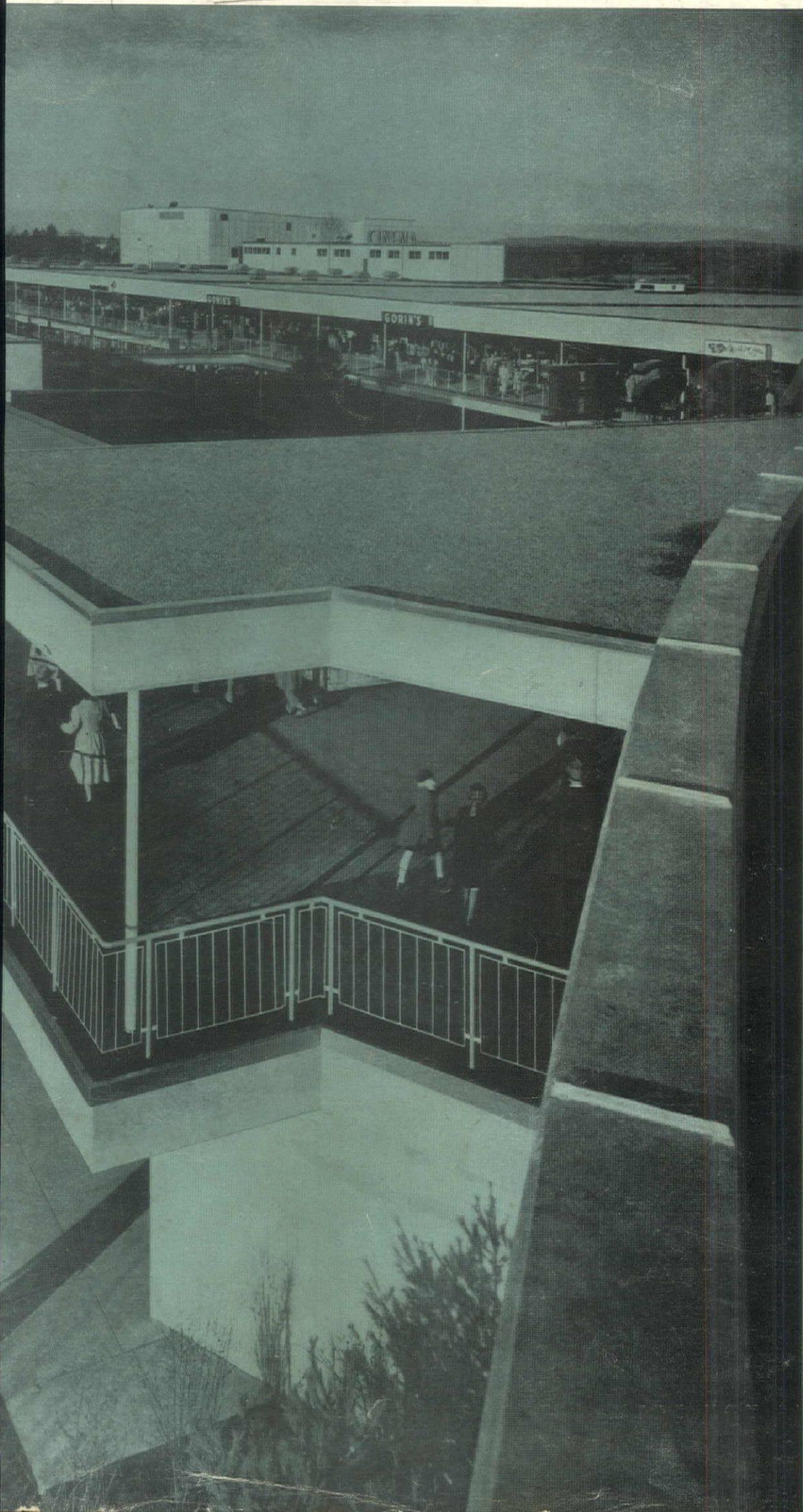


CEMBER 1951

ARCHITECTURAL FORUM

# THE MAGAZINE OF BUILDING



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**DOUBLE ISSUE**

**I HOUSES** (p. 101)

*House & Home edition*

**II BUILDINGS** (p. 163)

*Architectural Forum edition*



*housekeeper's helper*

**when keeping house is a business proposition**

**...new colors of easy-to-clean**

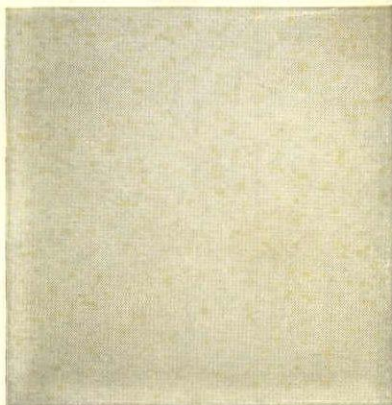
**Suntile**



**Suntile**

**GRAY HAUTEVILLE 734**

**a neutral tone  
of great service**



Suntile Gray Hauteville is a mottled gray tone. Gray has widespread use in many different types of interiors. The mottled effect makes it even more practical. This new gray is a warm, neutral color that avoids the "faded" tints of the past. It helps to control glare and create working conditions where vision is at its best. For obvious reasons mottled gray tends to combat dirt, smudge and stains. Suntile Gray Hauteville is but one of the functional colors in the new color line developed by Faber Birren, noted color authority, and The Cambridge Tile Mfg. Co.

Cleanliness is a dollars and cents matter in industrial kitchens or cafeterias, in food or drug plants, laboratories or public buildings. In fact, cleanliness is a "must."

Your selection of the right material for walls and floors will have much to do with the cost as well as the ease of cleaning and maintaining these interiors.

For instance, real clay Suntile has a hard, impervious glazed finish that is easy to clean with inexpensive soap and water. Dirt, grease, and smudge find no haven with Suntile. Costly, periodic redecorating and refinishing are ended practically for the life of the building.

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This very practical result is typical of the new Suntile functional color line. Better lighting, increased production, fewer accidents and higher employee morale are other results with sound business advantages.

HOW TO SELECT COLORS THAT ARE RIGHT for commercial, industrial and institutional interiors is discussed in our new descriptive booklet "Suntile Functional Color Recommendations." Your Authorized Suntile Dealer will give you a free copy or you may write us direct, Dept. MB-12, The Cambridge Tile Mfg. Co., P. O. Box 71, Cincinnati 15, Ohio.

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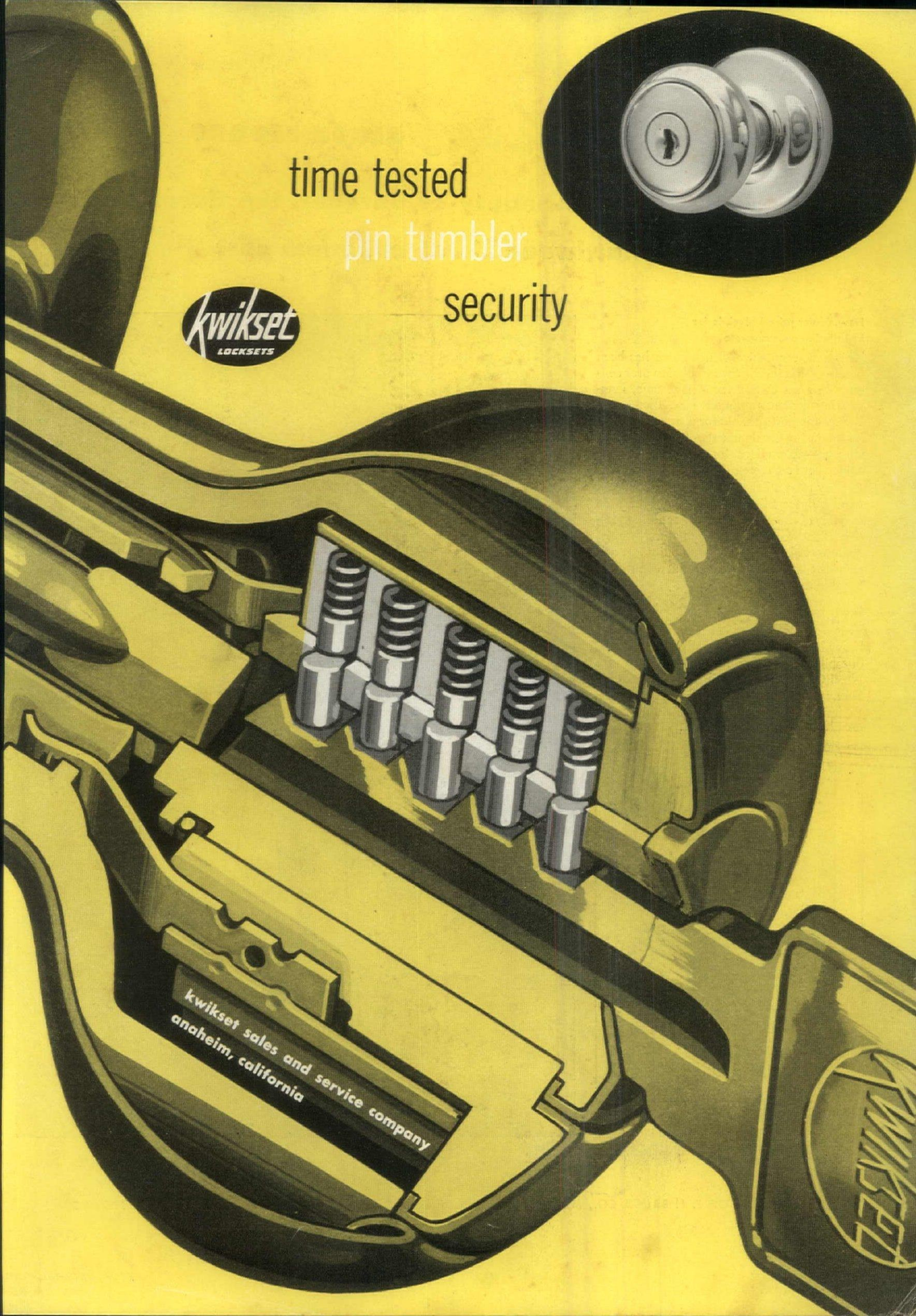
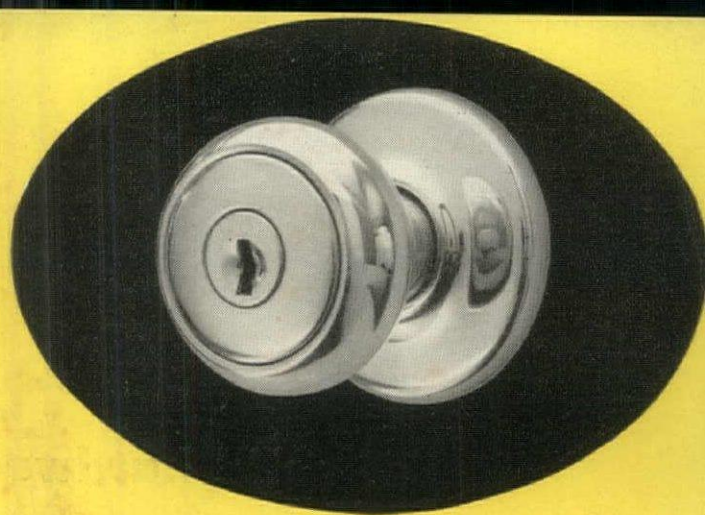
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VOLUME 95, NUMBER 6



## NEWS

33

## LETTERS

70

## HOUSE &amp; HOME

- HOUSE IN THE WOODS 101  
 Greenwich, Conn.; Leinweber, Yamasaki & Hellmuth, Architects
- THREE-ZONE HOUSE 108  
 Lake Vista, New Orleans, La.; Curtis & Davis, Architects
- MODERNIZED FARM HOUSE 111  
 Birmingham, Mich.; Minoru Yamasaki, Architect
- HOUSE DESIGNED TO THE WEATHER 114  
 Corpus Christi, Tex.; Richard S. Colley, Architect
- MATERN & YORK—THE BUILDERS' ARCHITECTS 118  
 How they are changing the face of Long Island
- SQUARISH PLAN WITH INSIDE BATH 126  
 Wheaton, Md.; Paul Burman & Paul Hammond, Builders; Charles Goodman, Architect
- BUILDERS' TRADE SECRETS (continued) 130  
 Leaders reveal more ways to save materials and money
- WHERRY ACT HOUSING 136  
 A report on politics and progress in military housing
- WHAT TO DO WITH OLD MANSIONS 142  
 Rye, N. Y.'s Planning Commission details three answers
- INSULATION OF THE HOUSE 144  
 A detailed review of Tyler Stewart Rogers' important book
- ONE-PIECE PLASTIC COUNTERS 147  
 A new development which may revolutionize the kitchen

## REVIEWS

152

## ARCHITECTURAL FORUM

- MODERN GOTHIC CHURCH IN WOOD 163  
 Portland, Ore.; Pietro Belluschi, Architect
- HOSPITAL FOR THE TROPICS 168  
 Ponce, P. R.; Isadore Rosenfield, Architect
- TOP-LIGHTED SCHOOL 172  
 Long Beach, N. Y.; Reisner & Urbahn, Architects
- FURNISHING THE DORMITORY 176  
 Demonstration in efficiency and economy by Knoll Associates
- FRAMINGHAM SHOPPING CENTER 180  
 "Shoppers' World," Framingham, Mass.; Ketchum, Gina & Sharp, Architects
- MARSHALL FIELD & CO. SHOPPING CENTER 185  
 Preview of designs by Ketchum, Gina & Sharp, and Perkins & Will; Shaw, Metz & Dollo; Skidmore, Owings & Merrill; Howard Fisher Associates
- BAKED BUILDINGS 200  
 A challenge to the industry by William Zeckendorf
- BUILDING REPORTER 202  
 A round-up of new European buildings
- BUILT-UP ROOFS 206  
 Mechanization comes to the broom and bucket trade . . . how to prevent failures due to bubbles
- SERPENTINE WALL 211  
 Ford Motor Co. uses modern version of Jefferson's economical prototype—one brick thick
- BANK VAULT REINFORCEMENT 212  
 A new application of expanded steel protects the Federal Reserve Bank in Seattle

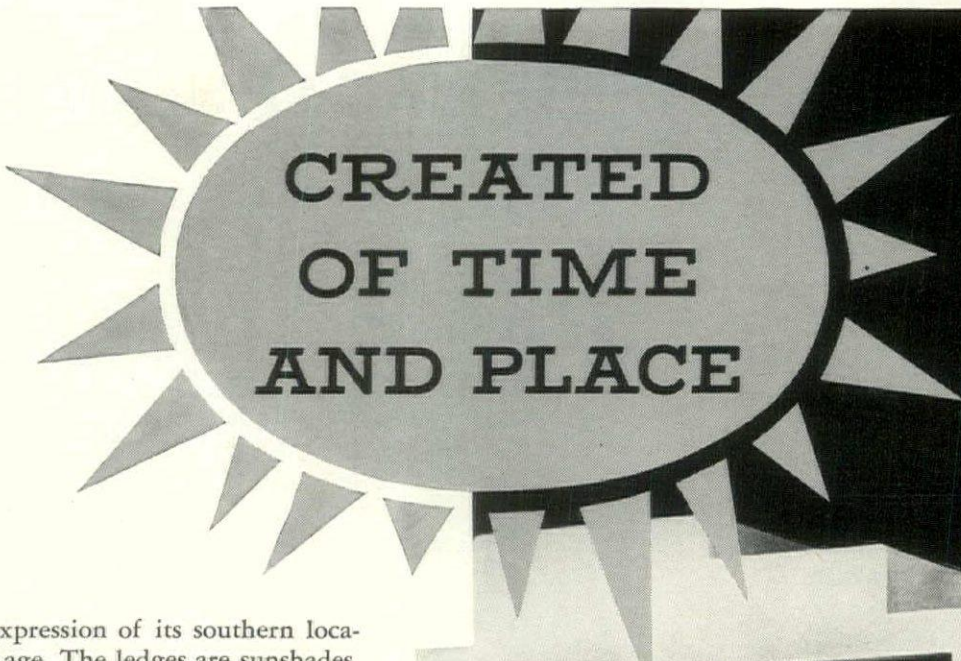
## PRODUCT NEWS

218

## TECHNICAL LITERATURE

262





# CREATED OF TIME AND PLACE

This building is a true expression of its southern location and of this electrical age. The ledges are sunshades, not ornamentation; the floors are electrical working areas, not merely platforms. Even the method of construction is modern.

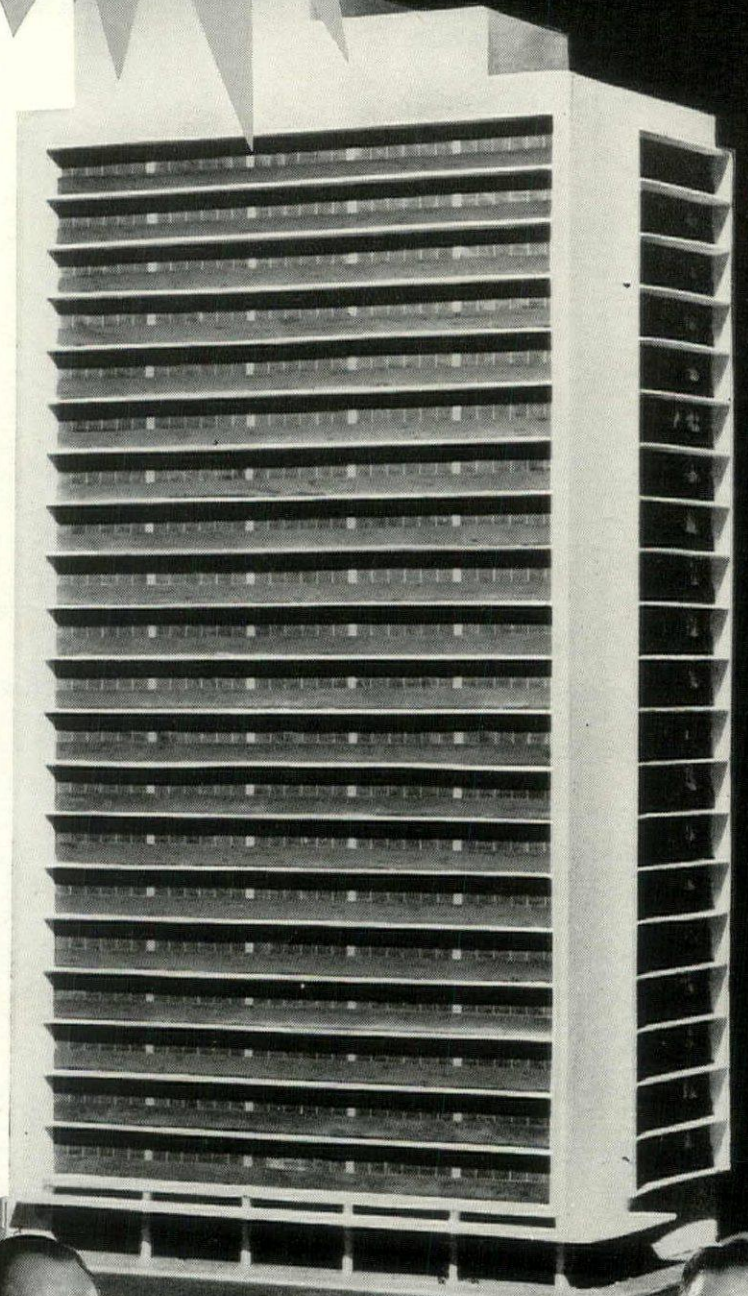
The steel subfloor—Q-Floor—can be used during construction to replace much material that is needed only temporarily in old-fashioned construction. The Q-Floor can be laid at the rate of 32 sq. ft. in 30 seconds, welded to the frame and goes up as fast as the frame. Therefore, it is used as a permanent working platform by all sub-contractors. More men can be on the job at one time than with older methods of construction. Materials can be stored close to where they will be used, saving storage space and extra handlings.

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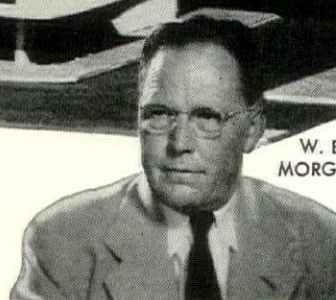
Write for a free Q-FLOOR CATALOG giving technical details, fireproofing and other data, and for the folder showing recent Q-Floor buildings, listing their architects.



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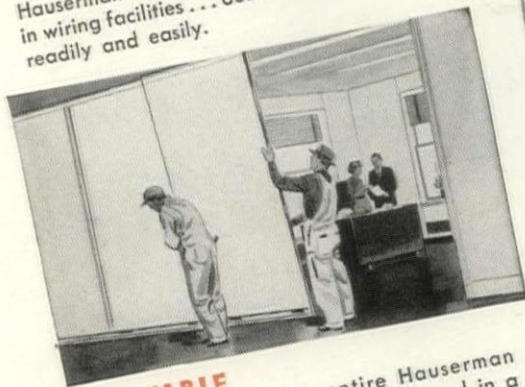
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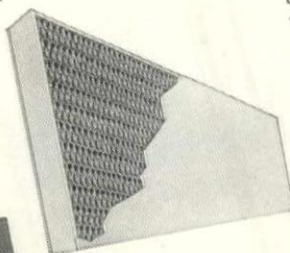


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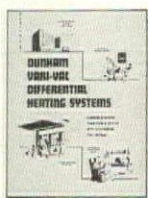
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**hospitals** ↑

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*Architect: Enrico Yanez, Mexico City D. F., Mexico  
Const. Eng.: Salvadore Tejeda, Mexico City D. F., Mexico*

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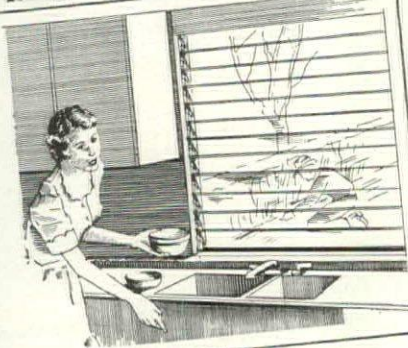
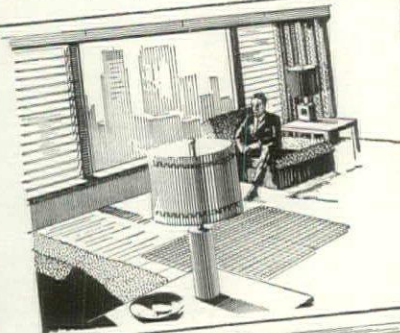
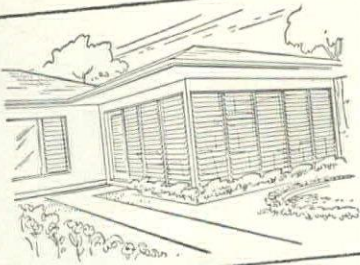
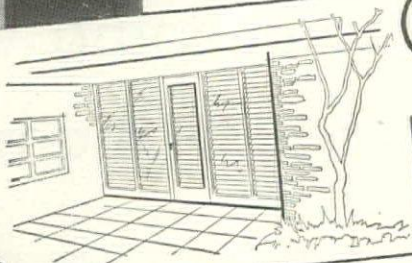


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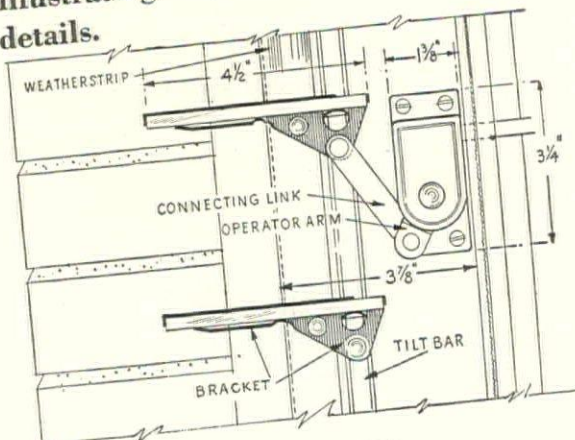
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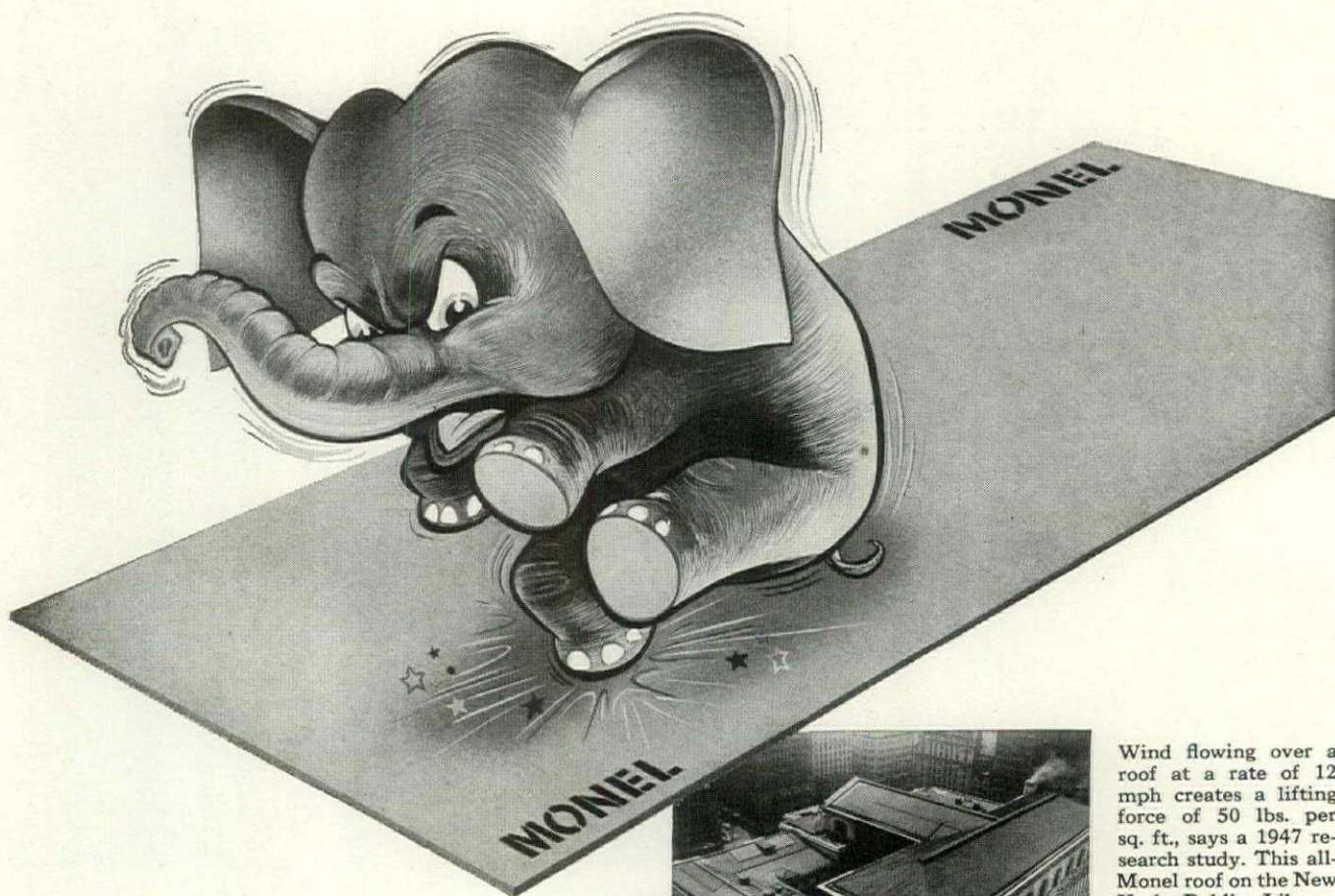


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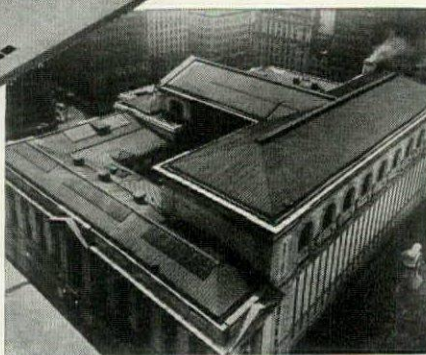






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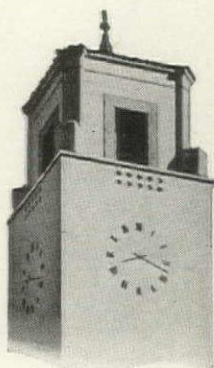


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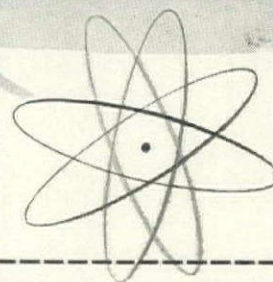
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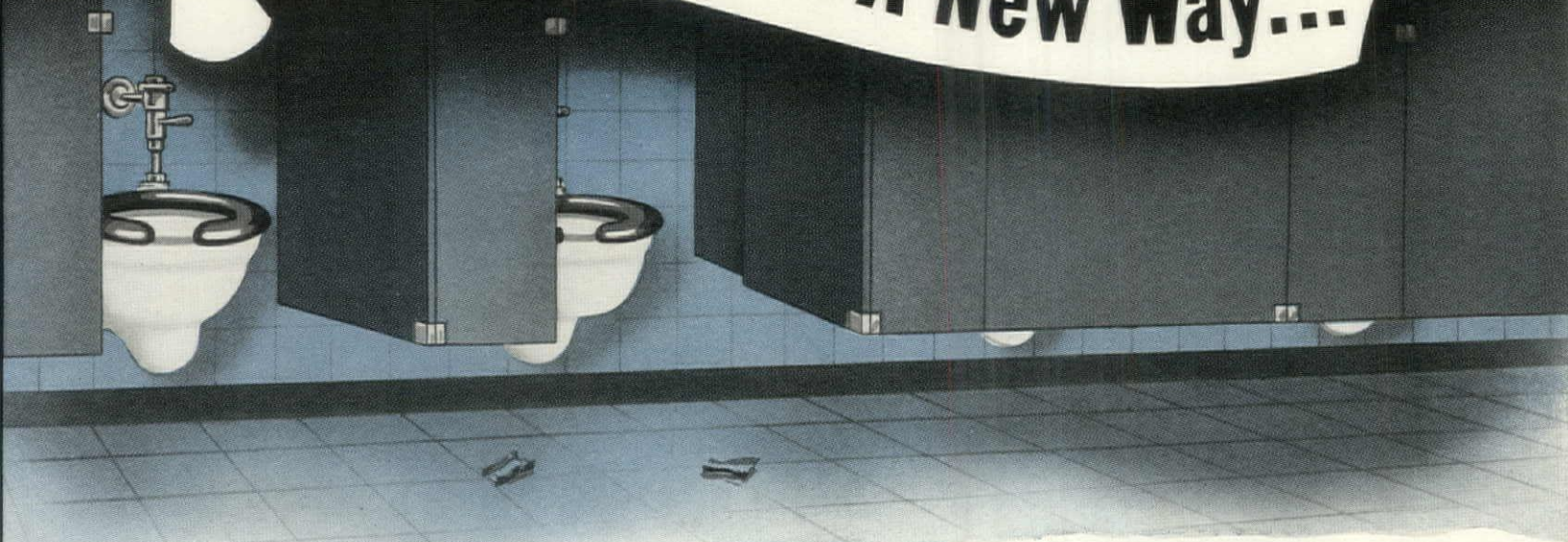


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## ...and reduce the cost of maintaining cleanliness to an all-time low.

Immaculate cleanliness is no problem in rest rooms with fixture-bare floors—where plumbing fixtures are off the floor, because there is nothing to interrupt the sweep of the broom and the swish of the mop. Fixture-bare floors reduce the day-by-day dollar cost of maintenance to an all-time low while lifting sanitation to a new high. The New Way uses wall type plumbing fixtures installed the Zurn Way—the simple, fast, safe way to install wall type closets, lavatories, sinks and other fixtures. The New Way reduces the cost of building and gains more usable floor space and protects rest rooms against premature obsolescence. Insist on wall type plumbing fixtures in rest rooms of old and new factories, in schools, hospitals and every other type of building. Write for booklet entitled "You Can Build It (Cubic Foot of Building Space) For Less The New Way".



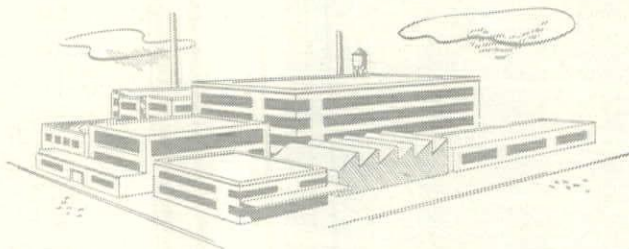
BUILD IT



FOR LESS

*The NEW WAY*

Yes, for as much as 10% less! The New Way reduces the use of building materials, eliminates the necessity of suspended ceiling constructions to seal off drainage lines; it saves time and labor required for completing plumbing fixture installations. Insist on wall type plumbing fixtures installed with Zurn Wall Closet Fittings and Carriers.



Write for this booklet. It tells how "You Can Build It (Cubic Foot of Building Space) For Less The New Way".

**J. A. ZURN MFG. CO. ERIE, PA. U.S.A.**

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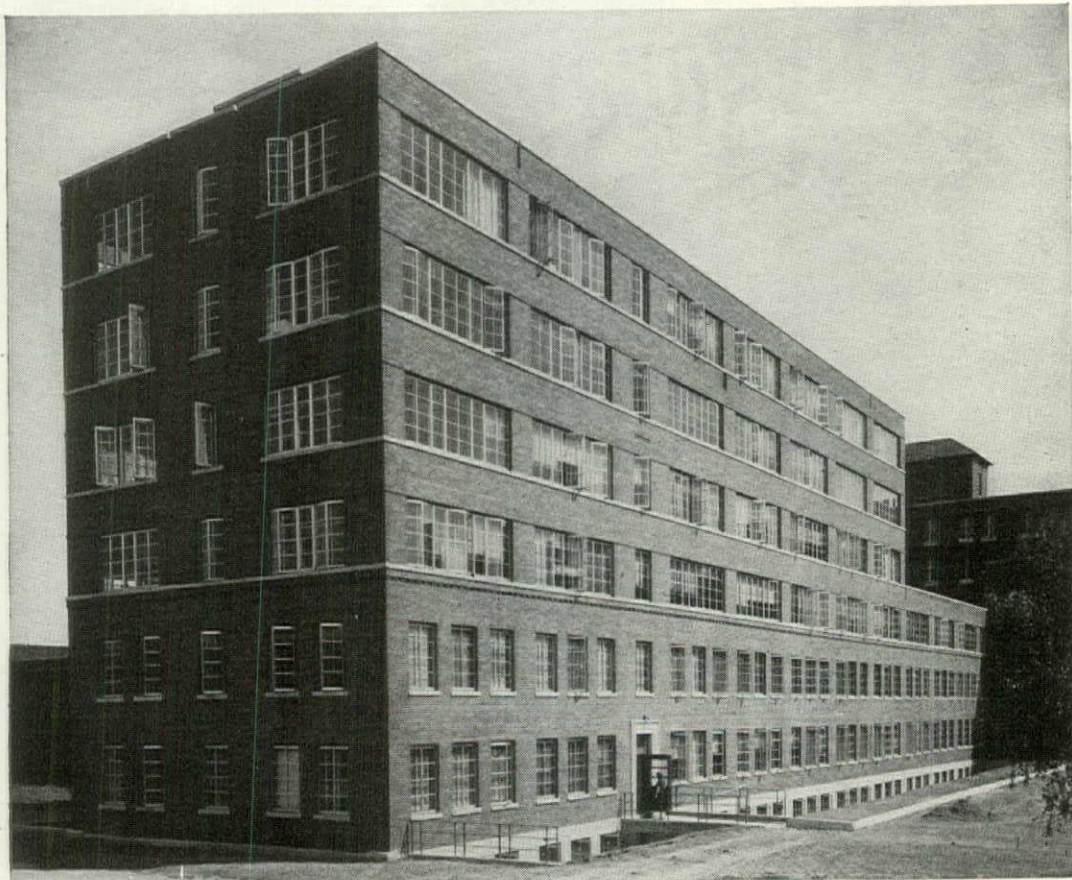
Pre-eminent Manufacturer of Sanitary Products for the Protection of Human Health and Modern Structures.



The Zurn Carrier Catalog and Handbook describes the complete line of Zurn Wall Closet Fittings and Carriers for all makes and types of plumbing fixtures. Use it with Zurn Carrier Indexes and fixture catalogs to save time in selecting and specifying wall type fixtures.



Venetians made with LEVOLOR Orange Line (De Luxe) enclosed heads, 88 slats and bottom bars, are installed in the new Atomic Energy Commission Building at the University of Rochester. Waasdorp & Northrup, Architects; Stewart & Bennett, Inc., General Contractors.



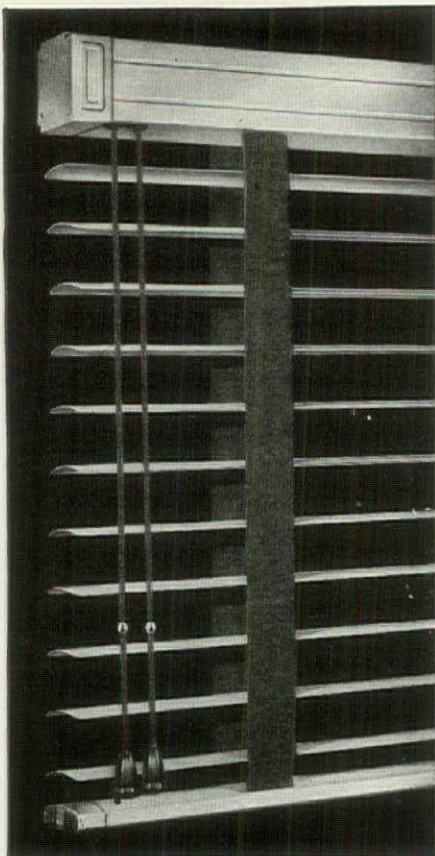
## *Architects for centers of learning have learned to specify LEVOLOR-equipped Venetians*

On the basis of their sound design, efficient operation and long service-life, LEVOLOR-equipped Venetians were installed throughout the new Atomic Energy Commission Building at the University of Rochester. They feature enclosed metal heads; gleaming durable plastic-coated metal slats for easy cleaning; and slender, well-tailored bottom bars that conceal all tape ends!

Specify LEVOLOR . . . and be sure of the best.

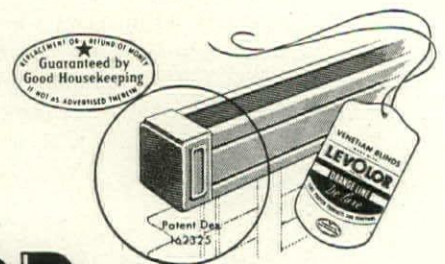
Send for your free copy of the LEVOLOR *Architects Manual for Venetian Blinds* (AIA 35-P-3) . . . 16 pages giving you all the factual and visual assistance you need for any installation.

Levolor Lorentzen, Inc., 391 West Broadway, N.Y. 12, N.Y.



Here are features that set LEVOLOR-built Venetians apart: smart, enclosed head that houses finest precision-built hardware; durable, springy plastic-coated metal slats; tape ends disappear in the sleek bottom bar. All are chip-, mar- and stain-resistant. And one gentle pull makes tilt-cords even, thanks to the LEVOLOR patented tilter mechanism.

See our catalog in Sweet's Architectural File, 19D-3A, and Sweet's File for Builders, 3E-5.



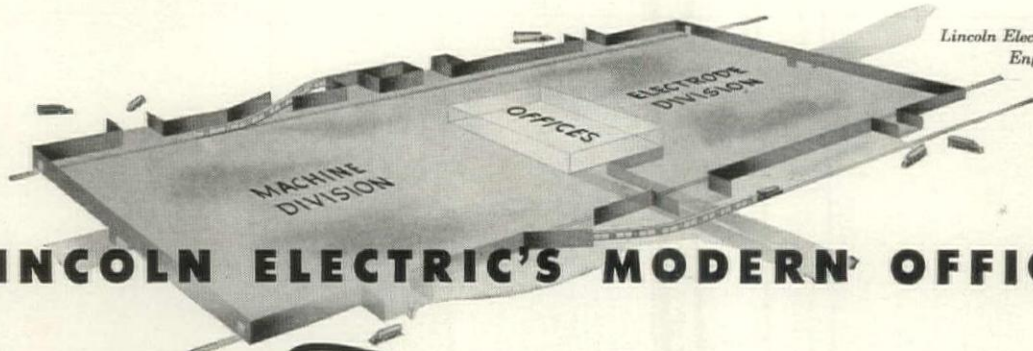
LEVOLOR-built Venetians are identified by this head design and this tag.

*Specify* **LEVOLOR**  
Trade Mark

*Time-proven Products for Venetians*

COPYRIGHT 1951 LEVOLOR LORENTZEN, INC., New York 12, N.Y.



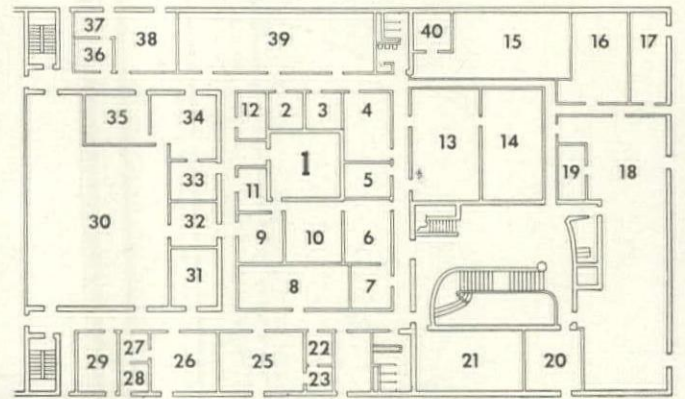


Lincoln Electric Company, Cleveland, Ohio  
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*Efficiency First*

has been made lasting with



Office Layout

Lincoln Electric Company's new 20-acre plant is designed for maximum efficiency in every area, for office as well as production operations. All offices are located in the center of the factory building, with the president's office, No. 1 in floor plan and pictured at left, in the exact center of everything, surrounded by key personnel.

Future efficiency is assured by subdividing all office space with Mills Movable Metal Walls. As progress creates changes in space requirements Mills Walls can be moved to fit new layouts—in a matter of hours, with minimum labor, at very low cost and without interrupting normal routine.

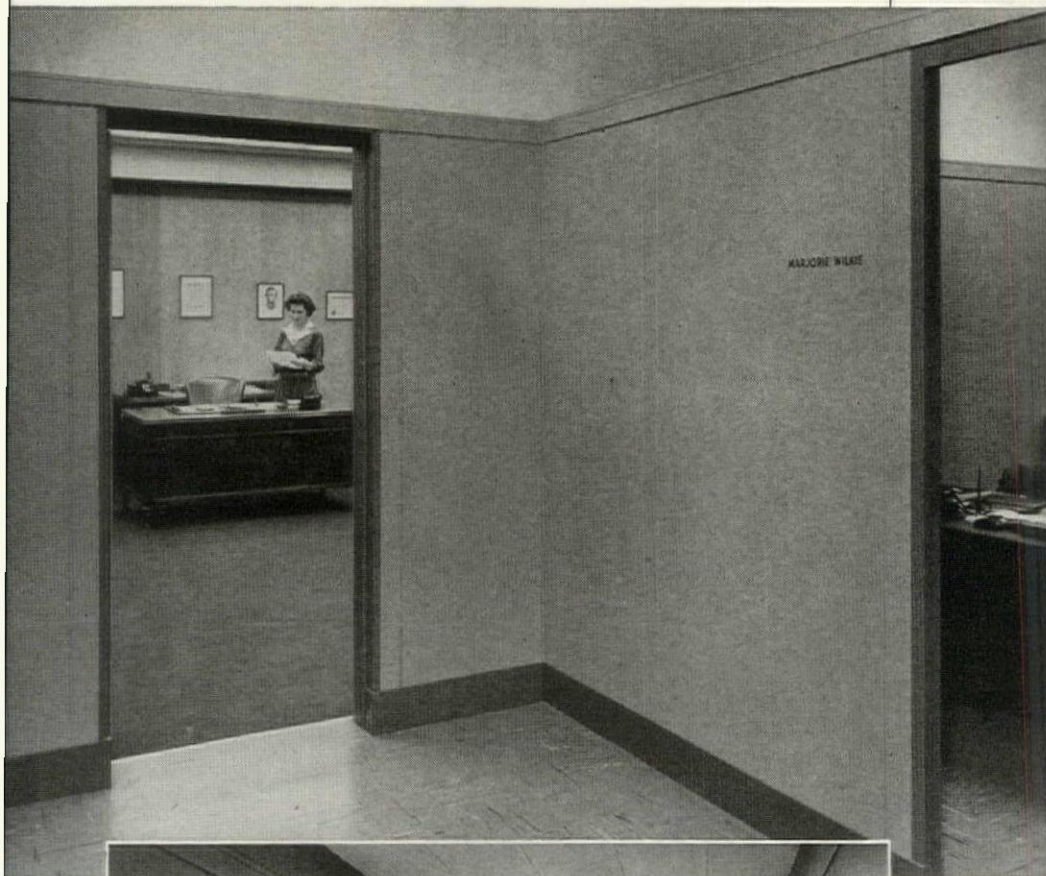
Mills Walls combine mobility with distinctively modern and attractive appearance. Insulated and sound-proofed, they require no maintenance but occasional washing to keep them looking fresh and bright.

★ ★ ★

*Your* office space can be made more efficient by mobilizing it, through flexible interiors formed by Mills Movable Metal Walls. For complete information on this modern, efficient way to subdivide interior space write for this easy-to-read, 48-page booklet, Mills Catalog No. 52.



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Distribution is being limited to those directly concerned with electrical planning. If you need the material and have not already received a copy, please contact your Westinghouse representative.

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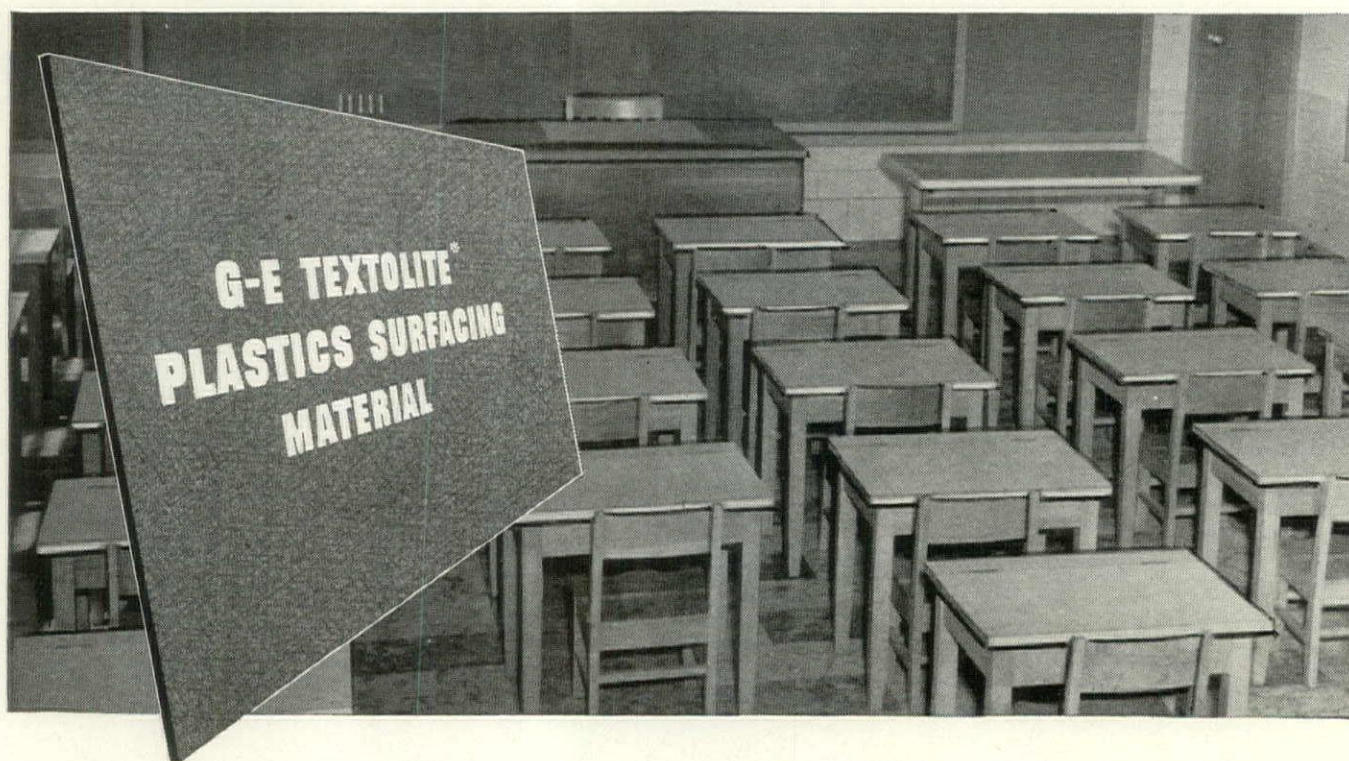


TABLE TOPS



DESK TOPS



CAFETERIA TABLES

## Design for Better School Living, Beauty, Better Illumination with G-E Textolite\*

G-E Textolite opens the door to brand new opportunities in the field of school design — gives the architect new aid in designing the drabness out of school rooms. It offers new opportunities in color, in cheerfulness — combined with durability unmatched by any other material.

G-E Textolite needs practically no maintenance — no polishing or periodic sanding and finishing—immune to inks, paints, oils, crayons, common acids — cleans

to original brightness easily with a damp cloth.

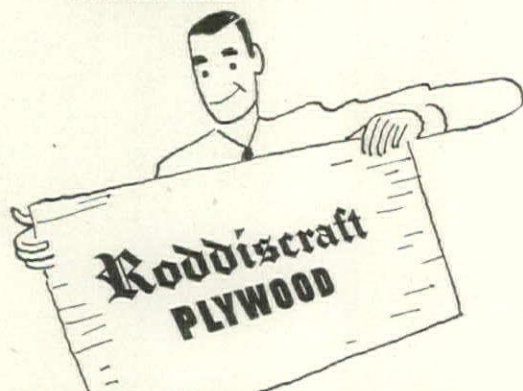
**A new Textolite Pattern — Developed Exclusively for School Use.** General Electric has developed a new pattern for school use in cooperation with Nela Park Lighting Laboratories. Engineered by lighting experts, it has ideal light reflective properties which improve illumination without glare. Other patterns also meet light reflective specifications.

G-E Textolite is available both in 1/16" thick sheet stock and factory-bonded to Roddiscraft Plywood in accordance with your specifications. Complete information, including free literature, is available from your Roddiscraft warehouse. A Roddiscraft representative will be glad to discuss Textolite applications with you.

### Roddiscraft Plywood—The Material of a Thousand Uses

Here is a material that matches its low cost with versatility. Use it for closets, partitions, shelving, built-ins — a host of applications that require lasting service, economy, pleasing appearance. And when you specify Roddiscraft Plywood, you are sure of a product of true craftsmanship quality.

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# This lighting installation WILL PAY FOR ITSELF IN 3 YEARS!



Photographic record shows  
why Sylvania Fluorescent  
Lighting speeds production  
... saves big money  
for Southern Mill

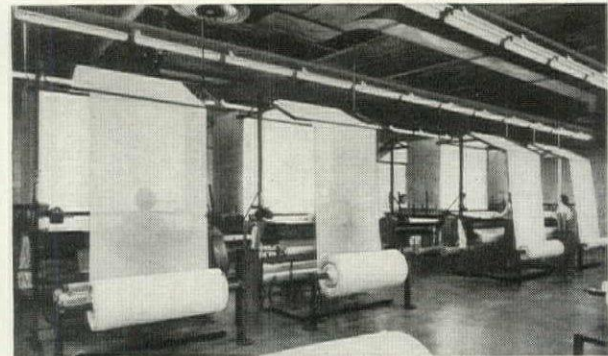
Looking for ways to cut costs? Here's a Sylvania Fluorescent Lighting Installation that does just that for the Deering-Milliken Mills in South Carolina.

Note the clean, clear lighting atmosphere in the above photo. Sylvania tubes and fixtures furnish a lighting level practically triple that obtained from former lighting units. As a result, mill authorities estimate, the saving realized in production costs, time, and the elimination of waste will completely pay for this effi-

cient installation in just three years time.

In addition, Sylvania fixtures offer the lowest possible maintenance costs. Hard durable porcelain reflectors resist the dampness caused by humidification necessary in textile mills. Turned down fixture lips prevent accumulation of dust or lint.

Sylvania now offers fixtures for every industrial need ... equipped with 2, 3, or 4 tubes ... standard or instant start. Ask your secretary to mail the coupon for full information TODAY!

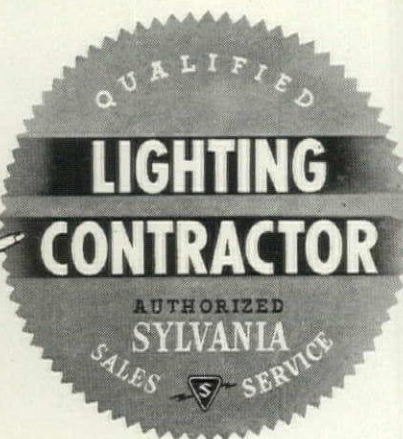


**\$1500 Saved Here.** This unique inspection method uses 24 forty-watt Sylvania fluorescent tubes and a luminous panel. Mill engineers estimate this Sylvania-designed unit provides a saving of \$1500 per year.



Inspection speeded here. Excellent use is made of the flexibility of Sylvania Fixtures. Hung at an angle over the cloth they eliminate need for slow, costly hand portable droplights and greatly speed inspection. Another big saving with Sylvania.

Architects, Engineers, and General Contractors! make a note of this sign! It's your guide to a qualified Lighting Contractor who is fully equipped to give you full cooperation in working out your lighting plans. He'll take over a thousand and one details ... save you many lighting headaches and provide the latest Sylvania Fixtures and long-life tubes.



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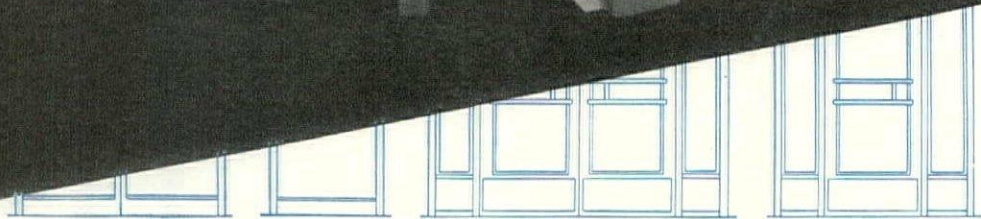
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*—day after day—*

*—year after year—*

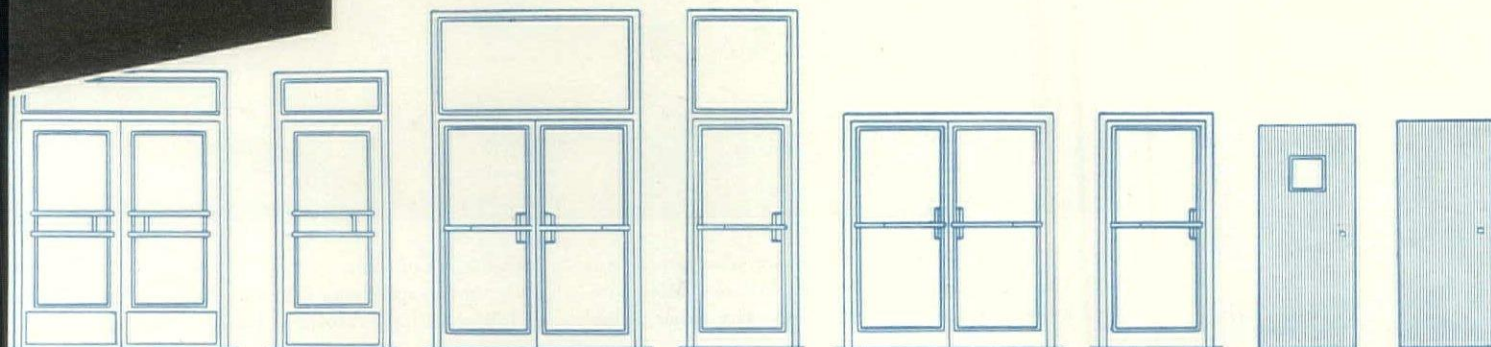
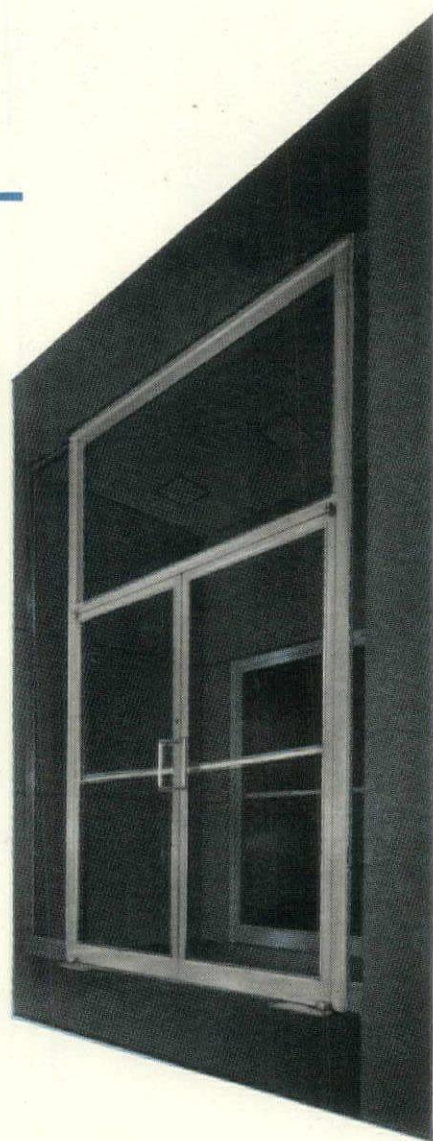
Kawneer Entrances fulfill every modern architectural requirement in performance, appearance, and installation. They are precision-manufactured for effortless, trouble-free service



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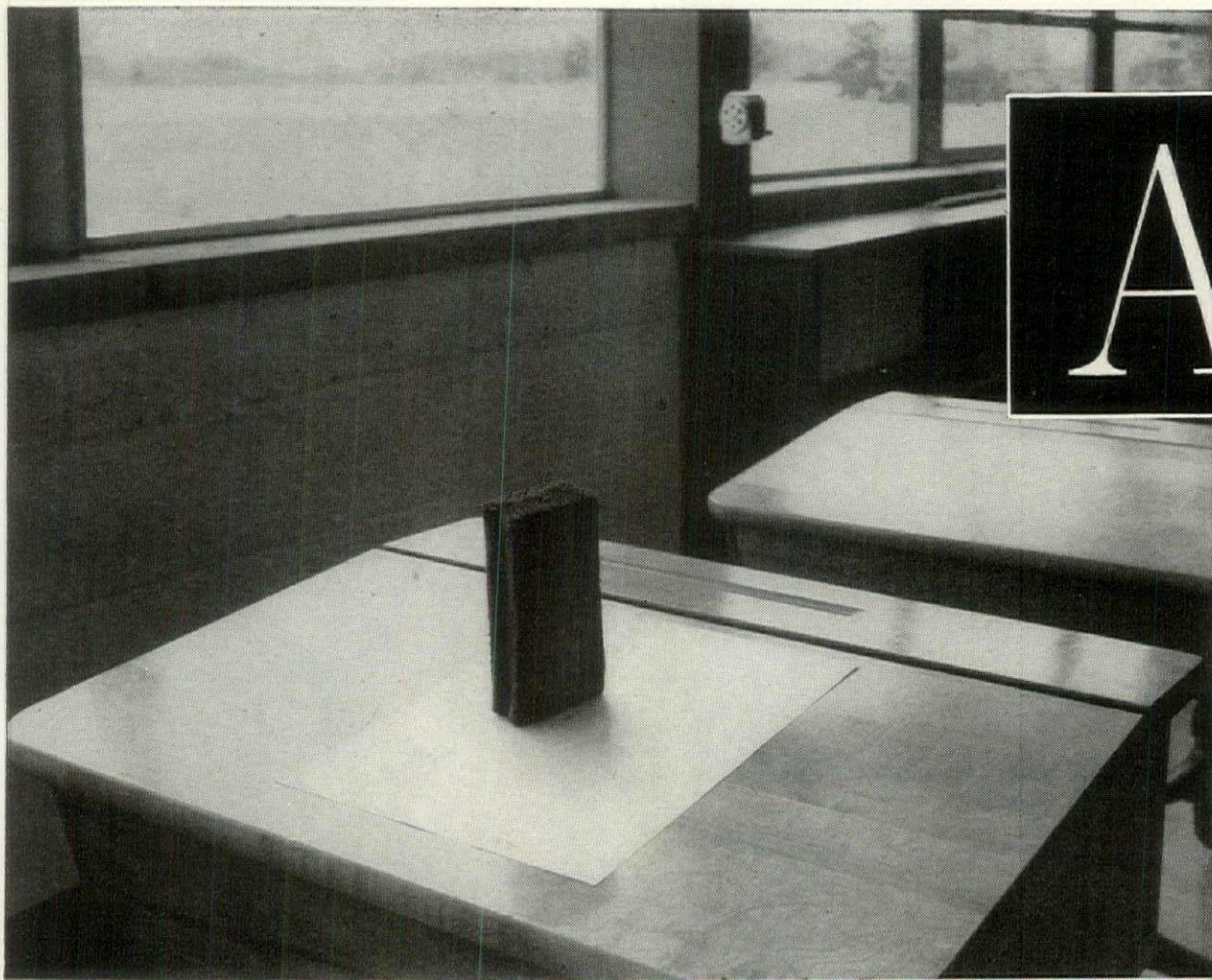


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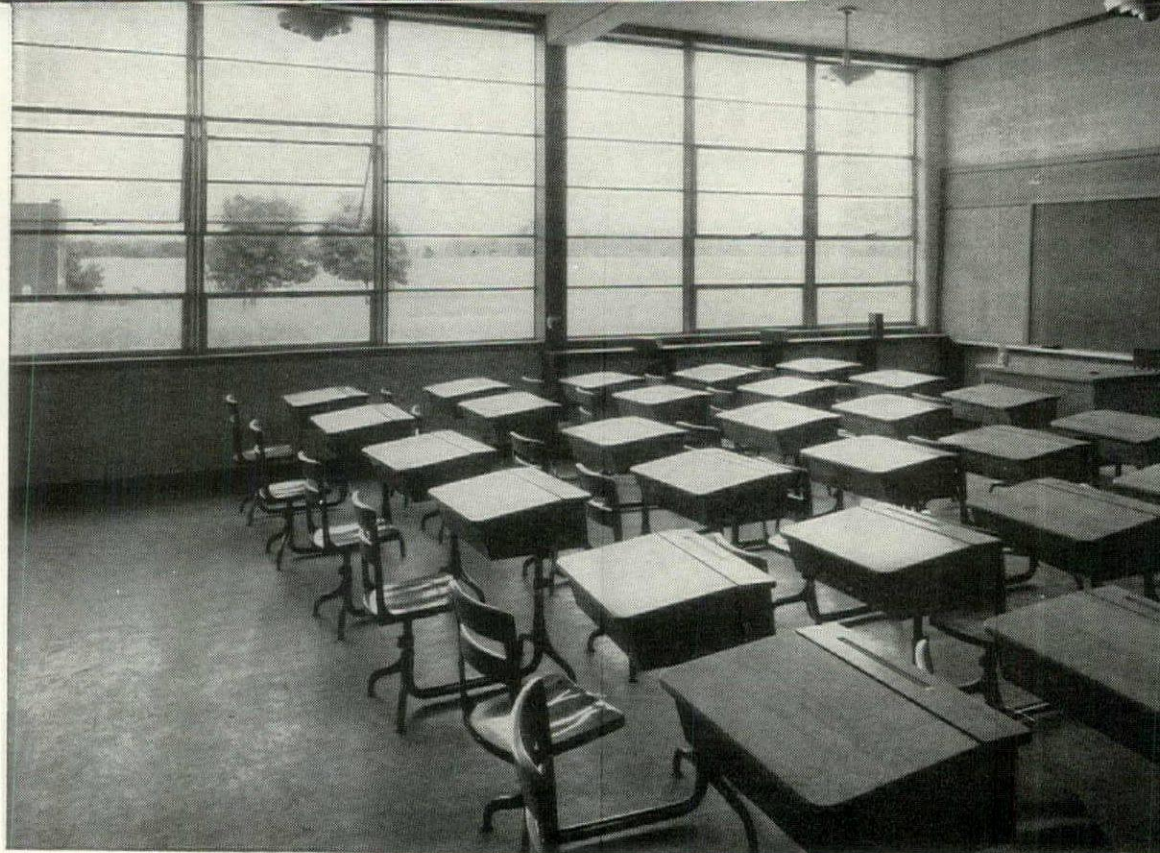
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ARCHITECTURAL METAL PRODUCTS





# A simple



Here is the room in which the eraser photograph was taken, Custer Consolidated School, Monroe, Mich., designed by Walter T. Anicka, architect, Ann Arbor. With-

out the aid of room lights or any other artificial light, the photographs were taken at 2 seconds at f:50, during a lull in a thunderstorm at noon on June 28.



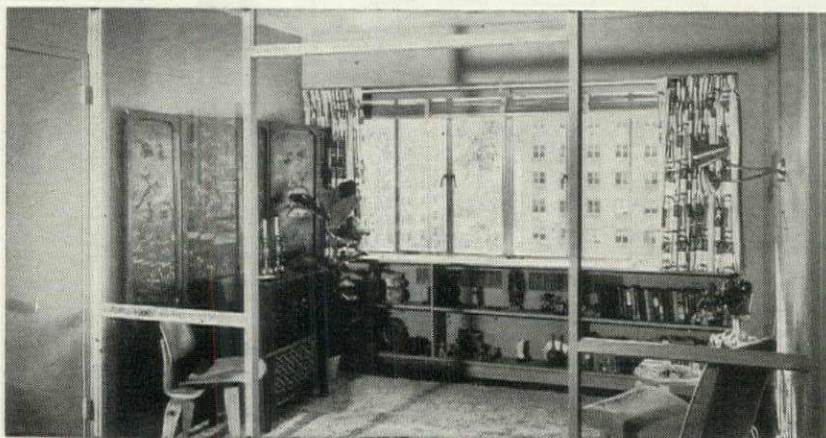
# demonstration of sight-comfort

This picture of an eraser on a piece of white paper was taken in a Michigan school which has a Daylight Wall and a clerestory. Natural lighting was of low intensity when the picture was taken, and no artificial light of any kind was used. Yet the light is abundant, well diffused, and free from heavy shadow which, by contrast, produces glare.

This eye-comfort light, approximating natural light as found in the shade of a broad tree, can be had in adequate amount under all weather conditions, only with a Daylight Wall. Daylight Walls use clear glass from wall to wall and from sill to ceiling, or as close to the ceiling as possible. This admits the maximum amount of natural light. It brings the light as far as possible into the room and it takes advantage of *all three* natural light sources—direct sunlight, reflected light and diffused sky brightness.

Clear glass transmits more light than glass in any other form and does not obscure vision. Used all the way to the ceiling, it not only admits as much light as possible but also promotes a feeling of freedom, of not being enclosed. The outdoors and indoors are blended together. Hence, the sense of spaciousness, even in a small room. Furthermore, it is no problem to provide adequate ventilation in rooms with Daylight Walls.

No matter what type of room you may be designing, compare the cost of a Daylight Wall with a non-transparent wall. Clear, flat glass has the advantage of low original cost, low installation expense, low upkeep—plus the advantage of high popularity. People just naturally like lots of view and lots of light. They like Daylight Walls.



In the President Apartments, Washington, D.C., architects Berla & Abel adapt the Daylight Wall to create an open, airy sense in a relatively small room. Daylight Walls for apartments are the perfect answer to that "cooped-up" feeling people get in crowded quarters. For full benefit of the Daylight Wall, the clear glass would have to reach to the ceiling, as in the restaurant shown below.



Architects Larson & McLaren, Minneapolis, used *Thermopane* all the way up to the ceiling in the Daylight Wall of the Sky Room of The Dayton Company, Minneapolis. Any non-transparent material would have created an optical barrier. As it is, the ceiling line merges with the sky. This promotes a sense of great expansion, of roominess. It is an architectural device which can make any room seem larger than it is.



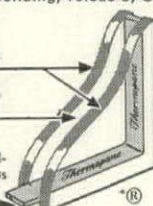
**DAYLIGHT WALLS**  
THAT DON'T OBSCURE VISION  
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**FOR WINDOW INSULATION,**  
THERMOPANE® insulating glass with 1/2" of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows. THERMOPANE cuts air-conditioning costs by reducing the amount of heat entering during summer. Write for THERMOPANE literature, Libbey-Owens-Ford Glass Company, 43121 Nicholas Building, Toledo 3, O.

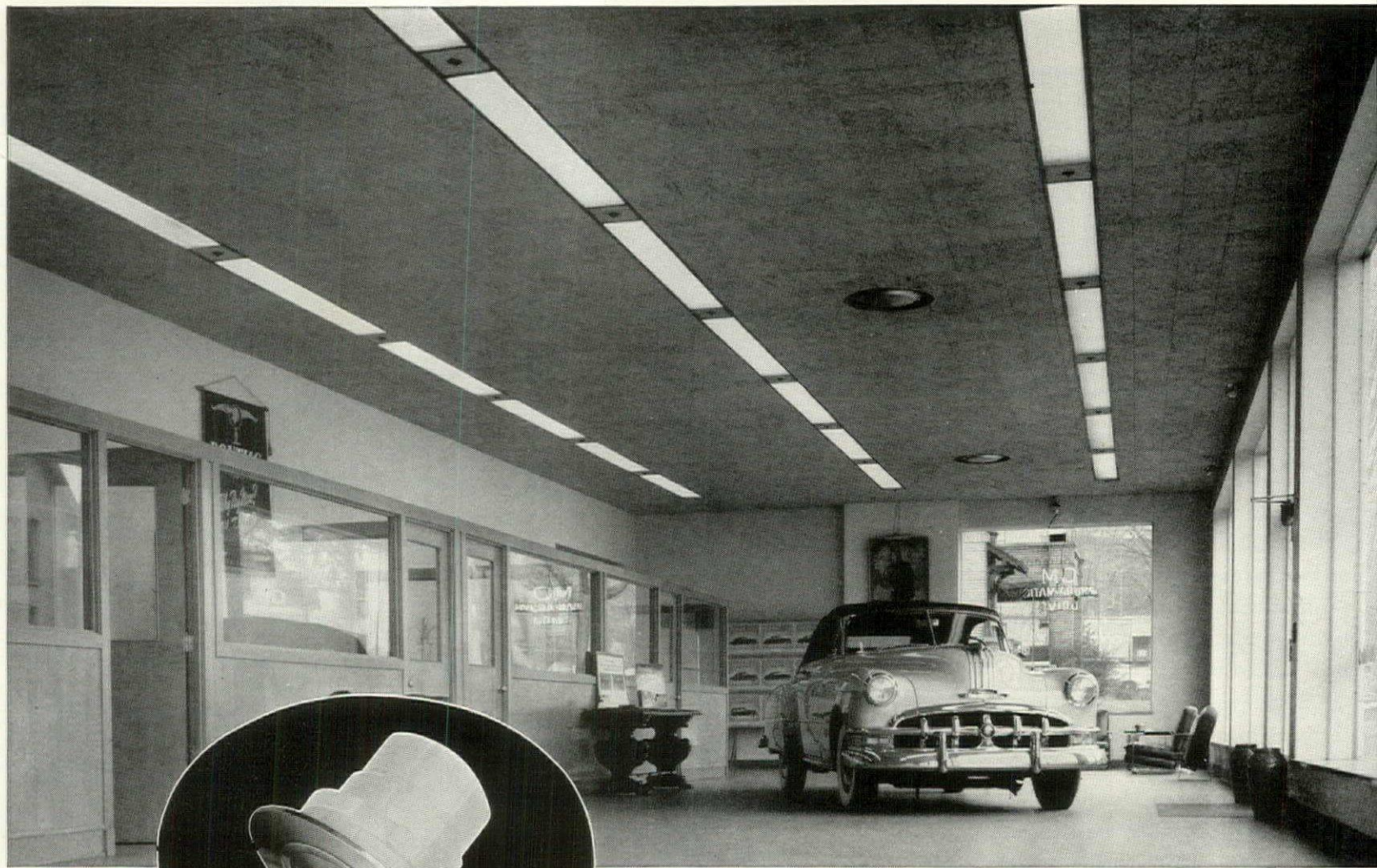
Two Panes of Glass

Blanket of dry air insulates window

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When you specify a Viking sprinkler system you don't add a cent to the true cost of your building, in fact, you

actually save money for your client . . . because Viking sprinkler systems reduce insurance costs enough to pay for themselves . . . usually in a few years . . . and leave a cash balance besides. Viking systems are engineered to last the life of the building with a minimum of maintenance.

For details about Viking sprinkler protection, contact your nearest Viking representative or write direct to the Viking Corporation, Hastings, Michigan.

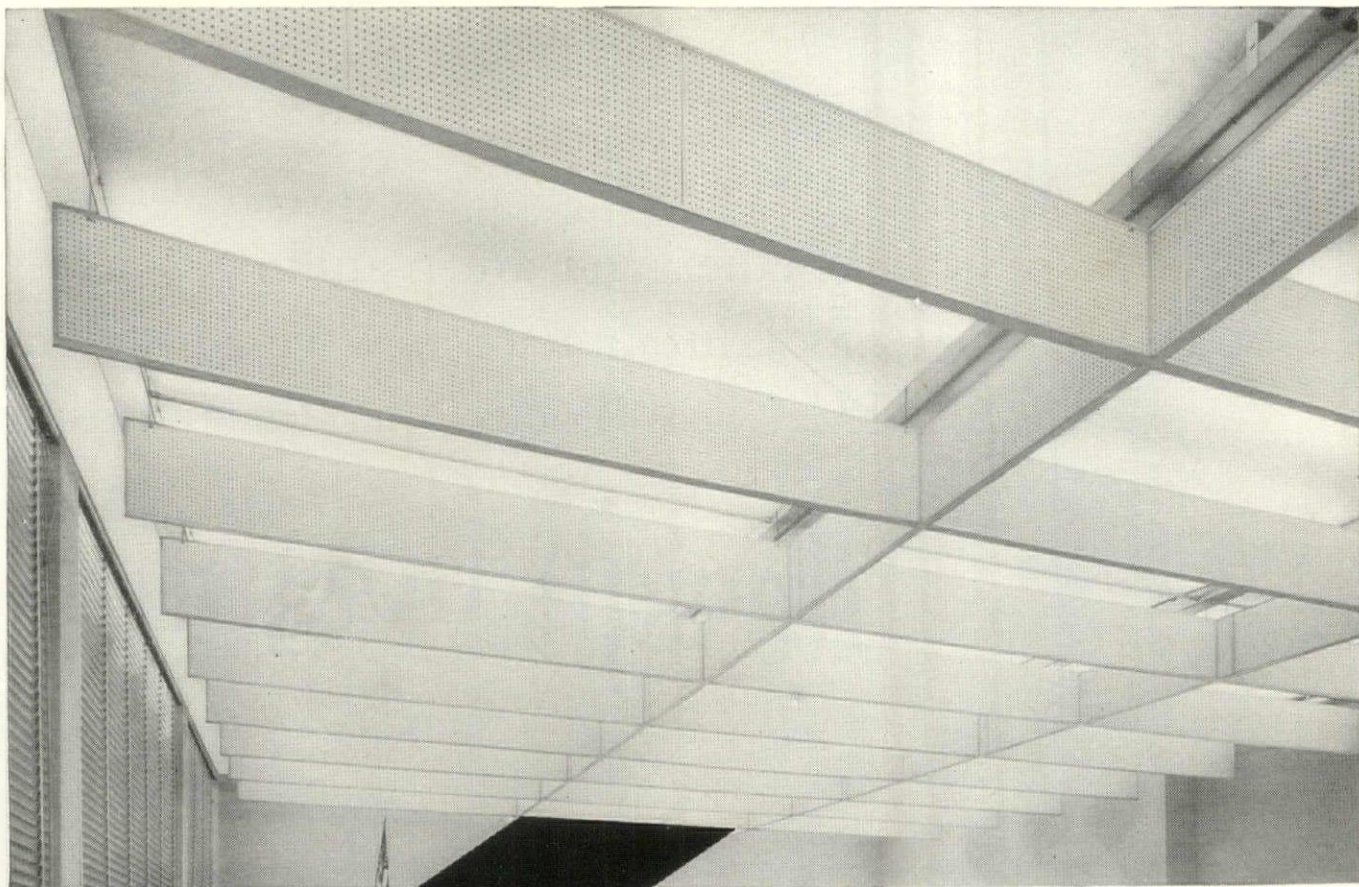
This brochure is included in Sweet's Architectural File. For your personal copy, write the Viking Corporation, Hastings, Michigan



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**SOUND**

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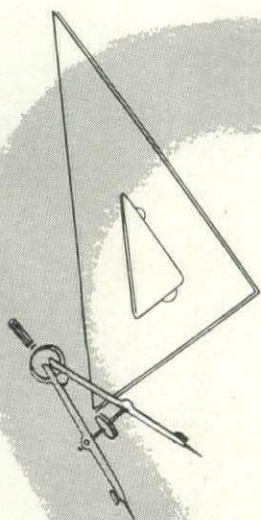
Company

Address

City  State

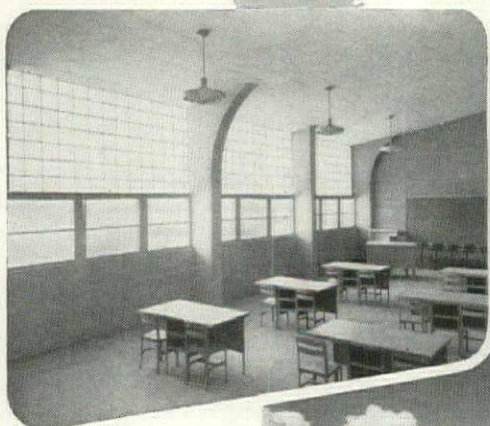






Whether you are planning  
modernization or new construction,  
PC Glass Blocks offer the utmost in

# design flexibility



**THE** newly-constructed La Union Elementary School of La Union, New Mexico, employed the †PC Vision-Lighting Plan as a fundamental element of the architectural plan. Here, PC Prism A and Soft-Lite\* Prism B Glass Blocks admit abundant natural daylighting, scientifically directed and diffused for optimum eye-comfort in the classroom. Architect: Truman J. Mathews, Santa Fe, New Mexico; Consulting Engineers: Davis & Foster, El Paso, Texas.

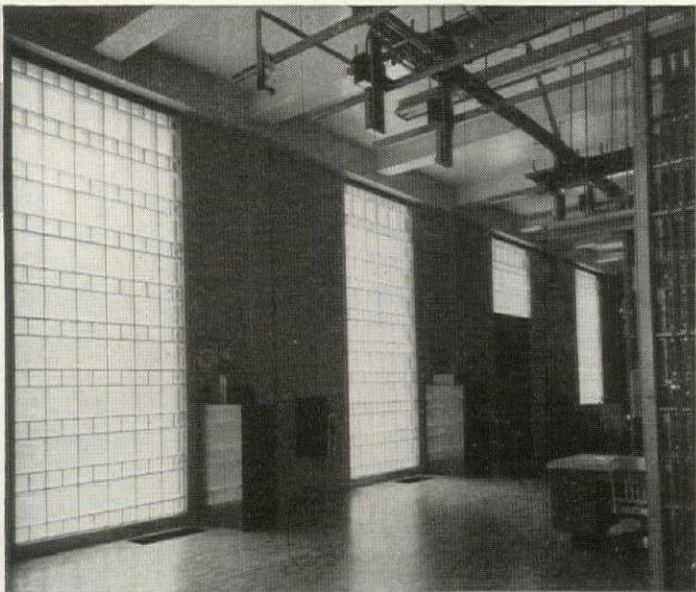
†The PC Vision-Lighting Plan is a construction for daylight openings consisting of orientation-keyed areas of PC Functional Glass Blocks (selected for sun or non-sun exposure) used with vision-ventilation areas as required.



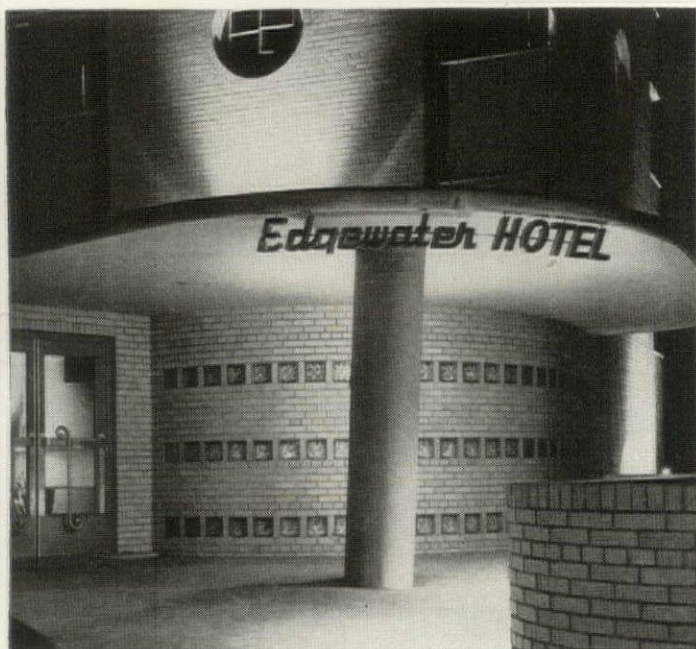
## GLASS BLOCKS

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AT the Dixie Exchange, Citizens Telephone Company, Lakeside Park, Kentucky, Architect Harry Hake, Jr. of Cincinnati, Ohio, utilized PC Decorative Glass Block patterns in multiple sizes to effect this interesting fenestration design. The inherent high insulating properties of PC Glass Blocks are ideal in helping to keep temperature and humidity adjusted to the close tolerances required by the delicate telephone equipment in this building. And these glass blocks keep out harmful dust and dirt, "make the most of daylighting."

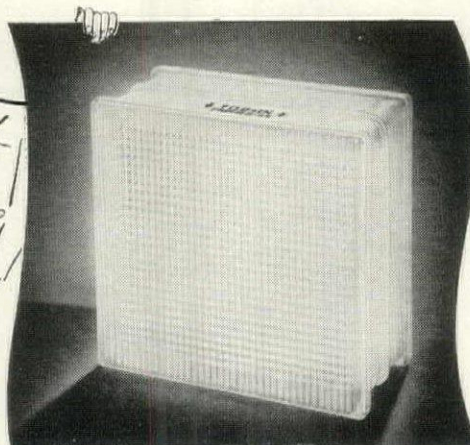


HERE is another example of the adaptability of PC Glass Blocks to practically any architectural need. Decorative patterns of PC Glass Blocks have been used in this unusual curved wall of the Edgewater Hotel, Madison, Wis. Architect: Lawrence Monberg, Chicago, Illinois.

PC Glass Blocks are immediately available . . . no construction delays! And this includes PC Functional Glass Blocks, especially designed for precision work. These glass blocks contain such features as light-directing prisms on the interior faces of certain patterns, light-spreading corrugations on outside faces, a fibrous glass insert to diffuse still further the light transmitted by the block itself, and the PC Soft-Lite\* Edge Treatment, which creates a better, more comfortable "eye-ease" panel appearance. The new "Clean-Easy Face Finish" prevents mortar and installation scum from adhering to the panels during construction, thereby reducing costs by cutting in half the time required for on-the-job cleaning.

\*T.M. Reg. applied for.

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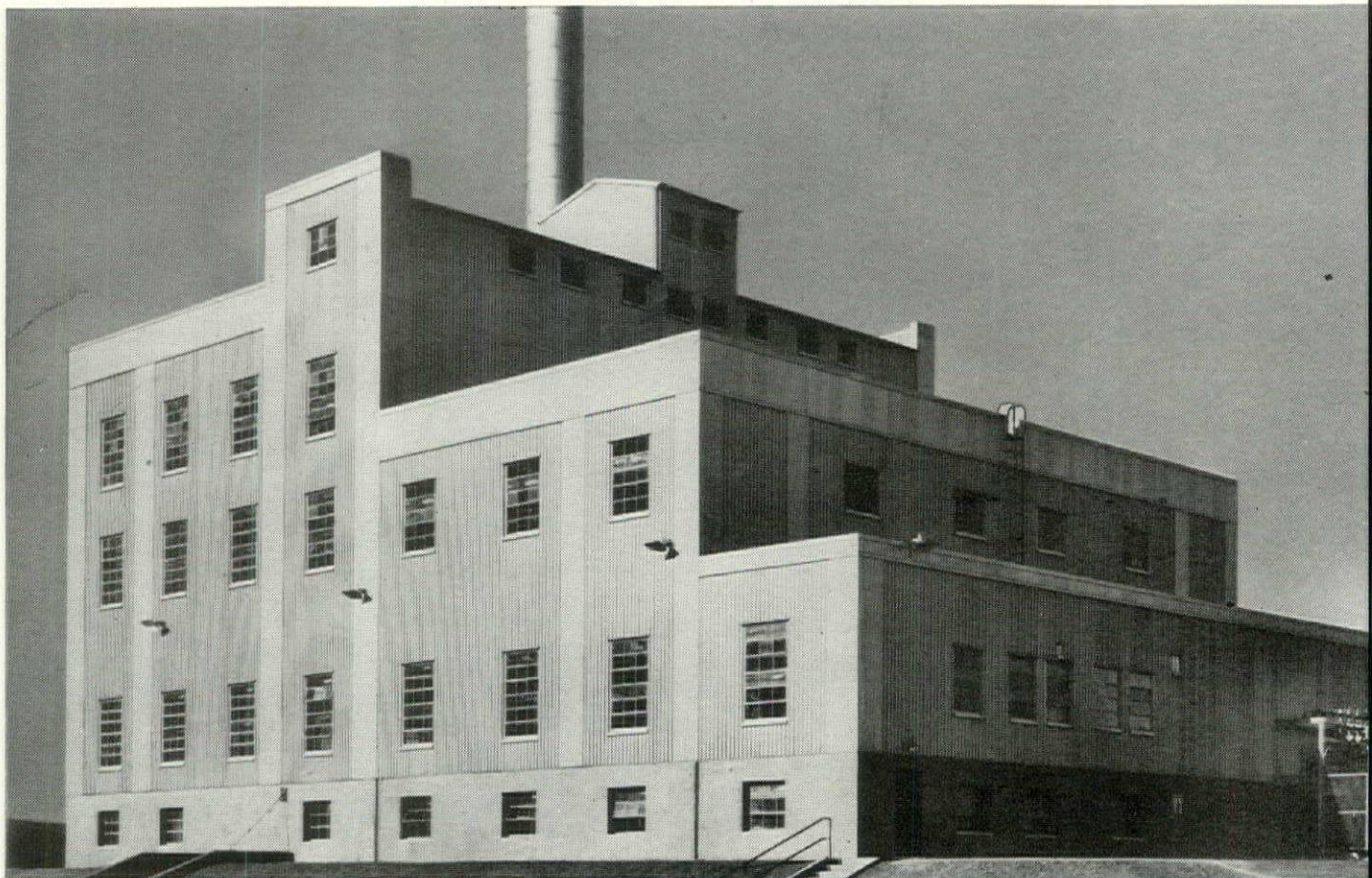
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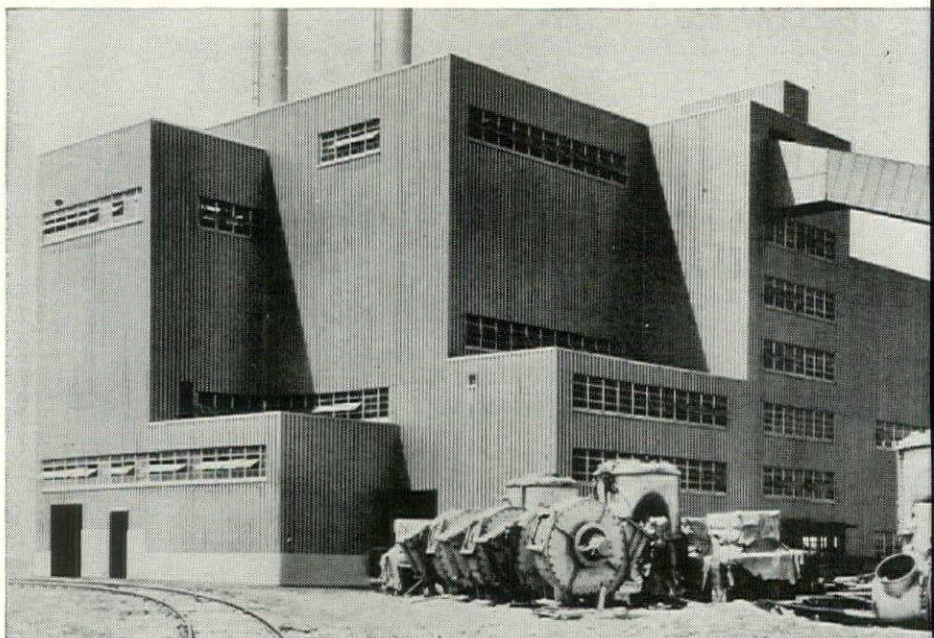
# *Available for your*

## Walls of Stainless Steel offer



▲ 21,000 sq. ft. of Stainless Steel were used in the walls of this new power station built for the Northern States Power Company, Minot, N. D. Designed by Pioneer Service and Engineering Company, Chicago. Wall materials were fabricated and erected by The R. C. Mahon Company, Detroit, Michigan.

➤ William J. Neal Station was erected last winter with temperatures ranging from 10° above to 50° below zero for Central Power Cooperative, Inc., Voltaire, N. D. Erection of 44,900 sq. ft. of Stainless Steel walls presented no difficulty even in such low temperatures. Designed by Vern E. Alden Company, Chicago. Wall materials were fabricated and erected by The R. C. Mahon Company, Detroit.





# current projects...

## economy and long life for power plants and other industrial buildings

● It may be news to you that Stainless Steel is available today for use as a wall material for power plants, warehouses, mills, factories, and other types of industrial buildings.

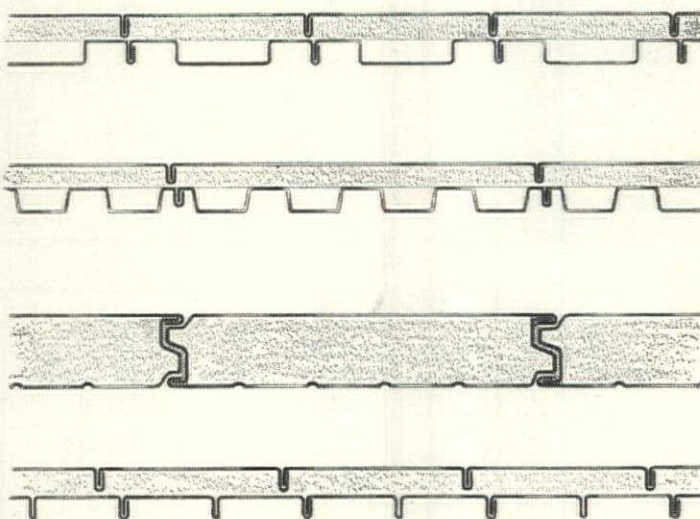
Shortages of certain alloying elements, notably nickel, have greatly limited supplies of some Stainless grades. But straight-chromium grades, including U·S·S 17 (Type 430) and U·S·S 12 (Type 410), are relatively plentiful and are well suited to this type of architectural application. In fact, three new multi-story office buildings in Pittsburgh's impressive Gateway Center are being built with exteriors of Type 430 Stainless.

As a result, you have at your immediate disposal all the advantages of Stainless Steel wall construction—simplified construction, minimum cost-per-year in maintenance and clean, modern lines.

The strength and durability of Stainless Steel, combined with its exceptional corrosion resistance, make it a truly permanent building material. When you spread its original cost over the life of the building and take into account the almost complete freedom from maintenance, cost-per-year is astoundingly low. And the first cost of this construction is often lower than that of masonry walls.

Erection is simple with panels in interlocking sections 12 to 24 inches wide. Insulation to meet any building code requirement is applied to the panels before erection, giving you an extremely low heat transmission coefficient. United States Steel does not sell fabricated Stainless Steel panels. It supplies Stainless Steel sheets to panel manufacturers for fabrication in a variety of forms. But we will be glad to furnish you with details on this type of construction and refer you to leading panel manufacturers for additional information. Use the coupon at right.

Typical cross-sections of insulated Stainless Steel  
walls of various wall manufacturers



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Name..... Title.....

Address.....

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

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1-1907

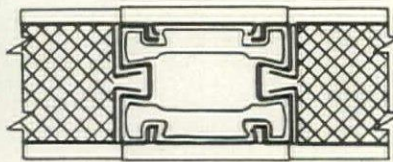
UNITED STATES STEEL





# HOW TO

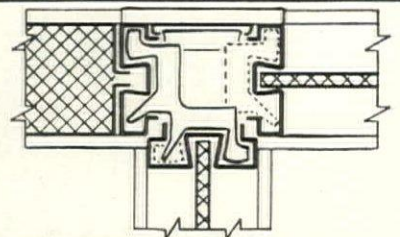
Save Steel—and Solve Future Partition Requirements—Today!



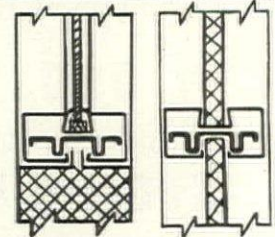
**LIGHT WEIGHT:** The "FF" and "FM" MOBILWALLS are only 2 3/8" thick through the post, reducing weight 15%, yet retaining all sound reduction values.

New VMP Steel Mobilwalls types "FF" and "FM" are only 2 3/8" thick, lighter yet stronger—with full sound reduction values! Panel type "FM" commercial partitioning interlocks at all post conditions with executive type "FF" partitioning. Perfectly matching—without any special adaptors. Lighter weight permits interchanging a panel unit with a door unit *by one man*—during a lunch hour, if necessary.

VMP Mobilwall partitions are steel—not paper, not board, not any substitute material. In 5 years, 10 years, or 25 years, VMP Steel Mobilwalls will still be good!



**HOW PARTS INTERLOCK:** Interlocking units assemble in straight runs with finished ends, at right angles, or in "T" connections, or even "X" connections.

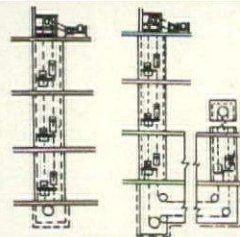


**ROLLED SHAPES:** Rolled shapes used in Types "FF" and "FM" cost less, are always uniform in size and provide superior joints.

## HOW TO

Solve Problems of Vertical and Horizontal Material Transportation  
--Economically!

VMP CONVEYORS



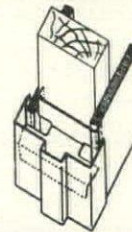
VMP automatic conveyors run either vertically or horizontally in one plane or in different planes.

Trouble-free mechanical push button operation. Carries up to 4 1/2 tons per hour at a rate of 60 feet per minute. VMP steel conveyors function in minimum space.

## HOW TO

Eliminate on-the-Site Assembly of Frames and Obtain Substantial Installation Savings

VMP STEEL DOORS AND FRAMES

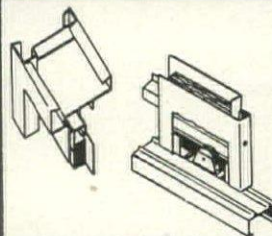


VMP Frames are a complete unit with rugged welds. For plaster walls, the plaster grips both the stud and the frame providing a tight key—minimizes cracking. For dry wall construction, the edge of 1/2" wallboard nailed to studs is hidden behind the flat return of the frame.

## HOW TO

Save Wall Space . . . Yet Make Finished Rooms Better looking!

VMP BI-PASSING UNITS

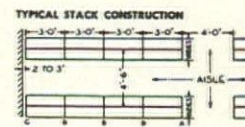


VMP steel Bi-Pass units, with exclusive flush back doors, cost less to buy, less to install than conventional doors. Require no assembly on the site. Frames available for every type of partition.

## HOW TO

Plan Libraries for Most Efficient Present and Future Utilization of Floor Space

VMP LIBRARY STACKS AND EQUIPMENT



Virginia Metal Products, one of the world's largest manufacturers of steel library stacks and equipment, offers the benefit of its vast experience in the solution of all highly technical questions regarding library stacks, equipment, and book conveyors. No obligation.

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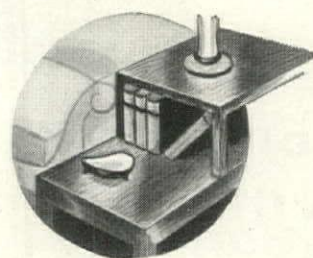
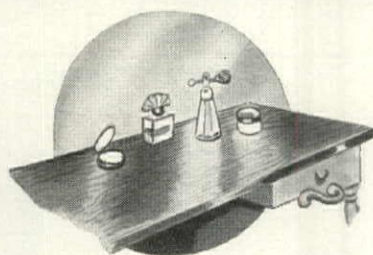
**FREE:** Manual data sheets fully describe each of these products and give new and advance design data. Without obligation, write for data sheets on products in which you are interested. Address letter or card to DEPT. 12



# Have you seen the new Westinghouse TRUGRAIN

Trade Mark

## ® Micarta?



**Westinghouse** has created a group of totally new Micarta patterns — the “Trugrains”

These are deep-etch photogravure prints *perfectly* reproducing ALL the grain-ing, color, finish and natural beauty of fine veneers — mahogany, oak, walnut. They duplicate eight cabinet finishes.

Yet, except for the deep-etch photogravure printing, these “Trugrain” Micartas are made by exactly the same process as standard Micarta, and offer all its advantages. *They are top quality, high pressure plastic laminates:*

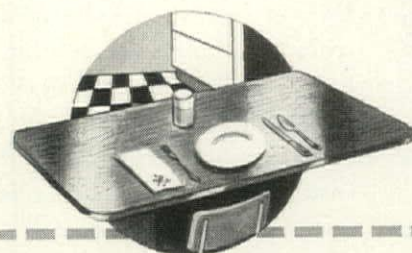
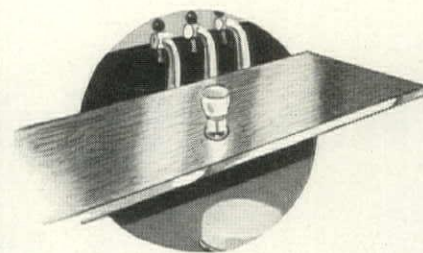
— glowing satin surfaces that take the roughest wear . . . stoutly resist scratching, denting, chipping — or staining . . . wiped clean in a flash!

*And — “Trugrain” Micarta costs the same as standard Micarta!*

For finer designing of furniture, counters or cabinets — in residences, commercial interiors or institutions —

## Send for set of Samples\*

\*There are EIGHT “Trugrain” Micartas. A full set of 2" x 2" samples will be sent, without obligation, to anyone actively engaged in designing or building.



UNITED STATES PLYWOOD CORPORATION  
55 West 44th St., New York 18, N. Y.

Without obligation, please send me samples showing the 8 new “Trugrain” Micartas.

Name \_\_\_\_\_

Position \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

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

MICARTA is manufactured by WESTINGHOUSE

and sold in decorative grades only by  
UNITED STATES PLYWOOD CORPORATION  
and U. S.-MENGEL PLYWOODS, INC.



MB-12-51



**1941 KELVINATOR—  
4 cubic feet!**

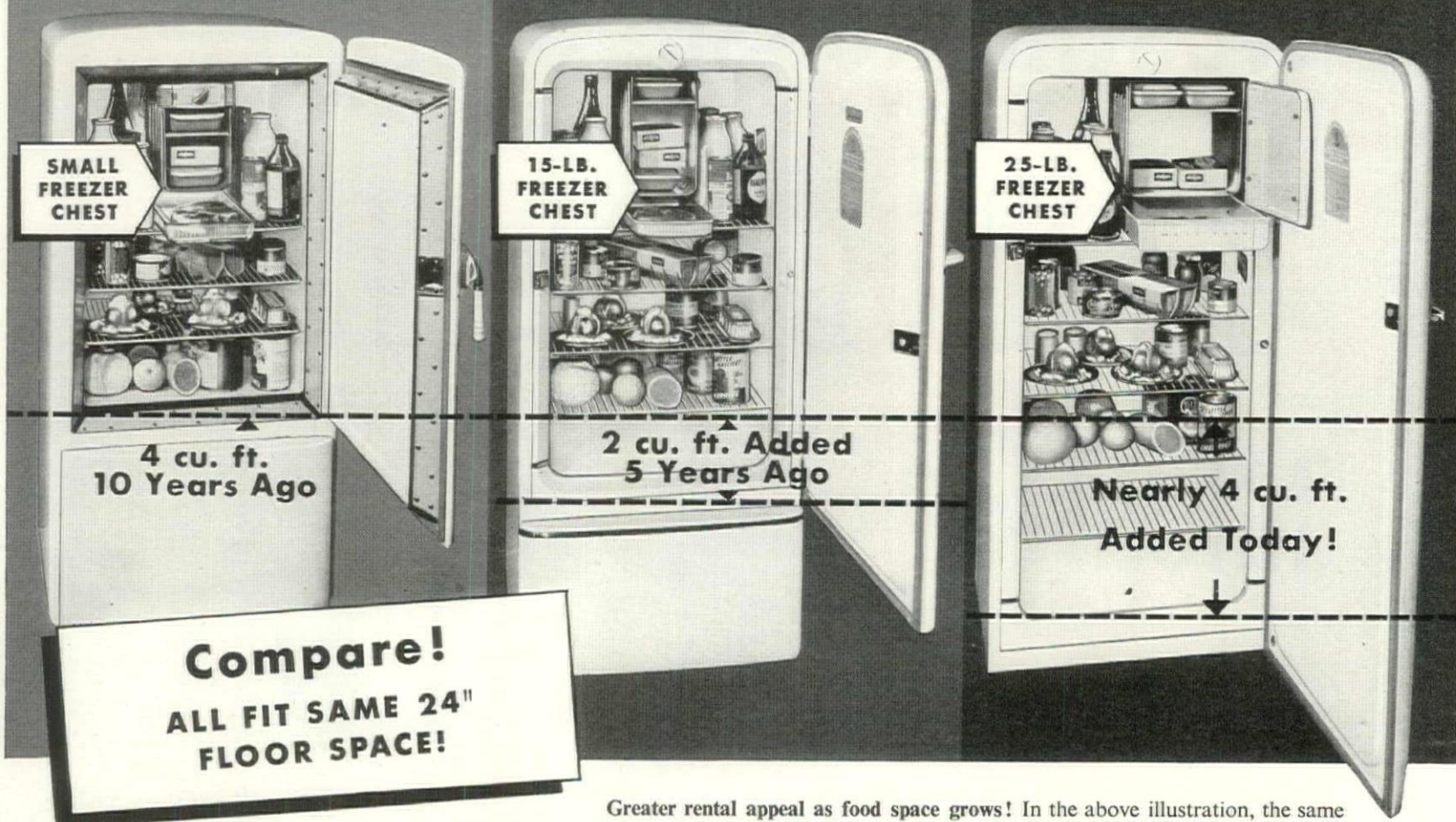
MODEL C-4

**1946 KELVINATOR—  
6 cubic feet!**

MODEL CA

**1951 KELVINATOR—  
7.6 cubic feet!**

MODEL AA



Greater rental appeal as food space grows! In the above illustration, the same food items are used in all three refrigerators. The new big cold space that apartment dwellers need is supplied by Kelvinator—without increasing floor space.

## How Kelvinator DOUBLED Cold Space in the Same Floor Space!

From 4 cu. ft. in 1941, Kelvinator design increased cold space to 6 cu. ft. by 1946, in the same floor space. And today—still in the same floor space—the 1951 Model AA Kelvinator gives an amazing 7.6 cu. ft.! Nearly doubled cold space—including a big 25-lb. freezer chest. Here is space that meets today's needs. Space for frozen foods. Space for leftovers. Space for more fruits and vegetables. Space that means easier rentals—and greater tenant satisfaction. Satisfied tenants don't move. So . . . for the *small*

difference in cost, why not give your tenants all this extra Kelvinator space and convenience?

**SEE KELVINATOR!  
BOOTH No. 1  
National Home Builders Show  
Stevens Hotel, Chicago • January 20-24, 1952**

**Get more... Get**

**REFRIGERATORS • RANGES • FREEZERS • WATER HEATERS • AIR DRIERS**

# Kelvinator

Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan



# More Public Work in '52 to Help Offset Drop in Private Building

Whether 1952 will be a slightly bigger year for the industry than 1951 (as many experts predict) or a slightly smaller year (as many others predict) seemed a moot point this month. What is important is the general agreement among all those qualified in the risky art of economic forecasting that the industry as a whole will have difficulty distinguishing 1952 from 1951. The total volume of building will be about the same (see chart) and the trends established in 1951 will continue into 1952.

Despite its anxieties and scare headlines, 1951 has been a good year for building. By year-end the total volume of construction put in place will come close to \$30 billion—10% ahead of prosperous 1950. Housing starts, despite Government restrictions, material shortages and a midsummer drought of mortgage money, will hit 1.1 million, only 300,000 shy of last year's abnormal record and about 300,000 more than the limit set by Washington's frustrated planners. How the other components of the industry have fared this year is detailed in the table.

While next year's total construction expenditures will be close to this year's level, some types of building will fare better than others, continuing the trends of 1951. Thus, private building will probably drop some 20% below this year's level to \$16-\$17 billion, offsetting an indicated 10% rise in public construction to \$10 billion. All kinds of private building activity except industrial work will share in the drop—particularly recreational, institutional and commercial building which may well fall 40-60%.

**Steel sets the pitch.** Outlook for these nonresidential varieties of building is affected most by DPA's restrictions on the use of structural steel. (Some \$500 million of nonessential construction has already been denied such steel, and allocations of the critical metal for 1952 have been pared down substantially from 1951 levels [Nov. issue '51].) However, industrial building, now drawing the lion's share of steel allotments, may get over the steel hump by mid-1952, after which DPA still insists that it

## NEW CONSTRUCTION ACTIVITY (expenditures in millions of dollars)

| Type                     | November |       |          | 1st 11 months |        |          |
|--------------------------|----------|-------|----------|---------------|--------|----------|
|                          | '50      | '51   | % Change | '50           | '51    | % Change |
| PRIVATE                  |          |       |          |               |        |          |
| Residential (nonfarm)... | 1,131    | 918   | -18.8    | 11,597        | 9,984  | -13.9    |
| Industrial .....         | 120      | 155   | +29.2    | 937           | 1,818  | +94.0    |
| Commercial ...           | 149      | 73    | -51.0    | 1,148         | 1,241  | +8.1     |
| TOTAL .....              | 1,901    | 1,694 | -10.9    | 19,068        | 19,166 | +0.5     |
| PUBLIC                   |          |       |          |               |        |          |
| Industrial .....         | 29       | 100   | +244.8   | 193           | 844    | +337.3   |
| Military .....           | 26       | 123   | +373.1   | 153           | 876    | +472.5   |
| Residential ...          | 31       | 70    | +125.8   | 315           | 565    | +79.4    |
| TOTAL .....              | 668      | 821   | +22.9    | 6,600         | 8,500  | +28.8    |
| GRAND TOTAL..            | 2,569    | 2,515 | -2.1     | 25,668        | 27,666 | +7.8     |

will be possible to step up structural steel allocations for other types of building which are now being curtailed.

Although its outlook is clouded by many factors, residential building is expected to drop little more than 10% in 1952. The Government target is 850,000 home starts, but production may reach as high as 1 million, provided no new credit or materials restrictions are imposed by Congress or NPA. But either or both remain a clear and present possibility. Some Washington insiders figure HHFA Administrator Foley's current strategy is to persuade home builders to endorse reimposition of Regulation X to avoid sterner cutbacks in materials' self-certification. On the other hand, as many as 300,000 units may be certified in critical areas. These, along with 100,000 Wherry Act units, will get special help.

**Builder plans.** The industry is optimistic about the market and material supplies for nondefense houses. Many builders plan to continue or expand 1951's production rate. Typical are these estimates (in dwelling units) from leading builders coast to coast:

| Builder                        | 1st Half |      |
|--------------------------------|----------|------|
|                                | 1951     | 1952 |
| Earl Smith, Berkeley, Calif.   | 300      | 600  |
| Alan Brockbank, Salt Lake City | 40       | 50   |
| J. C. Nichols Co., Kansas City | 300      | 150  |
| Joe Vatterot, St. Louis        | 250      | 125  |
| Nathan Manilow, Chicago        | 1,360    | 600  |
| Joseph Merriam, Chicago        | 500      | 250  |
| Andrew Place, South Bend       | 100      | 150  |
| Hamilton Crawford, New Orleans | 600      | 600  |
| Dave Zamore, Waldwick, N. J.   | 150      | 65   |

## LAST MONTH'S WASHINGTON DIARY

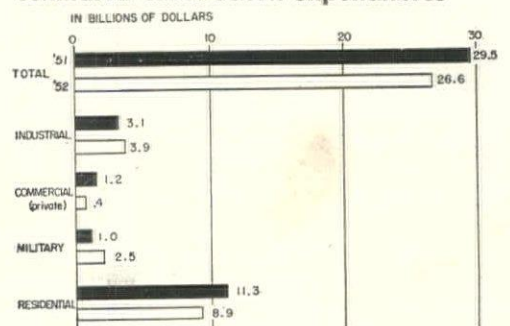
- 11/9 NPA announces denial of 63% of requests for nondefense construction
- 11/9 Office of Aluminum Affairs is created within DPA to assure adequate aluminum supplies for defense and essential civilian needs
- 11/13 DPA keeps structural steel allotments for first quarter of 1952 at same level as preceding quarter
- 11/20 Defense Mobilizer Wilson announces Presidential authorization of 30,000 ton withdrawal from lead stockpile for defense needs
- 11/22 Defense Mobilizer Wilson designates HHFA Administrator Raymond Foley his special assistant in charge of all defense housing activities
- 11/22 HHFA relaxes requirements for advance commitments on programmed defense housing from Fanny May
- 11/23 Great Britain will augment U. S. aluminum supply by 22 million pounds in next five months
- 11/26 DPA doles out extra ration of critical metals for hospital, school and highway construction
- 12/1 Construction Analysis Group takes office to assist DPA in screening structural steel allotments
- 12/4 NP Administrator Manly Fleischmann puts Walter H. Wiewel at helm of NPA Metals and Minerals Bureau
- 12/12 Thomas P. Coogan appointed director Armed Forces Housing Agency to supervise military housebuilding

Mortgage money should be sufficient to finance at least 850,000 houses without resorting to bank credit or bond selling on the part of lenders. However, at present interest rates, lenders will continue to shy away from VA loans.

Material shortages will be limited mainly to copper (plumbing fittings, tube and wire). Hardware will present tough problems, but they will be alleviated toward the end of 1952 by the increasing supply of aluminum. So little steel is used in housebuilding its continued scarcity will not be a major barrier to a continued high level of homebuilding.

The market for houses, on the basis of long-range analysis, is still strong. Psychologically, it will continue strong as long as things are hard to get. A Korean truce, with the suggestion that it might point to easier conditions ahead, could weaken the market but would probably not greatly affect the year's housing production.

## 1952 vs. 1951 estimated construction expenditures



## IN THE NEWS

Among the next 31 pages are reports on these important developments:

- Coogan takes military housing job . . . p. 35
- More steel for civilian building . . . p. 35
- Pension trusts explore mortgages . . . p. 41
- Baltimore's slum plan 'sabotaged' . . . p. 46
- Atomic building secrets unwrapped . . . p. 47
- U. S. Savings & Loan League convention p. 57
- NAREB convention report . . . p. 60
- Gropius wins Howard Myers Award . . . p. 64

NEWS continued on p. 34





**CRITICAL AREAS COMMITTEE**, which Rent Stabilizer Tighe Woods called "second echelon moles" constituting "bureaucracy at its worst," is an unwieldy affair, subject to all the innumerable ills of government. It includes (l to r) representatives of the Defense Dept. (H. W. Harvey, Jr.), Rent Stabilizer (Ganett B. Ratcliff & Milton B. Davis), Economic Stabilization Agency (George Seltzer), DPA (Harold Sandbank, Roslyn Weinberg, Chairman Ivan D. Carson, Eugene F. Bertrand), HHFA (Peter Borwick), Labor Dept. (Gladys Fielding), Federal Reserve Board (Robert P. Fuhrer), Federal Security Agency (Dean Snyder), and NPA (James E. Noe). Each outfit is likely to approach a problem from a different viewpoint, and each has power to hamstring operations. All are subject to Congressional and public pressure groups, which can also bring committee business to a standstill.

## Defense Housing Moves at Last with Push from NAHB; HHFA Loosens Price Brakes

On Dec. 3, the long awaited "D" day for the defense housing program, FHA offices for 70 newly designated defense areas opened their doors to builders anxious to participate in the program. For 90 days, private enterprise would have its turn at bat. After that, if builders do not apply to build enough housing in the price and rental brackets HHFA demands, the government could step in with public construction. Builders did not stampede for several reasons. Buying suitable land and developing preliminary plans take more than overnight. Under the new ground rules laid out by HHFA's credit regulation, there was little advantage in an early application. HHFA would give priority to what it thought were the best deals, regardless of the date of submission.

**Five-year freeze killed.** As expected, CR-3 bowed to builder's complaints, virtually wiped out the five-year price freeze HHFA had tried to impose on defense housing. With housing for sale, all a builder had to do was to offer it to defense workers and military personnel for 60 days. If no eligible takers appeared he was then free to sell to anybody but still at the approved price. Moreover, such subsequent nondefense purchasers would enjoy the same easy credit: complete suspension of Regulation X. Only condition imposed on defense worker purchasers was, if they resold the property within 90 days, they must file a written notification with FHA, give their co-workers buying preference.

For rental property the CR-3 rules were more complicated. For the first 30 days units could be rented to defense workers or military families. If none showed up, tenant eligibility would be thrown open to the general public for the next 30 days but HHFA's low defense rental rates would have to be observed. If the property was still untenanted at the end of the second 30 days the builder would be free to sell it outright or to rent it to anyone without regard to the

HHFA ceilings. This rent-raising privilege will mean practically nothing, however. Odds are that rent reconrol will be ordered in more and more defense areas. Forty-five of the 110 named already are under such a lid. Moreover, most defense rental housing will be financed under the FHA program. FHA has its own regulations to hold rates to prescribed levels.

Where housing is rented initially to defense workers or military personnel, a subdued freeze is imposed. For one- and two-family units the owner must continue offering the facilities at the approved rates for two years. For rental structures of three or more family units, the freeze will be four years.

**Builders hopeful.** Nobody knew how much defense housing was actually going up, but NAHB, which last month began a big push to get private enterprise to do the job, reported encouraging signs at last:

► In the Savannah River area, while only a handful of 3,600 programmed defense homes were underway, builders had erected some 1,800 non-programmed units, and big New York Builder Gross-Morton was about ready to break ground for 500 Title IX houses. The irony of this is that the builders who have actually built so far will have to sell their houses on less favorable terms (partial instead of complete relaxation of Reg. X) than those who waited for Title IX.

► In San Diego, where builders cried that HHFA set rent and sale ceiling prices so low they could not build a house FHA would insure, HHFA finally backed down a notch, raised rental ceilings \$10 a month to \$85, and raised sale prices \$700 to \$10,200 for three-bedroom units, \$700 to \$9,200 for two-bedroom units.

► In Salt Lake City, NAHB Vice President Alan Brockbank, in charge of the defense housing push, reported that mortgage financing "improved materially" last month. Prudential Life Insurance Co., for example, was offering to take one loan at par for each FHA. In nearby Tooele, Utah, the entire 238 unit defense housing program was under construction.

What worried Brockbank most was that Federal National Mortgage Association's power to give advance commitments for defense housing will expire Dec. 30. Moreover, Fanny May hasn't enough funds to buy mortgages on defense housing already programmed, let alone what is to come next year. On both items, HHFA alibied that its hands were tied by Congress. Reported Sen. Lyndon Johnson, one of Capitol Hill's leading critics of the sluggish program: "If more legislation was necessary to prevent Fanny May aid from drying up, HHFA should have told Congress about it before we adjourned. Pious lamentations about deadlines don't help."

Despite snipers, HHFA Administrator Foley was gaining more and more control over defense housing. He won his newest extra title and stature as a result of a tiff provoked by Rent Stabilizer Tighe Woods. On a CBS television show, Woods lambasted DPA's critical areas committee as "second echelon moles" who represented "bureaucracy at its worst." Privately, Washington building men said Woods might be right about the committee but they thought the hot words came with ill-grace from Woods who in their opinion has not been averse to power grabbing himself.

Prodded into action by this show of internal dissension, Defense Mobilizer Wilson called his aides together to review the critical area program. It ended with an official spanking for Woods. Foley was named "assistant to the Defense Mobilizer for housing and community facilities." As Wilson added up the score, the critical area committee was operating efficiently despite the handicap of having to work under the two-headed monster Congress passed—one law for defense housing, another for rent control. By making Foley his deputy, Wilson hoped the gears would mesh better. For example, the critical area committee could designate a place under the defense housing and rent reconrol programs at the same time instead of having to take two cracks at it. However, Foley apparently would not actually take over rent reconrol by spelling out its terms. Nor did it seem likely that Tighe Woods would quit.

Harris & Ewing



FOLEY

WOODS



# Tom Coogan, ex-NAHB President, Named Head of Armed Forces Housing Agency

Len Rosenberg

All summer ex-NAHB President Thomas P. Coogan had been pounding tables at industry meetings. Argued Coogan: NAHB must assume responsibility for getting defense housing built; big private lenders in their own interest cannot afford to let private enterprise fail to finance defense homes.

This month responsibility caught up with Tom Coogan. When Munitions Board Chairman John D. Small came to see him in Miami (en route to the vacation White House at Key West), offered Coogan the much-spurned job of director of the Armed Forces Housing Agency, Coogan found he couldn't say no. He took the circa \$17,000 a year post (formal title: assistant to the secretary of defense) without pay, hoping thus to have a freer hand at coping with Pentagon red tape—such as the directive saying he would report to Secretary of Defense Lovett through Small's Munitions Board.

No one knew better than Tom Coogan that he was being handed a hot potato that John Small, who confesses "I don't know anything about housing," wanted desperately to unload. The military had awakened belatedly to the fact that in a garrison state which might continue for years, it must reverse its World War II policy, assume responsibility for providing family housing for citizen-soldiers (officers and enlisted men of the top three grades). Not until Sen. Lyndon Johnson's preparedness committee revealed shocking rent gouging around reactivated bases was the Pentagon blasted into action. Even as Coogan was sworn in, he found little staff preparation for the task ahead.

This was formidable. Coogan's agency would have policy supervision (but not working control) over Wherry Act and defense housing for military posts in the U. S. and abroad, as well as any family housing built with taxpayer money. He would also set up programs, said the Pentagon announcement, for related items like utilities and schools, determine financial requirements, rentals to be charged, home sizes to be built. He would help develop standard designs for both permanent and temporary military housing. He was charged with the job of getting the Army, Navy and Air Force to agree to a "uniform housing plan" which can be handed to Congress in one package.

To develop his housing policies, Coogan will have to win agreement of a family housing council of one representative each



THOMAS P. COOGAN

from the Army, Navy and Air Force. Coogan will be chairman.

If the job seemed to call for a fighter, 52-year-old Coogan is used to battles. In World War I he fought overseas as a naval air gunner. Between 1925 and the last war, he fought his way to prominence building homes and airports in Florida, Arkansas, Louisiana and Georgia, considers himself a pioneer in site prefabrication of homes. Year ago, he took on a tougher battle still: a New York mortgage clearing house, Housing Securities, Inc., of which he is president. This already makes him a commuter between Manhattan and his flourishing Miami home-building business. Washington, at least, was right on the route. Coogan's plans for military housing were brief. Said he: "We're going to call on the industry for help."

## SCHOOLS GET STEEL as CMP review spots extra metal

Late last month a Congressional watchdog committee heard an accounting of the Defense Production Administration and its offshoot, the Controlled Materials Plan. Star witness was DP Administrator Manly Fleischmann. His testimony:

1. DPA has revised its steel allotment program to permit 200 more schools and 50 more hospitals to be started during 1952's first quarter.

2. More steel has also been made available for the Atomic Energy Commission, public roads, power expansion, mining and coke ovens.

Where is steel coming from? The \$64 question was answered later through committee sources. It turned out the steel cup-

board, which NPA had declared bare for first quarter allocation bonuses, was now being replenished with steel and chemical industry allocations. These had been set aside for industrial expansion. Because of delays in obtaining other materials, the industries agreed to collect their excess quotas—some 48,000 tons—during 1952's second quarter.

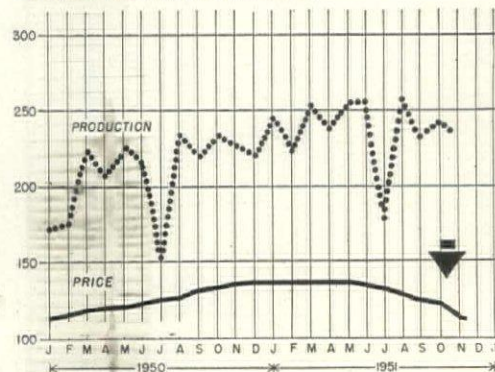
All this gave Capitol Hill cause for concern: Did NPA's screening leave something to be desired if so much steel could be recovered without stepping on anybody? Wasn't it likely more flagrant padding of allotment requests would be found in military and AEC requests?

**Steel screening.** Early this month, DPA took the advice of the nation's top steel industry executives, quietly organized a six-man committee to screen every construction job using more than 250 tons of structurals. Chairman: James B. Steep, a member of the Detroit city planning commission. The analysts will try to prevent any steel user from being allocated more steel in any quarter than he can actually erect. Up to now, this has been the major flaw in CMP operation for construction: too many claimant agencies, lacking engineers, couldn't tell a steel hog from a conscientious waste-saver. The committee's appointment thus was the most hopeful sign in months that DPA might finally get the bugs out of CMP. As matters stood, CMP hadn't failed, but it seemed to hang in the balance. The next three months would tell.

## PLYWOOD PRICES SAG as pine, fir lumbermen squabble

Biggest price nosedive of the month was in the Pacific Northwest's plywood industry. Mill prices for interior grades of plywood dropped 17%, exterior grades 12% (see graph) as the industry faced its weakest demand since 1945. Defense set-aside, ordered earlier in the year at 30% of production, by November was more like 5%.

### DOUGLAS FIR PLYWOOD



While plywood production (in millions of sq. ft.) climbs steadily, weakened market in November forces biggest price drop in 22 months (arrow). Prices charted (in dollars per thousand sq. ft.) are C-D grade Douglas fir plywood in Boston, dealer to contractor.

NEWS continued on p. 41



**NOW!**

The Sanistand urinal for women is



*Serving home and industry*

AMERICAN STANDARD • AMERICAN BLOWER • ACME CABINETS • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON



available in a special wall-hung model...

providing still wider latitude in rest room planning



Installed with other modern plumbing fixtures—like the Buena lavatories shown here—the Sanistand fixture helps create a rest room that is truly restful, sanitary, easy to keep clean. Whether it's a wall-hung or a pedestal model, the Sanistand urinal is easy and comfortable to use. The properly shaped, ample-sized bowl has an easily-straddled extended lip, and an inward sloping rim is an additional precaution for complete sanitation. Though designed as a urinal, the Sanistand fixture can be used as a regular water closet if necessary . . . the siphon vortex water action assures thorough, quiet flushing. Fits into standard-size toilet compartments.

Available in gleaming white or a variety of colors, the Sanistand fixture can be installed for pedal or manual flushing.

SINCE its introduction about a year ago, the Sanistand fixture—a urinal specially designed for women—has fairly revolutionized rest room planning. It has been acclaimed as the most important contribution to rest room sanitation since the water closet.

Now, in keeping with the current trend of installing off-the-floor fixtures wherever possible, American-Standard has added a wall-hung model of the Sanistand urinal to its line of plumbing fixtures. This version further increases the usefulness of the fixture, simplifies cleaning . . . affords greater flexibility in architectural planning.

In both models the Sanistand fixture offers the same convenience and cleanliness for women that the standing urinal does for men. Users need not sit on or touch the fixture in any way. And since it is deliberately shaped to prevent misuse and clogging, the Sanistand fixture makes for cleaner, more pleasing rest rooms.

Wherever it has been installed, the acceptance of the Sanistand fixture has been prompt and enthusiastic. Thousands of users have endorsed the fixture. Maintenance men attest to its help in greatly reducing cleaning chores. Owners and managers of public places say that Sanistand fixtures help reduce overcrowding in rush periods.

If you are planning a commercial, industrial or institutional building . . . especially any building used widely by the public . . . be sure to include Sanistand fixtures in your specifications. They will add greatly to the popularity of the building. **American Radiator & Standard Sanitary Corporation**, P. O. Box 1226, Pittsburgh 30, Pa.



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# Another Case of **COPPER** WHERE IT COUNTS

MOHAWK GARDENS, ROME, N. Y.

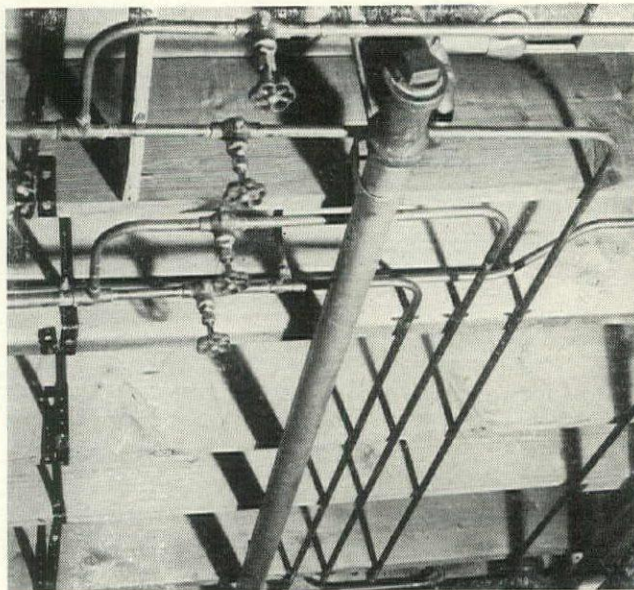


THE very scarcity of copper has served to point up the many merits of this metal better than anything we might say about it. For, when architects, builders and contractors have tried to find a substitute, they soon discovered many places in building construction where there just isn't any substitute. And they don't hesitate to tell us so.

Two mighty important copper spots are the heating and plumbing lines. That's why Revere Copper Water Tube was used for the entire heating system and for the hot and cold water lines in the plumbing system at Mohawk Gardens . . . the owners were building for permanency.

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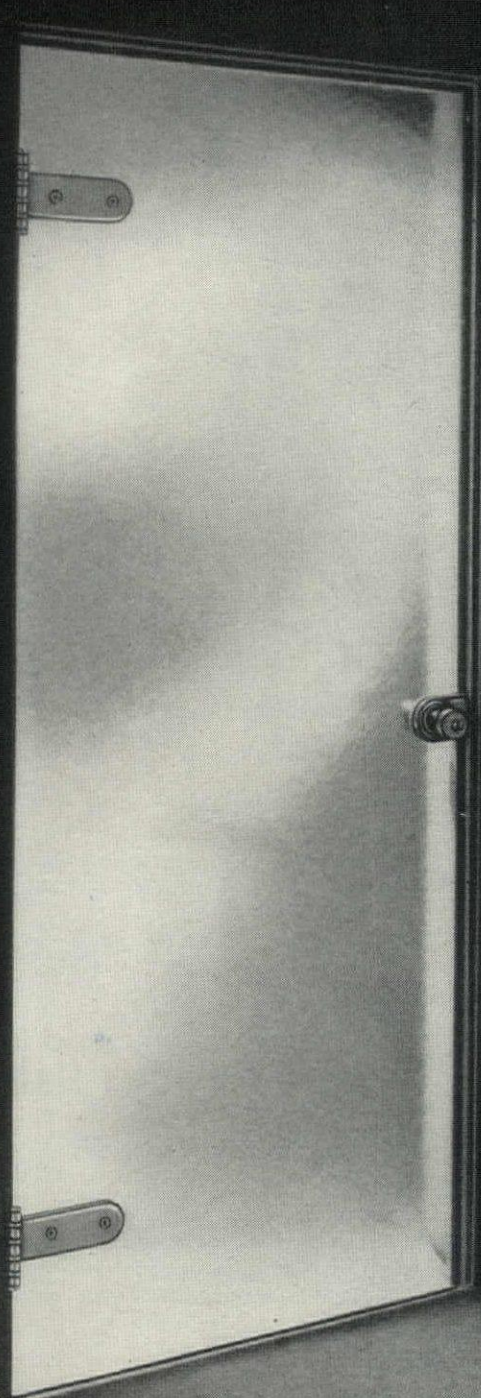
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NO WIDE OPEN SPACES are needed for wrench swinging when Revere Copper Water Tube is used. It is easily joined with solder or compression fittings, and requires fewer of these fittings because it is easily bent and comes in 60'-length, soft-temper coils. It also is available in hard and soft tempers in straight lengths. Note how neat an installation is made possible with Revere Copper Water Tube, too. Shown is part of the 31,000' of Revere Copper Tube used for heating and the 24,240' used for plumbing in Mohawk Gardens, Rome, N. Y. Architect, Harold G. Rice; Plumbing and Heating Contractor, O'Shea Supply Company; Builder, A. H. Pearsall, Inc. . . . all of Rome, N. Y. Revere Copper also was used to flash the roofs and windows, as well as for the gutters and downspouts.





