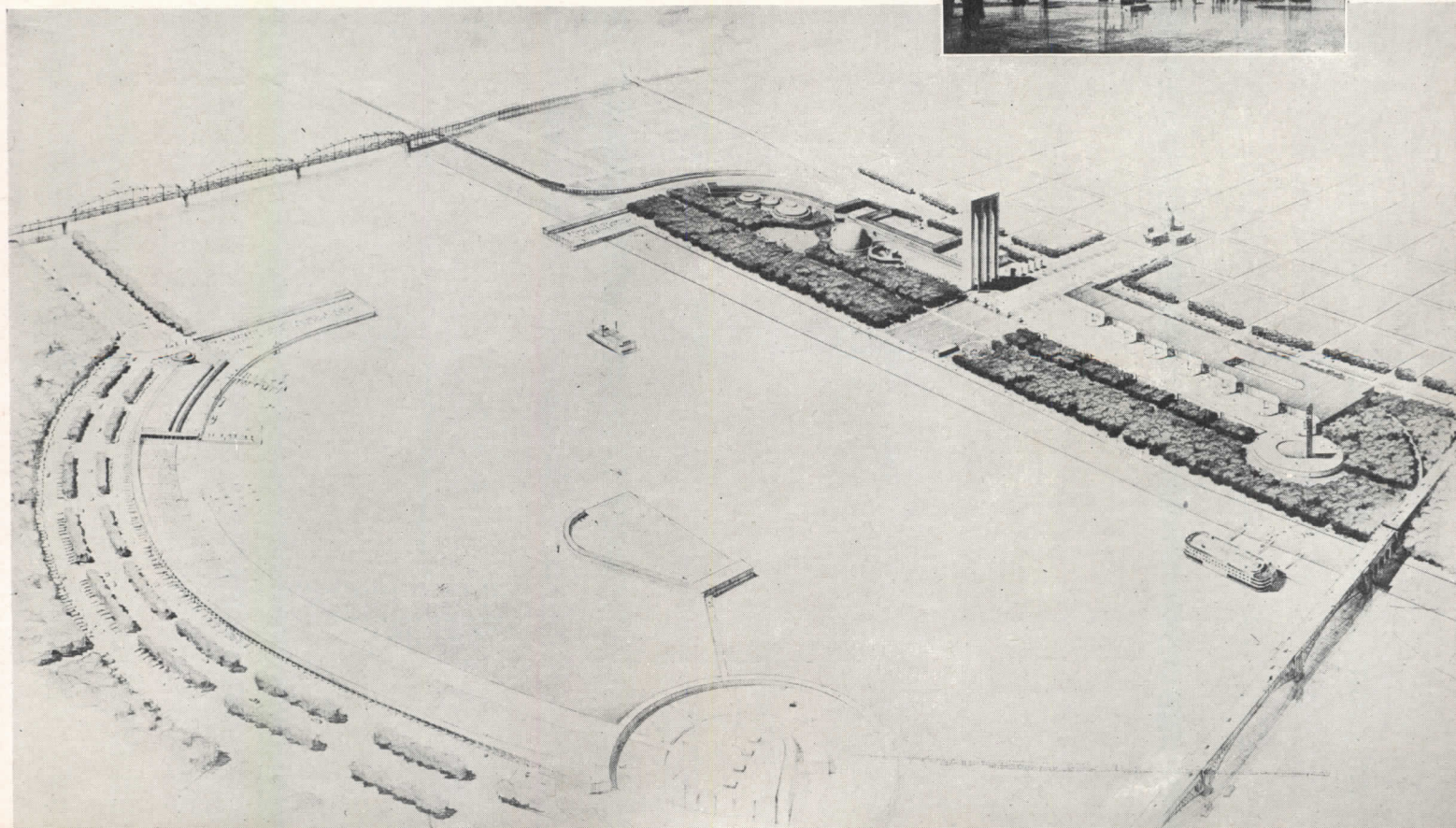


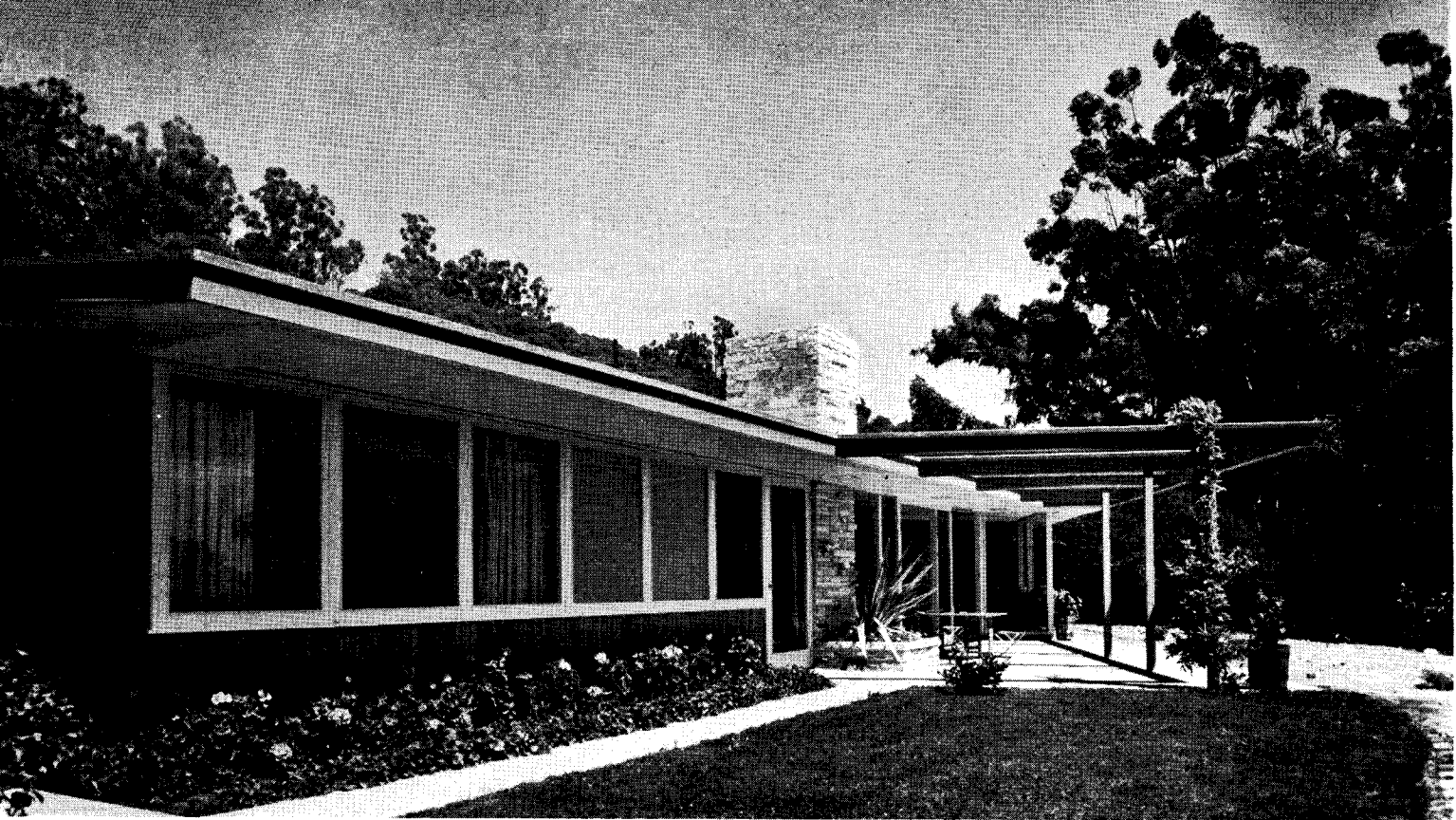
**Sculptor Noguchi makes a modern mound**

Noguchi's contribution dominated in the surface treatment of the scheme by the team of Edward D. Stone (Lloyd Flood, Stanley Reese, Karl Holzinger, Henry Billings). The moundlike shapes were to be planted with grasses and otherwise surfaced in such a way as to provide a great and pleasant variety of experience, tactile, kinetic, visual, to holiday visitors of all ages including especially the children

**Eliel Saarinen makes architectural swirls**

In a submission separate from that of his son, the elder Mr. Saarinen used a vista of stepped curving walls along the face of his major museum; produced his other buildings in domed circular forms; set a vast arched parking area across the river, and built stadia out to project into the water or be surrounded by it





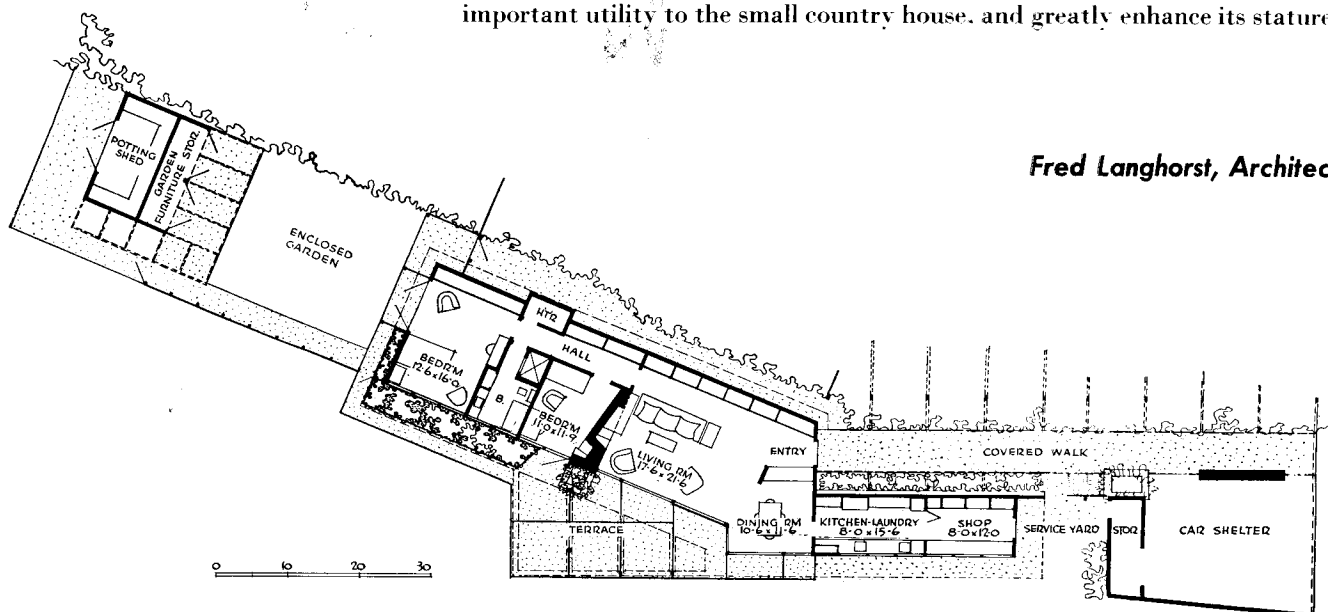
Roger Sturtevant Photos

## A SMALL HOUSE OF IMPRESSIVE STATURE

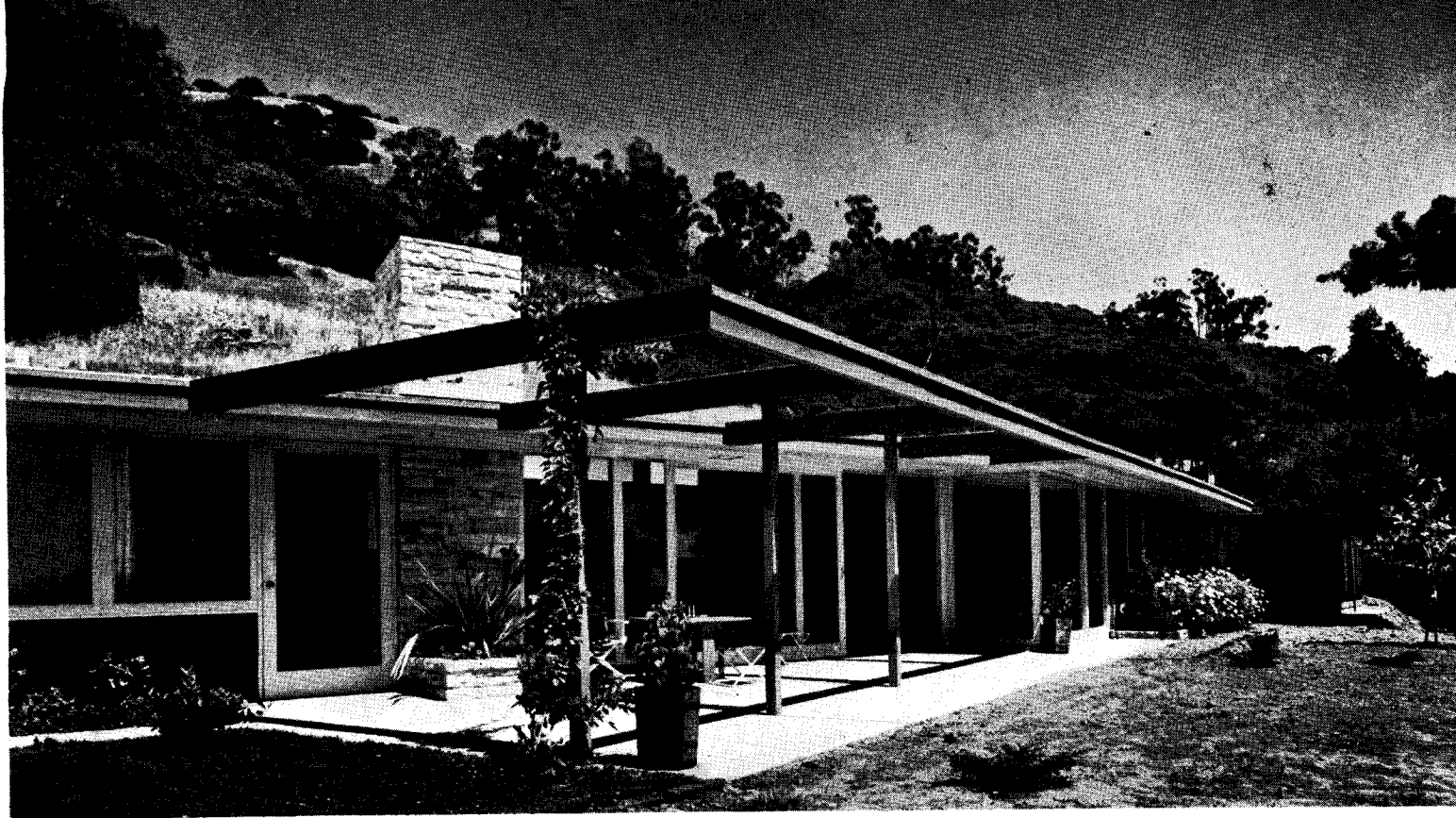
**House for Dr. and Mrs. Alex J. Ker,  
Marin County,  
California**

CONTEMPORARY design in California seems bent on confounding critics who use such terms as "nude," "ascetic," or "dull." For this house, which won first award in a recent competition by *House and Garden*, is ample demonstration that modern can be as imaginative, as impressionistic, as anybody could wish. It makes full use of extended structural members, contrasting forms and materials, and long, strong lines to create dramatic interest. And, incidentally, the several accessory spaces implicit in such planning add important utility to the small country house, and greatly enhance its stature.

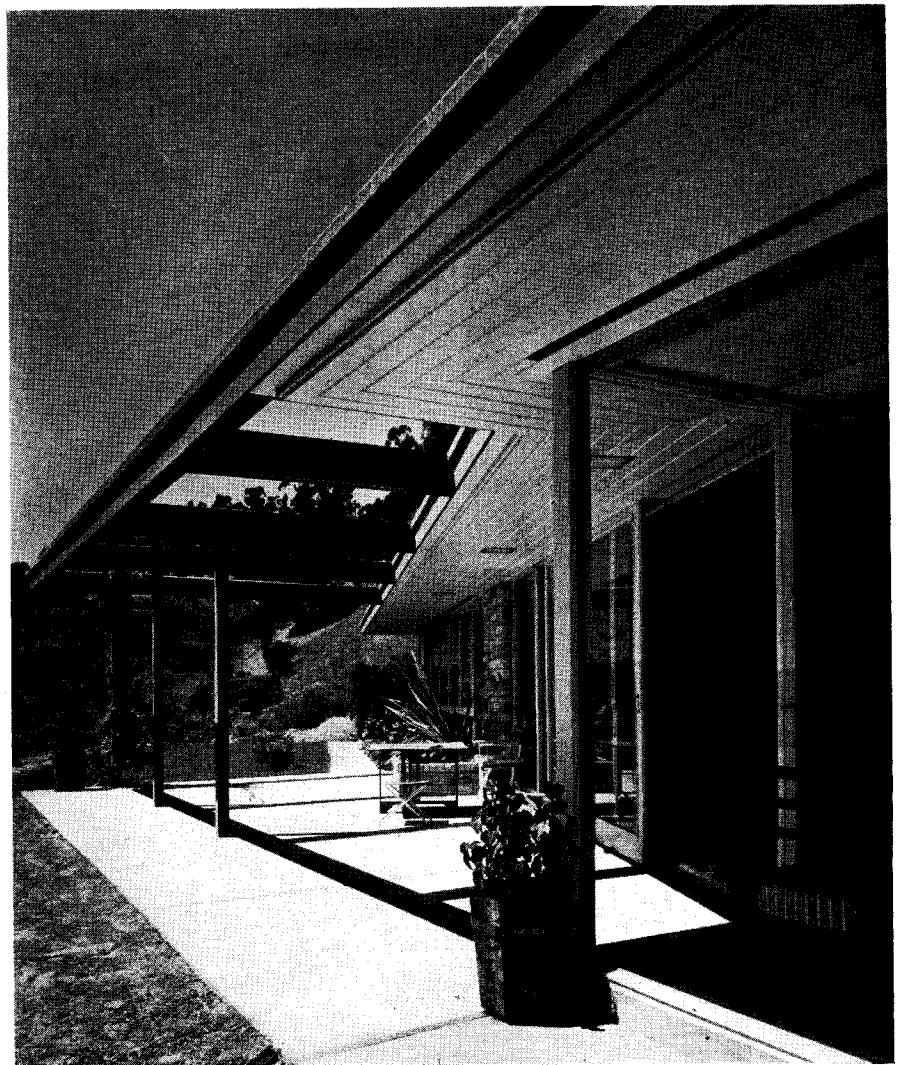
**Fred Langhorst, Architect**



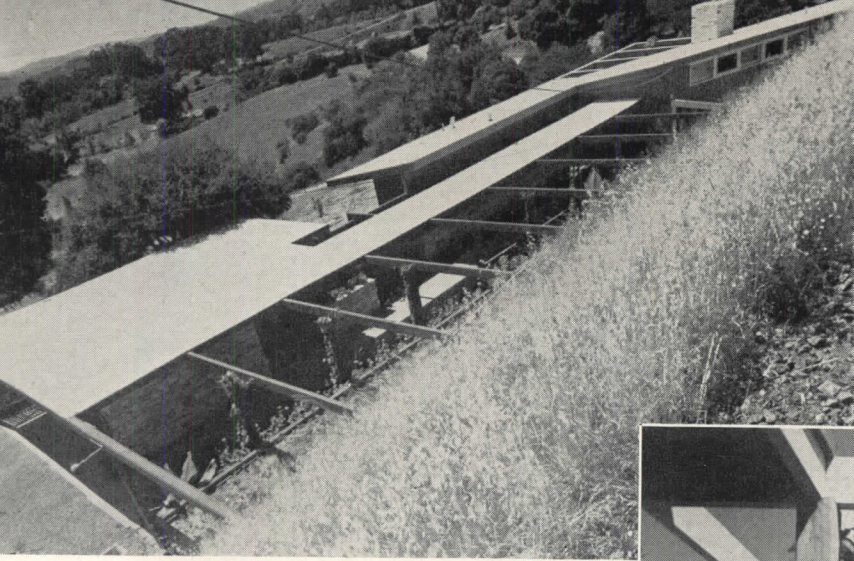




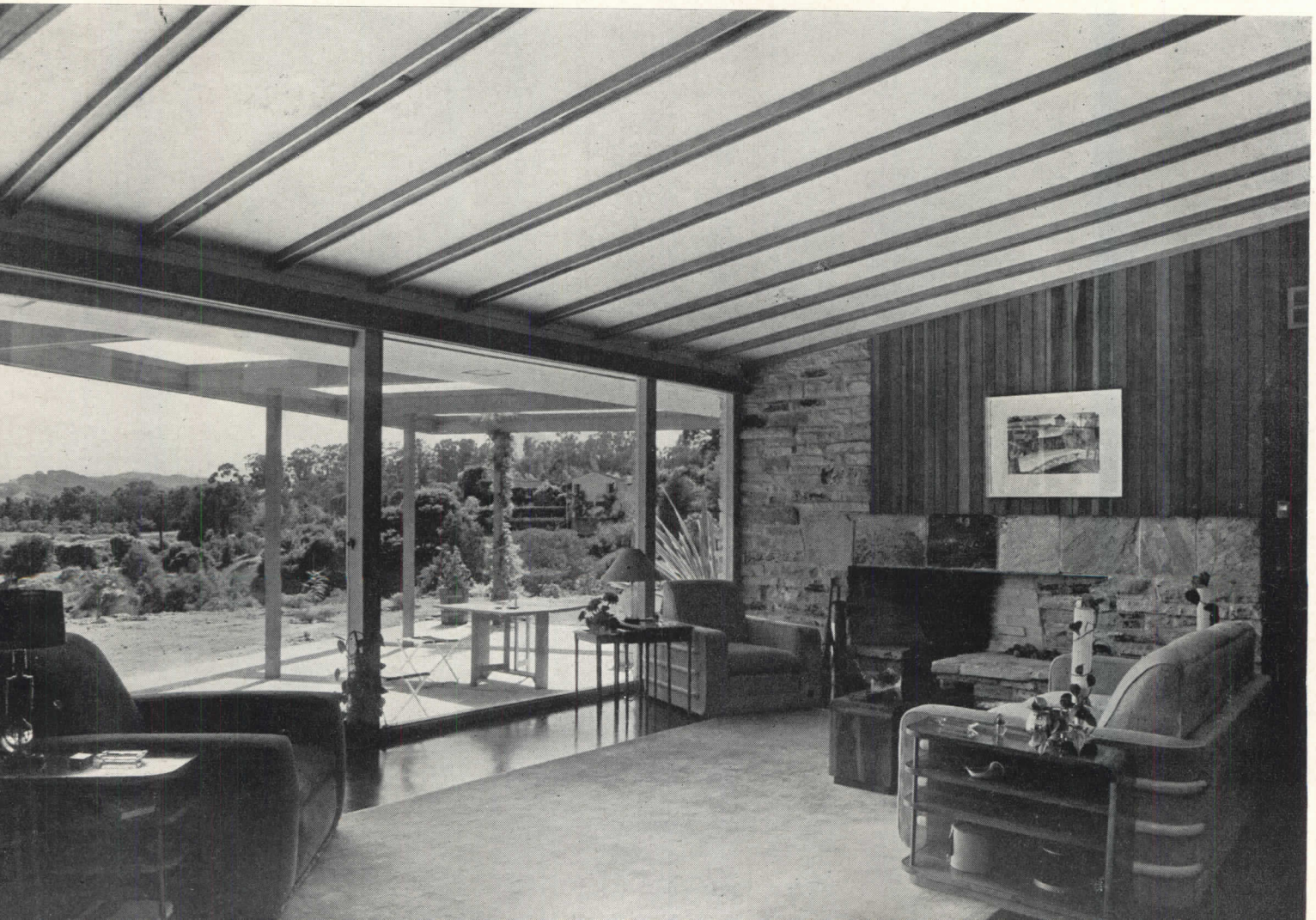
*All rooms have been related to a southerly exposure, which fortunately coincides with the view from this hillside site. The rooms have all been related also to appropriate corresponding outdoor living areas, an outdoor living area in these views, in other photographs an enclosed garden, a service yard, a covered entry*



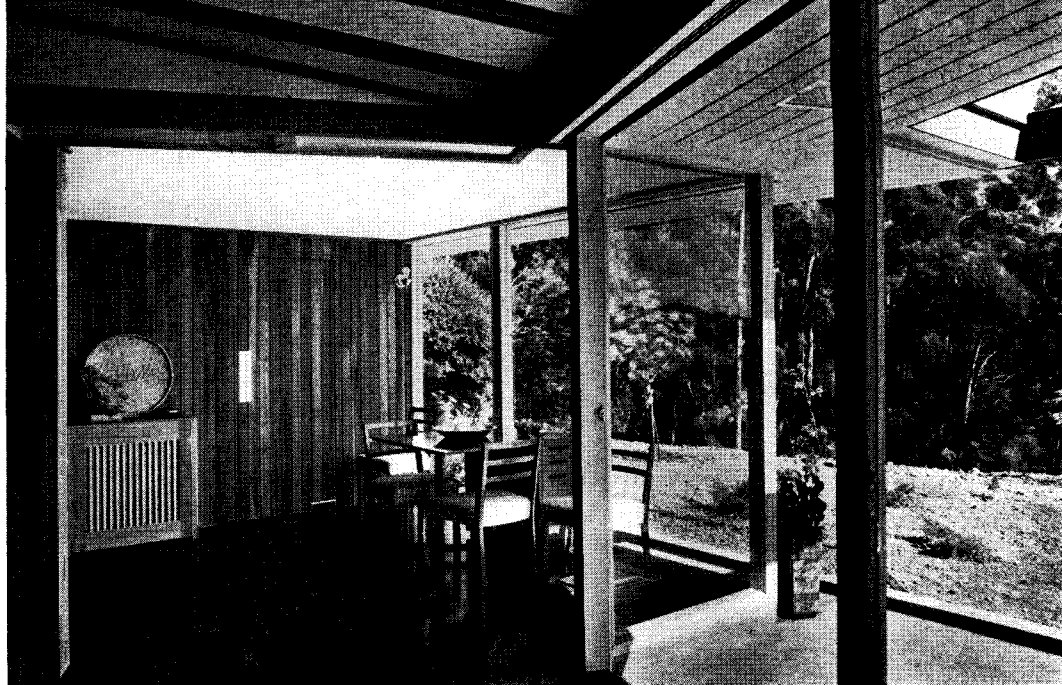
*While the site comprised several acres, the topography was rugged. An extensive grading operation created a long level area of varying width, running east and west. The house is set close to the hill, to leave maximum free area to the south*



*The house is closely tied to the hillside, structurally as well as visually. This placing provides the maximum level area at the other side, south, for enjoyment of sunshine and view. Roof members of the car shelter extend to piers on hillside*

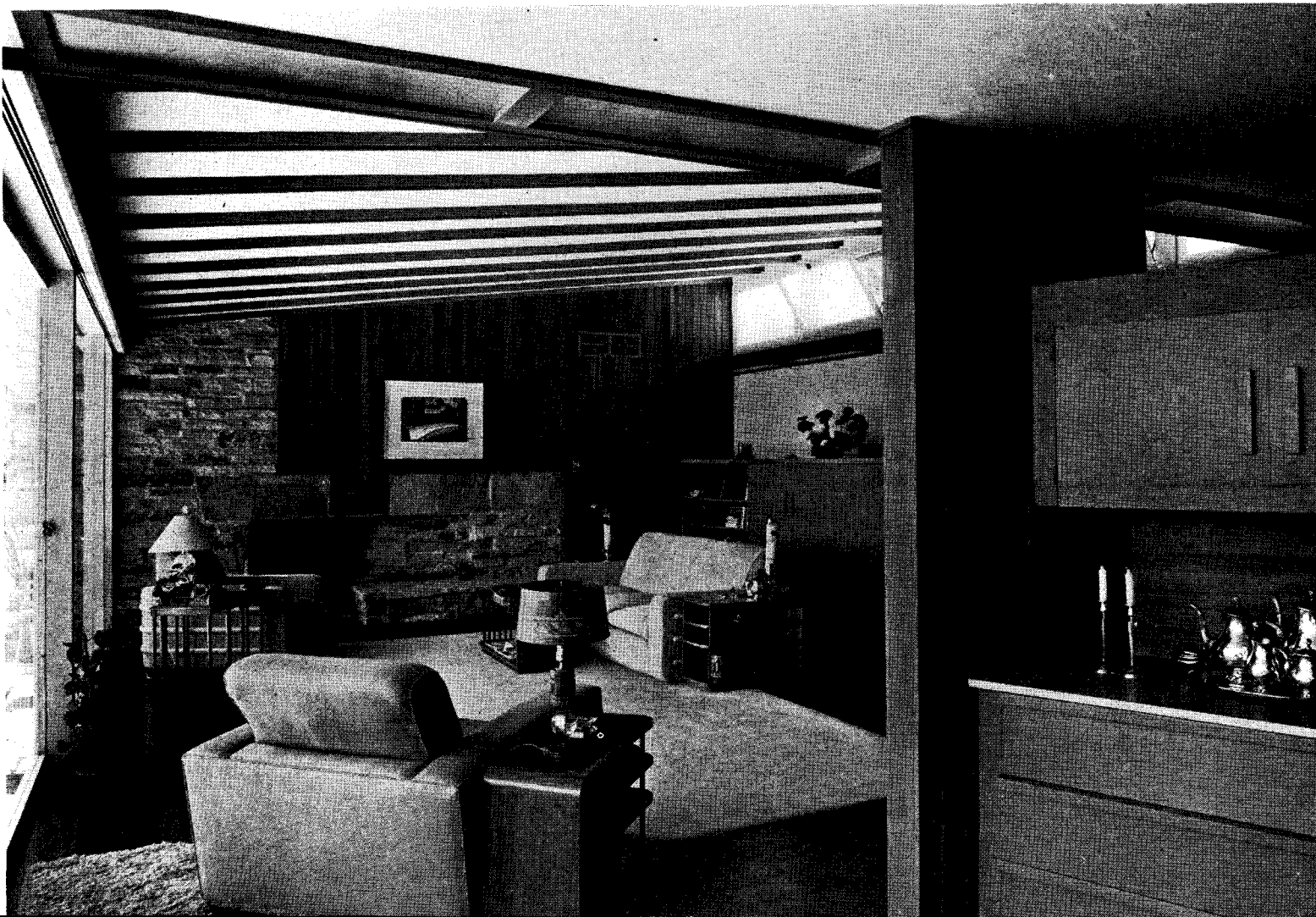


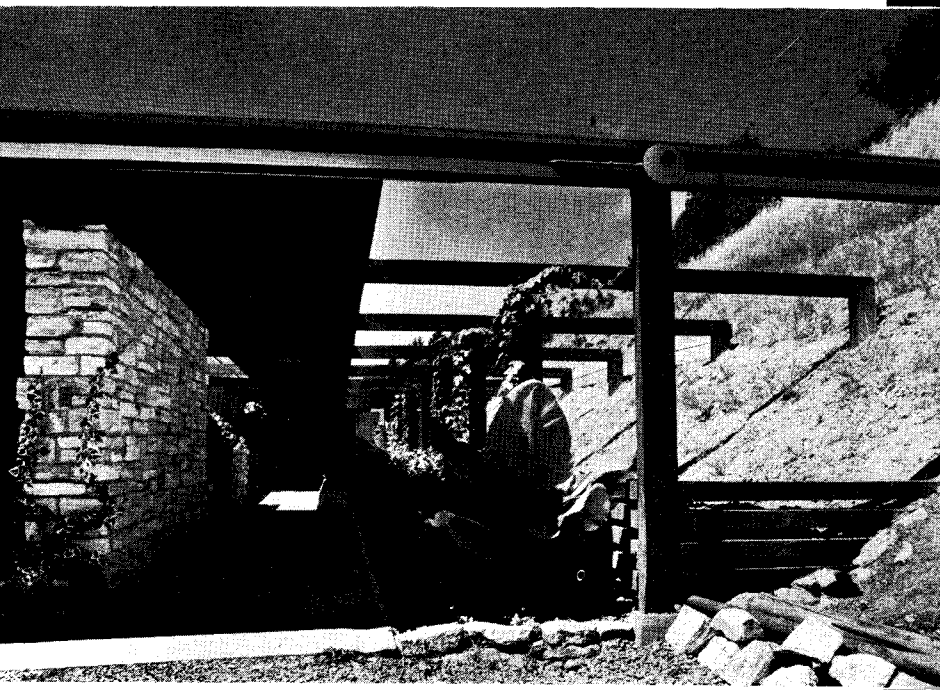
*View of dining room as seen from living room. Note living room light shelf over doorway. Walls redwood, ceilings gypsum board*



*The architect explains that, since this house was definitely designed for adults, he waived one of his basic rules — that a living room should not be a passage. Except for the high windows the room is closed to the crowding hillside, but expansively open to the valley view. A light shelf on two walls provides indirect general lighting. Stone hobs in the fireplace are "andiron eliminators" and serve as an informal place for sitting close to the fire. Heating is by gas-fired, forced warm air furnace*

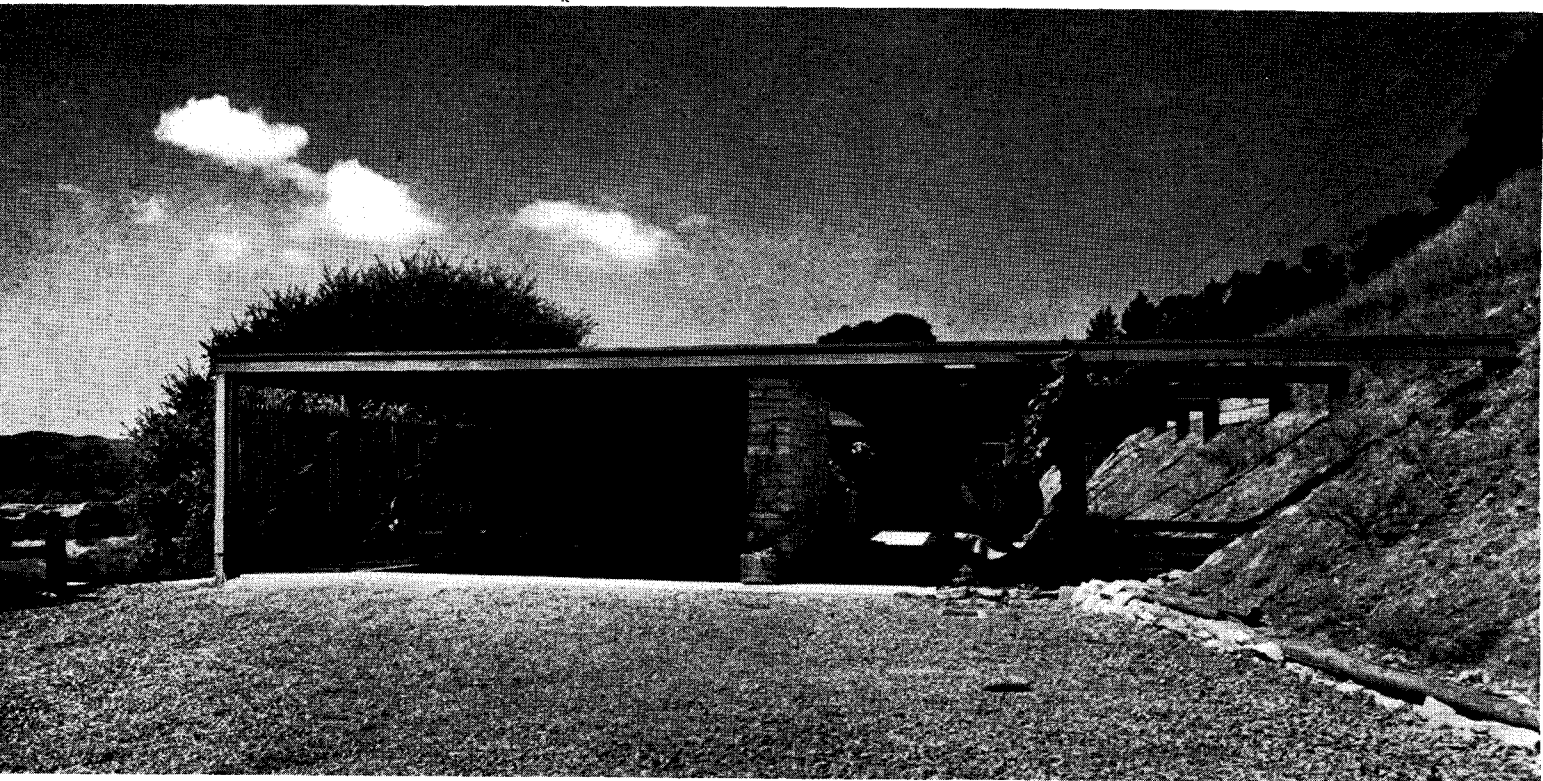
Roger Sturtevant Photos





*In order to preserve the privacy of various outdoor living spaces, the entrance is brought in from the parking space along the rear of the house. An extension of the garage roof covers the first portion of the walk and continues free of the house to the entrance door. As the upper pictures show, the effect is quite gracious; the shelter suggests the regal canopy and red carpet of an earlier day. A planting strip screens the walk from the service yard on the one side and the cribbing-type retaining wall on the other*

Roger Sturtevant Photos



# CURRENT TRENDS IN STORE DESIGN

by Morris Ketchum, Jr., A.I.A.

of Ketchum, Gina and Sharp, Architects

**A**FTER a period of slow progress during the war and depression years, retailing has now embarked on a full-fledged building program. In every branch of trade — from specialty shop to department store — new building projects are on the drafting board, under construction, or newly completed. The encouraging feature of this new era in store design is the high quality of its planning. Thanks to the stern training of the war and depression years, merchants and their architects are now building stores that are realistic answers to the demands of contemporary merchandising.

Today, store designers and their clients are fully exploring — and solving — the inter-related problems of the indoor and outdoor shopping street — sales and services, advertising and display, pedestrian and auto traffic, walkways and parking spaces. In addition, a real start has been made in solving the problems of our blighted city shopping districts and in creating new, *decentralized shopping centers* built for the drive-in trade. This is perhaps the most significant current trend.

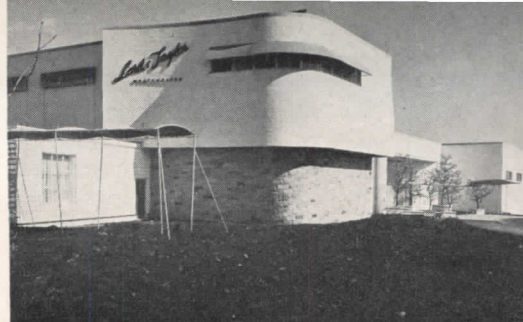
In our cities, the problem of the small retail shop is being restated in fresh, new terms. Designers have long since realized that the basic fundamental of store planning is *flexibility* — in the planning of the indoor sales space (and its behind-the-scenes operational activities). The current trend is to organize each sales floor for flexible free-flow of horizontal traffic and for centralized vertical traffic, which provides an efficient merchandise transportation system for incoming stock and outgoing deliveries. Flexibility is furthered by equipping the sales space with stock fixtures that have many interchangeable parts and uses. Another major trend is the integration of sales space and sidewalk displays by a visually open store front that — for the sake of flexible change of pace — may become a closed front whenever closed window backgrounds are installed.

For maximum flexibility and adaptability, the current trend is to reduce to the absolute minimum those structural elements that form the fixed shell of the store building — columns, floor slabs, shaftways, etc. The remainder of the structure — the finish floor surfaces, ceilings and partitions — that enclose sales, services and displays — are being designed as dry-built, knock-down units capable of multiple use and providing flexible access to the space and equipment they enclose.

Two other important trends are worthy of special note — the increasingly effective lighting of both store and merchandise, and the year-round air conditioning that provides customer comfort and retailer profit. The examples of non-glare, high-level lighting (without distressing brightness contrasts) show both imagination and engineering skill in using light as an integral design factor and a sales adjunct.

All this progress is evident in the current crop of new shops and stores presented in this issue. Perhaps the most striking examples are those

111



123



128



134



140



PAGE 142



STORES ARCHITECTURAL RECORD'S

BUILDING TYPES STUDY NUMBER 136

APRIL 1948



132

branch department stores that, by their highway location and drive-in facilities, have made it possible for their parent stores in the heart of the city to expand horizontally. Stores always follow the crowd — there is no mousetrap philosophy to retailing — and these stores are following their decentralized customers out to the suburbs.



135

The chief problem facing any department store is to give its customers the same cheerful personal service, the same leisurely selection, the same glamorous sales atmosphere offered by its smaller rivals. The problem is not an easy one, but careful attention to the individual design of each sales department and to the overall relationship of all departments on the floor has successfully created, in these new branch stores, the atmosphere of an indoor collection of specialty shops instead of the warehouse atmosphere of a bargain basement devoted to a volume trade. Behind the scenes, an equally careful study of operational requirements has given the sales force more freedom from routine, more time for personal salesmanship.



136

Next, the smaller shops and stores located in the heart of the city prove that it is still possible to give a fresh answer to the problem of high rentals, restricted space, and a store front almost limited to two dimensions. Within their own slice of shopping environment, each of them has solved the eternal problems of maximum interior efficiency, exterior advertising and display, individuality and character. Their store buildings are necessarily part of the weird, accidental pattern common to all our city shopping districts. There is little or no chance for light, air, or spatial development around each store. Instead, their designers must do their best to appeal to the passing crowd by taking every advantage in width, height, and depth of the limited display frontage at their disposal. Then, when they are all through, a curbed parked truck may hide all their efforts, destroy all the sparkle and glamour of their sidewalk show.



138

The list is long and varied, but most of the stores shown appeal to women shoppers. This appeal is visually expressed in the architecture of store fronts and sales floors — in the refined elegance and conservative luxury of the perfume salon, the carefully controlled mass displays and open hospitality of the popular-priced dress shop, in the open showcase character of the mid-block shoe stores. All these shops, regardless of their individual showmanship, have one trait in common — the promise that shopping will be a leisurely, pleasant experience spiced with personal attention from the sales force and an entertaining background and atmosphere.



139

The men's clothing store strikes a different note on the same theme. Its store front emphasized privacy tempered by hospitality, its sales floor is organized like the lounge of a men's club. It successfully combines "sample selling" with variety sales of furnishings and clothing. Materials, textures, colors and lighting all combine to make its men customers feel at home.



The camera, flower, jewelry and liquor shops — all selling more to the general public than to a particular age or sex — rely on emphasizing the specialized appeal of their respective merchandise. Each one has solved its own problems of site, location and layout; all represent a better than average answer to the small store problem.

These selected examples of current progress in the field of store design give an encouraging picture of its future. Today's demand for increased shopping facilities is being met by a larger group of trained designers than have ever before devoted themselves to this branch of architecture. Despite the fact that some find it hard to free themselves from the use of imitative design cliches and from the temptation to "busy" their solutions with unnecessary and distracting detail, all have realistically attacked the problems involved. Their shops and stores are cleanly organized, well equipped and well related to the shopping environment around them. With such a high average today, tomorrow's stores should mark the full maturity of design for merchandising.

Morris Ketchum, Jr., has collaborated further by analyzing and commenting upon most of the selected stores shown in the following pages

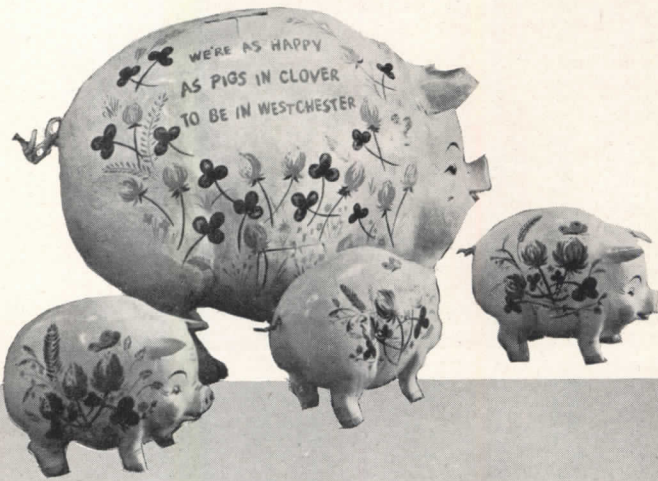
PAGE 144

# LORD AND TAYLOR'S WESTCHESTER STORE

*Starrett & Van Vleck, Architects*

*Raymond Loewy Associates, Designers*

*George A. Fuller & Co., Builders*

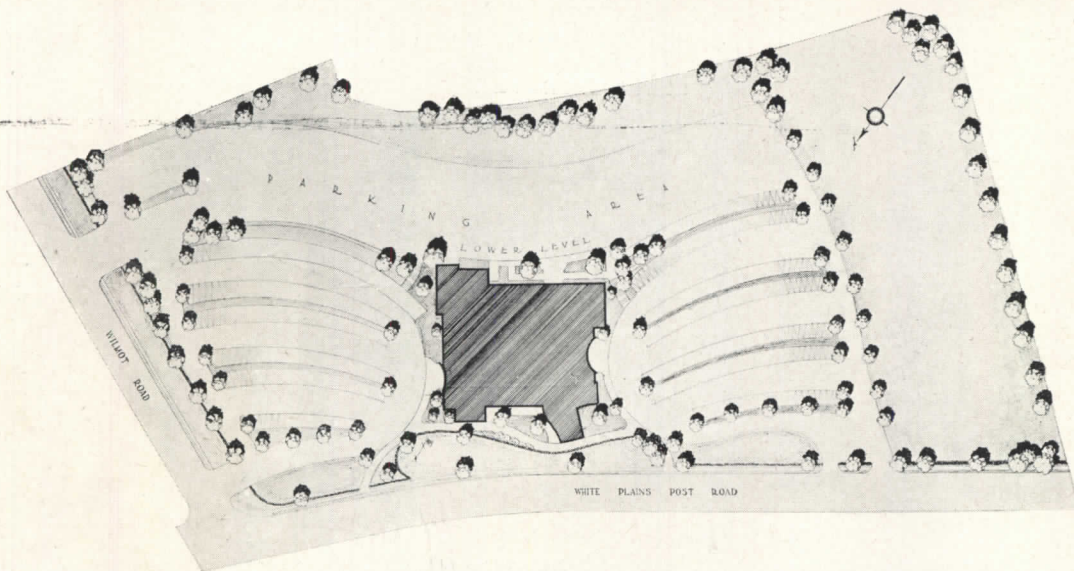
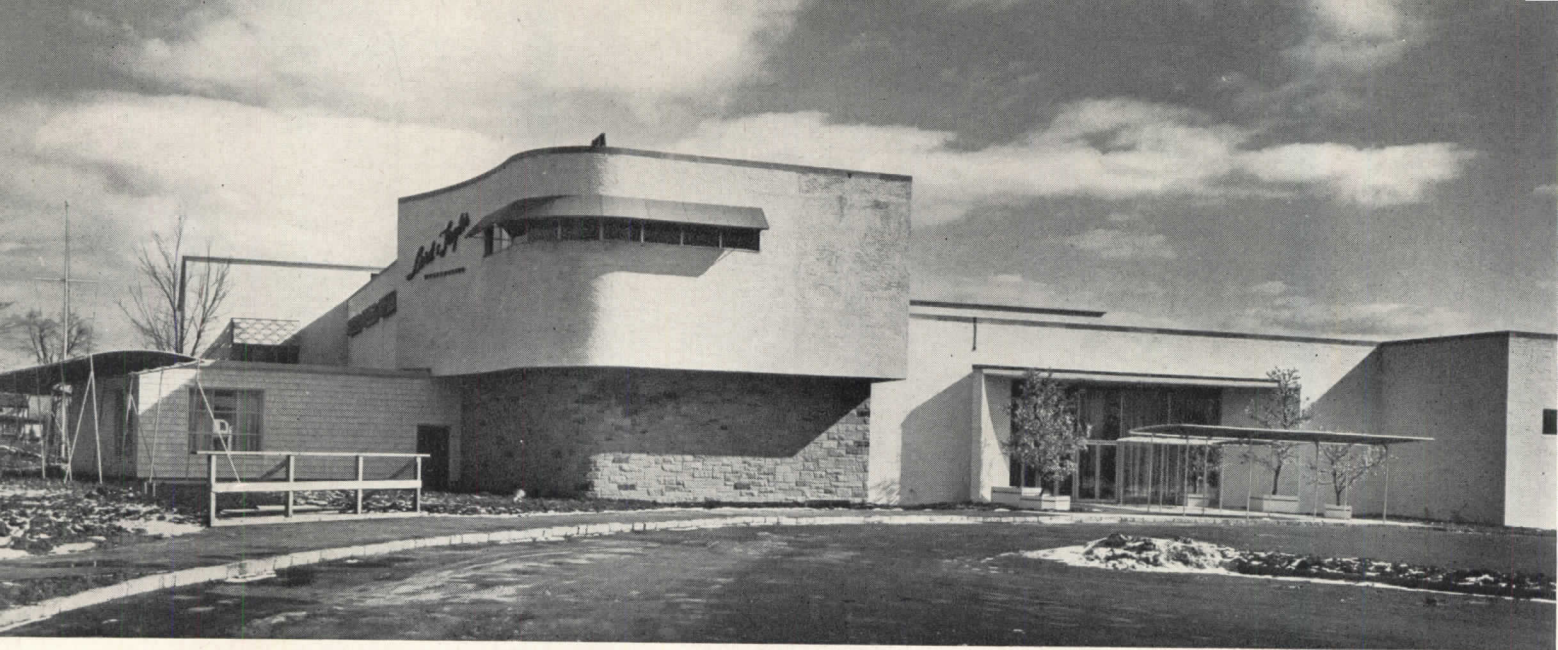


Left, Gottscho-Schleisner Photo; Below, John Gass

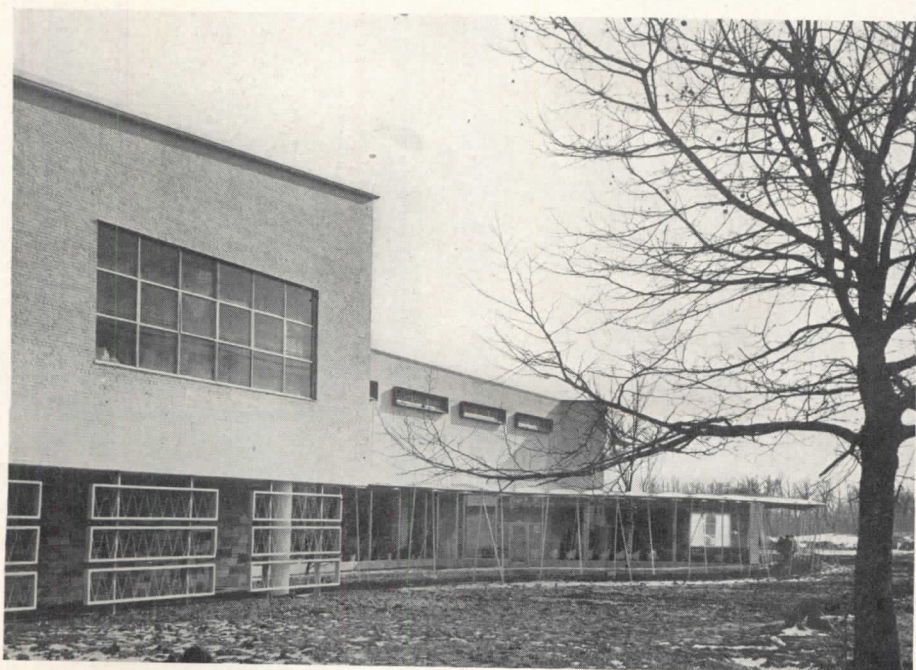


**A**MERICA'S newest and most inviting store opened its doors, and blocked traffic for miles, the last week in February. It is a model of smart advanced design and incorporates many of the newest most effective contributions to the art and science of retail merchandising. An atmosphere of cheerful well-being is created by the open, airy, light, colorful, free-flowing interior design. The planning gives each merchandising department its

own appropriate and individual milieu and decor while maintaining a consistent unity of spirit and a gay harmony of pastel color. Settings are successfully designed to augment the display of the merchandise itself, not to compete with it. And the store is as efficient as it is attractive, for the facilities for delivery, storage, distribution, marking, wrapping, etc., have been arranged to save steps, time, space and handling. — *M. K., Jr.*

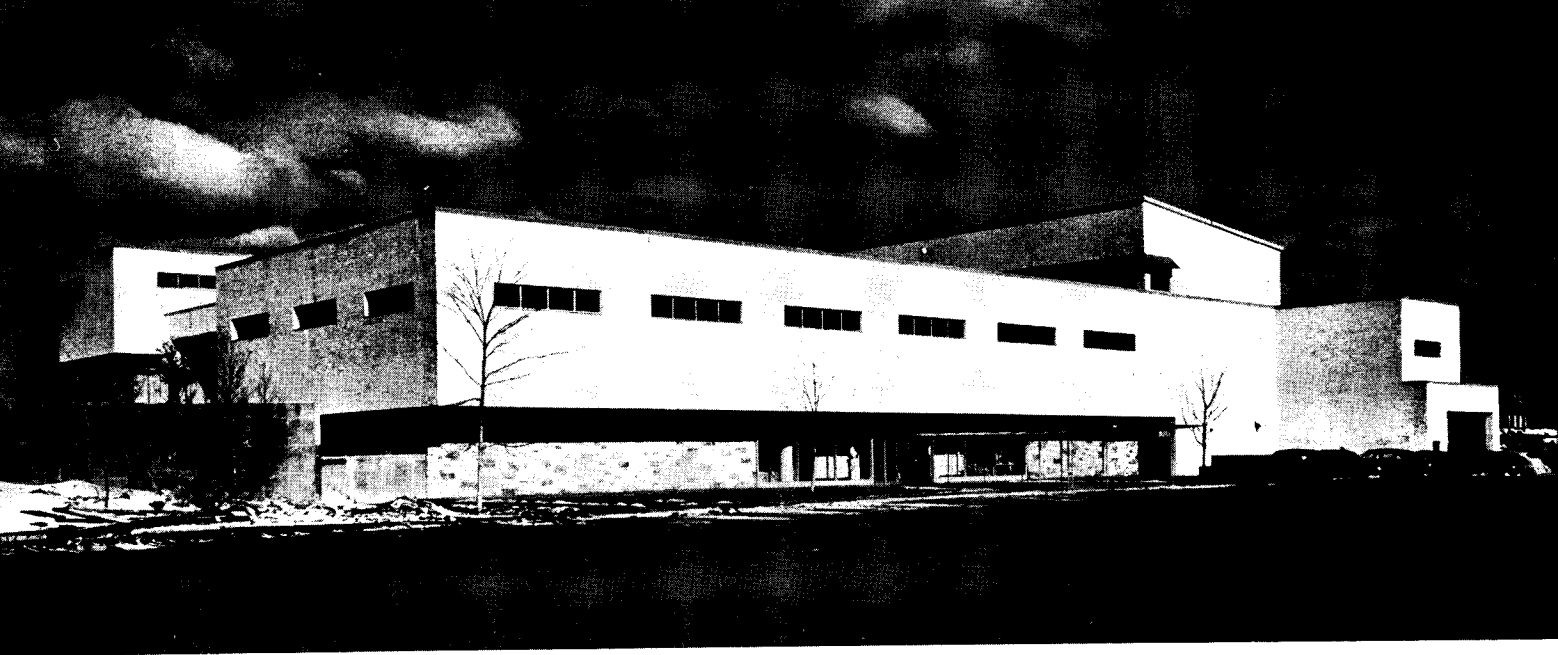


Plan of the site showing parking. W. Lee Moore, Landscape Architect



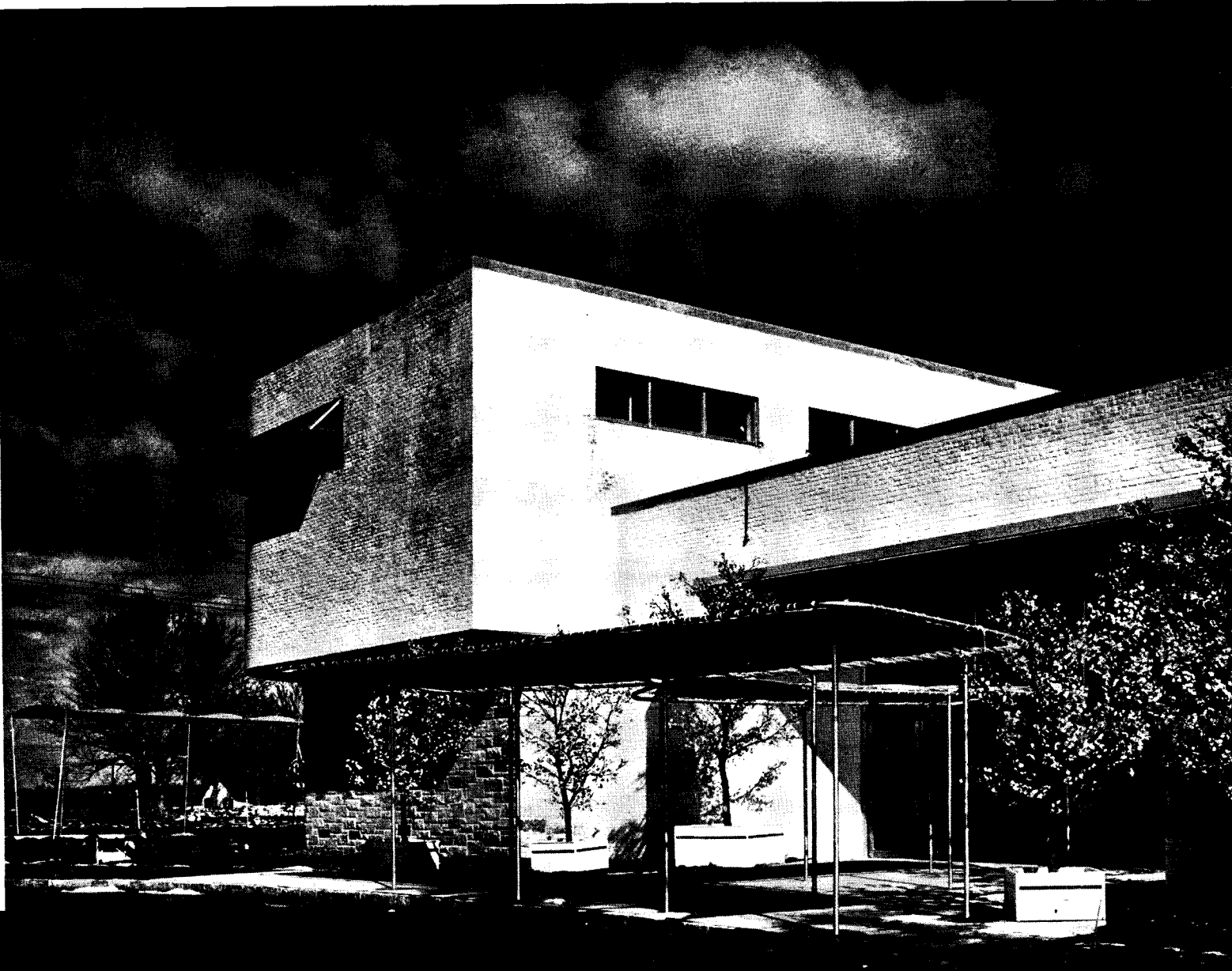
An easily-accessible, centrally-located suburban site was chosen for the store at White Plains and Wilmot Roads in an uncongested neighborhood. Parking for 1000 cars is provided and buses go past the door. The plan shows the well-arranged parking facilities and eventual attractive landscaping. Above, the south-west corner and canopied entrance. Left, looking south along the White Plains Road or west side of the store





*There are two selling floors, and, due to the contours of the site, both are accessible by car. The lower level on the east side (or rear) of the store is shown above; the receiving department and truck loading area are at the north-east corner. Below, the south entrance, executive offices, employee's lounge and lunch room open on the wide roof deck of the second story.*

Goltzsch-Schleisner Photos





Gattscho-Schleisner Photo

1

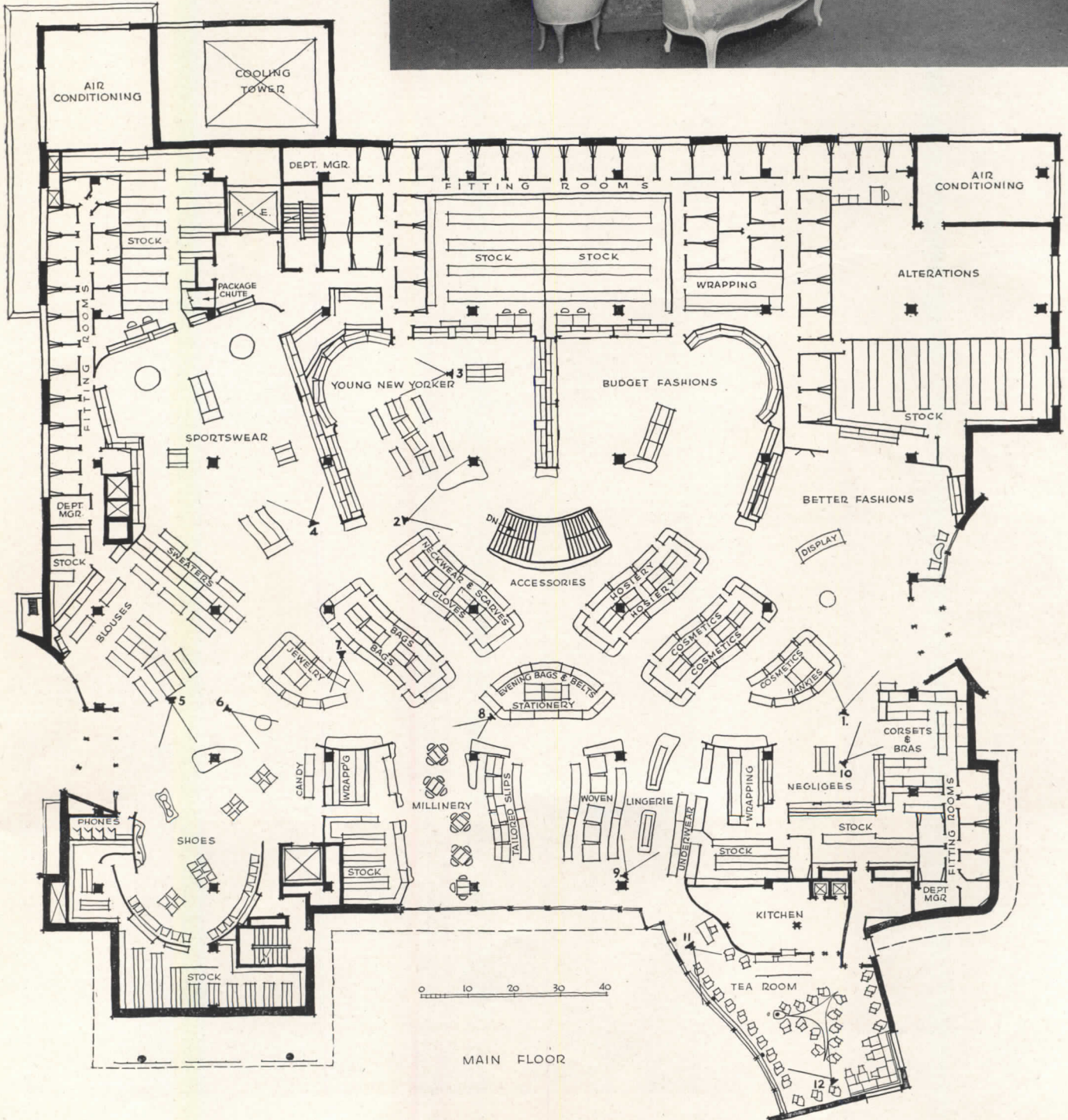
Above, the dignified setting for "better fashions" opens to the east of the high, glazed, south entrance. Below, looking toward the south entrance from the "Young New Yorker" department; stair to lower floor in foreground. Opposite, the semi-circular area of the "Young New Yorker" section. The planning of stock rooms, fitting rooms and other off-stage services is worthy of careful study. Accessibility, efficiency, and flexibility are apparent. Numerals refer to camera locations on the plan

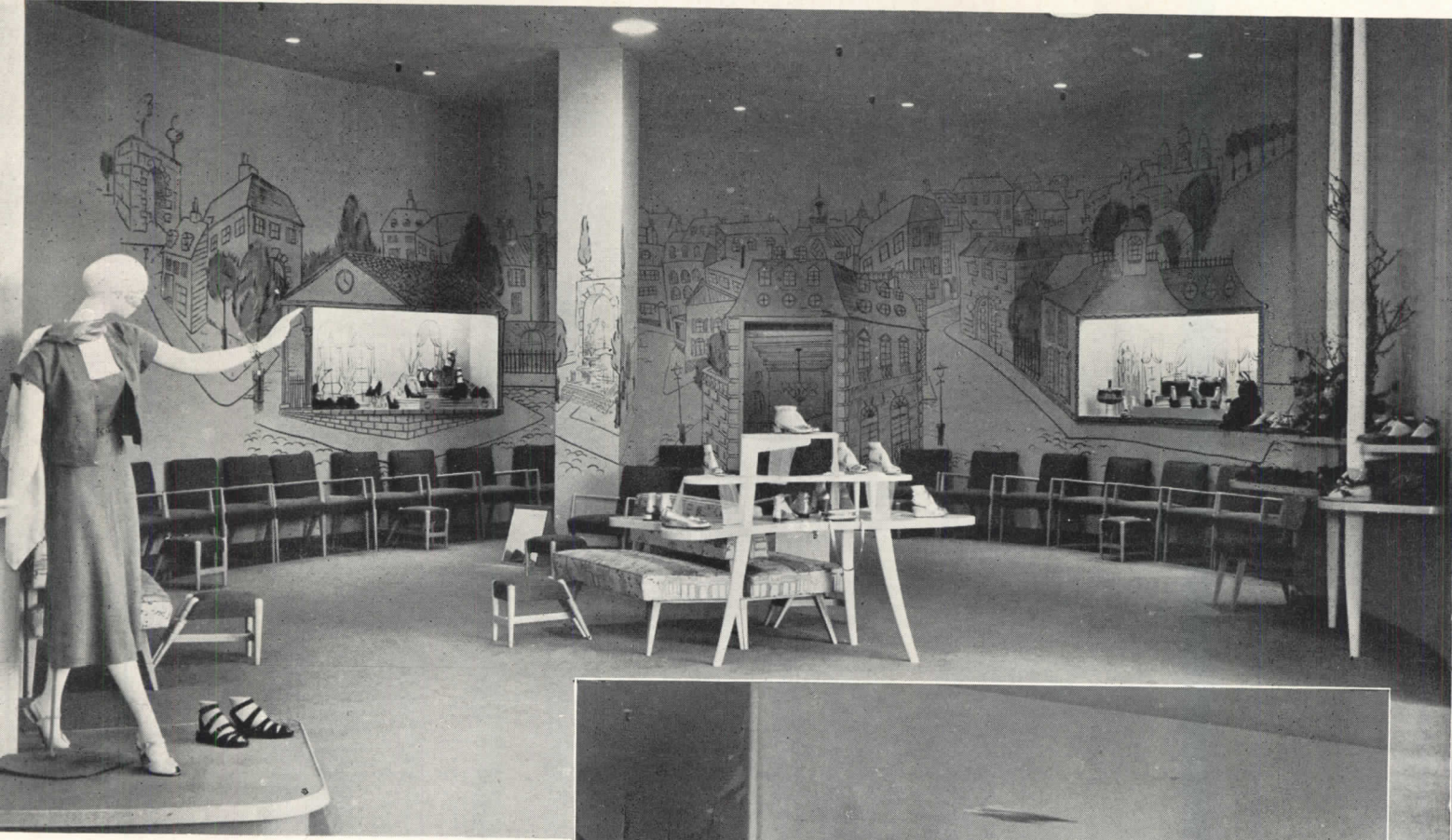
2





3





5

The interior decorating of the store was executed by Edgar Tallman, store decorator, and head of Lord and Taylor's interior display department. A series of spontaneous amusing sketches, by Warren Franklin of the interior display department, adorns the curtains of the fitting rooms