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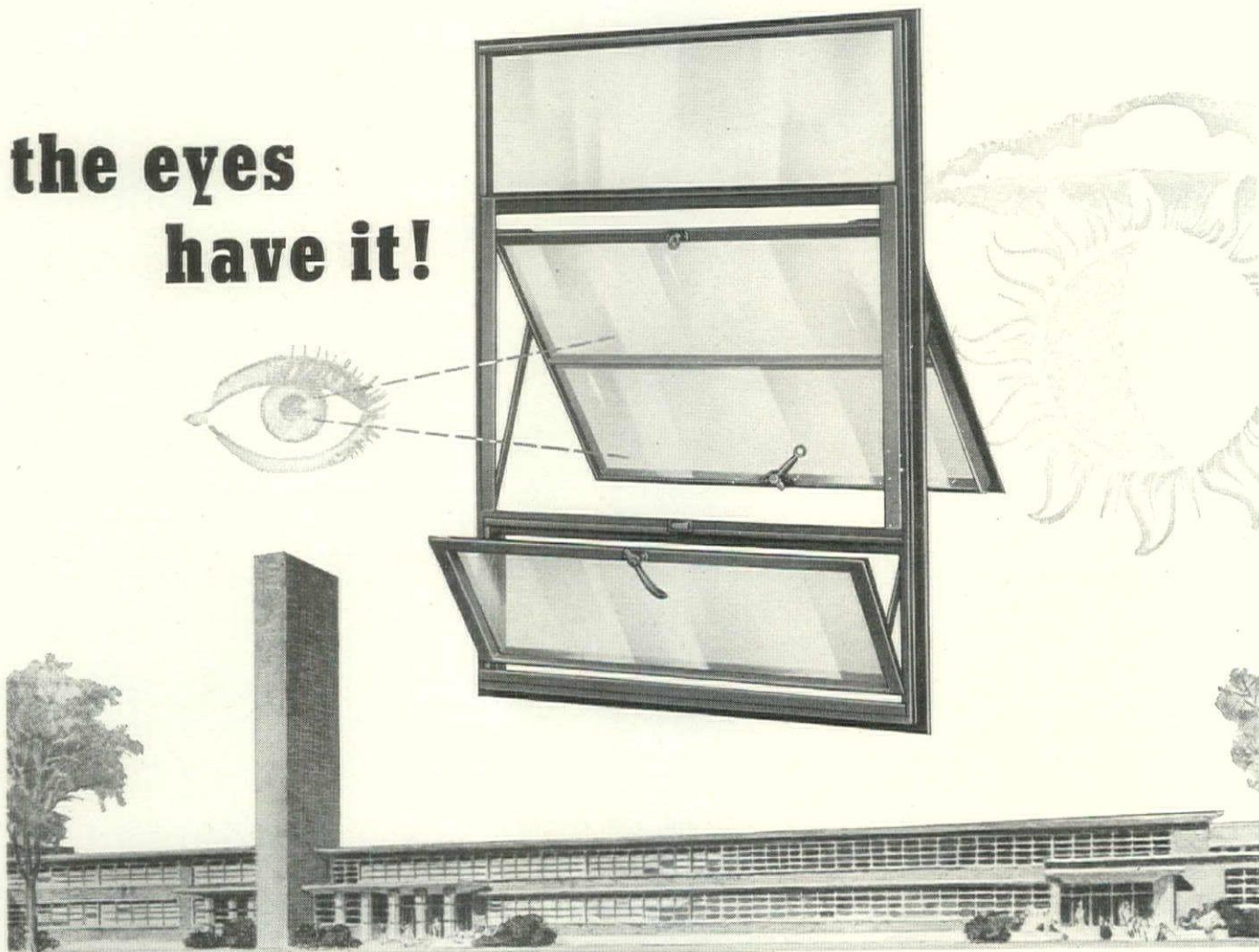
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As you read this your eyes are doing more than seeing—they are bringing into action your entire body—nerves, muscles, circulation.

And you are burning up energy—piling up fatigue in direct proportion to the amount of light available for vision. Medical science has proved eyestrain has a marked effect on the well-being of all. So it's necessary then that seeing be done with ease and in comfort. That's why proper illumination is all-important and there's where metal windows come in, for they admit more daylight than any other window.

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So there's good reason for the swing to Ceco Metal Windows in modern school construction. Besides giving more light for better sight, they permit distant vision so vital for relaxing young minds.

There are other advantages in Ceco Metal Windows—such as controlled ventilation—won't rot or warp—cost less to install, clean and maintain. And because Ceco Windows are better engineered they fit better—last longer. That's why we say—"When you use Ceco Windows you know you use the very best—you're sure of savings, too."

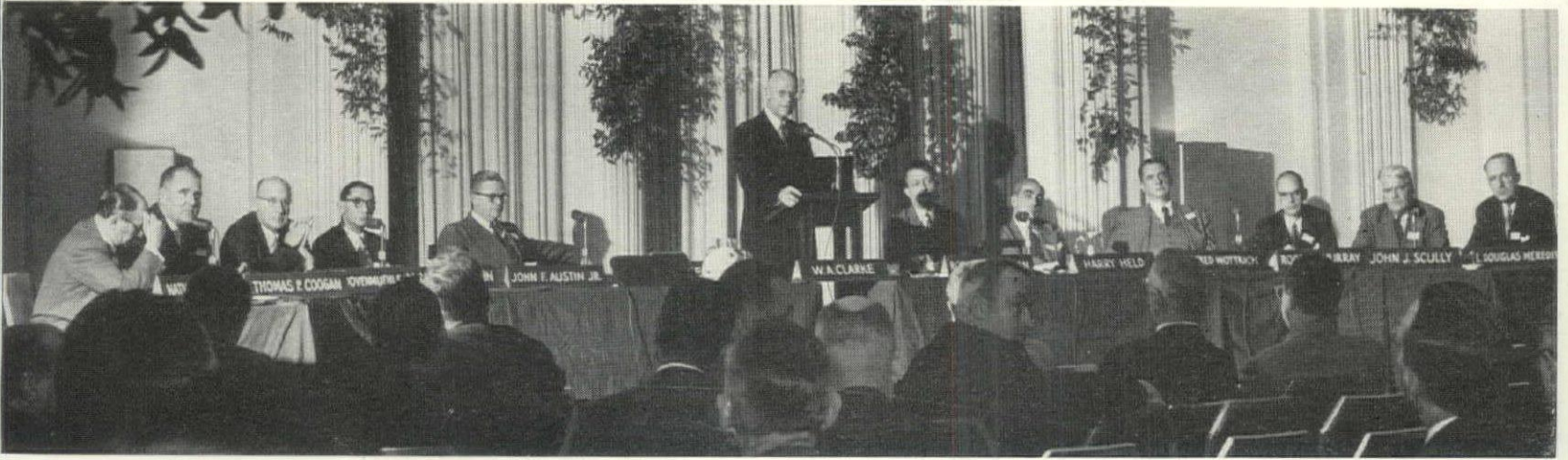
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**PANEL OF MORTGAGE EXPERTS** Hears questions from the floor indicating pension trust people need to start learning about mortgages from the ground up. Answering questions at the mike is W. A. Clarke, FRB mortgage consultant. Others (left to right): Nathan Manilow, NAHB; T. P. Coogan, Housing Securities, Inc.; George Dovenmuehle, Dovenmuehle Inc.; N. N.

Wolfsohn, Eastern Mortgage Service Co.; J. F. Austin, T. J. Bettes Co.; R. M. Morgan, The Boston Five Cents Savings Bank; Harry Held, Bowery Savings Bank; Wilfred Wottrich, Manufacturers Trust Co.; R. F. Murray, Bankers Trust Co.; J. J. Scully, Chase National Bank; L. D. Meredith, National Life Insurance Co.

Making things worse, production was expected to reach a record high of 2.9 billion sq. ft. this year. Of the Pacific Northwest's 71 plywood plants, eight closed "temporarily"; the work week of others went from six to five days.

Elsewhere in the lumber picture, a decision by the National Lumber Manufacturers Assn. to postpone selection of a successor to Richard A. Congan Jr., its \$30,000-a-year executive vice president, reflected a split between Southern Pine and Douglas Fir interests, the two giants of the industry. Southern Pine people, resenting the sales inroads made by Douglas Fir, are reportedly pushing for a provision in the New York State building code compelling lumber to be kiln dried. That would be fine with Southern Pine; it is marketed dry anyway. Douglas Fir, however, is generally marketed "green," for its main use is in framing and sheathing. Some states, like California, claim it dries naturally anyway, through transit and normal storage periods. If the New York code is amended to require kiln-drying (so far neither the code nor its accompanying manual contain any such provision), Douglas Fir mills may suffer heavily. Few of them have drying kilns and New York is the biggest lumber market.

NLMA, therefore, has good cause to hesitate before appointing its new executive. Both Douglas Fir and Southern Pine members want to know precisely where he will stand on moisture content.

\* \* \*

With the exception of plywood, building material prices and construction costs marked time last month. However, new steel wage demands, if met, may push the price of steel products up as much as 7%. Smith, Hinchman & Grylls's monthly report on cost trends warned: "This is the quiet hour before the storm."

## Round Table for Pension Trusts Aims at New Funds for Mortgage Investment

Last summer when the supply of mortgage money ran almost dry, mortgage bankers began searching for new sources of building money. The most promising trail seemed to be in the direction of pension funds and the possibility of interesting them in mortgages. Late last month this possibility was given a push toward reality at a Pension Trust Mortgage Clinic sponsored by THE MAGAZINE OF BUILDING at New York's Waldorf Astoria Hotel. There, some 200 mortgage bankers, pension trust officers, corporation executives and assorted financiers had a chance to meet each other, to listen to a panel of experts representing all fields of housing finance and to discuss among themselves the problems of marrying pension funds and residential financing. One thing became obvious at the start: pension people are very reluctant grooms, completely ignorant of both the attractions and complexities of the real estate mortgage.

Staffed with bond experts, the pension trusts can be excused for their reluctance and ignorance. They have been cautiously operating a relatively new and small business, have not had to look for new investment outlets. Not so today. Pension funds which in 1940 held only a sniffing few millions now tower above the \$10 billion level—and with the trend toward including pensions in current wage contract renewals, the growth has only just begun. (Mortgage men eye this growth with a hopeful eye.)

Pension fund actuaries are computed on low-interest yields—usually around  $2\frac{1}{2}\%$ —and up to now these funds have been invested in risk-free securities, high-grade bonds, a few shares of top stocks, practically never in mortgages.

James Rouse, president of the Baltimore mortgage house of Moss-Rouse Co., told pension people at the clinic their temerity toward mortgages was no surprise: "You have had in times past plenty of company in resisting a program for investing in VA and FHA loans. It took the life insurance companies and savings banks many years to reach their present point of enthusiasm for Government-protected mortgages."

Noting that hesitancy toward mortgage investment has come through fear of too much trouble for too little yield, Rouse reassured the pension men, pointed out that the trouble is assumed by the mortgage banker, not the lender, and that the yield is between  $3\frac{1}{4}\%$  and  $3\frac{1}{2}\%$  after all expenses. Moreover, the yield is backed by Government credit plus the value of house and lot in excess of that for which it is mortgaged.

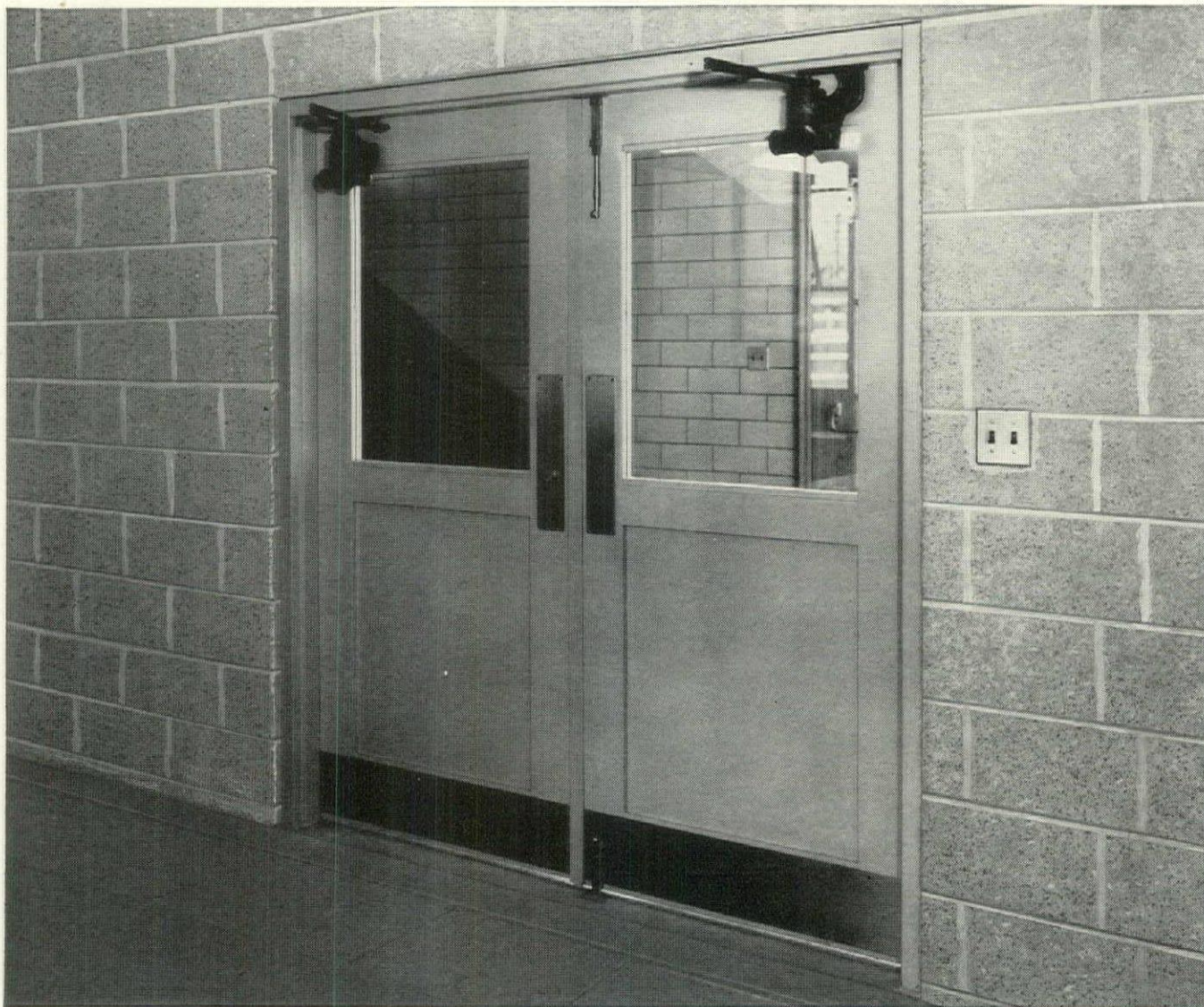
At the end of the day-long clinic's lively question-and-answer period, the pension people were better acquainted with the anxious bride and less reluctant to consider the marriage proposed by the mortgage bankers. They went home to think the proposition over.

### MORE FAMILIES FOR HOUSING

A fresh statistic pointing up the demand for housing was reported by the Census Bureau: the proportion of single persons in the U. S. shrank to a new low this year. Only 19 out of each 100 women 14 or older were unmarried, compared with 28 spinsters per 100 in 1940, and 34 in 1890. Single men formed 24% of the male civilian population.

NEWS continued on p. 46





COMPLETE FENESTRA DOOR UNIT, one of 135, in Robert N. Mandeville High School, Flint, Mich. Architect: Bennett & Straight, Dearborn, Mich. Contractor: Karl B. Foster, Flint.

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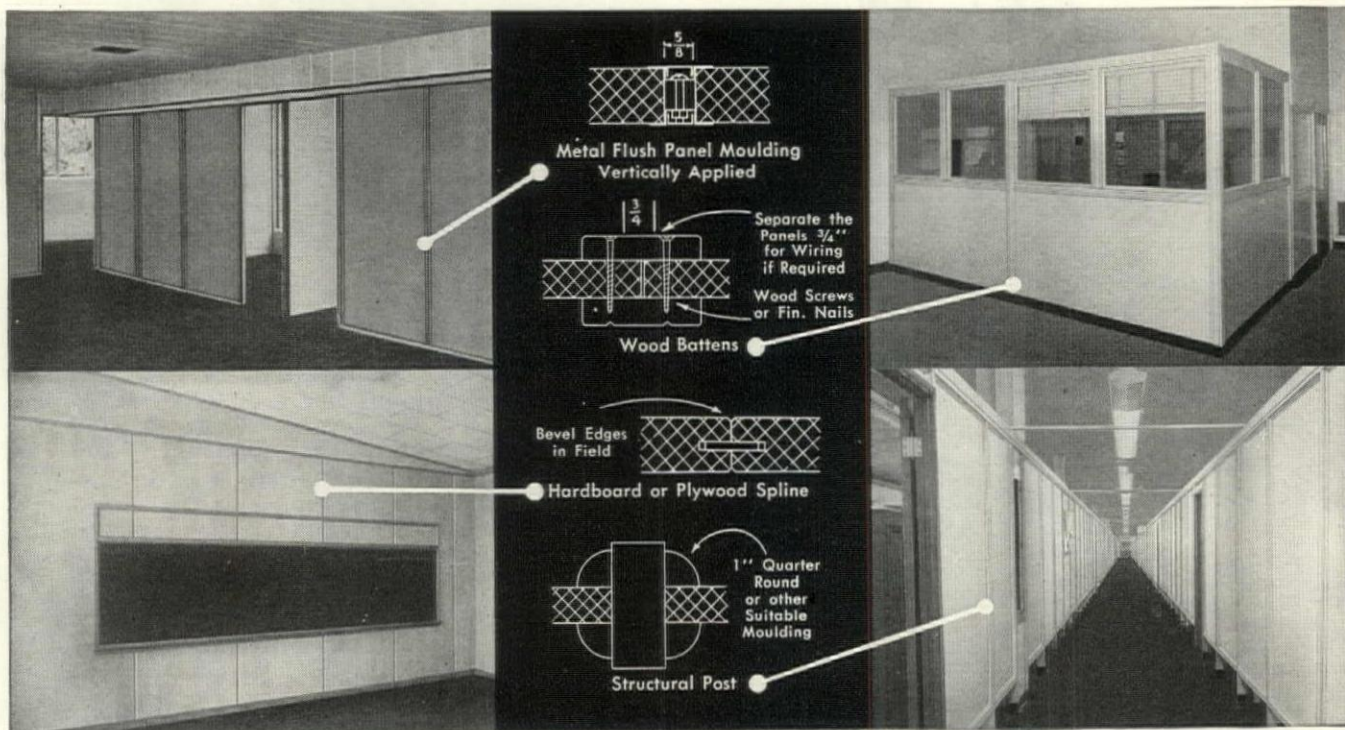
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*engineered to cut the waste out of building*



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*Variety of joint treatments to choose from*



Each 4' wide Cemesto Insulating Structural Panel is a *complete* partition unit that needs no finishing! Used with new flush-type steel accessories or wood mill-work, Cemesto Panels simplify and speed erection. They build strong, durable, handsome dwarf, free-standing or full partitions . . . at remarkable savings in time, labor, materials!

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Cemesto Panels are space-misers, too. Replace ordinary walls up to 6" thick, require less than half the space of conventional dry-wall partitions. Thus, they *increase usable room area*. What's more, they are easily demountable, *fully salvageable*!

No decoration needed, with Cemesto Panels. Their smooth, stone-gray surfaces

have a light reflection value of 58%. Left unpainted, they provide an attractive finish that's maintenance-free. Can be readily painted, if desired.

## Insulate as They Build

Cemesto Panels have high *built-in* insulation value. They consist of a core of Celotex® cane fibre insulation, to which a *non-combustible* cement-asbestos facing is bonded on both sides by a vapor-resistant, moistureproof adhesive. And their insulating core is protected from dry rot and termite attack by the patented Ferox® Process—proved effective by laboratory tests and by years of actual use!

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Used extensively for permanent, insulated

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. . . whether it's on the drawing board, or in the construction stage . . . you can assure uninterrupted completion of your job by specifying readily available Cemesto Panels in place of critical materials . . . NOW!

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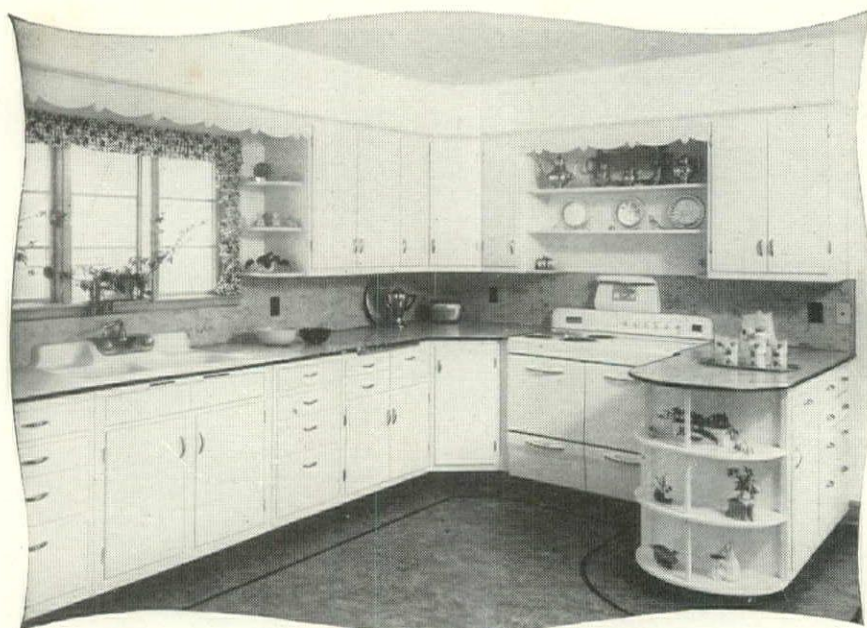
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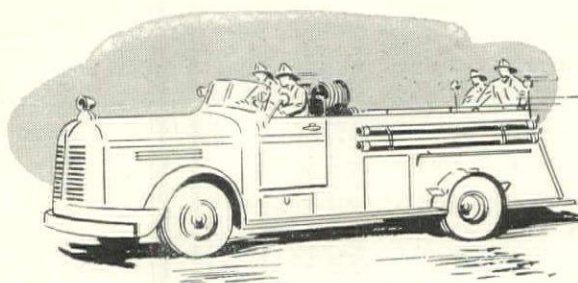
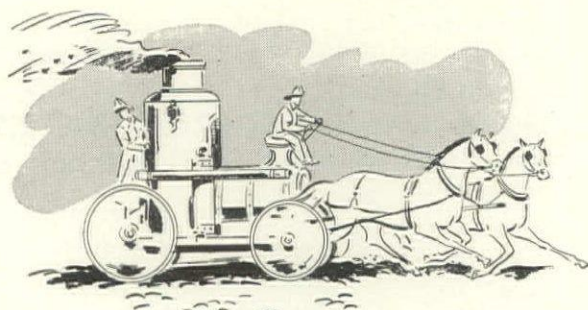
We'd like to tell you more about Curtis kitchen cabinets—and what they mean to your clients and customers. Mail the coupon for fully illustrated kitchen book.



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unique, new*

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**AS DIFFERENT** from existing principles of fire detection as the fire-fighting equipment above!

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# Baltimore Fights FHA Attempt to Cancel Two 608 Commitments for Slum Projects

FHA's attempt to withdraw Sec. 608 commitments for two Baltimore slum redevelopment projects brought down the wrath of Baltimore civic leaders last month on HHF Administrator Foley and FHA Commissioner Richards. Some outraged Baltimoreans muttered that it amounted to sabotage of their slum clearance plans by the very Federal agencies that are dedicated to promoting slum clearance.

**The background.** On Aug. 31, 1949, FHA gave a commitment for \$4,570,000 on Hopkins Towers, first 500 unit part of a 39-acre, eight-block redevelopment project near Johns Hopkins University. It gave a \$1,891,500 commitment on Waverly Apartments, a 13-acre slum replacement involving 291 apartments. The Baltimore redevelopment commission began the tedious struggle to clear the two sites by acquiring some 1,100 urban properties, demolishing 1,200 structures and relocating 5,000 site occupants. Considering the inherent trouble in such a task, the commission last month felt it had made reasonable progress: for the Waverly project, land was 66% purchased or optioned, 41% of the families had been moved, 38% of the site was cleared; for Hopkins Towers, 36% of land bought or optioned.

**HHFA bottleneck.** Much of the delay, argued the commission, was imposed by law. For instance, the commission could begin no condemnation suits until it could produce foolproof evidence of bona fide negotiations. More delays were added by Nathaniel Keith's HHFA redevelopment division. Sample: Although the Baltimore city council passed an ordinance to condemn some property on July 11, 1950, it was ten months later before HHFA approved its acquisition. In the interim, the agency required 180 exhibits to support Baltimore's plan—an expense not many communities could afford. Even last month, HHFA had not produced a form of contract to grant Federal aid to local communities under Title I redevelopment. Baltimore's redevelopers said that without the time lost over Federal dickering, contractors would have broken ground on the two projects before now.

Thus when FHA announced in September that it would grant no more extensions of the Baltimore 608 commitments (the program had been officially defunct for a year and a half), tempers flared in Baltimore. The redevelopment commission converged on Administrator Foley, learned

to its surprise that, although the Baltimore commitments were to be cancelled, FHA was still issuing other 608 commitments applied for before the deadline.

Rebuffed by Foley, Mayor Thomas D'Alesandro, whose administration is deeply committed to the redevelopment program, wrote President Truman. To Maryland's two senators and six representatives, the mayor wrote that he felt FHA's "business as usual" attitude totally ignored national housing policy set by Congress in the 1949 Housing Act. Result: two more extensions—to Dec. 15.

**In the balance.** Early this month, a Baltimore delegation again would wait on Commissioner Richards to beg for more time—until May 31 for the Waverly project, until next October 31 for Hopkins Towers. If the commitment cancellation stands, Baltimore might seek financing under FHA Sec. 207. But because FHA will insure only 83% of the first \$7,000 per unit under 207 (against 90% under 608), financing under 207 would mean \$80 a month rents instead of \$60 a month rents. For the Waverly project, at least, the Baltimore redevelopment commission thinks \$80 a month rents would be impossible. Besides, Sec. 207 has proved unworkable in Baltimore—only one 207 application has been approved there in ten years. Said Mayor D'Alesandro: "The basic difficulty seems to be the unwillingness of FHA and HHFA to recognize any distinction between an outstanding commitment in the hands of a builder cooperating with a slum clearance program under public sponsorship and one engaged in conventional suburban building on vacant land."

So far, Baltimore is the only U. S. metropolis with an FHA Title I redevelopment which local private enterprise is financing with a local builder to do the work. Thus it promised to set a pattern for local builders to use profit-making measures to clean up slums in their own cities. If FHA pulled the rug out from under Baltimore, private enterprise throughout the nation would be wavier of cooperating in similar deals.

## SLUM WAR CHEST of private funds created in Baltimore

Since Baltimore put its famed slum clearance plan to work eight years ago, the city has made real strides toward rehabilitating its 2,100 blocks of slums and blighted housing. But the "hard core" of the problem could not be solved, it turned out, by

the original Baltimore formula: sympathetic but relentless pressure on slum owning landlords to repair their properties to bring them up to the standards set by already existing fire, health, and safety ordinances. The hard core of the problem is the slum owner-occupant. As Mortgage Banker James Rouse explains it: "How could the 85-year-old widow who has been on relief for years and hasn't a dime afford to fix her house up? And she probably doesn't have enough equity in the property to form a basis for the mortgage loan to finance repairs, either. Yet we can't throw her out in the street."

Last month, Baltimoreans thought they had a solution. Nine hard-headed business leaders, industrialists, bankers and realtors formed a nonprofit civic corporation, the Fight-Blight Fund, Inc., to raise \$50,000 to make loans to slum owner-occupants who can't qualify for a loan through other means. Said Rouse: "We'll loan at no interest if we have to, defer payments until people can afford to pay, maybe even wait until they die to get our money back from the estates." Significantly, the first \$1,000 was contributed by the Baltimore Real Estate Board. The first personal \$10 contribution came from the board's secretary. Contributors will not get their money back, even if the Fight-Blight Fund decides its mission is accomplished, goes out of business. Fight-Blight expects it will lose very little of the money it lends. It thinks Baltimore has again pioneered a path for private enterprise to attack the No. 1 scourge of cities.

## CONTRACTING RISKS go up as courts limit right of appeal

Builders whose business depends largely on Federal projects were jolted late last month when the U. S. Supreme Court ruled there was no appeal beyond the government department head in factual disputes about Government contracts.

The case at bar arose from a 1939-1940 disagreement between Wunderlich Contracting Co. and the U. S. over a change in equipment rental and maintenance rates. Wunderlich was working on the Bureau of Reclamation's Vallecito Dam in Colorado. Following a rate change, the Bureau's contracting officer, with the concurrence of the Secretary of the Interior, decided Wunderlich was entitled to \$44,208. Wunderlich appealed to the U. S. Court of Claims, got that raised to \$155,748. Then the Government appealed to the Supreme Court which favored the lesser sum.

Crux of the matter was the wording of Article 15 in the standard Government contract: "Except as otherwise specifically provided in



his contract, all disputes concerning questions of fact arising under this contract shall be decided by the contracting officer subject to written appeal by the contractor within 30 days to the head of the department concerned or his duly authorized representative, whose decision shall be final and conclusive upon the parties hereto . . ."

Justice Minton, speaking for a majority of six, said the only exception to Article 15 was when the department head's decision was proved to be fraudulent, "conscious wrongdoing, an intention to cheat or be dishonest." The Court found no fraud in the Wunderlich case.

**A hazard for builders,** Justices Douglas, Reed and Jackson dissented. They found that Article 15 now "... makes a tyrant out of every contracting officer . . . He has

the power of life and death over a private business even though his decision is grossly erroneous. Power is seldom neglected . . . We should allow the Court of Claims, the agency close to these disputes, to reverse an official whose conduct is plainly out of bounds . . . The rule the Court of Claims espouses gives a citizen justice even against his Government." The Supreme Court majority met that argument by saying no one is compelled to enter into a contract with the Government.

With no small interest in the matter, Associated General Contractors of America will ponder future procedure at its next executive session. Meanwhile, AGC sadly concluded: "The decision adds another hazard to contracting."

## Atomic Design Conference Cracks AEC Oversecrecy on Hot Labs, Hospitals

Whenever an architect designs an atomic laboratory a heavy official hand stamps CLASSIFIED on his blueprints—even on those covering such minor details as heating convectors. Such trivial secrecy about atomic design has prevented the free exchange of information among architects and engineers, precluded their accumulation of design data and retarded design progress by forcing every draftsman to start from scratch on every problem—even if it has been solved before. Most important, this secrecy has delayed the construction of atomic installations.

Late last month AIA broke the security dam by persuading the Atomic Energy Commission to allow the presentation of a great mass of technical details about building at the Building Research Advisory Board's atomic conference in Washington. More important than the reading of the technical papers is the fact that AEC will now have to declassify the information and thus permit the formation of a reservoir of atomic design data. "Now," said BRAB Director William Scheick in summing up the conference, "the subject is a science, not a conspiracy as it might have been." Among the most important secrets unwrapped at the conference:

► Atomic construction is almost unbelievably expensive. Two plants handling the same quantities of materials similar except in one respect, radioactivity, will vary in cost as much as 1,200%. The most expensive changes in the buildings involve the ventilation (up 8,800%), structure (up 5,100%), processing equipment (up 4,180%) and waste disposal (up 1,620%).

► Designers, by isolating radioactivity, can minimize costs. Thus, instead of treating

an entire wing of a building, it is sometimes possible to put the radioactive equipment in a small portable box which can be wheeled from place to place complete with shielding.

► The three kinds of radiation demand varying degrees of protection: alpha needs essentially no insulation; beta requires only thin plastic shielding less than 1" thick; gamma demands massive protection.

► New materials are aiding the atomic designer. Examples: a seamless asphalt composition flooring, leaded glass panes for

observation windows in atomic equipment. ► Modular design is particularly useful for atomic designers for they cannot tell what the building's future requirements may be. Flexibility of modular design helps prepare the building for any kind of change. Lab designers prefer the 24' square structural bay as the module, generally use it two deep.

Also hinted was a future atomic development which may revolutionize house design: a foot-locker-size atomic utility unit which would provide all the power for the house, including the heat.

\* \* \*

Britain's atomic research center at Harwell last month announced it had installed radiators in an 80-room building which would draw their heat from an atomic pile. Installing the plant cost \$42,000. Scientists hope to cut \$7,420 from the building's annual heating bill.

### LABOR DEMANDS WINDOWS

Windowless buildings drew a scornful report last month from the International Labor Organization, a UN agency whose Secretariat has two sides which are all window. Complained ILO: fire would convert a windowless building into a furnace against which hoses would fail; an explosion could demolish the structure entirely since there would be no windows to act as a safety valve for the blast; psychologically, shutting off outside views and daylight may induce a feeling of depression.

*Institutions*



### SCHOOL-HOTEL at Michigan State to test guests' design ideas

About the only hotel amenities missing from this \$2 million, seven-story hotel completed last month by the banks of the Red Cedar River on the campus of Michigan State College were a bar and room service. The Kellogg Center for Continuing Education (so-called because the W. W. Kellogg Foundation put up \$1.4 million for its erection) includes 193 hotel rooms, dining facilities for 1,000, an auditorium seating 350 people, 16 conference rooms, laboratories for Michigan State's 320 hotel management students such as theater-type kitchens, seven experimental rooms where guests will help decide what wall materials, colors, floor covering, furnishings, heating systems they like best. The center, designed by Architect Lewis J. Sarvis of Battle Creek will also provide a home for Michigan State's extensive adult education programs.

NEWS continued on p. 57





# In ST. MATTHEWS CHURCH

BALTIMORE, MD.

**NATCO** Ceramic  
Glazed  
Color Engineered  
**VITRITILE**

adds permanent,  
dignified beauty  
to the interior

Interior view of St. Matthews Church, Baltimore, Md., showing walls of Natco Ceramic Glazed Color Engineered Vitritile, 8 W Series, 8" x 16" nominal face size. Architects, Gaudreau & Gaudreau, Baltimore; General Contractors, John McShain, Inc., Baltimore; Mason Contractors, Alloro & Franco, Baltimore.

The selection of color for interior Vitritile walls of this deservedly outstanding Baltimore church was made in a sound scientific manner. Along with an artistic and enduring functional color and finish was assurance of lower maintenance costs, longer wear, ease of cleaning and protection from fire. Write for a copy of the Natco Bulletin on Color Engineered Natco Ceramic Glazed Vitritile.

Write also for literature describing other Natco Clay Products used for both exterior and interior walls, for backing face brick, for structural clay tile floors, for protecting beams, columns and girders in steel structured buildings, and for a great many other uses demanded by modern building construction.

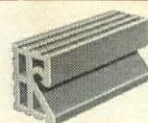


## NATIONAL FIREPROOFING CORPORATION

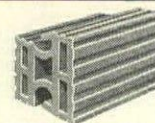
GENERAL OFFICES: 327 FIFTH AVENUE • PITTSBURGH 22, PA.

Branches: New York • Syracuse • Detroit • North Birmingham, Alabama  
Chicago • Philadelphia • Boston • Toronto 1, Canada

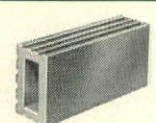
"The Quality Line Since 1889"



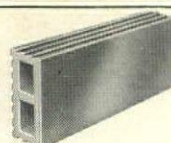
Raggle Blocks  
Prevent Water Seepage  
4" x 5 1/2" x 12" Nom. Size



Speed-A-Backer Tile for  
Backing Brick Faced Walls  
12" long Varying Heights



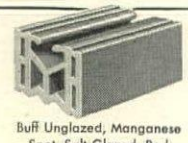
Ceramic, Clear  
Glazed Vitritile 5 1/2" x 12"  
Nom. Face Size



Ceramic Glazed Vitritile  
8" x 16" Nom. Face Size



Non-Loadbearing Tile, Scored  
and Unscored, 12" x 12" Face  
In Standard Wall Thicknesses



Buff Unglazed, Manganese  
Spot, Salt Glazed, Red  
Textured Dri-Speedwall Tile,  
5 1/2" x 12" Nom. Face Size



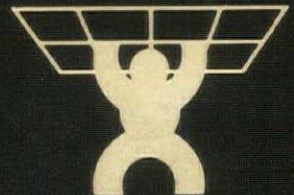
# MESKER BROTHERS

*is proud to announce*  
**another new plant**

MESKER BROTHERS  
ST. LOUIS

*devoted to the production of —*

**Mesker**  
STEEL WINDOWS . . . KNOWN FOR THEIR  
**Strength**



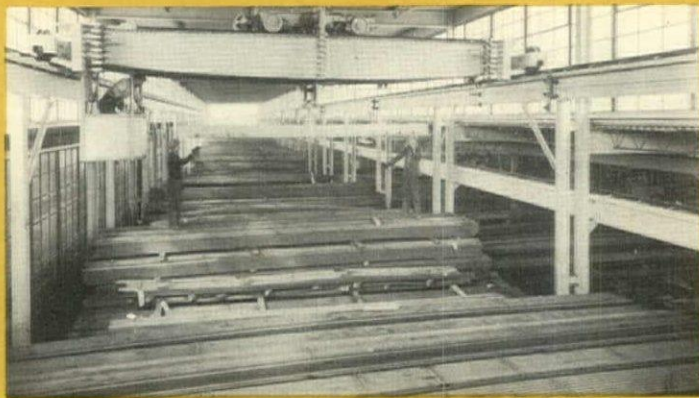
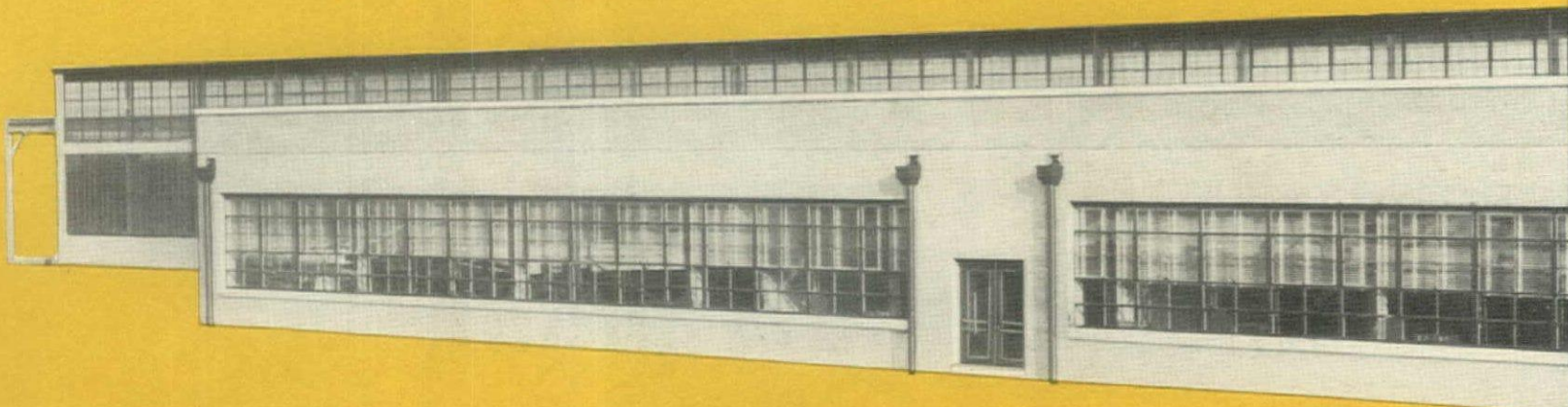
**UNMATCHED FACILITIES**

*for quality window manufacturing*

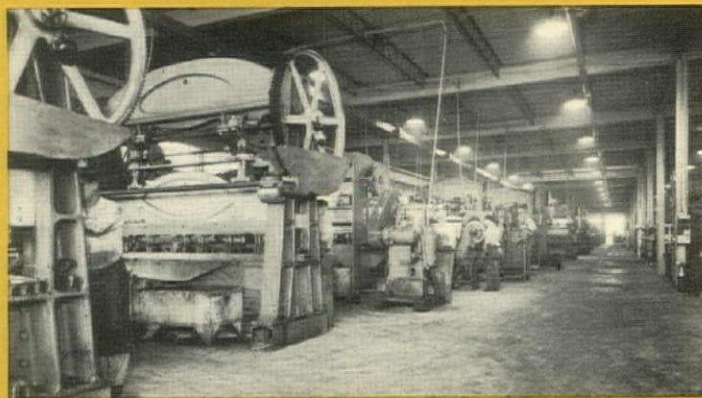




# MESKER BROTHERS -



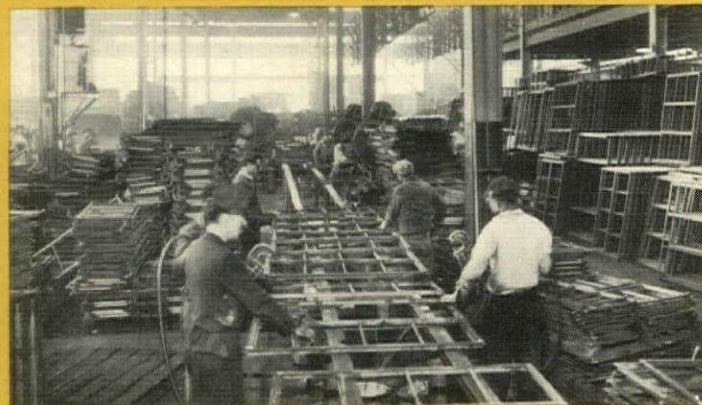
*Unloading 30 foot lengths of special profile extra heavy Mesker Steel Sash Bars, the basis of "Mesker Strength".*



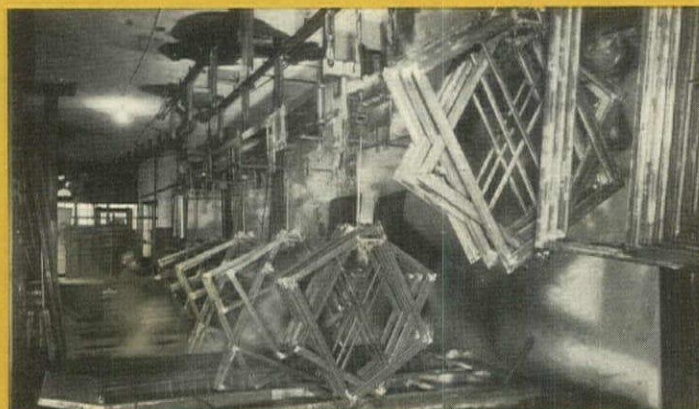
*One of the many batteries of heavy duty presses for punching the individual sash members and cutting them to length.*



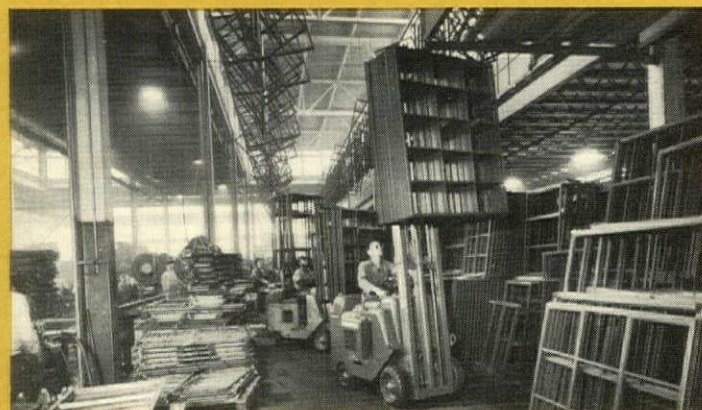
*Ventilating portions of the windows are assembled first, by air hammer riveting and automatic flash welding.*



*One of the several assembly lines where ventilators are "dropped" into their frames, hinges applied, corners "coined" and dressed down smooth.*



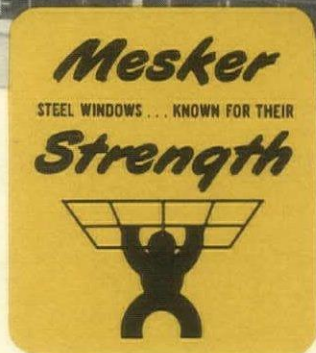
*The assembled windows on the conveyor moving through the Mesker Bonded Finish tanks . . . degreased, cleaned, phosphate coated, dip painted, then oven dried.*



*Into the clean dry Mesker Warehouse go scores of windows at a time on fork lift trucks.*



# America's fastest growing manufacturer of steel windows!



Demand for Mesker Steel Windows has tripled in the past five years alone, as architects, engineers, builders and owners have come

to know Mesker Windows' improved design, precision construction and advanced features.

To maintain these standards, Mesker Brothers celebrates its 72nd year with inauguration this year of what is believed to be the newest and finest plant in the steel window industry. This is the company's second new plant in six years.

Since 1879, we've concentrated on finding better ways to make America's *best* steel windows. Each new improvement has meant *more value* for Mesker window users.

Slow and costly hand work has been eliminated. Designs have been standardized. Scores of new methods have been developed for precision cutting, machining, welding, riveting, stamping, and all the operations that are involved in manufacturing "*the strongest windows made.*"

Now, in our completely new plant, with every possible new manufacturing technique in operation, we're producing better windows than ever before—and at the lowest comparative prices in history.

Already, more than 1500 windows a day are coming off the lines for the homes, factories, and business buildings of the nation. Yes, more and more you'll be seeing Mesker products in building construction all over the country. And when you do, remember, the name MESKER BROTHERS—ST. LOUIS is your assurance that it is the best.



Part of the modern Mesker Machine Shop where our own special close tolerance dies, tools, and jigs are prepared.



One end of the Administrative Offices—11,000 square feet of modern air conditioned, acoustically treated, fluorescent lighted office space.



Efficient and modern, clean and well laid out typifies the entire new Mesker Properties.



# MESKER ENGINEERING SERVICE

... another PLUS in Mesker Steel Windows!

Hundreds of architects and engineers make it a regular practice to turn over entire window projects—from start to finish—to their Mesker Sales Engineers. Not a new idea, but one that's especially important to architects who want to save time and work, and streamline their operations.

That's why Mesker has been extremely careful in its choice of representatives throughout the country. Their extensive technical background and up-to-the-minute knowledge are invaluable to hundreds of the nation's busiest architects, and engineers.

Keep this in mind, because whether you want

only a few suggestions, or complete design and engineering service on an entire building of windows your Mesker Sales Engineer is the first man you should call in. He and his staff, and through him the entire Mesker Brothers design and engineering group, offer you this country's finest in window know-how—and it's yours for the asking for whatever project you may have on the boards.

Phone your Mesker Sales Engineer soon for concrete proof of the quality of MESKER ENGINEERING SERVICE—another *plus* in Mesker Steel Windows. His address and phone number are listed below.

## Take your window problems to your Mesker Sales Engineer

Call the office nearest you or contact MESKER BROTHERS, Robertson, St. Louis County, Mo.

### ALABAMA

BIRMINGHAM—Empire Bldg., telephone 4-3666  
MOBILE—58 St. Joseph St., telephone 3-2668  
MONTGOMERY—P. O. Box 441, telephone 4861  
TUSCALOOSA—2426 Eighth St., telephone 9733

### ARIZONA

PHOENIX—2513 West Monroe, telephone 35968  
TUCSON—414 North 5th Ave., telephone 20671

### ARKANSAS

LITTLE ROCK—1501 East 6th Street, telephone 2-6261

### COLORADO

DENVER—1755 West 13th Street, Alpine 0389

### DISTRICT OF COLUMBIA

WASHINGTON—717 Barr Bldg., Metropolitan 2325

### FLORIDA

PINECASTLE—P. O. Box 1036, Phone ORlando 2-2402

### GEORGIA

ATLANTA—P. O. Box 1353, Walnut 1122

### ILLINOIS

CHICAGO—549 West Washington, Randolph 6-5057  
EAST ST. LOUIS—8th & Brady Streets, Bridge 8188  
MATTOON—3112 Prairie, telephone 3433  
MOLINE—1516 Fourth Avenue, telephone 6700  
MT. VERNON—790 North First, telephone 3570

### INDIANA

EVANSVILLE—1321 Edgar, telephone 53311  
FORT WAYNE—4920 North Clinton, Anthony 2392  
GARY—548 Washington, telephone 2-2252  
INDIANAPOLIS—543 West McCarthy, Riley 2422  
MARION—1450 North Washington, telephone 4840  
SOUTH BEND—303 Whitcomb Keller Bldg., telephone 28581

### IOWA

DES MOINES—312 Walnut St., telephone 4-3221  
WATERLOO—302 West 4th Street, telephone 33361

### KANSAS

KANSAS CITY—1401 Fairfax Trafficway, Room 315, Atwater 9835  
SALINA—Telephone 3731—Lee Hardware Co.  
WICHITA—204 North Waco, telephone L.D. 80

### KENTUCKY

LEXINGTON—585 East 3rd, telephone 2340  
LOUISVILLE—633 South 5th, Clay 2765

### MARYLAND

BALTIMORE—328 East 25th Street, Hopkins 5407

### MASSACHUSETTS

INDIAN ORCHARD—495 Oak St., telephone 8-1161  
SOMERVILLE—84 Washington St.  
WORCESTER—182 Prescott

### MICHIGAN

DETROIT—15367 Evergreen Rd., Kenwood 26480  
KALAMAZOO—600 East Michigan, telephone 31261  
LANSING—1717 Moores River Drive, telephone 43303  
TRAVERSE CITY—618 Front Street, telephone 2293

### MINNESOTA

DULUTH—402 Builders Exchange, Melrose 6361  
MINNEAPOLIS—454 Coolidge St. N.E., Sterling 4803

### MISSISSIPPI

MERIDIAN—2211 Fourth Street, telephone 3-3301

### MISSOURI

CAPE GIRARDEAU—14 S. Frederick Street, telephone 185  
JOPLIN—2002 W. Seventh Street, telephone 225  
ST. LOUIS—Robertson, St. Louis County, Terryhill 5-5380

### MONTANA

GREAT FALLS—925 Eighth Avenue, telephone 5477

### NEBRASKA

HASTINGS—220 S. Burlington, telephone 1315  
OMAHA—611 Woodmen of the World Bldg., Atlantic 1633

### NEW JERSEY

PERTH AMBOY—Abarry Steel Co., telephone PE 4-6400

### NEW MEXICO

ALBUQUERQUE—2520 North First, telephone 9480

### NEW YORK

ALBANY—Clausen Iron Co., telephone 4-8139  
BINGHAMTON—P. O. Box 111  
BUFFALO—204 Sidway Bldg., Mohawk 6995  
NEW YORK—250 West 57th Street, Plaza 7-6290

### NORTH CAROLINA

ASHEVILLE—North State Material Co., telephone 2-2749  
CHARLOTTE—938 Berkley Avenue, telephone 2-4280  
GOLDSBORO—P. O. Box 87, telephone 1021-J  
WINSTON-SALEM—116 Junia, telephone 3-1685

### OHIO

CANTON—3447 Tuscarawas W., telephone 3-5356  
CINCINNATI—1726 Young Street, Avon 0400  
CLEVELAND—1836 Euclid Avenue, Superior 0056  
PORTSMOUTH—1144 Eighth Street, telephone 505

### OKLAHOMA

OKLAHOMA CITY—20 Northeast 27th, telephone 53508  
TULSA—801 North Xanthus Avenue, telephone 27115

### OREGON

PORTLAND—2637 Southeast 12th Street, Empire 1173

### PENNSYLVANIA

ERIE—2669 Poplar Avenue, telephone 94-208  
PHILADELPHIA—250 South Van Pelt, Rittenhouse 6-6397  
PITTSBURGH—Grant Bldg., Atlantic 1814  
READING—Angelica St. and Fern Ave.  
SCRANTON—226 Stafford Avenue, telephone 45542

### RHODE ISLAND

PROVIDENCE—14-16 Battey St., Union 1-7760

### SOUTH CAROLINA

COLUMBIA—P. O. Box 1013, telephone 4-0301  
GREENVILLE—P. O. Box 82, telephone 3-1721

### TENNESSEE

KNOXVILLE—400 West Oldham, telephone 5-6135  
MEMPHIS—2870 Poplar Avenue, telephone 34-5533  
NASHVILLE—805 Sixth Avenue N., telephone 6-4631

### TEXAS

AUSTIN—702 East 45th Street, telephone 2-5036  
EL PASO—1004 E. Missouri St., telephone 2-6322  
FORT WORTH—1933 West Vickery, telephone 36-4605  
HOUSTON—Box 6112, Fairview Station, Keystone 3654  
LUBBOCK—214 Avenue M, telephone 7721  
SAN ANGELO—25 West Beauregard, telephone 50-50  
SAN ANTONIO—306 Canterbury, Travis 3671

### UTAH

SALT LAKE CITY—545 West 7th South St., telephone 32644

### VIRGINIA

RICHMOND—106 South Third, telephone 2-9019

### WASHINGTON

SEATTLE—4402 White Bldg., Elliott 4101  
SPOKANE—East 210 Riverside, Main 4219

### WEST VIRGINIA

CHARLESTON—P. O. Box 349, Capital 37501  
HUNTINGTON—P. O. Box 1581, telephone 24916  
PARKERSBURG—Box 1094, telephone 4095

### WISCONSIN

MILWAUKEE—1905 South First Street, Mitchell 5-4730

### PUERTO RICO

SAN JUAN—P. O. Box 1219



and men  
Women go for the Kitchen  
equipped with

# DISHMASTER

The Push-Button Dishwasher

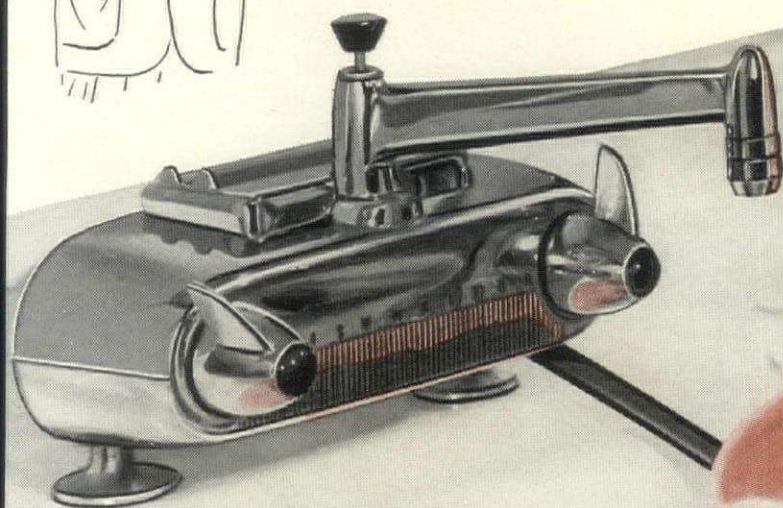
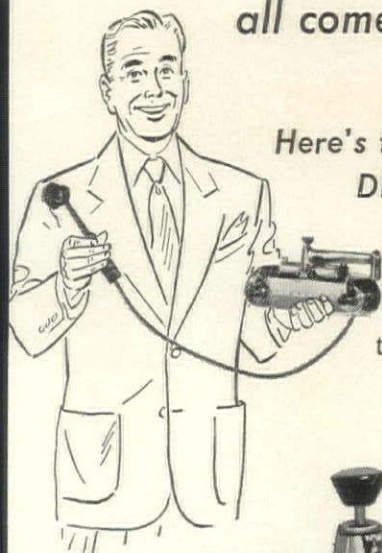
Push-button control gives choice of foaming,  
aerated detergent suds or clear, rinsing spray.

Dishes, glasses, silver, pots, pans—

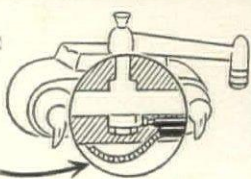
all come sparkling clean in a jiffy. **OVER 250,000 NOW IN USE!**

Here's the complete

**DISHMASTER** — Goes on in place of  
old sink faucets. Combines dishwasher  
with swing-spout mixing faucet in one  
handsome unit. Finished in lustrous  
triple-plated Gerity Chrome. Fits any sink.



HERE'S THE HEART  
OF YOUR DISHMASTER  
Carburetor-like  
action gives  
foaming, aerated  
suds that wash  
away grease and  
dirt on contact.

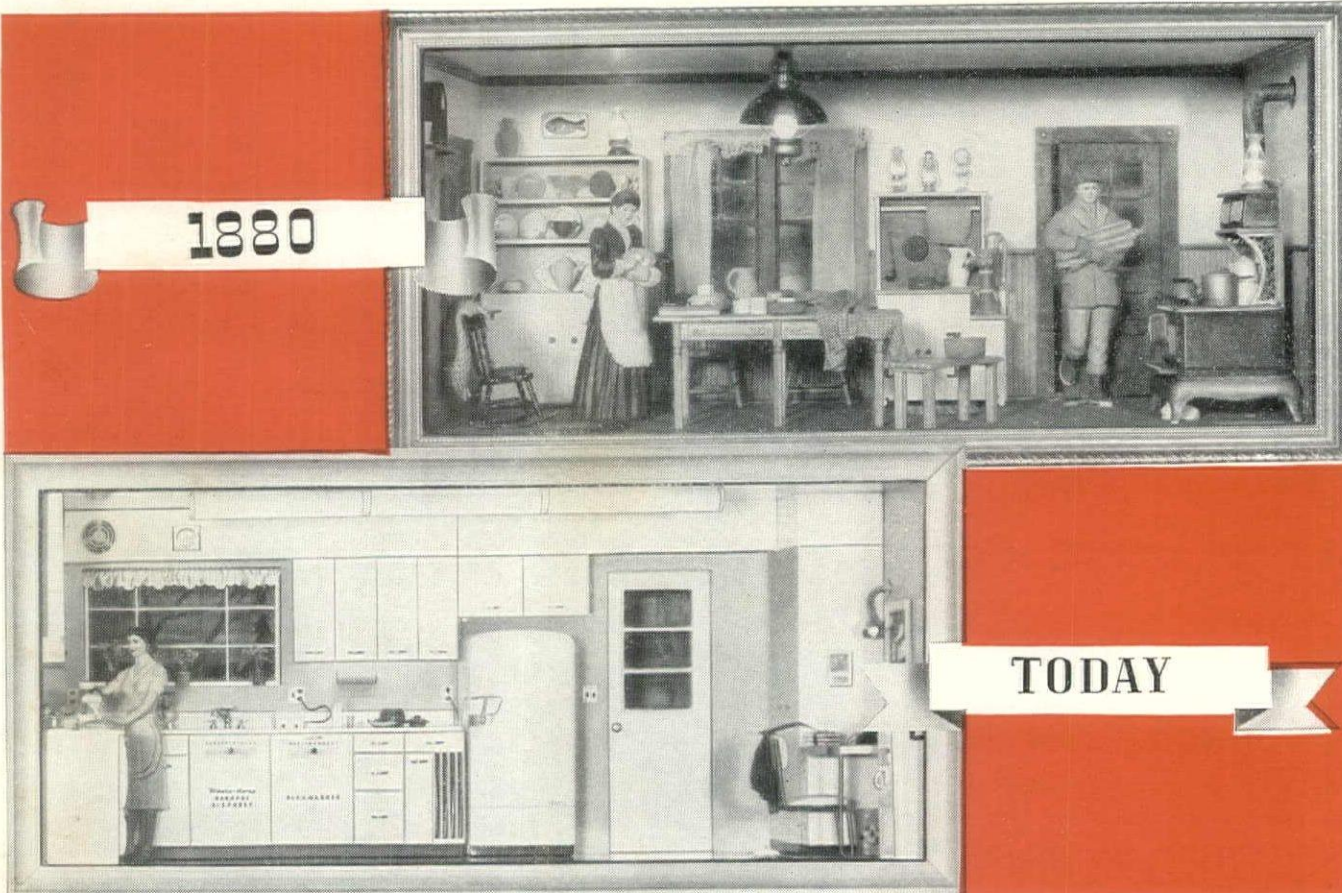


Send coupon today for your free copy of new illustrated booklet  
"Dishwashing the Easy Way." If you want a Dishmaster and  
it is not yet available in your area, enclose check for \$49.50.  
Commercial Builders — check box ☐ for quantity price information.

**GERITY-MICHIGAN CORPORATION**  
Dept. BA-1, Merchandising Div., 10 South Superior St.—Toledo 4, Ohio

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





## There's been a **CHANGE** in House Merchandising, too!

Who wants to go back to the "good old days"?

Today's pattern of living is so much easier, pleasanter—thanks to time and laborsaving electric appliances.

The forward-looking builder no longer offers a bare house shell, or one with a single appliance installed. He offers a better way of life—in a house *completely* equipped for electrical living.

Hundreds of builders have turned to this new method of house merchandising. They realize that a tremendous financial strain is placed upon the average person if he is required to equip the

house he buys under separate financial arrangements. That's why customers are boosters for the builder that gives them a completely equipped home on an easy-to-pay-for package mortgage.

A 1951 Westinghouse Appliance Catalog is now available to help *you* plan homes for electrical living. Just clip and mail coupon below. When your catalog arrives, notice how each appliance from the bottom to the top-of-the-line is built on the same basic-quality structural fundamentals that win homemakers' approval regardless of model or size selected.

**YOU CAN BE SURE..**  
IF IT'S  
**Westinghouse**

Westinghouse Electric Corporation  
Electric Appliance Division—Mansfield, Ohio  
Please send me your 1951 Appliance Catalog.

Name

Street

City  State



REFRIGERATOR



VENT FAN



LAUNDROMAT



DRYER



ELECTRIC SINK



WATER HEATER



WASTE-AWAY



RANGE



**first came lumber...**



**then plywood and hardboards...**



**now comes novoply\***

Most important and versatile forest product developed in years! It's *real* wood — yet unlike anything you've ever seen. It's the flattest paneling ever produced — virtually warp-free. Light in weight ... spectacularly beautiful ... surprisingly low-priced.

Novoply is an ideal NEW material for furniture ... fixtures ... wall paneling ... sliding doors ... and as a core for wood veneers and plastic laminates.

And if you are looking for a material that will make really distinctive built-ins, Novoply is your answer here, too.

Novoply can be easily worked with ordinary woodworking tools. It can be sawed, screwed, planed ... stained, painted, veneered ... or left natural.

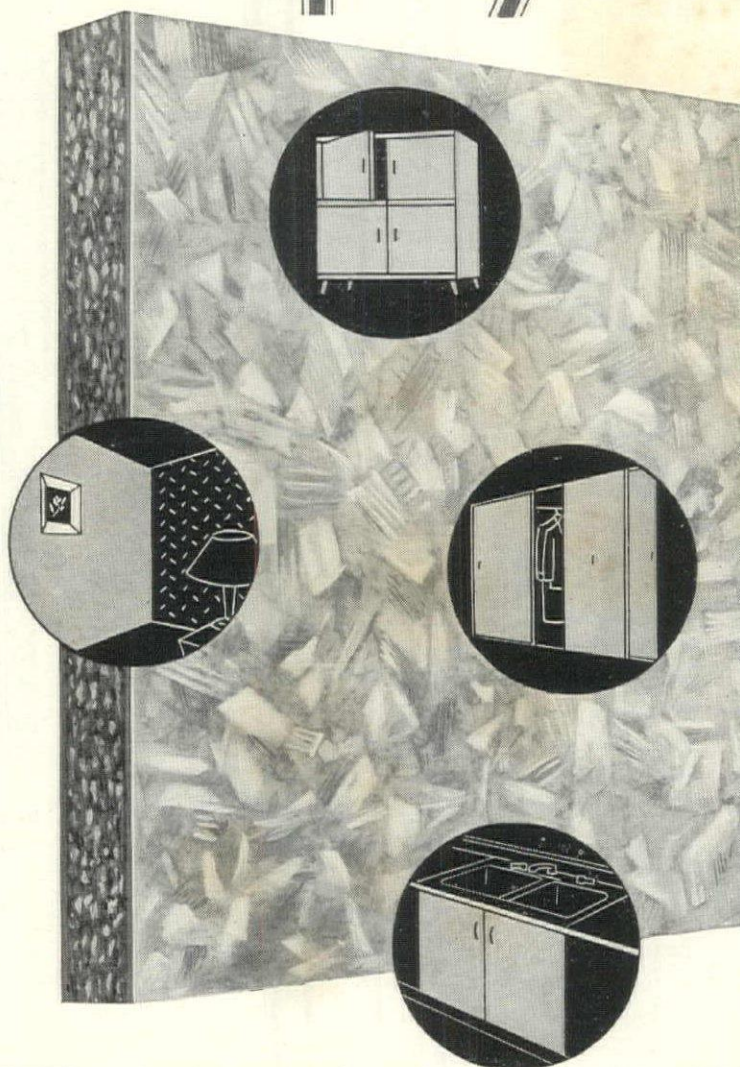
But why talk more about Novoply here!

You'll have to *see* this new wood paneling ... and *feel* it ... before your imagination can fully grasp its great possibilities for you and your clients!

So send for a *sample* of Novoply and new descriptive booklet.

Once you see Novoply, you'll be anxious to explore its many possible applications.

\*T. M. Reg. Patented: Other patents pending



Made by **UNITED STATES PLYWOOD CORPORATION**

Manufacturers and Distributors of Weldwood® Plywood, Weldwood® Doors and Other Wood Specialties.



**UNITED STATES PLYWOOD CORPORATION**  
55 West 44th Street, New York 18, N. Y.

MB-12-51

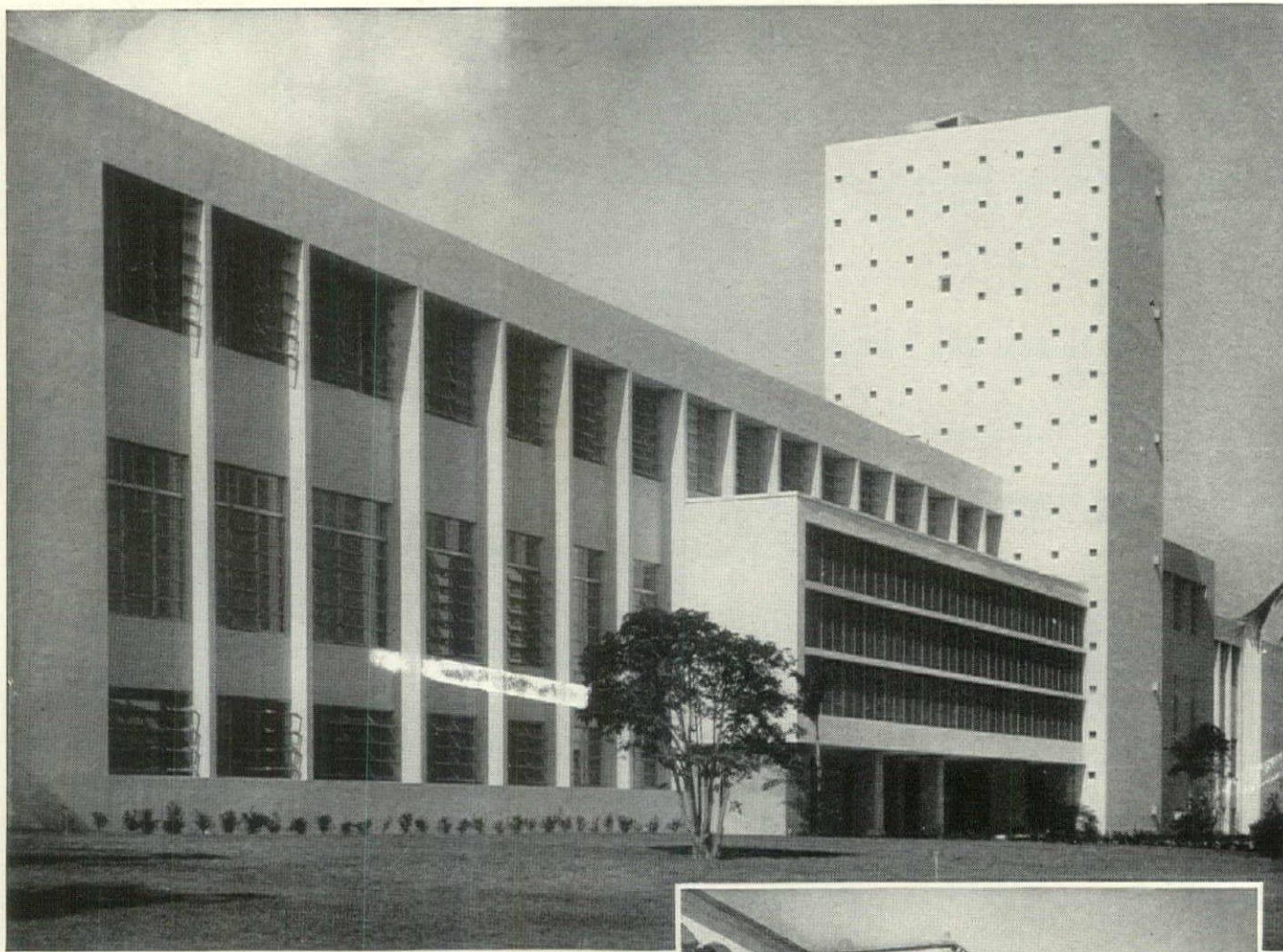
Please send a sample of NOVOPLY and descriptive booklet.

Name.....

Address.....

City..... Zone..... State.....





*24 years of severe weathering  
demonstrate the durability of*  
**CONCRETE CONSTRUCTION**

The destructive hurricane of 1926 halted construction of the University of Miami's 8-million-dollar building program—including the Mediterranean style structure designed by Phineas Paist shown in the small photo at the right. For 24 years this reinforced concrete frame and floor skeleton stood exposed to rain, sun and hurricane winds.

In the spring of 1950 a subscription drive was launched to obtain funds to finish the building. Examination showed that the concrete frame was sound so the structure was redesigned by Architect Robert M. Little of Miami Beach, Fla., in keeping with the modern motif of present campus buildings.

The photo above shows the completed structure now known as the Merrick Building. The seven-story 100-ft. tower contains faculty offices and display rooms, the wings classrooms and lecture halls.



Structural engineer for Merrick Building: A. H. Baxter, Coral Gables, Fla.; contractor: Gust K. Newberg Construction Co., Miami, Fla.

This is another graphic example of how reinforced concrete construction can "take it." Such construction has the strength and rigidity to resist all static and dynamic loads. It is durable, sturdy and firesafe.

Reinforced concrete construction is moderate in first cost, requires little or no maintenance, gives long years of service. Result: **low annual cost**. For more information send for free, illustrated literature. Distributed only in the United States and Canada.

**PORTLAND CEMENT ASSOCIATION**  
DEPT. A12-7, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

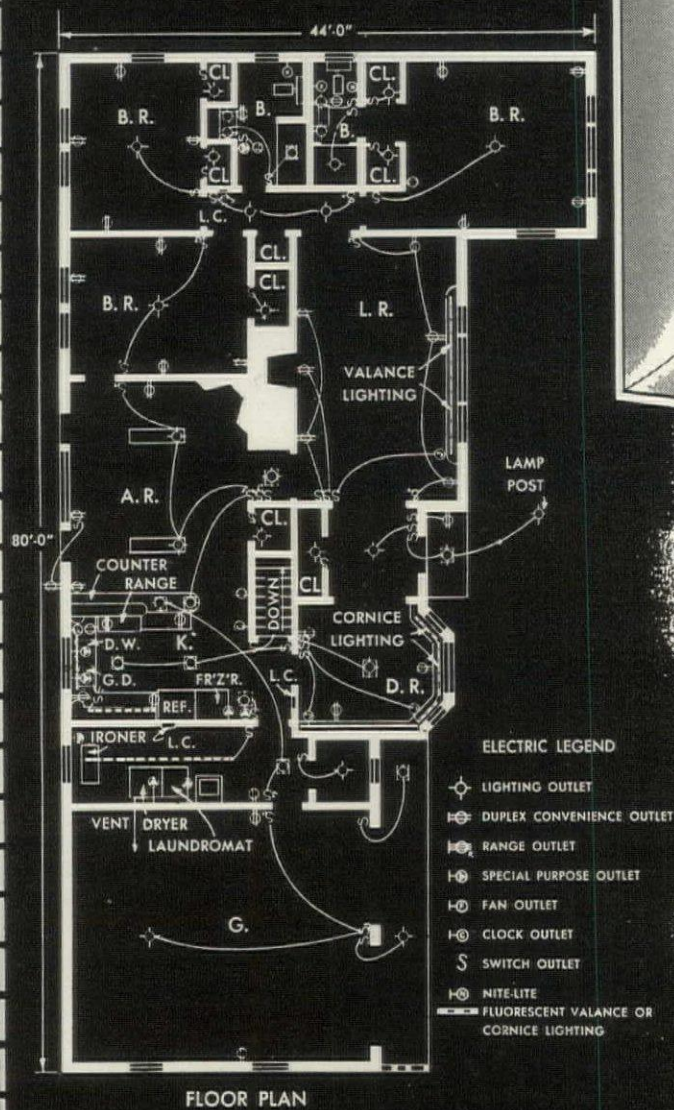
A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work



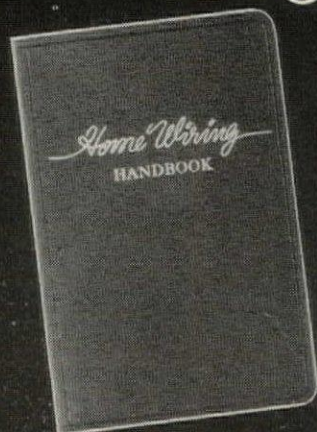
# DESIGN DETAILS

## PLATE 9

### Engineered Home Wiring System



YOU CAN BE SURE.. IF IT'S  
**Westinghouse**



The third edition of the Home Wiring Handbook incorporates the latest ideas and developments in electrical systems for Electrical Living. Gives 136 pages of data, planning and estimating information every home builder should have. Price—\$1.00 a copy.



## Electric Wiring Must Keep up with Trends in Modern Living

Ten years ago, you could count the number of automatic washers in your town on one hand. Five years ago, you could count the clothes dryers in your town on one hand.

Today, there are scores of automatic washers in every town . . . demand for clothes dryers is spreading like wildfire.

These changes are typical of the effect that growing demand for Electrical Living is having on living habits . . . and design of homes. They emphasize the importance of "Engineered" wiring systems to assure home buyers of efficient electrical service.

With the Westinghouse Home Wiring Handbook you can design electrical systems that will make "Engineered" wiring a sales feature of your homes. It provides complete, clear explanations of the correct way to design electrical systems for homes. G-10176

Better Homes Bureau  
Dept. MB-12-51  
Westinghouse Electric Corp.  
P. O. Box 868, Pittsburgh 30, Pa.

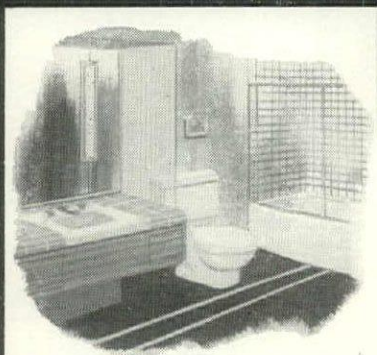
Enclosed please find \$1.00 for a copy of the Home Wiring Handbook: B-3510-B.

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



# CRANE

*the preferred plumbing*



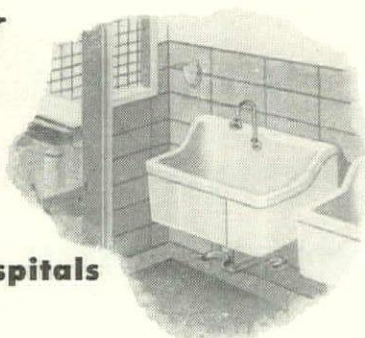
**for the finest homes**



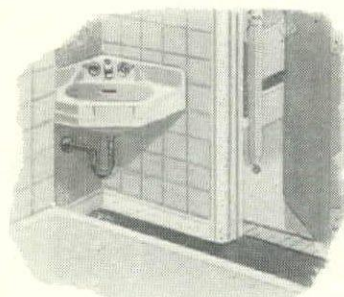
**for moderate cost homes**



**for low cost homes**

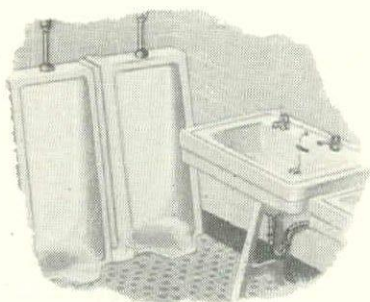
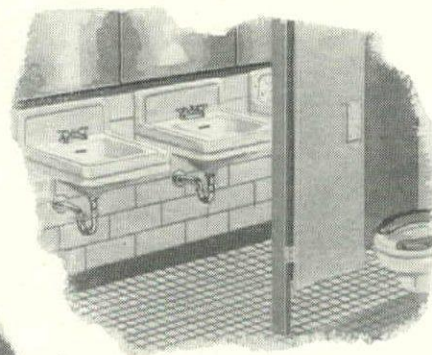


**for hospitals**



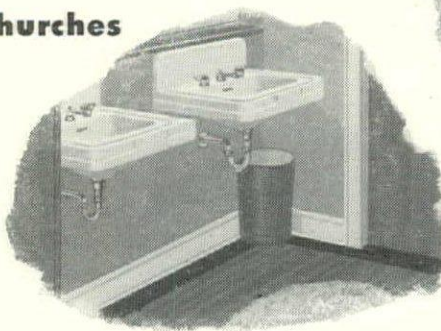
**for hotels and motels**

**for public buildings**

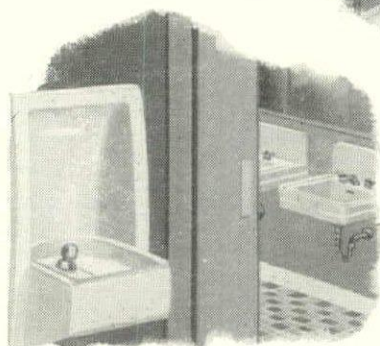


**for industrial plants**

**for churches**



**for schools**



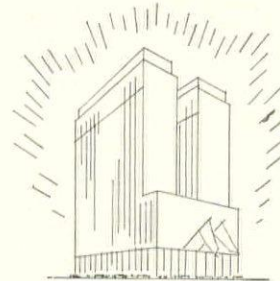
**in fact wherever** plumbing is used  
you will find exactly the fixtures you want  
in the Complete Crane Line

# CRANE CO.

GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5  
VALVES • FITTINGS • PIPE  
PLUMBING AND HEATING



# A paying guest at the Statlers



## STANLEY MAGIC DOORS

Thanks to their savings in time and labor,  
Stanley Magic Doors were *invited to stay* at Statler Hotels.

At the Detroit Statler, for example, Stanley Magic Door Operators with Magic Carpet controls installed on the service doors between kitchen and dining room help waitresses serve foods quickly and easily.

Controlled by either the Magic Eye (photoelectric) or Magic Carpet, Stanley Magic Doors open on approach, stay open till all traffic has safely passed, then close quickly, silently. They keep traffic moving, passageways clear—reduce collisions and dish breakage. And by closing promptly, Magic Doors help maintain temperature control . . . minimize kitchen noises and odors.

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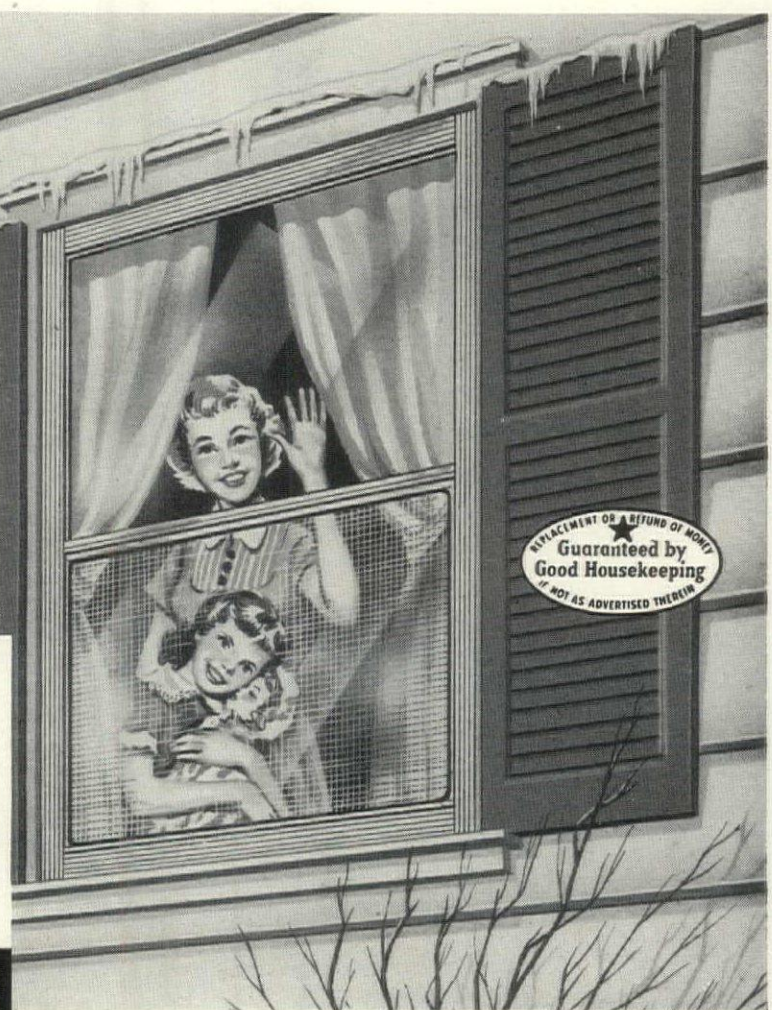
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## TAX-FREE BUILDING in Puerto Rico Rico runs afoul of courts

Many a big U.S. businessman has taken his big business to Puerto Rico where, in return for helping develop the island, his business is exempt from taxes. Before more big builders get involved in Puerto Rico, they will do well to ponder the plight of one who did and who learned last month that mass housing is *not* one of the industries qualified for freedom from the island's tax bite.

The U.S. Circuit Court of Appeals in Boston handed down that decision on an appeal by Leonard D. Long, big Charleston, S.C. builder, to prevent Puerto Rico from collecting almost \$1 million in taxes on his 4,428-unit project of \$3,995 concrete houses at Puerto Nuevo. Long said he had gone ahead with the 4,428-unit



LONG

project only after Governor Jesus T. Pinero (orally) assured him it would be entitled to tax exemption. Midway in construction, an election came along and pro-Long Pinero was succeeded by anti-Long Luis Munoz Marin. Munoz refused to honor Long's tax exemption petition so Long took his case to court.

**One more chance.** Now that the Circuit Court has ruled against him, Long's attorneys will take the case to the U.S. Supreme Court and, failing there, "reluctantly" begin proceedings in the Puerto Rico local courts. Reluctantly, because the Long case is shot through with political give and take.

Long, a 55-year-old multimillionaire, one of the South's biggest, is a close friend of South Carolina Senators Johnson and Maybank. His son, Leonard Jr., said recently that papa went to Puerto Rico in 1946 at the urging of "some FHA officials." Long put up 52,000 units on the island and then agreed to build Puerto Nuevo houses with no down payments and only \$30 monthly carrying charges *after* the little tax exemption talk with ex-Governor Pinero. When Governor Munoz was elected he termed Puerto Nuevo a "new slum" (the houses are far from it) and Pinero became head man for many of Long's 24 subsidiary corporations.

The pending suit has not halted Long's Puerto Rican operations. He is completing 3,500 duplexes and four huge apartment buildings. Soon he will get going on a \$5½ million air base housing project. Governor Munoz has yet to review *their* tax exemptability.



Stan Wayman

**NEW PRESIDENT** Ben Hazen of the U.S. Savings and Loan League (2d from right) receives congratulations from outgoing President Walter J. L. Ray. Hazen, 61, is president of Benj. Franklin Federal Savings and Loan Association of Portland, Ore. Elected vice president was C. L. Clements (left) of Miami Beach. Onlooking: Sen. A. Willis Robertson (D., Va.) (center) and Morton Bodfish (right), chairman of league's executive committee.

## Savings & Loan League Ponders "Private FNMA" To Ease 4% Veterans' Loans

Savings and loan association leaders were giving sober thought to expedients to make more money available for 4% veterans' home loans. At its 59th annual convention in Miami Beach last month, the U.S. Savings and Loan League's legislative committee reported one plan which had been under discussion for more than two years: Let regional Federal Home Loan Banks act as temporary "warehouses" for unwanted GI loans, with an agreement to resell them to the originating association *lates*. Said Committee Chairman George Bliss, president of Manhattan's Century Federal Savings and Loan: "I think it is reasonable and feasible. I think the FHLB should set a percentage of its capital aside for such purposes."

**Old idea, new trimmings.** Bliss' plan looked much like the Federal National Mortgage Association where other private lenders can dump undesirable (i.e. 4%) loans. The vital difference, as he saw it, was that the Federal Home Loan Banks, while government supervised, are owned by savings and loan associations, receive no federal subsidy. (Each member association invests a sum equal to 2% of its mortgages, adjusted annually.) Fanny May, on the other hand, is a government corporation whose assets are subject to the whim of Congress and the shifting policies of HHF Administrator Raymond M. Foley. The U.S. League decided to name a com-

Stan Wayman



Chairman George Bliss (c) of league's legislative committee discusses proposal for mortgage "warehouses" with Carl Distelhorst (l), vice president of American Savings and Loan Institute (league's educational subsidiary), and Norman Strunk, executive vice president of league.

mittee to discuss the plan with the FHLB.

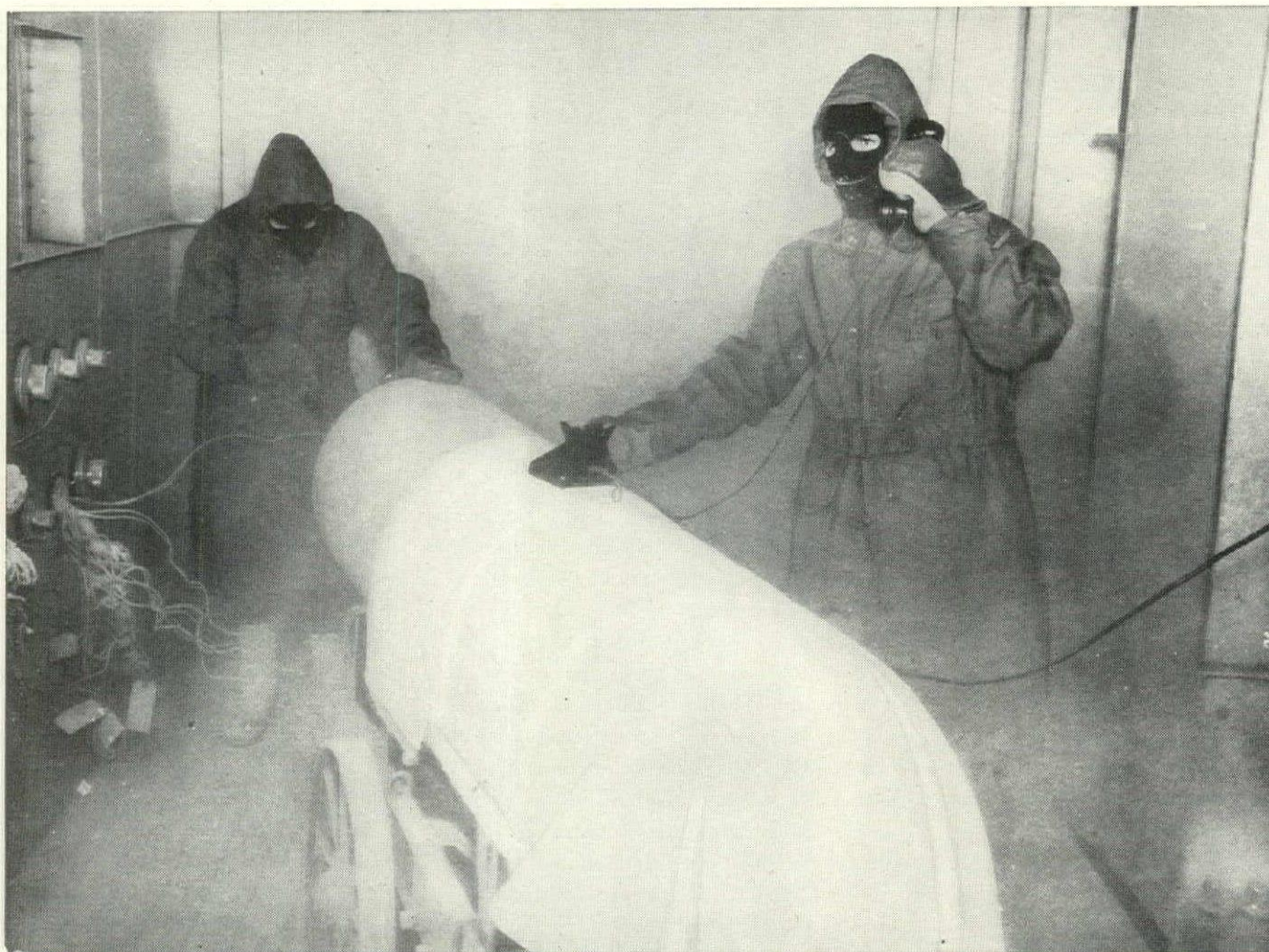
A fortnight later, President Nugent Fallon of New York's Federal Home Loan Bank announced he was "developing" another scheme to ease the flow of money—4% or otherwise—from the East to the capital-shy West and South. Under government rules, federal savings and loan associations must make 85% of their loans on property within 50 miles of their headquarters. State associations are subject to 48 sets of rules, but New York, for instance, imposes a 100 mile geographical limit. Fallon proposed that regional home loan banks would act as clearing houses for member institutions who wish to sell mortgages among themselves in the secondary market. Thus, for instance, if member A in New York had a surplus of funds, while member B in San Francisco needed money urgently, a regional bank might help them get together.

**New investments.** Another concern for many of the 2,000 convention delegates (who added an off-season bustle to Miami Beach's 27 ocean front hotels) was the 1951 tax act. For the first time, the tax law imposed corporation tax rates on savings associations after reserves equal to 12% of deposits are established. So behind-the-scenes discussion dwelt on whether the time was right to ask Congress and state legislatures to pass laws increasing the list of investments savings and loan associations may make. Likeliest candidates: tax-free municipal bonds (New York State associations are already permitted to buy them, but federal associations are not), nonresidential mortgages, loans to small business and personal loans.

Across Biscayne Bay, the Florida Association of Bankers, convening simultaneously, provided a discordant note. Said State President J. E. Bryan: "Our right to have these associations under some regulations such as the banks and to get some taxes out of them like commercial banks is just beginning. The bankers are going to keep working until things are evened up."

NEWS continued on p. 60





"We have to know that this new mine is going to do its job even after riding for hours under the belly of a plane or being stored long periods in sub-zero temperatures," said R. E. Hightower, chief of the Technical Evaluation

Department, Naval Ordnance Laboratory, White Oak, Maryland. The desired temperature and humidity conditions are precisely provided by Worthington refrigeration. Contractor: Arthur E. Magher Co., N. Y., N. Y.

## They're Checking Ordnance at 65° Below!

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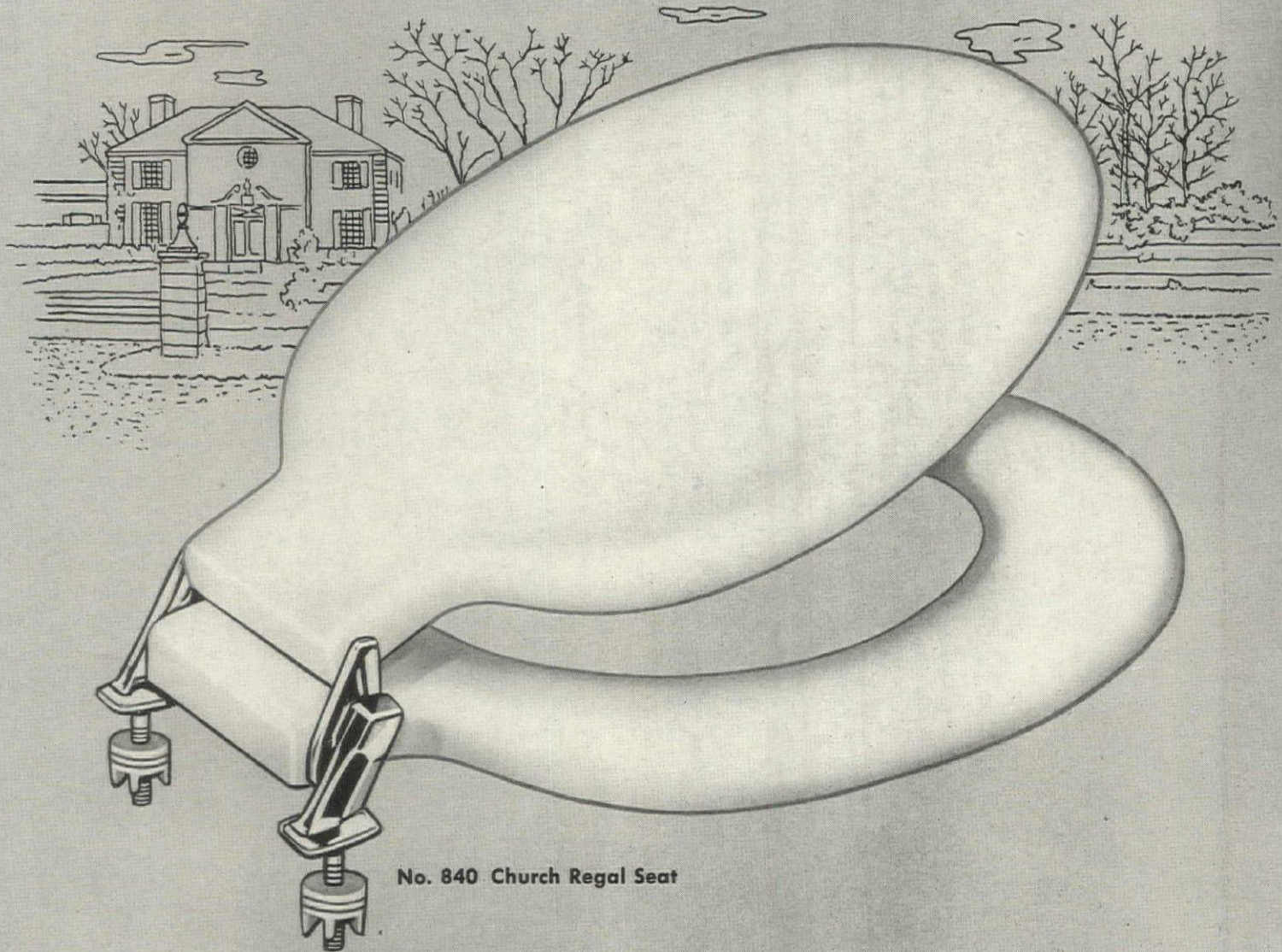


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Joseph Wheelock Lund (l) who will succeed Alexander Summer (r) as president of NAREB in January, is executive vice president of R. M. Bradley & Co. of Boston, a dignified real estate firm that does business in a dignified big business way. In fact, Lund thinks it is probably the largest general realty concern in New England. When Lund joined it in 1934, R. M. Bradley was chiefly a management company, seeking canny investments in real estate and managing them cannily. Since then it has expanded its brokerage operation and its business is now about half management and half sales. Bradley & Co. also runs a far-flung realty empire as trustee for investment properties in nine cities including Seattle, Chicago, Minneapolis and Duluth.

New Hampshire-born Lund, who has just become a grandfather at 46, is blue-eyed, buoyant and impeccable. Background: Harvard '26 and a real estate man ever since. Hobbies: duck hunting and sailing (he owns an 18' racing sloop). Children: three. Home: Beacon Hill. Boston also knows him as a leader in civic affairs, notably as a director of the United Community Fund and member of the council of the New Boston Committee, a reform group which was extremely successful in backing candidates this fall. His father, Dr. Fred B. Lund, onetime president of the American College of Surgeons, and his brother, Dr. Charles Lund, who was recently elected president of the American Cancer Society, are both prominent New England surgeons. A former president of the Boston Real Estate Board, Joe Lund was a vice president of NAREB in 1945 and 1946, has been a director and member of its executive committee since 1949.

Appraisers Institute panel discussion on realty trends was led by Arthur M. Weimer, dean of the business school at Indiana University (holding mike). Panel members said price of multistory industrial property has appreciated less than many other types of realty since 1940 because it lacks parking space.



# NAREB Convention Urges Drive Against Gov't. Spending; Taft Raps Public Housing

*In these troubled times, O Lord,  
Preserve for us our free way of life.*

As usual, a pastor's prayer opened the luncheon of the Realtors' Washington Committee during the National Association of Real Estate Boards' convention. This one seemed to epitomize the whole 44th annual meeting of the biggest (46,819 members) and most diversified group in the nation's building industry.

To a realtor, preserving his free way of life involves preserving property rights. The 3,000 delegates to NAREB's Nov. 11-16 convention in Cincinnati rededicated themselves to fight against public housing, frozen interest rates on VA and FHA loans, government overspending, rent control, for a constitutional amendment to require a popular vote to raise the national debt ceiling, for minimum housing standards, planning and zoning ordinances, transfer of FNMA from public to private control.

**Challenge to action.** NAREB was doing more than praying. It was becoming a more and more insistent opponent of growing federal power. In the process, some thought elephant-sized NAREB was trumpeting more and more like a GOP elephant. Noted the Democratic *Louisville Courier-Journal*: "Speaker after speaker . . . emphasized that the right of every American to own his own home and to till his own land, free of Government control, is being invaded. And, almost without exception, these same speakers followed such

statements with criticisms of the Truman Administration, or even outright plugs for Republican political candidates."

Youthful (48) President Alexander Summer set the pace himself. His annual report urged realtors to step up efforts to sell, through grass-roots meetings with labor leaders, clergy, educators, publishers, office holders, women's organizations, their message that squandering of public funds threatens survival of freedom. Said Summer: "Now is the time for action. The time is long past when we can continue talking to ourselves." To fend off federal intervention in realty matters "we need more allies," he said. One prospect: a proposed drive by the National Apartment Owners Association to organize the nation's 12 million owners of residential rental property. Summer predicted: "If only 5% can be organized, they will prove to be the force that can turn the tide [against Truman-brand government]."

**Warnings galore.** Most big-name speakers—veteran realtors said they formed the biggest galaxy yet at a NAREB convention—did indeed chorus Summer's concern over federal spending and controls. Thus:

Sen. Robert A. Taft, who seeks the Republican presidential nomination, warned, "It's just as easy to socialize the country by constantly increasing the spending of government as it is by direct control."

Author Louis Bromfield: "All government controls create is black markets, confusion and humbug. In another 10 years, we might have a 10¢ dollar."

Photos: Bob Yamin



NAREB executive committee in session during convention.

Nominating committee includes three ex-NAREB presidents (seated): John W. Galbreath, Chairman Robert P. Gerholz and Walter W. Rose. Standing: C. Fred Ritter, H. Clifford Bangs, A. D. Newman, Morris W. Turner, William T. Richardson.





Apart from big issues, the convention also produced these developments:

► Sen. Taft, coauthor of the Taft-Ellender-Wagner revisions of the National Housing Act in 1949 (which NAREB attacked as socialistic), retreated a notch in his views on public housing, but only fleetingly and inconclusively. He decried efforts of federal officials to wrest control of public housing (and other forms of U. S. aid) from state and local governments "where it must remain if we are really to have freedom in a country the size of the U. S." Without mentioning public housing specifically, he advocated that all nondefense government programs be "held down."

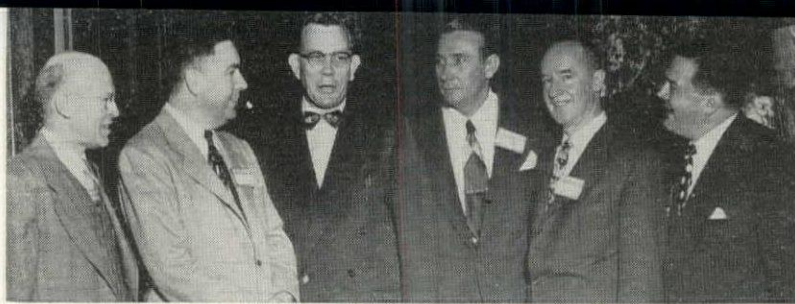
► Silver-maned Sen. John W. Bricker (R., Ohio), who asserted "public housing has sunk to the depths of political housing," saw only clouds in his '52 crystal. "In your field there is special confusion," he said. "I don't think anybody can tell how many houses will be built next year."

► President Ben Fairless of U. S. Steel Corp., in town to receive the Society of Industrial Realtors' annual industrial trophy, revealed he does "not too much" share the worry of Chairman Eugene Grace of Bethlehem Steel that steel soon will be overproduced. "If we find we have too much capacity we can cut back on some of our high-cost facilities," Fairless told a news conference. "That is a transition you constantly go through in the steel business." He said it was "not yet determined" whether U. S. Steel subsidiary Gunnison Homes would build a plant near Harrisburg, Pa. to make steel homes. The plant, which the government rejected for a quick tax write-off, "is still in the drawing board stage."

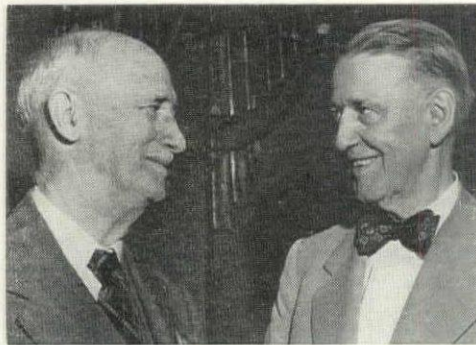


Society of Industrial Realtors' 1951 industrial award was presented to President Ben Fairless (l) of U. S. Steel Corp. by Henry R. Luce (r), editor-in-chief of TIME, LIFE, FORTUNE and THE MAGAZINE OF BUILDING, who was chairman of the award board. Looking on is SIR President Aime V. Carkhuff. In acceptance speech, Fairless said: "You can't freeze prices without freezing wages and you can't freeze either of them very long if the government is going to go on pumping the equivalent of printing press money into our economy. . . . For a little while, controls do bring the illusion of price stability, because the system acts as a device for squeezing profits."

NEWS continued on p. 64



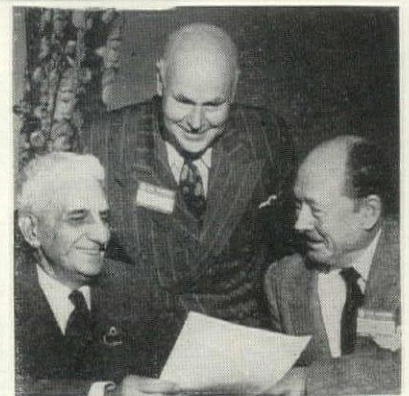
Realtors' Washington Committee lunch cheered Rep. William Mc D. Wheeler (D., Ga.) (2d from l), who declared, "You've got a lot of spineless and gutless Congressmen and Senators who are no better than Truman on whom we all like to pile all the blame." With Wheeler: H. H. Walter Graves, who was re-elected NAREB treasurer; Scott N. Brown, RWC chairman; NAREB President Alex Summer; Floyd G. Dana, RWC vice-chairman; Calvin K. Snyder, executive secretary of RWC.



General Convention Chairman Myers Y. Cooper, former governor of Ohio, checks a point with Executive Vice President Herbert U. Nelson. Cooper in speech warned, "The property owner is the forgotten man in Europe, and, as a consequence, property has been virtually taxed out of existence."



Corridor talk engages (standing) Earl Allen, Fairmont, Minn.; H. R. Hudson, Los Angeles; (seated) Eugene P. Conser, secretary of California Real Estate Association; and Fred Chapman, Minneapolis.



Ex-NAREB President Walter S. Schmidt, Cincinnati; Ray Hofford, Boston; and Edward R. Carr, Washington, D. C.



Jules F. Fisher, Evanston, Ill.; E. Holland Johnson, New Orleans, La.; and T. M. Maenner, Omaha, ex-NAREB president.



J. Russell Doiron, Baton Rouge, La., president-elect of Louisiana Real Estate Association; Leonard Reaume, Detroit, ex-NAREB president; and Charles E. Horner, Pittsburgh, vice president-elect of States Council of NAREB.

REALTORS' WASHINGTON COMMITTEE LUNCH PACKED GAUDY HALL IN NETHERLAND PLAZA HOTEL

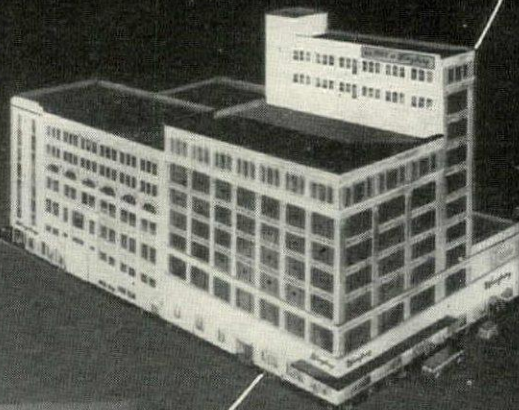




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# PEOPLE

The first Howard Myers Memorial Award for architectural journalism was made last month to **Dr. Walter A. Gropius**, internationally renowned founder of the Bauhaus who now heads Harvard University's graduate school department of architecture. A check for \$500 was presented to Dr. Gropius at a luncheon at the New York Architectural League. The prize was for his article, "Not Gothic but Modern for Our Colleges," in the *New York Times* Sunday magazine section Oct. 23, 1949. The award, for "the best written, most progressive and most influential architectural writing in periodicals," was created by friends of Howard Myers, who until his death in 1947 was editor and publisher of this magazine.\* Accepting it, Dr. Gropius, who fled from Germany to the U. S. in 1937, remarked that it was particularly gratifying because he only learned English "a few years ago," and never considered himself a writer. In his article, nonwriter Gropius struck brilliantly and philosophically at "our esthetic preoccupation with bygone periods" which he said "has forced

John Brook



GROPIUS

\*The Magazine of Building, Architectural Record and Progressive Architecture were not eligible to compete for this year's award.

the 'classical' facade on hundreds of college buildings built in the industrial age." Said Gropius: "The student needs the *real* thing, not buildings in disguise. So long as we do not ask him to go about in period clothes, it seems absurd to build college buildings in pseudo-period design. How can we expect our students to become bold and fearless in thought and action if we encase them timidly in sentimental shrines feigning a culture which has long since disappeared? . . . We cannot go on indefinitely reviving revivals. Architecture must move on or die. Its new life must come from the tremendous changes in the social and technical fields during the last two generations. Neither medievalism nor colonialism can express the life of 20th Century man. There is no finality in architecture—only continuous change."

Another honor will befall Dr. Gropius Jan. 4 when MIT and the Busch-Resinger Museum of Harvard open an exhibit of his work which later is scheduled to travel to Cleveland, San Francisco, Colorado Springs, Minneapolis, Philadelphia and Chicago.

Architect **Frank Lloyd Wright**, 82, was among six Americans elected to the American Academy of Arts and Letters. The Academy elects members for life, limits its roster to 50 "creative artists whose works are most likely to achieve a permanent place in American culture."

The Navy reached into its inactive reserve for Architect **Paul Rudolph**, of Twitshell & Rudolph, Miami. Rudolph, now

winding up three months as guest critic at the University of Pennsylvania's school of fine arts, was ordered to report for active duty Jan. 8 as a lieutenant.

In Los Angeles' first local architectural contest in three years, sponsored by the southern California and Pasadena AIA chapters, Architect-City Planner **Robert E. Alexander**, 44, won four of 32 prizes including one of the two distinguished honor awards—the top batting average. The jurors: Dean William Wurster of the University of California architectural school, Harris Armstrong of St. Louis, Lawrence B. Perkins of Chicago. Alexander's prize-winners: distinguished honor award, UCLA elementary school (*Nov. issue '51*); honorable mentions, Baldwin Hills shopping

Adam Ooms



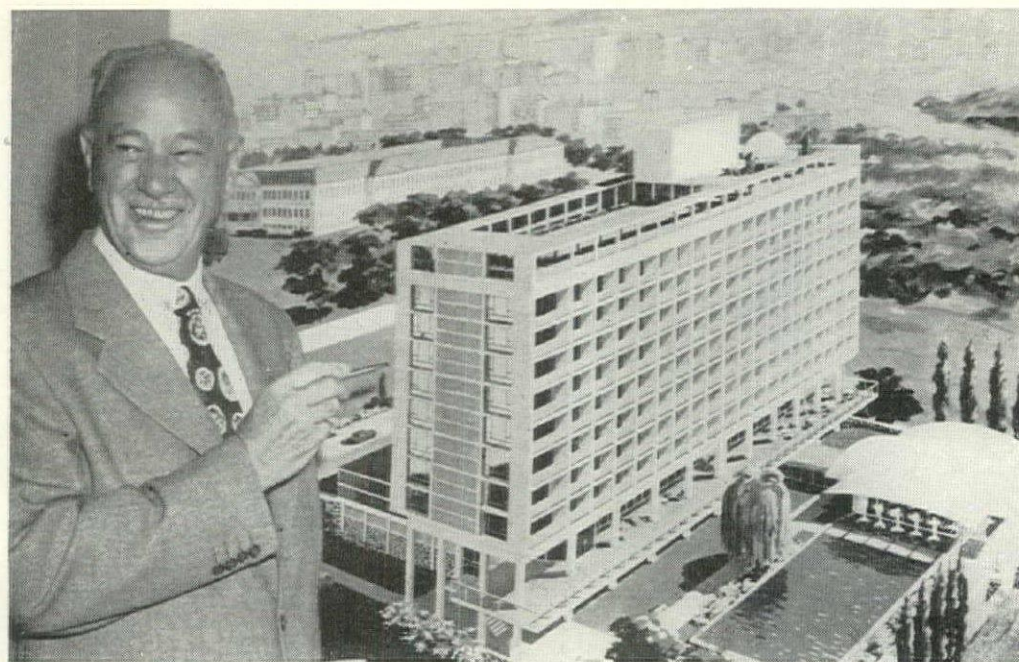
**NO MAN TO DUCK A GAG**, Architect Robert Alexander let photographers persuade him to line up with his four award certificates and (l to r) prizewinning cowshed, Secretary Jan Kerwin and Mrs. Alexander at AIA awards banquet Nov. 20.

center and technology building for Orange Coast College (with Richard H. Pleger); special citation, beef feeding unit and corral of Orange Coast College (with Pleger). Other top award winner was the Griffith Park summer camp, designed by Whitney Smith and A. Quincy Jones, Smith and Williams (supervising architects) and Edgardo Contini (engineer and site planner).

**Shifting Washington scene:** **Roger Lowell Putnam**, 57, three-time Democratic mayor of Springfield, Mass., succeeded **Eric A. Johnston** as economic stabilizer. New England building circles recalled that Putnam as mayor gave Springfield the same brand of social-security-rendezvous-with-destiny administration his friend, F. D. R., gave the nation.

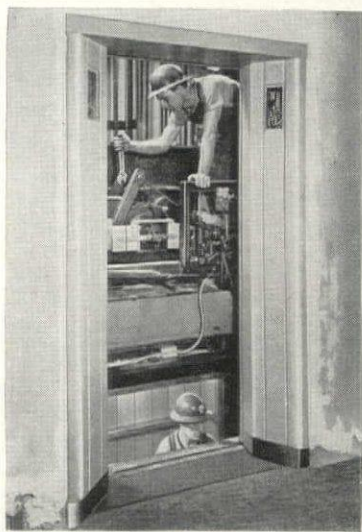
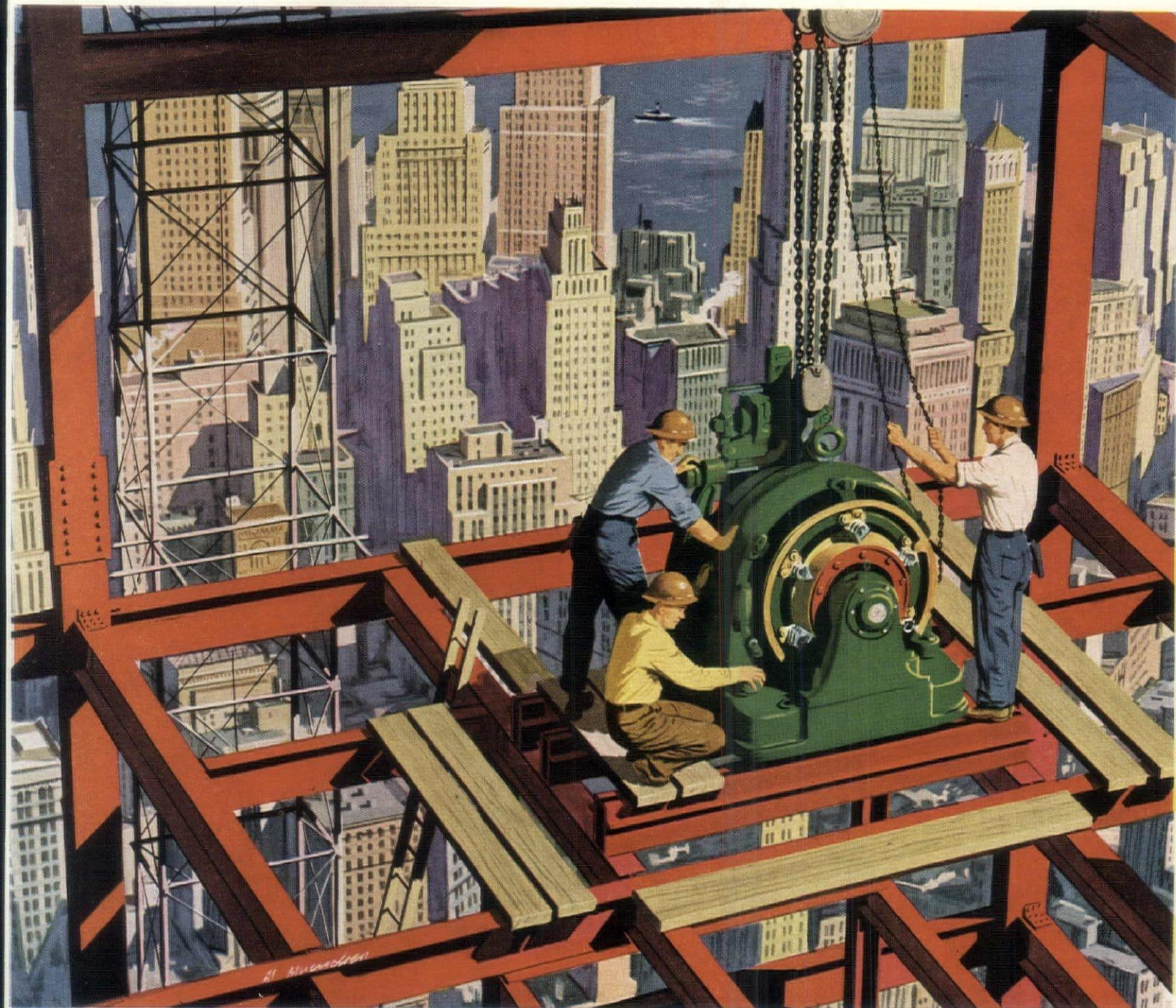
**Died:** **Sen. Kenneth S. Wherry**, 59, Republican floor leader of the Senate since 1947 and author of Sec. VIII of the National Housing Act (popularly called the Wherry Act) providing FHA insurance for military housing, Nov. 29 at George Washington University Hospital of pneumonia following a cancer operation; **Frank T. Sheets**, 61, president of the Portland Cement Association and former chief engineer of the Illinois Highway Department, Nov. 3 in Chicago.

Mollet



**HOTELMAN CONRAD HILTON** exhibits latest plush addition to his international chain, an elegant \$4.8 million hostelry planned for Istanbul, Turkey. Situated along the Golden Horn, the balconied, 300 room hotel will overlook the Bosphorus from a tree-lined site along Turkey's European shore. Actual owner will be the Turkish government, building with ECA-guaranteed funds. Hilton will contribute operating capital, will run the hotel for one-third of the receipts in much the same fashion as the Caribe Hilton in Puerto Rico. If current Hilton plans materialize, Hilton hospitality will cover not only Istanbul, but Athens, Madrid, London, Rome, and rumor has it Havana and Mexico City too. The Istanbul Hilton gets underway this month, is slated to be opened in 1953, the 500th anniversary of the Turkish conquest of their capital city.





## AN ELEVATOR SKILL YOU'LL NEVER MATCH

We mean elevator construction skill. Something that's acquired on open steelwork. In 2 to 80-floor hoistways. In lofty machine rooms. It calls for men with an unusual combination of skills—those of a rigger, ironworker, machinist, electrician, carpenter, sheet metal worker. Basic skills *plus* long Otis training: Studying elevator parts, assemblies, functions; construction procedures; final testing and adjusting.

Otis construction skill *delivers* the promise that forms the basis of every Otis contract—the *world's finest elevating!* A promise that is not considered fulfilled until Otis headquarters

has approved the field engineer's final report.

You'll find that Otis construction skill is available everywhere. No job is too small, too big, too far. Some 4,000 elevator constructors and helpers and 100 elevator field engineers are on call for construction and service through 263 Otis offices.

Add Otis *elevator* construction to Otis *elevator* research, planning, engineering, manufacturing and service and you have six reasons why the Otis trade-mark is the symbol of the world's finest elevators and escalators. Otis Elevator Company, 260 11th Ave., New York 1, N. Y.

BETTER ELEVATORING IS THE BUSINESS OF

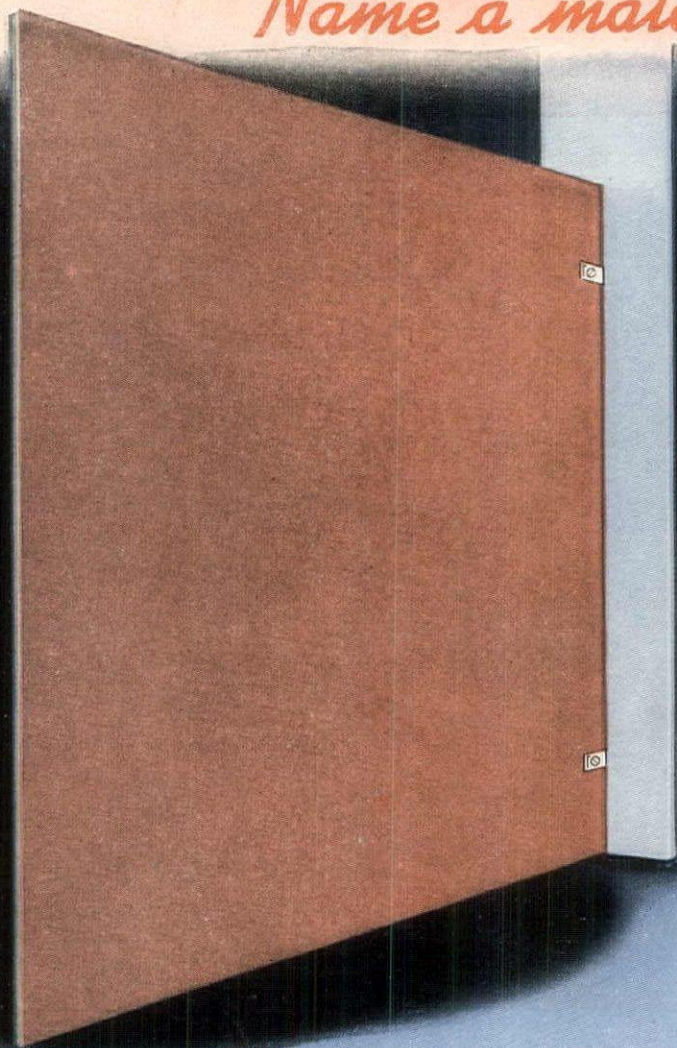


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*Sanymetal*\* **USES**  
**Vitreous PORCELAIN on Steel**  
**FOR TOILET COMPARTMENTS**

*Name a material that can equal it!*



For complete range of exact colors refer to Sanymetal Catalog 89.

Sanymetal "Porcena" (vitreous porcelain on steel) is a material, not merely a finish, and is incomparable with any other material. It presents a correct combination of these desirable qualities: the hardness of glass and the structural strength of steel. Vitreous Porcelain on steel is in every respect *unlike* painted enamel or lacquer finish steel because it is fused to

A non-porous material with the hardness of glass and the strength of steel.

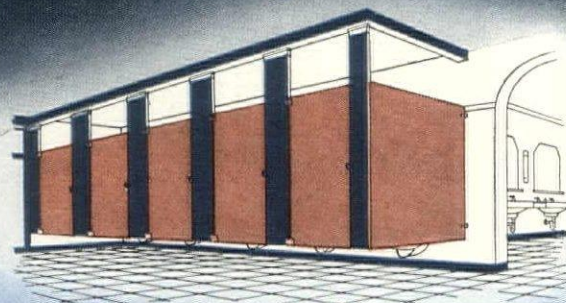
Greatly exceeds the strength and durability of other materials; often acclaimed as a "life-time" material because it does not fade, stain, rust or discolor.

Reduces cost of maintenance to all-time low; impervious to moisture, odors, ordinary acids, oils and grease, and is scratch resistant.

The flint-hard, glass smooth surface can be kept as immaculately clean as a china plate. No pores to collect dirt, harbor germs or absorb odors and moisture.

Gleaming, colorful beauty does not depreciate; vitreous porcelain enamel is the ageless finish of fadeless colors and will not tarnish or peel.

Available in a wide range of colors.



*Sanymetal Century Type Ceiling Hung Toilet Compartment*

steel at a temperature of 1350°-1550°F. This impregnates the steel with vitreous porcelain to the extent that it cannot be hammered out. This ageless and fadeless material provides the utmost in sanitation and protection against obsolescence. Sanymetal uses vitreous porcelain enamel on steel for partitions, doors and pilasters of toilet compartments.

**A few buildings, selected from hundreds,  
in which Sanymetal Porcena Toilet Compartments have been installed:**

Norfolk & Western Railroad Co. • Atchison, Topeka & Santa Fe Railroad Co. • Bethlehem Steel Company, Sparrows Point, Md. • Lever Bros., Los Angeles • Stone Cutter Mills Corp., Spindale, N. C. • National Institute of Health, Bethesda, Md. • The Glenn L. Martin Co., Middle River, Md. • So. California Edison Co. • C&P Telephone Co., Washington, D. C. • Oklahoma Gas & Electric Co., Oklahoma City • Fairfield County Court House, Bridgeport, Conn. • Huntington County Court House, Hammond, Ind. • University of Michigan, Ann Arbor • University of Kentucky, Lexington • Mansfield State Training School, Mansfield, Connecticut • St. Louis Star Times, St. Louis

The SANYMETAL PRODUCTS CO., Inc.

*Sanymetal*\*  
\* Trade Mark Registered

1687 Urbana Rd., Cleveland 12, Ohio

**PORCENA (Vitreous Porcelain on Steel) Toilet and Shower Compartments**



**Now! cut  
lighting costs 50%...**

# ...turn on the daylight!

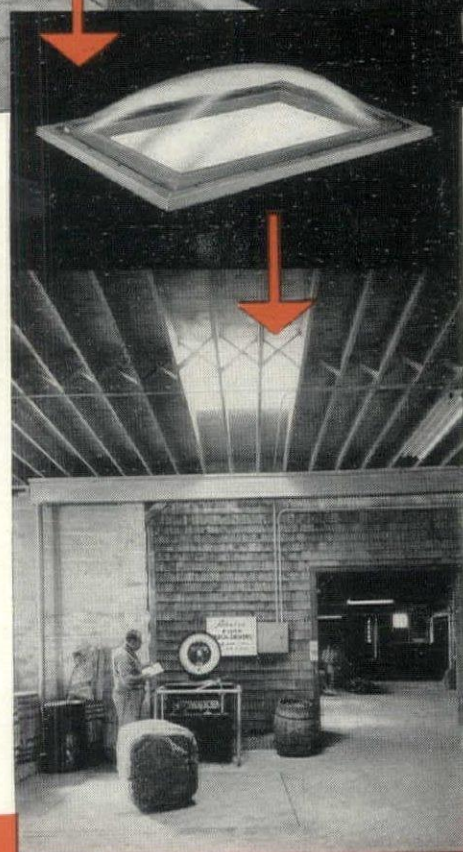
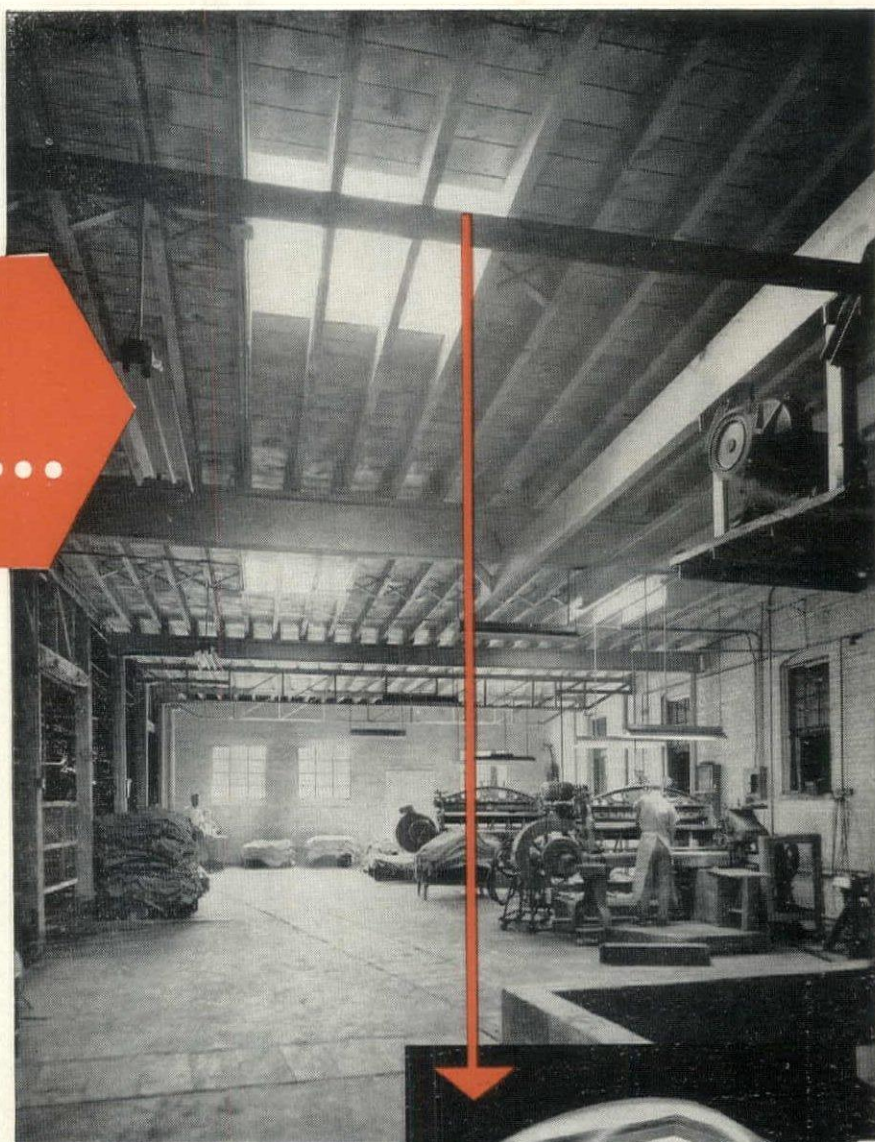
Amazing power savings amounting to thousands of dollars yearly are being obtained in many structures today because of Wascolite Skydomes. These ultra-modern, prefabricated skylight units provide 62% more daylight than conventional skylights . . . and are completely *maintenance-free*. They are weather-proof, shatter-resistant . . . practically self-cleaning. They can be installed from the *roof* in *minutes*.

Wascolite Skydomes are available in square, circular (with curb) and rectangular frames . . . in *clear colorless* or *white translucent* Plexiglas. Required brightness ratios, light intensity and distribution readings are easily obtained. Write for literature and full information.

Turn off the **LIGHTS**,  
Turn on the **DAYLIGHT** . . .

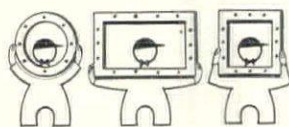
1. For power savings
2. For reduced lighting maintenance costs
3. For better light distribution
4. For faster, easier inspection
5. For better color control in manufacturing processes
6. To eliminate daytime down-time from lighting failure
7. To stimulate and energize employees

**WASCO FLASHING COMPANY • 87 Fawcett Street • Cambridge 38, Massachusetts**



"Skydomes cut my lighting costs in half" says William Feldman, general manager of Geilich Tanning Co., Taunton, Mass. This saving is especially remarkable because the Skydomes shown above (hide-splitting department) are partially obstructed by roof beams . . . an unusual condition.

Photo at right shows how well a single Skydome unit daylights the area where incoming and outgoing shipments are checked.



**WASCOLITE SKYDOMES®**  
PATENT PENDING

"62% More Light On The Subject"



## FIAT "CASCADE" ENCLOSURE

Two PLEXIGLAS panels are the sliding doors of this new bath enclosure. The corrugated panels, measuring approximately 34" x 60", slide easily in a metal track cemented to the tub rim and in a top channel fastened to sidewalls. Called the "Cascade", the enclosures are manufactured as packaged units, with a choice of crystal clear, gold, or pink PLEXIGLAS, by the Fiat Metal Manufacturing Company, Long Island City 1, New York. They are available nationally through plumbing wholesalers.



## Another New Idea for Architects... **PLEXIGLAS** Bath Enclosures

Looking for an easy way to add the final touch of smartness to a new bathroom, or to modernize an old one? Here it is—a rigid, sliding-panel bath enclosure of gleaming PLEXIGLAS acrylic plastic, crystal clear or in beautiful transparent pastel colors.

Light, attractive, easily installed, PLEXIGLAS enclosures fit virtually any recessed tub. Wet, hard-to-manage curtains are eliminated; the transparent PLEXIGLAS panels give permanent shower protection. The cost of a "Cascade" enclosure, including installation, is considerably less than that of glass panel enclosures. And the resistance of

PLEXIGLAS to breakage, water, heat, and discoloration means long life with no loss of beauty.

Bath enclosures are only one of the many architectural applications of PLEXIGLAS. In homes, offices, public buildings, industrial plants, you'll find it useful for breakage-resistant glazing, glare-reducing lighting fixtures, dome skylights, luminous ceilings, decorative screens and partitions. For signs and storefronts, PLEXIGLAS has become a preferred material. If you want to know more about these architectural possibilities, write for our booklet, PLEXIGLAS FOR ARCHITECTURE.