6

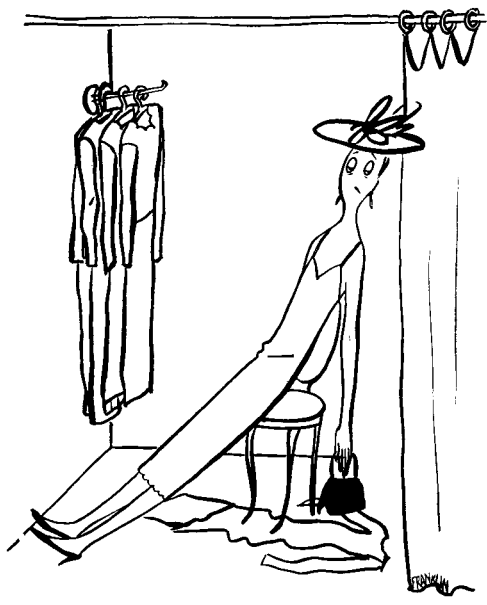




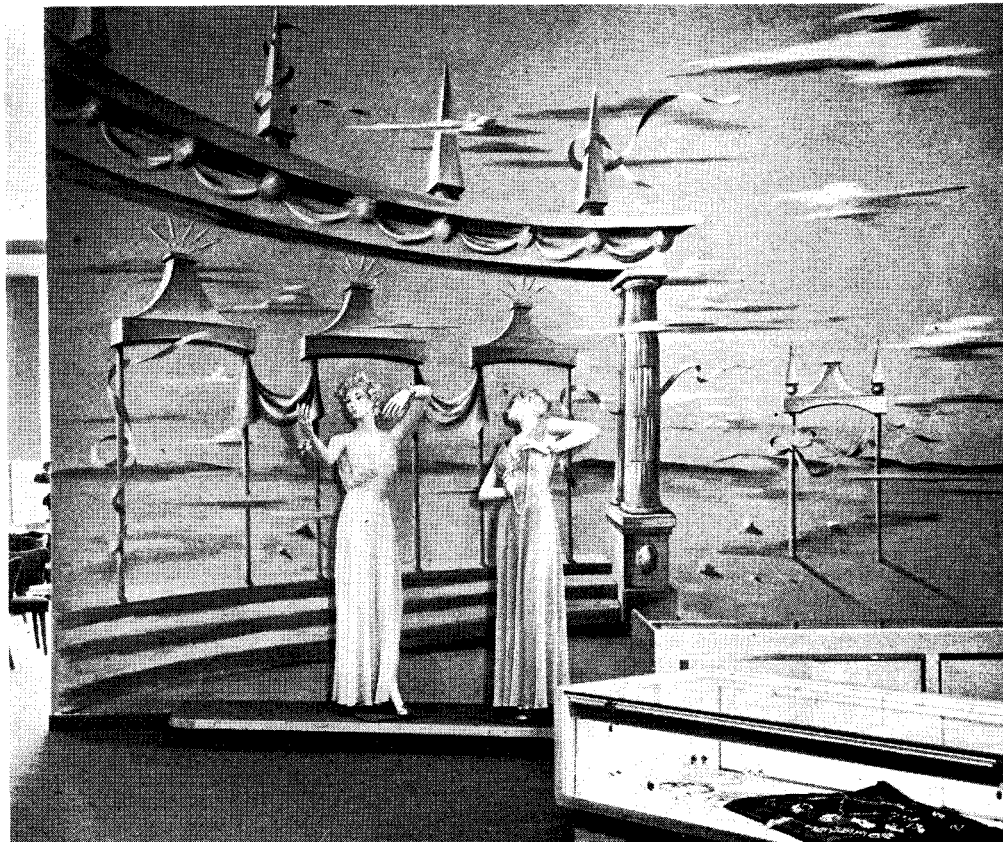
4

Page opposite, the gay Parisian street-scene mural enlivens the shoe department, and the painted drape enframement of the candy display graces the turn of a wall. Above, white clapboards, yellow shingles and rustic furniture give an outdoor air to the display of sports clothes. Below, dream-fantasy architecture painted on the curved wall as a background for night-robed mannequins, one of James Patton's attractive murals

7



APRIL 1948

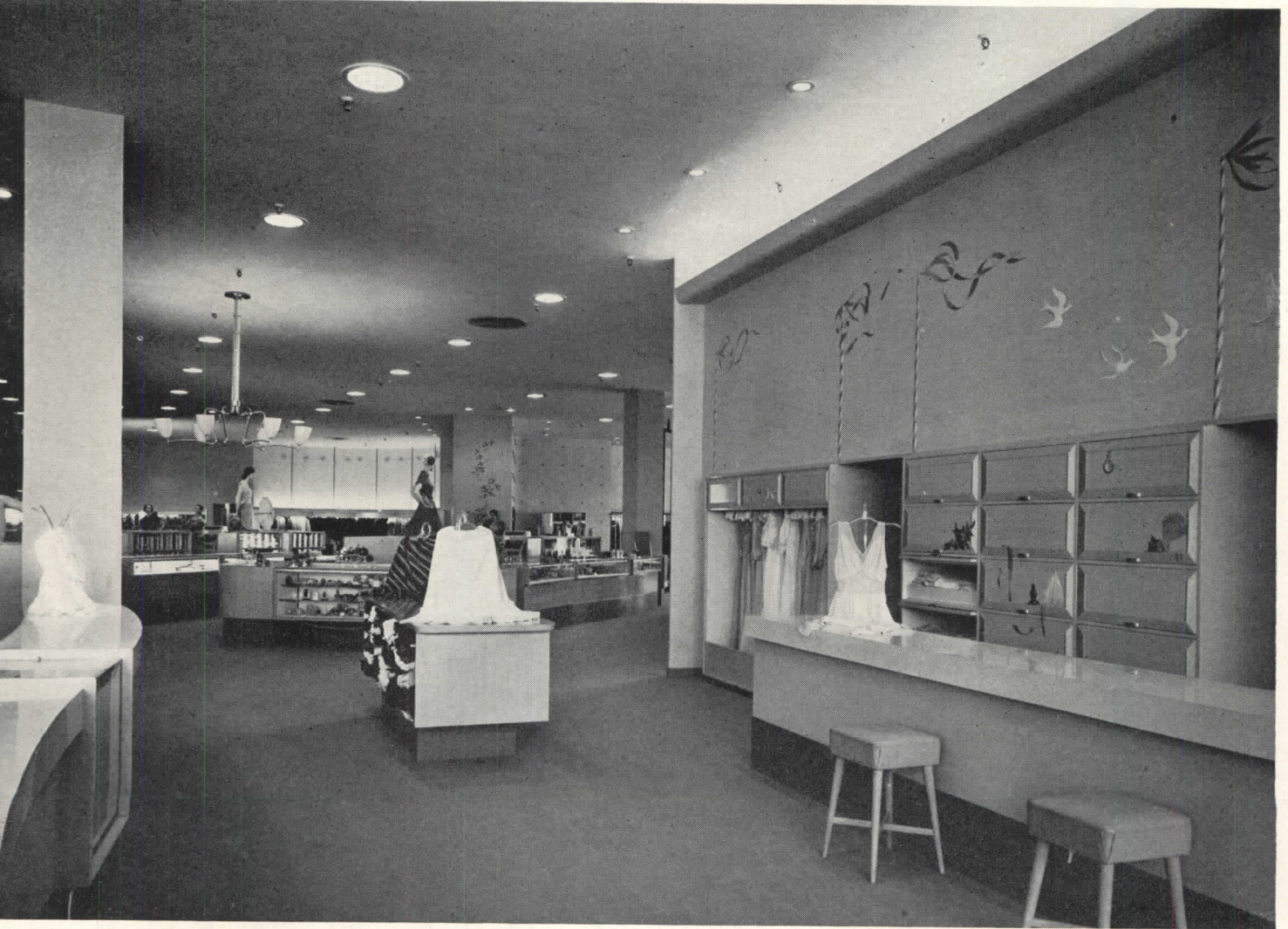




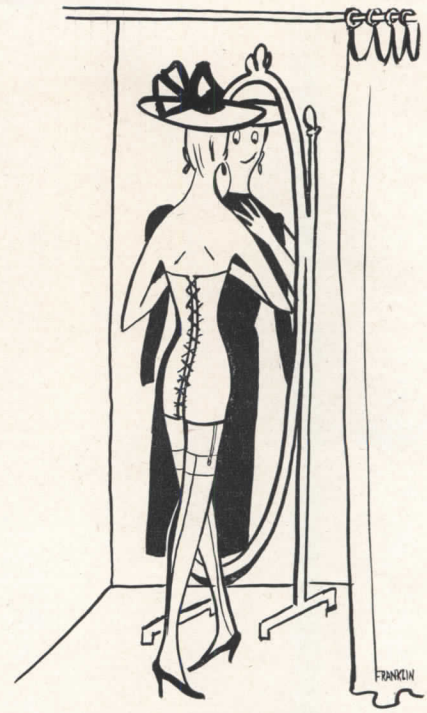
8

Gottscho-Schleisner Photos

9

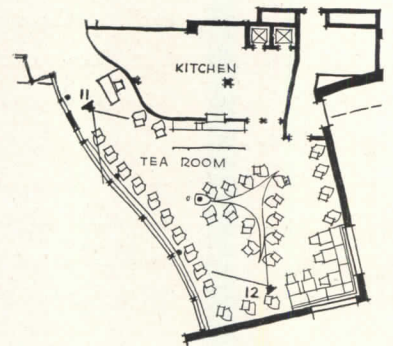


The quality of the interior design, which is orderly but free, and uses color and light to such good effect, produces a psychological lift in the spirits of all who enter the store. There is a light, sure touch in the decorations which are subtly amusing and never obtrusive, and shoppers are put in a pleasant frame of mind by the bright colorfulness evident throughout. Both natural and artificial light are used to create this bright, cheerful atmosphere, and light is always concentrated on the merchandise. Racks of garments are brilliantly lighted so that the colors of the dresses and hats are part of the decorative effect. The floor is softly carpeted in a pleasing taupe which is neutral and blends with the light pastel shades of the walls and fixtures. *M. K., Jr.*



*Opposite page, above, hats in the brilliant niches are held by amusing cupids. Extensive stock is accessible to the clerks through the draped door. Opposite, below, lingerie shelf-doors are painted to simulate beveled construction and are interlaced with painted ribbons and flowers. Yellow stool tops add a bright note of color. Below, the corset department at the left of the south entrance features its laced-corset chairs in brown and pink with appropriately upholstered fronts*





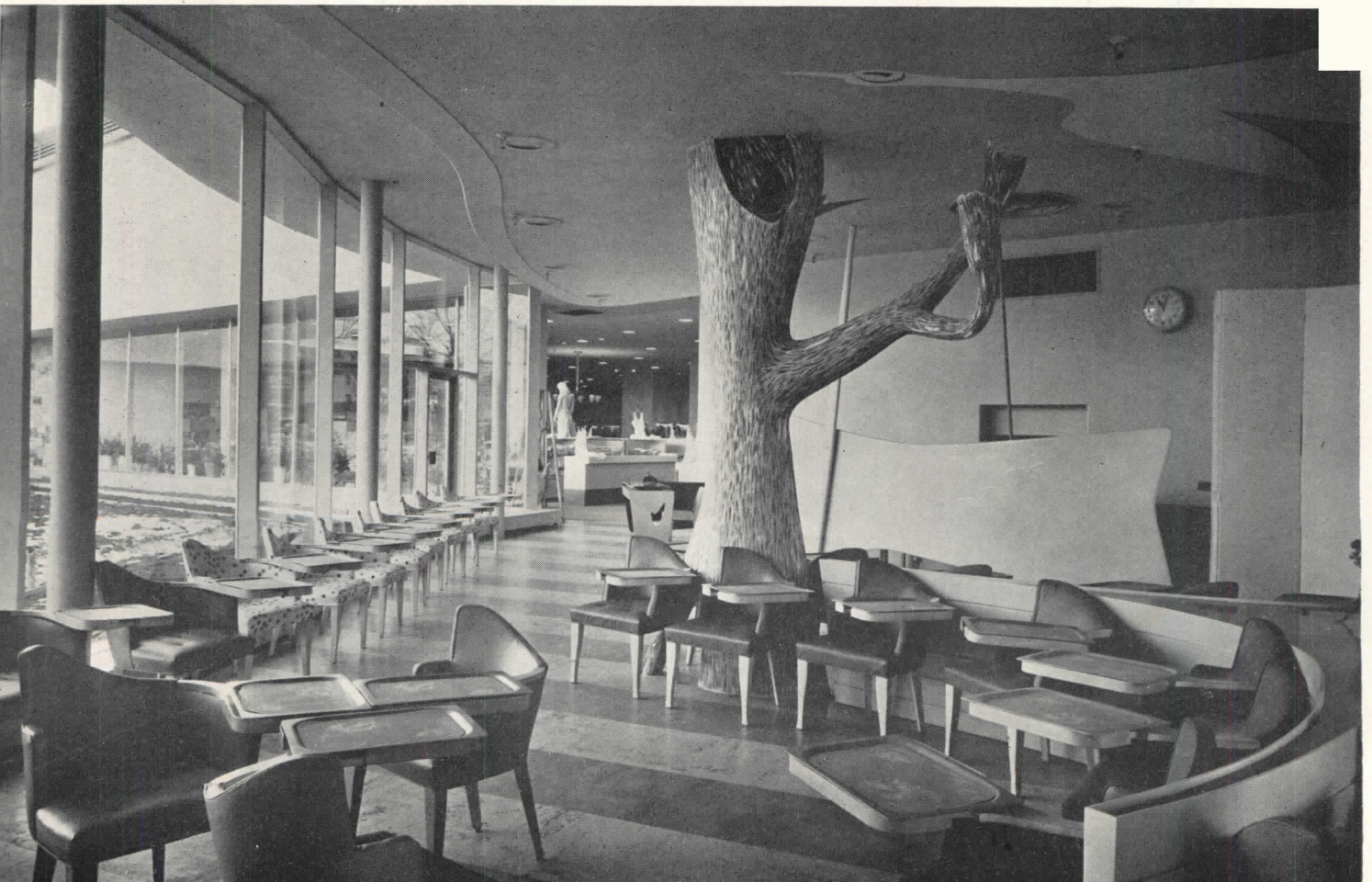
TEA ROOM PLAN

11

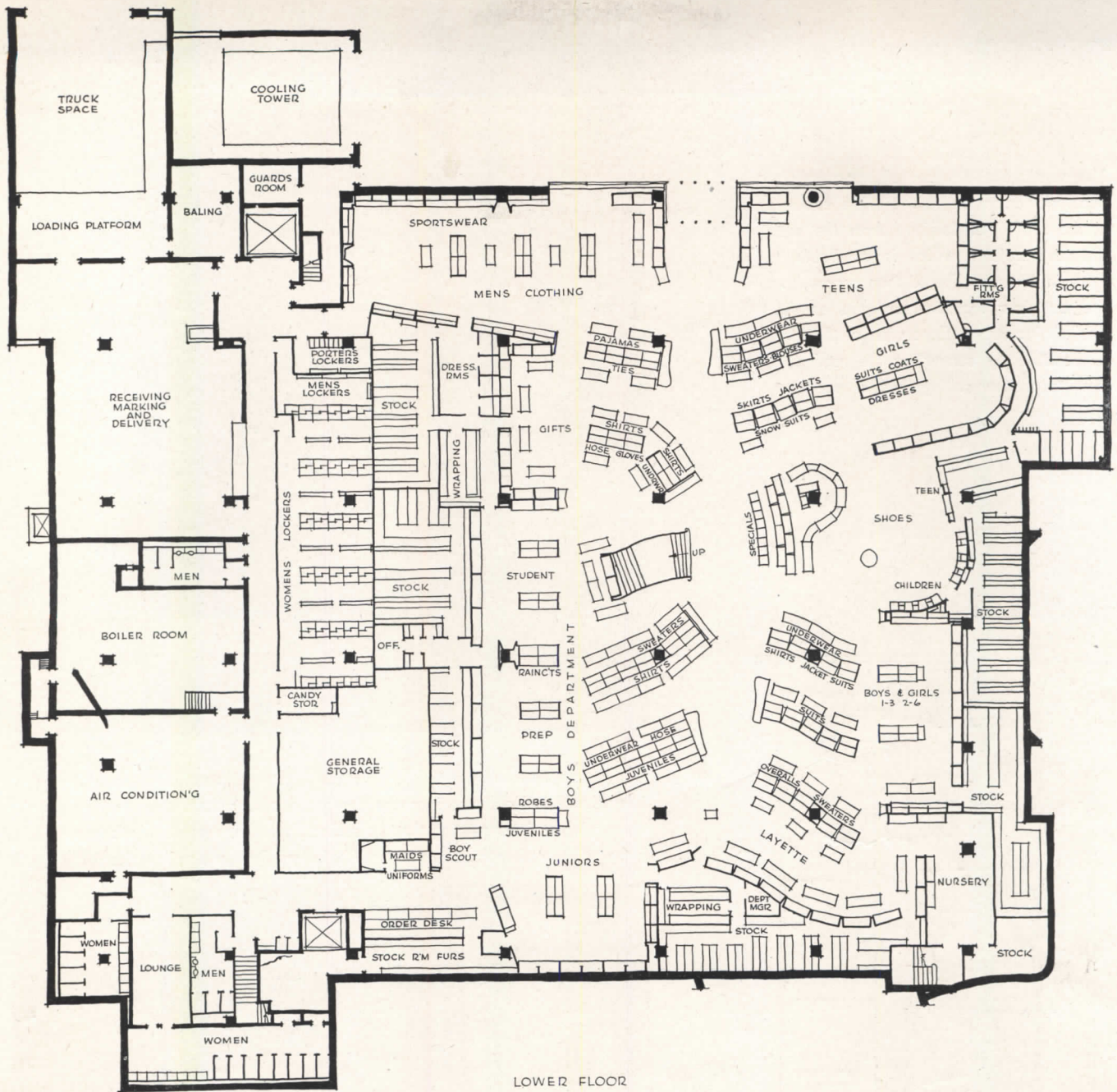
The popular tearoom, flooded with daylight and sunshine, is made colorful by upholstery of blue, chartreuse and raspberry, with a floor of striped terrazzo. Supplementary light, when necessary, is supplied by both indirect coves and diffusing downlights. Opposite, the plan of the lower floor shows its main entrance to the east. Directly opposite the foot of the stairs the toy counter is painted as bright children's blocks, and above are clever cut-outs of favorite animals

Gottscho-Schleisner Photos

12





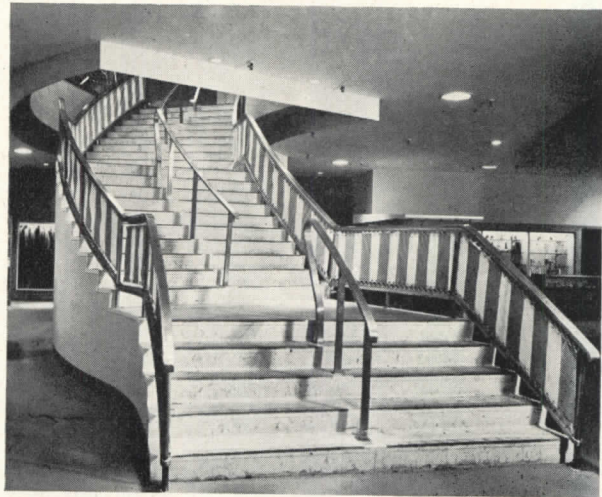
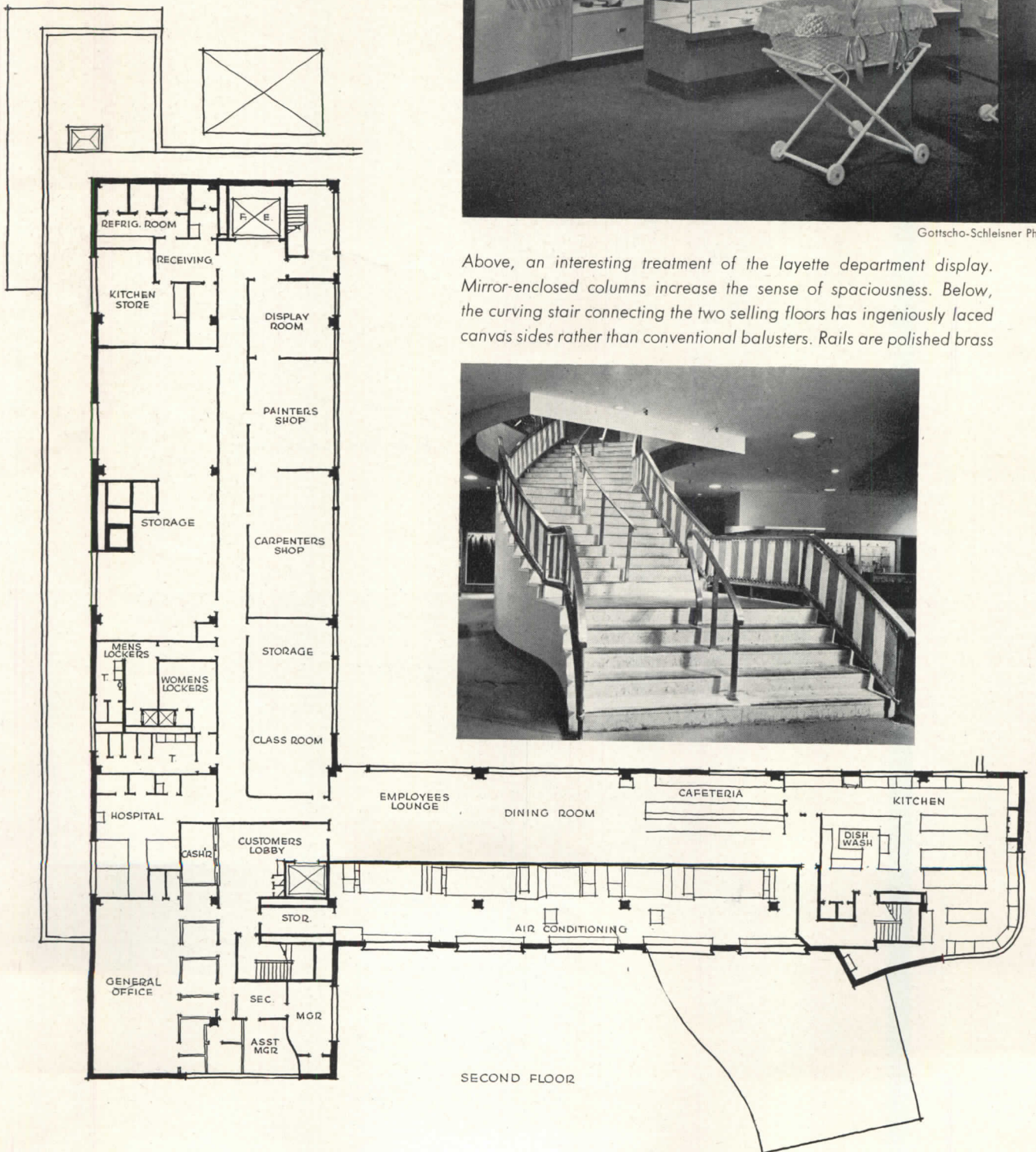


The employees' lounge, dining room and cafeteria open on to the wide expanse of the roof deck (omitted from the plan diagram below) which is available to them in summer. The kitchen serves both the customer tearoom and the employees' dining room. Expansion of the store is possible by converting the roof deck area to another selling floor, if necessary

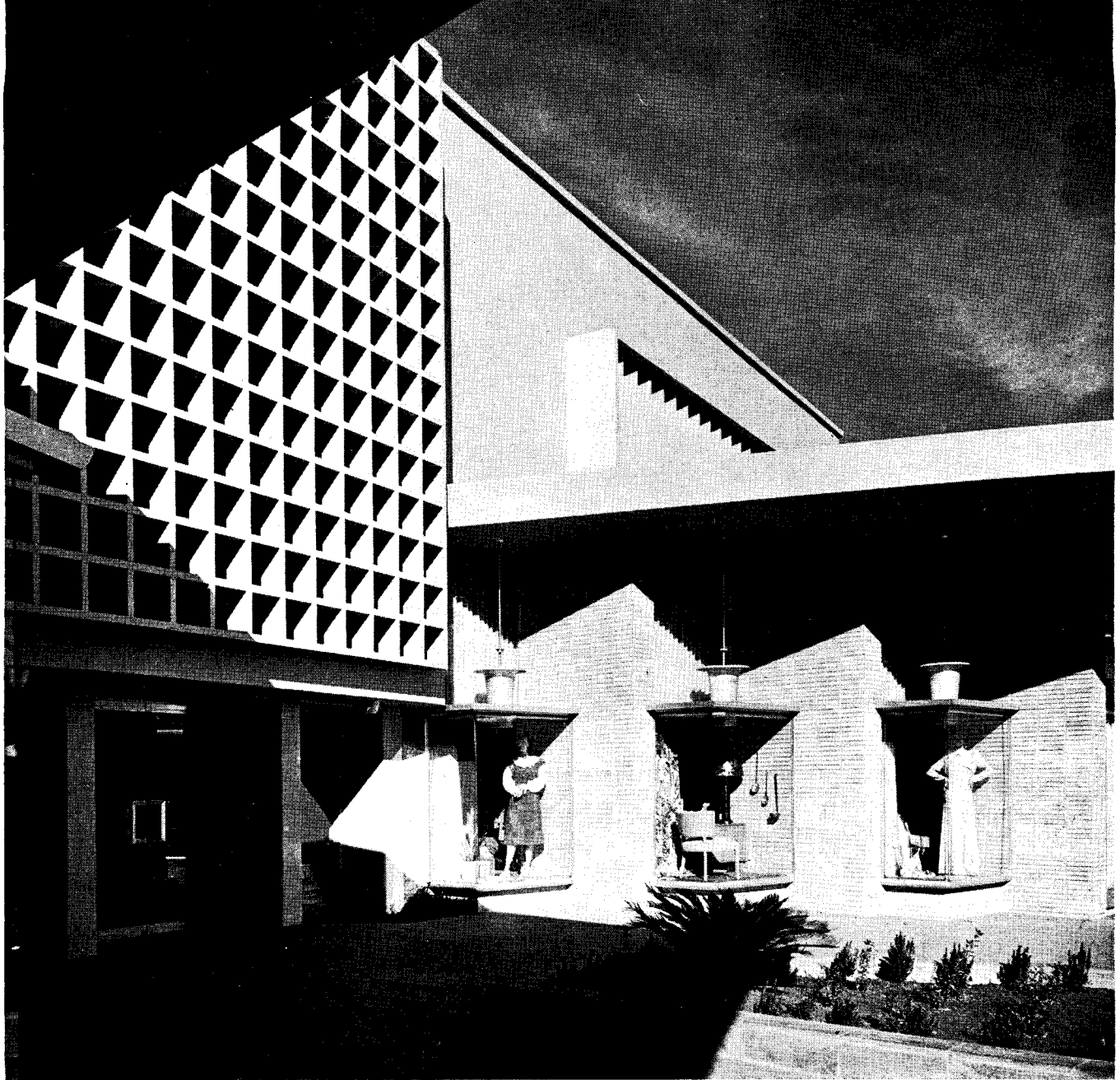


Gottscho-Schleisner Photos

Above, an interesting treatment of the layette department display. Mirror-enclosed columns increase the sense of spaciousness. Below, the curving stair connecting the two selling floors has ingeniously laced canvas sides rather than conventional balusters. Rails are polished brass



SECOND FLOOR

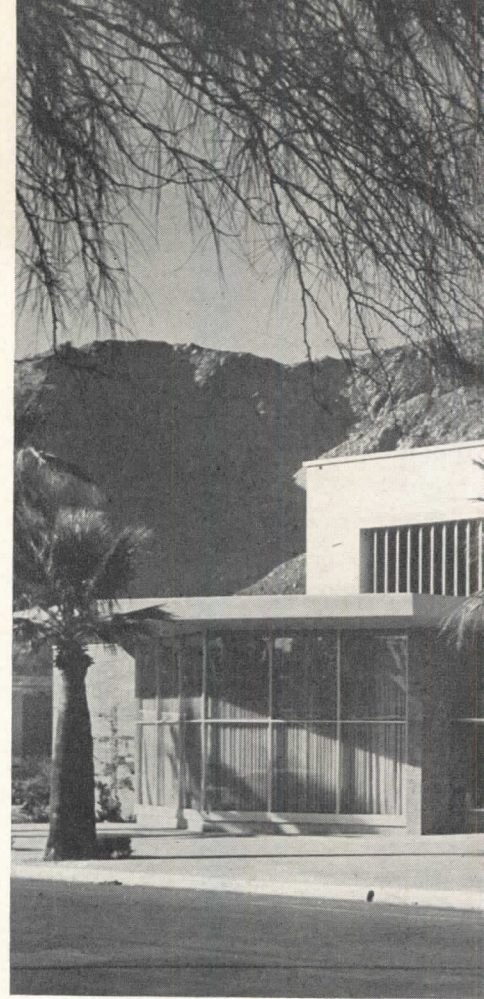
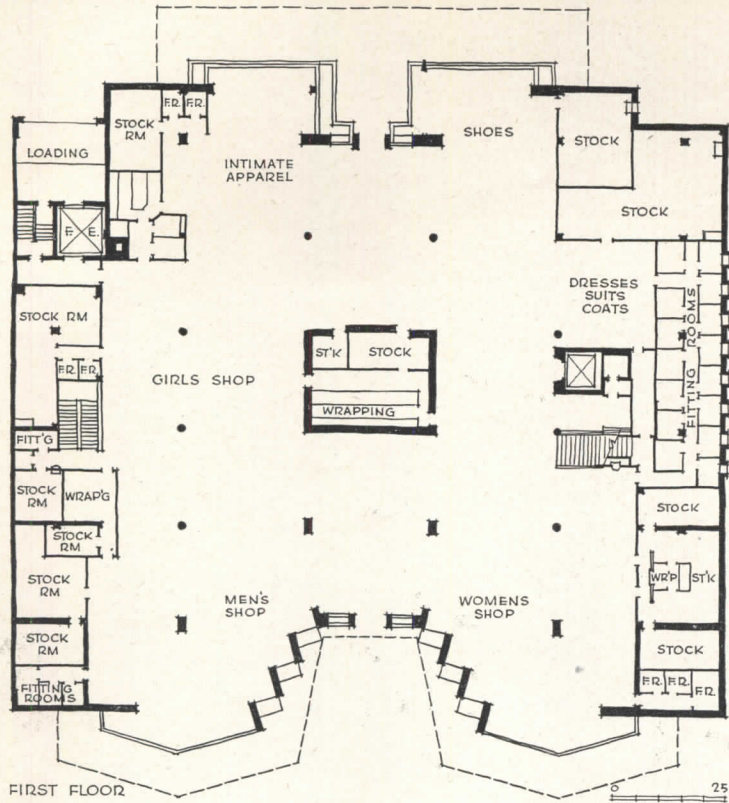


Julius Shulman Photo

## BULLOCK'S PALM SPRINGS STORE, CALIFORNIA

*Walter Wurdeman and Welton Becket, A.I.A., Architects*

**T**HIS drive-in department store, located in a winter resort, is another — and very different — example of the trend toward large-scale decentralized shopping units. Although the principal entrance for the automobile trade is on a rear parking court, design interest has been centered, perhaps by force of habit, on the sidewalk approach. Spaciousness, sunlight and hospitality are more important here than the token displays of seasonal merchandise. — *M. K., Jr.*



Julius Shulman Photos



The store's bold planes and masses, bathed in sunlight, stand out against a rugged setting of mountains and palm trees. Symmetrically placed wings enclose an attractive entrance patio. The vertical louvers of the second floor are designed for sun protection to lessen the air conditioning load. Materials and colors, outdoors and in, are in harmony with the store's shopping environment.  
— M. K., Jr.

*Wide roof projections shield the large show window bays from the hot sun, and colorful curtains provide supplementary light control*

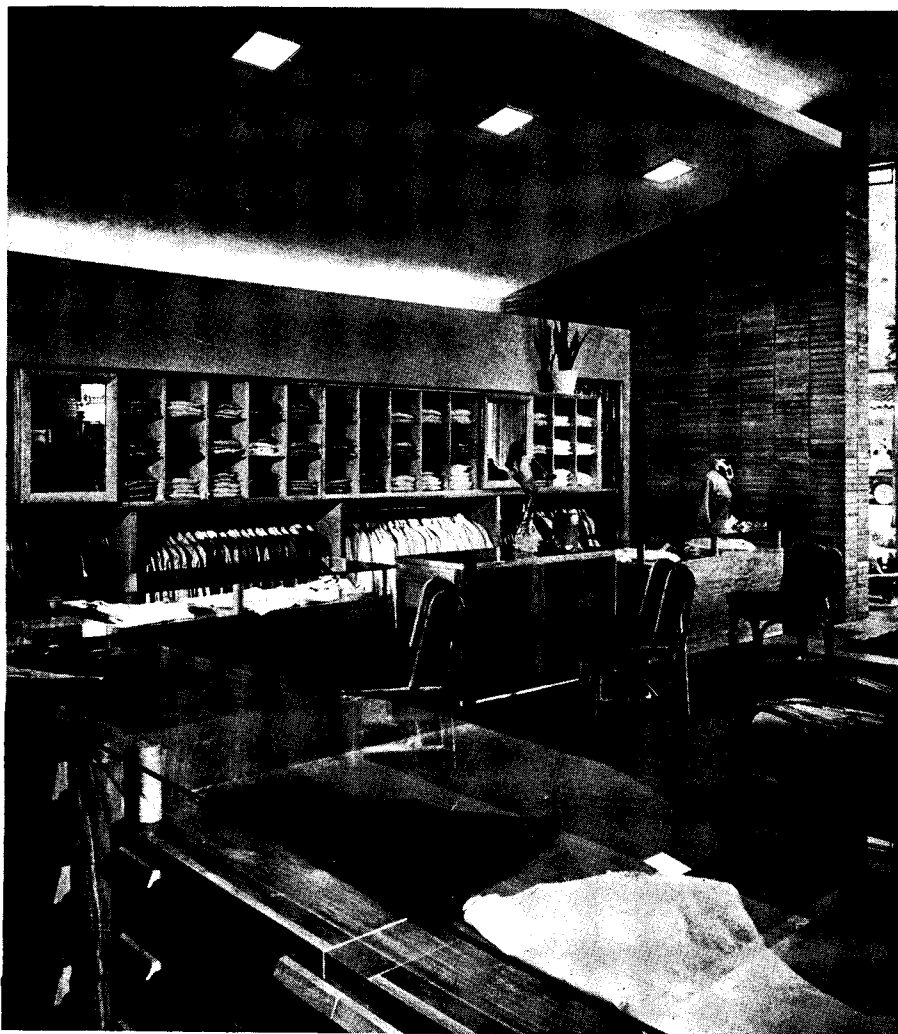


*The heating and air conditioning system is of the "reverse cycle" type having three freon compressors equipped with water-cooled condensers; three vertical shell and tube water chillers; circulating pumps, deep well pump, etc. Ten air conditioning units are placed above the suspended ceilings of the store and are used for both cooling and heating*





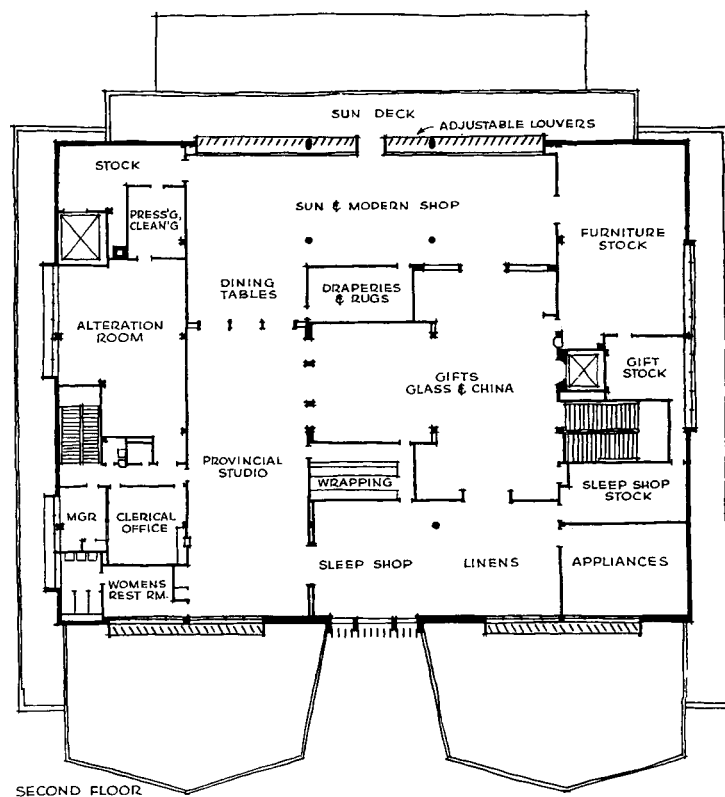
Julius Shulman Photos



Expert planning of sales departments gives each an individual character and distinction in spite of the absence of dividing partitions. Cabinet work and lighting are smoothly handled; sales backgrounds are gay and colorful. Note that the merchandising program — apparel and home furnishings — is keyed to holiday demands. Low counters and open planning permit use of a skeleton crew in slack season. There is no attempt to include all the shopping goods shown in a complete department store. — *M. K., Jr.*



*The use of small movable display and storage cases instead of long counters permits flexibility and easy reorganization of sales areas. Display cases are spotlighted from the ceiling rather than lighted from within. Wood is mostly natural and bleached narra*



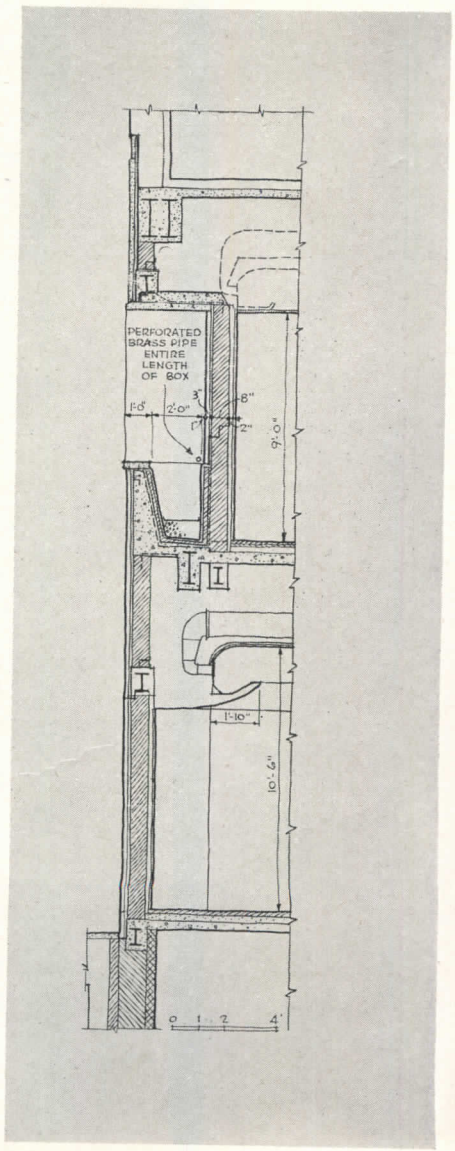
Four floors of remodeled seven-story building directly serve the public. Exterior is faced with American travertine, with recessed planting boxes (section below) to add floral notes according to the season



Ben Schnall Photos



## FOUR FLOORS OF



ARCHITECTURAL RECORD



*SALON LENTHÉRIC,*

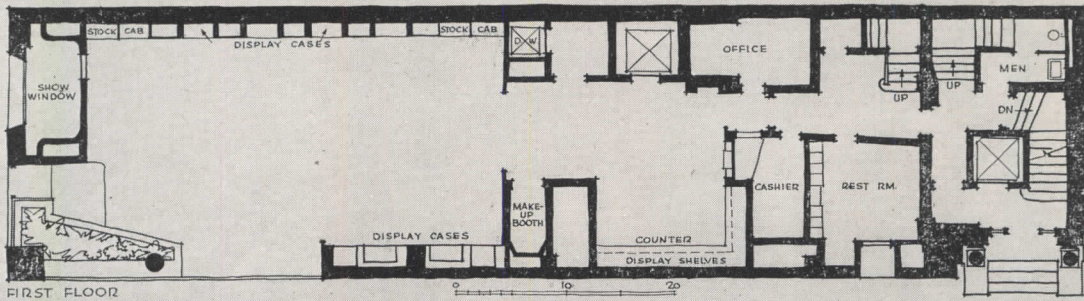
*New York City*

*Harrison & Abramovitz, Architects*

*Ruby Ross Wood, Interior Decorator*

*Lighting by Feder*

**HIGH-FASHION SELLING**



**T**HE formal, trade-mark approach to "exclusive" retailing here reappears in a new and refreshing solution. High-fashion goods and services are given appropriate sales backgrounds, lighting and equipment, though the goods and services cover an abnormally wide range. In this salon, featuring the Lenthéric perfume, there is a considerable range of women's trinkets and clothing items, and even a men's shop. From a rather severely conservative exterior, relieved by open show windows, the note changes, following the client's wish that the salon have "a mood of quiet tranquillity, with the odor of fresh flowers and sweet-scented greens," and that it be flooded with sunshine. So the lighting tends toward a warm rosy glow designed to make the customer feel beautiful, though in the Men's Corner there is a shift to something a bit more rugged. First floor merchandise, besides the perfume, includes accessories and jewelry; the second floor is devoted to women's clothes, the third and fourth to the hair dressing salon. The shop is entirely air conditioned. (See section opposite.)

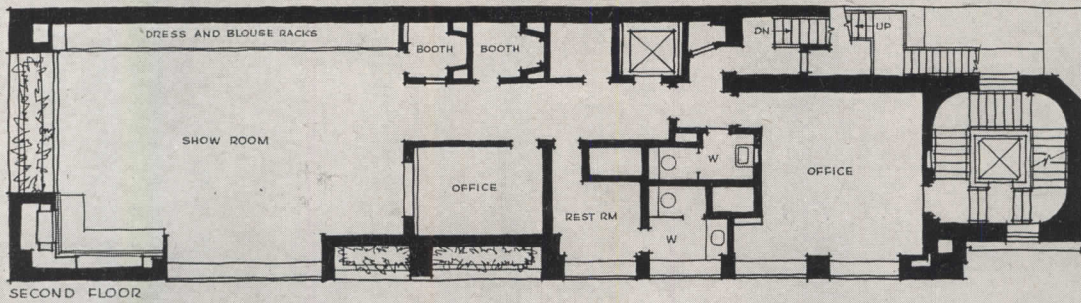


Right: Men's corner has luminous egg-crate ceiling with high-intensity slimline lamps to simulate outdoor brilliance. Walls are honey-colored leather, carpeting is beige color. Below: First floor interior in the Salon Lenthéric, with smoky antiqued mirrors and recessed display niches, each with vertical slimline tubes recessed behind a new plastic



Ben Schnall Photos





View of second floor, devoted to at-home clothes, negligees, dinner dresses and so on. Carpet is pink-beige, banquette is gray-beige velvet and gray-beige curtains are of silk gauze. Recessed wall display cases are trimmed with bleached wood picture frames. In the lighting, pastel shades of cold cathode tubing were employed to achieve a delicate, light pink color cast designed to be flattering to customers



# KODAKS

Photo Art Co

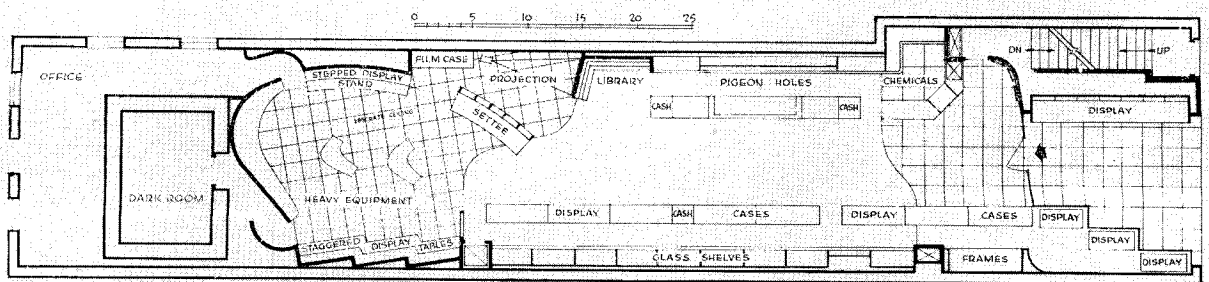


Cottscho-Schleisner Photos

## CAMERA STORE FOR PHOTO ART COMPANY

Trenton, New Jersey

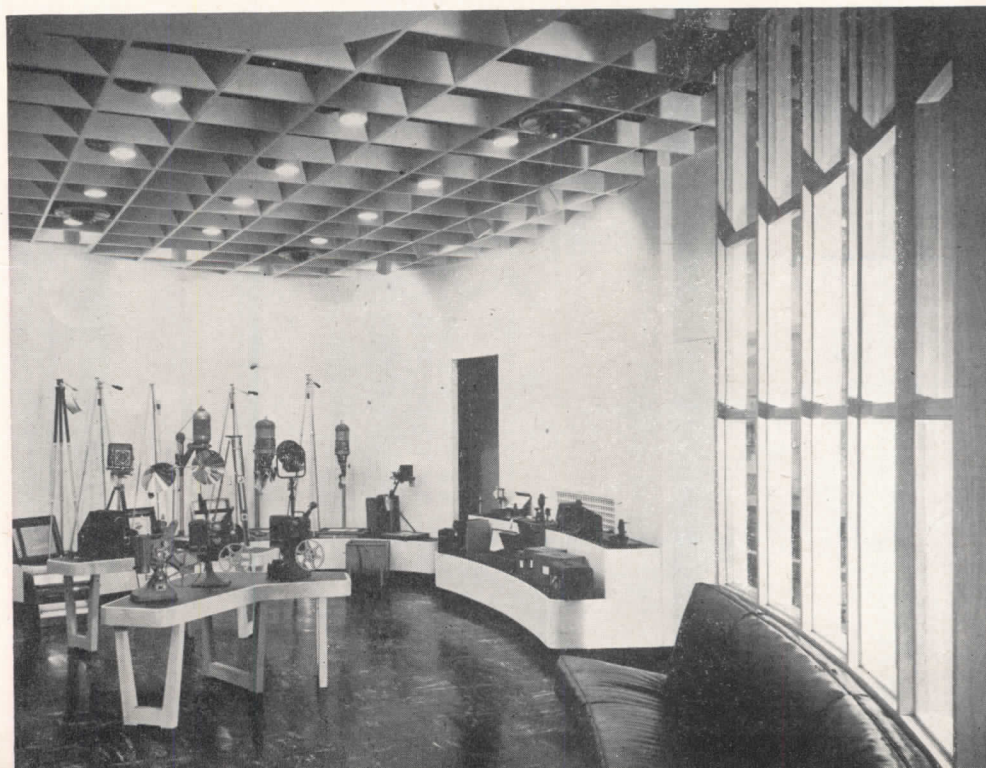
J. A. Fernandez, A.I.A., Architect





Store front is of gray structural glass, vestibule ceiling is plaster painted pale yellow. Interior woodwork is pickled oak, wall above cases is sea green and ceiling is pearl gray. Main flooring is black asphalt with deep green strips inset

**T**HE high standards set for small shops during the last decade are exemplified in this mid-block camera store. Well-organized signs, displays, sales and services create an over-all effect suited to the specialized character of the goods on sale. Only the slight confusion of multiple lighting and display systems might seem to detract from the essential unity of the design as a whole. The diagonal film racks form an interesting pattern and the larger paraphernalia is well displayed at the rear of the store. — *M. K., Jr.*





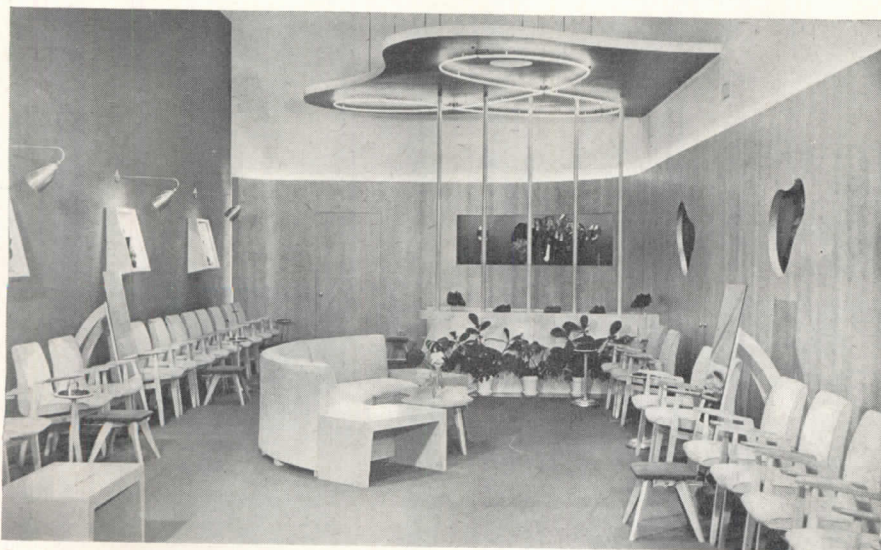
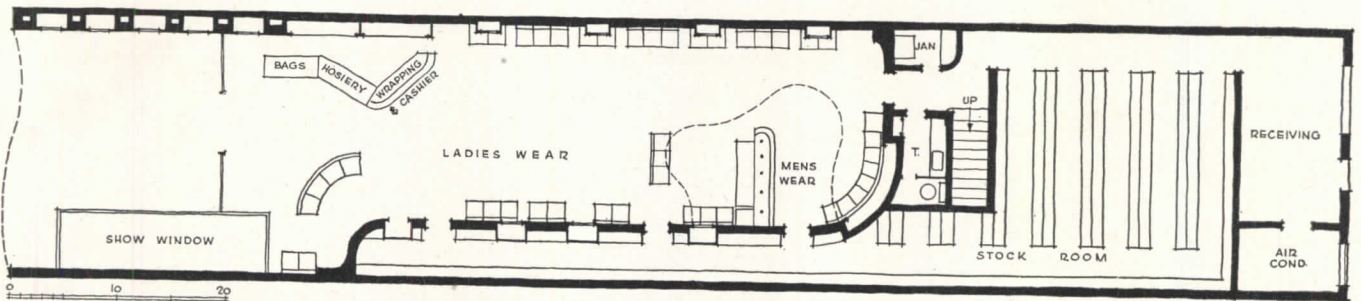
Jan Hankowski Photos

# SELBY SHOE STORE

*West Palm Beach, Florida*

*Igor B. Polevitzky, A.I.A.*

**Architect**



**T**HIS shop and the one on the page opposite prove that the possibilities of the open front store are far from exhausted. This Florida store combines refinement of design and construction with eye-catching colors and textures (the rug is a deep sea green). The edge-lighted lucite sign along the west wall continues from the exterior through the glass line into the store. The glass line is well back from the street minimizing disturbing reflections, an arrangement augmented by high intensity interior lighting which serves the same purpose.

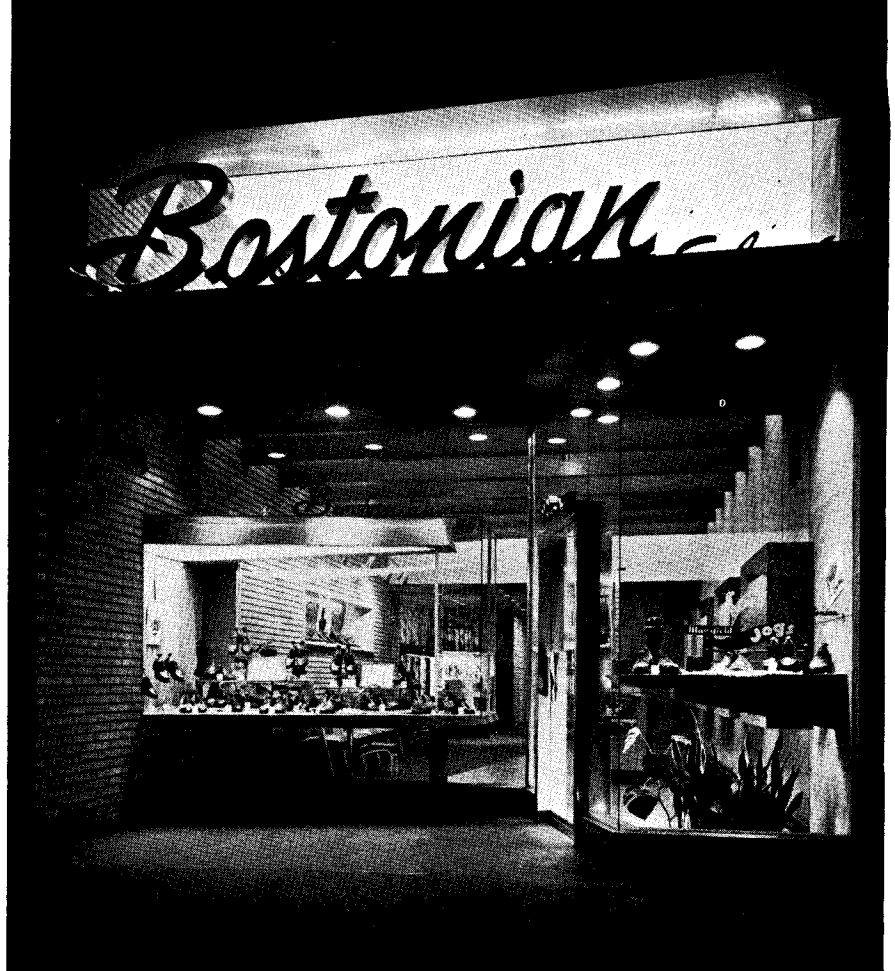
— M. K., Jr.

# BOSTONIAN SHOE STORE

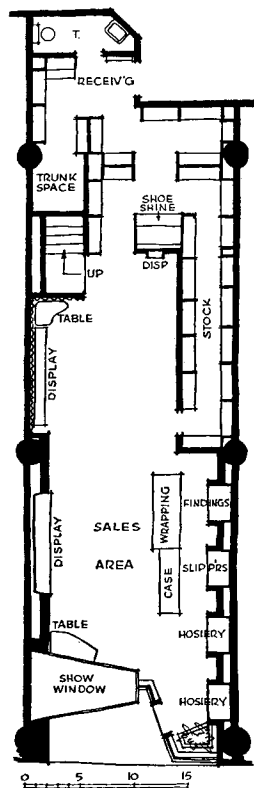
Chicago, Illinois

Morris Lapidus, A.I.A.

Architect



Hedrich - Blessing Photos



**T**HIS Chicago shop achieves drama and distinction by a bold treatment of signs, backgrounds and displays. The silhouetted sign provides unmistakable identification by day or night and at considerable distances. Maximum show window display is attained in a very narrow frontage by the ingenious placing of the main entrance door at a splayed angle. Heavy beamed ceiling and exposed brickwork contribute to the masculine atmosphere of the store. The beams conceal indirect uplighting sources for the white ceiling above. Supplementary downlighting on the displays increases their sales effectiveness. — *M. K., Jr.*



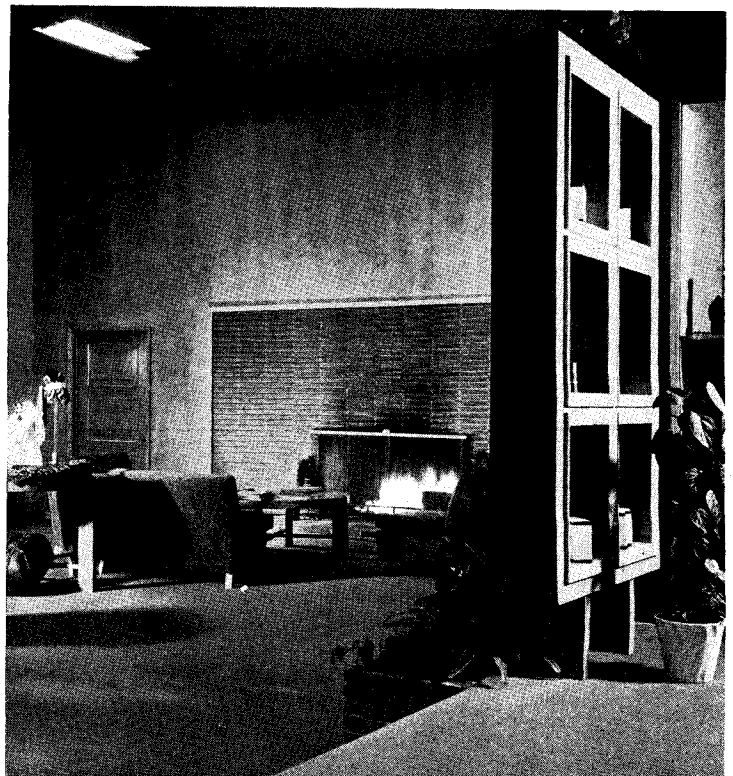
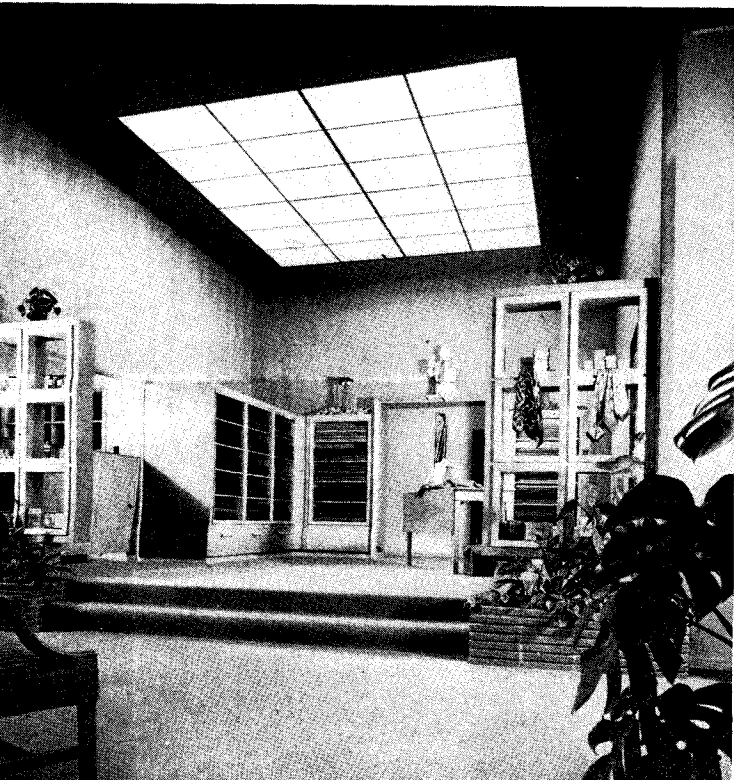


Julius Shulman Photos

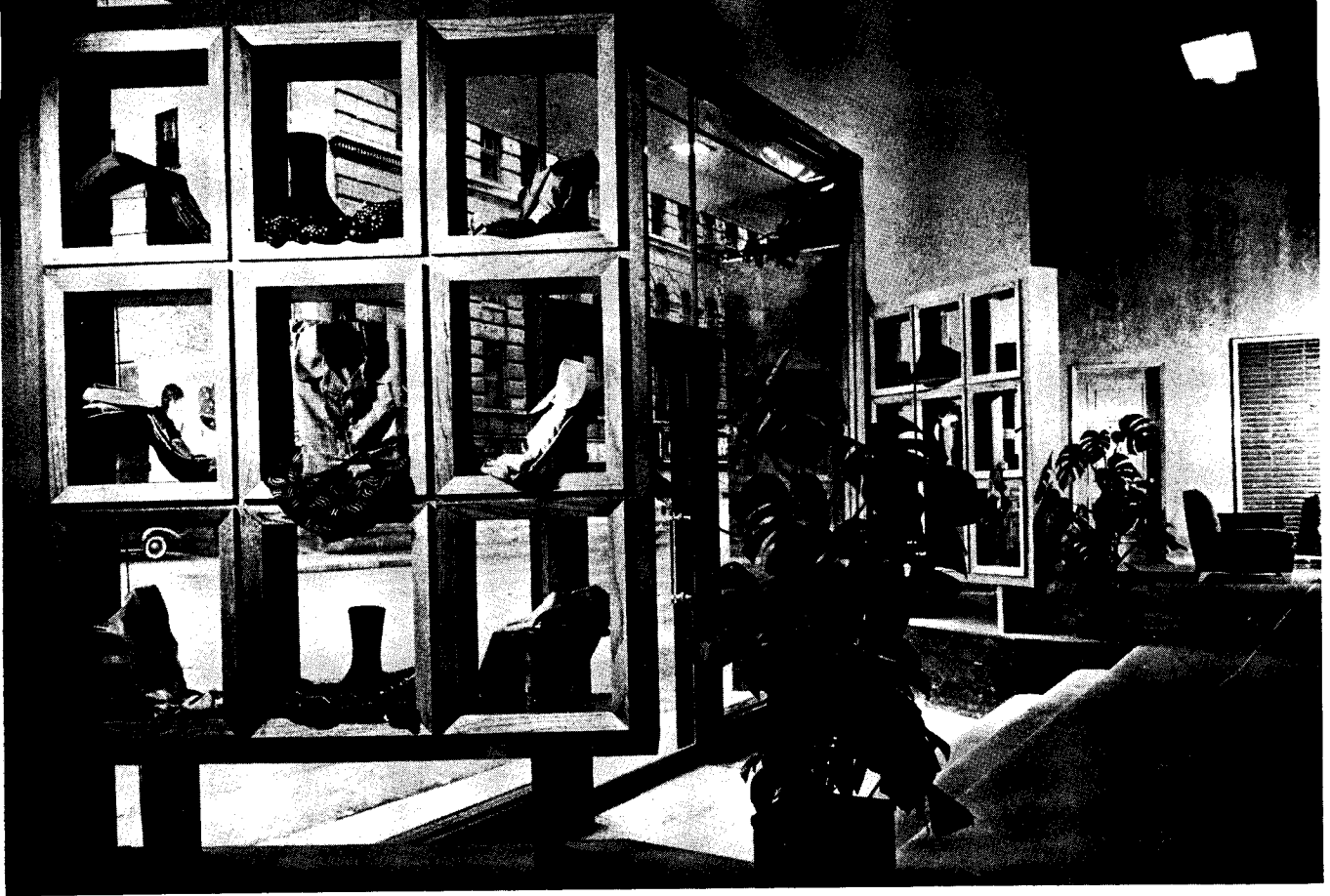
## TO SELL TAILORING FIRST, THEN MERCHANDISE

*Carver's, Custom Tailors, Los Angeles, California*

*Burke & Kober, Designers*



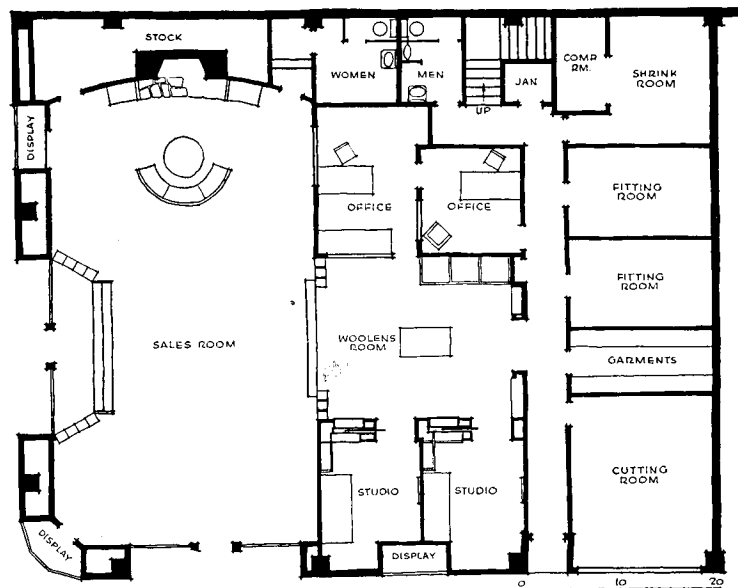




**T**HE reserved, almost barren, exterior of this exclusive men's shop is in striking contrast to the luxurious treatment of the interior sales room. A few sales fixtures designed like pieces of residential equipment, massive display racks, soft carpets, colorful greenery, brick and woodwork, a hospitable blaze in the fireplace — all help

to create the friendly atmosphere of a lounge. Fabric samples are discreetly displayed in a rear alcove. Behind the scenes, fitting and stock rooms, offices and workrooms, are efficiently arranged. The club-like atmosphere of this establishment is typical of a popular trend in marketing men's wear. — *M. K., Jr.*

Since the impulse merchandise is a secondary consideration to the custom tailoring, the façade was designed to permit a view into the main sales room, rather than to display men's furnishings. Exterior is Red Ark Fossil marble (more brown than red), with stucco above marked off and finished as cast stone. Trim around tempered glass doors is Macassar ebony. As the client did not want any "commercial effect," the main sales area was designed as a lounge, with the furnishings housed in equipment designed like furniture. The studio rooms have north light, but the large skylight in the woollens room is artificial, with a combination of fluorescent and incandescent lighting. Second floor is a large tailoring shop, with skylights





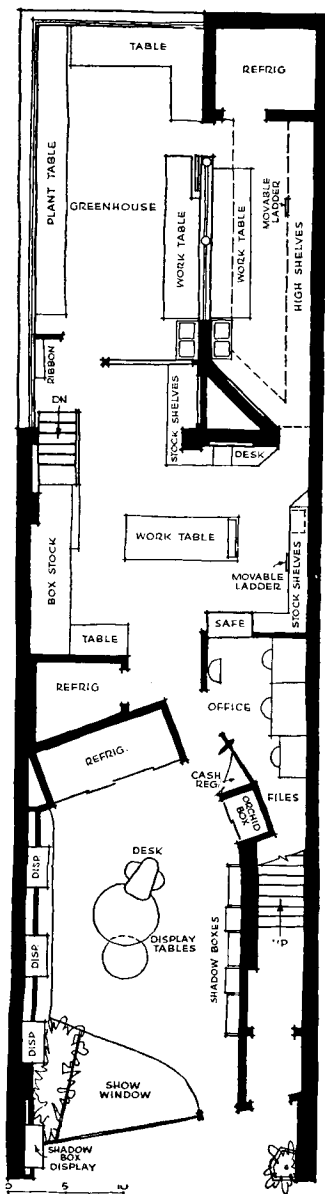
Ben Schnall Photos

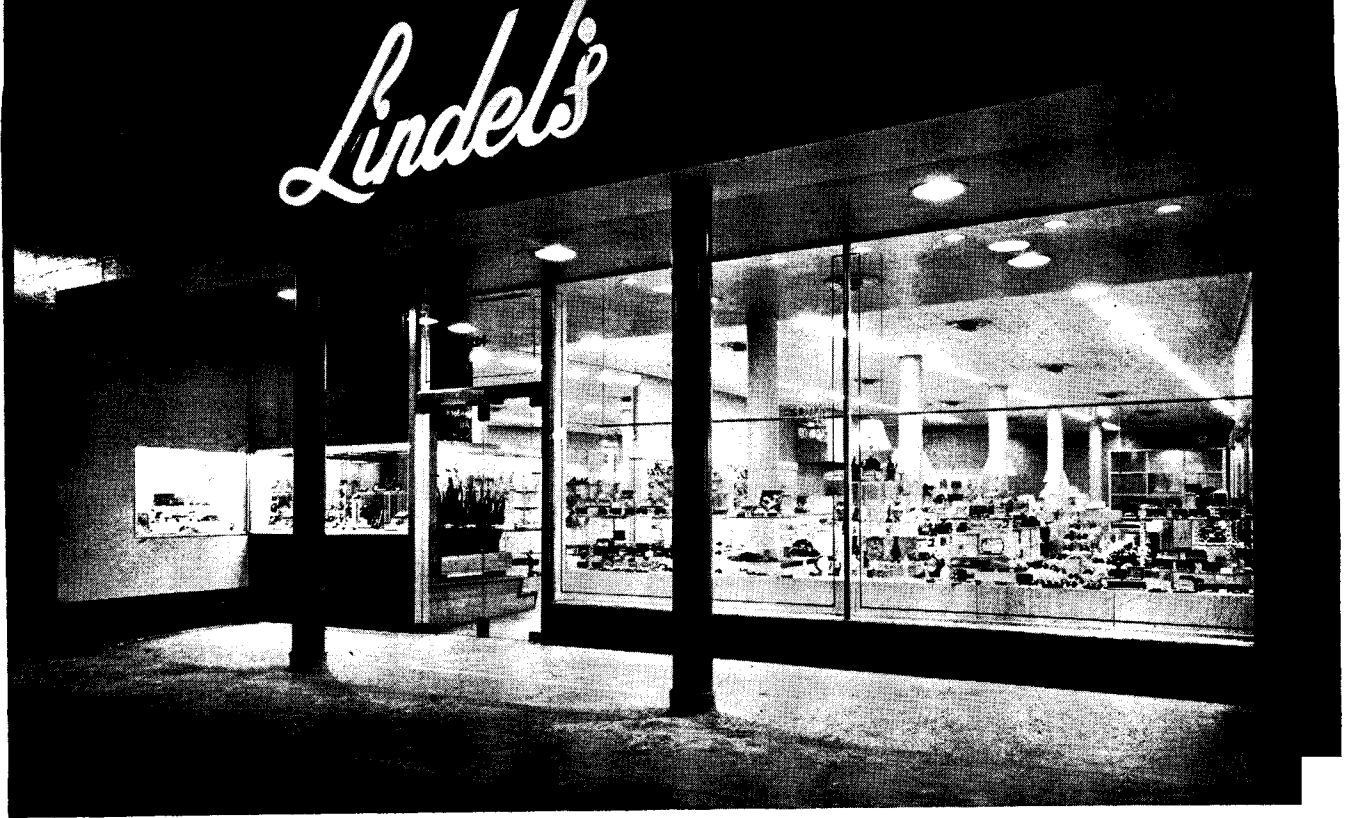
The shop itself is its own show window. The slightly recessed and angled front invites the passer-by to pause and enjoy without being buffeted by other pedestrians

## SMART FLORIST'S SHOP, NEW YORK

Marvin J. Neivert, Architect

A STRIKING example — in materials, textures, colors and lighting — of the trend towards greater richness for open-faced shops. That perpetual problem — the separate building entrance — is successfully solved. Sales and service elements, including necessarily large work spaces and the rear greenhouse, are well coordinated. Signs and store front are better handled than the somewhat complicated pattern of overhead lighting or the self-important "free-form" wall cases. — M. K., Jr.

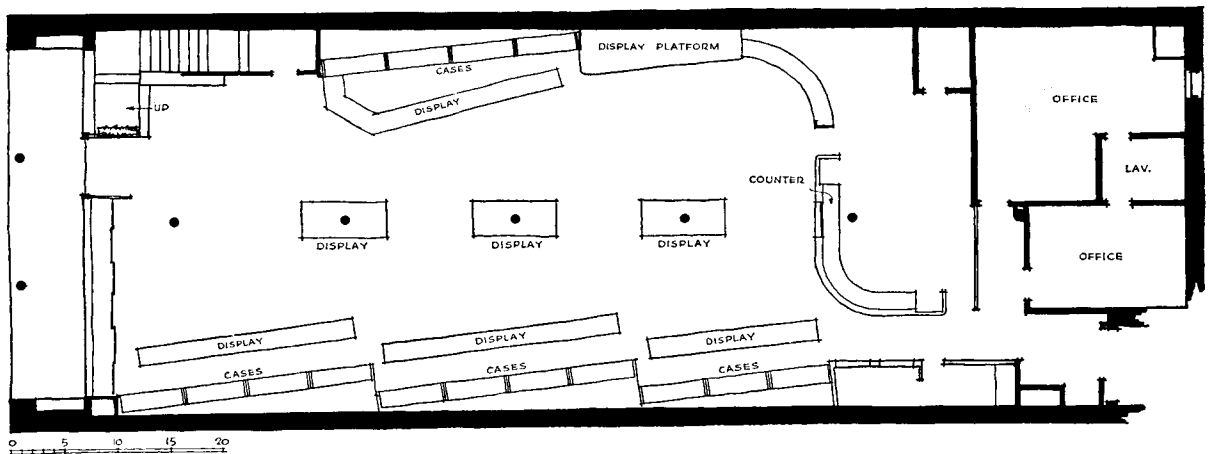




## LINDEL'S JEWELRY STORE, TOLEDO

*Bellman, Gillett and Richards, Architects*

**A**n open, sheltered front, the mass display of sparkling merchandise, high intensity lighting, thorough air-conditioning, and a straightforward plan for sales and services all add up to an effective bid for a volume trade. Inside, there is very little attempt to give separate identity to each sales department or to soften the somewhat mechanical floor pattern, except the slightly angled setting of side cases toward the entering customer. — *M. K., Jr.*



# Suzanne Burke



Floyd Ray Photos

## COMPANION SHOPS WITHOUT CONFUSION, LONG BEACH, CAL.

*Kenneth S. Wing, Architect*



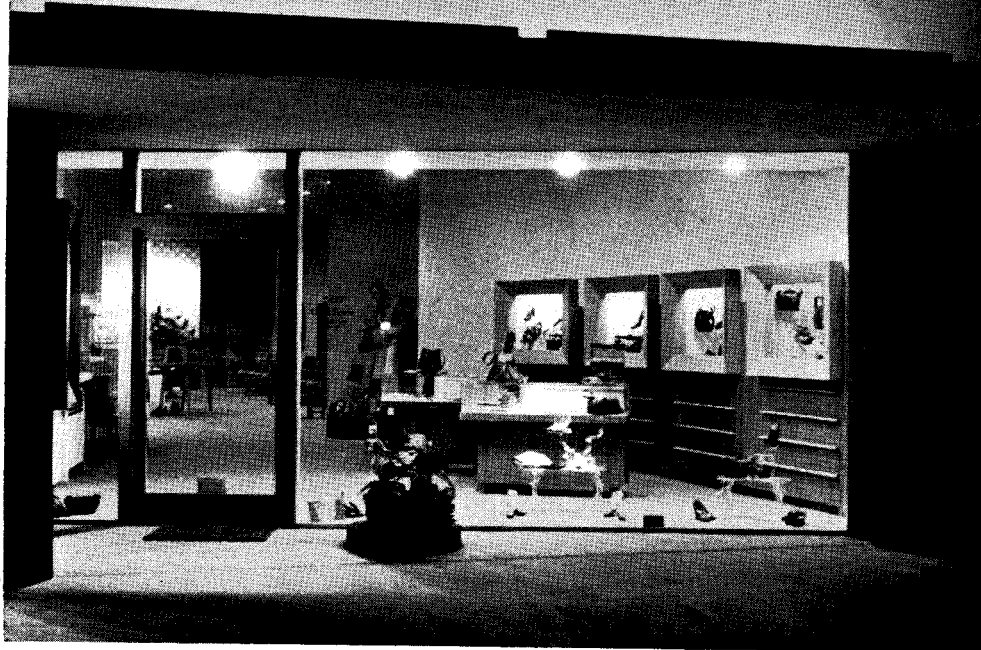
ARCHITECTURAL RECORD



# Guild House

SHOES & ACCESSORIES

## COMPANION



*The raised letters of the signs cast shadows contrasting with their surfaces and increasing legibility by both day and night*

Floyd Roy Photos

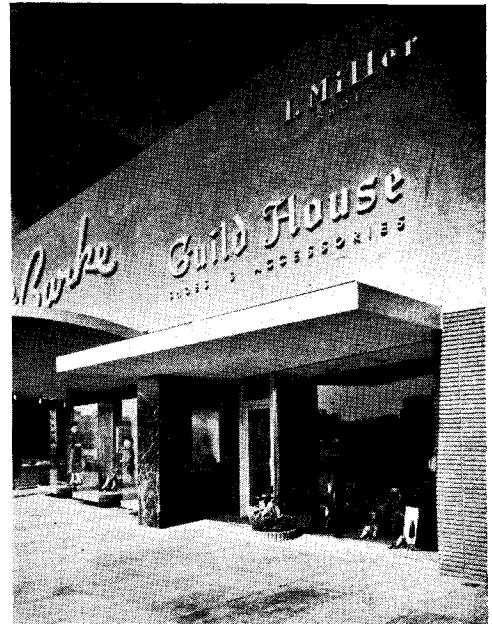


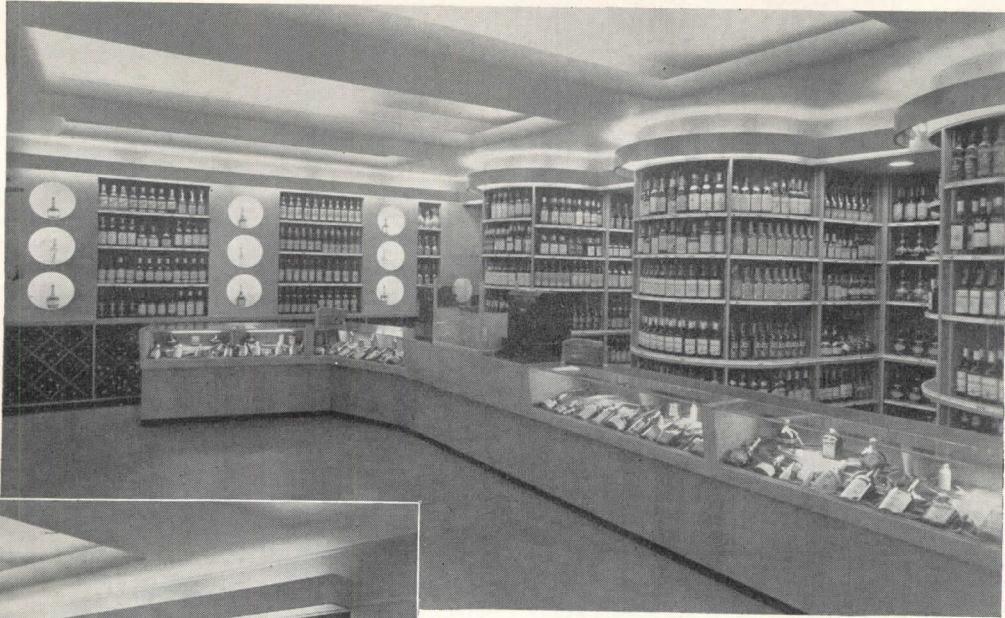
# SHOPS WITHOUT CONFUSION

(Continued from page 141)

*Kenneth S. Wing, Architect*

**T**HIS shop is a good companion to its next door neighbor (shown on preceding pages). Indoors, shoe sales and reserve — the demand department — are properly placed at the rear, impulse accessories at the front, for maximum customer traffic and display value. This arrangement also gives the sales floor an air of privacy in spite of the visually open front. The high point of both interior and store front is the well-organized and detailed accessories section. Indoors and out, lighting, textures, colors, all contribute to the shop's intimate appeal. Recessed store front and canopy are more consistent in scale as compared to its next door neighbor. — *M. K., Jr.*



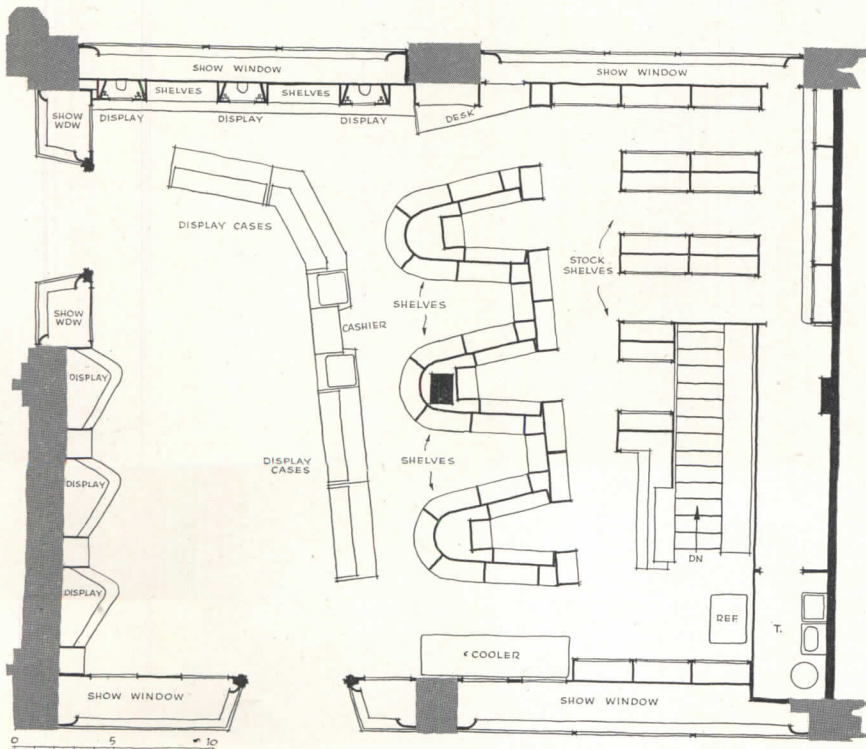


Haskell Photos

## LIQUOR MART, NORTH STATION, BOSTON, MASS.

*David J. Abrahams*

*Architect*



**T**HE outstanding feature of this interior modernization is the tremendous stock capacity gained by careful replanning. The design of the clean-cut sales counter is also commendable. It is unfortunate that in the photograph the rectangular lighting pattern of the ceiling seems to compete with the curved lighting of the stock shelving. Materials, colors, customer traffic and behind-the-scenes services are all well handled.

— *M. K., Jr.*



### PRACTICAL ASPECTS OF THE HEAT PUMP

By W. E. Johnson\*

SINCE the spotlight of publicity has been focused on the heat pump, many people believe that the technological advances of the war years will now make this development a practical product that many people can own. Actually, all the evidence indicates that the advent of the heat pump depends much more upon economic factors than upon technological advances.

The most important technical difference between the commercial installation and a residential installation is that practically all commercial installations have a relatively much greater internal generation of heat than has a residence. This heat comes from lights, heat given off by people, from cooking and from other sources. It reduces the requirement for heating in the winter and increases the requirements for cooling in the summer to such a degree that the economics of heat pump applications are completely different from those for residences. The place that the electric heat pump will take in this field is a matter of much speculation at the present time and it is doubtful whether anyone can predict with accuracy the course of this development for the next few years.

#### Technical-Economic Problems in Residential Air Conditioning

*The Temperature of the Heat Source:* There are two important kinds of heat source that must be clearly distinguished in any heat pump application. First, there is the heat source of variable temperature, in which the temperature of the source decreases as the weather gets colder while at the same time the heat loss of the house is increasing. The second important classification is that in which the heat source is substantially constant, or in which the temperature of the source will not suddenly fall below a satisfactory value.

The only common example of the first type is outside air used as the source of

heat. Air as a source does not fall in the second class excepting in very temperate climates. This kind of heat source has a profound effect on the economics of design. The major effect of a variable source such as air is substantially to increase the maximum displacement rate required by the compressor whenever the design temperature goes below approximately 30° F. Design temperatures below 30° F. are common throughout most of the United States. Some ideas of the geographical areas in which air-to-air residential heat pumps will be practical can be obtained from the map shown as Fig. 1.

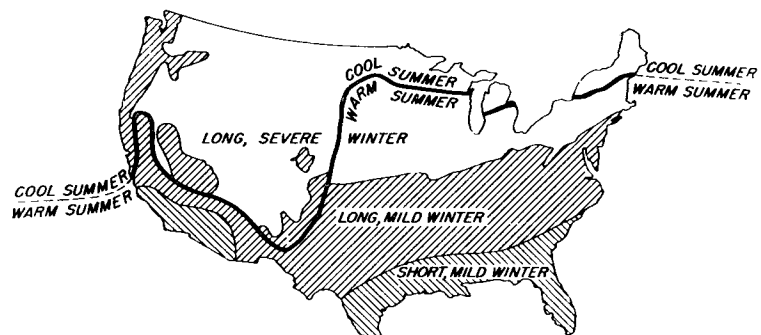
A second major effect of the variable temperature heat source is to require a larger motor than would otherwise be required. It should be noted that the size of the heat transfer surface is not appreciably affected for any given heat loss. However, the extra displacement and the larger motor size together introduce some difficult problems in providing the automatic capacity modulation required, and they aggravate the problems of maximum electrical demand and of starting without excessive currents.

Because of the inherent difficulties of using air as a source of heat, a great deal of emphasis has been placed re-

cently upon the use of heat sources that fall in the second class (essentially constant temperature). Some of these are discussed in the following paragraphs.

*Well Water:* Well water, when available, makes an excellent source of heat since its temperature is usually close to the annual mean temperature, and its temperature is not subject to sudden changes. The distribution of well water temperature over the United States is shown in Fig. 2. The sinking of a well and the provision of pumps must be considered, however, as a factor in first cost. Also to be considered is the problem of disposal. In some commercial installations this has been solved by drilling two wells, pumping from one and discharging into the other. This is entirely practicable as long as the wells are not too close together so that short circuiting can occur with a gradual decrease of temperature of the source. For residential heating, disposal by means of an extra well is probably not economical. Any extensive use of well water without restoration (pump back) would tend, in many localities, to deplete the supply and to give rise to local problems of disposal. Other problems arising in the use of well water which is pumped directly include corrosion and maintenance of pumping equipment. The latter

Fig. 1. Weather map discloses areas most favorable to heat pump



\*Manager of Engineering, Air Conditioning Dept., General Electric Co. A paper by the author at the 54th annual meeting of the American Society of Heating and Ventilating Engineers, February 1948.

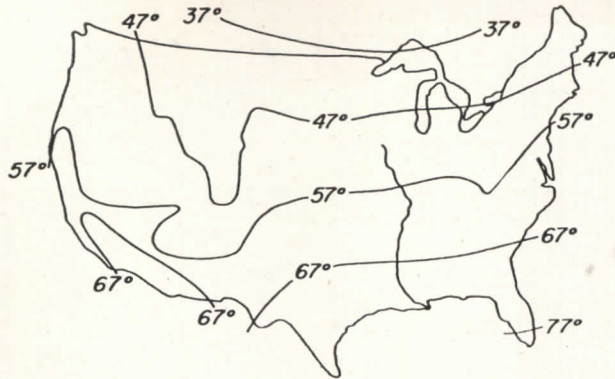


Fig. 2. Well water temperatures at depths of 30 to 60 ft.

is not to be considered lightly when 24-hour service is a requirement.

For these reasons the use of directly pumped well water as a source of heat is not considered very practicable from the long range point of view for residential heat pumps, although it is entirely practicable in many commercial installations.

**Underground Water — Not Pumped:** If underground water is available, and particularly if it is moving, it is feasible to sink a heat exchanger into the ground in the form of a well through which a secondary medium is circulated to pick up heat from the water. This is the system used by one manufacturer. The heat exchange fluid may be water, or, if conditions require, it might be a special solution.

The use of underground water in this manner, providing a source of heat at substantially constant temperature, has

a profound influence on the design of the heat pump itself. The large displacement rate characteristic of a low temperature air-to-air system is no longer required and the motor can be sized more economically. The air side heat transfer surface with its air moving equipment is no longer required on the well side of the system, and this naturally reduces the overall size. Against these advantages, however, must be charged the first cost of the well and the cost and maintenance of the fluid pumping element.

With this type of installation it is important that the presence of underground water be known in advance of installation. The chemistry of the water should be investigated in relation to the metals used, and it should be determined whether the underground water is moving or stationary. A very slow movement will, of course, make avail-

able great quantities of heat, but if the water is actually stationary there is some danger of freezing, and this might not be discovered until the most severe weather has caused the maximum demand to be placed on the well.

**Earth as a Source of Heat:** While the earth under some conditions is a practical source of heat, there are probably some misconceptions about its use. The heat that flows from the center of the earth and through its crust apparently comes through at an exceedingly slow rate. Dr. E. N. Kemler in his recent paper on "Properties of the Earth" gave an interesting tabulation showing the wide range of conductivities that have been reported for different kinds of earth under different conditions of moisture. These conductivities ranged all the way from 0.2 to over 2.0 Btu. per (hr) (deg) (ft). If a conductivity of 0.5 is assumed, it would require several acres of ground to supply heat from the center of the earth at the rate required for a six or seven room house.

In practice, if the evaporator tubes are sunk into one or more trenches 3 to 6 ft. below the surface, the amount of heat picked up from the center of the earth will be almost negligible.

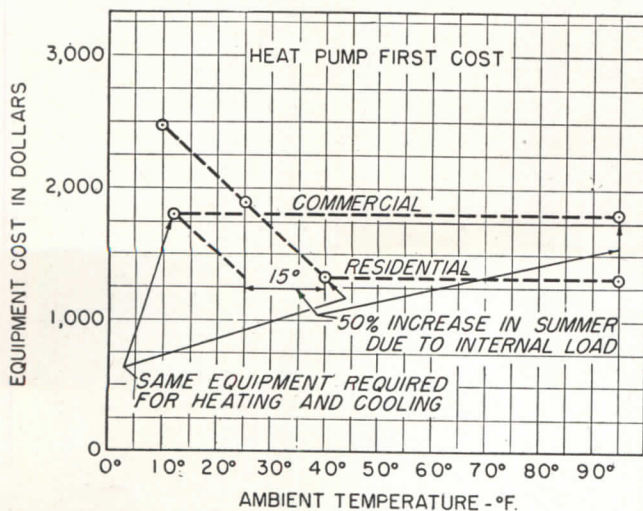
When the earth is used as a source of heat the true source is the sun, which provides radiation and warm convection currents to heat the surface. The flow of this heat, of course, has a tremendous time lag. Nevertheless, it is this source, or heat from underground water, which is used to replenish the heat drawn from the earth by a heat pump.

**The Use of Water Storage:** An air-to-air system making use of water storage for peak load conditions has been proposed many times in the past. While this system is workable it may have an economic disadvantage in that it combines most of the complexity of the air-to-air system with the additional first cost of a water storage system. Its chief advantage lies in reducing the size of the air-to-air heat pump required because it is capable of handling severe peaks of short duration.

**Other Methods of Obtaining a Constant Temperature Source:** Other methods of maintaining a reasonable temperature at the heat source have been proposed. One of these methods is the use of an air-to-air system with city water during peak load conditions. One of the difficulties of this system is that city water in many localities may get very low in temperature, so that excessive quantities must be used. If the water is used as a spray on the outside air heat transfer surface, it tends to aggravate the de-frosting problem.

Ice storage is another method that has been proposed and which can be

Fig. 3. Theoretical chart of first costs of heat pump



used in much the same manner as water storage, since the ice in forming yields its latent heat. This system is beset with the well known problems of freezing ice, and allowing for its expansion.

**Effect of Climate, Source of Heat, and Internal Heat Load on First Cost**

This leads to the crux of the heat pump problem. This problem is one of determining the design that will give the most economical first cost considering the effect of climate, the nature of the source of heat and the influence of internal heat load in the building.

This problem has not yet been solved, and it is very probable that the best solution will not appear until a sufficient number of installations of different types of machines have been made to provide the answer. However, it is possible to gain some perspective of the problem by studying the cost trend of an air-to-air heat pump as a function of the winter design temperature. The results of an elementary study of this kind are shown in Fig. 3.

The cost figures shown in Fig. 3 are purely relative values taken from an arbitrary base of \$500 per nominal horsepower at a 40° F. winter design temperature. Fig. 3 is also based on the heating and cooling requirements of a small house that would require 50,000 Btu per hr. of heating at a 10° F. outdoor temperature. The first significant point to note is that the cost of the machine is determined equally by the summer cooling and by the winter heating requirements down to an outdoor temperature of 40° F. Below this temperature the cost of the equipment is determined by the heating requirements, because it must be larger than would be required by the summer cooling demand. This does not mean that the equipment is necessarily uneconomical at temperatures below 40° F. when compared with a water-to-air system. Any comparison with a water-to-air system must take into consideration the first cost of the well and its auxiliary equipment.

The second and most important observation that may be made by referring to Fig. 3 is the very substantial effect of an internal heat load. If it is assumed that this same structure were used for commercial purposes, and if in such use an internal load were generated sufficient to maintain a 15° F. differential in the winter, and with ventilation excluded, it will be observed that the cooling requirements in the summer are substantially increased and that an economical balance on first cost can be reached when the unit is applied for heating at outdoor temperatures down to 12° F.

The actual effect of internal heat load varies widely among different commercial installations, and the points of

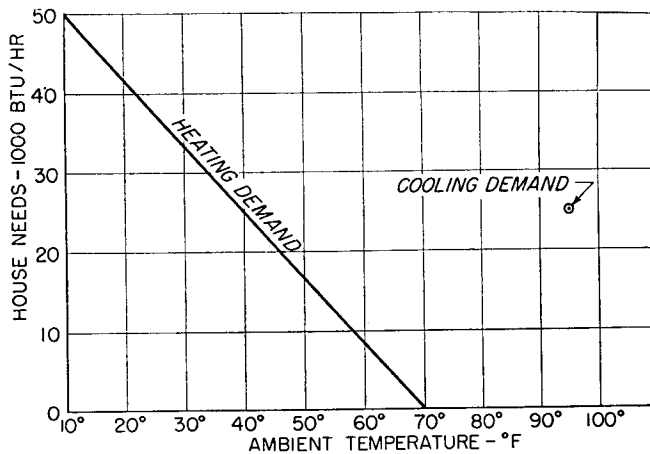


Fig. 4. Heating and cooling demands for small house

economical balance for the first cost may vary widely from those shown for a typical small house in Fig. 4. However, the effect of an internal heat load such as is commonly encountered in commercial installations is fundamental, and will often be of sufficient magnitude to have a major effect on the economics of first cost.

**The Problem of Delivering Low Grade Heat**

One item that must be watched closely in the application of a heat pump is the cost of moving the air stream. Typically in a heat pump installation, the rate of air flow required to deliver heat to the house will be approximately twice that required in an ordinary automatic warm-air conditioner such as an oil fired warm-air unit. If the ducts are unchanged over those used with an ordinary heating system the power required for cir-

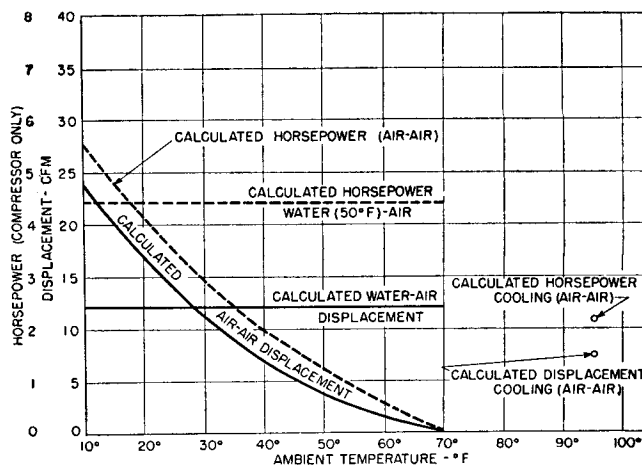
culating the air will be excessive. Even when the ducts are designed for reasonably low velocity the power requirements will be higher than those of a more conventional warm air heating system. These relations are shown in Fig. 6.

Any substantial increase in power for moving air decreases the coefficient of performance, and this problem is serious enough to make a heat pump unattractive unless the system is designed for low pressure drop.

**Operating Economy**

As a general statement it appears that in most localities and for moderate winter design temperature the heat pump can be competitive with other fuels on the basis of operating costs at a power rate of one cent or less per kilowatt hour. Tables 1 and 2 tabulate the competitive costs of electricity

Fig. 5. Relation of displacement and power to design temperature



against some commonly quoted prices of other fuels.

It should be emphasized in this connection that overall seasonal weather conditions will have a great deal to do with the operating economy. A heat pump with a relatively low coefficient of performance at its design point may nevertheless compare favorably over an entire season, if the design conditions are of short duration.

The cost of operating auxiliaries has already been mentioned in connection with the problem of delivering low grade heat, and the cost of operating blowers or water pumps will be found to be a significant item.

Another problem influencing the operating economy of the heat pump is the ratio of its peak load to its average load, which may, in certain localities, impose unfavorable demand charges. These will, of course, vary with the locality and with the effect on the utility's distribution system. The use of a constant temperature source of heat such as well water is favorable from this point of view, excepting in very temperate climates.

It will be noted in Fig. 7 that the maximum electrical demand will be substantially higher than the power required at the design point. This graph shows the results computed for an air-to-air design provided with capacity modulation in steps of 25 per cent down to 25 per cent of full compressor displacement.

It is difficult, at the present stage of

heat pump development, to give statistically averaged and authentic figures on actual operating costs. As a matter of interest, however, studies of two commercial and one residential installations gave power consumption rates ranging from  $\frac{1}{2}$  to  $\frac{2}{3}$  kw/hr per degree day per installed compressor motor horsepower (installed power of auxiliaries not included).

### Other Technical Problems

It has been emphasized previously that the important problems of the heat pump are primarily economic in nature. This does not mean that there are not a host of other problems that need attention and that will arise in any specific design. These other problems may all be considered minor to the extent that technical solutions are possible. For completeness some of these problems are mentioned in the following paragraphs:

*Automatic Defrosting* is a necessity on air-to-air systems. This has been a common problem in conditioned air coolers, and there is no reason why it cannot be satisfactorily solved in the heat pump.

*Automatic Capacity Modulation* is a necessity on almost any design of heat pump, and must cover a wider than normal range in an air-to-air system designed for low temperatures. A control problem in connection with this arises from the fact that the response must reverse from summer to winter conditions.

*Automatic Switching* from heating to cooling and vice versa is at least a desirable feature, and will probably be a necessity. In mild weather, particularly, people do not remember to move manual controls, and as a result they suffer some discomfort.

*Compressor Unloading* and sequence starting of auxiliaries appears to be essential if single phase power is to be used and if starting currents are to be kept within acceptable values.

*Automatic Reversal of Refrigerant Flow* is one of the most attractive means of reversing the cycle from heating to cooling. With single coils, however, the system will tend to trap oil in one direction or the other, and additional complications of the circuit are necessary to prevent this.

*The Dissipation of Losses from Auxiliary Motors* is an important one, since it is desired to dissipate these losses into the house air in winter and into the outside air in summer.

*Noise and Vibration* are well-known problems, particularly in household appliances and equipment. The installation of equipment using several installed horsepower while maintaining noise levels in the order of 50 db is no easy task, and is a different problem from that imposed by the usual commercial installation.

*Serviceability* is a vital requirement for any piece of equipment in the home on which the occupant is depending for his source of heat. Any heat pump that is designed for use in a home must be designed for rapid and efficient service, so that operation can be resumed on short notice in case of failure.

### Advantages of the Heat Pump

Among the actual and potential advantages that a heat pump offers to the home owner may be mentioned the following:

1. A heat pump will furnish heat that will be clean and free from odor, excepting such odors as may be acquired on wet surfaces during summer air conditioning.

2. If desired the chimney can be eliminated, thus saving a substantial item of construction cost.

3. For those who are willing to break with precedent, fixed double glazed windows can be used, giving the immediate advantage of storm windows and eliminating the cost of the sliding sash.

4. Properly applied to avoid drafts, low grade heat will probably give greater comfort and less sensation of heat and cold than the higher grade heat normally supplied by conventional heating systems.

5. A single piece of equipment pro-

Table 1—Fuel Costs for Heating—Northwest United States

Heat Source	Price	Btu Contained	Efficiency of Use Percent	Cost Per Million Btu	Annual Cost <sup>a</sup>	Equivalent Power Cost for Heat Pump
Bituminous Coal	\$9.00/Ton	20,000,000/Ton	65	\$0.69	\$115	COP = 3.5 \$0.0082/kwhr
Oil	0.09/Gal	140,000/Gal	75	0.86	138	0.01/kwhr
Gas Mfd.	0.60/Mcu ft	570/cu ft	75	1.40	234	0.017/kwhr

<sup>a</sup> Maximum demand = 85,000 Btu/hr; design temperature = +10 F; heating season = 4500 deg days.

Table 2—Fuel Costs for Heating—Northeast United States

Heat Source	Price	Btu Contained	Efficiency of Use Percent	Cost Per Million Btu	Annual Cost <sup>a</sup>	Equivalent Power Cost for Heat Pump
Anthracite Coal (Stoker)	\$11.10/Ton	270,000,000/Ton	65	\$0.63	\$126	COP = 3.5 0.0075/kwhr
Oil	0.087/Gal	140,000/Gal	75	0.83	166	0.001/kwhr
Gas, Natural	0.75-0.38/Mcu ft	1,050/cu ft	75	0.95-0.48	190-96	0.011-0.006/kwhr
Gas, Mfd.	0.65/Mcu ft	550/cu ft	75	1.58	316	0.019/kwhr

<sup>a</sup> Maximum demand = 100,000 Btu/hr; design temperature = 0 F; heating season = 5400 deg days.

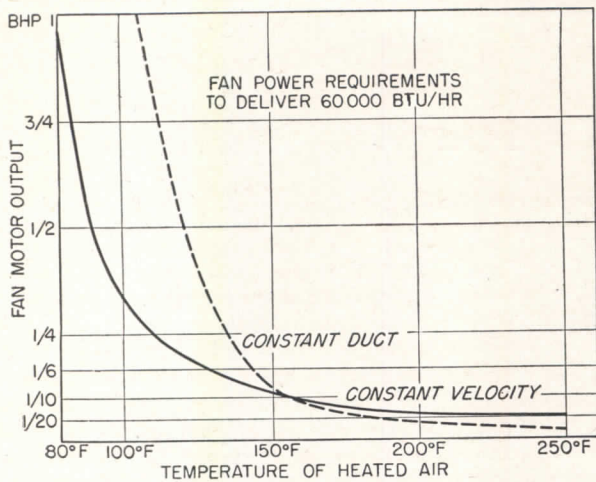


Fig. 6. Fan power requirements to deliver 60,000 Btu per hour

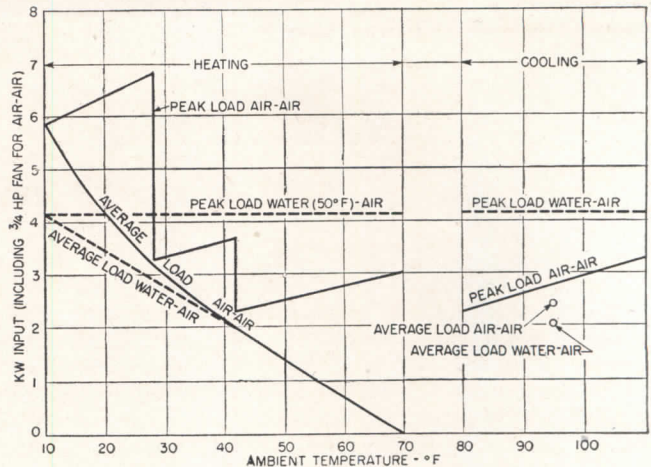


Fig. 7. Peak electrical load may be substantially above average

vides the air conditioning for both summer and winter, and this brings with it the advantage of dealing with a single service organization.

6. A single utility is used, saving the nuisance of additional fuel bills, and there is no fuel delivery problem.

7. There are no waste products to dispose of.

8. The heat pump will deliver heat quickly, since it does not involve the time lag necessary for warming up a boiler or furnace.

Most of these advantages to the ultimate user are real. However, it must be realized that the service which the heat pump offers can be obtained efficiently by other means now available. It does not at the present time compare as the automobile does to the horse and buggy. Consequently, it is doubtful that a substantial residential market will develop unless heat pump prices are reasonably competitive with other available means of providing year 'round air conditioning.

#### Influence of the Housing Situation

There are factors in the present housing situation which will tend to retard the use of heat pumps in home heating.

As mentioned previously, the delivery of low grade heat requires a different design of duct system than that commonly used in present construction. As a consequence the installation of a heat pump in existing construction will tend to be expensive.

The basic economics of the heat pump indicate that its use in the home will almost certainly be limited to those installations in which the home owner desires summer air conditioning. A person in this financial class, if he already owns his home, will in many cases have it equipped with automatic heating and there may be little incentive for him to replace his existing system, particularly if it is relatively new.

One factor in the housing situation which is favorable to the heat pump is the current interest in panel heating. This makes use of low temperature heat and thus tends to become a natural partner of the heat pump. Unfortunately, panel heating cannot be easily used for summer cooling while retaining the advantage of panel heating for the winter operation.

In general, it seems fair to state that the immediate housing situation with its emphasis on low cost housing is not favorable to the use of the residential heat pump. Over the next few years, of course, this situation will improve as individuals are able to build the kind of houses they want at reasonable prices.

#### Conclusions

It is with some hesitancy that any conclusions are drawn on a subject as complex and dynamic as this one; nevertheless, conclusions there should be if we are to make the kind of progress that should be made in the next few years. It is recognized that these conclusions are necessarily of short range, for the simple reason that many of the problems of the heat pump have not yet been actually solved, and their solution will almost certainly bring some changes in the general outlook. In addition there are the uncertainties of our general economic situation and these too may drastically change any picture that is drawn today. With these reservations, the following are the conclusions that seem to follow most naturally from this study:

1. The operating cost of the heat pump will ordinarily be competitive with that of other fuels in areas of low power cost.

2. The use of heat pumps in industrial processes will depend on the economics of each individual process and upon the economics of the region in which the

plant is located. There is probably a good potential market in this field, although in this country it will be limited by the relative abundance of natural fuels.

3. The fundamental economic problem of the heat pump, as applied to a residence, is its first cost, which is related to such technical problems as the selection of the source of heat. It is emphasized that this problem has not yet been solved, and probably will not be solved until competitive designs of several types have been applied over a sufficient area to determine the economics involved. It is very likely that both types of units (air source and water source) will find their own best markets.

4. For year 'round air conditioning in the home, the most favorable field for the heat pump will be found:

(a) In those geographical areas where the design heating requirement most nearly equals the design cooling requirement.

(b) In those cases where the home owner desires and is willing and capable of paying for summer air conditioning. This places the market in the field of higher priced homes.

(c) In those cases where new construction is being made by the home owners themselves. In existing construction the cost of replacing existing equipment will tend to discourage the use of the heat pump.

5. There are fundamental and significant differences relating directly to the economy of first cost that differentiate the commercial installation from the residential installation. In general these differences strongly favor commercial installations for the application of heat pumps, and because of this it is believed that the commercial market will develop most rapidly and will tend to pave the way for use of the heat pump in residential heating.

## SANDWICH PANELS TESTED FOR THE SMALL HOUSE

*Resin-treated paper cores make a stiff, strong panel for structural use*

ONE of the few ideas to come from the once much-heralded "postwar technology" which really seems to hold promise is a new type of "sandwich panel" construction for small houses. Sandwich panels, which were developed during the war for high-speed aircraft, have been getting critical attention at the Forest Products Laboratory, in co-operation with the Housing and Home Finance Agency. So far they seem to justify the hopes held for them.

They differ from the sandwich type of thin-wall panels for large buildings in that they are structural, not merely a suspended wall. The basic concept, nevertheless, is quite similar: a pair of covers of some thin, strong sheet material, with a light insulating core. Here, however, the core must have stiffness to provide strength.

The material used for cores in the Forest Products Laboratory sandwich panels is paper—a fairly close relative of the brown kraft paper of the grocery bag. Large sheets of this paper are treated with a synthetic resin, run through a corrugating machine, and glued together in honeycomb fashion. Three different core patterns are shown in the small photographs below.

The covers, which are glued to such

cores, may be thin metal, plywood, veneer, or other sheet material. With modern glues, the covers can be bonded on so firmly that the joint is likely to be stronger than the cover.

The resulting panel is stiff and strong, and also so light that a 4- by 8-ft. panel, 2 or 3 in. thick, can be handled by one man. They can be mass produced in factories with machinery already used for other purposes. And the honeycomb cores, with multitudes of air cells, are good insulating materials. The panels can be joined together into essentially frameless houses, serving for floors and roofs as well as walls. They might also be factory-finished, exterior as well as interior. Small wonder that they seem to hold the promise of big strides for the small house!

### Early Tests Encouraging

While engineers of the HHFA and the Forest Products Laboratory are carefully withholding final judgment on the panels and the construction system using them, the panels have been severely tested already, and results have been far from negative.

For an actual service test, specimen panels of different designs have been assembled into an outdoor structure

resembling a small house. Panels have been tested for strength in load and deflection tests, and have been given accelerated aging tests to check possible effects of weathering. Also, of course, there was much investigation of resin coatings, methods of application, resistance to decay and moisture, and so on, before the panels were made up.

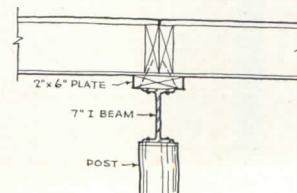
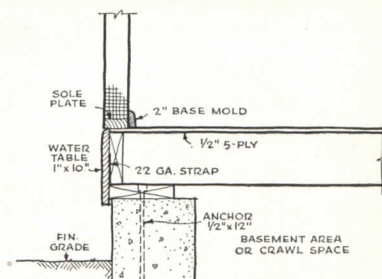
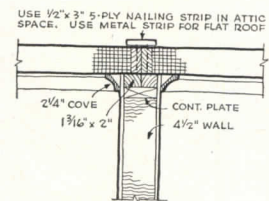
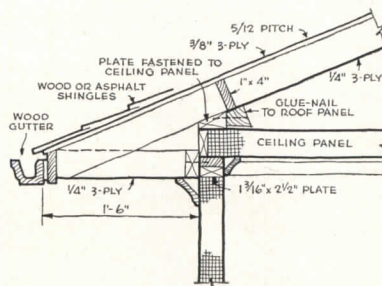
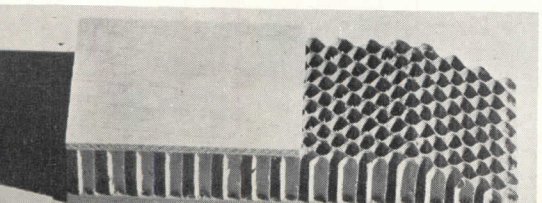
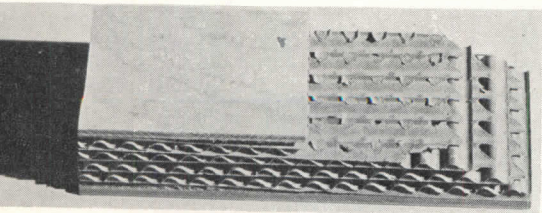
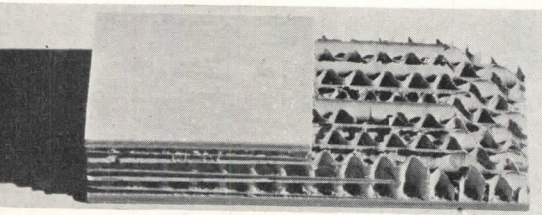
Results of the tests might be summed up as "so far so good," though a report\* currently being issued by the HHFA simply says: "No attempt to evaluate or estimate the performance of the various sandwich panel constructions utilized in the exposure test unit is made in this report. Such an evaluation must await the accumulation of the necessary data over a period of years." The more academic tests, however, are reported, and the published report does include erection details (see sketches) and even a suggested plan to indicate how such panels might be assembled for a house.

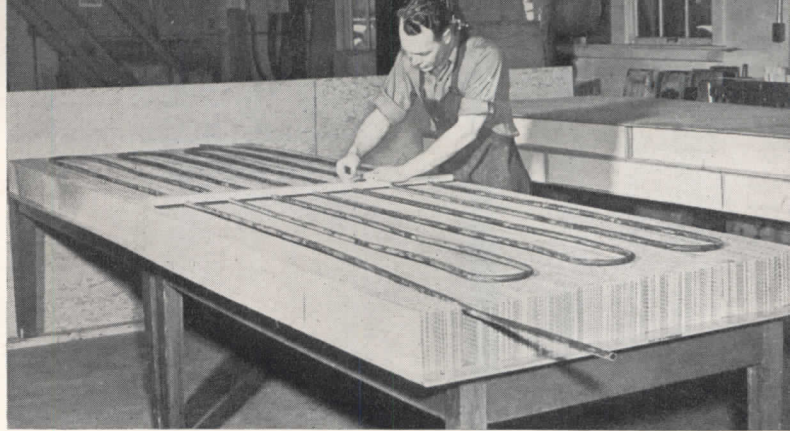
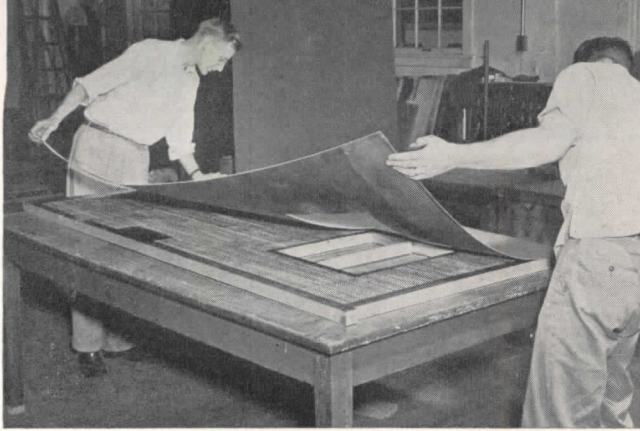
### Strength Tests

Panels installed in the house-like unit were tested before erection to determine their deflection and span-deflection ra-

\* Technical Paper #7, Technical Staff, HHFA—Physical Properties and Fabrication Details of Experimental Honeycomb Core Sandwich House Panels.

Three types of cores in test panels





Sandwich core test panels being assembled in the laboratory

Copper tubing being installed in floor panels for test unit

tios at design loads. Laboratory-made wall panels met the requirement that the span-deflection ratio be not less than 270 under a design load of 20 lb. per sq. ft. Roof panels also were within the span-deflection ratio of 270. Floor panels had span-deflection ratios of about 500, at a load of 40 lb. per sq. ft.

### Accelerated Aging Tests

Five smaller specimens (all plywood facings) were subjected to aging tests as follows:

1. Immersed in water at 122° F. for 1 hour.
2. Sprayed with wet steam at 194° to 200° for 3 hours.
3. Stored in 10° for 20 hours.
4. Heated in dry air at 212°, 3 hours.
5. Sprayed with wet steam at 194° to 200° for 3 hours.
6. Heated in dry air at 212°, 18 hours.

This sequence of exposures was continued through six cycles, after which appearance of the specimens was noted and tests made to determine any change in strength properties, in comparison

with panels not subjected to the aging tests.

The reduction in shear stress was about 20 to 30 per cent, but the weakest specimen after aging developed a shear stress more than six times that of design load. Reduction in stiffness was about 20 per cent, but this would not produce span-deflection ratios less than 270.

Appearance of the panels subjected to accelerated aging tests was studied. For this purpose, two pieces of 3/4-in. Douglas fir, one edge-grain and one flat-grain; one of 1/4-in. Douglas fir plywood; and one of 1/4-in. Douglas fir plywood with paper overlays, were given the aging treatment. The plywood exhibited raised grain and many surface checks. The edge-grain Douglas fir showed some grain raising, but no checking. The flat-grain piece was severely checked and had pronounced raised grain. The sandwich specimens with paper overlays on the facings showed some slight raising of the grain but no surface checks. The plywood specimens were warped and bent, the plain wood specimens cupped

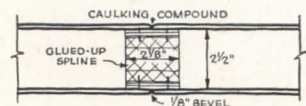
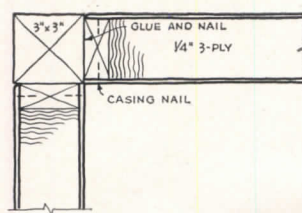
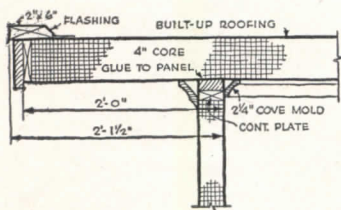
a slight amount, but the sandwich specimens were straight.

Wall panels under test include both 4- by 8-ft. panels with plywood and veneer facings, made in the laboratory, and 3- by 8-ft. panels with aluminum facings commercially fabricated. Some of the laboratory-made panels have resin-treated paper overlays. Cores are of the three types shown in the photographs. In the commercial aluminum-faced panels the cores are of a different type, mechanically expanded, with flutes perpendicular to the facing.

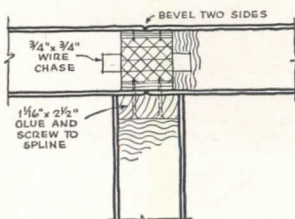
Laboratory-made wall panels are 3 in. thick. Roof panels are 4 1/2 in. thick, and 4 by 14 ft. Some have ventilating flues 2 by 3 in. in section running the length of the panel. Floor panels are 6 in. deep, with 3/8-in., five-ply Douglas fir facings. Copper heating pipes were laid in these to study radiant heating.

In the test unit the panels were joined loosely, so that each would be free to move independently. Suggested joints for more normal construction are shown in the diagrams.

### FOR ROOF, WALL, AND FLOOR PANELS



Test structure will subject different panels sections to actual use



# STORE LIGHTING PRACTICES

Recommendations of the Store Lighting Committee, Illuminating Engineering Society

THESE charts, summarizing current store lighting recommendations for a wide variety of types of stores, are part of an extensive report, "Lighting Practices for Stores and Other Merchandising Areas," to be published in the June issue of *Illuminating Engineering*, as a report of the Store Lighting Committee of the Illuminating Engineering Society.

The study of lighting practices began many months ago, when Kenneth C. Welch, A. I. A., I. E. S., submitted his own recommendations to

the Committee, of which he is a member. His original text was abstracted in "New Concepts of Store Lighting," *ARCHITECTURAL RECORD*, Aug., 1946.

These charts make recommendations for 34 types of stores, giving preferences of the Committee as to the color of light — the K value in degrees — the method of lighting, and the level in footcandles.

The report stresses the fact that footcandle measurements are but a convenient device, footcandle values being "merely a step in getting the

end-product brightness." The actual brightness of an object is a function of the amount of light and the reflection coefficient of the object itself. The amount of light, expressed in footcandles, multiplied by the reflection factor, which is the percentage of light reflected, equals the brightness, measured in *footlamberts*. Nevertheless, footcandles can be simply calculated and predicted, and can easily be measured.

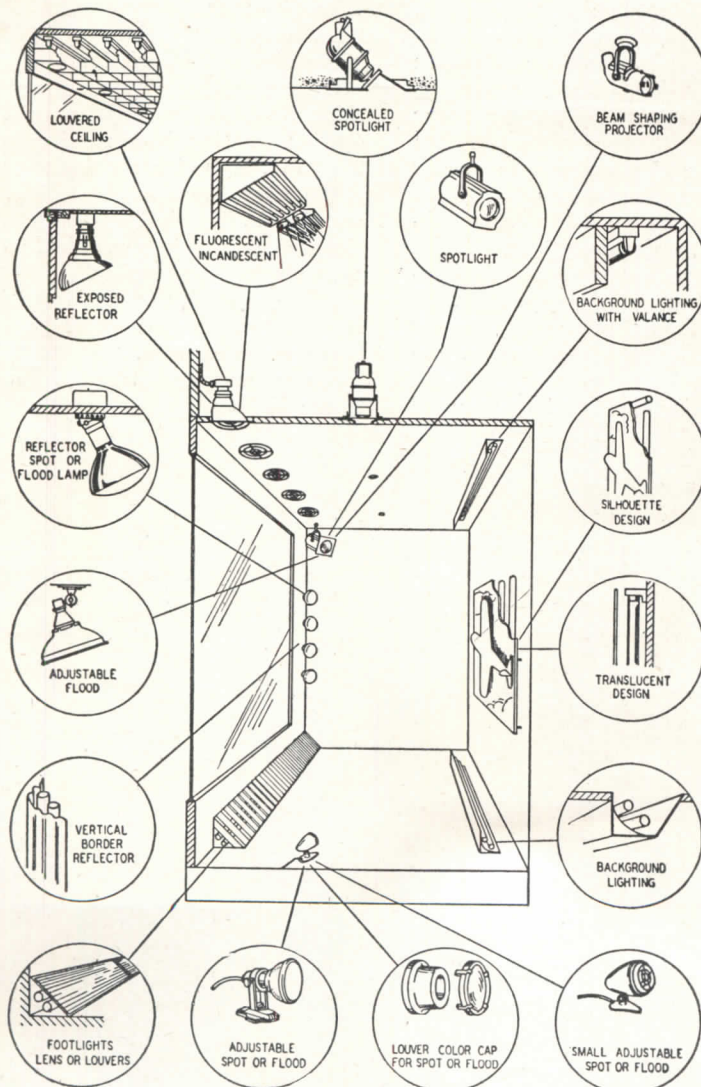
However, the report says:

"Brightness in either footlamberts or candles per square inch are as readily measured as footcandles. There are several types of meters usable for this purpose: the simplest is the indicating type that employs a light-sensitive cell calibrated to read footcandles. By employing a suitable correction factor, which compensates for the light lost through striking the glass cell cover at a grazing angle, these meters will measure the footlamberts of brightness of diffuse reflecting or transmitting surfaces.

"Other types of instruments measure brightness by direct comparison of two fields of brightness, a calibrated known brightness against the unknown. With a suitable system of filters usable over either the test or comparison brightness fields, these meters make possible a very wide range of brightness values that can be measured.

"Although brightness is the actual end product desired, it is not simple at the present stage of lighting science to completely specify store lighting in terms of brightness and, by calculation, arrive at those values.

"Many designers who are experienced in using footcandles as a criterion of lighting values, will still use them as a basis for store lighting design. If they are to take advantage of newest practices in lighting design, then calculations should include the brightness that will occur on major room surfaces, an estimate of the resulting brightness pattern in producing a pleasing interior, and an analysis of the relative brightnesses of kinds of merchandise sold in those areas."





## STORE LIGHTING PRACTICES

Recommendations of the Store Lighting Committee, Illuminating Engineering Society

Classification Number	Classification of Merchandise	Selling or Appraisal Lighting			General Environmental Lighting			Display Stock Lighting			Remarks
		Light Source Degrees K	Method	Level in foot-candles	Light Source Degrees K	Method	Level in foot-candles	Light Source Degrees K	Method	Level in foot-candles	
14	Ward, Goods & Trappings	2900	Direct	10	2800	Direct	25	4500	Direct	150	High values of illumination make it possible to see texture of material, quality, and pattern. For appraisal of merchandise, the lighting should be of high level. Provision should be made for color matching. Attraction lighting is essential for showcases, shelves, and feature displays. Super appraisal zones of 100 to 300 footcandles are desirable for dark fabrics, particularly woollens.
15	Art Needlework		Direct	10		Direct					
16	Linens, Blankets		Direct	10		Direct					
17	China, Glassware & Gifts		Direct	10		Direct					Selling light should be from large area low brightness sources. China offers semi-specular surfaces and colorful merchandise. Niche displays with directional lighting and adds to store brightness. Vertical lighting is important. Showcase lighting should be from low brightness sources. Appraisal zones should be provided for appraisal of merchandise when displayed against a dark background and resting on a glass shelf lighted from beneath by daylight or 4800 fluorescent lamps. Other interesting effects can be produced by use of low brightness sources of light. Spot lighting, edge lighting and similar special applications.
18	Miscellaneous, Housewares & Toys Sporting Goods Small Appliances		Direct	10		Direct					Usually open displayed stock using general lighting for display. Attraction lighting of shelf displays of small housewares, tools, guns, toys, and paints stimulates sales and adds to store brightness. Vertical lighting is important. Showcase lighting should be from low brightness sources. It is important to avoid the use of only concentrated sources such as spot lights. Large low brightness highlights are valuable and can be produced as reflections of environmental brightness.
19	Radios & Phonographs		Direct	10		Direct					Wall displays of radios and phonographs can have local overhead valence lighting. Concentrated sources should be used. Special attention should be paid to accent lighting for record albums.
20	Major Appliances		Direct	10		Direct					Majority of this merchandise is white with metallic trim. High levels of attraction lighting necessary. Spotlighting is effective.
21	Garden Supplies, Building Supplies		Direct	10		Direct					Garden supplies often sold in open in Spring and Summer only. Can use floodlighting techniques. Can use valence lighting.
22	Paint, Wallpaper		Direct	10		Direct					Displayed stock often uses general lighting. Good vertical surface lighting required for shelves and wall displays. Showcase lighting should be from low brightness sources. Floor and table displays of paints and impulse items should be spotlighted to attract attention. It is important to avoid the use of only concentrated sources such as spot lights. Large low brightness highlights are valuable and can be produced as reflections of environmental brightness.
23	Pictures, Frames Mirrors, Lampshades		Direct	10		Direct					Individual pictures may be featured by spotlighting. Majority of pictures and mirrors displayed on walls. Can use valence type lighting. Reflections on pictures may provide their own illumination. Display much more effective if lamps are lighted.
24	Draperies and Curtains		Direct	10		Direct					Draperies and curtains are both displayed and appraised when hung vertically in most cases. Vertical surface perimeter lighting should be used with special attention to avoid the use of only concentrated sources. They are very attractive when displayed against lighted backgrounds or artificially lighted windows.

See complete key to symbols on page 159

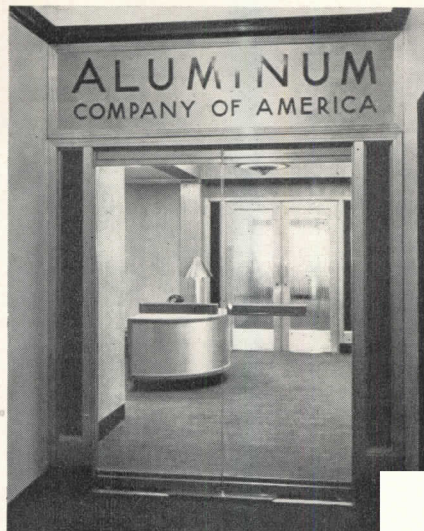
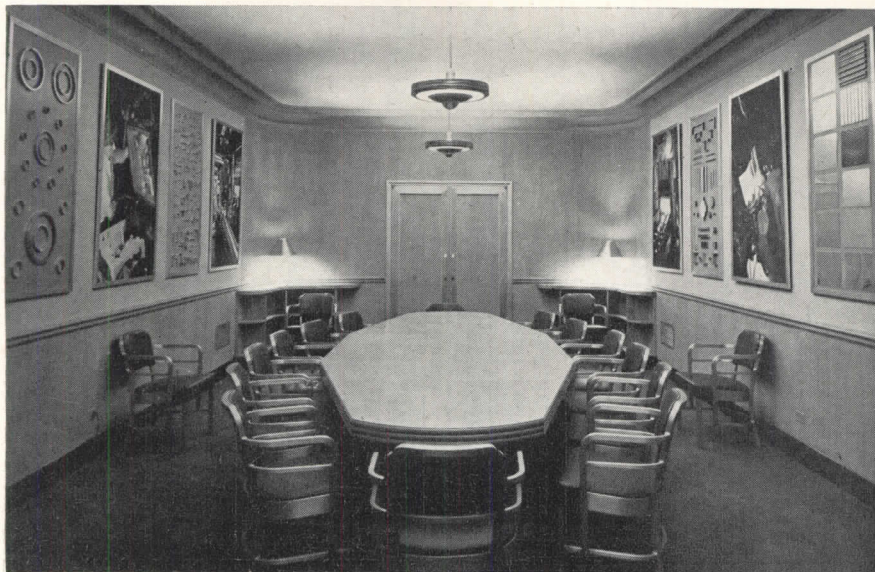
○ Satisfactory method

○ Preferred method

— Satisfactory range

— Preferred range

## PRODUCTS for Better Building



Conference room (left) and entrance door (above) of Alcoa's new Cleveland offices

### ALCOA OFFICES FEATURE ALUMINUM

Sheet aluminum, polished wood paneling and louvered glass form the decorative theme of the recently opened Cleveland sales offices of the Aluminum Company of America.

Occupying a large section of the 14th floor in the Terminal Tower building in Cleveland, the offices, as would be expected, make free use of aluminum sheet, plate and extruded shapes. Doors and frames, door hardware, thresholds, radiator and ventilator grilles, venetian blinds, trim on office partitions, moldings, pilasters, display panel frames, and the front door sign are some of the aluminum items used, and even the wastebaskets, table lamps and letter trays are of aluminum. A particularly dramatic feature is the aluminum conference table shown above. Irvin & Company were the decorators for the new suite.

### INSULATING MATERIAL

A new insulating product, *Kaylo Insulation*, forming the core of a wood faced door, resisted a one-hour fire in a demonstration staged recently at South River, N. J., the manufacturers report.

The demonstration door was a duplicate of a flush-type door with hardwood faces and incombustible core that was tested at the Underwriters' Laboratories in Chicago and given a one-hour fire rating.

Kaylo is a cellular compound of inorganic materials, combining light weight with structural strength. It was first developed by the Owens-Illinois Glass

Company during the war and produced in limited quantities for the armed forces and essential industries. It will now be produced full-scale at the new South River plant of the American Structural Products Co., an Owens-Illinois subsidiary. It will be manufactured in two weights — 20 lb. and 11 lb. per cu. ft., the heavy density being intended for use where structural strength is paramount, the lighter for use where heat insulation is a necessity and structural strength is of secondary importance. The light density will serve as heat insulation in the form of heat insulating block, and later as pipe covering. The 20-lb. material will be used for production of fireproof

doors, fireproof roof tile and other building purposes. A flush-type door with hardwood faces and a Kaylo insulating core, such as that used in the tests, will be manufactured and marketed soon by the U. S. Plywood Corp., Algoma, Wisc.

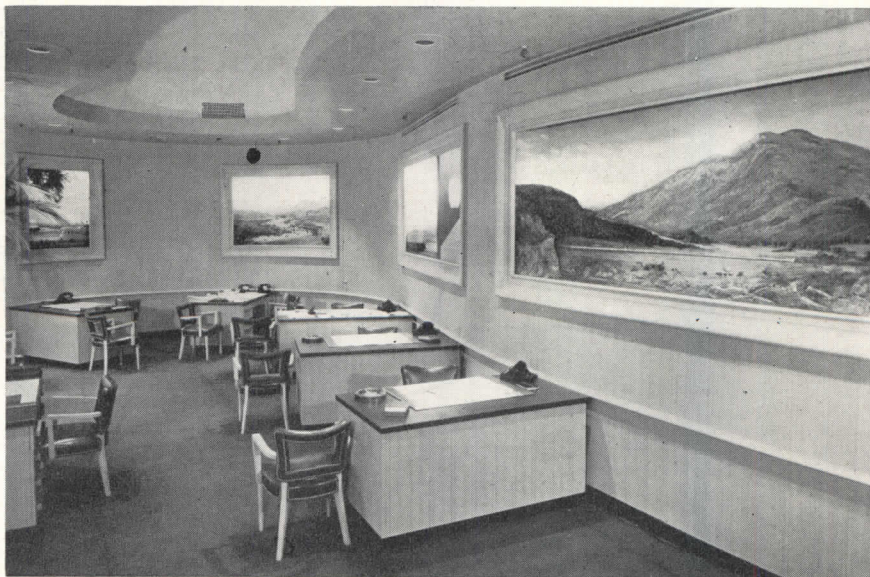
### TICKET OFFICE

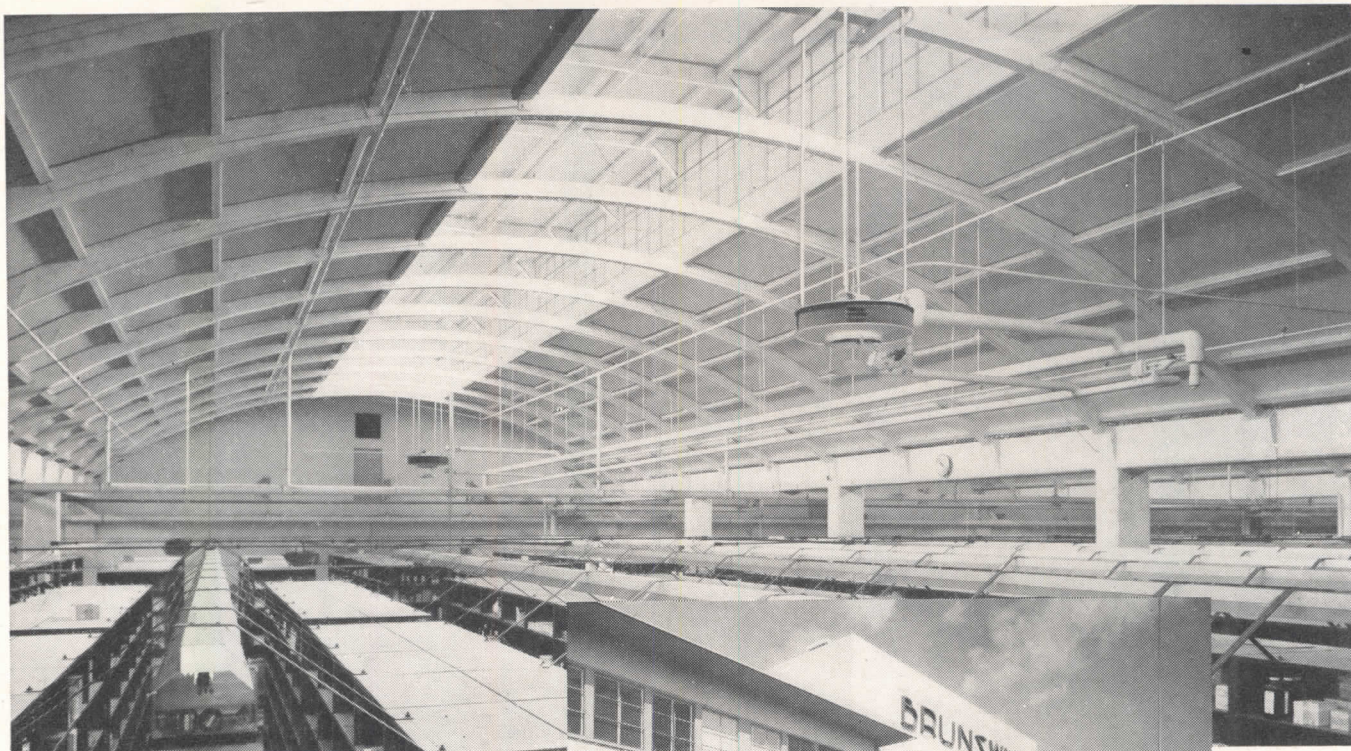
A flowing curved wall of striated plywood is the dominant feature of the new Chesapeake and Ohio ticket office in Rockefeller Center, New York.

The curved wall not only creates an air of spaciousness, but encloses air conditioning equipment, lockers, etc. The Weldtex wall panels are front- and back-nailed to keep them from springing away from the curved framing. Dorothy Draper, Inc., designer; woodwork by Nuroco Woodwork, New Rochelle, N. Y.

(Continued on page 184)

Curved plywood wall lends air of spaciousness to Chesapeake and Ohio's new office





128,000 sq. ft. of 1 9/16" Cemesto provides insulation, interior finish, and great strength with light weight — applied as structural roof deck to the curved roof of Brunswick Drug Company's new plant, Los Angeles, California.



Architects:  
Albert C. Martin  
& Associates

**Better building**  
**...in less time**  
**...at lower cost**

Today, in dozens of big construction jobs across the country, alert architects are demonstrating their skill in coping with rising construction costs, by specifying a material that gives their clients better building...in less time...at lower cost—

**CEMESTO** *The Multiple-Function Material*  
REG. U. S. PAT. OFF.

*WHAT IT IS...* Cemesto is a rigid, insulating, fire- and moisture-resistant building board...composed of a Celotex cane fibre core surfaced on both sides with asbestos cement, bonded with a moistureproof bituminous adhesive.