CHEMICALS



FOR INDUSTRY

# ROHM & HAAS COMPANY

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Representatives in principal foreign countries

PLEXIGLAS is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.  
Canadian Distributor: Crystal Glass & Plastics, Ltd., 130 Queen's Quay at Jarvis St.,  
Toronto, Ontario, Canada



## Specify protection in mobilization construction

### Typical uses of penta-treated wood

Wherever wood is used, penta treatment will give it longer life. The following table gives the amount in pounds of 5% penta solution in oil that a cubic foot of wood should retain for maximum protection.

|                         | Humidity<br>average<br>to low | Humidity<br>average<br>high |
|-------------------------|-------------------------------|-----------------------------|
| Sills and plates        | 6                             | 8                           |
| Joists and girders      | 6                             | 8                           |
| Screeds and subflooring | 6                             | 8                           |
| Factory flooring        | 6                             | 8                           |
| Roof plank              | 6                             | 8                           |
| Platforms and decking   | 6                             | 8                           |
| Posts and fences        | 6                             | 8                           |
| Cooling towers          | ..                            | 8-10                        |
| Sign material           | 6                             | 8                           |
| Millwork                | 6                             | 8                           |
| Highway guardrails      | 6                             | 8                           |
| Railway cars            | 6                             | 8                           |
| Bridge timbers          | 8                             | 10-12                       |
| Utility poles           | 8                             | 8-10                        |
| Crossarms               | 6                             | 8                           |

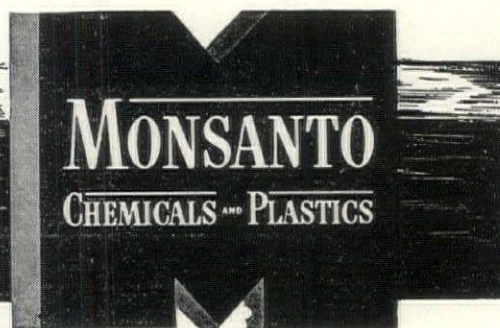
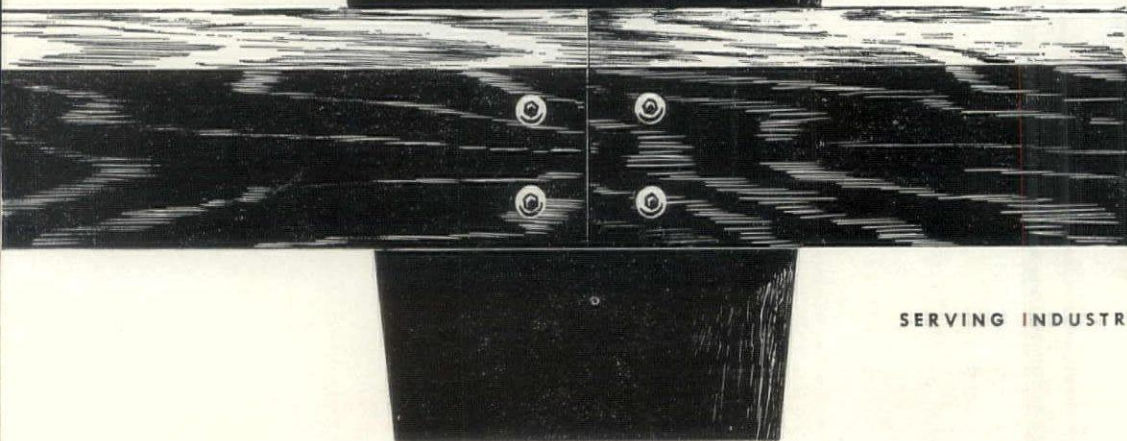
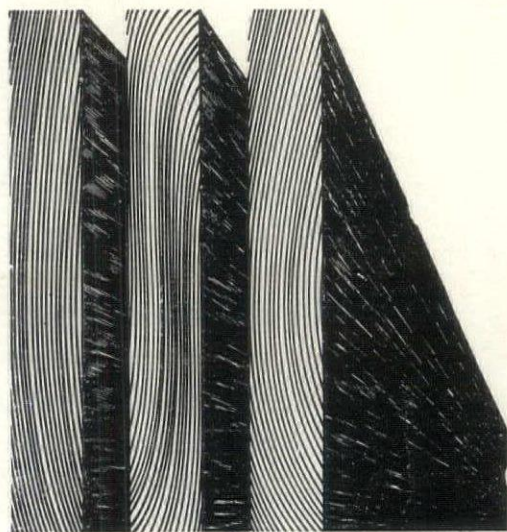
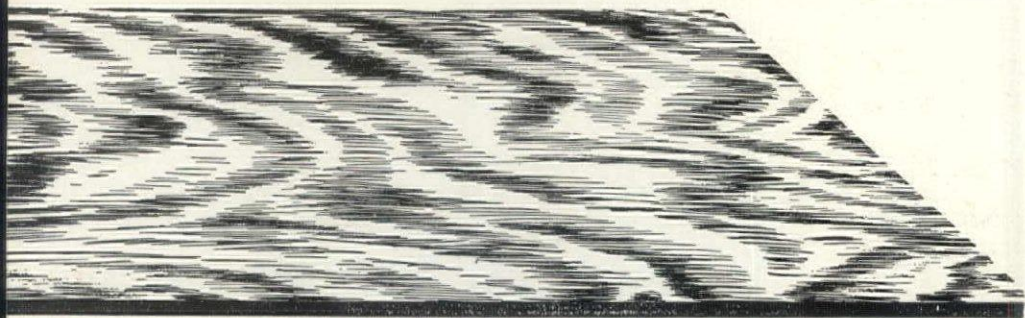
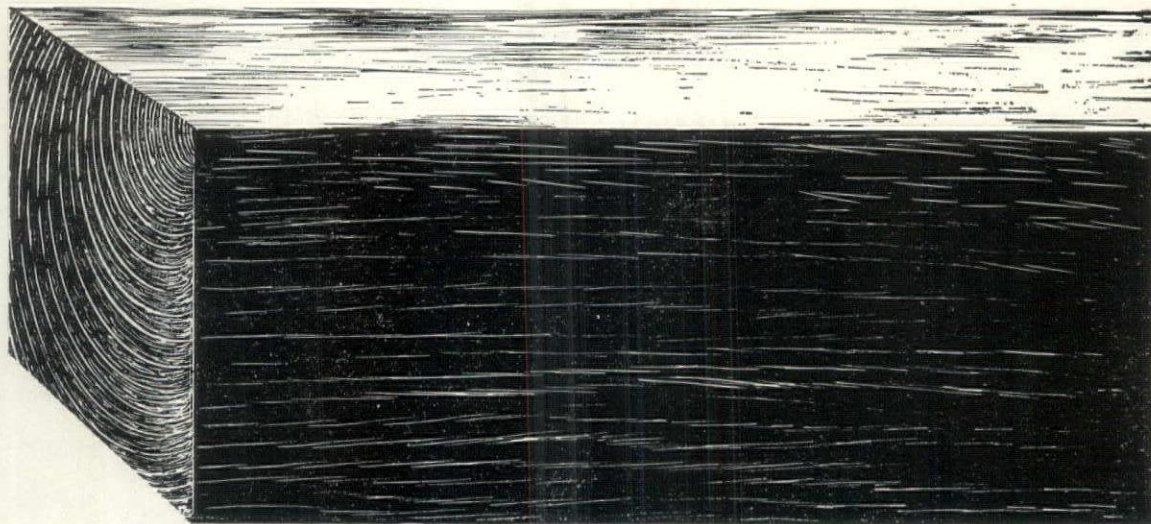
Note: Higher treatments are recommended where wood is to serve under severe conditions, such as in the tropics. Recommendations will be furnished on request.

Industrial construction for mobilization will give longer, more dependable service if you specify the *protection* of Monsanto Penta for the lumber you employ.

Monsanto Penta (pentachlorophenol) protects against termites and other wood-boring insects and controls decay caused by fungi. Treated with properly formulated Monsanto Penta, wood can be painted or varnished.

Write for details on *how to specify* penta treatment for lumber . . . for names of companies that can supply material treated with Monsanto Penta . . . for firms able to custom-treat your lumber . . . for brands of formulations with which you can do your own treating effectively. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

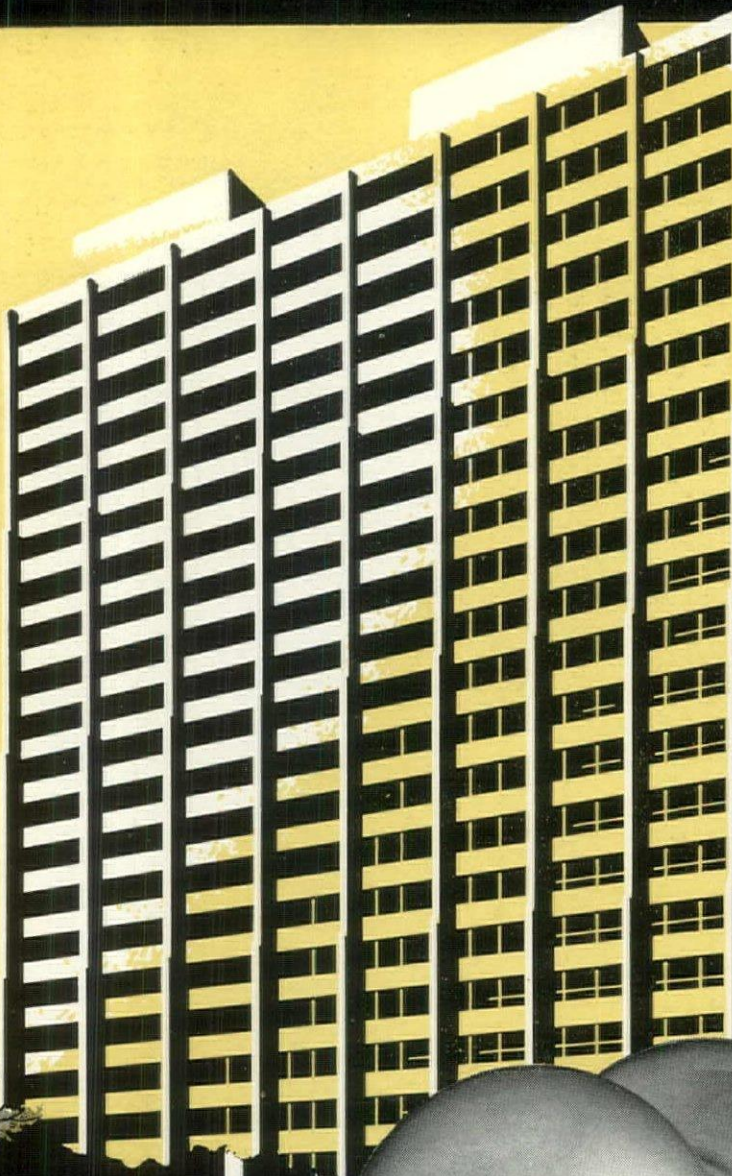
DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.



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**SCHLAGE**® ... first name in cylindrical locks



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*Another Schlage Lock Installation*

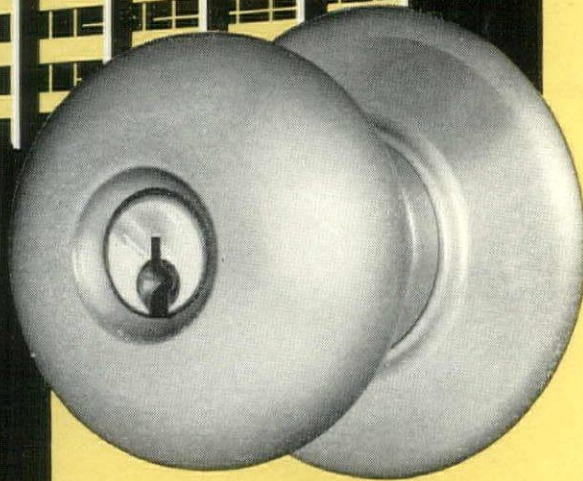
**Architect,** Mies van der Rohe

**Associate Architects,** Pace Associates

**Consulting Architects,** Holsman, Holsman,  
Klekamp & Taylor

**Owner,** Promontory Apartments Trust

**Builder,** Herbert S. Greenwald



**Plymouth Design**

...used throughout this new  
apartment building

**SCHLAGE**®

**SCHLAGE LOCK COMPANY**

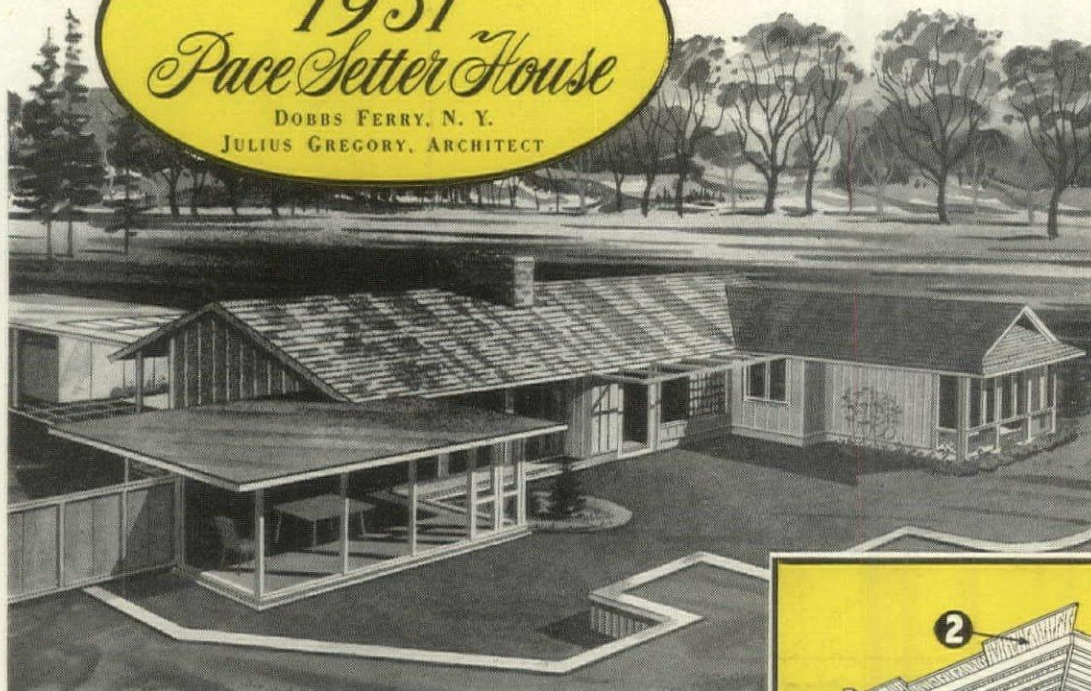
Bayshore Blvd.  
San Francisco

Empire State Building  
New York



House Beautiful's  
**1951**  
*Pace Setter House*

DOBBS FERRY, N. Y.  
JULIUS GREGORY, ARCHITECT



## Plywood Specified For Finest Construction

EACH YEAR *House Beautiful* builds a Pace Setter house which represents the ultimate in design, construction and use of materials. In the 1951 Pace Setter, Douglas fir plywood plays a major role.

Durable Exterior plywood creates the weather-wise board and batten siding . . . the smooth, flush soffits and breezeway ceilings.

For the important structural parts of the house, PlyScord was specified for strong, rigid wall sheathing . . . for roof decking . . . for firm, solid panel backing.

*It's the finest construction money can buy—bar none!*

®PlyScord is a registered grade-trademark identifying the sheathing grade of Interior-type plywood inspected by Douglas Fir Plywood Association (DFPA).



### IDEA BOOKLET FOR YOU!

Now available is a special 12-page, full-color booklet "Ideas From The Pace Setter House." Ideal to help your clients crystallize their plans. For free copy write (USA only) Douglas Fir Plywood Association, Tacoma, Washington.

**Five Pace-Setting Plywood Features Point the Way to Quality Construction**

- 1. PANEL BACKING.** PlyScord provides solid backing for paneling. Gives extra stiffness and strength needed to keep thinner, more expensive decorative paneling firm, rigid and flat. Permits freedom in arrangement of finish paneling.
- 2. ROOF SHEATHING.** PlyScord roof deck was used for both sloping, shingled roof and flat, built-up roofs. Stronger yet lighter than conventional decking, PlyScord speeds construction, resists swelling and shrinking.
- 3. WALL SHEATHING.** PlyScord is twice as strong and rigid as diagonal sheathing. Insulates. Protects against drafts. Speeds construction by over 25%.
- 4. EXTERIOR SIDING.** Exterior plywood siding adds youthful richness. Will not puncture, sag or split. Bonded with waterproof adhesives, it lasts a lifetime!
- 5. SOFFITS AND BREEZEWAY CEILINGS.** Smooth, flat panels form texture contrast with siding. Unbroken by detracting lines and joints, plywood is ideal for gable ends, trim.

LARGE, LIGHT  
STRONG PANELS  
OF REAL WOOD



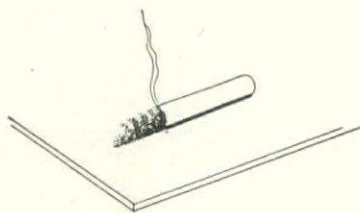
**Douglas Fir  
Plywood**

AMERICA'S BUSIEST BUILDING MATERIAL



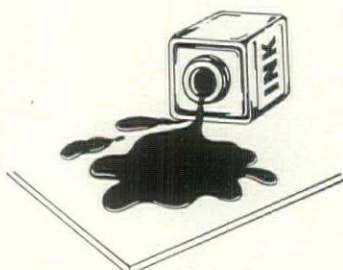
# Make these tests before you specify another floor!

Take a sample of Wright Rubber Tile and a sample of any other material you are considering. Subject both samples to the tests shown below. Specify the floor that stands up best and you are sure of having a satisfied client.



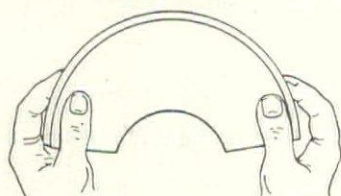
## the fire test

Let a lighted cigarette burn out on each sample. Notice that Wright Rubber Tile is *not* charred. Wipe off with a damp rag, the surface is unimpaired.



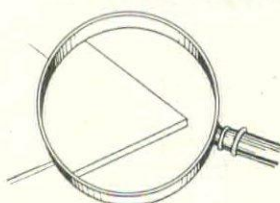
## the ink test

Drop some ink on each sample. Let it stand for five minutes and then wipe it off with a damp rag. Notice that Wright Rubber Tile is *not* stained.



## the bend test

Try to bend each sample. If the sample bends and springs back like Wright Rubber Tile it will make a comfortable floor that will resist damage.

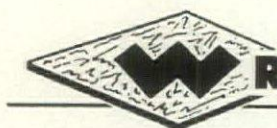


## the examination

Examine both samples through a magnifying glass. The smooth, non-porous surface of Wright Rubber Tile means greater beauty, easier cleaning and longer life.

For thirty years many users of Wright Rubber Tile have known what these tests show. You can't beat Wright Rubber Tile for beauty, comfort, ease of cleaning, long life and resistance to damage. You can specify and install it with complete confidence that you are giving your client the *best*.

**WRIGHT MANUFACTURING COMPANY**  
5204 POST OAK ROAD • HOUSTON 5, TEXAS



**WRIGHT RUBBER TILE**

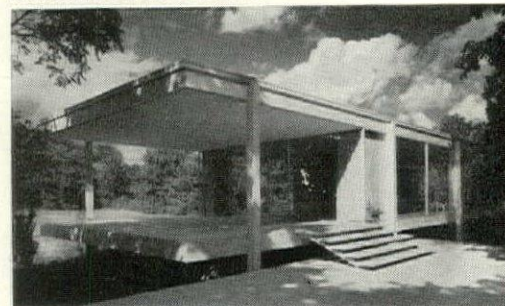
FLOORS OF DISTINCTION

- ♦ WRIGHTEX — Soft Rubber Tile
- ♦ WRIGHTFLOR — Hard Surface Rubber Tile
- ♦ WRIGHT-ON-TOP Compression Cove Base

2064

## LETTERS

### FARNSWORTH HOUSE



Bill Hedrich-Hedrich-Blessing

Sirs:

What could be more magnificent than the incredibly exquisite and breath-taking beauty of the Mies van der Rohe Farnsworth home! (October issue, '51.)

HENRY HILL, *Architect*  
San Francisco, Calif.

Sirs:

It is incredible! Mies has labored five years to produce a mouse.

GRINNELL WILLIS LOCKE, *Architect*  
Owings Mills, Md.

Sirs:

Mies van der Rohe, whose axiom is "less is more," will be pleased to know that his Farnsworth house is the least house I have seen in years. . . .

DAVID S. LOGAN, *Counselor at Law*  
Chicago, Ill.

Sirs:

It was a real ray of light to have your magazine produce the controversial subject so handsomely. . . . Congratulations. . . . It was remarkably well done. . . .

A. JAMES SPEYER, *Architect*  
Chicago, Ill.

Sirs:

The first question which crossed my mind was whether the architect had the foresight to install a blower system under the floor so as to keep the space between the ground and floor clear of fallen leaves and rubbish. The space could be utilized for growing mushrooms or night crawlers.

I cannot understand why five years were consumed in the design and building of this Farnsworth house. It may be that the architect had to take many readings of the ebb and flow of the river nearby, enabling him to fix the height of floor above ground to prevent the fish from inhabiting the rectangular glass bowl. . . .

The Farnsworth house article reminds me of an article on a contemporary painter who stretches his canvas from wall to wall of his garage studio, dribbles paint thereon and lets the drips fall where they may, then throws some sand and gravel onto same haphazardly, cuts the canvas into sections and frames them, then sells them to an Abing Public at fabulous prices.

JOHN G. C. SOHN, *Architect & Engineer*  
Indianapolis, Ind.

(Continued on page 74)





## **MENGEL MAHOGANY *Flush* DOORS**

# *Cost Less Than Many Domestic Woods!*

The Mengel Company is now able to offer you African *Mahogany* Flush Doors at prices actually *less* than you pay for *many* domestic woods!

Operating its own large logging concession and mill in the best Mahogany section of Africa, Mengel imports this King of Woods in tremendous volume. The savings of these large scale operations are passed on to you.

What's more, when you choose Mengel Mahogany Flush Doors, you're assured of finest construction, guaranteed by the world's largest manufacturer of hardwood products. Mengel Mahogany Flush Doors have been tested and proved in thousands of installations. *Better doors cannot be bought!*



Let us tell you about the extra quality, the extra luxury, the extra *value* of Mengel Flush Doors in genuine *Mahogany*! Mail the coupon for complete information.

The Mengel Company . . . America's largest manufacturers of hardwood products • growers and processors of timber • manufacturers of fine furniture • veneers • plywood • flush doors • corrugated containers • kitchen cabinets and wall closets

THE MENGEL COMPANY  
Plywood Division, Louisville 1, Ky.

Gentlemen: Please send me full information on Mengel Mahogany Flush Doors—both Hollow Core and Stabilized Solid Core.

Name

Firm

Street

City  State



**Home  
Builders..**

*go* **NATIONAL...**



*... and* **GO PLACES!**

The new 1952 National "Super-Thrift" Homes are a *proven* success. During National Home Week, our dealers' open houses drew over half a million people, produced thousands of sales.

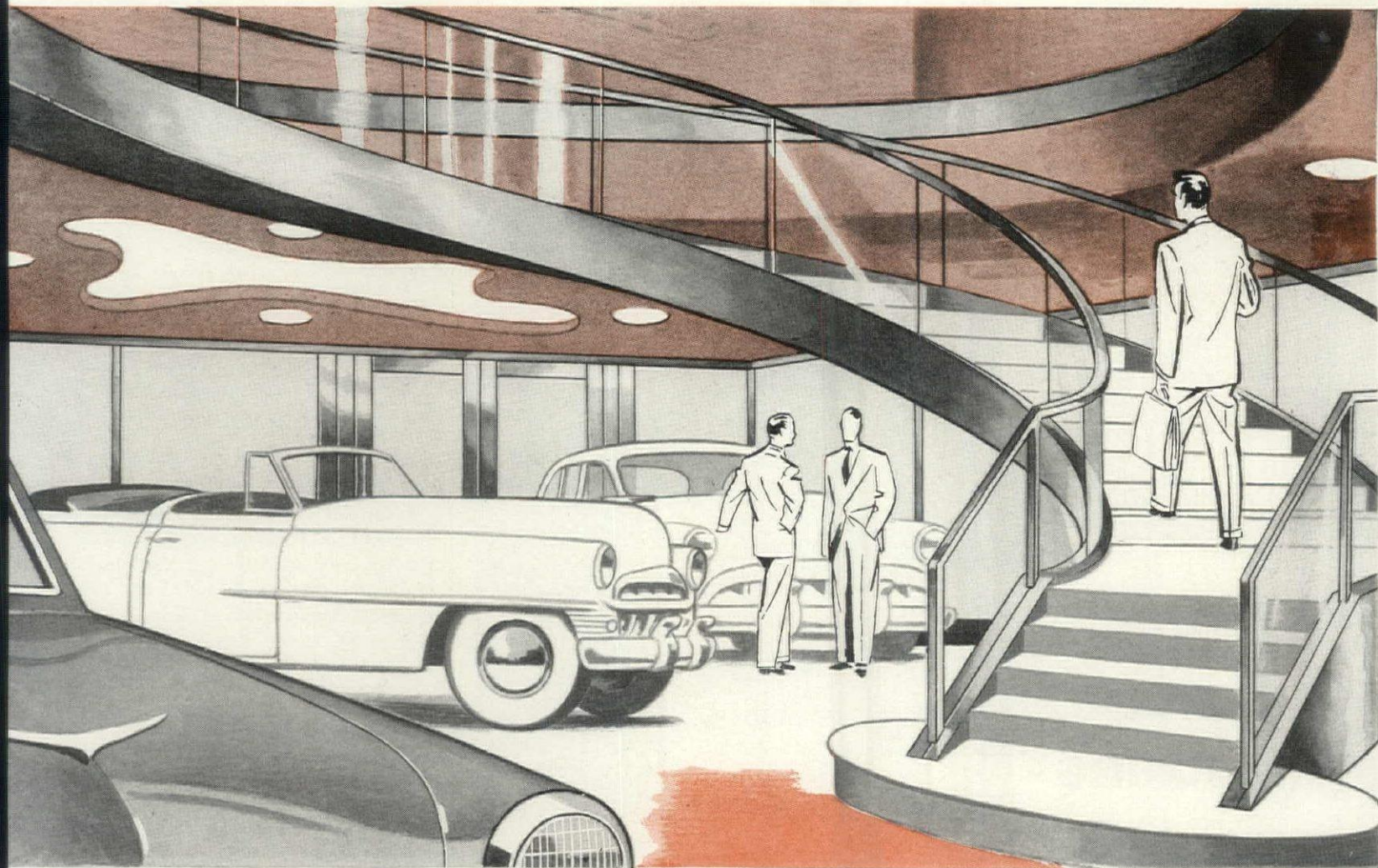
The public goes for National beauty, variety, economy.

Sell success — sell NATIONAL. Write today.

**NATION'S LARGEST  
PRODUCERS OF  
PREFABRICATED HOMES**







## Smart styling -- years ahead

Main Street is remodeling. In almost every line of retail business — there's unprecedented building activity. The theme is functional beauty, and it has resulted in an ever-increasing use of Stainless Steel.

Stainless is gaining more recognition than ever before, because architects who specialize in retail business work know that

where beauty, styling, permanence and easy maintenance are concerned, Stainless is unmatched.

At present our distribution of Stainless Steel is dictated by essential needs. In the future we will be better able to fill your requirements.

STAINLESS STAYS NEW FOREVER

### SHARON STEEL CORPORATION

*Sharon, Pennsylvania*

**DISTRICT SALES OFFICES:** Chicago, Ill., Cincinnati, O., Cleveland, O., Dayton, O., Detroit, Mich., Indianapolis, Ind., Milwaukee, Wis., New York, N. Y., Philadelphia, Penna., Rochester, N. Y., Los Angeles, Calif., San Francisco, Calif., Montreal, Que., Toronto, Ont.





ARCHITECTS ARE  
SWITCHING TO ...

**HAKO**

**PARQUETRY**  
PAT. PEND.

ECONOMICAL  
*Asphalt Tile*  
**FLOORING**

FOR THAT RICH HARDWOOD EFFECT

- Resistant to stains, scratches and water.
- Easy-to-install and simple-to-clean.
- Years of lasting beauty.
- Economical, durable and resilient.

PARQUETRY is winning wider favor with architects and builders everywhere. In office buildings, housing units, and homes, it's always in good taste with any surrounding. It's different—it's new—and it's the hardwood floor effect at the cost of asphalt tile. PARQUETRY has universal appeal—an appeal that adds dignity to any room with modern or period furnishings. The rich natural oak appearance will match any architecture with no fear of color-clashing. You give home owners an inexpensive luxury when you specify PARQUETRY for an extensive renovation or a complete new home. This PARQUETRY asphalt tile is factory-waxed for lasting beauty and accurately sized for effortless installation. Make the switch to PARQUETRY, when hardwood effect is desired at the cost of asphalt tile.

Write for information and the name of your dealer

Since 1903  
**HACHMEISTER-INC.**  
PITTSBURGH 13, PA.

MEMBER  
ASPHALT TILE  
INSTITUTE

Guaranteed by  
Good Housekeeping  
IF NOT AS ADVERTISED THEREIN

## LETTERS

Sirs:

Let's hope that you will rectify the mistake of mentioning the "Farnsworth house" and "Mies van der Rohe" in the same sentence with "great architecture" and "Frank Lloyd Wright."

J. M. HUDDLESTON, *Architect*  
New Orleans, La.

Sirs:

I know there are those who admire Mies, but surely this job makes it perfectly plain that he is not an architect. . . .

RICHARD L. CRIT  
Houston, Tex.

Sirs:

I certainly admired the absolutely beautiful simplicity of the Van der Rohe house in the October issue and believe it is a fine illustration of the fact that, as a functional architectural design becomes better, it becomes simpler and vice versa. . . .

J. A. SMITH, JR.  
Smith-Stewart Co.  
Newburgh, N. Y.

Sirs:

Congratulations on the excellent job you did on the Mies house. . . .

JAMES PRESTINI  
Illinois Institute of Technology  
Chicago, Ill.

Sirs:

Lord help us if this building presages a new architectural philosophy.

The design theory expressed in this structure is a manifestation of the Prussian type of mind functioning restrictedly within the limited idiom and inflexible framework of sheer mechanical precision and mathematical perfection, to the complete exclusion of human feelings. It is the personification of the Bauhaus gang's adoration of the straight line, the fruition of which culminates in a magnificent concept: the gloriously sterile form, the 90° angle. Surely this is the creation of a soul-less designer, so determinedly bent on refining, purifying and simplifying an already simple basic form that he has succeeded only in sucking it dry of any vestige of life, warmth and human feeling, as an undertaker bleeds the veins of a corpse prior to embalming, and the masterful result is as completely dead and devoid of feeling as the corpse.

This is no home; this is a fractional distillation of the German Pavillion at the Barcelona Exposition, a designal structure of integrity and true esthetic beauty, embodying fundamentally the same principles, before being subjected to destructive "refinement." This is a defilement of a venerable art, and it has no virtue, save that it is undoubtedly termite-proof.

In itself it is bad enough, but the inherent danger lies, first, in the possibility of a precedent being established and, second, in the reactionary trend which will most assuredly follow. I fervently hope that it will seduce no designer into

(Continued on page 78)



# Better, Lower-Cost Homes for Your Clients!

Architects everywhere are giving their clients *better homes at a lower cost* by specifying **INSULITE BILDRITE SHEATHING** instead of wood sheathing. Read how these builders (below) are building stronger, better-insulated walls with **BILDRITE**—and cutting their costs on every home. And naturally you're interested in these other **BILDRITE** advantages . . . tremendous bracing strength—waterproofed throughout—no warping or buckling. You can specify **BILDRITE SHEATHING** with *confidence!*



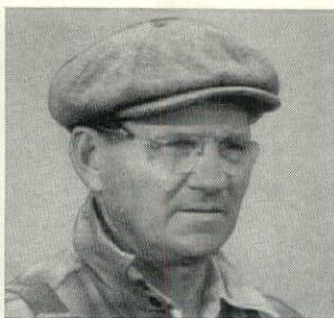
"Insulite Bildrite Sheathing saved me **\$286.00** on my latest job. I'm getting superior sheathing jobs, too, because Bildrite is waterproofed throughout and therefore doesn't warp or buckle on the job."

Thomas W. Giles, General Contractor,  
Cleveland, Ohio



"I use Insulite Bildrite Sheathing because it's the best on the market. It also saves me **\$169.00** on every house I build."

John Tarolli,  
Syracuse, New York



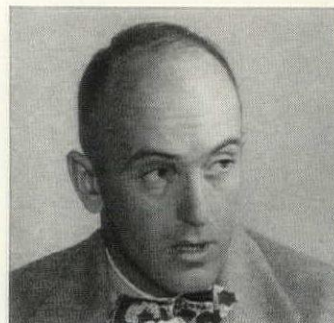
"By using 4-foot Bildrite Sheathing instead of wood sheathing, we eliminate corner-bracing, and also save approximately **\$100.00** on every job. We also get far more bracing strength."

Leslie H. Braatz, L. H. Braatz & Son,  
Milwaukee, Wisconsin



"We saved up to **\$200.00** per building by using 4-foot Bildrite Sheathing on our Rose Vista apartment project. We've found we get stronger walls with Bildrite . . . without corner-bracing."

E. R. Daleen, Sauer Construction Co.,  
St. Paul, Minnesota



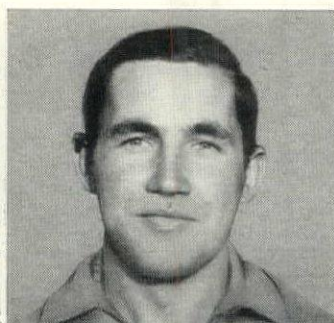
"While building my own home recently, I saved **\$253.00** and got stronger, better-insulated walls by using Insulite Bildrite Sheathing and Insulite Shingle-Backer."

George Flagler, Lynn Construction Co.,  
Chicago, Illinois



"We save **\$105.00** on every job by using 4-foot Bildrite Sheathing (**\$40** because of lower application costs, **\$25** by eliminating corner-bracing, and **\$40** by using Insulite Shingle-Backer on our walls)."

Roy Olson, Minneapolis, Minnesota



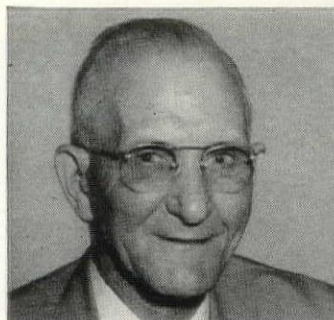
"4-foot Bildrite Sheathing gives us far greater wall strength than we'd get with horizontal wood sheathing—and saves us **\$100.00** per job besides."

Stanley Orlikowski, Quality Builders,  
Milwaukee, Wisconsin



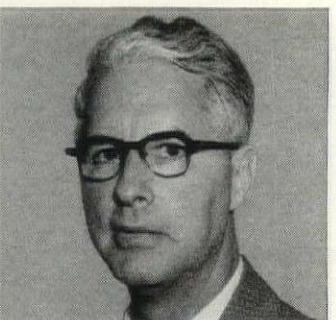
"There's no doubt in my mind—Bildrite is the best sheathing on the market. What's more, I actually saved **\$218.00** on my latest job by using Bildrite instead of wood sheathing."

Robert Uetz, General Contractor,  
Des Moines, Iowa



"We've made considerable savings this year—at the rate of about **\$100** per job—by using Bildrite Sheathing. But most important is the fact that Bildrite gives us the best sheathing on the market. It doesn't warp or buckle, even after long exposure to the weather, and has great structural strength."

Earl S. Snyder  
Snyder-Adler-Bartley Construction Co., Toledo, Ohio



"We're saving over **\$100.00** per house by using Bildrite Sheathing on our 365-unit project in Cleveland. Besides, Bildrite is waterproofed throughout and is easier to cut and apply than wood sheathing. And we're also eliminating corner-bracing on every job."

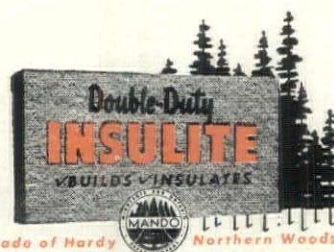
Al Azolino  
Lath-Rite Builders, Cleveland, Ohio



Charles Delia

Send for free "Cost-Comparison" folder . . . figure out in dollars and cents how much you can save your clients by specifying **BILDRITE SHEATHING**. Just drop us a card at the address below.

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12-51



# MULTI-VENT *Low Velocity Air Diffusion* CEILING PANELS

T. M. Reg. U. S. Pat. Off.



## *in Pittsburgh's* **GATEWAY CENTER BUILDINGS**

Multi-Vent panels have been specified throughout for diffusing both cooled and heated air in all the interior bays of the first three office buildings, now under construction.

Eggers & Higgins, Architects  
Meyer, Strong & Jones, Consulting Engineers

*Selected for . . .*

**TRULY DRAFTLESS, NOISELESS AIR CONDITIONED COMFORT . . .**  
for over 8000 office workers, summer and winter.

*Plus these great advantages possible only with Multi-Vent...*

### **COMPLETE FREEDOM IN LOCATING MOVABLE PARTITIONS**

Partitions may even bisect a diffusing panel without disturbing in any way Multi-Vent's incomparable over-all uniformity of room air movement, temperature, and humidity.

### **COMPLETE FREEDOM IN LOCATION OF LIGHTING FIXTURES . . .**

for Multi-Vent panels are completely concealed in standard acoustical ceilings, and in no way interfere with interior design.

### **RADIANT PANEL HEATING AND COOLING EFFECT ADDS TO THE COMFORT FACTOR**

The large areas of the ceiling which function as distribution plates for the Multi-Vent panels are heated or cooled to the temperature of the supply air.

See SWEET's Arch. &  
Eng. files or write for  
detailed literature.

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OF HEATING SURFACE  
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Los Angeles, Calif.

#### EXPORT

Drake American Corporation  
New York, New York

## with CYCLONIC COMBUSTION

**WE REPEAT!** Through the principle of *patented* CYCLONIC COMBUSTION, CYCLOTHERM packaged steam generators will produce maximum heat transfer on *any* job . . . *any* application . . . with only 3 square feet of heating surface per B.H.P. That is not an advertising claim—we are stating a fact—*backed by our unconditional guarantee!*

This remarkable performance is based on a revolutionary advance in the principles of heat transfer. In the Cyclotherm unit, the air enters the combustion chamber at a high velocity, and mixing with the fuel is made to spiral in a revolving vortex along the entire length of the furnace. This controlled spiral is actually cyclonic in motion. This intensely luminous flame transfers heat to the fire tube both by radiation and convection, resulting in an

unusually high rate of heat transfer. *There are no hot spots!* The efficiency of the Cyclotherm principle plus the ingenuity of Cyclotherm design calls for 3 square feet of heating surface per B.H.P. required—and *no more!*

The Cyclotherm meets all state requirements and are built in accordance with A.S.M.E. and National Board Standards and bears the label of UNDERWRITERS LABORATORIES, INC.

*Full power operation from a cold start in 15 to 20 minutes. Savings up to 50% on maintenance. Great fuel operational savings.*

*Boilers are designed for oil or gas operations from 18 thru 500 h.p., 15 to 200 lbs. operating pressure.*

*Details of these and many other facts regarding Cyclotherm generators are available by writing Dept. D.*

**MORE POWER per operating dollar**



# CYCLOTHERM

**STEAM GENERATORS  
OSWEGO, NEW YORK**



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## Most Wanted by Builders

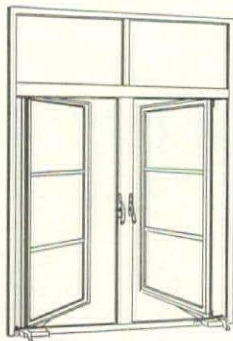
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ALL FROM ONE SUPPLIER IN ONE SHIPMENT

Preferred recognition of Steelcraft building products is rapidly growing among building supply dealers and builders. Steelcraft Products are **always available** on prompt shipping schedules. And another BIG advantage, they are low in cost. Steelcraft building products speed up building, create satisfied customers wherever used. Progressive architects specify them, dealers endorse them.

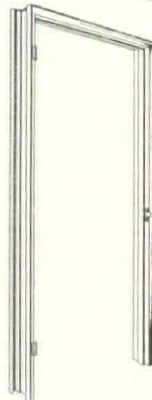


STEEL RESIDENCE  
CASEMENTS



- Sturdy, Hot Rolled Steel Sections
- Corners mitred and butt welded
- Extra Long, Reinforced Extension Hinges
- Extra Heavy, Die-Cast Operating Hardware
- Double Weathering Contact—all four sides

STEEL DOOR  
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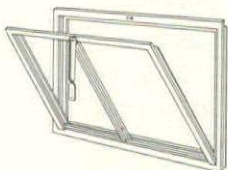


- One piece unit—all steel—all welded
- Two 3½x3½ hinges furnished for 1¾" door. (Three 4x4 hinges furnished for 1¾" door at no extra cost)

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STEEL BASEMENT  
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- New IMPROVED type handle and locking device
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- Rib depth provides bed for mortar for masonry
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SPACEMAKER STEEL SLIDING  
CLOSET DOORS



- Packaged, ready to install
- Easy to install
- Silent, ball-bearing rollers
- Won't stick, splinter, warp, sag

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## LETTERS

aping its nothingness. To liken these naked wide flange sections to the classic grandeur, chiselled strength and serene beauty of the Doric Order is a shameful, unprovoked insult. I have no doubt that the Greeks would have had a very appropriate word for this glass box. . . .

BERNARD S. GLASSMAN, *President*  
The Stanbern Construction Co.  
Washington, D. C.

Sirs:

Why does not the foremost American magazine of architectural criticism recognize the mediocre product of a great and gifted architect?

"Purity," "simplicity" and "precise" detailing are merely elements of art creation; they do not stand singly as architecture's God triumvirate. Specifically, Mies van der Rohe's Farnsworth house lacks scale. And, whatever his justification of their size, the columns are crude, proportionately unpleasing. The relationship of column to wall and column to mullion was undoubtedly long considered by the architect; but the tangential position of the column in relation to the roof and the nonexpression of their connection ("seemingly held up by some new structural magic," indeed!) have produced visual structural complexity and thus have answered not modern man's most vital need: shelter—real and imagined.

Man is constituted flexible enough to adapt his mode of living to most any imposed architectural order, be it a tenement, a lighthouse or Mies van der Rohe's Farnsworth house. The real need for architectural order is to mould humanity into finer lines. The Farnsworth house changes but does not improve; it is original without being beautiful; and THE MAGAZINE OF BUILDING will lead many into thinking it is great art, which it is not.

J. WEST, *Architect*  
Sarasota, Fla.

Sirs:

The spiritual beauty of the Farnsworth house has seldom been attained in all architecture. Your presentation of it is superb, an event of the first importance. . . .

While Mies has shown us better than anyone that a building should be as simple in concept as its requirements permit, there is a great danger in architects being so impressed with Mies' design that they try to impose over-all forms of similar simplicity where they may cramp the occupants' living. Used superficially as an exterior style, however beautiful the house may appear, it can be too easy an escape from the solution of valid internal requirements. The rectangle of even bays can too often be a deceptively bland strait jacket.

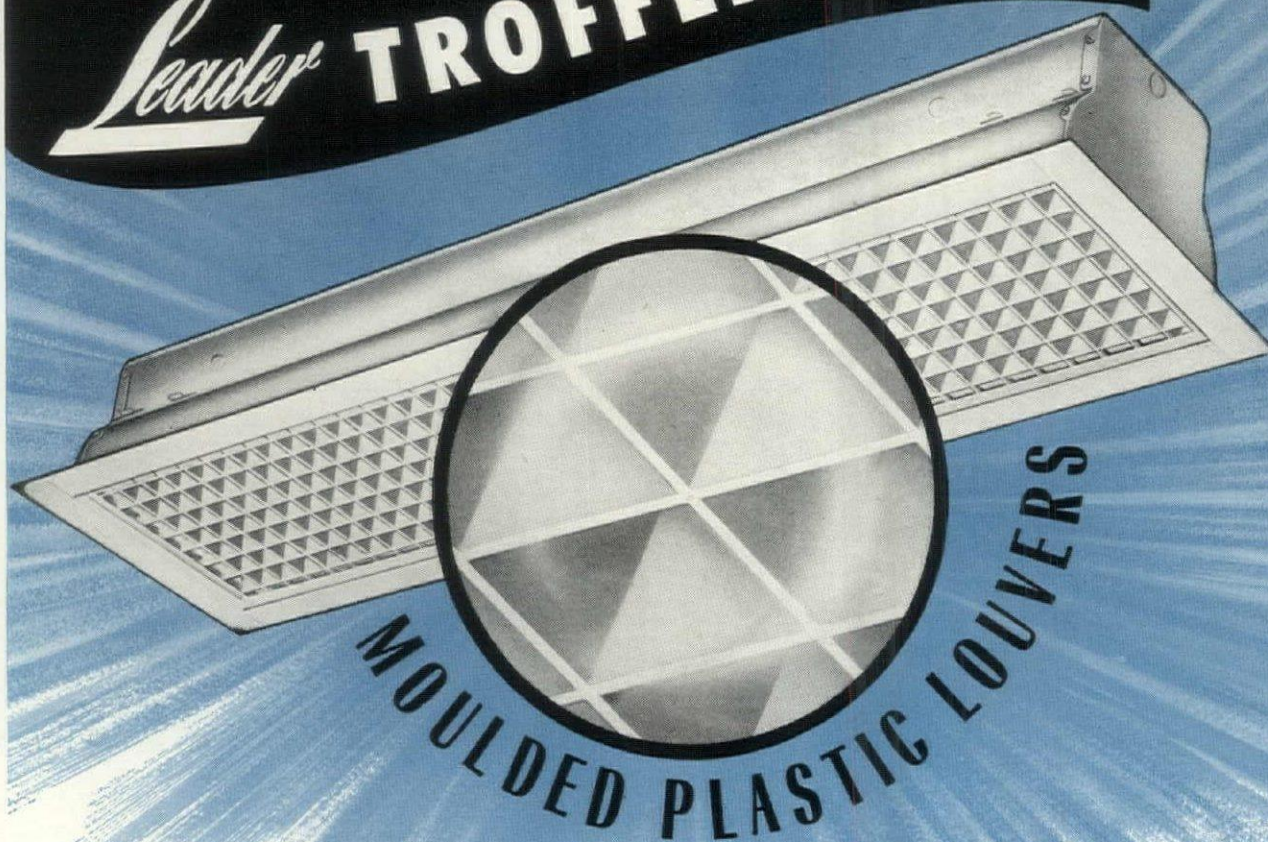
As you say early in your article, this is a concept "very special and selective in its appeal."

GEORGE S. LEWIS, *Architect*  
New York, N. Y.

(Continued on page 82)



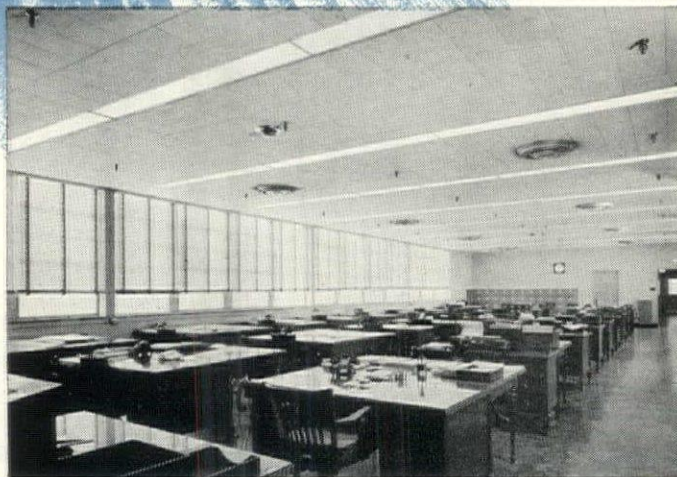
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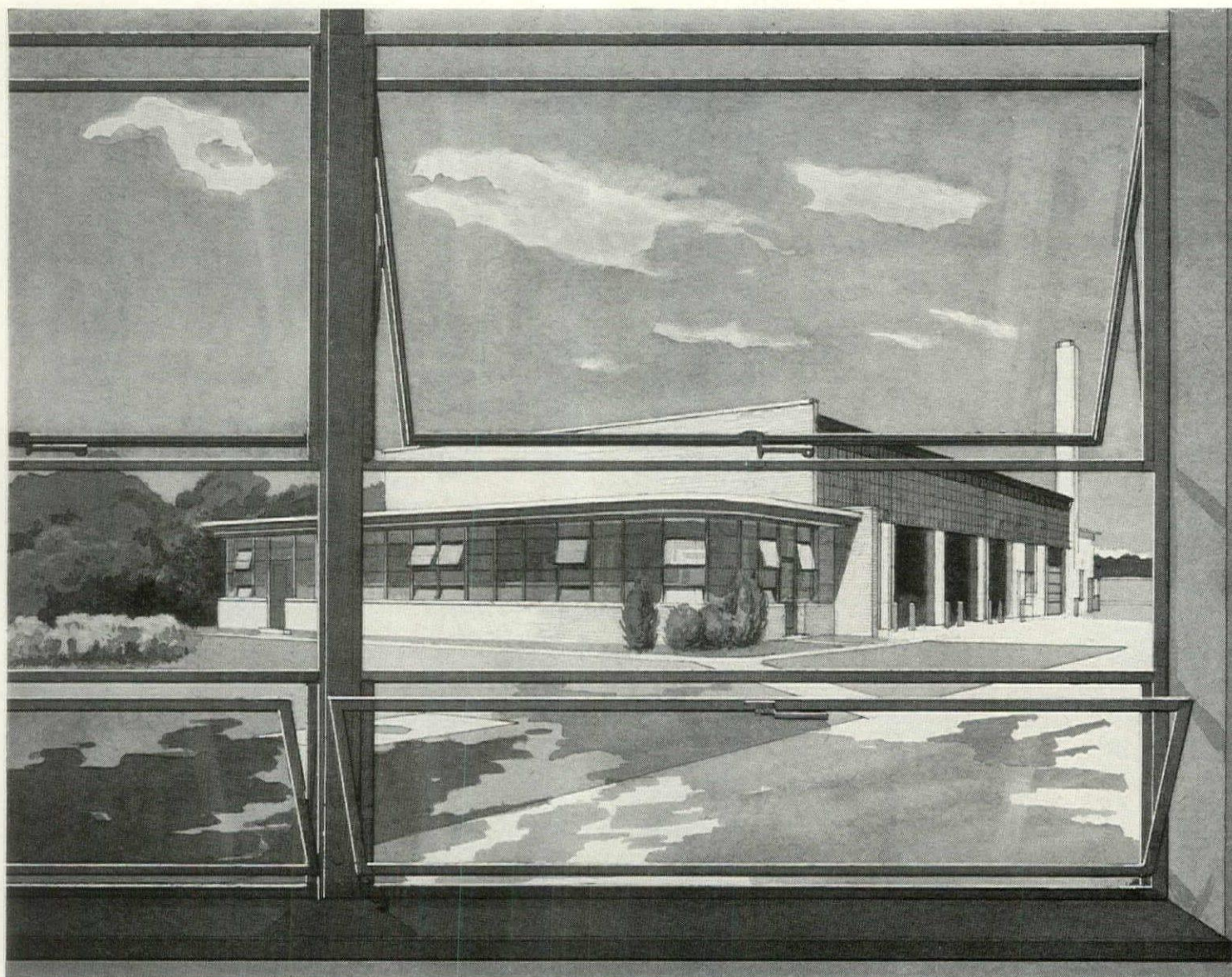


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When you design — keep Lupton in mind. Lupton Metal Windows offer you a trouble-free solution to the three basic window problems — light, ventilation and protection from the elements.

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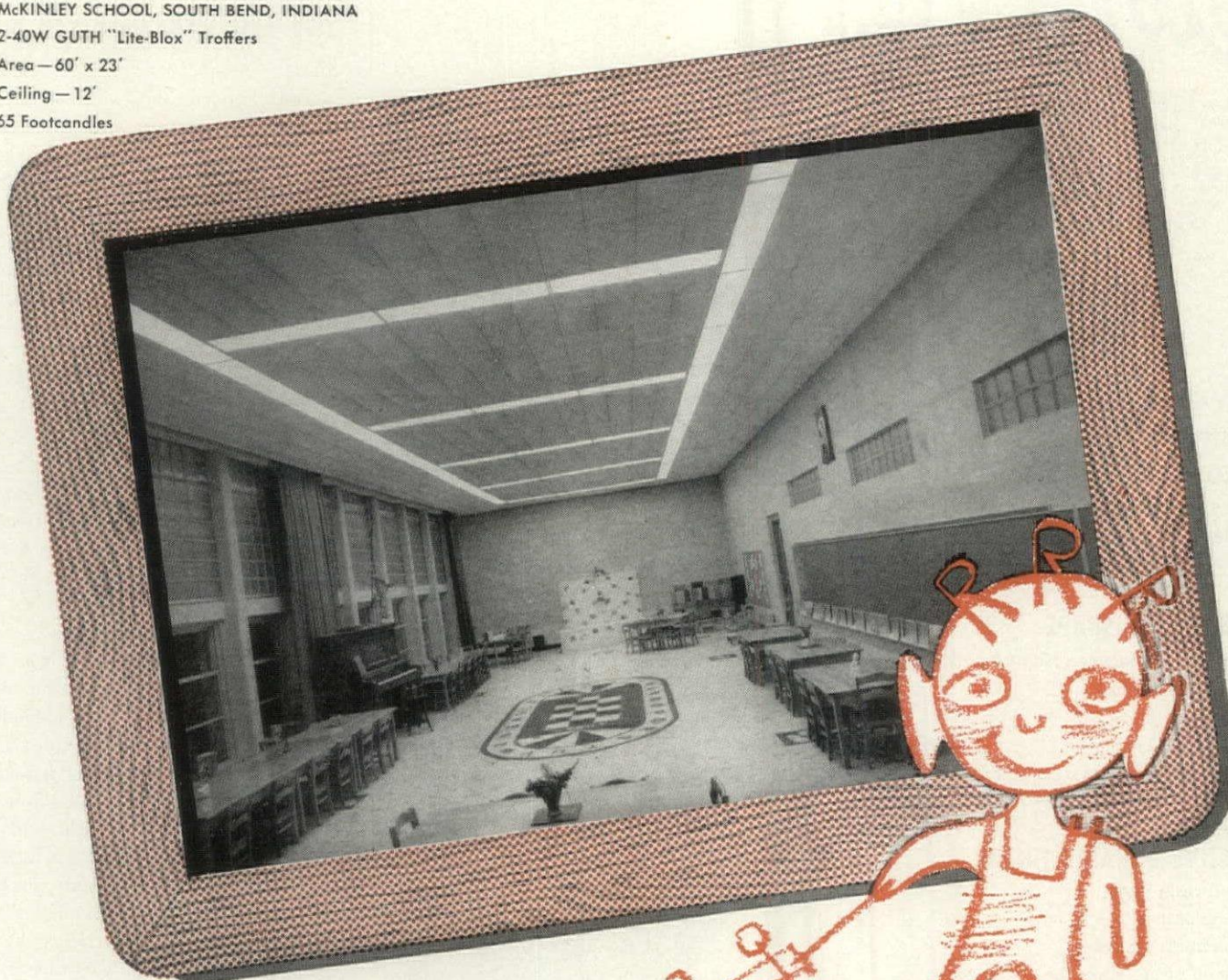
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McKINLEY SCHOOL, SOUTH BEND, INDIANA  
 2-40W GUTH "Lite-Blox" Troffers  
 Area—60' x 23'  
 Ceiling—12'  
 65 Footcandles



## A LIGHTING LESSON IN KINDERGARTEN!

the "3 R's" of Guth  
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In classrooms from kindergarten to college, GUTH fixtures are made to solve the toughest lighting problems. They combine the finest illumination for modern education with important economy in purchase, installation and maintenance.

For more information on GUTH *Precision-Planned School Lighting*, contact your nearest GUTH resident engineer or write for our School Lighting Catalog.



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**New!**

# IT'S GRANCO STEEL ROOF DECK

## ROTARY-PRESS FORMED SHEETS

Uniform-pattern

## WIDE COVER WIDTH

Reduced number of side laps  
Material economy  
Greater resistance to concentrated loads

## MOST EFFECTIVE SHAPE

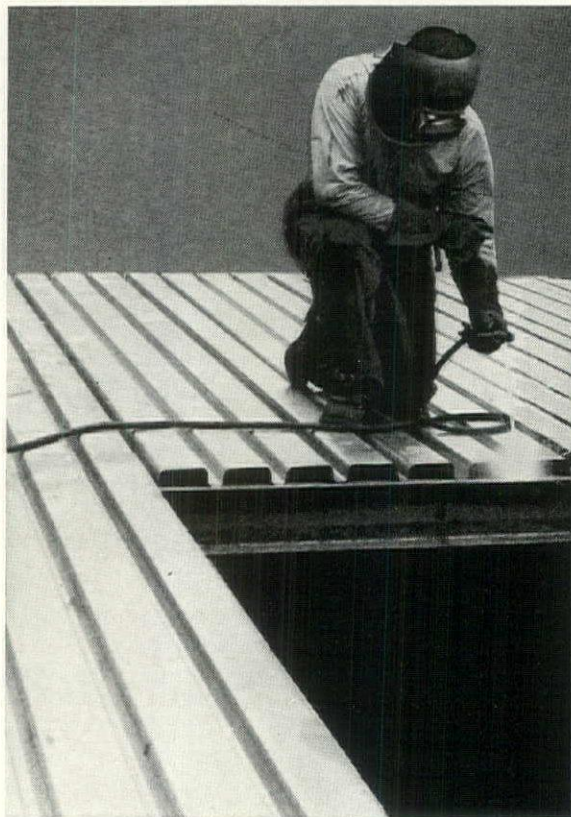
(relationship between rib and flat)  
Greater Stiffness  
High Strength  
Deep Ribs (1 5/8")  
(the same thickness as a 2" x 4" giving maximum flexibility for architectural design)

## ATTRACTIVE DURABLE FINISH

Alkyd resin paint  
Rust inhibitive  
Autumn brown color  
Striking panel effect for ceilings

## QUICK TO ERECT

Correct shape for fast laying  
35 sq. ft. covered per sheet placed  
Side lap adjustment eliminates "sheet crawl"



**DESCRIPTION**—Granco Steel Roof Deck has longitudinal ribs 1 5/8" deep spaced on 5 3/4" centers and is available in 18, 20 or 22 gage. The ribs are flared at one end permitting proper nesting at end laps. Granco Steel Roof Deck has a wide cover width of 28 3/4" with a maximum sheet length of 14' 4". Positive attachment obtained by welding.

**WRITE FOR FREE BOOKLET**

Gives description, physical properties, complete loading tables and suggested specifications for Granco Steel Roof Deck. Request booklet No. BDr-511:



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## LETTERS

### TWO NEW MAGAZINES FOR BUILDING

Sirs:

Your two editions will mean that there will be a chance to more nearly cover the field.

EDWARD D. STONE, *Architect*  
New York, N. Y.

Sirs:

Your announcement of the new magazine sounds awfully good. . . . And thank heavens the ARCHITECTURAL FORUM comes back to its own!

HENRY HILL, *Designer*  
San Francisco, Calif.

Sirs:

. . . a wonderful idea! I am looking forward to the blessed event with great interest.

MORRIS KETCHUM, JR., *Architect*  
Ketchum, Gina & Sharp  
New York, N. Y.

Sirs:

The minute I heard what you were planning I was sure your new magazine would have the biggest circulation in the home-building field. The reason is perfectly simple: In a very real sense, today's home-building industry is a brand new industry. The assembly line operation of 1951 is as different as night and day from the home-building industry of 1941. But until your announcement, there was no magazine serving the interests of this new home-building industry.

I have read your dress rehearsal October issue from cover to cover. I think it's wonderful. More to the point, it is just what the industry has needed.

All of us are delighted that TIME and LIFE have decided to go all-out to give us a really great magazine, and we wish you the very best of success.

WILLIAM LEVITT, *President*  
Levitt & Sons, Inc.  
Manhasset, N. Y.

Sirs:

Congratulations on the new all-house magazine. To have THE MAGAZINE OF BUILDING publish such a magazine will assure the building industry of getting the best in the residential field. . . .

MILTON A. RYAN, *Architect*  
San Antonio, Tex.

Sirs:

Your October issue as a sample of the new magazine is most interesting. Architect-designed houses for individual clients reach a high standard of excellence. I hope that the featured ideas will not appear in watered-down, cheaper form in future builders houses but that the merchant builder will use this demonstrated ability of the architect to make a direct solution to the volume-built house. This should prove far better than application of made-over hand-me-down ideas. Your new policy should help to bring about better understanding and closer collaboration

(Continued on page 86)





THANKS to the enthusiastic acceptance of **SOLID OLSONITE SEATS** by ARCHITECTS and ENGINEERS MORE THAN 4000 SEATS PER DAY are being produced by OLSONITE.

NOT HOLLOW • NOT CONCAVE • NOT CORED-BUT **SOLID Olsonite**

PLASTICS DIVISION • SWEDISH CRUCIBLE STEEL CO.  
8561 BUTLER AVENUE • DETROIT 11, MICHIGAN



# How many autocrats on Park Avenue?

There's no telling the total. But in just one building — at 100 Park Avenue — there are about three thousand two hundred and ninety three. Every day in the year, that many happy autocrats have absolute power over their weather.

The reason? This new 36-story building is air conditioned by the Carrier Conduit Weathermaster\* system. It supplies conditioned air to 3293 Weathermaster room units — and gives each tenant the privilege of heating or cooling that air to his pleasure.

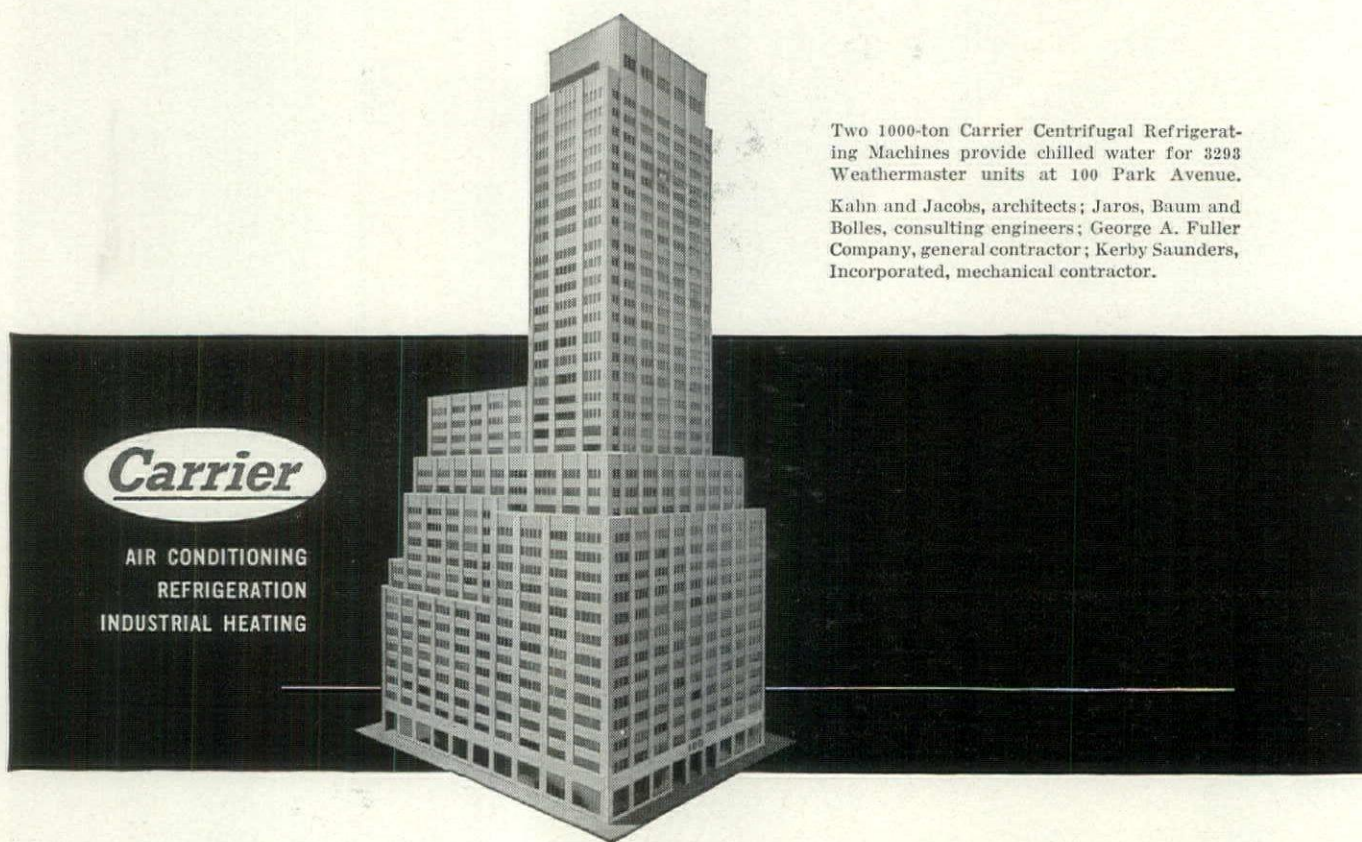
But happy tenants aren't the only advantage of the Weathermaster System. The room units contain no fans, motors or other noise-producing moving parts. There's nothing in them to go wrong. All the mechanical elements of the air conditioning system are centralized; so is the maintenance.

But we're getting ahead of our story, because the advantages of the Carrier Conduit Weathermaster System begin when construction begins.

It saves space. It eliminates return ducts, replaces supply ducts with small-diameter conduits. It takes 75 to 85% less space than ordinary systems, uses a fifth as many pounds of sheet metal.

It's easy to install. The conduits are prefabricated, slip together easily. In existing buildings, it takes only 15% of the usual cutting and patching to install the Carrier system. Like to know more? Write to Carrier Corporation, Syracuse 1, New York.

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



Two 1000-ton Carrier Centrifugal Refrigerating Machines provide chilled water for 3293 Weathermaster units at 100 Park Avenue.

Kahn and Jacobs, architects; Jaros, Baum and Bolles, consulting engineers; George A. Fuller Company, general contractor; Kerby Saunders, Incorporated, mechanical contractor.



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**BESTWALL**®

offers up to 3 times the fire resistance  
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It is the only gypsum wallboard with a single-layer fire resistance rating of 1 hour for walls AND CEILINGS.



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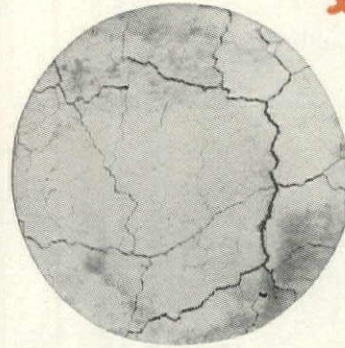


Its structural strength and sound-deadening characteristics exceed those of any ordinary gypsum wallboard.

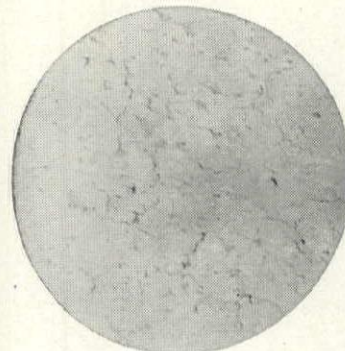


It is an exclusive Certain-teed development.

Write today for our FIRESTOP BESTWALL Folder. It contains complete information and specifications on this remarkable Certain-teed gypsum development.



Unretouched photo showing a section of ordinary gypsum wallboard after it has been subjected to a fire temperature of 1,700°F. for 1 hour. Note the shrinkage cracks, characteristic of ordinary gypsum exposed to heat.



Under the same conditions, FIRESTOP BESTWALL shows no appreciable cracking, because its core is stabilized with incombustible fibers and unexpanded vermiculite, through an exclusive Certain-teed process.

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\*WHEN APPLIED ACCORDING TO SPECIFICATIONS

## LETTERS

between the private architect, merchant builder and mortgagee.

HUGH STUBBINS, *Architect*  
Lexington, Mass.

Sirs:

... Three cheers for two great architectural magazines.

GARRETT RYERSON, JR.  
*Fereng & Taylor, Designers*  
Brooklyn, N. Y.

Sirs:

Congratulations and best wishes on your new publication. I hope that with one branch of the old FORUM specializing in houses it may throw a little more serious competition in the way of the popular home magazines.

BUFORD L. PICKENS, *Architect*  
New Orleans, La.

Sirs:

Your new magazine, I hope, will fill a vacuum. While striving for attendancy and while reaching beyond the profession, it can help to lessen elementary confusion among consumers stranded in the wilderness. Congratulations.

RICHARD G. NEUTRA, *Architect*  
Los Angeles, Calif.

Sirs:

I should like to raise a small dissenting voice to the enthusiastic reception greeting your plans to split yourself in half. . . .

STANLEY M. SHERMAN  
Brooklyn, N. Y.

Sirs:

I'm pleased and excited. . . .

GEORGE R. SAUNDERS  
San Diego, Calif.

Sirs:

Best of success to the new venture.

How about some articles devoted principally to the often neglected but badly needed profession of landscape architecture? . . . .

JOHN H. STALEY, JR.  
*Esmundson & Staley, Landscape Architects*  
Oakland, Calif.

• Architecture's sister profession will receive more attention in the new magazine.—Ed.

Sirs:

I have been an interested observer of your tortured search for a significant title. . . . Why not "Space"?

C. H. DESILVER  
Brooklyn, N. Y.

• "Space" was considered but the two editions of THE MAGAZINE OF BUILDING will be HOUSE & HOME and ARCHITECTURAL FORUM.—Ed.

(Continued on page 90)



# You can save \$570

## for every 10,000 square feet in your plant with Westinghouse Bus Duct

"On a recent field survey made by our Sales Engineering Division for the application of 440-volt plug-in bus duct versus wireway, it was found that for a complete bus-duct system the installed cost was \$17.30 per 100 square feet, whereas for a complete wireway system with taps, the cost was estimated at \$23.00 per 100 square feet. This cost does not evaluate all the advantages that plug-in duct offers for ease of making taps under safe conditions without shutdown."

The Buffalo Electric Co., Buffalo, N. Y.



Many plants have found in Westinghouse Bus Duct a system of power distribution impossible to match for low installed cost and high carrying capacity in limited space.

Westinghouse Duct, in completely prefabricated sections, varying in length to suit requirements, is convenient to handle and easy to hook up. The longer the run, the greater the saving.

And Duct is easily disassembled for quick expansion or changeover—critical today when equipment must operate at uninterrupted top capacity, top efficiency.

Experienced Westinghouse Field Engineers can help you plan your secondary power distribution system. Phone your nearest Westinghouse Office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

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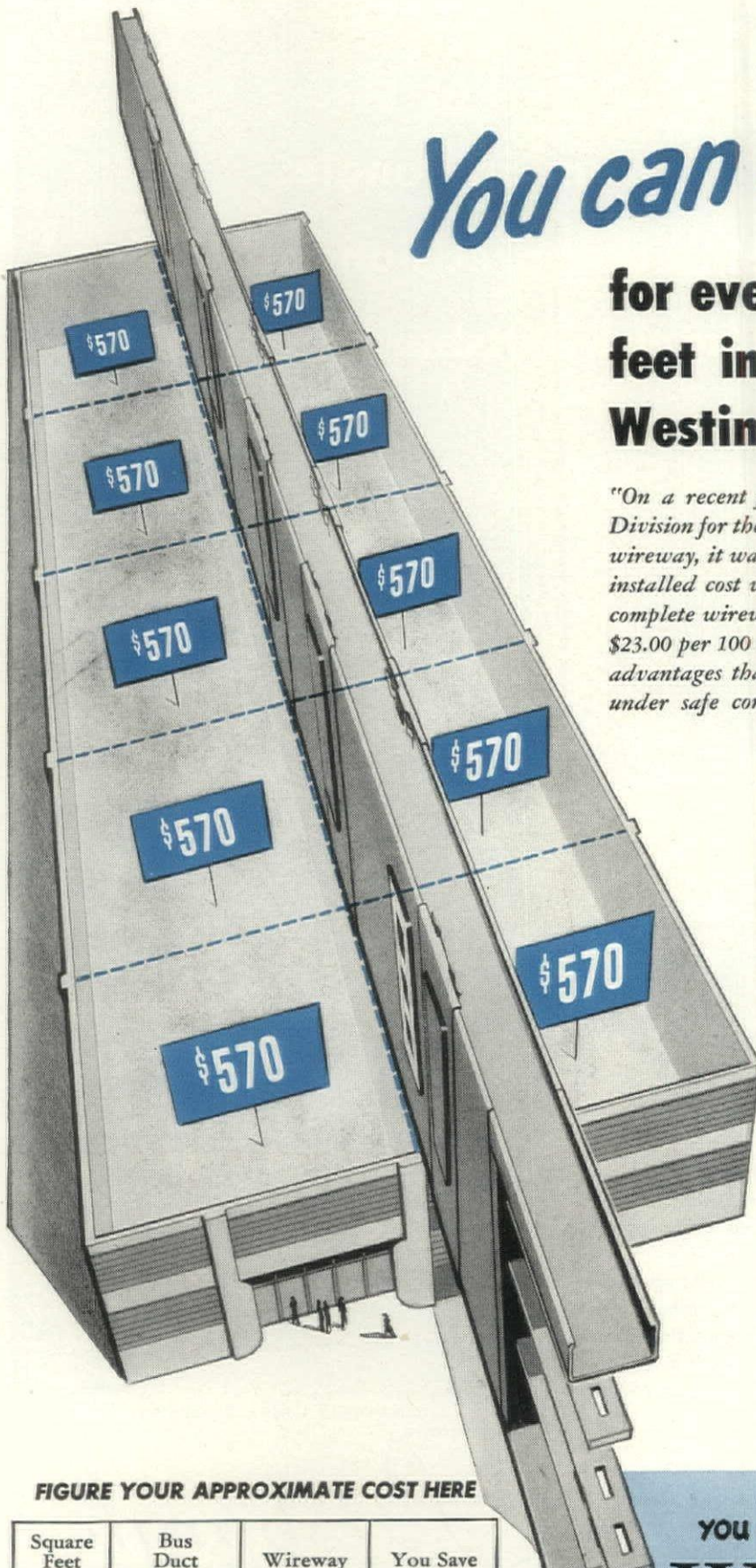


FIGURE YOUR APPROXIMATE COST HERE

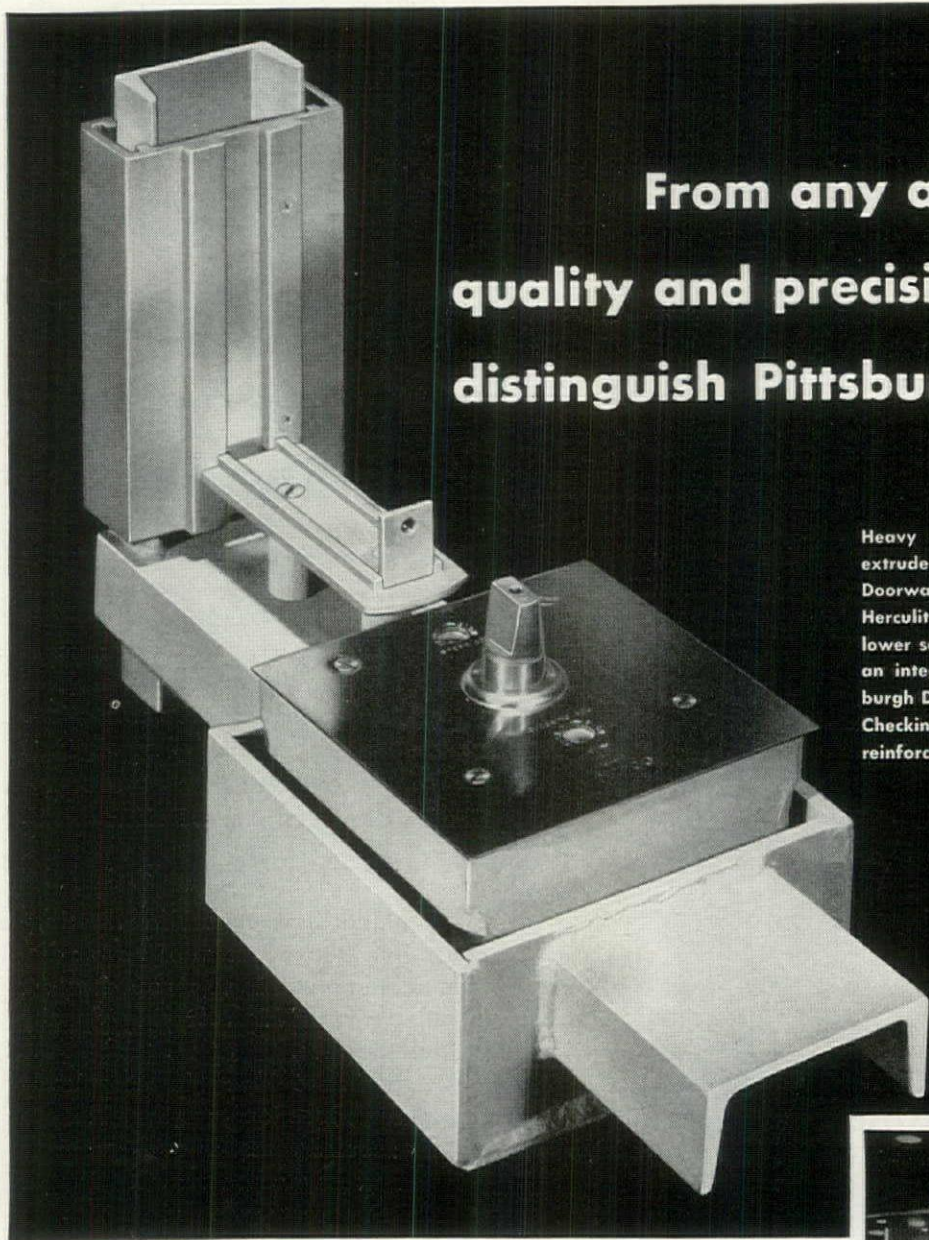
| Square Feet | Bus Duct  | Wireway   | You Save  |
|-------------|-----------|-----------|-----------|
| 1,000       | \$ 173.00 | \$ 230.00 | \$ 57.00  |
| 10,000      | 1,730.00  | 2,300.00  | 570.00    |
| 20,000      | 3,460.00  | 4,600.00  | 1,140.00  |
| 50,000      | 8,650.00  | 11,500.00 | 2,850.00  |
| 100,000     | 17,300.00 | 23,000.00 | 5,700.00  |
| 250,000     | 43,250.00 | 57,500.00 | 14,250.00 |



YOU CAN BE SURE.. IF IT'S  
**Westinghouse**  
**BUS DUCT**







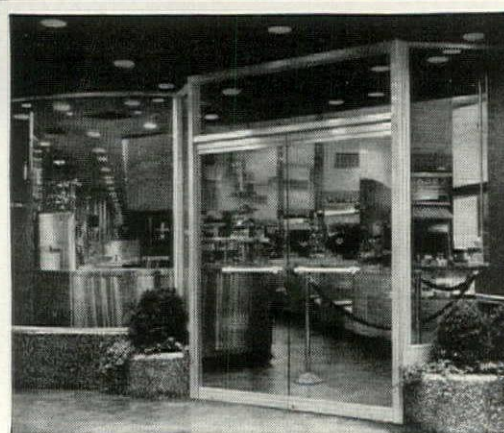
**From any angle,  
quality and precision fabrication  
distinguish Pittsburgh Doorways**

Heavy steel construction, reinforcing the heavy extruded aluminum frame, prevents Pittsburgh Doorways from getting out of line and permits Herculite Doors to swing easily always. In this lower section of the frame, note side-light track—an integral part of several standard style Pittsburgh Doorways. Also note how the unique Pittco Checking Floor Hinge is permanently placed in its reinforced box.

● Because of these quality features and careful workmanship, it is easy to understand why Pittsburgh Doorways are noted for their lasting satisfaction and for their ability to cut labor costs on the job to a minimum.

Pittsburgh Doorways are factory-assembled to precision standards. Expert craftsmen use special checking gauges to assure absolute accuracy of all dimensions. This means the saving of several days' installation work at the site. There are no time-consuming calculations, no costly fitting, locating or fabricating details in the field.

Think of the *total-installed cost*—not just the list price; consider the quality manufacture that marks every detail of construction and you'll choose Pittsburgh Doorways every time! For complete information, write today to Pittsburgh Plate Glass Company, 2271-1 Grant Building, Pittsburgh 19, Pennsylvania.



Architects: Fuller & Beckett, Atlanta, Ga.

*Pittsburgh*  
**DOORWAYS**

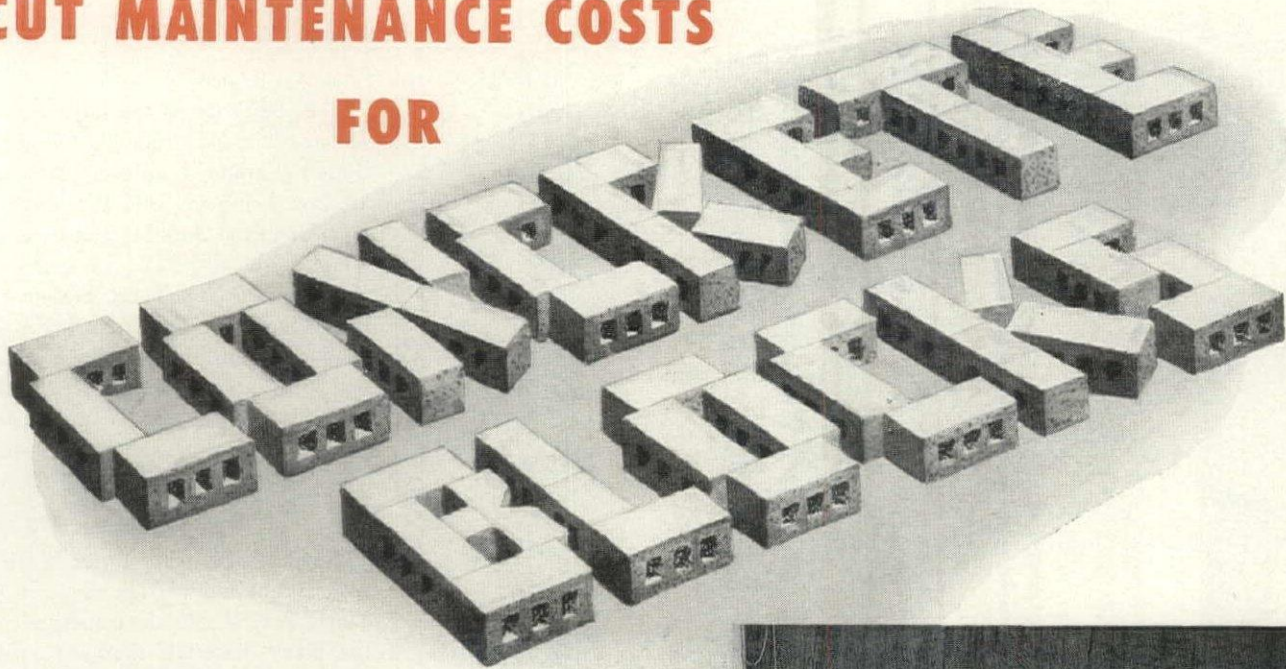


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**PITTSBURGH PLATE GLASS COMPANY**



# CUT MAINTENANCE COSTS FOR



# GET UTMOST PROTECTION FOR



## WITH COATINGS BASED ON

Now, concrete blocks get really lasting resistance to moisture and water seepage—with an easily applied coating system based on VINYLITE Brand Resins.

In basements that once leaked water to the floor in every rain, these remarkable paints have kept walls dry and gleaming white for more than a year. Applied to the exterior of a Cincinnati warehouse that was half inundated for nine days during a flood, there was no evidence of blistering, chalking, erosion, flaking, or map cracking.

Coatings based on VINYLITE Brand Resins are tops in their field for resisting weather, salt and corrosive atmospheres, oils, greases, alkalis, most strong acids.

Available in a wide range of colors, they cut maintenance costs by staying on the job far longer than older materials. They're highly recommended for concrete floors, bricks, stucco, cinder block and asbestos siding—for homes, apartments, factories, chemical plants.

They're the last word in providing dry, clean, attractive walls.

Ask us for a list of representative suppliers of concrete coatings based on VINYLITE Brand Resins. Write Dept. LG-14.

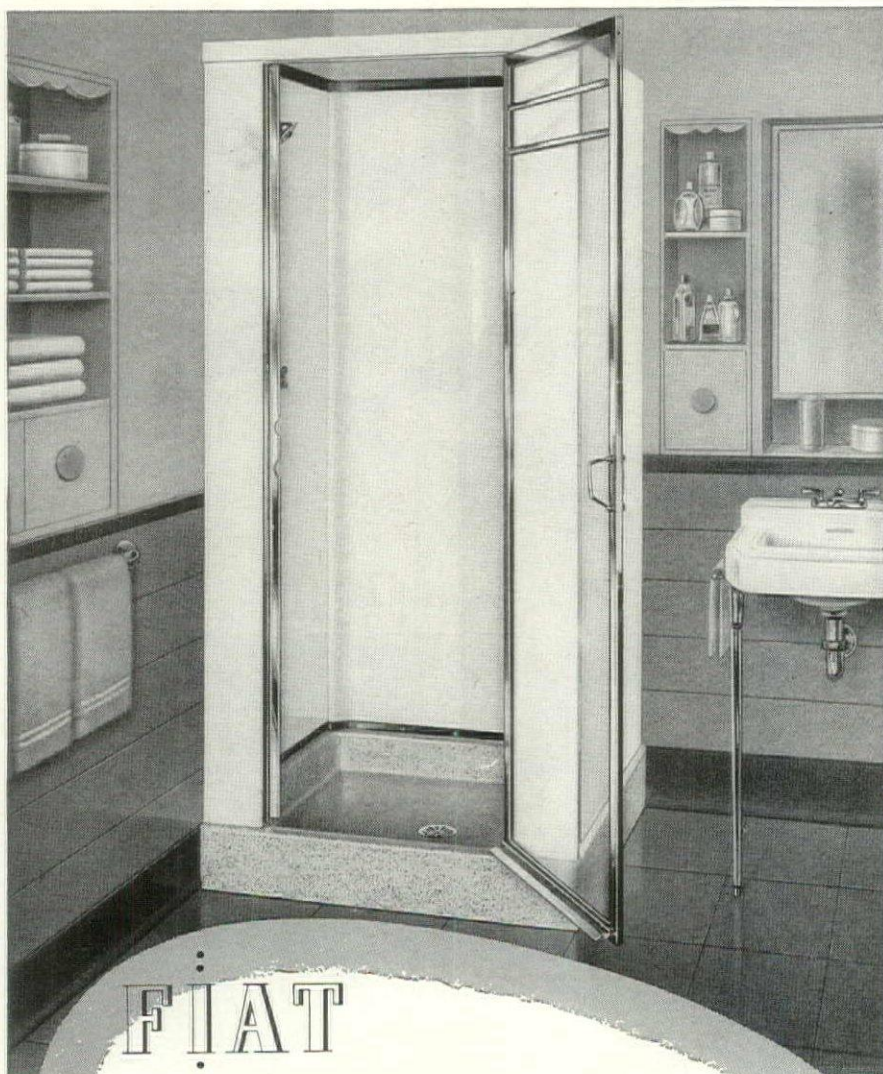
Data on concrete block coatings courtesy Perry & Derrick Co., 109 Corwine, Cincinnati, Ohio

Data on concrete floor coatings courtesy Benjamin Foster Co., 4635 W. Girard Ave., Philadelphia 31, Pennsylvania.

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**FIAT**

*Admiral... THE*

**SHOWER CABINET WITH A**

**VITREOUS PORCELAIN ENAMEL INTERIOR**

The smooth, glass hard, vitreous porcelain interior surfaces of the Admiral Shower provide the ultimate in cleanliness and sanitation, they remain white and impervious to wear for a lifetime. Exterior of side and back panels are regularly finished with vitreous porcelain enamel ground coat, but can be furnished to match interior at small extra cost. Front stiles and head rail, bonderized, galvanized steel finished in white synthetic baked-on enamel. Receptor, deep type terrazzo made of black and white marble chips and white cement. Sizes 36" x 36" x 80" and 40" x 40" x 80". Illustration shows this shower equipped with a Fiat Dolphin heavily chromium plated glass door. The Admiral shower is suitable for high grade residential and institution installations.

*Complete specifications in Sweets' Architectural Catalog File, or write any of the three Fiat plants for catalog.*



**FIAT METAL MANUFACTURING CO.**

Three complete plants  
Chicago 13, Ill. Long Island City 1, N. Y. Los Angeles 63, Calif.

In Canada—Fiat showers are made by Porcelain and Metal Products, Ltd. Orillia, Ontario

## LETTERS

### CHAOS IN CONSTRUCTION CONTROLS

Sirs:

Your editorial on the impact of NPA controls (Sept. issue, '51) upholds the contention of the Building Trades Employers' Association. Efforts are now being made in Washington through the BTEA and the Building and Construction Trades Council, A. F. of L., to get some relief for Metropolitan New York. Serious unemployment is developing in New York because of the sharp decline in building construction. This situation will grow progressively worse as many projects have been withdrawn from the planning stage.

PAUL M. KEISTER  
New York, N. Y.

Sirs:

I sympathize with a number of your observations but know from my own experience in World War II that the construction industry and the many materials that are used therein present a terrifically involved problem. . . .

We had a coordination agency in World War II but it had one devil of a time, and the problem was made more difficult by the diversity of interests and the lack of any broad support within the industry itself. So I am quite sympathetic with those who have to deal with an industry that just doesn't lend itself to effective control.

But there is merit in stirring up thought and seeking interest and improvement.

HAROLD BOESCHENSTEIN, Pres.  
Owens-Corning Fiberglas Corp.  
Toledo, Ohio

Sirs:

. . . There is so much confusion in Washington that nobody in the construction business knows what he can do.

O. F. SIEDER  
Executive Vice President  
The H. K. Ferguson Co., Inc.  
Cleveland, Ohio

### REPORT FROM GERMANY

Sirs:

I feel enthusiastic and sorry. Enthusiastic about the wonderful buildings and plans you publish and the way you do it, sorry about our little possibilities we have in Germany. . . .

Of course, here is plenty of work to do too, and we are building very much, but it would be impossible to build a house in the style of Mr. Wright or other modern American architects. Apart from the fact that our materials and wages are very expensive and for this reason we must build as cheaply as possible, our Boards of Works are much too intent on the avoidance of the execution of a project which is different from the traditional style of architecture. . . .

It is impossible to design and build in the same manner as in America, but, so help me, I feel a great desire to do so. . . .

RAPHAEL TSCHY, Architect  
Landshut, Germany

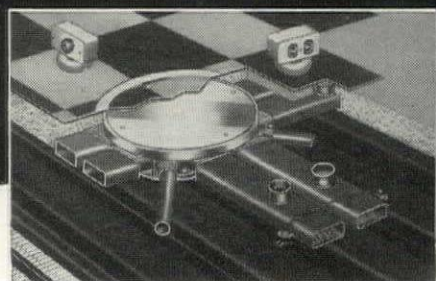
(Continued on page 96)



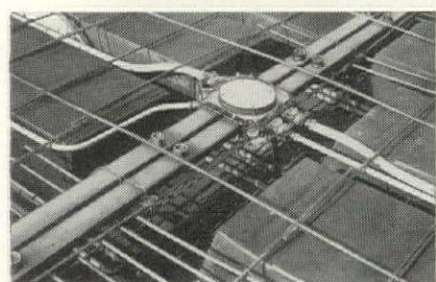
For any type of floor construction, specify



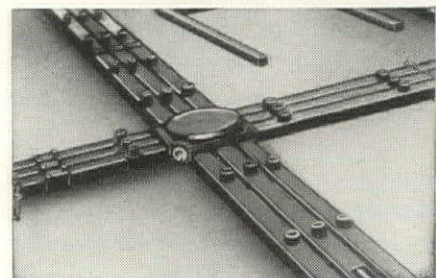
**STEEL DECK**



**CELLULAR STEEL**



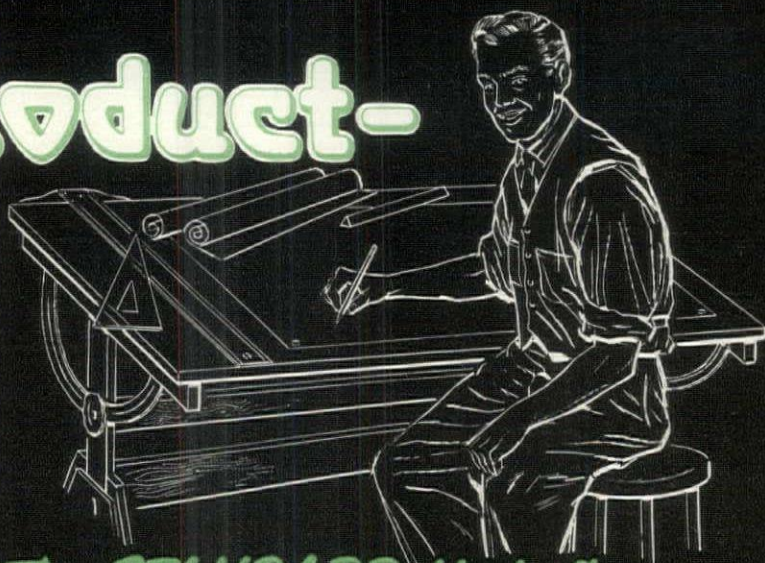
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*The **STANDARD** Underfloor  
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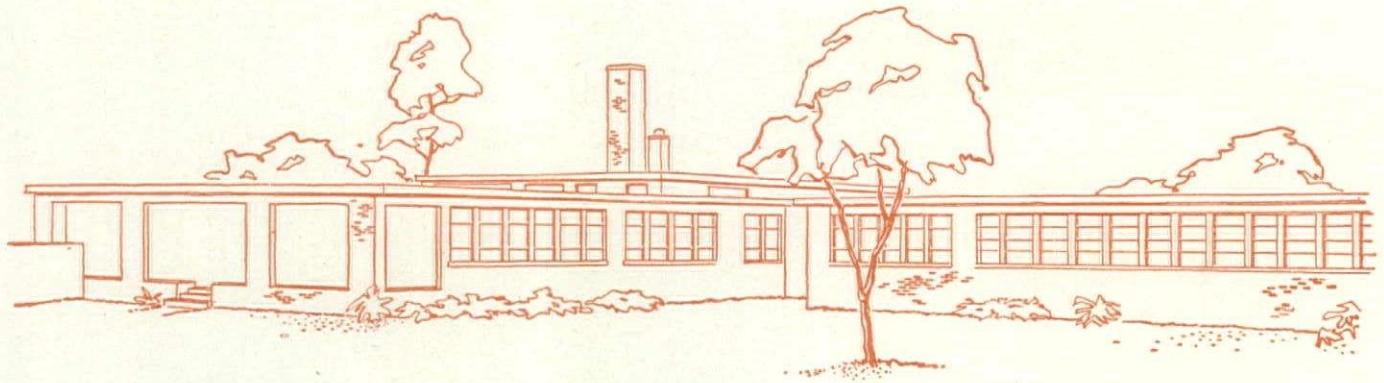
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Title . . . . .

Company . . . . .

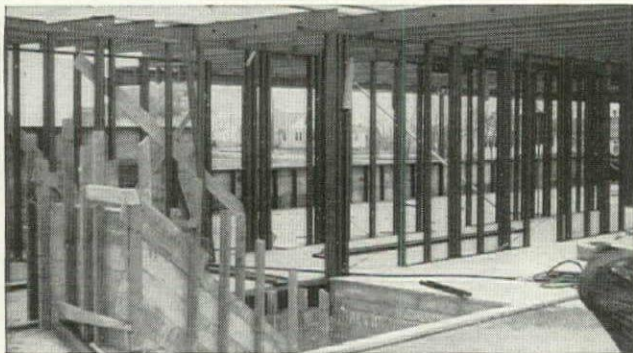
Address . . . . .



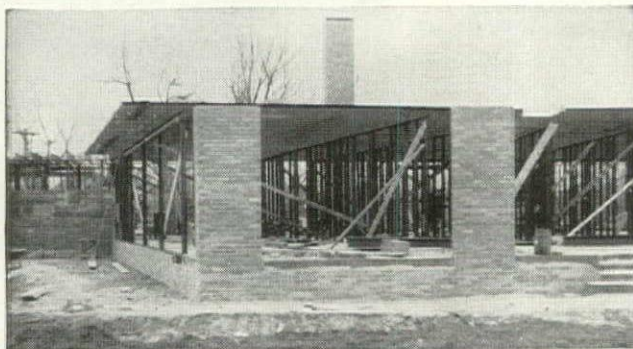


*Architect saves time and money  
in new hospital construction with*

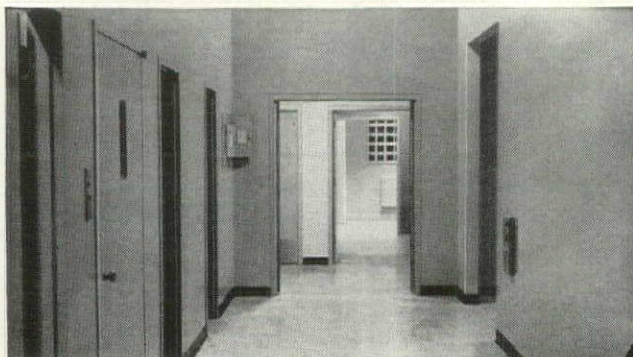
# STRAN-STEEL<sup>®</sup> FRAMING



Interior view of Redfield (S.D.) hospital under construction. Stran-Steel framing comes pre-cut, pre-punched, treated with rust-inhibiting paint.



Exterior view of construction. Electrical wiring is installed through factory-punched holes in framing members.



Spick-and-span interior of the hospital shows how flush finishing of walls and doors lends convenience, promotes sanitation.

Architects are quick to recognize the many advantages of Stran-Steel *nailable* framing in commercial and industrial construction. Read what Mr. A. McWayne, of Perkins and McWayne, architects and engineers, Sioux Falls, S.D., says:

"We are well pleased with the Stran-Steel construction as incorporated in the hospital at Redfield, South Dakota . . . Stran-Steel offers many possible savings in time and cost of construction."

Mr. McWayne says that Stran-Steel framing permitted complete enclosure of the building to allow interior work to proceed before exterior completion. This means that sub-trades (electrical, plumbing and heating) were not held up waiting for bricklayers, concrete workers, etc., to finish their jobs. Man-hours were saved and costs held down.

*If you are planning a school, hospital or industrial building, it will pay you to investigate Stran-Steel framing. Complete literature available on request, or see Sweet's catalog service, architectural (  $\frac{3c}{6r}$  ) and builders' (  $\frac{3a}{6r}$  ) files.*

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*Lighting matched to the job*

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A California school for deaf children presented this problem: "To provide *comfortable* high-intensity lighting with freedom from shadows or glare."

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J-04291



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**PLANNED LIGHTING**



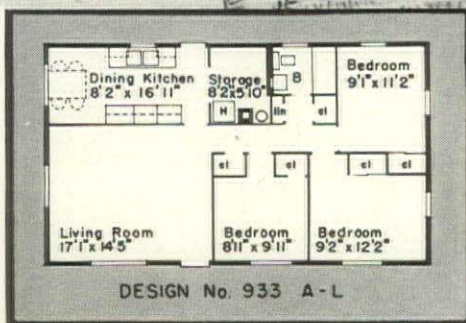
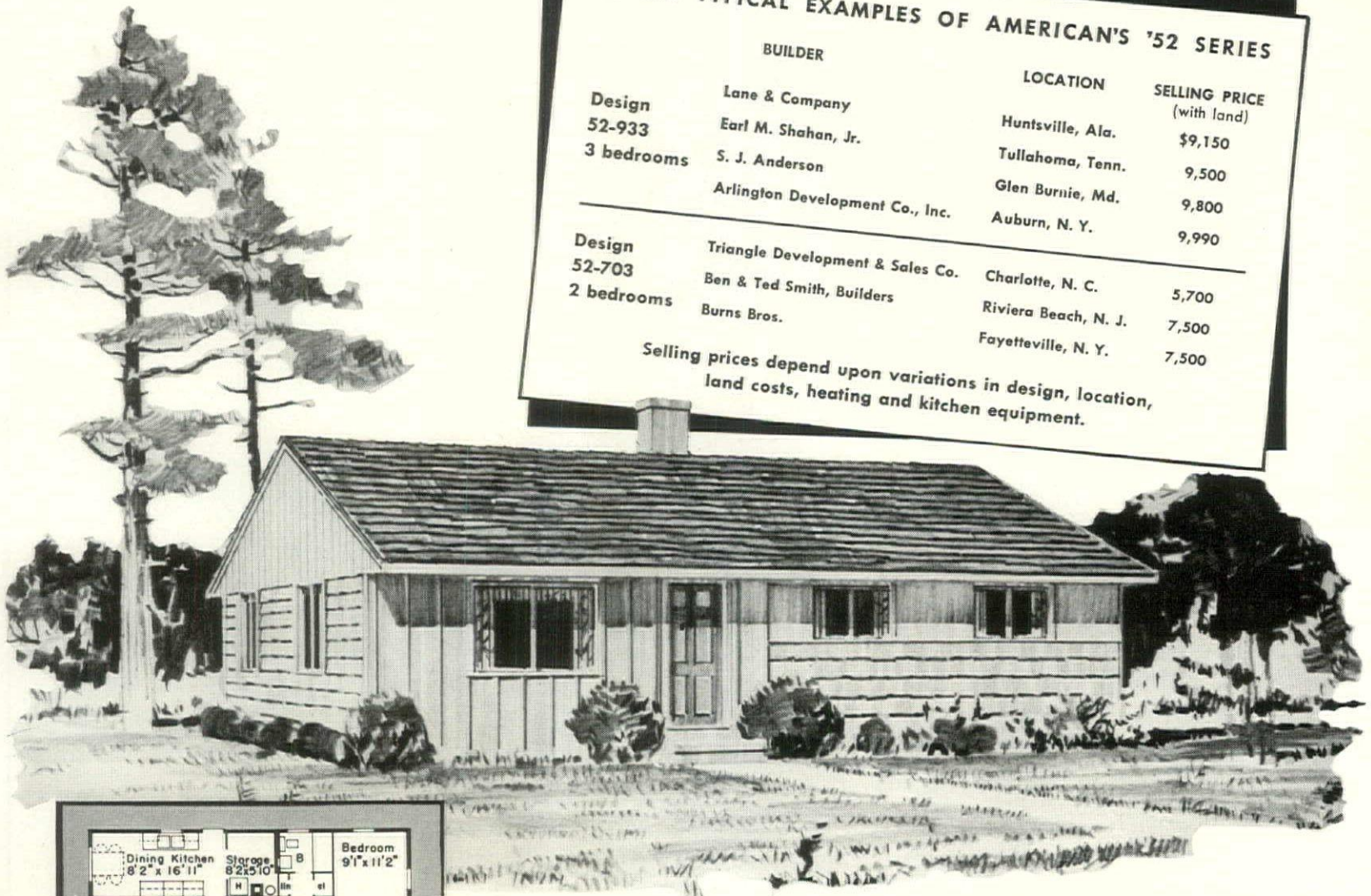


# RESULTS speak for themselves!

## A FEW TYPICAL EXAMPLES OF AMERICAN'S '52 SERIES

|                             | BUILDER                                                                                    | LOCATION                                                                  | SELLING PRICE<br>(with land)       |
|-----------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------|
| Design 52-933<br>3 bedrooms | Lane & Company<br>Earl M. Shahan, Jr.<br>S. J. Anderson<br>Arlington Development Co., Inc. | Huntsville, Ala.<br>Tullahoma, Tenn.<br>Glen Burnie, Md.<br>Auburn, N. Y. | \$9,150<br>9,500<br>9,800<br>9,990 |
| Design 52-703<br>2 bedrooms | Triangle Development & Sales Co.<br>Ben & Ted Smith, Builders<br>Burns Bros.               | Charlotte, N. C.<br>Riviera Beach, N. J.<br>Fayetteville, N. Y.           | 5,700<br>7,500<br>7,500            |

Selling prices depend upon variations in design, location, land costs, heating and kitchen equipment.

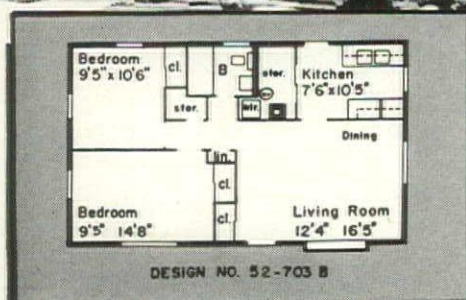
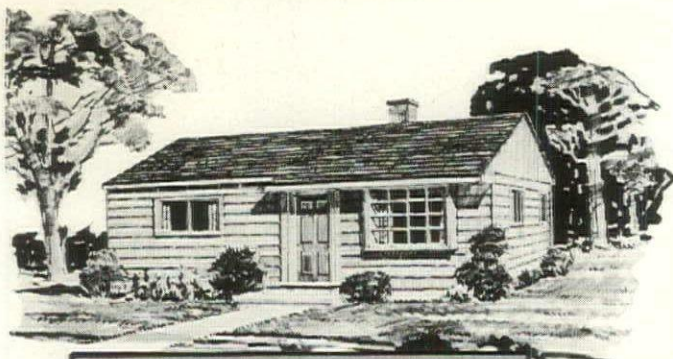


## American's new '52 SERIES gives more house for the money

Today's low-cost house market demands houses like these!

Quality houses with more living space—more and larger rooms—more comfort and convenience. Houses selling from \$6,000 to \$10,000 complete with land.

Illustrated on this page are plans for two houses in American's '52 SERIES. Other plans and variations are available. Write today for the complete story. Address Dept. M-12.



## AMERICAN HOUSES, INC.

165 West 46th Street • New York 36, N. Y.

Plants: Allentown, Pa., Lumberton, N. C., Cookeville, Tenn.



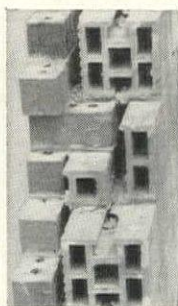
# BUILD...and SAVE STEEL with BRICK and TILE...

*made of  
non-critical clay*

## Here are 4 ways BRICK and TILE can help you build when steel is short

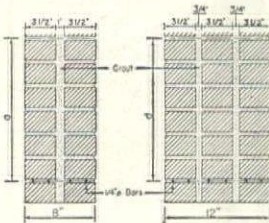
### Load Bearing Brick and Tile Walls

Brick and tile long have been used as load-bearing walls in all types of construction. Since such construction is in itself load-bearing and needs no accessory supporting frames, such as structural steel, the use of steel is eliminated.



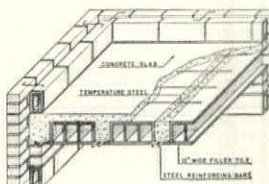
### Reinforced Brick and Tile Lintels or Arches

Substantial economies in structural steel can be made by using reinforced brick or tile lintels in place of structural steel angle lintels. For shorter spans and lighter loads, segmental brick arches or ground brick jack arches may be used as lintels, thus eliminating completely the use of either structural or reinforcing steel.



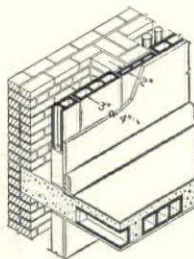
### Tile and Concrete Floors

Some floor systems require large amounts of steel for steel bar joists, cellular steel or metal pans. Combination clay tile and concrete floor systems, or precast tile joist floor systems, where available, free this steel for other uses.



### Furring with Clay Tile

Where necessary to furr walls, sizable savings in critical metals can be made if tile furring is used in place of metal lath and steel furring channels. Tile furring may be free-standing or attached to the structural wall by one of several recommended methods of anchoring.



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| Oklahoma City, Okla.                       |                    |
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**SCPI**

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## PREPARE FOR THE BOOM

Sirs:

As I view the mortgage and real estate situation, particularly with regard to all types of modern residential properties, one must take into account the growing population of our nation, the beginning of which was most pronounced in 1938 and 1939 and thereafter gained momentum. Eventually, say in the years beginning with 1958, the births of 20 years prior thereto will

begin to develop into new marriages and additional family groups which will very definitely result in the beginning of an unprecedented demand for new homes.

What is going to happen in the cycle beginning with the year 1958? As I see it, the younger folks then taking on family responsibilities will want homes of their own; such trend will be more popular than now. The older folks, meaning us presently middle aged people, will

in many instances, be looking for more convenience, less work, etc., than homeownership requires. Moreover, our children will be grown up, leaving mom and pop with a house that has become unsuitable for their own use. Consequently, many of us will then offer our present homes for sale and content ourselves with living in apartment houses, thus precipitating a new and greater demand for small rental units. Our homes will sell readily and at good prices, but this source of home availability will, of course, not be nearly enough to meet the coming demand for private dwellings and new apartments.

After a ten-year period, say 1960-1970, the construction industry will, for the first time, then be able to stabilize its productivity, not at the present rate of construction, but at the much higher rate of that period, thus assuring continuance of a healthy building industry with a degree of permanence that will destroy completely the views of the gloomy prophets of doom which in the past have always tried to discourage the inherent energy and vitality of one of our nation's greatest assets—the building industry.

To all builders, bankers, and associated groups, I say without equivocation, prepare now to streamline your business, promote efficiency, cut out red tape and forget the boom or bust cycles of the past, because you are merely in the adolescent stage and will only become of age in the years ahead. And the most prosperous among you will be, as usual, those with the necessary wisdom, foresight and energy, who will have the courage to proceed unhesitatingly with plans to meet the positive future needs in your field—the peak of the business volume will be reached in 1965 and will continue for many, many years.

B. C. HEIDE  
Cliffside Park, N. J.

## COMPLAINT

Sirs:

... one complaint about your October issue—it is so loaded with wonderful material, I don't see how I can ever find time to read it all.

ED DAVIS  
Waco, Tex.

## CHICKEN COOPS OR RETIREMENT

Sirs:

For the past 50 years my interest has been Colonial architecture and the restoration of historic houses.

In this age of streamlining and elimination of beauty in design, there is little opportunity or interest for one in my particular field to carry on, unless it might be the restoration and remodeling of woodsheds, smokehouses and chicken coops. . . .

At my age I can hardly wait for another revival and therefore, thank God, I am retiring.

MYRON S. TELLER, Architect  
Kingston, N. Y.

## Integrated Production

means Store Fronts like these



Archit: Ketchum, Gina & Sharp, N.Y.C.

### Shoppers' World, Framingham, Mass.

Required more than 65,000 feet of aluminum extrusions. Only a plant having the facilities of completely integrated production — complete control of every phase of store front manufacture — can produce new dies, give absolute control of quality, perfect consistency of finish, yet meet the rigid time schedules required by projects like the vast new Shoppers' World.

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**National**  
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For more information, write for our new A.I.A. folder, Dept. H,  
57 Cliff St., Roxbury, Mass.



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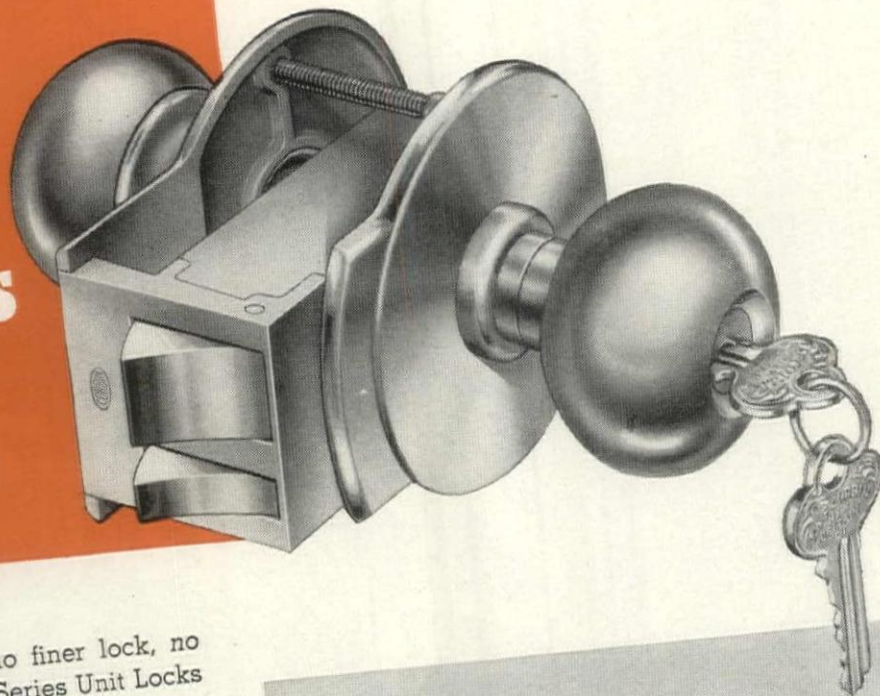


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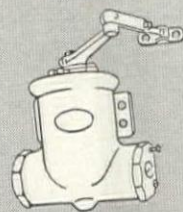
For hospitals, schools, office buildings, apartments and residences, Corbin "900" Unit Locks and Latches are a wise and time-tested choice. They are made in functions and finishes to meet every need.

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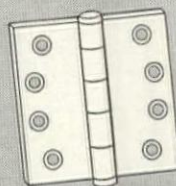
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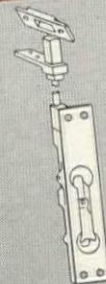
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FIXTURES



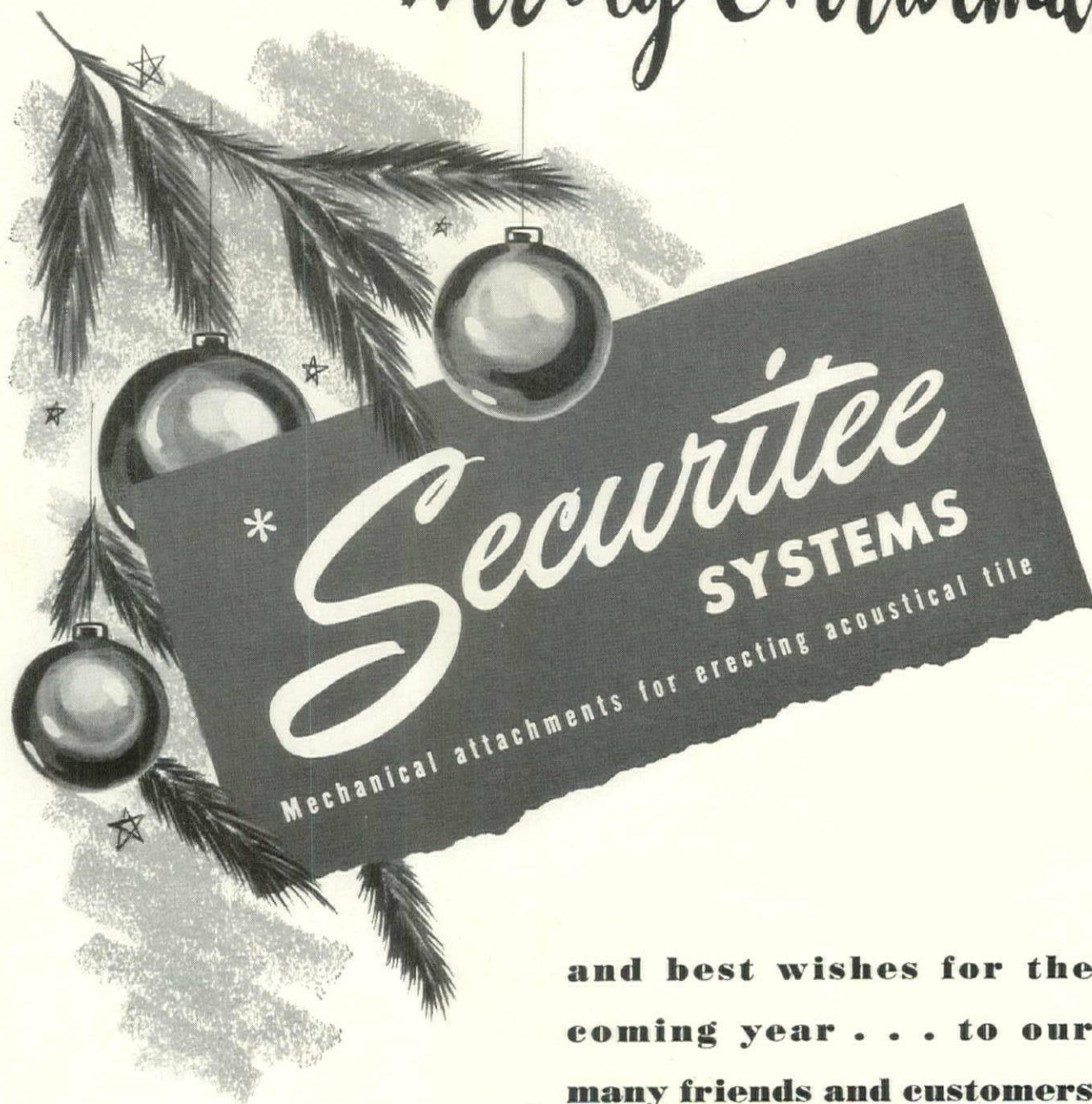
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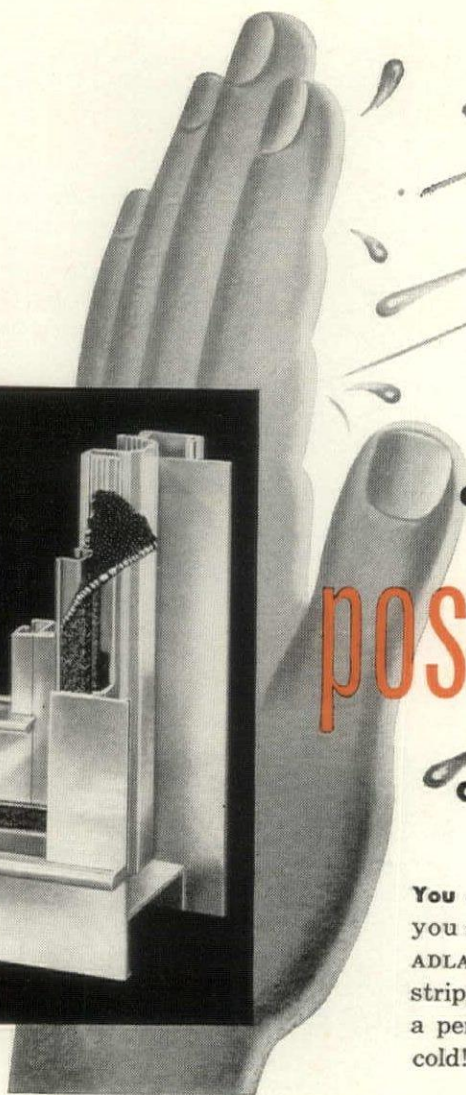
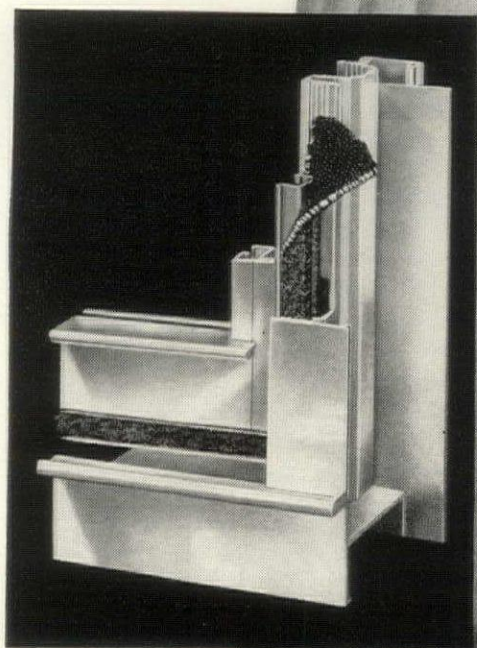
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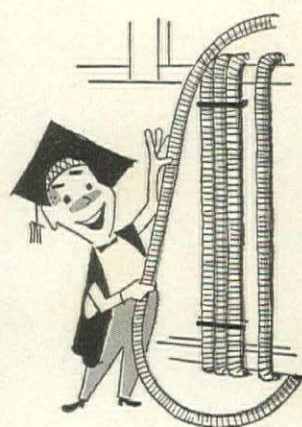
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*Photos: Ezra Stoller—Pictor*

LOCATION: Greenwich, Conn.

LEINWEBER, YAMASAKI & HELLMUTH, Architects

DAN KILEY, Landscape Architect

WOODLE CONST. & SUPPLY CO., Contractors

## A HOUSE HIDDEN IN THE WOODS

At the foot of tall pines that seem to tower all the way into the sky, Architect Minoru Yamasaki has built a house that has many new things to say about man, architecture and nature—and the manner in which these three can exist side by side.

The setting for Yamasaki's house was created by leaves and branches, by the play of sunlight upon grass, by occasional glimpses of the sky.

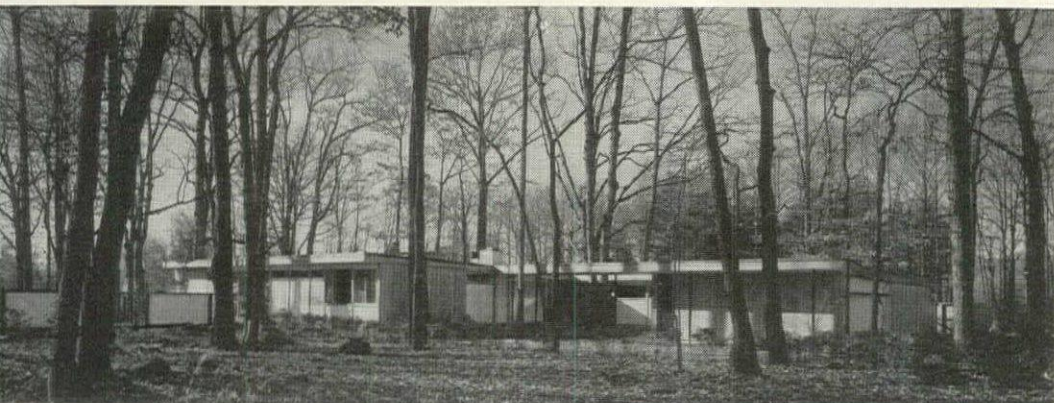
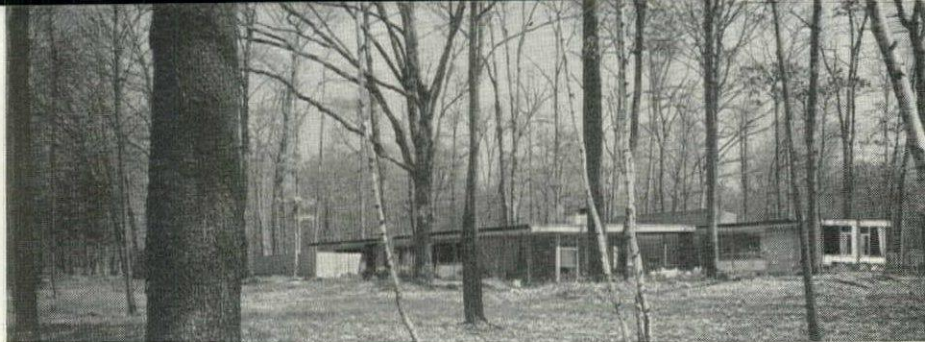
What, Yamasaki asked himself, is the place of architecture in such a sunflecked setting? Should it try to compete with nature? Or should it be subordinated to her, and buried under the tall trees?

Yamasaki's answer is the traditional answer of Japanese architecture: Respect nature, and insinuate the architecture with subtlety and grace. And so he has built a great, rambling house that is virtually hidden among the trees when seen at a distance—a house, however, that begins to assume crisp and disciplined forms and patterns as you get closer to it; a house in which the sky is always visible (in patches, as if seen through the treetops); a house full of sun, flowers and plants.

A house, in short, in which architecture and nature do not clash but intermingle without violating each other's prerogatives.



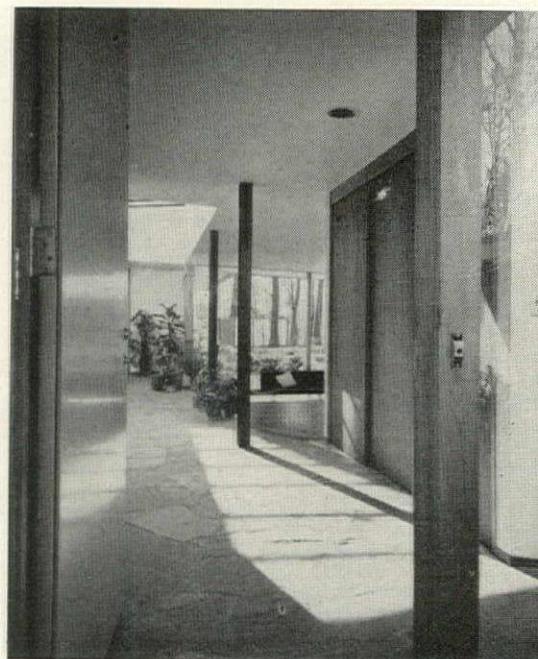
As you approach this house you see it indistinctly at first through the insistent verticals of tall trees. Its cypress-clad walls are a play of light and shade . . .



. . . its forms are varied and irregular: C  
hangs, small garden courts, free-stan  
fences and screens, canopies to protect v  
and terraces.

Walking past the garage (right) under one such protective canopy, you pass a flagstone-paved court (below). Its center is a large, twin white oak. The impression of the architecture changes imperceptibly the closer you come to the building: Its steel structure and wood details begin to suggest the crisp, rectilinear patterns of a Japanese room.

You are now facing the main entrance door of the house (below).

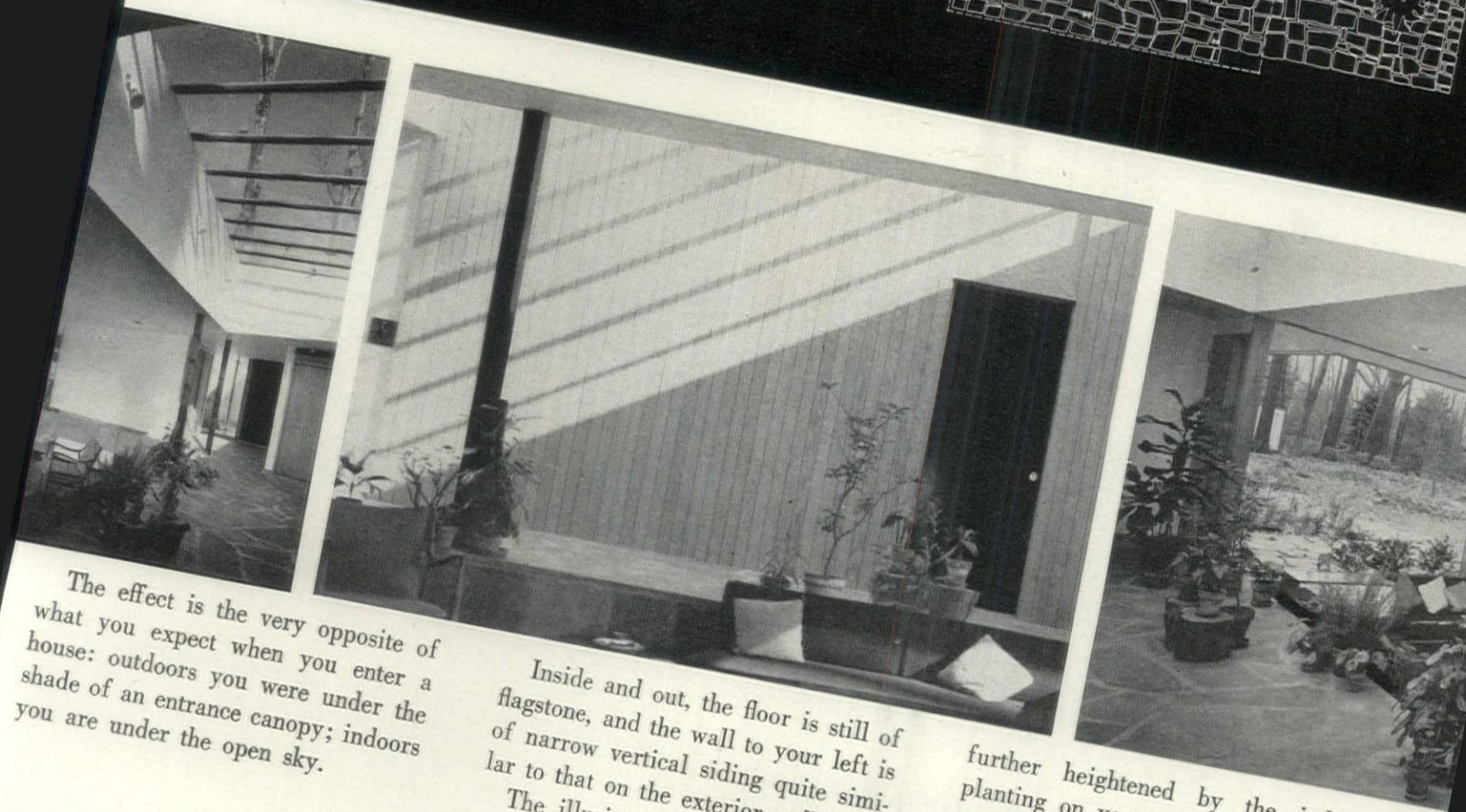
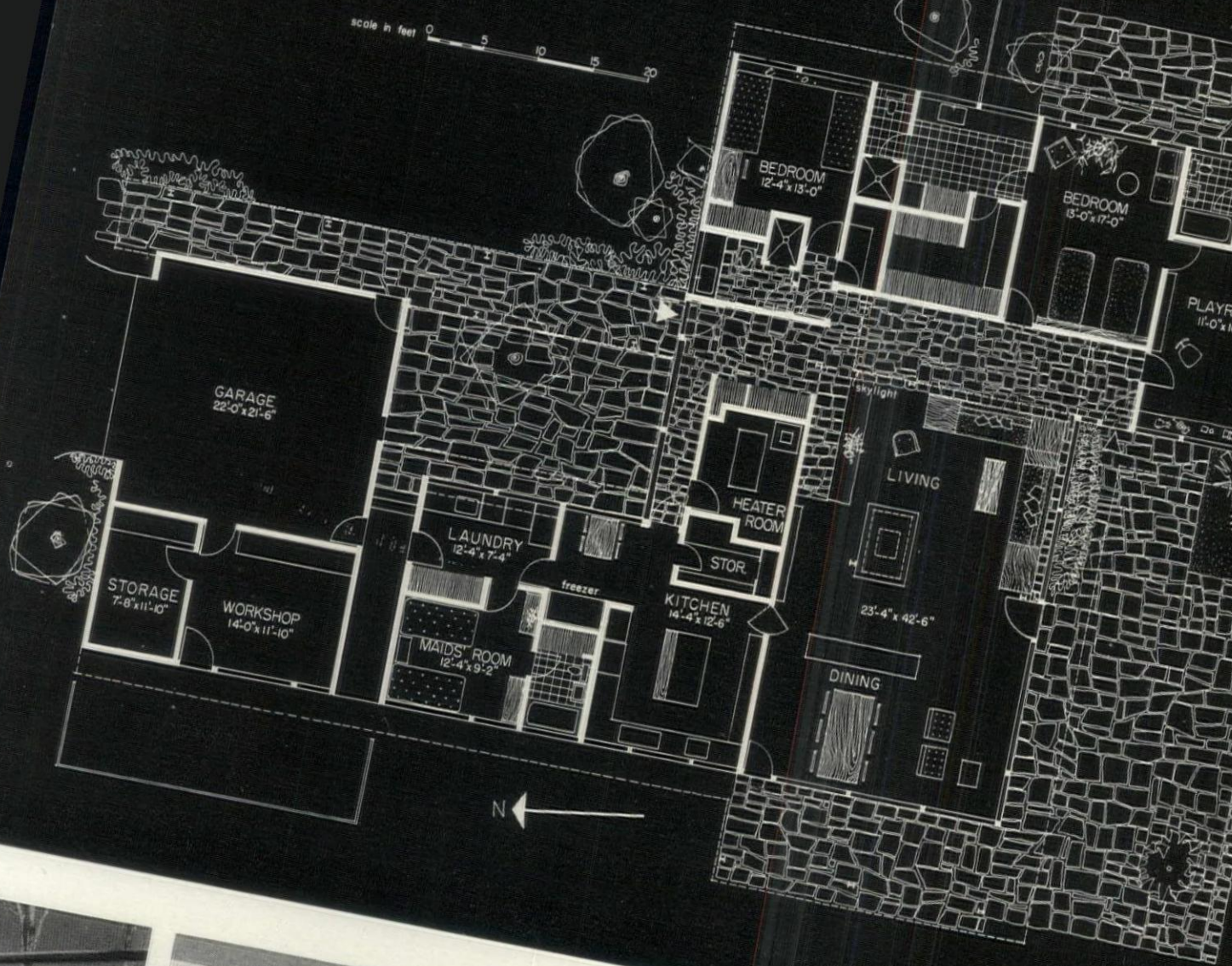


The transition from the entrance co  
(left) to the entrance gallery inside (abo  
is barely noticeable, for a large (20'  
6'-6") and brilliant skylight makes the  
lery seem like another garden court.