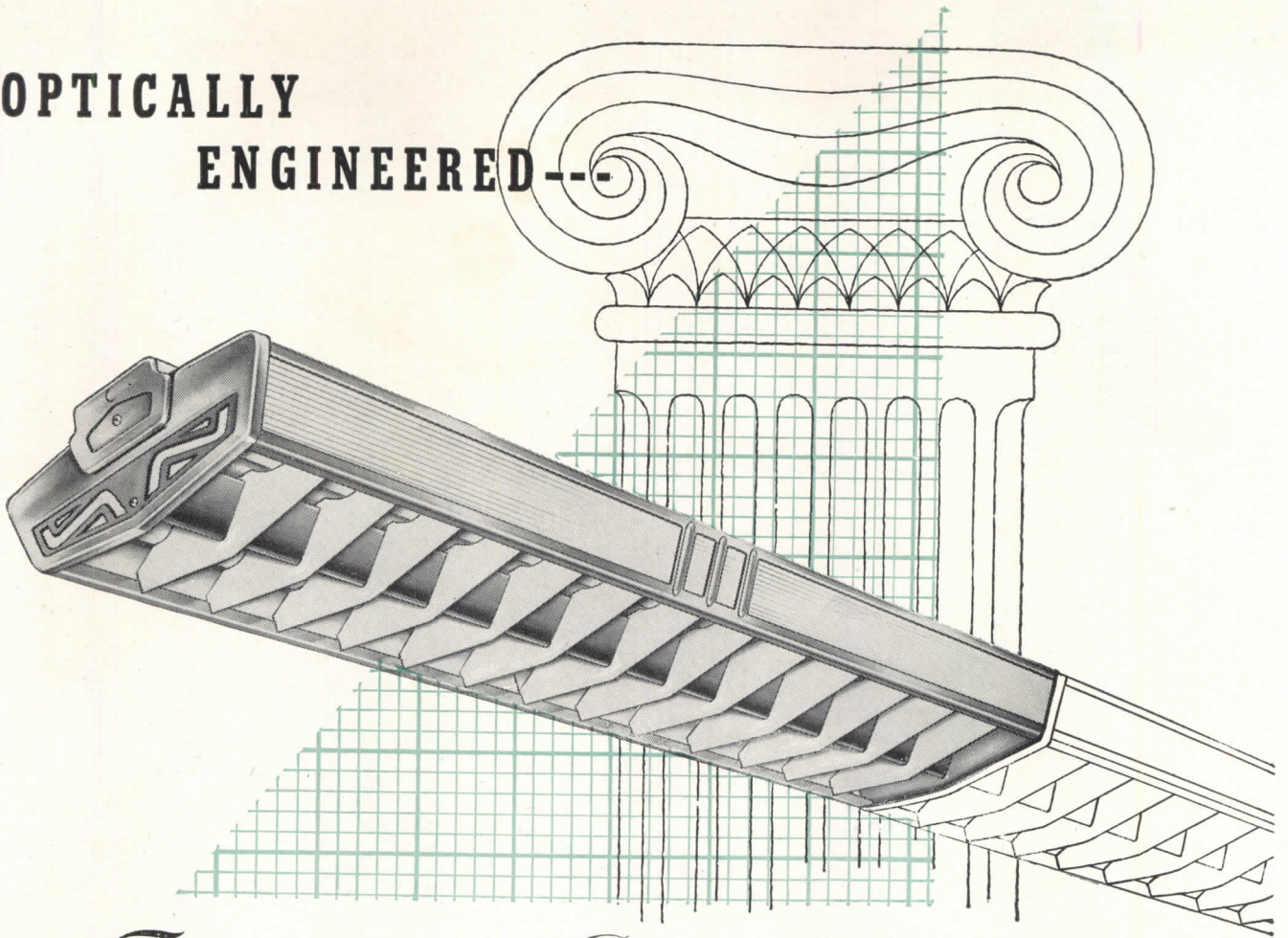
*WHAT IT DOES...* Cemesto gives you a superior material for *sidewalls, roof decks, and interior partitions.*

It combines high thermal insulation with great structural strength in an integrated wall unit that furnishes both interior and exterior finish and requires no painting.

*YOU ARE INVITED* to write us for details on Cemesto applications in which you are interested. In the meantime, you'll find complete specifications on Cemesto in Sweet's file.

**THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS**

OPTICALLY  
ENGINEERED---



...For greater Beauty

Day-Brite Fluorescent Fixtures have been designed to meet the trend of modern architecture. They combine functional lighting efficiency with artistic simplicity. Our engineering service will be glad to suggest lighting layouts best suited to deliver the desired maintained intensity and harmonize with your architectural treatment.

Your near-by Day-Brite representative will be glad to assist you with your needs.

The **VIZ-AID** for surface or suspension mounting . . . unit or continuous installation. Designed for two 40- or two 100-watt lamps, U. S. Patent Nos. D-138990, D-143641 and 2411952.

Day-Brite Lighting, Inc., 5465 Bulwer Avenue, St. Louis 7, Mo.  
Nationally distributed through leading electrical supply houses.

In Canada:

address all inquiries to Amalgamated Electric Corp., Ltd.,  
Toronto 6, Ontario.



990

IT'S EASY TO SEE WHEN IT'S

**DAY-BRITE**

*Lighting*

## STORE LIGHTING PRACTICES (Continued from page 153)

Recommendations of the Store Lighting Committee, Illuminating Engineering Society

Classification Number	Classification of Merchandise	Selling or Appraisal Lighting		General Environmental Lighting		Displayed Stock Lighting		Remarks
		Light Source Degrees K	Level in Foot-candles	Method	Light Source Degrees K	Level in Foot-candles	Method	
1	Jewelry	2800 3500 4500 6500	10 25 50 75	Direct Semi-Direct** General Diffuse Direct-Indirect Semi-Indirect	2800 3500 4500 6500	10 25 50 75	Direct	Combination of 4500° or 6500° fluorescent environmental lighting and concentrated filament downlighting maintains brilliant reflection on jewelry. Color of background important. Caution should be observed in light-size watch display cases to avoid draining the oil.
2	Silverware, Flat Chinaware Clocks	—	—	—	—	—	—	Silverware and similar merchandise depends to a large degree upon reflections of large areas low brightness surfaces. When direct lighting is used this effect is obtained from large area luminous panels, coffers or similar architectural treatment. The environmental lighting can be reflected on the merchandise to produce the effect desired. Reflected colors should be cool to prevent tarnished look.
3-A	Handbags, Gloves Society	—	—	—	—	—	—	Mirror lighting is important in connection with neckwear and ornamental flowers.
3-B	Headwrappings, Neckwear Ornamental Flowers Umbrellas	—	—	—	—	—	—	Mirror lighting often required for cosmetic section. Appraisal zone of up to 50-60 footcandles is needed for color matching. High level of illumination desirable over prescription counter. Vertical illumination necessary on shelves and counter displays for attention and appraisal. Small details of photographic equipment often important. Surface often specular. Required high value of diffuse appraisal lighting. Bright attractive atmosphere required for candy and nuts. Unusual brightness patterns and decorative lighting possible. Soft white lamps often preferred for unpackage connections. General lighting should be provided for unpackage connections. Special lighting important for perfumes, tobacco, etc. May sometimes be located outside of case.
4	Drugs, Cosmetics Artificial Stationery, Books Photographic Equipment Candy Nuts	—	—	—	—	—	—	High levels of illumination are necessary on dark material to see color, texture and workmanship.
5	Men's Clothing, Hats, Sportswear	—	—	—	—	—	—	Shoe stores require good horizontal illumination at the floor level to facilitate fitting and appraisal. It is best not to have a multiplicity of light sources reflected in the shoes. Combination of filament (some sources) and fluorescent often employed for general lighting.
6	Shoes	—	—	—	—	—	—	Where color matching is important equipment should be provided for this purpose.
7	Motions Underwear, Negligees & Corsets	—	—	—	—	—	—	Fitting room sales and environment important. See text on mirror lighting.
8	Underwear, Negligees & Corsets	—	—	—	—	—	—	At the mirror it is important to illuminate both the hat and the face. Use warm tones on face with more nearly daylight colors on the hat. It is desirable to have light reflected from the table top to eliminate shadows on the face.
9	Millinery	—	—	—	—	—	—	In the fur department the General Lighting should be psychologically cool since most furs are sold in summer months. Combination fluorescent and incandescent lighting is desirable to bring out sheen, texture and color. To emphasize browns and yellows, 2800° sources are suitable. Mirror lighting very important; darker furs require levels of 300 to 400 footcandles from concentrated sources.
10	Coats, Women's and Misses'	—	—	—	—	—	—	See text on Mirror Lighting. Where sportswear is displayed it may be desirable to use 6500° light sources.
11	Furs	—	—	—	—	—	—	
12	Women's & Girls' Dresses, Sportswear, Uniforms	—	—	—	—	—	—	
13	Infants' Wear & Infants' Furniture	—	—	—	—	—	—	

See complete key to symbols on page 159

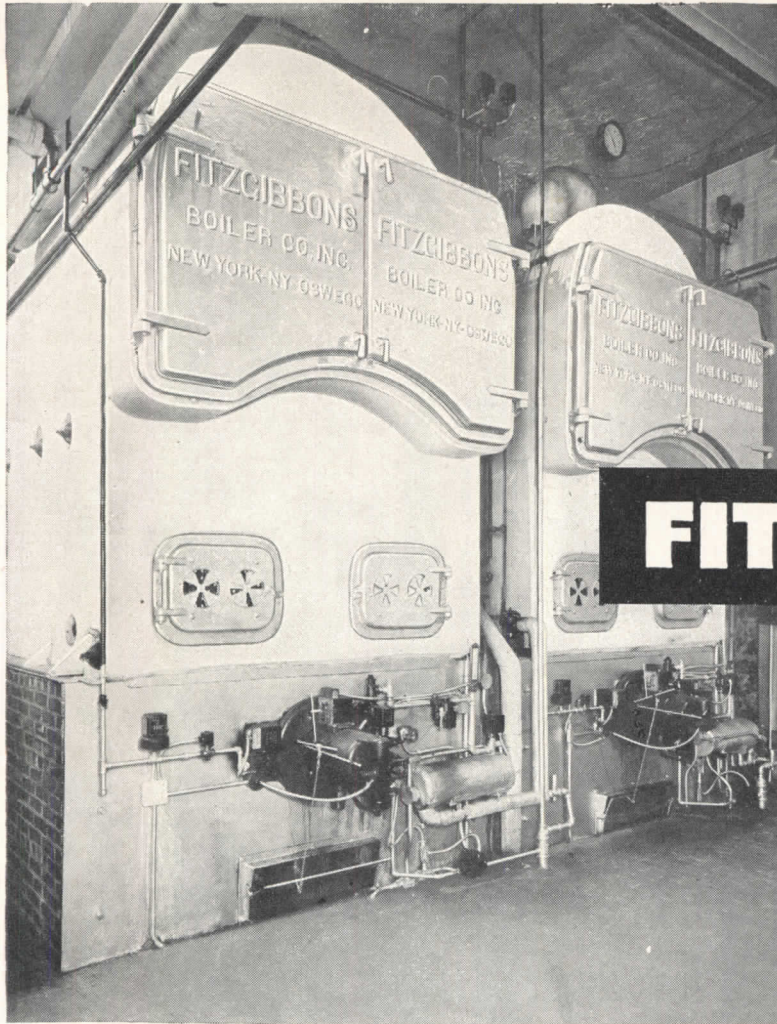
o Satisfactory method

o Preferred method

— Satisfactory range

— Preferred range

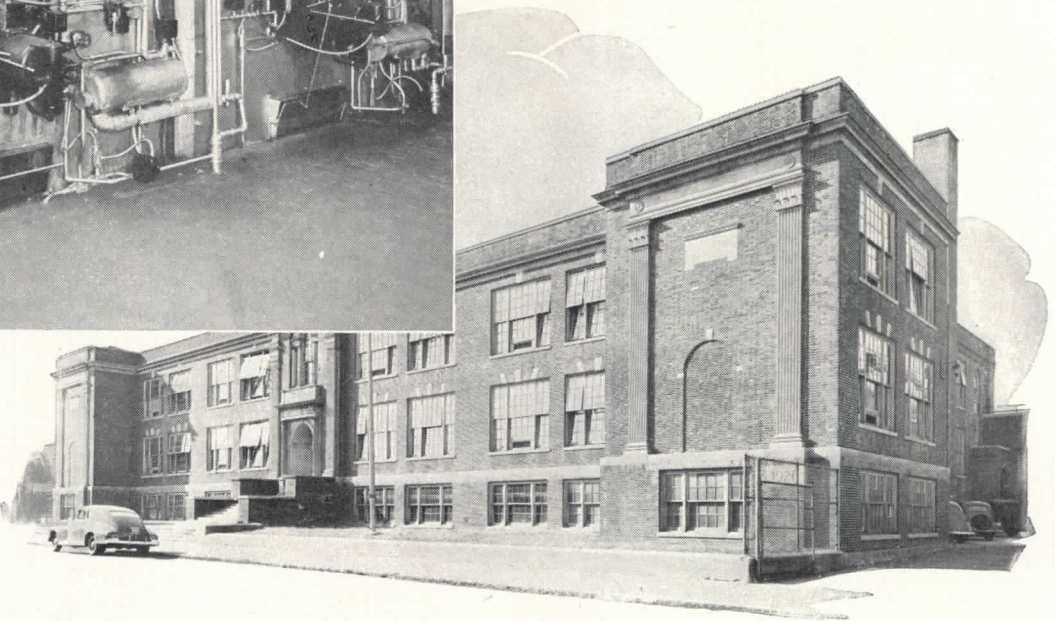
(Continued on page 159)



**For the COMFORT  
that makes  
learning easier-**

**FITZGIBBONS**

Above, the two Fitzgibbons "D" Type boilers, each of 25,000 sq. ft. steam, S.B.I. net rating, which serve Public School 20 (at right), Paterson, N. J. Architects, Fanning & Shaw, Newark. Engineer, Herbert Fox, Newark. Heating Contractor, Frank A. McBride Company, Paterson.



**P. S. 20, PATERSON, NEW JERSEY,** is one more of the many fine school buildings in which the comfort of the pupil is considered an essential aid to teaching. P. S. 20 recently modernized and enlarged, now has two big oil-fired Fitzgibbons "D" Type steel boilers to insure not only adequate heating, but also minimum fuel costs.

Architects, consulting engineers and school boards for years have favored the selection of Fitzgibbons boilers for school buildings of all kinds. Reason, sixty-two years of building quality steel boilers that dependably measure up to their high reputation for exceptional operating economy. Sizes 2,200 to 42,500 sq. ft. Types for mechanical firing with coal, oil, gas. Also hand-fired with coal!

**WRITE FOR THE  
new "D" Type  
Catalog — just  
off the press.**



Reg. U.S. Pat. Off.

**Fitzgibbons Boiler Company, Inc.**

101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

Sales Branches in Principal Cities



Reg. U.S. Pat. Off.



## MANUFACTURERS' LITERATURE

### COMPRESSORS

**Ice and Frost (Bulletin No. 100-D).** Introduces the "New Eclipse" compressors designed for air conditioning, water cooling, food storage, marine service, process plants and other refrigeration needs. Lists uses, sizes, capacities and construction specifications. Illustrated by photographs and detailed drawings. 8 pp. Frick Co., Waynesboro, Pa.

### DECORATIONS

**Decorative Uses of Copper and Brass (Bulletin No. 143).** Suggested applications of copper and bronze to augment the decorative motif of homes, hotels, restaurants, department stores, banks and other public buildings. Liberally illustrated with photographs of actual adaptations of copper and bronze for ornamental and practical purposes. 14 pp. Copper & Brass Research Assoc., 420 Lexington Ave., New York 17, N. Y.

### DRAINERS

**Cochrane Multiport Drainers (No. 4340).** Catalog of condensate drainers for evaporators, heaters, separators, coils or steam lines. Illustrated by working diagrams, cut-away views and charts of maximum discharge capacities, construction materials and dimensions. 8 pp. Cochrane Corp., 17th St. and Allegheny Ave., Philadelphia 32, Pa.

### ELECTRIC CONTROLS

**Federalog (No. 107).** A reference listing of motor controls, safety switches, service equipment, circuit breakers, bus duct, panelboards, and switchboards. Included are list prices, application data and an index of catalogue and page numbers. 102 pp., illus. Federal Electric Products Co., 50 Paris St., Newark 5, N. J.\*

### ESCALATOR

**Introducing a Fine New Escalator.** Announcing the availability of an escalator designed especially for smaller stores, banks, restaurants, railroad stations, etc., this booklet contains a dimensional diagram labeled with space requirements. 8 pp., illus. Otis Elevator Co., 260 Eleventh Ave., New York 1, N. Y.\*

### FACTORIES

**Two New Hosiery Mills.** Two articles, bound in booklet form, describing

the modern factories built for the Sapphire Hosiery Corp., at Telford, Pa., and the Propper-McCallum Hosiery Co., at Florence, Mass. Both plants were designed with emphasis on efficiency, employee comfort, attractiveness and possible expansion needs. 8 pp., illus. Lockwood Greene Engineers, Inc., 10 Rockefeller Plaza, New York 20, N. Y.

### FILTERS

**Staynew Filters.** Booklet describing the merits, construction and application of Staynew Pipeline, Intake, Liquid or Ventilation Filters. The "Quick Index" provides easy reference and convenient tables of sizes list models, overall dimensions and approximate shipping weights. 44 pp., illus. Dollinger Corp., Rochester 3, N. Y.

### FIRE PROTECTION

**The Exhaust-Water Supply Fire Protective System for Wellways.** Methods and results of research conducted by the Otis Elevator Co., Westinghouse Electric Corp., and Grinnell Co., Inc., to develop adequate fire protection for moving stairways. Booklet describes the new automatic sprinkler system of combatting the spread of flames and toxic gases through moving stair wellways. 15 pp., illus. Otis Elevator Co., 260 Eleventh Ave., New York 1, N. Y.\*

### FURNITURE

**Dunbar for Modern.** Brief sketch of the history of modern furniture, its pioneers, its advantage and its growing popularity. Attractively illustrated with photographs of modern room settings, individual pieces, appropriate wallpapers, lamps and china. Catalog numbers of furniture pictured are included as well as designer and manufacturer credits on supplementary items. 24 pp. Dunbar Furniture Manufacturing Co., Berne, Indiana. 25 cents.

### GAS BURNERS

**Industrial Gas Burners.** Describes two sizes of burners, the various combinations of which enable them to handle boiler capacities ranging from 10 h.p. to 3000 h.p. 40 pp., illus. Roberts-Gordon Appliance Corp., Buffalo, N. Y.

### INTER-COMMUNICATION

**Executone Electronic Communication (Form 255).** Folder accents the savings in time and money gained by

providing for inter-communication facilities while buildings are still in the planning stage. Illustrated by photographs and drawings of typical installations. Offered to architects and engineers is a consultation service through on-the-spot inspection or by means of a company-supplied Communication Survey Chart. 4 pp. Executone, Inc., 415 Lexington Ave., New York 17, N. Y.\*

### LIGHTING

**Cold Cathode Lighting.** A catalog including data on standard cold cathode fluorescent lamps, cold cathode industrial and commercial fluorescent lighting fixtures and accessories for series circuit cold cathode lighting. As they are issued, additional pages will be mailed to all original holders of this booklet. 11 pp., illus. Catho-Lite Co., Inc., 4122 W. Belvedere Ave., Baltimore 15, Md.

**Creating the Spectacular.** Catalog of focal lighting units for commercial and residential use, including operation diagrams, performance data and application recommendations. Fixtures are designed for recessed or wall installations. 8 pp., illus. Kurt Versen Co., 4 Slocum Ave., Englewood, N. J.

### METALWORK

**Ornamental Metalwork.** Profusely illustrated booklet of ornamental grilles, railings, balconies, gates and balustrades for home decoration as well as for use in business offices and other public buildings. Contains no text except for a short introduction emphasizing the fact that the decorations are made from readily available materials and that the manufacturer does no fabricating or installing. 16 pp. Julius Blum & Co., 532 W. 22nd St., New York 11, N. Y.\*

### PIPING

**Practical Piping Layouts.** A compilation of twenty-five basic practical piping layouts published in the past as separate items. These fundamental layouts were designed for use as guides to practicing engineers, consultants and architects in the selection and placement of valves and may be easily altered to incorporate additional problems. Illustrated by isometric diagrams. 32 pp. Jenkins Brothers, 80 White St., New York 13, N. Y.

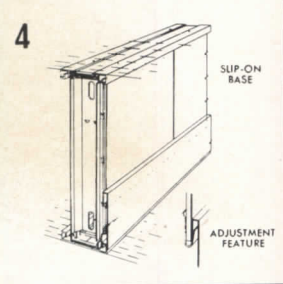
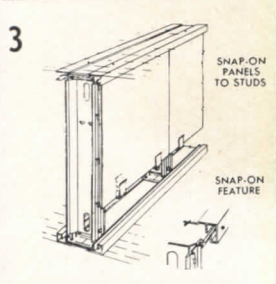
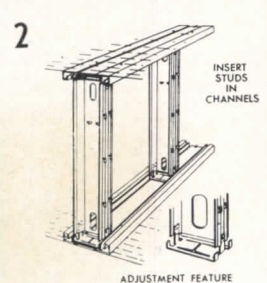
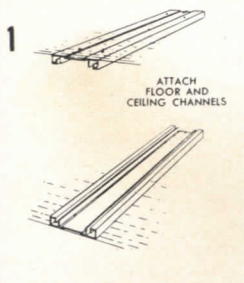
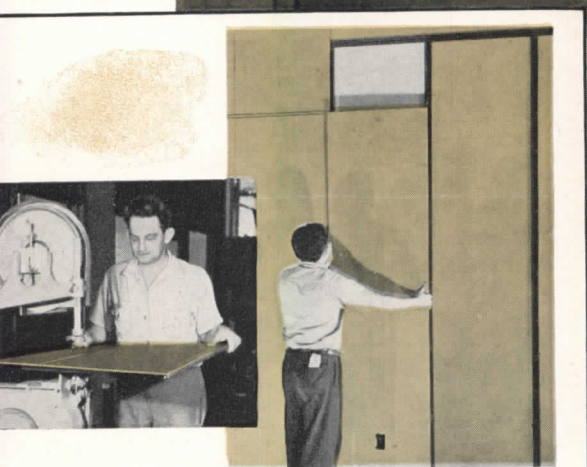
### STEEL

**Some Properties of Low Carbon 8½ Per Cent Nickel Steel.** Report, illustrated by charts and graphs, of the experiments which led to the development of low-carbon 8½ per cent nickel steel for use in low temperature processing. Although the new steel may also be

(Continued on page 202)

\* Other product information in Sweet's File, 1948.





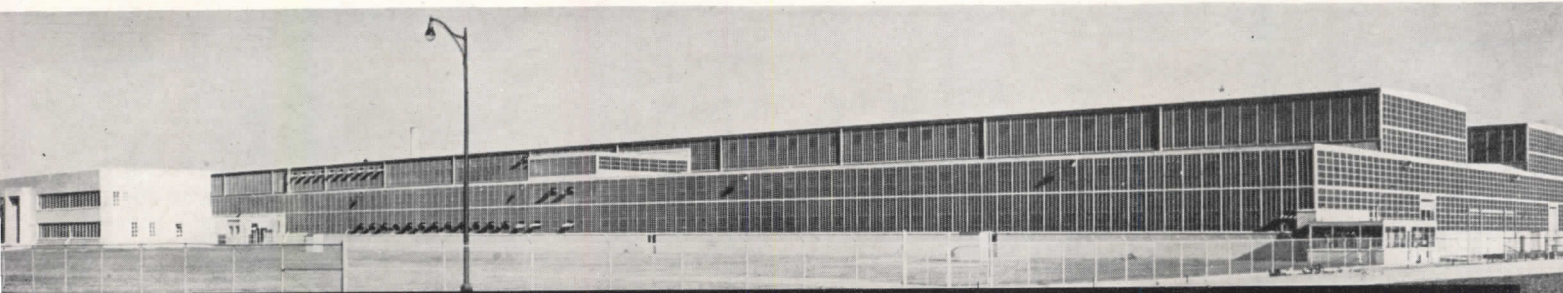
**EASY ON THE EYES!** Martin-Parry Metlwal Movable Partitions and Panelings are factory finished in rich, natural wood grain reproductions or baked enamel finishes in a wide variety of colors. These beautiful surfaces will not chip, crack or craze . . . *do not reflect harsh, metallic light* . . . are Bonderized against rust and corrosion.

**EASY TO ERECT!** Four simple steps are taken to install Metlwal. Workability is complete since all panels and parts may be cut on the job, as shown at the left. *And the Metlwal panel can be handled in full-size by one man.*

**MODERN PRODUCTION FACILITIES!** Martin-Parry's modern, fully automatic production equipment . . . in our new Toledo plant (below) . . . insures uniformity necessary to preserve the interchangeability of Metlwal panels. Martin-Parry's painstaking quality-control pays dividends in long-wearing installations that hold maintenance costs to a new low.

**WRITE TODAY** for your copy of our latest catalog A-4. See how Metlwal can help you plan beautiful interiors—quickly cover interior walls and divide space—with *only a few standardized parts, from local distributors' warehouse stock.* Learn why

Metlwal is easily movable without waste—easy to maintain—eliminates the need for plaster in new construction and for filler boards of other materials at ends or above cornice level. Just drop a line to: Martin-Parry Corp., Toledo 1, Ohio.



**METLWALS**

68 Years of Service

**ALL-FLUSH PANELING  
MOVABLE PARTITIONS**

**ENGINEERING AND ERECTING SERVICE AND  
WAREHOUSE STOCKS FROM COAST-TO-COAST**

## THE RECORD REPORTS

(Continued from page 18)

clude theaters, rehearsal rooms, workshops, studios, libraries and classrooms.

The Department of Architecture of the University of Texas has been reorganized as a School of Architecture consisting of the Department of Architecture and Planning and the Department of Architectural Engineering. Professor James J. Pollard, A.I.A., has been appointed Professor of Architectural Engineering and chairman of the Department. M. Robert Louard has joined the staff of the Department of Architecture and Planning as a visiting lecturer in design.

The California School of Design in Los Angeles, offering courses in Fine Arts and Architecture, opened its first semester on February 9th. Members of the faculty include: Leslie Thomas, founder and director; William Ferrari, architect; Max Band, painter; Edgardo Simone, sculptor and Arthur Millier, art critic for the Los Angeles Times.

### Research Bureaus

Columbia University has established the Institute for Urban Land Use and Housing Studies under the directorship of Dr. Ernest M. Fisher, professor of Urban Land Economics. Working with Dr. Fisher will be a board of university experts in economics, architecture, sociology, law and allied fields as well as an advisory board comprised of nationally known business men. The projects on which research will be undertaken are those which have a direct bearing on the more systematic and effective use of real estate in our cities and villages. The results of investigations will be published as they are completed.

An Audio-Visual Materials Consultation Bureau has been established at Wayne University to help commercial firms produce instructional materials. Companies interested in preparing films, records, manuals, charts, etc., for industrial training programs should address inquiries to Dr. Arthur Stenius, 5272 Second Blvd., Detroit 1, Mich.

### Curriculum Changes

Beginning with the fall, 1948, semester, the curricula in architecture and architectural engineering at Pennsylvania State College will be of five years' duration.

A course in Architecture and Esthetic Appreciation has been added to the curriculum of the School of Art and the School of Engineering at Cooper Union. The new course is designed to develop the student's ability to visualize in three dimensions, to acquaint him with the

(Continued on page 164)

# A New Star IS BORN

## NORTH STAR *by* SMITHCRAFT

● North Star, the newest fixture in the Smithcraft fluorescent line, heralds the coming of a new era in fixture design. Slim and simple in appearance, giving an unprecedented degree of illumination in the vital working zone, this two lamp, 40-watt unit achieves lighting output

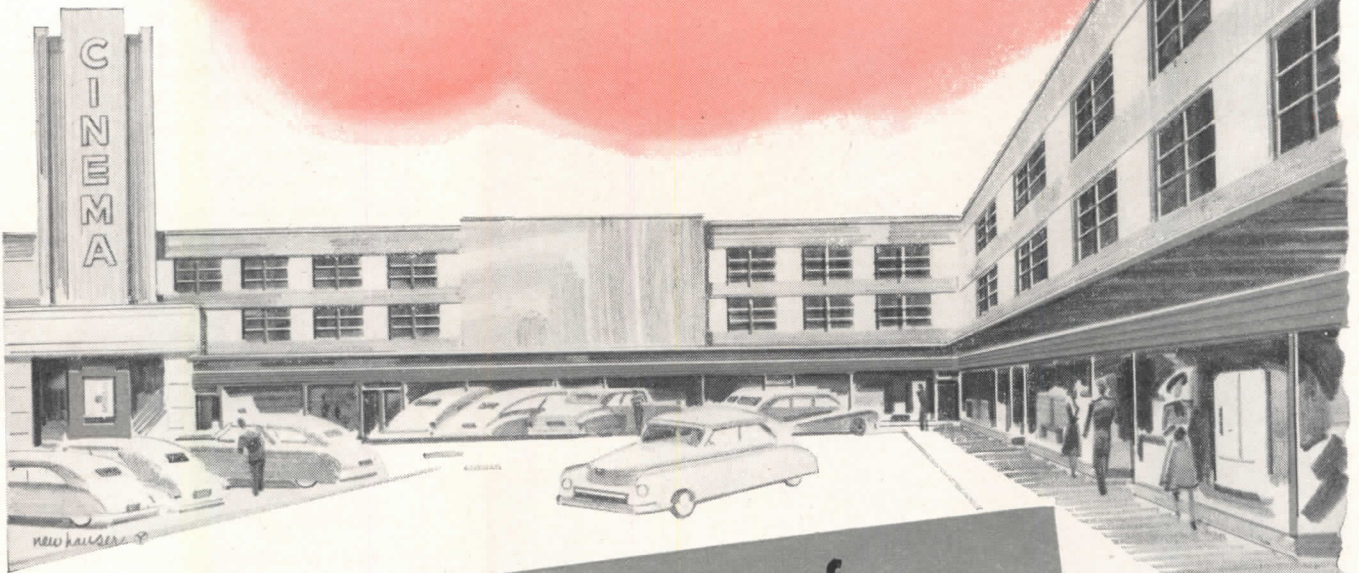
never before obtained in a unit of the conventional type. North Star has every desired maintenance and service feature, including hinged glass panels and a fully enclosed dustproof top. North Star is ideal for offices, stores or institutions. For information, address Dept. 500

# Smithcraft

LIGHTING DIVISION  
CHELSEA 50, MASSACHUSETTS

In Canada, address inquiries to:  
LIGHTING AND LAMPS LTD., 425 RIVER ST., MONTREAL, QUEBEC.

If it's built for rental income . . .



Specify windows of  
**ALCOA ALUMINUM**

Will that new building show a profit ten years from now . . . twenty years from now? Not if maintenance costs eat up the income! Before you build, be sure you cut window maintenance costs to the bone. Make sure your specifications call for quality windows made of Alcoa Aluminum.

Non-warping, corrosion-resistant aluminum windows eliminate painting costs; are easy to keep clean and attrac-

tive. Aluminum windows stay snug fitting and weathertight. Alcoa Aluminum can't shrink or swell; will not rot or rust away.

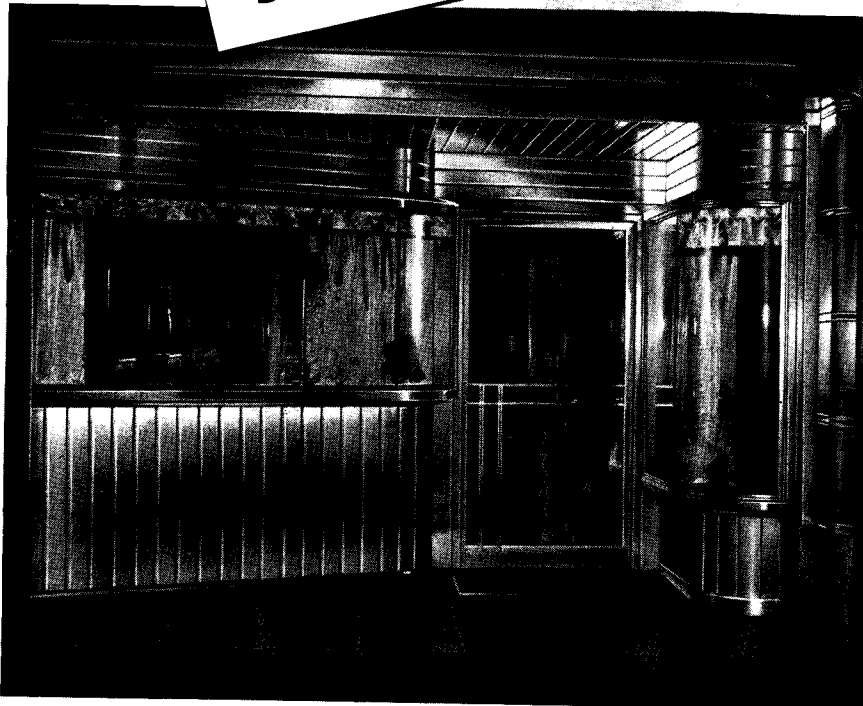
Quality aluminum windows, in all standard types and sizes, are available for every type of building—commercial, industrial and residential. For information on any application of aluminum, write ALUMINUM COMPANY OF AMERICA, 1867 Gulf Building, Pittsburgh 19, Pa.

**ALCOA** FIRST IN  
**ALUMINUM**



# Michaels

## STORE FRONTS



Michaels store fronts, push bars, kick plates and thresholds of extruded bronze, aluminum, stainless steel and other metals meet virtually every requirement. Many stock designs are available. However, Michaels is set up to faithfully reproduce in metal the most intricate creations of discriminating architects. Michaels store fronts are unusually attractive and inviting. Specially designed metal letters of harmonizing or contrasting colors add to the effectiveness of these modern store fronts. Architects and builders are invited to consult us on all their requirements for ferrous and nonferrous building products. A partial list of Michaels products is shown below. If this list does not include the product you need, write us. Chances are we have it or can make it. Complete information on any or all products will be sent on request.

### MICHAELS PRODUCTS

Bank Screens and Partitions	Astragals (adjustable)
Welded Bronze Doors	Stair Railings (cast and wrought)
Elevator Doors	Wrought and Cast Radiator Grilles
Store Fronts	Grilles and Wickets
Lettering	Kick and Push Plates
Check Desks (standing and wall)	Push Bars
Lamp Standards	Cast Thresholds
Marquises	Extruded Thresholds
Tablets and Signs	MI-CO Parking Meters
Name Plates	Museum Trophy Cases

The MICHAELS ART BRONZE Company, 234 Scott St., Covington, Ky.

Member of the National Association of Ornamental Nonferrous Metals Manufacturers



## THE RECORD REPORTS

(Continued from page 162)

history of building techniques and to show the relationships between architect, engineer, economist and sociologist as they affect the design of various projects.

### Faculty Changes

James Clinton Peebles, dean of engineering at Illinois Institute of Technology, will retire at the end of August after an association with Illinois Tech and its predecessor institutions covering nearly half a century. After his retirement, Dean Peebles will devote his time to the compilation and preparation of a history of Armour and Lewis Institutes which were combined in 1940 to form Illinois Tech.

George E. Danforth has been appointed assistant to the director of the Department of Architecture at the Illinois Institute of Technology. Mr. Danforth has been an instructor in the department since his graduation from Illinois Tech in 1940.

### Competition

Students of the sub-senior classes of the School of Architecture at Carnegie Institute of Technology will compete for two cash prizes, offered by the Rust Engineering Company, for the best design of a plant which will produce 1500 homes per month. The plant will be located in Pittsburgh, Pa., and will produce homes built of cold-rolled light gauge steel panels.

Speakers, familiar with the problems involved, are assisting the students with lectures and criticism. Awards will be \$100 for the first prize and \$50 for the second.

### Exterior Murals

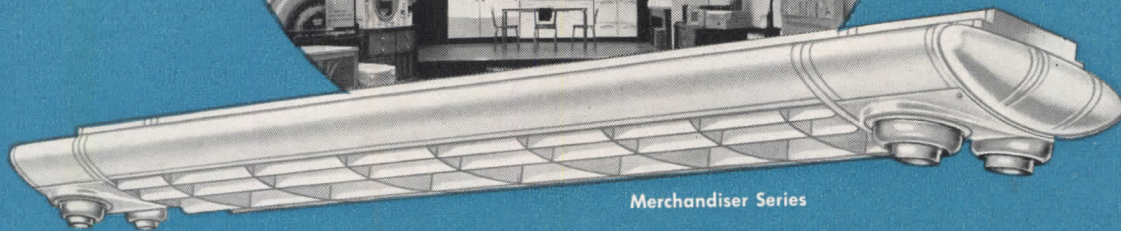
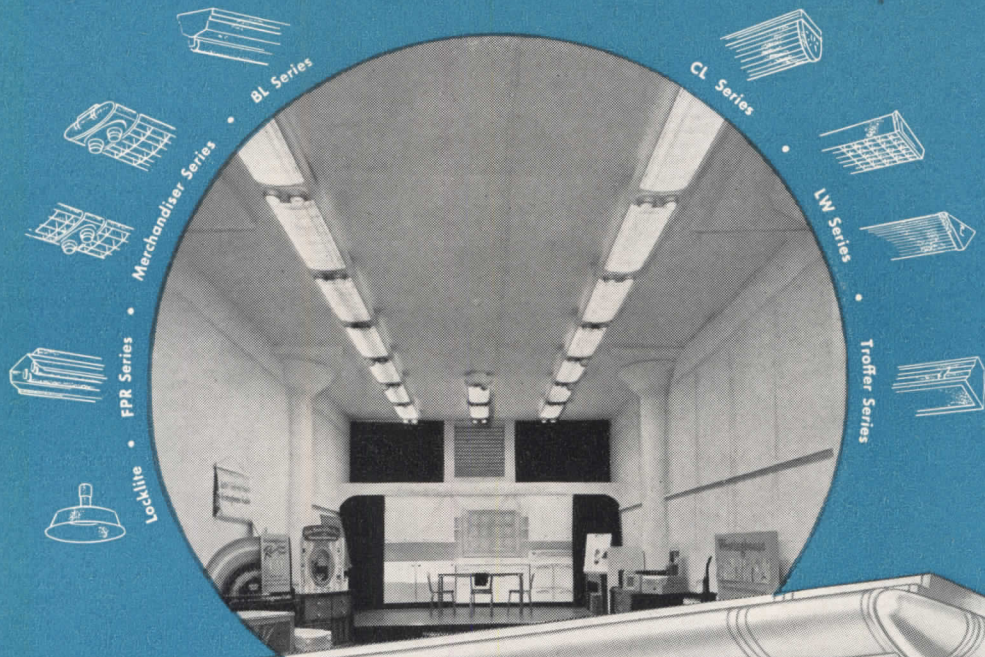
Abraham Joel Tobias, instructor in painting at Adelphi College, will do a series of six murals on the semi-exposed arcade between the college's two residence halls. Depicting the various arts and painted in a new medium, silicon ester, to withstand the ravages of weather and time, the murals will be 6 by 9 ft. each and will be executed in vivid colors.

### RAZE OR PRESERVE?

A storm of protest has arisen over the plan to erect a luxury apartment house on the site of "Genius Row" in Washington Square, New York, which has housed many of the country's most famous artists.

Residents of the district have countered with a proposal for the creation of a "living art center" which would pre-

(Continued on page 166)



Merchandiser Series

*For Stores* WESTINGHOUSE PLANNED LIGHTING PAYS

**HERE'S WHY.** What customers buy... how much and how often... depends upon how effectively your store lighting helps them *see* the merchandise. Planned store lighting provides the proper quantity and quality of illumination—shortens the time between demonstration and sale, aids in accurate appraisal of the product, prevents distracting glare, gives restful shopping atmosphere, and furnishes a flattering accent on the merchandise.

**THE RIGHT EQUIPMENT.** The Westinghouse Merchandiser combines efficient general lighting with brilliant incandescent spotlighting of mer-

chandise. Five models for four 40-watt, two 100-watt and two 40-watt lamps. Designed to furnish graduated brightness between fluorescent light source and ceiling. Effective louvering of spotlight assembly minimizes glare.

Westinghouse makes a complete line of lighting equipment. Write for a copy of B-3788 for complete information on the Merchandiser. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-04164



Your local power company and electrical contractor will be glad to help with your planning



**Westinghouse**  
PLANTS IN 25 CITIES OFFICES EVERYWHERE

Westinghouse Electric Corporation • Lighting Division • Cleveland, Ohio  
COMMERCIAL • INDUSTRIAL • FLOOD • STREET • AVIATION

Services of a Lighting Sales Engineer are available through your near-by Westinghouse distributor

Stucco gives new life  
to buildings...



## ATLAS WHITE CEMENT puts new life in STUCCO!

To give a building a bright exterior finish the modern architect often calls for crisp, clean stucco . . . made with a matrix of Atlas White Cement.

Here's an excellent combination for clear, sparkling whiteness . . . and equally ideal for highlighting color values with pigments and aggregates. Besides stucco, Atlas White is used with attractive results in Terrazzo, Cement Paint and Architectural Concrete Slabs.

Atlas White complies with Federal and ASTM specifications for portland cement. It has the same advantages for concrete and is used in the same way. Atlas White concrete gives a clean, fresh appearance. Cleaning is easy. Maintenance costs stay low.

For further information on the uses of Atlas White Cement, see SWEET'S Catalog, Sections 4B/2 and 13B/8, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, New York.

FOR BEAUTY AND UTILITY

# ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

AR-C-22



"THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries  
Sunday Evenings—ABC Network

## THE RECORD REPORTS

(Continued from page 164)

serve the historic buildings, furnish facilities for the exhibition of artists' memorabilia and provide living and working quarters for artists and writers at rentals within their means. The proposal was put forward by Bishop William T. Manning, president of the hastily organized Committee for the Washington Square Living Art Center. It has been approved by the City Planning Commission.

### WOULD CHANGE TAX LAW

To give owners of homes parity with owners of other property, the Realtors' Washington Committee of the National Association of Real Estate Boards is seeking three amendments to the Internal Revenue law. NAREB contends that the home owner should be allowed to deduct the depreciation on the home he occupies, that in exchanging one home for another he should be taxed only on such profit as is realized in cash, and that he should be permitted to deduct losses incurred through sale.

### NEW COMPETITIONS

#### Arterial Road

The Town Planning Board of Stockholm, Sweden, has announced an open competition for the design of an arterial road which will carry all types of traffic between the districts of Sodermalm and Ostermalm. Also involved is a relatively extensive system of approaches. Four prizes, totaling 60,000 Swedish crowns, will be awarded. Further information may be obtained from any Swedish Embassy, Legation or Consulate. The competition closes April 1, 1949.

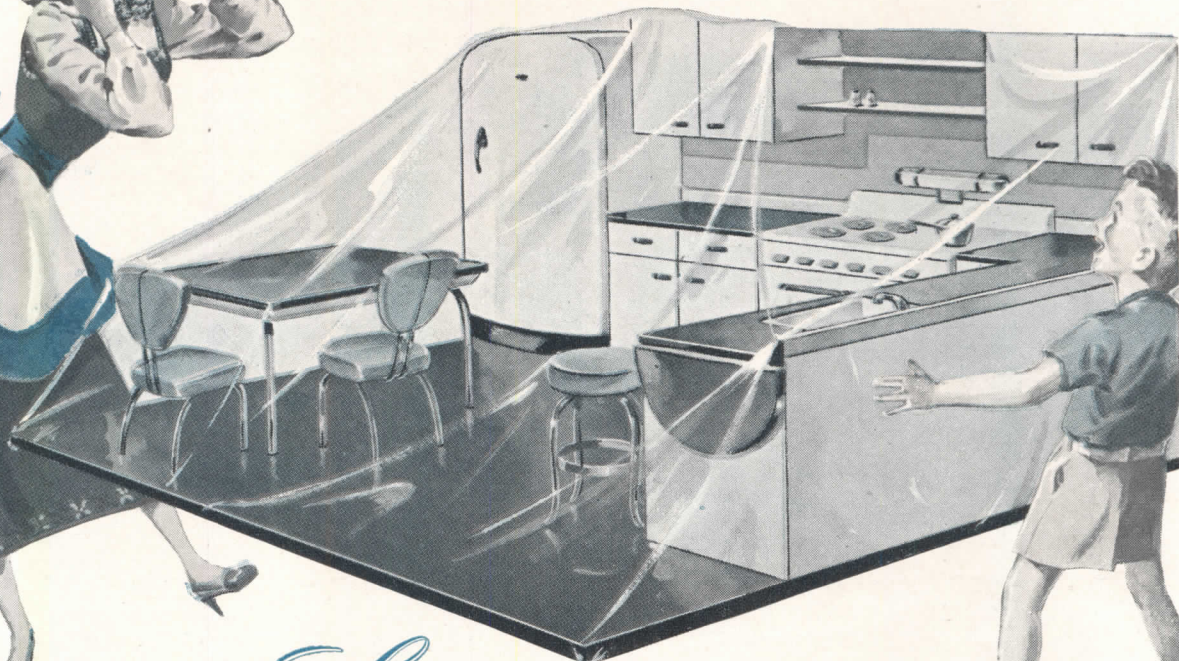
#### Commemorative Medals

The City of New York has announced a nation-wide competition for the design of three medals which will be awarded as part of the city's 50th birthday celebration. The medals are the Medal of Honor of the City of New York, the Award of the Golden Anniversary of the City of New York, and the Departmental Medal. John J. Cunningham, director of the National Sculpture Society, is chairman of the jury which will select the winning designs. The winner in each group will be paid \$1500 for the finished models of the obverse and reverse sides of the design.

The Medal of Honor will be struck in gold, and will be awarded annually for the notable and generous contribution to the advancement of the welfare of the city. It will be the highest honor the city can bestow upon a citizen.

The Medal of Award, to be struck in  
(Continued on page 168)

# Specify Stainless Steel Sinks and build **SATISFACTION**



## REASONS FOR *Lustertone* SINKS

- To millions, stainless steel means permanence, sanitation and lasting beauty.
- One-piece bonded construction eliminates all seams — no crevices to harbor dirt and germs.
- Housewives know that greater resilience means safer dishwashing — less hazard of breaking fine china.
- Hot utensils can't mar the lustrous surface. Never a crack or craze from waste food disposer or automatic dishwasher action.
- Will not chip, peel, flake or wear off — never can discolor.
- Guaranteed to outlast any home or building.

THIS ILLUSTRATION headlined, "You can't wrap your kitchen in cellophane", will appear soon in *ELKAY's House Beautiful* advertising... one step in a national program to intensify consumer preference for quality-built stainless steel sinks.

### FACTS YOU SHOULD KNOW:

Available from stock in 7 popular sizes.  
Single Bowl — 54, 60, 72 inches  
Double Bowl — 66, 72, 84, 96 inches  
To fit any cabinet — or as complete unit.

Custom built in any size, shape or arrangement.

No. 18 Gauge Stainless Steel — satin finish for lasting beauty and easier cleaning.

Seamless — one-piece bonded construction — no overlapping or soldered edges.

Corners and intersection rounded to large radius (no sharp angles).

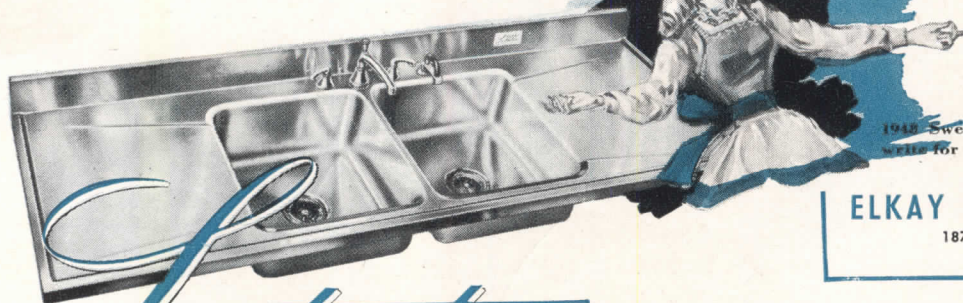
Structurally reinforced and scientifically sound-deadened by master craftsmen.

### CONSULT

1948 Sweet's Architectural File — 23a/6, or write for further facts.

**ELKAY MANUFACTURING CO.**

1870 S. 54th Avenue, Chicago 50



*Lustertone* STAINLESS STEEL SINKS  
ELKAY for over a quarter century — first choice of America's Leading Sanitary Engineers

# THE Commodore Shower Cabinet



DESIGN NO. 2000-C

The finest in shower cabinet design and construction, now again available for installation in bathrooms where the ultimate in luxury is desired.

Back wall panels are white vitreous porcelain enamel, glass panels set in solid brass chromium plated frame. Receptor deep type terrazzo generous size with overall dimensions 40" x 40" x 80". Architects, Builders and home owners will welcome back this Fiat shower cabinet that typifies luxury shower bathing equipment.



**Fiat** Metal Manufacturing Company

CHICAGO 13, ILL.  
LONG ISLAND CITY 1, N. Y.      LOS ANGELES 33, CALIF.

In Canada Fiat showers are manufactured by Porcelain and Metal Products, Ltd., Orillia, Ont.

## THE RECORD REPORTS

(Continued from page 166)

silver and bronze, will be given for outstanding displays in the Anniversary Exposition at Grand Central Palace next summer.

The Departmental Medal, also to be struck in silver and bronze, will be awarded to city departments and officials in recognition of contributions to the welfare of the city and for exceptional exhibitions.

Further information about the competition may be obtained from the Mayor's Committee, 1 E. 60th St., New York 22. Entries must be submitted by May 15th.

### FACT-FINDING PROGRAM

A fact-finding program to foster better public understanding of the building industry has been inaugurated by the newly formed Construction Industry Information Committee. Financial backing for the program is being provided by contributions from manufacturers of building materials and equipment.

Research reports, compiled under the direction of Miles L. Colean, well known housing economist, will cover such subjects as: material production, cost trends, trends in worker productivity, labor supply, labor saving methods, building code revisions, and relation of general price inflation to construction costs.

### CONSTRUCTION REPORT

The dollar volume of construction contracts awarded during January in the 37 states east of the Rocky Mountains set a new high mark for the month, F. W. Dodge statistics show. Although January awards were 2 per cent less than the total for December, the \$615,206,000 volume represented a gain of 8 per cent over the same month last year.

Ten of the 15 Dodge reporting regions showed gains over January, 1948, with increases of more than 50 per cent reported for upstate New York, western Pennsylvania and West Virginia, southern Michigan, Minnesota, and North and South Dakota. Declines from last January ranging from 17 to 35 per cent were reported for New England, metropolitan New York and northern New Jersey, southwestern Ohio and Kentucky, Louisiana and Mississippi, and Texas.

January's nonresidential contracts awarded for projects east of the Rockies amounted to \$240,544,000, showing a gain of 20 per cent over January of last year. Residential contracts totaled \$238,098,000, showing an 8 per cent decline from January a year ago, but a 5 per cent gain over December.

(Continued on page 170)



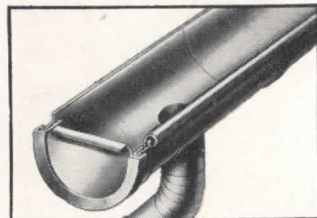
New . . . Needed . . . Priced Right!

# REYNOLDS *Lifetime* ALUMINUM Gutters and Downspouts

**Rustproof and stainproof gutters at  
half the former "rustproof price"!**

Here's the rustproof advantage you recommend—no painting required. But in addition you get gutters that are never colored by corrosion—cannot stain a wall. In addition you get far lighter weight—lighter to handle, lighter on the eaves. And best of all you get all this at just about *half the price* of the only rustproof material used in the past. Any wonder that both the public and the trade are united in demanding Reynolds Lifetime Aluminum Gutters and Downspouts!

Choice of round or Colonial box-type design. Both gutters 5" across top, in 10' lengths, with slip-joint "S" connectors—no soldering. Weight, about 3½ lbs. per length. Round and corrugated round downspouts are 3" diameter, and square type 2⅜" x 3½". Matched fittings: inside and outside mitres, drop sections, end caps, hangers, elbows. See your supplier or write for literature. Reynolds Metals Company, Building Products Division, Louisville 1, Kentucky.



. . . and for every built-up roof, new or old!

## REYNOLDS *Embossed* ALUMINUM Built-up Roofing!

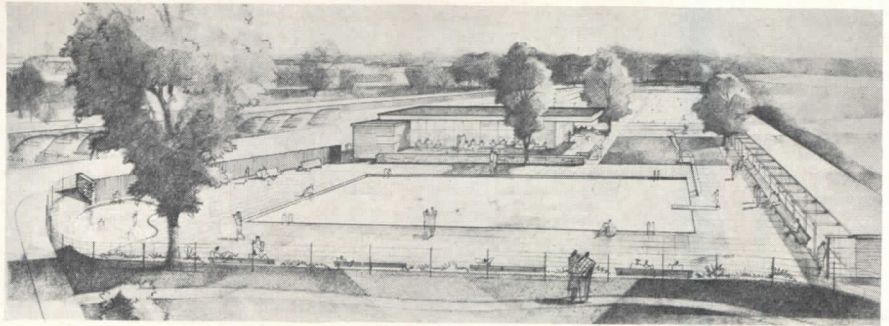
.004" embossed aluminum in 36" rolls, 10 squares per roll. As a re-cap on old roofs or in 2- and 3-ply new roofs it's a barrier against all weather *plus* the sun's radiant heat. Preserves the life of asphalt . . .

keeps interiors up to 15° cooler in summer . . . lightens roof load by 400 to 500 pounds per square compared with slag or gravel dressed roofs. Booklet with full specifications on request . . . address cbove.



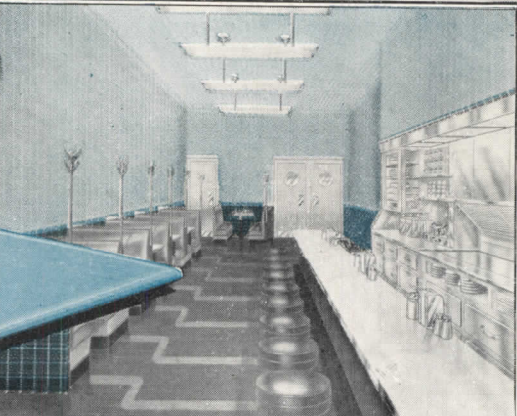
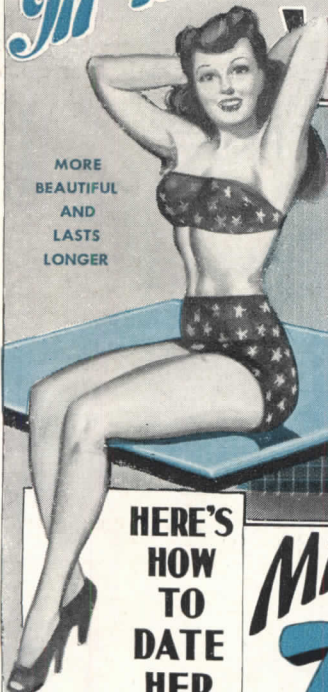
REYNOLDS PIONEERING MADE ALUMINUM COMPETITIVE . . . TAKE ADVANTAGE OF IT!

Recreational facilities planned for the exclusive use of Joseph J. Brunetti's 700-family apartment project in Maywood, N.J., designed by Kelly & Gruzen, New York architects. The development also will have a circular shopping center, designed by Kelly & Gruzen (see ARCHITECTURAL RECORD, Feb., '48, p. 10)



# ARCHITECTS-DEALERS *In brief* BUILDERS Your Best Date In '48

MORE  
BEAUTIFUL  
AND  
LASTS  
LONGER



HERE'S  
HOW  
TO  
DATE  
HER

## Miss Alumitile!!

Arrangements for a profitable lifetime date can be made by writing Metal Tile Products, Inc., Hastings, Michigan, for full information. Once you have seen Hastings Alumitile, checked and tested it, you'll adopt it as your steady date.

Hastings Alumitile is fireproof, waterproof, chip-proof, impervious to alkali, won't crack or peel and resists stain.

"In making plans for restaurants, snack bars, taverns, homes, etc., don't fail to investigate Hastings Alumitile for the wall covering," says our attractive Miss Alumitile. For certain, it will be your best date in '48. Available in 14 rich beautiful colors, including outside corners and wall plates for electrical outlets. Virtually unlimited color combinations arranged with Hastings Alumitile. Easy to apply and will last the lifetime of the building.

**METAL TILE PRODUCTS CO., INC.**  
**HASTINGS, MICHIGAN.**

For free color chart and the name of your closest distributor simply mail this coupon today.

Send to  
METAL TILE PRODUCTS, INC.,  
Hastings, Michigan  
Name.....  
Business.....  
Address.....  
City..... State.....

### CODES INADEQUATE?

In an analysis of industrial ventilation codes presented to the 54th annual meeting of the American Society of Heating and Ventilating Engineers, Knowlton J. Caplan and Allen D. Brandt reported that state legal requirements in regard to factory ventilation are either non-existent or inadequate. Eleven states have no codes at all, and 25 have only very general requirements, their survey showed. Six states have what may be regarded as a reasonably complete code or set of standards covering a number of typical operations or exhaust hood types.

Messrs. Caplan and Brandt recommend that specific and quantitative design criteria should not be included in legislation, but that such data, standards and recommendations be incorporated in regulations or in advisory standards accompanying regulations in order that greater flexibility be obtained.

### HOME BUILDING REPORT

The private building industry provided new homes in proper proportions during 1947 for families in every income group except the lowest tenth and the highest fifth of the country's income brackets, according to Melvin H. Baker, chairman of the Construction Industry Information Committee.

"By the third quarter of the year, the industry also was starting new homes at the record-breaking rate of one million units a year, surpassing the previous high record set in 1925," Mr. Baker said.

### NAME CHANGED

In keeping with the expansion of its functions, the Vermiculite Research Institute of Evanston, Ill., has changed its name to the Vermiculite Institute. Its activities will no longer be confined to research, but will include the promotion and publicizing of vermiculite products in cooperation with allied industries in the construction field.

Edward R. Murphy, a civil engineer  
(Continued on page 176)

# WHEN A SMART FLOOR IS SPECIFIED THE CHOICE IS



Salon Lenthéric  
Fifth Avenue



## DANBURY RUBBER TILE

Smartness and sophistication are keynotes in the design theme of Salon Lenthéric. But Danbury Rubber Tile was selected for many more reasons than appearance alone. True, it has an incomparable richness of color and a smooth, lustrous finish that makes it equal to the most glamorous assignment.

Just as important, however, is the fact that Danbury Rubber Tile's decorative advantages are coupled with such practical features as

easy maintenance, durability and waterproofness. Traffic does not develop worn spots, because the color in Danbury Rubber Tile goes all the way through. And it's quiet and comfortable underfoot, a boon to customer and operator alike.

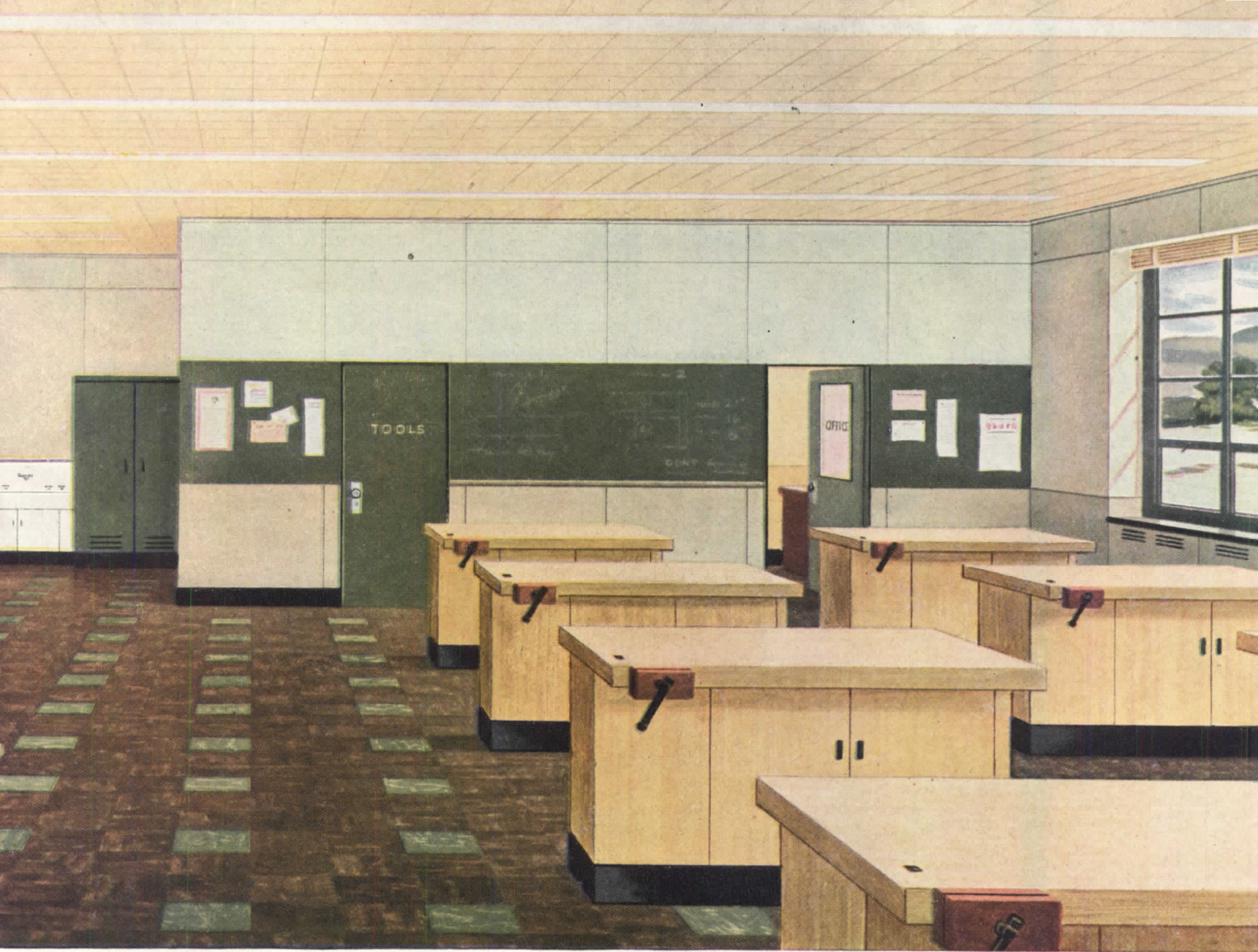
For a smart floor in every way, specify Danbury Rubber Tile.

*Have you a copy of the Danbury catalog? Write for one if you haven't. It shows 23 of our 28 colors and a selection of "architects" patterns.*

**The DANBURY RUBBER COMPANY Inc.**

DANBURY • CONNECTICUT

**DANBURY**



**Use all 3 products—Walls, Ceilings, Floors—  
for Johns-Manville Unit Construction . . .**

With this new method of interior construction, you can meet the problem of ever-changing space needs.

You can provide for endless revisions of space-use—at low cost. You can keep expanding, converting, or subdividing rooms as often as conditions require . . . with little or no interruption to routine activities!

Moreover, the J-M Unit Construction system now makes

the *complete interior* available under *one* specification, *one* manufacturer's responsibility.

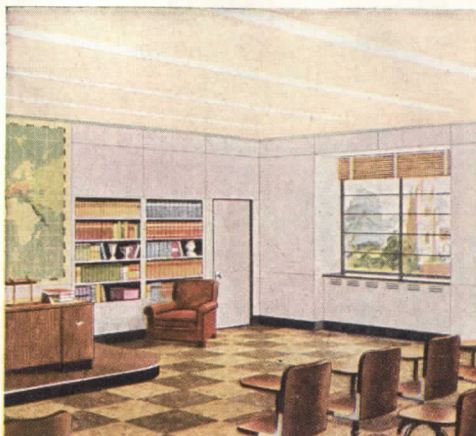
Three Johns-Manville materials, described at right, are the basis of this revolutionary development. The asbestos Transite Walls are *movable*, 100% salvageable. The Acoustical Ceiling Units are *dismountable* . . . can readily be taken down and re-located as desired. And the Asphalt Tile Floors consist of small units which permit easy extension of the floor to meet changing conditions.

Write for colorful brochure, giving full details on the remarkable *flexibility* of J-M Unit Construction.

**. . . for Offices**

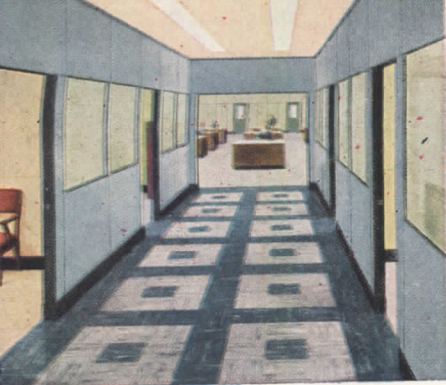


**. . . for University Lecture Rooms**

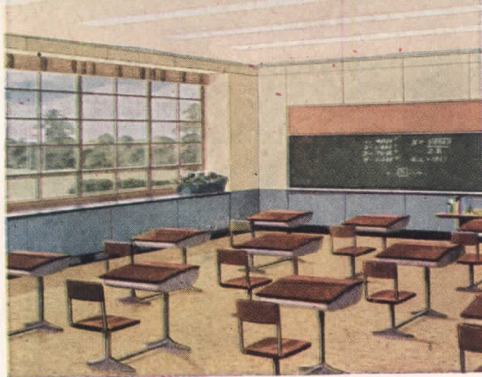


**. . . for Laboratories**





... for Institutions and Hospitals



... for Schools



... for Factory Areas

# Interiors today that provide for tomorrow!



## 1. TRANSITE WALLS—*Movable!*

Rooms when and where you want them . . . that's the magic of Johns-Manville Transite Walls—the attractive and sturdy asbestos walls that are *movable*. Now you'll never again need to send partition walls to the dump every time space changes are required!

With the least inconvenience—almost *overnight*—you can enlarge, decrease, or rearrange areas as often

## 2. ACOUSTICAL CEILINGS—*Quieter!*

There's a Johns-Manville acoustical material to give you the best in sound control, no matter what the type of interior.

To assure you the maximum in noise-quieting, Johns-Manville not only provides the correct acoustical materials for each specific condition, but follows through by *installing* the materials *properly* with its own con-

struction crews. In other words, you get "J-M materials installed by Johns-Manville" for best results. That's the all-inclusive service . . . the *undivided responsibility* Johns-Manville gives your projects. For further details, send for brochure, "J-M Sound Control." Describes such J-M acoustical products as demountable Sanacoustic, Fibracoustic and Fibretone, Transite Acoustical Panels, and special materials for Broadcasting Studios.

To make sure your interiors will provide for *change*, write for booklet, "J-M Transite Movable Walls."

## 3. ASPHALT TILE FLOORS—*Colorful!*

You spend no more to have *quality* floors like these—attractive and resilient . . . extra-long wearing . . . reinforced with indestructible asbestos!

That's the kind of flooring you get with Johns-Manville Asphalt Tile. It's easy on the eyes, easy on the feet, and easy on the budget, too.

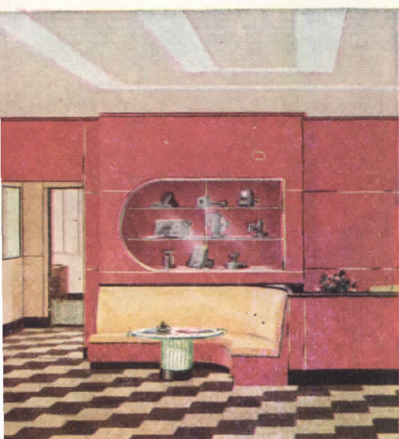
Yes, you'll like *everything* about this modern floor-

ing, including the unlimited range of color combinations—from striking patterns with strong contrasts to solid fields of marbled colors.

J-M Asphalt Tile does not originate dust . . . stays fresh and unmarred with practically no maintenance. Individual units permit easy repairs.

For areas exposed to oil or grease, use J-M *Grease-proof* Asphalt Tile. Send for full-color brochure, "Ideas for Decorative Floors."

for Reception Lobbies and Stores



Production of Johns-Manville Building Materials has now been greatly increased to meet unprecedented demands. So the chances are better than ever that you can get the materials you want when you want them. Write Johns-Manville, Box 290, New York 16, N. Y.



# Johns-Manville Walls - Ceilings - Floors

# AEROFIN



gives you QUICK HEATING ...

... FAST COOLING

**Aerofin**  
is sold only by manufacturers  
of nationally advertised fan  
system apparatus.  
List on request.

AEROFIN construction—metallic bonding and complete tinning—assures highest practical heat transfer and protection from corrosion. Aerofin engineering—based on accurate published ratings—fits the right equipment to the job. A complete range of designs for every kind of heat-transfer application. Compact, easy to install.

Experienced Aerofin field engineers are ready to help you with your heat-exchange problems.

## AEROFIN CORPORATION

434 S. Geddes Street, Syracuse 4, N. Y.

NEW YORK • CHICAGO • CLEVELAND • DETROIT • PHILADELPHIA • DALLAS • MONTREAL



## CABOT'S STAINS

*Architect: David J. Abraham*

give

*Natural  
Beauty*

to any  
design  
in any  
site.....