# Diagrammatic plan

scale in feet 0 5 10 15 20



The effect is the very opposite of what you expect when you enter a house: outdoors you were under the shade of an entrance canopy; indoors you are under the open sky.

Inside and out, the floor is still of flagstone, and the wall to your left is of narrow vertical siding quite similar to that on the exterior walls. The illusion of a garden court is

further heightened by the indoor planting on your right. And as you turn to look across these plants and flowers...



... you experience for the first time the drama of a view across the seemingly immense (45' by 24') living room, 2' below the spot at which you are standing. Two walls of that room are of glass, and outside both of them is a wide terrace. Beyond the terrace again are the trees.



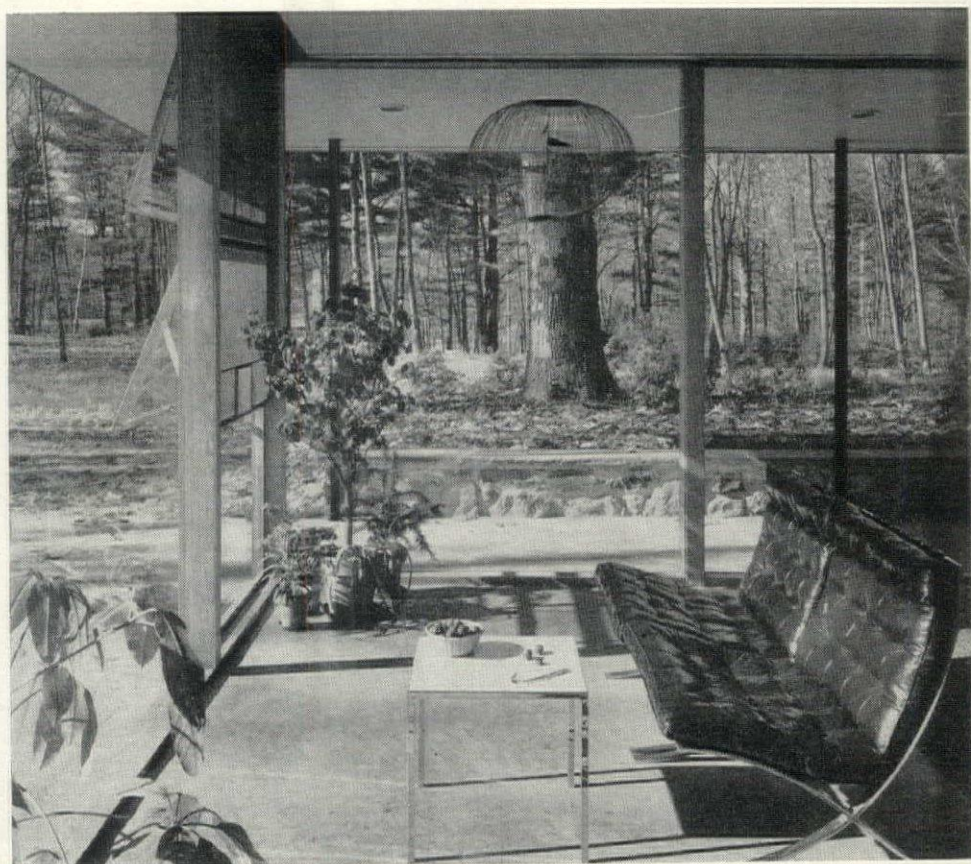
A ramp (to the extreme right, out of this picture) leads down into the living room. From the foot of the ramp ...





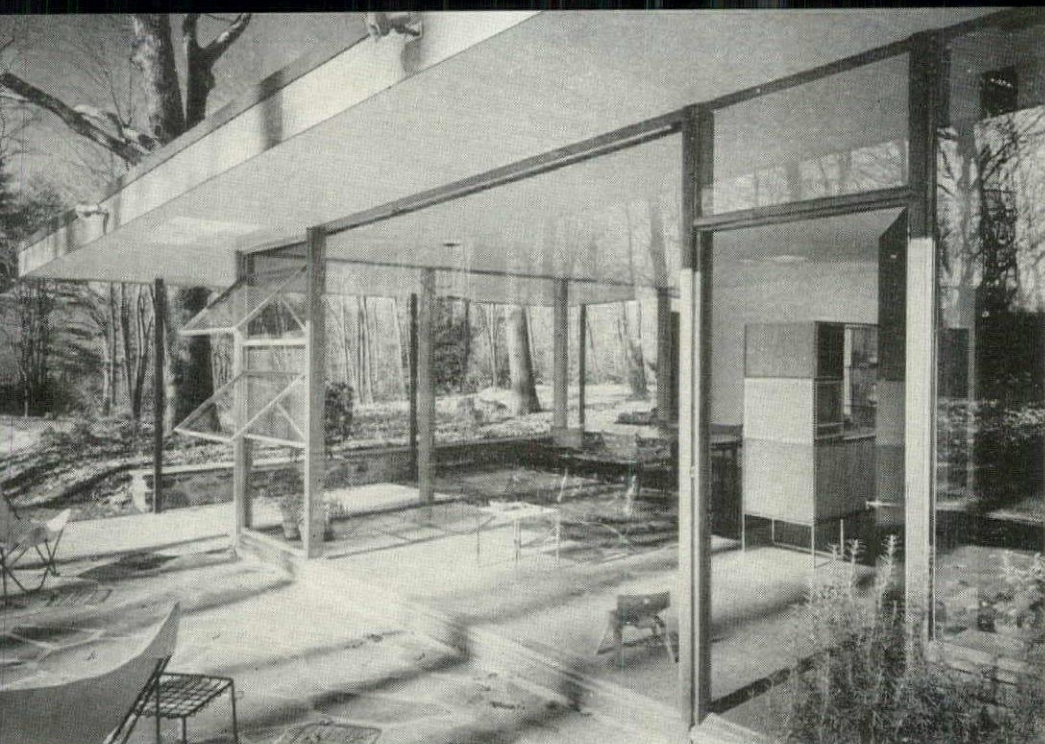
... just behind the fireplace hood, you can see the organization of the living area into three major zones: first is a spacious conversation group, L-shaped in plan, facing away from the landscape and toward the fire. (This is also shown in the foreground of the big picture, opposite.)

Second zone is a small, formally arranged sitting area overlooking the terrace. It consists of two fine chairs and a small, rectangular table. The "birdcage" sculpture suspended from the ceiling is by Harry Bertoia. (Yamasaki wanted this corner to look like an aviary.) Third zone, directly behind the chairs but not shown here, is the dining area, screened by a row of cabinets.

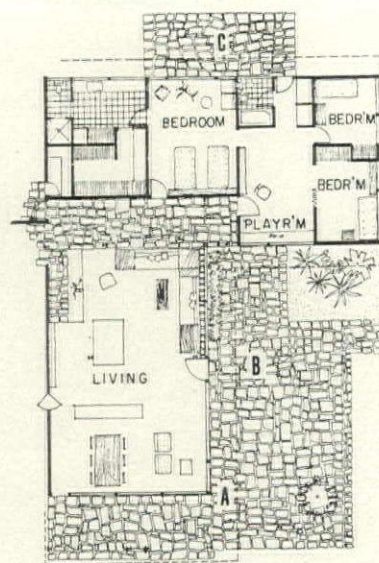


As you turn to look back across the living room toward the entrance gallery, you become aware once more of Architect Yamasaki's brilliant use of natural light: At the end of each large, interior space, your eye is met by streaks of sunlight; and though you are now in a very formal and carefully arranged house, the effect is not unlike that of looking through a grove of trees and seeing, beyond them, a sunlit clearing and a patch of the sky.



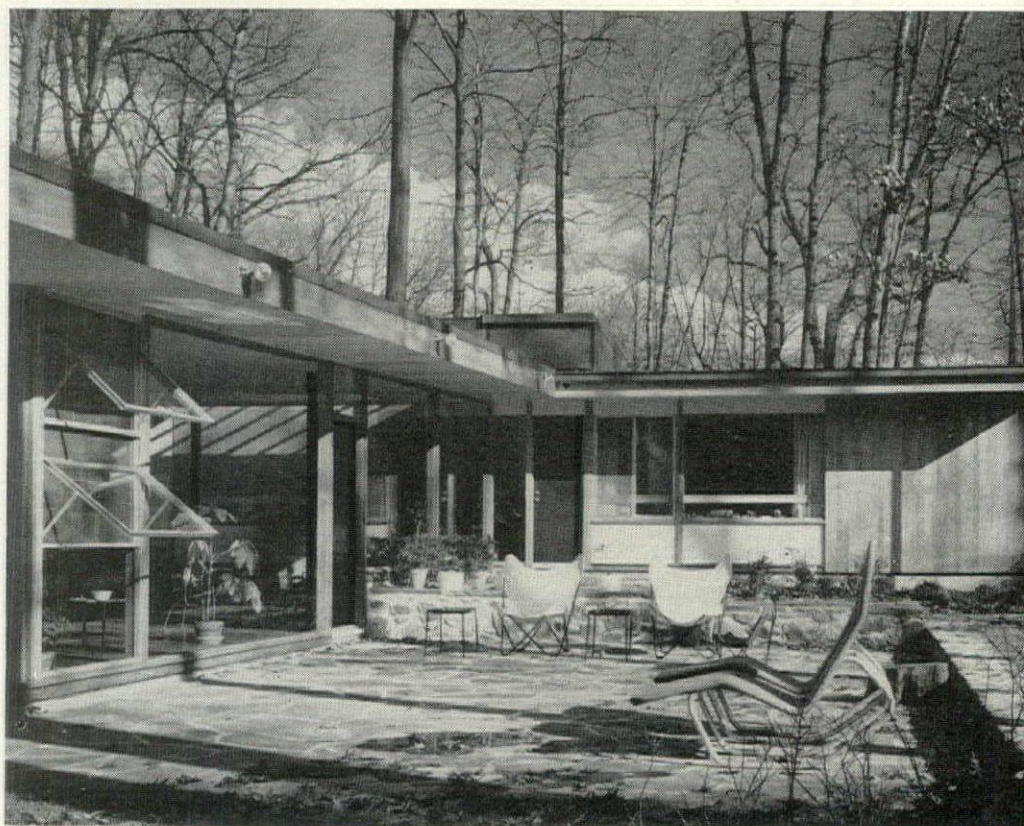


A



Stepping out onto the terrace you can look right through the living room . . .

. . . or, turning, you can see the projecting end of the bedroom wing, which is located off the far side of the entrance gallery, away from the living area. The bedroom wing contains a master bedroom suite, a guest bedroom suite, and children's bedrooms grouped around a playroom. The windows shown at the end of the terrace in this picture are those of the playroom.



B



C

Walking around the corner of the bedroom wing, you come upon a small terrace on the other side of this playroom. It is used by the children and they can be watched there from the parents' quarters. Like other areas around the periphery of the house, this terrace is screened with trellis-like fences.



As you walk away from this little terrace into the woods, past a maze of free-standing and gaily colored screens . . .



. . . the house recedes once more into its wooded setting and virtually dissolves in the sunlight and among the trees.

The principles Yamasaki has demonstrated so successfully in this clearing in the woods will give architects a good deal to think about. In recent years, some have seen a sharp dividing line between the kind of architecture that is wedded to the ground and is part of its natural setting, and the kind that is set up deliberately in contrast to nature, a man-made product with its own, formal man-made characteristics.

The Yamasaki house is the best of both. By going back to the Japanese tradition, Yamasaki rediscovered a kind of small-scale formality that gives each of its individual spaces a high degree of elegance, of polish and of structural order. But by letting the patterns of nature flow unimpeded through his architecture, he has avoided violating nature: added up, the fine and orderly small-scale spaces of his house grow into a complex, but organically ordered cellular structure, animated by the light of the sun playing upon leaves and flowers—until, in the end, the structure begins to disappear altogether and the sun, the plants and the flowers take over where man has left off.



# COMPACT PLAN IS ZONED ACCORDING

Architect Arthur Q. Davis' house is a "three-zoner" in plan, divided into service, living and sleeping quarters with exceptional clarity and logic. Yet so artfully is the division managed by passages, walls and changes in ceiling heights that the house is a series of delightful visual surprises.

The basic shape of the five-bedroom, three-bathroom plan is an L, the longer wing closely paralleling the lot-line; with small modifications it could be built anywhere on a 75' frontage.

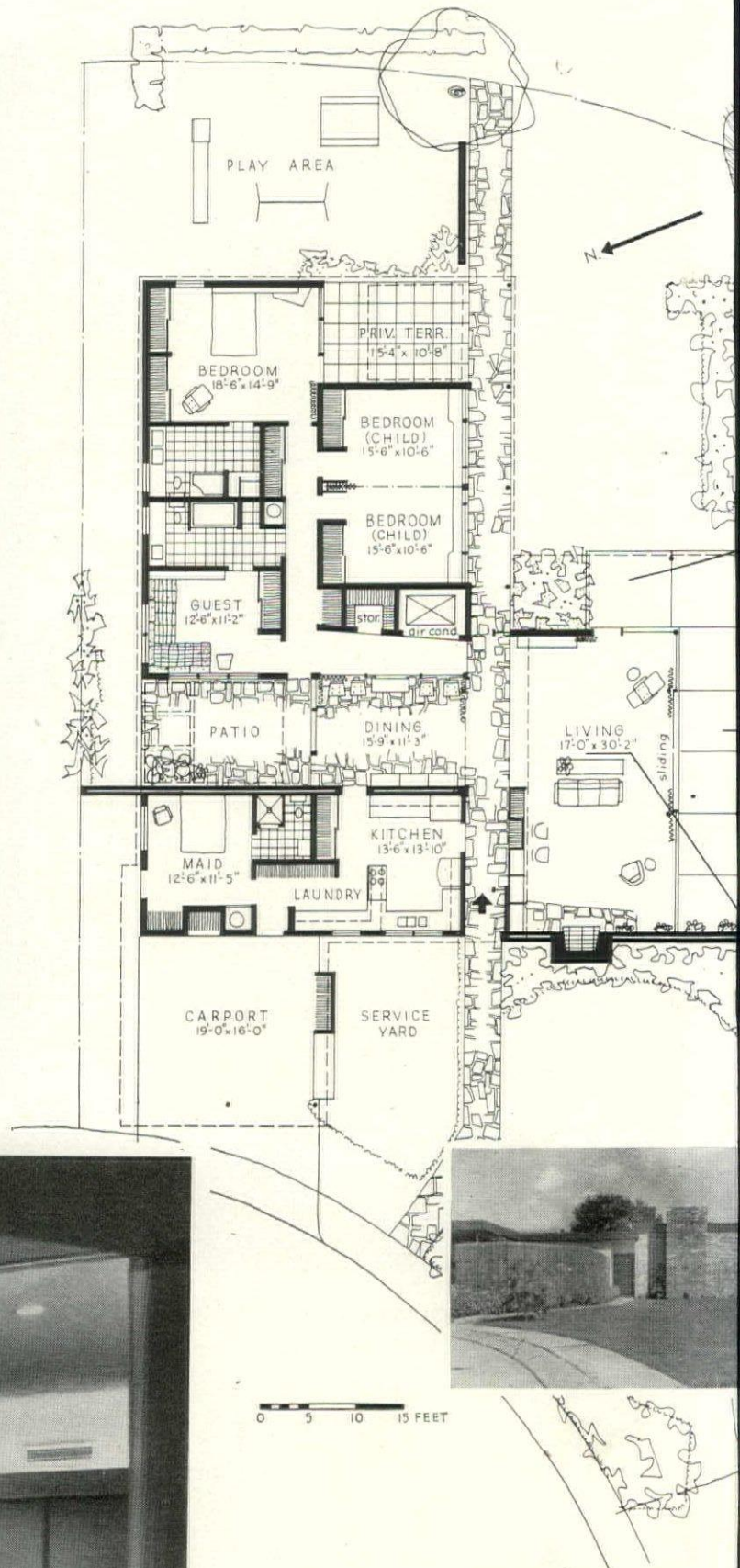
► In the angle of the L, directly to the left of the entrance, is the service area—kitchen & laundry, maid's quarters and carport.

► In the vertical stem of the L, toward the quiet rear, are the sleeping quarters—guest room study, two children's bedrooms, the master bedroom plus two baths, all connected by a separate hallway insuring family privacy during entertainments.

► In the tail of the L, to the right of the entry, is the living room, an island uncursed by the bane of living rooms, cross-traffic.

But what lifts the three-zone plan to genuine distinction is the management of an interlocking T pattern for the zone-separating passageways. The main hallway starts, in fact, far out in front of the house as a flag-stone paved entrance walk, comes in through the front door, emerges again at the rear as a shaded arcade along the right (or south) side of the bedrooms (see plan). A much wider cross-hall tees off to the left directly opposite the entrance to the living room. It does several things at once: it separates service from sleeping; it serves as the dining room directly opposite the kitchen; it continues to the lot line as a charming intimate patio (the vista is closed and the neighbors' house screened out by lush planting); it gives the living room the visual effect of a big L-shaped extension; it serves as an overflow area for parties in the evening, and in daytime as a play space for the children within sight of the parents in the living room or within hearing of the kitchen.

Photos: Clarence John Laughlin

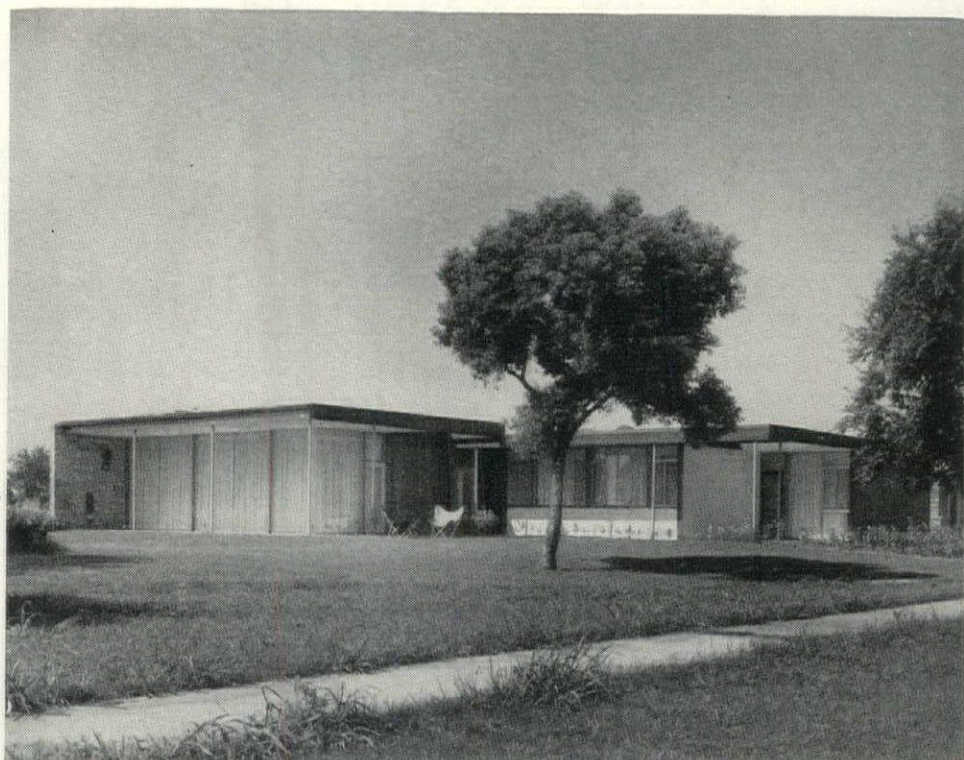
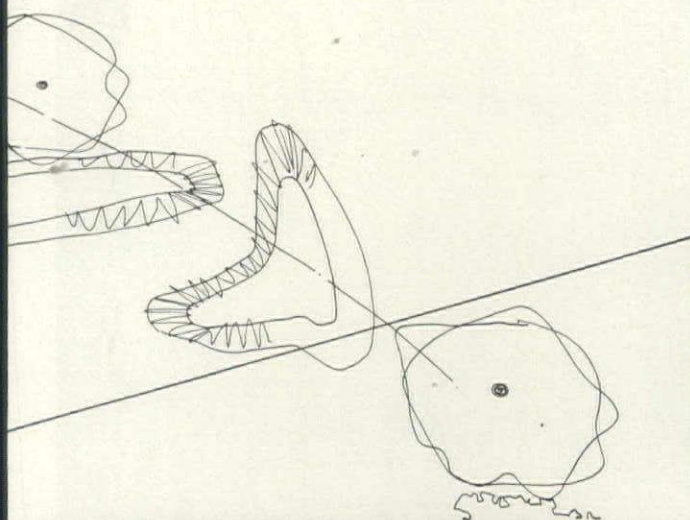


View into living room along fireplace wall shows how ancient French Quarter church's sanctified bricks were used for interpenetration. Solid wall of glass adds 7' overhang to room's width. Plants, idols, bric-a-brac sit on staggered shelves, bring interesting design and warmth to cool rectangular wall shapes.

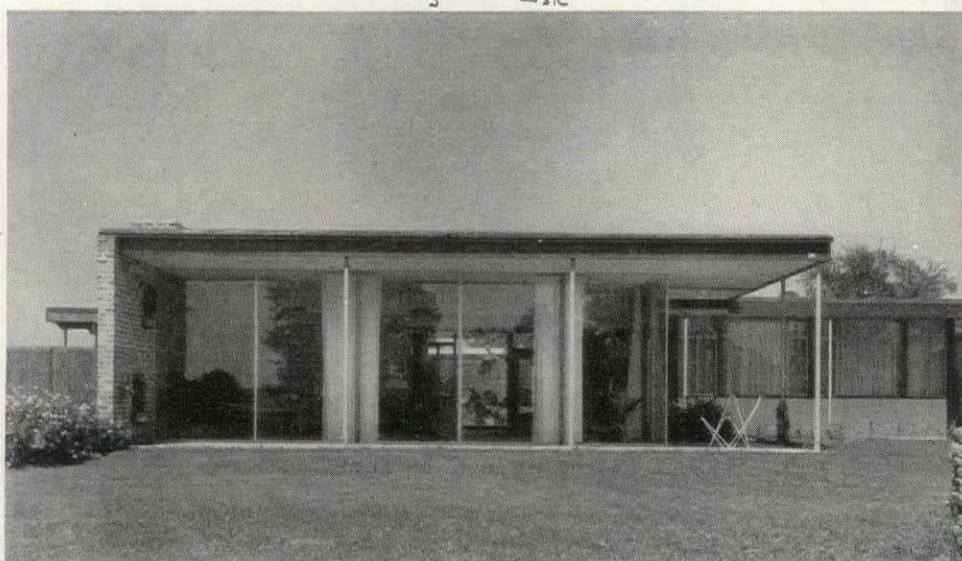


# TO FUNCTION

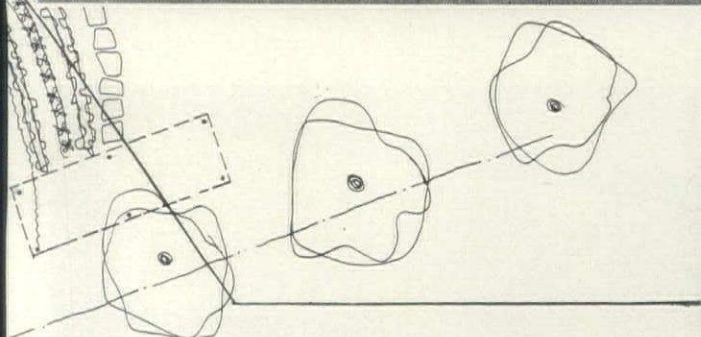
LOCATION: New Orleans, La.  
CURTIS & DAVIS, Architects  
CONNIE TULLIER, General Contractor



*Rear view of this house shows variation of overhang and column with terraces. Walk marks property line but view carries across into park land, making backyard "limitless."*



*Living room and children's bedrooms (curtained at left) each have own garden vista. Children's rooms have partition which slides back for single indoor play area.*



*View from living room through hall and dining area to patio planting screen shows how architect provided long vista (56'), obtained overflow space, introduced garden colors. Entrance way (small photo) presents bland look to gawkers; even kitchen drying yard has privacy. Maid's quarters adjoin kitchen, permit quick answering of doorbell.*





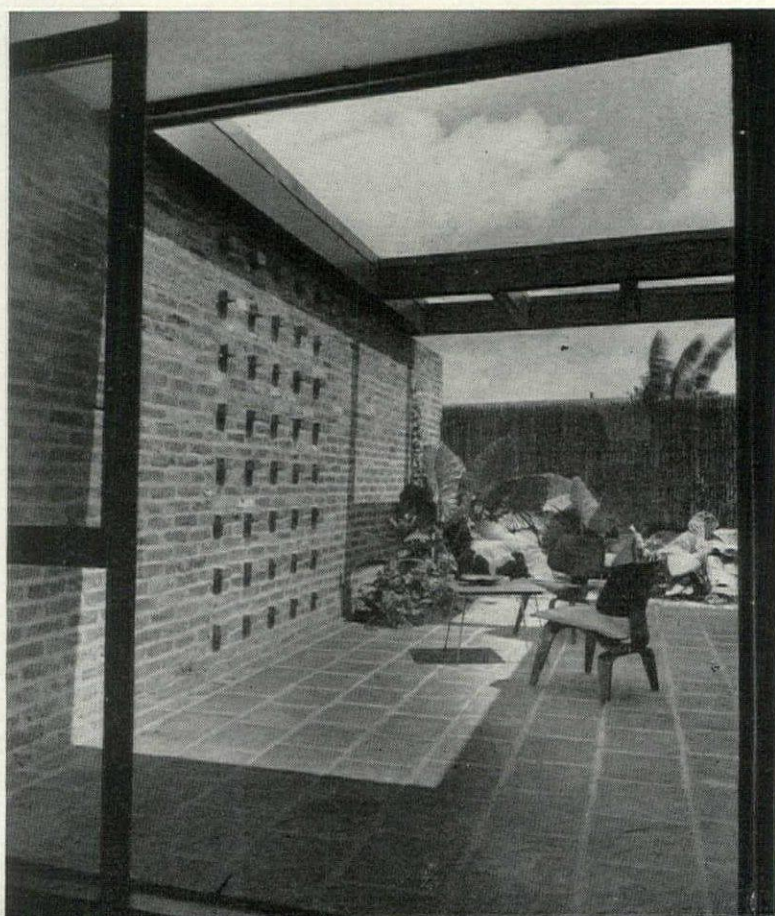
*Overhang (foreground) provides additional route to rear. Patio permits outdoor dining in full privacy. House combines air conditioning ducts with indirect lighting (photo below). Fluorescent tubes are recessed on living and dining room sides of furred-down ceiling, direct hall spots are inset flush with duct itself.*

The surprise of turning a corner and suddenly finding a patio in the house, full of sky and green, is echoed by many other contrasts.

There is, for example, the wealth and variety of sheltered porches and terraces (incidentally a protection against sun and drenching rains). There are the three different ceiling heights: 7½' in the hall (furred down for the air conditioning ducts) against 9½' in the living room, 8½' in the remainder of the house. There are the many wall materials: all brick or all glass, or cork, or perhaps a range of storage cabinets; there is the stone flooring of the corridors against the oak flooring of the living room.

On the practical side, Curtis & Davis supplied the house with a 5-ton air conditioning plant but gave it also a full complement of windows and sliding doors for cross-ventilation in seasons of mild weather; the projecting spur walls help trap the mildest breezes.

The 2,600 sq. ft. house, along with lot and \$3,800 in air conditioning, cost Architect Davis \$32,500 two years ago. He estimates it can be repeated for a client today at \$45,000-\$50,000. Economy came through eliminating moldings, superfluous trim and cuts, limiting millwork to the gum-paneled doors. The warmly colored flagstones and bricks were bargains which Davis found discarded in French Quarter ruins. Bricks cost \$18 a thousand. Masonry was \$1,800.





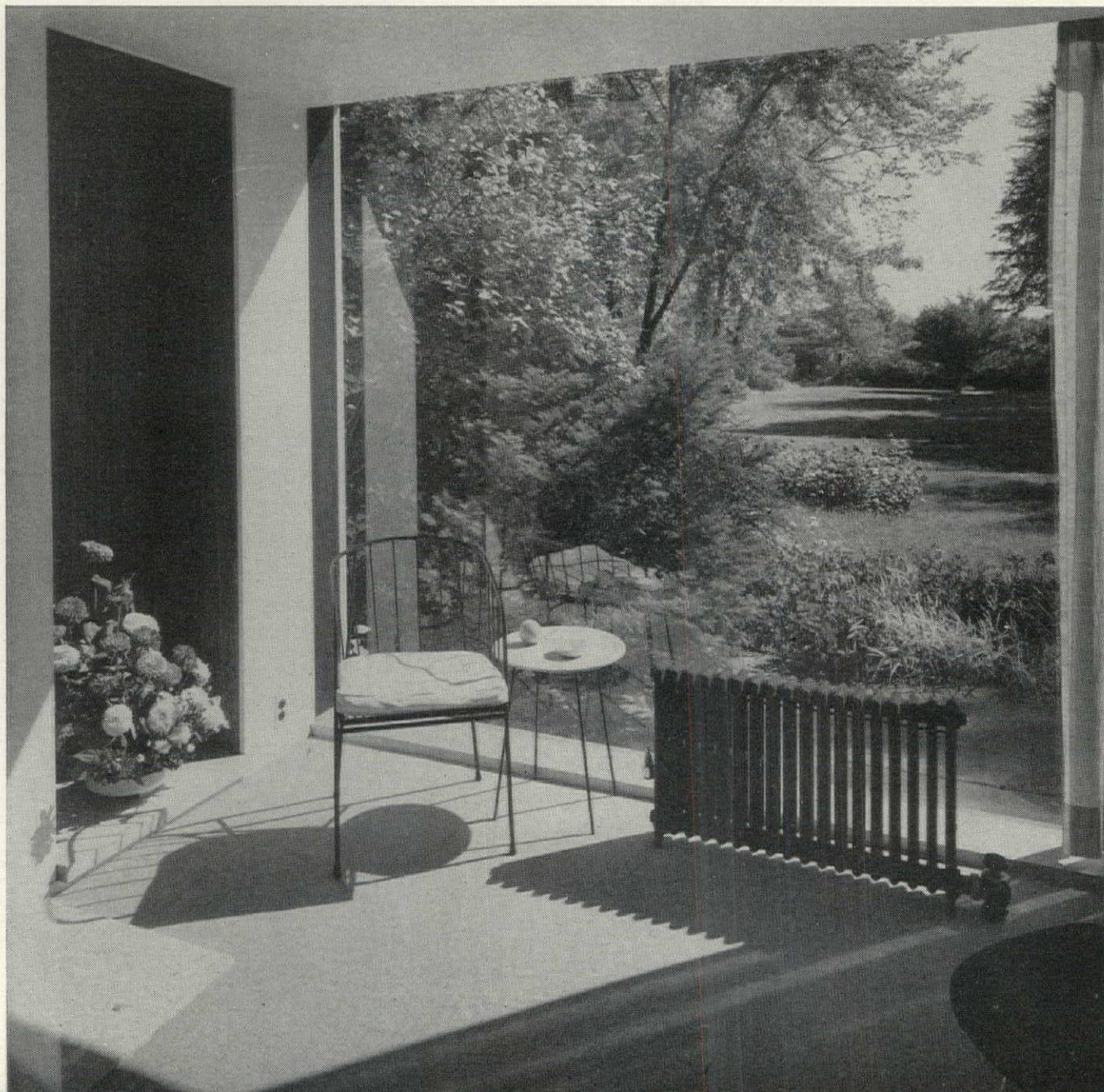


*Photos: Ezra Stoller—Pictor*

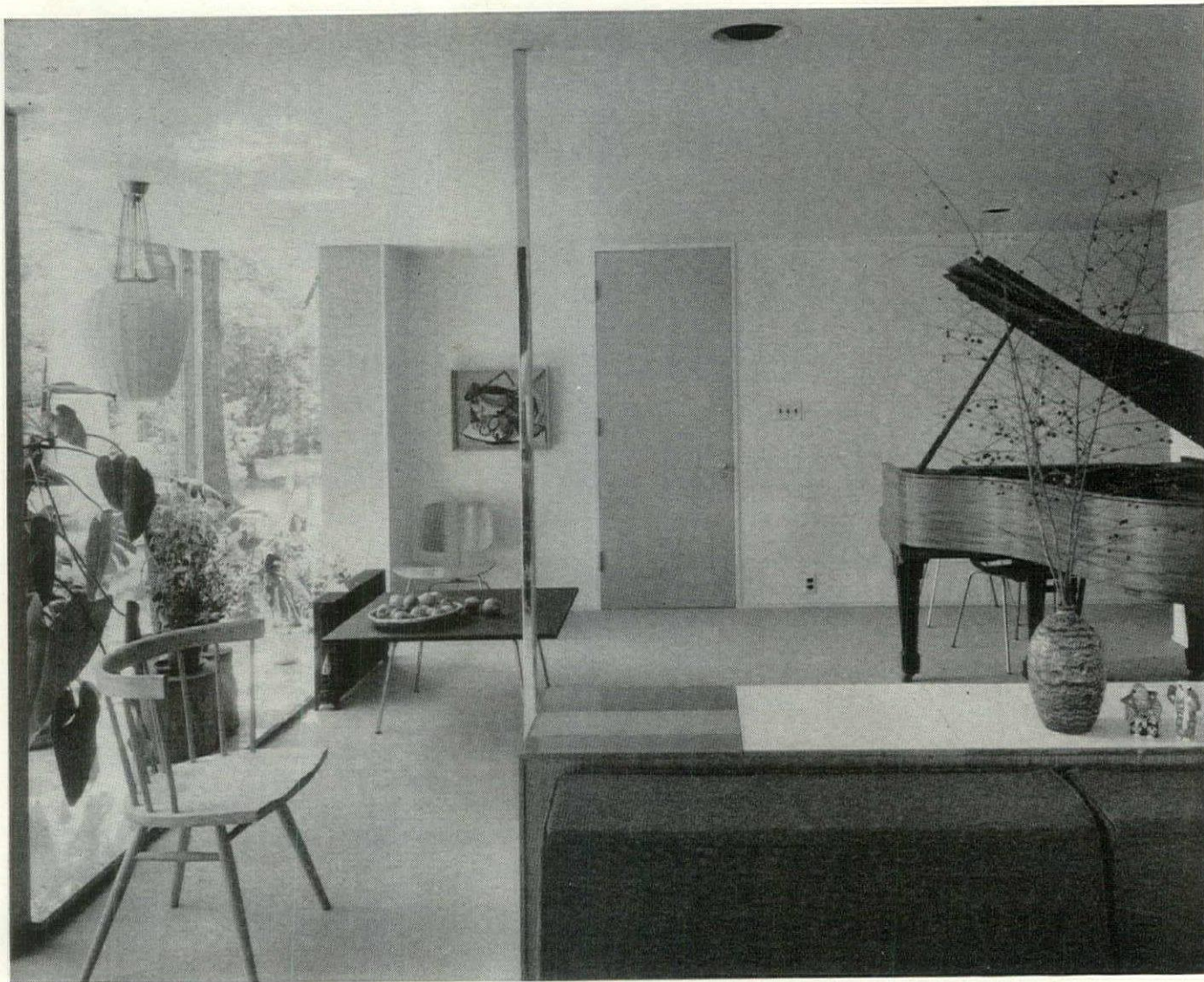
**How to rejuvenate a 125-year old house** without destroying the spirit of the original building is convincingly shown in these photographs of Architect Minoru Yamasaki's farmhouse near Birmingham, Mich. To shelter his large family—his parents, his three children, his wife and himself—Yamasaki was forced to make some drastic structural and plan changes. Yet the result shows no compromising of the old any more than it shows any compromise in the new. Indeed some of the new forms clothe old ideas; for example half of the architect's glass screen, opening the living room to a big view across the lawn and the fine old trees, is actually a new treatment of the old bay window.

Once inside the house, however, no visitor will mistake the setting for anything but what it is: an undeviatingly modern living space, an expression of some of the most advanced architectural thinking of our time (*see next page*).

*The view is east, across lawns, flower beds and trees*







**The center of Architect Yamasaki's house is a living room** designed with the sensitivity and restraint characteristic of the finest Japanese architecture. It is a simple rectangle, 14'-6" wide, 28' long, and 7' high. The walls and ceilings are faultlessly plastered and painted white. The floor is covered with a light gray carpet. There are slabs of Auresina marble (white with gray figure) in front of the fireplace and in the plant bay.

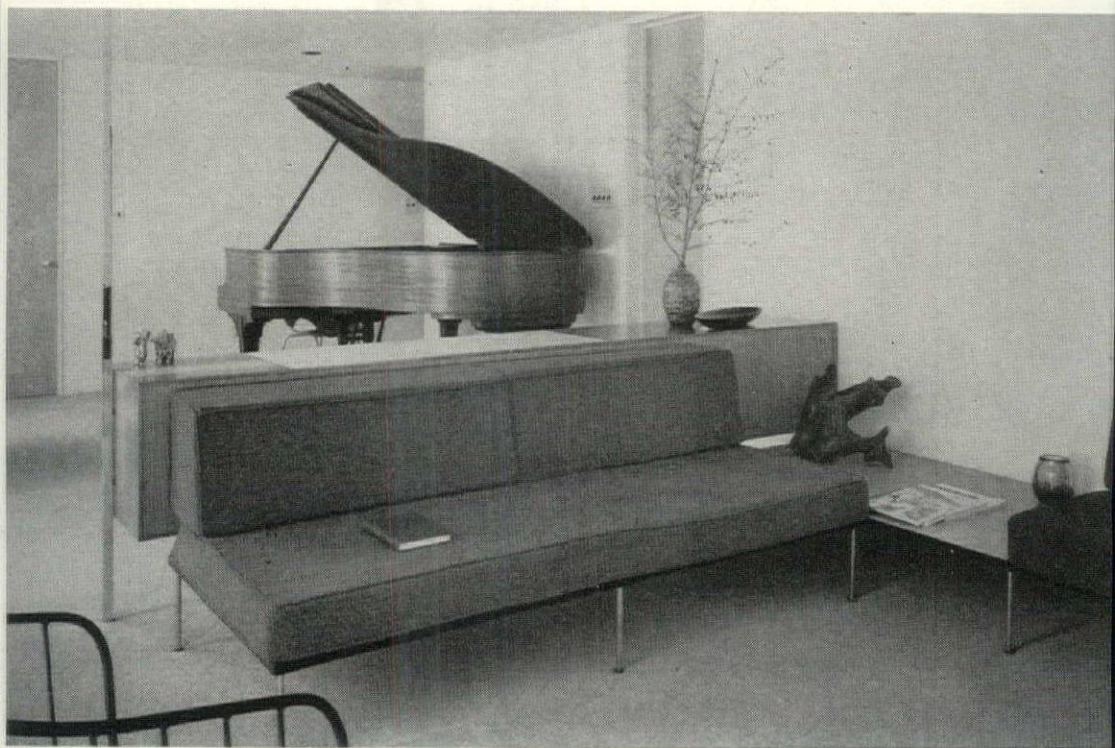
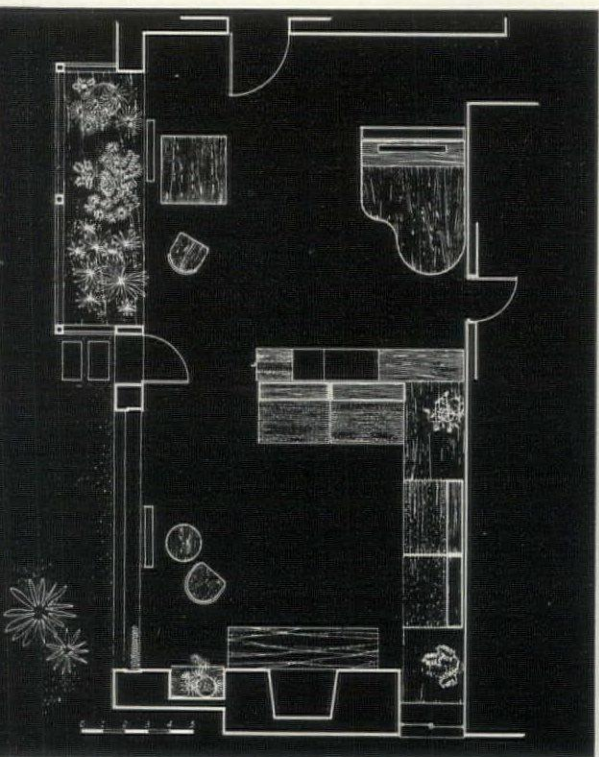
In this serene setting Yamasaki planned two "groups of activity": One, an L-shaped conversation group around the fireplace; the other, a music group consisting of a grand piano, record player (the speaker is on the side of the fireplace), and the bay window filled with plants—a small conservatory reaching out toward the view.

Dividing a 400 sq. ft. room in this manner would normally produce two small and cramped cubicles. To avoid this, Yamasaki raised all his furniture off the floor on slim pipes and rods, kept all table and counter tops very low, and thus retained the visual quality of one spacious room while getting all the convenience of two distinct, intimate groups.

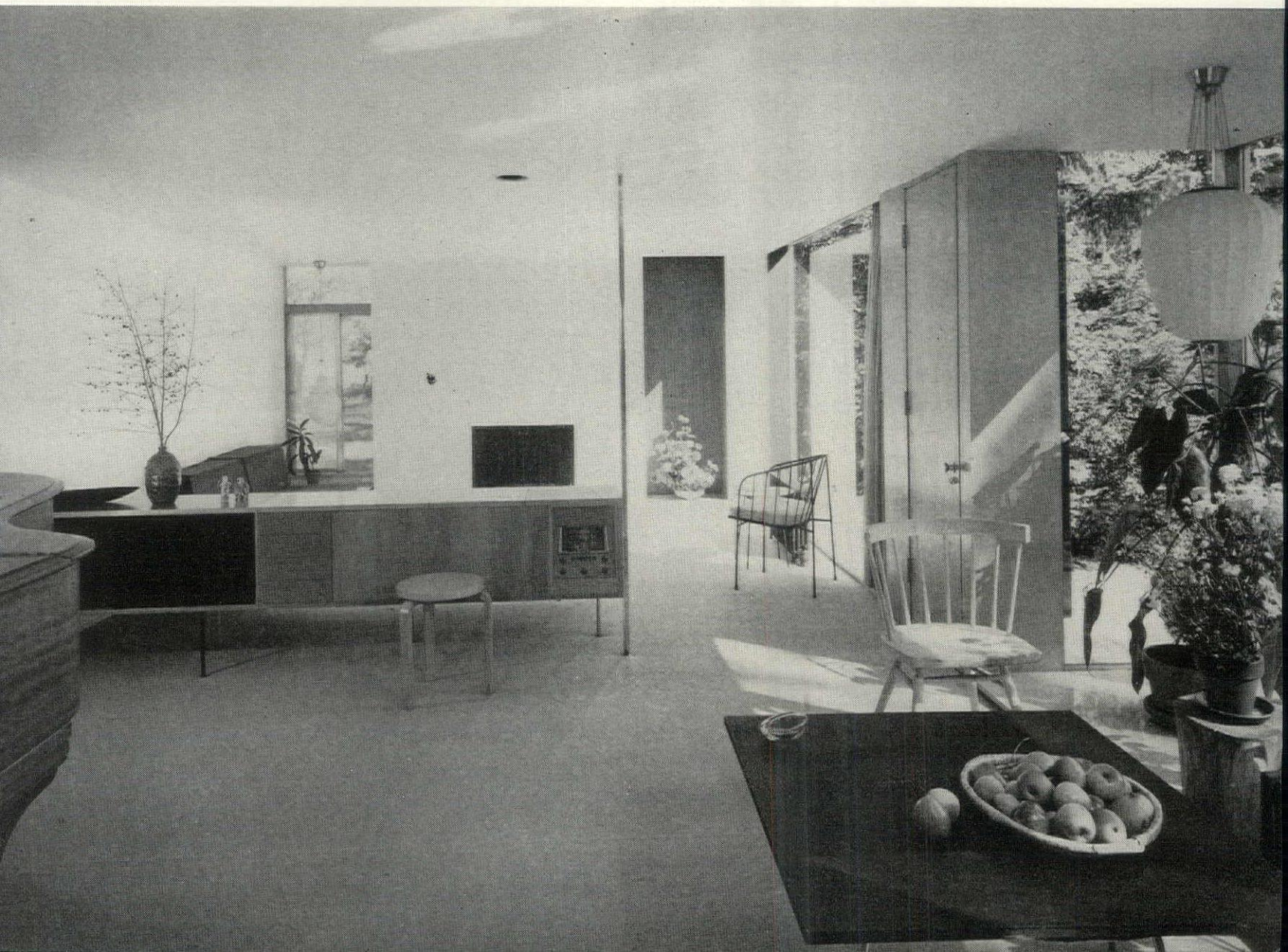
What makes these two groups so handsome is their restraint—the absence of clutter, the obvious care with which each object (a bowl, a vase or a chair) has been selected. Yamasaki is an artist, and everything his hand touches becomes a work of art—whether it be a standard, chromium-plated steel angle that supports the low-slung cabinet, or whether it be the simple cast-iron radiators that stand guard just inside the glass walls.

Against the white backdrop of walls and ceiling, the few touches of bright color assume added importance: the red and brown upholstery, the warm tones of the natural wood (oak for the cabinet, walnut for the flower niche, birch for the doors, mahogany for the piano) and the occasional spots of black and bright blue (for the cabinet drawers). And, finally, this is a room of flowers in the best tradition of Japanese architecture: the marble-floored conservatory, the walnut-paneled niche next to the fireplace, and the platforms next to the settees—all these are stage settings for flowers arranged carefully by Architect Yamasaki's mother, who received some training in the art. "They have been a source of real pleasure to us," says Yamasaki.

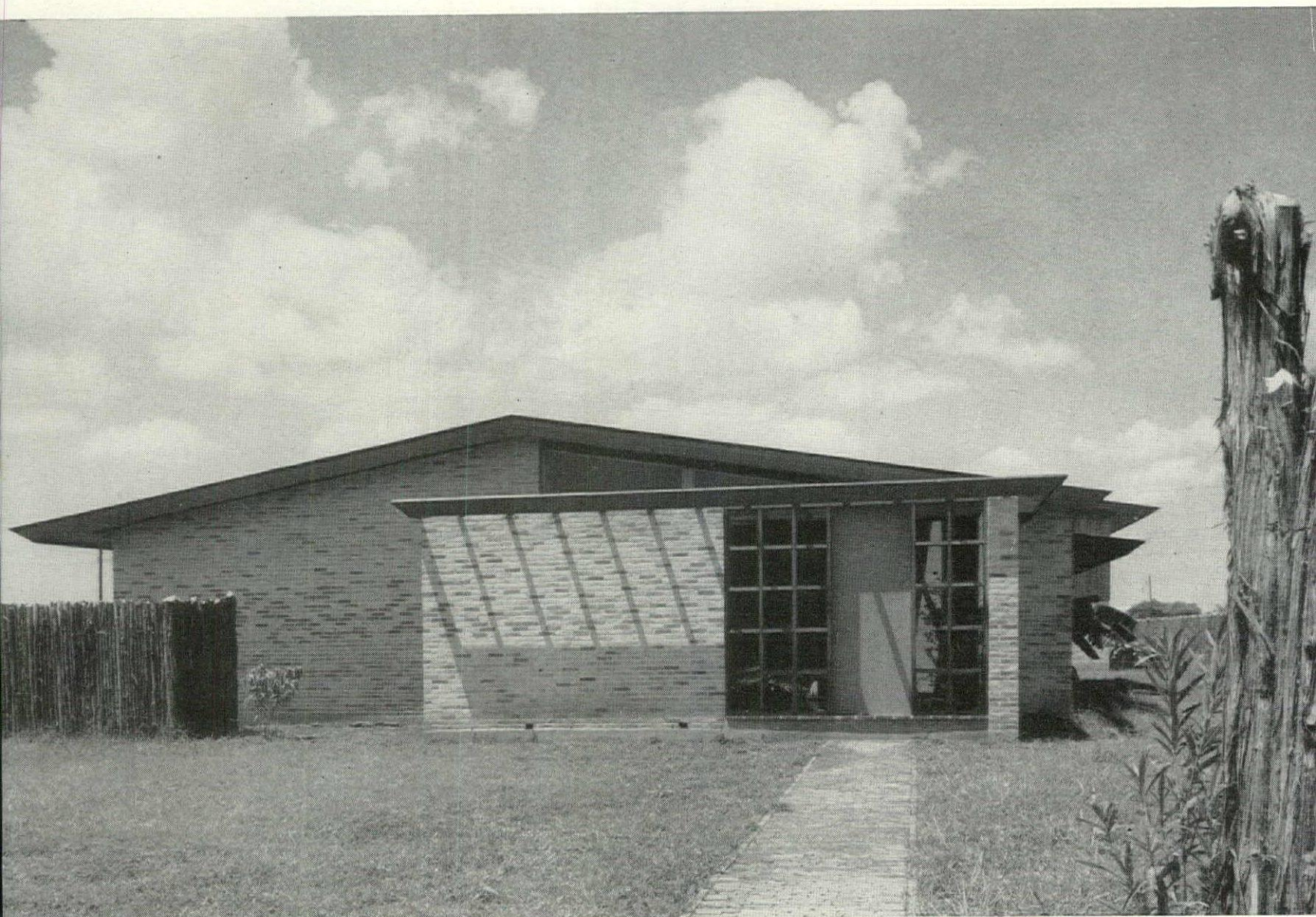




*All furniture was raised off the floor on slim pipes and rods to retain spacious, one-room feeling despite division into groups of activity. When existing fireplace mantel was furred in (below) enough space was gained to conceal sound box for loud-speaker directed toward the flower niche.*







Photos: Ulric Meisel

## WEATHER-TAMING DESIGN provides shelter against tough Texas climate

LOCATION: Corpus Christi, Texas  
RICHARD S. COLLEY, Architect

Corpus Christi has more climate than it knows what to do with. Like the rest of the country it has sun, wind and rain—but rarely in moderation. Of necessity it is a testing ground for every weather-taming trick except defrosting. Undaunted by nature, Architect Richard Colley has made this house act as a selective screen filtering out the unpleasant weather.

► For trees that won't grow in the salt spray he substitutes wide roof overhangs and a shade-casting trellis—sun screens that double as wind baffles. Covered with bug screens, these “egg crates” make outdoor living possible.

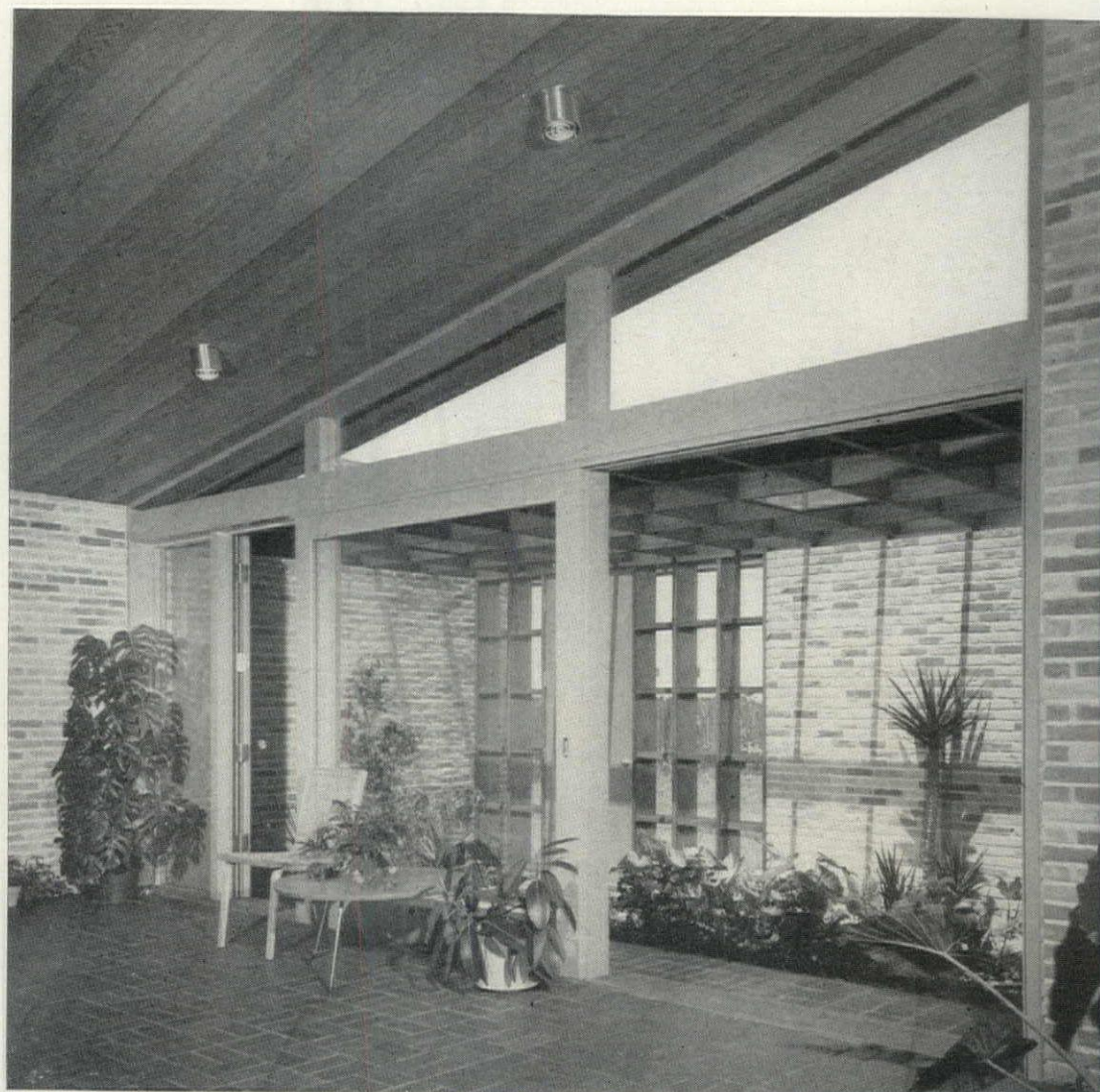
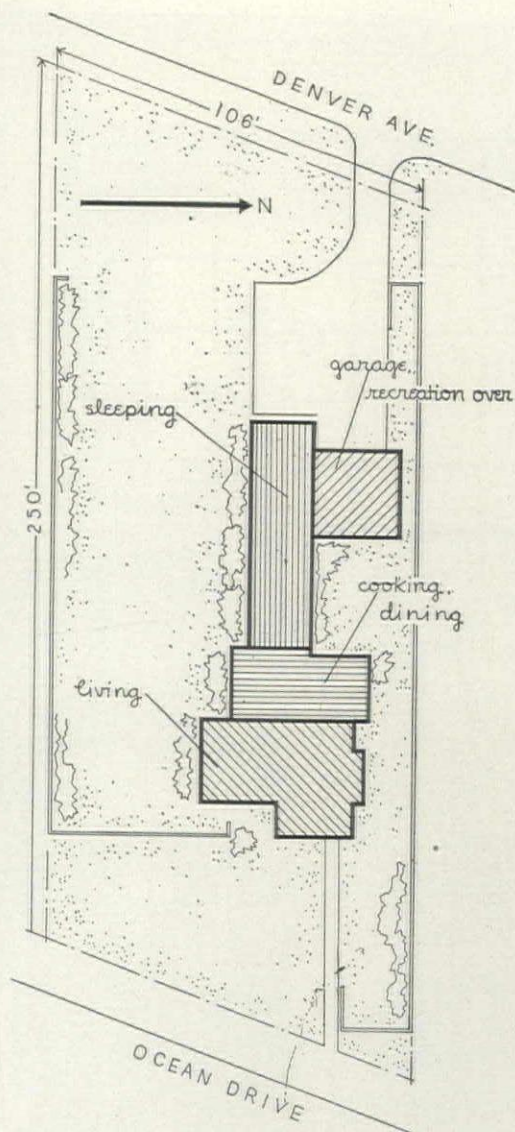
► He domesticates the wind by blunting its insistent edge while using the rest to keep humid air moving. His method is defense in depth: around the house, a 6' cedar post fence; next, the grid of redwood baffles bounding the terraces; finally, sliding doors which bar the breeze when necessary.

► Strips of planting are deployed the same way: hardy shrubs outside, semi-tropical plants in shady terraces, sensitive blooms in the lee of brick walls.

► Against steamy, intermittent rains he uses a wide umbrella of a roof plus awning windows and recessed sliding doors.

► He uses masonry walls in straight, continuous, isolated units to minimize cracking when the clay soil swells or shrinks. Run almost parallel to the prevailing breeze, they also scoop in every current of air. Walls of windows face the breeze and let it sweep through the one-room-wide plan.

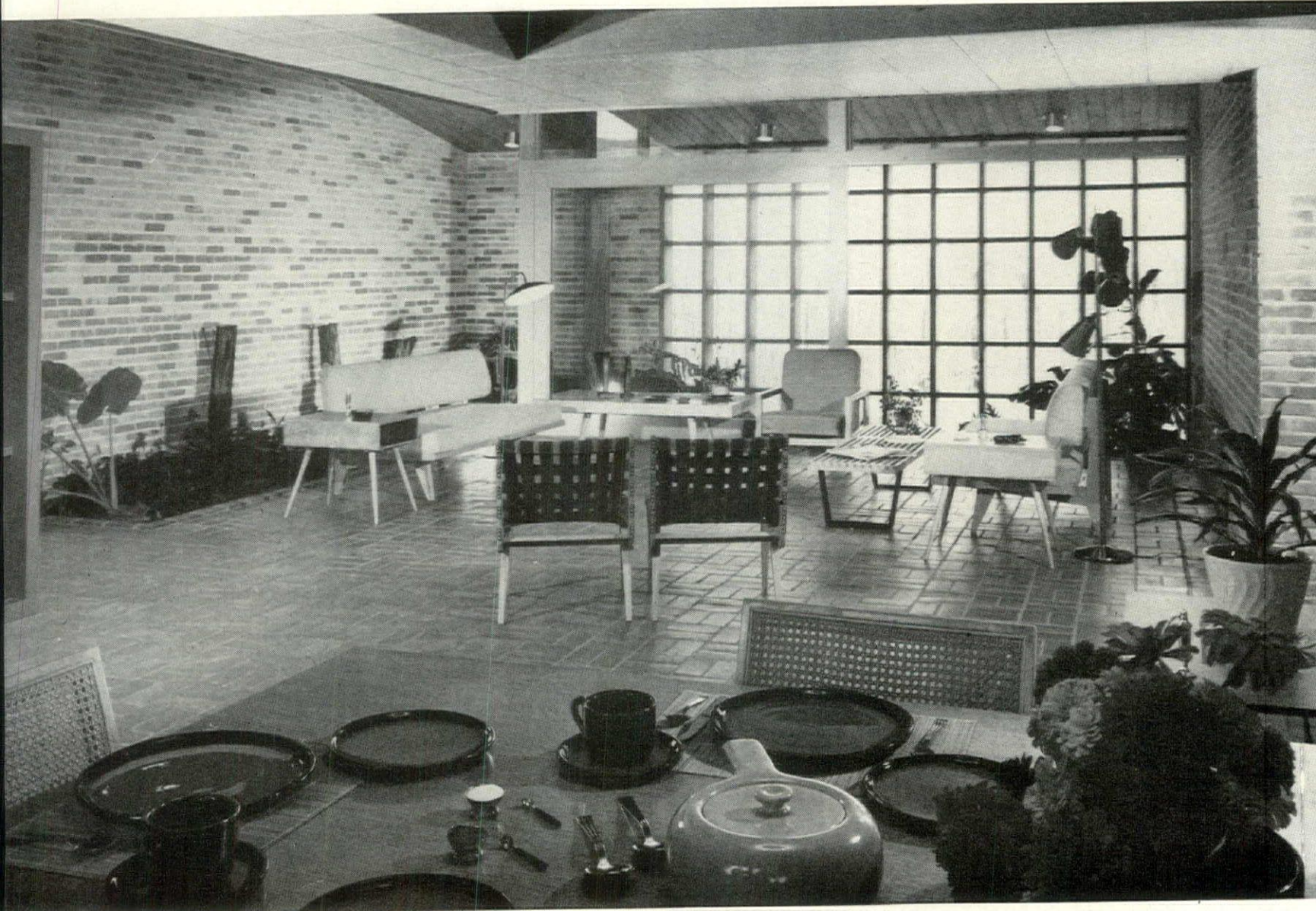




*In Corpus Christi, where it's so hot and windy you have to step indoors to get out to your garden, a strip of planting is doubly precious. Here, Architect Colley runs a protective wall around the plants and presents them at the entrance as a gesture of welcome in a hospitable southern house.*

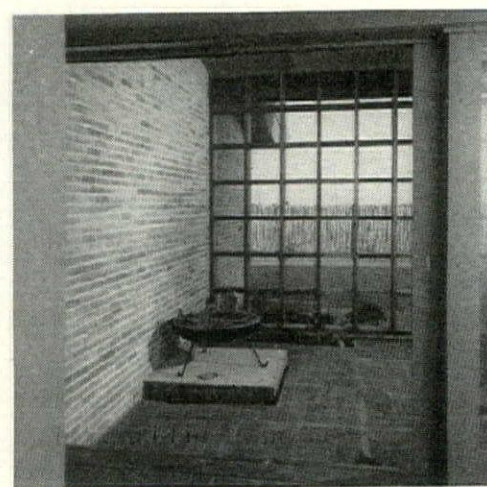
*Three terraces like this one at the front door serve as anterooms to the weather. Passing through the redwood grid the wind calms down, the sun shades off and the rain falls on the plants. Finer screening nailed outside keeps the bugs at bay. Added advantages: a pleasant winter outlook, privacy for large glass areas, protection from stray baseballs.*



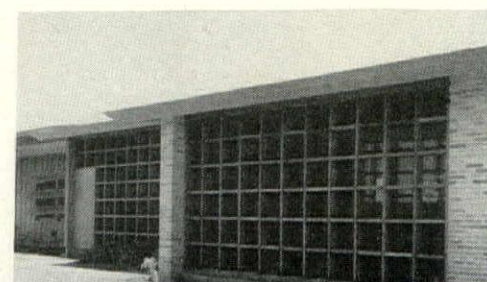


Just as it takes to the climate, this house takes to a party like a typical Texan. From the wide entrance way (planned for mass arrivals) through the entire living area, there isn't a door to stop the movement of guests. In summer the terraces continue the space outdoors and even the kitchen joins in—not from the sidelines but as an amiably open center of distribution. The owners can be sure to have as good a time as their friends: the kitchen is within conversational range and all the interior surfaces are virtually indestructible. Illumination in this area is keyed to the same lighthearted mood. Spotlights in the ceiling are trained on the plant beds and adjacent terraces. Floor lamps indoors cast low pools of light on the brick. The combination creates a sense of space and intimacy at the same time—each pool of light encloses a single conversation while the walls and their limits are far away. The terrace lights also eliminate the cold blackness of glass walls at night. For the teen-age crowd there is a playroom over the carport, a distance from the living room that muffles the most energetic horse-play. Its vantage point captures a wide view above surrounding roof tops to the Gulf, and from outside its height provides a welcome contrast to the one-story lowness characteristic of the region.

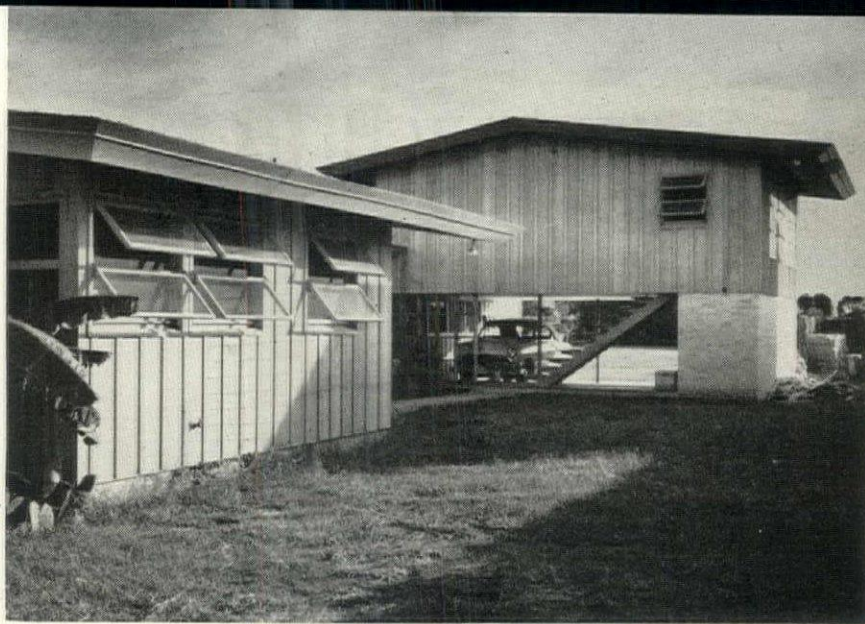
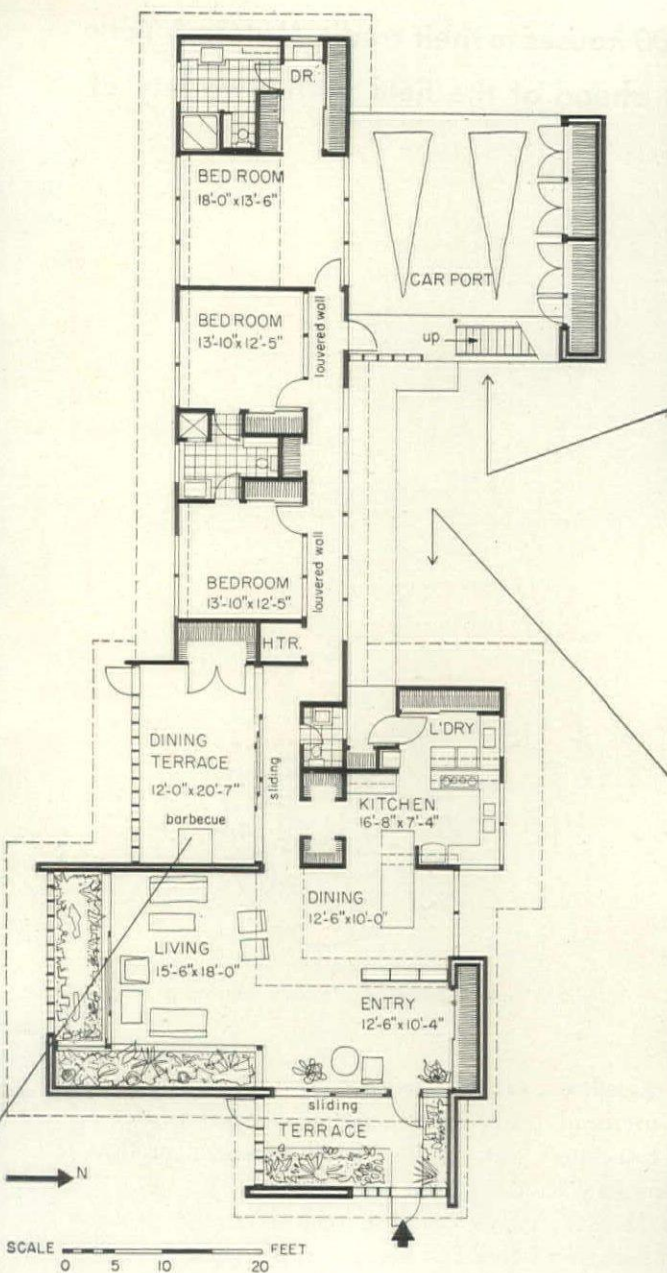
To builders in search of a "ranch house" formula, Architect Colley's house offers something special. It is native as mesquite, charming as can be and it all makes sense. He uses pleasantly textured board-and-batten walls but he doesn't switch materials in mid-wall and where he uses brick he does so with reason. The roof is wood and it is pitched, but the slope is gentle and it's not top-heavy with texture. He breaks up a view with purposeful sun screens, not with a multitude of muntins. And there isn't a single machine-aded beam, hingeless shutter, impaled coach lantern or chintzy cliché in the house.



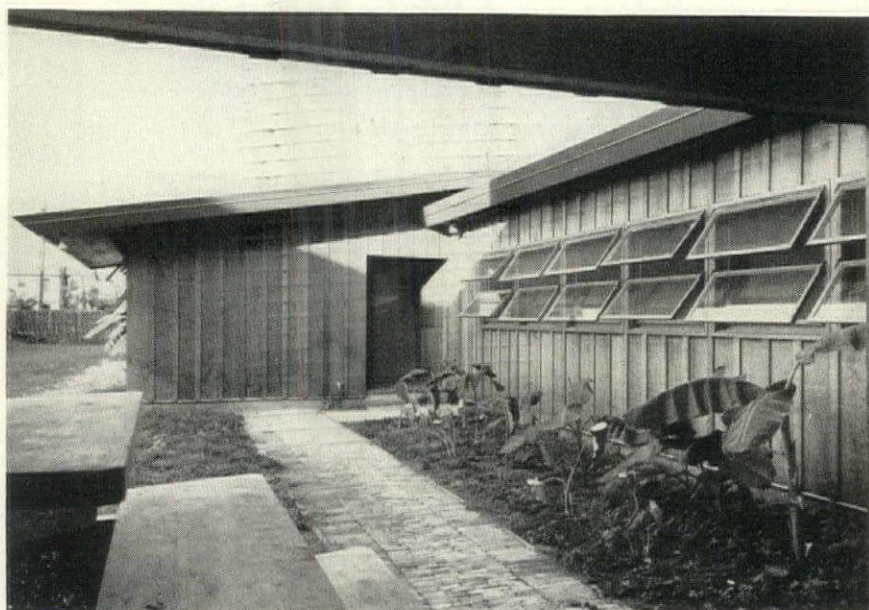
*Above and below, the combination wind, sun and insect screens. The hall achieves spacious feeling through placement alongside dining terrace.*







*The house fronts on streets at either end, has two points of access. Carport, above, is on the lee side, makes a sheltered passage to upstairs playroom.*



*Family entrance is from the carport into the bedroom hall or up the walk into the kitchen. Pivot of the plan, the kitchen is handy to living room, bedrooms, both entrances and is almost a part of the dining area.*



*Where heating ducts would have interfered with the smooth rise of the ceiling, the architect has nonchalantly slung a king-size duct (of economical fiber board) from the rafters. Visually a continuation of lowered hall ceiling, it makes a space-defining canopy over the dining table. Table is partly in the kitchen, serves also as a pass-counter.*



# THE BUILDER'S ARCHITECT—With 38,000 houses to their credit, Matern & York analyze public preferences, keep their Long Island builders just ahead of the field with a variety of quick-selling design features

No. 1 exhibit of how an architect can help a home-builder is the Long Island architectural firm of Rudolph Matern and Herman York, who have probably housed more families since World War II than any other single private enterprise.

From their drawing boards at Jamaica have come blueprints for no less than 38,000 homes—for quantity production by merchant builders and for individual erection by a home-hungry public.

Matern & York do not set out to be radical leaders in residential design, but have a knowing way of combining novel saleable features. More important, the sheer volume of their success indicates shrewd heads for business when it comes to judging the current tastes of the American home-buying public.

This is precisely why more merchant builders (60 to 90 per year) use their services than those of any other single architectural firm in the country.

What makes Matern & York's services so valuable? In the answers to that question builders everywhere can learn what makes Long Island the bell mare of the eastern half of the U.S. home building industry, and architects can learn what it takes to move in on the big and lucrative merchant builder market. Briefly, the answers are:

► *Matern & York houses sell fast.* They offer their builders a new line of models every year, each displaying more advanced design than the previous year's. (Photos right.)

► *Each house has a story.* They employ a wide variety of sales-sealing special features, from "souped-up" bathrooms to walk-in wardrobes. (See pp. 120-121.)

► *Builders get more service for less money.* Matern & York offer complete architectural services along with the plans—at less than \$50 per house. (See page 120.)

► *They know what the public buys* among current offerings. Leaving design pioneering to others, Matern & York keep score on new features constantly fed into an elaborate stock plan service. The score shows, among other things, a public vote for fireplaces and shutters, for front living rooms and for basements (2 to 1). (See pp. 123-124.)

► *They can predict the market.* Statistics from their stock plan service alert them four months in advance for a boom or bust in the national housing picture. (See page 125.)

*How to move houses fast.* When the firm goes to work on a plan for a merchant builder, the house is half sold before it leaves the drawing board. Most of the merchandising is done for him by the architects, who draw a handful of formulae out of their considerable past experience, sprinkle in a few new touches and serve up a set of working drawings that oftener than not suits the public palate to a T-square. Thus the merchant builder can concentrate on being a builder.

As Matern puts it: "There is one place you can save or lose more money than in any details of construction, new



Matern & York's builders' tracts show Long Island's housing growth

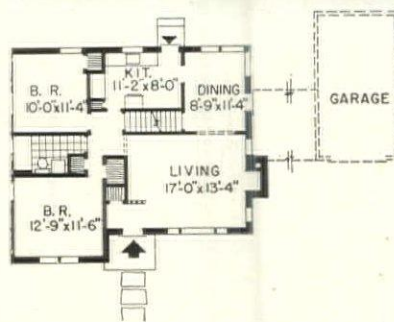
materials or methods: sales—*moving the houses fast*, which cuts down overhead, taxes, interest, advertising, sales force time. No cost-cutters can yield as large a builder profit as this immediate salability."

Why do M & Y houses move in such a hurry? Not necessarily because of location, general appearance, lower price, although careful attention is paid to these factors. Rather, each house pinpoints the prospective buyer's attention with at least one highly merchandisable gimmick, an eye-catching feature that he registers and remembers—e.g., an extra-large bathroom with a 6'6" plastic dressing counter; a sunken living room; an oversize shower or dressing closet; an outside porch; a big Dutch kitchen. (P. 120.)

"We find," say the architects, "that when people shop around for a house they may look at as many as 20 different models. By the end of the hunt, their impressions have blurred; they come back and buy the one with the special 'splash' feature because they remember it the most readily. That's why we try to keep the number of different types of houses in our tracts to a minimum and advise our builder's salesmen not to show a customer too many. He's apt to get confused and wind up not buying any."

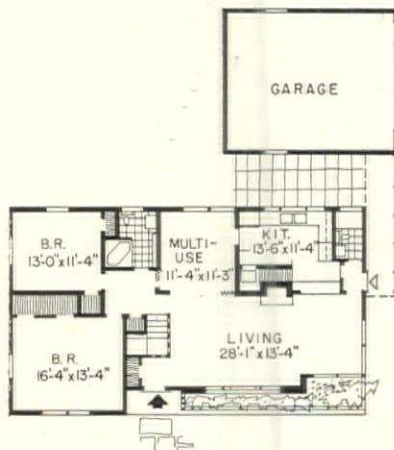
*Low architect's fees.* They charge a builder from \$200 to \$350 for the initial working drawings of a house plan, \$25 to \$40 more for each house built in the tract. This usually averages a total cost to the builder of \$30 to \$50 per house built, which includes: initial conferences, preliminary sketches, elevation studies, working drawings and alternate elevations, FHA and VA specifications, site plan (redrawn from engineers' plan for FHA presentation); blueprints for financing agency, construction crews and subcontractors; renderings and inked plans for sales and publicity purposes; several job inspections by the architects



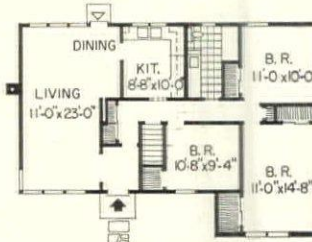
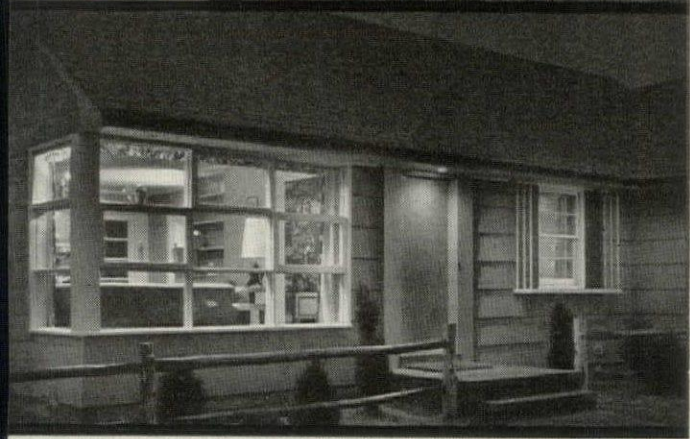


## SIX YEARS OF DESIGN PROGRESS

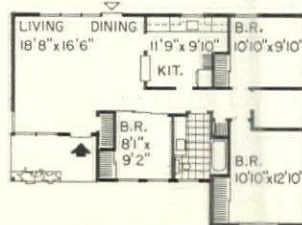
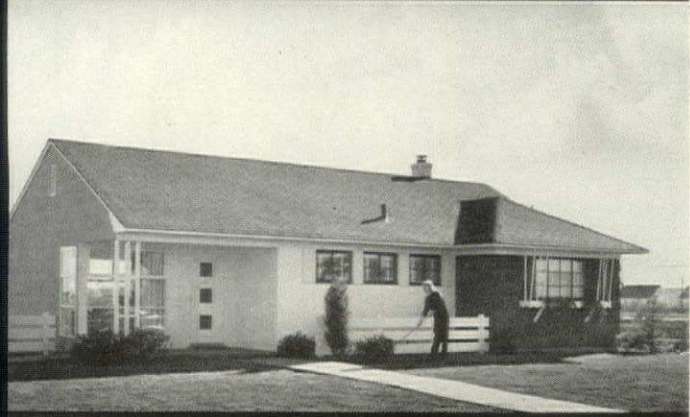
**1947-48**—Matern & York's key house of the year was this boxy, conventional model with expansion attic, basement, front living room, semi-separate dining. Center hall, previously popular, has been eliminated. Builder: Strausman Construction Co.



**1948-49**—More open planning, slab floor, multi-use room, vanity, pass-through, built-in TV, slab door, more overhang, higher windows, no gutters. Builder: Center Hall Homes, Inc. (Note: no center hall.)



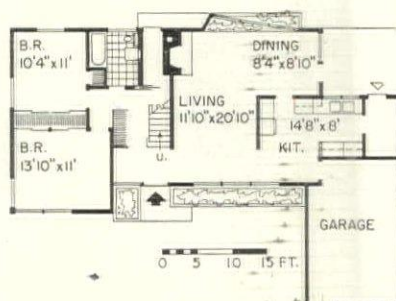
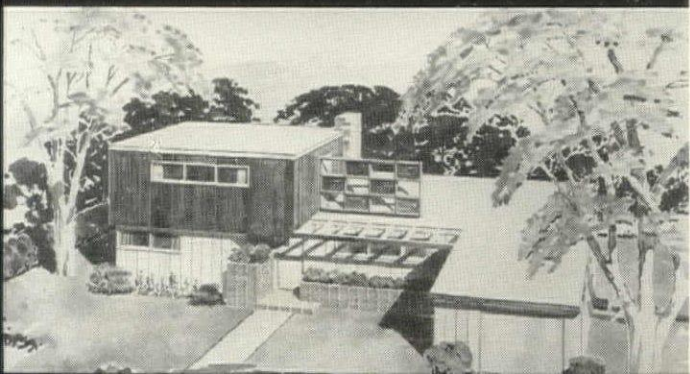
**1949-50**—New notes: cross hall, "California window," through living room, alcove for dining. A \$10,500 model then, it came from a popular plan service house, became "the most cribbed-from house on Long Island." Builders: Beck & Krinsky, Housing Associates, Inc.



**1950-51**—A longer, lower look, with more open plan, living room more towards rear, window wall, entry porch, high front windows, patent flue instead of brick chimney. Builder: Strausman Construction Co.



**1951**—Living room all the way to the back, pushing kitchen and dining up front. Also new: sheltered rear porch, split bath, garage parallel to street, return of basement. Builders: Beck & Krinsky, Housing Associates, Inc.



**1952**—Still abuilding, this two-story, four-bedroom two-bath flat top may become next year's leading house. It has slab floor, screened sundeck, open kitchen, front to rear living room, garage boldly in front. Builders: Siegel & Chess.



before, during and after construction; individual plot plans for each house in the tract; preparation of building department application forms; securing of building permits and appearing before various boards for zoning, signs, etc.

(To get the benefit of many minds and avoid misunderstandings, Matern & York try to get *everybody* in on the initial conference: architects, builder, surveyor, job superintendent, advertising agency, sales organization, public relations counsel and financing agency.)

Their low fees are possible because of the volume they do in the Long Island territory. (During 1951, they serviced some 85 builders on Long Island on projects ranging in size from 20-1,500 homes, in price from \$8,000-\$28,000. They have done 10 projects in Queens, 14 in Westchester county and another 8 in New Jersey, but are now turning down this type of outside business to concentrate on Long Island, where they added another 15 new builder-clients during the past year.)

They've done the job so many times they have all the necessary information at their fingertips, can crank out a design with a minimum of time, effort and expense. Most of the detailing of standard parts is left to the builder and his subcontractors, who, Matern & York feel, are "specialists more highly qualified than we. They've been doing their stuff for years." The architects regard themselves more as coordinators, not experts in any one line. And, having been builders once themselves (10 houses completed at Williston, Long Island in 1945), they are more familiar than most architects with the builder's problems and point of view.

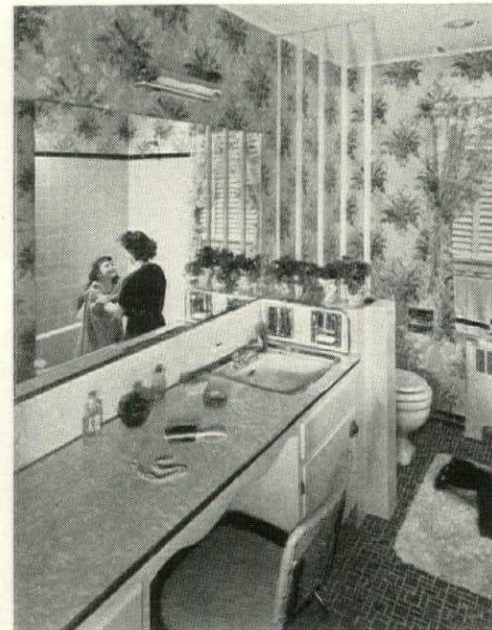
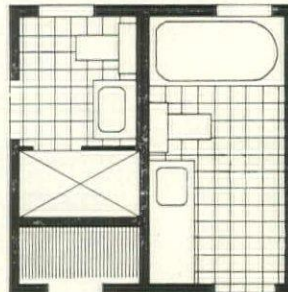
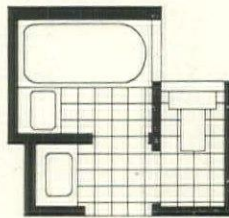
**Home Design—the realistic approach.** Matern & York's philosophy might be summed up by a large placard they have tacked to the wall of their drafting room which reads: "Why should a customer want to buy your house in preference to someone else's?" Whenever they tackle a builder's job, they try to create a house that will do three things:

1. Sell at a profit to the builder.
2. Sell fast and give the buyers the best dollar value possible.
3. Make homeowners dissatisfied in their present house so that they'll buy the new model, like they buy next year's automobile.

To help sell the house, they assign a two-fold mission to each of their design gimmicks: 1) to inspire a story and 2) to exaggerate its importance.

**To inspire a story.** This not only means that the house will "say something" of definite appeal to the prospective buyer, but will also offer local real estate editors a news peg to hang their hats on if they want it. In the words of the architects, they "build a headline into the house" (e.g. "House with a Sunken Living Room"; "Long Island House Features Big Dutch Kitchen"; "A Television Home," etc.). And they've had a high batting average with these newspaper space-getters.

**To exaggerate.** When Matern & York decide to include a special feature in a house, they make it bigger—not just a little bigger, but big enough to be appreciated. For example, a bathroom vanity would have been oversize at 3' or 4', but they made it 6'6" for extra punch. A visiting architect might note that the shower in another house was 3' x 3'6" instead of the standard 3' x 3', but not most laymen. So M & Y up the dimensions to 3' x 5'. Sometimes halls are designed 4' rather than the minimum 3' wide to look more luxurious, and outside planting boxes are made longer than they have to be for effect. In another instance,



Bathroom proves useful for design theatrics: 1949-50 house has this 6'6" plastic vanity, mirror cabinet, drawers, room divider. Plans illustrate popular split bath from a prize-winning Matern design and back-to-back baths of a builder's house with oversize shower, long vanity.

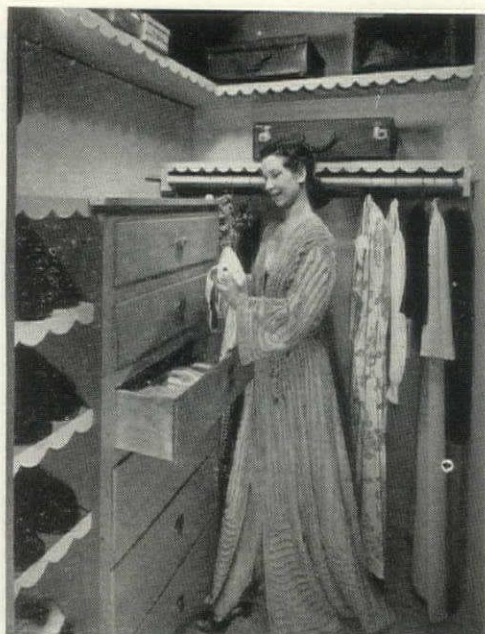


Sliding doors of pressed fibre board in 1950-51 house made closet construction cheaper, opened bedroom to living room.

Sunken living room in builder's \$17,500 house proved novel sales feature, justified its extra cost of \$300.

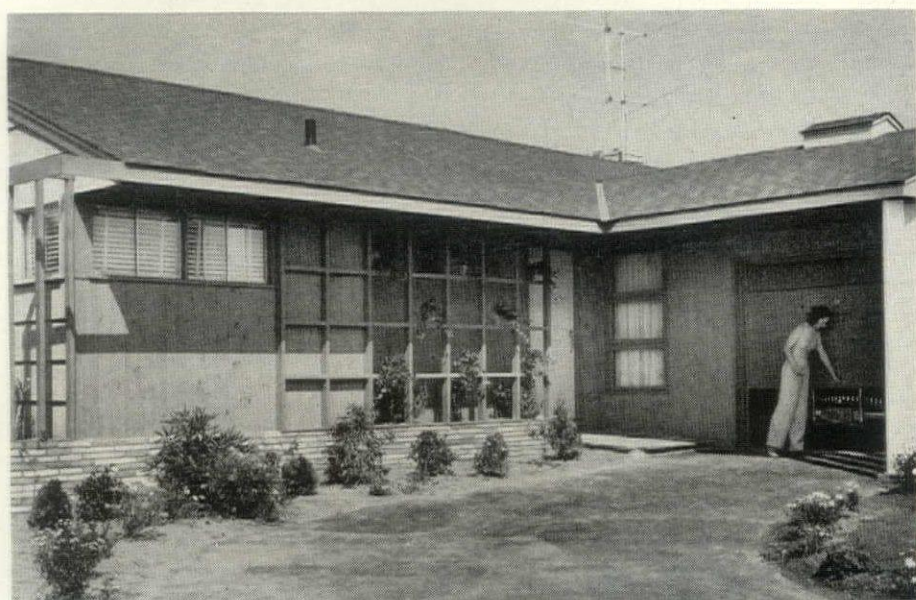




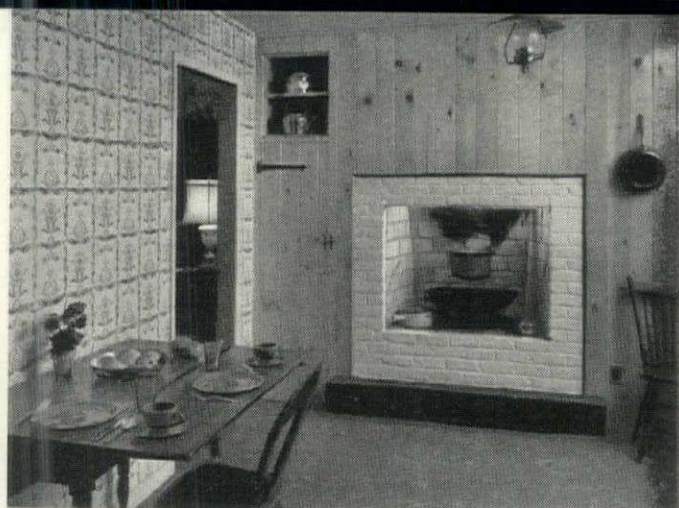
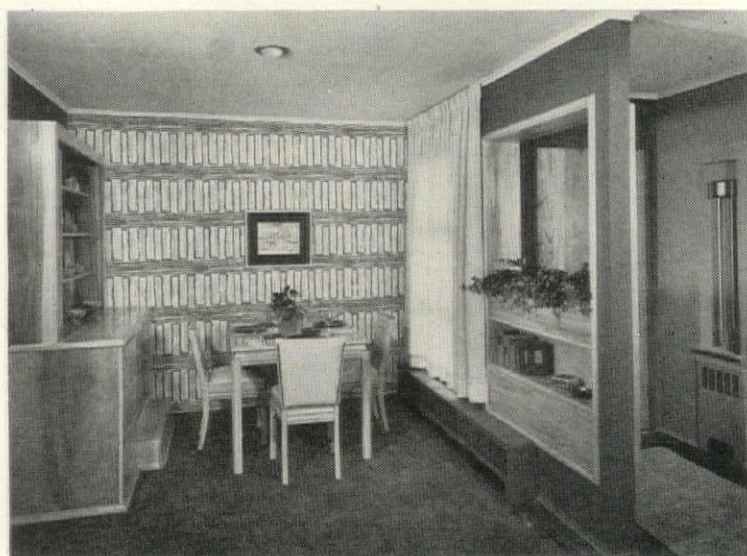


*Walk-in dressing closet with built-in drawers and shelves pulled its share of customers. A sales placard here read "His"; "Hers" was a small closet nearby. (Unrealistic, it flattered some males into buying.)*

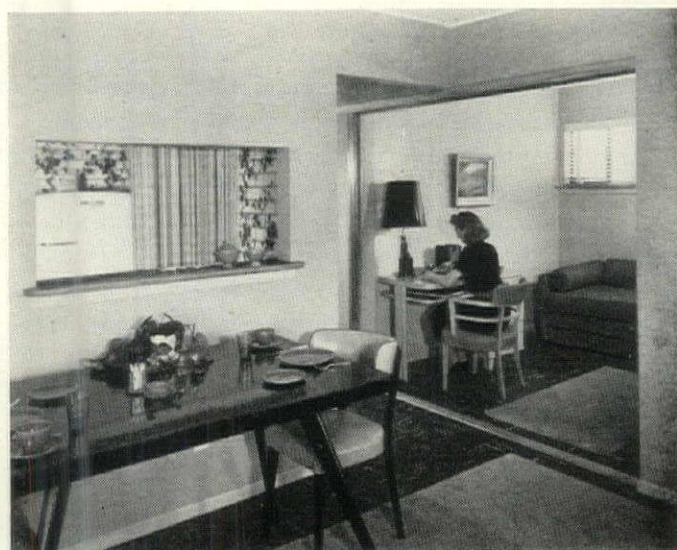
*In 1951-52 house (see page 119), Matern & York threw in knotty siding, adobe brick, big trellis, poles, cupola.*



*Dining alcove of 1951-52 house is open to front hall, has a built-in buffet with pass-through to kitchen.*

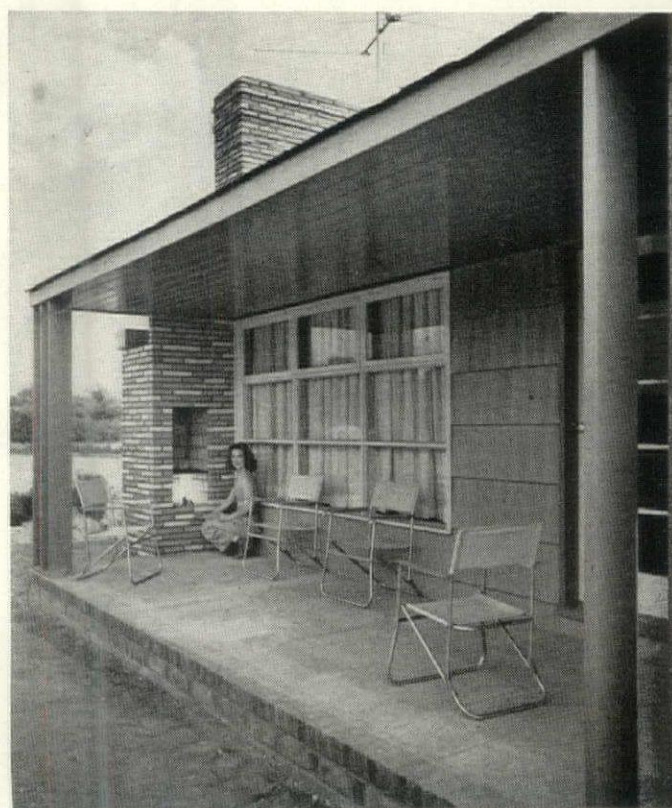


*Popular in larger home is this spacious Dutch kitchen with raised brick hearth, rustic paneling, dining table, extra counter space and appliances.*



*Living room of best 1950-51 house borrows space from kitchen (with popular pass-through feature), from bedroom-den, right (shown with sliding doors open).*

*Rear living room of 1951 house opens onto sales features expected to pull heavily when model opens late this month: sheltered porch, outdoor barbecue, "California window."*





## THE BUILDER'S ARCHITECT

a master bedroom was increased in size for sales appeal and the third bedroom decreased, rather than distributing space evenly between the three. As York explains it: "Any buyer likes the flattery that luxury features give him in a small house—a woman, for instance, gets that 'Hollywood feeling' when she sits down at the long vanity—like Hedy Lamarr."

In their own defense Matern & York claim, "You can lead a builder, or a buyer, but you can't cram an idea down his throat. Houses, like anything else in product design, have got to sell. We feel we're *gradually* bringing up the level of home design, flattening out the roof little by little, introducing more and more open planning and functional ideas. But we'd rather take *one* jump ahead of the people's tastes and sell houses than take *two* and fall flat on our faces, which can cost a builder his whole building season. If you try to do anything radically different in this area with its volume production of thousands of homes, you upset the whole procedure, from FHA or VA to the bank right down to the sheathing crews. If something is overpriced or falls flat designwise, it will upset the gradual upward trend of design we're trying to foster and set the builders way back.

"An architect has to keep merchandising foremost in his mind, create houses that will sell in today's market. If the theorists had to sell quantities of builder's houses, they'd probably change their tune."

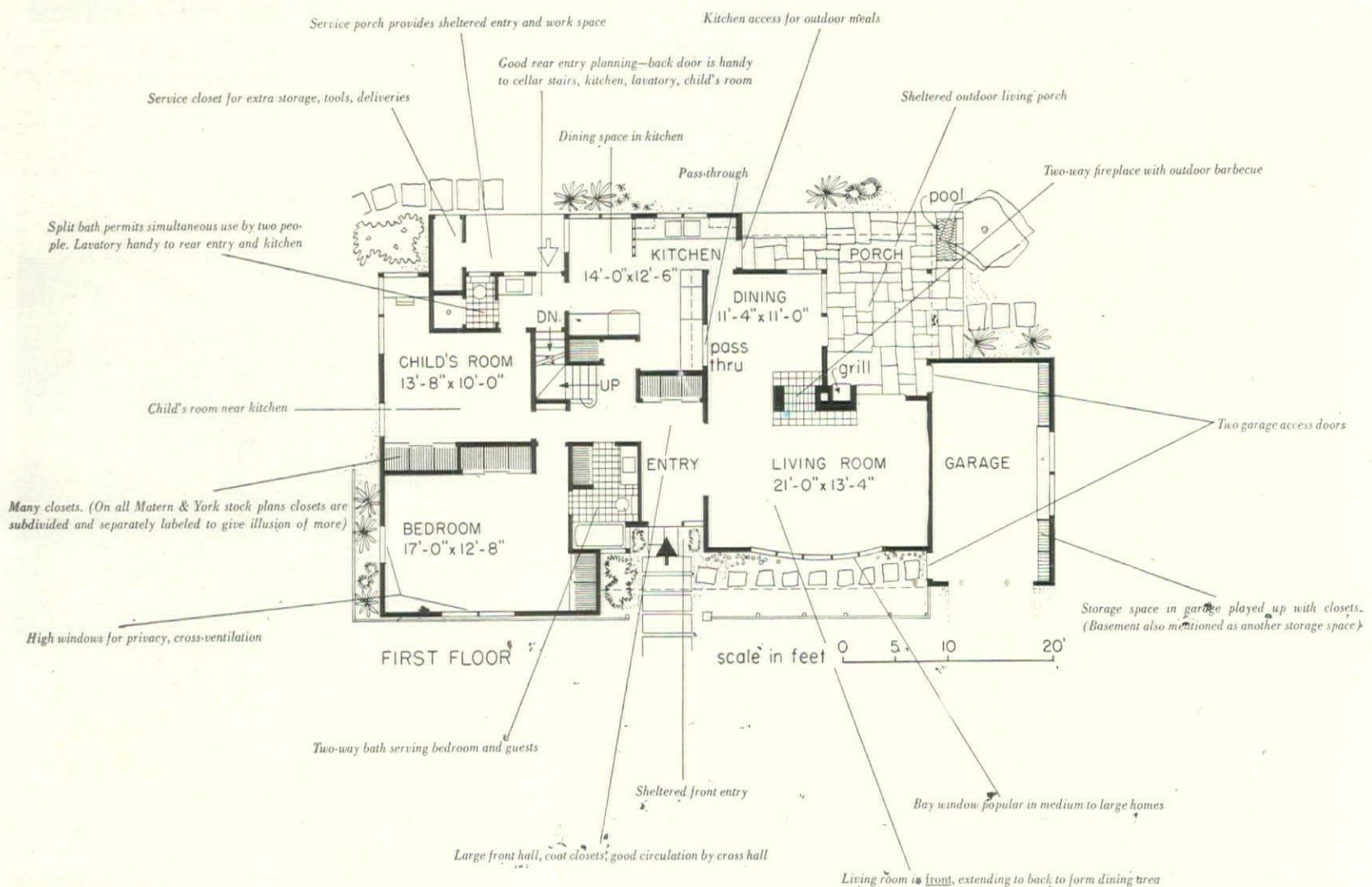
To illustrate their point: in last winter's FORUM-NAHB

design competition for 1,000 sq. ft. homes, Matern & York and staff won 7 out of the 12 prizes awarded in the local contest co-sponsored by the Long Island Home Builders Institute. Matern took first place with a clean, functional rectangle of an "open" plan, a pseudo-contemporary elevation with garage in front—a more advanced design than any local builder had yet used. York took second with a slightly irregular plan, more conservative elevation and garage towards the back. When both were published in magazines and newspapers, York's more traditional model drew from 3 to 6½ times as many inquiries!

Both Matern and York make frequent trips with notepad and camera to the West Coast, find it a "shot in the arm every time." They have brought back many ideas to Long Island: flush slab doors, glass walls, flatter roofs.

Matern & York believe there is a long term national trend towards slab floors, which they have also imported from California. "People are catching on to this indoor-outdoor living idea," says York. "With basement construction, you have to go down *three* or four steps to a rear patio; with a slab, only one step at most. We have enough 'outdoor months' here in the East to make them practical."

Adds Matern: "Slabs have gotten a black eye because they've never really been fairly tested—a builder usually eliminates basements to save money but never puts the money he saves by using a slab back into more space on the ground floor. Basements are still preferred 2 to 1 (see reader poll, next page), but slabs are definitely on the increase because of the current \$12,000 ceiling on favorable financing."



In this plan, the architects tried to see how many popular sales features they could cram into one layout



## MATERN & YORK'S STOCK PLAN SERVICE—a hand on the public pulse

What, exactly, do people want in their houses?

Since early 1946, Matern & York have offered the public a variety of house plans and elevations—272 different ones in all—through national coverage in magazines, newspaper feature services and their own plan books. Readers write directly to the firm for more information on the particular plan that interests them, and some send for actual working drawings at \$35 per set.

From these inquiries the architects have built up a rough but valuable public opinion poll on house preferences. They have had 116,500 individuals write them since they started, have provided some 38,000 sets of plans to their readers and builders combined. (Even at \$25 a set, this multiplies to \$950,000 in five years.)

To determine the relative popularity of individual features in their houses, Matern & York have broken down the typical house into 75 different elements of design and plotted these against five size brackets (under 900 sq. ft., 900-1,100, 1,100-1,300, 1,300-1,500, and over 1,500 sq. ft.). Every time a reader indicates interest in a plan that includes one of these 75 features, the feature gets one point on the scoreboard and goes into a statistical mill. The unique goldmine of information that comes out enables the architects to push popular ideas and plans into future publications and weed out the duds no one wants. Here are Matern & York's findings over the last four years:

*General shape of floor plan.* A square, boxy plan is

acceptable up to 1,100 sq. ft. In any larger houses, people want a break in the front elevation, an L or T-shaped layout or other variation. A U-shaped plan, however, is definitely very unpopular in any size when it presents to the street a symmetrical front with two gable ends.

*Number of stories.* The one-story house leads in all size brackets, with 1½ stories second and 2 stories a poor third.

*Bedrooms.* Three bedrooms are preferred in all sizes of one-story house; two bedrooms are acceptable up to 1,100', not popular in the 1,100'-1,300' bracket, acceptable again from 1,300' up. (Matern's interpretation: the small house owner will sacrifice the third bedroom; the medium-sized house owner insists on it; larger house owners are often older couples whose children have grown up and left home.)

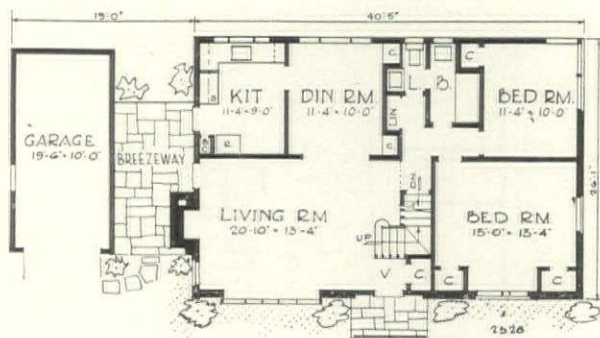
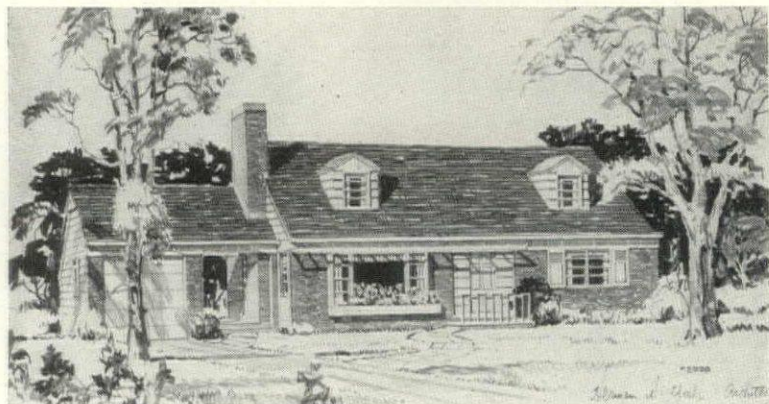
*Expansion attic (1½ stories).* Popular up to 900', usually undesirable from 900'-1,100', wanted from 1,100'.

*Front exterior.* Up to 900' people will take an all-wood exterior; over that size they prefer a variety of materials, such as a mixture of wood, brick and stone.

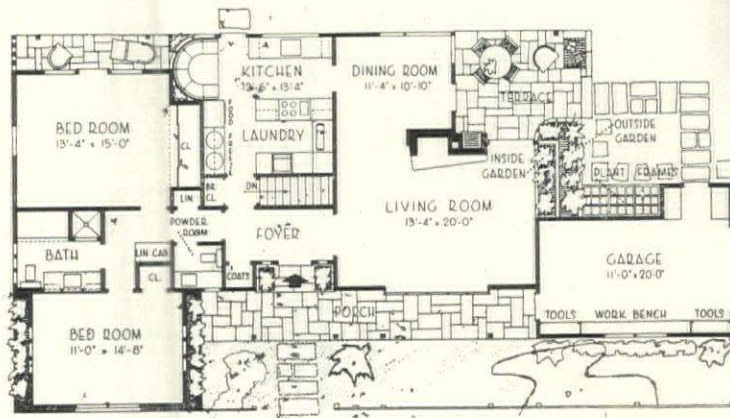
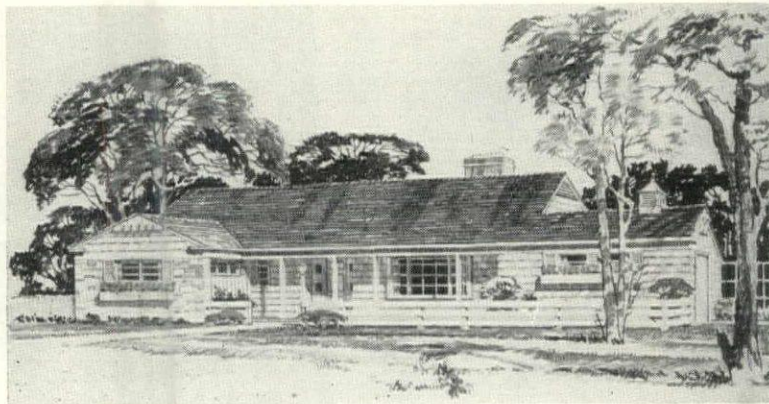
*Basements.* Up to 900' a basement is preferable; from 900'-1,100' a slab is all right. Over 1,100' basements seem to be desirable again. When they publish a basementless plan with an alternate that includes a basement, Matern & York find that the latter pulls twice as many inquiries.

*Kitchens.* Front kitchens are *not* popular in any size house, especially the larger ones. This is changing slowly, however, as the rear living room increases in popularity

### The most popular stock plans:

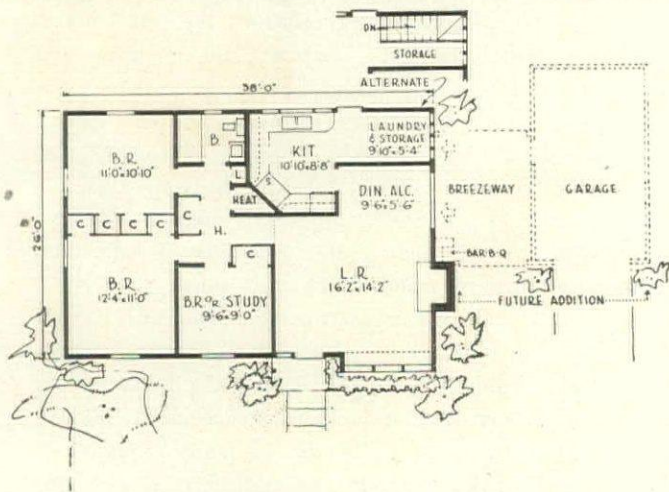
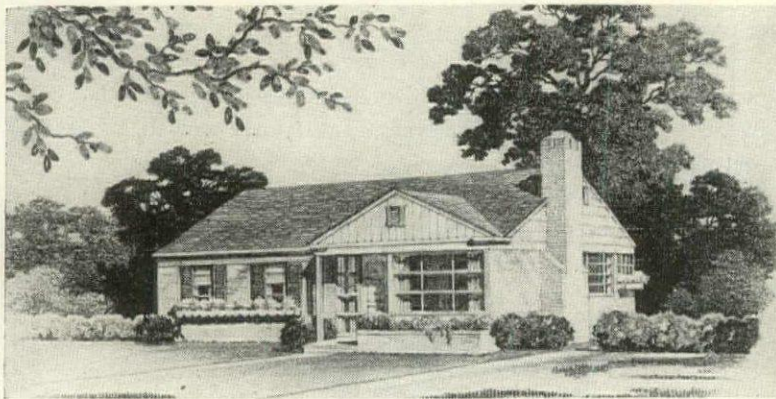


**1946**—The plan that drew most inquiries during first year of stock plan service was this traditional home with expansion attic and semi-attached garage. Special features were split bath, picture window in front.

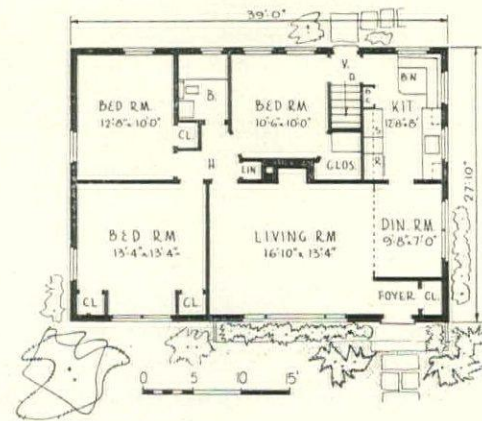
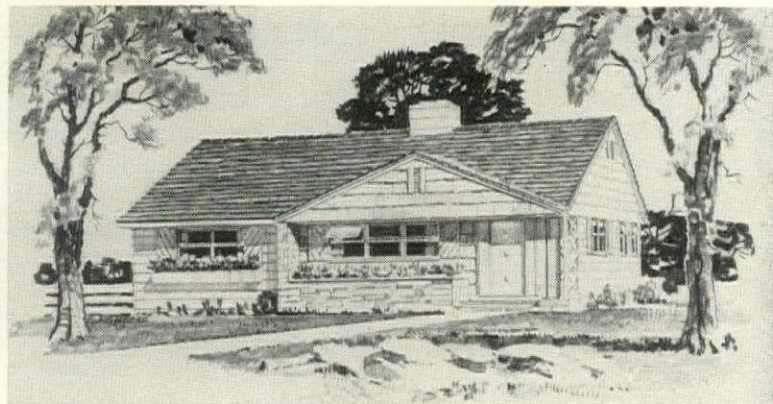


**1947**—"Beginning of the idea of a 'Miracle House' in America" is the way the architects explain the popularity of this luxurious, complex plan. Many of its features were later incorporated in the plan shown on preceding page.

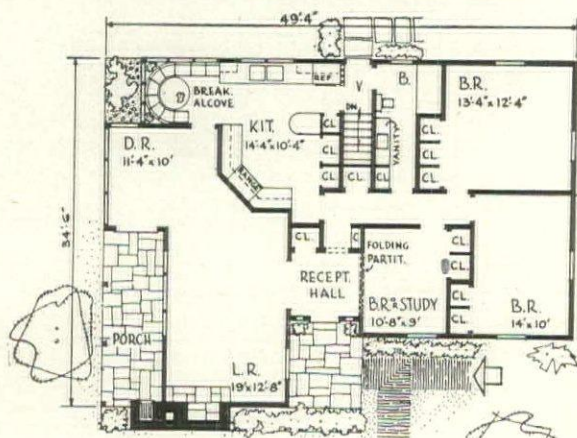
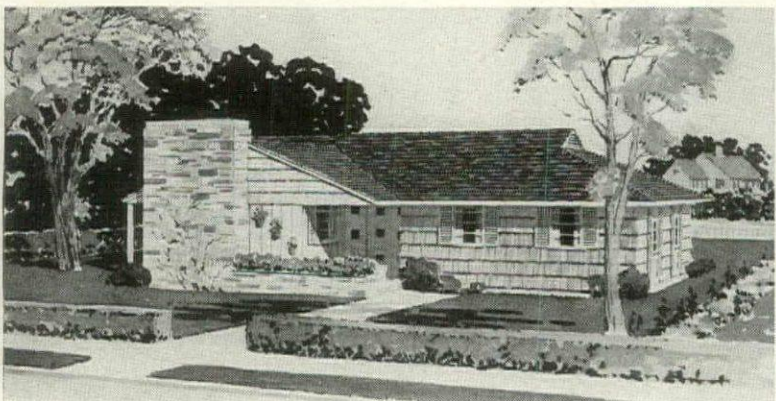




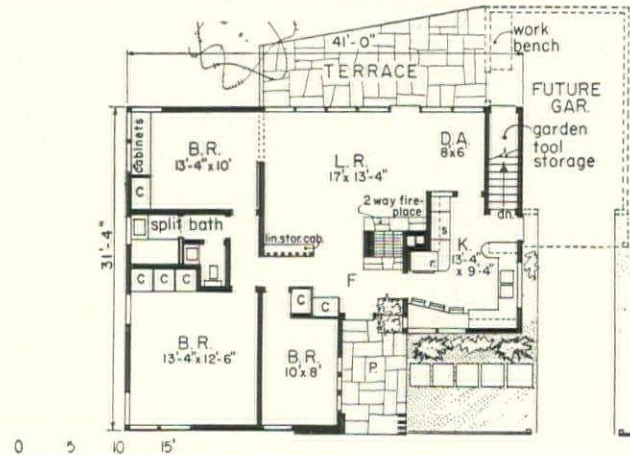
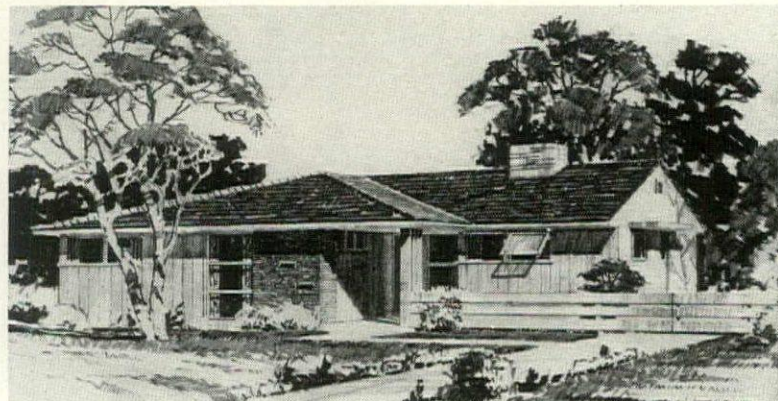
**1948**—The nation-wide search for the "Economy Home," Matern & York feel, boosted this layout into top billing for the year. The alternate with basement drew more heavily than the slab scheme with laundry, storage.



**1949**—The economy home idea still influenced readers, and the biggest seller of the year didn't change much in plan or elevation over its predecessor. Like other best-sellers, this model had a basement.



**1950**—Not quite so budget-minded was this plan of the year, with its special porches, entry hall, long cross hall, super-kitchen and breakfast alcove, rear entry scheme, bathroom vanity, sliding doors to bedroom-study.



**1951**—York's second prizewinner in the Long Island Home Builders Institute contest drew an average of five times as many inquiries as the more modern first place design. Innovations: split bath, two-way fireplace, rear living room.



and shoves the kitchen to the front. Space for eating in the kitchen is a must in all size brackets: for 1-2 people up to 900' and a very definite preference for three or more in any larger house. From 1,100' up the large "super-kitchen" is popular.

**Living room.** Most people don't want their living room at the rear of the house. (In the 900'-1,100' bracket it is least objectionable.) A front-to-back living room was popular in houses up to 1,100', a living room completely in the front in all larger homes. In their builders' houses, Matern & York are slowly pushing the idea of a rear living room, finding more public acceptance of it as time goes on. People will take a compromise on a front-to-back room if it affords some view out to the front.

**Dining room.** No one cares for a separate dining room except the 1,300'-1,500' group. On the other hand, no one wants just one room for both living and dining. This makes the dining "L" popular in all brackets.

**Bathrooms.** In houses up to 1,300' one bath is acceptable. All brackets like the "souped-up" bathroom with more space, tile, in-line fixtures, long vanity. The split bath which permits dual use is also gaining.

**Closets.** Four or five closets are not enough for any size house; six to eight are all right up to 900'. All brackets prefer nine or more. Storage walls are beginning to catch on.

**Entrance hall.** Up to 1,100' a minimum vestibule is all right; over that people demand a larger vestibule-foyer.

**Inside halls.** The cross hall, running at right angles to the line of entry, is a strong favorite in all groups. The center hall, formerly just what people wanted, is now desired only by the 1,300'-1,500' bracket.

**Living porch and service porch.** From 1,100' up, a fairly strong preference.

**Laundry on ground floor.** Acceptable up to 1,100' and over 1,500'.

**Attached garage** (built at same time as house). Demanded only in 1,500' up.



**MATERN**



**YORK**

Rudolph A. Matern, 39, RA, AIA, NAHB, graduated in architecture from the University of Michigan and studied for a year at Cranbrook under the elder Saarinen. After stints with large architectural firms, he joined forces with Herman H. York, 42, RA, NAHB, designing for operative builders in the general New York area. At a magazine's request, they submitted a couple of stock plans for publication, found the response so surprising they launched a full scale plan service in addition to their builder business. Now, Matern devotes three-quarters of his time to designing stock plans, poring over his voluminous statistics and handling the publication end of the partnership. York takes charge of their 80-odd builder clients and travels extensively around Long Island checking up on tract progress. Not content with their statistical findings, both men are perpetually skulking around new model homes, standing in line with the rest of the visitors and keeping their ears open for profitable comments, pro or con.

**Covered front entry.** Popular in all house sizes.

**High bedroom windows.** Popular under 900' and over 1,300'.

**Bay windows.** Everybody over 900' shows a strong preference for them. Under 900', people probably think they would cost out of proportion to the house.

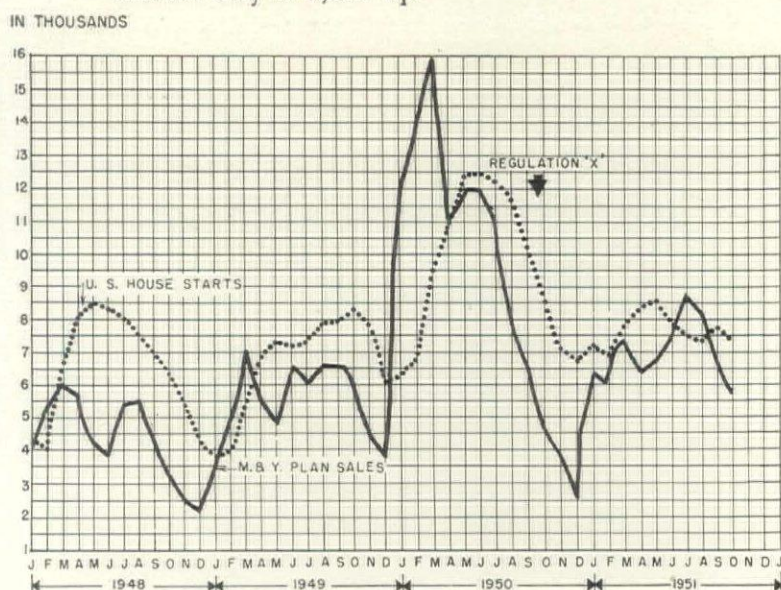
**Fireplaces.** Wanted over 900'. "Fireplaces are like shutters, everyone wants them." For a short time television crowded out the fireplace, but not any more.

**Shutters.** All brackets show a mild preference for them. Explains York: "A buyer would tend not to buy a suit that didn't have buttons on the sleeve. It's the same with shutters; we think they're just about as crazy as sleeve buttons or the little bow on the inside of your hatband, but people like them, so we give 'em shutters."

Such details as dormers, cupolas, dovecotes and trellises are all very popular in houses of 1,100' and larger. All sizes like a low masonry flowerbox, and fences are in demand over 1,300', the longer the better. The "special use room," also referred to as the hobby or multi-purpose room, is on the upswing and is now popular up to 1,100' and over 1,300'.

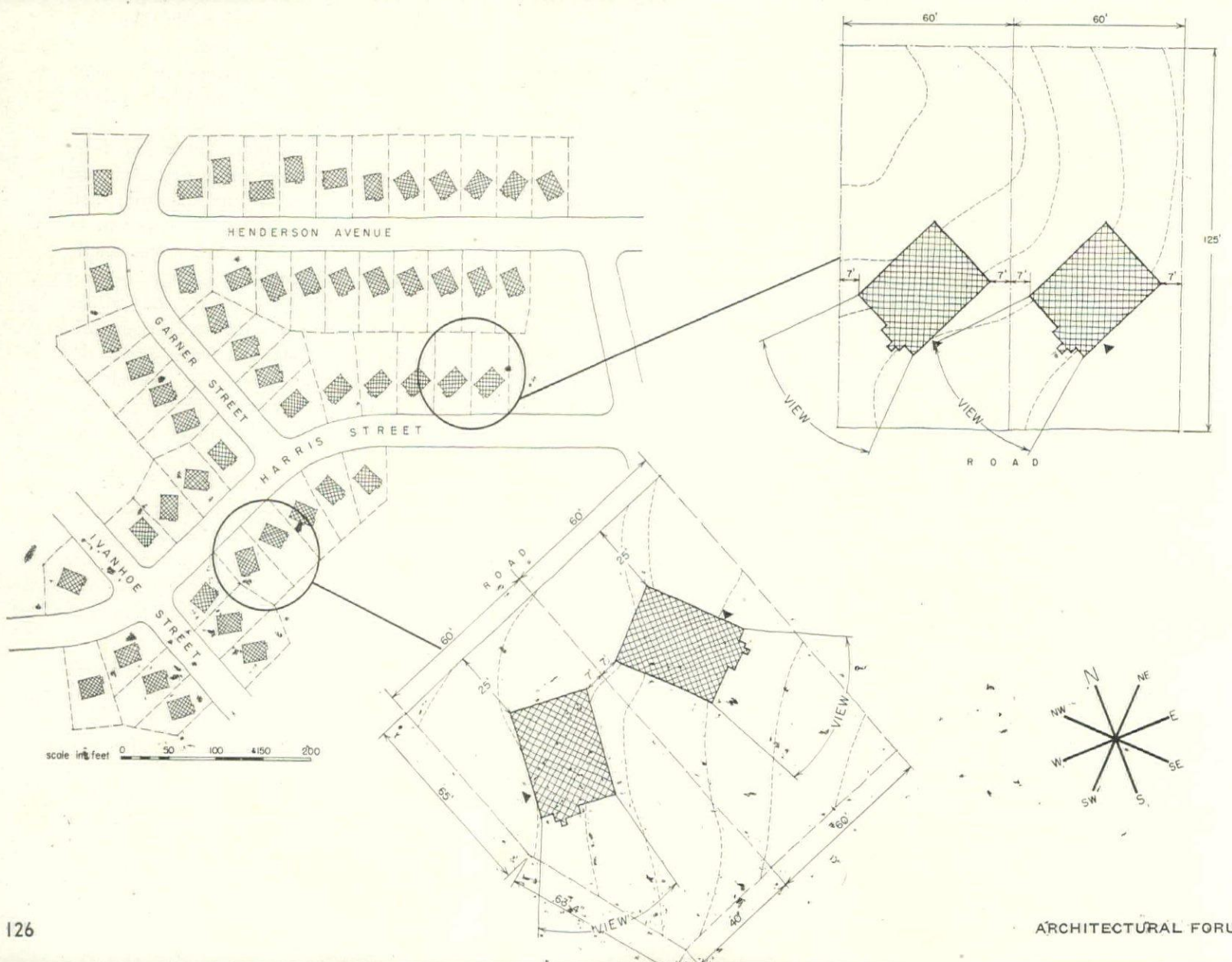
Like other architects and builders, Matern & York have exploited the virtues of the open plan, brought about in part by the constantly decreasing size of today's houses in the face of high costs. They have had to throw rooms open to each other to avoid claustrophobia, find that such devices as the open kitchen and sliding walls to a third bedroom are becoming more acceptable.

So successful have Matern and York been in their designing for the public taste in both stock plan service and architect-builder relationships that a few builders from other parts of the country have asked them to set up a new service: criticizing builders' plans, by mail, for design, construction and salability. But neither Rudy Matern nor Hank York want to take on anything more—they're turning down business daily as it is.



To get a picture of variations and trends in housing, Matern & York chart monthly reader response to their published plans. They know two months ahead what's going to happen on the national housing scene by the number of plans sold (solid line based on different scale)—or four months ahead by plotting initial reader inquiries (not shown)—against HHFA figures on 1-family house starts (dotted line, scale in thousands). They claim their high level of 1949, greater than 1948, heralded the boom of 1950. Note: number of plans being sold during 1951 is higher than 1949.







# SQUARISH PLAN WITH INSIDE BATH

saves space and costs, permits variable siting, of builder's \$14,300 houses

LOCATION: Wheaton, Md.  
CHARLES M. GOODMAN, Architect  
HAMMOND HOMES, INC., Builders

Here is an advanced house planned by one of the country's best builder house architects, Charles Goodman.

Its combination of novel features includes a squarish (28' x 37') floor plan built around an inside bath, a skeleton frame with no interior bearing walls, floor-to-ceiling glass walls at both ends with almost no windows on the side, a 3' x 6' storage shed accessible only from the outside, a plank roof on big beams, an attached chimney, and diagonal siting of all the houses.

Some of these experiments paid off better than others. All are an interesting demonstration of what the most modern architects are trying to contribute to the builder's house.

Separately and in combination, they determine the highly contemporary appearance of the houses, but none of them was adopted merely for appearance sake. All of them were introduced for highly practical reasons, and many of them offer substantial economies.

Two of these features were particularly important:

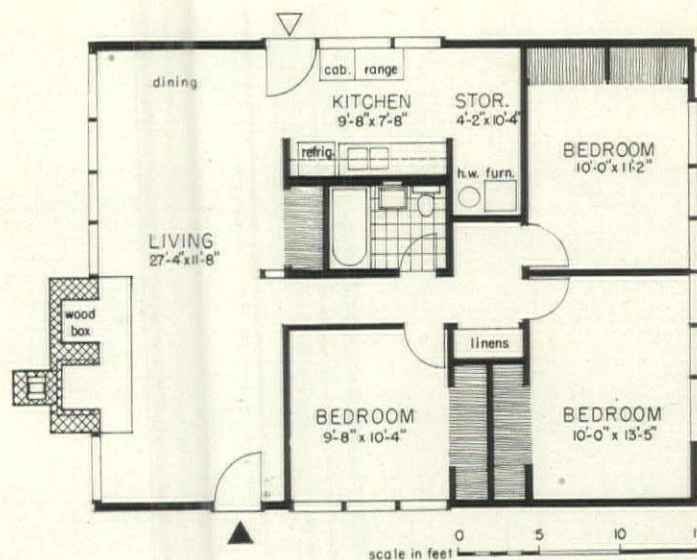
**1. Squarish plan with interior bath** has numerous advantages: 1) it yielded 36 sq. ft. more area than a 25' x 40' plan with the same periphery; 2) it left the entire periphery free for major rooms; 3) it permitted short hallways, and the combination of more total area and shorter halls left more space available for bigger bedrooms.

Goodman drew up 11 plans before settling on this one as the most efficient, but many an architect might be tempted to put the bath in the storage and heater space, turn the kitchen around, eliminate the bathroom clerestory and widen the living room at its dining end. Goodman preferred the inside bath plan because it allowed a slightly larger storeroom and made possible a second kitchen-to-bedroom route through the storage area.