The rich penetrating colors of Cabot's Creosote Shingle Stains bring out all the natural beauty of wood siding, shingles or clapboards. A selection of 21 attractive colors, clear brilliant hues to weathering grays and browns, enables you to pick exactly the right stain for any design in any setting.

### THE BEST WOOD PRESERVATIVE KNOWN

Cabot's Creosote Stains are made with 60% to 90% of pure creosote oil, the best wood preservative known. This creosote oil penetrates deep into the wood, repels termites and insures years of protection from decay.

### COLORS THAT REMAIN TRUE

Cabot's Creosote Shingle Stains actually dye the wood displaying grain and texture to its best advantage. And

because pure pigments and no fillers or adulterants are used, the colors remain true, even after long exposure to the weather.

Cabot's Weathering Grays and Browns produce in a few months the mellow weatherbeaten effects so typical of old New England houses.

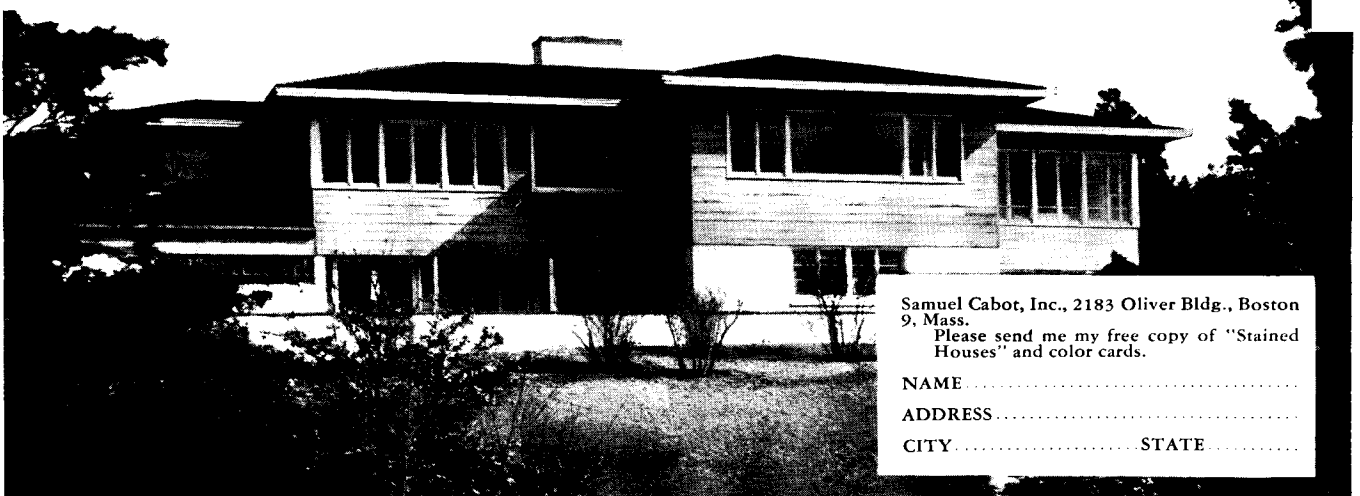
### ECONOMY

Cabot's Creosote Stains cost one-third as much as good paint. They are quick and easy to apply... do not peel or blister, even on green lumber.

**FREE BOOKLET** "Stained Houses" contains complete information and illustrations. Write for your copy and color cards today. Samuel Cabot, Inc., 2183 Oliver Bldg., Boston 9, Mass.

## Cabot's CREOSOTE SHINGLE STAINS

*Architect: Ernest Gunnar Peterson*



Samuel Cabot, Inc., 2183 Oliver Bldg., Boston 9, Mass.  
Please send me my free copy of "Stained Houses" and color cards.

NAME .....

ADDRESS .....

CITY..... STATE.....

## THE RECORD REPORTS (Continued from page 170)

formerly with the Gypsum Association, has succeeded Vilas E. Watts as managing director and executive secretary of the Institute. Institute offices are at 2540 Eastwood Ave., Evanston.

### ELECTIONS, APPOINTMENTS

The Buffalo-Western New York Chapter of the A.I.A. has elected Roswell E. Pfohl, president; S. Harold Fenno, vice president; Trevor W. Rogers, secretary-

treasurer; and G. Morton Wolfe, New York State associate director. Mr. Wolfe has also been named to the executive committee for three years as has John Highland, Sr. Eugene Walter will serve on the committee for two years completing the unexpired term of Mr. Fenno.

Robert F. Blanks, Chief of Research and Geology for the Bureau of Reclamation, was elected president of the American Concrete Institute at the Institute's recent annual convention in Denver.

Gilmore D. Clarke, dean of the College of Architecture at Cornell University, has been appointed to an advisory board on reorganization of the public works functions of the executive branch of the government. Under the general direction of Herbert Hoover, the board is one of several authorized by Congress to study government reorganization. Other members include: James B. Conant, president of Harvard University; David Lilienthal, chairman of the Atomic Energy Commission; Charles Sells, superintendent of public works of New York State and Charles E. Wilson, president of the General Electric Company.

Charles S. Conrad, Jr., has been named chief architect of the Armstrong Cork Co., filling the vacancy created by the retirement of Henry Boettcher. Floyd Kline will move to the post of assistant chief architect formerly held by Mr. Conrad.

Peter W. Eller, vice-chairman of the Thompson-Starrett Co., has been elected president of the Building Trades Employers Association. Other officers elected to serve for 1948 are: H. M. Hughes, first vice-president; John F. Birch, second vice-president and Fred J. Driscoll, third vice-president. William J. Olvany remains as treasurer for the third year, Christian G. Norman as chairman of the board of governors for his 31st year, and William G. Wheeler as secretary for his 19th term.

Julian O. Heppes, executive vice-president of the Tile-Tex Co., Inc., has been elected president of the Asphalt Tile Institute. Elected to serve with him were: J. P. Stiger, Johns-Mansville Corp., vice-president; and Winthrop Brown, Jr., Hood Rubber Co., secretary-treasurer.

Nathaniel A. Owings, architect, has been appointed to a four-year term as Chairman of the Chicago Plan Commission. Mr. Owings is the first architect and planner to hold this position.

### OFFICE NOTES

#### Offices Opened, Reopened

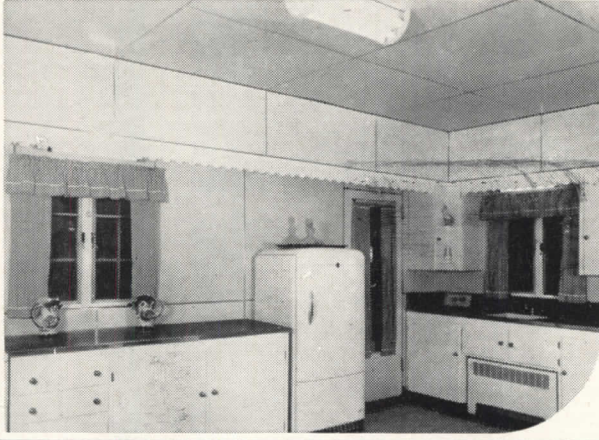
Conrad I. Arnold, A.I.A., has opened an office for the general practice of architecture at 15 Cayuga St., Seneca Falls, N. Y. Mr. Arnold also is affiliated with Antonin Raymond Associates, 101 Park Ave., New York City, as a consulting architect.

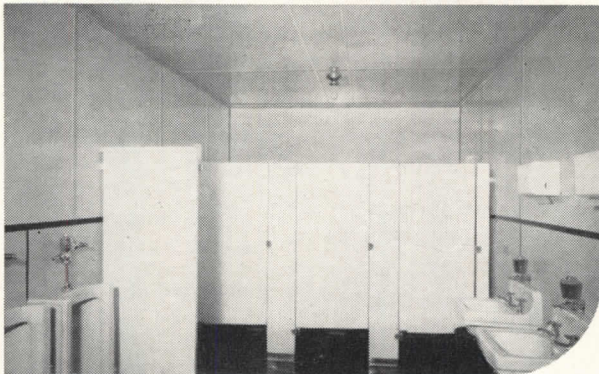
Benjamin Baldwin, Designer, has opened an office for the practice of interior architecture and furniture and product design at 33 E. 75th St., New York 21, N. Y.

John Gartman, Designer, has established the studio of Modern Home Furnishings Design at 299 W. 12th St., New York 14, N. Y.

John M. Hirsch, Architect, has opened  
*(Continued on page 178)*

at  
home  
in any  
room





plan on  
*Marlite*  
walls

For the bright, efficient kitchen that will complete your plans for that modern house . . . for the practical beauty you need for that office building still on the drawing board . . . plan on Marlite plastic-finished wall and ceiling panels.

For any room, in any building—wherever practical beauty is required—Marlite colors and patterns provide the sparkling, colorful beauty and economical practicality that appeals to every client and simplifies your specification problems. See the new Marsh catalog in Sweet's File, Architectural, for complete details on Marlite wall-size panels, Marsh Mouldings, Marsh Bathroom Accessories and other Marsh products that help you do a better job. Marsh Wall Products, Inc., 405 Main Street, Dover, Ohio.



*Marlite*

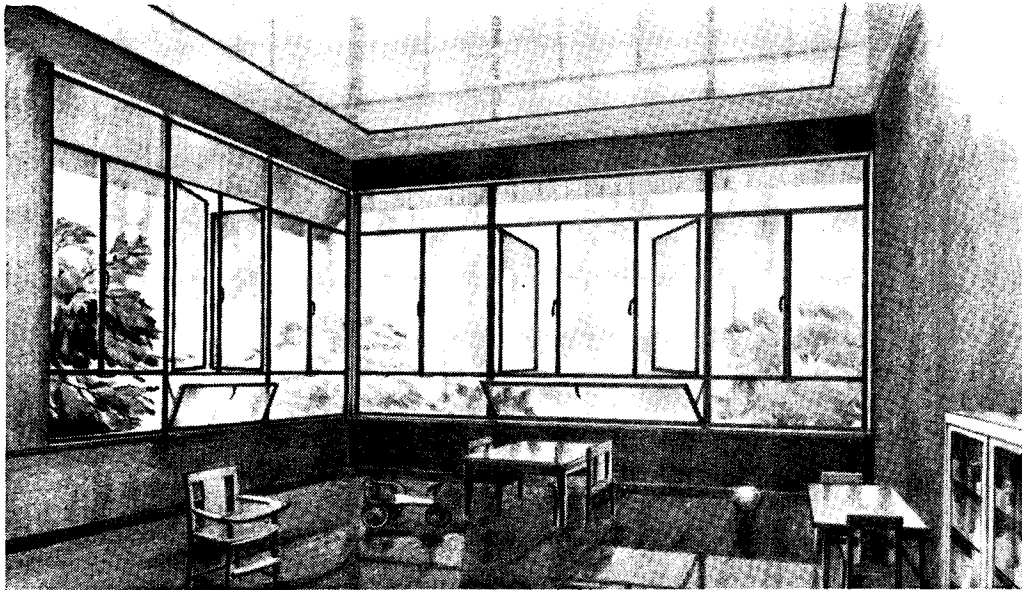
REG. U. S. PAT. OFF.

PLASTIC-FINISHED  
WALL PANELS

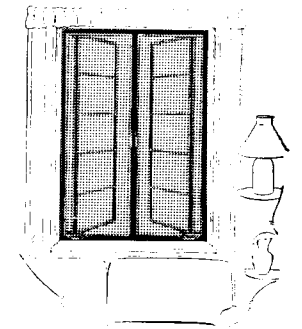
*for Creating  
Beautiful Interiors*

Marlite, Marsh Mouldings, Marlite Polish, Marsh Bathroom Accessories, Marsh C-100 Caulking, Marsh C-200 and C-300 Adhesive, Marsh C-400 Household Adhesive

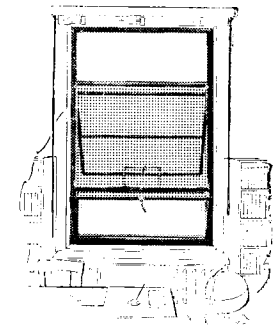




Fencraft Combination Windows, Types 636 and 616, joined with steel mullions to provide abundant daylighting—ideal for a hospital nursery. Sill vent tilts in—guards against drafts, prevents children falling out.



**FENCRAFT CASEMENT WINDOW**  
Safe washing—from inside. Easy to operate. Uniform screens, protected from outside dirt. "Homey" appearance makes them ideal for clubs, large homes, dormitories and nurses' homes.



**FENCRAFT PROJECTED WINDOW**  
Open-out vent acts as weather-protecting canopy over opening. Open-in vent deflects air upward, sheds water outside. Widely used for schools. Horizontal lines are especially suited to low, wide buildings.

## How to get Larger Window Areas *with maximum economies*

The trend to larger window areas for better daylighting and better ventilation makes window cost more and more a point for consideration.

To get larger areas with maximum savings, give a thought to the use of standard window units, combined to make attractive, efficient sources for daylight, ventilation—as well as view.

Fenestra Fenecraft Windows are ideal for this purpose. They're famous Fenestra quality in every respect—suitable for the finest buildings. Yet standardization of types and sizes has resulted in manufacturing economies that mean lower first cost. Standardization results in construction

economies, as well—for it permits co-ordination of window dimensions with those of commonly-used wall materials.

There's a wide range to choose from—many sizes and ventilator arrangements—in three popular types, Combination, Projected and Casement. Being steel, they can't warp, shrink or rot. Made by America's oldest and largest manufacturer of steel windows. You can count on them for quality construction that means better appearance, permanently easy operation and lower maintenance costs.

For information on types and sizes available, see Sweet's Architectural File for 1948 (Section 16a-14). Or mail the coupon.

# Fenestra

**FENCRAFT INTERMEDIATE STEEL WINDOWS**

COMBINATION  
PROJECTED  
CASEMENT

Detroit Steel Products Company,  
Dept. AR-4  
2252 East Grand Blvd.,  
Detroit 11, Michigan

Please send me data on types and sizes of the new Fenecraft family of Fenestra Windows:

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

an architectural studio at 415 Vannest Ave., Trenton, N. J.

Arthur S. Katz, Architect, has opened an office at 1001 Broad St., Newark, N. J.

William H. Kremer, A.I.A., has opened an office for the general practice of architecture at 750 S. High St., Columbus 6, Ohio.

Jack M. Levy, Consulting Engineer, has opened an office for the design of air conditioning and other mechanical

equipment of buildings at 151 Lexington Ave., New York 16, N. Y.

Elmer J. Manson, A.I.A., has opened an office at 410 W. Saginaw, Lansing 15, Mich.

William C. Martucci, Architect, has opened new offices at 1001 Broad St., Newark, N. J.

Anthony Thormin and Arthur Wolfe, Architects, have reopened their offices at 672 S. Lafayette Park Place, Los Angeles 5, Calif.

### New Addresses

The following new addresses have been announced:

F. Wallace Dixon, A.I.A., 1200 18th St., N. W., Washington 6, D. C.

Lathrop Douglass, Architect, 518 Fifth Ave., New York 18, N. Y.

Edmund Krimmel, Architect, 1700 Sansom St., Philadelphia 3, Pa.

Swem & Golden, Food Service Consultants, 901 Northeast Second Ave., Miami, Florida.

### Firm Changes

Karl E. Blomberg, Architect, associated for the past 20 years with the late firm of Slee & Bryson, Architects, 16 Court St., Brooklyn, N. Y., will continue to practice at the same address.

William H. Daseking, Architect, is now associated with Arthur D. Janssen, A.I.A., 58 Austin Ave., Atherton, Calif.

Arthur A. Graves, Architect, and David W. Dykeman, Jr., Designer, have formed a partnership for the general practice of architecture and interior design under the firm name of Graves & Dykeman, 518-519 Commerce Bldg., Everett, Wash.

Uel C. Ramey, Harold W. Himes and Robert E. Buchner have formed a partnership for the practice of architecture under the name of Ramey, Himes & Buchner with offices at 519 S. Broadway, Suite 5, Wichita, Kans.

Ben L. Rose, designer and builder of stores and interiors, is now doing business under the name of Ben L. Rose Associates at 1674 Broadway, New York.

T. Raymond Turner and Allen M. Northington have formed a partnership for the practice of architecture under the firm named of Turner and Northington, Architects, with offices at 317 Medical Arts Bldg., Florence, Ala.

A. Stewart Walker and Alfred Easton Poor, Architects, have announced formation of a partnership to be known as Walker & Poor, Architects, replacing the consolidated firms of Walker & Gillette and Alfred Easton Poor. Offices have been moved to 542 Fifth Ave., New York 19, N. Y.

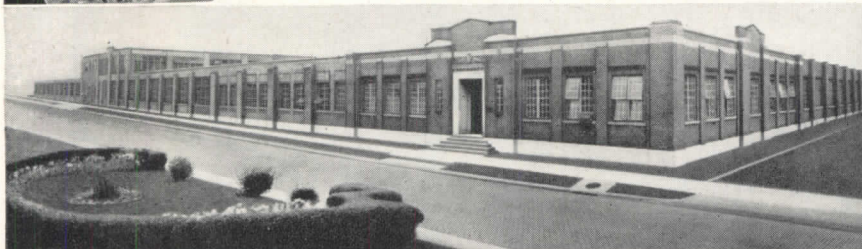
### ADDENDUM

Our apologies for the inadvertent omission of the names of the architects responsible for the design of Stuyvesant Town and Peter Cooper Village, Metropolitan Life Insurance Company housing developments shown on page 112 of the February ARCHITECTURAL RECORD. The late R. H. Shreve, of Shreve, Lamb and Harmon, was Chairman of the Board and Chief Architect of both developments until illness forced his retirement. Gilmore D. Clark then became Chairman of the Board and Irwin Clavan, who had worked with Mr. Shreve on the projects, succeeded him as Chief Architect.



Through the doors of Jamestown Metal Corporation have come hollow metal products for many of the country's finest buildings.

Main office and factory of Jamestown Metal Corp.



## 5 ACRES OF ONE-FLOOR FACTORY designed for straight line, efficient production

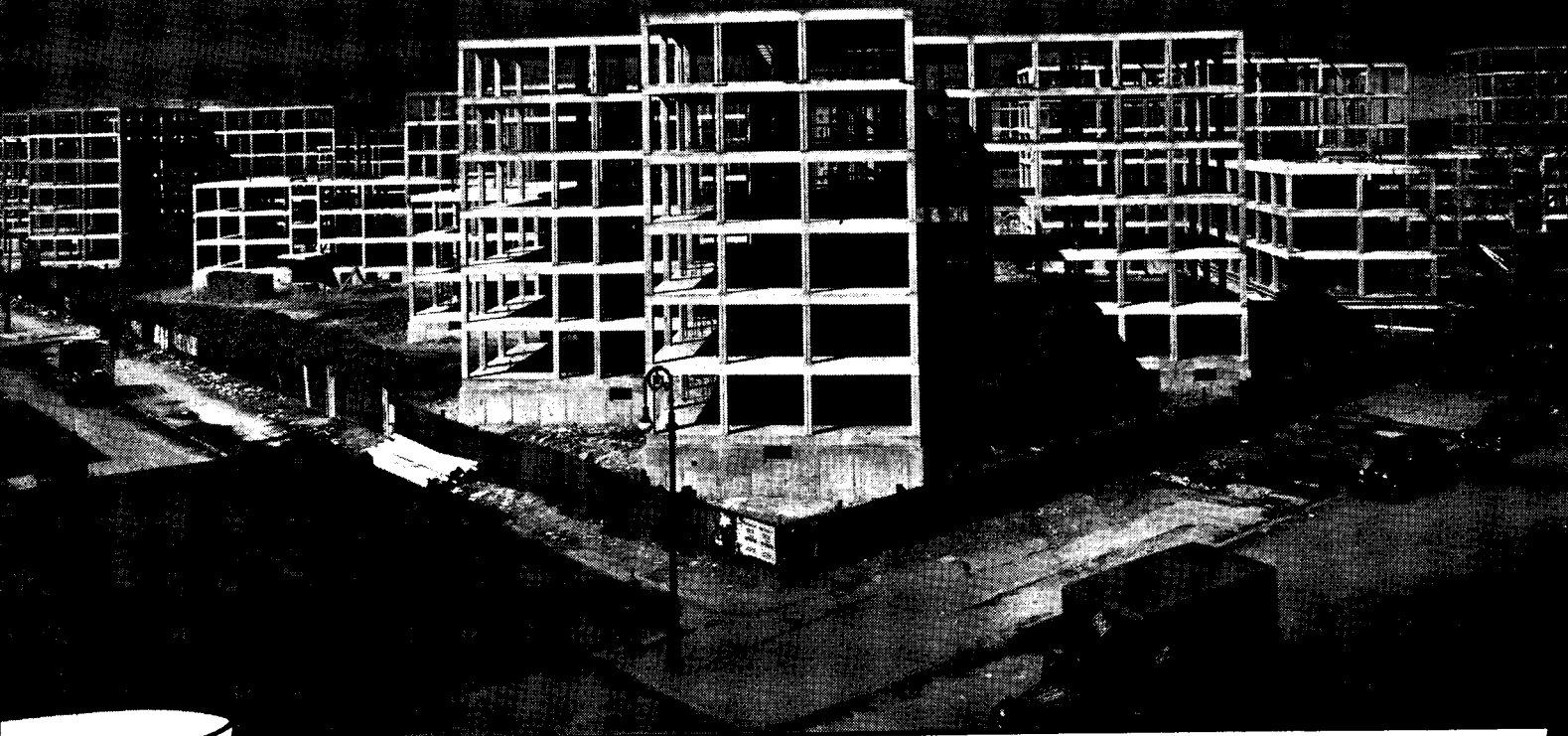
*As specialists in the fabrication of bronze, aluminum, steel and stainless steel, we offer our services wherever hollow metal doors, interior trim, elevator enclosures, office partitions, cold rolled mouldings and metal specialties are required.*

# HOLLOW METAL

## JAMESTOWN METAL CORPORATION

104 Blackstone Avenue

Jamestown, N. Y.



# Save Time and Money with CONCRETE FRAMES and FLOORS

**R**EINFORCED CONCRETE frames and floors effect substantial economies in construction—even in buildings of six stories or less. This method of construction simplifies the work of the masons, reduces the time required for handling forms and generally expedites completion of the job.

Reinforced concrete construction results in firesafe buildings with the strength and rigidity to resist all static and dynamic loads. Concrete frames and floors are ideally adapted to apartment buildings, hospitals, hotels and schools, for this

*Photo shows section of the New York City Housing Authority's Brownsville housing project. Reinforced concrete frame and floors with wide shallow beams were used in the 27 six-story apartment buildings with three-story wings. Project includes 1,338 units to house over 5,000 residents. Frederick G. Frost, architect. Fred N. Severud, engineer.*

type of construction permits the reduction of the total height of the structure without reducing ceiling heights, gives the architect unusual freedom in locating columns and cuts building cost.

Architects and engineers are invited to make full use of our services to secure all the advantages of reinforced concrete construction. Write today for copies of two free reference manuals: "Continuity in Concrete Building

Frames" and "Handbook of Frame Constants." Distributed only in the United States and Canada.

## PORTLAND CEMENT ASSOCIATION

DEPT. 4-8 • 33 W. GRAND AVENUE • CHICAGO 10, ILLINOIS

A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

# REQUIRED READING

## CITY VILLAGE

*East of Fifth: The Story of an Apartment House.* By Alan Dunn. New York 20 (1230 Sixth Ave.), Simon and Schuster, Inc., 1948. 6½ by 8½ in. 170 pp. illus. \$2.75.

Who but Alan Dunn would have thought of dramatizing a day in the life of a typical New York City apartment house? Just an average day, too — 24 hours of the normal happenings in a 52-apartment building on a mid-Manhattan street just east of Fifth Avenue!

But Mr. Dunn's sly sense of humor and cartoonist's whimsical perception, both long familiar to readers of the ARCHITECTURAL RECORD and *The New Yorker*, have proved that such normal happenings are anything but dull.

This is not a book of cartoons, contrary to expectations, as were Mr. Dunn's earlier volumes. It is a text piece, illustrated with drawings — many drawings, happily — by the author. Much of the fun and interest are lost if

the reader skims the pages; the book is one continuous whole, should be read from cover to cover.

The story starts at two o'clock in the afternoon of a late Indian-summer day. Tenants with terraces are watering their gardens (the water dripping over the parapet and sprinkling the doorman many floors below); bridge games are breaking up in favor of Scotch Mists for the social-registerite Edwardses and beer for the Jukeses of unknown origin. A new couple moves into 6B (a swap deal with the former tenants who wanted to live in Westchester), is branded by the doorman as "only worth ten thousand a year," and is visited almost immediately by Peggy Poole, the house pipeline. The renting agent briefs the superintendent on 7A's men visitors, 3A's unwashed windows, 5D's reported roomers. The exterminator reassures a worried tenant: "You can trust us, ma'am — On my floor report I'll say 'beetles.'"

Alan Dunn has lived in New York all his life, presumably in an apartment house not unlike this one. He knows his tenants. Nothing escapes him: the men coming home from their offices, the higher income brackets slackening or quickening their pace to avoid their lower level brethren; the night elevator man deserting his car for a bottle of beer with Peggy-the-pipeline; the doorman identifying his tenants' mail as he sorts it. The ex-Westchesterites newly moved into 6B can't sleep — they miss their crickets. An advertising copywriter is requested to stop typing at midnight, presently in his turn calls out to "Please turn down that sleep record!" And eventually the sun rises on another day.

In between all these commonplace events of course, the maids, the building employees, the tenants themselves discuss, explain, elucidate. A bride packs her trousseau. Love-lorn Miss Grayson gives her Tony one last chance, then quietly takes poison. ("I have to hand it to her for using poison," the superintendent comments. "You take gas, for instance — icebox switch sets it off and maybe 50 people get hurt — and jumping's messy.")

No secrets are left in Number 43 once Mr. Dunn has toured the building with pen and pencil in hand, but apartment living in the metropolis has taken on a new and interesting humanity.

## WHAT KIND OF CHURCH?

*Protestant Church Building: A Guide to Help Churchmen Plan Intelligently Church Building Programs.* By William H. Leach. New York, N. Y. (150 Fifth Ave.), Abingdon-Cokesbury Press, 1948. 6 by 9 in. 188 pp. illus. \$3.00.

Any architect engaged in or interested in church planning will find this a worth while volume to consult despite the fact

(Continued on page 182)



Same bedroom with single hinged closet door and with parallel sliding doors. Direct access to either half of closet is possible as each sliding door opens to opposite side of door frame. Note added floor space available with sliding doors.



For more "Living" room  
USE VANISHING DOORS



Whether the job calls for tiny kitchenette apartments or a palatial mansion, there's no getting around one fact — hinged doors waste space! That is why more and more residential building plans specify vanishing doors for closets, wardrobes, connecting rooms, etc.

With vanishing doors, sliding from side to side, there's no interference with the location of furniture, lighting fixtures, pictures, rugs — nothing in the room gets "behind the door." Used for closets and wardrobes, they permit direct access to entire contents without fuss or bother.

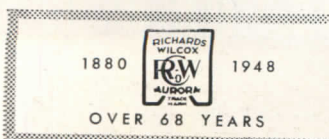
### SPECIFY R-W VANISHING DOOR HANGERS AND WOOD-LINED TRACK

For smooth, silent, trouble-free operation, specify vanishing doors installed with Richards-Wilcox No. 719 Vanishing Door Hanger and Wood-Lined Steel Track. No oiling required . . . hanger wheel has Olite self-lubricating bearing, rolls on self-centering woodtrack lining without metal-to-metal contact.

### FOR USE IN 2" x 4" STUDDED WALLS

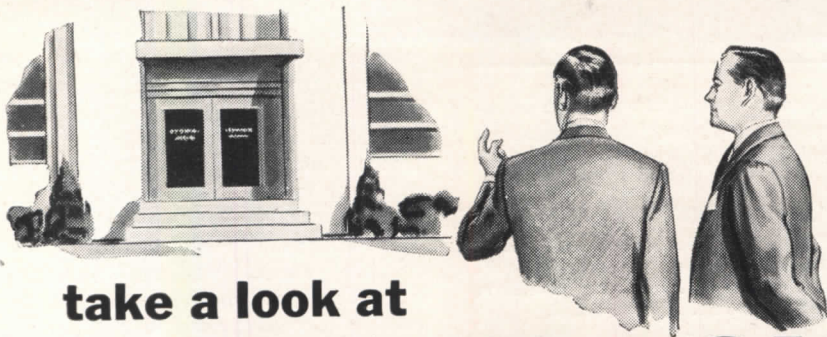
Richards-Wilcox No. 719 Vanishing Door Hangers and Wood-Lined Steel Track are designed for use in 2" x 4" studded walls. This outstanding feature is made possible by the R-W engineered "Ordinary Wall" pocket.

For complete details — or free consultation without obligation — call or write the nearest Richards-Wilcox office.



**Richards-Wilcox Mfg. Co.**  
"A HANGER FOR ANY DOOR THAT SLIDES"  
AURORA, ILLINOIS, U.S.A.

Branches: New York Chicago Boston Philadelphia Cleveland Washington, D. C.  
Indianapolis St. Louis New Orleans Des Moines Cincinnati Minneapolis Kansas City  
Los Angeles San Francisco Omaha Seattle Detroit Atlanta Pittsburgh



take a look at

# YOUR BACK DOOR

not your front door . . . if you think you're sitting pretty



## Your internal plant efficiency isn't worth a plugged nickel if your shipping platforms are jammed

No matter how modern and efficient your plant looks on the *outside*—you only have to look at your loading platforms to get the *inside* story.

No matter how much money you pour into new machinery, new designs, new methods . . . if you neglect the basic "tool" of plant production, *SHIPPING AND RECEIVING FACILITIES*, you may as well pour your money down the drain.

*Don't* expect the impossible from your traffic manager. *Do* expect mounting shipping costs—if he is not provided with adequate loading platform space. You'll

get the most out of trucks with adequate loading platforms; room to move around.

Right now, make a study of your "bottleneck" areas. Minor remodeling can often take care of normal plant expansion for years to come. Check your traffic manager, consult your architect. They will save you time *and* money!



THE **AMERICAN TRUCKING INDUSTRY**  
AMERICAN TRUCKING ASSOCIATIONS, WASHINGTON 6, D. C.

**GOODS CAN'T MOVE FASTER THAN THEY'RE LOADED!**

(or possibly because of it) that it is written specifically for the layman. Mr. Leach is not an architect, but an ordained minister and editor of *Church Management*. As such he is well acquainted with the inner workings of church building committees and with the problems which such committees have to solve. This book therefore has a double value to the church architect: first, it gives him the layman's point of view; and second, it arms him with a

fine volume to recommend to the building committees with which he is dealing. The book is well illustrated.

**TO BUY OR NOT TO BUY**

*Home-Seekers' Handbook.* By Gerald Lynton Kaufman, A.I.A. New York 18 (67 W. 44th St.), George W. Stewart, Publisher, Inc., 1947. 6 by 8 in. 160 pp. \$2.50.

Incredible as it seems, here is still another volume to help the would-be home owner get just the house he wants.

All we need now is a "Handbook for the Selection of a Handbook on How to Build or Buy a House."

Two things make this particular volume of interest despite its many predecessors: (1) it is written by an architect, and contains more than the usual amount of technical and structural information; (2) in addition to the inevitable questionnaires and check lists it contains an amusing and perhaps valuable "housing preference test" which presumably will tell the reader with just what type of housing he would be most content. How accurate this test may be, however, this reviewer cannot say: we took the test, discovered to our perplexity that we should avoid at all cost renting an apartment or house -- something we have been doing all our life.

Mr. Kaufman covers all the traditional topics from budgets and mortgages to interior decoration and landscaping. Almost half the book is given over to "building your own," and here, as would be expected, Mr. Kaufman is at his best. His chapter on materials, for example, is divided into materials for foundation, for exterior walls (both masonry and frame construction), roofing, flooring, and interior walls and partitions. A second chapter is equally detailed on mechanical equipment. Also included are a fine discussion of the architect's services, and a complete explanation of construction contracts. All in all this is one of the most helpful of all volumes to date written to help the would-be home owner get off to a good start.

**UNIVERSITY PLANNING**

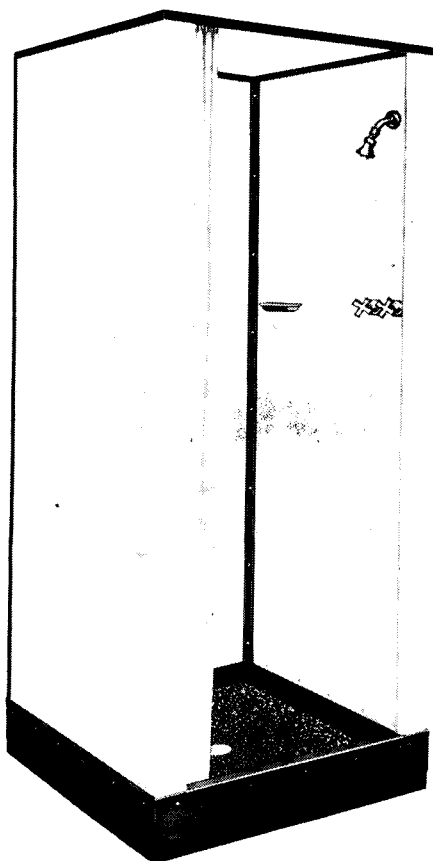
*Building Problems of Urban Universities: A Report of a Conference Held in Cleveland, Ohio, May 19-20, 1947.* Edited by Herbert C. Hunsaker. Washington 6, D. C. (744 Jackson Pl.), American Council on Education, 1948. 6 by 9 in. 88 pp. \$1.00.

Reports on conferences very seldom achieve the liveliness and interest of the conferences themselves. People just do not talk for publication as a rule. But Dean Hunsaker's skillful editing of this report has maintained much of the original flavor of the two-day session in Cleveland. It makes interesting reading.

Most of the men taking part in the panel discussions were either educators or architects. The give and take of their conversation on "Planning the University Plant in Relation to the City" and "Design and Facilities of a Modern University Plant," for example, thus probably sum up the best thinking of the day on those problems. Here in one handy volume the university deans report on what they want, what they need, what they are planning, and the architects tell them what they could have if they wanted it and could afford it. Even costs are discussed quite frankly. No architect doing university work can afford to miss this report.

**BUDGETEER**  
MEANS  
**BIG VALUE**

Vitreous porcelain enamel receptor with textured green-on-black Foot-Grip, No-Slip floor . . . walls of 16 B & S gauge aluminum alloy with high-temperature baked white enamel inside and outside . . . these are basic value features of Weisway Budgeteer 32BA.



Budgeteer, one model in the Weisway quality line



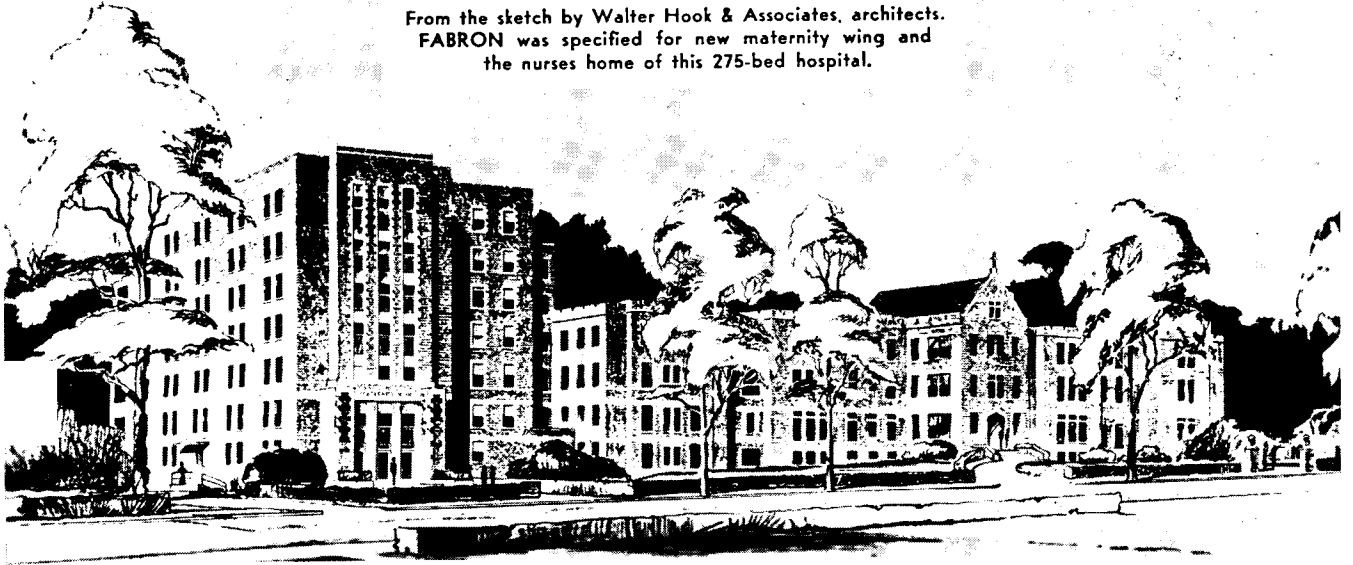
**IN A WEISWAY QUALITY CABINET SHOWER**

Service-tested materials, precision manufacture and the quality standards which have built our reputation as a pioneer in the Cabinet Shower field enable you to specify the Budgeteer with complete assurance.

The Weisway Budgeteer is suitable for a wide variety of installations at a substantial saving in cost which in no way affects the utility value. Write for complete information. Henry Weis Manufacturing Co., Inc., 403 Oak Street, Elkhart, Indiana.

*Weisway* **CABINET SHOWERS**

MERCY HOSPITAL, CHARLOTTE, N. C.  
 From the sketch by Walter Hook & Associates, architects.  
 FABRON was specified for new maternity wing and  
 the nurses home of this 275-bed hospital.



## WHY *Fabron* HAS NO "ALTERNATE"

REG. U. S. PAT. OFF.

### AS AN INTERIOR FINISH FOR HOSPITALS

To the architect familiar with FABRON's proven superiority to standard interior finishes, there's no such thing as a FABRON "alternate". He knows from experience that no common ground exists on which FABRON and conventional finishes can be compared. Here's why:

**Decoration.** FABRON patterns and colors are designed especially for hospital use—are carefully styled for their therapeutic values. Sunfast, too—and washable.

**Durability.** FABRON withstands hard usage, outlasts conventional finishes by several redecorating periods—permits impressive operating economies.

**Fire safety.** FABRON's resistance to fire-spread has been tested by the Underwriters' Laboratories, Inc. Every roll carries their label.

**Plaster protection.** FABRON's sturdy fabric and plastic base strengthens plaster, prevents cracks—eliminates the need for leaving new buildings undecorated in anticipation of plaster cracks.

In short, FABRON provides every service that conventional finishes perform—but offers plus features that cannot be found combined in any other type of standard interior finish. An "alternate" to FABRON? **There is none!**

Initial cost of FABRON falls within the average budget. Before you specify the interior finish for your new hospital project, write us for basic cost figures on FABRON for comparison with other types of interior finishes. This will help lighten your tasks by eliminating the need of asking for preliminary contractors' bids. We will also gladly prepare a complete decorative scheme—with samples—based on your blueprints. No cost or obligation, of course.

**FREDERIC BLANK & CO., INC.**

Established 1913

230 PARK AVENUE, NEW YORK 17, N. Y.



Hospitals  FREDERIC BLANK & Co., Inc.  
 Hotels  230 Park Ave., New York 17, N. Y.  
 Schools  In reference to type of building checked please send further information about Fabron.  
 Theatres  Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

AR-4/48

- Offices  
 Apartments  
 Restaurants  
 Residences



(Continued from page 154)

**CONCRETE PROGRESS**

To celebrate the 20th anniversary of the introduction of *Incor*, a high early strength portland cement, the Lone Star Cement Corp. has issued an interesting 44-page illustrated booklet called "20 Years — a New Era in Concrete." The booklet shows how the material has stood up in various types of usage ranging from street pavement to seaplane hangars.

"High early strength portland ce-

ment," the company comments, "has made it possible to introduce in construction those principles of line-production which characterize the American way in industry generally. . . . The only basic difference between high early and regular portland cement is that the former, through refinements in the process of manufacture, cures or hardens thoroughly in 24 hours, where it formerly took a week or longer. While no change in concreting methods has been

required, increased rate of strength gained has made possible far-reaching changes in building techniques by making concrete in effect a ready-to-use, year-around construction material."



Baseboard heating unit uses little water

**HEATING**

**Baseboard Radiation**

A new form of baseboard radiation called *Convect-O-Base* is a combination of aluminum fins which are detachable, mounted on 1-in. pipe, and copper tubing on which are permanently mounted aluminum fins. The system uses a very small volume of water to assure a more constant temperature without long warm-ups, and according to the manufacturer maintains a 3° average floor-ceiling differential.

Piping can be run through walls from room to room, and no valves are required. The unit comes with two covers: an inner liner that is nailed or screwed to the wall in place of the conventional baseboard, and a front grille that hooks over the top edge of the liner and fits over the pipe and fins. Both covers are made in 6-ft. lengths, can be cut to size on the job. Finish is natural aluminum, can be painted to conform to any decorative note. Minimite Co., 623 S. Kildare Ave., Chicago 24, Ill.

**Baseboard Convectors**

The U. S. *Fin-Ray Baseboard Convector*, shown at the February Heating and Ventilating Exposition in New York, is a fin-type steel radiator enclosed with a grided steel covering plate. Installed near the bottom of the wall in place of the usual wooden baseboard, the *Fin-Ray* can be used in either new or remodeled homes or commercial buildings, can be painted or finished to match any decorative scheme. U. S. Radiator Corp., Detroit, Mich.

**Smokeless Stove**

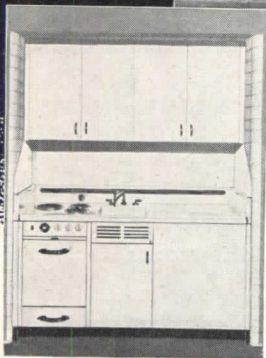
Developed primarily to meet the requirements of anti-smoke ordinances such as St. Louis and other cities have adopted, the *Worsham Minute Smokeless Furnaces and Stoves* are semi-automatic, requiring only three simple tending operations. One lever dumps the ashes into an ash container. Another transfers the remaining incandescent coke. Coal is then poured into the unit

(Continued on page 186)

**NORTHWESTERN  
UNIVERSITY  
APARTMENTS**  
Evanston, Illinois  
Holabird & Root  
Architects  
R. C. Wieboldt Co.  
Contractors



*98 apartments in this  
notable post-war project  
are equipped with*



**MURPHY CABRANETTE KITCHENS**

PORCELAIN ON STEEL

In single, compact units Murphy Cabranette Kitchens provide complete kitchen facilities in minimum space. 1948 models (four sizes) are characterized by clean, sweeping lines and such features as refrigerators with push-button doors and stainless steel frozen food compartments . . . gas or electric ranges of advanced design . . . one-piece sink and range tops. Best of all is the appealing, permanent beauty of genuine vitreous porcelain on all exposed surfaces, a feature exclusive to Murphy Cabranette Kitchens.

*Murphy Cabranette Kitchens are recommended to those seeking tenant appeal, tenant permanence and absolute minimum of maintenance costs. Write for new catalog now in preparation.*

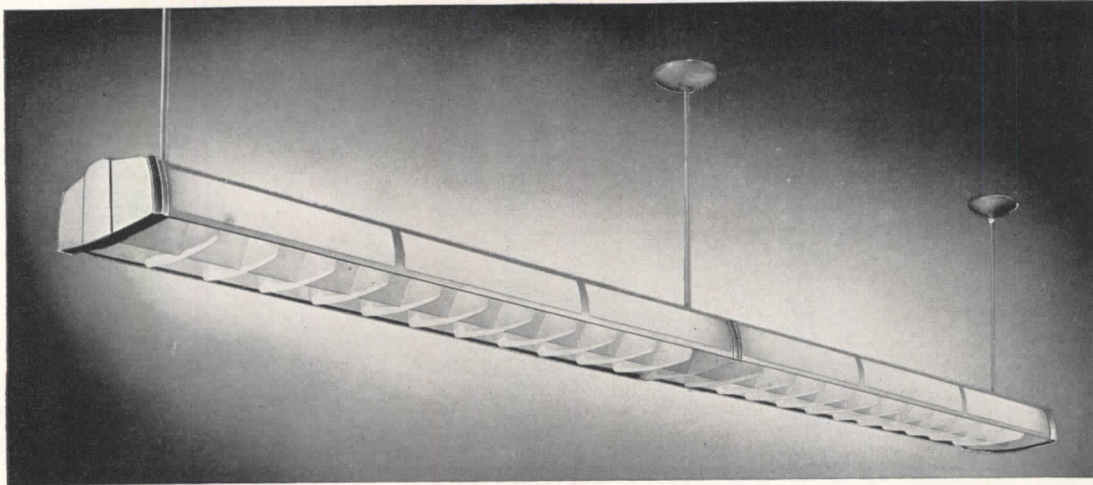


**DWYER PRODUCTS CORPORATION**  
Dept. R4 — MICHIGAN CITY, INDIANA



This is  
the Wakefield

# GRENADIER II



... with features permitting **CONTROL** and **DIRECTION** of light

The Grenadier II is available in three models: On-Ceiling, Canopy and Stem Suspension, and on the latter two the distribution of light may be regulated by specifying that your Grenadiers be furnished:

1. Without top plate reflectors, thus securing 50% of light on the ceiling; or
2. With slotted top plate reflectors which distribute about 92% of light downward and 8% up; or
3. With solid top plate reflectors which distribute 100% of light downward.

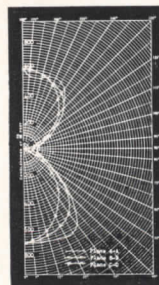
The Grenadier II is a louvered unit with translucent white plastic side panels which become luminous when the lamps are turned on. All metal parts are beautifully finished in a soft metallic satin. A well designed louver, which secures efficient diffusion and masks the surface brightness of the lamps, provides 35° shielding normal to the lamp and 25° parallel. Each 4' section utilizes two 40W fluorescent lamps.

The Grenadier II is designed with all reflecting surfaces turned downward so that they collect a minimum of dust. Side panels, louvers and channel covers are easily removed for periodic washings. Each model is built for installing in continuous runs and standard connecting parts are available from jobbers' stocks or the factory. The single unit for small rooms and corridors has twin suspension.

Excellent for stores is the Grenadier II equipped with a spotlight using a 150W Sealed Beam lamp and adjustable 35° in any direction. Details in the new Wakefield catalog.

**Lighting Design Data.** This table shows the number of square feet allowable per luminaire (for the model illustrated; catalog No. GRL-24824) for varying interior conditions and requirements. Divide the square foot area by the proper figure to find the number of luminaires required. Figures are based on present data book ratings for 4500° white lamps.

Average Fcs. in Service	Large Room Width 4 Times Height		Medium Room Width 2 Times Height		Small Room Width Equals Height	
	Light Finish	Medium Finish	Light Finish	Medium Finish	Light Finish	Medium Finish
30	56	45	47	38	37	29
40	42	34	35	29	28	22
50	34	27	28	23	22	18
60	28	23	24	19	19	15



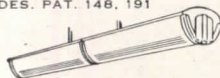
The flux or light of any lighting unit is plotted as a curve as a result of an impartial test made by Electrical Testing Laboratories. Shown here is the distribution curve resulting from such a test of the Grenadier unit illustrated above (Catalog No. GRL-24824). For further data, consult Sweet's File or write for catalog to

**The F. W. Wakefield Brass Company**  
Vermilion, Ohio

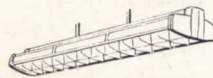
## Wakefield Over-ALL Lighting

FOR OFFICE • DRAFTING ROOM • STORE AND SCHOOL

DES. PAT. 148, 191



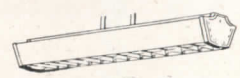
THE STAR



THE GRENADIER IV



THE COMMODORE



THE DIPLOMAT



(Continued from page 184)

— a full day's or night's supply — and nothing further need be done. When the ash receiver is full, it is covered and carried out like a suitcase.

These new units burn oil-treated dustless coal of any kind up to the size of a fist. What it does is transform the coal into gas and burn it as it comes from the coal. The remaining coke, say the manufacturers, continues to heat the house for several hours. Worsham Co., Inc., 7329 Lohmeyer Ave., St. Louis 17, Mo.

### Gas-Fired Unit Heater

A new line of gas-fired unit heaters is designed to embody all the latest features of forced air heating. The units, ranging in size from an input of 65,000 to 200,000 Btu's per hour, operate on either manufactured, natural or mixed gas.

Known as *Type 16 T*, the new line has a heat interchanger and combustion chamber assembly made of "aluminized" heavy gauge steel, electric welded to

provide one-piece, leak-proof construction. Air for combustion purposes and for the draft diverter intake is drawn from the sides of the unit to prevent mixing with the heated air stream. Double action high temperature safety control and adjustable louvers are features of the unit. Casing is styled and finished in durable neutral gray enamel. Carrier Corp., Syracuse, N. Y.

### Line Expanded

Three new home heating units have been added to the Richmond line of plumbing and heating equipment. The new units are the *Type K Gas Boiler*, which has built-in domestic hot water coil; the *Horizontal Gas Winter Air Conditioner*, said to require a relatively small amount of floor space; and the *Oil Winter Air Conditioner*, designed for installation in low cost homes. Richmond Radiator Co., 19 E. 47th St., New York 17.



## All the way through—

There's no surface decoration to wear off with Amtico Rubber Tile. The rich marbled patterns go all the way through, to give your clients years of faithful service.

No other flooring material has such flexibility and resiliency, no cracked or chipped tiles to be discarded when the job is finished. That same resilience means sound absorption. Jarring footsteps are hushed, as if by fine carpeting.

With the wide range of glowing colors available, you can plan floors outstanding in design.

Upkeep and maintenance are kept at a minimum. Mop it, and with an occasional waxing the gleaming beauty is a constant source of satisfaction.

Samples and descriptive literature are available — send for yours and be prepared to offer your clients this premium floor.

*Amtico*  
RUBBER TILE



## AMERICAN TILE & RUBBER CO.

TRENTON, NEW JERSEY



Mock window for home furnishings display

### SET-UP WINDOWS

Window panels of *Celanese Vimlite* are being used by B. Altman & Co., New York, in room set-ups for home furnishing displays. The Vimlite, a light-weight wire mesh coated with transparent Celanese cellulose acetate, can be cut into any form desired and is quickly installed with hammer and nails. It admits light while covering out-of-tune and unwanted details, is shatter-proof, can be cleaned with a damp cloth, and can be rolled up for storage. Celanese Corp. of America, 180 Madison Ave., New York 16, N. Y.

### WATER HEATERS

#### Oil-Burning Unit

Engineered to employ the same principle of water heating efficiency used in steam generating power plants, the new *Perco-Flash Hot Water Heater* is said to give high speed flash heating in minimum time and space. Incorporating the "Ball Flame" oil burner, the unit is compact, with the hot water capacity of larger tanks. Fast water heating is achieved by circulating a small stream of water over a large heated area at high

(Continued on page 188)

# Sealuxe

## SOLAR PROOF WINDOWS CONTROL RADIATION!

MADE OF HEAVY  
EXTRUDED ALUMINUM

*Saves Money in...*

- HEATING COSTS
- MAINTENANCE COSTS
- AIR-CONDITIONING COSTS
- WINDOW CLEANING COSTS
- ELIMINATING NEED FOR  
BLINDS, DRAPERIES, ETC.

*"Miracles in Metals"*

**ACTUAL TESTS SHOW THAT SOLAR RADIATION ACCOUNTS  
FOR AS MUCH AS 75% OF THE TOTAL COOLING NECESSARY!**

The outside shade, an integral part of the Sealuxe SOLAR PROOF WINDOW, minimizes and yet utilizes the effect of solar heat radiation. This control of solar energy results in more effective and economical air conditioning cost. Shades are designed for easy and quick adjustment from the inside and provide for maximum control of light and visibility. Another feature is that the shutter affords protection against storms, hurricanes, hailstorms, etc., and gives absolute draft control.

*Qualified sales representatives in every architectural center*



*Universal*

C O R P O R A T I O N  
6710 DENTON DRIVE ★ DALLAS, TEXAS

speed. This is done by a tube-within-a-tube system somewhat like a percolator in operation. Kresno-Stamm Mfg. Co., 345 Commercial Ave., Palisades Park, N. J.

### Electric Unit

A new automatic electric water heater, the *U. S. Capitol*, is available in sizes from 10 to 140 gal., and is designed to operate without noise and odor, free from the necessity of storing fuel. It can

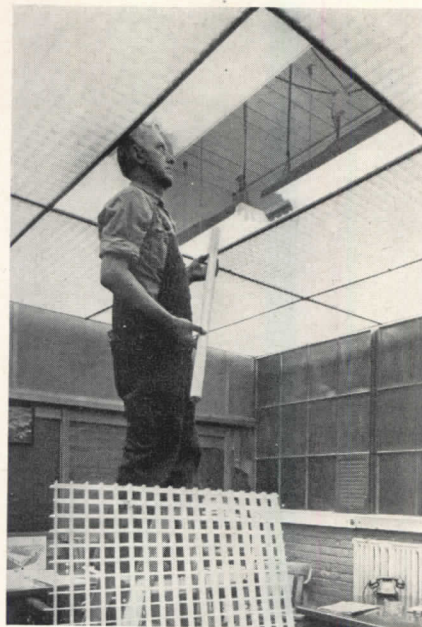
be installed in kitchen, utility room basement or recreation room. U. S. Radiator Corp., Detroit 31, Mich.

### LIGHTING

#### Plastic Louvers

The entire ceiling becomes a lighting unit with a new fluorescent lighting system called the *Sky-Glo*, the transparent Vinylite plastic louvers of which are said to reflect 18 per cent of the light striking its surface and to allow 71 per

(Continued from page 186)



Ceiling-sized fluorescent lighting unit

cent transmission. The system consists of standardized stock sections of the plastic louvers, channels and fittings. Benjamin Electric Mfg. Co., Des Plaines, Ill.

### New Fixtures

A completely new line of fluorescent and slimline *Executive Luminaire* lighting fixtures just announced has been designed for correct illumination and ease of maintenance. Available in two and four lamp units, with louvered or glass bottoms, for standard 40-watt fluorescent and 51-watt slimline sizes, the units are "wafer-thin" in depth, sturdily constructed, and finished in baked white enamel having a reflection factor of 87 per cent. All-bright Electric Products Co., 3917 N. Kedzie Ave., Chicago 18, Ill.

### PAINTS

#### Heat-Resisting

A new high-heat resisting aluminum paint called *Heatrem* is made specifically for use on exterior and interior metal surfaces where temperatures reach 1500° F., or any wood, brick or concrete surfaces exposed to extreme heat.

According to the manufacturer, *Heatrem* fuses with metal surfaces to form a permanently bright, elastic finish that resists moisture, corrosion, acids, alkalis and industrial fumes. It is said to set up in four hours and dry completely over night. Speco, Inc., 3142 Superior Ave., Cleveland 14, Ohio.

#### Self-Sealing

A self-sealing, oil-base, flat wall finish called *Dutch Standard Wall Charm* is suitable for painting over wall paper, wallboard, kalsomine, tile, brick, wood

(Continued on page 190)

## Information PLUS!

send for this brand-new  
drainage products  
catalog

contains....

- PHOTOS
- DRAWINGS
- DESCRIPTIONS
- DIMENSIONS
- WEIGHTS
- PRICES

on floor, roof and shower drains...backwater valves...grease interceptors...swimming pool fittings...sealed air chambers...in the most helpful, easy-to-find format we could devise!

Simply sign name, firm and address at right...and send to ....

# WADE

## DRAINS

... "SHOKSTOP" sealed air chambers  
"HYDRAFILTER" grease interceptors  
drainage and plumbing specialties

Since 1865

## MANUFACTURING COMPANY

# Long-term Low-cost Oil Heat

## A CERTAINTY WITH PETRO



Mr. V. H. Paulsen is a member of the firm of Ziegler, Childs & Paulsen, Jersey City, N. J., whose plans for a 1000-bed hospital, to be erected at the boundary of Newark, East Orange and South Orange, New Jersey, have recently been in the news. Constructed by the Army Corps of Engineers for the Veterans Administration, this hospital will consist of a group of nine buildings occupying a 35 acre site.

During the past 27 years Mr. Paulsen has specialized in institutional planning, including large hospital projects in New York, Connecticut and New Jersey. He is currently retained as hospital consultant on a nation-wide hospital program.

**INDUSTRIAL MODELS:** No. 5 or No. 6 fuel oil; manual, semi-automatic or automatic operation; 8 sizes to 450 bhp. Thermal Viscosity preheating.

**DOMESTIC MODELS:** No. 3 or lighter oils; "conversion" and combination-unit types, 7 sizes. Patented "Tubular Atomization."

**FULL DATA** on Petro Industrial Burners are in catalog files both of Sweet's and Domestic Engineering. Details on Petro Domestic Burners available in separate catalog. Copy of either sent gladly on request.

BECAUSE THE PERFORMANCE of a heating system affects building costs to an important degree, thrift-minded owners insist on selecting only that oil burner equipment which assures economical operation. Is the heating plant competent to serve satisfactorily under the load carried? Are running costs a minimum, both in fuel consumed and in attention required? Is the oil-burning system sturdily built so that it can be expected to give good service for many years?

Architects who speak from experience endorse Petro on all counts. Embodying a basic design that reflects more than forty years' specialization in oil heat, a Petro oil burner gives long-term low-cost service at peak efficiency. Built of interchangeable parts, it permits any desired development of the basic design to meet individual installation needs.

Mr. Paulsen puts it this way:

*"We have included oil heating in many of our specifications, and these installations in our experience have produced flexibility and quick steaming, combined with cleanliness and low operating costs."*

*"Where Petro systems are called for, we have found that their installation, supported by Petro engineering, offers certainty of a long-term and economical operation."*

Our data bulletins go into detail. Copies promptly mailed on request.

# PETRO

REG. U. S. PAT. OFF.

## cuts steam costs

**PETROLEUM HEAT AND POWER CO. • Makers of Good Oil Burning Equipment Since 1903 • Stamford, Connecticut**

(Continued from page 190)

ends of each section, permits a unit of any desired length to be made. An I-bolt attached to one end of the cable ties to the outside eyelet of one of the end sections. Blaw-Knox Co., Pittsburgh, Pa.

**TERMITE CONTROL**

A new system of termite control has been developed which consists of installing a series of slotted pipes at the time of construction in all accessible areas such as porches, sun parlors, stoops, steps and fireplaces. A perforated pipe is inserted annually into these installed pipes through which all hidden areas are treated with a chemical toxic. Hill Termite Control Systems, Inc., Memphis, Tenn.

**REVISED STANDARD**

Old Growth Douglas Fir Standard Stock Doors (CS 73045) is a revision which has been submitted to manufacturers and others for consideration and approval. It proposes to eliminate several sizes of house doors and a number of layouts of designs no longer in large demand. Will permit the use of Sitka spruce and Western hemlock as well as Douglas fir in the manufacture of doors as covered by the standard. In the lower quality doors, a mixture of these woods will be permissible. Mimeographed copies of the revision are available from the Commodity Standards Division, National Bureau of Standards, Washington 25, D. C.

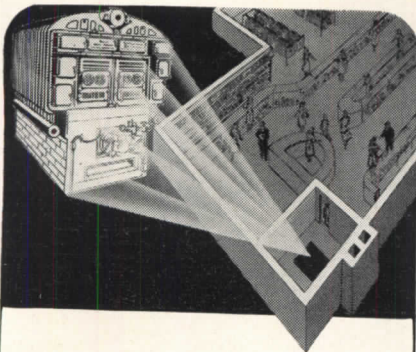
**AIR CONDITIONERS**

**Room Conditioner**

A compact window-type room conditioner for homes and offices, the SRA-50, is entirely self-contained and does not require building alterations for installation. It fits any double-hung window from 29 to 52 in. in width, needs only a plug-in connection to operate.

Designed for installation in almost any household or office window, the unit provides cooling for rooms up to approximately 250 sq. ft. It is powered by a Meter-Miser refrigerating unit which is hermetically sealed and self-oiling. It circulates filtered air at the rate of 185 cu. ft. per minute, cooling, dehumidifying and ventilating the room. Angled grilles direct air upward to prevent direct drafts. If desired, the cooling mechanism can be turned off and the unit will continue to ventilate the room. Room temperature control is provided by a three-position switch. Finish is bronze. Frigidaire Division, General Motors Corp., Dayton 1, Ohio.

(Continued on page 194)



**A boiler room can be a bargain basement!**

Chain stores can't take in money over counters that don't exist. Architects know that the smaller the boiler room, the greater the basement area that can be devoted to storing, displaying and selling merchandise. Heating contractors often show the way to smaller boiler rooms by specifying Smith-Mills boilers . . . because Smith-Mills boilers are constructed of cast iron, therefore do not need large open working spaces in front of the boiler for replacement of tubes.

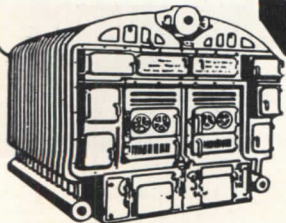
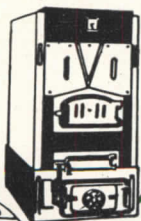
Because Smith-Mills boilers have plenty of heating surface to efficiently absorb heat generated by intense, blast-like oil, gas or stoker flames — even at peak firing rates — they are outstandingly efficient for automatic firing. This fact means, too, that they deliver maximum heat per square foot of basement space.

Yes, a boiler room can be a bargain basement . . . or a classroom, ward or tool room. In store or school, hospital or factory, Smith-Mills boilers are saving valuable space — and money, too. Write for the facts.

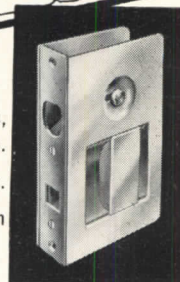
**H. B. Smith**

**CAST-IRON BOILERS**  
**THE H. B. SMITH CO. INC.,**  
67 Main St., Westfield, Mass.

Offices and Representatives in Principal Cities



THE NEW ADJUSTABLE  
**RITE-LOCK**  
FOR SLIDING DOORS



- For Entrance Doors, Bath and Inside Sets.
- Solid Brass Exterior.
- Three Escutcheon Types.

**RITE-LOCK** adds distinction and convenience to today's sliding doors. It's new, compact, trouble-proof...fits almost any thickness of door. The latching action is positive and releases with a natural sliding movement of the bar in the cup. For convenience and economy a finger pull is formed in the face plate. Look at these advantages:

- ★ Adjustable in width from 1-1/8" to 1-15/16"
- ★ Unit-type requires only a 3-1/2" x 2-5/8" notch
- ★ Adaptable to right or left hand doors
- ★ Outer case measures only 4-1/2" x 2-7/8"
- ★ Pin-tumbler 3/4" diameter cylinder available

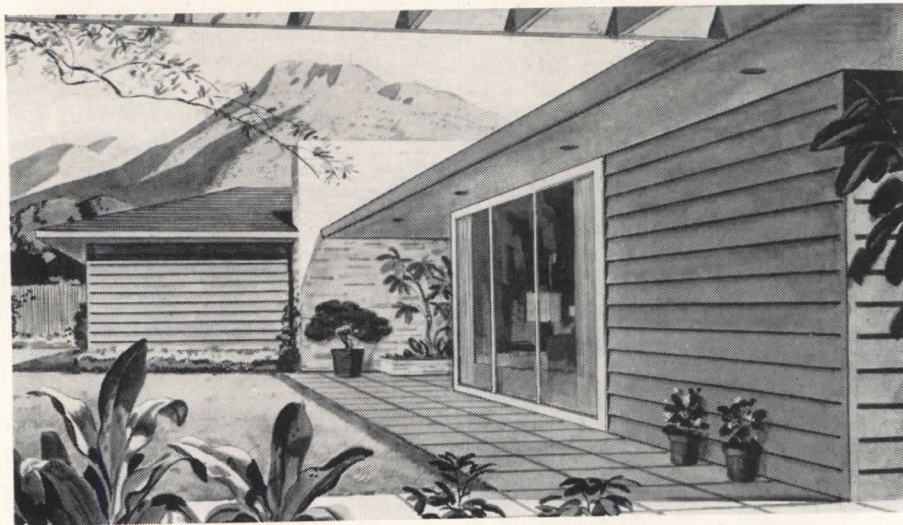
Ask your Hardware Consultant or write us for complete details.



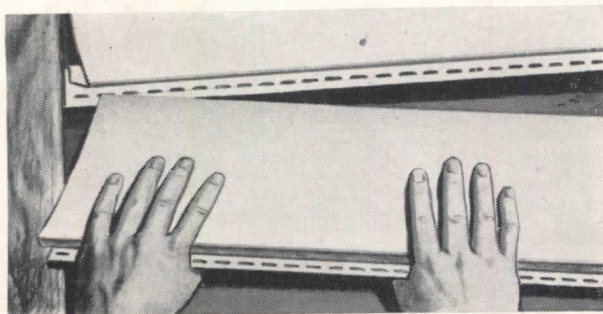
# You offer clients more with this new material!

(and at no extra cost)

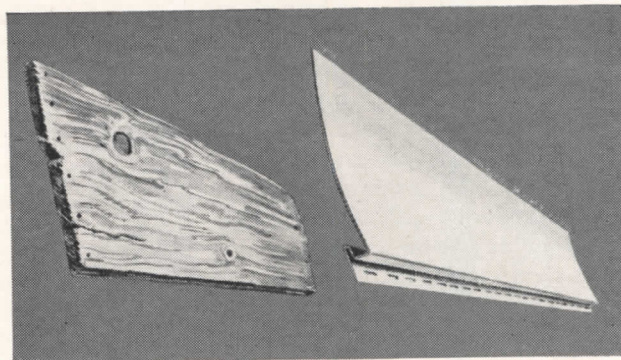
**MORE BEAUTY!** Here is a *better*, more beautiful kind of exterior building material—luxurious, precision-produced Kaiser Aluminum clapboard Siding and Roofing. It is flawlessly uniform in beauty and quality, forever free of splits, knots and rough sawing scars. It comes from the mill prime-coated, ready to receive smooth paint finishes that won't flake or peel. And it can be painted any color, any shade.



**MORE ECONOMY!** This new siding and roofing costs no more than other fine building materials. But better yet, it will never need the usual kind of maintenance, for it can't crack, rot, warp or rust. And it's easier to erect than any other material, so it cuts on-the-job labor expense. Requires fewer nails, less paint (because it absorbs none) and needs no underlying wood sheathing. You can cut and work it with wood tools.



**MORE PROTECTION!** Only Kaiser Aluminum clapboard Siding and Roofing has a curved surface. When each piece is nailed down by the lower edge, the pre-formed curve produces a tension which results in an absolutely tight, weather-proof joint. Concavity also eliminates wrinkles and sheen, produces attractive shadow lines that are  $\frac{3}{4}$ " deep, and increases rigidity. Notice how nails are completely hidden!



**MORE DURABILITY!** No other material can match the long life of Kaiser Aluminum clapboard Siding and Roofing. It will last for *generations*. It can't absorb moisture, can't be damaged by vermin or rodents, can't be ignited by sparks. It is supplied in standard lengths of 10, 12, 14 and 16 feet. Siding is  $\frac{6}{8}$ " wide, .030" thick. Roofing has an exposed width of  $8\frac{1}{2}$ ", is .025" thick. 1143 base feet of the Siding weighs 580 pounds, will give 1000 sq. ft. of wall coverage.

## Kaiser Aluminum

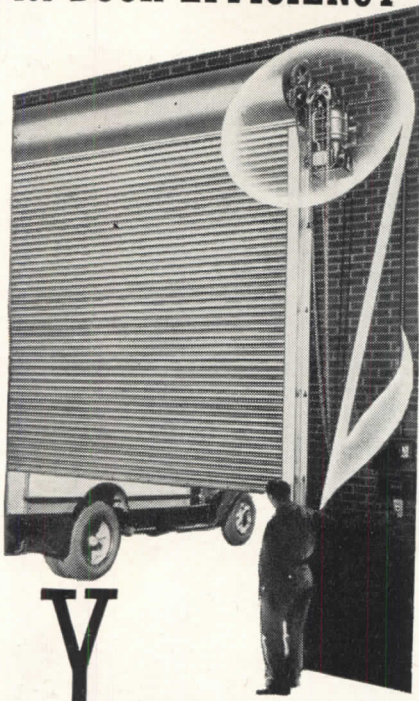
### SIDING AND ROOFING

a Permanente Metals product

Get more information about the unique advantages of Kaiser Aluminum clapboard Siding and Roofing! Phone, wire or write today for free folder packed with detailed information.