**2. Skeleton construction**—The entire roof-ceiling is supported on the mullions of the glass end-walls and on three pairs of pitched beams each supported on three posts. One of these posts stands free in the living room. The others are hidden in the side walls or in the interior partitions (where two of them do double duty as door jambs). Advantages and economies of this construction include: 1) the roof could be built first, the house built under shelter afterwards—avoiding weather delays; 2) a plank roof could be used which would supply the finished ceiling, the structure (without rafters), and half the insulation at one nailing; 3) with this skeleton construction the interior partitions were all prefabricated on jigs in the shop. This minimized the extra cost of fitting these stud and dry wall partitions to the sloping ceiling line.

Other features:

► The long narrow living room (12' x 28') gains the illusion of almost unlimited width because the unbroken floor-to-ceiling window wall lets both the floor plane and the ceiling plane continue indefinitely with no solid barrier anywhere to inter-



Photos: Robert C. Lautman



*Small lots, averaging about 60' x 125', and lack of big trees called for considerable ingenuity in siting. Some privacy is achieved by angling the houses; and some by use of planting-screens, good-sized pines grouped in front of living room window-walls. To add more variety and interest, the cypress siding walls are painted dark red, yellow or brown.*





Living room is 28' long; fireplace is a nice texture contrast. Still-unsolved problem: draperies for a gable window.

rupt the illusion. (The low fireplace counts for no more than a piece of furniture). The room demonstrates both the advantage and the problem such floor-to-gable glass creates, for, as the pictures show all too clearly, the drapery problem is still unsolved. This open-ended effect would have been much easier to work out if local ordinances and public acceptance around Washington had permitted a flat roof.

► Outside storage shed for garden tools, etc., costs less than half as much as same space would have cost in house.

► Free-standing chimney permits window wall to continue unbroken and is an attractive vertical element. It also avoids the expense of flashings and possibility of leaks.

► Standard 3' 1" factory-made steel sash determined module of frames. Grouping of windows in large units made good design, eliminated cut-up effect. In the living room only the bottom panes of glass are movable for ventilation. This not only reduced the cost of glazing but permitted a steadier design rhythm.

► The builders used a jeep-trencher to dig a footing trench all around, then poured concrete without forms—saving about 40% over conventional footings. (Floor is 4" concrete slab over 4" gravel with waterproof membrane. Asphalt tile flooring.)

► Houses are on small (60' x 125' average) lots, on which practically all the trees had been cut down before the site was acquired. This accentuated the problem of privacy for the houses' large glass areas. But the curse of "goldfish

bowl" lack of privacy is alleviated by planting-screens and by diagonal siting.

Builders Paul Burman and Paul Hammond claim that Goodman's cost-analysis-in-advance is "one of the best reasons why we're in business," also that his preparation of layout and copy for ads is a big sales help. The project, called Wheatoncrest, will have a total of 250 houses, 27 of which are now finished or under construction. Sales record: first seven still-unfinished houses were sold before either FHA or VA approved, so a \$5,300 down payment was required. Just blessed with VA approval, the current down payment of \$2,500 should send sales soaring.

#### COST BREAKDOWN: house

|                             |       |
|-----------------------------|-------|
| Foundation & Slabs .....    | \$767 |
| Flooring & tilework .....   | 251   |
| Carpentry incl. materials.. | 2,482 |
| Insulation .....            | 174   |
| Roofing & prefab vent....   | 326   |
| Plumbing .....              | 1,138 |
| Kitchen equipment .....     | 1,013 |
| Chimney & hearth .....      | 418   |
| Heating .....               | 418   |
| Wiring & fixtures .....     | 231   |
| Painting & drywall .....    | 668   |
| Sash, glazing, screens....  | 296   |
| House walks .....           | 101   |
| Hardware .....              | 206   |
| Clean-up, comebacks ....    | 208   |
| Supervision & other pay..   | 520   |
| Light, power, misc. ....    | 663   |
| Overhead & financing ....   | 706   |

|                           |       |
|---------------------------|-------|
| Sales costs, taxes .....  | 306   |
| Profit, & arch. fee ..... | 1,048 |

\$11,940

#### COST BREAKDOWN: land

|                           |       |
|---------------------------|-------|
| Lot .....                 | \$700 |
| Grading .....             | 200   |
| Sodding .....             | 200   |
| Streets, curbs, etc. .... | 500   |
| Sidewalks .....           | 100   |
| Storm drainage .....      | 275   |
| Engineering, survey ....  | 125   |
| Landscaping .....         | 75    |
| Street grading .....      | 50    |
| Profit .....              | 135   |

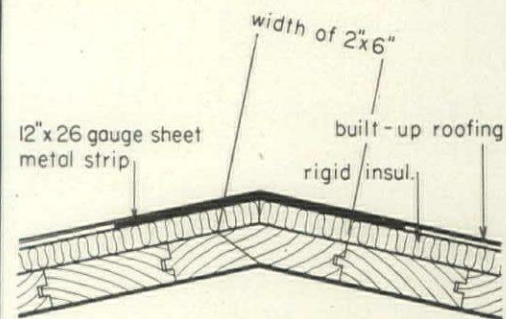
\$2,360

TOTAL SELLING PRICE...\$14,300

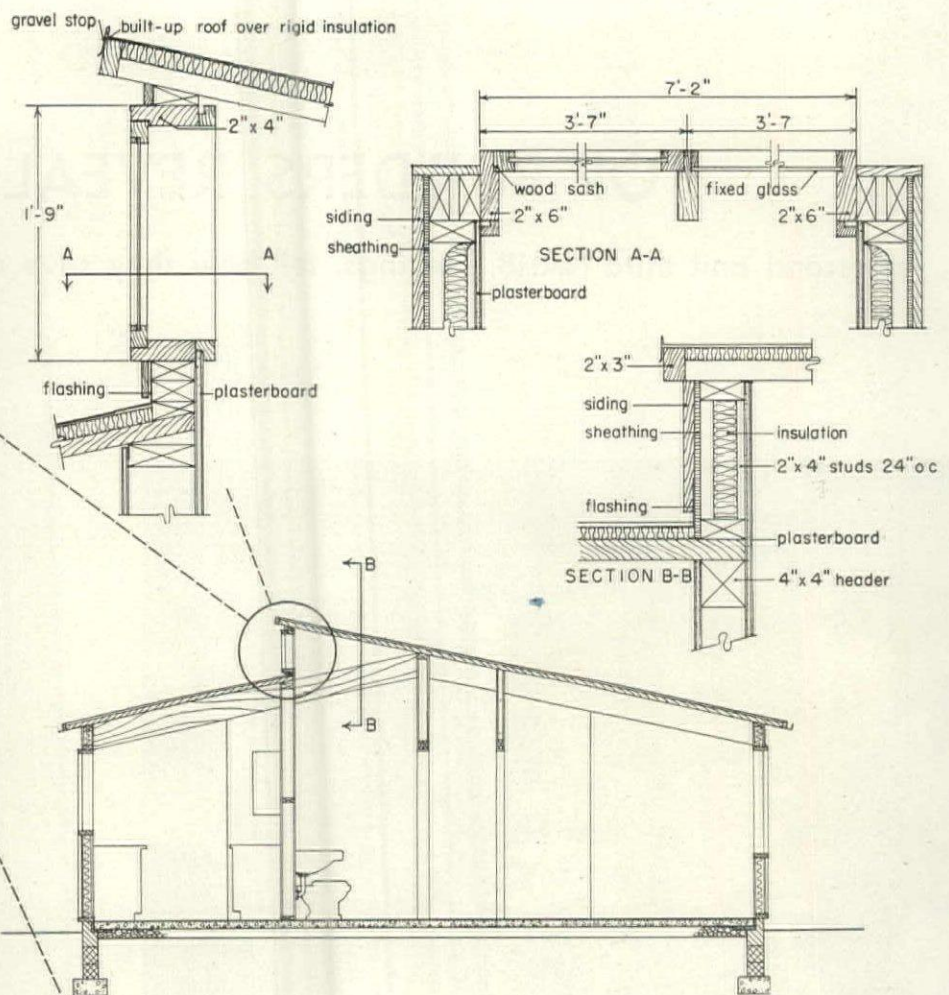




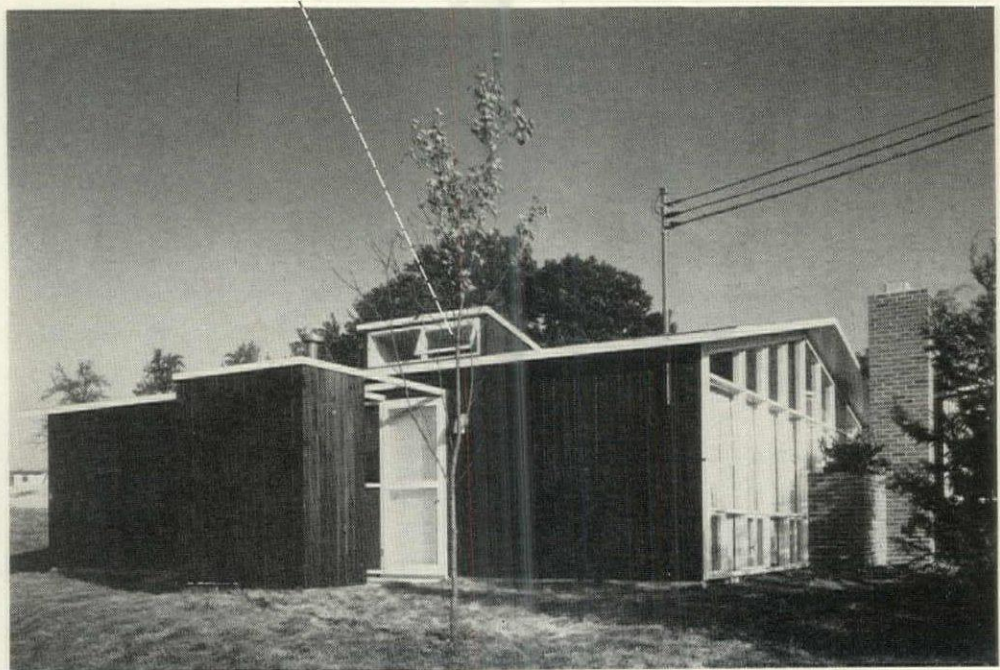
Grouping bath and kitchen equipment into a central service core saved on piping, made for a neat and efficient floor plan. Bathroom is well lighted and ventilated by clerestory window; "inside" placement gives complete privacy, saves outside wall and window space for the living rooms.



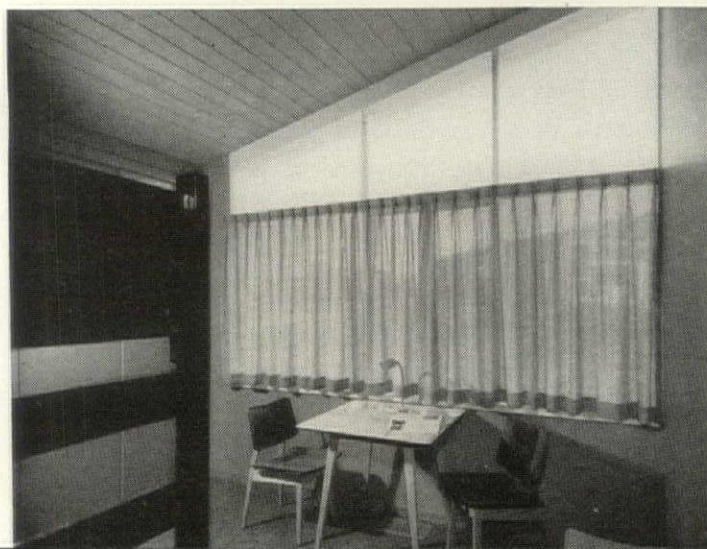
Ridge detail: 4-ply built-up roof



DETAILS OF CLERESTORY IN BATHROOM



Rear view shows outside bulk-storage shed, conveniently placed beside back door. Same amount of extra storage space within house would have cost about twice as much.



All bedrooms are of generous size for a small house. Children's room (left) has double-decker beds, small table for study or snacks, and still plenty of play space left over.



# TOP BUILDERS REVEAL MORE TRADE SECRETS

at second and third NAHB meetings, tell how they save money and materials

Hank Walker



Washington meeting, left to right: Alexander Knowlton, Herman York, Rudolph Matern, Leonard Frank, Clarke Daniel, Jack Beatty, Frank Collins, NAHB President Bill Atkinson, John Highland, Fred Meagher, Joseph Meyerhoff, Wm. Pearce, Frank Tufaro, C. W. Smith, speaker Martin Bartling.

## Oklahoma City Conference:

MARCUS BOGUE, Denver  
ALAN BROCKBANK, Salt Lake City  
GEORGE GOLDMAN and "BUD" HENSON representing NATHAN MANILOW, Chicago  
TED HUTCHINSON and LOU CAREY, Denver  
RODNEY LOCKWOOD, Detroit  
JOSEPH MERRION, Chicago  
OTTO OLSSON, Phoenix  
HERB PENNINGTON and HENRY KRUG of the J. C. NICHOLS Co., Kansas City  
ANDY PLACE, South Bend  
EARL W. SMITH, Berkeley  
RAY TOUPS, representing HAMILTON CRAWFORD, Baton Rouge  
JOSEPH VATTEROTT, St. Louis

## Washington, D. C. Conference:

MARTIN BARTLING, JR., Knoxville  
JACK BEATTY, COOGAN & BEATTY, Miami  
CLARKE DANIEL, Washington, D. C.  
LEONARD FRANK, Hempstead, N. Y.  
AL GROSS, Glen Oaks, N. Y.  
JOHN HIGHLAND, Buffalo  
ALEXANDER KNOWLTON, New York City  
RUDOLPH MATERN and HERMAN YORK, Jamaica, N. Y.  
FRED MEACHER, Upper Darby, Pa.  
JOSEPH MEYERHOFF, Baltimore  
WM. H. PEARCE, Buffalo  
FRANK TUFARO, Hartsdale, N. Y.

NAHB President Bill Atkinson's first "Trade Secret" conference, reported in these pages last month, was so successful he called a second meeting in Oklahoma City Nov. 12 & 13, a third in Washington Nov. 19 & 20. Some 30 leading builders and specialists got together to reveal how they cut costs to give the buyers more house for the money.

**New ideas that brought builders crowding around the speakers' tables were these:**

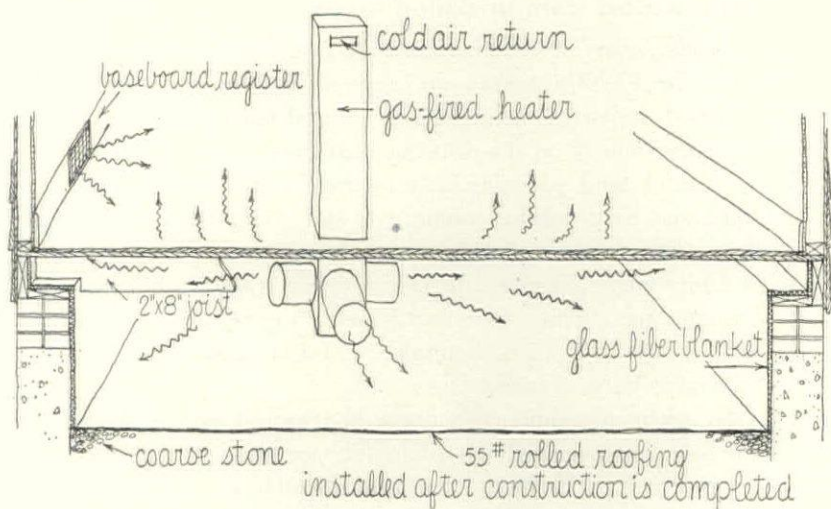
- ▶ Ceiling-height storage cabinets can be made in builders' own shops for as little as \$10 a running foot. Top, sides and back are of plaster board, bottom and sliding doors are of wood or plywood (p. 135).
- ▶ A warm-air heating system for crawl-space houses saves 300 lbs. of sheet metal and \$200 in cost by using the entire crawl space as a plenum chamber, distributing heat evenly and forcing it through registers in baseboards (opposite).
- ▶ With a homemade door machine, one man can plane or saw four edges of a door, drill for hardware, rout for bucks and install hinges in seven minutes (p. 134).
- ▶ A simplified plumbing tree using two pieces of cast iron pipe instead of nine, saves over \$51 per house in labor and materials (opposite).
- ▶ From \$1,100 to \$1,500 per unit can be saved by row house construction (p. 132).
- ▶ A ventilating fan in the bathroom is a better sales attraction than a kitchen fan (p. 135).
- ▶ An open beam ceiling is a 10 to 1 favorite over conventional ceilings in some cities (p. 133).
- ▶ A carefully planned house can be turned three different ways to face the street, providing variety, better orientation and sales appeal (p. 133).
- ▶ In two-story apartments a 60-gal. water heater can provide hot water for radiant heat (p. 133).
- ▶ One builder always has money to try out new ideas because he draws from a research fund for which he charges \$50 against the price of each house he sells (p. 132).
- ▶ A joint NAHB-AIA committee of builders and architects is working up a new yardstick for gearing appraisal value to good design, in the hope that FHA and VA will use it for evaluation purposes (p. 133).





Photos: A. Y. Owen

Top photo: Oklahoma City meeting with Andy Place showing his simplified plumbing tree. Below: Place and staff engineer George Hones.



Most economical installation is with the furnace in center of house as shown here. Cost is only slightly higher with furnace in utility room at side of house, with 10' or more of duct carrying air part way across crawl space.

## Two-piece plumbing tree saves \$51 per house, perimeter heating, \$325 per house

Andy Place of South Bend saves more than \$51 per house by using a simplified plumbing tree. With two cast iron sections that replace nine he provides a waste line for a kitchen and a bath and one-half. This takes care of a double kitchen sink with garbage grinder, two toilets, two lavatories, bath tub and a floor drain without reventing. (See photo.)

His pattern cost \$500 and should be good for 500 houses if handled carefully at the foundry. One fitting costs him \$9.60, the other, \$8.25. Without these simplified fittings he would have to revent and the saving is enough on each house to pay half the cost of the extra half-bath which he installs in his 3 bedroom, \$11,000 house.

Place is one of the few builders in the \$10,000-\$11,000 price class who installs double glazing throughout his houses. He gets the cost down by standardizing on two sizes of glass: 24" x 36" and 20" x 32". He makes the frames in his own shop. Windows are one, two or three panes wide and of various heights. A 9-pane window costs \$122 installed, or about \$2 per sq. ft.

This firm is one of the big users of perimeter heat, having used it several winters. Place says his customers like it better than a radiant slab and it saves him \$300 to \$350 in a 3-bedroom house and up to \$400 in a 4-bedroom model.

## Ductless heating, with crawl space used as plenum, eliminates 300 lbs. of sheet metal

Rodney Lockwood of Detroit saves \$200 and 300 lbs. of sheet metal per house by using a pipeless furnace. He turns the entire crawl space under his house into a plenum chamber, forcing warm air from a counterflow furnace in the center of the house evenly through the crawl space and up through baseboard registers to the rooms above. The house gets about 40% of its heat by radiation through the wood floor, the balance by convection.

Greatest savings come from the absence of long ducts, as the furnace needs only 10" stub ducts. Temperature in the crawl space is only 85°—not hot enough to dry out the wood. Approved by both FHA and VA in the Detroit area, this system has been used in 112 houses and without trouble when drainage was properly handled.

The system performs well only when the soil around the foundation is well drained. Outside the foundation Lockwood uses two rows of drain tile 18" below grade and parallel to the wall. Below the house he puts 2" or 3" of coarse stone. When the house is finished he lays 55 lb. felt paper on top of the stone. To keep heat from escaping through the foundation walls he insulates them with a blanket of glass fiber. He says it is important not to get the plenum too deep and he believes 18" is about right.



Lockwood is not the first builder to use this method but he has probably given it a more thorough testing than anyone else. He points out that when it is not convenient to put the furnace in the center of the house, he has successfully located it elsewhere, using 10' to 15' of duct to carry the air off in the general direction of where it is to go and then blowing it into the crawl space.

Lockwood builds about 250 houses a year ranging in price from \$12,500 to \$18,500. He uses almost no subcontractors because he feels he can build better and less expensively with his own men. On one project he saved \$45,000 by doing his own plumbing. He still takes bids from outside contractors and has told his department heads their sections will be disbanded if they cannot work cheaper than outsiders. His department foremen are considered key men and he shares the profits with them.

To discourage changes in his stock plans he makes customers pay in advance for any changes.

He allows \$250 per house for grading, seeding lawns and landscaping and both FHA and VA allow him that amount in his valuation.

### **Row house economies save over \$1,000 per unit for Philadelphia and Baltimore builders**

*Frank Collins* of Philadelphia believes his buyers of attached, row houses get the same amount of floor space for about \$1,100 less than if they bought his detached houses. Although he builds some individual houses, his biggest projects contain 3-bedroom row houses, 34' wide that sell for \$8,900. These are built in 4, 6, 8 and 10-family units.

To keep his lumber from being stolen, Collins puts enough for two days' use in a package which is not opened until it is ready for use. Thus loose lumber lies around for only one night.

He is a great believer in aerial photography on his big jobs. Aerial views show him some things going on better than a trip to the site, are a good progress record, and are helpful to his site planners and engineers and to the financial and government institutions with whom he deals. They cost \$25 a picture.

*Another Philadelphia builder* of row houses is *Fred Meagher*. He carries subcontracting to the absolute maximum on his \$9,500 attached houses, owns no equipment, keeps a small office. He knows what every subcontracting job should cost and lets his subs make 10% profit. If he sees them driving around in big cars or going to race tracks he figures they are making too much money and replaces them.

The subcontractor who excavates for his footings uses a "Trench Hog" machine which digs 146' of excavation for a cost to Meagher of \$15.

Typical of Meagher's cost saving methods is the way he fastens his plate to the slab. Instead of using conventional bolts he inserts short lengths of reinforcing rod in the foundation. After rods are run through the plate the projecting ends are hammered down flat. He uses twice as many rods as he would bolts, but the rods cost him only 4¢ each instead of 16¢ to 18¢ and he never worries about lost nuts.

Gas-fired furnaces are put in the attic to save floor space as well as chimney. The asbestos cement flue is run through a lead collar at the roof line, costs only 20¢ a ft., or about \$2 per house.

Meagher carries his money-making business dealings into the houses he rents. In addition to collecting both the first and last month of rent when the tenant moves in, he also collects a \$50 damage deposit. Delinquencies are few because tenants pay 1% more if they are up to five days late. Moreover, after about ten days, the sheriff moves in unless there is serious sickness or unemployment in the family. Tenants also appreciate the fact that Meagher has a waiting list for all his rental houses.

*Joe Meyerhoff* of Baltimore is another big builder who is convinced that row houses are one means of giving a buyer more space for his money. His 3-bedroom, 2-story row house at \$8,500 sells five times faster than the same size single-family house which costs about \$1,500 more. Like Philadelphians, Baltimore families are accustomed to row houses and like them because upkeep is less, including fuel bills, painting and other maintenance.

An outsider might think that because the end houses in a row have side windows and are more nearly like a single-family house they would sell first. They cost only \$500 more. However Meyerhoff says people don't want end houses, that he always sells the inside houses first. This preference may be partly due to concern over additional maintenance (painting, storm windows, higher fuel bills) but it may also be worry over future assessments on paving or utilities.

"Every time you add \$500 to the price of a house you narrow your market," Meyerhoff says, and he has given up his former practice of building high-priced single-family houses on expensive lots. Row houses are cheaper because there is half as much foundation in a 2-story house as in a 1-story, and there is an additional saving because there are only two outside footings (for all except the end houses) instead of four. There are fewer windows, less roof, less land cost per family.

A steady builder for many years, Meyerhoff says, "I'm a man in a permanent business." He has a number of junior executives coming along who are pushing him. Because of them and his family of key men whom he never lays off, he figures he can't slow down. Kenneth Miller, his architect, has done all his houses since 1933.

### **Standardization and employee benefits help builder get the most from unskilled labor**

*Clarke Daniel* of Washington, D. C. says: "We try to sell our houses for \$1,000 less than our competition. How do we do it? 1) Good design; 2) a great deal of preliminary study—you save your money on the drawing board and in the planning; 3) careful land planning and buying; and 4) bringing in ambitious, hard-working young men and giving them a cut in the profits."

After watching automobile traffic increase around all the large Eastern cities, Daniel believes it is better to pay more for land and get in close to a city than to go too far out and make people fight many miles of traffic.

To get his plumbing costs down, he tries to keep the kitchen and bath the same in all his different house plans so the plumbing is identical. He hopes to make his plumbing so simple that unskilled labor can do it in the nonunion, suburban area of the Capital.

Much of his work is done by "hill-billy" laborers at \$1.40 an hour. He gives them free soup at noon, two weeks paid vacations, year-round jobs and numerous extras including help in financing their automobiles and bail when they get in trouble with the law.



On his dry walls he uses a paint with a mica content and finds one coat enough. He dip-primes everything he can to save money. One man can dip enough shutters for 100 houses in one day.

He builds his bedroom closets 6' high, puts a frosted glass on top. A light in the top of the closet serves a double purpose of lighting the closet and throwing an indirect glow on the ceiling. This has proved a good sales feature.

Daniel develops his poorest land first because the market is now good in the Washington area. He is holding his best land for more competitive times.

The firm is composed of the three Daniel brothers whose diversified and numerous operations also involve building about 100 houses a year.

**Other secrets: Alternates for steel beams, two-way medicine cabinets, bundled lumber, opened-beam ceilings and crescent-shaped buildings**

*Herb Pennington and Henry Krug* of Kansas City's J. C. Nichols Co. plan to use precast concrete or laminated wood as an alternate for steel beams.

To get away from an appearance of uniformity, the Nichols people have always believed in offering a wide variety of models. They now have ten plans with several new ones coming along. One new house will be offered in two versions, one of which is 4' longer than the other for buyers who want a slightly larger house. (Prices are not yet set.)

One reason Nichols values have held up is that the firm has always had a tree planting policy. As many as four trees were put on many lots and in a few years these pay big dividends in beauty. To give his areas a diversified appearance, Nichols has had a practice of building on only half his lots, selling the balance to other builders.

*Otto Olsson* of Phoenix has developed a floor plan which he can turn three different ways on a lot to give variation and the best orientation. Only one partition change is required. This 814 sq. ft. house sells at around \$5,500. In a larger house with two back-to-back bathrooms, he has discovered a good sales feature in a medicine cabinet that can be opened from either of the adjoining baths.

*Earl W. (Flat-top) Smith* of Berkeley, Cal. saves money by using a double inspection system of his houses before he turns them over to buyers. He believes that almost all service calls can be eliminated by catching potential complaints before they happen. Service costs have been reduced to less than \$10 a house by a system of double checking.

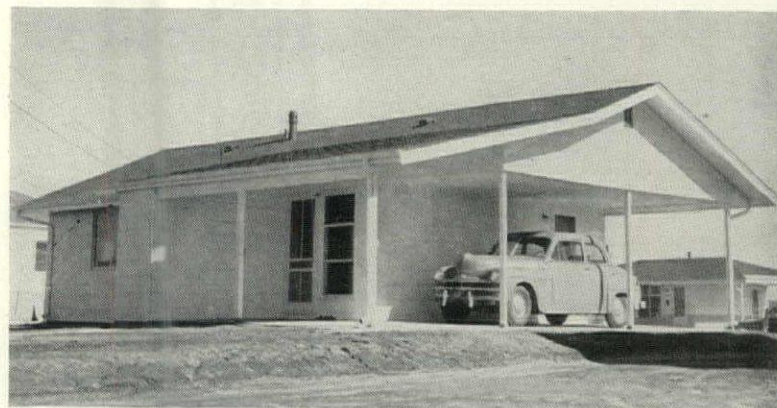
Smith also believes he has a less expensive method of acquiring land than some builders use. He pays slightly over a base price for his first parcel and then gets options on other land he may want. Thus he pays out very little money for a small part of the land. In the San Francisco area land sellers like this method because their income is spread over several years, which is better for tax purposes.

Like other builders, he reduces pilfering of lumber by wrapping it in bundles. Only his foremen are allowed to break the strap. Another saving: by doing his own plumbing, instead of subcontracting, he cuts his bill from \$700 to \$470 per house.

*Alan Brockbank* of Salt Lake City reports open-beam ceilings are a 10-to-1 favorite over conventional ceilings, although they

cost him \$200 more. "We have found that older people like contemporary design even more than young people." He believes asbestos board for exteriors, as used by the Levitts, has a tremendous future because it eliminates nearly all painting.

*Frank Tufaro*, who builds in New Jersey, Westchester County and Connecticut, says the way to keep subcontractors happy is to help them with their bookkeeping. "Subs who don't make money are the ones without a good cost system." He keeps a cost system on his subcontractors as though they were his own



*Builder Marcus Bogue of Denver offers his buyers great flexibility with carport, back porch and storage area. Carport and porch can be enclosed.*

men and he makes sure they always earn a reasonably good profit.

He believes it is good policy to give the buyer more than is demanded by FHA or VA. If these organizations know a builder has never tried to skimp, they will be less critical when they get occasional complaints from dissatisfied purchasers.

Tufaro claims it is poor policy to use a model house for both a sales office and a business office. People who come in with complaints have a bad effect on prospects.

*Architect John Highland* of Buffalo, as chairman of the joint architect-builders committee approved by NAHB, reported that his committee is working to get a yardstick that both FHA and VA can use for appraisal purposes which will add to the evaluation of houses that are well designed. At present many of the intangibles of good design get no credit. In many cases builders feel they are penalized for including good features. Highland's committee hopes to overcome this situation.

In discussing public housing, Highland said he had designed for a private owner 400 units of 914 sq. ft. each which rent for \$65 and were built for half the cost of public housing apartments of comparable size. One way he got the cost down was to use a 60 gal. water heater as a source for radiant heating panels. For the Navy he has designed two-story crescent-shaped buildings with apartments that are roughly pie-shaped, with kitchen and bath in the narrow front end (to make pipe runs shorter for plumbing) and with living room at the rear. Because the back of each apartment is on a wide curve, every family gets more privacy.

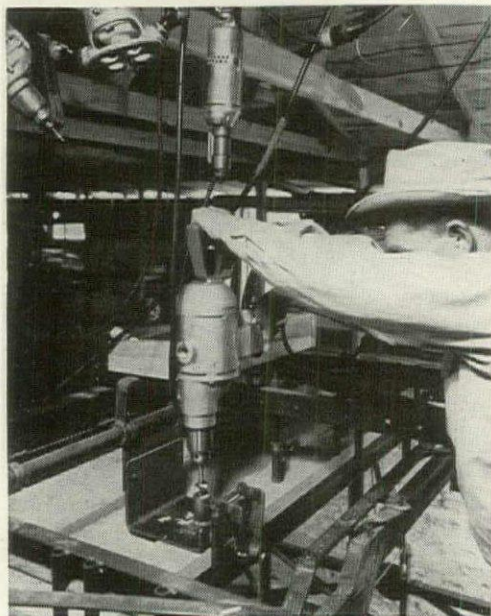
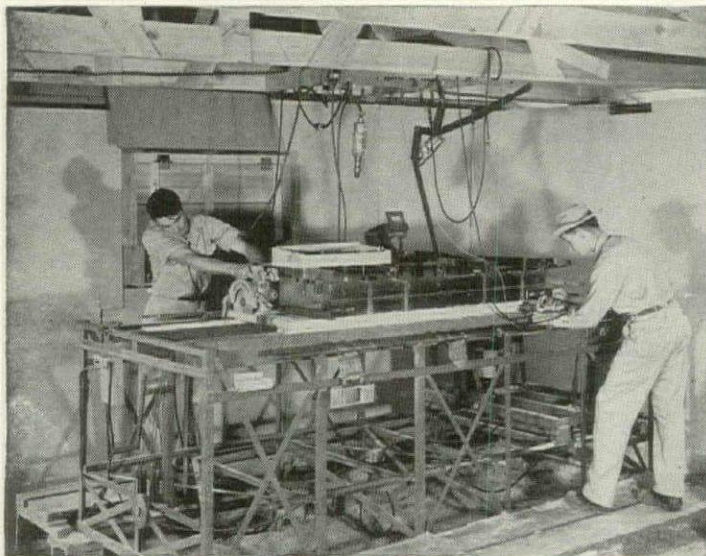
*Marcus Bogue* of Denver builds about 125 houses a year at just under \$11,000. He keeps his overhead low, subcontracts nearly everything. An engineer by training, Bogue scientifically plans his house in advance. He saves 40 studs per house by eliminating needless members. All plumbing is within 5' of one point to save pipe. He submerges his water heater into the crawl area to gain space.

*(Continued on page 134)*



## Ten door fitting operations in seven minutes performed by a builder invention

Hutchinson & Carey of Denver, who are about half way through their 1,500 home "University Hills" project, which sell at \$10,200 to \$10,800, are as unorthodox builders as can be found in the country. They threw out the labor unions in the summer of 1950, decided to do all their own work. By using



Heavy weight, raised and lowered by hand lever, holds door firmly in place. All power tools needed are hung from overhead racks. Fixtures, such as the drill jig, make errors almost an impossibility if workman lines up door properly. One man can square four edges, drill for hardware, rout for hinges and install hinges in seven minutes.

a woodwork shop and what they call the "free enterprise system" they are turning out ten houses a week.

Thanks to the change-over to the faster-moving open shop, "finishing the house now costs \$35 instead of \$125. It costs us only \$35 for putting on roof shingles, only \$35 for installing the asbestos siding. Plasterboard labor amounts to only \$55 to \$60. Labor and materials for gutters and downspouts that used to cost us \$60 now cost \$20. Labor for glazing a house costs \$15, as two men do two houses a day." The perimeter heating system costs \$400 complete, and plumbing \$750.

Framing labor costs \$175. Floor to ceiling window sections, shop fabricated complete with metal windows and sills and plasterboard top and bottom, cost only \$35 each.

To finish ten houses a week Carey has found he needs to keep about 72 under construction. He started with a "construction span" of 50, found 64 was better, but 72 best. Having more than 100 houses partly built involves an unnecessary risk, ties up too much money for his size of operation.

Typical of their inventiveness is the door machine, illustrated here. Dissatisfied with the rate at which shop men were preparing a door for hanging, Ted Hutchinson devised a machine which permits one man to do about ten operations in seven minutes. On the job a man hangs 20 doors in one day.

Two men turn out from 60 to 75 trusses a day on jigs which protect them from making mistakes. Nearly all lumber is precut in the shop at a rate about twice as fast as was being done two years ago. Two saws are operated in unison so that three or four cuts are made on one setup. On rafters, for example, three cuts are made in two operations; on ceiling joists five cuts are made in two operations.

Lumber is constantly upgraded. They buy No. 4 lumber at \$76 per thousand, for example, which is upgraded to "select" quality that would cost them \$280 per thousand. On a mold matcher machine they make molding from odd lumber at a cost of 1¢ per ft. which the shop sells to the construction department for 2¼¢ per ft. The shop prefabricates a dozen or more parts of the house ranging from shutters to garage doors. Every three weeks a five-man team goes to work on scrap lumber and turns out 7,000 stakes in an 8-hour shift, using material that many builders throw away. Studs are usually cut at a rate of 1,000 per man per day in the shop but recently three men cut 3,000 in half a day.

Also typical of the unorthodox thinking of 28-year-old Lou Carey is the use of stripped-down, Model A Fords to pull lumber trailers from shop to house sites. Looking like misplaced "hot rods," these fenderless, bodyless Fords cost from \$50 to \$75 and are ideal for easy maneuvering. Farm trailers are bought for \$110 from mail-order firms and Carey has found it saves money to buy enough of them so they can be left in front of a site until the lumber is used rather than to pay for unloading lumber and piling it.

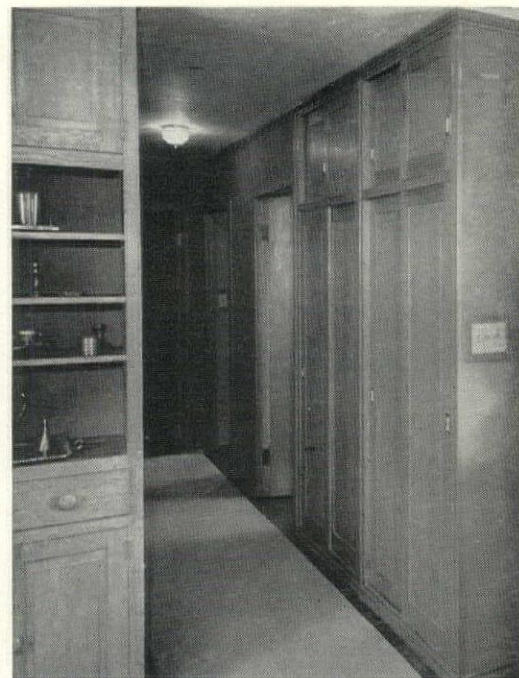
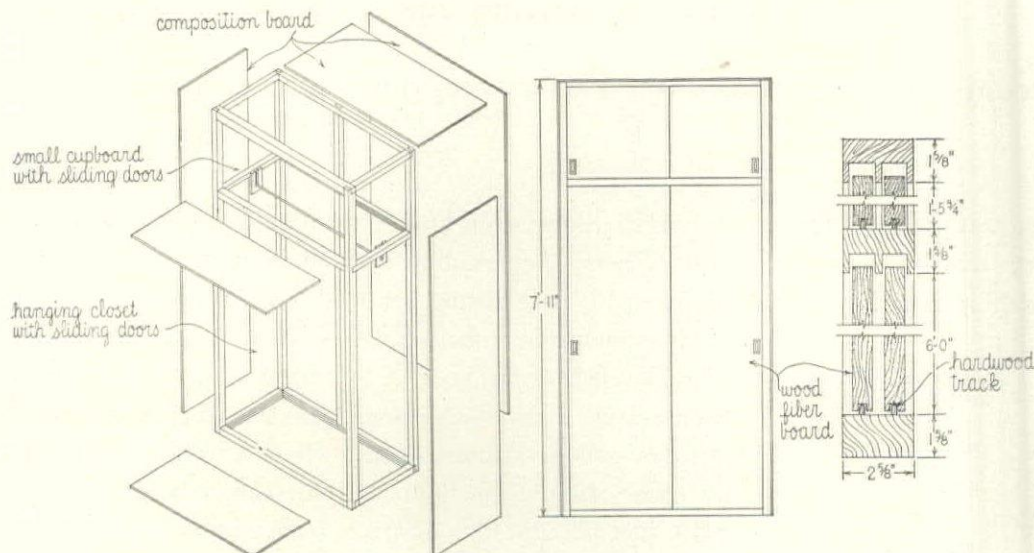
With open-shop labor, practically none of it previously experienced, Lou Carey picks his foremen from his best workers, and encourages them to make specialists of their men. "Our men get paid for what they do," says Carey. "Boys can get up to \$2.25 an hour very fast." One great advantage of the open shop is that men can be shifted from one job to another in emergencies. If electricians or plumbers finish a job at 3 p.m. they are put to work at something else until quitting time. When new methods are worked out (like the hand-held gun for taping plasterboard) there are no union complaints.

## Storage walls with minimum hardware cost only \$10 a running foot, are easily fabricated

Homes, Inc. of Knoxville seem to have accomplished the impossible by making storage walls in their own shop for as little as \$10 a running foot. Martin Bartling, partner in the firm, says their methods are not patented and are so easy to follow they could be used by any builder who has a woodworking shop.

Secret of the low price is a simple, 2 x 4 frame with plasterboard used on sides, back and top. The bottom is plywood and the sliding doors are of different kinds of hardwood, plywood or other sheet materials. Framing is exposed on the inside. China cabinets, combination book shelves with cabinets and special purpose units are also made at \$15 to \$20 per running foot.





Photos: Sheet Tallent Studio

Photographs and drawings show the flexibility of the Bartling line of cabinets. They are made in a variety of exterior materials and can serve several purposes. Drawing upper left shows new style cabinets.

Cabinets are about 8' high and are either 3 or 4' wide. When several are to be used together they are provided with bolt holes in each jamb. Doors slide within two half-round wood tracks at the bottom and have enough play at the top (see drawing) so they can be lifted up and out. Absence of hardware helps keep costs down.

Bartling's cabinets are space savers and help sell houses. Because the capacity of their shop is greater than they need for their own houses, the firm sells to other Knoxville builders, but it is not economical to ship cabinets elsewhere.

Another sales idea used in their houses is a ventilating fan in the bathroom which is said to be a greater attraction than a kitchen exhaust fan.

Using a device that has brought new ideas to many industrial firms, Bartling pays for good ones, has a suggestion box and has received many helpful ideas from his men. He also pays his men on a steady, 52 week basis, provides a paid vacation, plus sickness and accident insurance. Result: little turnover.

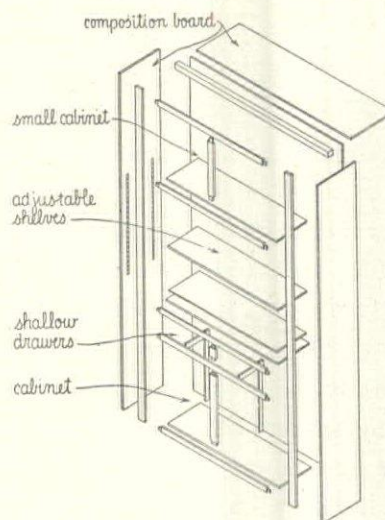
He puts "For Sale" signs in front of houses under construction and changes them to read "Sold" as soon as he has a customer. He says it looks pretty good to see a row of "Sold" signs in front of houses still under construction.

Bartling advertises in the real estate section of the Classified Telephone Directory where people might be looking for a house salesman.

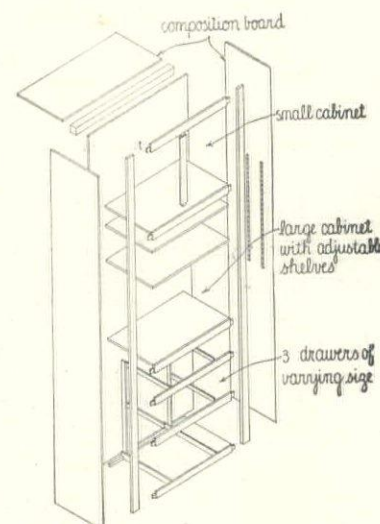
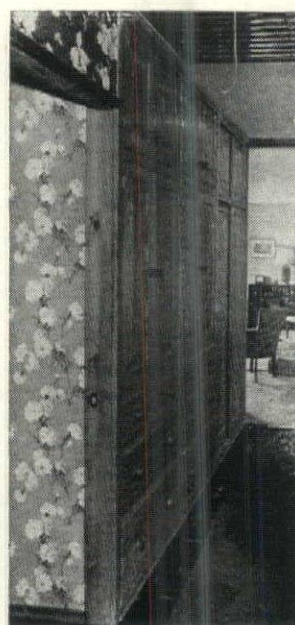
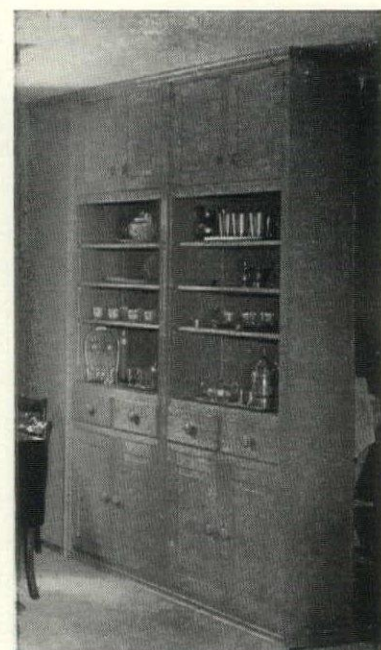
He builds houses for the Veterans Administration paraplegic program as both a goodwill gesture and for publicity.

On his exteriors Bartling uses cement blocks whose outside face is slightly beveled, with bottoms wider than tops. Each block laps slightly over the block below it, thus giving a horizontal shadow line that makes a good appearance. These blocks also have a cross sectional member with a V-notch at the top to accommodate an electric cable. Cost for this special design in Knoxville is only 2¢ a block more than conventional block. The top course has a reinforcing rod run through the V-notch for extra stiffening. (A sample block is on the table in one of the preceding group pictures.)

Because of the cheap electricity in the TVA area, Bartling heats his houses radiantly with electric coils imbedded in ceilings. His firm has a manufacturing subsidiary that makes and installs such systems throughout the region.



Basic shell can serve several purposes. Here two china cabinets are side by side.



Cabinets for linens, towels and blankets are of same size and appearance as for clothing.



# MILITARY HOUSING

Despite politics, racketeering and some lack of architect-builder team work, the Wherry Act is producing good substantial housing

Second only to defense housing, the hottest potato in the home-building field today is military family housing under the Wherry Act, much of which is now behind schedule.

Most worried about this hot potato are: 1) FHA and, 2) the Home Builders.

FHA is worried because FHA will almost certainly get most of the blame for anything that goes wrong on military housing, for FHA is theoretically in charge. Actually, FHA has no power to keep the military from messing things up.

The Home Builders are worried because private enterprise in general and the private home-building industry in particular are also at the receiving end of the buck-passing line.

The Wherry Act was supposed to be a free enterprise law, designed to get good military housing by letting home builders earn an honest dollar for its construction. Some military housing troubles are due to questionable features of the Act itself (*see below*), but much of what is going wrong is due to the way politicians and 5%ers have moved in. Actually there has been no way the builders could keep politicians and 5%ers from bidding jobs in; but the 5%ers have always moved in disguised as builders, so the builders have had trouble dodging the blame for anything the 5%ers do wrong.

FHA is meeting this threat with a proud defense of its record. Says FHA Commissioner Franklin D. Richards: "Dollar for dollar, some of the very best housing in the U. S. is being erected under the Wherry Act."

## PROVISIONS OF THE WHERRY ACT

... aim to get "permanent" military housing built for the families of officers and the first three grades of enlisted men without resorting to expensive direct government building. In essence the program is a liberalized version of FHA's regular rental housing program. Most of the money comes from private lenders at a fixed interest rate of 4%. The 40-year mortgages are FHA-insured and limited to 90% of estimated construction costs or \$8,100 per dwelling unit (\$9,000 in special cases). Project sponsors (usually builders) make an equity investment covering the remaining 10%, but may include their construction profits in this investment. Design and construction must meet FHA minima. FHA and the military set the rents, gear them to the rent allowances which the military pays its officers and top enlisted men and include for the project sponsor a gross of 6½% of construction cost—or about 11% net on the equity investment. Since the housing is being built only at permanent

posts, it is supposedly assured a permanent market. When the 40-year mortgage is paid off, the sponsor is supposed to turn the project over to the government for operation, but many doubt that this provision of the Act will be enforced. However, most of the land leases expire in 50 years.

There are, however, important differences between the two rental housing programs which help explain why Wherry Act housing has attracted sponsors and why in many respects it is better rental housing than that being produced under the regular FHA program. Sites are big and cost practically nothing—the military leases land on a long-term basis for token payments. Hence, more money can be spent on bigger dwelling units, the architect is given more latitude in site planning and design and the builder can capitalize on the economies of inexpensive one-story apartment and detached house construction.

Costs are further reduced because utilities are inexpensively provided by the military

NAHB likewise is hoping to divert public attention from Wherry Act troubles to Wherry Act successes, but in line with its growing sense of civic responsibility it is also moving in to help FHA clean up the 5%er problem. In each of 61 areas a top-flight home builder has been asked to assume responsibility for seeing that the military gets good housing at an honest figure. And all over the country the home builders are trying to help FHA spot phoney bids and fast-buck bidders.

Here are some typical Wherry Act situations the Home Builders hope to help FHA stop:

► The same group of operators used three dummy corporations to submit three different bids \$200,000 apart on an Army project. When the middle bid proved low enough to get the contract, the low bid was withdrawn.

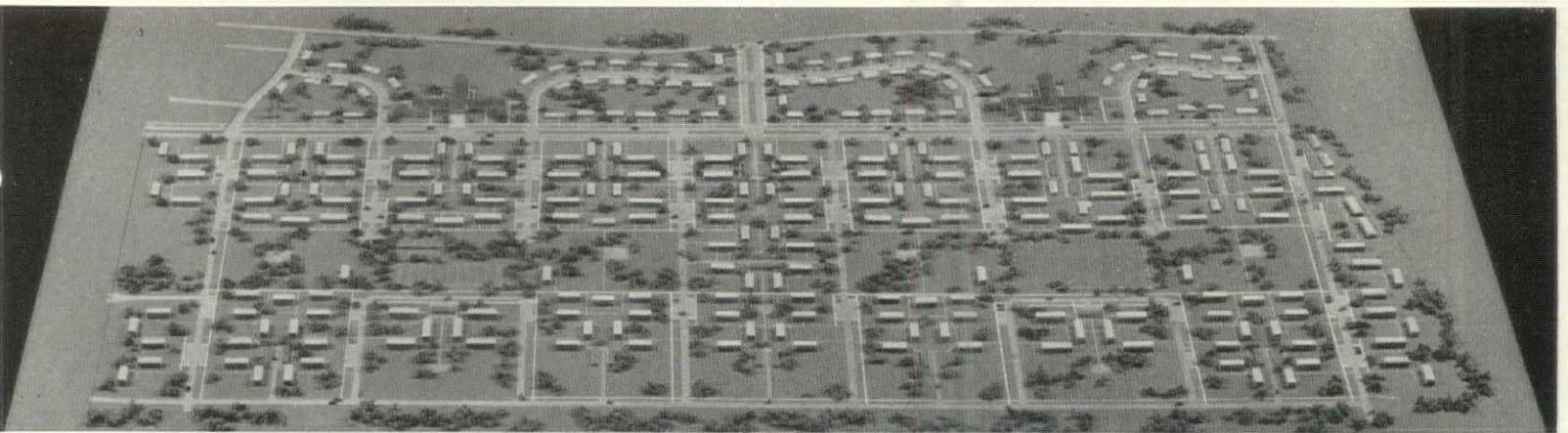
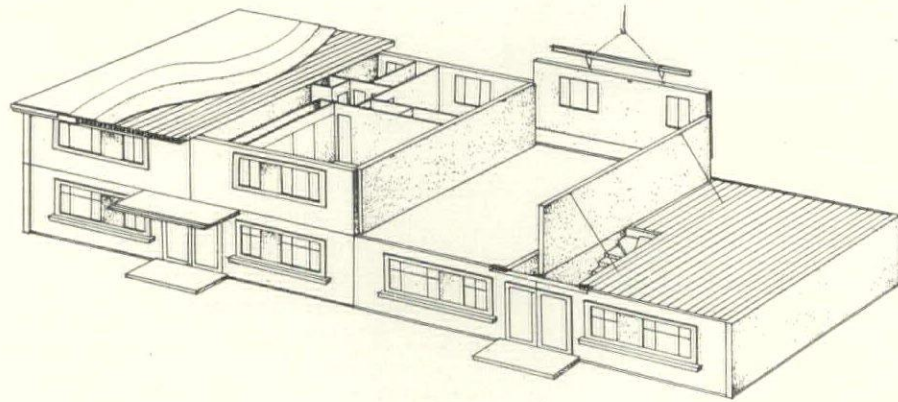
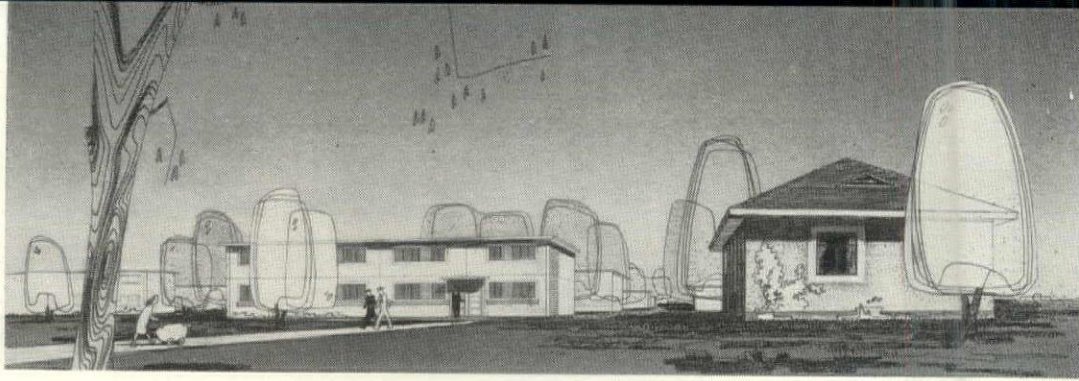
► A Navy project was held up six months while an attorney who bid the job in blind at \$9,000 per unit flat tried to resell the deal to someone who could build it. Finding this impossible, he surrendered his contract and the job will have to be put up for bids again. This same attorney has bid in several other Wherry Act projects in the hope of reselling them at a profit.

FHA, NAHB and some Pentagon planners hope to lessen the danger of such fiascos by a requirement now under consideration to make all bidders post a \$25,000 bond with their bids, along with evidence of their qualifications and experience in home construction.

post, the government makes an outright grant of up to \$1,500 per unit for site development, and real estate taxes, which may amount to as much as \$10 per unit per month in a downtown rental project, are relatively low on Wherry housing. Such economies offset the very high labor and material costs encountered on Wherry Act projects built in out-of-the-way places.

Finally, although no one will admit it openly, the appraisal of construction cost on which the mortgage amount is based is frequently high enough to cover most or all of the builder's out-of-pocket expenses, reducing or eliminating his equity requirements—perhaps even giving him a "profit" out of the mortgage proceeds as was the case in some of FHA's "608" rental projects. However, such financial shenanigans are more difficult because 1) land values do not enter into the appraisal of Wherry Act projects and 2) construction costs are determined by competitive bidding.





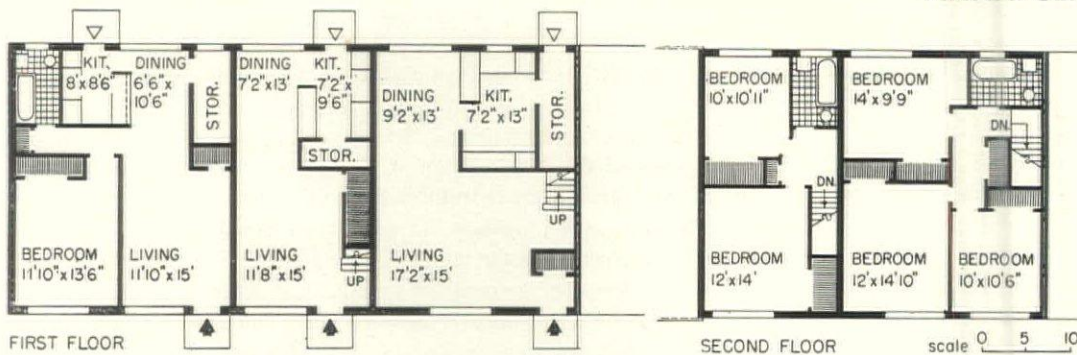
## GREAT LAKES, Ill.: Forrestal Village, Naval Training Station

Here is a preview of a Wherry Act project using precast concrete tilt-up construction with results both handsome and economical.

Walls, porch canopies, second floors and roof slabs are cast flat at central yards, and transported to building sites where foundations and first floor slabs have been cast in place. Painting is the only finish work required on ceilings and exterior walls.

The project will house 1,000 families, cost about \$9 million. (About \$9 per sq. ft. in an area where costs have averaged \$12 to \$17 per sq. ft.) Buildings will include one- and two-story apartments, row houses, duplexes and single family houses on a 220-acre site. Monthly rentals will range from \$49 to \$110. Architects: Shaw, Metz & Dolio. Builder-sponsor: Corbetta-Price Construction Co., Inc.

## ANNAPOLIS, Md.: Severn River Naval Command

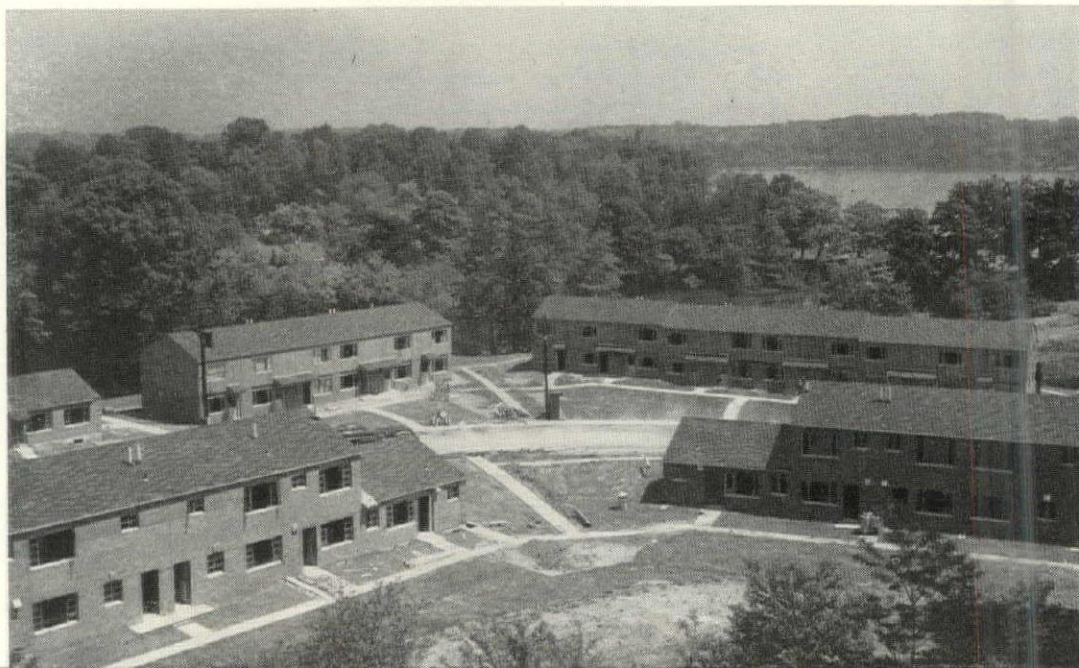


These apartments are a good example of the economy possible with on-site prefabrication methods. Including landscaping, utilities and architect's fee, they were built at an average per-unit cost of \$7,377. They are also notable for their simple and straightforward design.

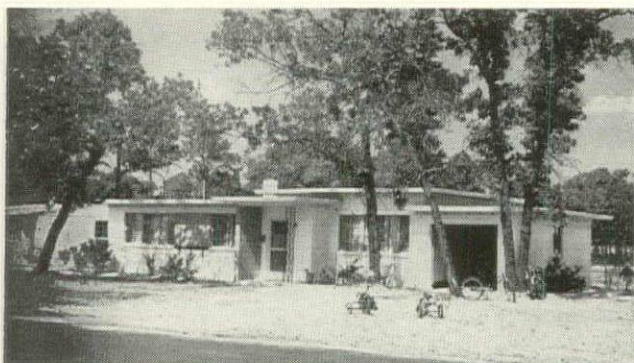
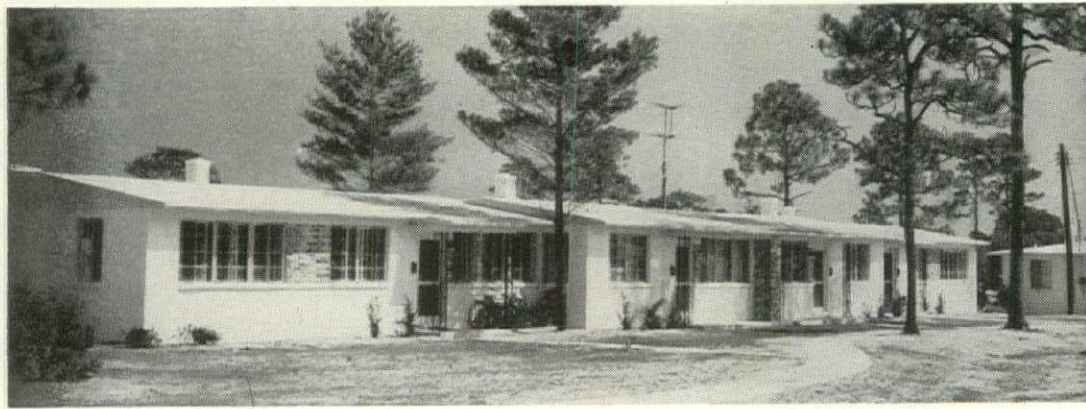
All frame walls, partitions and stairs were completely prefabricated. (All lumber was cut to size and then dipped, required no outside painting on the site.) After the concrete first floor had been poured and finished, it took only one week to put a building under roof.

To take advantage of the attractive heavily wooded site, there are picture windows front and back. Other good planning features include orientation for sunlight, through ventilation for all units, and snack bars instead of partitions between kitchen and dining areas.

There are 250 enlisted men's units and 140 for officers, with a monthly rental range of from \$53 for one-bedroom enlisted men's units to \$98.50 for three-bedroom officers' units. Architects: Shreve, Walker & Associates. Builder-sponsor: Arundeland, Inc.







## EGLIN AIR FORCE BASE, Valparaiso, Fla.

These new one-story units are typical of better-than-average Florida contemporary styling, and their low-to-the-ground look is nicely set off by tall trees. All are built of concrete block, with exterior variation achieved by occasional used brick panels, iron work trim and paint in a variety of pastel colors.

Air Force standards, set up by their Family Housing Group, show up here as in their other projects. Due to sensible planning, halls are reduced to a minimum, most rooms are of good size, closets and bulk storage space are more than adequate. Rooms are where they ought to be, and houses offer easy access direct from garage to kitchen. Roof overhangs are necessary protection against sun.

Still under construction now, the project will total 525 units—400 for airmen and 125 for officers. For airmen there are one-, two- and three-bedroom apartments and two-family houses; for officers, two-bedroom two-family houses and three- and four-bedroom single family houses. Rent range is from \$49 to \$120 per month. FHA estimated replacement costs average about \$8,835 per unit.

Architect: Joseph H. Bryson. Builder-sponsor: George W. Klosterman, Inc.

## PROGRESS UNDER THE WHERRY ACT

The Air Force, newest in the business of housing and most in need of it, got started first, has set the best quality and quantity record to date: 43 projects (24,303 units) completed or under construction, 17 more (9,328 units) in various preliminary stages. Although its contracts are usually handled by the Army's Corps of Engineers, the Air Force has established its own central control, the "Family Housing Group," in Washington and staffed it with energetic young officers who have set their own minimum design requirements and keep prodding architects and builders to better them without boosting costs. Having tried to make the most of the Wherry Act program, the Air Force is generally pleased with its provisions. Says one Pentagon official: "The typical Air Force family man hopes his next assignment will be to a base where Wherry housing is available."

The Army, miffed at having family housing removed from its direct construction jurisdiction, has let its Wherry program bog down. Only 27 projects (10,315 units) have been put under construction or completed; 41 other badly needed projects (9,156 units) are still in preliminary stages. Although the Army blames high building costs and the requirement that they work directly with architects (instead of architect-builder teams—see below) for slowing up the program, it believes that the recent authorization of direct government grants of up to \$1,500 per unit for site development will help get some stalled projects moving.

The Navy, having the smallest housing need and starting late, is now benefiting by the mistakes of others and already has some good housing among the 14 projects (8,165 units) completed or under construction. Architect-engineers have been selected for 48 more Wherry Act projects (14,574 units).

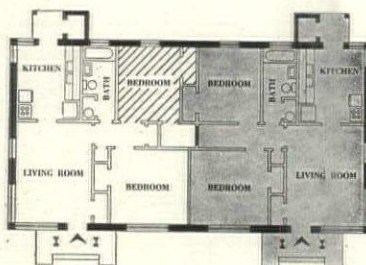
## ARCHITECT-BUILDER CONTROVERSY

Biggest Wherry Act controversy within the services and the industry centers around the use of architects and builders. Under the original program, after the military had outlined the general requirements of a project, builder-sponsors were encouraged to team up with architects and submit their proposals with cost estimates. This system failed because 1) all but the winning teams stood to lose the cost of preparing their proposals and few, if any, therefore, entered the race, and 2) if there was a race, the wide variety of the proposals made it difficult for the military to pick the winner. Moreover, the proposals did not include detailed specifications for the protection of the military.

Under the new system adopted last spring, an architect is selected to design the project and prepare detailed plans and specifications on which builders are then invited to bid. This system corrects the shortcomings of earlier plan, but still leaves much to be desired—principally because of the way in which it is administered. The military frequently hires architects who 1) have had little or no experience designing low-cost housing for volume production, 2) have no experience dealing with FHA, 3) are not familiar with cost-cutting house construction techniques and 4) are therefore slow preparing the plans and specifications. If a bad plan results, by the time it is prepared it has already cost the taxpayers so much that the military housing people are reluctant to junk it.

As suggested by some of the industry spokesmen whose comments appear on p. 140, the obvious way to improve the design, quality, cost and speed of a military housing project is to combine the best features of both plans, thus: 1) select an architect qualified and experienced in the field of good low-rent housing to design the project, 2) select one or more similarly qualified builders and FHA technicians to consult with the architects during the planning process, 3) invite all qualified builders to bid on the job.





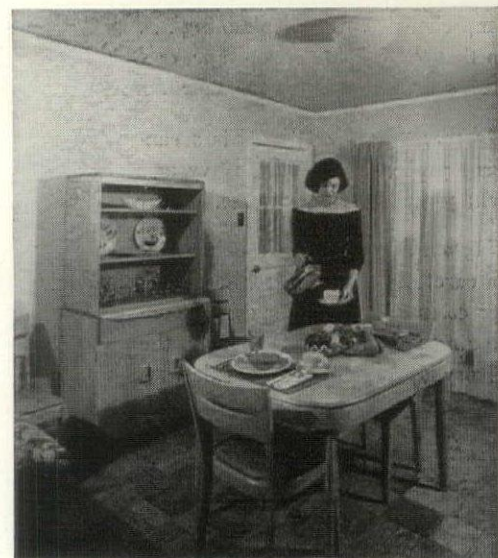
## KEESLER AIR FORCE BASE, Biloxi, Miss.

On this neat, wooded, 718-unit project the builder saved some 15% by precutting and prefabrication methods, then plowed back his savings into quality materials and equipment selected for permanence and low maintenance costs. He also came up with a flexible two-family house plan to take care of changing personnel requirements.

All dwellings are one-story, brick veneer, with aluminum awning-type windows, attic fans, hip roofs and 2' overhanging eaves. Roofs are asbestos shingle with copper valleys and downspouts. Hardwood block floors are installed on a reinforced concrete slab. Kitchens, big enough to accommodate a breakfast table, have steel cabinets, double sinks, plumbing for tenants' own washing machines. All units are of the same materials and workmanship and are identically equipped; only differences are size and design. One of the best design features is the grouping of corner windows, avoiding a cut-up effect and leaving good wall space for furniture arrangement.

The unique floor plan of the 214 airmen's two-family units (*picture center*,

Photos (below): *Hitchings*



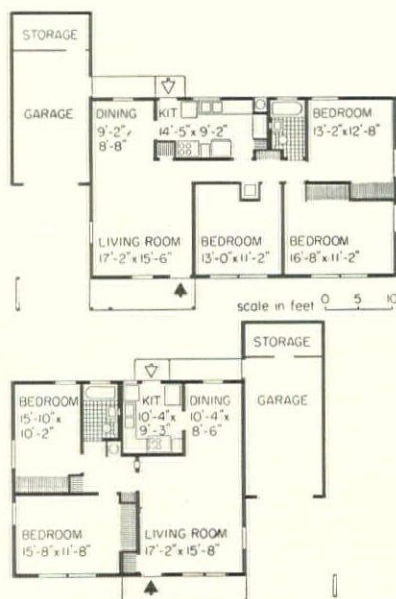
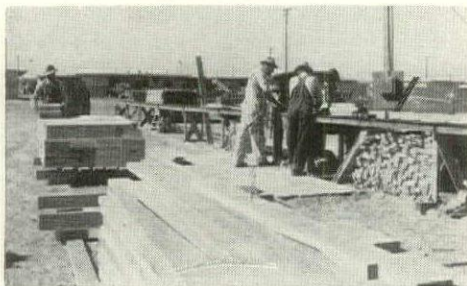
*plan above*) makes it possible to convert from four rooms and bath in each to five rooms and bath in one, and three rooms and bath in the other. The change-over costs only \$10.

The 54 three-bedroom officers' houses (*top*) have attached carports, neat floor plans, rent for \$95 a month.

Because the builders left most of the big old trees standing, there is already the feeling of an established community.

Rentals range from \$45 per month for the one-bedroom airmen's unit to \$120 for the officers' four-bedroom, two-bath single family house. (This includes water, lawn maintenance, garbage pickup, sewage disposal, fire and police protection.) The total construction cost was \$6,492,965, averaging about \$9,043 per unit. Architect: Everett Woods. Sponsors-contractors: Wilkinson-Snowden. Mortgagee: James E. McGehee & Co.





## EDWARDS AIR FORCE BASE, Muroc, Calif.

Located in isolated desert country, this project demanded an exemplary organization of work to save transportation and, above all, labor.

All framing lumber was precut in the materials yard and delivered to each dwelling arranged in order of use; a lumber carrier operated by one man delivered in two trips all lumber for each house. Labor saving devices included a central lumber cutting yard, automatic nailing machines, cement placing and finishing machines and a tractor equipped with a shovel for depositing finishing gravel on the roofs (see photo).

To cope with the hot, parched climate, all houses were air conditioned, and most windows permanently sealed against dust.

Design is one of the cleanest among Wherry Act jobs; floor plans are compact, make the most of small space. Even in the square two-bedroom house shown, rooms are of quite generous size.

There are five different floor plans averaging 1,115 sq. ft., plus garage, with average rent about \$71 per month. (Three-bedroom house for airmen, above, rents for \$67.50.) Units cost from \$7,343 to \$10,991, some qualifying for a \$9,000 mortgage. Sponsor-builder: Hal B. Hayes Contractor, Inc. Architect: Maurice H. Fleishman.

## INDUSTRY COMMENT ON THE WHERRY ACT

► **MAURICE ROBINSON, builder, Detroit:** "The military could avoid many delays and achieve lower costs if they would commission only architects experienced in housing, and call on builders earlier. They should seek the help of builders experienced in the rapid and economical construction of 608 rental projects."

► **JOHN F. AUSTIN, JR., mortgage lender, Houston:** "The big discrepancy between FHA and builder cost estimates results in inadequate mortgage money. Builders consider equity capital requirements too high. Some aren't equipped to assume responsibility for operation of the project."

► **JOHN HIGHLAND, architect, Buffalo:** "Not all the bugs are out of the new system, but actually it is more conducive to good design. Architects should be more carefully selected on the basis of their ability in this kind of work. We've found in our preliminary planning for the naval air station at Niagara Falls that there is good leverage for new and better design and methods. The military and the architect can work together without worrying about public resistance to new ideas, and together convince the FHA of the worth of these new ideas. A good operation should have the benefit of both architect and builder, and most of the best architects do consult with builders and sift their points of view—without designing for the builder's convenience."

► **HAL B. HAYES, contractor, North Hollywood:** "I'm in favor of the Wherry Act because, for one thing, costs would run from 10 to 50% more for direct government housing . . . However, the new architect "go-between" system takes far more time, lets in incompetents, doesn't get the benefit of builder economies from the start, is full of evils. Example: On Jan. 18, 1950, we got the Edwards Air Base job, on Oct. 1 started construction, and by Aug. 1951 had it completed. That was under the old, direct builder system. Now, under

the new system, we're going to build Inyokern, a big navy test center in California. The planning on Inyokern started only slightly after that on Edwards, but Inyokern is just now getting underway."

► **MILTON T. MACDONALD, mortgage lender, Jersey City:** "Here's what's financially wrong: 1) Unrealistic interest rate of 4%. 2) The secondary market is reluctant to make long-term investments when the military can close up the camps at will. 3) Legally, many long-term investors cannot invest in rental housing projects where there is a ground lease involved."

► **W. H. CRAWFORD, builder, Baton Rouge, La.:** "So far, the mechanics have not been perfected, the services are improperly organized, and there's been too much politics."

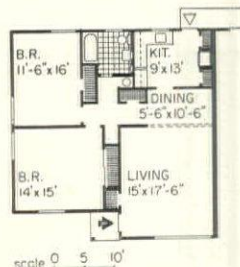
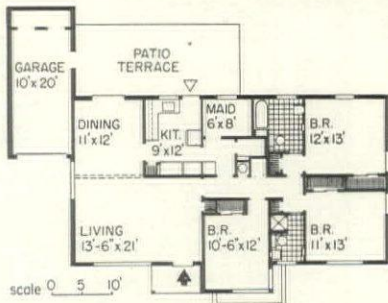
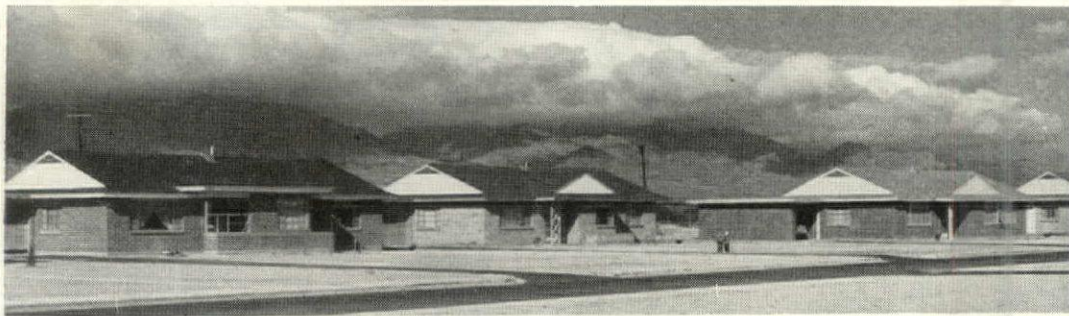
► **ALFRED B. PARKER, architect, Miami:** "The architect has much professional talent to offer, and should work with the services right from the start on preliminary, comprehensive over-all planning . . . However, my experience has been that there is much red tape, and that mere 'bigness' of the architect's firm counts for too much."

► **FRANKLIN L. BURNS, builder, Denver:** "One great need is a central authority to handle all Wherry projects for Army, Navy and Air Force. There is now a different procedure in each case."

► **HUGH STUBBINS, architect, Lexington, Mass.:** "It is much better that the services work first with a carefully selected architect, who frequently can contribute to lower costs and greater speed of construction as well as to better planning and design. Obviously, the architect should not stay in an ivory tower; he can consult with builders and correlate the best of their ideas."

► **V. O. STRINGFELLOW, builder, Seattle:** "Why not create a realistic National Military Housing Board, probably set up within the confines of HHFA or FHA (preferably FHA), to formulate policy, standards, procedure, etc.?"





## FORT BLISS, Texas: Van Horne Park

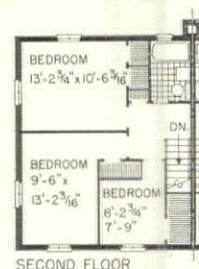
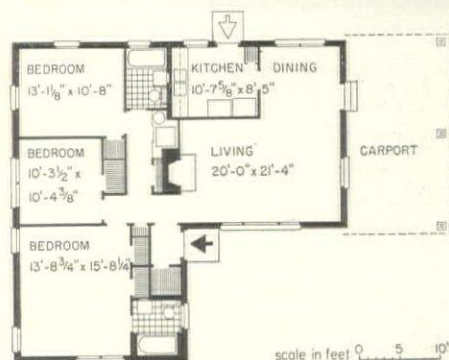
Generously spaced over 125 acres, this army project for 800 families in 370 buildings boasts a low density of only 6.4 families per acre. Planned for good community living, it has a complete shopping center, 16 fenced playgrounds for younger children, two sports fields for teenagers and adults.

The buildings are of stucco, wood siding or brick, or a combination of these materials. There are six basic types, ranging from four-family apartments with two bedrooms each to single houses with three bedrooms, two baths and maid's room. All dwellings have cross ventilation, adequate closets plus individual storage lockers, aluminum casement windows and screens, venetian blinds, overhanging eaves for protection against the hot Texas sun.

Though the builders were perhaps over-ambitious about exterior variation (36 different architectural designs, many different color schemes and combinations of materials), and no two buildings are identical, still the impression of basic likeness remains.

There are 124 four-family apartments, 58 two-family houses, 188 single houses, renting at from \$65 to \$115. Total over-all per-unit cost averaged about \$9,200. Builders: Morgan, Leavell & Ponder.

Photos (below): Rodney McCay Morgan



## FORT BRAGG, Fayetteville, N. C.: Mallonee Village

Here is an army project of prefabricated houses and apartments, put up with speed and dispatch. The first 1,000 units were ordered, delivered and constructed within seven months; another 1,000 are on their way now. Result: an attractive, traditional-looking community with curving streets, a shopping center, children's playgrounds and several wooded park areas.

The garden apartments, housing 600 families, have two to six units in each. Six-family apartments (*left, above*) have four three-bedroom duplexes in center, and a one-story two-bedroom apartment on each side. Floor plans make good use of small space, provide cross-ventilation in all living rooms.

There are 400 single-family houses, each with three bedrooms. The largest and most expensive type (*left, below*) has two baths, fireplace in the living room, dining L and attached carport. Smaller houses have one bath, no carport. All dwellings are brick veneer and are equipped with electric ranges, kitchen fans and refrigerators. All have oil fired, forced warm air heat.

Construction costs on the first half of the project (1,000 units) were about \$10 million. Houses rent for from \$80 to \$105 plus utilities; apartments from \$70 to \$79, including heat and hot water. Prefabricated house parts are from American Houses, Inc. Sponsors: T. A. Loving & Co. and W. H. Weaver Construction Co.



# WHAT TO DO WITH OLD MANSIONS

Rye, N. Y. explores the economics of three possible answers:

- 1—Replacement with new houses
- 2—Remodeling into apartments
- 3—Conversion into tax-free institutions

Biggest white elephant in residential real estate is the baronial mansion—that bulking memorial to a day when millionaires outnumbered tax collectors and servants outnumbered children. Now that the millionaires are dead or departed, what to do about these mansions is a tough problem for every suburban community.

If the mansion is vacant and for sale, or taken for taxes, or tentatively occupied by a lower-income family paying only token rental, the unmaintained property blights the neighborhood. If the land is rezoned to permit demolition to make way for new low priced houses or if the town fathers authorize conversion of the mansions into rooming houses or apartments, local citizens are again justifiably fearful of the effect on surrounding property values. Either way the town treasury is likely to suffer.

Faced with these unattractive alternatives, most planning boards imitate the ostrich. Not so New York's swank Westchester suburb of Rye (population 11,745) whose planning commission has already gone to work to determine the effect of various solutions on community coffers. As an early step, they asked their City Planning Consultants, Adams, Howard & Greeley of Boston to study 11 obsolescent mansions now yielding a combined tax income \$8,600 greater than service costs (estimated at \$485 per family).\*

The tentative findings of this report, which will help guide Rye's Planning Commission when the mansion problem becomes more immediate:

- ▶ Replacement by higher-priced houses at maximum zoning densities would yield \$7,300 in tax income over service costs, or almost as much as the present mansions.
- ▶ Remodeling the mansions into apartments so small (one bedroom) that they will house no children would add nothing to school budgets. Rigid controls over design

\*Biggest revenue producer (\$2,800) among the 11 is a mansion merely 20 years old, therefore not typical. The others range in age from 45 to 120 years.

and execution of conversion would assure good looks and high quality construction. Future tax income would about equal future local costs. Loss to the public would be merely the present "net income" of \$8,600—which is only 1/2 of 1% of the combined city-school budget.

▶ Conversion to larger apartments, inviting the presence of school-age children would entail a loss to the community, for it would increase public per-family costs but not tax income.

▶ Conversion to tax-free institutions, assuming they would not be a burden on the school system, would cost the community about \$4,950 for public services. In some instances this might be a good solution for the community as a whole.

▶ Replacement by lower-priced houses would have the worst tax result, for public services would cost \$17,900 more than tax income.

The survey findings are tabulated in detail at the right.

In considering these and other proposals yet to come, the Rye planners are wisely cautious. They are particularly concerned about the possible drop in property values (and therefore in taxes) of surrounding houses. They point out that, if the old mansions are converted into apartments, their old construction and high-ceilinged rooms would mean high heating and operating costs, and that in periods of economic stress expensive apartments may go by the boards. They know there is lessening demand for high priced new houses, but also that they pay off best for the rest of the community; that cheaper houses end up costing the community more in services than they return in real estate taxes. They are aware of the costs of demolition and of the time and study required for intelligent rezoning.

They also realize that probably nothing could be worse than letting the once stately mansions become vacant, cobweb-covered derelicts, and that before the owner moves out is the time to tackle the problem of his mansion.

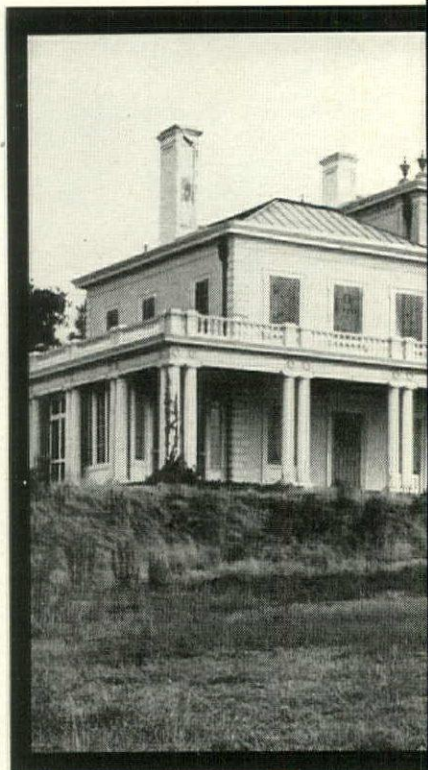


Photo: Carroll Van Ark



Though not in Rye, these mansions are typical landmarks of a long-since-past era of lush and expensive living.

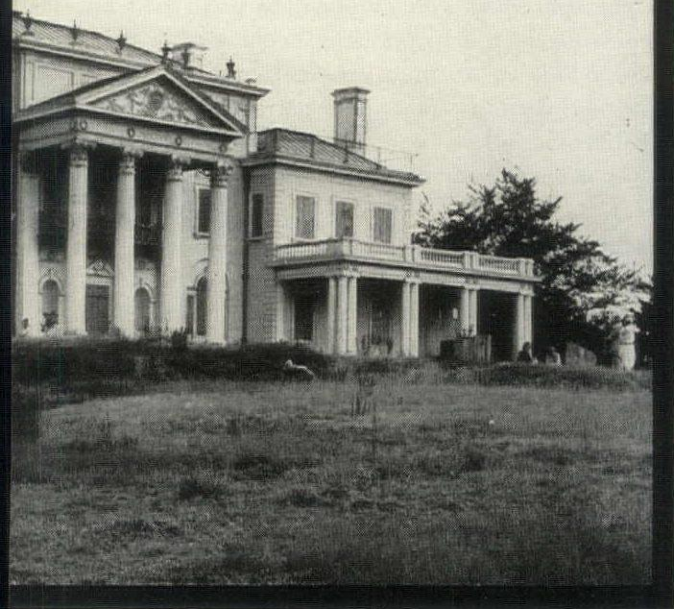


Photo: Otto Hagel

**11 OBSOLEScent MANSIONS IN RYE, N. Y.:** They have from 12-32 rooms, are 20-120 years old, stand on plots from 2-10 acres. Assessed at from \$22,600 to \$120,000, their average tax return to the city is \$1,700 and their average cost in services is \$900. Net tax income over service costs, for all 11, is \$8,600.

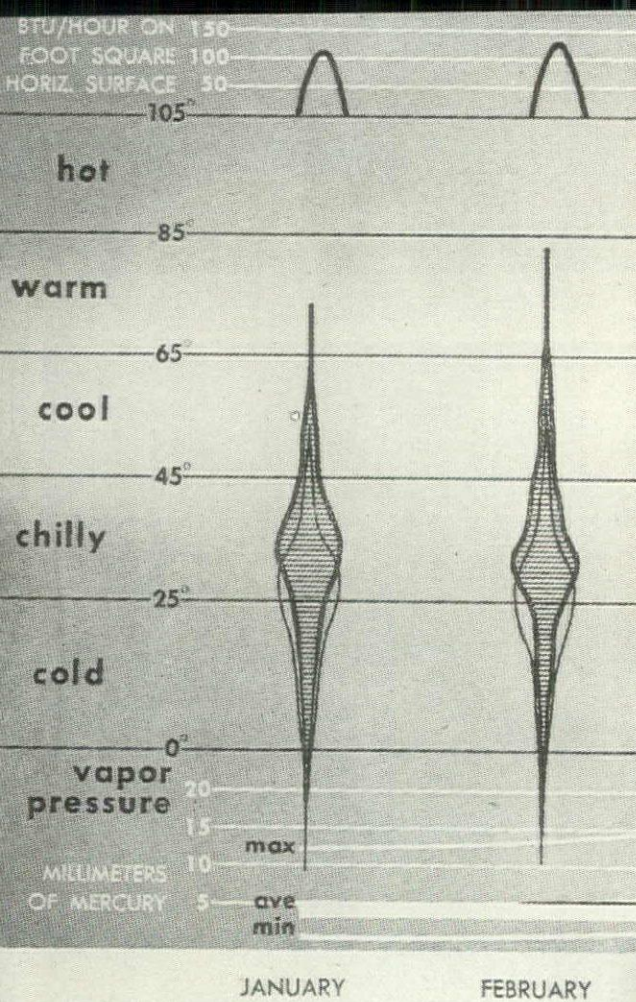
|                                                                                                                                                                        | Tax return | Service* cost | Net income or loss | Total tax loss** |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------|--------------------|------------------|
| <b>If replaced by \$17,000-\$25,000 houses</b>                                                                                                                         | \$54,400   | \$72,300      | -\$17,900          | -\$26,500        |
| (140 houses @ \$17,000, in 1/3-acre zone, assessed at \$10,000 each. 9 houses @ \$25,000, in 1-acre zone, assessed at \$15,000 each.)                                  |            |               |                    |                  |
| <b>If replaced by \$25,000-\$40,000 houses</b>                                                                                                                         | \$79,600   | \$72,300      | +\$7,300           | -\$1,300         |
| (140 houses @ \$25,000, in 1/3-acre zone, assessed at \$15,000 each. 9 houses @ \$40,000, in 1-acre zone, assessed at \$25,000 each.)                                  |            |               |                    |                  |
| <b>If remodeled into small apartments</b>                                                                                                                              | \$12,900   | \$12,900      | none               | -\$8,600‡        |
| (68 one bedroom apartments, assessed at \$5,000 each. Assuming 2-person occupancy, no children, per-family real estate tax of \$160 plus misc. revenue of about \$30.) |            |               |                    |                  |
| <b>If converted to tax-free institutions</b>                                                                                                                           | none       | \$4,950       | -\$4,950           | -\$13,550‡       |

\* For houses, costs of local government services are figured at about \$485 per family; for institutions, at the rate of about \$250 for each 10 rooms.

\*\* Reflects the present mansions' \$8,600 tax income over service costs.

‡ Does not take into account the additional loss possible through depreciation of adjoining homes and vacant land.





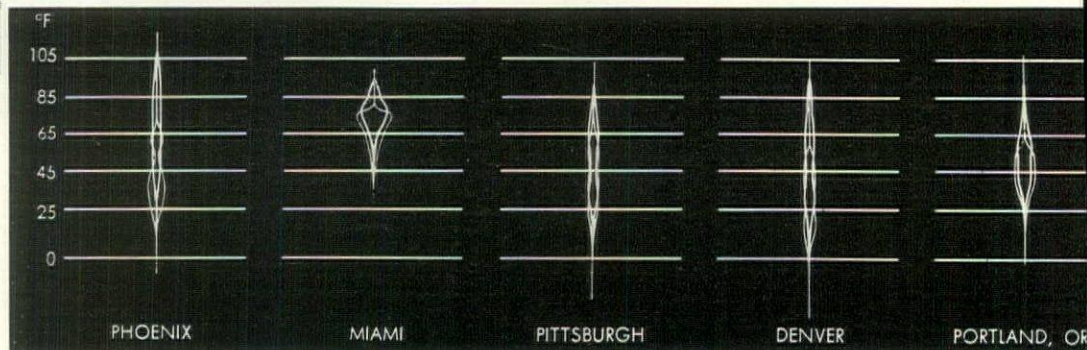
## REVIEW

### DESIGN OF INSULATED BUILDINGS FOR VARIOUS CLIMATES\*

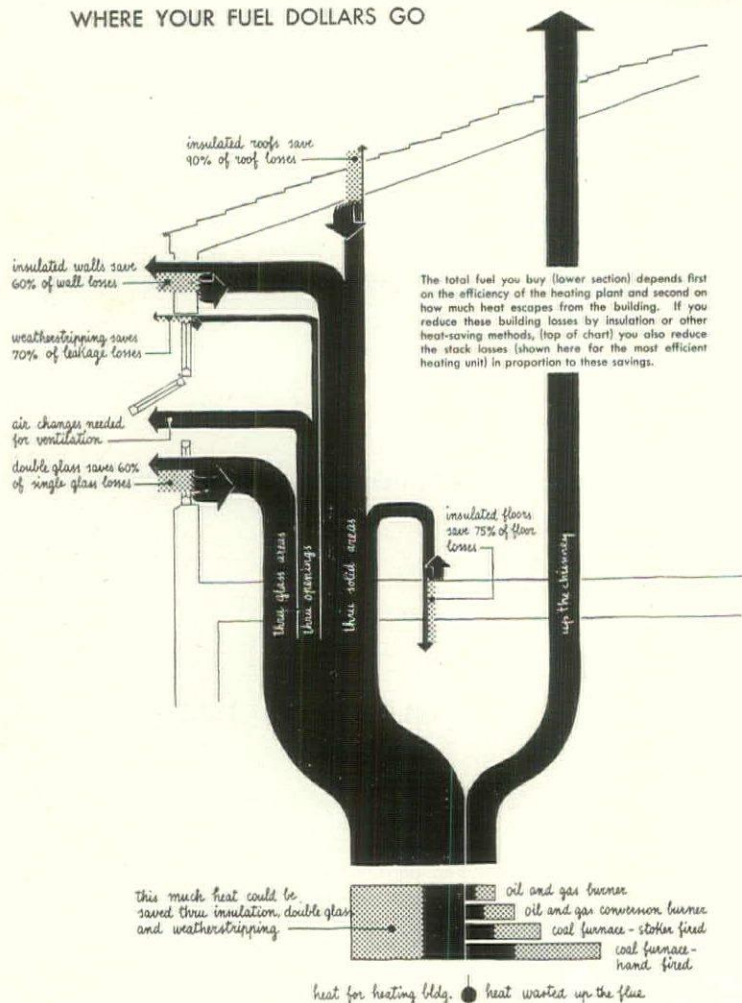
The peculiar symbol at the left has recently become very significant for everyone concerned with building, particularly house-building. A miniature of this in platinum might well be riding the lapel of every builder, architect or even house hunter who has recently become more aware of climate, as who has not? Since a sketch like this is on the dust jacket of Tyler Rogers' exemplary new book about insulation, let's borrow his explanation of what it means:

"Dr. Siple (Climatologist Paul A. Siple) has devised in these charts a simple way to express temperatures, not only by a thermometer, but by the calendar. In each chart the width of the shaded 'leaf' represents the number of hours in the month (or year) that have an average temperature that is measured up or down on the vertical stem. Where the leaf is widest, you can read the temperature that prevails the longest. Where it is narrow, as at the extremities, the temperatures are experienced only for short periods, sometimes not more than an hour in many years of weather records.

"The unshaded leaf indicates the prevailing humidity by showing the actual dew-point temperatures of the outdoor air in the



### WHERE YOUR FUEL DOLLARS GO



same manner. This dew-point is the temperature at which the air is saturated with moisture (water vapor) so that no more can be held. If the temperature is then lowered below this dew-point temperature, some of the water vapor will condense, i.e. form dew, fog, or rain."

So that is what this familiar symbol means. (This particular chart represents Kansas City in winter.) Understanding its symbolism we can also interpret the shorthand charts of yearly weather for various U. S. cities which stretch across these pages.

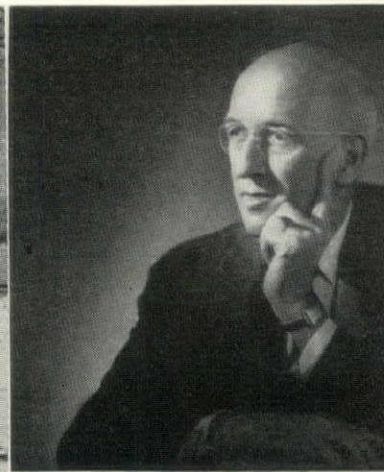
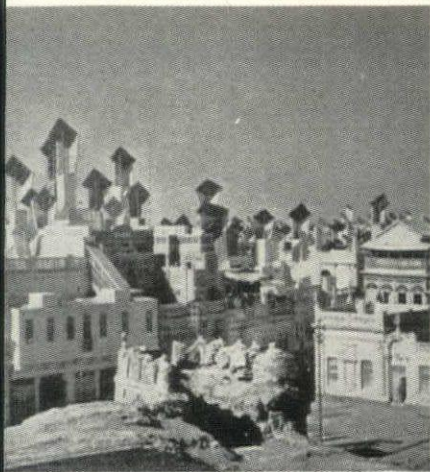
But what does the *familiarity* of this mathematical coat of arms mean? The obvious answer is that the building world is newly aware of the refinements of the challenge which climate presents—and newly interested in the possibilities of licking the weather. Rogers' book is testimony for this answer, because it takes one weapon of the builder against weather, insulation, and explains in absorbing detail the techniques of its use in general, and in different weather zones.

Rogers leaps into his subject from a high cultural crag: "The degree to which we maintain comfort during extremes of weather is a measure of our standard of living." The material which comes after this early statement in his book is so good, and so well presented, that everybody in building should study it.

The first half of the book is devoted to principles of climate, heat control, vapor control and ventilation. With a deceptively simple approach, Rogers tells, for example, why condensation,

\*By Tyler Stewart Rogers, assisted by Dr. Paul A. Siple, Prof. Elmer Queer, Howard T. Fisher, AIA, John Hancock Callender, AIA, F. W. Dodge Corp., 119 W. 40th St., New York. 119 pages 9 1/4" x 12 1/4". Illus. \$5.50.



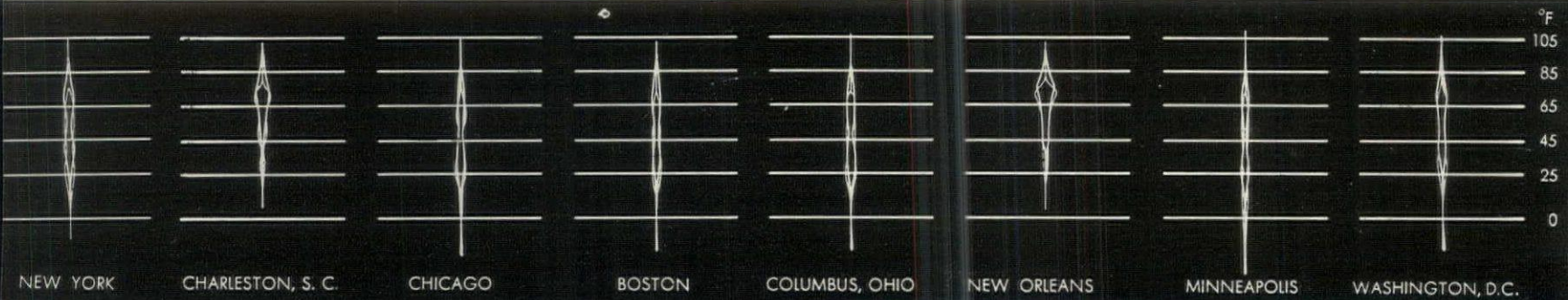


**WIND** scoops in Hyderabad, Pakistan catch breezes and force them downward by their own pressure as a means of cooling the hot interiors.

**SUN** heat problem was solved in American southwest by building thick walled adobe buildings which delay the effect of sun on interiors until cool night air arrives.

**SNOW** plus wind equals wind chill, an uncomfortable sensation for man, and also an expensive one in heating houses. The wind sucks quantities of heat away from buildings.

**ROGERS**, author of the book, is director of technical publications for Owens-Corning Fiberglas Corp. and expert on insulation.



Summation of advice on reflective insulation (right) is example of book's quick clarification techniques.

### DO'S:

1. Always provide an enclosed air space opposite any reflective material. The effectiveness of the air space is greatest at depths of  $\frac{3}{4}$ " or more (up to the total depth of the wall, floor or ceiling.) Dividing an air space with a foil provides two working air spaces.
2. Always attach reflective foil materials to non-conductive supports, such as wood framing members or furring strips. If attached to cold steel or masonry supports, the high conduction of the reflective foils will carry heat "side-ways" from one support to the next and thus disturb its calculated effectiveness.
3. Always use at least two reflective surfaces facing common (preferably separate) air spaces, if climate and occupancy conditions indicate condensation may occur, unless the foil serving as the first vapor barrier is close to the warm side of the construction or is kept above the indoor dew-point temperature by other insulating materials. (A single foil that is too cold will develop condensation on its inner faces, as explained later.)
4. Always calculate the effectiveness of the reflective insulation for both winter and summer conditions (direction of heat flow) and for the position of the insulation (vertical, diagonal or horizontal), so that the amount used will meet local climate and other project conditions.

### DONT'S:

1. Never use aluminum foil in contact with wet plaster or cement where the alkaline reaction can rapidly destroy the metal. Also pre-test any reflective material in the presence of unusual fumes or gases to determine resistance to corrosion or serious oxidation.
2. Never use a foil or sheet metal reflective material on the cold side of the construction, unless an equally effective (or, if possible, a better) vapor barrier is provided close to the warm side. Any moisture reaching them when the surfaces are cold will surely condense to water or frost.
3. Do not count on much insulation value from reflective surfaces that face an open attic or a room. Leading authorities recognize some value against heat flow down, negligible value for heat flow up. The FIA method of calculation given on page 105 assumes that air currents and ventilation in such spaces reduce the effectiveness of exposed foils to that of their surface film resistance.
4. Never assume any insulating value whatever for reflective materials that are in contact on both faces with other conductive materials, such as foil-laminated papers used as sheathing papers, vapor barriers, or as components in built-up roofings.



sweating from the back of vapor barriers, probably causes more trouble than leaks in today's houses because today's houses are smaller in volume per occupant than yesterday's were, are more tightly constructed, use more water in baths and laundries. ("For many years people believed that all the moisture found indoors came from outside—through leaks in roofs and walls, or from fog or dampness. . . . Many good roofs and flashings have been 'repaired' that never had a leak. Now we know that our moisture problems arise from within our buildings.") An example of his detailed approach in the book's first section is the heat consumption chart reprinted on page 144.

The second half of Rogers' book is devoted to practice in insulation, organized into chapters headed *Design Data, Roofs or Ceilings, Walls, Floors, and Design Calculations*. A small sample of a typical insulation chart is reprinted below.

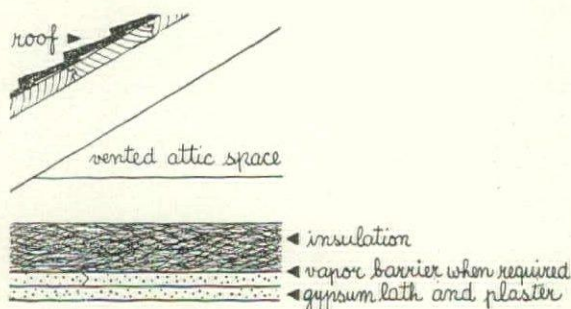
The techniques of this book should embarrass most textbook publishers, who—in comparison with this slick, clear set of presentations in photos and drawings—are still laboring along trying to sell diamonds in the dark, putting down good material without using graphic psychology to make it comprehensible. Rogers' writing, too, is just about perfect for the wide building world. Simple and clear, he comes without Red Riding Hood, or the Three Bears, without the cuteness which has hurt a good deal of this kind of material. His interest in the subject is not merely applied, but is obviously innate. You can learn a lot from almost any book, if you really try; but Rogers presents his material so well that you all but breathe it in.

He doesn't draw architectural morals from his material, but they are there. For example, why shouldn't every wall ideally be made of a different material? (See diagram, above.) And of course, the big moral: the climate over the wide stretch of the U. S. A. varies enough to justify real regional schools of design.

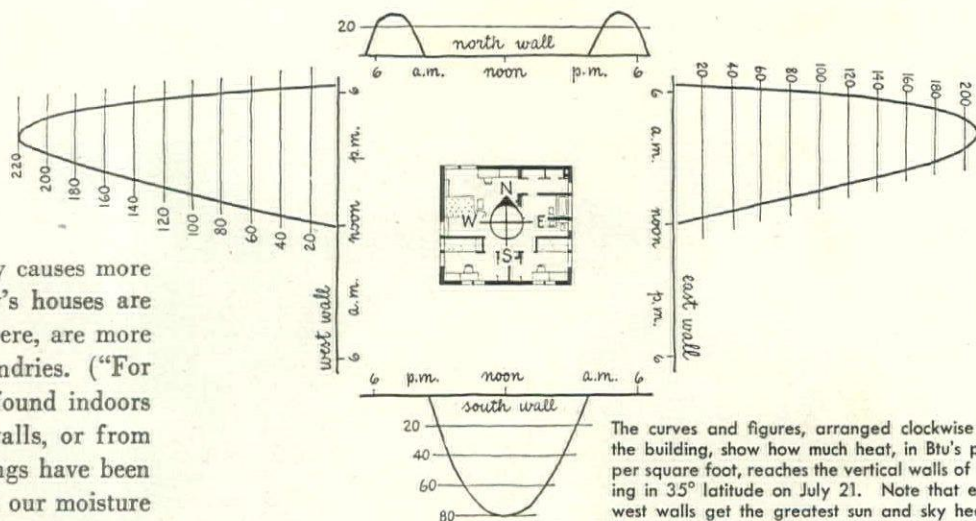
—W. McQ.

## CEILINGS: under vented attics gypsum lath and plaster ceiling

At the right is a typical calculation chart for insulation reproduced from Rogers' book—with the supplementary footnotes below. Zones I, II and III refer to different geographical areas of the U.S.—Zone I is the cold northern area, Zone II is the moderate central area and Zone III is the semi-tropical southern area.



\*With no insulation and no vapor barrier, surface condensation is assumed to be controlling, but condensation may occur on under side of roof sheathing at occupancy-moisture ratings lower than those given.



The curves and figures, arranged clockwise around the building, show how much heat, in Btu's per hour per square foot, reaches the vertical walls of a building in 35° latitude on July 21. Note that east and west walls get the greatest sun and sky heat load. The roof usually receives a still greater load and for more hours. Chart based on data by John Everetts, Jr.



Admiral William F. Halsey's house at Munda, New Georgia, Solomon Islands, showed a basic, effective version of the shaded, air-cooled roof. At top of page is typical chart from the book.

### INSULATION THICKNESS, Inches

#### CONDUCTANCE "C"

| none | 2    | 3     | 4     | 6     |
|------|------|-------|-------|-------|
|      | 0.14 | 0.090 | 0.075 | 0.050 |

### HEAT TRANSMISSION "U"

#### % OF HEAT STOPPED by Insulation

#### ALL ZONES

| 0.70 | 0.11 | 0.080 | 0.068 | 0.047 |
|------|------|-------|-------|-------|
|      | 83%  | 88%   | 90%   | 93%   |

#### ZONE I

|       |          |          |          |          |
|-------|----------|----------|----------|----------|
| 37.9° | 64.8°    | 66.3°    | 66.9°    | 67.9°    |
| 94.8° | 79.3°    | 78.1°    | 77.7°    | 76.9°    |
|       | \$125.70 | \$132.90 | \$135.30 | \$139.80 |
| 31%*  | 72%      | 80%      | 82%      | 88%      |

#### ZONE II

|       |         |         |         |         |
|-------|---------|---------|---------|---------|
| 45.0° | 65.9°   | 67.1°   | 67.6°   | 68.3°   |
| 94.8° | 79.3°   | 78.1°   | 77.7°   | 76.9°   |
|       | \$83.80 | \$88.60 | \$90.20 | \$93.20 |
| 41%*  | 77%     | 83%     | 86%     | 90%     |

#### ZONE III

|       |         |         |         |         |
|-------|---------|---------|---------|---------|
| 48.6° | 66.5°   | 67.5°   | 67.9°   | 68.6°   |
| 94.8° | 79.3°   | 78.1°   | 77.7°   | 76.9°   |
|       | \$41.90 | \$44.30 | \$45.10 | \$46.60 |
| 46%*  | 83%     | 85%     | 88%     | 91%     |

### COMFORT RATING

### ECONOMY RATING

### OCCUPANCY-MOISTURE RATING



## ONE-PIECE SEAMLESS COUNTERTOP

fits over cabinets

without metal trim

or separate back-splash

This simple shaping of a slab of laminated plastic is the kitchen news of the year.

For a long time builders and architects have been after the big laminate producers to build presses which would bend sheets of tough plastic countertopping around corners to 1) simplify installations and 2) eliminate the dirt-catching metal trim which up to now has been a necessity. This month General Electric's Chemical Division came through with the press and the finished shape, a seamless sheet of their "Textolite" decorative laminated plastic stamped with rounded edges at back and front and a 4" high integral back-splash.

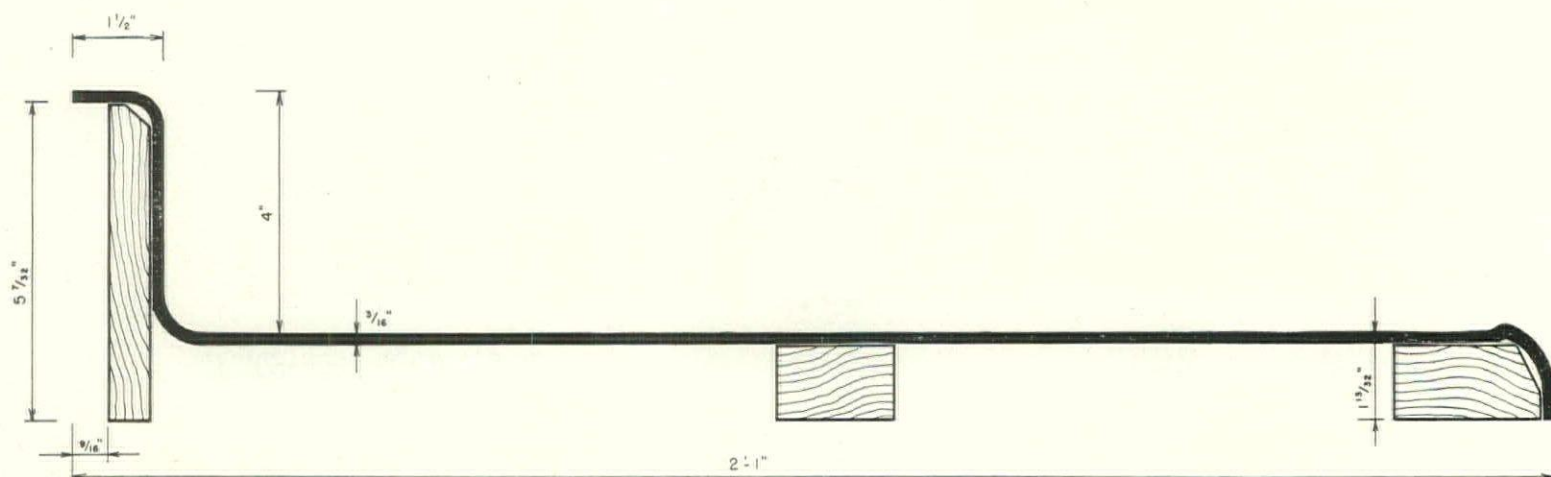
The countertop is made with and without the sink bowl. Ready to install, the price is about \$100 with sink, \$70 without.

Installation is simple and requires very little carpentry. The countertop is 3/16" thick, but is stiff and self-supporting, not requiring a plywood bed bonded to the bottom for rigidity, as most laminates do. The shape takes care of that.

It can be installed over an old top or rested directly on base cabinets, held by adhesive and fasteners received by the wood strips which cradle it (see drawing). The newly shaped product, dubbed the Monotop by GE, is being marketed in 6' lengths, 25" deep, and is available in five colors. Miter corners can be cut in the counter top, and where kitchen surfaces are longer than the standard 6' length, additional

*Sleek, hard, countertop is almost impervious to marring. Front edge of the new countertop is raised slightly to contain spilled liquids and water used for rinsing, keep it from dripping on floor (see photo, right).*





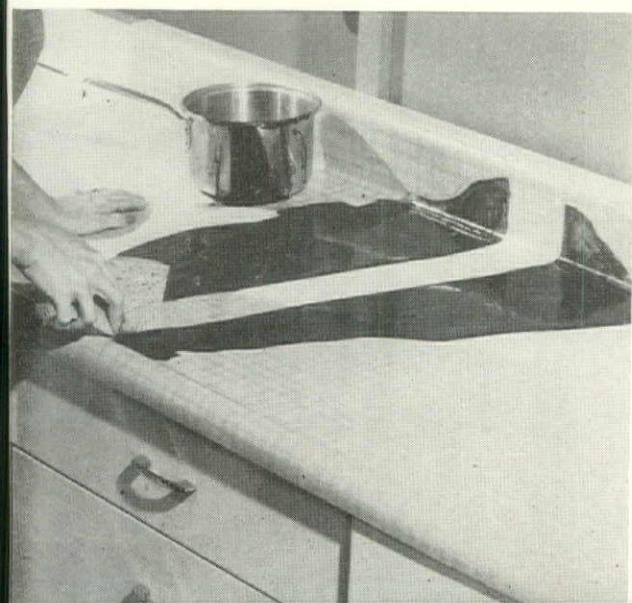
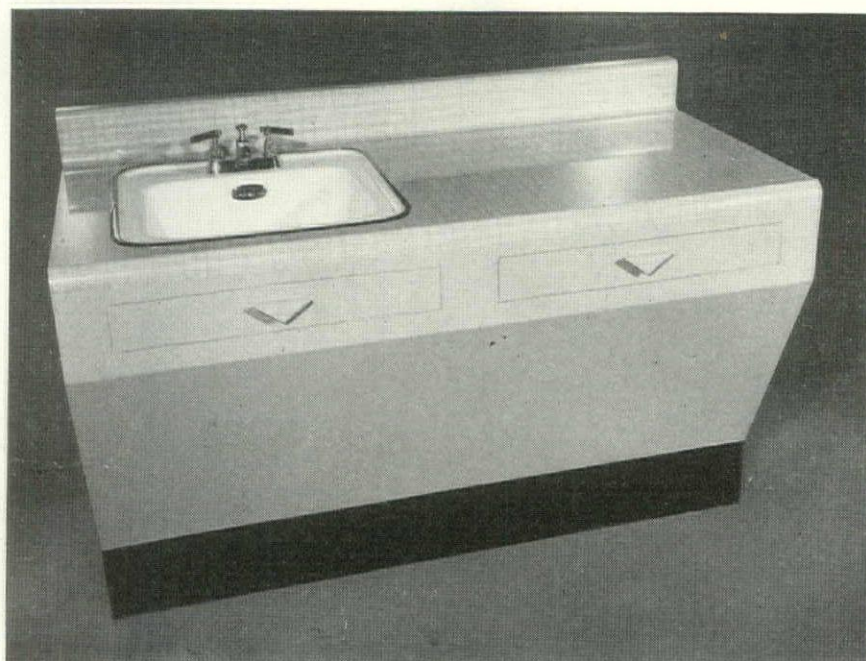
sections or portions of sections can be butt-jointed together to continue the surface.

Much of the present high repute of plastics for building uses is due to the performance of the tough-topped laminates such as this one which are made by several companies using melamine formaldehyde resin derived from melamine crystals. This exceptionally hard, strong, and thermal-resistant agent is used to produce sheets composed of layers of glass cloth, asbestos, canvas, paper, or fine wood veneers. Because it can be made in hundreds of different highly colored translucent or opaque shades, and patterns, it has been called a decorative plastic, but its resistance in the familiar flat sheet form to marring by staining, impact, or even cigarette burns belies the description. Most melamine laminates, such as these countertops, are produced under tremendous pressure, but pressures as low as 250 lbs. per sq. ft. have been used satisfactorily for some products.

General Electric, and the other big producers of laminated sheets for building use and furniture, are keeping quiet about their plans to go further into formed shapes, if they have any such plans. But now that they have rounded the first corner, many building men will expect them to keep on going and eventually displace a good many of their steel products with these tough, sleek melamines, newly streamlined where streamlining for once means efficiency.

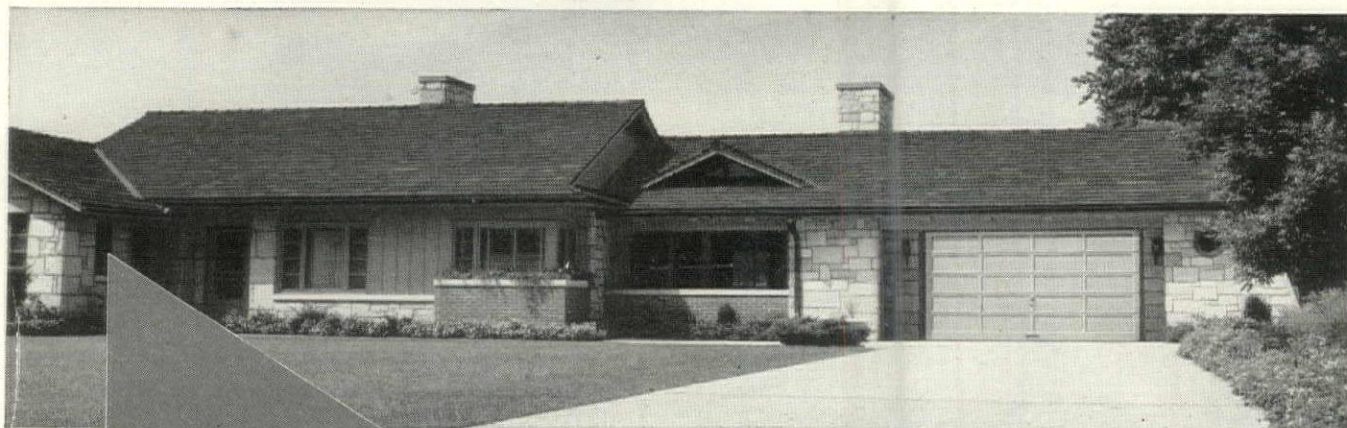


*Countertop can be adapted to many different cabinets (the two shown here, for example), and is easily attached (see section drawing, top).*





# AGAIN **Rō-Way** DOORS MAKE NEWS!



NEW TAPER-TITE  
TRACK

NEW SEAL-A-MATIC  
HINGES

NEW CLASSIC  
DESIGN

Once again Ro-Way doors are making big news! With the handsome new 5-section *Classic* design, new Taper-Tite track, and new Seal-A-Matic hinges, they're far and away the finest residential garage doors in Ro-Way history.

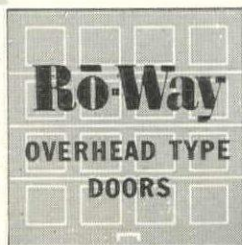
Designed especially for ranch type houses, the new Ro-Way *Classic* adds new beauty to this style of architecture. See how its horizontal panels carry out the lines of the house, and tend to accentuate its rambling character.

*Inside*, too, there've been some changes made—for even better performance, smoother operation. The new Ro-Way Taper-Tite track and Seal-A-Matic hinges work together to snug the door tightly against side and head jambs for positive protection against the weather—yet permit easy, almost effortless up-and-down operation.

Here's proof again that Ro-Way sets the pace in overhead type garage doors. Proof that it pays to specify Ro-Way for all residential, commercial and industrial installations. Specify Ro-Way—and be sure of the finest.

Taper-Tite track and Seal-A-Matic hinges are available on all residential Ro-Way doors, and on some models of commercial and industrial doors.

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ROWE MANUFACTURING CO.; 991 HOLTON ST., GALESBURG, ILLINOIS



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*Girard College Chapel in Philadelphia, Pennsylvania, has solved its roof-leakage problems. The permanently water-tight aluminum roof shown is the Overly-Goodwin Batten Type, with patented joint construction and Alrok finish. It replaces a limestone roof, which leaked badly and was covered over. By contrast, the replacement roof will last a lifetime. First cost is the only cost!*

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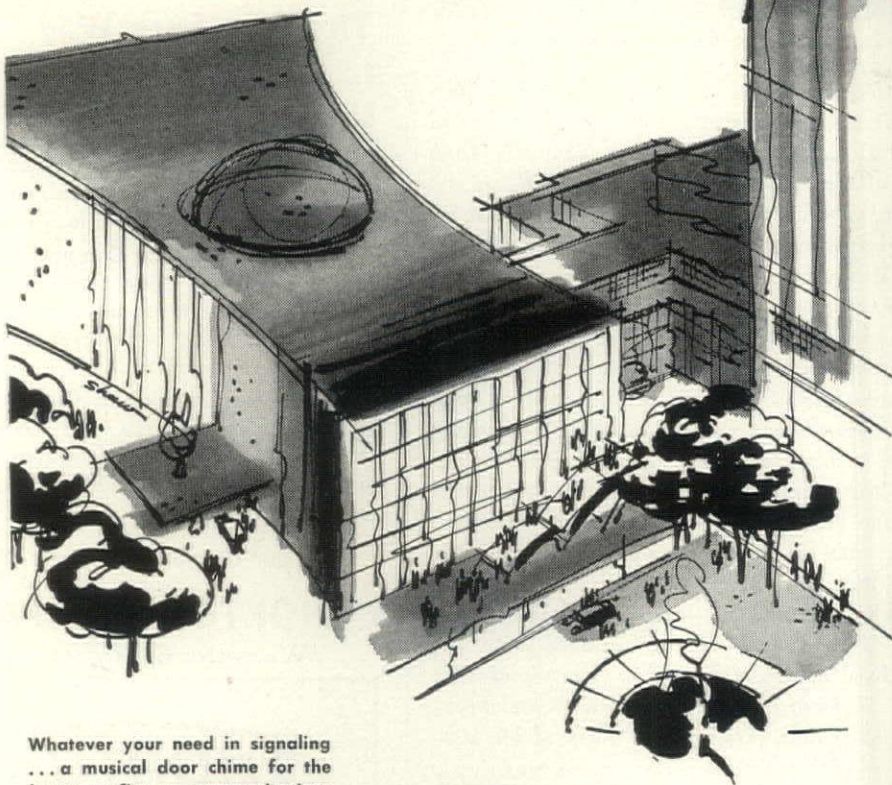


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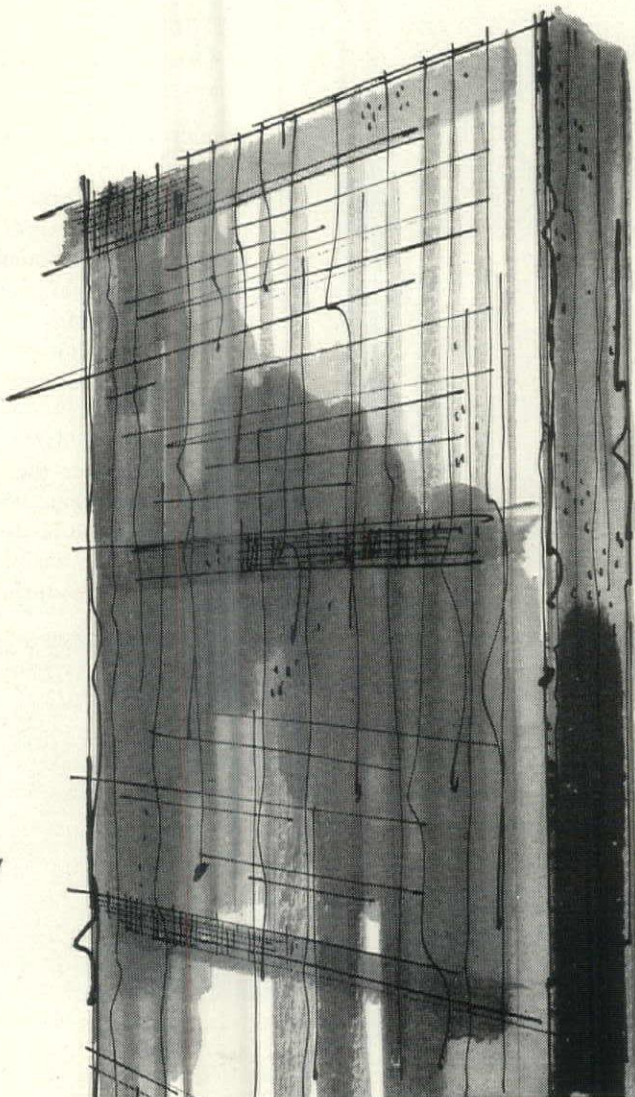
You too can rely on Edwards for maximum dependability and long life in signaling and protection.



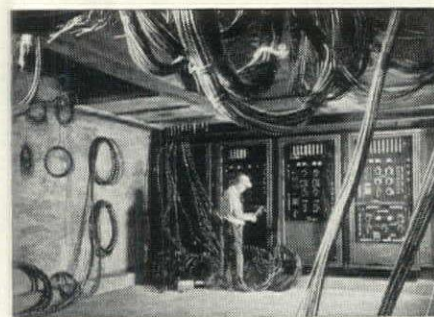
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## REVIEWS

**INDUSTRIAL DESIGN.** A Progress Report, 1929-1952. Edited & published by Henry Dreyfuss, 4 West 58th St., New York, N. Y. Limited Edition.

Some industrial designers "style" a product for rapid sales; others, like Henry Dreyfuss, see their job as one of organic development—a job of engineering as much as one of selling, a job of fitting form to function as much as one of producing "eye-appeal" (to use the foul parlance of the trade . . . which, if applied to other creative work, might produce terms such as "nose-" or "ear-appeal"—or even "finger-appeal" and "tongue-appeal").

Well, by any standards, this record of Henry Dreyfuss' work over the past 23 years makes an impressive showing. It is not only the volume that is impressive; it is also the remarkably high standard of design maintained in the face of some of the most powerful pressures known to



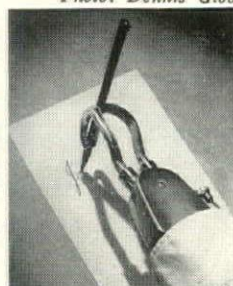
PBX switchboard for Bell Telephone

man: the pressures exerted by salesmen armed with consumer research statistics. For the industrial designer's job differs radically from that of the architect in one respect: Where the latter may have to please one client, the industrial designer must satisfy several million potential buyers of a vacuum cleaner, say—whose views, whatever the pollsters may say, are an unknown quantity. But since this unknown quantity must somehow be evaluated, consumer research tries desperately to catalogue and define mass taste—which, generally, turns out to be a kind of mathematical mean between the lowest-common-denominator-of-popular-taste and the lowest-common-denominator-of-huckster-taste, with the latter coming out on top, more often than not.

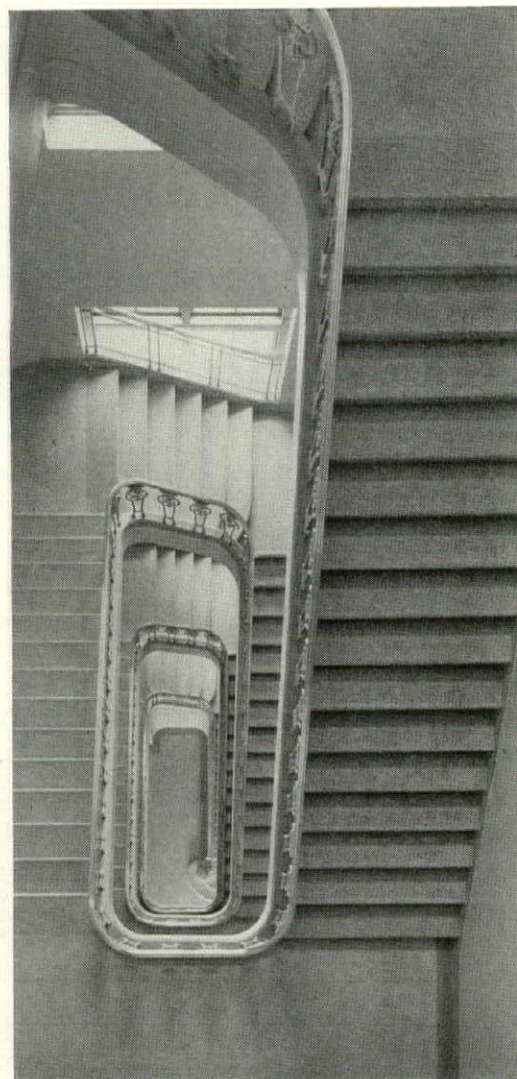
To have produced so many good designs in the face of this steady downward drag is to Mr. Dreyfuss' considerable credit. His diesel tractors, his farm equipment, his lathes and heavy rigs, his Crane lavatory and some of his com-

Photo: Dennis Gibbs

Mechanical hand designed for the National Research Council is furnished to amputees by the Veterans' Administration



(Continued on page 155)



## The One Sure Way to Make Stairs Non-slip — Use ALUNDUM Stair Tile!

For stairs that are always safe from the slipping hazard—even when wet—specify Alundum Non-slip Stair Tile.

Alundum is Norton Company's trade-mark for its aluminum oxide abrasive—the hard, tough abrasive that makes Alundum Stair Tile so wear resistant to even the most concentrated foot traffic.

Other Norton non-slip floor products are available for terrazzo and cement floors, stairs and ramps . . . and as non-slip ceramic mosaic tile. Catalog 1935-51 available on request.

See our catalog in Sweets (SA, SE)

**NORTON COMPANY**  
Worcester 6, Massachusetts



Making better products to make  
other products better

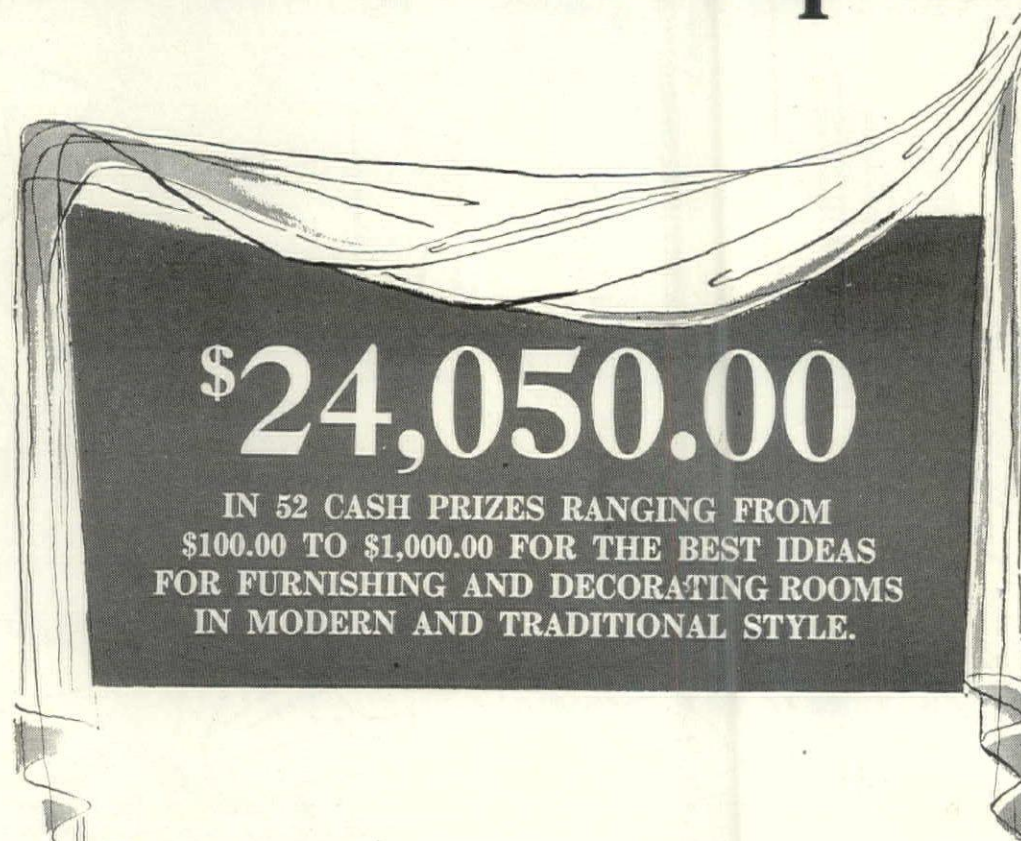
**NON-SLIP FLOORS**



*Send now for your free copy of the rules of the*

**CHICAGO TRIBUNE'S SIXTH ANNUAL**

# **Better Rooms Competition**



**H**ow would you like to plan the furnishings and decorations for one or more rooms, and then receive cash and nation-wide recognition for your ideas?

That is the opportunity that makes it worthwhile for you to enter the Chicago Tribune's \$24,050.00 Sixth Annual Better Rooms Competition.

In order to develop fresh, practical plans for adding beauty, comfort and convenience to every room in the home, the Chicago Tribune will award \$24,050.00 in 52 cash prizes ranging from \$100.00 to \$1,000.00.

In addition, the Tribune, just as it has in previous years, plans to reproduce the winning designs, or adaptations of them, in full color in the Chicago Sunday Tribune with its circulation of more than 1,500,000 copies.

Everyone is eligible to compete, except employees of the Chicago Tribune and its subsidiaries, members of their families, and of the Jury of Awards, which, as in the past, will be composed of authorities of recognized high standing in the field of home

furnishing and decoration.

It costs you nothing to enter this competition. For complete information to help you prepare your entry, send today for your free copy of the rules which will be sent to you postpaid. Don't delay. Fill in the coupon, paste it on a postcard, and mail it today.

**FILL IN THE COUPON—CLIP AND MAIL TODAY!**

Better Rooms Competition  
Chicago Tribune, 435 N. Michigan Ave.  
Chicago 11, Illinois

MB

Without cost or obligation to me, please send to me by postpaid mail at the address below a free copy of the rules of the \$24,050.00 Chicago Tribune Sixth Annual Better Rooms Competition.

My Name.....

Street and No.....

City (and Zone No., if you know it).....State.....

(Please PRINT plainly in pencil—ink may blot)





... and for help with the temperature control, we'll talk to Honeywell!

Not many families are going to walk around the rafters of new buildings discussing temperature control.

But these funny characters of cartoonist Frank Owen do make sense in one respect. For they typify the interest today's home owners have in genuine heating comfort. And emphasize the conviction of these home owners that the Honeywell name on automatic temperature controls is a good guarantee of dependable, trouble-free operation.