SOLD BY PERMANENTE PRODUCTS COMPANY, KAISER BLDG., OAKLAND 12, CALIFORNIA . . . WITH OFFICES IN:  
Atlanta • Boston • Buffalo • Chicago • Cincinnati • Cleveland • Dallas • Detroit • Indianapolis • Kansas City • Los Angeles  
Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Salt Lake City • Seattle • Spokane • St. Louis • Wichita

# The RIGHT NOTES for DOOR EFFICIENCY



**Y**ou keep door performance in tune with plant efficiency when you install KINNEAR Motor Operated Rolling Doors. They respond instantly to the touch of a control button, from one or more switches placed anywhere in your plant. Their smooth, efficient, vertical action saves space, prevents accidents, avoids traffic tie-ups. They coil compactly out of the way overhead, safe from damage. The husky

Kinnear Motor Operator stands up under hardest use. And there are extra years of protection and low-maintenance service in Kinnear's rugged, all-steel construction—as proved by hundreds of installations that have served continuously for 20, 30 and 40 years! For the "right notes" on efficient doors, send for Kinnear details today.

**The KINNEAR Manufacturing Co.**  
Factories: 1860-80 Fields Ave., Columbus 16, Ohio  
1742 Yosemite Avenue, San Francisco 24, California  
Offices and Agents in Principal Cities

**Saving Ways in Doorways**  
**KINNEAR**  
ROLLING DOORS

## ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

(Continued from page 192)

### Window Blower

Specifically designed for small homes, apartments, tourist courts and cottages, the new *Sno-Breze Evaporative Air Cooler* features quiet operation and ease of installation. Motor and blower are free floating and rubber mounted to eliminate vibration and noise. The unit is balanced to the window sill, has metal side panels adjustable to fill any space between the cooler and the window; it is positioned and held by lowering the window to the angle weather stripping on top of the cooler. Cabinet is 22 gauge rust-resistant, press-formed, with rear louvered panel removable without tools for quick changing of the pads and for servicing.

Other features of the unit include: a trough type water distributing system with automatic water regulator; recessed adjustable front grille (patent pending); and convenient fingertip control provided by a switch and water control valve on the front panel. Finish is a light brown baked Hammertone enamel. Palmer Mfg. Corp., Phoenix, Ariz.

### Schoolroom Unit

Gradual throttling of the steam supply for uniform temperature control is possible with a new unit ventilator designed for use in school classrooms. This is achieved by a newly designed assembly consisting of a floating heating element with steam distributing tubes, a pressure equalizing unit including a special checking device, and condensate cooling surface.

A slow speed, direct connected motor—located in the end compartment, out of the air stream—is said to provide quiet operation and to permit use of the entire cabinet space above the heating element for fans. Fans are located at the outlet of the unit to permit uniform temperature of air introduced into the room from each outlet; the number of the fans increases in direct proportion to rated capacity to permit the same slow tip speed regardless of the size of the unit. An automatic back draft damper is provided to prevent cold air from passing through the room air grille. The Herman Nelson Corp., Moline, Ill.

### Attic Fan

A spring mounted, vertical air discharge attic ventilating fan, especially designed for attics or other locations of low headroom where extreme quiet is desired, is available in three sizes to deliver 6000, 8500 and 12,000 C.F.M. The

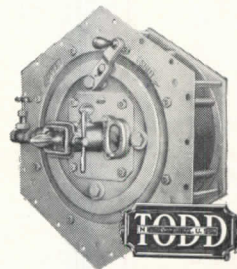
(Continued on page 196)

**OIL  
ALLOTMENTS  
GO  
FURTHER  
WITH  
TODD  
BURNERS**



• Stretch your oil supply by replacing obsolete equipment with Todd Burners. Avail yourself of the years of experience of Todd engineers.

Oil Burners  
Gas Burners  
Combination  
Oil and Gas  
Burners



**COMBUSTION EQUIPMENT  
DIVISION**

**TODD SHIPYARDS CORPORATION**

81-16 45th Ave., Elmhurst, Queens, N. Y.

NEW YORK • BROOKLYN • ROCHESTER  
HOBOKEN • NEWARK • PHILADELPHIA  
HARRISBURG • YORK • CHICAGO • CHARLESTON,  
S. C. • BOSTON • SPRINGFIELD, MASS.  
BALTIMORE • WASHINGTON • DETROIT • GRAND  
RAPIDS • TAMPA • GALVESTON • MOBILE • NEW  
ORLEANS • LOS ANGELES • SAN FRANCISCO  
SEATTLE • MONTREAL • TORONTO  
BARRANQUILLA • BUENOS AIRES • LONDON



*Send Today For Your Free Copy of the Rules of the*

Chicago Tribune's

**\$26,250<sup>00</sup>**

**"BETTER ROOMS"**

**COMPETITION of 1948**

*offering 161 cash prizes ranging from \$100<sup>00</sup> to \$1,000<sup>00</sup>  
each for the best ideas for furnishing and decorating typical rooms of homes*

**ALL ENTRIES MUST BE RECEIVED BY 5 P. M. OF JUNE 7, 1948**

**D**O YOU have fresh and interesting ideas for furnishing and decorating a living room, a combination living-dining room, a dining room, bedrooms for single and double occupancy, a kitchen, or a one room home?

So that it may present again this year to readers the widest range of the latest, best and most effective ways to furnish and decorate various rooms of homes, the Chicago Tribune is conducting the "Better Rooms" competition of 1948, offering \$26,250.00 in 161 cash awards ranging from \$100.00 to \$1,000.00 each for the best entries presenting ideas on this subject.

Just as the Chicago Tribune's competition last year was highly productive of ideas which set the pace in this field of popular interest, so the 1948 project has been designed to set new high standards of excellence in home interior fashions.

Here is an opportunity to give your talent and ability free play in planning one or more interiors just the way you would have them, without compromising in any detail. Here is a chance to win substantial monetary reward and national recognition for your efforts.

After the prize-winners have been selected, the Tribune plans to give them the widest publicity. It is the newspaper's intention to reproduce the winning ideas, or adaptations of them, week after week, in full color in the Sunday Tribune with its more than 1,600,000 circulation.

Everyone is eligible to compete, except Tribune employees, mem-

bers of their families, and of the Jury of Awards, which will be composed of persons competent and skilled in this field.

For complete information about how to submit an entry, write today for a free copy of the rules which will be sent postpaid. As is made plain by the anonymity provision of the rules, all entries will enjoy equally fair consideration in the judging.

Fill in the coupon below, paste it on a postcard and mail today. All entries must be received not later than 5 p.m. of Monday, June 7, 1948.

**MAIL THIS RULES REQUEST FORM TODAY**

**BETTER ROOMS COMPETITION OF 1948**  
Chicago Tribune, Room 2319  
Tribune Tower, 435 N. Michigan Ave.  
Chicago 11, Ill.

*Without cost or obligation to me, please send by postpaid mail complete details and rules of the Chicago Tribune's \$26,250.00 "Better Rooms" Competition of 1948 to me at the address below.*

AR-4-48

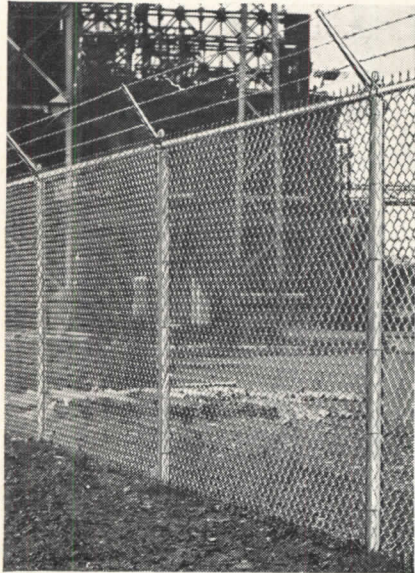
My Name .....

Street and Number .....

City.....State.....Zone Number, if any.....

(Please PRINT plainly)

**SPECIFY** "Anchor"   
**AND YOU CAN RELY**  
**ON 4 EXCLUSIVE**  
**FEATURES . . . .**



**for LONGER-LASTING PROTECTION!**

Whether you're specifying fence for factory, institution or home . . . Anchor Chain Link Fence is your best bet for four good reasons!

- 1 Deep-Driven Anchors hold the fence erect and in line, in any soil or weather, yet permit easy relocation at any time.
- 2 Square Frame Gates are amazingly free from warping, sagging.
- 3 U-Bar or H-Beam Line Posts are self-draining, rust-free and rigid.
- 4 Square Terminal Posts improve strength, durability, appearance.

They all add up to extra years of all-out protection for your clients, more satisfactory jobs for you. For more information on this tough, durable fence, write today for your copy of our free illustrated catalog. Contains structural diagrams, specification tables, installation photos, many types and uses of Anchor Chain Link Fence. Send for information to ANCHOR POST FENCE DIVISION, Anchor Post Products, Inc., 6600 Eastern Ave., Baltimore 24, Md.

**Anchor Fence**  
 Nation-wide Sales and Erecting Service

**ARCHITECTURAL ENGINEERING**

TECHNICAL NEWS AND RESEARCH

(Continued from page 194)

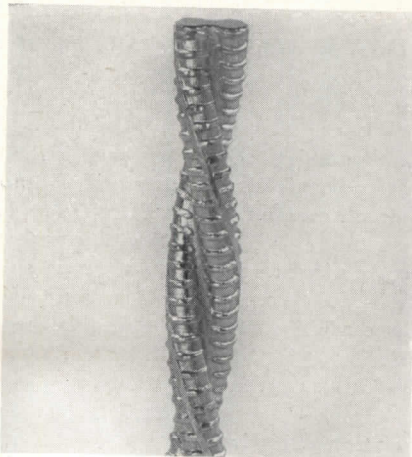
unit is sold ready for installation as a package unit consisting of vertical discharge fan and motor, automatic ceiling shutter, floor mounting brackets and springs, canvas boot for seal between fan and attic floor, pull chain switch with fuse link. Chelsea Fan & Blower Co., Inc., 1206 Grove St., Irvington, N. J.

**Portable Fan**

The Lau P-18 Portable Fan has been redesigned for added efficiency, improved appearance and adaptability. It can be placed on a table, the floor, in a window or transom, or on its back to deliver a cooling stream of air. Connection is plug-in type, delivery is 1800 C.F.M. The position of the unit can be reversed at any time to enable air to be pulled in or out as desired. The Lau Blower Co., Dayton 7, Ohio.

**INSULATION**

A double-action building insulation, Cellulite-Silvercote, reflects radiant heat in addition to blocking heat transfer by conduction and convection. Two non-corroding reflective metallic membranes enclose a fluffy fiber blanket of Cellulite which is flameproof and, with its millions of dead air spaces, an effective barrier to heat transfer. The Gilman Brothers Co., Gilman, Conn.



Steel- and cost-saving reinforcing bar

**REINFORCING BAR**

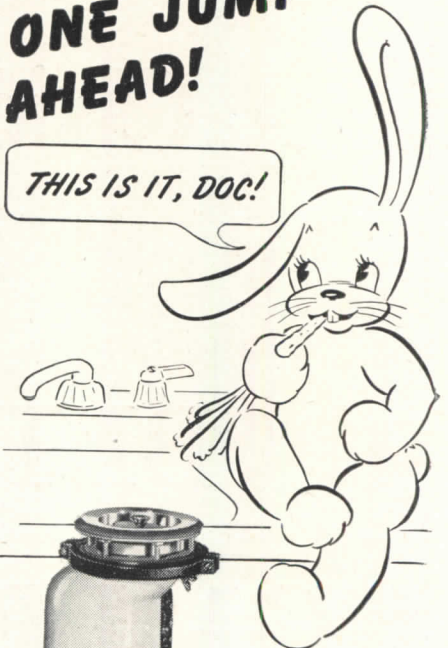
A new form of reinforcing bar called Webrib is a deformed dumbbell shape, produced by cold spiral bending and twisting an intermediate grade bar so as to increase its yield point by 50 per cent. According to the manufacturers this raises the yield point of ordinary intermediate grade steel from a specified value of 40,000 p.s.i. to a minimum

(Continued on page 198)

**IN-SINK-ERATOR**  
 AUTOMATIC GARBAGE DISPOSER

**ALWAYS ONE JUMP AHEAD!**

*THIS IS IT, DOC!*



*With*

**THESE OUTSTANDING FEATURES**

- REVERSIBLE ACTING ROTOR SHREDDER



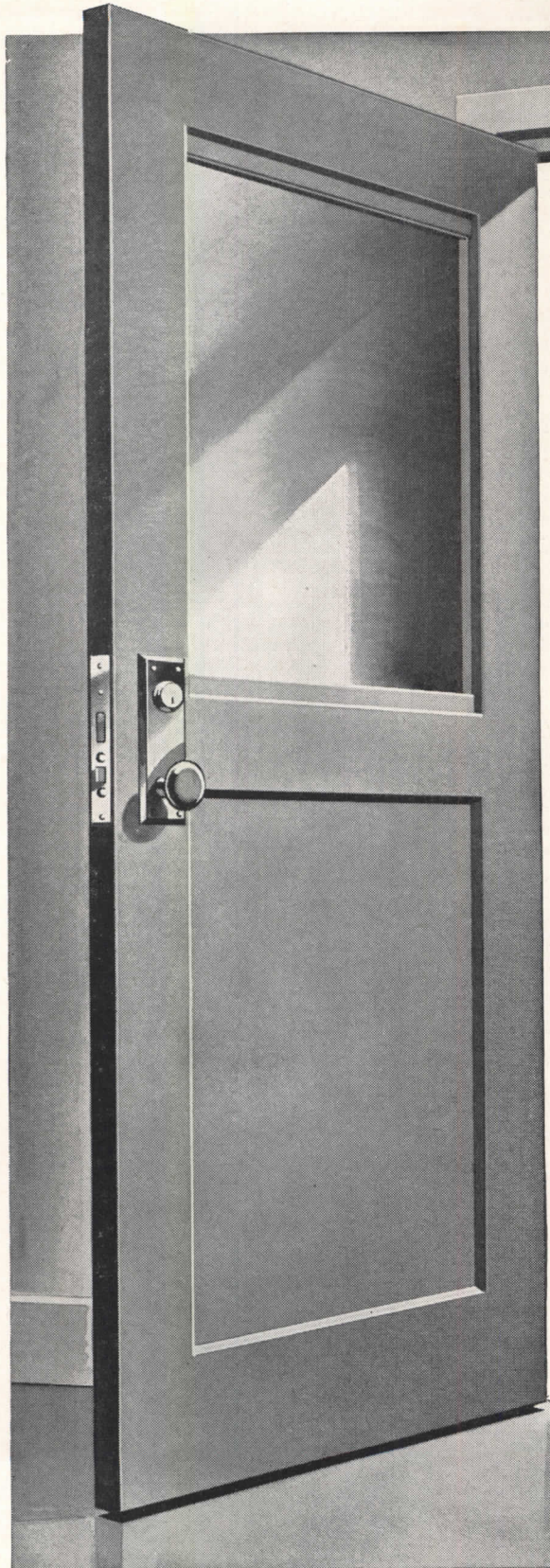
- TWO - DIRECTIONAL SHREDDING ELEMENTS
- GLEAMING WHITE FINISH
- STREAMLINED, COMPACT DESIGN

Add to all these a distribution set-up that pleases the man who makes the installation—the plumber—and you've got a garbage grinder you will own with pride, specify with confidence.

FOR FURTHER INFORMATION—WRITE DEPT. R

**IN-SINK-ERATOR**  
 MANUFACTURING CO. RACINE, WIS.

Specializing Exclusively in the Manufacture of Automatic Garbage Disposers Since 1938



## High-Quality Metal Doors

*Available Now!*

The fine workmanship in Fenestra Fire-shield Swing Doors is evidenced in their trim appearance.

**MANY USES**—attractiveness and durability make these doors suitable for many uses—for entrances, exits, stairwells, communicating doors, etc.—for apartments, stores and other commercial buildings, factories, to mention a few.

**AVAILABLE NOW**—standardization of types and sizes enables your building supply dealer to carry ample stocks to fill almost any building need.

**LOW COST**—in two ways. (1) Lower first cost because standardization results in manufacturing economies. You get a sturdy metal door for far less than many doors now on the market. (2) Installation costs are reduced because swing doors come to the job complete with frames and hardware. No mortising, no drilling, no tapping, no prime painting. You're sure of a good fit.

**UNDERWRITERS' LABEL.** Doors of same design are available with Underwriters' B Label.

For full information on these doors, as well as on counterweighted doors, call the nearest Fenestra office, or write to Detroit Steel Products Co., Dept. AR-4, 2252 East Grand Blvd., Detroit 11, Michigan.

*Fenestra*

FIRESHIELD SWING AND SLIDE  
METAL DOORS

(Continued from page 196)

value of 60,000 p.s.i., making available a considerable saving in the amount of steel required in reinforced concrete construction. Advantages claimed for Webrib are: (1) a one-third saving in weight of steel; and (2) considerable economy in cost through the saving in material, handling, transportation, bending and placing. Webrib Steel Corp., 120 Broadway, New York 5, N. Y.

### LONGER LIFE FOR LUMBER

Wider use of lower cost lumber is expected to be made possible by the use of Bakelite and Vinylite resins as a knot-sealer. The sealer, recommended by the Western Pine Association, is made by dissolving Vinylite vinyl butyral resin in alcohol and adding to this solution a Bakelite phenolic resin. In application the sealer is brushed over the unprimed knots and the surrounding area. Paint is then applied in the usual manner.

### WALL TILE

A new type of plastic wall tile, *Lockback*, is molded with four undercuts extending entirely across the back. These undercut ribs provide a mechanical lock between the mastic and the tile so that once Lockback has been pressed into

place it is "on to stay." The ribs also are said to keep the mastic from drawing the tile concave when it dries, and to give the tile added strength and rigidity. Wilson Plastics, Inc., 131 Arthur St., Sandusky, Ohio.

### PIPE INSULATION

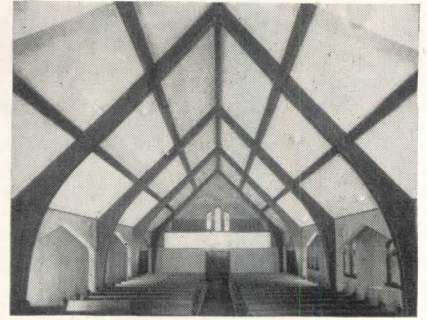
Said to be the first pipe insulation that can be used for both hot and cold lines, indoors and outdoors, a new *Foamglas* insulation is designed to retain its original insulating efficiency permanently. Of cellular glass construction, it is unaffected by humidity, is resistant to fumes, vapors, acid atmospheres, and many other elements which cause other materials to lose their insulating value. It is non-combustible.

The new insulation comes in two equal half-sections, 18 in. long, and is being manufactured for all sizes of pipe. Pittsburgh Corning Corp., Pittsburgh, Pa.

### VENTILATOR

A glass block ventilator, *Weather-Bloc*, conforms in size to standard glass block, and is easy to install. Built of stainless steel, reinforced and ribbed for added strength, it has two plate glass

(Continued on page 200)



St. James Lutheran Church, Seattle  
O. F. Nelson, Architect

for **BEAUTY**  
**STRENGTH**  
**ECONOMY**

Specify

## Glued Laminated CHAPEL ARCHES

Glued Laminated structural forms open up a whole new field to the architect. They offer a modern method of producing traditional classical and functional shapes of great beauty and strength. Load bearing components can now be "moulded" to fit the architectural lines you specify. Their great economy is due to their ease of erection in a single piece and the fact that they can be furnished prepared for any architectural finish desired.

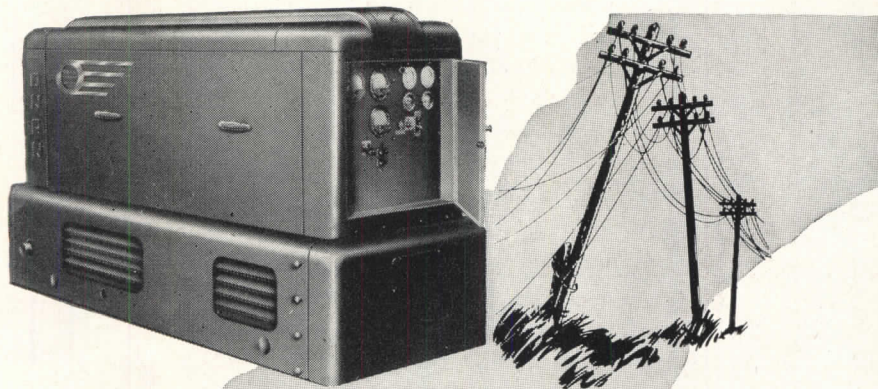
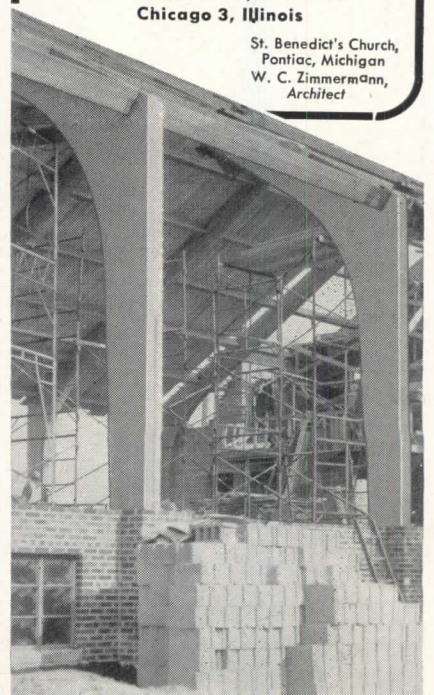
Our engineering department is geared to render a consultation to the architect on the design of Glued Laminated Structural and Architectural Arches for churches, schools and gymnasiums.

Send for illustrated literature today

## TIMBER STRUCTURES, INC.

P. O. Box 3782 Portland 7, Oregon  
535 Fifth Avenue New York 17, N. Y.  
220 Montgomery St. San Francisco 4, Cal.  
120 S. LaSalle St., Rm. 1720  
Chicago 3, Illinois

St. Benedict's Church,  
Pontiac, Michigan  
W. C. Zimmermann,  
Architect



## Guard Against Costly Power Failures with **ONAN STANDBY ELECTRIC PLANTS**

When power fails, business comes to a standstill. Materials in process are wasted, men and machines stand idle, lives may be endangered. Prevent the disastrous effects of power failure with a low-cost, easy-to-install Onan Standby System. The generating plant starts automatically when commercial power fails, takes over the power load without interruption, stops automatically when power is restored. Many models: 350 to 35,000 watts, A.C.

**D. W. ONAN & SONS INC.**  
5130 Royalston Ave. • Minneapolis 5, Minn.

ELECTRIC  
PLANTS

Write for  
Catalog



# ONAN STANDBY POWER

**NEW!**

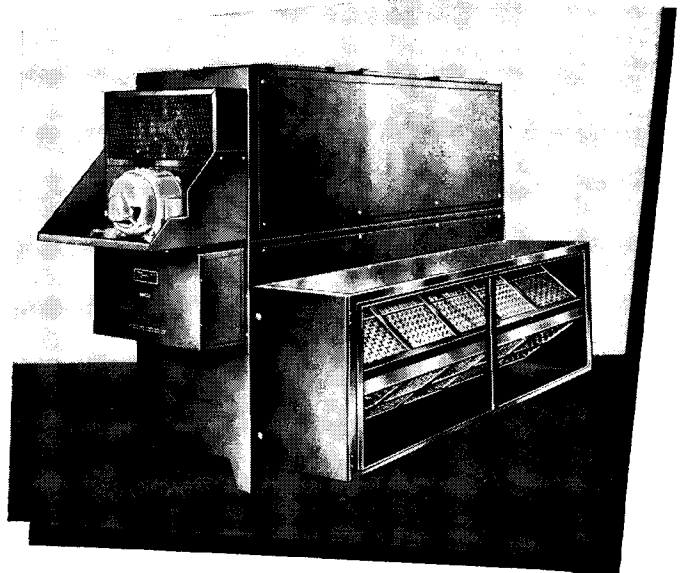
**LIGHTWEIGHT!**

**COMPACT!**

**FLEXIBLE!**

**Announcing!**

**THE NEW**  
 **CENTRAL PLANT**  
**AIR CONDITIONER**



**H**ERE'S Better Air Conditioning for your clients in a single convenient package—the G-E Central Plant Air Conditioner.

This General Electric unit is planned and integrated *as a single unit*...with all components pre-engineered, pre-fabricated, pre-matched. "Jig-saw puzzle" assembly of uncoordinated parts is eliminated.

The smartly designed new unit shares with the regular G-E horizontal model the features of attractive appearance...quiet, smooth operation...dependable, consistent performance. It

is extremely flexible and can be assembled in 12 different combinations to meet any space requirements. Coil connections can be made at either side.

These units have been designed specifically to make inspection and maintenance extremely easy. Your local General Electric Air Conditioning expert will be glad to work with you in planning the installation of these G-E Central Plant Air Conditioners.

*General Electric Company, Air Conditioning Department, Section A8444, Bloomfield, N. J.*

**GENERAL**  **ELECTRIC**

*Better Air Conditioning*

(Continued from page 198)

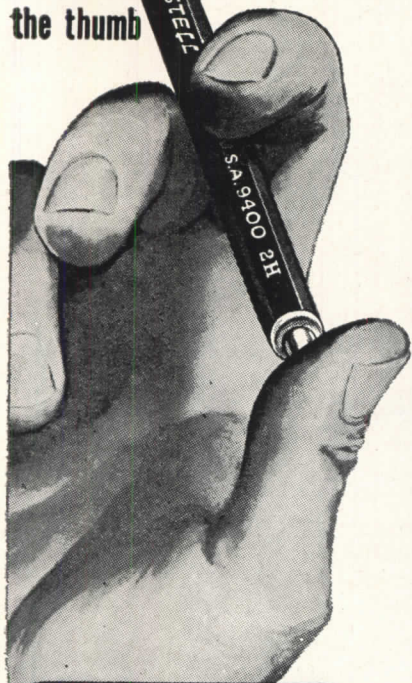
**LOOK-One Hand!**

A.W. Faber's quick-action  
(black or colored)

**LOCKTITE**

refill  
works  
the thumb

drawing pencil  
with a flip of



1). Patented collet to hold lead in bulldog grip.

2). One-hand clutch operation to avoid touching lead and smearing fingers.

These are but two exclusive features which make LOCKTITE the favorite of professional men. Collet prevents lead breaking or slipping. Try this clean, balanced, sturdy mechanical beauty and you will surely want to own it.

Holds all standard graded drawing or retouching leads. Winner Techno-TONE No. 1930 assures best results.

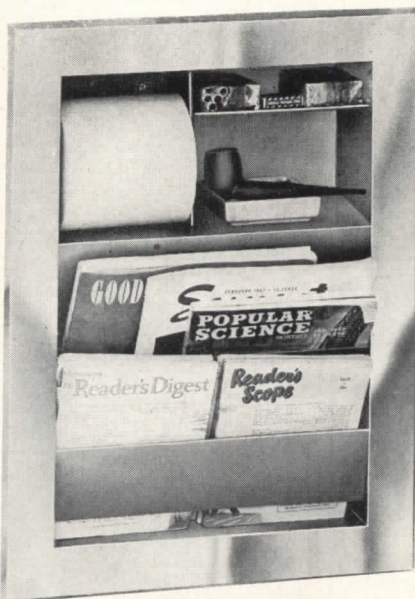
ALSO AVAILABLE IN RED, BLUE, GREEN, YELLOW, CARMINE, ORANGE and WHITE —holding hardy WINNER Techno-TONE crayon leads for coloring, sketching and checking.

**BLACK in degrees 4B to 9H.**  
Sold at Stationers', art and drawing supply stores, photo supply shops and Blueprinters.

**GUARANTEED  
OF COURSE!**

**AW. FABER-CASTELL**  
PENCIL COMPANY INC. NEWARK 4, N.J.

louvers on the inside to permit regulation of the flow of air into the room and to direct it either upward or downward. Thick glass diffusers are fitted to the outer side of the unit to break up the air as it enters and thus prevent drafts; they face downward, deflecting rain, snow and dust particles. All parts are easily removable for cleaning and replacement, and the louvers themselves can be removed from the inside without disturbing the body of the ventilator. Air Rectifiers, Inc., 3734 Southport Ave., Chicago 13, Ill.



Novel gadget for the hospitable home

**COMFORT ITEM**

From Hollywood comes a novel idea for home comfort: *Family Hospitality*, a bathroom accessory with compartments designed to hold books, magazines, newspapers, cigarettes, matches, ash tray, toilet tissue, etc. Made to recess in standard walls, it is of heavy gauge steel construction, with chrome plated frame and baked "Hammer Tone" enamel on interior surfaces. Available in six colors. A somewhat less hospitable model, *Family Hospitality Jr.*, omits the book and magazine section but is otherwise identical. House of Hospitality, P.O. Box 254, North Hollywood, Calif.

**CORRECTION**

Through an unfortunate typographical error in the description of *Castle Square Flooring* in the February RECORD (page 168), the thickness of the flooring was given as 3 3/8 in. The boards are 3/8 in. thick.



**Wing Revolving Heaters  
for Hard-to-heat Buildings**

The ideal heating system for hard-to-heat buildings is an installation of Wing Revolving Unit Heaters. The Wing Revolving Unit Heater is unique in that it does what no other heater can do — its slowly revolving outlets gently distribute the heat continuously in a constantly changing direction. It reaches over, around and under obstructions into far away corners, its moving streams of heated air spreading an even, uniform, healthfully invigorating blanket of warmth over the entire working area.

There is a Wing Revolving Unit Heater designed for almost any size, shape, height, or exposure of building. Wing Revolving Unit Heaters are used in many of the country's leading industrial plants. Write for a list of installations.



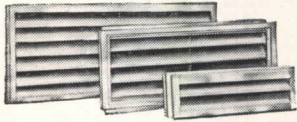
Wing Revolving Unit Heaters keep the heated air moving, circulating around obstacles, seeking out far corners, spreading an even, uniform, healthfully invigorating blanket of warm air over the entire working area.

Write for Bulletin HR-5

**L. J. Wing Mfg. Co.**

151 W. 14th St., New York 11, N. Y.  
Factories in Newark, N. J., and Montreal, Canada

# Practical **LOUVER** Design...



calls for a strong, rigid, corrosion-resisting material. And you can actually save money...as much as ten per cent...by using Monel\*

**Exposed to the elements** on both sides, louvers seldom dry out...always have moisture in their crevices.

That's why louver design demands the use of corrosion-resisting material.

But most corrosion-resisting materials are too weak and lack rigidity. Only by using extra heavy gauges can louvers be made strong enough and stiff enough to prevent sagging and distortion.

Now look at Monel! It's the natural answer to the problem. It resists corrosion without any "extra" protective coating. It provides twice the rigidity of commonly used materials and twice the strength.

Yet, you can use this superior metal and actually save up to 10% on material alone...because its strength and rigidity permit the use of thinner gauges.

Monel is easy to work, too. Sheets can be cut, bent and formed to exact specifications. Even 180° bends are no problem. And Monel can be soldered, brazed or welded by ordinary methods.

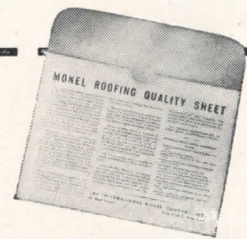
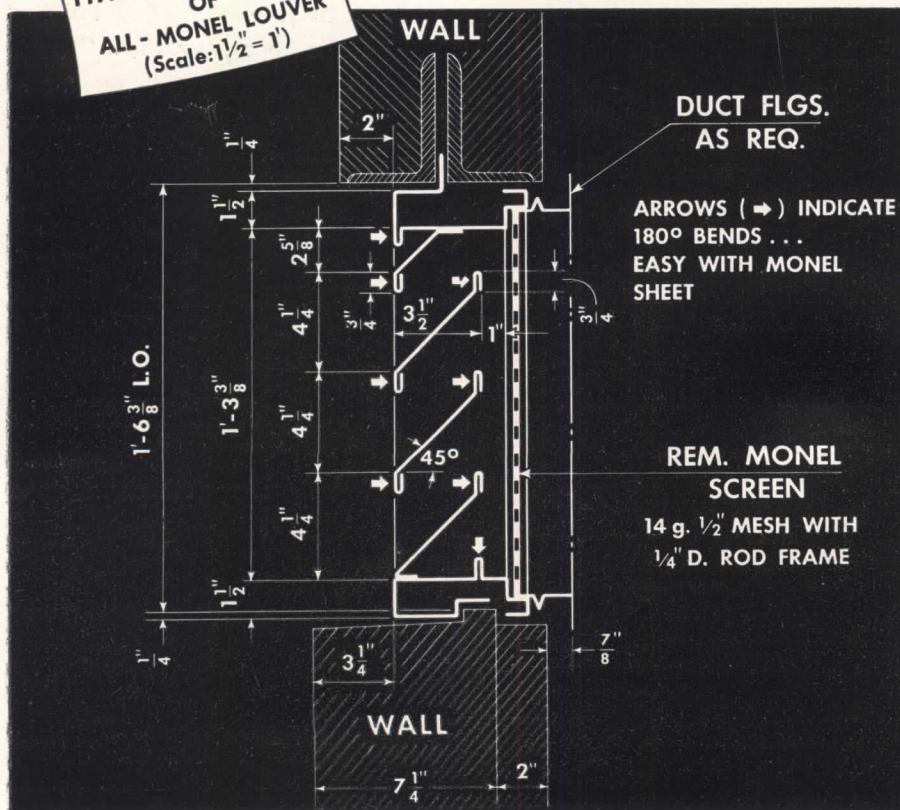
But the best way to see how Monel can solve your practical design problems is to examine a sample and try it out yourself. The coupon will bring it to you by return mail. \*Reg. U. S. Pat. Off.

**THE INTERNATIONAL NICKEL COMPANY, INC.**  
67 Wall Street, New York 5, N. Y.



**Monel\***... means minimum maintenance

**TYPICAL CONSTRUCTION OF ALL-MONEL LOUVER**  
(Scale: 1 1/2" = 1')



**MAIL THIS COUPON FOR A TEST SAMPLE OF MONEL ROOFING SHEET**

We've said quite a few nice things about Monel. Now send for this good-sized sample and see for yourself—test it any way you like. We'll also send you names and addresses of manufacturers of Monel louvers and ventilating equipment.

**The INTERNATIONAL NICKEL Company, Inc.**  
67 Wall Street  
New York 5, N. Y.

(Name) .....

(Company) .....

(No.) ..... (Street) .....

(City) ..... (State) ..... A. R. 4-48

# Architects



## SPECIFY HILLYARD Products BECAUSE ....

Hillyard's Floor Seals, Finishes and Treatments properly protect and prolong the life of all types of floors. Floors stay cleaner, look better and last longer. Many leading flooring manufacturers and contractors approve Hillyard Products because they have given and are giving entire satisfaction in uniformity, dependability and economy. Write for literature on Hillyard products for every type surface.



HILLYARD SPECIFICATION CARDS

See Hillyard Specifications in Sweets 1948 Catalog, Sec. 13, Pages 13G-3



Send for Specification Cards. FREE for the asking.

## HILLYARD SALES CO'S

DISTRIBUTORS  
HILLYARD CHEMICAL COMPANY  
ST. JOSEPH, MISSOURI  
470 Alabama St., San Francisco, Calif.  
1947 Broadway, New York 23, N. Y.

## ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

(Continued from page 160)

used in fields where low temperatures are not a factor, the booklet warns that it should not be considered a substitute for low alloy steels in instances where high strength is the primary consideration. 12 pp. International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.

### WINDOWS

**Sunlight Aluminum Windows.** Catalog of aluminum windows for residential casements and intermediate combination casements, including types, sizes and specifications. Text stresses savings in the heating and cooling of buildings accomplished by weather-stripped aluminum windows as well as the elimination of yearly painting. 12 pp., illus. Sunlight Aluminum Window Co., 2301 S. Delaware St., Denver, Colo.\*

### WIRING DEVICES

**Rugged Wiring Devices (Catalog No. 28).** Guide to the selection and application of a complete line of wiring devices. For convenience in locating items a sectional index is provided on the first page and a general index on the last. Back-of-the-book supplements list restricted items as well as catalog number, page number, price and package weight. 112 pp., illus. Harvey Hubbell, Inc., Bridgeport 2, Conn.

### LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

O. J. Baker, Director, Low-Cost Housing Research, College of Engineering, Louisiana State University, Baton Rouge 3, La.

W. C. Chick, Jr., 21 Nod Hill Rd., Newton, Mass.

James J. Crawford, Director, Temple University Technical Institute, 720 N. Broad St., Philadelphia 30, Pa.

F. Wallace Dixon, Architect, 1200 18th St., N. W., Washington, D. C.

Eric Felming, Architect and Engineer, Box 450, RFD 5, New Brunswick, N. J.

Robert E. Howe, Architect, 119 Livingston Ave., New Brunswick, N. J.

Harry J. Humbrecht, Architect, 1115 S. Clinton St., Ft. Wayne 2, Ind.

William Arild Johnson & Assoc., Architects and Engineers, First National Bank Bldg., Everett, Wash.

William H. Kremer, Architect, 750 S. High St., Columbus 5, Ohio.

Peter J. Makerg, 15 Campbell St., Parramatta, N. S. W., Australia.

J. Wesley Olds, 2200 Olds Tower, Lansing 8, Mich.

## AT LAST . . .

## Costly Vapor Condensation

is

# Licked

Bird Neponset Black Vapor Barrier is the permanent answer to expensive "in-wall" condensation. Applied on the warm side of insulation, it repels vapor, ends stained walls and peeling paint . . . and it keeps insulation at top efficiency.

A small investment for long-lasting protection, Bird Neponset Black Vapor Barrier costs only about \$20.00 to give a \$10,000 building dry walls that *stay dry*. Consult Sweets File for Builders, 2E-1. For sample, write Bird & Son, inc. 11 Pine Street, East Walpole, Mass.

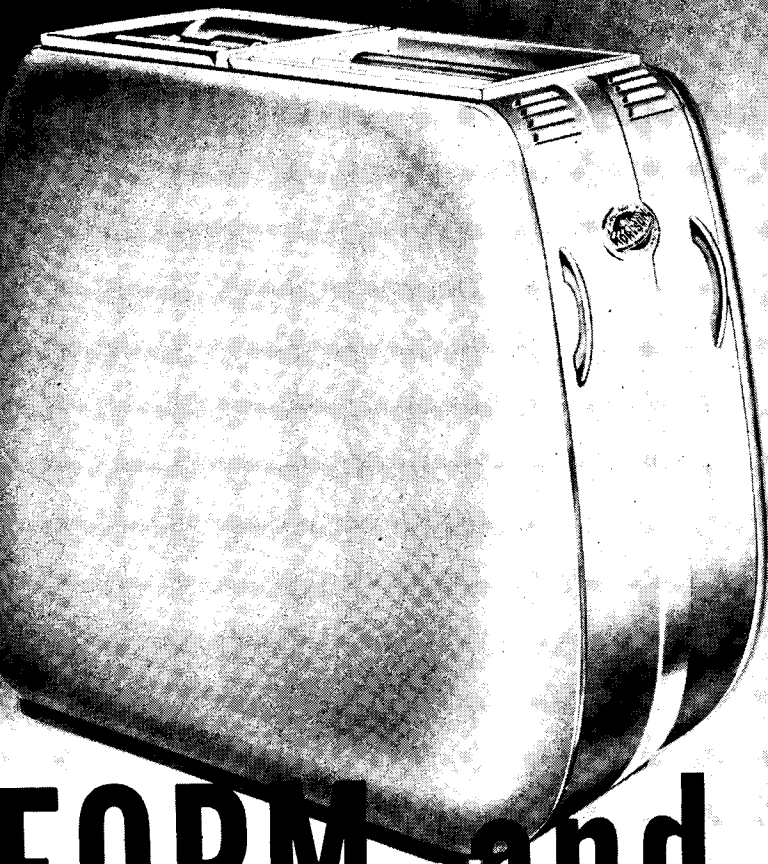


**Specifications**— Roll width: 36"; square feet: 500; approximate weight: 50 lbs. Asphalt saturated. Coated both sides with glossy asphalt surface. Meets Federal Specifications UU-P-536 Grade B.

## BIRD NEPONSET BLACK VAPOR BARRIER

BIRD & SON, inc., East Walpole, Mass.  
Chicago · New York · Shreveport





# WHY DOES AN ARCHITECT SPECIFY HEATING EQUIPMENT?



There are two concepts that determine architects' specifications . . .

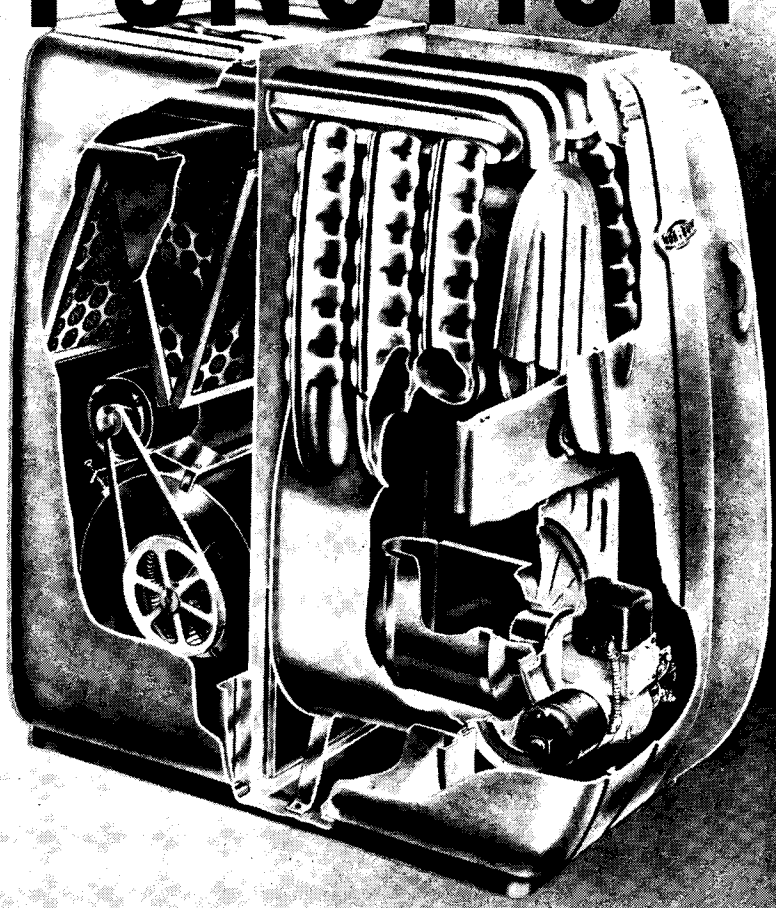
# FORM and FUNCTION

For heating equipment, architects specify heating equipment that delivers healthful carefree INDOOR CLIMATE . . . and heating equipment whose physical form will be "at home" in its surroundings.

The MOR-SUN line of pressed steel FURNACES permits the architect to deliver both — form and function!

MOR-SUN . . . the oil or gas-fired heating equipment designed for both small and spacious homes . . . heats, conditions, circulates, filters, humidifies and continuously renews the air.

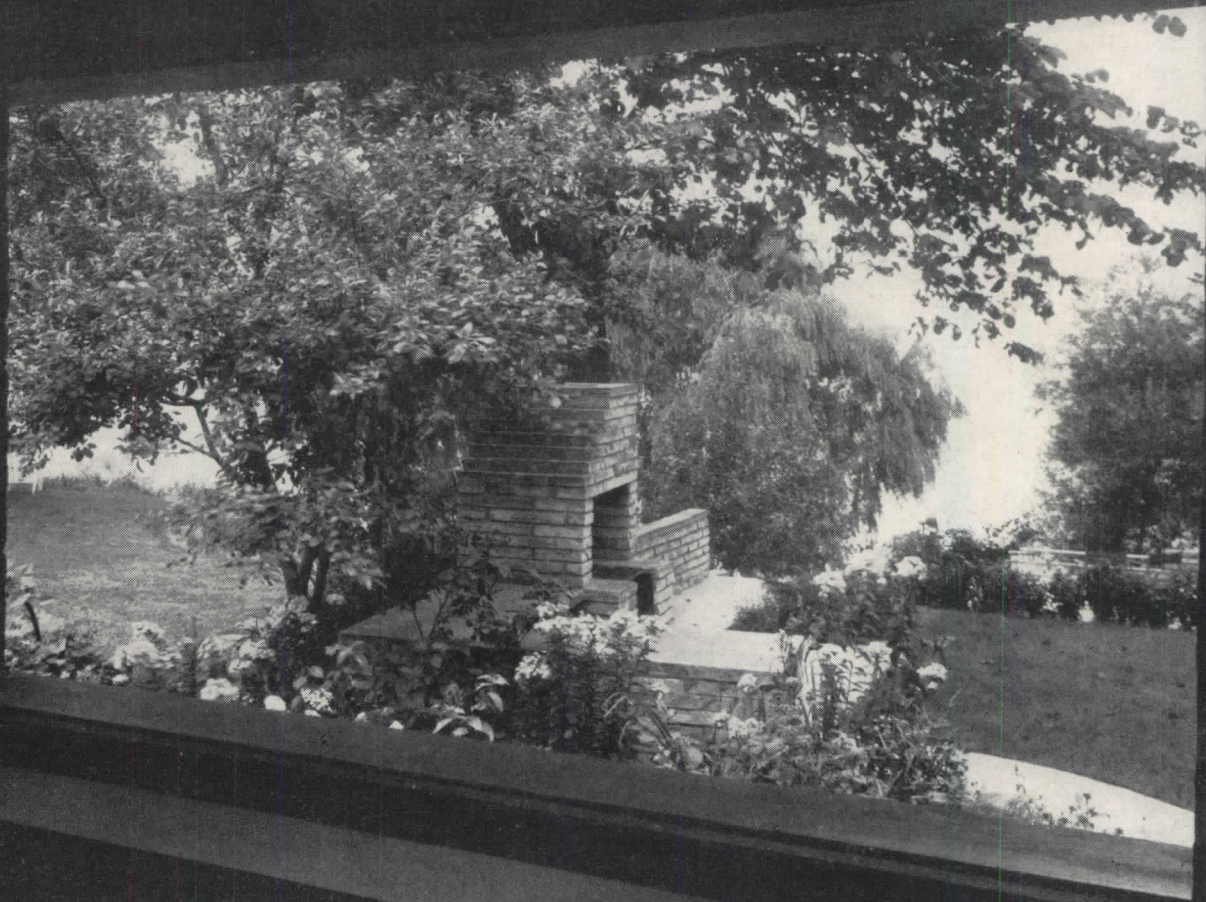
MOR-SUN . . . the furnace that gives both BEAUTY and BTU's!



*"The Sun Never Sets with MOR-SUN"*

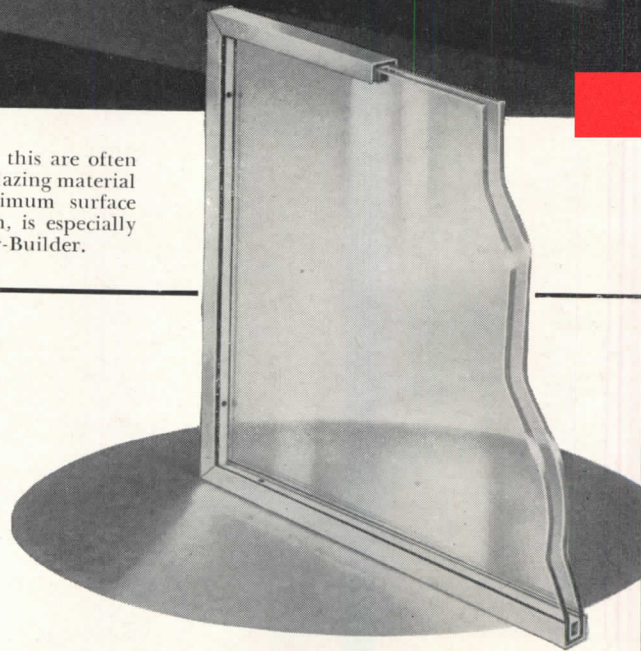
**MORRISON STEEL PRODUCTS, INC.**  
**BUFFALO 7, N. Y.**

# Practical, attractive *Glass*



**TO TAKE ADVANTAGE OF** attractive surroundings, picture windows like this are often indicated. Pittsburgh Polished Plate Glass has always proved a superior glazing material for such windows—being flawlessly transparent and possessing maximum surface beauty. Twindow, "Pittsburgh's" new window with built-in insulation, is especially suitable for picture window applications. Joseph J. Tarantino—Designer-Builder.

**TWINDOW**, "Pittsburgh's" new window with built-in insulation is designed to serve usefully in all types of residential buildings. Twindow is made up of 2 or more panes of Pittsburgh Glass with a sealed-in air space between. While the 2-pane unit will cut heat loss through windows nearly in half, Twindow will provide additional heat savings when additional panes are added. Besides cutting heating costs, Twindow minimizes down-drafts near windows, and virtually eliminates fogging and frosting, except under very severe conditions.



PITTSBURGH PLATE GLASS COMPANY

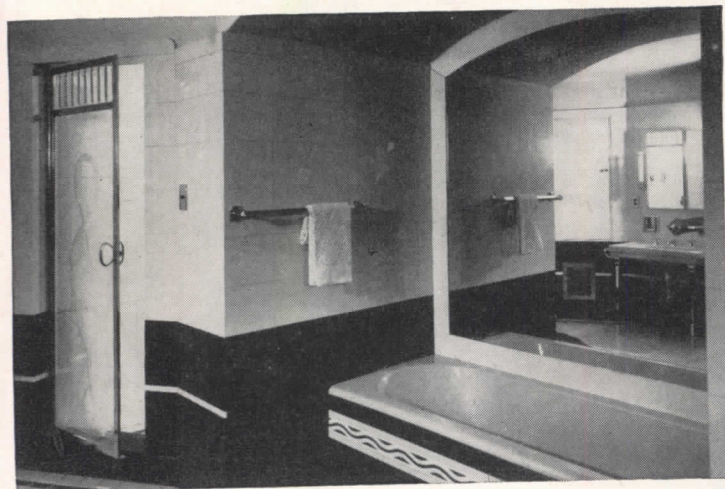
# applications in residential buildings



**HANDSOME, "BUILT-IN" MIRRORS** are being widely used today to give residential interiors color, character and greater apparent spaciousness. Whether used in living, dining or bedrooms—in entrance halls or kitchens, Pittsburgh Mirrors help make any home look smart and modern. They are available made from regular Polished Plate Glass and from blue, green or flesh tinted Plate Glass, with silver, gold or gunmetal backing. Interior by Mabel Cooper Bigelow and E. Chas. Werner. Architect: Rollin Pierson.



**PC GLASS BLOCKS** offer the architect an almost infinite variety of application possibilities. In places where you wish to admit well diffused daylight generously—provide privacy—deaden outside noises—achieve additional insulation, these blocks are ideal. They help provide needed daylight over kitchen work surfaces. They add charm to home entrances. They make attractive walls and partitions. Pittsburgh Corning Glass Blocks are available in 10 attractive patterns. Architect: Harold L. Schwartz.



**EVERY HOME** has numerous places where colorful Carrara Structural Glass can add beauty and utility. It is perfect for walls and wainscots of bathrooms (as pictured here) as well as for kitchens. It makes excellent fireplace surrounds and window sills. Its modern good looks last indefinitely. It can be kept sparkling clean with infrequent wipings of a damp cloth. (Note: Pittsburgh Mirrors over tub and the Heavy Plate Glass Shower door with sandblasted design.) Architect: Maxwell A. Norcross.

*We believe you will find much to interest you in our illustrated booklet of ideas concerning the use of Pittsburgh Glass in building design. Send the coupon for your free copy.*

★ Design it better with

# Pittsburgh Glass



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

Pittsburgh Plate Glass Company  
2041-8 Grant Building, Pittsburgh 19, Pa.

Please send me, without obligation, your free booklet entitled "Ideas for the Use of Pittsburgh Glass in Building Design."

Name.....

Address.....

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



Double-Double, No Toil or Trouble  
**Like Magic**

Old Homes can be  
 made New with . . .

**CREO-DIPT**  
*Double Wall — ZEPHYRS*

Preserve the graceful lines of old houses by rebeautifying with Creo-Dipt Double Wall Zephyrs—easy to apply and costing but a small fraction more than imitation materials. There is no substitute for genuine Creo-Dipts.

Specify Zephyrs for sidewalls of old and new homes and gain these worthwhile advantages:



- 1—Zephyr deep textured, genuine Certigrade red cedar shakes.
- 2—Zephyr board of high insulating value.
- 3—Architectural fitness for any type of home.
- 4—A wide choice of colorful shades—all laboratory tested and stained and preserved with color pigments ground in pure linseed oil.
- 5—Home owners acceptance, built by 38 years of consumer advertising.
- 6—Easy to apply—Zephyrs are vertical grain designed with square butts, all sides parallel, thus insuring a tight, snug fit.

Send for Creo-Dipt's complete new catalog on Zephyrs, containing full information on coverage, recommended exposures and other data.

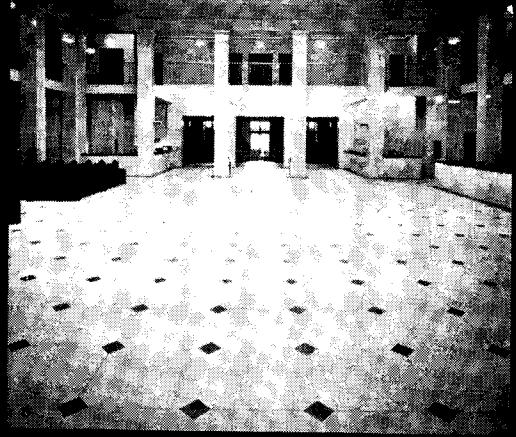


**ZEPHYR**  
 DOUBLE WALLS

**CREO-DIPT COMPANY, INC., NORTH TONAWANDA, N. Y.**  
**CREO-DIPT OF CANADA, LTD. VANCOUVER, B. C.**

THE ORIGINAL STAINED SHINGLE FIRST AND BEST

**TERRAZZO the Lifetime Hospital Floor**



*Terrazzo*

**CLEAN, COLORFUL,  
 DURABLE, ECONOMICAL**

PROVEN UTILITY, combined with colorful and faithful reproduction of designs and patterns has demonstrated the value of fine TERRAZZO for Hospital installations.

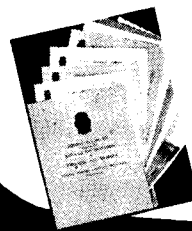
Sanitary, easy to clean and keep clean, economical to install and maintain, TERRAZZO offers permanence and long life under the heaviest foot traffic.

TERRAZZO provides an atmosphere of dignity, rest and quiet that Hospitals require. TERRAZZO in entrances, reception rooms, corridors, wards and private rooms assures durability and fire safety plus easy maintenance and unfading beauty.

Plan your TERRAZZO Requirements with this

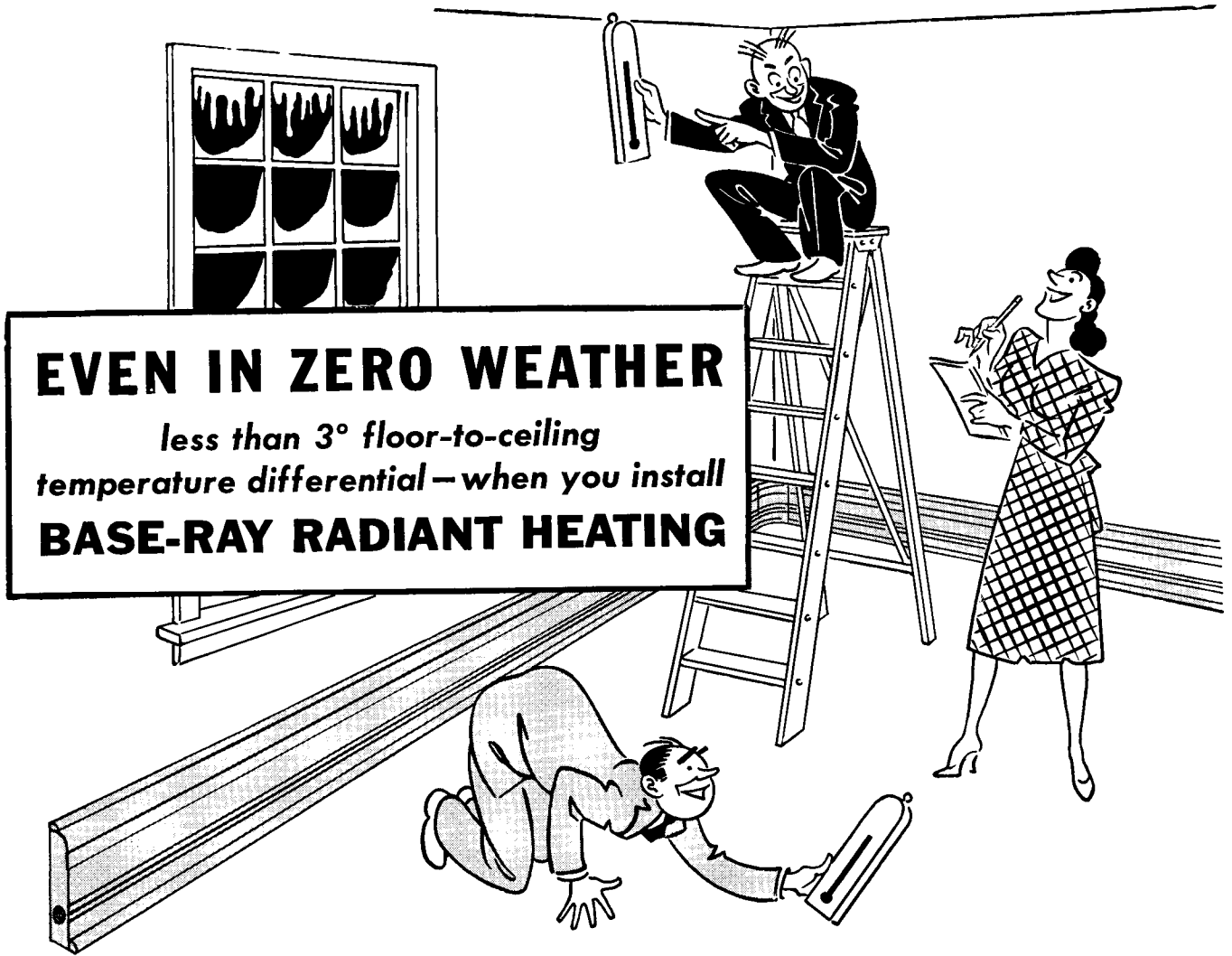
**FREE A.I.A. KIT**

*This fact-filled, handy reference kit will show you how and why TERRAZZO is ideal for every Hospital installation.*



**THE NATIONAL TERRAZZO AND  
 MOSAIC ASSOCIATION, INC.**

1420 New York Ave., N. W., Dept. R, Wash. 5, D. C.



The amazingly even heat distribution provided by Burnham BASE-RAY® Radiant Baseboards marks a new high in heating efficiency and comfort. It's a point that never fails to get the interested ear of Mr. & Mrs. Home Owner, for it cuts down chill-provoking air currents to the vanishing point. No wonder owners of BASE-RAY installations are so enthusiastic in their praise of this practical approach to Radiant Panel Heating.

Yes, Burnham BASE-RAY Radiant Heating has been tested in thousands of homes for nearly three years. And



**NOW! Increased Base-Ray production reduces delivery time.**

*Burnham Corporation*

"PIONEERS OF RADIANT BASEBOARD HEATING"

IRVINGTON, N. Y., Dept. AR-48



Burnham engineers, who pioneered the development of Radiant Baseboards, have worked out installation methods for you that are simple, practical and inexpensive.

Recommend nationally advertised Burnham BASE-RAY Radiant Baseboard heating systems. They're the original — a *proven* product! You can be sure of results . . . sure of delivering complete satisfaction.

If you are not familiar with BASE-RAY, get all the facts.

\*Reg. U.S. Pat. Off.

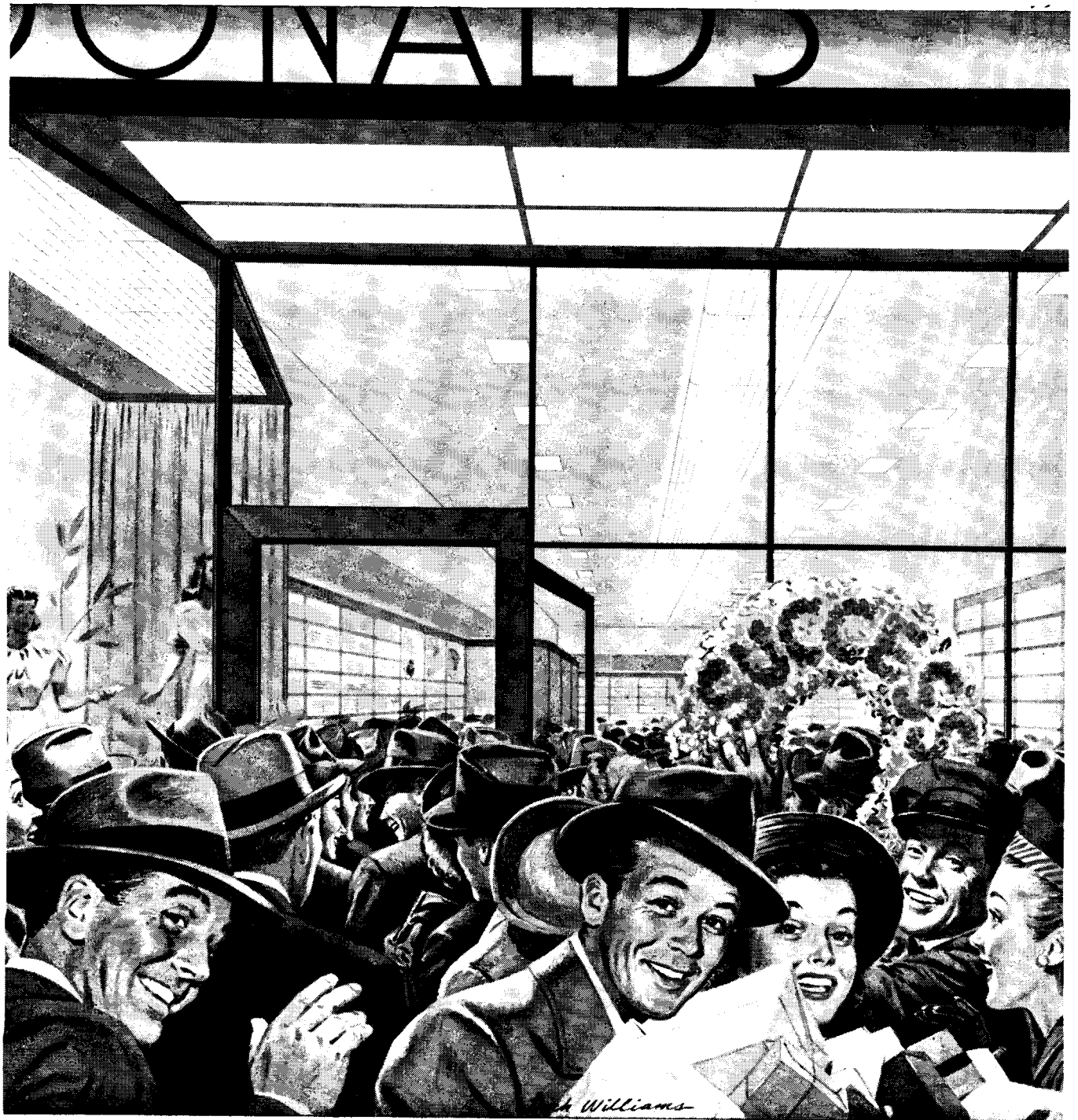


Mail coupon below for Booklet which gives ratings and installation data on BASE-RAY Radiant Baseboards.

Burnham Corporation Dept. AR-48  
 Irvington, New York  
 Please send me copy of "Ratings and Installation Guide" on BASE-RAY Radiant Baseboards.

Name.....  
 Address.....  
 City..... State.....

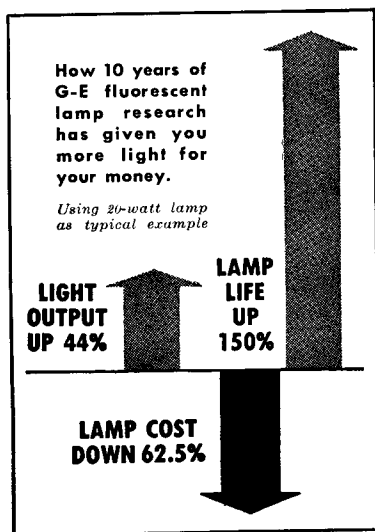
# G-E fluorescent...the in your life...is 10 years



# new light old April 21

## *Another milestone in G-E Lamp research*

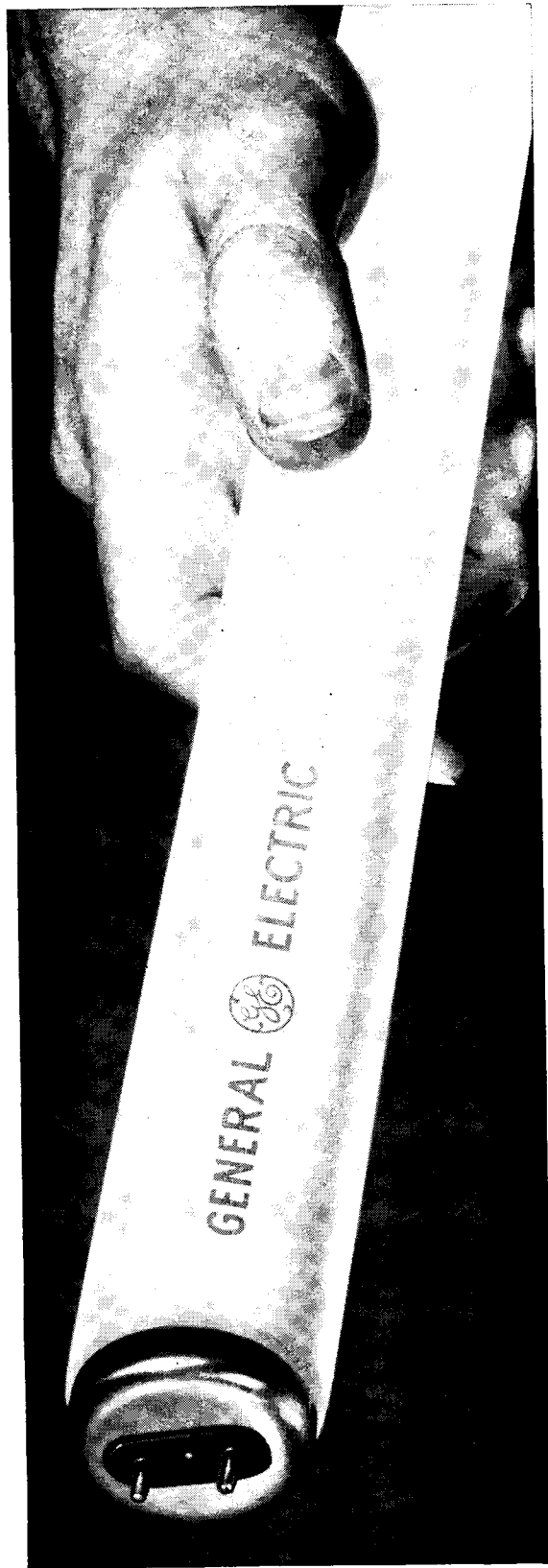
ONLY 10 short years ago, the first fluorescent lamps were placed on public sale by General Electric. Since then G-E fluorescent lamps have revolutionized lighting in stores, offices, institutions, factories, homes. This rapid acceptance is a tribute to the skill with which architects have applied this great new light source.