As the world's leading maker of controls, Honeywell has a wealth of information on the subject and is always ready to help architects and their heating engineers provide the proper thermal environment for any client—anywhere—in any kind of structure.

You can call on the vast experience of Honeywell's control engineers at any time. Or obtain literature and full

information on the automatic control of heating, air conditioning and ventilation—from any one of the 91 Honeywell offices across the nation. So call on Honeywell next time you have a control problem. And you'll find it worthwhile to read about the new apartment building control described on the next page.

For a personalized, free 8½" x 9" reproduction of the above cartoon (imprinted with your firm name!) send the coupon on the next page.

MINNEAPOLIS  
**Honeywell**



*First in Controls*



## REVIEWS

munications equipment are all fine examples.

There are other, less fortunate products; but, by and large, the record is good. What is more, it is a distinctive record, for the unmistakable trademark of Henry Dreyfuss' work is the one-direction curve: His designs tend to be rounded on two sides only, with the containing sides flat and angular. In a field in which compound bulges and the lozenge have long reigned supreme, this is a refreshing and happy note.

—P.B.

**BUILDING CODES:** Building Codes and Construction Progress, a report by the U. S. Chamber of Commerce, Washington 6, D. C. Booklet 28 pp. 6 x 9 50 cents.

Here is must reading for *all* groups interested in the welfare and development of their communities.

The powerful U.S. Chamber of Commerce has rolled up its sleeves and gone to work on standardizing and simplifying the country's more than 2,200 municipal building codes. Result: a just-published comprehensive report, complete with suggested model state legislation to make it easy for municipalities to take the worst kinks out of archaic codes.

This framework for action on the local level is right in line with the Chamber's belief that it is largely up to the individual communities to do the job. With 4,000 local chambers of commerce behind them, there is reason to hope for speedy success.

Taking a frank look at codes, the Chamber and its committee of experts (leaders in the construction industry, architects, building officials) point out the obvious problems and the not-so-obvious signs of progress.

Best signs so far are the nationally recognized performance standards and testing procedures. Still, many code writers are shockingly ill informed and are keeping their eyes on the specific bricks and stones and methods, instead of using these standards as yardsticks. Nearly half of existing codes are more than 15 years old, and serve mainly to prevent use of the most economical and efficient new building techniques and materials. Many still require that proposed codes be published in a local newspaper, often at prohibitive cost. And most codes provide legal recourse for only the builder or owner—not for the man with the most at stake, the materials dealer.

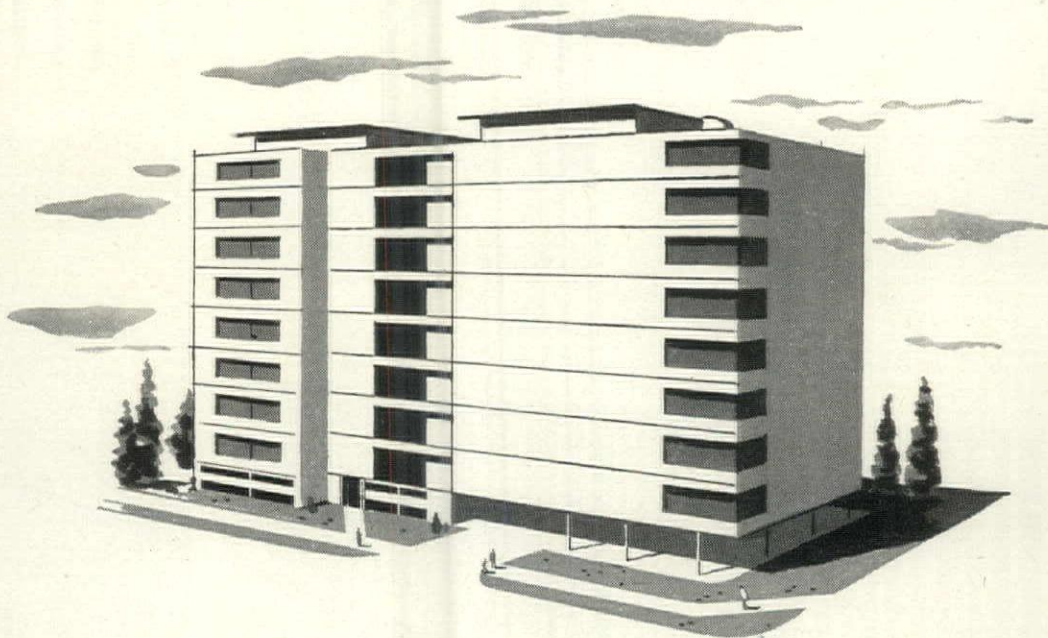
To remedy these and other ills, the Chamber's proposed legislation would:

- ▶ Require local codes to permit the use of any methods and materials that meet minimum standards of performance;
- ▶ Require municipalities to keep up to date by reviewing their codes annually;
- ▶ Permit adoption of recognized codes and standards by reference;
- ▶ Broaden the definition of "aggrieved persons" to include manufacturers and suppliers, and provide legal recourse for them as well as for builders and owners.

(Continued on page 158)

For help with any control problem

talk to **Honeywell**



## The apartments you design can have the heating comfort of the finest private home

The heating problem has always been a headache for apartment owners. Some tenants like rooms hot, some like them cold. One standard temperature is seldom satisfactory. Honeywell has a better answer.

Today more than 35,000 apartments are equipped with Honeywell Individualized Apartment Control. Tenants step up to their own *individual* thermostat and set it for the temperature *they* like best. They enjoy an even, healthful flow of heat all day long—just as millions of private home dwellers do.

Soon Individualized Apartment Control will be the standard method of regulating apartment temperatures. Investigate it next time you design an apartment building. The initial installation cost is low and there are substantial fuel savings for apartment house owners.

For complete information and application data on Individualized Apartment Control call your local Honeywell office; or fill out and send the coupon below to Minneapolis-Honeywell, Minneapolis 8, Minnesota.

Send for your free **PERSONALIZED** cartoon

... and for help with the temperature control, we'll talk to (your firm name)!



MINNEAPOLIS-HONEYWELL REGULATOR CO.

Dept. MB-12-230  
Minneapolis 8, Minnesota

Gentlemen:

- ☐ Please send me complete details on the new Individualized Apartment Control
- ☐ Please send me a personalized reproduction of this Owen cartoon

Name \_\_\_\_\_

Firm Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

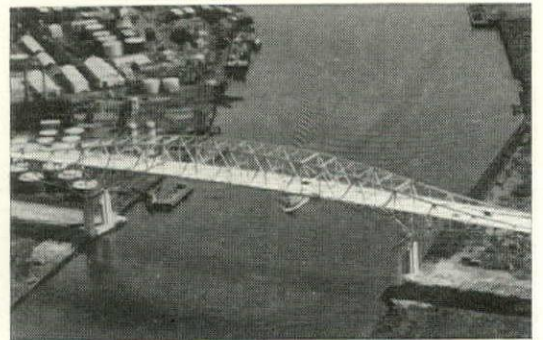
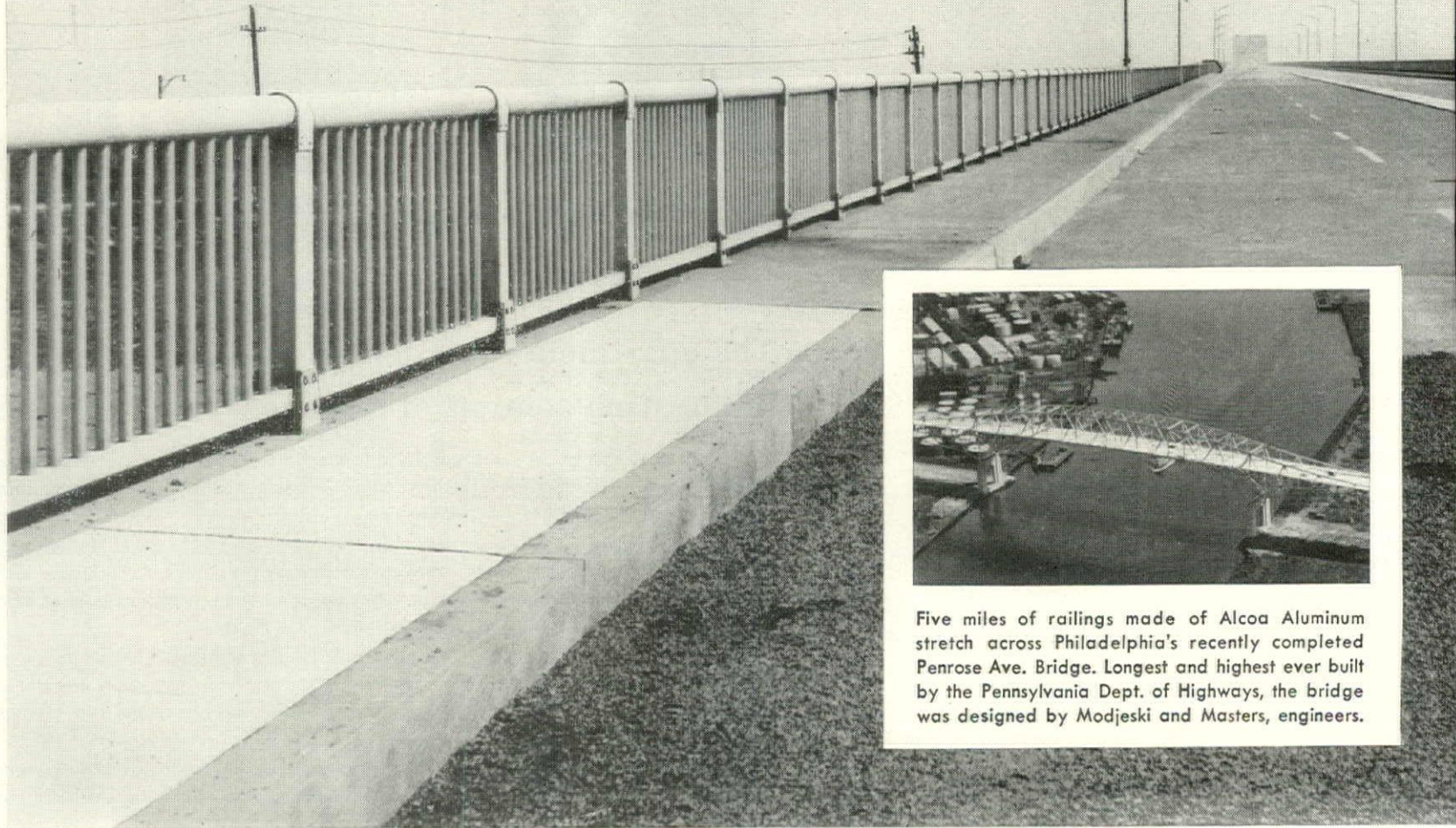
MINNEAPOLIS  
**Honeywell**



*First in Controls*

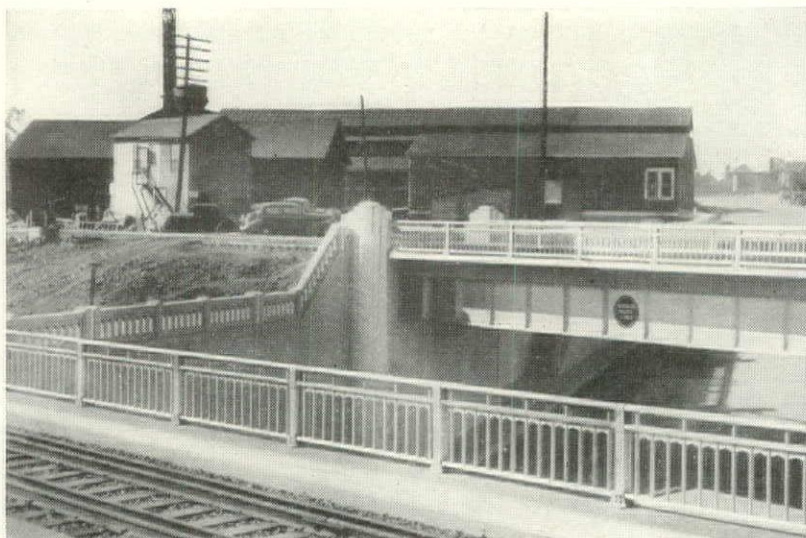


# THESE BRIDGES CARRY

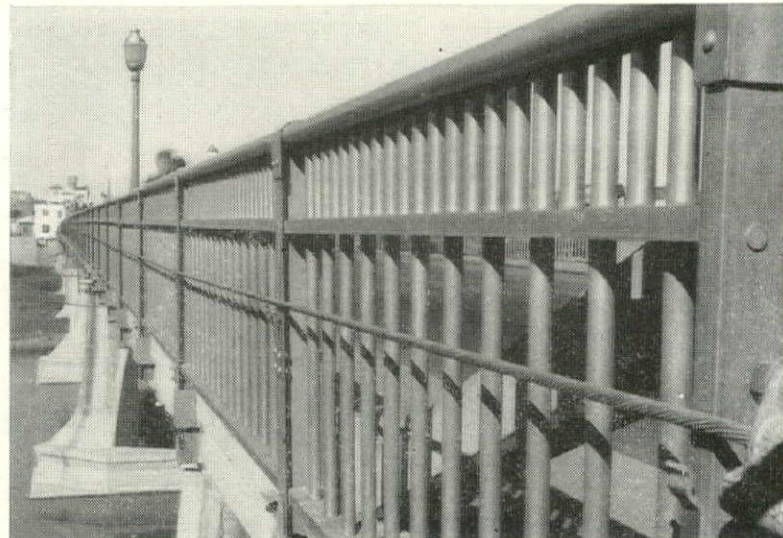


Five miles of railings made of Alcoa Aluminum stretch across Philadelphia's recently completed Penrose Ave. Bridge. Longest and highest ever built by the Pennsylvania Dept. of Highways, the bridge was designed by Modjeski and Masters, engineers.

Railings of Alcoa Aluminum on this Little Rock, Ark., railroad bridge have stood up through fifteen years of smoke and soot; never needed paint or upkeep.



International Bridge, Laredo, Texas, has aluminum railings installed in 1935. In the event of floods, the entire railing can be quickly removed.





# PROOF OF ALUMINUM'S ECONOMY AND LONG LIFE

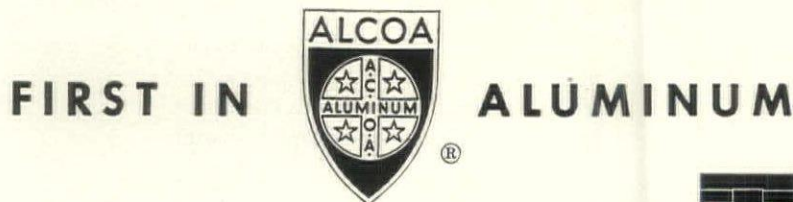
Exposed to the elements on every side, often smothered in smoke and fumes, difficult and expensive to paint, a bridge railing is typical of the places where aluminum's freedom from the damaging effects of rust and corrosion pays off many times over. You'll find proof of this on bridges in every part of the country.

For example, aluminum railings installed nearly a quarter century ago on five bridges in the Chicago area still are structurally sound. *And*

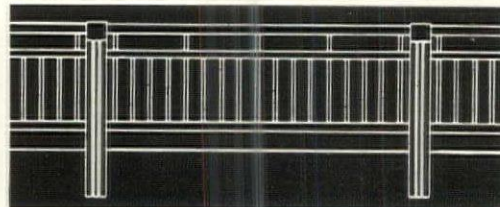
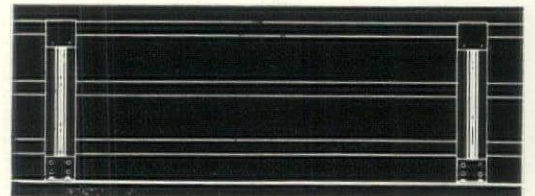
*they've never needed a cent for maintenance.* We will be glad to supply you with the locations of these and many other bridges throughout the country if you'd like to see for yourself how Alcoa Aluminum stands up to time and weather.

Service reports, design and engineering details are covered in Alcoa's "Report on Bridge Railings." For a free copy call your nearby Alcoa Sales Office or write, ALUMINUM COMPANY OF AMERICA, 1887M Gulf Bldg., Pittsburgh 19, Pennsylvania.

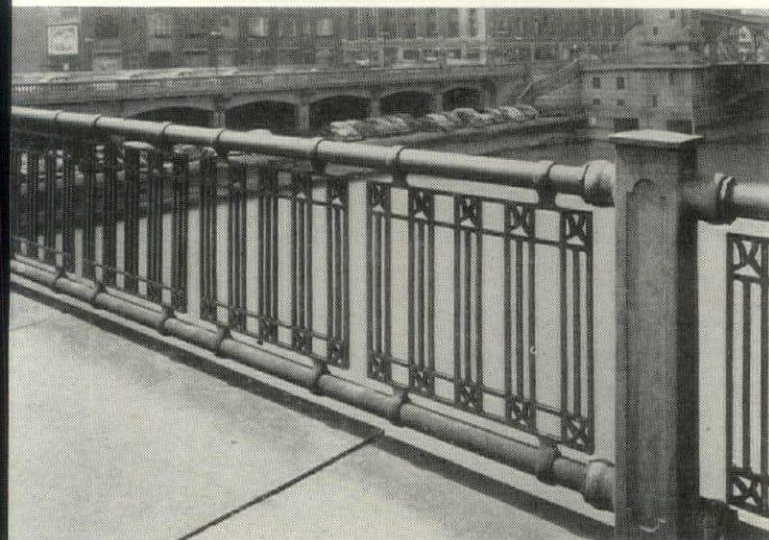
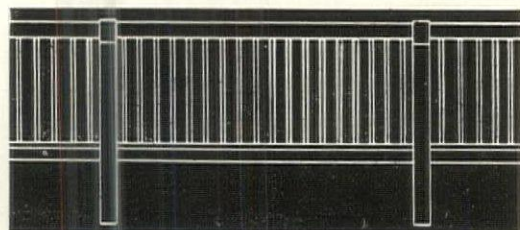
## ALCOA



Clark St. Bridge over the Chicago River has aluminum railings installed in 1929. Smoke and weather have had no adverse effect on the aluminum.



Bridge railings of Alcoa Aluminum are fabricated by several qualified manufacturers. Shown here are a few of the many practical design suggestions contained in Alcoa's report on Bridge Railings. Write for free copy.





## Your Community Needs Homes!



|   |                  |
|---|------------------|
| ✓ | build sooner     |
| ✓ | complete quicker |
| ✓ | sell faster      |

## PREFABRICATION is the answer

Thousands of new homes are needed. Many mobilization problems are caused by lack or shortage of adequate housing. Prefabrication offers speed and economy. You can erect homes fast with marked savings in materials and manpower. You can provide attractive homes for the low-cost market, quality homes for higher income families. The outstanding success of hundreds of other builders proves that through Prefabrication you can both serve your community and profit.



This booklet, "Build better, Build sooner with Prefabrication" shows many types of Prefabricated homes and explains industry services. Write for FREE copy.

## PREFABRICATED HOME MANUFACTURERS' INSTITUTE

932 20th St. N. W. • Washington 6, D. C.

## REVIEWS

If the local citizens will get busy and do a job of pushing through such state legislation, the Chamber foresees "an eventual practical degree of national uniformity in building codes."

The proposed model legislation, boiled down to its most essential elements:

### Model Building Regulation Act

#### Section 1. Building Requirements

(a) Municipal Building Codes: Any municipality authorized to enact ordinances regulating construction, repair and alteration of buildings for the purpose of making structures reasonably safe. Such ordinances to provide minimum standards of construction either by designating the performance required; or, prior to the formulation of a performance standard, by designating the characteristics or qualities required of materials, appliances, systems or methods of construction. Structures meeting minimum standards shall be permitted.

(b) Recommended Amendments: Municipality to appoint official whose duty it will be to report annually to the governing body his recommendations for ordinance changes. This official shall include in his report all changes approved by sponsors of any model building code or standard.

(c) Effect on Existing Codes: This act shall not invalidate ordinances heretofore enacted, but shall apply to all ordinances hereafter enacted.

#### Section 2. Adoption by Reference

(a) Municipalities may enact ordinances adopting any recognized codes and standards by reference. Three copies of such code to be filed with Municipal Clerk 30 days prior to adoption, for examination by the public.

(b) Code amendments may be enacted by reference in manner provided in (a) above.

(c) Ordinances adopting or amending codes by reference to be enacted in accordance with general municipal law.

#### Section 3. Review by the Courts

(a) Review of Ordinances: Any aggrieved person\* may challenge ordinances on statutory or constitutional grounds by action instituted in local state court of general jurisdiction.

(b) Appeal from Administrative Rulings: Final administrative decisions made by municipal authorities may be appealed to local state court of original general jurisdiction by any aggrieved persons.

(c) Appeals from Courts of Original General Jurisdiction: Final orders or judgments of local state courts of general jurisdiction may be appealed directly to state's highest court by any party to the action, within 60 days after said order is entered.—V. F.

\*Aggrieved person is defined as any individual or group selling, buying, using or etc. any material, appliance or construction system, use of which is prohibited or limited unreasonably under provisions enacted under this Act, or code heretofore enacted, or under a decision of the local building official or Board of Appeals.

## DUNBAR

for Modern



No. 5100

## GOOD DESIGN



No. 4916

These two upholstered chairs bring to a total of 19 the Dunbar pieces chosen as representative of "the best new design available" by the Museum of Modern Art for the Merchandise Mart, Chicago.

MODERN INTERIORS—Send 25 cents in coin only to Berne, Indiana, for this illustrated booklet.

NEW YORK: 305 East 63rd Street  
CHICAGO: 1638 Merchandise Mart  
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LOS ANGELES: 8745 West Third Street

DUNBAR FURNITURE CORP. OF INDIANA • BERNE, INDIANA





**Fastens steel or wood to  
concrete or steel in seconds!**

**NEW CARTRIDGE-POWERED**

**MODEL 450**

# REMINGTON STUD DRIVER

**Sets fastening studs up to 100 times faster than conventional methods...needs no outside power source**

You can speed construction and maintenance fastening jobs and cut costs with the amazing new Remington Stud Driver. This simple tool attaches steel or wood pieces and fittings to concrete or steel . . . easily sets as high as 5 fastening studs in a minute. No outside power source or other equipment needed. It's compact, rugged, *safe*. Test-proved to be the world's finest fastening system, the Model 450 Remington Stud Driver is made by Remington Arms Company, Inc., America's oldest and foremost sporting arms manufacturer. For detailed information and the name of your nearest distributor, fill out and mail the coupon below. There may be slight initial delays on delivery until production and distribution catch up with demand.

## LOOK AT THESE EXCEPTIONAL FEATURES

**COMPACT AND PORTABLE** — Weighs only 5½ pounds, ideal for scaffold, ladder, overhead work, inaccessible places. Comfortable to use in any position.

**SPEED** — One man can set up to 5 studs per minute, as much as 100 times faster than other methods. Sets stud at whatever depth is required up to 2¾ inches, depending on material.

**ELIMINATES INVESTMENT IN OUTSIDE POWER** — Self-powered. Especially useful in isolated places.

**TRIPLE SAFE** — Plainly visible red dot indicator shows when it's cocked; safety must be depressed before and during squeezing of main trigger; permanently attached safety shield must be compressed against work before Stud Driver will op-

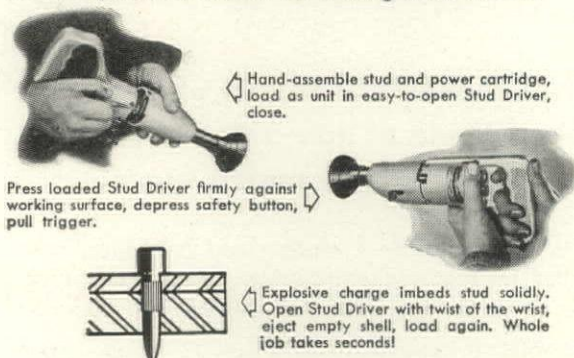
erate. Trigger can't be accidentally tripped. Slight recoil. Low noise level.

**WIDE VARIETY OF STUDS** are available for every fastening job. Genuine Remington studs are trademarked for user's protection. Pull-out resistance as high as two tons in good concrete, depending on stud used. Cartridges are available in 5 power loads covering practically all fastening needs.

**UNIQUE, FAST ASSEMBLY OF STUD AND CARTRIDGE** — Tough plastic heel cap permits lightning assembly of any cartridge with any stud, identifies power load, protects head and thread of stud during driving.

**PRICE** for Model 450 Remington Stud Driver complete in rugged steel carrying case—only \$119.50.

## How to operate the Model 450 Remington Stud Driver



## Speeds all these jobs . . . and many more

1. Hanging steel sash and door bucks to concrete and brick.
2. Anchoring wood plates to concrete floors and ceilings for setting partitions.
3. Fastening wood furring strips to concrete for attachment of metal lath.
4. Anchoring suspended ceilings, sprinkler systems and lighting fixtures to concrete.
5. Attaching conduit and panel boxes to steel and masonry.
6. Anchoring light machinery to concrete pads.
7. Erection of signs, awnings and venetian blinds on steel or masonry.
8. Hanging radiator housings to concrete or brick.

*"If It's Remington—It's Right!"*

**Remington**



## MAIL THIS COUPON TODAY FOR FURTHER INFORMATION

Remington Arms Company, Inc.  
Industrial Tool Division  
935 Barnum Ave., Bridgeport 2, Connecticut

I am interested in obtaining detailed information on the Model 450 Remington Stud Driver.

Name

Firm

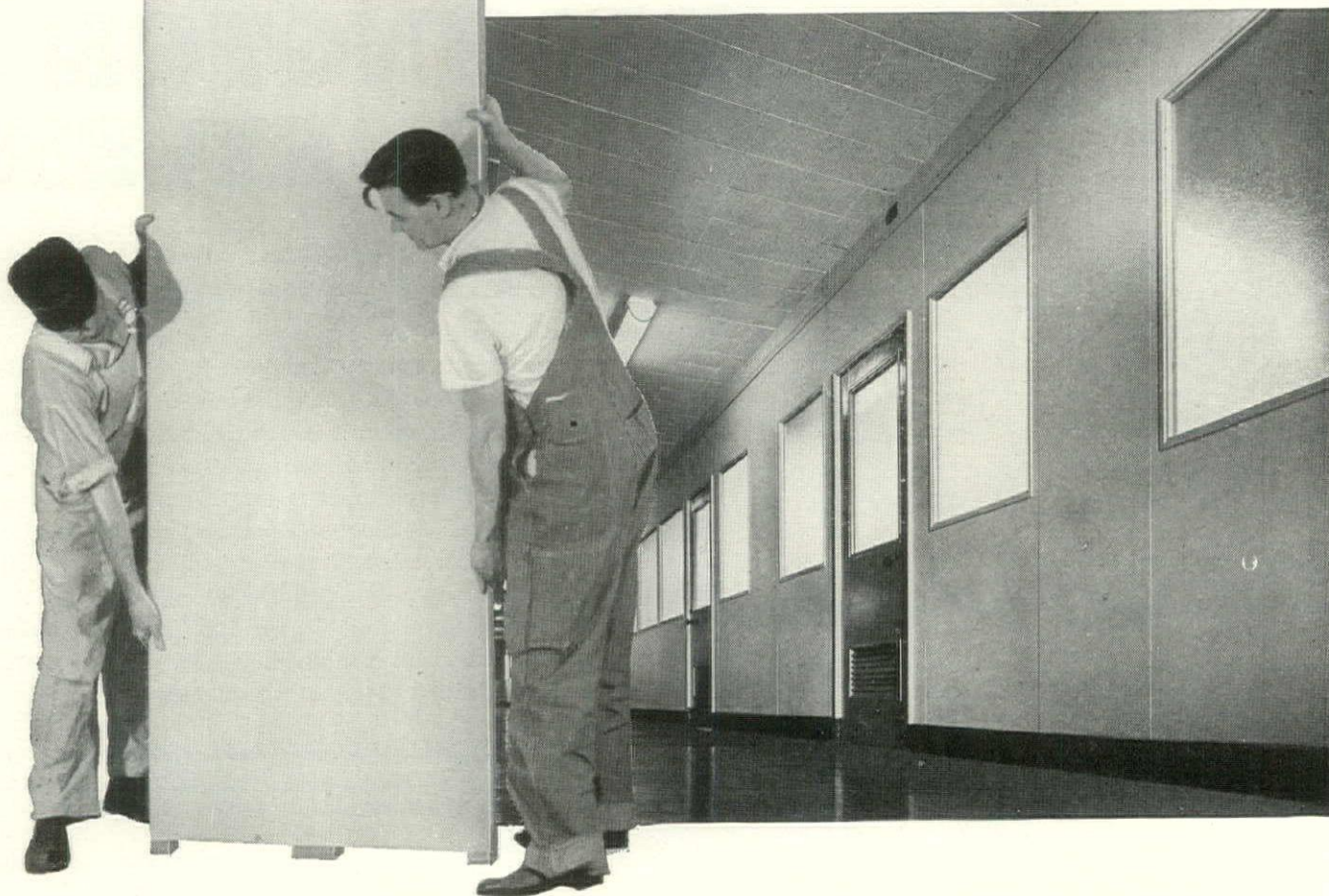
Position

Address

City  State



# *Mobilize* your offices for conversion and expansion!



**Use Johns-Manville Asbestos Universal Movable Walls for offices where you need them, when you need them. Made of non-critical materials, they give you complete freedom in planning or rearranging space.**

● Reallocation of existing space and partitioning of new space can be done easily and quickly with Johns-Manville Universal Movable Walls. Made of asbestos, these walls are ideally designed to help business and industry meet the space problems involved in the defense effort.

The flush panels have a clean, smooth surface that's hard to mar, easy to maintain, and will withstand shock and abuse. They're light, easy to erect and to relocate. The "dry wall" method of erection assures little or no interruption to regular routine.

Johns-Manville Movable Walls may be used as ceiling-high or free-standing partitions. The complete

wall, including doors, glazing and hardware, is installed by Johns-Manville's own construction crews and under the supervision of trained J-M engineers.

**TRANSITONE Movable Walls**—A recent and unique development of the Johns-Manville laboratories is the Transitone Movable Wall, with asbestos panels integrally colored. Non-fading pigments are blended into the asbestos fibres, thus eliminate the cost of periodic decorative treatment. The color goes all the way through each panel.

For details about J-M Movable Walls, consult your Sweet's Architectural File, or write Johns-Manville, Box 158, Dept. MB, New York 16, N.Y. In Canada, write 199 Bay Street, Toronto 1, Ontario.



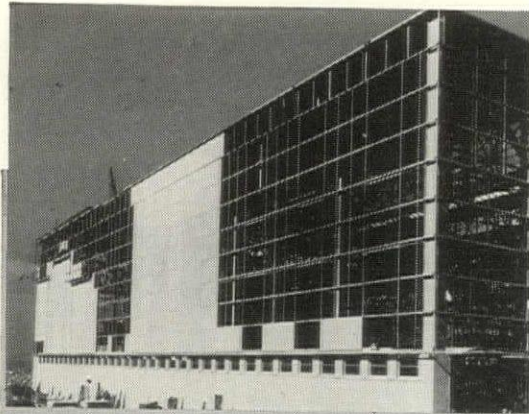
**Johns-Manville**

**ASBESTOS**

*Movable Walls*

INSTALLED NATIONALLY BY **JOHNS-MANVILLE**





- Corrugated Transite plays a major role in the construction of a large aviation plant. The inset photograph shows the same building under construction.



# CORRUGATED TRANSITE\* *For expansion in essential industries*

\*Transite is a registered Johns-Manville trade mark

**Because it goes up fast . . . requires a minimum of framing . . . Johns-Manville Corrugated Transite, the large asbestos building sheet, is ideal for defense construction.**

Made of two practically indestructible materials, asbestos and cement, Corrugated Transite is fireproof, rot-proof, and rustproof. The large, easy-to-handle sheets with their unusual strength provide durable, weatherproof walls and roofs.

With a minimum of framing required, sheets of Corrugated Transite

are quickly and easily applied . . . construction costs are greatly reduced. When conversion or expansion is necessary, these sheets can be salvaged and re-used.

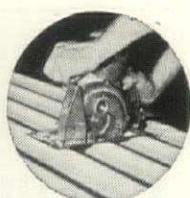
The natural stone-gray color of Transite is attractive without further decoration—it never needs preservative treatment. This modern building

sheet with its streamlined corrugations and attractive shadow lines has great architectural appeal and is being increasingly used—inside as well as out.

If you're planning construction that you want to build fast, look well, last long—investigate Johns-Manville Corrugated Transite! For full details write Johns-Manville, Box 158, Dept. F-10, New York 16, N. Y. In Canada, write 199 Bay Street, Toronto 1, Ontario.



EASY TO FASTEN TO STEEL



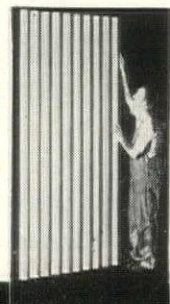
EASY TO SAW



EASY TO DRILL



EASY TO NAIL TO WOOD

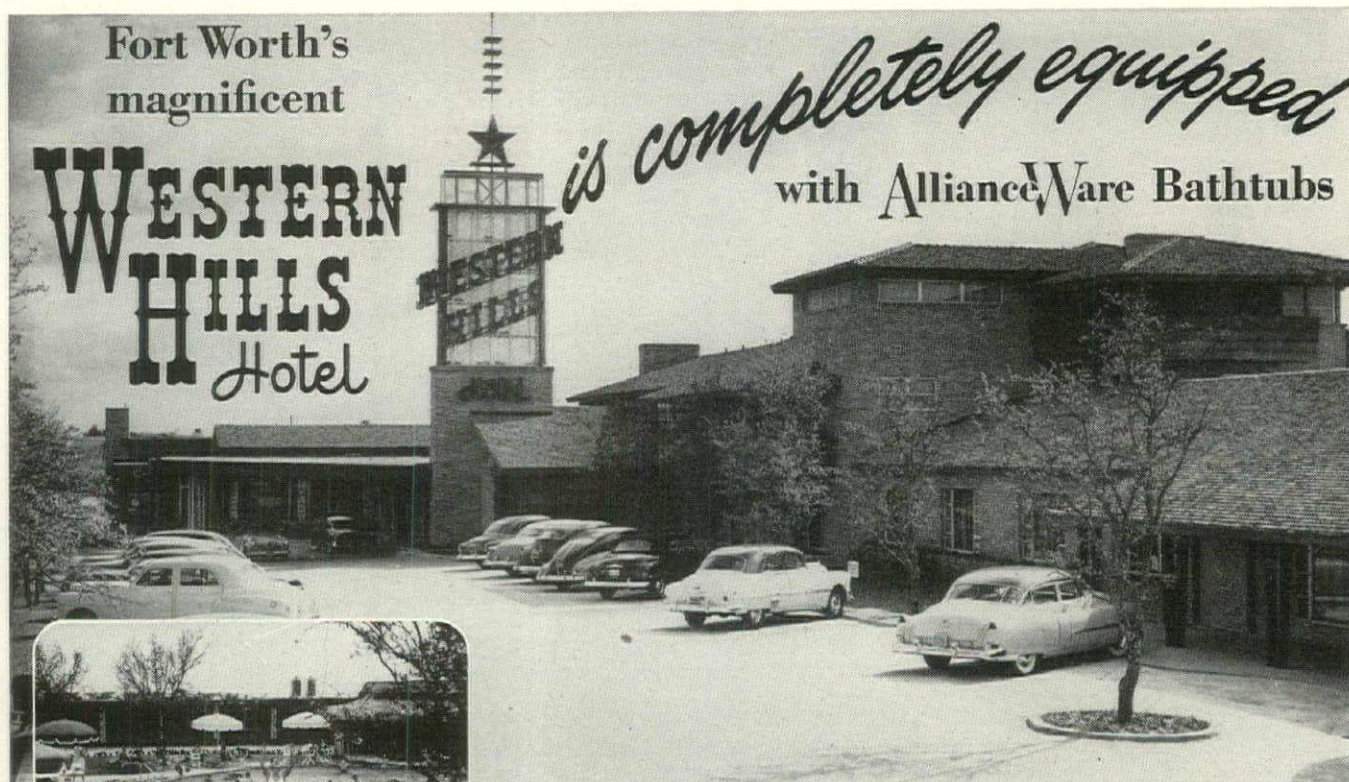


**Johns-Manville**

*Asbestos*

**CORRUGATED TRANSITE**



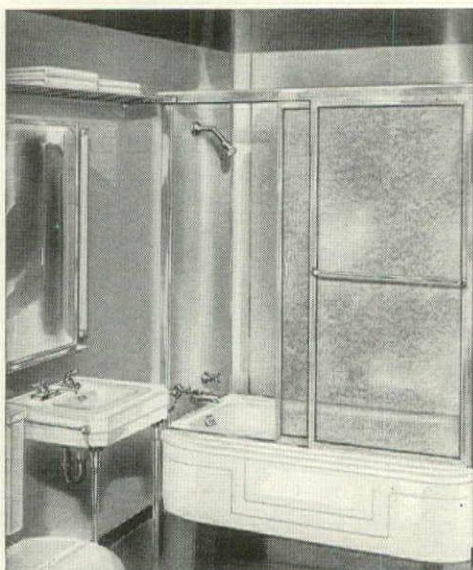


Fort Worth's  
magnificent  
**WESTERN  
HILLS**  
Hotel

*is completely equipped*  
with AllianceWare Bathtubs



Convenient parking space and a patio with a swimming pool equipped for heating of the water and with underwater lighting are features of beautiful Western Hills Hotel.



An AllianceWare bathtub, with sliding frosted-glass enclosure, in Western Hills Hotel. The hotel is completely equipped with AllianceWare tubs.

Plumbing Contractor: Harrison & McGinnis  
AllianceWare fixtures furnished by Morrison Supply Co.

**ALLIANCEWARE, INC. • Alliance, Ohio**  
Bathtubs • Lavatories • Sinks

**D**ESCRIBED by TIME Magazine as "a dazzling example of the vast change which has taken place in the hotel business," the Western Hills Hotel of Fort Worth, Texas, is a new and different type of hotel.

Of rambling Mediterranean type of architecture, with tiled roof and tan adobe brick walls, this 200-room air-conditioned hostelry combines the luxurious appointments and service of the best city hotels with recreational facilities of resort hotels.

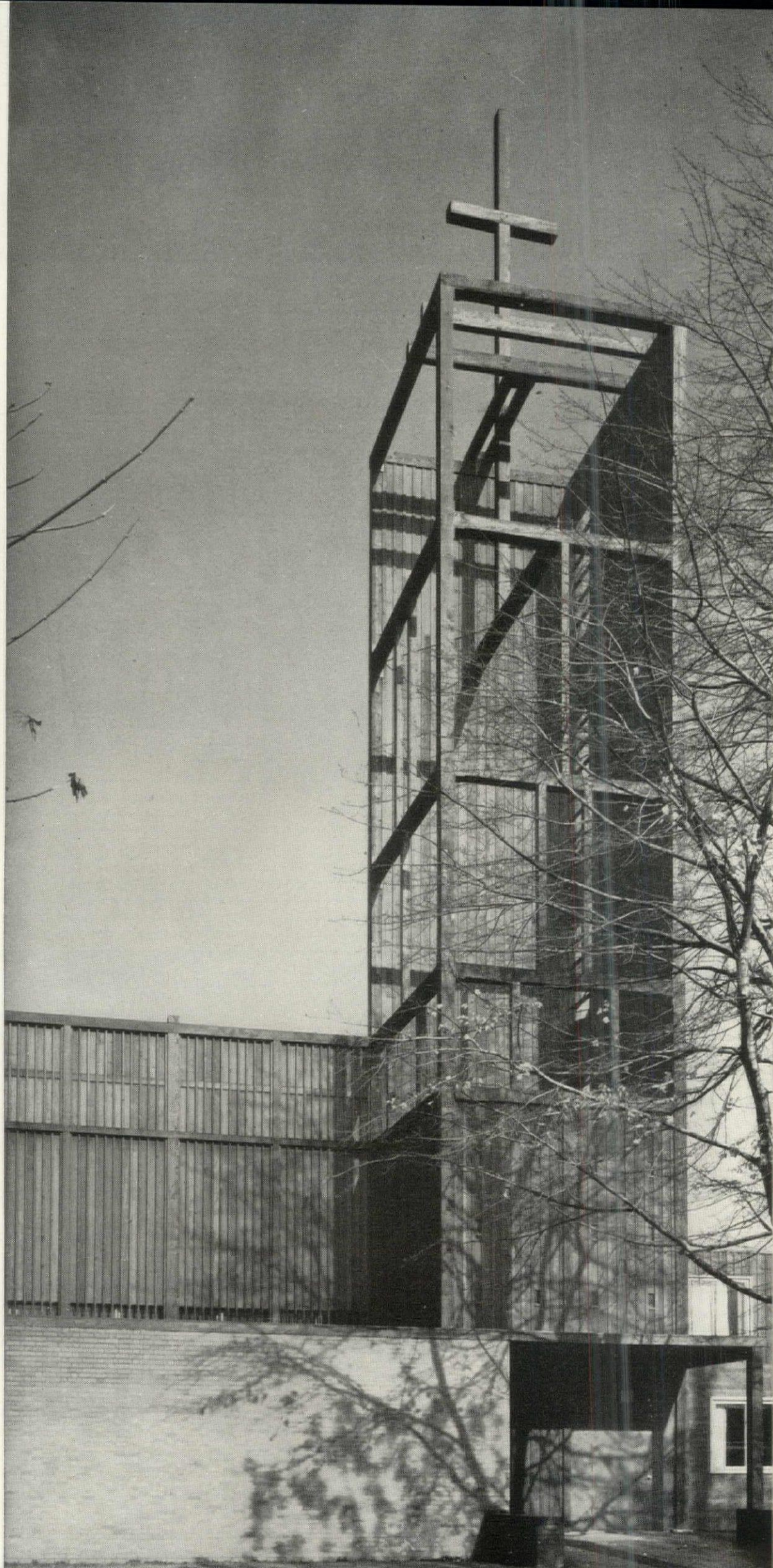
The main building of the hotel is three stories high with three one-story wings. A swimming pool patio is fringed by ten colorful cabanas with the same type of living facilities as the other guest quarters. Twelve additional guest houses are grouped about the hotel proper.

The entire Western Hills Hotel establishment is completely equipped with AllianceWare bathtubs. Reasons for the choice of AllianceWare by leading architects and builders include not only the modern styling, stain-proof surfaces and a choice of colors, but also important construction details, such as exact dimensions, wall guard flange to stop water leaks around the tub at the wall line, and anchor lugs which prevent shifting and settling—added values at no extra cost.

*Ask your plumbing contractor for details of AllianceWare  
or write us for catalog sheets.*

**AllianceWare**  
PORCELAIN ON STEEL



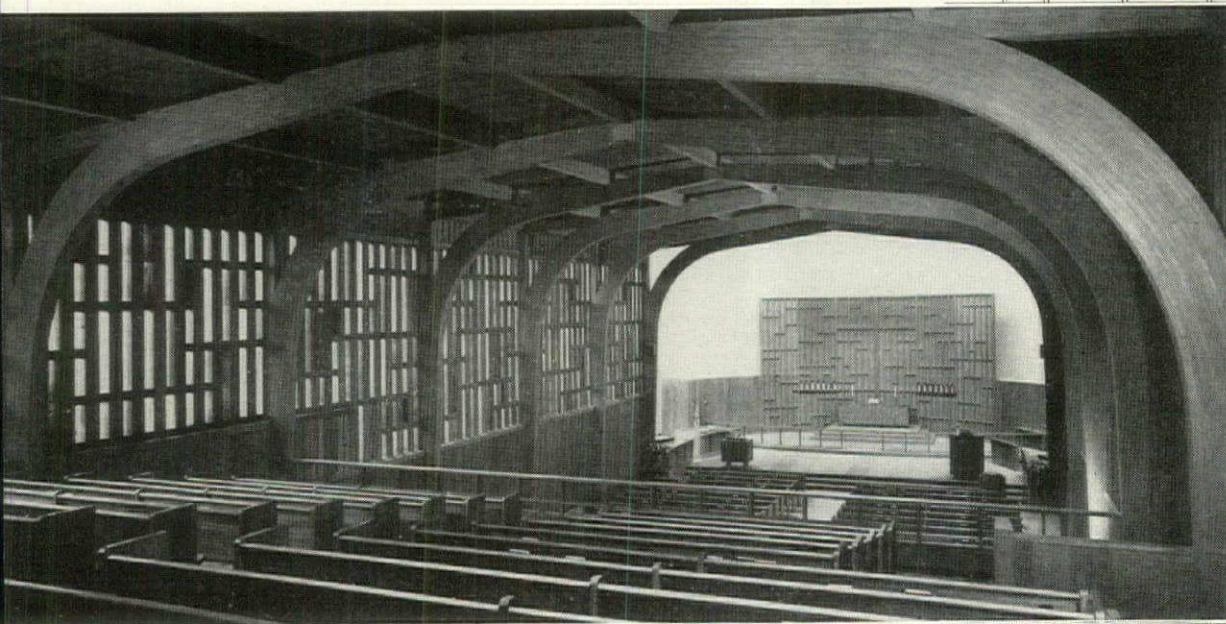
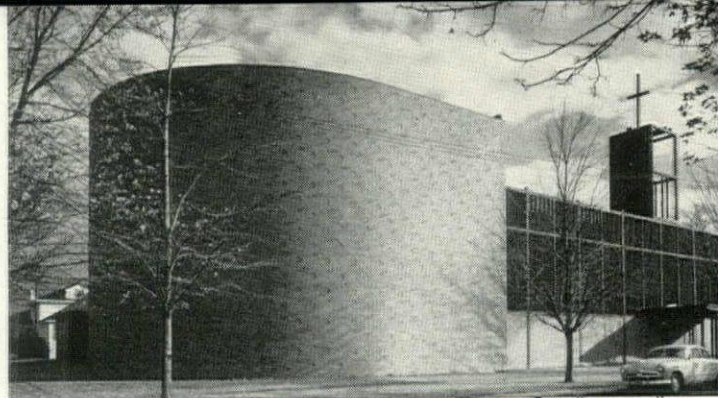


*The free-standing steeple of Architect Pietro Belluschi's Central Lutheran Church in Portland, Ore. is a delicate construction in the wood vernacular of the American Northwest.*

*Photos: Roger Sturtevant*



*In the architecture of the Christian Churches, no style has been more expressive of man's aspirations and faith than the vertical Gothic. Whatever the modern architect's materials may be—steel, reinforced concrete or, as in this case, laminated wood—the forms of the pointed Gothic arch, combined with the vertical patterns of tall windows, all diffused in the kind of light obtained through stained glass—these may continue to inspire his churches to this day.*



*Portland's new Central Lutheran Church is an excellent example of*

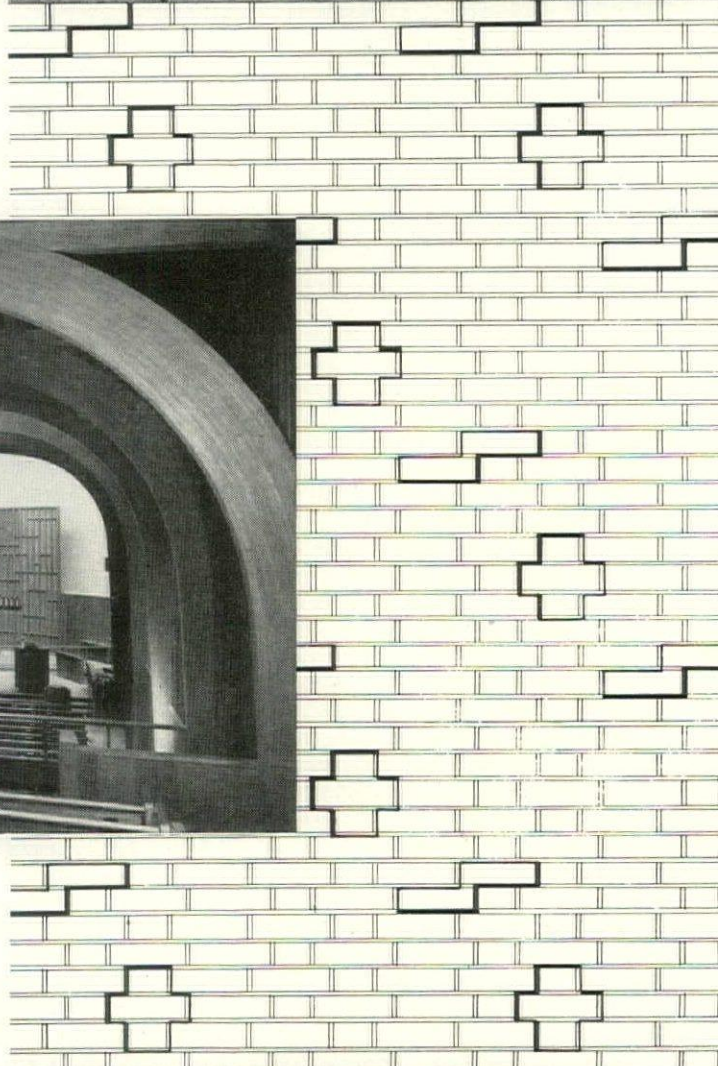
## MODERN GOTHIC IN WOOD

No newcomer to modern church building (see his *Zion Lutheran Church*, Jan. issue, '51), Architect Pietro Belluschi has taken the three elements of the Gothic spirit—the pointed arch, the vertical line and the soft light becoming increasingly brilliant toward the chancel—and built with them a church which, to use his own words, has “a more human scale, designed . . . so as to produce the kind of atmosphere most conducive to worship.”

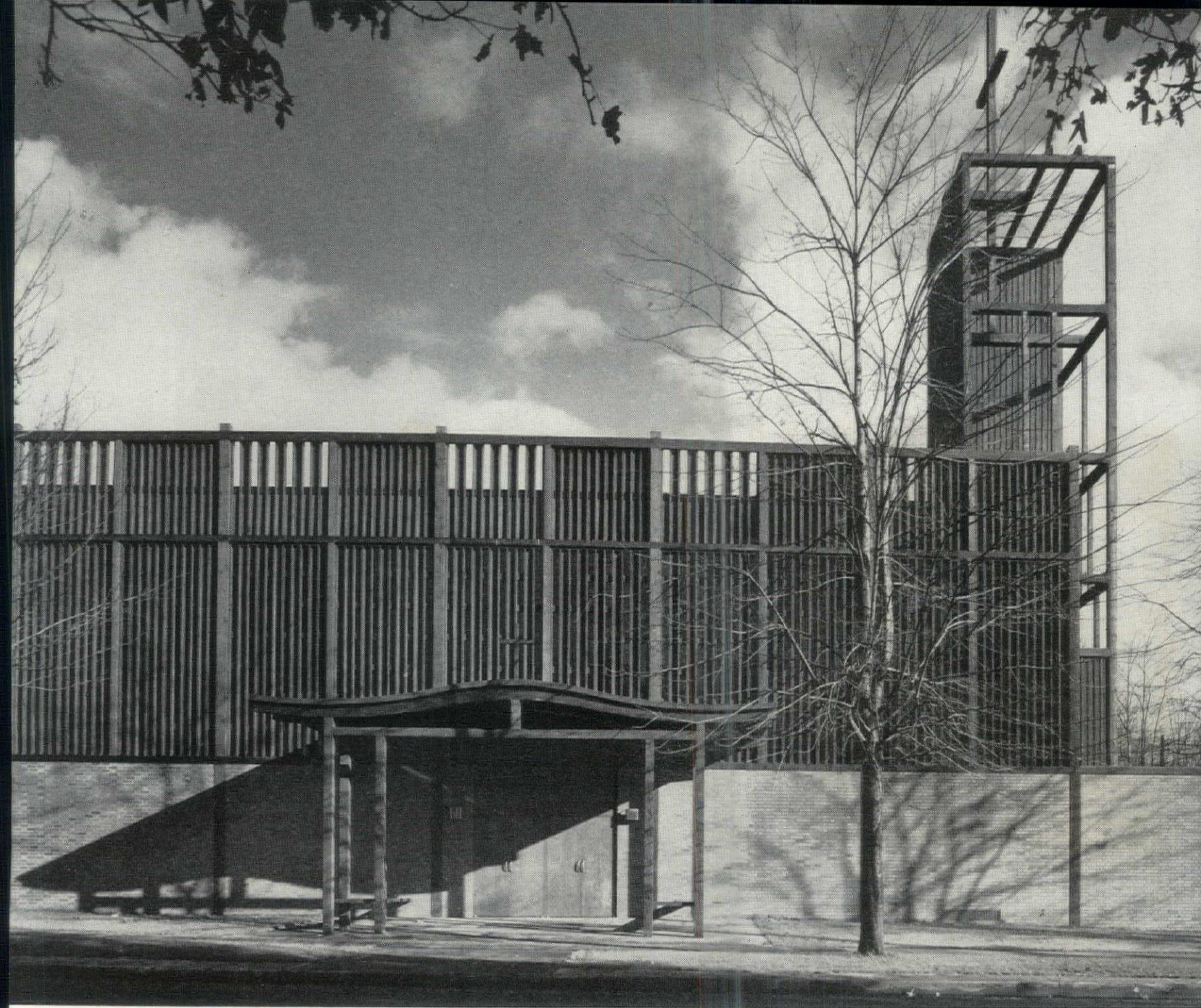
### The pointed arch, the vertical line

The laminated wood arches (approximately \$350 each) that support the roof of Belluschi's new church are set 15'-7" on centers and span 44' across the nave. They are flatter than those in the Zion Lutheran Church, but they provide equally emphatic articulation to the nave. Framed in their repetitive and receding pattern are the chancel and the altar, which are contained within a semicircular shell of concrete finished with a patterned brick veneer on the outside and with acoustic plaster painted pale blue on the interior.

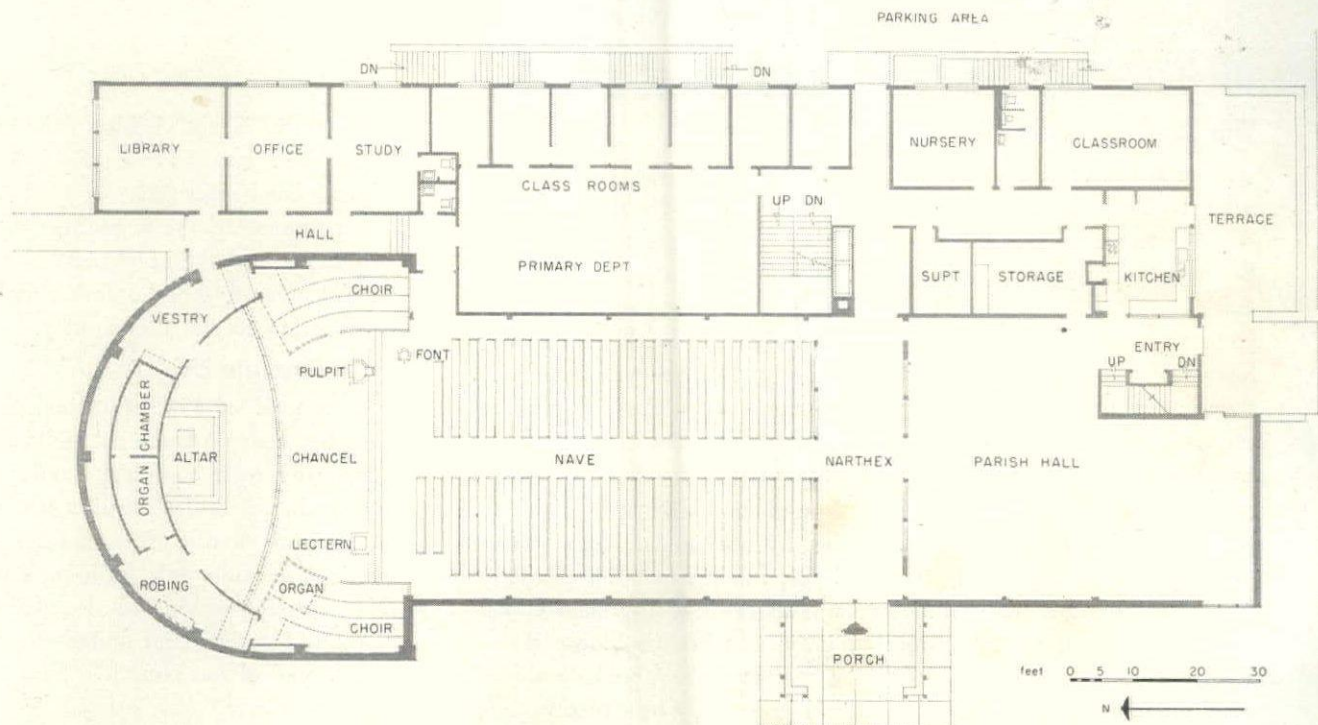
Just inside this pale blue shell there stands a fine wood screen, a backdrop for the altar. Its vertical wood battens (backed with sound-absorbent fabric) recall the motifs of the perpendicular Gothic—motifs which Belluschi repeated in the walls on both sides of the nave.





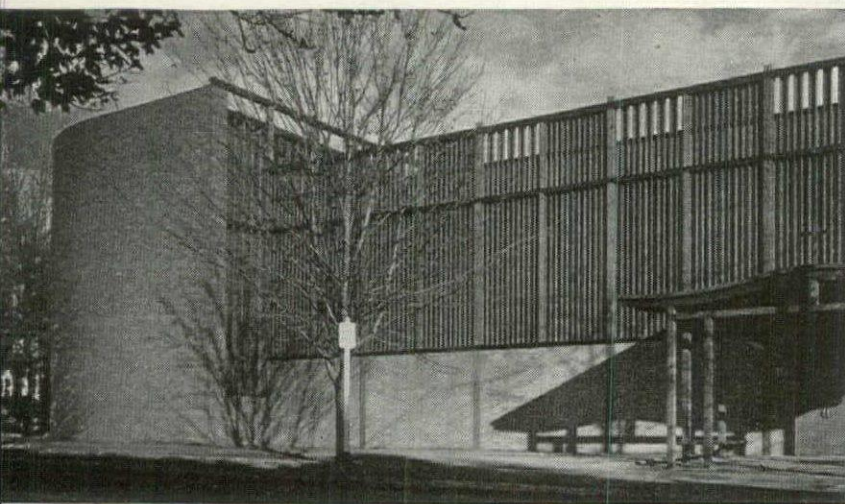
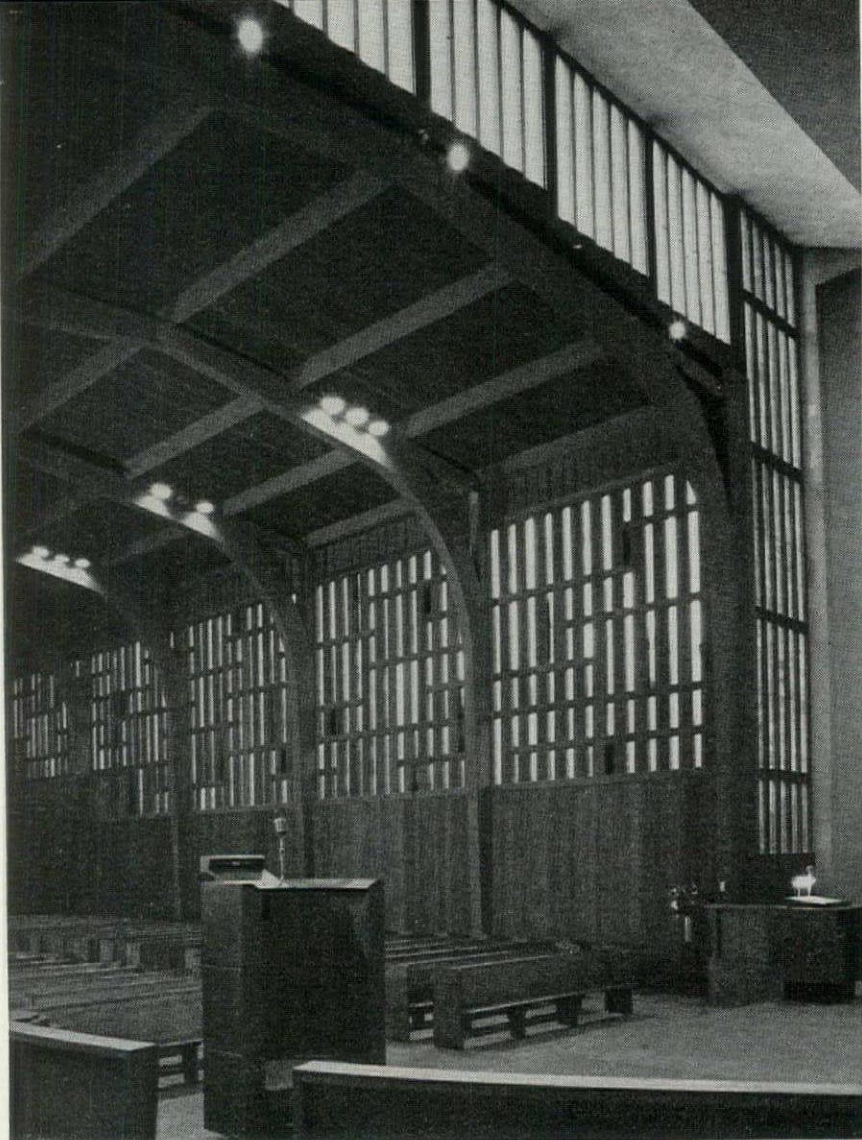
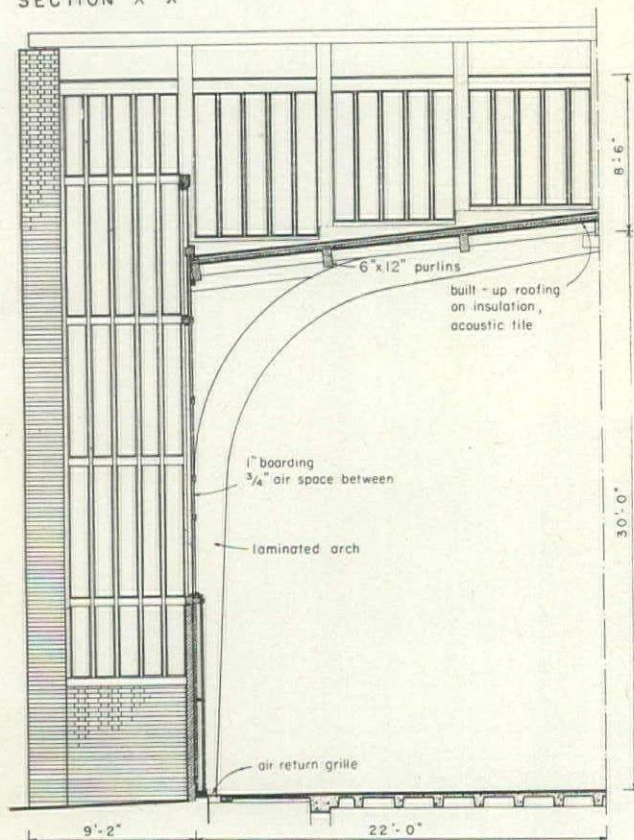


LOCATION: Portland, Ore.  
 PIETRO BELLUSCHI, Architect  
 REIMERS & JOLIVETTE,  
 General Contractor





SECTION X-X



*View from the chancel toward the congregation (above) shows glazed offset and clerestory. Their amber panes illuminate the altar. Glass in side wall of nave has great range of colors, immerses space in "royal purple" light. Picture at left shows offset between bowl-like chancel and nave.*

### The soft light becoming brilliant

On the street side, to the left as you face the altar, these wood verticals form the mullions of a colorful screen of glass. Although storied stained glass is now an expensive (and frequently lost) art, Belluschi discovered an economical substitute in an imported English glass in many colors. He placed small panes in shades ranging from light bluish gray, through blue and violet, to brilliant red into his vertical trellis work. By staining the wood on the wall opposite a warm "natural" color, and by staining his wood arches a Venetian red and the purlins above them a deep blue, Belluschi managed to immerse the entire nave in a rich, sweet "royal purple."

While this gave his nave a kind of dim magic, Belluschi wanted to retain the dramatic focus of the chancel with the altar. Here again, the effect was obtained largely with light: In the Zion Church, Belluschi had placed large windows on both sides of the chancel to illuminate the altar; at Central Lutheran he made his blue plaster shell wider than the nave, glazed the resulting offset on both sides with amber panes and topped it with a clerestory. Consequently the

light source is not visible to the congregation, and the amber light is "washed" across the inside of the curved shell as if the latter were a giant bowl reflector.

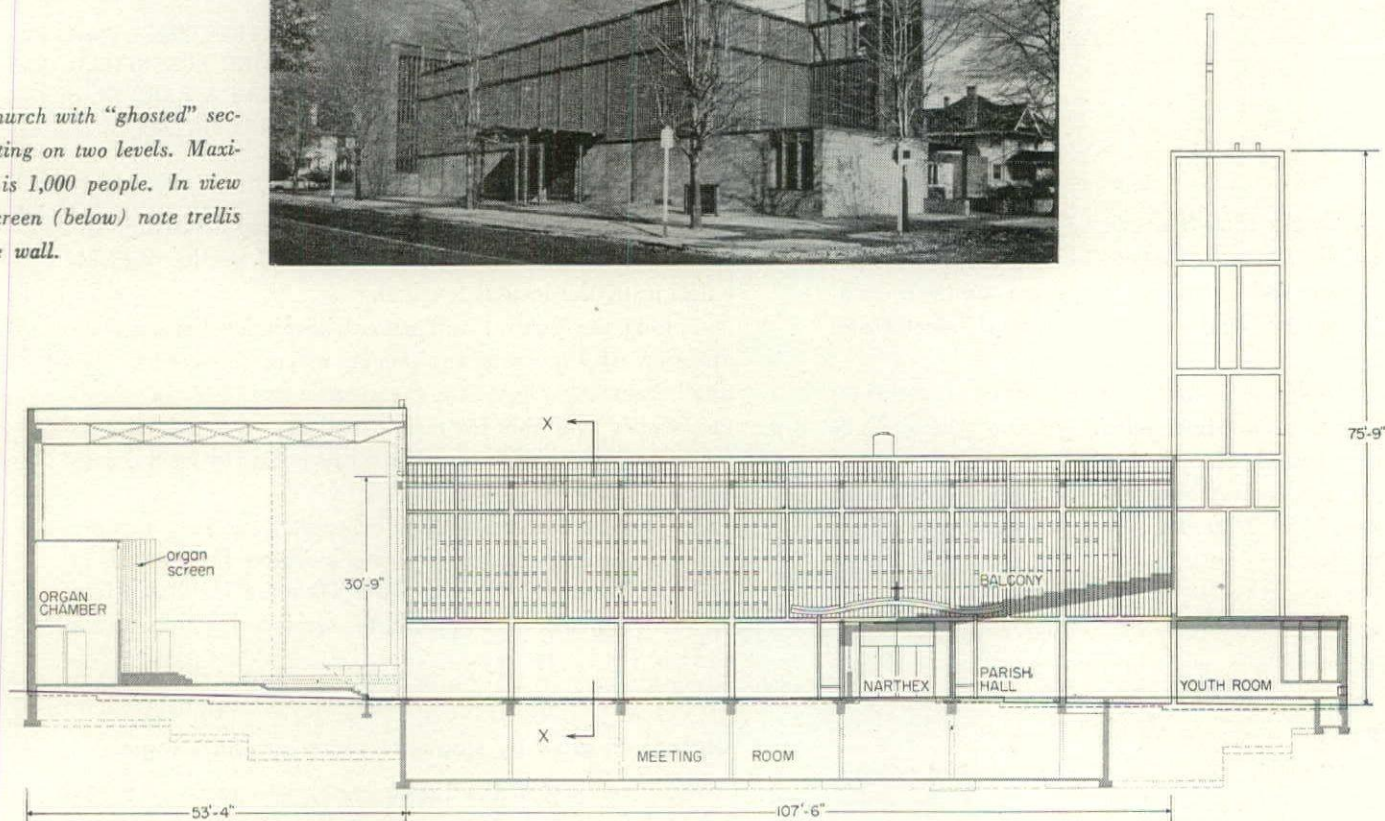
Unfortunately, the brightness contrast between the dimly lit nave and the brilliantly lit chancel is now a little too great. Belluschi, who had hoped to find a darker amber for his offset glazing, may get a chance to correct this shortly.

### The complete church

At a total of \$235,000 (including all fees) Architect Belluschi gave his happy clients not only a 1,000 seat church; he also gave them, with it, a complete Sunday School flanking the auditorium, and a kitchen and recreation room downstairs. In fact, the church proper accounted for less than half the total cost. Said the chairman of Central Lutheran's building committee: "The things that made this church possible are the genius of the architect . . . and the courage, foresight and united effort of the membership . . . We are very proud of our church." Says Belluschi: "It has been a memorable experience."



Elevation of church with "ghosted" section shows seating on two levels. Maximum capacity is 1,000 people. In view of altar and screen (below) note trellis quality of side wall.





# MEDICAL CENTER FOR THE TROPICS—its breeze-catching plan links three big hospitals, saves scarce medical talent and building materials

LOCATION, Ponce, Puerto Rico  
ISADORE ROSENFELD, Architect  
FARKAS & BARRON, Structural Engineers  
JOHN D. DILLON, Mechanical Engineer

For Ponce in Puerto Rico famed hospital architect Isadore Rosenfield has designed the kind of facility hospital people dream about but seldom see realized—a completely new, closely integrated regional center for general, mental and TB patients.

This big project boasts important economies of structure, operation and use of medical talent over the typical U. S. hospital center (which usually started as a general hospital and just grew like Topsy). It is also an incubator of design ideas for hospitals in undeveloped tropical countries—where U. S. architects will be called upon to play an increasingly important role under foreign aid programs. Among its special features for the tropics:

- ▶ A combination of half-height corridor partitions and louvered strip windows which permits cooling trade winds to sweep through the buildings (p. 172).
- ▶ A network of tunnels which maintains the flow of patients and services between the main buildings during hurricanes, reduces costly, noisy ground transportation in good weather and provides easy access to pipes (page opposite).
- ▶ An economical structural system of exposed concrete that held the construction contract of the general hospital to \$1.73 per cu. ft. or \$20.50 per sq. ft., despite the fact that nearly all building materials have to be imported (p. 172).
- ▶ A nursing unit plan which combines 6-bed wards and compact services to offset the shortage of nurses (p. 173).
- ▶ A nurses' school and residence which compensates for tiny cost-saving living quarters with broad balconies and pleasant classroom and recreation space (p. 172).

## Site plan exploits breeze and view, integrates services

Architect Rosenfield's master plan for growth of the center by stages makes the most of a fine 240-acre site lying between the mountains and the sea on the outskirts of Ponce. All principal buildings are laid out with their long axis facing the steady trade winds and the ocean view. Big open areas are preserved not only to let the breeze through but to provide room for future expansion. And buildings are held to four stories both to save expensive elevator service and make the outdoors easily accessible to ambulant patients.

To create the friendly community atmosphere desirable for mental patients, the architect put the 1,000-bed mental hospital in widely-spaced low buildings on the high northern half of the site, brightened it with such special amenities as a reflecting pool, an outdoor amphitheater, a dance area and a chapel. Near the center of the property he placed the pivotal building—a 460-bed general district hospital. Flanking it are the nurses' school and residence and the 500-bed TB hospital. Between the general and TB hospitals are common services for all three hospitals—a cafeteria and a utility group.

The general hospital provides major admissions, outpatient and laboratory facilities for the entire center. After

being admitted, patients are sent to a general nursing unit or, via tunnels, to either the TB hospital or the receiving building of the mental hospital.

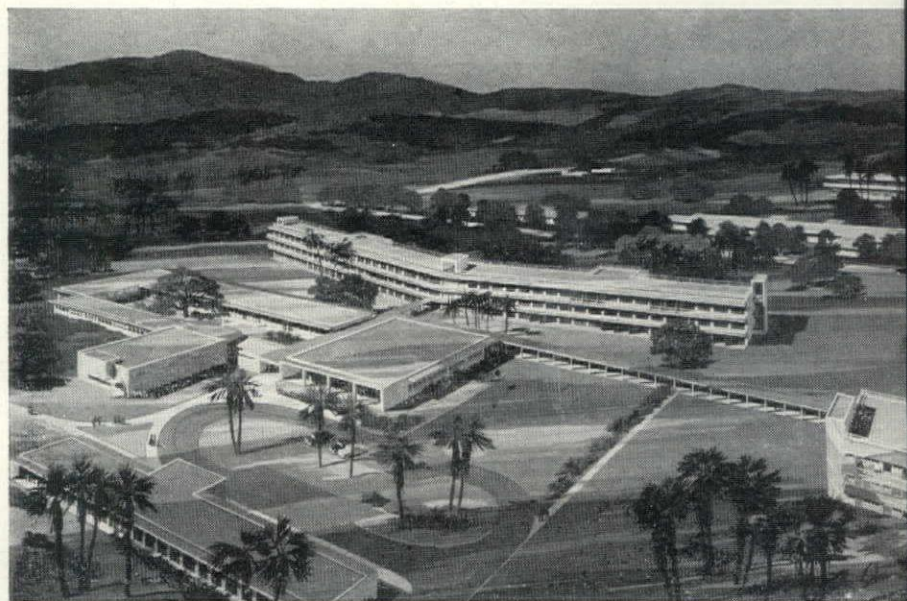
Linking the general and mental hospitals eliminates duplication of expensive equipment, makes the general hospital's complete diagnostic, therapeutic and operating facilities readily available for mental patients. (A special nursing unit is provided in the general hospital for mental cases requiring surgery.)

To prevent contagion, the TB hospital has its own operating department and a separate building for mental TB patients. A tunnel between these TB units facilitates joint use of equipment and specialists' services by both mental and regular TB patients.

## Center will grow by stages to serve an entire region

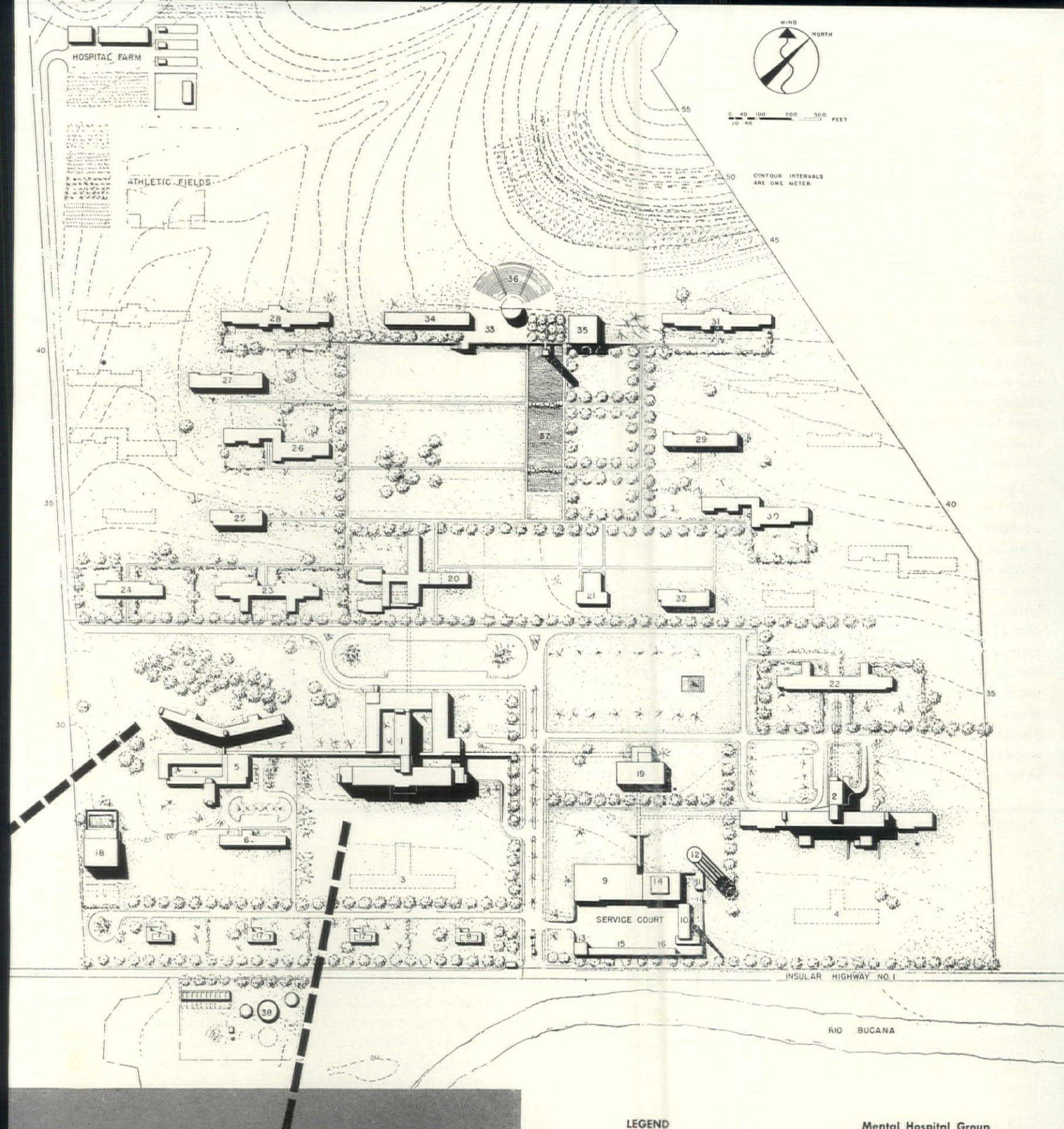
When completed, the Ponce center will serve as a base hospital for the southern half of Puerto Rico, forming a major link in the coordinated hospital system now being planned for the island along lines recommended by USPHS.

Since the project is entirely government-financed (one-third from local appropriations, two-thirds from Hill-Burton Act funds) it is designed to be built by stages. The nucleus will consist of the general hospital, nurses facilities, staff residences, the utility group and the employee's cafeteria. The TB hospital will be built next and the mental hospital, last. The utility group is designed to expand to keep pace with the center's growth. Other additions provided for in the site layout are a chronic disease building, a children's unit and a 100% increase in mental patients' accommodations.



First elements of the center will be the 460-bed district hospital (right) and the adjacent nurses' school and residence (above). Linked by a covered walk, both face the ocean and trap the trade winds.





#### LEGEND

1. General hospital
2. Tuberculosis hospital
3. Future chronic dis. hosp.
4. Future children's pav.
5. Nurses' school & res.
6. Internes' dormitory
7. Gen. med. sup't residence
8. Sup't of bldgs. & gr'ds res.
9. Central stores
10. Boiler house
11. Generator house
12. Water tower
13. Garage
14. Laundry
15. Animal quarters
16. Shops
17. Executives' residences
18. Gym & swimming pool
19. Employees' dining hall

#### Mental Hospital Group

20. Administration & infirmary
21. Dining hall
22. Tuberculosis
23. Receiving
24. Chronic disease
25. Convalescent M.
26. Continued treatment M.
27. Industrial M.
28. Chronic disturbed M.
29. Industrial F.
30. Continued treatment F.
31. Chronic disturbed F.
32. Convalescent F.
33. Bandstand & dance area
34. Recreation & O. T.
35. Chapel
36. Amphitheater
37. Reflecting pool



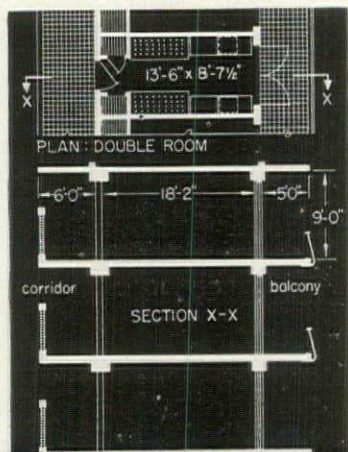
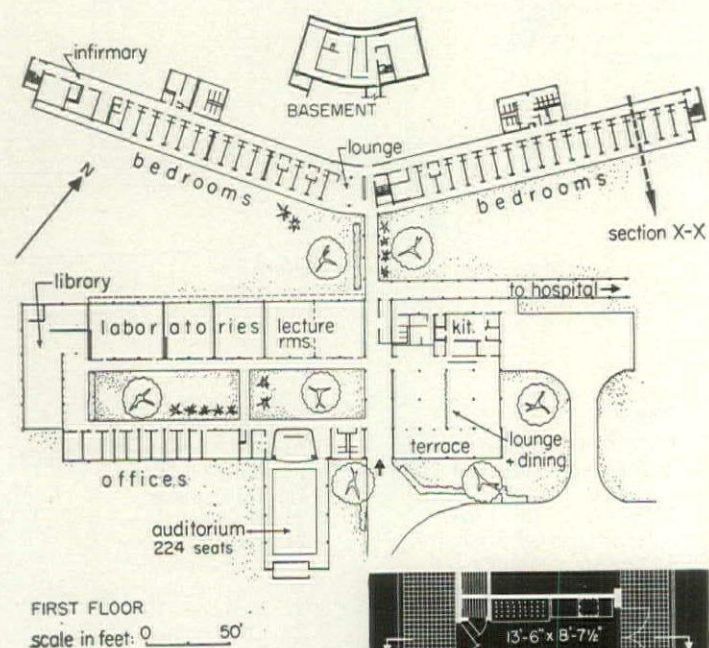
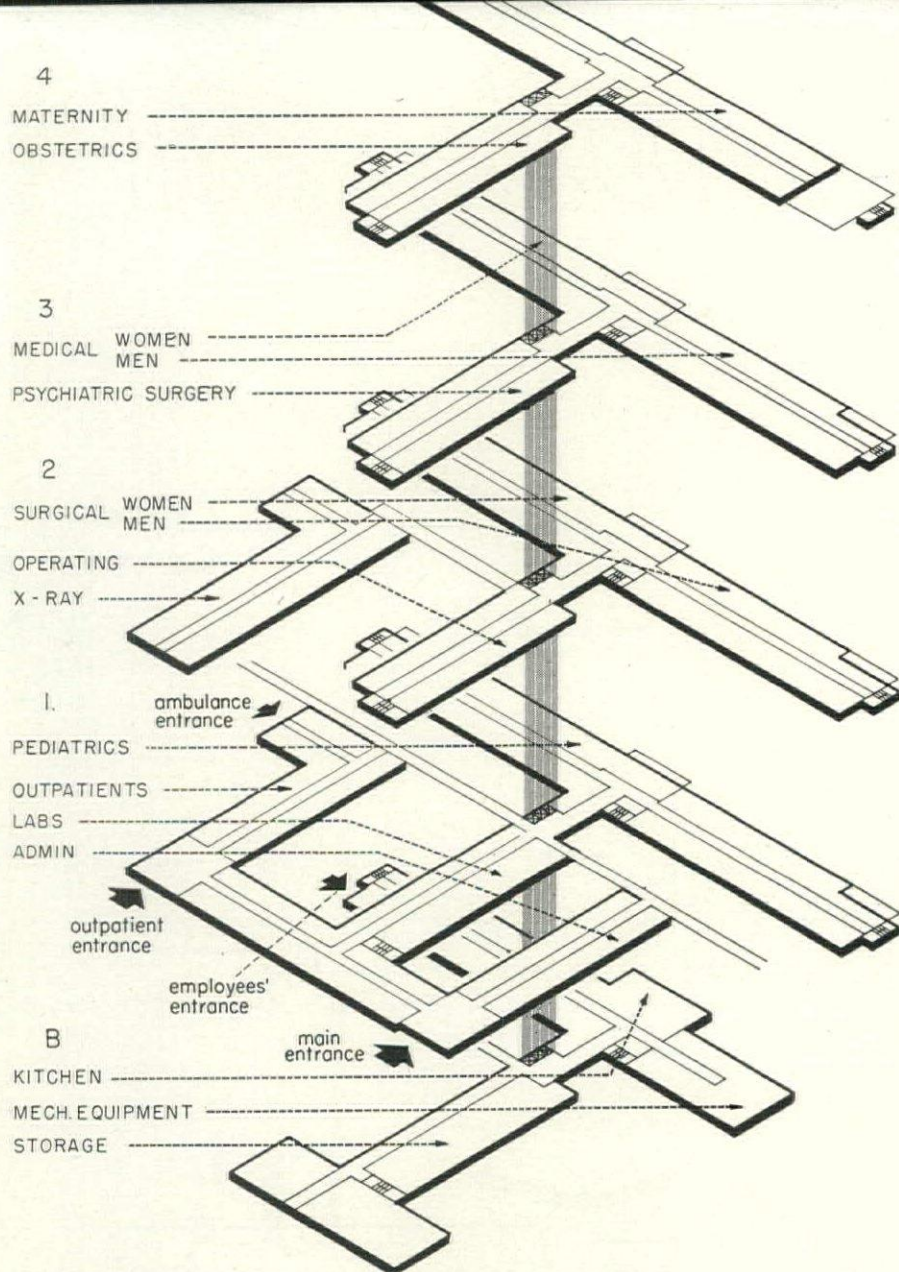


## General hospital combines economy and efficiency

For Ponce's 460-bed general hospital Architect Rosenfield developed an efficient modification of the conventional T-shaped plan (opposite). Adjunct services are in the stem and nursing units are in the long cross-wing, with most patient rooms facing the ocean and the breeze. The base of the four-story T is bracketed by a low wing of administration and out-patient facilities. This layout opens all rooms to the outside, but requires a minimum amount of vertical transportation (elevators are costly to install and maintain in the tropics).

To stretch the services of a limited number of doctors and nurses, most patients are accommodated in 6-bed wards with 56-64 beds per nursing unit. Treatment and utility rooms are concentrated efficiently on the north side of corridors, and the maximum nursing run is 70'. To reduce noise in corridors day rooms and visitors' rooms are segregated in the center of the wing, open out on big cantilevered terraces.

Good cross ventilation is provided by stopping corridor partitions short of the ceiling and using awning-type strip windows throughout. Cement asbestos panels in upper sections of the projected sash take the place of expensive overhangs, give protection against sun and heavy rain. Windows may be kept open constantly in normal weather and during hurricanes the solid panes provide protection. To save the cost of importing steel, the architect used reinforced concrete construction with shallow beams and slabs and a standard bay spacing of 22'. Keeping the structure low made possible a uniform column size, permitted the use of standard size window units between column faces. To save plastering, ceiling slabs will be poured on plastic-coated plywood forms, and cement block interior partitions will be left in natural finish.



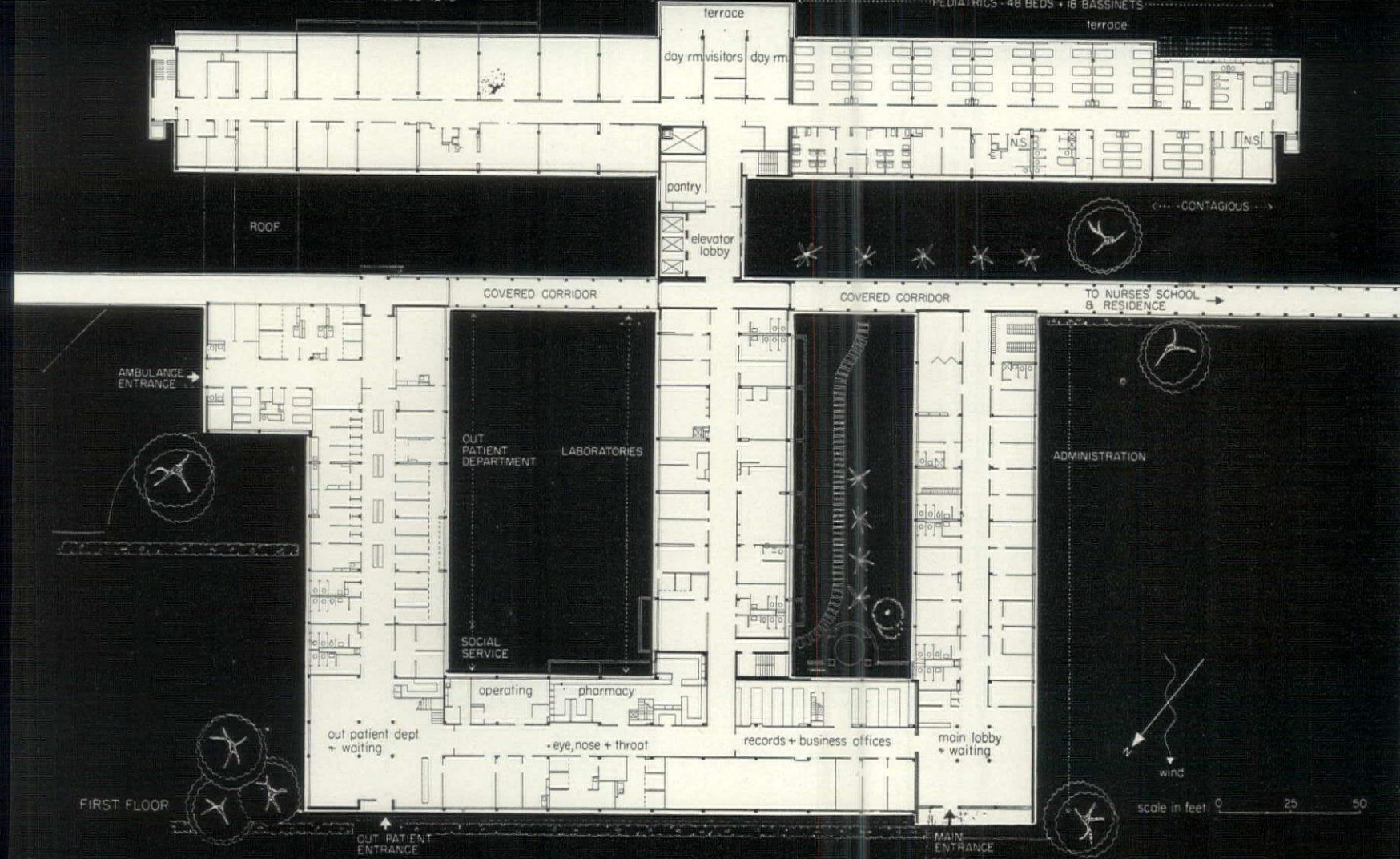
## Compact nurses dormitory and school borrows space and air-conditioning from the outdoors

In designing the nurses' dormitory, the architect's aim was to cut costs by keeping rooms as compact as possible, yet give each room the full benefit of the ocean breeze and view. His solution was a long, three-story wing, only one room deep, with continuous cantilevered balconies on the ocean side and open corridors on the other. To break the long line and command a more extensive view, the wing is bent at the center, forming a shallow V.

Equipped with louvered doors instead of windows, each room becomes a funnel for the breeze, and the open doors serve as screening partitions along the balcony. Into the 8'-8" x 13'-6" rooms, architect Rosenfield has squeezed two beds and two built-in desk and dresser combinations, leaving the center clear as a breezeway (*detail left*.) This tight living space is supplemented not only by the balconies but by a spacious lounge at the center of each floor.

The dormitory is linked by a covered walk to a pleasant school building built around a patio. All rooms get bilateral lighting and through ventilation, and the 224-seat auditorium may be completely opened to the outdoors on two sides. At the east end is a spacious dining hall opening onto a terrace overlooking the sea. Adjacent to the school is a big swimming pool and gymnasium.







Here is a refreshing rarity—an eastern school that is as inventive in plan, structure and design treatment as many of the highly touted schools of the West. There are at least two important technical innovations in this 1,000-pupil, \$2.5 million grade school for Long Beach, Long Island:

1. By substituting plastic bubble skylights for clerestories, Architects Reisner & Urbahn got their second source of daylight from above, along with an economical flat roof, and expect to save nearly \$1,000 per classroom over their original sloping roof clerestory scheme. (p. 174)

2. By using porcelain enamel faced metal sandwich panels instead of masonry spandrels and stock aluminum framing instead of wood, they developed a light, colorful curtain wall which requires no maintenance and can be erected at the rate of 12 lin. ft. per man-day. (p. 175)

The school also has an unusually comprehensive plan which combines four separate elements in a continuous, one-story structure—a 400-pupil elementary school, a 600-pupil junior high school, administrative services for the entire local school system, and a center for community activities. This spread-out plan made economic as well as educational sense because of low land cost—the 36-acre site was acquired from the Navy for only a token payment. Besides, higher buildings would have required expensive piling since the water table is only 5' below grade.

**Kindergartens and elementary classrooms** are grouped in a long, single-loaded corridor wing which provides ideal southern exposure and a sunny outdoor activity area for each room. Other provisions for younger pupils include: a separate entrance from the main access drive, imaginative landscaping, well-protected playgrounds and big corridor windows with frames for colored transparencies at the children's eye level.

**The administrative wing** connects elementary and junior high schools, forms one side of a quadrangle enclosing a spacious garden court which will be landscaped as a botanical display for teaching purposes.

**Auditorium, gym and cafeteria** are designed as a dual-purpose unit which can serve both the school and the community. Linked to the school by a combination of open and enclosed corridors, they form the focal point of the main public approach, have a separate heating system which permits them to operate independently when school is not in session.

**The junior high wing** has a double-loaded corridor plan with classrooms facing east and west. This reduced heating costs and travel between classes, but also created some daylighting difficulties. Though rooms have been faced east and west in dozens of highly regarded eastern schools, there is no practical width of overhang that will shade low slanting winter sunlight during early and late hours of the school day. One of the best answers would be glass block over a vision strip—the architects, however, wanted speedy dry-wall

LOCATION: Long Beach, N. Y.

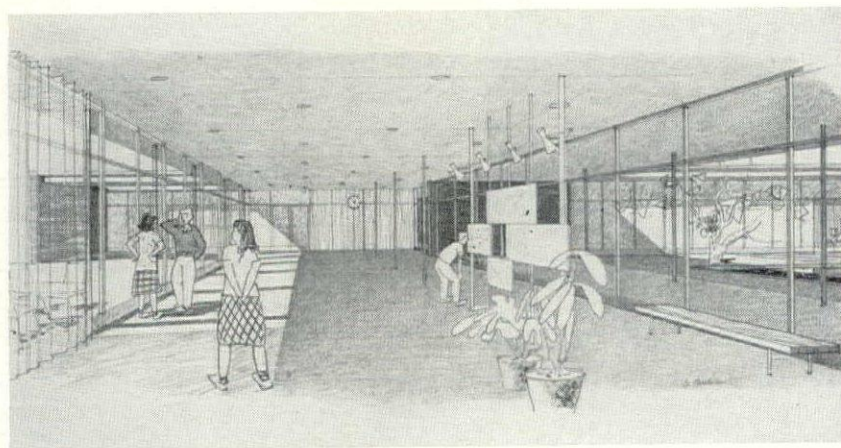
REISNER & URBACH, Architects

WEISKOPF & PICKWORTH, Structural Engineers

JAROS, BAUM & BOLLES, Mechanical Engineers

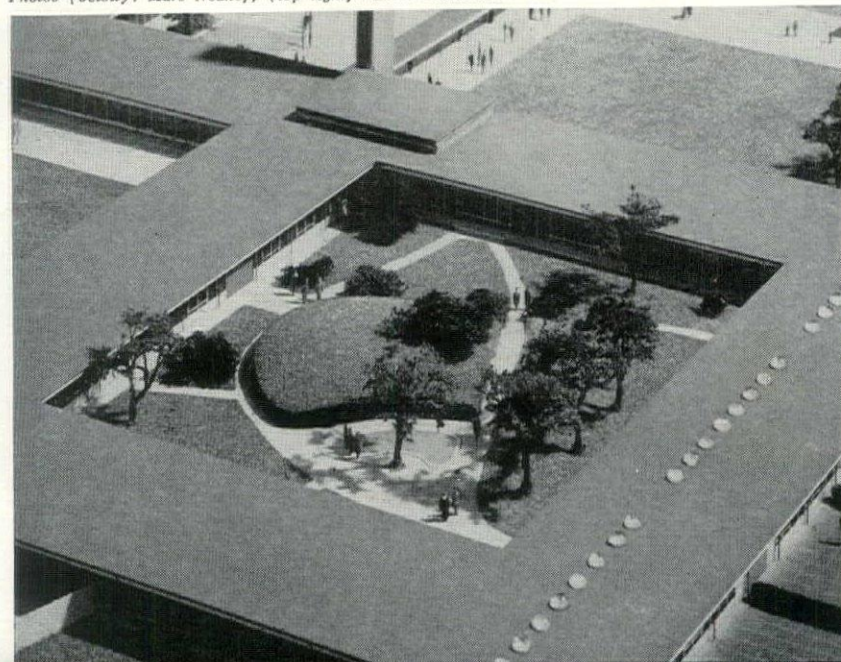
THOMAS D. CHURCH & ASSOCIATES, Landscape Architects

*Spread-out plan combines elementary school, junior high and community-use facilities in a continuous, handsomely integrated structure.*

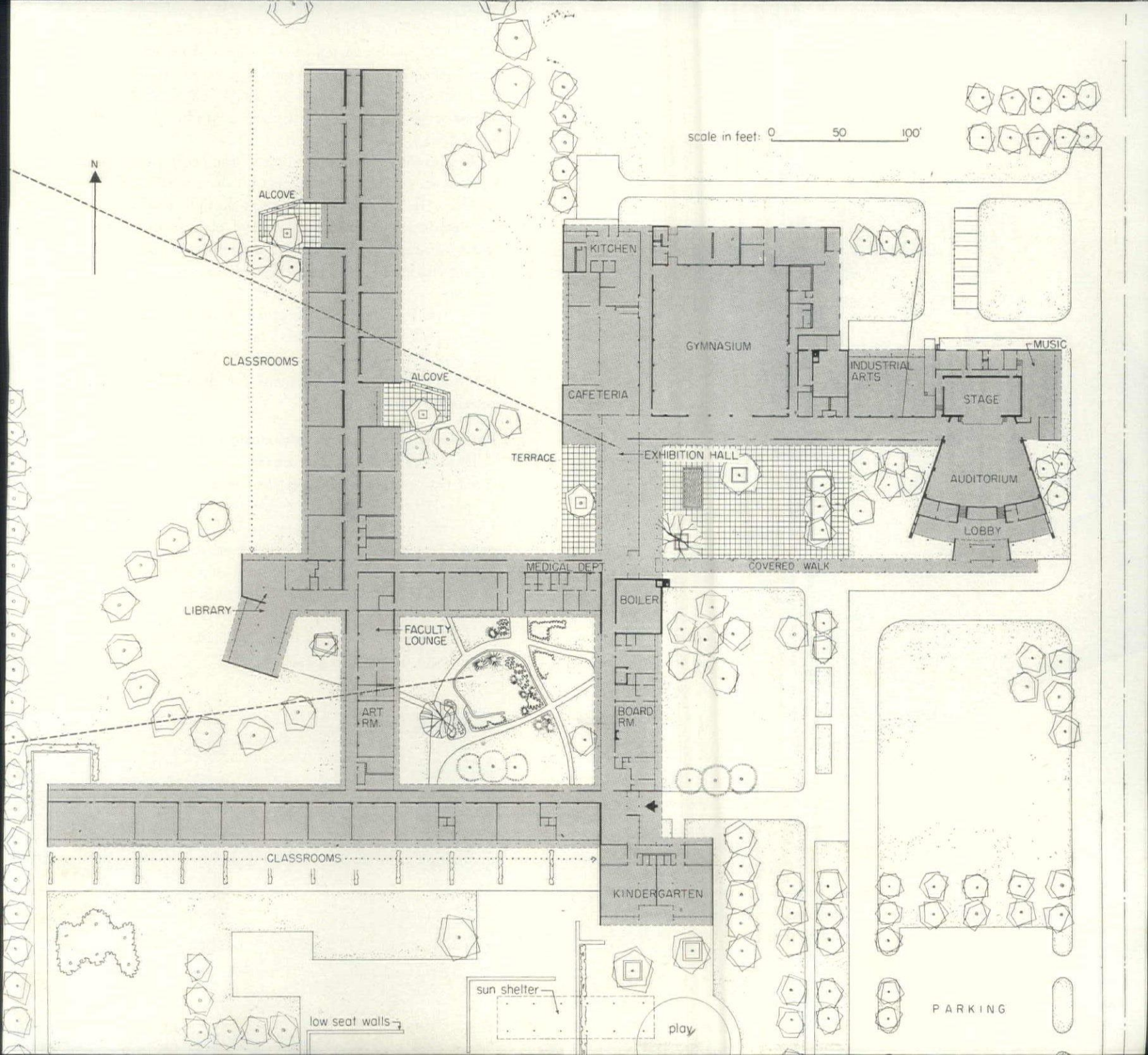
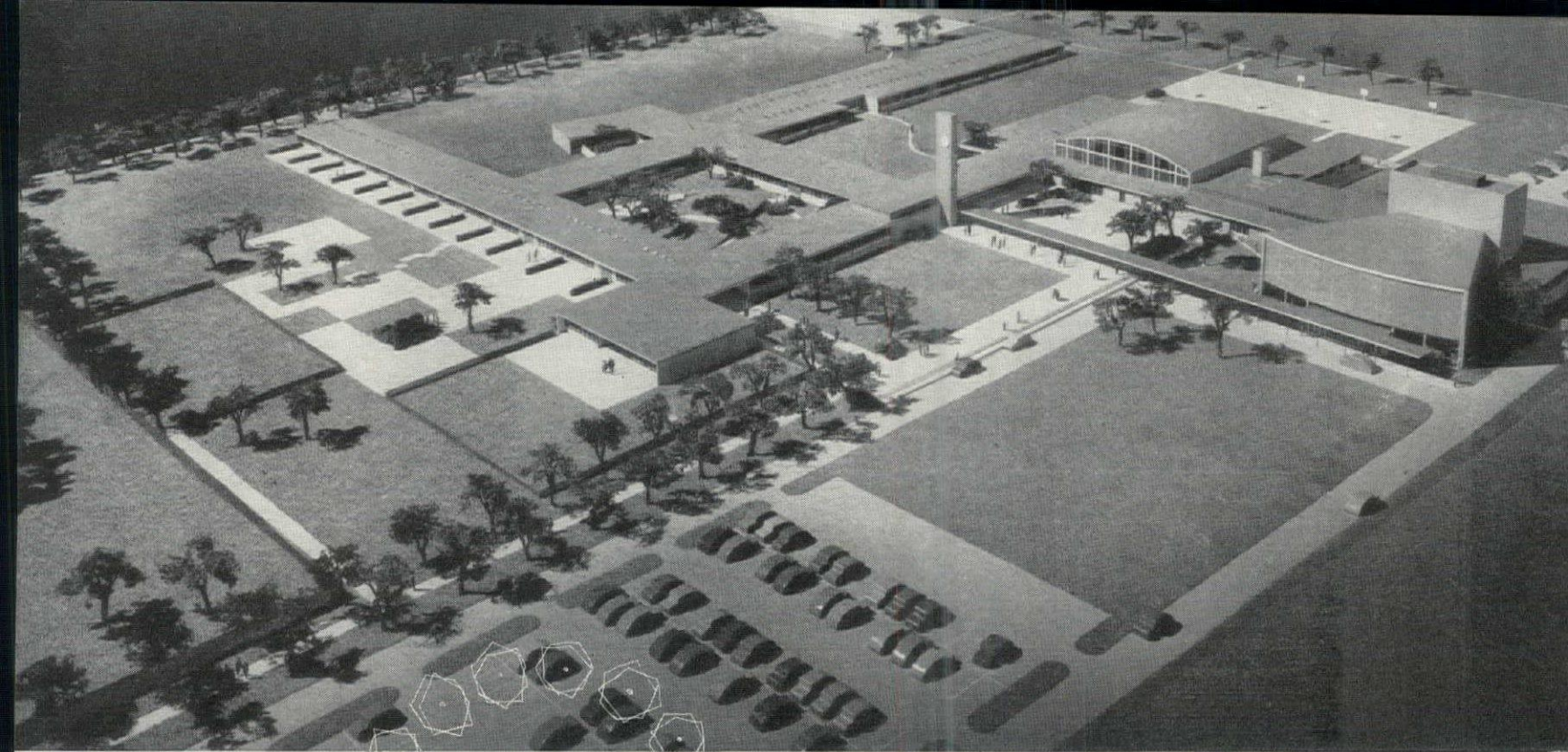


*Connecting link between classrooms and multi-purpose cafeteria-gym-auditorium group is a 24 x 38' glass-walled corridor (above) which serves as an exhibition space, a rainy day lounge, or as an extension of the cafeteria for community gatherings. Central court (below) will double as a botanical display and a fuel oil storage area—the child-scaled "hill" in the center will cover tanks which had to project above grade because of the high water table.*

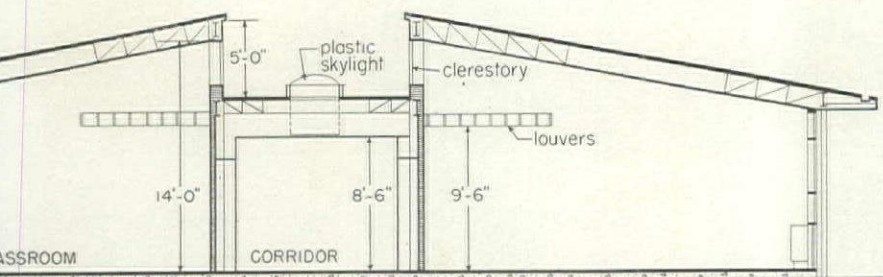
Photos (below): Marc Neuhoj; (top right): Louis Checkman



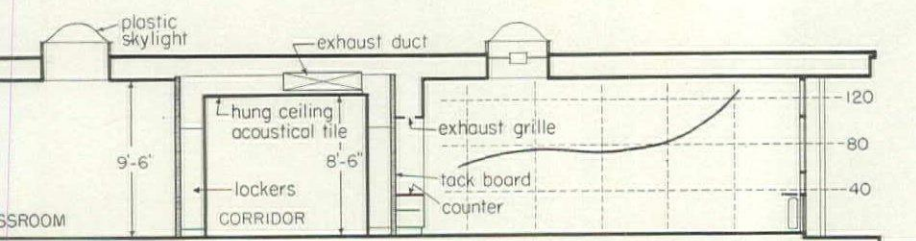








Original scheme for bilateral lighting complicated construction, formed a snow-pocket over the double-loaded corridor.



Shift to prefabricated plastic skylights combined good light distribution with economical flat-roof construction.

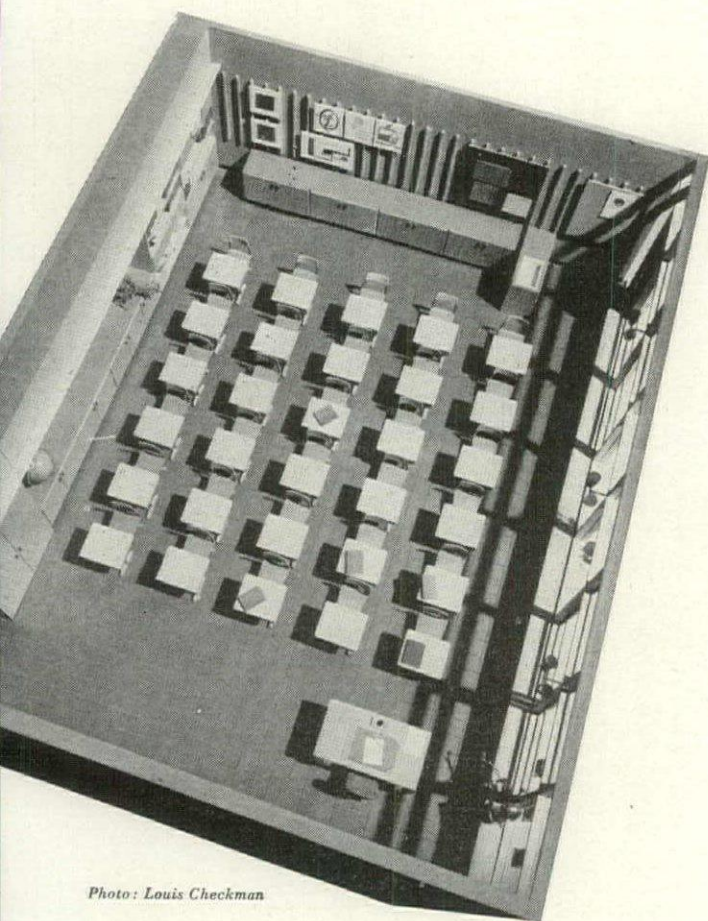


Photo: Louis Checkman

Typical classroom (above) accommodates 30 pupils in a 26' x 36' area, has built-in storage wall, green glass chalkboard, economical vertical battens for mounting displays on plastered wall. Elementary wing (right) faces south, opens all rooms to individual outdoor activity areas and protected playgrounds.

construction. Translucent shades or drapes would cause glare; Venetian blinds or exterior slatted metal awnings would shut out the view when down and would require teacher or janitor operation. The architects are now exploring the use of evergreen hedges at some distance from the rooms, tall enough to block low direct sun rays.

#### Plastic bubble skylights simplify roof, balance light

The architects' original scheme for bilateral lighting in classrooms called for sloping roofs with clerestory windows over interior walls (*left*). But by substituting prefabricated, weatherproof, translucent plastic skylights for clerestories they were able to shift to a more economical flat roof. This not only eliminated extensive on-the-job flashing required by clerestories, but permitted a lower, more intimate ceiling height (9' 6") appropriate for younger pupils. Savings in steel and labor are estimated at about \$1,000 per classroom.

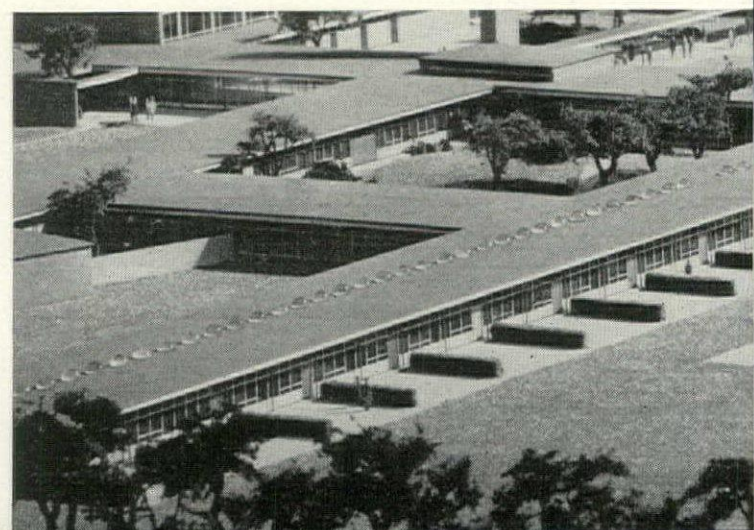
Location and size of the skylights are based on tests made with a classroom model by the Texas Engineering Experimental Station (*May issue, '51*). These showed that, with a completely overcast sky of 1,000 foot-candle brightness, a row of four 48" bubbles located 4' from the inside wall of a 26' x 36' classroom will adequately supplement and balance light received through the window wall (*diagram, left*). Three 60" bubbles would have produced better distribution and higher intensity, but would have complicated structure and required louvers below—with 48" skylights the 2' deep recess serves a baffle against direct glare in the normal field of vision.

To prevent the plastic skylights from becoming a source of cold down drafts, the architects hit on a new use for a new product. In the recess below each skylight they will mount an electric radiant heating panel of clear glass (*detail, opposite*), faced on each side with a microscopically thin transparent coating of metallic oxides which conducts the heating current.

Electric lighting in classrooms will be provided by a combination of filament fixtures recessed in the ceiling and swiveled floodlights along each wall, focused on the ceiling to offset the brightness contrast of the skylights and the recessed fixtures.

#### Porcelain-faced panels aid design, speed construction

This is the first school to use the sandwich-type wall panels faced with porcelain enamel steel which were incorporated so successfully in General Motors Research Laboratory (*Nov. issue, '51*). Reversing the GM scheme of panels in muted gray as a foil to bright brick work, Reisner & Urbahn will exploit the full color potential of porcelain enamel in spandrels between end walls of buckskin colored brick. The school's panels will also have a different type core of inorganic silicates—more fire-resistant than the honeycomb paper core of the GM panels.



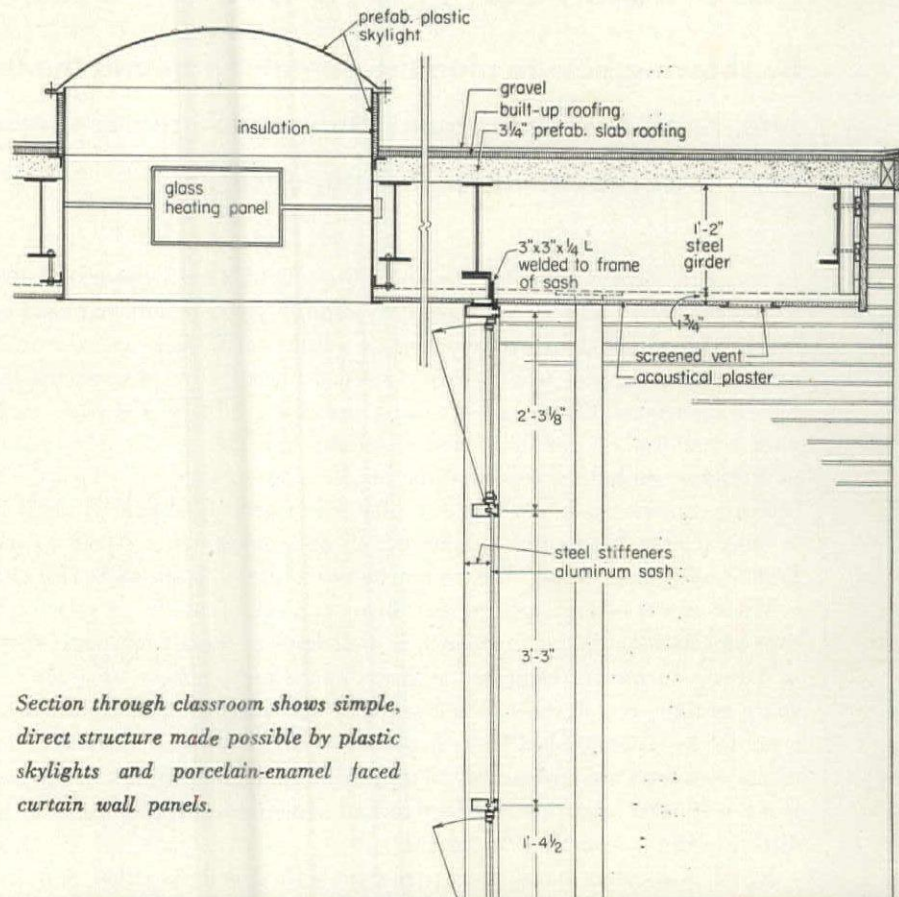


Besides providing a permanent, colorful exterior finish, these 2" thick panels are expected to 1) cost no more than an equivalent masonry wall, yet provide better insulation, 2) require a minimum of maintenance, 3) lower erection costs, 4) lighten the load on foundations—a special asset on this seaside site.

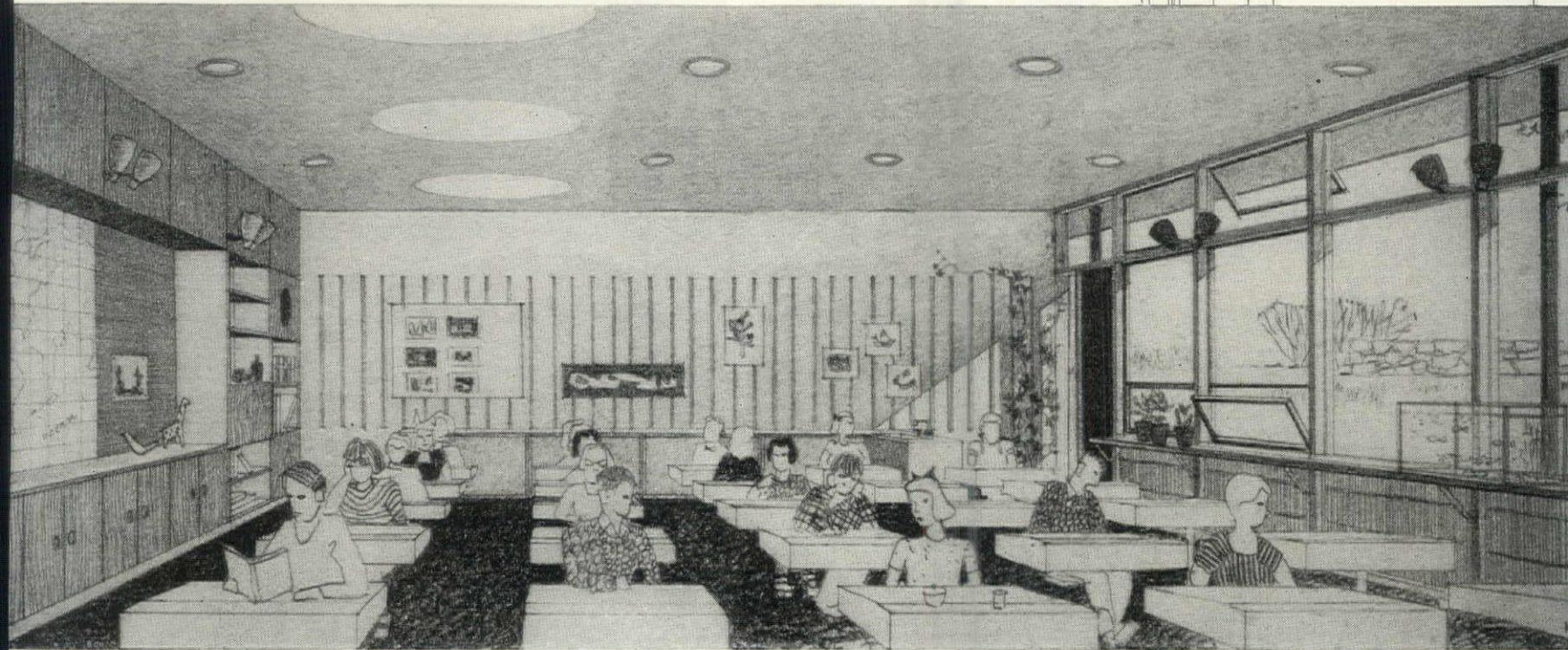
They will be used as spandrels in classroom curtain walls made up of a preassembled frame of 8' x 9' 6" aluminum sections on a 4' module. Panels can be installed at the rate of 28 per day by a crew of two men.

The rest of the classroom structure carries out the same theme of light, speedy construction. Roofs are framed with light steel beams, topped by precast planks and built-up roofing. The roof load is carried by inside corridor walls of 8" concrete block with piers at modular points and by exterior lally columns under the overhang. Partitions between classrooms are lightweight aggregate block, plastered on one side for sound insulation and exposed on the other. Floors are concrete slab laid on grade with a pumicite concrete base for insulation. To reduce dampness and provide easy access, pipes of the forced hot air heating system are placed in a concrete trench around the perimeter of buildings.

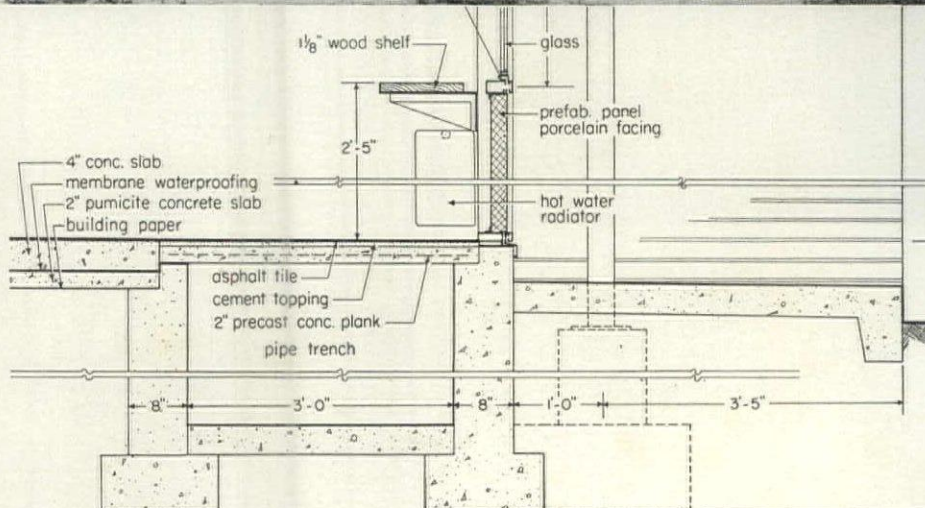
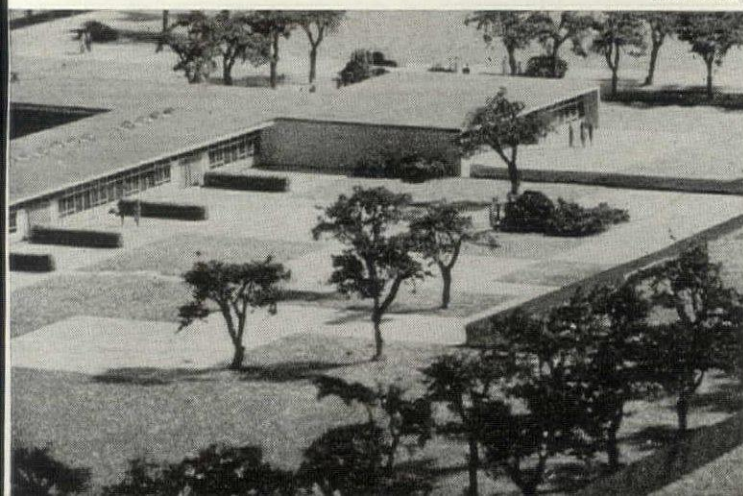
Despite the school's over-size community facilities, estimated costs are \$1.15 per cu. ft. or \$16.50 per sq. ft. as against the Long Island average of \$1.35 and \$22 for less completely equipped schools.



Section through classroom shows simple, direct structure made possible by plastic skylights and porcelain-enamel faced curtain wall panels.



Marc Neuhof





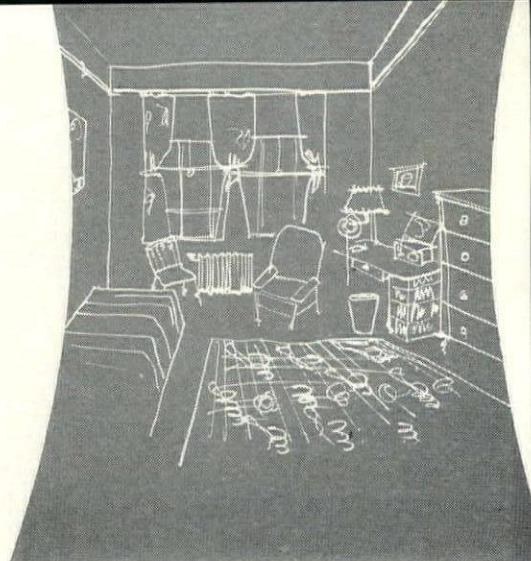
# FURNISHING THE DORMITORY

By showing how to plan the dormitory around the furniture, Knoll Associates point the way to greater spaciousness, lower costs, easier maintenance.

Every year, college students throughout the country face the same abashed moment when they first see their dormitory rooms. There in a dismal heap are the standard iron cot, four-drawer chest, woefully small desk and a worn chair or two. On campuses where the picture is different, furniture experts like the Knoll Associates' Planning Unit can often take credit for the change. Along with a handful of architects and designers they are giving dormitories the painstaking study that produced the modern hotel room, for which the furniture arrangement is made first, the plan afterward. Financially, the problem is similar: the high cost of construction and upkeep in relation to income. Functionally, a dormitory is even more strenuously a "home away from home."

What expert service such professionals can contribute in correlating furniture and anticipating maintenance is well known. Less familiar is the value of having furniture integrated with the space arrangement of a room. Any space as tight as a dormitory is essentially an envelope around furniture, and a lot can be accomplished if the experts are called in before the size and shape of the envelope are irrevocably determined. Skillful furniture groupings can make a limited space more effective and sometimes an additional 2' in one direction can be worth 4' in another.

Knoll Associates have been pace-setters in developing this new service. Under the knowing design guidance of Florence Knoll, the Planning Unit has earned an enviable reputation among schools, hotels and offices. Over the past six years the department's gross business has increased 87½ times its first year's volume. On these pages are four of their dormitory layouts, ranging from the women's dormitory at the University of Michigan (built in the midst of postwar scarcities) to the recently completed dormitory at Trinity University (where the designers had an exceptionally free hand).

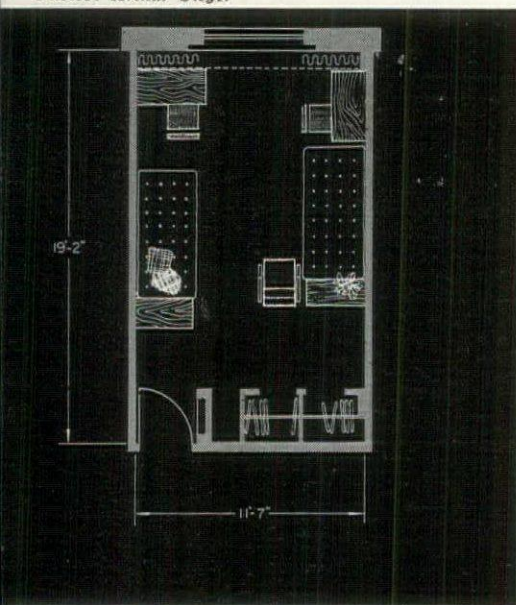


Storage unit has tray drawers, rod, suitcase space above

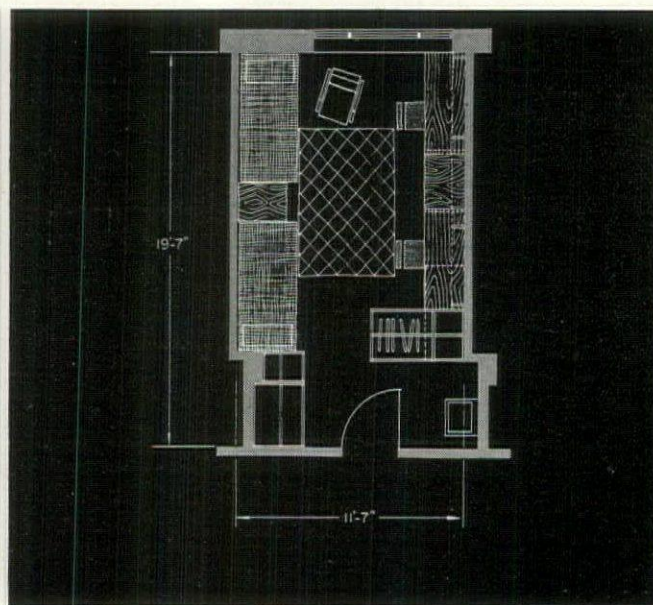
Built-in lavatory closes off to keep room tidy

Paper honey-core doors won't warp or shrink in dampness

Photos: Arthur Siegel



Layout for 1946 women's dormitory at University of Michigan was limited to loose furnishings. Chests divide dressing area from rest of long narrow room.



Scheme for 1949 Michigan men's dormitory uses fixed beds (pivoted for bed-making) and hard-to-move desk unit to discourage student rearrangement. Knoll





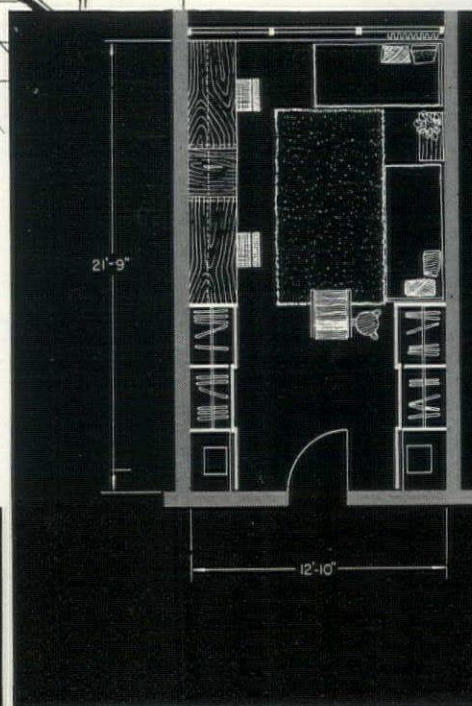
Expandable shelves, built-in light

Beds roll out for bed making,  
are 8" above floor for dusting underneath

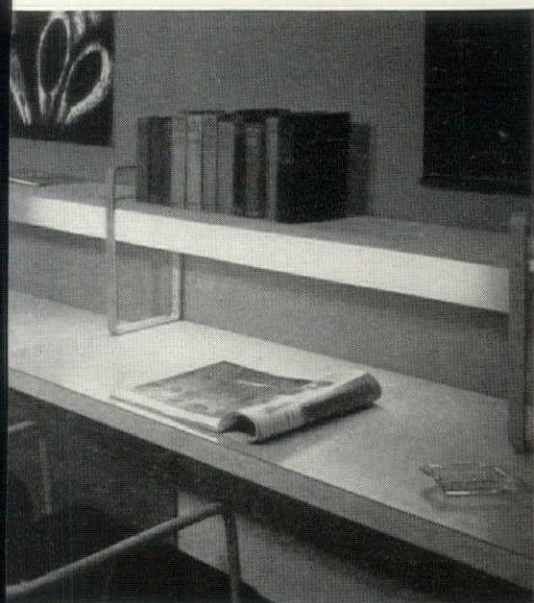
Brick walls are permanent,  
need no upkeep

Burnproof desk tops rest on cabinet  
and cleats (no legs)

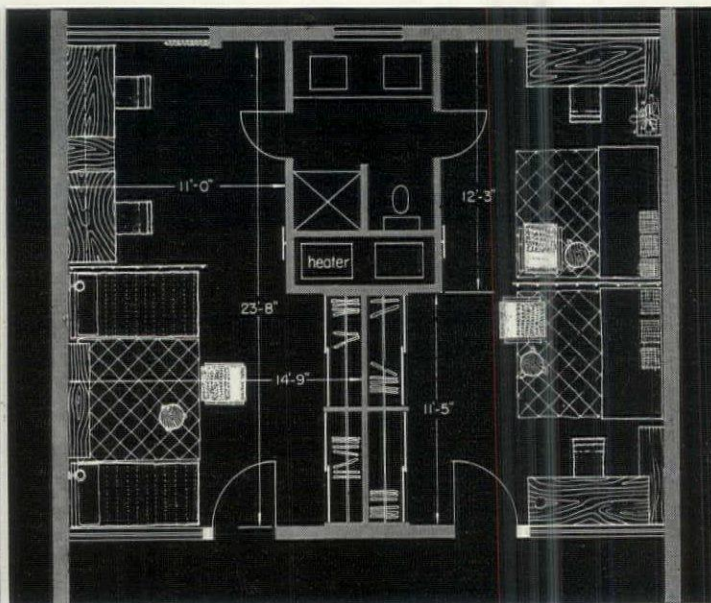
Textured, plastic upholstery washes easily



This plan was drawn up to show how  
the Trinity scheme might be adapted to  
a more typical, center-hall building.  
Dressing area could contract to save  
space.



experience is that loose pieces lead to  
chaotic layout, scratched walls and fur-  
niture. Note more generous desk space,  
built-in light strip, cork tackboard.



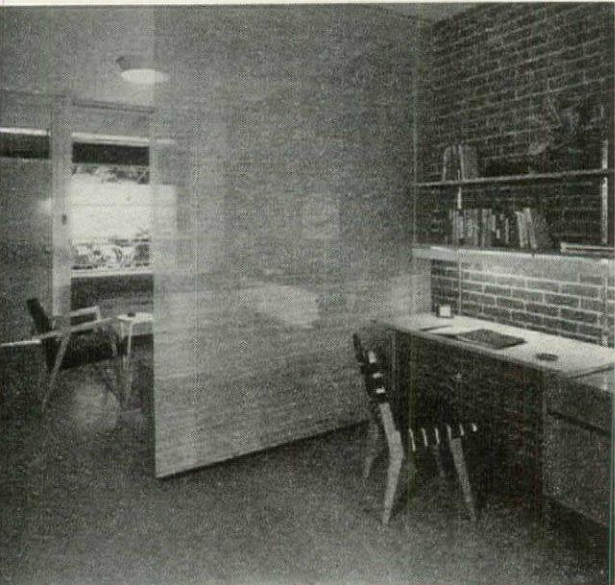
Trinity University men's dormitory is  
unusual for space and light. Early plan  
(right) had separate units later aban-  
doned in favor of pleasant social area.



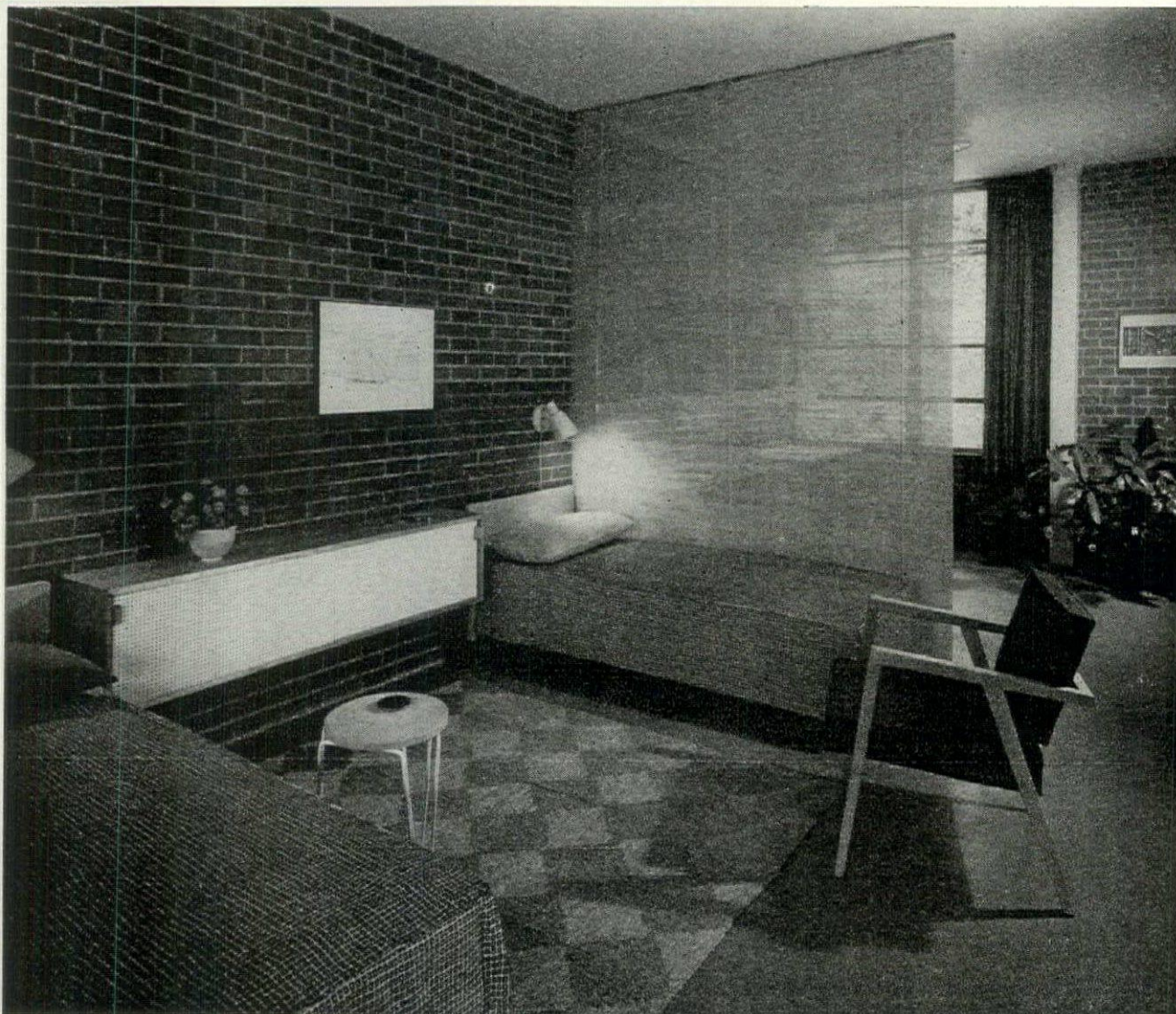
## FURNISHING THE DORMITORY

The Knoll dormitory study began where a student spends the major portion of his time—his desk and his bed. These, together with a wardrobe, form the nuclei for the three groupings in the plans. The Knolls feel that students have often been unjustly criticized for sloppy study habits—anyone would have trouble working on a 40" desk. Instead the designers produced a honey-core slab top covered with gray, cigaretteproof plastic which provides 26" x 60" of spread-out space. Ideally the desk top, which weighs very little, is hung from the wall, (no legs to get in the way of dust mops) and rests at one end on a cabinet containing a file drawer. Above are bookshelves on adjustable brackets which allow for the addition of more shelves later on. The bottom shelf incorporates a lighting strip with translucent baffles. Since even Ivy Leaguers are making their own beds these days, Knoll chose standard box springs and mattresses on rubber casters. Such beds are easy to make up and can take years of students lounging on the edges. Consultation with house-mothers revealed that an 8" clearance between bed and floor made underbed mopping easy. Attached to the frame is a head-board to lean back on, and pinned to the wall, a two-way swivel lamp for reading in bed or for sitting in the lounge chair.

The Trinity University dormitories are a good example of what a difference meticulous interior planning can make. The early photographs (Sept. issue '51) showed a crisp, exciting, lift-slab building. Now that the furniture is in, the generous scale, warmth and orderliness of the rooms is apparent. In some cases the Knoll unit assists in planning all interior finishes and lighting. For one university building they suggested handsome permanent wall finishes and recessed lighting to replace the dadoes and miles of fluorescence uniformly specified for dormitories, recreation and classrooms alike. Even discounting the favorable moment the job went out for bids, the \$50,000 saving effected by these suggestions is remarkable.

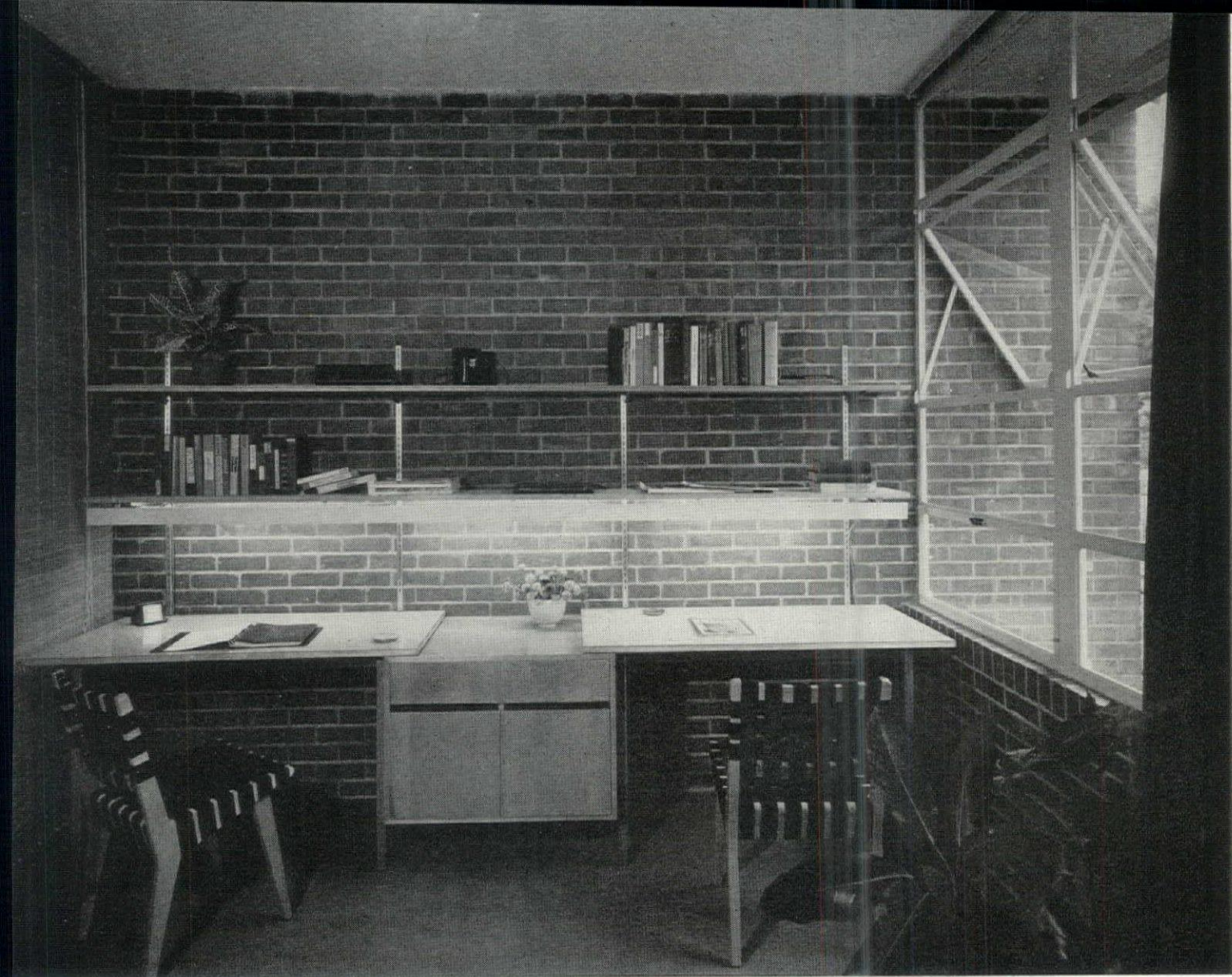


*A bamboo blind bisects the 23' rooms to form a sitting area at one end, a study at the other. Dressing space at left.*



*Parallel daybeds define the sitting-sleeping area. Desks are at far corner, away from distractions of balcony-hall.*





*Desk tops overlap the central supporting cabinet to make a slip joint which allows for minor variations in spacing.*

*Expandable shelves on adjustable brackets  
Light shelf eliminates lamp clutter*

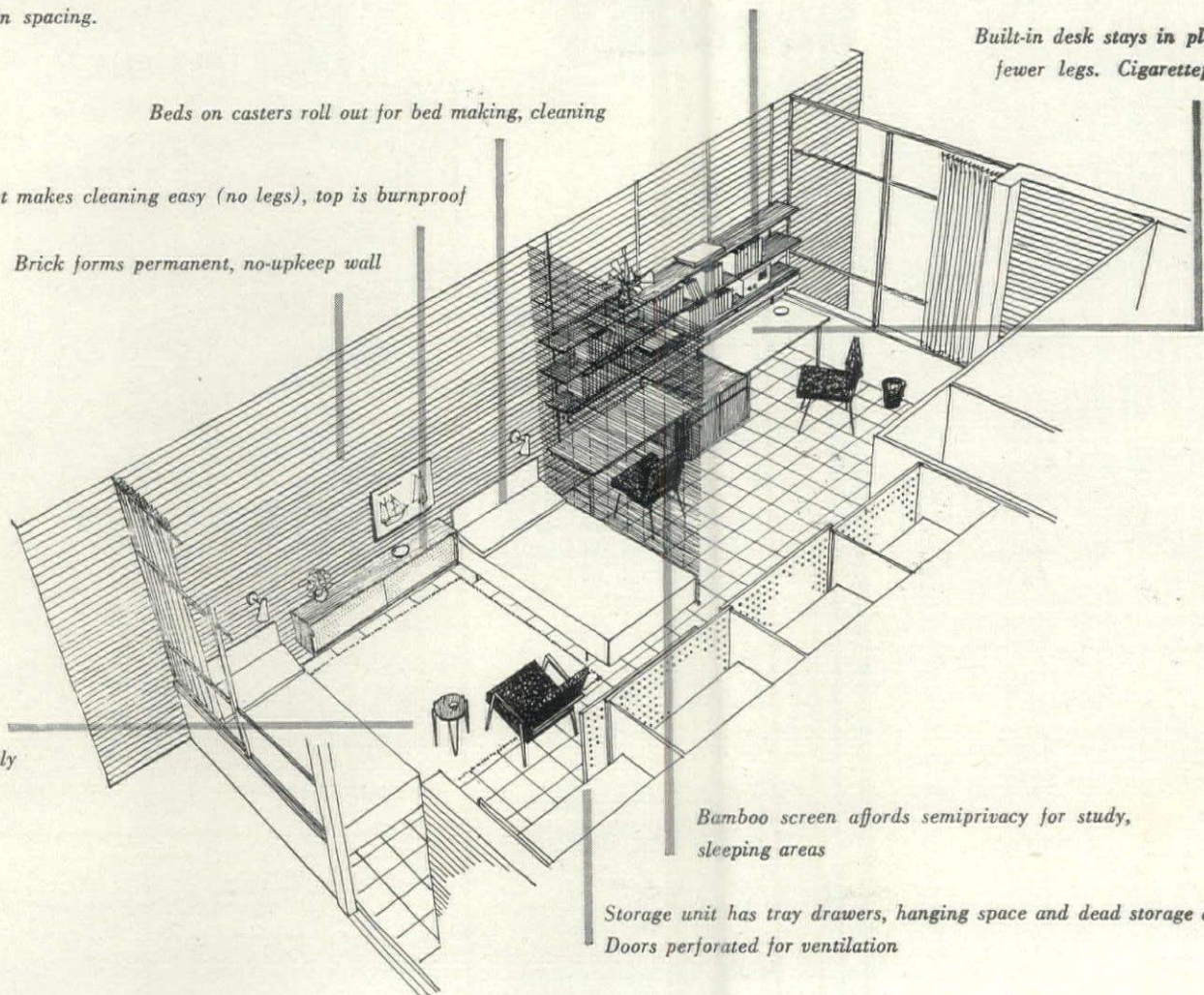
*Built-in desk stays in place, needs fewer legs. Cigaretteproof tops*

*Beds on casters roll out for bed making, cleaning*

*Wall-hung cabinet makes cleaning easy (no legs), top is burnproof*

*Brick forms permanent, no-upkeep wall*

*Inexpensive rug washes readily*



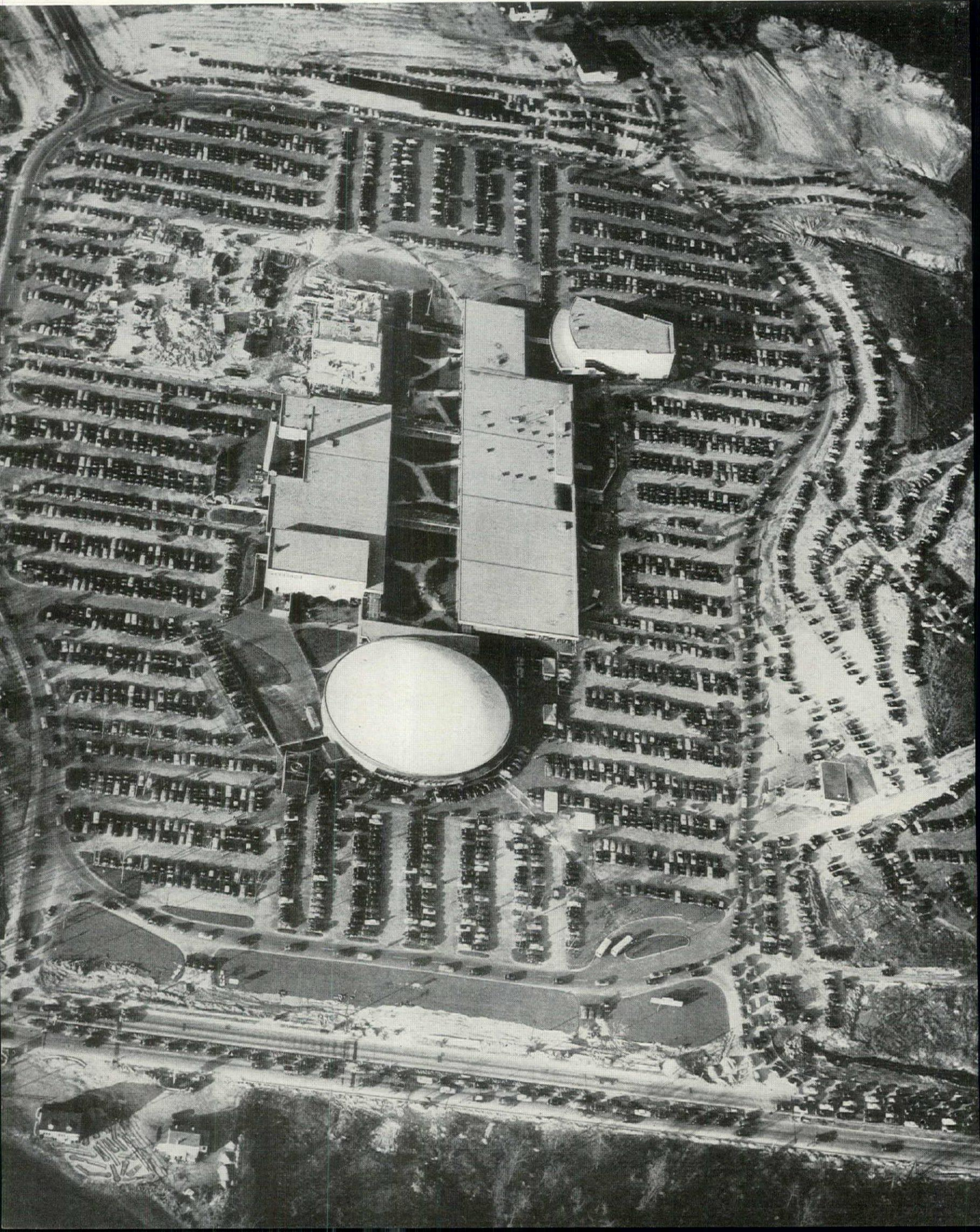
*Bamboo screen affords semiprivacy for study, sleeping areas*

*Storage unit has tray drawers, hanging space and dead storage above  
Doors perforated for ventilation*



# SHOPPERS' WORLD

in Framingham, Mass. proves that the right plan and





## the right stores will pull buyers from an entire suburban region

For years architects and merchandisers have been talking about the great Framingham Shopping Center—the project that started the whole regional shopping center movement. The well-filled parking lot you see in the air view opposite shows what happened when Framingham's 44 stores opened their doors all at once last month. It shows that the new pattern succeeded far beyond its sponsors' hopes.

In the first weeks of operation, enough customers regularly turned up to fill the center's 6,000 parking spaces. They stayed to buy more than enough merchandise to convince any remaining unbeliever that the regional shopping center is the biggest new development in retailing.

Boston's biggest department store, Jordan Marsh owned by Allied Stores, occupies 150,000 sq. ft. in this new center called "Shoppers' World," 19 miles north of Boston. In the first weeks of operation, the Jordan Marsh store did nearly 60% more volume, in less space, than the suburban department store in Northgate, a suburban shopping center seven miles outside Seattle, which Allied itself owns. A conservative planning estimate had put expected sales for all stores at \$32 million. Current sales are doubling this estimate.

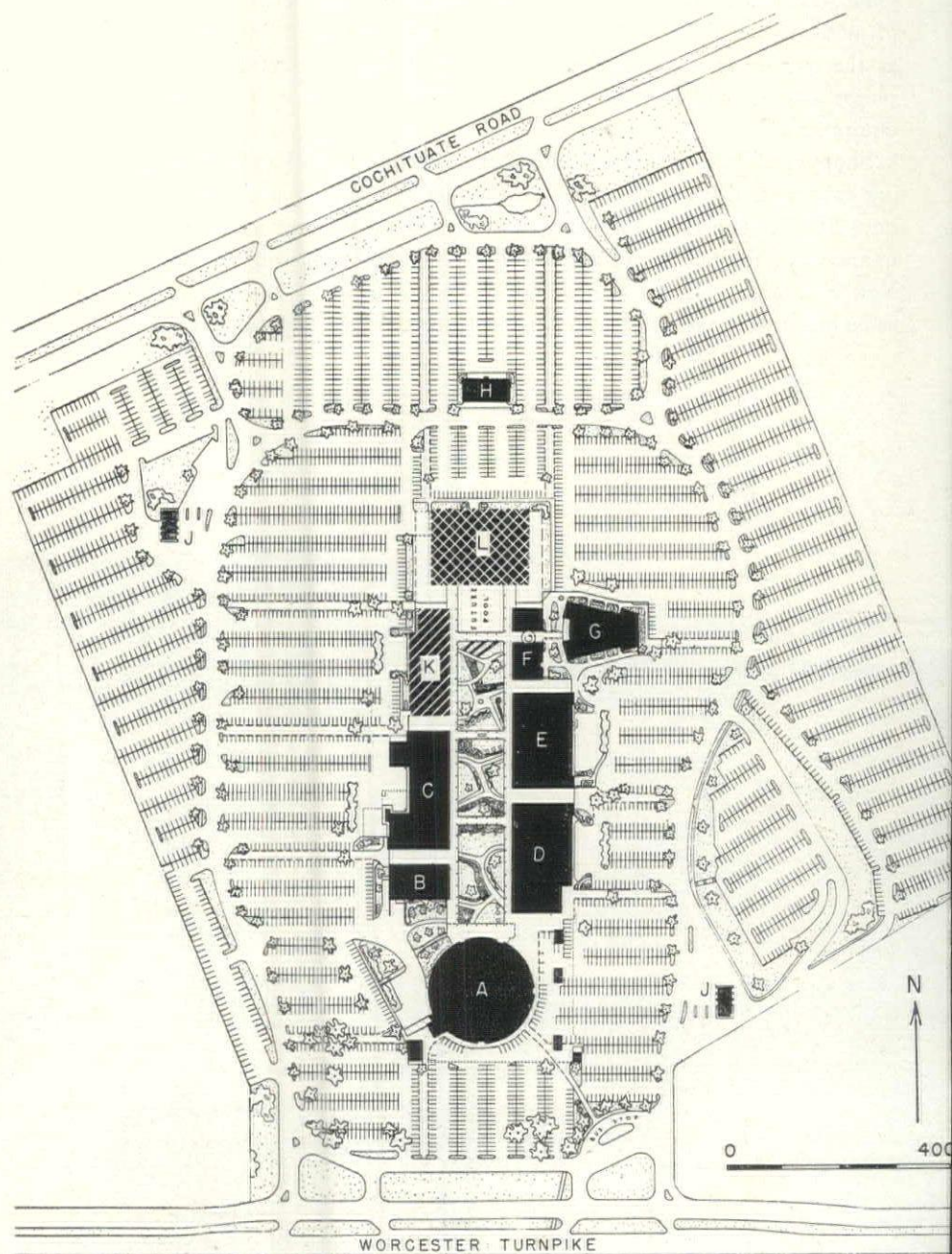
For the man who had organized this great retailing march to the suburbs, a positive Boston investor named Huston Rawls, what happened last month was a stunning confirmation of a gospel he has been preaching to big-city department stores for the last ten years: the right kind of stores, planned in the right relation to each other, can pull today's airborne shopper far away from normal traffic centers and convert 6 cents a foot meadowland into retailing frontage worth more than A-1 location downtown.

For the architects and planners responsible for giving this new retailing pattern its shape, the record of the sales checks was heartening evidence that a plan which provides proper separation of pedestrian, auto and truck traffic can give shoppers their first real chance to get at the merchandise.

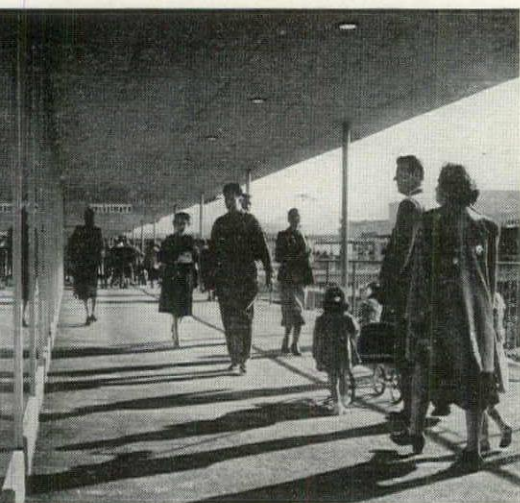
Impressive as Shoppers' World's 44 massed stores are, its "one-stop" shopping machinery is not yet complete. The vacant place at the north end of the mall (see photo) will soon be occupied by another major department store. This store will not, as Rawls once hoped, be Filene's, which decided that 19 miles was too far to venture and settled instead for a location on an existing suburban main street, only 10 miles from its downtown store. (Jordan Marsh president Ed Mitton figures that any branch within a 10 mile radius would take 60% of its volume from his downtown store). But New York's Lord & Taylor, which hitherto has favored lone wolf suburban locations, was looking with interest at the vacant place on the mall. This space will provide a store of 90,000-100,000 sq. ft. and bring the center's gross building area to 480,000 sq. ft. Sears' is already on hand, with a 30,000 sq. ft. store.

KETCHUM, GINA & SHARP, Architects  
KENNETH C. WELCH, Architect, Consultant on Economic Surveys  
ADAMS, HOWARD & GREELEY, Consultants on Site Planning  
ANDERSON & BECKWITH, Consulting Architects  
SEVERUD-ELSTADT-KRUEGER, Structural Engineers  
V. L. FALOTICO & ASSOCIATES, Mechanical Engineers  
SCHLANGER & HOFFBERG, Theater Consultants  
THEODORE CONTENT, Consultant on Theater Acoustics  
GEORGE ELY, Jordan Marsh Store Planning Division, Interior J.M. Store  
G. B. H. MACOMBER CO., Contractor

- A Jordan Marsh store
- B-F Double-deck store buildings
- G Theater
- H Auto service building
- J Filling Station
- K Store building under construction
- L Projected store building







*Window shoppers move along upper deck*



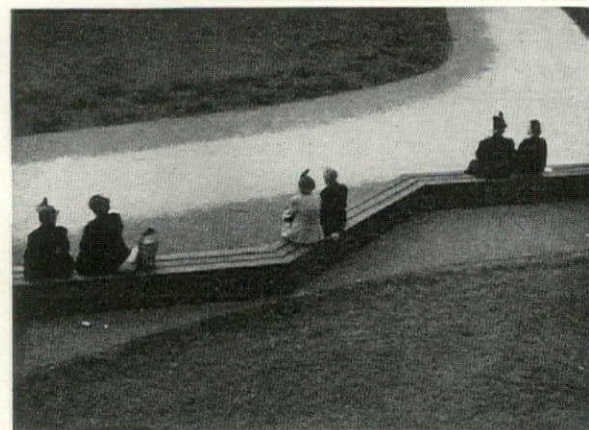
*Finished shopper waits on 18' path to parking area*



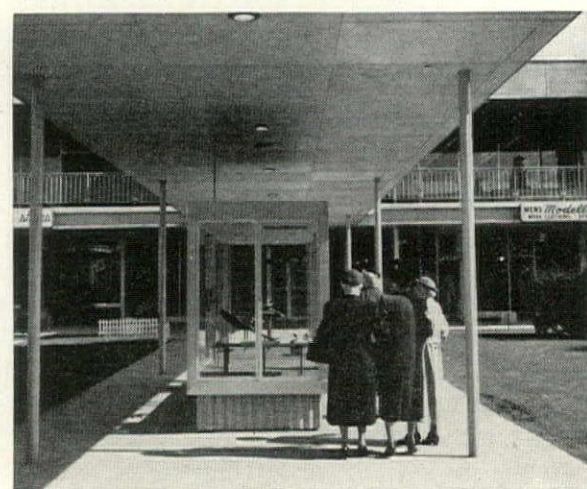
**Shopper's World** is a double-decked Main Street. The architectural plan stacks up retail space to keep walking distance along the length of the mall down to 665'. Balcony pathways connect stores fronting on the upper deck. The central green mall is below ground level, giving a bowl-like effect. The parking level (at grade behind) is midway between the two store levels, both of which are easy to reach by ramps, 4' up and 8' down.

Surrounding the landscaped mall, the building group itself is like a single giant show-case. Full-height glass fronts on both decks reveal 3000 lineal feet of merchandise display, planned to encourage maximum "impulse" shopping as the customers are pulled around the mall by the controlled location of major stores. Building cost was \$8.50 a sq. ft.; it cost another \$8 for equipment.

Shoppers' World has few national chain stores. Says Rawls: "Besides paying low rent, they won't spend any money on advertising." Jordan Marsh pays 2½%. The Equitable Life Insurance Co., a pioneer in shopping center finance, insisted that the center be 80% leased before it would advance funds. Now Equitable is impressed enough to finance Rawls' future centers as soon as he has lined up one major department store and one supermarket.

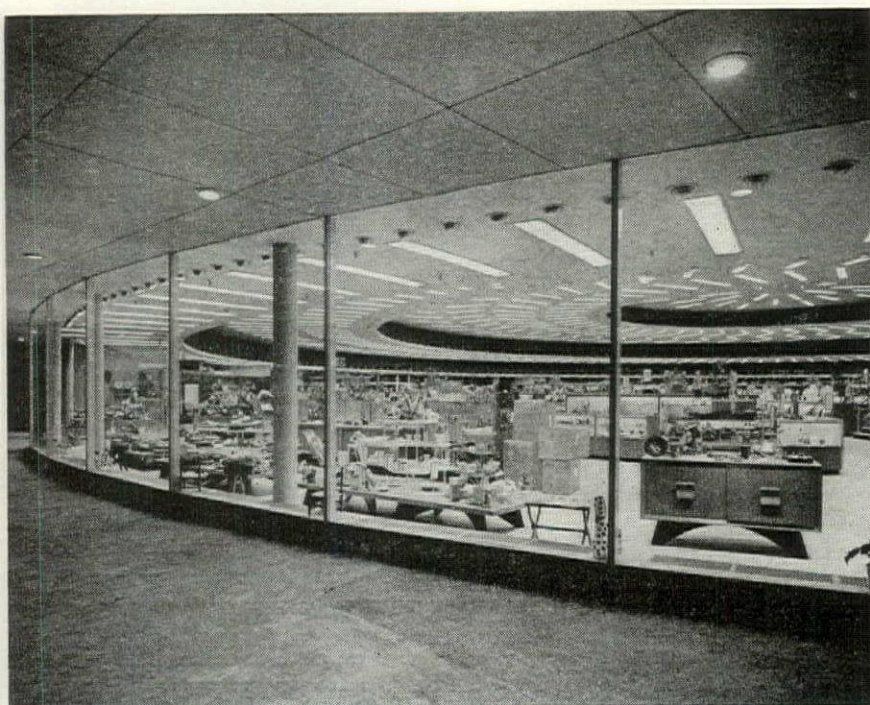
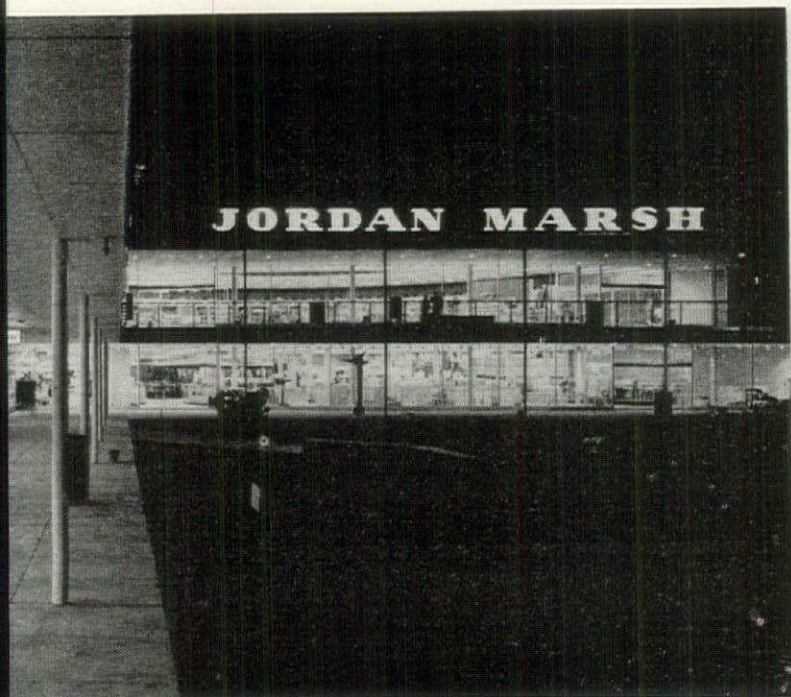


*Weary shoppers rest on benches on the grassy mall. Alert shoppers (below) eye art display on one of three bridges crossing the mall. Boston's Institute of Contemporary Arts loans art displays.*



*Parking area has 9' wide stalls, 2-way access roads, 6,000 car spaces. Architect Kenneth Welch believes, 2,500 additional spaces will be needed to take care of seasonal peaks. This would bring parking to a ratio of one space for every 55 sq. ft. gross building area.*

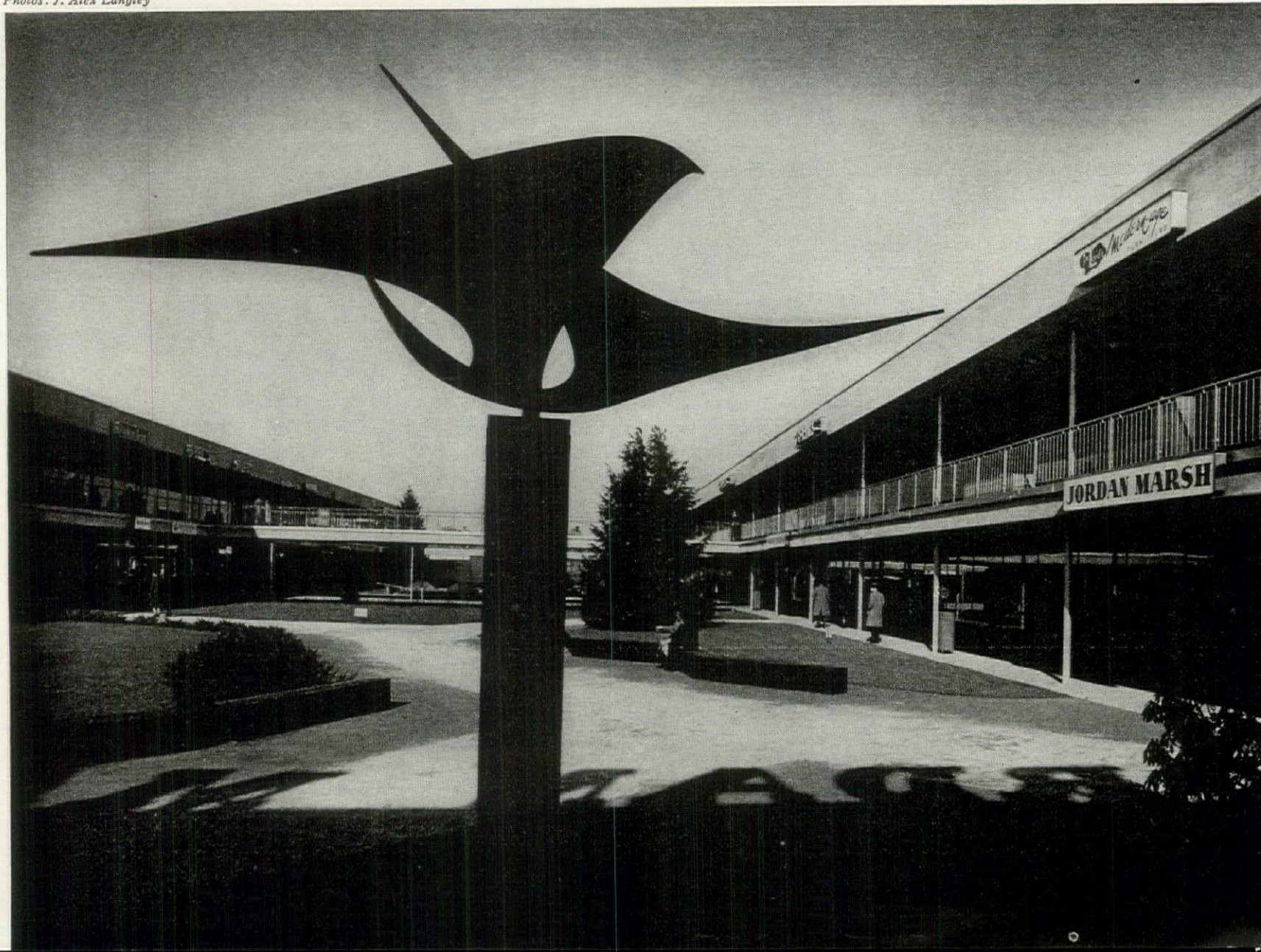




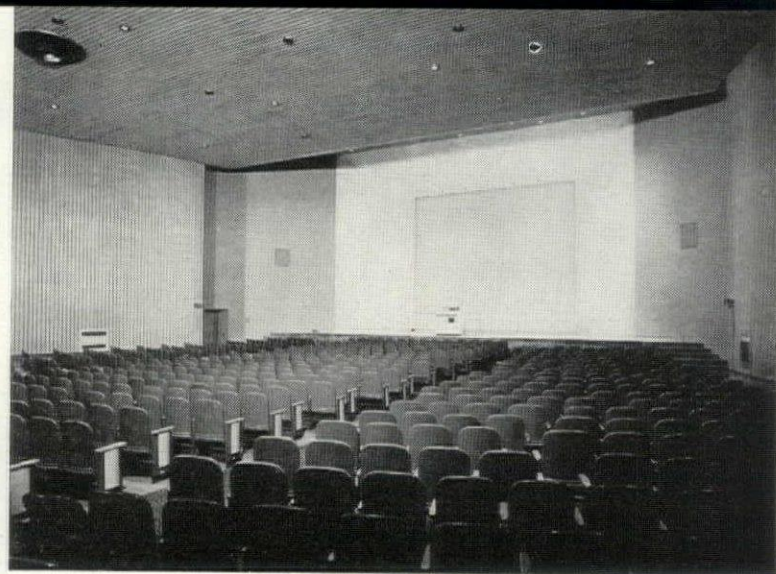
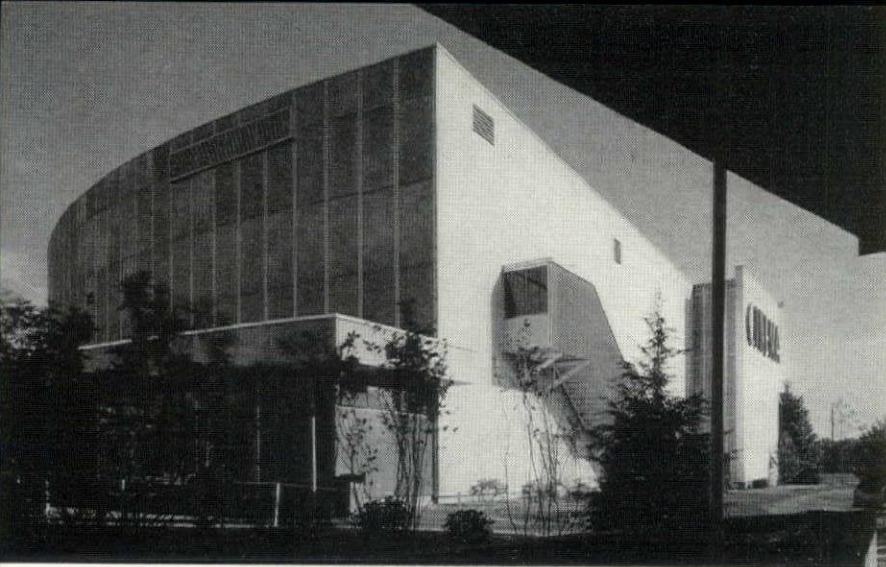
*Jordan-Marsh has 150,000 sq. ft. under this dome and is building another 22,000 sq. ft. down the mall for furniture. Dome, 227' wide, is largest clear-span dome in U. S. Supported by 36 arched steel beams, it provides column-free first floor space. Store has split-level plan: mezzanines above first floor and basement create four selling levels.*

*Mall is 100' wide, twice as wide as Northgate mall which many visitors call "alley-like," but not too wide to permit window-shopping from one side to another. The 665' length provides store frontage equal to 8-10 downtown city blocks. Here, with no traffic, shoppers can move freely from store to store. Owner is now planning to enclose all walkways in glass, believes this continuous vestibule will be worth its cost in saving interior heat loss.*

Photos: J. Alex Langley

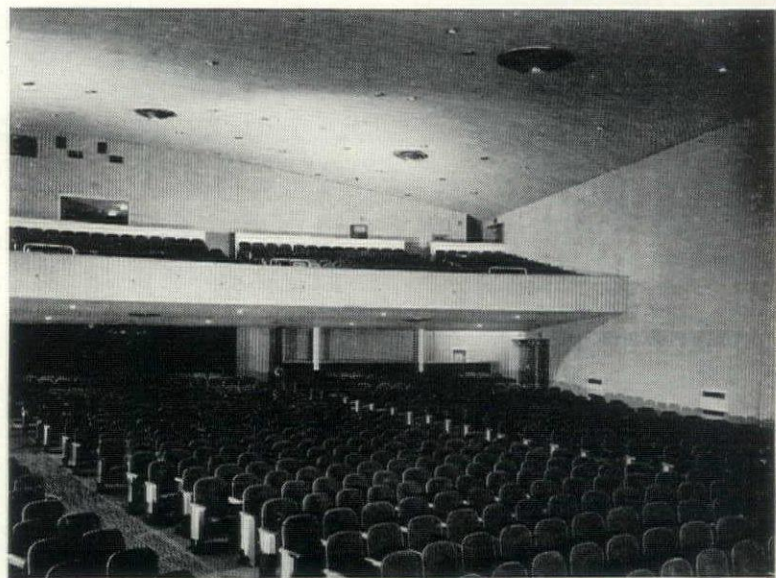






**The 1,500-seat theater** relies on ideal viewing and seating conditions to offset the dent television has made in the movie business. It even brings television right into the theater by placing a viewing screen in the lounge to amuse waiting customers.

Each seat has been individually placed at a point located by plotting the angle of the best sight line from the screen. Thus rows are not filled out in the usual symmetrical plan (see photo). The walls and ceiling are treated with a variety of surfaces ranging from plywood (for greater resonance) to soft materials for maximum sound absorption. This carefully studied acoustic treatment is all concealed beneath a simple and attractive interior finish of a new perforated metal panel material. The movie screen is set in a curved plaster wall, whose specular surface will have the same light value as the screen itself, thus eliminating glare. The entire lobby can be seen from the mall through a glass front, with light baffled out at the doorless entry to the theater proper. Ketchum, Gina & Sharp and their consultants designed both the theater building and the interior.



Photos (above): Joseph W. Molitor

### Three men are responsible for Shoppers' World

As president of Suburban Centers Trust, Inc., Huston Rawls (center below) staked the funds of a cautious group of Boston real estate investors on his conviction that retailing had to follow its best customers out to the suburbs. As a partner of the top architectural firm that designed the center, Morris Ketchum (r) created the kind of "grass-on-Main-Street" building pattern that planners have dreamed about for decades. But it was Kenneth Welch, an architect who is also vice-president of the

Grand Rapids Store Equipment Co., who brought Investor Rawls and Architect Ketchum together and who inspired them both with his own early vision of what the automobile was doing to U. S. building patterns.

Ken Welch is the kind of architect who can be seen, stop watch in hand, clocking the number of customers going into a store (he clocked a small Filene's branch last month, discovered .9 of a purchase per customer as compared with 2.1 purchases downtown). He flew down to Venezuela the next week to look over a site for a possible shopping center. The Venezuelans were in a mood to keep foreigners out of airplanes, thereby thwarting Welch's customary urge to take aerial photos of the building site. He managed to hire a jeep, take them from a mountaintop instead.

Hosts of department store executives familiar with the Welch gusto and drive find it hard to remember that his official business is designing and selling store equipment. From this corner, Architect Welch has branched out to become a kind of chief adviser on building to most of the stores in the country and a perfect fountain of mind-jogging ideas for his fellow professionals.

Born close to the auto-center of the U. S.,

Welch was early to see how the automobile was freeing the shopper from the gridiron path of yesterday's mass transit. This early view was more than confirmed during a year he spent recovering from a cardiac ailment and studying city planning. He watched Sears-Roebuck's early retail outlets appear on railroad sidings, began urging department stores to follow Sears' lead out to where parking was plentiful. Strawbridge & Clothier in Philadelphia took his advice and opened a suburban branch in 1929.

Since then Architect Welch's role in shopping center planning has been as many-sided as his own lively mind. He is, by turns, market analyst, traffic consultant, parking expert, design consultant. He persuaded Huston Rawls to embrace his own view of greenbelt-protected suburban center, planned for comparative shopping and provided with more parking than anyone had dreamed necessary before. Rawls asked him to become vice-president of Suburban Centers and commissioned him to assemble the top planning staff listed on p. 181.

"Today's suburban shopping center," Welch says, "succeeds because its careful and balanced selection of stores, its good contemporary architecture and sound planning bring real benefit to the community, as well as to the merchant."





# MARSHALL FIELD'S NEW SHOPPING CENTER

will be the world's biggest.

Four top architects help with the design

Preliminary plans for the biggest of all suburban shopping centers have just been revealed by Marshall Field & Co. They contemplate a real estate development something like building the entire shopping district of Indianapolis in one whack—a 1½ million sq. ft., 7,300 car project aimed at an annual sales volume between \$70 million and \$110 million.

This is a design problem so big that almost every normal study procedure must be projected into the unknown, so Field asked four top architectural firms to put their talents to work on the preliminary plans. Their studies are reported separately on the following pages.

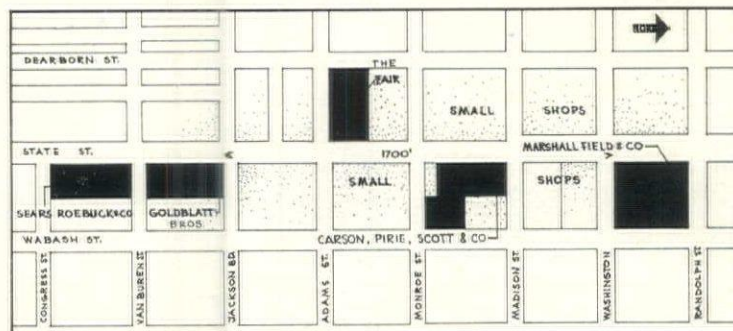
All these firms agree that for this planning study there were no precedents and no guideposts. Every aspect of the design was so enlarged in scale that there was very little existing building practice to which it could be compared. Several of the architects found, in fact, that the nearest comparative for their plans was Chicago's State Street itself. Their shopping mall turned out to be State Street all over again: their carefully studied pattern of store location (which gently graded from high-priced stores on the north to low-priced stores on the south) turned out to duplicate, to an amazing degree, the retailing pattern set up in downtown Chicago by a century of natural competition. But it was State Street with snarling traffic replaced by grass and trees and, by every economy and artifice of contemporary design, cut down to half the weary length a determined comparative shopper would have to traverse downtown.

Marshall Field & Co. plans, for an 80-acre site in Skokie, 16 miles north of Chicago's Loop, are one more vote—and the most impressive so far—for comparative shopping as what it takes to guarantee a suburban investment. Marshall Field will move north supported by at least two other major department stores (Carson, Pirie, Scott & Co. and the Fair have already shown interest) and by more than 85 other stores. This is the kind of center Field's thinks it needs to create drawing power big enough to support a department store where the customer can find "anything she finds downtown."

Field's own suburban store is projected at 350,000 or

more sq. ft.—small compared with the 2,000,000 sq. ft. Field now operates on Chicago's State Street, but still much bigger than any existing suburban store and 50,000 sq. ft. bigger than even the store J. L. Hudson planned for its now deferred Eastland shopping center (*Aug. issue '50*). The Field store at Skokie would be more than twice the size of Allied's Jordan Marsh store in Framingham (*p. 180*), and Skokie's total shopping area of 1½ million sq. ft. will be three times the total size of Framingham.

When Fields started eyeing the suburbs, all their top executives agreed on at least one point. Any new move to the suburbs would have to be a leap and not a shuffle.\* "We decided," said Board Chairman Hughston M.



Chicago's State Street

McBain, "to make no suburban move unless we could build a store big enough to give us complete representation in all lines and in depth."

The preliminary plans for the Marshall Field center owe their fascination not only to the unprecedented scale of the design problem, but also to the unique character of Marshall Field & Co. and to the hard spadework done by Chairman McBain and other top executives who spent three years studying shopping centers before they wrote the preliminary program.

In contrast to Framingham, which was developed and is owned by independent real estate investors, the Field shopping center has been planned by a large commitment of the time of top Field executives and will be built and owned by the store. Any other course

\* Marshall Field was speaking from experience. Suburban stores opened in Evanston and Oak Park in 1926 are now doing \$8 million as compared to the \$3 million anticipated. No parking was provided for either of them and, Field's executives say, it's now as hard to find a place to park in the Evanston shopping district as it is downtown.



Field President James L. Palmer (l.) and Board Chairman Hughston M. McBain.



would be inconceivable to Field management, not only because of the store's long experience in real estate investment but also because of its place as an acknowledged center of the whole Chicago community. (For generations of Chicagoans, "tea at Field's" with string music and a fountain, has been what you do on Saturdays.) Now marking 100 years on State Street, Marshall Field & Co., and especially the private investments of Marshall Field himself, probably have had more to do with setting the pattern of real estate development in Chicago than anybody else. The notion of creating a commercial district big enough for a city of 500,000 people was no staggering assignment to a store which had, for only one example, built the nation's biggest office building (Merchandise Mart). Marshall Field management was not only undismayed by the size of the job, but also—so sure and unselfconscious by this time is their acceptance of leadership in the Chicago retailing community—convinced that they owed it to local merchants to set the right kind of pattern for the inevitable development of suburban retailing.

**What about the carriage trade?** But not the least fascinating aspect of Field's plans is the juxtaposition of the traditional character of the Field store with today's dominant trends in merchandising, as they are brought to a climax in the pattern of the shopping center. Field's has been a "carriage trade" store ever since axletrees used to sink into the mud of State Street. On the other hand, the suburban shopping center is the ultimate development of the trend towards self-service and sharply reduced distribution costs which has been gathering momentum in retailing over the last decade (*July issue '50*). For example: "The regional shopping center," says Architect Morris Ketchum, "by its liberal parking provisions, permits extension of self-service to self-handling of deliveries." This is one of the big keys to the shopping center as a distribution cost-cutter: it turns the shopper's automobile into a market basket. But what will this mean, say, to a North Shore dowager in a chauffeur-driven limousine? For Field's this is anything but a joking matter.

The anomaly of Field's merchandising position is that it has become the big, the dominant store, not only in Chicago but in the whole huge Midwest retail market without substantially relaxing the character, and expense, of its "carriage trade" service to the customer. These two aspects of Field's merchandising make exciting demands on the design of its shopping center. On the one hand, the center has to be planned to exploit every opportunity for cutting the cost of distribution. On the other, its designers must be inventive enough to make it a positive pleasure for the shopper to take advantage of these cost-cutting opportunities and to create a building group with an excitement and appeal and dignity as remote from the "supermarket" atmosphere as the San Marco Plaza in Venice.

**No movie theater.** A great deal of the success with which the various architects have met these requirements is due to the clarity of Field's analysis of its objectives. Field's spent three years making this analysis; among other things, Vice President John McKinlay, Jr. visited every existing shopping center in the U. S., traveling by car and staying at motels ("You get an entirely different picture of the country"). One leading fact that McKinlay was clear about from the very beginning is that Field's is building first-class retail frontage. "You don't expect to get your shoes repaired on State Street." This does not mean that there will be no supermarket or no "convenience" stores. It does mean that there will be only enough supermarket space to take care of

the shopper who may, say once a week, combine her grocery shopping with a general shopping trip but otherwise will do food shopping nearer home. It does mean that the great majority of store space has been allotted to profitable "shopping goods" or soft-line stores, with only the minimum of "convenience" stores deemed essential to the comfort of the shopper.

There will be an auditorium seating 1,400—but no movie theater. Field's thinking was influenced less by the fact that the theater business isn't what it used to be than by the fact that movies would take up too much parking space, especially at night. For night openings are one more new retailing trend on the horizon for the suburban shopping center.

**How much parking?** Field's seven-page program specified the exact amount of footage to be given to each of some 90 stores. (Footage was specified on the basis of a series of market surveys which established the size of the trading area and the amounts families in each part of it will spend on different types of merchandise. An analysis of state sales tax returns showed the percentage of family income spent in each type of store.) The program specified that slightly over half of the nondepartment stores was to be in two-story construction, and the rest in one-story space. It specified the exact amount of basement space required for each tenant. It asked for an underground truck delivery scheme, provision for suburban bus and shuttle bus. It described the architectural character Field's hope to achieve. The only part of these very exact specifications with which any of the architects disagreed was the one on parking. The program called for customer parking for 5,000 cars and employee parking for 2,000. Both Shaw, Metz & Dolio and the firms of Ketchum, Gina & Sharp and Perkins & Will (associated for this project) recommended some 1,500 additional spaces for customer parking. (Parking is the most delicate and uncertain of all the estimates that go into the shopping center; nobody really knows how much parking is necessary to take care comfortably of the combined pulling power of a center like this. Architect Kenneth Welch has always hammered the importance of having enough for the "last Saturday before Christmas." The full importance of this yardstick lies in the fact that, for some merchants, the seasonal peaks may be the difference between making a profit or breaking even. If there is not enough parking for these peaks, the big profits may pass a center by.) McKinlay, however, is still conservative on parking required. "So far," he says, "parking has been like the early stage in penicillin—nobody has had enough. But in the future we're not going to be dealing with the big expansion in automobile ownership per family that we've seen in the last decade."

**How big is big enough?** Field's need for complete stock in breadth and depth has pushed the size of its shopping center to what may stand as the ultimate maximum in this building type. To go much farther would probably produce unmanageable traffic problems and defeat the central purpose of this new building pattern: easy shopping and a free flow of all the necessary traffic elements. Says McKinlay: "We'll seek additional location after a certain point. And \$100 million may turn out to be the limit."

**What happens downtown?** Some observers of retailing's current march to the suburbs see only a dark picture ahead for Main Street, with today's glittering mercantile palaces beginning to slide to "bargain basement retailing" for whatever customers emerge from the encroaching slums. This is a view not



shared by the astute merchants of Marshall Field & Co. They point to the great strides which urban redevelopment is already making in Chicago's seedy areas (the New York Life project is only one example) and to Chicago's big boom in 18-20-story apartment building. "The apartment building pace alone," they say, "ensures substantial additions to the population of the city proper and to the supply of middle-income customers for State Street stores." While they expect the major increase in future volume to come from the suburbs, Marshall Field & Co. are equally sure that their 2 million sq. ft. downtown will more than hold its own.

### **Paths of shoppers, cars, buses and trucks are key to shopping center plan**

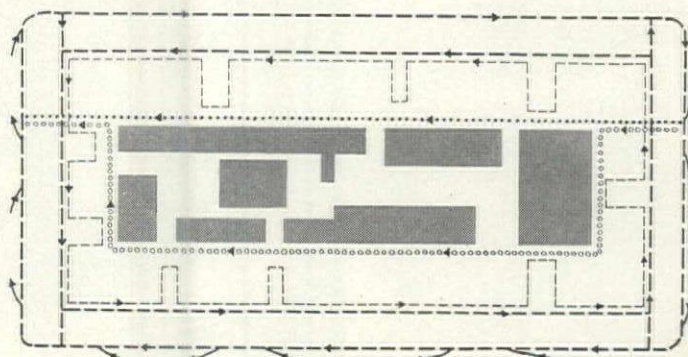
Venturing a building pattern of a size almost nobody has ventured before, Marshall Field & Co. wanted to investigate the planning approach of more than one competent architect. Accordingly, Field's asked four leading Chicago architectural firms to prepare preliminary studies or "pilot plans" for the site. One of these firms associated for the purpose of the study with the New York firm which designed Framingham (see pp. 180-184) and which can be credited for many of today's innovations in store design.

Field's management has found all these preliminary studies richly rewarding. They will make no decision on the firm or firms that may be commissioned to undertake the final building plans until they see the way clear to start building.

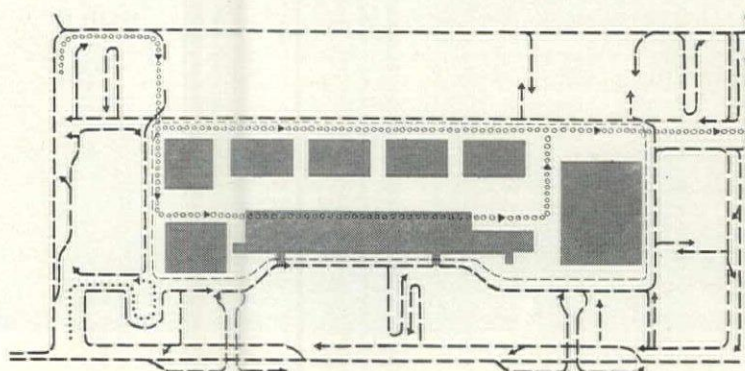
The four studies, summarized briefly on the following pages, show some interesting differences in approach to the problems of the shopping center.\* Basic schemes for disposition of store buildings around a central traffic-free mall or plaza are diagrammed on this page for a quick comparison. While the plans differ both in general scheme and in detail, there is one important generality to be seen in the way all the architects have approached this study: the regional shopping center is, above all, a problem in traffic handling. It is interesting to reflect that this challenging new building pattern is in the hands of the "modern" architect: the architect who only several decades ago recognized that movement—the simple traffic of a family through a house—was the key to a plan. This vision of the importance of motion, perhaps more than anything else, overrode yesterday's traditional space allotment, which cut space into static cubicles. In the new building pattern of the shopping center, today's architect is called upon to understand and relate—not just the simple movement of a family through a house—but a traffic complex composed of automobiles, pedestrians, trucks, busses and merchandise. The plans on the following page are impressive evidence that his equipment and insight are up to the problem.

\* For obvious reasons, the editors have tried to avoid any direct evaluation of the merit of one plan compared to another, but will be highly interested in publishing comments from readers.

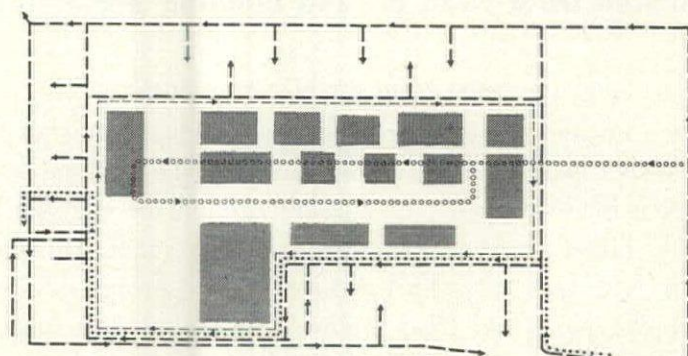
--- PRIVATE CARS  
--- SHUTTLE BUS  
..... SUBURBAN BUS  
..... TRUCK



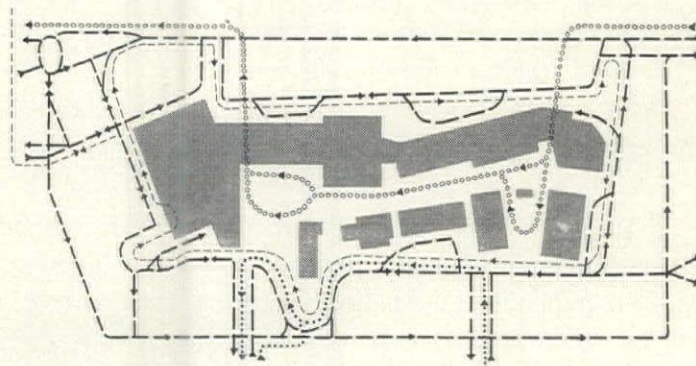
*Modified rectangular plan places some building elements in plaza to divide long sweep of mall into separate vistas. Parking is evenly distributed around central building group.*



*Rectangular plan places all buildings around central plaza. Parking is evenly distributed around central building group.*

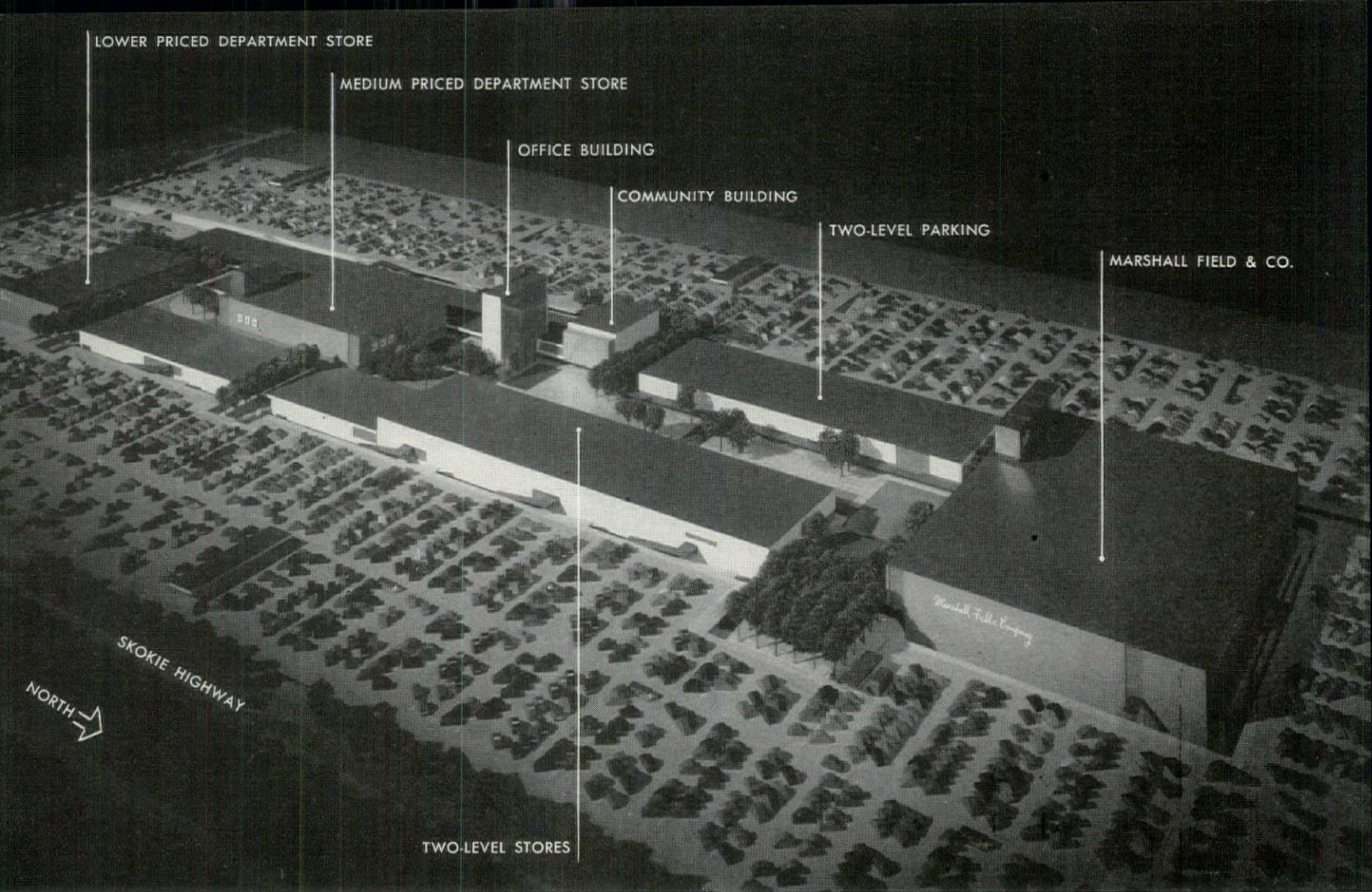


*Finger plan intersperses buildings with parking courts depressed to basement level, puts main store directly on highway. Customer's parking is distributed on three sides; employees' parking is on fourth.*



*Informal variation of rectangular scheme places each building group for maximum variation of interior vista. Parking is evenly distributed.*





## MODULATED PLAZA PLAN puts main store level midway between double-deck parking, has sunken truck road around building perimeter

This plan takes its shape from three main elements:

- ▶ Location of store buildings on a simple rectangular shopping plaza.
- ▶ Double-deck parking over three-fourths of the parking area.
- ▶ A sunken roadway (not roofed over) around the store building rectangle, giving trucks direct access to basement unloading space. This sunken road also provides an outer lane for suburban buses, which brings shoppers into the heart of the shopping plaza and frees highways from bus stop congestion.

These major elements of the plan, all interdependent, grew from an architectural study which considered *traffic* as both the basis of the problem and the key to its solution. The architects pushed their traffic analysis along these main avenues of inquiry:

1. Passenger car traffic outside the site (a peak of over 4,000 cars an hour can be expected to enter the center from surrounding highways).
2. Parking traffic inside the site.
3. Pedestrian traffic through the shopping plaza, through the stores themselves and through the parking space.
4. Suburban bus traffic (expected to bring 15% of all shoppers).
5. Merchandise traffic. This major study began with investigation of directions from which trucks would approach on major highways and included every aspect of merchandise unloading, marking and movement through stores to delivery by center trucks or to shoppers' cars.

The solution rests its merit on the success with which it has made a clear separation of all these lines of traffic and provided for each one within a basically simple scheme.

Associated Architects: KETCHUM, GINA & SHARP; PERKINS & WILL

Consultants: L. G. WILKIE and Architect KENNETH WELCH, Traffic Surveys

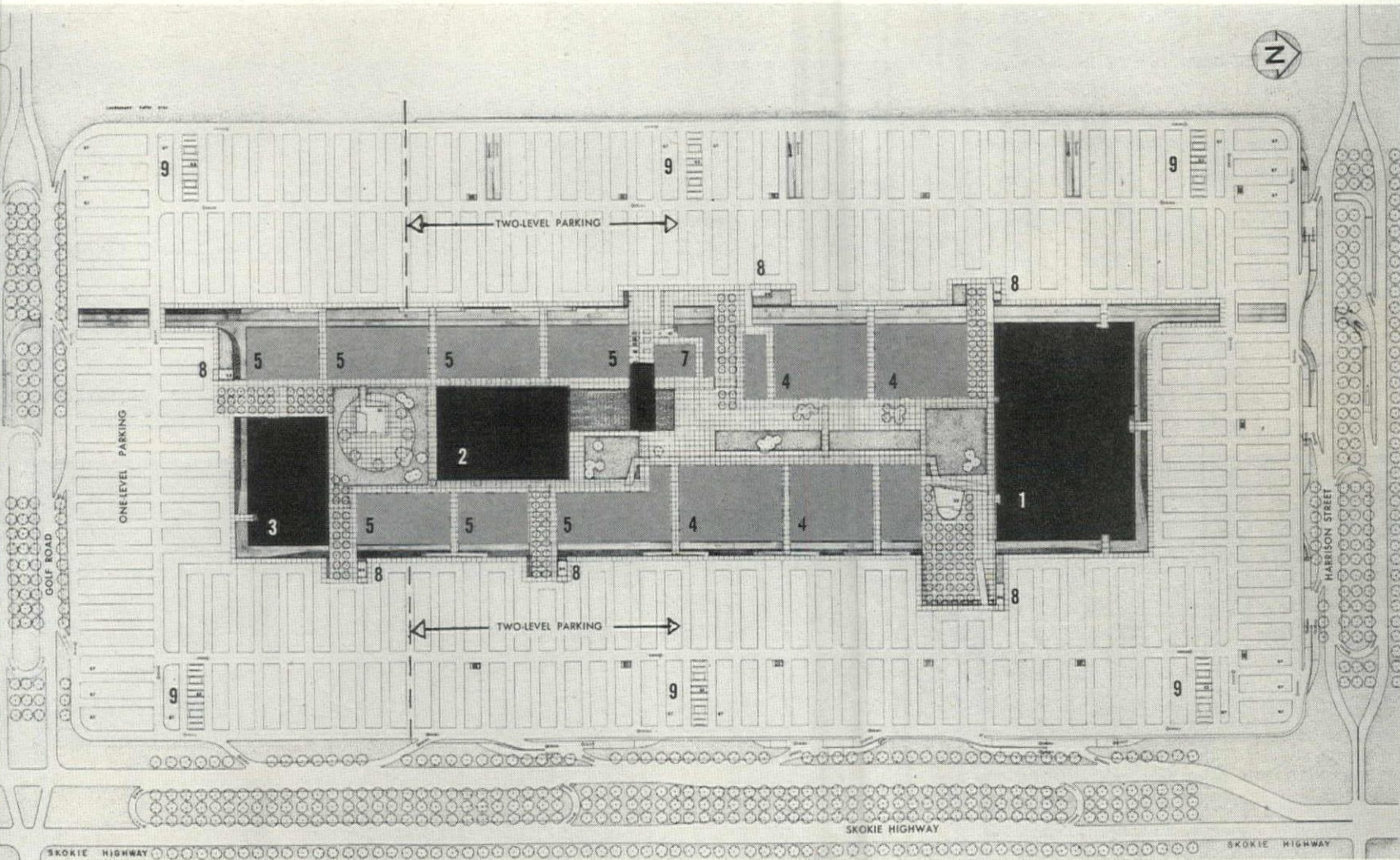
SEVERUD-ELSTAD-KRUEGER, Structural Design

SYSKA & HENNESSY, Mechanical Design

THOMAS CHURCH, Landscape Design

**Store location.** Marshall Field & Co. (planned for three floors and basement) dominates the shopping plaza on the right. Heavy traffic approach to the site will be from the left, or south, side; thus the Field store is expected to act as a major "puller," moving shopping traffic from left to right across the shopping mall. To balance this pull, the lower-priced and medium-priced department stores share an interior courtyard at the south end of the building rectangle. The medium-priced department store is placed right across the mall, and this location is part of a carefully calculated scheme to introduce major traffic pulls near the center of the 1,200' long mall. The community building group (which includes office space for store management, doctors, dentists, etc. and an auditorium) acts as another major puller, projecting out into and breaking the length of the mall to avoid a corridor or "Pullman car" feeling. These building elements limit vista





1. Marshall Field store
2. Medium-priced department store
3. Lower-priced department store
4. Two-story store buildings
5. One-story store buildings
6. Office building
7. Auditorium
8. Package pickup stations
9. Automobile service station

**TRAFFIC ACCESS.** This plan urges that highway authorities be asked to build an entry and exit to the new Eden's Expressway which lies about  $\frac{1}{2}$  mile west of the site; this would help to equalize traffic on all three boundary roads. Widening of all these roads is recommended. The existing main, six-lane highway (Skokie) would be split into three north-bound lanes and three south-bound lanes divided by a broad center island (planted with tall shade trees). Cross-over islands plus a number of deceleration

lanes on all roads would permit traffic entering the site to move out of the main traffic stream.

**SHOPPING PLAZA** is developed as a changing pattern of buildings and landscaped courts. Setting buildings in the plaza rather than around it holds the sweep of this great building group down to human scale. Each building is related to its own courtyard, and each courtyard is landscaped and treated in a distinctive manner. Note that this plan also holds perimeter of building group to a minimum.

along the mall to 300' in any direction, a range the shopper can easily comprehend. When the shopper has covered one section of the mall, a new vista will help to pull her along to another. The mall itself is divided into a series of intimate courtyards, each serving a different group of buildings.

In general, store location has been planned to place merchandise of like kinds and price next to each other to give maximum opportunity for comparative shopping. Lower-priced stores have been placed at the south, between the lower-priced and medium-priced department stores. Medium- and higher-priced stores have been placed at the north, between the medium-priced department store and the Field store. (In all these plans, general principles of store placement are only the roughest summary of intricate studies intended to give each one of some 90 different building elements the place where it could benefit most from controlled traffic flow through the shopping center.)

**Double-deck parking.** Although it costs about \$7 a sq. ft. compared to \$1 a sq. ft. for well-lighted grade parking space, double-decking was considered essential to the size of the scheme. "With  $1\frac{1}{2}$  million sq. ft. of store space programmed, estimates of parking required ranged from 7,000 to 8,500," the architects say. "Double-decking was necessary to bring this vast amount of parking within reasonable walking distance (350-400' of the stores)." Slope of the site made this solution practical. With only slight exaggeration of the natural slope, upper deck parking will be at grade on the south side of the site; lower deck will be at grade on the north side. The mall level is placed halfway between the two decks with  $5\frac{1}{2}'$  ramps up and down.

The double-deck scheme also has the advantage of flexibility for future expansion (only one-fourth the area need be double-decked to start; the second deck can be added as needed) and of providing a covered area for shoppers arriving in bad weather. The park-

ing scheme adopted in this preliminary plan calls for 90° parking in  $8\frac{1}{2}'$  wide spaces.

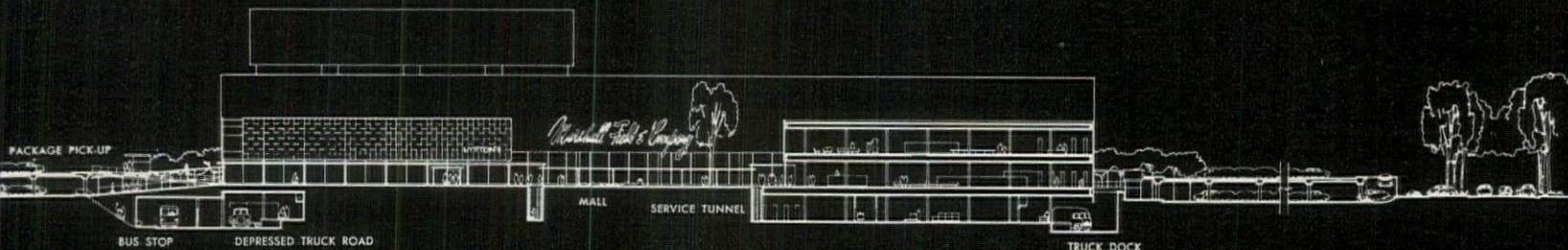
Lower-deck parking will have natural light and ventilation. Full-height openings are provided along the interior by the sunken truck road and along the exterior by the natural difference in grade. There will also be open slots between each row of car spaces on the upper deck. The architects believe only a few exhaust fans would be needed.

No roof parking was proposed. The architects believe the small amount of parking space which could be so obtained would not justify the expense of strengthening structure and building ramps to accommodate it. Roof parking also prevents vertical expansion.

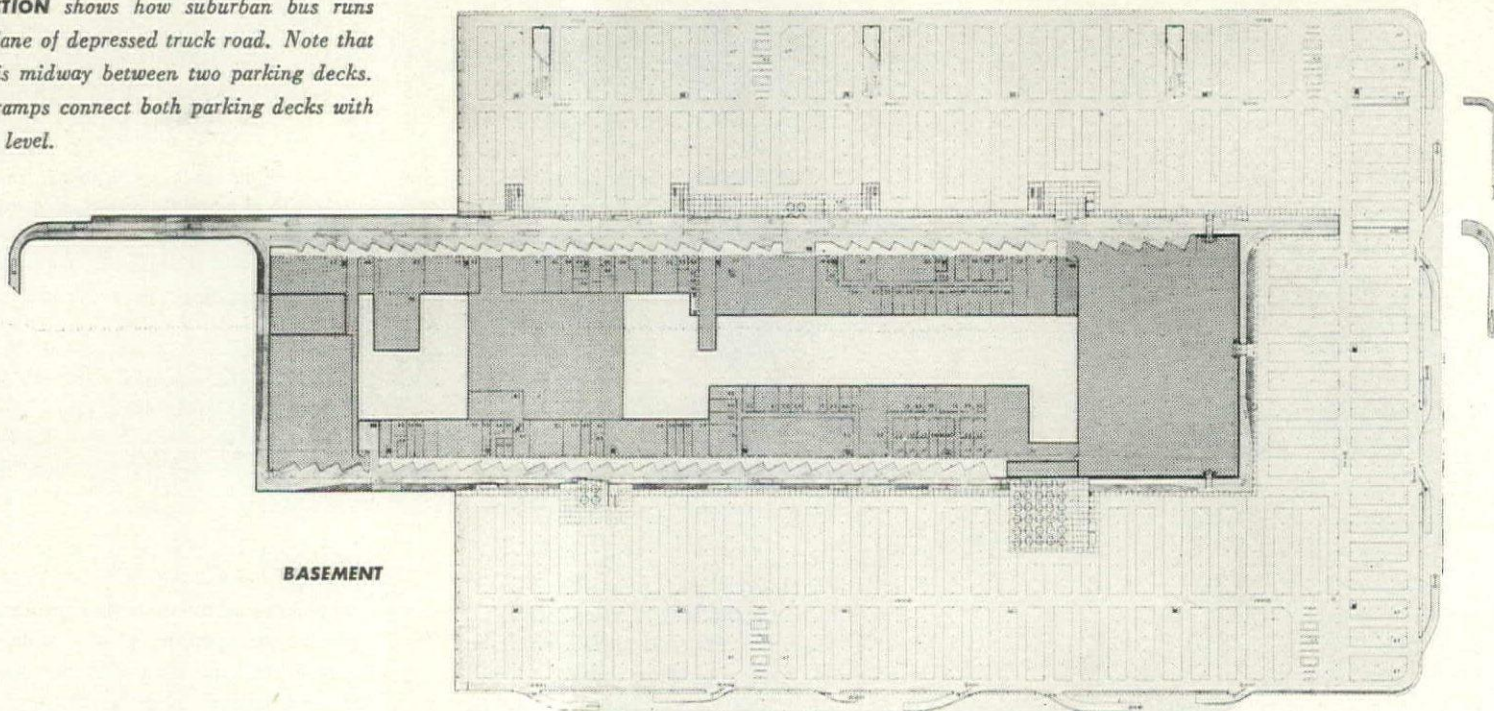
**Package pickup.** A preliminary scheme separates parking into six areas with one pickup station for each. After parking her car, each shopper picks up a colored tag indicating her parking field. At the point of sale, her package is tagged with this color. The



**MARSHALL FIELD STORE**, in red brick and marble, is sketched as it would be seen from the main highway. Small building in front is a package pickup station. Automobiles can drive past it on u-roads through parking area.



**CROSS-SECTION** shows how suburban bus runs along one lane of depressed truck road. Note that mall level is midway between two parking decks. Easy  $5\frac{1}{2}'$  ramps connect both parking decks with main store level.



package is chuted to a basement conveyor running all around the center, with each car painted a different color. Color-keyed packages are taken off at their color station, then sorted for customer at a pickup station located on the perimeter of the building group. "Package pickup," the architects say, "must be made so convenient that the customer will prefer taking packages home in her own car to waiting for delivery."

**Trucking access.** A major innovation in this scheme, the sunken roadway for trucks replaces the basement tunnel under the mall usually planned for centers of this size. It undercuts the tunnel considerably in cost of construction and requires no lighting and ventilation. This plan calls for saw-tooth docks,

whose angle permits a 45' truck and trailer to back in for unloading, leaving the one-way road free for passage of other trucks. To meet unloading requirements of small shops, usually served by 20-30' parcel delivery trucks, these saw-tooth docks can be filled in by wooden platforms. Home delivery trucks would also be routed through this tunnel.

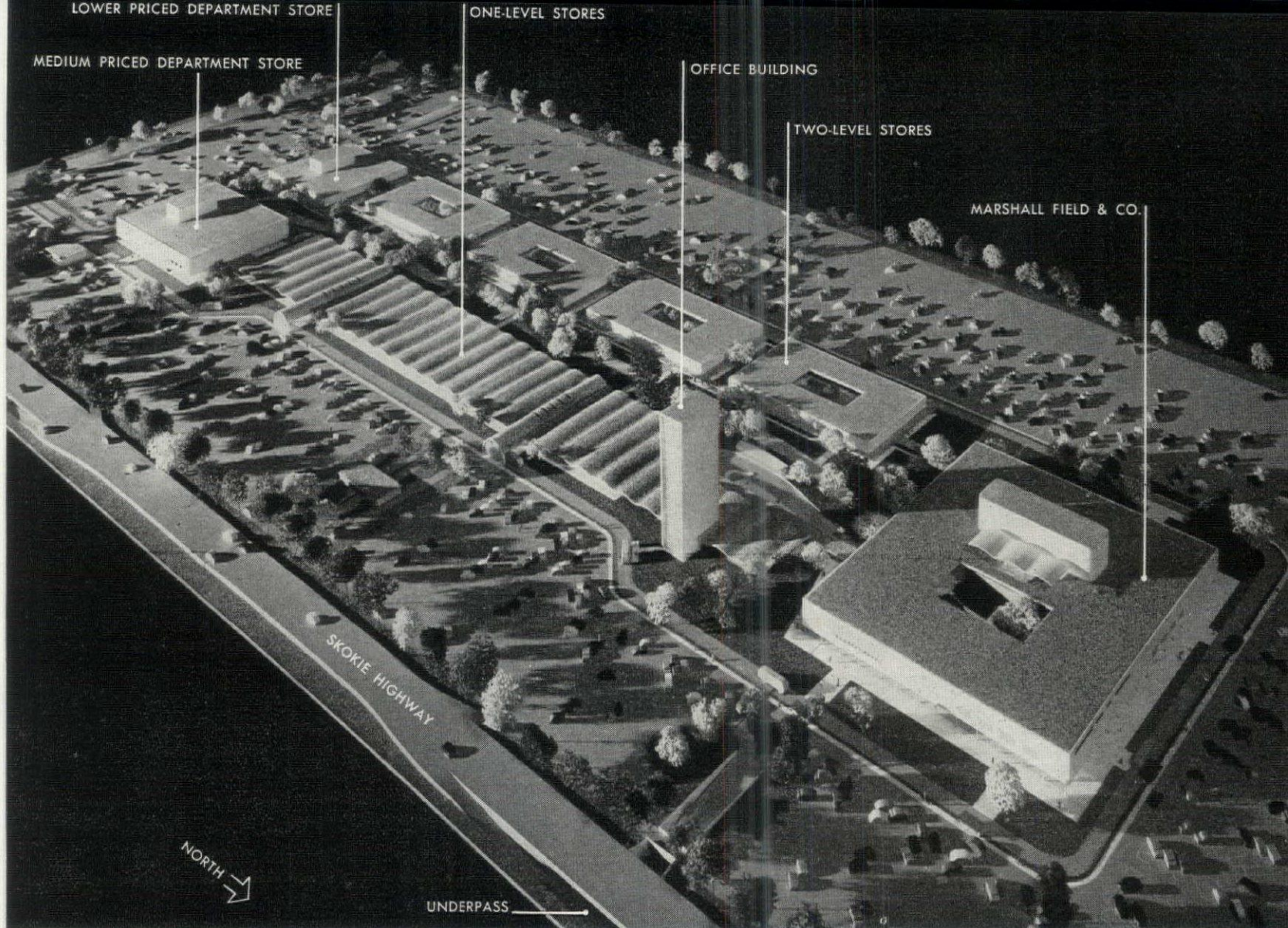
Overpasses above this sunken road would connect surrounding parking space with arcades leading to the mall or shopping plaza. (In this plan, the vast merchandise handling requirements for  $1\frac{1}{2}$  million sq. ft. of store space precluded consideration of any scheme for double-decking the store buildings as was done at Framingham. The Framingham plan, which provides a greater concentration of retail space (see page 181), cuts down founda-

tion costs. But it is harder to handle both merchandise transportation and basement space for each store in a 2-level scheme.

**Bus access.** Both suburban busses and the shuttle bus which shoppers and employees can use to ride to the railroad station will use the outer lane of the sunken truck road. The architects suggest that the shuttle bus be supplemented by a caterpillar train moving slowly along the plaza walkways.

**Construction.** Reinforced concrete is proposed except for the one-story buildings, which would be framed by steel pipe columns, steel girders (replaced by wood if necessary), and wood roof joists. Bay of 40' x 40' is proposed for the three major department stores, and of 20 x 40' in other store buildings.





Photos of (models): Hedrich-Blessing

## SIMPLE BUILDING RECTANGLE has front parking dropped slightly for better view

Architects: SHAW, METZ & DOLIO

This plan, which also takes its shape from an analysis of the major traffic elements, is especially notable for a relatively simple solution to what may be considered the No. 1 traffic problem in a center of this size: getting cars off the surrounding highways without pile-ups either outside or inside the site (*see following page for this solution*).

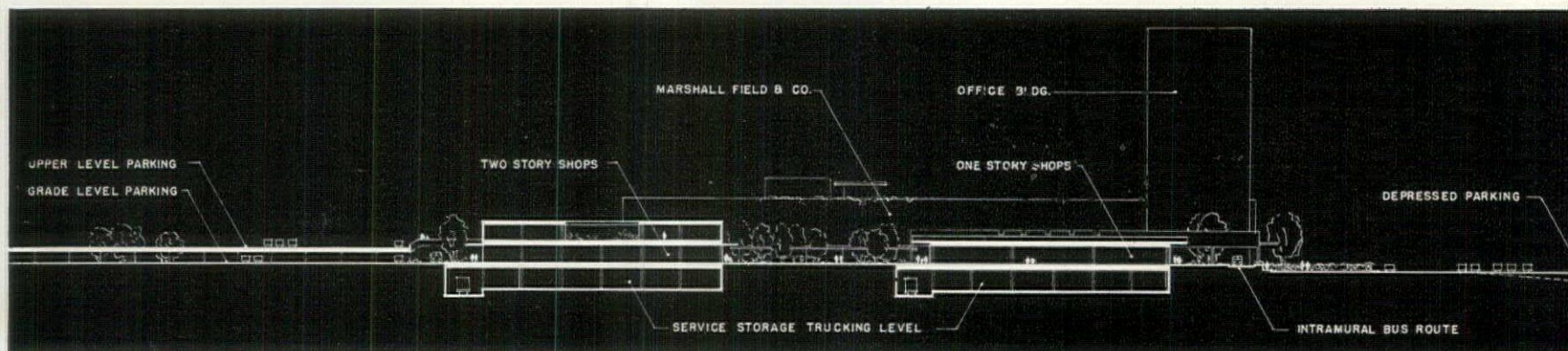
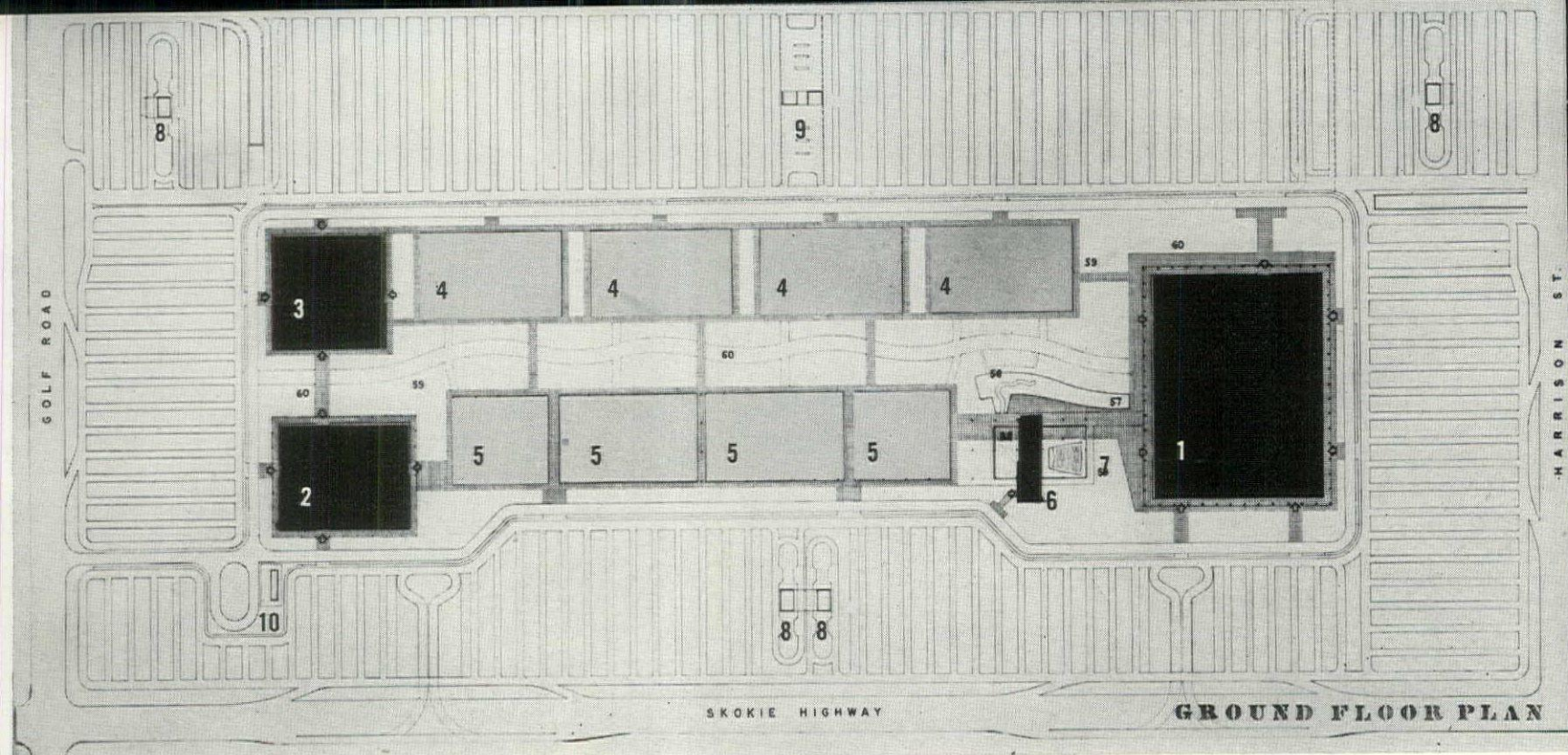
Like the Ketchum-Perkins team, these architects place the buildings as a simple rectangle across the center of the site, with parking distributed evenly on all sides. Here the long stretch of mall is not broken up. The architects emphasize the planting of large trees to give the effect of a "native woodland cleared only for the placement of the buildings."

The plan also exploits existing differences in grade of the site in two interesting ways:

1. It diminishes the view of the large mass of parked automobiles at the front of the site by dropping the parking area in front of the buildings by 18". Landscaping also helps to screen this view of cars from the road.
2. It raises the general level at the south end of the plaza by a small number of low steps, relieving the monotony of a completely flat building scheme.

The office building has been given special development as a landmark for the whole center. Although the program called for an eight-story building, these architects thought a tower of at least 12 stories would be needed to make this building count as a landmark over the whole district. (Field's was impressed enough by this recommendation to secure a zoning change permitting the 12-story height.) The architects also suggest that this building be given added volume to provide about 100 hotel rooms for travelers doing business with the center.





- |                                   |                            |
|-----------------------------------|----------------------------|
| 1. Marshall Field store           | 6. Office building         |
| 2. Medium-priced department store | 7. Auditorium              |
| 3. Lower-priced department store  | 8. Package pickup stations |
| 4. Two-story store buildings      | 9. Auto service station    |
| 5. One-story store buildings      | 10. Bus stops              |

**TRAFFIC ACCESS.** Widening of all boundary roads is proposed. Two ramps (two lanes each) are provided at the east side of Skokie road (main traffic approach). The second of these provides for the northbound driver who does not expect to turn in, but changes his mind as he passes the building group. These ramps permit cars to pass under Skokie road and feed into the eastern parking area at a convenient central point. Southbound traffic along Skokie road will make an easy right turn into the parking area.

**Store location.** Like the Ketchum-Perkins plan, this one puts the Marshall Field store at the north end of the shopping plaza, where it will be handy for the high-income shoppers who live in the suburban towns which stretch along the north shore of Lake Michigan. Both the low-priced and the medium-priced department stores are located on the opposite or south end of the shopping plaza, for maximum cross-traffic pull. This plan puts lower-priced stores in one-story buildings, at the front of the building group, with the higher-priced stores in two-story buildings at the rear or west end of the rectangle. Thus the second-story buildings in back can be seen from the main highway approach. Another reason for this placement, the architect says, is that the higher-priced stores, with lower car turnover per customer, will need more parking, and get it here by direct access to the double-deck parking area. Because the roofs of the one-story buildings will be prominent in the front view of the center, they

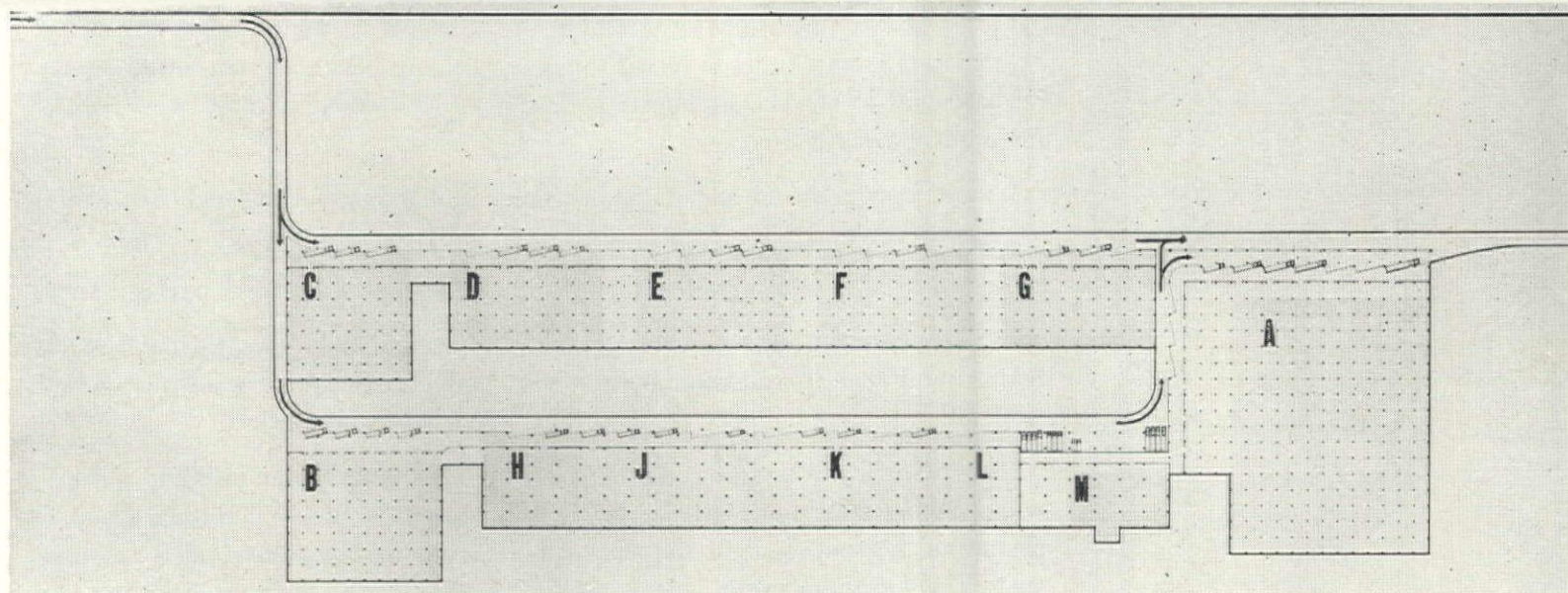
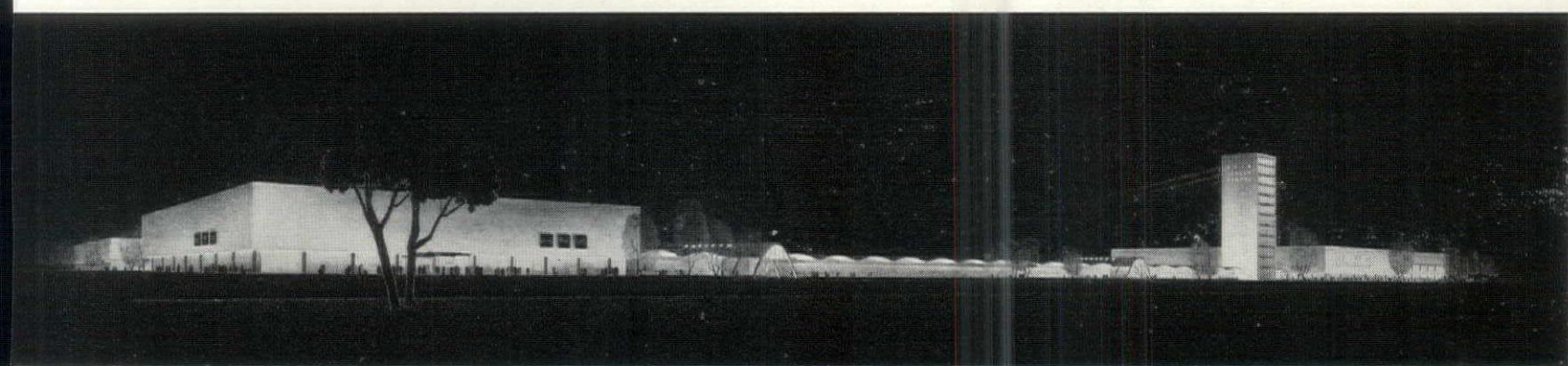
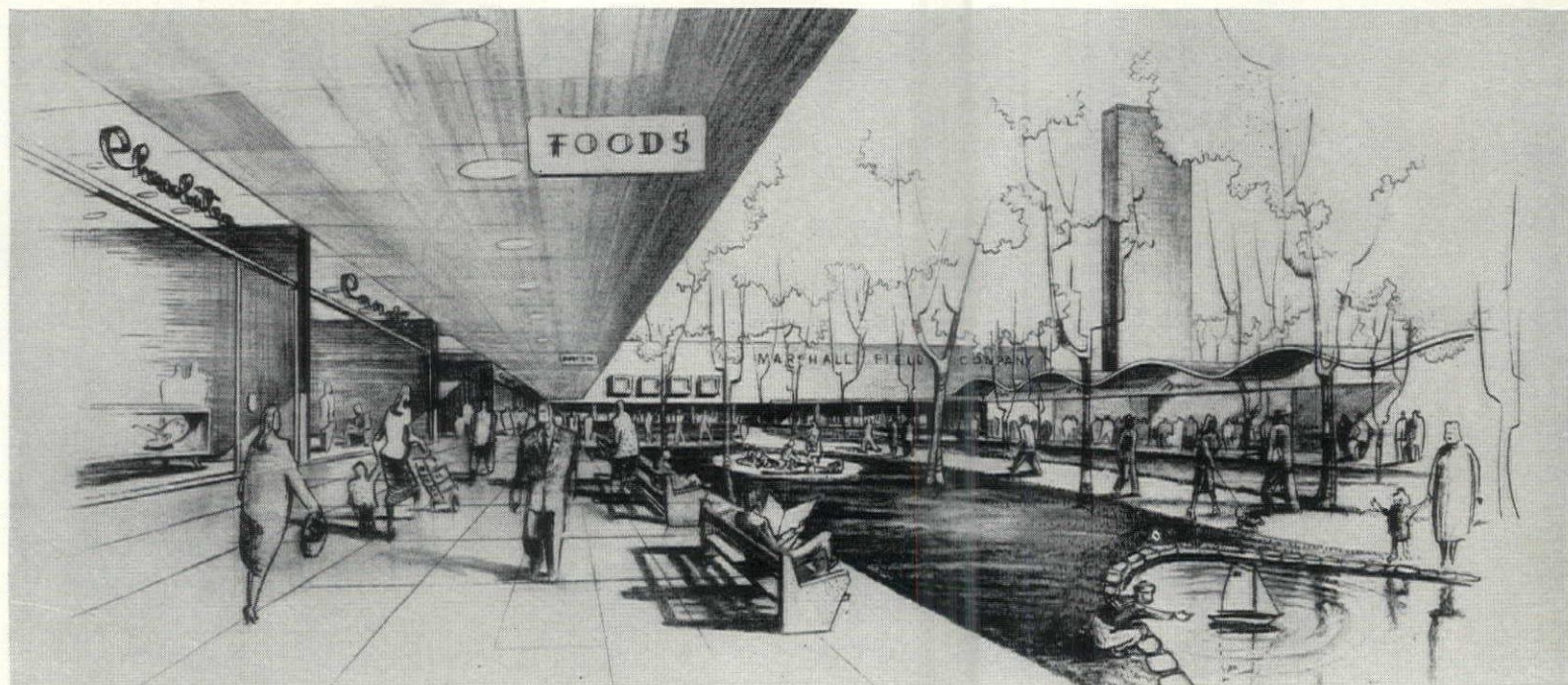
have been given a decorative arched treatment. Supermarket and food stores have, in general, been related to the lower-priced stores. The auditorium has been placed near the Field store for convenient use for fashion shows.

**Parking.** Double-deck parking was also proposed, but limited to the rear or west section of the parking area. The upper parking deck gives direct access to the second floor level of adjoining stores (which would have show windows along the parking space) and is connected by overpass with the second floor level of the Marshall Field store on the north. "The structure for this upper level parking is centrally located," the architects point out, "and will make the lower level more serviceable by giving it protection from sun and rain." Parking system adopted is 45° with alternate aisles operating in opposite directions. The architects estimate that 45° parking in 8½' spaces requires 270 sq. ft. per car including access roads.

**Package pickup.** Three stations for package pickup are located out in the parking area so that there will be a minimum of automobile circulation to reach them. The architects propose that packages be keyed by color or otherwise at the point of sale for the pickup station nearest the customer's parked car. Packages would be chuted to a conveyor on the perimeter of the building and automatically conveyed to the pickup station in the parking area.

**Suburban bus and shuttle bus.** Bus traffic is routed to a sheltered terminal about 400' off the boundary highway. This is also the terminal point for the intramural or shuttle bus, which shoppers can use to ride from one end of the center to the other. The shuttle bus has a one-way route on the perimeter of the buildings free from any intersections with either parking lanes or bus lines. This route can also be used by pedestrians.





**Trucking access.** The architects assume that major trucking approach will be from the south, since all warehousing used by center stores is well south of the site. Truck access to the site is from the west so as not to interfere with traffic on major roads. A ramp routes trucks to basement level stock delivery and shipping areas. The architect believes that, since basement space is required for stock handling in any case, excavation of an additional bay for the trucking tunnel will amount to little extra cost. To

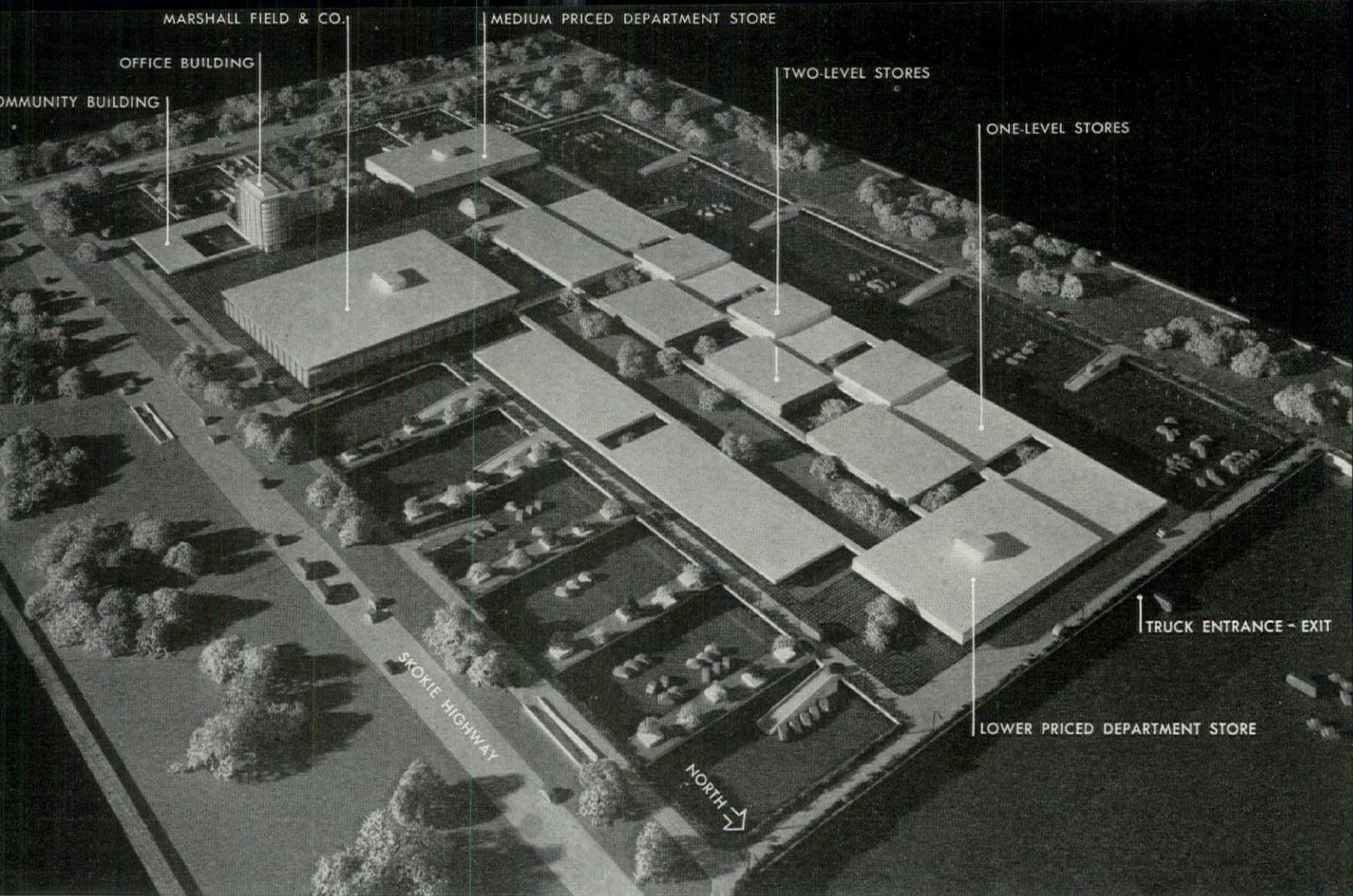
aid in ventilation, wells and vents will be provided in courts at grade. The architects propose that for smaller stores, this service level be designed for coordinated receiving and delivery.

**Construction.** Informal, country materials like painted brick are strongly urged for finishes. Laminated roof trusses would probably be used for the arched buildings, with 30' x 50' column spacing in this area. Department stores would be steel-framed.

#### BASEMENT:

- A. Marshall Field store
- B. Medium-priced department store
- C. Lower-priced department store
- D.-G. Two-level store buildings
- H.-L. One-level store buildings
- M. Office building





## PARKING IS HIDDEN at basement level, Field store set in great square

Architect: SKIDMORE, OWINGS & MERRILL

This plan is unique in its proposal for depressing all parking space to the service or basement level. The architects believe this submerged parking would yield these advantages:

- ▶ A more open view of the shopping center and maximum concealment of the unpleasant mass of parked automobiles.
- ▶ Direct access to stores by escalators bringing shoppers up from parking level.
- ▶ Package delivery on the service level. The architects believe this will avoid both a good deal of confusion and the mechanical methods that would be needed to handle package delivery on the ground floor or shopping level.

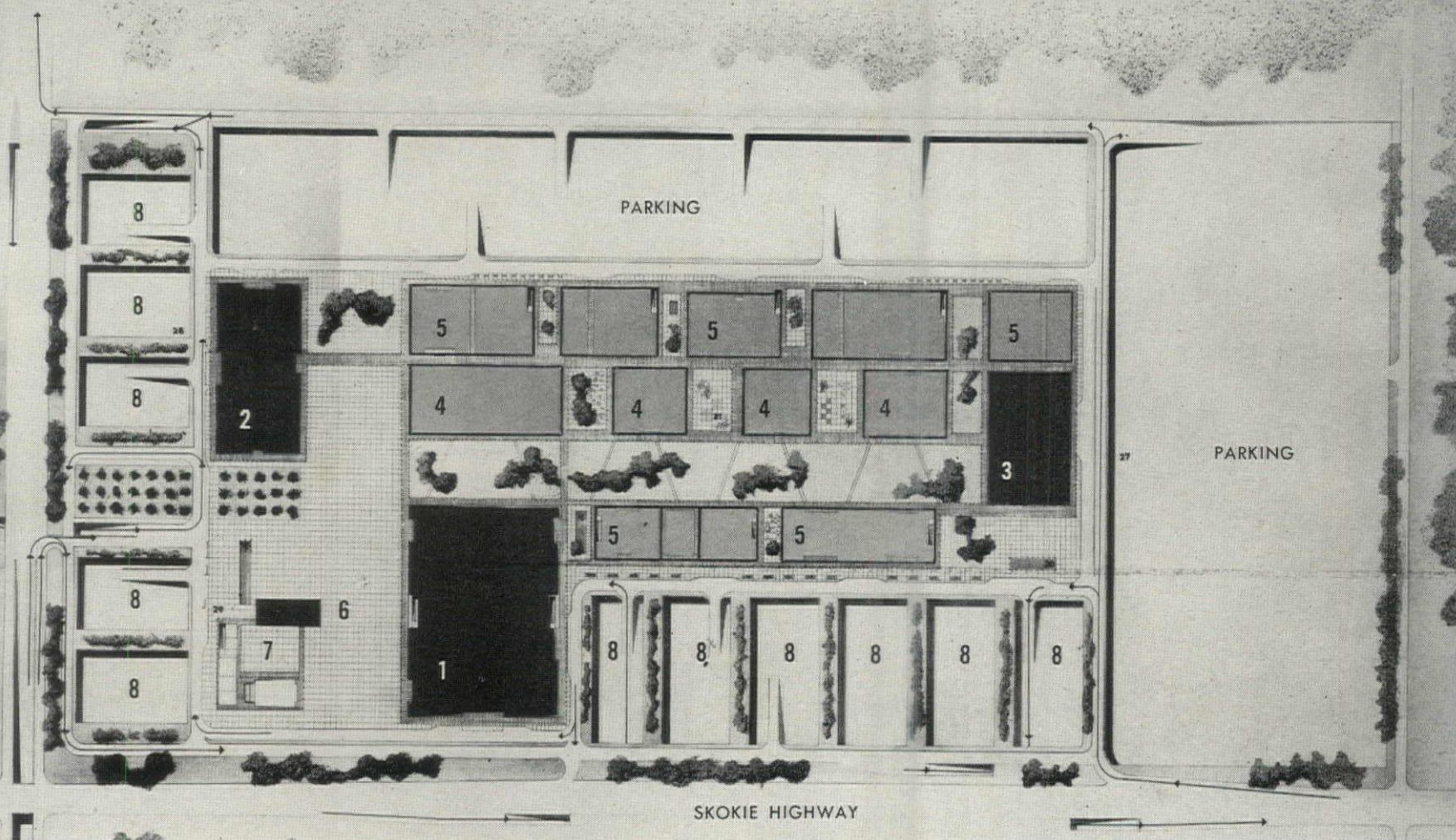
This plan is also unique in its departure from a rectangular building scheme, with parking distributed evenly on all four sides. The whole building group is shifted to the south end of the site, with customer parking distributed on three sides. The fourth, or north, side of the site (beyond a 350' walking distance from all stores) is earmarked for employee parking.

This scheme brings the Marshall Field store to a location directly on the main highway. It also opens the whole shopping area to a view from the highway by creating a great square in front of the Field store. Community building, tower, and pool are grouped on this square, big enough to hold 10,000 people. "In addition to the great impact of such a magnificent space," the architects say, "there are many practical and institutional purposes to which it can be put. Carnivals, concerts, Easter sunrise services are examples." As an impressive feature of this square, the eight-story office building is designed within a glass shell providing an enclosed balcony on all four sides.



## GROUND FLOOR PLAN

0 100 300 500



1. Marshall Field store
2. Medium-priced department store
3. Lower-priced department store
4. Two-story stores
5. One-story stores
6. Office building
7. Auditorium
8. Depressed parking courts

**TRAFFIC STUDY** estimated that some 20,000 cars a day would turn into the site, a volume big enough to require grade-separated entries and exits from both major roads. Below-grade entries also help to separate traffic movements inside the site. (Follow the arrows on the plan above to see how cars get in and out.) A grade separation is also proposed at the intersection of these two main approach roads.

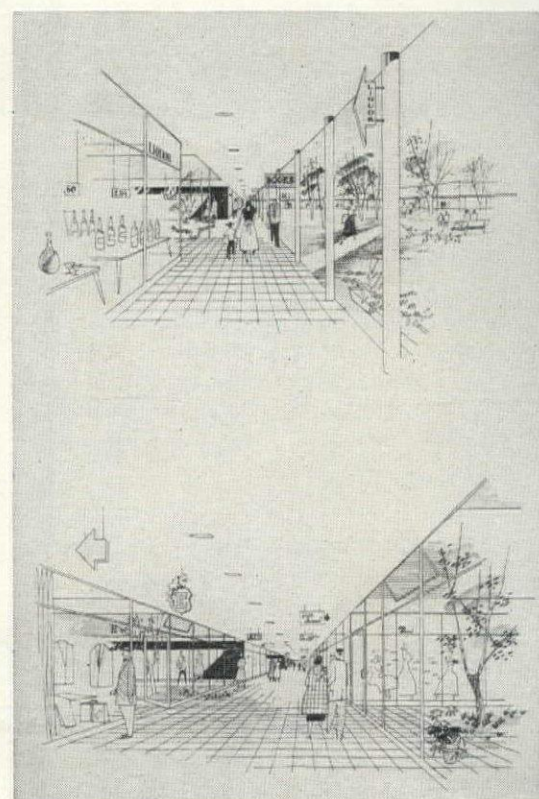
**Store location.** The three major stores are placed in a triangular pattern, with one store at each angle. The Marshall Field store is placed at the apex of this obtuse triangle, on the main highway. The medium-priced department store is on the south end of the base of the triangle and the lower-priced department store on the north. A spine running between the second and third department stores was developed as a double row of store buildings, separated by a covered arcade. In these groups, open courts alternate with store buildings. The architects suggest that these courts be glazed so that the entire building group would be completely enclosed in winter. The stores on one side (east) of this double spine have frontage on a grassy mall which leads off the great square. On the other side of this mall, one more line of store buildings stretches between the Field store and the low-priced department store.

**Perimeter road.** This plan proposes a perimeter road around the entire building group which would give cars direct access

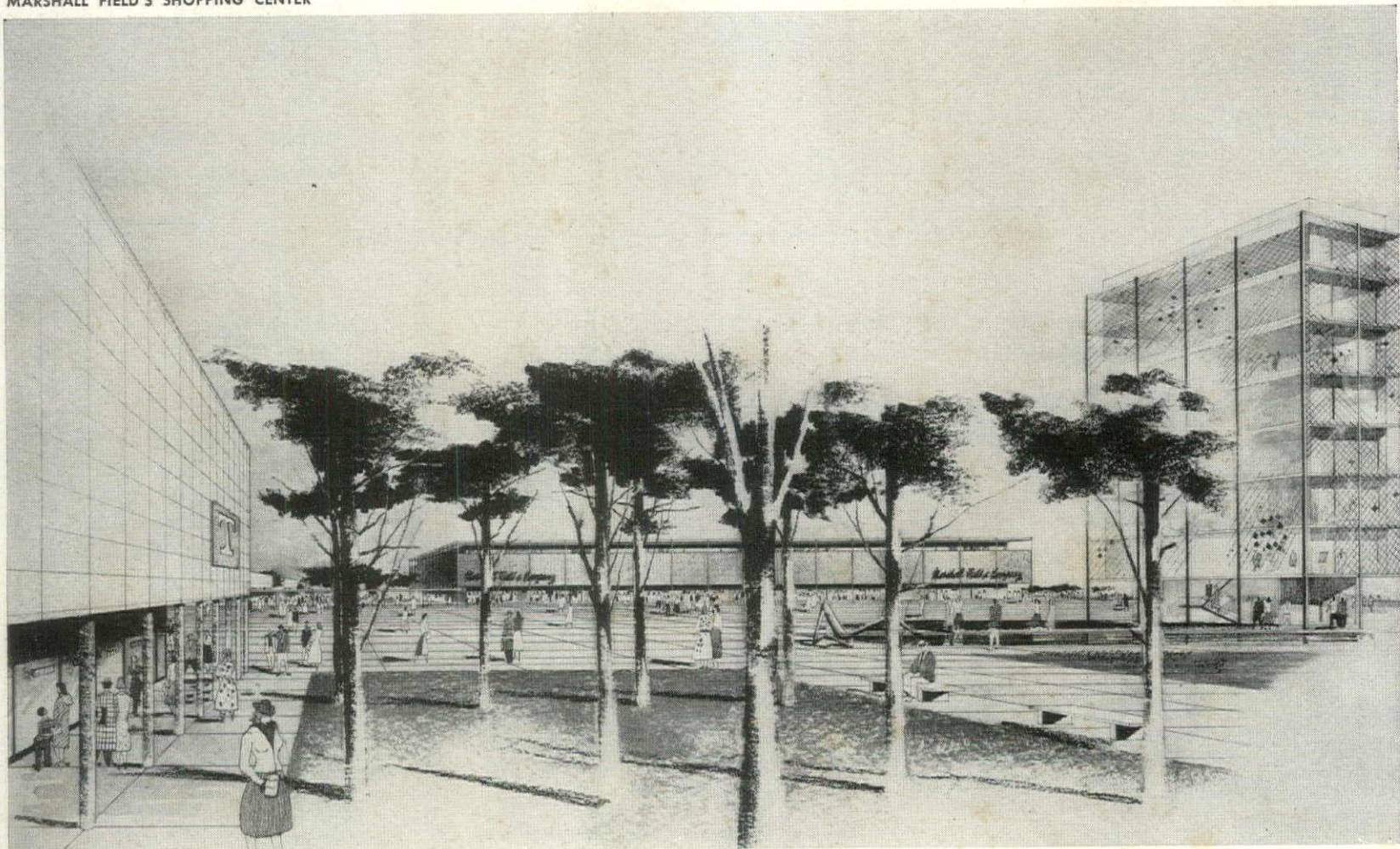
to stores and also provide a route for the shuttle bus. Suburban bus terminals at both ends of the site would provide direct connection with shuttle buses.

**Parking.** All parking space is submerged to the basement level and reached by ramps leading up and down from the highways. The customers' parking area provides for 5,000 cars. This space is handled as 11 separate courts on the two sides of the site adjoining main approach highways and as one large court on the west side. These courts are defined by grade-level landscaped bridges (see plan). Undercover parking is provided adjoining the Marshall Field store in an area underneath the great court. Other undercover parking is provided around the entire perimeter of the buildings: the lower-level parking area extends in under the first-floor building line for five bays.

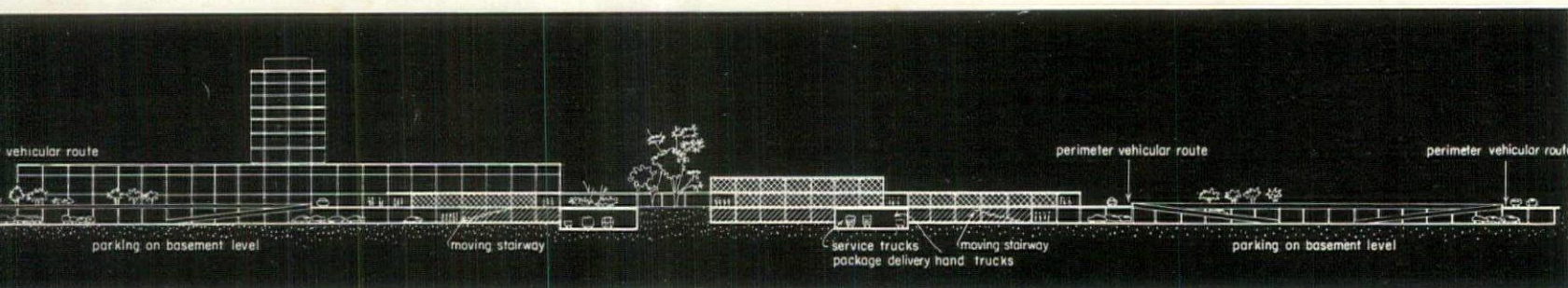
**Construction.** Steel or reinforced concrete is proposed for the larger buildings and metal post and bar joist construction for the one-story buildings.





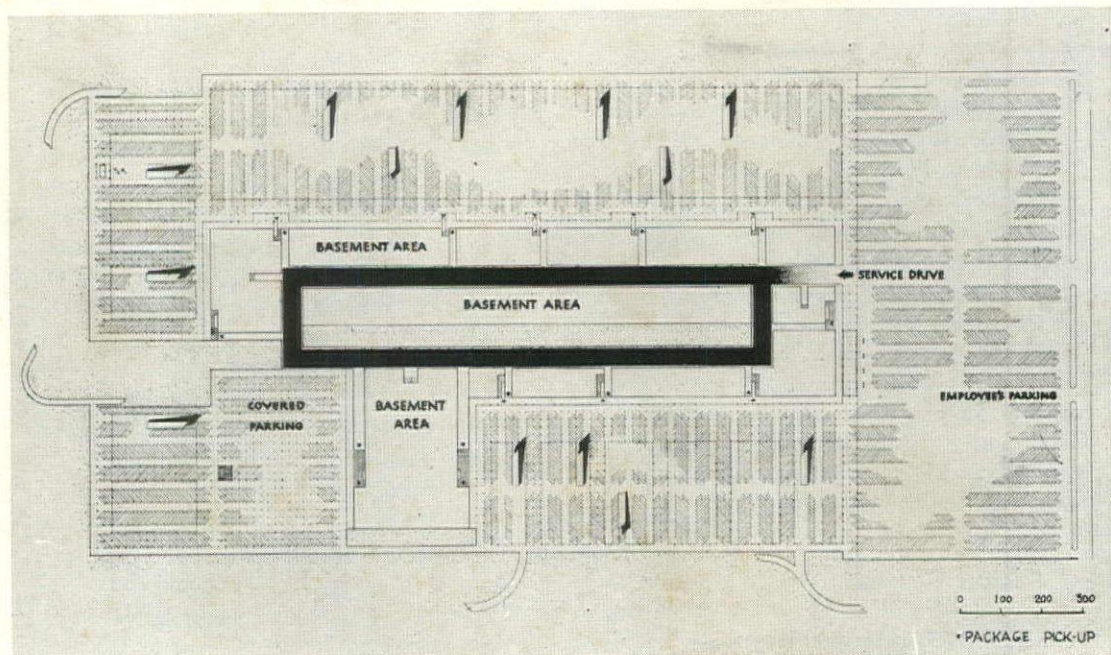


**GREAT SQUARE** in front of Marshall Field store is sketched as it would appear to shopper approaching along the mall. Rooftop restaurant on Field store would overlook square. Note completely glass-enclosed office building (r.).

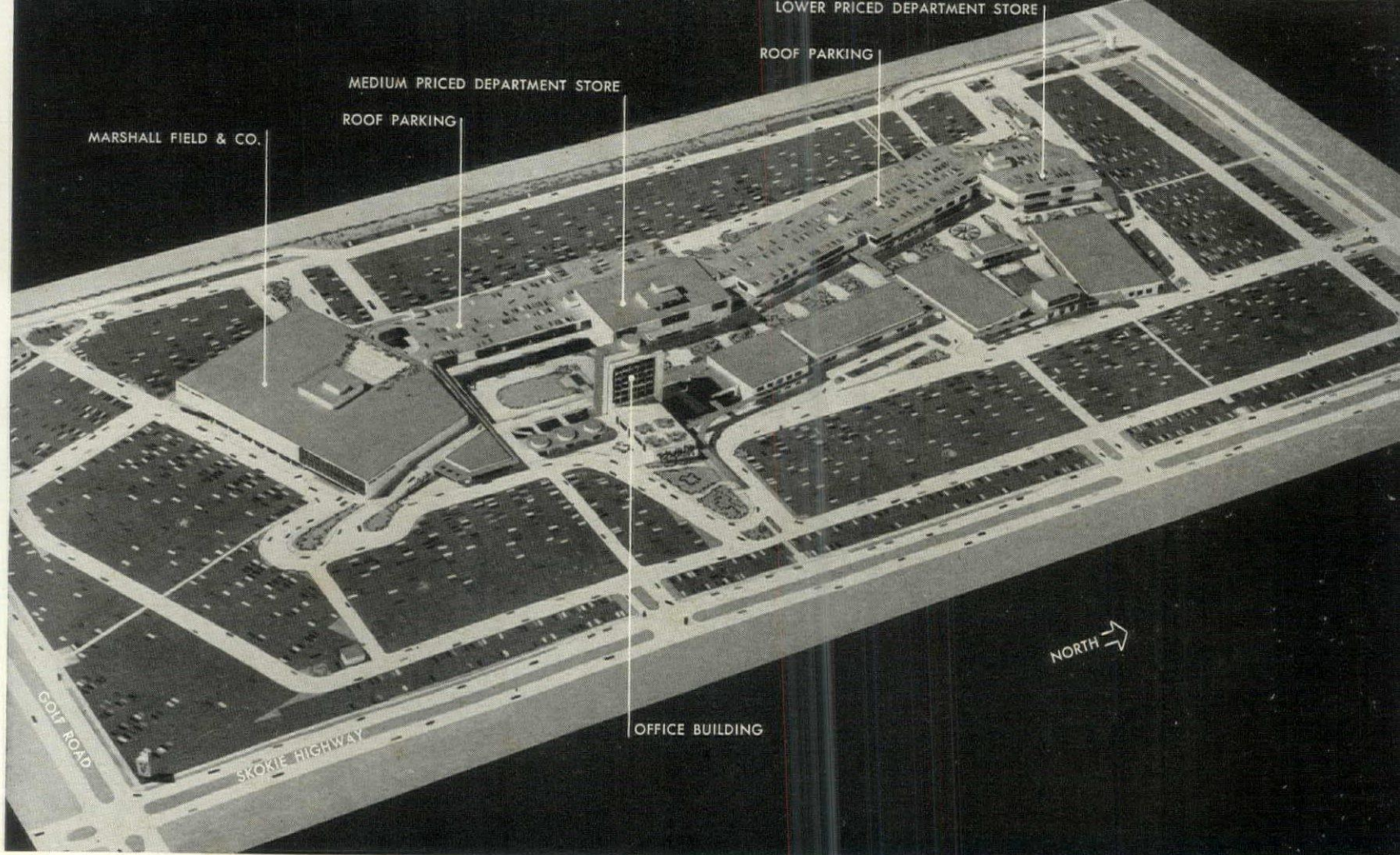


**Package pickup.** Pickup stations have been placed at the basement level next to each one of the eight escalators provided to carry shoppers from the parking level to the main store level. From each store, the packages (color-tagged for proper stations) go down to the basement. Manual carts deliver packages, by way of a tunnel under the area, to pickup stations.

**Trucking access.** Trucks are brought in at the north end of the building group by an underground tunnel. The service drive is plotted as a one-way rectangular path with exit in the same direction as entry. Area under stores and under part of the mall is excavated to provide merchandise delivery and storage space. Unexcavated area under mall provides for planting deep-root vegetation.







## MULTILEVEL PLAN gives four store floors all the advantages of first-floor space

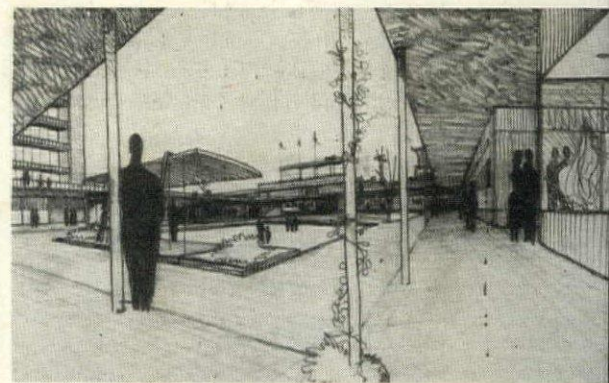
Architect: HOWARD T. FISHER & ASSOCIATES

This plan develops the site as four different levels, each one providing parking and each serving a different selling level of the store building group. This exploitation of the site in three dimensions is intended to convert every floor into valuable "first floor" frontage. "Builders used to try always to get a level site for a shopping center," architect Fisher says. "Nowadays a lot of money is spent to take advantage of varying grades." Fisher believes his multilevel approach has these other advantages:

- ▶ It provides a given sales area at less foundation and roof cost.
- ▶ It gives room for expansion at no loss in parking space. Future construction can extend out on piers over an existing parking level.
- ▶ It gives a chance to locate low rent service shops in what would otherwise be basement space and to arrange these shops for auto shopping.
- ▶ It gives more variety of appearance, adds charm and informality.