From the first, G-E Lamp scientists have led in fluorescent development, working ceaselessly to bring the cost of fluorescent lamps lower and lower — to raise efficiency higher and higher. The chart shows what's happened.

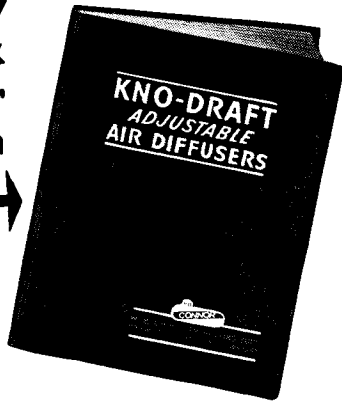
You can count on G-E fluorescent lamps as an increasingly valuable tool in modern lighting. The swift, steady improvement in fluorescent is typical of

the persistent effort of G-E Lamp research to give *more light for the money*. It is only one of many reasons why it always pays to specify G-E lamps . . . constantly improved by research to *Stay Brighter Longer!*



**G-E LAMPS**  
**GENERAL  ELECTRIC**

**New  
handbook  
on air  
diffusion**



*How to select,  
install and adjust  
diffusers for  
greater control  
of air conditioning  
performance.*

**FREE** to those who  
design, install and maintain  
air conditioning equipment.

The new handbook contains the latest engineering data on air diffusion in general and the use of adjustable air diffusers as a positive means of eliminating drafts, hot spots, cold spots, poor humidity control, stratification, air noise, ceiling smudge and other complaints. It is profusely illustrated with photographs, sketches, charts and dimension prints for quick, accurate Selection—Application—Location—Assembly—Erection—Testing—Adjustment of Air Diffusers and of Accessory Equipment such as air equalizing grids, mounting rings and air sectorizing baffles.



**Beauty** of an air diffuser lies in its simplicity and ability to blend with an interior. Kno-Draft Diffusers in their original aluminum furnish an interesting and unobtrusive decorative accent. Painted to match the ceiling, they become self-effacing. Because of their simplicity of design, they blend easily with modern or period interiors.

**Utility** of a diffuser lies in its ability to create "custom-made" air distribution patterns. The air direction and volume on each Kno-Draft Diffuser can be altered *after* installation. This eliminates the tough job of deciding everything about the air movement in advance. Also, you can change the air pattern with the season or when processes, people or partitions are relocated.

*For your free copy of the new handbook on air diffusion, please write Dept. S-100.*

**W. B. CONNOR ENGINEERING CORP.**  
*Air Diffusion • Air Purification • Air Recovery*

112 East 32nd Street  New York 16, N. Y.

IN CANADA: Douglas Engineering Co., Ltd., 190 Murray Street, Montreal 3, P. Q.

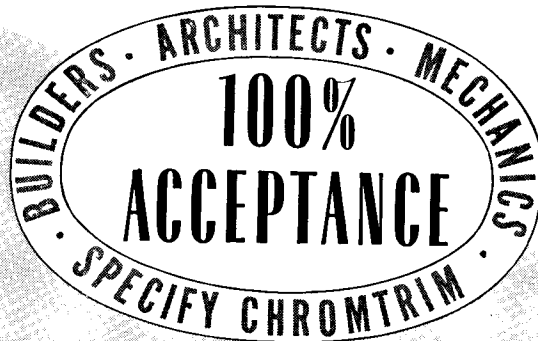
# Chromtrim

The answer  
to More than  
**90%**  
of all building  
needs for

**METAL MOULDINGS**

Chromtrim has evolved 34 basic profiles and is mass-producing them at lowered cost for economy-minded builders.

Durable, dimensionally accurate — easy to cut and install, delivered with all necessary nails, Chromtrim shapes are expertly designed to fill the highest professional building standards.



The 34 basic Chromtrim profiles are illustrated in Sweets Catalog

(13 J)  
3

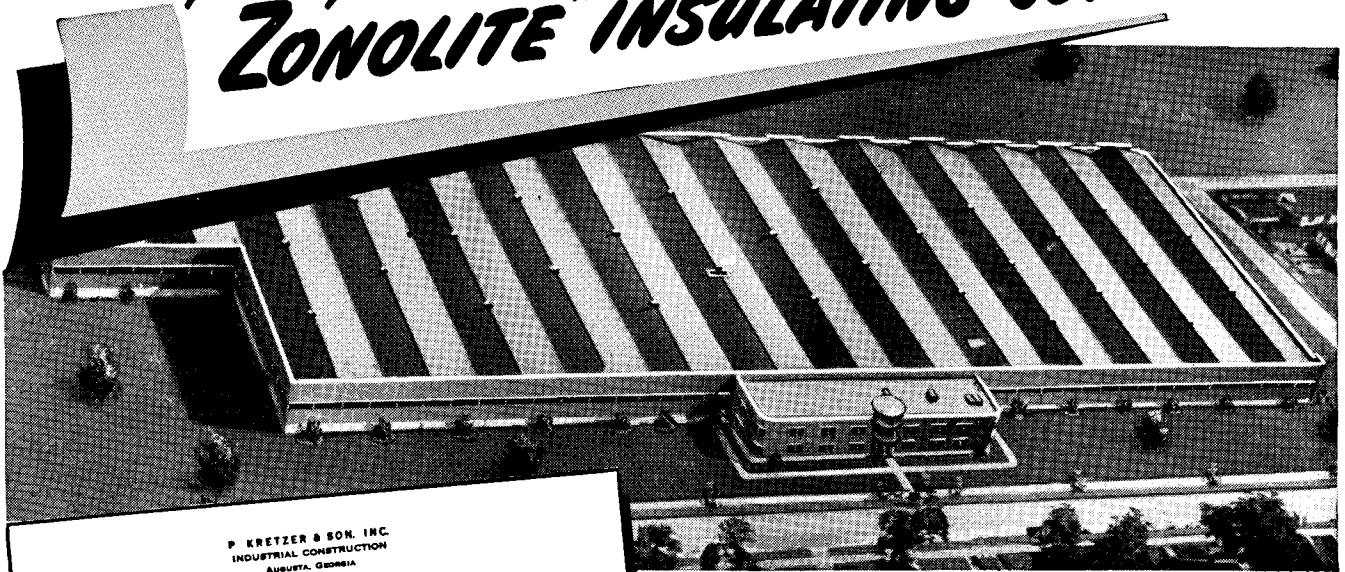
*Write for complete catalog sheet with full dimensions.*

**R. D. WERNER CO., INC.**  
295 FIFTH AVENUE • NEW YORK 16, N. Y.  
*In Canada:*  
**R. D. WERNER LTD.** • PORT DALHOUSIE, ONTARIO, CANADA



# INSULATES FOUR-ACRE ROOF WITH . . .

## *Lightweight* **ZONOLITE\* INSULATING CONCRETE**



P. KRETZER & SON, INC.  
INDUSTRIAL CONSTRUCTION  
AUGUSTA, GEORGIA

September 5, 1947

Southern Zonolite Company  
407 Chandler Building  
Atlanta 3, Georgia

Re: Lily-Tulip Cup Job  
1550 Wrightsboro Road  
Augusta, Georgia

Attention: Mr. H. K. Sterrett

Gentlemen:

We have your letter of September 2nd in regards to information you desire in connection with advertising the application of Zonolite on the above job.

We hereby give you authorization to use the enclosed pictures and our name for trade magazine publication.

For your information we list the following facts:

The building has approximately 180,000 Sq. Ft. of floor area.

Zonolite insulation was very successfully used over Robertson roof deck on a pitch roof. The cost of Zonolite and its application was less than our anticipated cost.

We were delighted with the splendid cooperation of your local distributor and the supervision and inspection of your representatives. This was the first occasion we had to use your material and we surely will use it on future jobs in this vicinity as well as other operations we are contemplating.

The roofing contractor is also very satisfied with the base he received for his roof covering.

In connection with using Zonolite plaster, we will contact your representative in due time.

Very truly yours,

P. KRETZER & SON, INC.

*William Kretzer*  
William Kretzer, Pres.

WK/hd  
Encl.

### Zonolite Concrete Saves Weight

### . . . Saves Money! Gives Real Fire Protection, Too!

Yes, millions of pounds dead-load were eliminated on the four-acre roof of the Lily Tulip Cup Corporation's new Augusta, Ga., plant. And, as you know, weight costs money! Here, Zonolite insulating concrete was combined with a lightweight steel roof deck to form a permanent, fireproof structure. An equivalent amount of ordinary concrete would weigh five million pounds more than the Zonolite insulating concrete used in this roof.

Zonolite insulating concrete, made by mixing Zonolite brand vermiculite Stabilized Concrete Aggregate with Portland cement and water, weighs as little as 16 lbs. per cubic foot as compared to 145 lbs. per cubic foot for ordinary concrete. Applications of this versatile material are numerous and varied . . . for insulating fill-type roofs, or structural roof decks . . . warm dry floors for industrial, commercial, rural or residential buildings . . . economical, lightweight fireproofing of structural members . . . these are but a few of the many applications.

Send today for full particulars on Zonolite insulating concrete.



**Zonolite Company**  
Dept. AR-48, 135 S. LaSalle St.  
Chicago 3, Illinois  
(Formerly Universal Zonolite Insulation Co.)

**MAIL COUPON  
FOR DETAILS**

SEE YOUR LOCAL LUMBER AND BUILDING MATERIAL DEALER

Zonolite Company  
Dept. AR-48, 135 S. LaSalle St., Chicago 3, Ill.  
Please send me full details about Zonolite Insulating Concrete Roof Decks.

Name.....

Address.....

City.....County.....State.....

\*Zonolite is the registered trade-mark of Zonolite Company



**YOU CAN afford IT...**  
**WE CAN deliver IT...**

**THE NEW Westinghouse  
"LIMITED BUDGET"  
ELECTRIC STAIRWAY  
DESIGNED ESPECIALLY  
FOR SMALLER STORES**

**IT'S THE NEW**

# Westinghouse

**QUALITY**

## Electric Stairway

No longer are electric stairways reserved for big stores alone! Now—every store can afford the traffic-building benefits of electric stairways to bring first floor traffic to every floor . . . because Westinghouse has introduced the first low cost, high quality electric stairway.

Perhaps you may have thought that electric stairways were not for *your* store because of the high cost. And, until the advent of the Westinghouse "Limited Budget" electric stairway, you were probably right.

But now, this is all changed. Now, you can afford to increase upper floor sales with a Westinghouse Electric Stair-

way. Designed to handle steady traffic flow at 90 feet a minute, it features two-step levelling at top and bottom, trip-proof combplates, extended hand-rails top and bottom . . . and many other "extras" for maximum safety and convenience. It has buffed and anodized aluminum balustrades for a beauty that harmonizes with and enhances the eye appeal of your store interior.

The best way to determine if this is *your* electric stairway is to ask for a survey of your store. Just write to the Westinghouse Electric Corp., Elevator Division, 150 Pacific Avenue, Jersey City 4, N. J. There is no obligation.

---

# Westinghouse

---

J-98510

E L E V A T O R



D I V I S I O N

# Success Formula

## FOR BUILDERS, DEALERS, ARCHITECTS



### 1. WINDOWS THAT OPEN WIDE

Men and women everywhere want windows that open wide at the slightest touch of the hand . . . smoothly . . . silently.

### + Plus 2.

#### INVIZIBLE SASH BALANCES

The "Grand Rapids Invincible" Sash Balance is always at your service . . . never in your sight. It is completely concealed in and moves with the sash itself.



### + Plus 3.

#### SAVINGS IN MONEY . . .

This preferred balance more than pays its cost in the savings on installation alone.



**= EQUALS =**

### SATISFIED HOME OWNERS

Tested in the laboratory and proved in thousands of homes, these preferred spiral sash balances will give you a lifetime of dependable service.



ADVERTISED TO

**134,445,000 READERSHIP IN NATIONAL MAGAZINES**

← **BALANCE 100%**  
concealed in the sash . . . no tapes . . . no cables . . . no corrosion.

← **EASY TO INSTALL**  
. . . just drive in two fasteners . . . screw in one screw.

← **10 SIZES FIT 95%**  
of all new and old windows . . . completely interchangeable.

#### GRAND RAPIDS SASH PULLEYS

No. 103 face plate, cone bearing type, and Nos. 175, 109, 110 sawtooth drive type sash pulleys cover 95% of all sash pulley requirements.

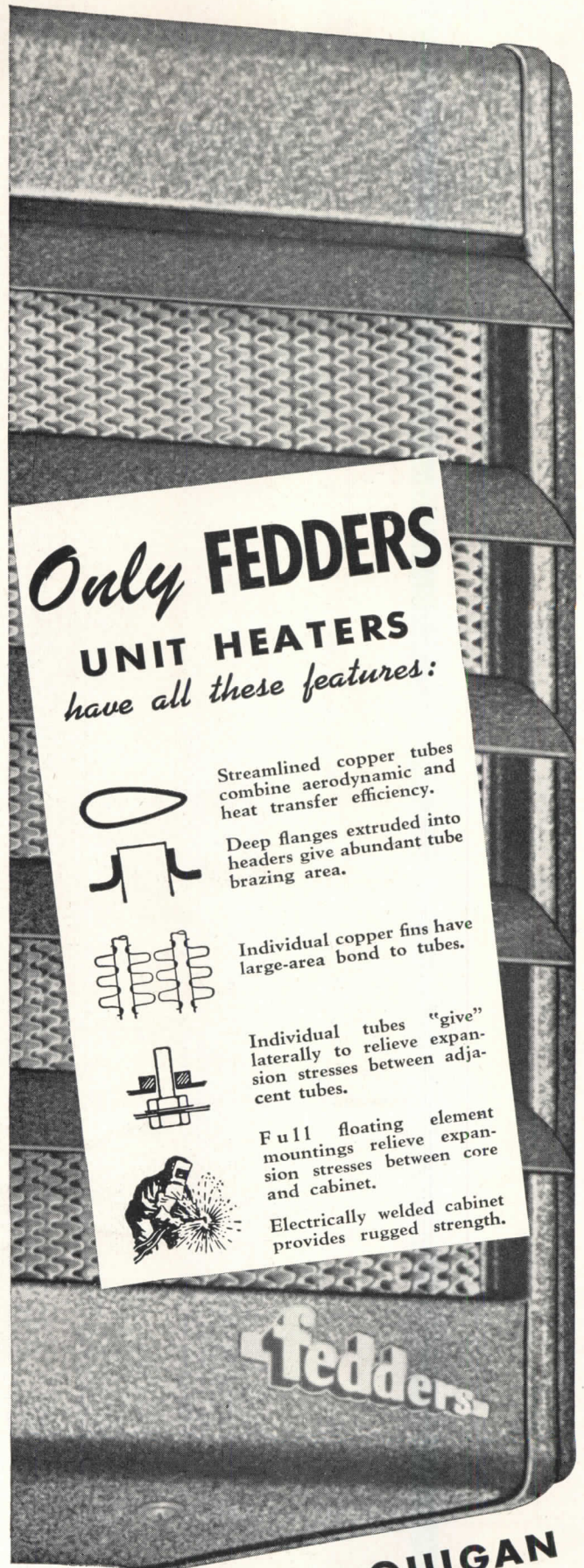


SEE OUR CATALOG IN SWEET'S

**WRITE**  
for Illustrated Specifications and Instructions

**GRAND RAPIDS HARDWARE COMPANY**  
GRAND RAPIDS 2, MICHIGAN

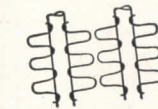
Quality Leaders in Sash Hardware for over 50 Years



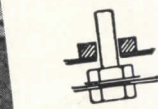
## Only FEDDERS UNIT HEATERS have all these features:



Streamlined copper tubes combine aerodynamic and heat transfer efficiency.



Deep flanges extruded into headers give abundant tube brazing area.



Individual copper fins have large-area bond to tubes.



Individual tubes "give" laterally to relieve expansion stresses between adjacent tubes.

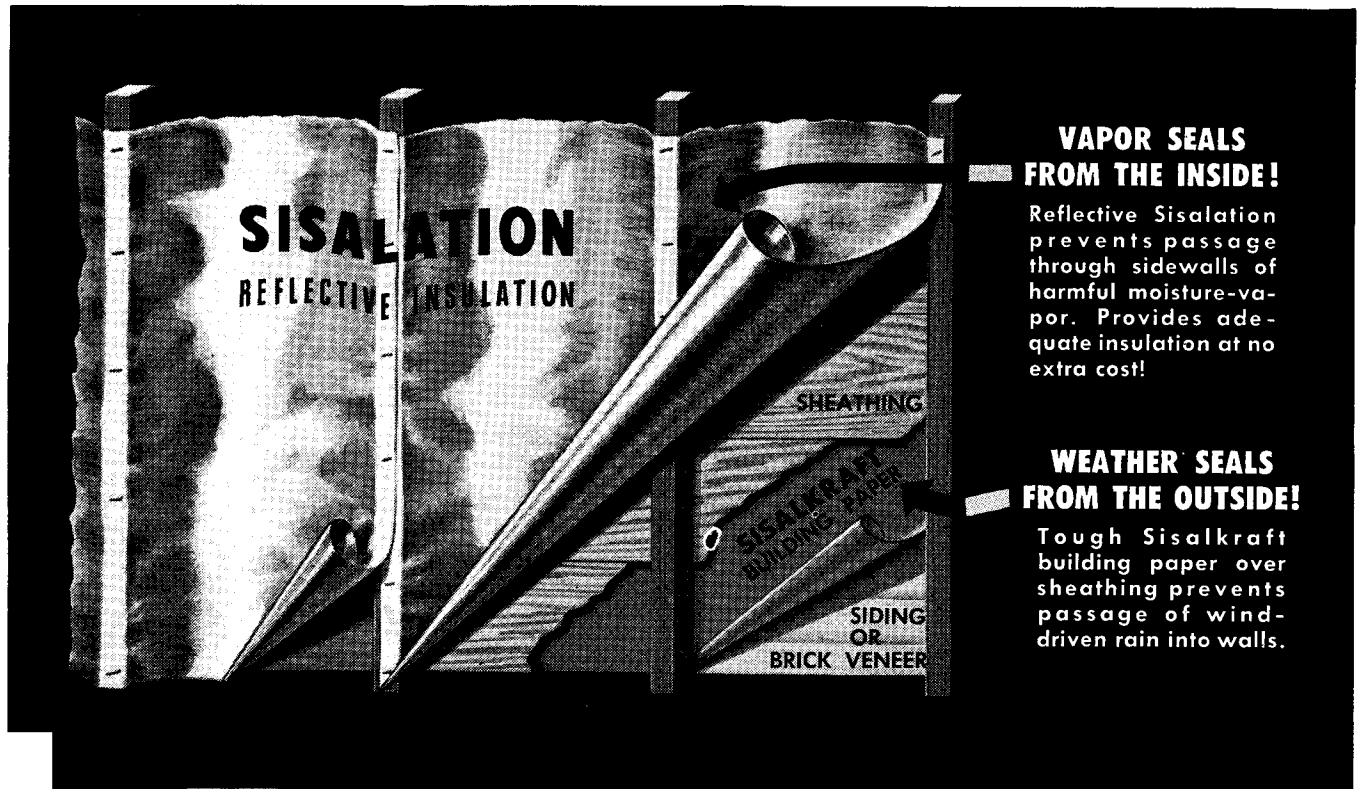


Full floating element mountings relieve expansion stresses between core and cabinet.

Electrically welded cabinet provides rugged strength.

**FEDDERS-QUIGAN CORPORATION**  
BUFFALO 7, NEW YORK

This Improved Construction Assures a Permanent  
**DRY WALL**  
 at Minimum Material and Labor Cost!



**VAPOR SEALS FROM THE INSIDE!**

Reflective Sisalation prevents passage through sidewalls of harmful moisture-vapor. Provides adequate insulation at no extra cost!

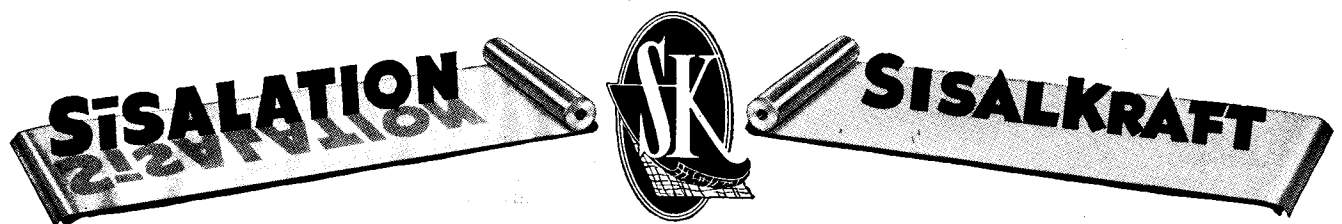
**WEATHER SEALS FROM THE OUTSIDE!**

Tough Sisalkraft building paper over sheathing prevents passage of wind-driven rain into walls.

*See for Yourself:* New wall construction, utilizing the prime features of Sisalkraft and Sisalation, now enables you to stop the passage of harmful moisture into walls easily and economically. This simple method provides a permanent DRYWALL in homes PLUS all the advantages of adequate INSULATION at no extra cost!

*Write today for further information about these two products.*

**The SISALKRAFT Co., Dept. AR, 205 W. Wacker Drive, Chicago, Ill.**





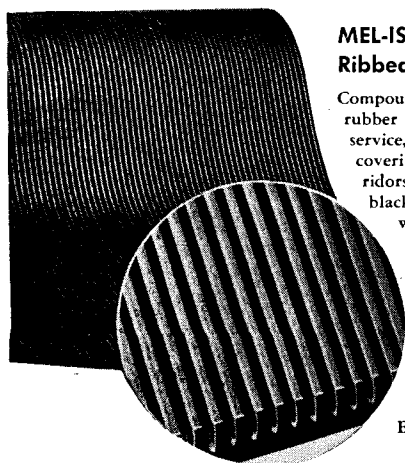
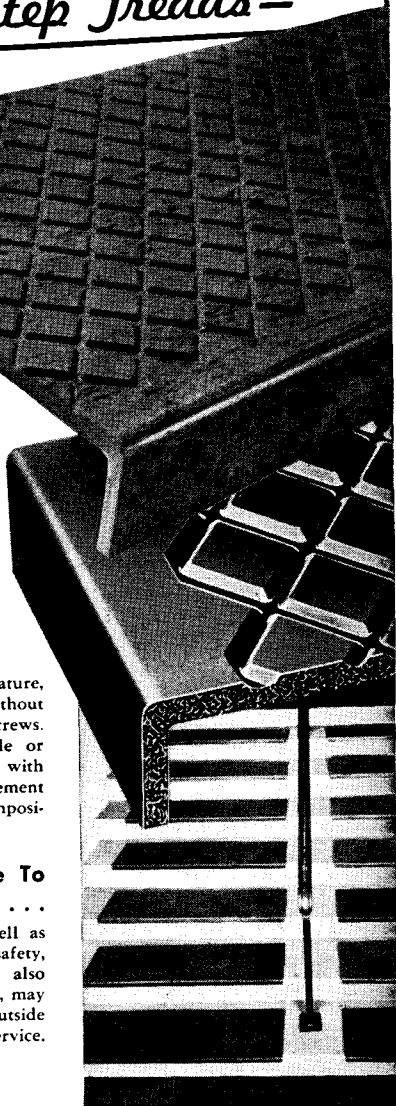
*Here's Beauty with  
Safe, Lasting Service  
in Step Treads—*

**Now—  
Heavy Duty  
Molded SAFETY**

Step Treads in marbled blue-gray and tan patterns give appealing beauty with long-lasting service. . . . MELFLEX SAFETY Treads are molded  $\frac{3}{8}$  inch thick of special "frictioned" rubber compound to cover both the tread and step-edge. Approved by Underwriters Laboratories, Inc. (No. SA 833) as a SAFETY feature, this molded tread applies without requiring metal strips or screws. It stays "put", won't buckle or blister when applied simply with MELASTIC Water-Proof Cement to wood, stone, metal or composition steps. . . .

**Molded in One-Piece To  
Cover Approach Edge . . .**

It cushions step edge as well as provides sure-gripping tread safety, *wet* or *dry*. These Treads, also available in black compound, may be applied on inside or outside steps with equal safety and service.



**MEL-ISLE Heavy Duty  
Ribbed Rubber Runner . . .**

Compounded of special "frictioned" rubber for hard wear and slip-proof service, MEL-ISLE makes the ideal covering for aisles, runways, corridors, locker rooms. Available in black only  $\frac{1}{8}$ " and  $\frac{3}{8}$ " thick, 36" wide and cut to any specified lengths. High ribbed pattern facilitates cleaning and keeps tread surface slip-proof. MEL-ISLE Molded Mats, for entrances,  $\frac{3}{8}$ " thick and in 5 stock sizes have beveled edges to prevent tripping. Slip-Proof *wet* or *dry*. . . . Durable, Economical.

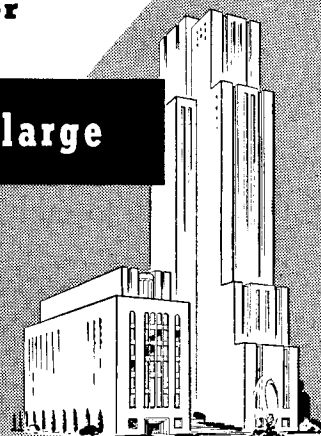


**MELFLEX PRODUCTS CO., Inc.**

L. E. Warford, Pres.  
410 S. BROADWAY . . . AKRON 8, O.  
In Canada, P. O. Box 411, Ft. William, Ont.

**no matter**

**how large**



**or small**



**the installation**

**THERE IS A DUNHAM SYSTEM TO TAKE CARE  
OF IT—DUNHAM PRODUCTS TO MAINTAIN IT!**

Dunham Baseboard Convectors are easily installed, take no more space than the baseboard. The piping is on the inside of the baseboard spreading the heat along the inside of the outside walls. Every room, every corner; even the floors in houses built without basements, are assured of comfortable temperatures. Finned radiation concealed behind the attractive baseboard with concealed louvers, is engineered to keep walls clean and decorating costs to a minimum. The Dunham Baseboard method of heating provides a blanket of warmth for the home using either hot water or steam. Bulletin 639F with complete details will be sent on request—C. A. Dunham Co., 400 W. Madison St., Chicago 6, Ill.

The Dunham Differential Vacuum Heating System has the important advantage of *sure immediate and automatic* control of room temperature under all weather conditions including sudden and extreme changes. This system, circulating sub-atmospheric steam, has established both tenant satisfaction and reduced heating and maintenance costs in hospitals, hotels, large apartment projects, office and industrial buildings. Fuel savings from 33% and more are commonplace. Write for Bulletin 631F and get the complete story on satisfactory, trouble-free Differential Heating—C. A. Dunham Company, 400 W. Madison Street, Chicago 6, Ill.

**DUNHAM PRODUCTS ENGINEERED TO GIVE  
EFFICIENT, LOW MAINTENANCE PERFORMANCE**

**BASEBOARD CONVECTORS • CONVECTORS • FLOAT & THERMOSTATIC  
TRAPS • HIGH PRESSURE STEAM TRAPS • HEATING & VENTILATING UNIT  
ONE TUBE HEATING ELEMENT • PUMPS • PACKLESS RADIATOR VALVES  
THERMOSTATIC RADIATOR TRAPS • UNIT HEATERS  
DIFFERENTIAL VACUUM STEAM HEATING SYSTEMS**

**DUNHAM**  
HEATING MEANS  
BETTER HEATING



**Adlake Aluminum Windows  
save \$1,500 maintenance cost  
in Indiana High School**

*\*Architect: William S. Hutton, Hammond, Ind.  
Contractor: John F. Rahn, Inc., East Chicago, Ind.*

**The 119 Adlake Aluminum Windows** installed in the newly-constructed Bishop Noll High School, Hammond, Ind.\*, will cut maintenance costs over a 2 year period by \$1,500.00, according to a conservative estimate by the Rev. Alfred James Junk, Principal and Superintendent of the school. At this rate, the windows will pay for themselves within 10 years. *No painting is required* with Adlake Windows, and no maintenance except routine washing! You install them, you *forget* them! They last as long as the building.

**Only Adlake Windows** combine woven-pile weather stripping and patented serrated guides to assure minimum air infiltration and absolute finger-tip control. Because of their construction, Adlake Windows never warp, rot, rattle, stick or swell. They look lovely and operate smoothly for a lifetime.

**Tell Your Clients** about the wiping out of maintenance costs and the long, worry-free service they can expect from Adlake Aluminum Windows. For complete data, drop us a post card today at 1102 North Michigan Avenue, Elkhart, Ind. No obligation, naturally.

**Adlake Aluminum Windows  
offer these advantages:**

- Minimum Air Infiltration • Finger-tip Control
- No Warp, Rot, Rattle, Stick • No Painting or Maintenance • Ease of Installation

**THE  
Adams & Westlake  
COMPANY**

Established 1857 • ELKHART, INDIANA • New York • Chicago



**Furnishers of Windows  
to the Transportation Industry  
for over 30 years**

**All Adlake double-hung windows carry this seal**

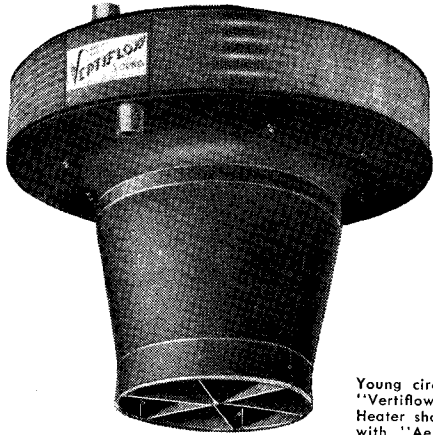


# YOUNG Announces...

## New, Circular

# "VERTIFLOW"

## UNIT HEATER

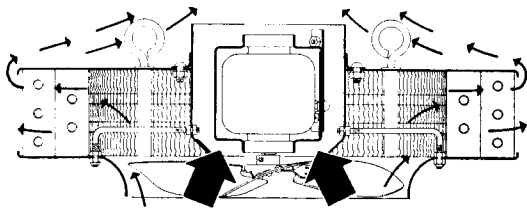


Young circular "Vertiflow" Unit Heater shown with "Aerostat" Nozzle diffuser.

### How to Get Effective Heating from High Ceiling Installations

Increased airflow and lower final air temperatures of the new, circular "Vertiflow" Unit Heater make it possible to heat floor areas from greater heights than previously practical . . . thereby providing greater heating efficiency with fewer units. The new, Young heating element provides correct final air temperatures, maintains more even heat at thermostat levels, and eliminates excessive air buoyancy, which causes over-heated air to rise before reaching the floor areas. An added bonus in assuring trouble-free installations is the patent-applied-for protective motor cooling principle, described below. Young-designed diffusers and "Anemostats" are available for specific installations. Write for new, free Catalog No. 2648 today!

#### "VERTIFLOW" by YOUNG Offers Protective Motor Cooling



When motor is off, radiant heat from core rises, creates "chimney" effect, protects motor from "baking" by drawing cooler room air upward through stack (indicated by large arrows).

# YOUNG

## HEAT TRANSFER PRODUCTS



**YOUNG RADIATOR CO.**  
Dept. 518-D, Racine, Wis., U.S.A.  
Sales and Eng. Offices in All Principal Cities

**HEATING, COOLING AND AIR CONDITIONING PRODUCTS**  
Convectors • Unit Heaters • Heating coils • Cooling coils • Evaporators • Air conditioning units •

**AUTOMOTIVE AND INDUSTRIAL PRODUCTS**

Gas, gasoline, Diesel engine cooling, radiators • Jacket water coolers • Heat exchangers • Intercoolers • Condensers • Evaporating coolers • Oil coolers • Gas coolers • Atmospheric cooling and condensing units • Supercharger inter-coolers • Aircraft heat transfer equipment



Fruit Storage Room treated with Cuprinol Pennsylvania State College, 1943.

## Mildew Accumulation has been Stopped by

# CUPRINOL

WOOD PRESERVATIVE

In 1943 at Pennsylvania State College the rooms of the Apple Storage Building (where normally mildew removal would be necessary each year) were completely treated with Cuprinol Wood Preservative. Through 1947 no mildew removal or whitewashing has been required—no further Cuprinol treatment.

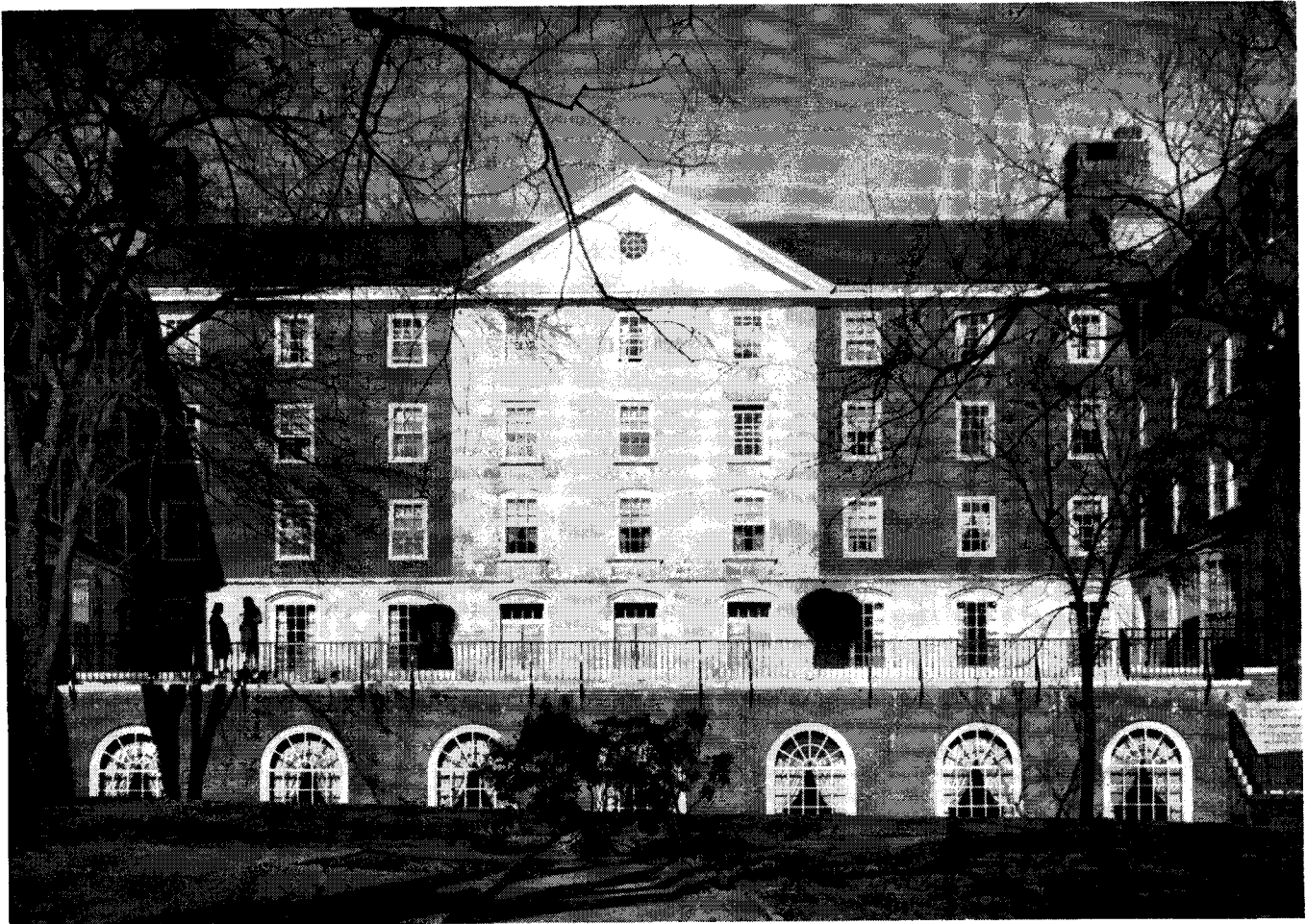
In industrial buildings, wherever heavy moisture or dampness results from operations, Cuprinol treatment of the wood retards the development of rot and mildew.

Cuprinol is a surface applied, penetrating liquid. It is a Danish formula of over 40 years successful use for the protection of wood construction against rot and termites. Applied on the job by brush, spray or dip.

See our catalog in Sweet's Architectural File, Section 5d/4. Distributed through lumber dealers, hardware stores and marine supply houses. Write for prices and complete data on types of Cuprinol for specific uses.

**CUPRINOL Division, Darworth, Inc.**  
3 Maple Street  
Simsbury, Conn.





Architects: Perry, Shaw & Hepburn, Boston.

Engineers: Cleverdon, Varney & Pike, Boston.

Contractors: Gilbane Building Company, Providence.

## DORMITORY AT BROWN UNIVERSITY BUILT WITH *OPEN-WEB JOISTS*

Increased enrollment at Pembroke College of Brown University necessitated construction of this new dormitory on the university campus, Providence, R. I. Andrews House, as it is called, has facilities for 246 students, and closely follows the structural pattern of other buildings at Brown. It is four stories in height, and is divided into east and west wings. Its construction called for 150 tons of Bethlehem Open-Web Joists.

Every type of light-occupancy structure, whether dormitory, hospital, apartment house or office building, offers opportunities to the architect to utilize the advantages of Bethlehem Open-Web Joists.

Combined with concrete floor slab and plaster ceiling, Bethlehem Open-Web Joists provide a sturdy, yet relatively low-cost floor construction which keeps fire from spreading for at least two hours.

These joists also eliminate shrinking and sagging floors. They make unsightly open baseboards a thing of the past. They are immune to attack by termites. They retard the passage of sound from floor to floor.

What's more, Bethlehem Open-Web Joists help speed construction, for they enable pipes and conduits to be run through the open webs. They come completely fabricated, too, ready for

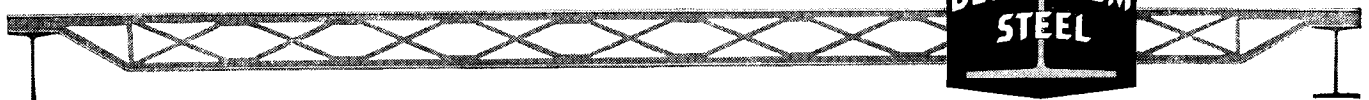
use without falsework. Two men can easily handle the standard joist. And the Longspan type of joist, for clear spans up to 64 ft or longer, goes into place with the aid of a light-weight gin pole.

You'll find our 36-page joist catalog helpful when designing with open-web joists. Ask the nearest Bethlehem district office for a copy. Or drop us a line at Bethlehem, Pa.

**BETHLEHEM STEEL COMPANY**  
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by  
Bethlehem Pacific Coast Steel Corporation  
Export Distributor: Bethlehem Steel Export  
Corporation

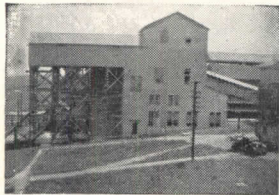
**BETHLEHEM OPEN - WEB JOISTS**



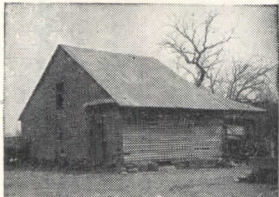
# TIME

PROVES

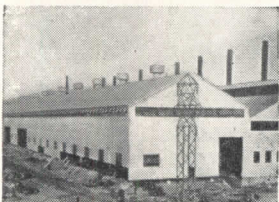
## Galvanized (ZINC-COATED) Sheets Stay Stronger Longer



**34 YEARS . . .** Erected in 1913, and covered with heavy gauge galvanized sheets, this Tennessee concentrating plant of the A/Z Company, pictured at left, is still in excellent condition after more than three decades of service. Painted with Gray Metallic Zinc Paint in 1932.



**50 YEARS . . .** The galvanized metal roof on this old Missouri farm building has outlasted the building itself, and is still in good condition after half a century of service. Industry and the farm have long depended on galvanizing to protect iron and steel against costly rust. Builders know that as long as iron or steel is zinc covered, it *cannot rust*.



In building for the future, look to the past for proof of a building material's strength . . . durability . . . service. With *galvanized* (zinc-coated) roofing and siding you get the strength of steel . . . the rust protection of Zinc. So for low-cost, long-time service choose the building material that's proved by TIME itself . . . galvanized sheets. Send coupon for information about Zinc and how it helps keep buildings and equipment *stronger longer*.



This "Seal of Quality" is your guide to economy in buying galvanized sheets. Sheets bearing it carry at least 2 oz. Zinc per sq. ft.



### American Zinc Institute

ROOM 2602 • 35 E. WACKER DRIVE, CHICAGO 1, ILL.

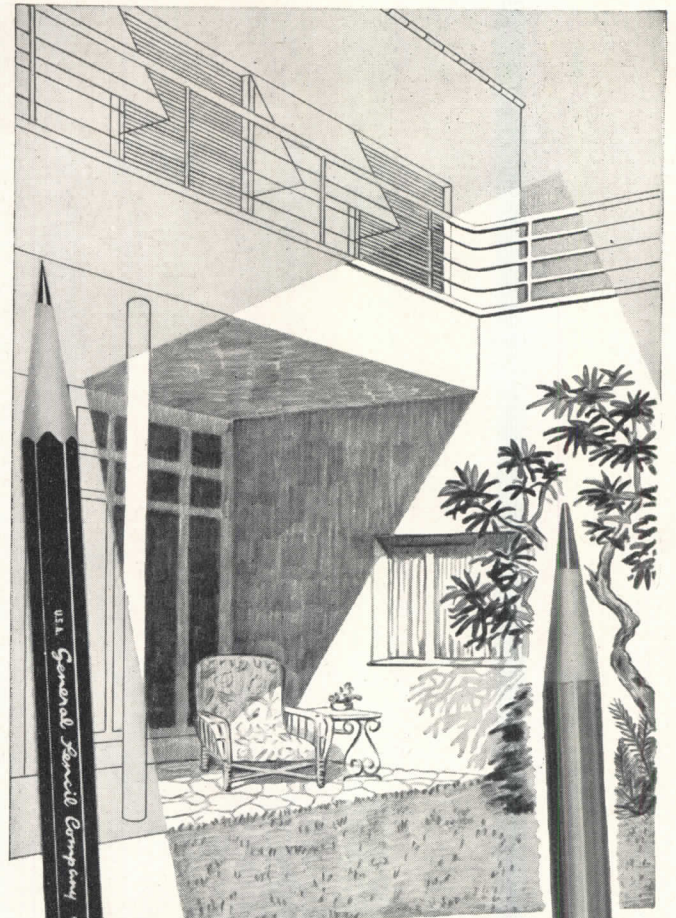
#### FREE BOOKLETS!

- Send me without cost or obligation the illustrated booklets I have checked.
- Repair Manual on Galvanized Roofing and Siding
  - Facts about Galvanized Sheets
  - Use of Metallic Zinc Paint to Protect Metal Surfaces

Name \_\_\_\_\_

Address \_\_\_\_\_

Town \_\_\_\_\_ State \_\_\_\_\_



## Performance COUNTS

Experience a new high in drafting and rendering—Draw with General's Drawing Pencils. Feel the smoothness of the crisp Kimberly blacks . . . watch your exacting details take on new and added clarity. Then complement your detail drawings with renderings done in Multichrome's 50 fascinating colors . . . notice the striking color tones . . . how admirable the results! Join the many others who are changing to General's—the pencils *correctly suited for every drawing purpose*. For more satisfying results, everytime—draw with Kimberly and Multichrome. Buy them from your local dealer today.



**KIMBERLY DRAWING PENCILS, 22 Degrees**  
6B to 9H, Tracing 1-2-3-4 and Extra B Layout Pencil

**MULTICHROME COLORED DRAWING PENCILS**  
50 brilliant colors. Sets of 12-24-36-48 colors to the box.

Write to us Dept. R requesting a free trial Kimberly and Multichrome naming your favorite degree and color.

Makers of Fine Pencils since 1889

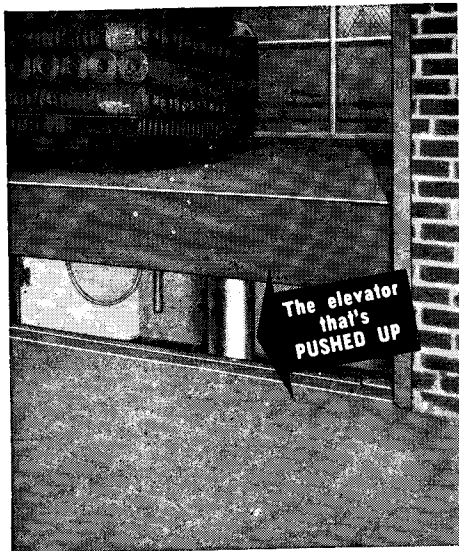
## GENERAL PENCIL COMPANY

67-73 FLEET STREET, JERSEY CITY 6, N. J.

*Solution to  
an Elevator  
Problem!*

**SPECIFY OILDRAULIC ELEVATORS**

**When power trucks are used  
for elevator loading**



**I**n designing new buildings or modernizing old ones, it is important to select elevators built to take the shock loads imposed by power trucks which are now universally used in handling freight.

**OILDRAULIC TAKES THE LOAD**

Oildraulic operation is perfect for this type of service. The elevator and its load is positively supported on the "oil locked" hydraulic jack. This takes the load off the building structure, makes it possible to use lighter sidewall and shaftway construction. Also, it means accurate landing stops . . . the elevator car "evens up" with the floor and holds its position. Jolts and jars caused by power truck loading are reduced to a minimum.

**CAR CONSTRUCTION IS RUGGED**

Car construction on an Oildraulic Elevator is rugged with a strongly reinforced sling and platform. Built to

take hard wear, it will withstand off-center loading and rough service.

**OTHER IMPORTANT ADVANTAGES**

Other advantages of Oildraulic Elevators are: (1) No costly, unsightly penthouse required as the car is pushed up, not pulled up. (2) Compact electric power unit can be located under a stairway or in any convenient space at any landing, as pictured above. (3) Operating cost is low . . . power used only on rise, descent by gravity.

**For data to help solve your elevator problems**

**ROTARY LIFT CO.**  
1103 Kentucky, Memphis 2, Tenn.

Send Catalog RE-302 (AIA File 33) to:

Name.....

Address.....

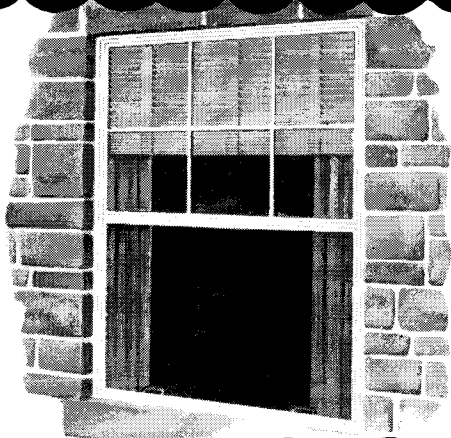
City & State.....



**OILDRAULIC\* ELEVATORS**

\*Reg. U. S. Pat. off.

*The Combination Window  
with a REPUTATION—*



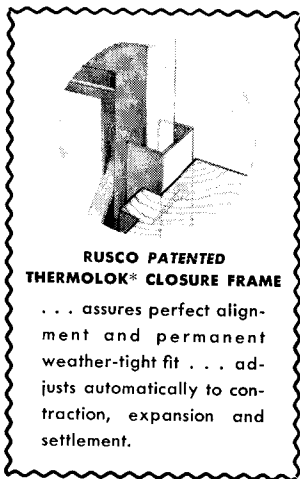
**RUSCO** ALL METAL *Self Storing*

**COMBINATION  
SCREEN AND STORM SASH**

year 'round advantages have been pre-sold to many thousands of prospective home, industrial and commercial builders through pioneering efforts and consistent advertising in leading publications.

**YOU CAN RECOMMEND  
THESE RUSCO ADVANTAGES**

- All the benefits of storm windows, screens and weatherstripping in one permanently installed unit
- Nothing to change—nothing to store
- Year 'round rainproof, draft-free, filtered-screen ventilation by fingertip adjustment from inside
- Up to 1/3 saving on fuel cost



Specifications will be found in Sweet's File for Architects and Builders or complete descriptive literature and specifications will be sent on request.

**THE F. C. RUSSELL COMPANY**  
6400-AR HERMAN AVENUE • CLEVELAND 2, OHIO



Also manufacturers of the Rusco All Metal Venetian Awning



**Gives new charm to  
walls overnight!**

When clients want lustrous . . . colorful . . . lasting beauty for bathroom, powder room and kitchen walls, tell them about Prestile. This modern quality tileboard can be applied in one day—right over present walls, making it ideal for remodeling as well as for new construction. Prestile is perfect, too, for commercial and institutional walls and counters wherever eye appeal, economy, durability and maximum sanitation are required. Write for literature and free sample of Prestile today.

**PRESTILE MANUFACTURING COMPANY**  
2860 Lincoln Avenue.. Chicago 13, Illinois

washable *Prestile*



Cleans easily as china with a damp cloth.

economical *Prestile*



Goes on in large, labor-saving panels.

Advertised in *American Home, Better Homes and Gardens, House and Garden, Small Homes Guide* and other leading magazines.

**PRESTILE**  
*"Its Plastic Beauty is Baked In"*



**Design for  
PERMANENCE!**

...Are you battling a shortage of materials? Stainless steel may be able to win new competitive advantages for you—perhaps at little or no added cost—and you can get Allegheny Metal *now!*

**CALL FOR  
AN ALLEGHENY  
LUDLUM ENGINEER**

Allegheny Metal is the only stainless steel that is produced in *every* form or shape in which steel can be used.

That's advantageous to both the fabricator and user of stainless equipment. It means undivided responsibility, a single source of supply and of technical assistance, and the same dependably uniform quality from one end of the list to the other. Fabricating conditions are known and constant, with the result that cost figures are lower and the performance of finished equipment is better.

Best of all, you can get Allegheny Metal and you can get it *now*, in mill or warehouse shipments. Let us work with you—whatever your need or problem.

**ALLEGHENY  
LUDLUM**  
STEEL CORPORATION  
Pittsburgh, Pa.

*Nation's Leading Producer  
of Stainless Steels  
in All Forms*

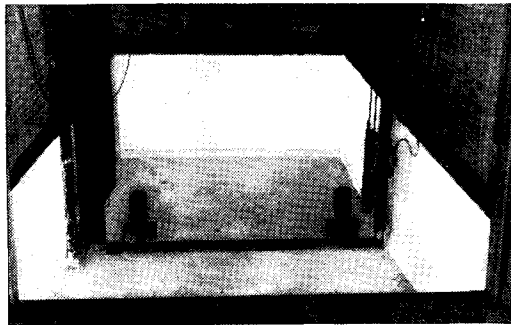


W&D 1554

ALLEGHENY METAL is stocked by all  
Joseph T. Ryerson & Son, Inc. warehouses

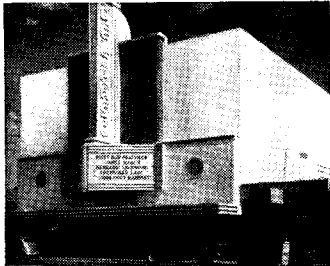
# 4 FT. TIDE in Elevator Pit HELD BACK by **AQUELLA**

The Barnum Garage, Bridgeport, Conn., is located directly over an old river bed. For years, when the tide came in, the pit filled with 4 feet of water, rusting cables and causing frequent breakdowns. Aquella was applied in 1945. Since then, though surrounded by water, the walls and floor of the pit have remained thoroughly dry.

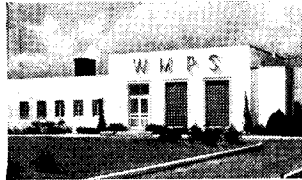


Elevator pit, following treatment with Aquella 3 years ago.

Over and over Aquella does "the impossible." Working on entirely new principle, this amazing mineral surface coating controls seepage above or below grade, interiors or exteriors. Use Aquella for all porous masonry surfaces—brick, concrete, stucco, stone, cement, cement plaster, masonry units. Brilliant white, also buff, rose, green, grey.



Cross section showing how Aquella penetrates tiniest pores, then expands. Continues to harden with age. Will not crack, peel or rub off.



Theatre, Sacramento, Cal., and radio station, Memphis, Tenn., showing beautiful white Aquella finish. Damp, unsightly home (below) now bright and dry after Aquellizing.

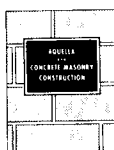


## MAIL COUPON TODAY

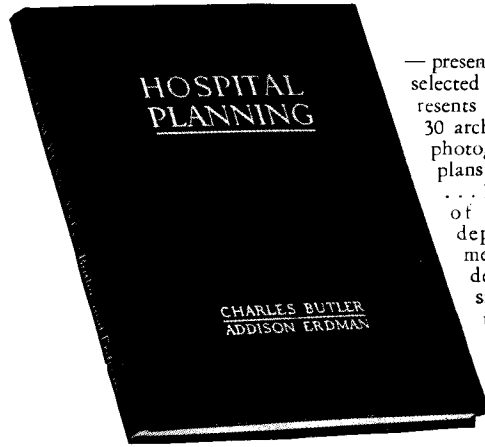
PRIMA PRODUCTS, INC.  
Dept. E, 10 E. 40th St., New York 17, N.Y.

Please rush FREE 16-page booklet "Aquella and Concrete Masonry Construction."

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
TOWN \_\_\_\_\_ STATE \_\_\_\_\_



← New brochure shows how architects, engineers, contractors use Aquella to control water seepage in all porous masonry. Send coupon.



— presents the plans of 51 selected hospitals... represents creative efforts of 30 architects. Includes 32 photographs... 11 site plans... 187 floor plans... 38 special unit plans of rooms, wards, departments... numerous construction details. 236 pages, size 8½ x 11, illustrated and indexed, stiff cloth binding. Price \$15.

AGAIN AVAILABLE

# HOSPITAL PLANNING

by **CHARLES BUTLER, F.A.I.A.**  
and **ADDISON ERDMAN, A.I.A.**

"HOSPITAL PLANNING," the first important textbook on the subject in a generation, offers a complete treatise on hospital architecture... gives a cross-section of the best in hospitals produced in this country within recent years... and provides exhaustive study and examination of new trends.

Messrs. Butler and Erdman, working as a team of specialists, have directed a nationwide, on-premise survey of hospital planning—in theory, in everyday practice and under the stress of unprecedented demands and emergencies. The most significant examples of hospital planning have been studied, assembled, abstracted and dramatized.

This 236-page volume is for architects and hospital groups alike. It will help architects and engineers to learn of the great advances made in hospital architecture... to acquire a working knowledge of hospital procedure... to avoid the many pitfalls which beset the hospital planner. It will help hospital administrators to visualize their problems in terms of community needs... show them how others are meeting similar problems. Price \$15, postage prepaid.

BOOK DEPARTMENT ARCHITECTURAL RECORD  
119 West 40th Street, New York 18, New York

Enter my order for \_\_\_\_\_ copies of the new, 1946 edition of "Hospital Planning" by Charles Butler and Addison Erdman, at the price of \$15. I enclose payment of \$.....

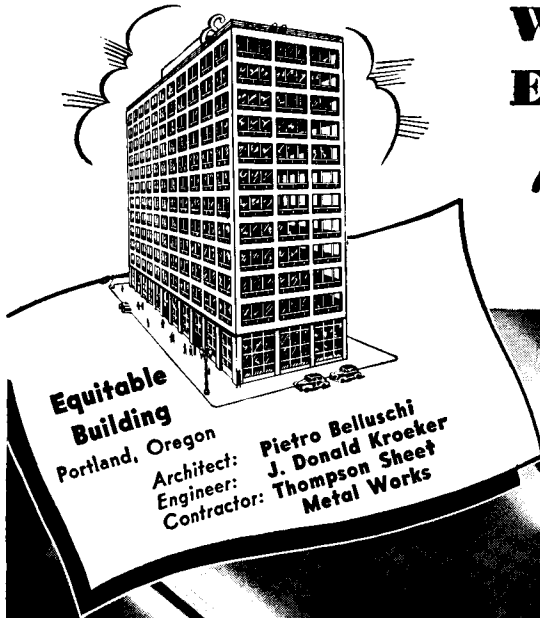
For New York City Delivery add 30 cents for Sales Tax — \$15.30 in all.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**When Specifications Call For  
Efficient Air Distribution  
*Plus* Perfect Blending . . .  
It's **AGITAIR TYPE R****



For the "new look" in ceilings . . . look to Agitair Type R. Why? Because exclusive Agitair Type R design combines maximum air distribution efficiency with attractive units that blend with lighting.

The Agitair Type R adds more than beauty. It provides correct volume of air with 100% control of air distribution in any shape area, from any location—with no drafts, no blank corners, no hot spots, no cold spots. Patented Construction permits it to be assembled into numerous patterns which divide the air and distribute it noiselessly in one, two, three, or four directions in

proportion to the area served. Assembled from standard parts, even the most complicated shapes are economical.

Today, more and more specifications call for efficient air distribution plus perfect blending with planned lighting. Get the facts on Agitair Type R.

**Write for Complete Data**

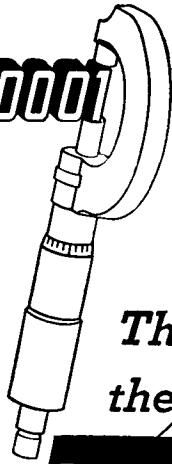
**AIR DEVICES, Inc. • 17 East 42nd Street • New York 17, N. Y.**

CEILING AIR DIFFUSERS

AIR FILTERS

ROOF EXHAUSTERS

**..... TOLERANCE**



*That's "drawing  
the line Fine!"*

Today—right now—make the "Tolerance Test" with **KOH-I-NOOR Drawing PENCILS**. See how they create those fine tolerances on paper, so often demanded by American Industry. See those lines come up crisp—clear—sharp. And very important, too—see their "staying power". For in the long run, you'll find **KOH-I-NOOR Drawing PENCILS** most economical.

17 uniform degrees to choose from—smartly packaged in a permanent lithographed container—one dozen to each package.



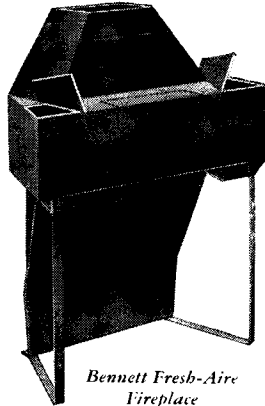
Send for Leaflet No. 3



The **RIGHT** pencil for the **RIGHT** job  
KOH-I-NOOR PENCIL COMPANY, INC., BLOOMSBURY, NEW JERSEY

**BENNETT**  
*Fresh-Aire*  
**UNITS**

**for Perfect Fireplaces  
EVERY TIME!**



*Bennett Fresh-Aire  
Fireplace*

Of course, you can *design* the perfect fireplace. But will it be constructed *exactly* as you planned it? You can be *sure* of perfect fireplaces—when you specify the Bennett *Fresh-Aire* Unit. It serves as a *complete form* for

smoke-free internal proportions of throat, damper, smoke chamber and shell, etc. Fireplaces built around these units *must be right*.

Here are three additional reasons for specifying Bennett *Fresh-Aire* Units for the modern, insulated home:

1. They warm *fresh* air drawn from outdoors—eliminate the upsetting effects of the ordinary fireplace on the balanced central heating system... eliminate smoky back-drafts.
2. They allow *complete freedom* to detail the exterior design of any type or style of fireplace you plan.
3. Their moderate first cost is offset by savings in construction and *perfect* operation.

**Bennett Warm-Aire Unit**

—for perfect fireplaces in camps, southern homes, play rooms, etc. Draws cool air off the floor, heats and recirculates it evenly throughout the room—and to adjacent rooms or upstairs.

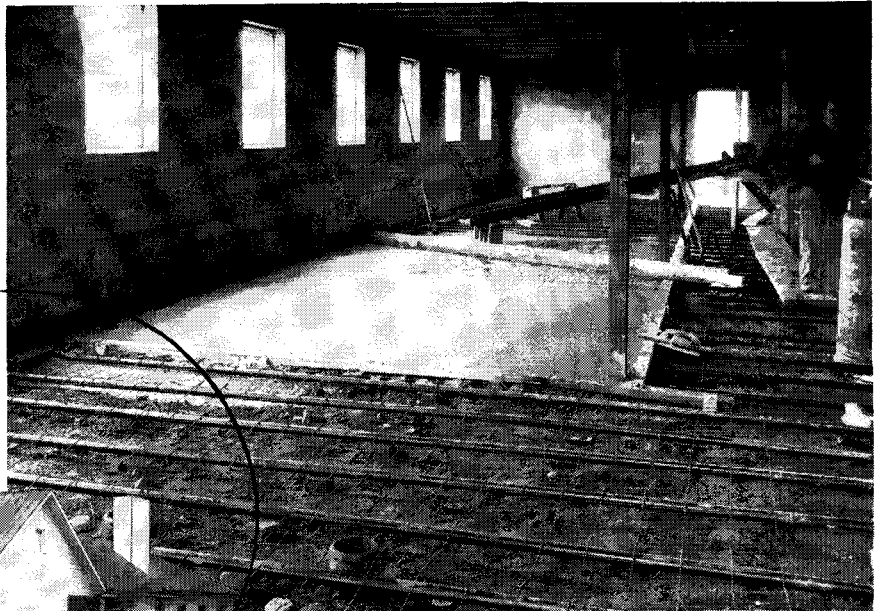
Write us at 448 Maple St. for Catalog—  
or see Sweet's.

**BENNETT - IRELAND INC.**

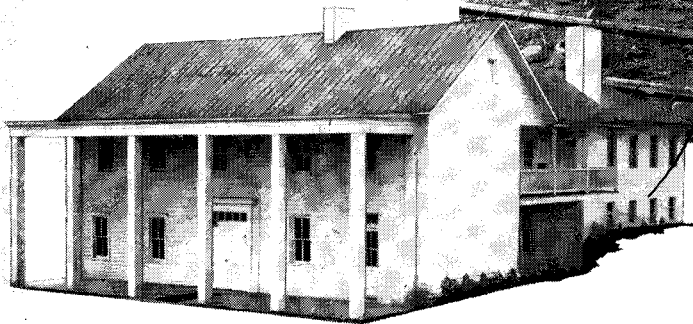
*Chartered in 1906*  
NORWICH, NEW YORK



**NO MORE  
GOOSE PIMPLES  
IN THIS  
LOCKER ROOM**



U·S·S NATIONAL STEEL PIPE installed in the floor of a country club locker room to provide radiant heating and eliminate cold floors.



**IT'S RADIANT HEATED  
WITH NATIONAL *STEEL* PIPE**

WELDING AND BENDING of steel pipe is quickly and easily done on the job or at the shop.



**L**OCKER rooms are notoriously hard to heat . . . and the first chilly day gives you goose pimples and cold feet.

But this is not the case in a new country club locker room near Pittsburgh. A radiant heating system using 3200 feet of U·S·S NATIONAL Steel Pipe is installed in the floor. The new system is designed to give a uniform temperature in all parts of the room. Heat from the floor radiates to the body reversing the usual effect, and giving a feeling of warmth.

This is just one of many applications where radiant heating is proving highly desirable. Factories, garages, homes, churches, schools and

other buildings are now being heated better and cheaper through steel pipe coils in the floor.

U·S·S NATIONAL Steel Pipe has proved the ideal material for radiant heating. It is low in first cost, easy to bend, and easy to weld. It expands at the same rate as concrete and plaster and acts as a reinforcement for the floor.

*Write for New Free Book.* This 48-page book, "Radiant Heating with NATIONAL Pipe" brings you practical information as a basis for planning and installing an efficient steel pipe radiant heating system. Address your inquiries to the National Tube Company, Frick Building, Pittsburgh 19, Pennsylvania.

**NATIONAL TUBE COMPANY**

PITTSBURGH, PA.

Columbia Steel Company, San Francisco, *Pacific Coast Distributors*

United States Steel Export Company, New York

**UNITED STATES STEEL**

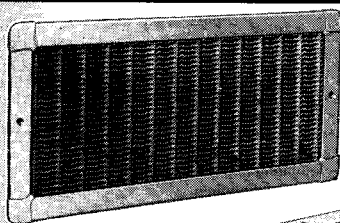


*Engineered  
Air Distribution*

# uni-flo

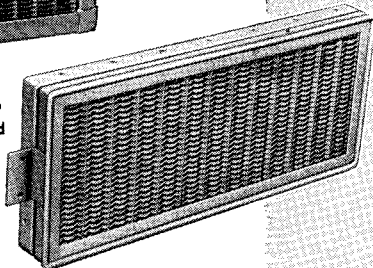
## GRILLES and REGISTERS

*Complete Line Now Available  
for Prompt Delivery*

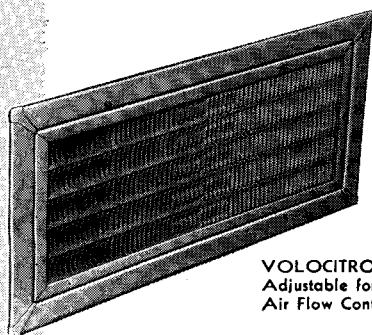


MODEL "E"  
GRILLES and  
REGISTERS

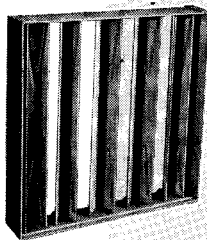
MODEL "F"  
GRILLES and  
REGISTERS



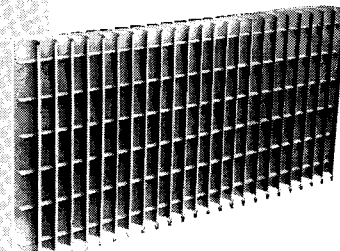
MODEL "M"  
GRILLES and  
REGISTERS



VOLOCITROLS  
Adjustable for  
Air Flow Control



AIRTURNS  
for Reducing  
Friction Losses



...and  
**Sight-lite  
GRILLES**



Send for the UNI-FLO Catalog which gives complete information on the types, features and applications of all UNI-FLO and VENTURI-FLO units. Ask for Bulletin F-1415-7.

### BARBER-COLMAN COMPANY

1232 ROCK ST. • ROCKFORD, ILLINOIS  
*Engineered Air Distribution with Guaranteed Performance*

REPRESENTATIVES IN ALL PRINCIPAL CITIES

## EMPLOYMENT OPPORTUNITIES AVAILABLE

*Advertising rates on request*

**KEY POSITION WANTED** by top architect, used to earn \$1500 a year and up. 25 years of broad experience in large volume work. Public, commercial, industrial, city planning, hospitals, churches, theaters, housing, apartments. Very successful background. Organizer, top notch designer and renderer with unusual new ideas. Personal experience with markets and building methods in Europe & South America. Speak perfect French, Spanish, German. Write for full details and work samples. Box 312, ARCHITECTURAL RECORD, 119 W. 40th St., New York 18.

**ARCHITECTURAL DRAFTSMAN:** Would like contact with experienced Architectural Draftsman fully qualified to handle jobs from inception to completion without direction for varied practice of established office in Southwestern city. Must be of good character, dependable and have initiative. Submit references, training, age, and salary expected. Eventual business participation considered for right party. Box 314, ARCHITECTURAL RECORD, 119 W. 40th St., New York 18.

**ARCHITECT:** Full time, wanted by large Cleveland manufacturing company to plan and supervise layout of sales offices throughout the United States. May be young but some experience necessary. Excellent opportunity. State full particulars and salary required. Box 316, ARCHITECTURAL RECORD, 119 W. 40th St., New York 18.

**WANTED:** A Registered Architectural Engineer capable of designing concrete and steel Industrial Type buildings. Box 318, ARCHITECTURAL RECORD, 119 W. 40th St., New York 18.

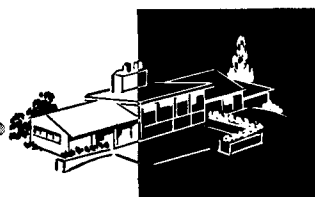
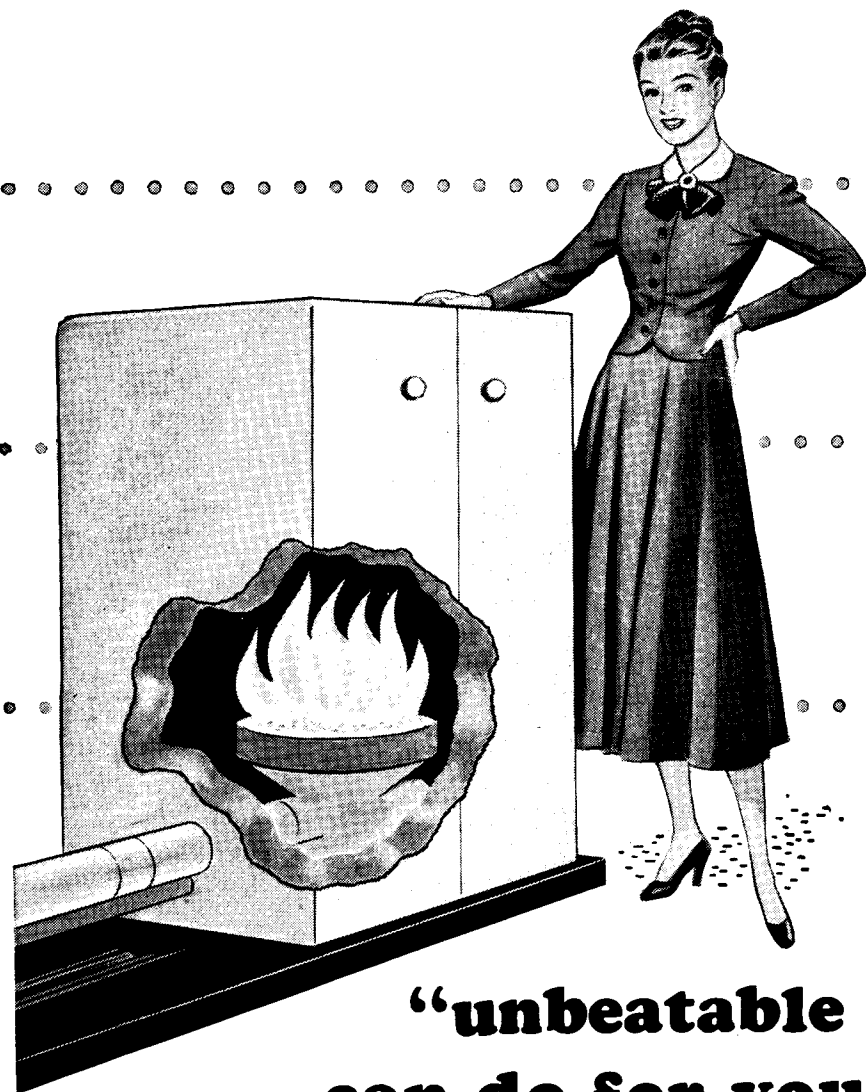
**ARCHITECT:** Man with broad general experience, capable of developing complete working drawings from preliminary sketch. Design ability desirable. Work varies. State age, experience, salary expected and when available. Send recent photograph. Atlee B. and Robert M. Ayres, 3002 Transit Tower, San Antonio, Texas.

**ARCHITECTURAL MEN NEEDED:** Designers, Draftsmen, Sr. Architects, Specification Writer, Supervisory men or Recent Graduates in Architecture. Desirable opportunities in various parts of the country, on Commercial, Industrial, Residential work. Salaries up to \$150 per week. The Engineering Agency, Inc. (Est. 1893) 53 West Jackson Blvd., Chicago 4, Ill.

**WE HAVE OPENINGS** in our Fort Myers office for one or two talented architectural designers and several experienced architectural draftsmen. Our work involves commercial and institutional projects ranging from \$1,500,000 to \$18,000,000 in cost. Permanent positions and advancement opportunities for the right men. Transportation paid. If interested and available, kindly send for application form. Bail, Horton & Associates, Architects & Engineers, Fort Myers, Florida.

**GRADUATE ARCHITECTS** or Architectural Draftsmen, minimum of five years' experience, desirous locating suburban town Western Pennsylvania, diversified practice. Permanent Position to Right Men. Box 320, ARCHITECTURAL RECORD, 119 W. 40th St., New York 18.

**ARCHITECTURAL DRAFTSMEN WANTED,** experienced in railroad work. State age, education, experience, qualifications and salary expected. Box 322, ARCHITECTURAL RECORD, 119 W. 40th St., New York 18.



## What the “unbeatable combination” can do for your new homes

**M**ODERN hard coal stokers and clean, dependable anthracite are an unbeatable heating combination. This pair offers the owners of your new houses these important benefits.

**Completely Automatic Heat** — Modern hard coal stokers are fully automatic . . . from bin feed to ash removal. Sensitive thermostatic controls respond to the slightest change in room temperatures. They go to work immediately to send steady heat to every room in the house.

**Plenty of Heat**—A full year’s supply of plentiful, small size anthracite can be stored

in the house. Every day, regardless of the temperature outside, the house is healthfully, comfortably warm. Owners have no worries about fuel supply with clean, economical anthracite.

**Economical Heat**—Stokers use the smaller, less expensive sizes of hard coal. Thousands of satisfied owners of anthracite stokers testify to reduced fuel bills . . . as much as 50% lower!

Get all the facts on heating with all types of anthracite equipment including modern automatic stokers. Simply fill out the coupon and send it to us, today.

### Manufacturers of Approved Automatic Stokers

COOPER STOKER  
ELECTRIC FURNACE-MAN  
FAIRBANKS-MORSE STOKER  
FUEL SAVERS STOKER  
FURNACE TENDER STOKER  
THE GILKOAL STOKER  
IRON FIREMAN  
MOTORSTOKER  
NEWTON STOKER  
STEWART-ROGERS STOKER  
STOKOL ANTHRACITE STOKER  
VAN WERT STOKER  
WARDS ANTHRACITE STOKER



# ANTHRACITE INSTITUTE

101 Park Avenue • New York 17, New York

Anthracite Institute  
101 Park Avenue, Dept. 4-B  
New York 17, New York

Please send me more information on anthracite and anthracite heating.

Name \_\_\_\_\_

Address \_\_\_\_\_

Company \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

*Specify* **GENUINE LALLY COLUMNS**  
FOR SPACE ECONOMY IN STORE DESIGN

GENUINE LALLY COLUMNS are the ideal structural support where floor space is at a premium. With small diameters, they fit snugly within partitions where exposed. They give a neat, finished appearance and occupy less area than any other structural column of equal load bearing capacity; their use eliminates the need for expensive boxing or heavier columns which obstruct the view of the display areas.

Equally adaptable to interior use or store front construction, GENUINE LALLY COLUMNS provide great strength, durability and fire resistance. They are available in single or multiple-story lengths.

Ridgeway Shopping Center, Stamford Conn.  
Alphons Bach, Designer; Thorn & Jorge, Architects  
GENUINE LALLY COLUMNS SPECIFIED AND USED

Photo by Ben Schnall.

**LALLY COLUMN COMPANY**

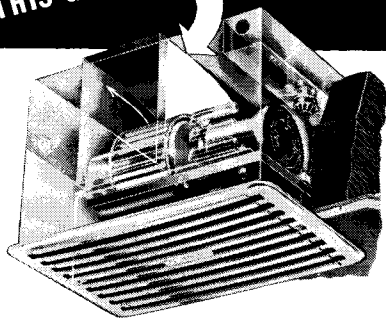
Originators, Sole Manufacturers, Genuine Lally Columns

Erie and Albany Sts.  
Cambridge 39, Mass.

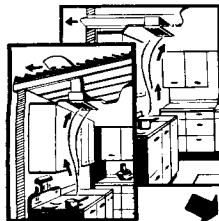
211 Lombardy St.  
Brooklyn 22, N. Y.

733 West 64 St.  
Chicago 21, Ill.

**Only THE CLIPPER**  
**HAS THIS GREASE** PARTITION!



Hundreds of pounds of grease and dust suspended in the air as mist pass through a kitchen ventilator during its operating life *but only the Clipper moves this harmlessly outdoors without gumming or wearing the motor.* The Clipper is guaranteed for 5 years because the motor is entirely removed from the air stream. It's easy to install in old or new houses. Mounts in the ceiling between joists with only the dripless ceiling grille visible.



Sketches show how easily Clipper is installed between joists and vented through roof or a sidewall.

**MAIL THIS COUPON TODAY**

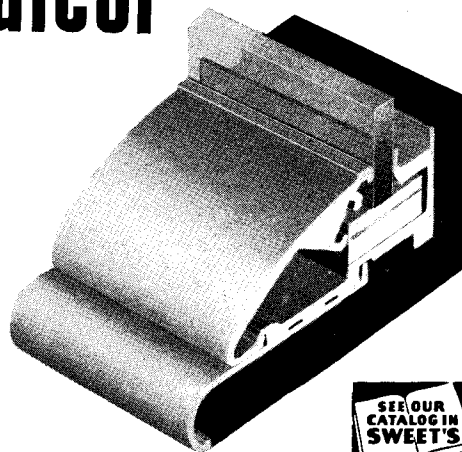
Trade-Wind Motorfans, Inc.  
5707 S. Main St., Los Angeles 37, Calif.  
Send complete information on the Clipper.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

**METAL FOR STORE FRONTS**  
**FULLY EXTRUDED**  
**ALUMILITED ALUMINUM**

**Matcor**



SEE OUR CATALOG IN SWEET'S

FOR DETAILS WRITE

**Matcor** **STORE FRONTS**  
PROVIDENCE 9 RHODE ISLAND

# How to give Mr. and Mrs. Public A Warm Welcome!



**1. MODERN LOOK** of Modine's new Unit Heaters matches interior of this newly remodeled supermarket. Overhead, out of the way, they always keep store at right shopping temperatures.



**2. CUSTOMER COMFORT** is important to this camera dealer. That's why you see a Modine Vertical Unit Heater mounted directly over the door to keep entrance free from chilling drafts.



**3. NO FUEL WASTE!** Thanks to a Modine Horizontal Unit Heater, this automobile dealer has a comfortable showroom. There's no fuel wasted regardless of room area or outside temperature.



**4. SAVES SPACE!** In high rental areas where display counters and racks need all possible room, Modine Unit Heaters handle the heating problem from above with style, beauty, comfort.

## Specify Unit Heating...and specify Modine

EASY ON THE EYES — that's what you'll say about these new Modines — functionally designed and streamlined to add beauty to any store interior. Easy on the ears, too, because Modines are sound-silenced for hush-hush service. And like light, you can beam, flood, or gently diffuse heated air where and when you want it. Simple to install — either exposed, recessed or concealed. Call Modine's representative, listed in the "Where-to-Buy-it" section of your phone book, or send in coupon at right.

**MODINE MANUFACTURING CO.**  
 1510 DeKeven Ave.  
 Racine, Wisconsin  
 Yes! I want all the facts about Modine's integrated Unit Heater Line. Please send me complete information.

NAME .....  
 ADDRESS .....  
 CITY ..... STATE .....

# Modine UNIT HEATERS

# NEW OZACLOTH...

improves even your best drawing

1. Ozacloth increases the opacity of pencil and ink images . . . gives you translucent duplicates which produce better prints than original drawings.

2. Ozacloth prints have permanent sepia images . . . which will not smudge, run, or chip.

3. Ozacloth resists wear and tear . . . has a superior tracing cloth base . . . plastic coated . . . impervious to water, grease, grime. Can be cleaned with a damp cloth.

4. Ozacloth speeds up print production . . . is processed in usual manner in your Ozalid machine . . .



turns out subsequent prints in 26 seconds or less.

5. Ozacloth cuts costs—you can make a permanent 8½ x 11 print for 26 cents, a 17 x 22 print for 52 cents, etc. *A fraction of the cost of the original drawing—yet full insurance for years to come!*

See \* Feel \* Try new Ozacloth

## OZALID

A Division of  
General Aniline &  
Film Corporation  
Johnson City, N. Y.

Gentlemen: Dept. No. 60  
 Please send free sample of new Ozacloth.  
 Please send complete information on Ozalid process. No obligation.  
NAME \_\_\_\_\_  
POSITION \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_

Ozalid in Canada—Hughes Owens Co., Ltd., Montreal



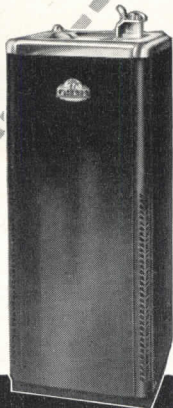
For "human efficiency"  
put water coolers where  
they will invite  
everyone to  
drink often!

The importance of providing enough coolers, where they will constantly sell everyone on drinking more of the water they need, is often overlooked. Few people drink enough water; they become "thirst-fatigued" without knowing it. *Thirsty* people are less efficient, more irritable, harder to get along with. You can eliminate thirst problems best by specifying OASIS Electric Water Coolers. They offer the famous "dial-a-drink" ease of operation, lowest-cost performance, lasting dependability, and other features developed by the world's largest maker of electric drinking water coolers. Write for specification sheets.

SIZES AND  
MODELS FOR  
EVERY NEED



Model  
OP-10  
Warranted  
for 5  
years



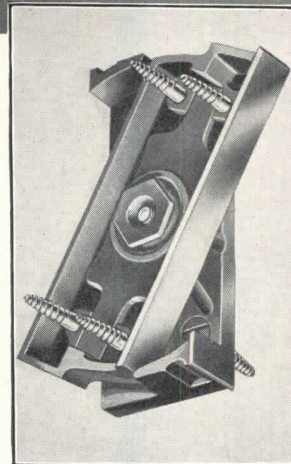
The EBCO Mfg. Co. • Columbus 8, Ohio



MONARCH

5 Star

SASH  
CENTER



- ★ Weatherproof, foolproof—Adjustable spring tension.
- ★ Square end, easy mortise installation.
- ★ Side, top or bottom pivot for transoms and sash.
- ★ Five HOLD-FIRM sash angle positions.
- ★ 100% opening, complete washing from inside.

Write for descriptive literature.

CLAYTON & LAMBERT MFG. CO.  
1705 DIXIE HIGHWAY • LOUISVILLE 10, KY.



Getting 10 months  
educational gains in  
6 months by the  
Harmon  
Technique

The schools you design can do it, too!

Ask for a copy of Dr. Harmon's "LIGHT ON GROWING CHILDREN," reprinted from Architectural Record. On receipt of sketches showing dimensions and details of schoolroom. specifications will be furnished according to the Harmon Technique without cost or obligation.

NATIONAL CHEMICAL & MFG. CO.  
3617 S. May Street, Chicago 9

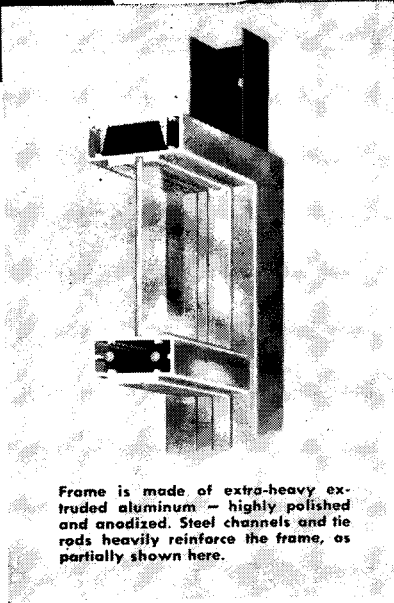
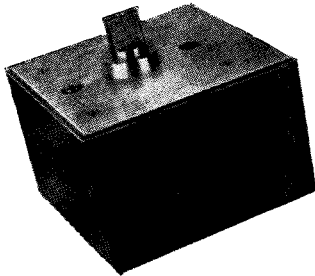


LUMINALL the light-reflective  
paint for interiors

# NOW... a prefabricated door-frame assembly

*-with a  
new and ingenious  
checking floor hinge*

The new Pittsburgh Checking Floor Hinge is an engineering triumph. The case and cover are drop-forged. All main working parts are hardened and ground tool steel, and all bearings are anti-friction precision-ground. In operation, it has many exclusive advantages, including positive door-speed control; separate checking control; built-in hold-open feature, and many others.



Frame is made of extra-heavy extruded aluminum — highly polished and anodized. Steel channels and tie rods heavily reinforce the frame, as partially shown here.

## HERCULITE DOOR-FRAME ASSEMBLY

**S**PECIFICALLY designed to be used with each other, "Pittsburgh's" revolutionary new Door-Frame Assembly and the equally unique checking floor hinge—are developments of great importance to architects, contractors, chain store executives, and retail merchants.

"Pittsburgh's" new Door-Frame Assembly has beauty, ruggedness. It's a "packaged" construction, affording utmost ease of installation. It's supplied complete with checking floor hinges and top pivots, ready to bolt into the rough building opening. It's constructed to accommodate standard Herculite Tempered Plate Glass doors. All clearances on the frame and doors are controlled by accurate factory gauges.

These features make possible its simplicity of installation: When the building is ready to receive the doors, they are simply set on the hinge pivot, the top pivot is dropped

into the top channel, and the entire structure is complete.

That's all there is to it! No bothersome details of setting and fitting; no time- and labor-consuming details about clearances and other matters; no custom-made frames requiring scores of different materials and trades to install.

Get the full story on "Pittsburgh's" new Herculite Door-Frame Assembly—with all its marvelous design characteristics—simply by filling in and returning the coupon below.

Pittsburgh Plate Glass Company  
2076-8 Grant Building, Pittsburgh 19, Pa.

Without obligation on my part, please send me your descriptive literature on "Pittsburgh's" new Herculite Door-Frame Assembly.

Name.....

Address.....

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



PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

**GENERAL CONTROLS . . .**  
**THE ACKNOWLEDGED STANDARD IN**  
**AUTOMATIC PRESSURE, TEMPERATURE**  
**AND FLOW CONTROL UNITS**

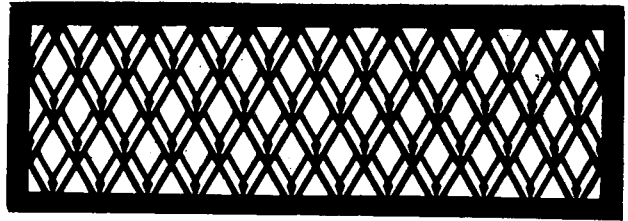
Here are a few of an outstanding line of controls for Industrial, Commercial and Domestic applications.

- \*ALL GAS CONTROLS
- \*AIRCRAFT SAFETY PILOTS
- \*AUTOMATIC SAFETY PILOTS
- \*GAS REGULATORS
- \*LOW WATER CONTROLS
- \*GOVERNOR TYPE VALVES
- \*HI-LOW OIL VALVES
- \*INDUSTRIAL VALVES
- \*LOW PRESSURE GAS VALVES
- \*LOW OPERATED VALVES
- \*MAGNETIC GAS VALVES
- \*PILOT PUMPERS
- \*PILOT GENERATION VALVES
- \*REFRIGERATION VALVES
- \*SOLENOID VALVES
- \*STRAINERS - RELAYS
- \*100% SHUT OFF VALVES
- \*THERMOSTATIC CONTROLS
- \*TRANSFORMERS - SWITCHES
- \*THERMOPILOTS

Controls for air, water, steam, natural, manufactured and liquefied petroleum gases, light and heavy oils, etc., refrigerants such as, Freon, methyl chloride, sulphur dioxide and ammonia.

A.C. or D.C., normally closed or open types. PROVED and IMPROVED PERFORMANCE IS PROOF THAT YOU CAN'T BUY BETTER CONTROLS.

**GENERAL CONTROLS**  
 801 ALLEN AVENUE GLENDALE 1, CALIF.  
 Manufacturers of Automatic Pressure, Temperature and Flow Controls.  
 BRANCH OFFICES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES



**FOR BUILDINGS**  
**of modern design**

To harmonize with the most modern designs for residential, business or public buildings, there are over a hundred different Hendrick Grilles. Many exclusive Hendrick designs, originally produced to meet an architect's specifications for some particular project, are now available as standard numbers. Hendrick Grilles are furnished in aluminum, bronze, copper, Monel, steel and stainless steel. Write for full information.



Perforated Metals  
 Perforated Metal Screens  
 Architectural Grilles  
 Mitco Open Steel Flooring,  
 "Shur-Site" Treads and  
 Armorgrids

**HENDRICK**  
*Manufacturing Company*  
 38 DUNDAFF STREET, CARBONDALE, PA.  
 Sales Offices in Principal Cities

**SO MUCH MORE IN BEAUTY...IN VALUE...**

**YET Modernfold**  
**COSTS NO MORE\*!**

Look at the beauty Modernfold Doors offer . . . with their colorful fabrics! Amazing utility, too! They save space . . . eliminate the area required for the swing of conventional doors. *And they need cost no more!* For, in figuring the cost of a closure, you must consider not only the actual door, but the trim, jamb, hardware, painting, etc. So in your plans, remember Modernfold, the accordion-type door — fabric-covered for beauty, metal-framed for rigidity and strength. Write us.



*\*A door 2' 4" wide x 6' 8 1/2" high, costs \$26.00 (F.O.B., New Castle). Other Modernfolds at correspondingly low prices.*

**modernfold DOORS** **NEW CASTLE PRODUCTS**  
 New Castle Indiana  
 Consult your telephone directory for the names of our installing distributors.

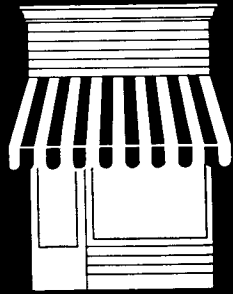
**FOR THE PIPING YOU ARE PLANNING**

**SPECIFY CRANE VALVES AND FITTINGS**

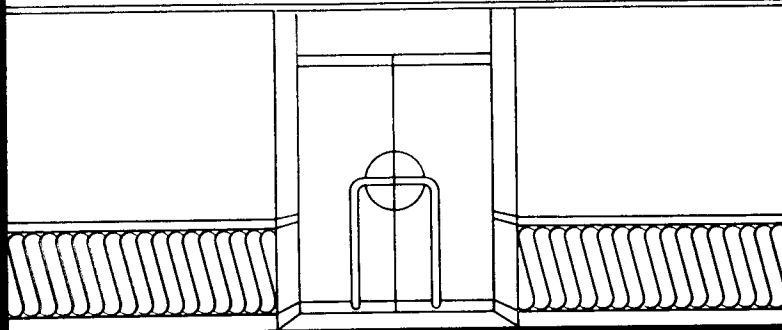
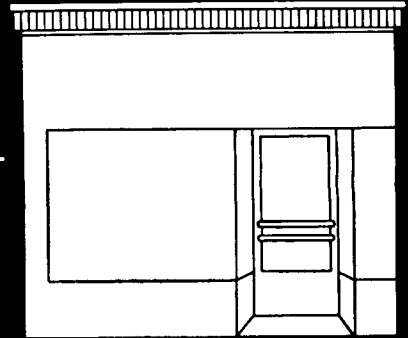
**CRANE . . .**

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5





weathermakers are  
profit makers for  
any size store



Big, small, or in-between—any retail store or shop can have the *extra* customer appeal of modern air conditioning by Carrier. There's an efficient, economical Carrier Weathermaker for every size installation—from the small drug store or beauty shop to the large specialty shop or variety store.

For the small shop where all available space is given to sales, there's an attractive packaged Weathermaker to stand right out in the sales area. It may be used with or without duct

work . . . and blends harmoniously with any interior or fixture styles.

A larger self-contained unit for medium-sized stores can be concealed behind a partition or in a service area. Both of these self-contained unit types—from 3 to 15 horsepower—have a factory-assembled refrigerating system, ready for building service connections.

Where space and larger load call for central refrigeration, Carrier offers the System Weathermaker units. These may be used singly or in groups with

remote location of refrigerating equipment. There's a wide range of capacities to meet any need. And, like every Carrier product, they are backed by the longest experience in the air conditioning field. Carrier engineers have worked closely for years with architects and consulting engineers to provide the finest in air conditioning. They are always glad to supply data on fitting Weathermakers into the plans for any store. Carrier Corporation, Syracuse, New York.



AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING



you can  
see that

*Trinity White*

is the whitest  
white cement!

You'll get fine results with this extra white cement. It's true Portland Cement made to ASTM and Federal Specifications. If your dealer does not have it, write the office nearest you: Trinity Portland Cement Division, General Portland Cement Co., 111 West Monroe St., Chicago; Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles.

as white  as snow

Available Now!

**CHENEY  
FLASHING**

*3-Way Bond*

16 OZ. COPPER

**CHENEY  
FLASHING  
REGLET**

16 OZ. COPPER

CHENEY FLASHING is again being made by the original inventor who pioneered the art of thru-wall flashing eighteen years ago.

No thru-wall flashing can operate successfully unless it has the two very important features that are found in CHENEY FLASHING—proven weep-hole drainage and the three-way bond, vertical as well as longitudinal and lateral.

Remember, the inferior two-way flashings, crimped copper and membranes, have neither the vertical bond nor do they drain moisture from the wall fast enough. Furthermore, their first cost advantage has disappeared because today Cheney Flashing is no longer a specialty—it's a standard commodity.

WRITE FOR  
DESCRIPTIVE FOLDER Dept. R

**CHENEY FLASHING CO. Trenton, N. J.**

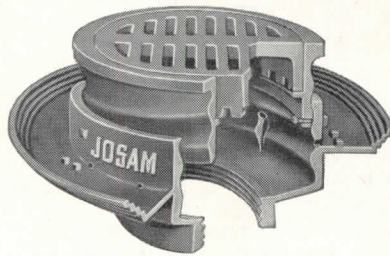
What goes UP?

What goes DOWN?

to meet variations in floor levels?

... THE NEW ADJUSTABLE TOP

**Josam** **LEVELEZE**  
LEVELS EASY  
FLOOR DRAIN



Now... where the drain has been set too high or too low... or where floor level is changed—for any reason—after the LEVELEZE drain is installed, simply raise or lower the adjustable top of the JOSAM LEVELEZE Floor Drain and presto—the new level is met, drainage is assured and the cost of adjustment is negligible. Send coupon below for literature.

SERIES 3610—with deep set tractor grate shown  
SERIES 3510—with anti-tilting grate optional

Josam Mfg. Co., 302 Ferguson Bldg., Cleveland 14, Ohio

Please send me literature on new Leveleze Floor Drain

Name .....

Firm .....

Address .....

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



... the stopping place  
of busy people!

In the Heart of Pittsburgh's Golden Triangle... within easy walking distance of all important office buildings, stores and theatres... the Pittsburgher is the ideal spot to stay.

You'll enjoy the large comfortable rooms, every one with a private bath and radio... the excellent restaurants... and the friendly courtesy that always awaits you at the Pittsburgher

Single Rooms: \$3.75 to \$5.50  
Double Rooms: \$5.50 to \$7.50

A KNOTT HOTEL—Joseph F. Duddy, Manager

*Comparison proves...*

## MOULTILE SETS THE STANDARD IN ASPHALT TILE BEAUTY!

For lustrous, eye-captivating beauty, Moultile has consistently earned top honors. The clarity and depth of tone in the background colors, the pleasing "woven" effect of the crisp, distinct veining give vivid expression to your drawing board designs.

Throughout the war years and afterward, no compromise was made with Moultile beauty. And now many lighter colors, largely withdrawn due to material shortages, are becoming increasingly available. These lighter colors reflect more light and offer a wider range of artistic effects. Moreover, experience indicates that the cost of maintaining the lighter shades is actually lower.

There is no premium on Moultile's outstanding beauty. Moultile is low in original cost . . . and exceptionally economical on a cost-per-year basis. Its inherent toughness defies time and the hardest sort of wear. Moultile is quiet, non-slippery, and comfortably buoyant underfoot. If you are not already acquainted with Moultile, write today for free samples . . . and ask for a copy of our complete catalog. THOS. MOULDING FLOOR MFG. CO., 165 W. Wacker Drive, Dept. AR-4, Chicago 1, Illinois.

**THOS. MOULDING**

# Moultile

**Flexible-Reinforced  
MASTER ASPHALT TILE**

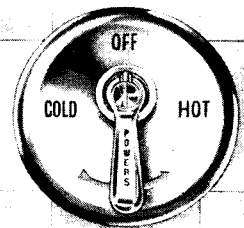
*Two colors of Moultile, combined in a simple yet striking design, create a floor with "character" for the National Bank of Hyde Park, Chicago, Illinois*



to  
make  
showers  
really  
safe

*Use*

## POWERS TYPE H THERMOSTATIC SHOWER MIXERS



**Why be "half-safe"** with shower mixers that only protect bathers from scalding caused by fluctuating pressures in hot and cold water supply lines—a frequent and important cause of shower trouble . . . but only ONE.

### For SAFER and More COMFORTABLE SHOWERS

install Powers Thermostatic Mixers. They protect shower users from scalding caused by both TEMPERATURE and PRESSURE variations. Both dangerous variables are present in all shower installations.



*Only One Moving Part*

Be doubly safe. Get positive, accurate protection against both Temperature and Pressure changes. Use Powers mixers. They cost more. Their greater safety and economy make them worth more.

**Cut Fuel and Water Bills** with Powers mixers. Bathers waste no time or hot and cold water while waiting for a shower at the right temperature.

*Phone or write for estimate*

CHICAGO 14, ILL. 2752 Greenview Ave. Phone Buckingham 7100  
NEW YORK 17, N. Y. 231 East 46th St. Phone Eldorado 5-2050  
LOS ANGELES 5, CAL. 1808 West Eighth St. Phone Drexel 2394  
548A

**THE POWERS REGULATOR CO.**  
OFFICES IN 47 CITIES • SEE YOUR PHONE BOOK  
Over 55 years of WATER TEMPERATURE CONTROL

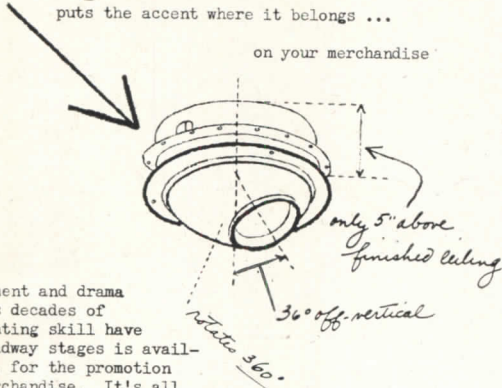
# "Century" Notes:

Published in the interests of better lighting

## Eye-Light

puts the accent where it belongs ...

on your merchandise



All the excitement and drama which Century's decades of theatrical lighting skill have brought to Broadway stages is available to you ... for the promotion of your own merchandise. It's all rolled up in Century's "Eye-Light".

Cat. #351, semi-recessed eyeball. \$36 (150 watt reflector bulb)

CENTURY LIGHTING, INC., 419 West 55th Street, New York  
626 N. Robertson Blvd., Los Angeles

# Lockwood

IDENTIFIES QUALITY  
IN BUILDERS' HARDWARE

LOCKWOOD identifies its Builders' Hardware with this famous Trade Mark. You will find it on cylinder locks and keys, on mortise locks, on door closers . . . a symbol of enduring quality since 1882.

To the Architect the name LOCKWOOD also signifies a line of Builders' Hardware embracing all requirements, characterized by steady advancement in feature and design . . . and a company that never hesitates to give full and prompt co-operation.

We aim to keep it that way.

R-1

LOCKWOOD HARDWARE MFG. COMPANY

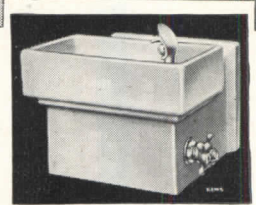
Division of Independent Lock Company

Fitchburg • Massachusetts

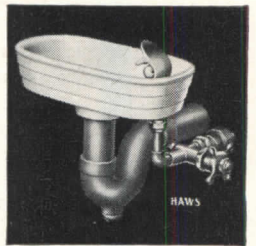
## Nothing else quenches thirst like *Cool, Clear Water...*

The refreshing goodness of sparkling clean water . . . readily available . . . is one of the blessings of our American way of life. Most everywhere you go you find modern, sanitary drinking fountains.

You'll be proud, too, of the drinking water facilities you plan, when you specify HAWS Drinking Fountains for your clients. HAWS fountains are smart and modern in design, sparkling clean and easy to maintain. You will always find HAWS tops in mechanical excellence and dependability. Write today for full information.



MODEL 7D—Pacifica  
Vitreous China Angle Stream  
Fountain with Chrome Trim



MODEL 8  
Angle Stream Head with  
Enameled Iron Drinking  
Fountain Bowl

# HAWS

DRINKING FOUNTAINS

## HAWS DRINKING FAUCET CO.

1433 FOURTH STREET (Since 1909) BERKELEY 2, CALIFORNIA  
Agents and Sales Representatives in All Principal Cities

## The COLOR is here!

No more "fumbling" with colors! Time is saved, controversies are averted when you have the Moleta COLOR GUIDE. This handsome book is winning round-the-world honors . . . serving users in Europe, Arabia, Africa, China, all over the globe!

The Moleta COLOR GUIDE gives a page-by-page display of 150 beautiful colors . . . each tint from the palest to the darkest shown on a large page (9" x 15"). The correct mixing formula is given on the reverse of each page.

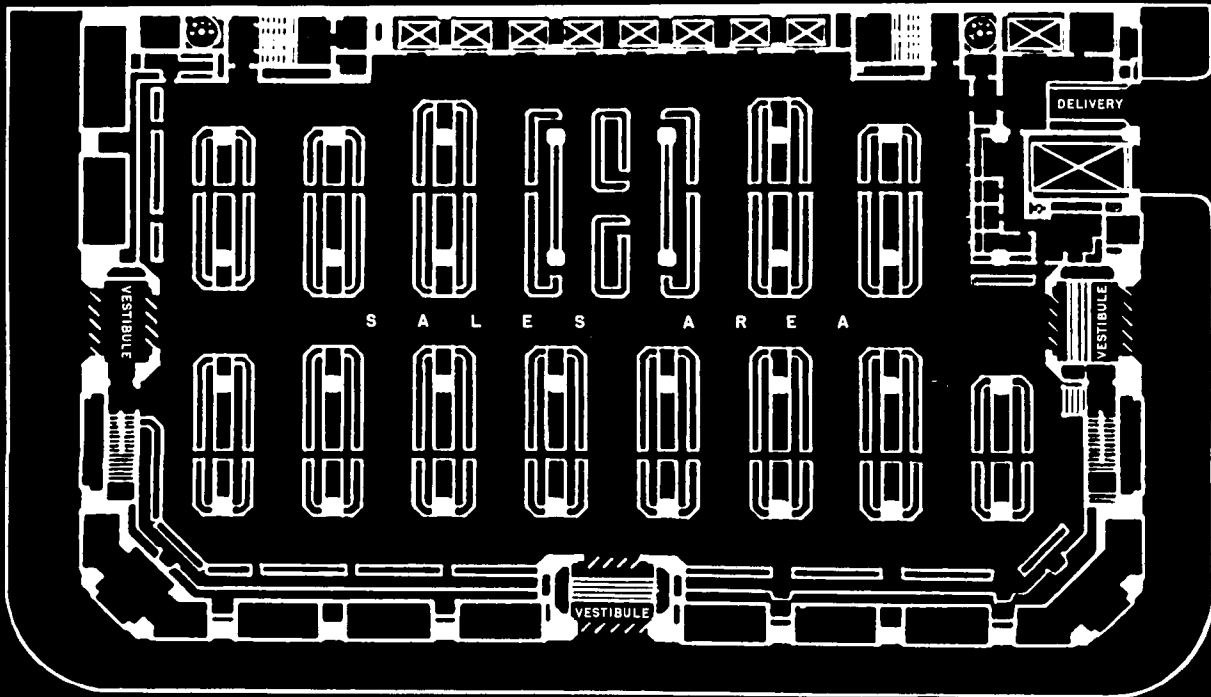
Write for your copy of the Moleta COLOR GUIDE  
—\$5.00, delivered anywhere in the U. S. A.

MONROE, LEDERER & TAUSSIG, Inc.  
606 N. American St., Phila. 23, Pa.

# Moleta

ARCHITECTURAL

The Truly Washable  
FLAT OIL PAINT



## Specify emergency lighting protection in the stores you plan or redesign . . .

With buyers crowding through the stores on shopping nights, lighting failure can result in serious dangers and losses . . . injury of customers and personnel, damaged property and stolen merchandise.

Despite all precautions of utility companies, accidents beyond their control can cause interruptions of normal electric current. Storms, floods, fire and collisions may occur with little or no warning, and can be a serious menace to electric power lines.

Safeguard the stores you design against lighting failure. Exide Emergency Lighting provides safe, sure, modern protection for stores, hospitals, schools, theaters and other buildings. Batteries are always fully charged, and ready to take over the lighting load *instantly* and *automatically* when needed.

**Exide**  
EMERGENCY  
BATTERIES

### STORES NEED LIGHTING PROTECTION AT THESE POINTS

- Sales areas
- Exits
- Stairways
- Escalators
- Fire towers
- Elevators
- Cashier's cage
- Engine room

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

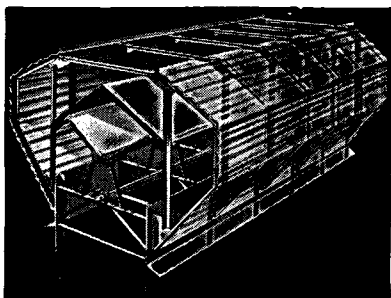
**I**nternational Competition for  
a new traffic route  
bridge or tunnel ("Osterleden")  
in Stockholm

The city of Stockholm invites experts of all countries to take part in a competition in connection with a new main traffic route (bridge or tunnel with approaches) in Stockholm between Sodermalm and Ostermalm-Norra Djurgarden.

The sum of 60,000 Swedish crowns will be distributed unconditionally in prizes. The first prize will probably be 20,000 Sw. crowns.

Entries must be received by latest 1st April 1949.

*Full conditions etc. can be obtained from the "Competition Secretary, Stockholms stads stadsplanekontor, Stadshuset, Stockholm". A deposit of 100 Sw. crowns is required. Application may also be made to any Swedish Embassy, Legation or career consul, and the deposit paid in the currency of the country concerned. An abridged form of the conditions etc. may be obtained free of charge from the Competition Secretary.*



**LET BURT SPECIALISTS  
HELP YOU WITH YOUR  
VENTILATING PROBLEMS**

Burt engineers are specialists in ventilating layout and design. They are available to help you plan your ventilator installations any time—without obligation. Burt's standard line of six distinct types of ventilators will handle almost any ventilating need efficiently and economically. Special designs—if required—can be planned and produced for you in Burt's modern fabricating plant. More than half a century of ventilating experience is your assurance that plans, specifications and installations will perform efficiently and economically.

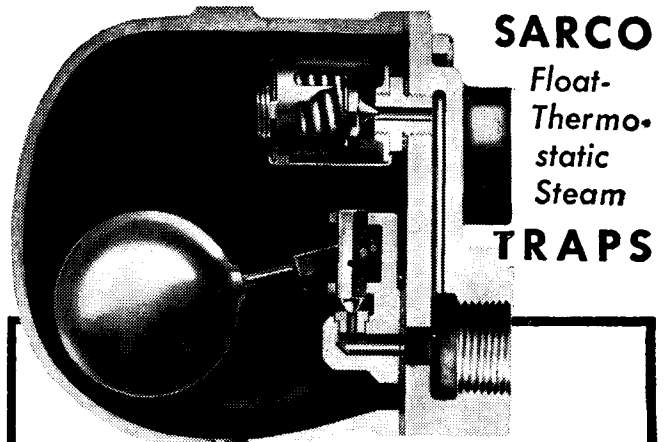
**THE BURT MFG. CO.**

ROOF VENTILATORS • OIL FILTERS  
EXHAUST HEADS

48 E. SOUTH STREET, AKRON 11, OHIO

SEND  
FOR CATALOGS

Burt Engineers  
are glad to  
help on plans



**SARCO**  
Float-  
Thermo-  
static  
Steam  
**TRAPS**

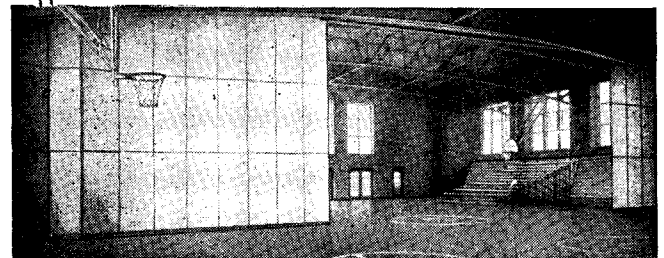
Here is the trap for dripping heating mains, for unit heaters and on all applications where a heavy load requires the instant removal of all condensation practically at the same temperature as that of the steam. Also where process is temperature controlled. Operation is continuous, rapid and complete. Equipped with fully automatic air by-pass, actuated by a Sarco bellows. Air binding is impossible.

MADE IN 3 TYPES Low pressures ..... 0 to 15 lbs.  
Medium pressures ..... 10 to 125 lbs.  
High pressures ..... 50 to 200 lbs.

Write for Catalog No. 450

208

**SARCO** SARCO COMPANY, INC.  
Empire State Bldg., New York 1, N.Y.  
**SAVES STEAM** SARCO CANADA, LTD., TORONTO 5, ONTARIO



**HORN FOLDING  
PARTITIONS  
HORN FOLDING  
BLEACHERS**

FOR COMPLETE INFORMATION WRITE

**HORN BROTHERS CO.**

F O R T D O D G E , I O W A

ESTABLISHED 1909

# LUX-RIGHT AREAWALLS

**THE ORIGINAL AND THE ONLY STEEL WINDOW WELL WALL HOT-GALVANIZED BY HAND-DIPPING**

This good-looking, permanent steel wall will not rust, streak, corrode. All surfaces and edges are heavily galvanized by hand-dipping in molten zinc after all shearing, punching and forming is completed.

Lux-Right\* Areawalls outlast your building. No expensive periodic replacements.

Speed of installation of one-piece units saves time and labor.

Made in wide range of standard sizes to fit any possible opening.

Ideal for side-hill jobs. Throw more light into basement.

Folder Free. See dealer or write. Buy the Best.

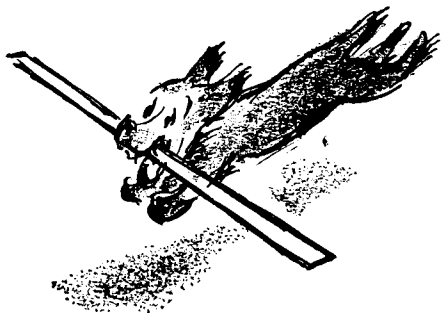
See Sweet's Arch. & Bldrs. Editions  
\*TM Reg. U. S. Pat. Off.

## SAINT PAUL CORRUGATING CO.

Manufacturers of Sheet Metal Products since 1885  
South End Wabasha Bridge AR1 Saint Paul 1, Minn.

*What's funny about building?*

# THE LAST LATH!



Now in book form:

All of Alan Dunn's cartoons from *Architectural Record*

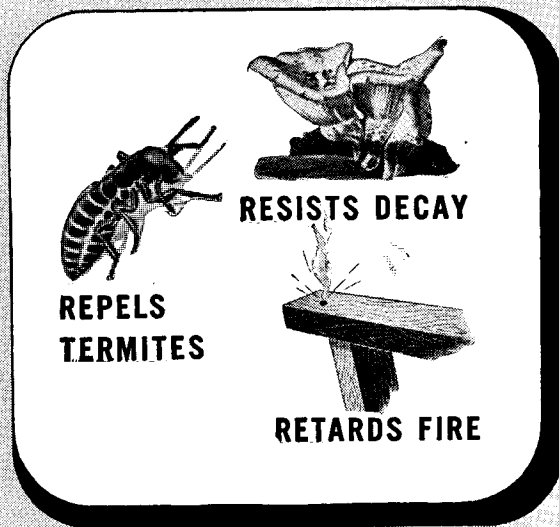
... and a bonus of new ones besides — 96 pages of architectural comedy to skyrocket morale all along the line from the drafting room to the clients in the outer office. Don't miss the fun; mail the coupon today!

ARCHITECTURAL RECORD BOOK DEPT.  
119 West 40th Street, New York 18, N. Y.

I want THE LAST LATH! My check for \$2.50 is enclosed. (\$2.55, with 2% sales tax, for New York City deliveries.)

Name.....  
Address.....  
City.....Zone.....State.....

## 3-Way Protection for the buildings you design



REPELS  
TERMITES

RESISTS DECAY

RETARDS FIRE

...with "CZC"-treated wood

You can give the buildings you design additional long life by including "CZC"—treated wood in your plans. Wood that has been pressure-impregnated with "CZC" resists decay, repels termites, and is resistant to fire.

"CZC"—treated wood is paintable, odorless, clean and safe to handle. It has all the advantages of untreated wood, plus these other life-extending features.

Wherever "CZC"—treated wood is used, maintenance costs are lower, safety is greater. Your clients will find that Du Pont Chromated Zinc Chloride pays for itself many times.

For additional information on this wood preservative that makes wood last longer, write E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington 98, Delaware.

# DU PONT CZC

Chromated Zinc Chloride

MAKES WOOD RESIST DECAY • REPEL TERMITES • RETARD FIRE



REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

## NEW BEAUTY IN INTERIOR

# Cold Cathode

## LIGHTING

### DECORATIVE and FUNCTIONAL

CUSTOM-MADE COLD CATHODE interior lighting especially designed and manufactured to fit your architectural design and interior decorating scheme.

Consult us regarding your lighting problems and the installation of a cold cathode lighting system which is adequate to your needs either for illumination or decoration, or both combined, in your home, office or factory. We are now working with architects on many projects and can tell you of a number of successful, satisfactory installations.

◆ ◆ ◆  
Send us your plans and description of decorative motif and use of rooms for an estimate of the cost of a CUSTOM-MADE COLD CATHODE installation. We do the entire job or you can have your own electrical contractor install the Ideal System under our direction. *We guarantee our work for one year against all mechanical defects.*

### IDEAL LIGHTING COMPANY

2219 63rd Street

Kenosha, Wisconsin

## Every Architect should have these STEWART CATALOGS

Catalog 82, Standard Iron Fences (with Channel Rails, Gates and Arches)

Catalog 80, Standard Iron Fences (with Angle Rails)

Catalog 83, Standard Chain Link Wire Fences and Gates

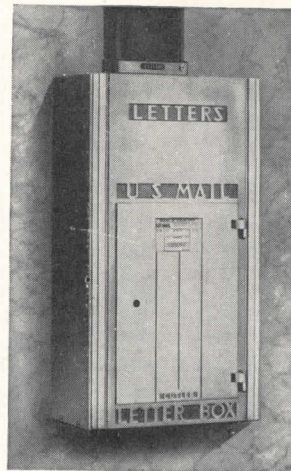
Catalog R-38, Railings, Pier Lanterns, Interior Gates, Veranda Work, etc.

Catalog W-40, Window Guards, Wire Mesh Partitions, Folding Gates, etc.

Catalog I-42, Industrial Fence Specifications Manual

These catalogs contain complete information on Stewart Iron and Wire Products. Check your file of Stewart literature. If you do not have all the catalogs listed above, we shall be glad to send them to you. Stewart also manufactures the following jail and prison equipment: Steel Cells, Bunks, Hinge and Sliding Type Doors, Locks and Locking Devices, Iron Stairways, Gratings, etc. Complete information on request.

**Stewart** IRON and WIRE THE STEWART IRON WORKS CO., Inc. 1565 Stewart Block CINCINNATI 1, O. **FENCES**



No. 4740

A CUTLER MAIL CHUTE should be specified for every eligible office building, public building, hotel, apartment or hospital.

Any building not now equipped can be modernized at small expense without serious inconvenience, noise or dirt.

Catalog in Sweet's

ESTABLISHED 1883

## Cutler Mail Chute Co

ROCHESTER 7, N. Y.

# STOP that WATER with FORMULA #640

## A Clear Liquid Waterproofing for Old or New Construction

**PENETRATES** deeply—one inch or more—is not a surface treatment. Brush, spray, or float on stone, cast stone, concrete, mortar, stucco, tile, brick, plaster, wood, wall board — any absorbent material.

**WATERPROOFS**, preserves, prevents dusting of floors, surface dirt washes away in rain.

**FORMULA No. 640** is a balanced formula of seven different waxes and resins in a hydrocarbon solvent.

**ACID-ALKALI proof** — does not oxidize, unchanged by temperature.

**PERFORMANCE** — It is our opinion it will last as long as the concrete, mortar, stucco, etc., lasts.

**OIL PAINT** saponifies on cement unless sealed first with Formula No. 640.

**APPLY** to either side. The pressure side, or opposite side — it is equally effective.

**HYDROSTATIC PRESSURE** — A 20 foot head has been held by Formula No. 640.

**CUTS WATERPROOFING COSTS** because it applies three times as fast as paint, requires no special technique. No preparation — comes ready to apply. Eliminates necessity of furring. Concrete floors and walls need no membraning.

**KEEPS IN ALL CLIMATES** • **HARMLESS TO USE**  
**GOOD COVERAGE** • **MODERATE PRICE**

WRITE OUR ENGINEERING DEPARTMENT for office test kit, technical data, or regarding any special problem.  
J. Wilbur Haynes, Engineer

**OTHER PRODUCTS:** Formula No. 640 Toxic, combines waterproofing with termite and fungus protection; cement hardener; cement paint; floor mastic; roof coatings, etc.

**HAYNES PRODUCTS CO.**

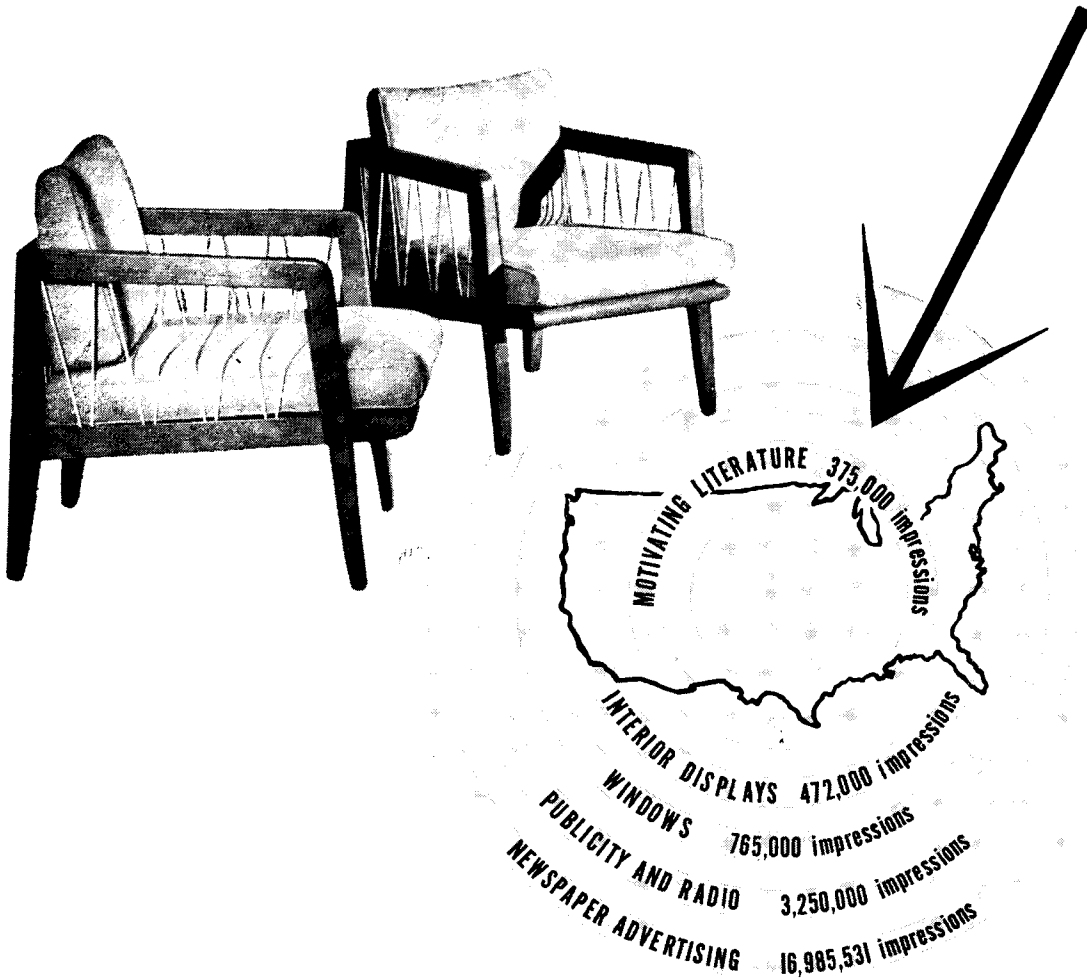
4007 FARNAM STREET

OMAHA 3, NEBRASKA





## House & Garden—trend setter



House & Garden sets trends by reaching people who materially influence the buying of others. This power of multiplying influence in *ever widening circles* is the golden touch of House & Garden. The Drexel Furniture Company promotion in House & Garden clearly demonstrated the effectiveness of the golden touch in action. The House & Garden advertisements touched off a series of store promotions across the country that told Precedent's story to 22 million people.\*

*\*These results at the lowest initial cost in the home service field.*

# House & Garden

©1948, THE CONDÉ NAST PUBLICATIONS, INC.

House & Garden's golden touch gets action at the point of sale.

# INDEX TO ADVERTISEMENTS

Catalogs of concerns marked (s) are filed  
in Sweet's File, Architectural (1948)

s Adam, Frank, Electric Company.....	79	s Frink Corporation.....	24	s National Oak Flooring Manufacturers Assoc...	18
Adams-Rite Mfg. Co.....	192	General Aniline & Film Corp.....	232	s National Terrazzo & Mosaic Association, Inc...	206
s Adams & Westlake Company.....	217	General Controls.....	234	National Tube Company.....	227
Aerofin Corporation.....	174	s General Electric Co.—Air Conditioning.....	199	s New Castle Products.....	234
Air Devices, Inc.....	225	s General Electric Co.—Lamps.....	208-209	s Okonite Company.....	68
Alan Wood Steel Company.....	30	General Electric Co.—Plastics.....	47	Onan, D. W. & Sons, Inc.....	198
Allegheny Ludlum Steel Corp.....	223	General Motors Co.....	58	s Otis Elevator Company.....	42
s Allied Chemical & Dye Corp.....	56	General Pencil Company.....	220	s Owens-Illinois Glass Company.....	78
s Aluminum Company of America.....	81-163	s General Portland Cement Co.....	236	Ozalid Products Division.....	232
s American Brass Company.....	27	s Grand Rapids Hardware Company.....	214	Permanente Products Company.....	193
s American Lumber & Treating Co.....	23	s Grinnell Company, Inc.....	87	s Petroleum Heat & Power Company.....	191
s American Radiator & Standard Sanitary Corporation.....	15	Grasselli Chemicals Department.....	241	s Pittsburgh Plate Glass Company.....	204-205-233
American Steel & Wire Company.....	55	Guth, Edwin F. Co.....	59	s Pittsburgh Steel Products Company.....	89
American Structural Products Company.....	78	Haws Drinking Faucet Co.....	238	s Portland Cement Association.....	179
s American Telephone & Telegraph Co.....	48	s Haynes Products Company.....	242	s Powers Regulator Company.....	237
s American Tile & Rubber Co.....	186	s Hazard Insulated Wire Works Division.....	68	Practical Builder.....	21
American Trucking Industry.....	181	s Hendrick Manufacturing Company.....	234	Prestile Manufacturing Co.....	222
s American Zinc Institute.....	220	s Herring-Hall Marvin Safe Co.....	66	s Prima Products, Inc.....	224
s Anaconda Copper Mining Co.....	27	s Hillyard Sales Co.....	202	Pyle-National Company.....	54
s Anchor Post Products, Inc.....	196	s Horn, A. C., Company, Inc.....	29	s Revere Copper & Brass, Inc.....	40
s Anemostat Corporation of America.....	39	s Horn Brothers Co.....	240	s Reynolds Metals Company.....	57-169
Anthracite Institute.....	229	Hotel Pittsburgher.....	236	s Richards-Wilcox Mfg. Co.....	180
Asphalt Roofing Industry Bureau.....	49	House & Garden.....	243	s Richmond Radiator Company.....	57
Baker Ice Machine Co., Inc.....	16	Ideal Lighting Company.....	242	s Robertson, H. H. Company.....	77
s Barber-Colman Company.....	228	s Imperial Brass Mfg. Company.....	6	s Rotary Lift Co.....	221
s Barrett Division.....	56	s Independent Lock Co.....	238	s Russell, F. C. Company.....	222
s Bell & Gossett Company.....	67	s Ingersoll—Utility Unit Division.....	69	s Saint Paul Corrugating Co.....	241
s Bell Telephone System.....	48	s Inland Steel Products Company.....	246	Sarco Company, Inc.....	240
Bennett-Ireland, Inc.....	226	In-Sink-Erator Mfg. Co.....	196	s Schlage Lock Company.....	190
s Bethlehem Steel Company.....	44-219	s Insulte Division.....	11	s Seaporal Porcelain Metals, Inc.....	62
Bigelow Sanford Carpet Co.....	20	International Nickel Company, Inc.....	201	s Serval, Inc.....	84-85
Bird & Son, Inc.....	202	s International Steel Co.....	22	s Sisalkraft Co.....	215
Blank, Frederic, & Co., Inc.....	183	s Jackson & Church Company.....	3rd Cover	s Sloan Valve Company.....	4th Cover
Books.....	224-241	s Jamestown Metal Corporation.....	178	Smith, Alexander & Sons Carpet Company.....	72-73
s Borg-Warner Corporation.....	69	Jenkins Bros.....	83	s Smith, H. B. Co., Inc.....	192
s Brasco Manufacturing Co.....	71	s Johns-Manville.....	172-173	s Smithcraft Lighting Division.....	162
Bright Light Reflector Inc.....	14	s Josam Manufacturing Co.....	236	s Stewart Iron Works Co., Inc.....	242
s Bruce, E. L., Co.....	88	s Kennedy, David E., Inc.....	53	s Streamline Pipe & Fittings Division.....	64
Burnham Corporation.....	207	s Kimberly-Clark Corporation.....	74	s Tile Council of America.....	33-36
s Burt Mfg. Co.....	240	s Kinnear Manufacturing Co.....	194	s Tile-Tex Company.....	2-3
Byers, A. M., Co.....	4	Koh-i-Noor Pencil Co., Inc.....	226	s Tiletone Company.....	25
s Cabot, Samuel, Inc.....	175	L.C.N. Door Closers.....	60	Timber Structures, Inc.....	198
s Cambridge Tile Mfg. Co.....	41	Lolly Column Company.....	230	Todd Shipyards Corporation.....	194
s Carrier Corporation.....	235	s Libbey, Owens-Ford Glass Company.....	38	s Trade-Wind Motorfans, Inc.....	230
s Caco Steel Products Corporation.....	82	s Lockwood Hardware Mfg. Co.....	238	s Trane Company.....	8-9
s Celotex Corporation.....	155	Lone Star Cement Corporation.....	1	s Trinity Portland Cement Division.....	236
s Century Lighting, Inc.....	238	s Louisville Cement Company.....	75	s Trumbull Electric Mfg. Co.....	37
s Cheney Flashing Co.....	236	s Macomber Incorporated.....	12	s United States Plywood Corp.....	245
Chicago Tribune.....	195	s Mahon, R. C., Company.....	43	United States Rubber Company.....	65
s Church, C. F. Mfg. Co.....	46	Marble Institute of America, Inc.....	13	s United States Steel Corporation Subsidiaries.....	55-166-227
s Clayton & Lambert Mfg. Co.....	232	s Marsh Wall Products, Inc.....	176	s Universal Atlas Cement Company.....	166
s Cold Spring Granite Company.....	63	s Martin-Parry Corporation.....	161	s Universal Corporation.....	187
s Columbia Mills, Inc.....	52	Masland Duralather Company.....	19	s Upton Company.....	86
Combustion Division.....	194	McQuay, Inc.....	51	s Vonnegut Hardware Co.....	76
Committee on Steel Pipe Research.....	70	s Medusa Portland Cement Co.....	189	Wade Manufacturing Co.....	188
Competition—Stockholm.....	240	s Melflex Products Co., Inc.....	216	s Wakefield, F. W. Brass Company.....	185
Connor, W. B. Engineering Corp.....	210	s Mengel Company.....	245	s Weis, Henry, Mfg. Co., Inc.....	182
Crane Co.....	234	s Metal Tile Products, Inc.....	170	s Werner, R. D. Co., Inc.....	210
s Crea-Dipt Company, Inc.....	206	Michaels Art Bronze Co.....	164	s Westinghouse Electric Corporation.....	165
s Cuprinol Division.....	218	s Minneapolis-Honeywell Co.....	90	s Westinghouse Electric Corporation—Elevator Division.....	212-213
s Cutler Mail Chute Co.....	242	s Minnesota & Ontario Paper Company.....	11	Wing, L. J. Mfg. Co.....	200
s Danbury Rubber Company.....	171	s Modine Manufacturing Co.....	231	s York Corporation.....	80
Darworth, Inc.....	218	Monroe, Lederer & Taussig, Inc.....	238	s Young Radiator Co.....	218
s Day-Brite Lighting, Inc.....	156	Morrison Steel Products, Inc.....	203	s Zenolite Company.....	211
s Detroit Steel Products Company.....	177-197	s Moulding, Thos., Floor Mfg. Co.....	237		
s Dunham, C. A. Co.....	216	s Mueller Brass Co.....	64		
Du Pont, E. I. de Nemours & Co.....	241	s Natcor Store Fronts.....	230		
s Dwyer Products Co.....	184	s National Chemical & Mfg. Co.....	232		
Eagle Pencil Company.....	17	National Electric Products Corporation.....	31		
Ebco Manufacturing Co.....	232	s National Gypsum Company.....	50		
s Elkay Manufacturing Co.....	167				
Electric Storage Battery Co.....	239				
Employment Opportunities.....	228				
Enterprise Engine & Foundry Co.....	32				
Faber, A. W.—Castell Pencil Company, Inc.....	200				
Fadders-Quigan Corporation.....	214				
s Federal Electric Products Company.....	45				
s Fiat Metal Manufacturing Co.....	168				
s Fitzgibbons Boiler Company, Inc.....	158				
Flagg, Stanley G., & Co., Inc.....	61				
s Flintkote Company.....	2nd Cover				
Frigidaire.....	58				

NEW YORK—H. Judd Payne, Publishing Director; Robert F. Marshall, Business Manager; Tom Tredwell, Advertising Mgr.; Benton B. Orwig, Creative Service Manager; M. A. Murphy, Advertising Production Manager, 119 West 40th Street; BOSTON—Harry M. Horn, Jr., 855 Park Square Bldg.; CHICAGO—Jack Casey, C. B. Riemersma, 700 Merchandise Mart; CLEVELAND—John C. Jackson, 321 Hanna Bldg.; LOS ANGELES—Bob Weltstein, Room 816, 816 West 5th St.; PHILADELPHIA—Tom Tredwell, 1321 Arch St.; PORTLAND—Bob Weltstein, 3325 N. E. Maywood Court; SAN FRANCISCO—Bob Weltstein, 1003 TWA Bldg., 240 Stockton St.; SEATTLE—Bob Weltstein, White Bldg.



*Sophisticated Beauty...*

**FOUND ONLY IN THE BEST PLACES**

Of course, we're speaking of the beauty of these fine, book-matched architectural panels shown above.

Before the war, Weldwood Plywood of this high grade was custom-made to architectural specifications only. Now we are making it in *large stock sizes* and maintaining inventories in selected areas.

Every painstaking step in its manufacture is a specialized operation calling for highly skilled craftsmen.

From the world's finest woods, flitches are chosen which will yield the largest number of beautifully figured panels. The veneers are carefully matched and made up into sets. Each panel is carefully belt sanded and polished, then numbered in sequence for easy installation. Construction is 13/16" thickness, all resin glued.

Write today for list of panels currently in stock, together with their location.

UNITED STATES PLYWOOD CORPORATION  
55 W. 44th St., New York 18, N. Y.

**WELDWOOD Plywood**

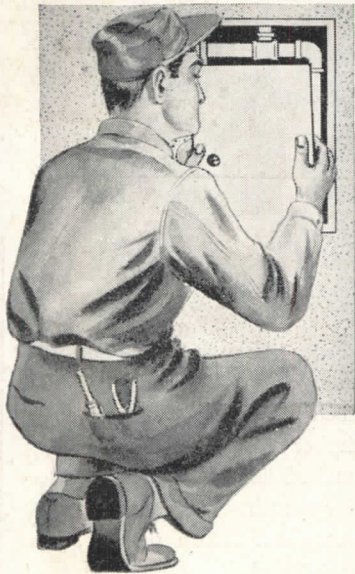
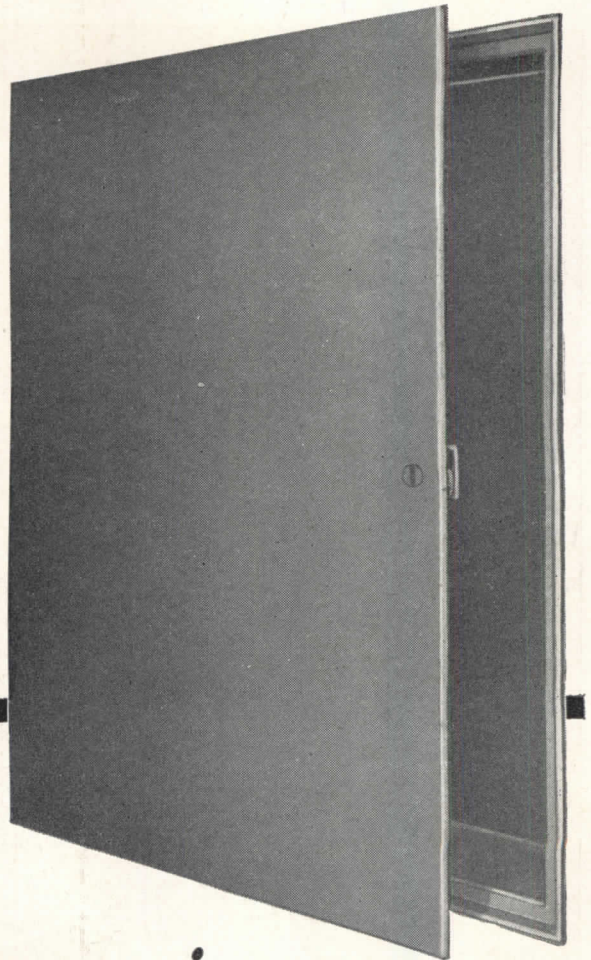
*Weldwood Plywood and Mengel Flush Doors are products of*  
UNITED STATES PLYWOOD CORPORATION      THE MENGEL COMPANY  
New York 18, N. Y.      Louisville 1, Ky.

# Available Now!

# Milcor

# Metal Access

# Doors



*Lower in cost  
than less durable types*  
—yet give your client the permanence and  
long-run economy of steel

Here are three styles of Milcor "Flush Type" Metal Access doors:

1. **Style "K"**—with expanded metal wing—for plastered walls.
2. **Style "L"**—without expanded metal wing—for plastered walls.
3. **Style "M"** for non-plastered walls: masonry, brick, stone, tile, wallboard, acoustical construction, etc.

Building supply dealers carry Milcor Metal Access Doors in stock now—and sell them for less.

No special framing is required, where these doors are used to reach key points in plumbing, heating, electrical, and refrigeration systems in homes and public buildings.

Milcor Metal Access Doors are delivered to the job ready to install flush with the wall surface.

Panels are furnished with either concealed hinges or clip fasteners. Locking device is depressed level with the smooth surface of the panel.

Milcor Metal Access Doors are available to fit a number of wall openings from 8 $\frac{3}{8}$ " x 12 $\frac{3}{8}$ " to 24 $\frac{3}{8}$ " x 24 $\frac{3}{8}$ ".

The complete Milcor line of steel building products is illustrated in the Milcor Manual in Sweet's Architectural File. Consult it, for help in planning.

Write for detailed bulletin on Milcor Metal Access Doors.



F-297

## INLAND STEEL PRODUCTS COMPANY

FORMERLY MILCOR STEEL COMPANY

MILWAUKEE 1, WISCONSIN

- |                         |                              |                         |
|-------------------------|------------------------------|-------------------------|
| Baltimore 24, Maryland  | • Buffalo 11, New York       | • Chicago 9, Illinois   |
| Cincinnati 25, Ohio     | • Cleveland 14, Ohio         | • Detroit 2, Michigan   |
| Kansas City 8, Missouri | • Los Angeles 23, California | • Rochester 9, New York |