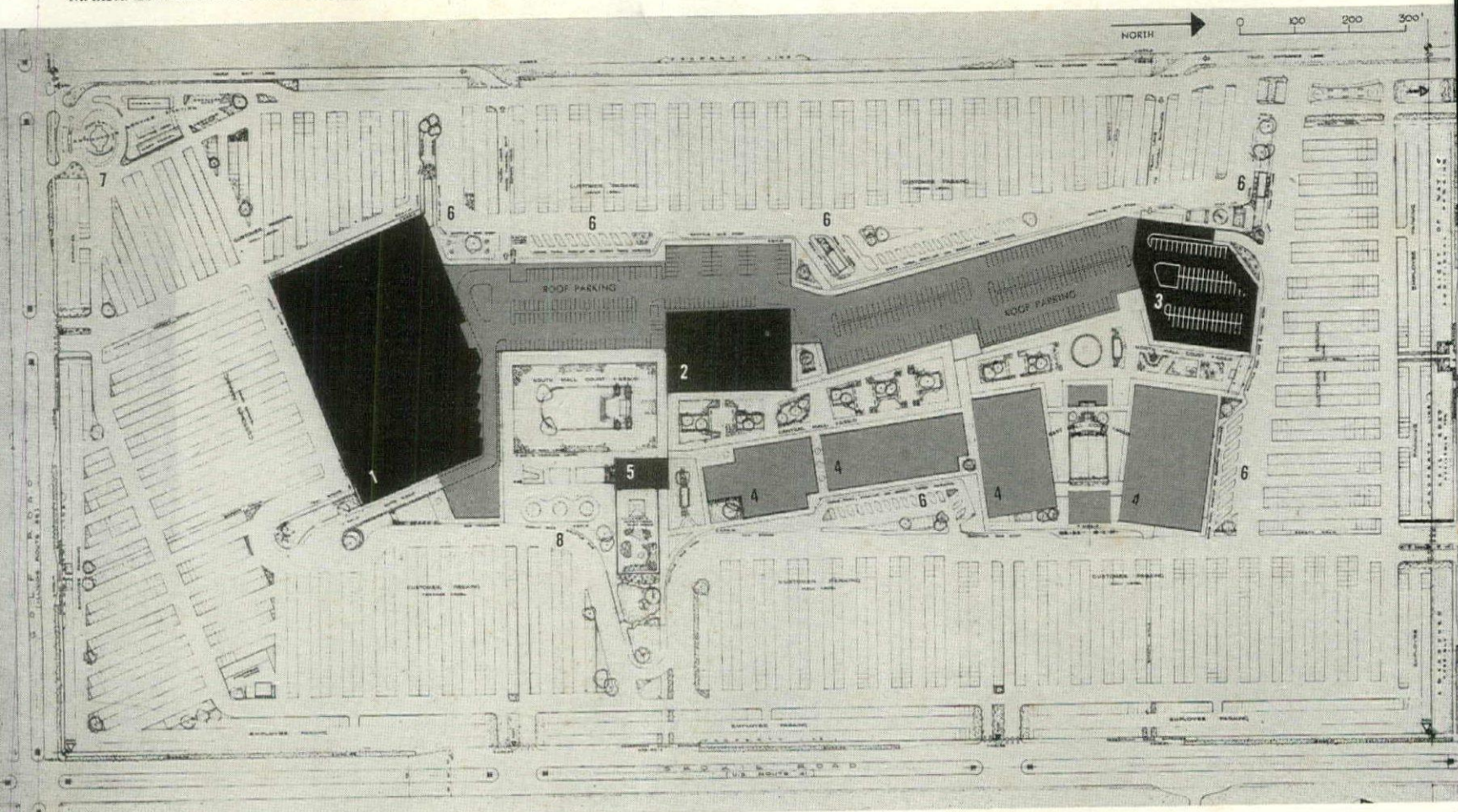
Fisher says his multilevel approach can be applied to the Skokie site with only slight modification of the naturally sloping contour, with cut and fill approximately balancing. His plan's four levels are:

1. The roof level, giving direct access to the top floor of the two larger department stores.
2. The terrace level overlooking the shopping mall. This level is planned to take advantage of the natural rise of the land near the SE corner of the site and gives grade access to the second floors of surrounding major stores. It is also exploited as a terminal point for suburban buses.
3. The mall, or main selling level, giving direct access to all major stores.
4. The lower level, providing access to all selling basements and to special service stores, set up for auto shopping. This level also gives trucking access to central basement unloading space.



**MALL VIEW** shows covered walkways which connect all stores. As shown in model photograph (above), this architect has given special attention to handling the mall as a series of vistas which flow into each other with the varying effect of "a group of northern lakes." Open spaces have been left between building groups to provide inviting vistas into the mall from the exterior.





- |                                   |                    |
|-----------------------------------|--------------------|
| 1. Marshall Field store           | 5. Office building |
| 2. Medium-priced department store | 6. Package pickup  |
| 3. Lower-priced department store  | 7. Service station |
| 4. One-story store buildings      | 8. Bus stop        |

**TRAFFIC ACCESS.** This study urges that a new direct access to Eden's Expressway be constructed by adding circulatory lanes at a point where the expressway now overpasses Harrison Street. Thus, it assumes, approaching traffic would be evenly distributed on all three boundary roads. It proposes that these boundary roads be widened to 72' and repaved as two one-way lanes, divided by a 24' strip. Deceleration and blending lanes are proposed. Inside reservoir space and with multiple traffic lanes are provided.

**Store location.** Like the Ketchum-Perkins and Shaw schemes, this plan places the buildings in a roughly rectangular pattern with parking distributed on all four sides. But here the rectangle is much less formal, with individual buildings placed to modulate the mall as a series of constantly changing vistas. Unlike the other two plans, Fisher places the Marshall Field store at the south of the building group (his recommendation of a new access from Eden's Expressway to Harrison, now a minor street, leads him to the assumption that approaching traffic will be evenly distributed around all three boundary roads.) The second major puller, the low-priced department store, is placed at the north end of the site as a counterbalance to Field's and its pull is augmented by a supermarket and variety group. The medium-priced department store is given a central location at the rear or west side of the building rectangle, with higher-priced apparel stores ranged between it and the Marshall Field store and lower-priced stores placed between it and the low-priced department store. The architect has attempted to create a gradual transition between low- and high-priced mer-

chandise. "We wanted no psychological barriers—no rich man's end and poor man's end. And we wanted to provide for easy tenant adjustments in the light of actual experience."

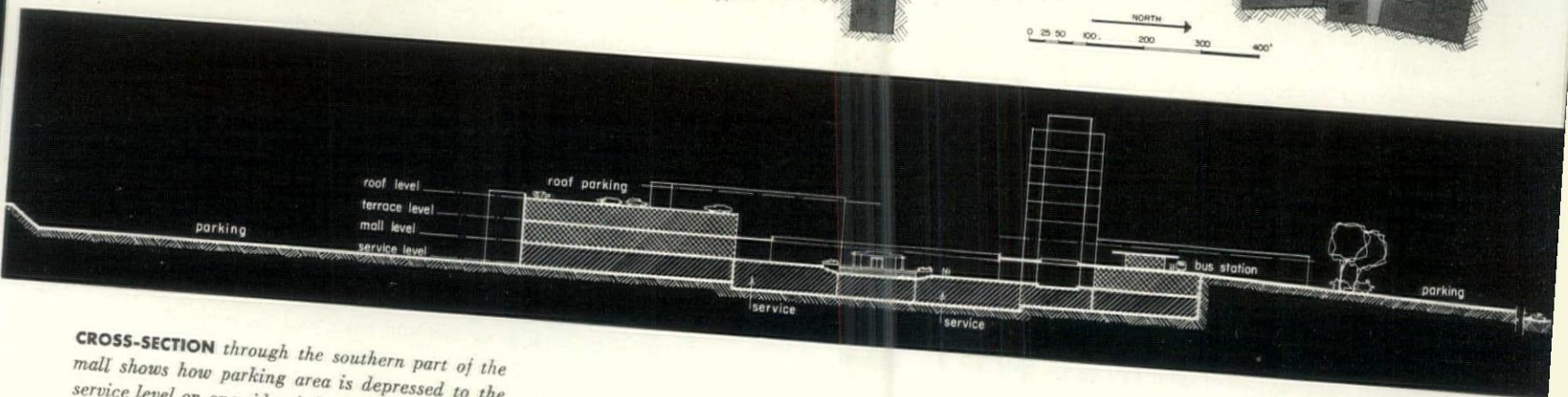
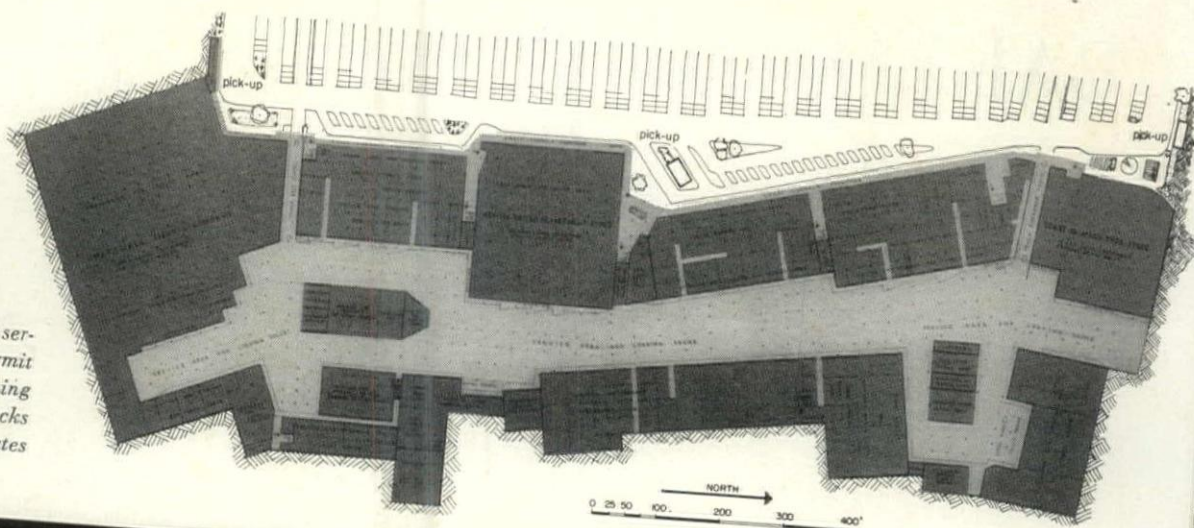
**Parking.** The parking belt is mainly at the mall level but the surface has been "warped" partly up and partly down to serve both terrace and lower levels. Thus parking spaces for 4,560 cars are provided at three grade levels within 350' of stores. Additional parking for 440 cars is proposed on the roofs of the two-story store buildings, which are of heavy construction. An outer belt of parking (beyond a 350' walking distance) along the boundary roads provides some 2,000 spaces for employees' parking. Parking capacity at the south end of the site is greater than at the north end, thus providing for the large demand created by the Marshall Field store footage and the low parking turnover that can be expected for this more leisurely kind of shopping. Other features: a special area for chauffeur-driven cars with waiting room and a group of oversized parking stalls for customers' trucks and buses.

**Auto shopping.** Architect Fisher, who has been studying the suburban shopping center for many years, has always emphasized the importance of auto shopping, where the "point of parking, point of sale and point of delivery are one." Pointing to the great success of the drive-in bank, Fisher says many kinds of service stores should be located so that the shopper can drive right past and, without getting out of her car, leave or pick up, say, her dry cleaning. "We don't believe auto shopping can ever be a substitute for normal pedestrian shopping. But it should be a supplement, and provision of this kind of service would be a big competitive advantage for the shopping center." This plan proposes to line up service stores for auto shopping along the parking area adjoining the basement level.

**Package pickup.** This plan proposes two types of package pickup stations. One would be an accessory building, provided for each of the three department stores and served by conveyor from the store. Attendants would deliver packages directly into the customer's car at the curb of such stations. These would be served by two traffic

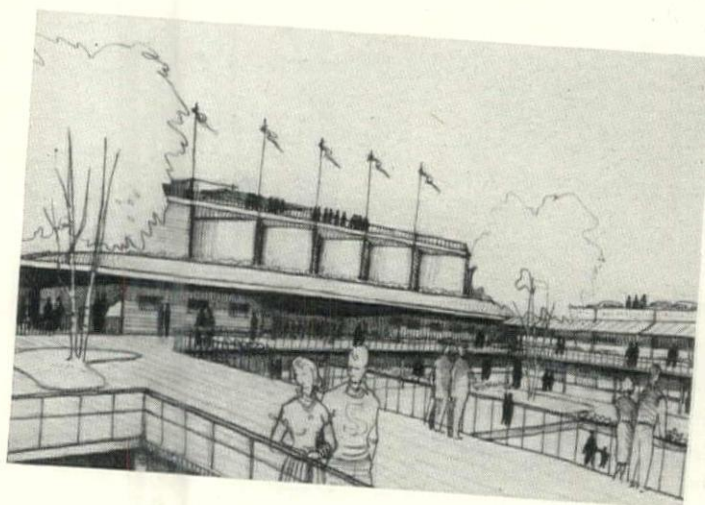


**LOWER LEVEL** parking area adjoins a group of service stores. These stores are also located to permit shoppers to leave or pick up, say, dry cleaning without leaving their cars. On this level, trucks enter the service area at grade. This eliminates underground ramps or tunnels.



**CROSS-SECTION** through the southern part of the mall shows how parking area is depressed to the service level on one side of the building group and raised to the terrace level on the other. The terrace level is also exploited as a terminal point for suburban buses, thus providing for more even distribution of pedestrian traffic throughout the plaza.

lanes with a waiting stall provided at the head of each line for anybody whose packages can't be immediately located. The other type of pickup station is designed to serve flexibly a group of stores. It consists of a battery of short-term drive-through parking stalls flanked by safety islands. Customers may pick up their parcels at nearby window counters at the stores or carry-out service may be provided. "Efficient package pickup can make big reductions in the cost of home delivery because it will appeal to the customers," Fisher says. "Nowadays people aren't at home much to receive deliveries."



**TERRACE LEVEL** (above) overlooks the mall on the south. Sketch of mall level (below) shows informal landscaping, resting benches for shoppers, and office building in background.



**Trucking access.** Like the Skidmore scheme, this plan assumes that truck traffic will approach on Harrison, the minor street, and routes its service road from Harrison through the west end or rear of the building group. Truck flow through this road has been planned as one-way with exit to Golf Road, which parallels Harrison south of the site. The architect says this flow could be reversed or the road widened to accommodate two-way traffic. The depressed area provided for lower-level parking coincides with the truck service level under the buildings.



# BAKED BUILDINGS

## *A challenge to architects, builders and lenders*

By William Zeckendorf

Digest of an extemporaneous talk to the faculty and students of Harvard School of Design by Real Estate Tycoon William Zeckendorf, President of Webb & Knapp. The full text appears in the December *Atlantic Monthly*.



F. Roy Kemp

I should like to explore the relation between real estate economics and architecture.

On the one hand, we have people who build buildings. The so-called builders are interested in three phases of their activity: first, to buy a piece of land as inexpensively as possible; second, to conceive and execute a building as cheaply as possible—and I do not mean that in the flattering sense of the word; and third, to borrow the maximum that they can borrow.

And, on the other hand, we have the esthetic people of the architectural and engineering life, who are capable of thinking in very broad terms and producing things of importance—real contributions to art—but who fail to understand the down-to-earth essentials of real estate economics.

I think it is just as fundamental for an architect to have a working knowledge of economics as it is to have an understanding of the classical, the traditional, and the modern concepts of art and architecture. Whatever education in the field of engineering is given him, until he understands the economic function and the size of buildings, I say he is no architect, he's an academician.

On the other hand, to permit builders to go on, with no consideration except price, to erect whatever their fancy dictates, without regard to what they do to the neighbor who lives next door, brings about a potential form of iconoclasm which is injurious to the entire neighborhood and seriously impairs the general economic structure of the community.

### **The first to fall**

It is a curious thing that in the great depression of the Thirties, it was the buildings that were mortgaged for the greatest amount by the most speculatively minded builders, who were interested chiefly in borrowing the maximum and building for the least cost, and whose costs of operation were the highest, and whose vulnerability was the most pronounced—those buildings were the first to fall. As they fell into the hands of creditors they undermined the sounder and more conservative investor, because when something goes through the bankruptcy court, there is no bottom. As a result, the prudent investor's equity is wiped out too because his rents are undermined when he has to compete with bankruptcy renting.

This is a hard-boiled approach, but it brings home the extent to which even the toughest investor must be concerned with the general subject of having buildings built by builders who are interested in something that is functional, beautiful, and soundly economic, and designed by architects who understand the investor's problem and who, therefore, do not design buildings that are art for art's sake or merely expedient.

That is why I should like to see architectural schools make

as part of their "must" courses the subject of basic real-estate economics and construction. If that is done, these schools will send out men who will develop this country on a basis that we will be proud of. We may well be entering upon a golden era of construction, when the merger of the real estate builder-economist and the artist and designer can be so skillfully integrated that we shall bring forth residential, industrial, and commercial architecture which will stand the two important tests of time: economic soundness and beauty and functionalism. If we continue as we have been going, letting the devil take the hindmost—the builder builds for as little as he can and borrows as much as he can and runs, and the architect follows him—then the rebel who would design only things of great beauty can find no clients or only a few clients who are as crazy as he is—because they do not understand. In that case, I say, we still have to wait for our golden era. But it is not necessary to wait. Not at all.

### **Confusion by amateurs in finance**

Let us analyze for a moment the reasons why all this confusion comes about.

Let us talk first about the builder. You go to him, a speculative builder—speculative builders build about 90 to 95% of all the things that are built in this country for rent—and you say, "Why do you dare to build that terrible-looking six-story apartment house that looks as though it came out of an oven, baked, according to a stenciled plan?"

He will say, "Well, maybe I like that and maybe I don't. Maybe I would like to build something more beautiful and maybe I wouldn't. But that's not my business. My business is to build within the framework, concept, and spirit of the FHA."

To spell that out, it means designing as cheaply as possible, borrowing as much as possible, building as inexpensively as you can, and never mind the rest.

The builder says, "Maybe I do like a more modern design. But when I take that into a lending institution and they say to me, 'What is this plan here? We've never seen that before. We'll discount that by 25% in the amount of a loan you've asked for'—well, that puts me out of business." And he speaks for 95% of the boys. "I have to borrow from the man who will lend me the maximum that is permissible, and that man is the fellow who will lend me on exactly what every predecessor building of the same character looked like and was all the way back. Don't blame me. Blame the fellow I borrow from."

And who is this guy who finances the builder, who limits his horizon, his vision, and his potential? He is the insurance companies, the big ones and the small ones; he is the savings bank,



the building and loan companies—the impersonalized corporations that people visualize when they see a great tall building with a beacon on the top of it. But basically, those beacons are supported by a little group of self-perpetuating trustees, mainly of the same social strata, and you go talk to them.

You say to a typical one, "What is the idea of financing these baked buildings that look like everything that was ever built before? Why perpetuate these monstrosities?"

### **Baked for 25 years**

Now here is the answer you'll get from the typical trustee. He will say to you, "I am a manufacturer; I'm a chemist; I'm a banker; I'm a retired industrialist; I'm a professor, or I'm something—something completely unrelated to the subject specifically involved, the subject of lending money. I'm a trustee of this institution or that institution." He will say to you, "I'm interested in beauty. Come to my home and I'll show you beauty. But when it comes to lending, I want to bake them."

"Why do you want to bake them?"

"I want to bake them because I know that they've been baked for 25 years and they've never failed. The six-story flat is a good thing. You know I don't work here. I come here without pay. I do not even get a director's fee for attending a meeting. I'm here because I think it's my duty to run this institution."

He says; "I never can be criticized for doing what has been done before, I can be criticized for doing something new, something that was never done before—it might succeed; but the Lord won't spare me if it doesn't—and I'm not going to take that chance."

That is the attitude of perhaps 80 to 90% of the trustees of the eleemosynary and mutual institutions that are financing the vast bulk of the construction in this country. Add to that the FHA and its own completely unimaginative and limited scope in thinking and design, which is understandable because they are trying to protect themselves by the most minute specifications against the chicanery of the builder who is only interested in borrowing the most and building for the least. There you have the double hazard, these two, the builder and the banker, on their high stools. And right between them our architecture and design fall flat.

There are exceptions. There are provocative thinkers among the boards of trustees, and every once in a while you will see a great new thing come out which finally brings us a notch forward and lifts us up because the power of emulation is something that is always with us. But it comes from such a minute number that progress is painfully slow. We are now building new slums for old slums, anachronistic conditions following upon the horrors of years before, so that notwithstanding the billions of dollars that are at our disposal we are still building approximately the same thing that we have had in the past.

### **Hand irons and buildings**

I have no doubt that we will pull out of this trough. I have no doubt that this country will take the lead, and I believe that our time will be looked back upon as the beginning of the greatest renaissance in design and construction that has ever been known. But how foolishly we are traveling down that path which has got all its ways greased and ready for a 50,000 mpm. move if we can ever organize ourselves to think straight!

I draw your attention to the fact that this building industry and the real-estate business are the largest business, in terms of dollars employed, of any business in the world. You can talk about automobiles or chemicals or merchandising or anything you want. I say there is more money invested in real estate than in anything else.

You can tell the difference between a 1951 hand iron and a 1949. The difference between a 1951 automobile and a 1929 automobile makes you turn around and look at the one in 1929. You don't look at the 1951 one. Why? Why is that true of hand irons? Why is it true of automobiles? Why is it true of new products that were invented and never dreamed of before, whether they be radios or television sets or anything else? Every product you can name is the result of research and design, and research in the laboratory of the great companies of America. Why is it we have not been able to bring housing down in cost? Today a Ford is more beautiful, faster, more functional, much more pleasant to ride in than a Simplex-Crane was in 1915—the Simplex-Crane was the most expensive car built at that time. The automobile industry gives us a better car today than the best car of 1915 and for less money.

You cannot say that about our business. Our business costs more than ever, notwithstanding that it is the heir—and incidentally the heir without pay—of all of the products of the laboratory. All the products of Johns Manville, Libbey Owens, the metal companies, the air-conditioning concerns, are available to real estate and construction, but the building industry is the only one where the signs of progress are slight and the finished products are cheap in the least flattering sense, less functional yet more costly. Can we blame the architect? Can we blame the builders? Can we blame the financiers? I do not know. Perhaps they are all to blame. Perhaps none. All I can say is that we are reaching the point very rapidly where it is almost impossible to build a building which will pay at all without some form of subsidy. And the FHA is a form of subsidy. And the FHA has accounted for perhaps 80% of the residential construction in the U. S. for the past 12 years.

### **Rescue by research**

What an indictment of an art, of an industry, and of a phase of finance! There is an answer because there must be: research. We at Webb & Knapp have tried to seek that answer by developing what we call the Department of Architectural Research. Headed by a brilliant young architect, I.M. Pei, this department works hand in hand with a very active economic-minded organization of real-estate people who are not subsidized by anybody.

Webb & Knapp believe that Mr. Pei's Helix [a multi-story circular apartment building, of wall-bearing prefab concrete sections, around a central service core, with expandable or contractable apartments—see January 1950 issue of *THE MAGAZINE OF BUILDING*], which is the first fruit of our laboratory, may be a forerunner of a complete change in philosophy toward design of multiple-dwelling construction. And for that reason, and without concerning ourselves with FHA construction thinking, or stuffed-shirt banking thinking, or conventional architectural thinking, or art for art's sake thinking, we are going to try this one out ourselves and take the risk that it is a good idea. Having looked the country over from one end to the other to find the most appropriate site for this new design, we have bought the top of Nob Hill and shall locate the Helix at the very apex of San Francisco. If we are fortunate, it will be a reality in 1953-1954.

We want to prove that research, an intelligent economic approach, and modern assembly methods can produce in the housing industry miracles of progress comparable to those in any other industry in the world. And we seek this development through reaching out for a relationship of the closest possible character between ourselves, who are real-estate men, builders, and real-estate economists, and you who are architects and designers. And we have no doubt that we are on the right road.





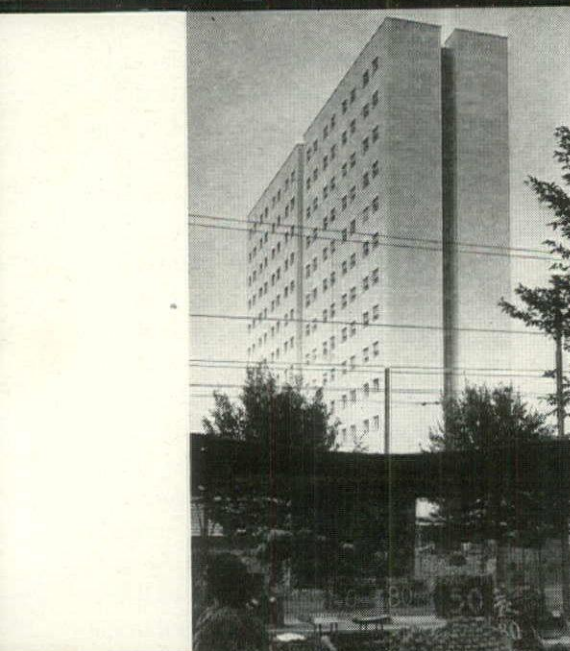
**MUNICH:** 8-story apartments in best tradition of pre-Nazi housing

**MILAN:** Palace Hotel by Ramponi & Luppi is reminiscent of recent U.S. work



**MILAN:** 15-story office building by Bottoni & Ulrich shows recent trend away from strip windows

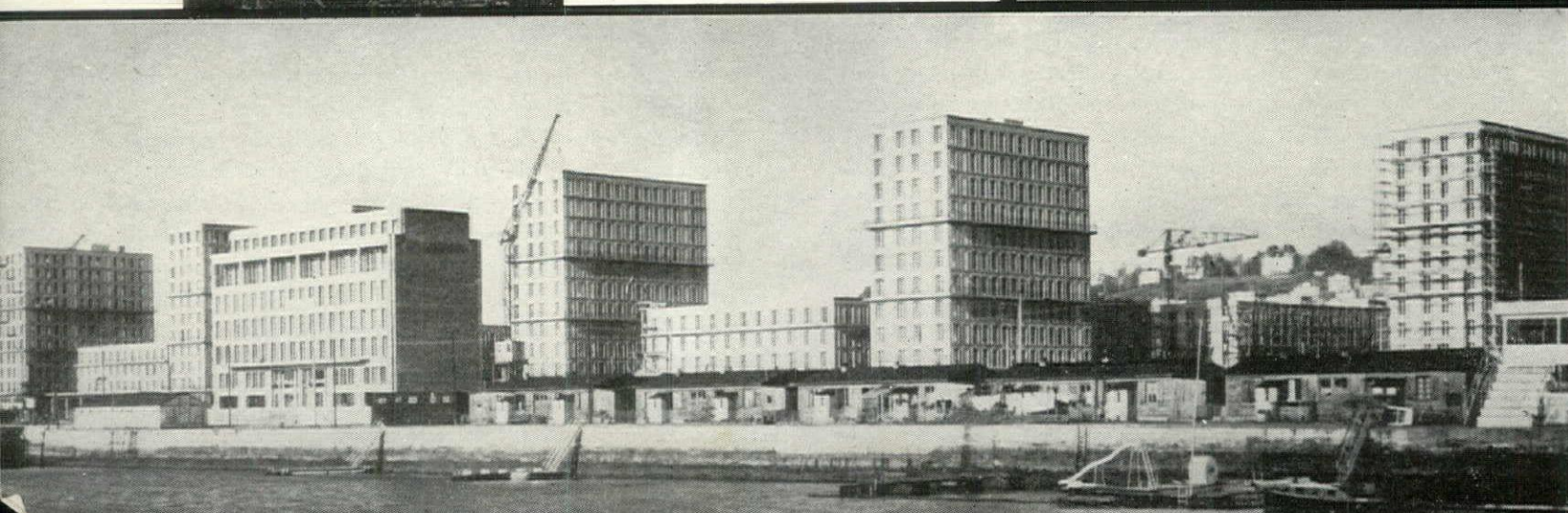
**FRANKFURT/MAIN:** 12-story office tower for A.E.G. electrical concern is located near Frankfurt's new "Bridge of Peace," was designed by Architect Assmann



**TORINO:** 16-story apartment tower is faced with mosaic finish

**MILAN:** "Casa Albergo" apartments for unmarried white collar workers are 15 stories high

**LE HAVRE:** Auguste Perret was principal architect for these apartment towers. Eventually, the project will cover about eight city blocks along Le Havre's waterfront

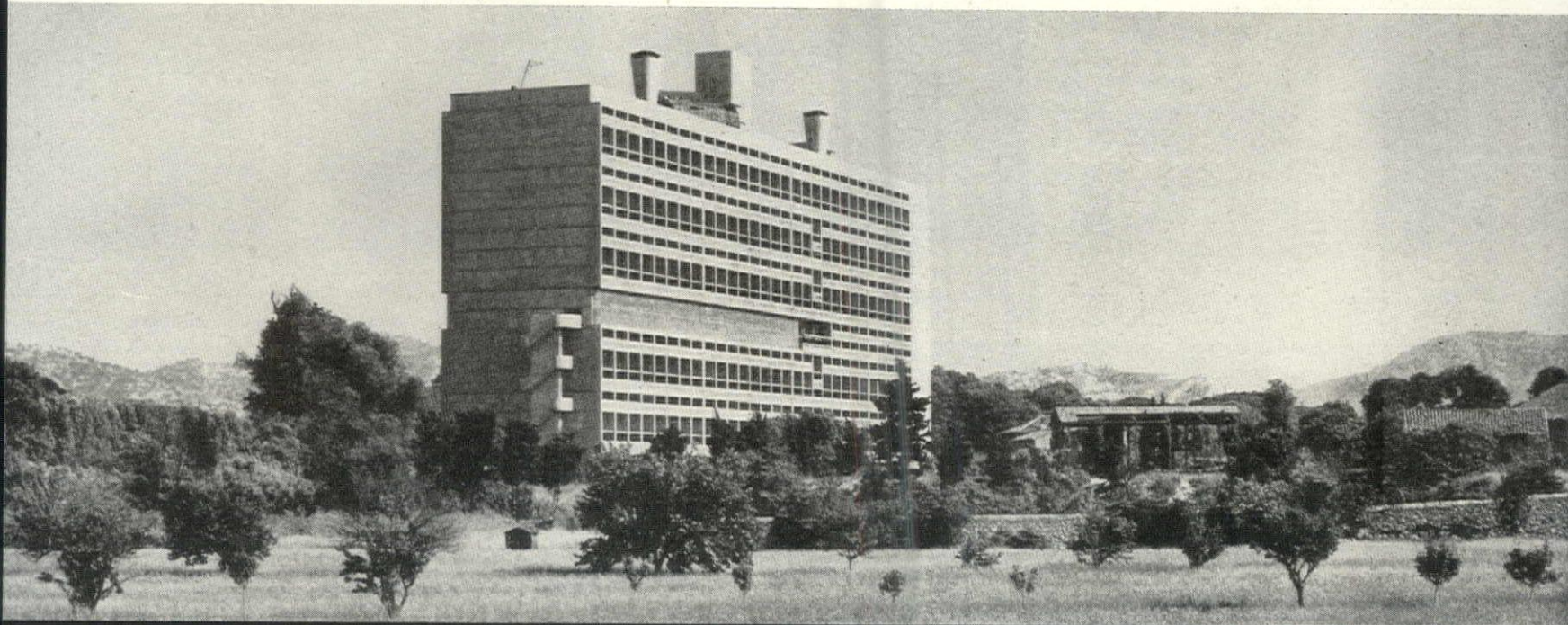




# EUROPE EMULATES AMERICAN SKYSCRAPERS

Impressed by the efficiency and drama of the U. S. skyscraper, many European architects have been building their new apartment and office structures up to 20 stories high. Here are some of the most recent examples from Italy, France, Holland and Western Germany.

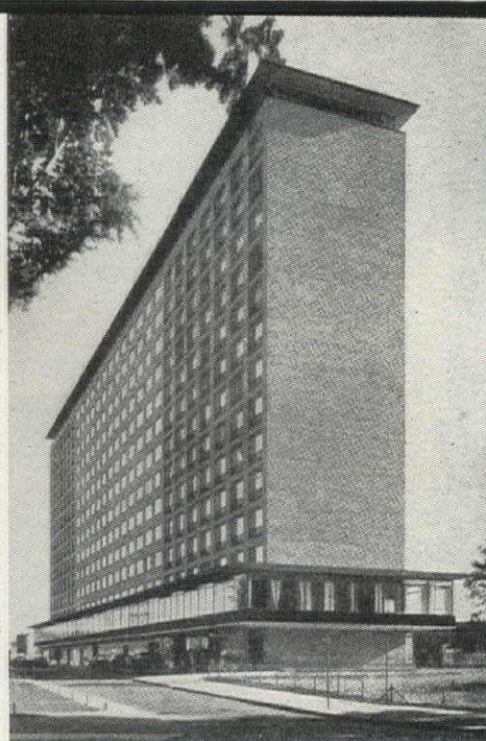
At first glance, these "baby skyscrapers" look like typical North or South American structures. Closer study, however, will reveal both Perret's and Le Corbusier's buildings as unmistakably designed by these two masters, and the Hamburg and Frankfurt towers as unmistakably German. Most interesting, recurring theme in many of these buildings: the use made of roofs for penthouses and other recreation areas.



**MARSEILLES:** Le Corbusier's famed apartment tower is nearing completion. Wide center band is shopping street half way up the building

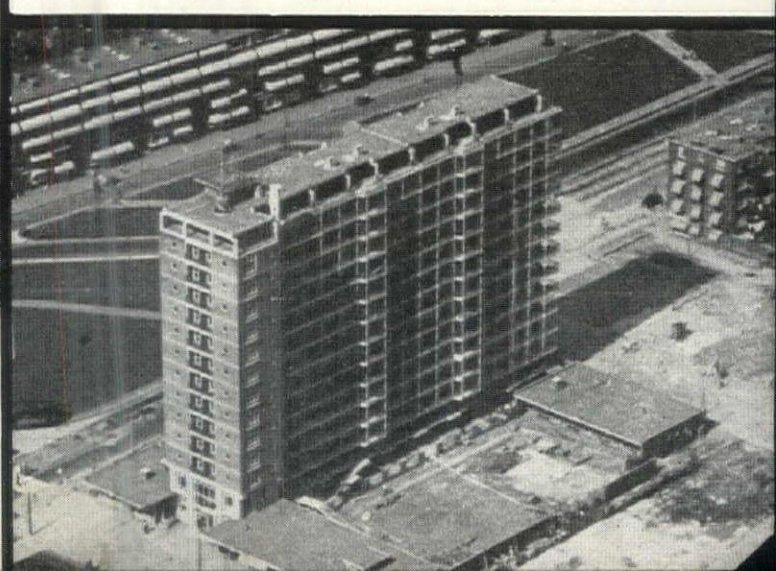


**MILAN:** 11-story elevator apartments are typical of much recent Italian housing

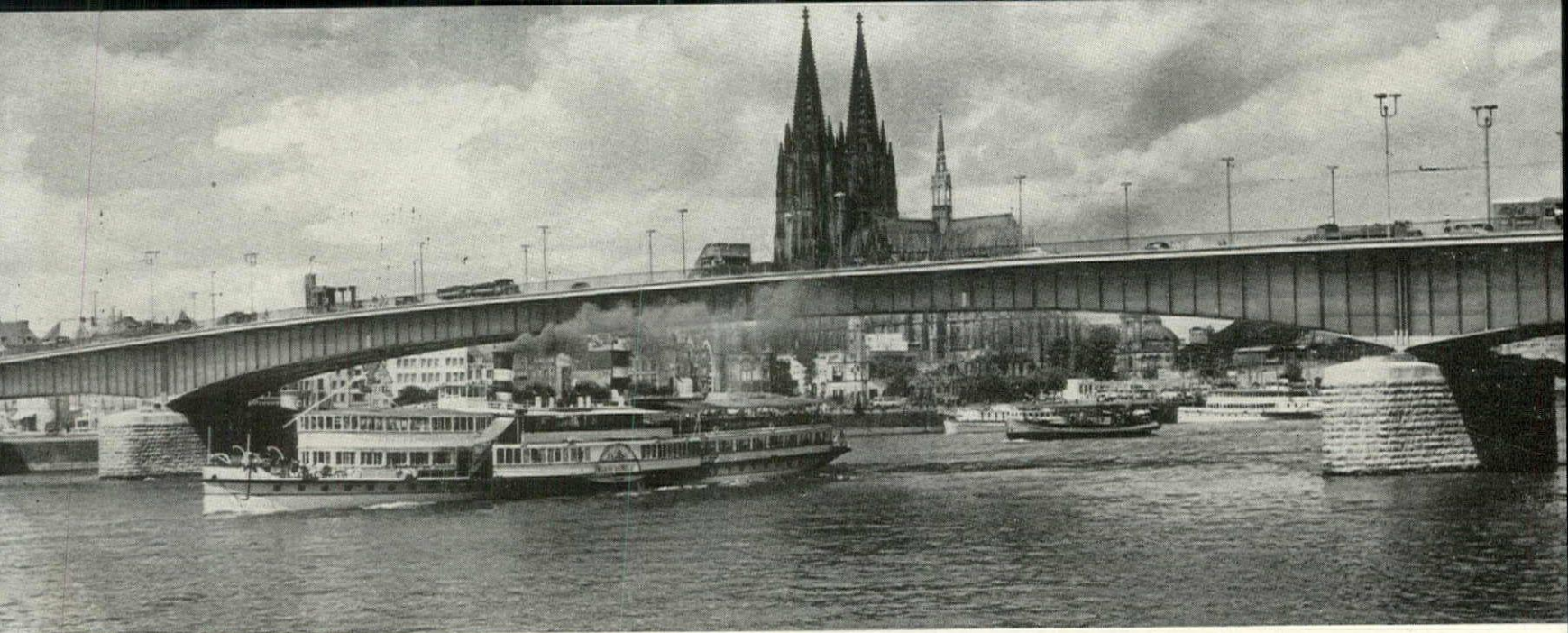


**HAMBURG:** Two 15-story apartment towers (with community facilities on 2nd floor) designed by group of eight German architects, were first intended to house British Control Com-

↓ **ROTTERDAM:** 15-story apartments by Van Tijen & Maas-kant stand in part of town flattened by Luftwaffe in 1940

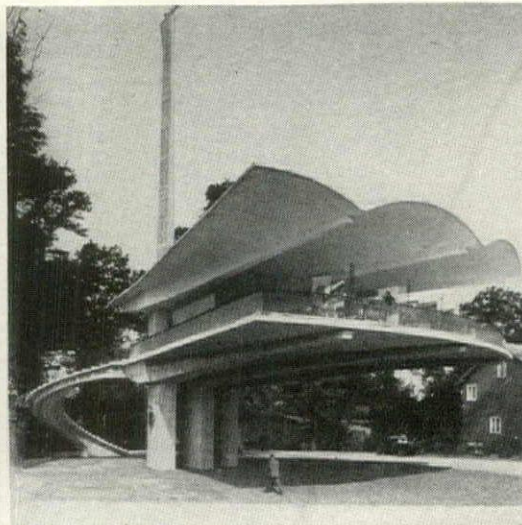
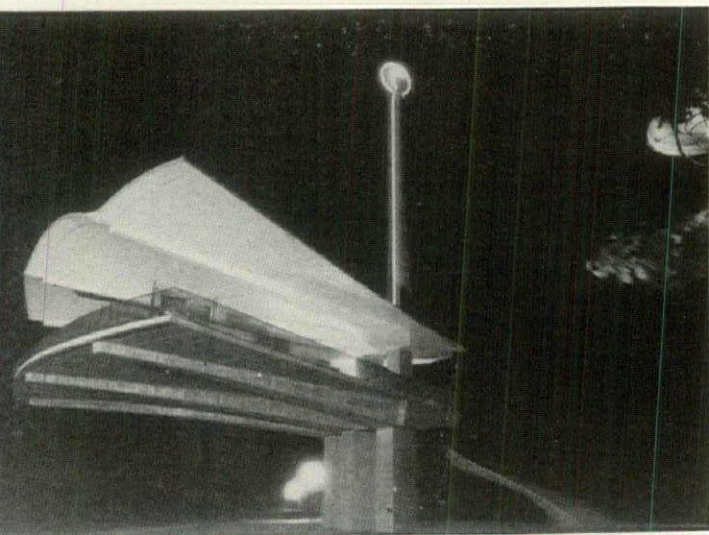






**COLOGNE:** Designed by Dr. Ing. F. Leonhardt, this new bridge across the Rhine is made up of a series of steel box girders, varied in depth to form shallow, parabolic curves. While old bridge (destroyed in last war)

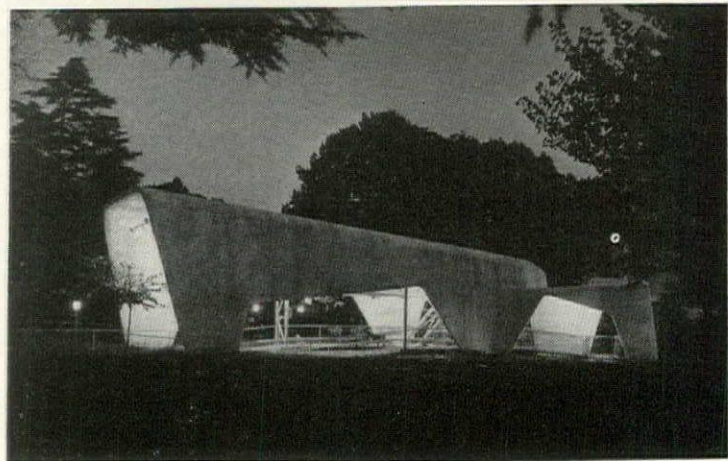
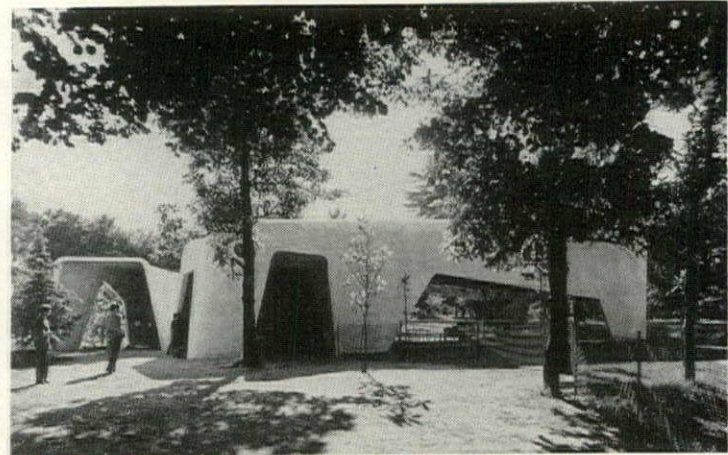
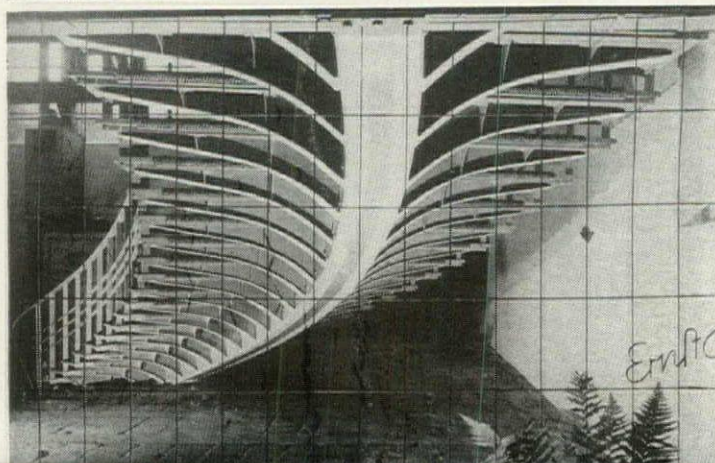
weighed 8,500 tons of steel, elegant new bridge used up a mere 5,669 tons, has greater traffic capacity to boot.



**HANNOVER:** Cantilevered, reinforced concrete restaurant at recent "Constructa" exhibition is engineering *tour-de-force*, was designed by two engineers in consultation with architect Gutschow. Floor area is about 2,000 sq. ft. Note size of man in picture at right

**MILAN:** Cable-car station at last summer's Triennale was built of thin, reinforced concrete shell designed by architect Renzo Zanvella

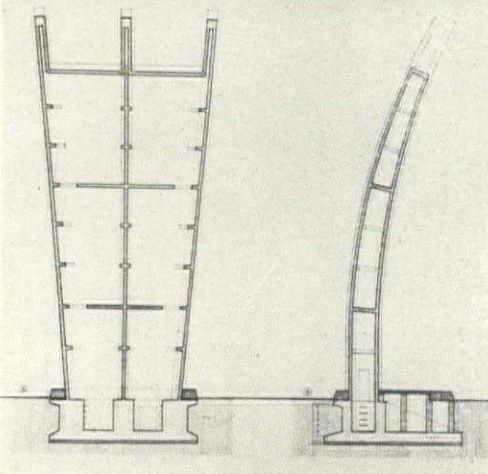
**HANNOVER:** Also part of "Constructa" exhibition was this cantilevered, steel spiral staircase shown by a stair manufacturer.



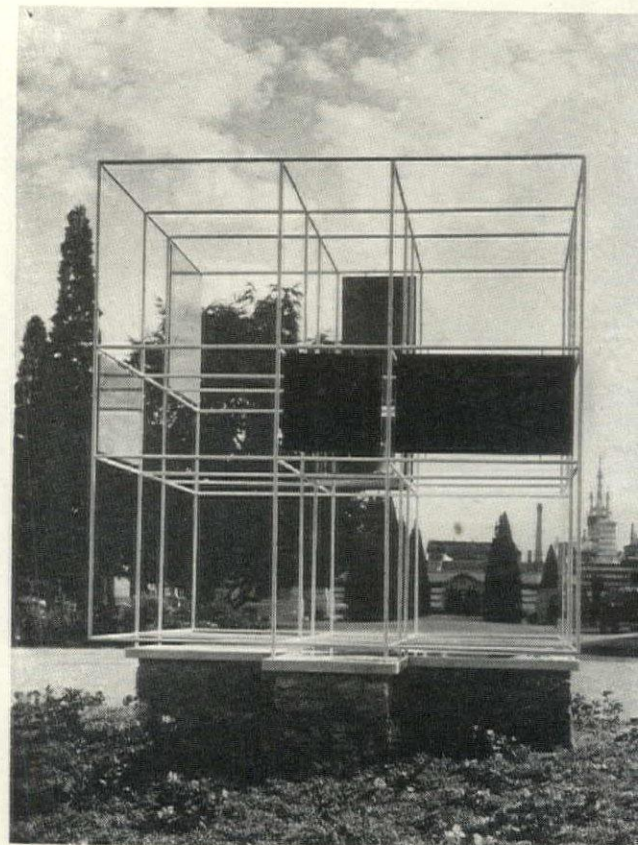




← **BERLIN:** German memorial to 31 Americans, 39 Britons and 5 Germans who lost their lives in the maintenance of the Berlin Airlift during red blockade of 1948-49. It was designed by German architect Eduard Ludwig.

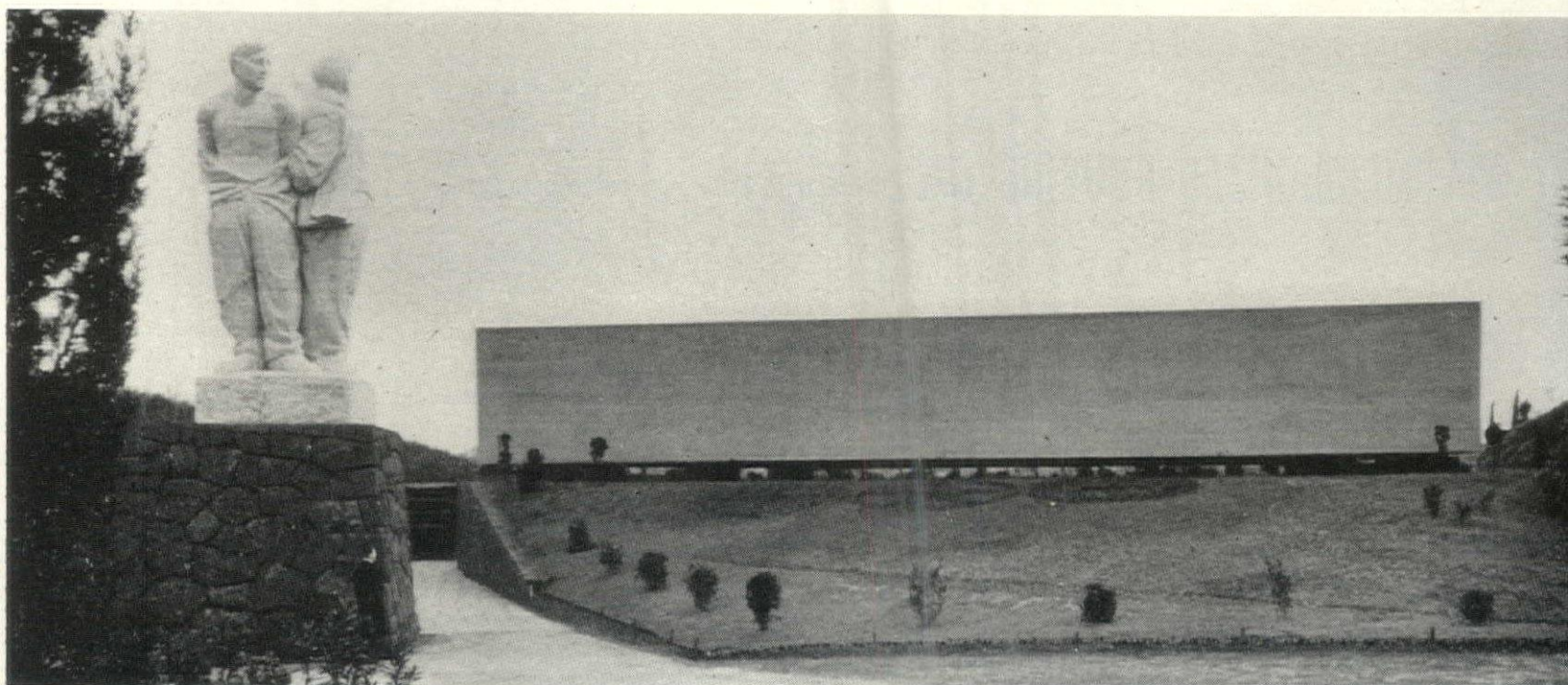


→ **MILAN:** Monument to Italian anti-fascists killed in German concentration camps was designed by architects Belgiojoso, Peressutti & Rogers of the famous firm of BBPR. First "B" stands for Banfi, their prewar partner who was killed at Dachau.

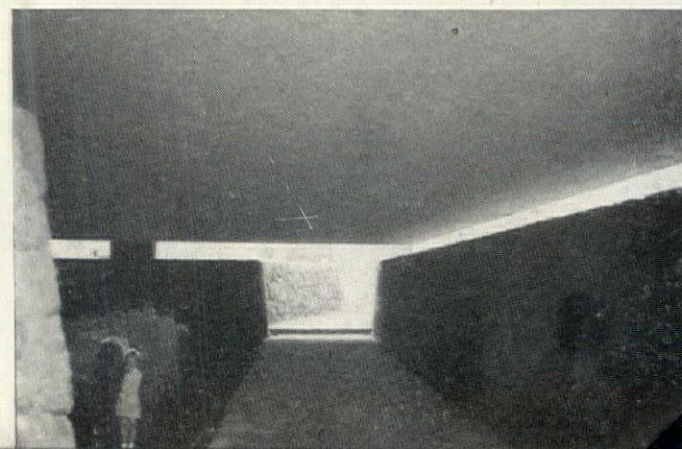


## IMAGINATION MARKS EUROPE'S POSTWAR STRUCTURES

Since materials are costly and labor is cheap in most European countries, structural design has always been pared down to minimal thickness or bulk, depended upon expert and painstaking workmanship for maximum stability. Some recent bridges, exhibition buildings and monuments in postwar Italy and Western Germany are fine examples of engineering design reduced to its essential bone structure, and of heavy loads carried on minimal supports.



**ROME:** Giant concrete mass—about 80' long and 50' wide—rests on four small granite blocks to form roof over cave site in which Nazis massacred Italian opponents. Considered by many the most impressive European postwar monument, this chunk of concrete seems to hover a few inches above ground, leaves thin light-slit all around periphery of cave. Six Rome architects designed the monument.







Photos: Jack Birns

*Eight men look like a big parade laying this roof, but with new machines they can put down twice as many squares per day as the same men could with yesterday's machineless methods.*

## MECHANIZED ROOFING for big industrial buildings cuts costs 30%

Without a mop or a shovel among them, this roofing crew is laying a built-up roof. Without ever handling a hoist halyard they are maintaining a steady flow of felt rolls, fluid asphalt, and gravel from the ground to the roof (photos, facing page).

In a calloused building craft which has resisted mechanization through many years and thousands of acres of industrial roofing, this development is as hot as the tar these roofers once mopped. Machines mop it for them now, and these machines are only the end operators in a whole new mechanized chain of materials handling which starts on the ground beside the building and can cut 50% of the labor, 50% of the time and 30% of the cost of industrial roofing.

Careful cost comparisons were kept on the 7½-acre roof completed recently by the Economy Roof Company of Los Angeles on an aircraft plant in Southern California. For 3 thicknesses of 15 lb. impregnated felt and 400 lbs. per square of ¼" top size industrial slag (applied over 1" of imbedded insulating board on steel structural decking), the price per square mechanically laid was \$9.60. For other areas on the same job with the same specifications applied by the old "rope

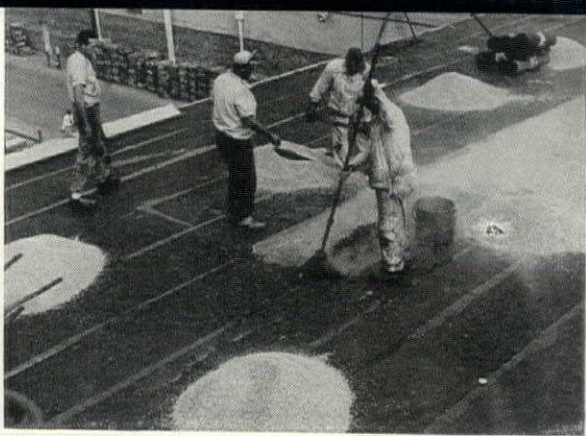
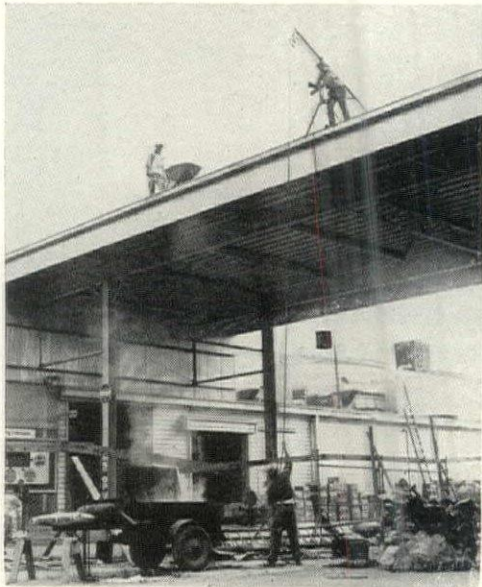
and bucket" method, the comparative subcontract price was \$14. Hourly output of a ten-man crew with machines, was 7 squares; without machines, 3½ squares.

Machine in the foreground above is a mechanical felt layer which also doubles as an asphalt spreader; preheated, its chassis is loaded by bucket with melted asphalt without interruption of its journey over the roof. Following it is a new gravel spreader which transports gravel directly from the hoist on the edge of the roof to the area of use, eliminating stock piling. As one of these slag spreaders is emptied (after about a 25' run) another cuts in behind the felt and asphalt layer to keep the operation continuous. Contrast this with the old system of mops and shovels (facing page, top).

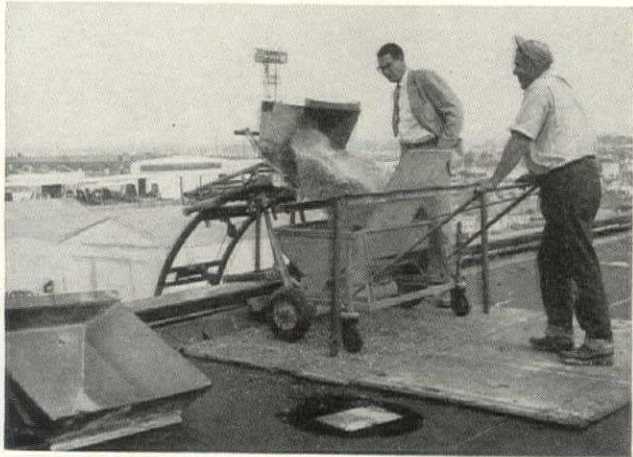
The continuous pumping of asphalt from ground to roof and the mechanical felt-layer eliminate two bugbears of the old conventional method: 1) the chilling and congealing of asphaltum or bitumen between the ground-based heating kettle and the final sweep of the roof mop; 2) the unmanageableness of newly opened roof felts on windy sites. Operational efficiency is obtained without sacrifice of quality.



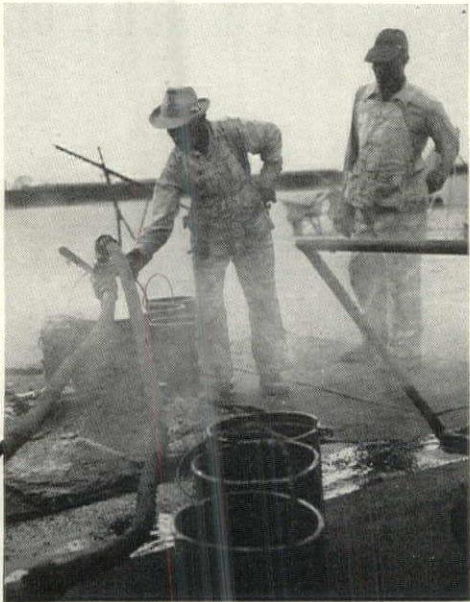
**OLD WAY** used many mops, many shovels, many buckets. Raw material was cooked on ground, hoisted up to roof (buckets were lifted one to a rope) and placed slowly.



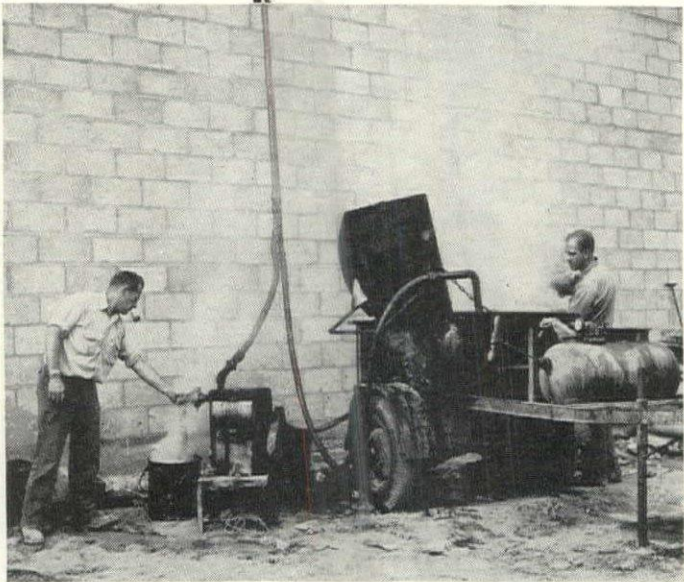
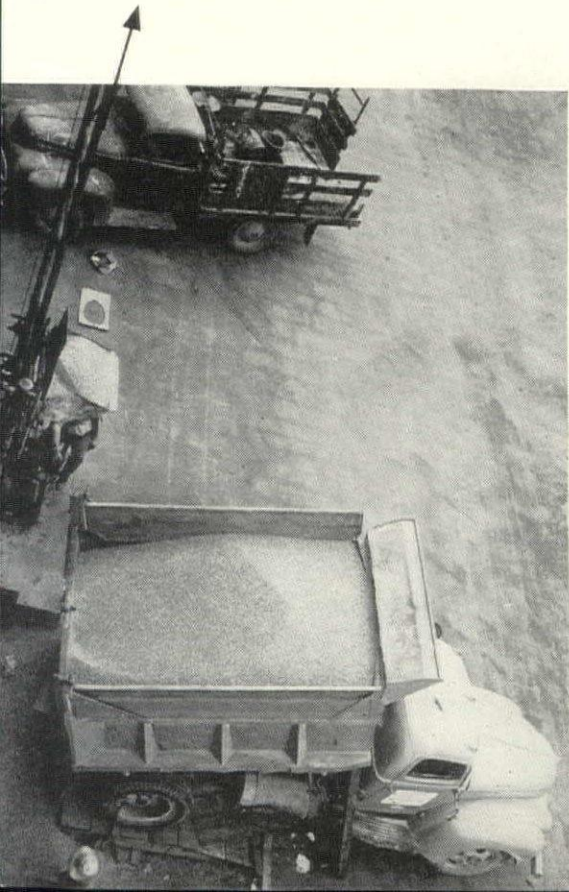
**NEW WAY** still uses buckets, but uses them better



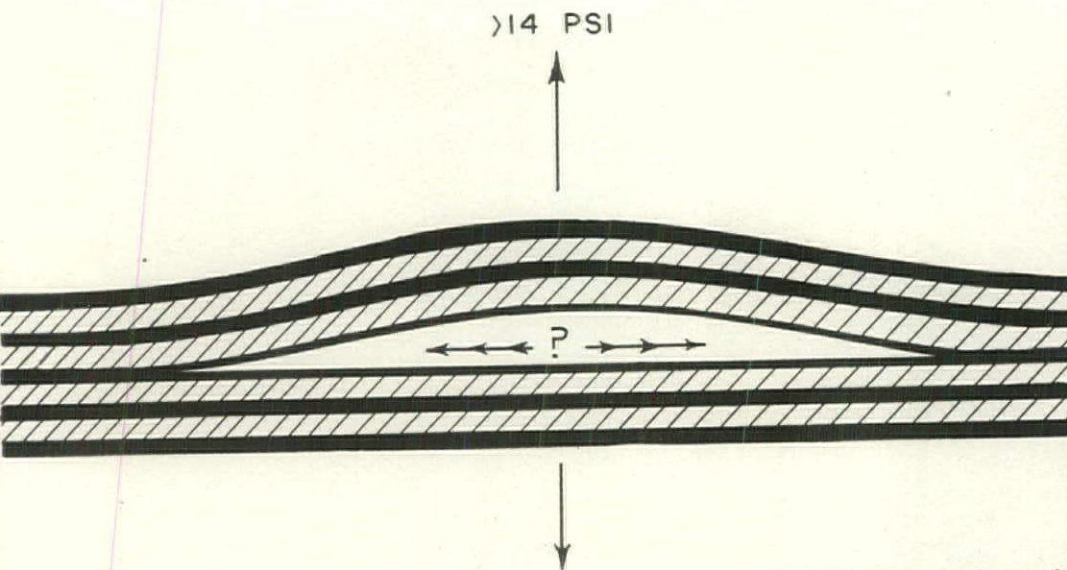
Delivery and application of the slag finish is continuous process, from dump truck to final surface, without stock piling or rehandling. Fed from a sluice gate on the rear of the elevated truck bed, the slag-skip travels on a fast, lightweight elevator which can hoist 9 tons or 4,500 sq. ft. of applied aggregate per hour, compared with 2½ tons or 1,125 sq. ft. by the old rope and bucket method.



Gas-fired "kettle" or melting pot is still the basic supply of hot asphalt, but a two-way 1½" pipe circulating system delivers 30 gals. of temperature-controlled material per minute to the roof. This circulating loop is connected by flexible couplings to both the supply and return level of the kettle and to draw-off cocks or valves just above the roof surface. Asphalt is then delivered by bucket on dollies to dispenser.







14 lbs. per sq. ft. of upward pressure are needed to separate the plies of a built-up roof, but there is no measure of the shearing effect of blisters between plies. Above, the scars which blisters leave.

## PREVENTING BUBBLES IN BUILT-UP ROOFS

*Big worry of roofing contractors who apply today's favorite flat roof finish, the built-up roof, is bubbles. The phenomenon is rare, but when it occurs, this upward expansion of one or more of the layers of felt and tar is very destructive because bubbles eventually will break, and a break in a built-up roof is troublesome and costly to repair. The causes of bubbles and the faulty behavior of some of the best laid roofs have puzzled everyone in building for many years. To find some answers, the industry finally went back to school, the University of Minnesota.*

*There Professor C. E. Lund and Research Associate R. M. Granum of the Engineering Experiment Station, with the cooperation of the Insulation Board Institute, recently completed a study, "Factors Affecting the Performance of Built-up Roofs."*

Basic findings of their study:

- ▶ Roof blistering, the forerunner of most roof failures, results primarily from the entrapment of air or moisture or both between the plies of roofing felts.
- ▶ Entrapped moisture between the felts is much more likely to cause trouble than entrapped air.
- ▶ Roof insulation for buildings located in cold climates or for buildings which have consistently high inside humidities must be protected by under-insulation vapor barriers.

Today's built-up roofs are constructed by applying three or four layers of roofing felt to a concrete, metal or wood roof deck, or over insulation laid on the roof deck, and topping this with a layer of gravel. The plies are bonded together and to the deck or insulation with moppings of pitch or asphalt.

The intended function of the felts is to provide an impregnable barrier against the entrance of moisture into the building, and by laboratory testing many specimens the University of Minnesota investigators found that they serve this purpose. However, while 3- or 4-ply uninsulated built-up roofs are impermeable to both vapor and water at the time of construction, blisters sometimes destroy impermeability after several aging cycles.

Blisters are caused by the action of heat on air or moisture trapped between the plies of felt. A roof surface frequently attains a temperature 70 to 80° F. above that of the outside air, and most of this heat is transmitted to any existing air or moisture pockets. Trapped and heated air or moisture must either expand or it will exert pressure against the forces containing it. How much air pressure? Upon exposure to solar radiation and a rise in temperature, pressures as high as 3½ lbs. per sq. in. (500 lbs. per sq. ft.) may be created, provided no expansion takes place. If expansion takes place at constant pressure, up to 17% increase in volume can be expected.

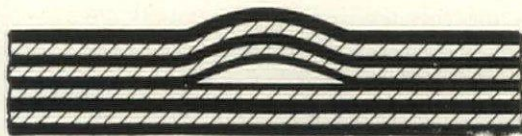
### Keep it tight

The first step in eliminating built-up roof failures is to obtain the most complete and positive adhesion possible between roofing felts. Poor or incomplete adhesion, the investigators found, may result from lapses in the bitumen mopping; from use of damp felts; from low bitumen application temperatures (resulting from delay in rolling in the felts during periods of low outside temperatures); from lack of positive brooming in of the felts; from creasing of the felt during application; or from incomplete *spot* or *strip* moppings. Under such conditions excessive amounts of air will be confined between the felts wherever complete adhesion is not attained. Even with the most careful roof application, 100% adhesion between all the

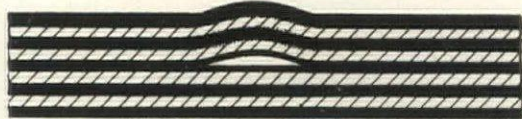
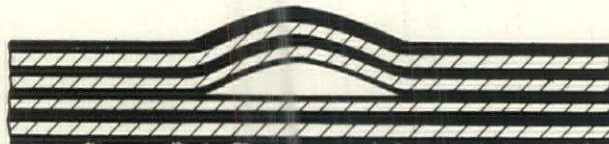


70°

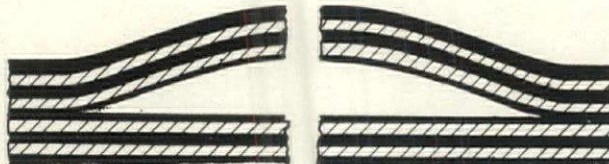
150°



NO MOISTURE—2.2 PSI PRESSURE OR 17% EXPANSION



MOISTURE—3.4 PSI PRESSURE OR 5,000% EXPANSION



Difference in force between dry and wet blister is shown graphically in these diagrams. Top two show the expansion caused by heating a dry blister. Bottom two show how much greater is expansion of a damp blister heated to same temperature. (See also sketch at bottom of page.)

felts composing a built-up roof probably is seldom attained. But the volume of air confined under good roofing practices is very small and the pressure and volume increases are not dangerous.

### Keep it dry

Of even greater importance is keeping moisture out of the roof during construction. The conditions which arise when even small quantities of free moisture (in the form of condensation, mist or rain) become trapped in the roof are much more serious than those resulting from trapped air alone.

For example, if one drop of water were entrapped between the plies of felt and the roof surface temperature reached 160° F. (a not uncommon occurrence), the subsequent vapor pressure rise would be more than 4 lbs. per sq. in. If this pressure were converted into volumetric change, the one drop of water would expand over 1,500 times its original size.

The weight of a 4-ply pitch and gravel roof is approximately 0.04 lb. per sq. in., so obviously the roof weight cannot counteract the pressures which may be produced. If its other defensive powers—the forces of adhesion and tensile strength of the felts—are not sufficiently high, separation of the plies (blistering) is the result.

These forces of expansion do not just push up—a direction which the roof is built to resist. (The perpendicular force required to separate bonded felts is in excess of 14 lbs. per sq. in., far exceeding the pressures ordinarily encountered.) In addition, the pressures exerted by a trapped pocket of air or moisture also tend to separate the plies along the line of adhesion by a shearing action as well as by a direct pull. The shearing action causes a gradual reduction in the strength of the bond surrounding the pocket. Thus, blistering may result from pressures much lower than 14 lbs. per sq. in. As blisters grow, they may become sufficiently sharp to cause erosion of the top surface mopping or may exceed the elastic limit of the felt and break. Leaks will appear and pyramid the difficulties.

### Insulate

Most built-up roofs being constructed today, at least in the northern half of the country, include

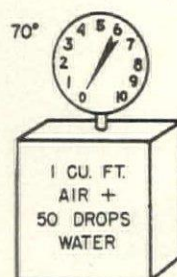
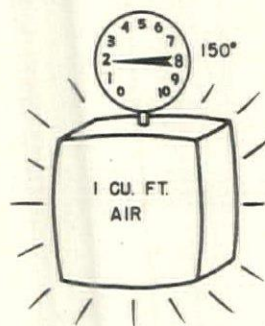
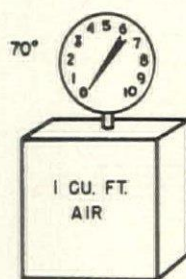
an insulating board for two purposes: first, to act as a heat barrier, keeping the interior of the building warmer in winter and cooler in summer; second, to absorb irregularities in the roof deck and provide a smooth and uniform surface for the roofing. The insulation is laid over the roof deck and under the felts.

The presence or absence of insulation has no relation to within-the-felts blistering, which is the root of most roof failures. However, without reasonable precautions, the insulation can become a trouble source: moisture in the insulation may decrease its insulating efficiency; vapor may pass into the insulation, condense into frost and later melt, possibly causing dripping into the building interior. (In many instances, such dripping has been mistakenly attributed to failure of the roof.)

### Bar vapor

To guard against these possibilities, the roof insulation itself should be protected from excessive moisture both before and during construction. In

EFFECT OF HEATING CONFINED AIR &amp; WATER



A cubic foot of dry air heated from 70° to 150° generates considerable pressure (sketch left), but if it is damp air it generates much more pressure.





Typical buckling and erosion caused by blisters

cold areas of the country, or in high humidity rooms like kitchens, the insulation also should be protected by an under-insulation vapor seal so it will be sandwiched between two layers of material impermeable to vapor, and will not soak up humidity from inside the building.

The need for under-insulation vapor seals is often underestimated because they sometimes have been omitted with apparent success. But this success is often as short-lived as its basis, which is the fact that standard roofing procedure unintentionally provides a partial vapor protection for the insulation in the mopping used to adhere the insulation to the deck, and in the deck materials themselves. Expansion and contraction of the roof deck, however, will deteriorate the surface mopping and end its efficiency as a vapor seal.

There is another reason to keep moisture out of insulation, of course. Even when dampness is not sufficient to cause dripping, it will decrease the insulating efficiency. If concrete decks, for example, do not have vapor seals, large amounts of moisture will be transmitted into the insulation during the winter months, cutting insulating effectiveness when it is needed most.

Entrapped air is necessary to the composition of an insulation, but heating of merely the air contained in the insulating space is not likely to endanger the soundness of the roof. The reason:

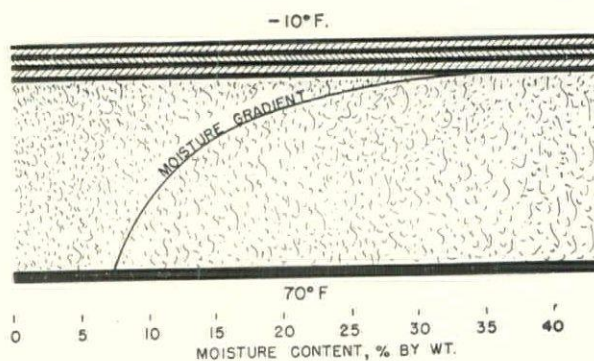


Diagram of moisture distribution in roof insulation under winter temperature exposure demonstrates how vapor travels from the interior toward the cold exterior surface of the building. If there is no vapor barrier between the building interior and the insulation, room vapor may build up in the insulation until it is wet enough to drip back into the room. High moisture content also kills insulation efficiency.

temperatures attained are considerably lower than those in air spaces within the plies of roofing, and these pressures attained in the insulated space are contained by the full tensile strength and weight of the multiple-ply roof. Unless the bond between roofing and insulation is practically nonexistent, there is no likelihood of damage from heated air alone in the insulation.

When moisture is present in the insulation and temperatures rise, pressure increases which are greatly in excess of those produced by air alone may develop. These pressures may be sufficient to cause separation between the roofing and the insulation surfaces. If so, the pressure usually is widely distributed, and the blisters formed are large in area and low in elevation. Commonly, they will not be noticeable except as a "spongy" feeling when walking over the roof.

Roof insulations may be made from either vegetable fibers or mineral fibers. Vegetable fibers absorb moisture; mineral fibers do not. In either type, however, the air spaces between the fibers may become fully saturated with moisture and it is this *free moisture* which is of primary concern in the matter of roof performance. Thus, the term "insulation" is used without discrimination between the two types in consideration of moisture problems. Under normal conditions, the amount of moisture absorbed by a vegetable fiber insulation will vary between 5 and 10% of the weight of the insulation. Moisture in amounts up to 20% may be absorbed without change in appearance and with no consequential change in physical properties.

#### Five insulation precautions:

1. Roof insulation prior to use should be sheltered from direct exposure to the weather and should not be in contact with the ground.

2. Insulation should not be applied during damp or rainy weather or to a damp roof deck. (With mineral fiber insulation, this precaution must be followed to the fullest degree. Since the fibers themselves can absorb no moisture, it takes very little free moisture to produce saturated vapor pressures within the insulated space.)

3. Vegetable fiber insulation should not be installed with a moisture content exceeding 12%. (Moisture migration during periods of extreme outside cold will cause frost accumulation under the roofing if the insulation moisture content far exceeds this value; in addition, application of hot bitumen may cause cupping of the sheets and lead to an irregular roof surface.)

4. After each day's work the applied insulation should be roofed and sealed off to guard against precipitation or dew.

5. Roof insulation on buildings in cold climates or having excessive inside humidities should be protected by a positive vapor barrier. (Laboratory tests have shown that a vapor seal consisting of two plies, solidly mopped, is impervious to the passage of vapor.)





## SERPENTINE WALL 1 $\frac{1}{3}$ MILES LONG hides Ford testing ground

Thomas Jefferson might not have been able to foresee the purpose of this wall—to conceal testing of new cars and trucks on the Ford Motor Co.'s test track in Dearborn, Mich. But when Jefferson built his first serpentine brick wall at the University of Virginia in the early 19th Century he met the same physical demand the Ford engineers faced: a simple, solid, economical, strong and handsome wall with low maintenance.

The Ford wall is 7,100' long, but is modeled on Jefferson's elegant piece of functional architecture. Eight feet high and only one brick thick, it requires no bracing or other strengthening. It is built on a concrete footer 2' wide and 3 $\frac{1}{2}$ ' deep, and contains more than 400,000 yellowstone red bricks. The series of symmetrical reverse curves of 6' radius were laid out by using wooden templates (photo, right) and the top of the wall wears a decorative cap (photo, above).





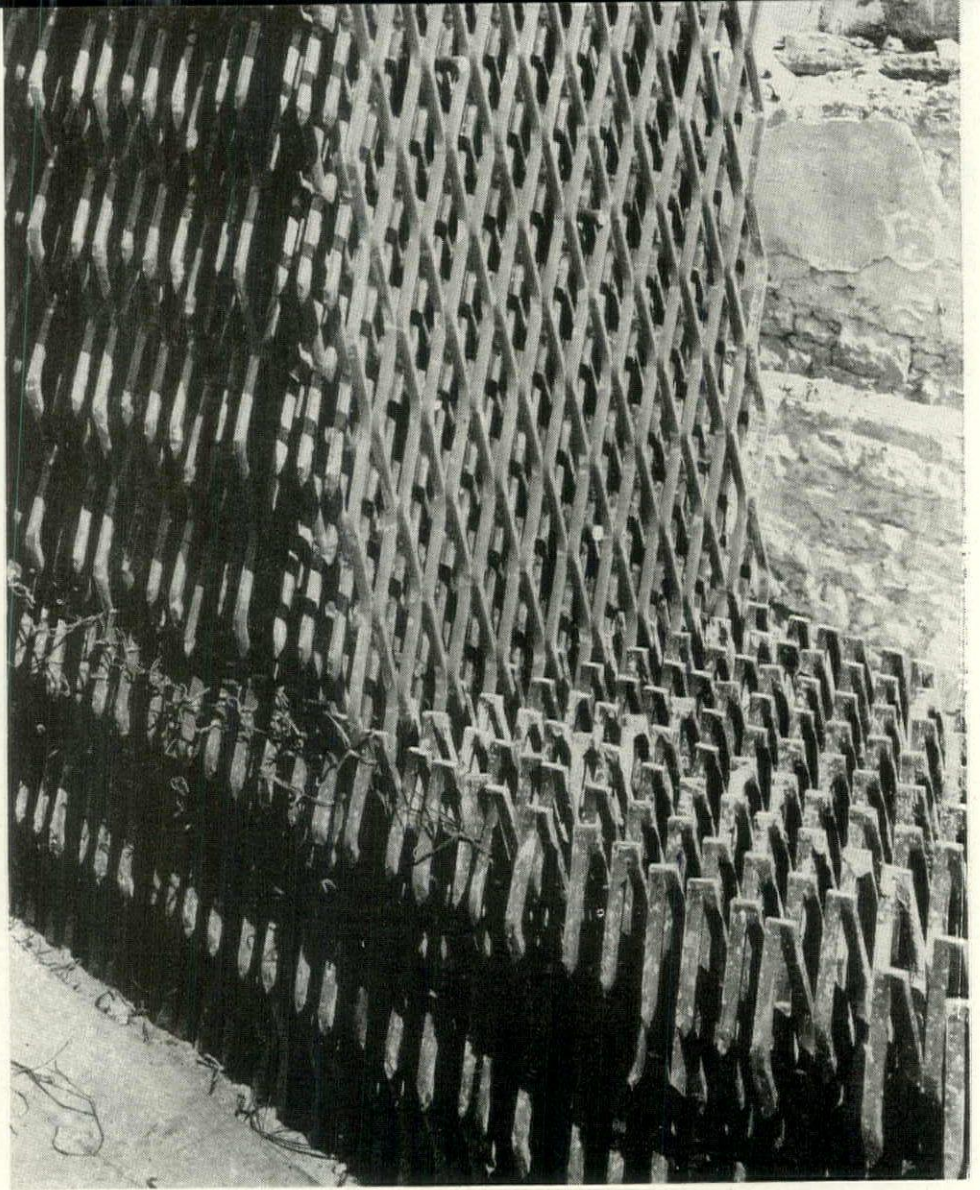
# SINEWY BANK VAULT

is walled by jungle of expanded mesh

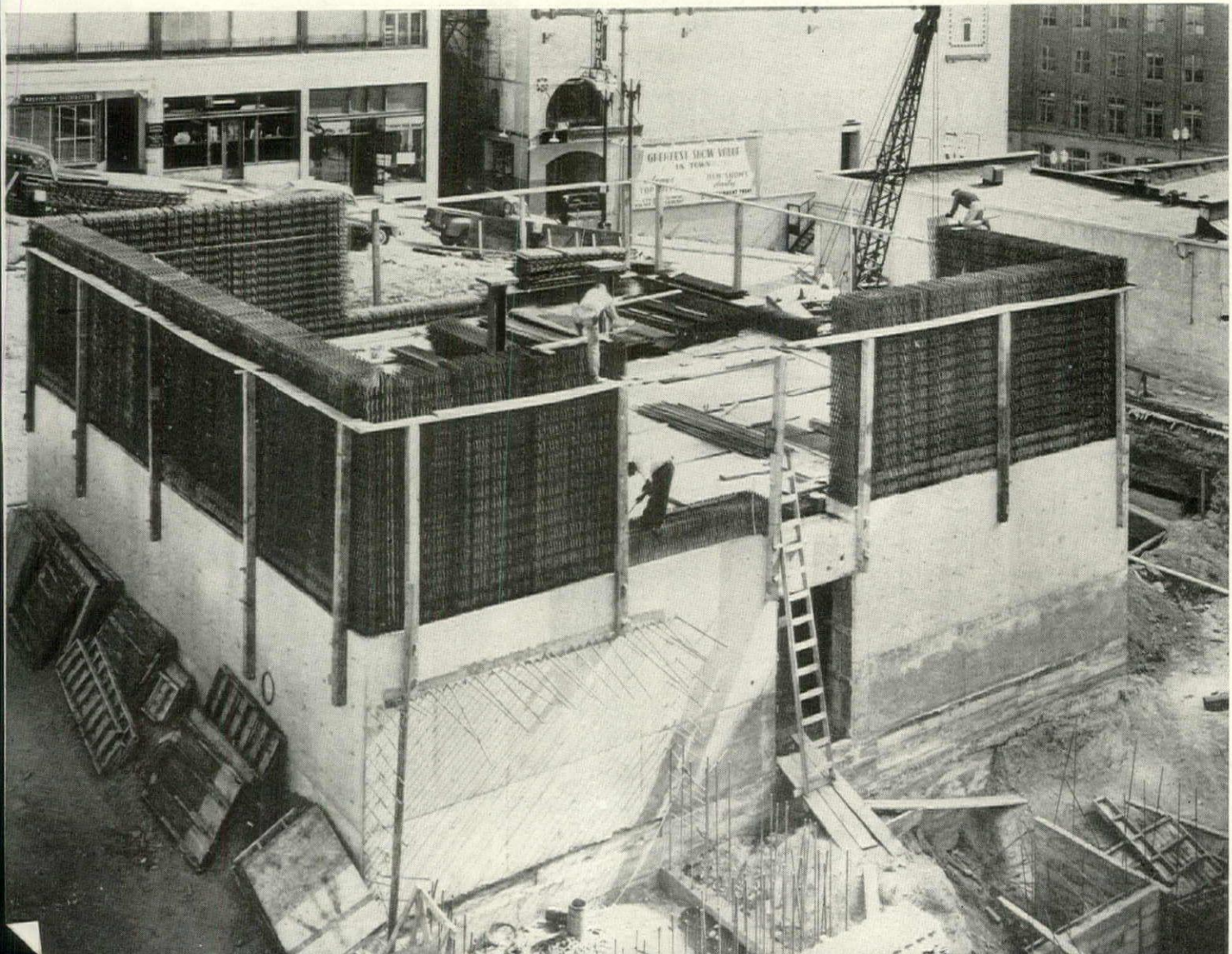
Bank vaults, the inner fastnesses of our civilization, are the extreme in reinforced concrete when they are built like this new Federal Reserve Bank of San Francisco vault in Seattle. To make it proof against every conceivable depredation of man or nature (planned robbery, riot, fire and explosion, demolition from falling objects, earthquake) heavy expanded metal reinforces the concrete walls.

The reinforcing mesh is fabricated from  $\frac{3}{8}$ " or  $\frac{5}{16}$ " steel plate slit and stretched on giant presses into a pattern of diamonds, each 3" wide and 8" long. The sheets of expanded metal are laid up parallel to the line of probable attack, then interlaced with steel reinforcing bars; concrete is forced in and around the steel to make a wall at least 18" thick.

In a recent test "burglary" sponsored by the manufacturer, it took two days of a scientifically planned sequence of drilling, chiseling and burning to cut a man-sized hole in this jungle of steel mesh. Seven drills were wrecked, and 3,600 lbs. of compressed air and 700 lbs. of acetylene were consumed—and the burglars got nothing but union scale for the work.



Photos: Wheeling Corrugating Co.





## There's a Kentile color for every flooring need

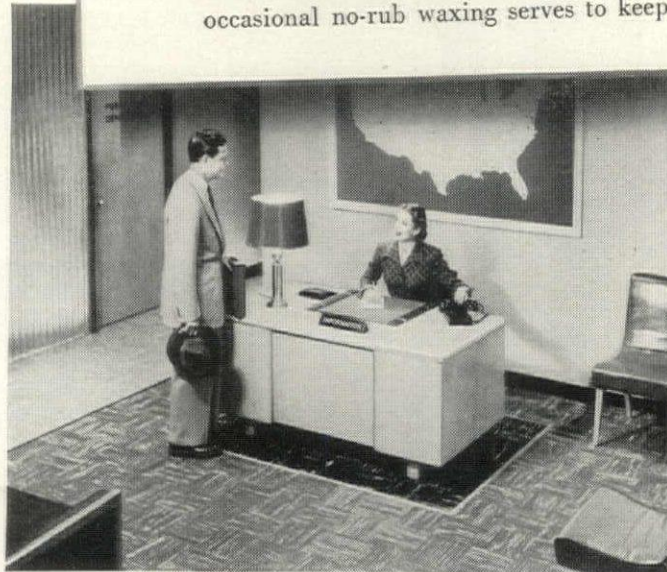
Kentile Asphalt Tile is available in a wide range of marbled colors in both Kentile and Special Kentile (grease-proof) grades. The stock sizes for both Kentile and Special Kentile are 9" x 9" with other sizes available on special order. Thicknesses are  $\frac{1}{8}$ " and  $\frac{3}{16}$ ".

**Residential**—Today's architectural designs call for the planned use of modern decorator colors. Kentile offers the specifier of flooring materials a wide choice to allow an almost infinite choice of design and color.

**Commercial**—The wide range of Kentile colors provides an almost infinite choice of decorative schemes...to fit in with the plan of any commercial interior; store, restaurant, theater. The bright, cheery appearance attracts customers...captures the attention of passers and "impulse" buyers.

**Industrial**—The proper atmosphere in plant or factory is one of the most important elements in maintaining worker efficiency...production levels. One of the best ways to achieve this atmosphere is by the use of pleasing color with Kentile Floors and Walls.

An added advantage of Kentile Floors for any installation is the ease and economy with which Kentile is maintained...only mild soap and water cleanings plus an occasional no-rub waxing serves to keep floors clean and colors sparkling new.



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- ...**installability**—Kentile can be applied over any interior smooth wood, metal or concrete surface...even below finish grade over concrete on fill in direct contact with the earth.
- ...**availability**—Over 3,000 Kentile dealers throughout the country assure prompt attention to your needs.
- ...**service**—Nine conveniently located Kentile, Inc. offices and a nation-wide system of trained representatives plus a comprehensive selection of technical literature, are available to help solve any flooring problem.
- ...**low cost**—Installed prices are lower than those of practically any flooring material; varying with size and condition of floor; colors and thicknesses chosen and freight rates. Accurate estimates are available from any Kentile dealer—listed under FLOORING in your classified phone directory.

The following literature is available on request and is designed to aid in the specifying of floors and walls for residential, commercial or industrial building or remodeling.

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| <input type="checkbox"/> Architects Specifications                                        | <input type="checkbox"/> Color Line Folder                                |
| <input type="checkbox"/> 16 Page Catalog—includes 4-color photos of Kentile installations | <input type="checkbox"/> Kentile in Hospitals                             |
|                                                                                           | <input type="checkbox"/> Kentile in Schools                               |
|                                                                                           | <input type="checkbox"/> Recommended and Not Recommended Uses for Kentile |

Please write the Kentile, Inc. office nearest you.

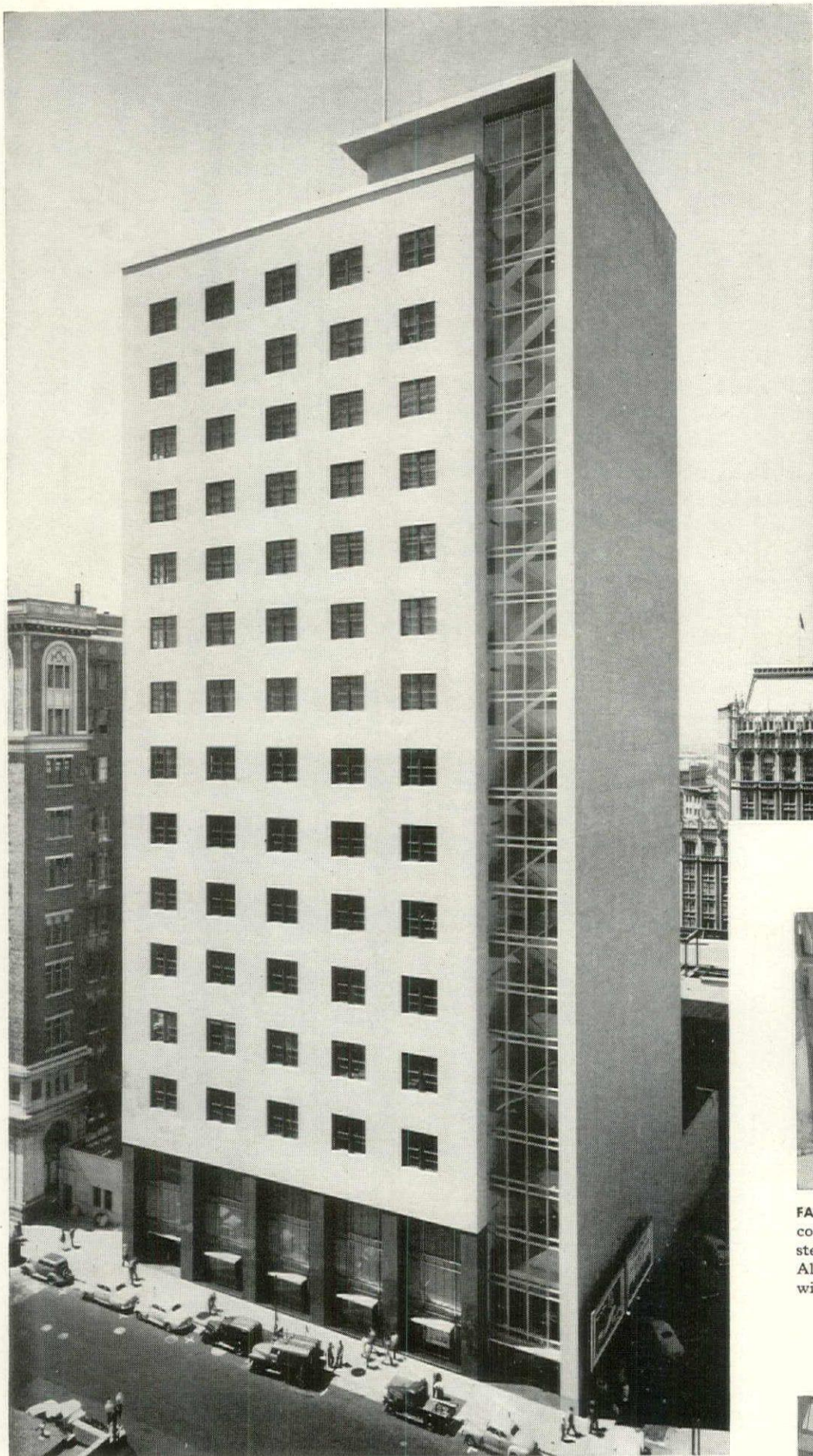
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PACIFIC TELEPHONE & TELEGRAPH Company's Oakland, California, building used 49 tons of aluminum ducts in heating and ventilating system. Over 90 per cent of it *Kaiser* aluminum.

ARCHITECTS: Thomsen & Wilson,  
San Francisco

BUILDER: Dinwiddie Construction  
Co., San Francisco

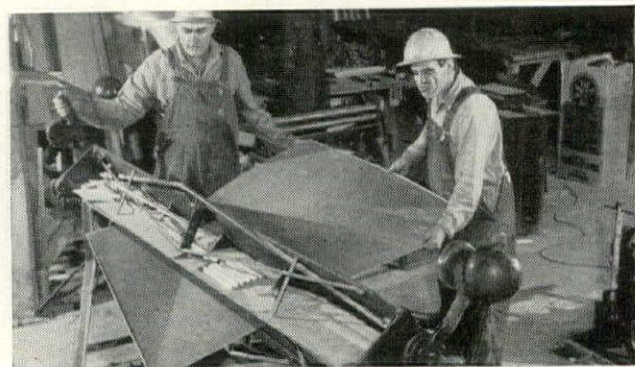
HEATING AND VENTILATING  
CONTRACTOR:  
Scott Company, San Francisco

LIGHT, STRONG, corrosion-resistant Kaiser Aluminum is installed faster with less worker fatigue than heavier materials. Without insulation, it delivers as much heat as insulated galvanized steel—a fact proved in engineering tests.

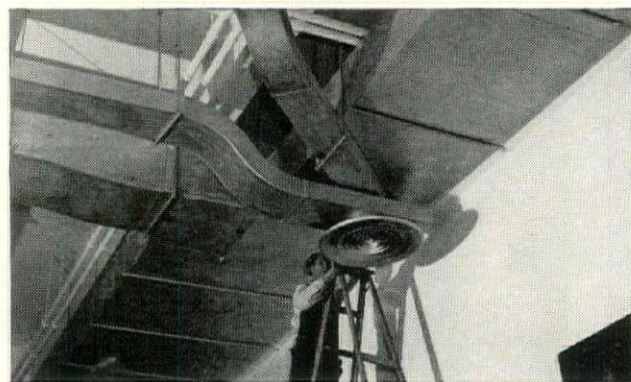
# ALUMINUM...



KAISER ALUMINUM SIDING, installed vertically in The Cotton Shop, Chicago, gives effect of height, fits curved surface, hides heavy columns. Baked-on enamel coat is smooth, easy to clean, lasts longer. Architects: Walter H. Sobel, J. Stewart Stein. Contractor: Lee Construction Co., Chicago.

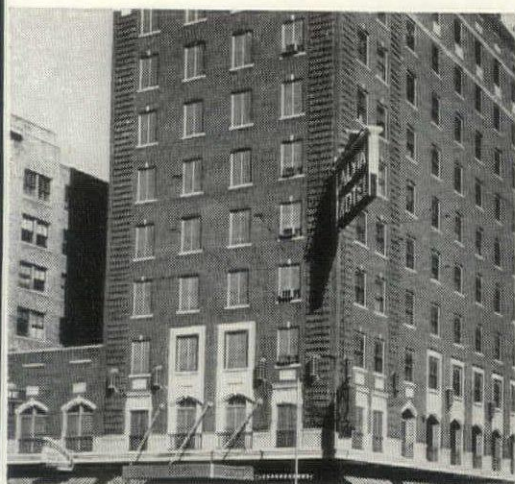


FABRICATING KAISER ALUMINUM into ductwork is so simple the contractors set up shop right on the job—and eliminated several steps in handling, trucking and storing assembled sections. Kaiser Aluminum is less wearing on shop equipment, can be fastened with rivets, by welding or with sheet metal screws.

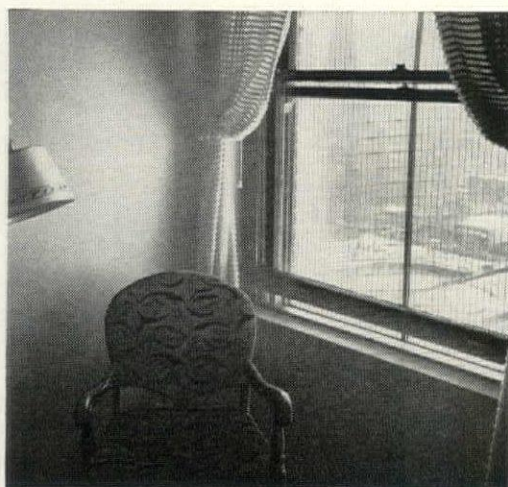




# BUILDING MATERIAL OF THE FUTURE!



**TEST:** Glaring, direct rays of the sun made west rooms of Tulsa's Alvin Hotel uncomfortable, caused requests for space changes. Kaiser Aluminum Shade Screening was tested for a full summer on a few west windows and proved it blocked the sun without blocking light and air.



**RESULT:** Kaiser Aluminum Shade Screening was applied to *all* west windows. Now the Alvin's west rooms are always cool and inviting, easy to rent. The hotel management reports Kaiser Aluminum Shade Screening has improved the exterior appearance, too, with its modern, gray-green alodized finish.



**KAISER ALUMINUM ROOFING** makes an attractive, modern store facade. Used as a remodeling material, it gives older buildings new sparkle, fresh appearance. Lower in cost than most architectural specialties, it needs minimum of maintenance because it's *solid* aluminum, not clad or veneered.

**A**luminum will be among the most plentiful of metals when the present industry-wide expansion program is completed.

The building industry will see many new uses of this versatile metal as supplies increase.

So keep aluminum in your plans. Use it whenever and wherever you can. Be prepared to use it in a wider variety of applications in the future.

## Check the Advantages of Aluminum

Attractive, modern aluminum offers a unique combination of advantages found in no other metal.

It is light in weight, yet strong enough for rugged service. Corrosion and rust-resistant, it gives long life with minimum maintenance.

On the job, aluminum keeps cost down because it is

easy to handle and to fabricate. And it is lower in cost than most architectural specialties.

Heavy demands of the national security program limit the availability of aluminum. But before you specify less-satisfactory substitutes, check your dealer's supplies. You may still be able to give your clients the best: *Aluminum!*

## Typical examples of Kaiser Aluminum

Building materials made of Kaiser Aluminum offer exclusive advantages in design, beauty and quality. Representative applications shown here prove *today* they're the building materials of the future.

For full information about any Kaiser Aluminum building product—and for AIA files—write: Kaiser Aluminum & Chemical Sales, Inc., Oakland 12, California. Sales offices in principal cities.

# Kaiser Aluminum

*Building materials for home, farm and industry*

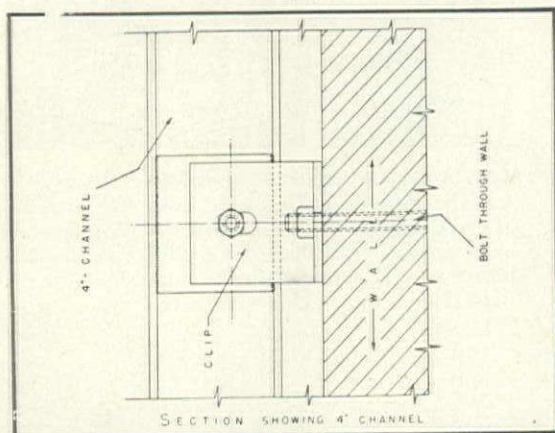


# Department Store Modernization

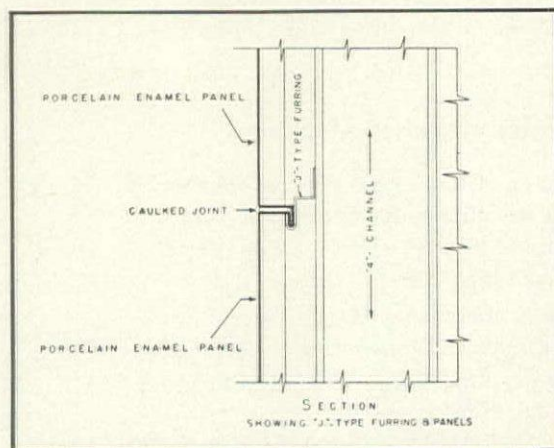
Architects: T. H. Buell & Co.  
Denver, Colorado

The Gano-Downs department store building in Denver is a notable example of successful re-facing work. Because of foundation problems it was necessary to use a light-weight facing material on this 70-year-old structure. So architectural porcelain enamel was chosen.

Uneven walls of the building, protruding columns and ornate stonework presented design problems too. Good engineering, however, readily adapted porcelain enamel to meet all requirements. Besides being light weight and modern, this facing material is economical, colorful, permanent and maintenance-free. 12,000 square feet of 16 gage Armco Enameling Iron now cover the building.



Method employed for attaching channels to old structure. The special slotted clips permitted adjustment where the old wall was out-of-line. Building was first stripped of all projections beyond pilasters, and stone at window ledge levels was cut so that channels could run continuously.



Vertical section through porcelain enameled panels showing attachment detail. The furring strips are welded directly to 4-inch light structural channels and are continuous at each horizontal joint. Each individual panel is a self-supported unit.

## BEFORE



## AFTER



Armco Enameling Iron is now in short supply, but here are some other architectural applications you might wish to consider for the future: Curtain Wall Panels, Marquees, Signs, Washroom, Kitchen, Store and Laboratory Interiors. Armco Stainless Steel is also used for these applications, or in combination with porcelain enamel for Trim, Decorative Motifs and Sign Letters; for Roofing and Roof Drainage; Restaurant Equipment and Fixtures. You will find detailed information in your Sweet's Catalog. Armco Steel Corporation, 4681 Curtis St., Middletown, Ohio • Plants and sales offices from coast to coast.

Export: The Armco International Corporation







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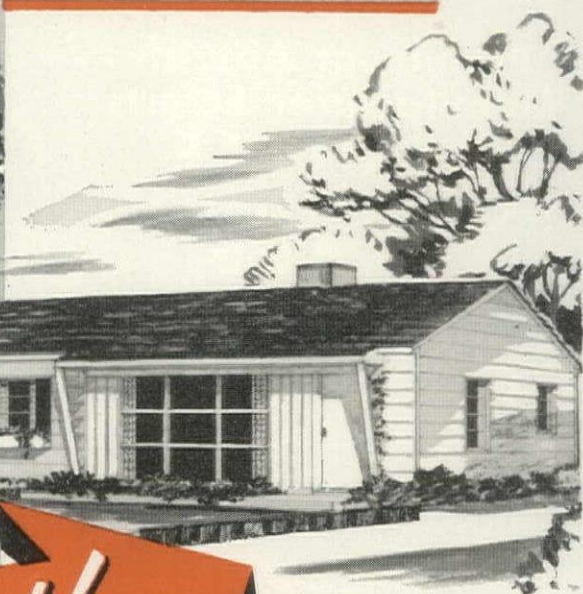
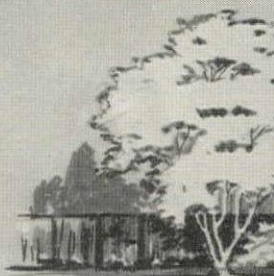
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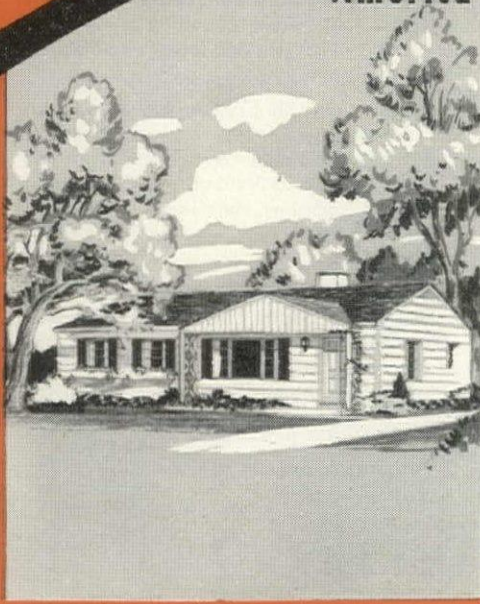


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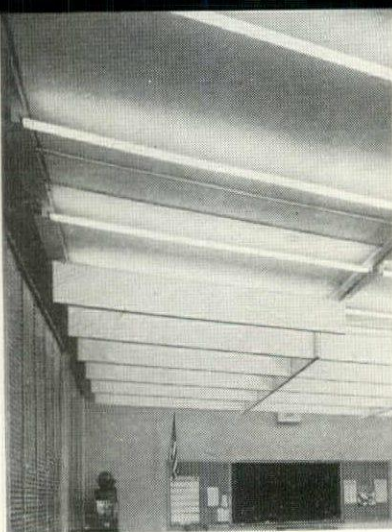
418½ E. Pearl Street, Tel. 2-6561



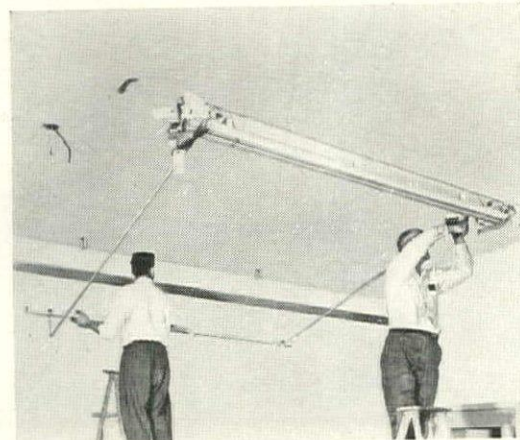
## PRODUCT NEWS

### CLASSROOM LIGHTING SYSTEM utilizes sound baffle grid as light shield

The deceptively simple installation and appearance of Curtis' school lighting and sound control system belie its thoughtful engineering. By devising a packaged fixture for mounting 8' Slimline fluorescents to the ceiling in parallel runs above hung bays of acoustical panels, the manufacturer has provided a system which produces proper quantities and qualities of light throughout the

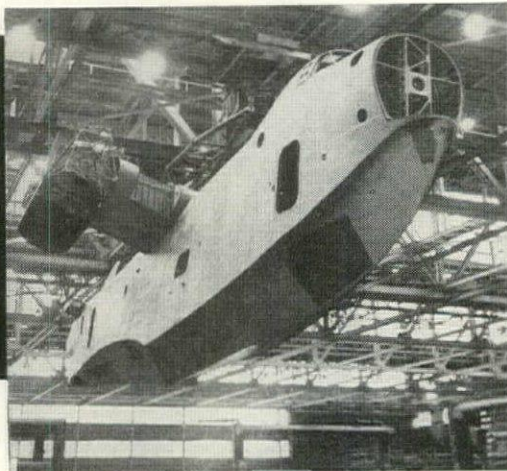


Its packaging plays a big role in the luminaire's installation. A complete section is raised and secured in position, and the lamps slipped into their channel-mounted holders. A grid of light-shielding acoustic panels is suspended beneath.



### Prominent Aircraft Manufacturer Selects COOLITE Heat Absorbing and Glare Reducing GLASS

Designed and built by The Glenn L. Martin Co. for destruction of enemy denizens of the deep, this P-5M-1 Marlin anti-submarine seaplane is one of many being readied for use by the U. S. Navy.



### Over 90,000 sq. feet Glazed in Three Exposures in Glenn L. Martin Buildings

Appreciation of the vital role played by regulated daylighting in keeping production at high level prompted management of The Glenn L. Martin Company to explore thoroughly the advantages of heat absorbing and glare reducing glass for its huge plant in Baltimore, Md.

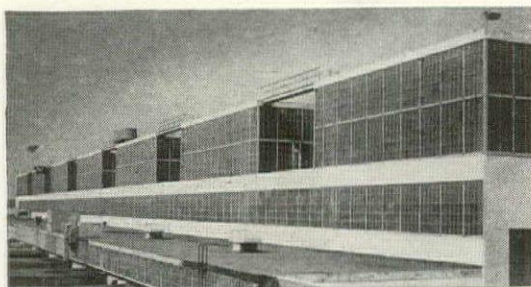
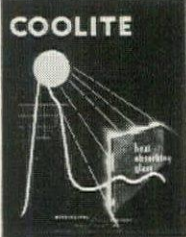
Following conclusive tests, Coolite was specified in "B" and "C" buildings where it has since demonstrated its ability to control sunlight and solar heat to meet exacting requirements.

According to Martin Company executives, Coolite, Heat Absorbing and Glare Reducing Glass admits maximum natural light while excluding blinding sun rays that cause eye fatigue and lead to inefficiency and production declines.

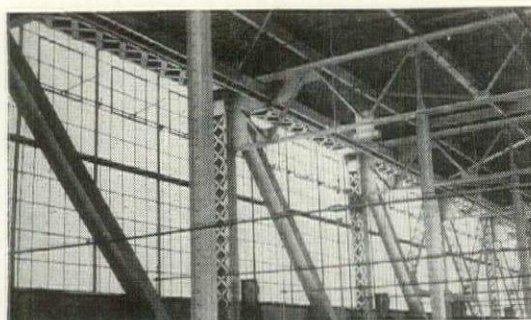
In buildings glazed with Coolite, glare reduced, there have been no complaints from workers due to sunlight glare. Yet on bright days electric lights can be completely shut off in the final assembly areas. As a result, the company considers Coolite glass indispensable in all the south, west and east exposures of its buildings.

Like many others you too may find that whether used in new construction or modernization, Coolite, Heat Absorbing and Glare Reducing Glass can provide increased efficiency and economy. For details, see your nearby Mississippi Glass distributor.

Send for free catalog, "Coolite Heat Absorbing and Glare Reducing Glass." Samples on request.



West elevation of The Glenn L. Martin Co.'s "B" building glazed with Coolite, Heat Absorbing and Glare Reducing Glass.



Interior view of Coolite in a southern exposure. Note even distribution of soft, comfortable daylight.

Rolled, Figured and Wired Glass by Mississippi is "Visioneered" for better daylight illumination. Available in a variety of patterns and surface finishes, all scientifically designed to distribute light to best advantage.



## MISSISSIPPI Glass COMPANY



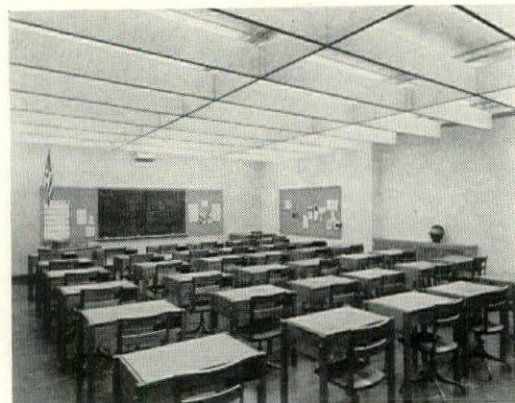
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NEW YORK • CHICAGO • FULLERTON, CALIF.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

schoolroom as well as adequate noise reduction. Metal channels are factory wired with ballasts (which operate the lamps at low brightness) for easy on-the-job assembly. Carrying Underwriters' Laboratories approval, a typical luminaire section consists of three parallel channels (the center and largest one contains the wiring) interconnected by four lengths of 1/2" tubing. The lamps are mounted at right angles to the channels like ladder rungs. A channel is not needed for each lamp as in other comparable systems. Each basic section comes in a 8" x 1' x 8' carton; installed, it covers a ceiling area of 256 sq. ft. By combining the basic arrangement with extension and wing sections, a room of almost any size and proportion may be accommodated. Suspended about 6" beneath the luminaires, about 14" in back of each lamp, are the baffles of eight 1' x 2' high absorption acoustical tiles set back to back in 1' x 8' metal frames. Dimensions of an individual box in the grid is 3' x 8'. These vertical drapes provide 45° shielding for the students and 30 to 35° shielding for the instructor so that the lamps cannot be seen from normal viewing angles. Designed primarily to serve the length of the room (i.e., as the students face the teacher) the shielding is also effective when viewed from the sides of the room; only a few rows on the ends are visible. The quality of light at desk top level achieved with the Curtis system is said to be comparable to that of an over-all luminous ceiling or other types of indirect luminaires.

Retail price for a section covering 256 sq. ft., including acoustical panels, is \$523. In build-

(Continued on page 224)





# GOLD BOND AGAIN!



## There's plenty of Gold Bond behind those windows!

FORT WORTH'S 12-story, 320-unit Westchester Apartments looks modern and is modern. Gold Bond 2" Solid Gypsum Lath and Plaster Partitions were used throughout... saving critical materials, giving up to 7% more rentable space than conventional partitions, and insuring a fire resistant rating of 1 hour.

There's plenty of Gold Bond on the roof, too. It's a Gold Bond Poured Gypsum Roof Deck—66% lighter than ordinary concrete, and with four times the insulation value. Steel

was saved, and supporting structure costs cut.

Multi-million dollar apartment building or modest home—there's an advantage to architect, builder and owner alike when Gold Bond Products are used exclusively, eliminating divided responsibility. They're made to work together, and responsibility for their performance rests solely with one reputable manufacturer—National Gypsum Company. There are over 150 Gold Bond Products, each one fully described in Sweet's.

### WESTCHESTER HOUSE APARTMENTS FORT WORTH, TEXAS

#### Architect:

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#### Associate Architect:

Wilson & Patterson, Ft. Worth, Tex.

#### General Contractor:

Chas. H. Tompkins Co., Washington, D. C.

#### Plastering Contractor:

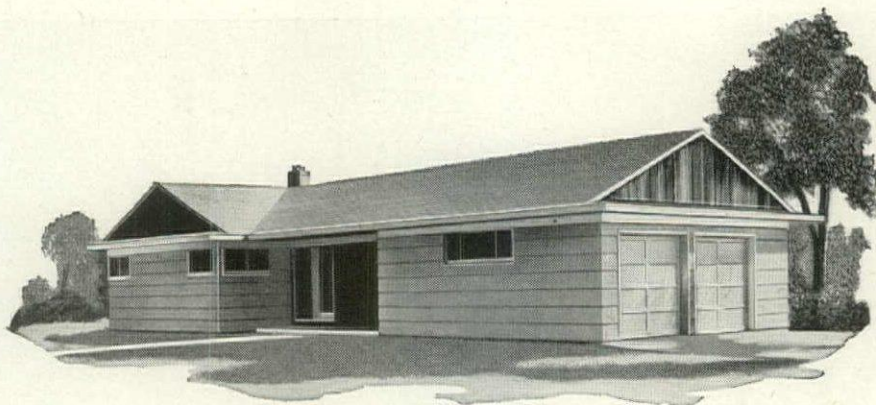
Storbeck & Gregory Plastering Co., Dallas, Tex.

**You'll build or  
remodel better with  
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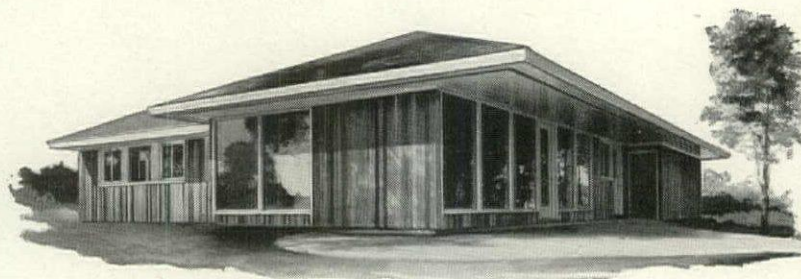
*Lath, Plaster, Lime, Sheathing, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards, and Decorative Insulation Boards.*





### *The Crestwood*

Three bedroom home for more and better living designed by Schwarz and West—A. I. A.



### *The Archwood*

Four bedroom home. Another first in better housing by nationally known contemporary architect Oscar Stonorov—A.I.A.—A.I.P.



### *The Eastwood*

Two bedroom home. Modern as this moment. Designed by Robison Heap, noted contemporary architect.

build your way to surer profits with established costs . . .

## build **Peaseway Contemporary Homes**

**Peaseway**  
*homes*  
REG. U. S. PAT. OFF.  
. . . first in better living.

Inflation won't change the cost of the Peaseway Home after it leaves the factory—the materials are all incorporated, and you can erect it in a matter of weeks—thus insuring your profit margin, as well as producing satisfied customers. Be the Peaseway Franchise Builder-Erector in your area and take advantage of one of the best opportunities ever offered in the building industry! Peaseway "New Design" Homes are the FIRST prefabricated CONTEMPORARY DESIGN Homes in America—planned by outstanding architects, engineered for the most efficient, durable construction—they mark the beginning of a new era in fine home building, fulfill the ever increasing demand for better indoor-outdoor living.

Our Peaseway Plan tells you how these fast-

selling homes can be yours to build on a franchise basis in your territory. It tells you, too, about the complete line of Peaseway Homes you can offer—ranging from a traditional design 2-bedroom home of 691 square feet to The Archwood CONTEMPORARY DESIGN Home of 1410 square feet containing 4 bedrooms and 2 baths. Prices from \$7,000 up. F.H.A. accepted.

Many Peaseway franchise builder-erectors have gained prominence and dominance in their market through the Peaseway Plan. You may be located in one of our recently opened territories, East of the Mississippi.

We urge you to write at your earliest convenience . . . just a few lines on your letterhead asking for the Peaseway Plan.

Exhibit Space No. 2  
Congress Hotel  
Nat'l. Assn. Home Builders  
exposition—Chicago  
Jan. 20-24

WRITE TO:  
**PEASE WOODWORK COMPANY**  
ROOM 1201  
CINCINNATI 23, OHIO  
"In business in Cincinnati since 1893"



"EXCEEDINGLY SATISFIED WITH THEM"

"CUSTOMERS APPRECIATE THE FEATURES"

# RUSCO Hot-Dipped Galvanized Prime Window

## REPORT BIG SAVINGS ON INSTALLATION, LABOR AND MAINTENANCE WITH REVOLUTIONARY PRE-ASSEMBLED UNIT

**INSTALLED IN MINUTES** in many types of construction —because it is a *complete* window unit. Comes finished painted, fully-assembled with glass, screen, built-in weather-stripping, insulating sash (optional) and wood or metal casing—all ready to place in the window opening!

**LOW INITIAL COST**, plus savings on installation and minimum maintenance make the Rusco Prime Window that rarest of all combinations—a top quality specification that actually reduces building cost!

**THE EXCLUSIVE FEATURES** of the Rusco Prime Window offer many other conveniences and advantages. For example, the glass and screen panels are easily removable from the inside. Thus, materials can be passed through the full window opening with breakage minimized. Filtered screen ventilation control permits *regulated* ventilation and full protection for drying plaster. And many others.

For catalog of data and specifications, see your local Rusco Prime Window distributor, or mail coupon below.



STATE-AIDED HOUSING PROJECT, EVERETT, MASS.

Rusco Prime Windows are used throughout on these attractive multiple-dwelling units. Used as flankers on the fixed picture window units, they permit controlled, filtered-screen ventilation.

**ARCHITECTS:** Drumme & Duffill, Boston, Mass.

**CONTRACTOR:** Concrete Construction Co., Chelsea, Mass.

**GLASS AND SCREEN INSERTS EASILY REMOVED FROM INSIDE FOR CONVENIENCE IN CLEANING.** The Rusco removable sash feature has tremendous appeal as a convenience and safety feature.



A PRODUCT OF  
**THE F. C. RUSSELL COMPANY**  
CLEVELAND 1, OHIO

World's Largest Manufacturer of All-Metal Combination Windows

**THE F. C. RUSSELL COMPANY**  
Dept. 7, MB-121, Cleveland 1, Ohio

Gentlemen: Please send me catalog of informative data and specifications on Rusco Prime Windows.

Name ..... Title .....

Company .....

Address .....

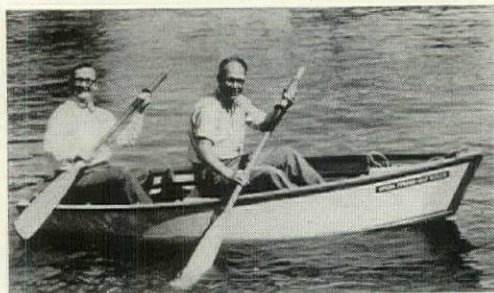
City ..... Zone ..... State .....



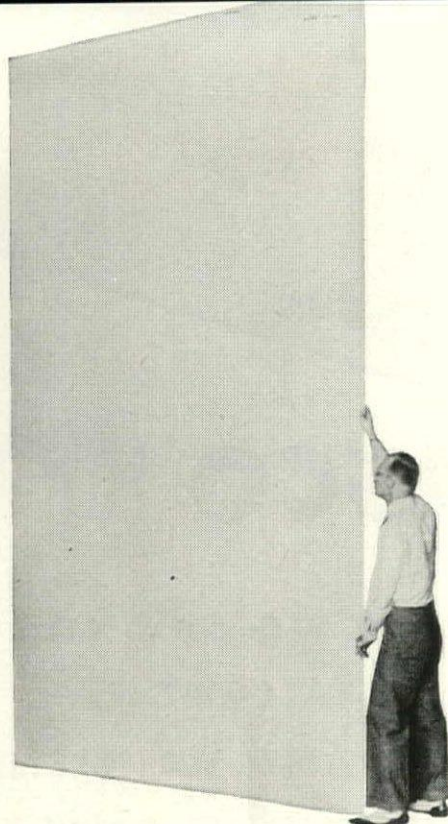
## PRODUCT NEWS

ings with plaster ceilings it is said to cost less to install than conventional applications of acoustical material and fluorescent fixtures which would do an equivalent job of acoustic correction and light control. Operating costs are also low. Aside from a periodic dusting of the lamp tops and an occasional repainting of the ceiling, maintenance is negligible.

Manufacturer: Curtis Lighting Inc., 6135 W. 65th St., Chicago 38, Ill.

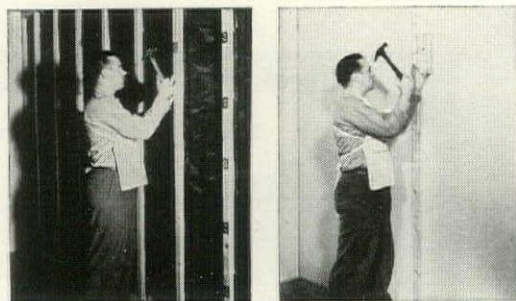


With complete faith in their product, two Upson men (net weight 386 lbs.) take to the lake in a boat made of waterproofed wall paneling.



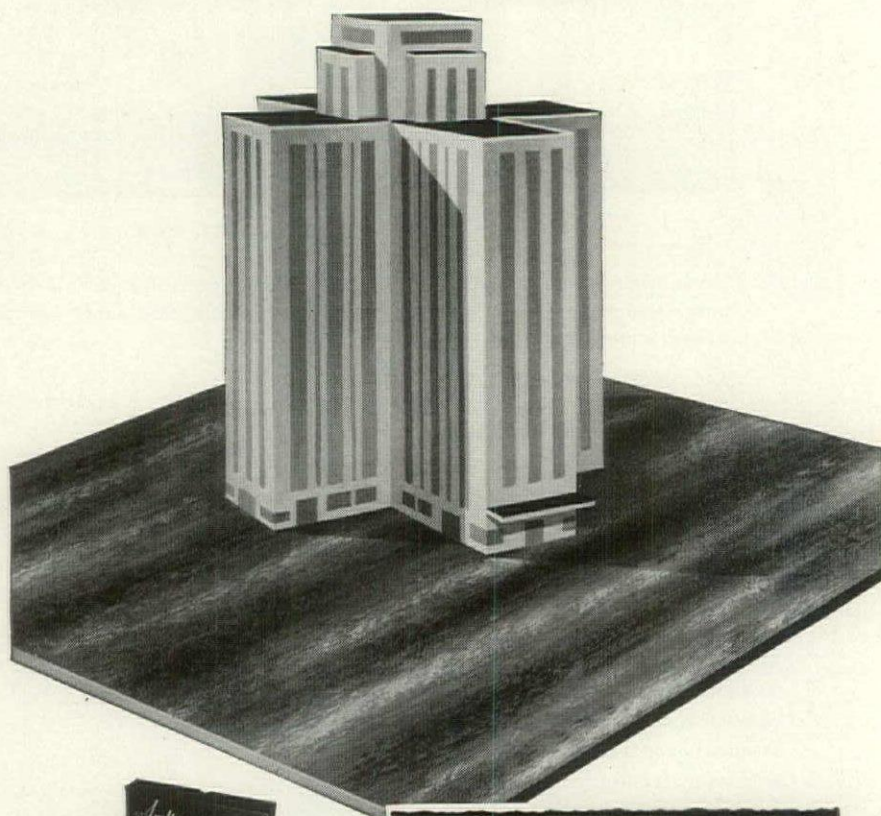
### WATERPROOFED FIBER PANELS cover 20' without seams or visible nails

Waterproofed throughout as well as on the surface, Upson's new building panels are practicable for drywall construction in every part of the house—from bathroom to living room to basement. Their resistance to moisture and steam is not only an advantage to the homeowner but to the contractor on the site. The panels can be transported and stored outdoors and handled in any kind of weather without material damage. (In tests conducted by Pittsburgh Laboratories the new board absorbed only 13.5% by weight when entirely submerged in water for 24 hours.) Laminated in six plies, the panels are flexible enough to be cut to full wall size outside the building and then be bent through a doorway. Yet, once fastened to the studs they will not warp or buckle. Said to be the largest interior wall panel on the market, the Upson boards are 8' high and come in lengths up to 20', so that they may be applied to the walls in an average room without joints except at corners. No visible nails are used to secure the panels. Instead, "floating fasteners" supplied by Upson are nailed to the studs about



10 to 12" apart and the panel back is pressed on to the devices' sharp prongs. The boards are  $\frac{3}{8}$ " thick and their presized lightly pebbled surface can be painted or papered. Test results reported by the manufacturer indicate that the  
(Continued on page 230)

## Put America's most beautiful flooring in that new office building...



### SAMPLES ON REQUEST

A request on your business letterhead will bring illustrated literature and a free box of 4" x 4" samples of AMTICO Flooring in standard  $\frac{1}{8}$ " gauge and all 26 stock colors. Write Dept. MB-6.



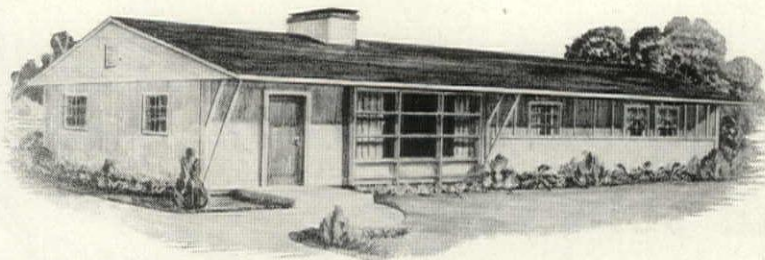
### AMERICAN BILTRITE

RUBBER COMPANY  
TRENTON 2, NEW JERSEY

Also makers of Famous Biltrite NURON Soles and Rubber Heels

AFFILIATES . . . BILTRITE RUBBER COMPANY, CHELSEA 50, MASS. • AMERICAN TILE & RUBBER CO., TRENTON 2, N. J. • PANTHER-PANCO RUBBER CO., CHELSEA, MASS. • AMERICAN TILE & RUBBER CO. (CANADA) LTD., SHERBROOKE, QUEBEC • PANTHER RUBBER CO. LTD., SHERBROOKE, QUEBEC, CANADA

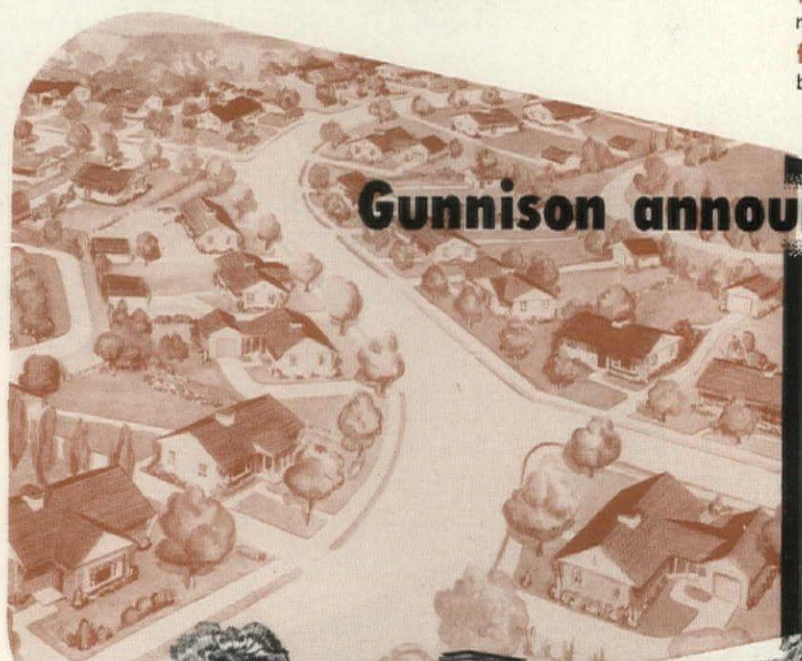




Coronado with Window Wall

# the answer for '52

only a gunnison dealership  
offers you so much



## Gunnison announces an "L" shaped home!



Catalina

*Gunnison Homes* INC.

UNITED STATES STEEL CORPORATION SUBSIDIARY

NEW ALBANY, INDIANA



**interim financing** . . . The Gunnison Plan of Interim Financing includes the complete cost of the Home Package, plus additional cash. This plan is available to all qualified Gunnison Dealers.

**sales promotion aids** . . . A variety of aids are available to all Gunnison Dealers.

**participation advertising** . . . Participation Advertising Campaigns are announced frequently to enable Gunnison Dealers to avail themselves of a steady backlog of sales.

**FHA - VA financing** . . . Gunnison Homes are eligible and qualify for FHA Insurance and VA Guaranty.

**variety of elevation** . . . The Champion, the Coronado and now the new Catalina. The most complete line of Homes in the Home Building Industry. The Gunnison Product Line offers a multitude of elevation, model and floor plan combinations. For the first time in the low priced field there is an "L" Shaped Home, the new Catalina.

**most complete package** . . . Your material shortage problems are shifted to other shoulders when you are a Gunnison Dealer. You become the beneficiary of a mass purchasing program which is unparalleled in the home building field.

**quality, strength and durability** . . . Quality is there for all to see. Strength and durability have been proven throughout the last seventeen years as the Homes have withstood the ravages of time, flood, weather and fire.

**wood paneled interiors** . . . All Gunnison interiors are in Wood Paneling with the famous Mellow-Tone finish. This means no costly delays due to labor and material shortages. An Owner of a Gunnison Home is presented with luxurious interiors which are dignified in their beauty and trouble free in their maintenance.

**technical assistance** . . . A complete liaison is maintained between the Gunnison Dealer and Gunnison Homes, Inc. The vast facilities of the entire Gunnison Organization are available where and when you need them.

**prompt delivery** . . . Regardless of your requirements for Home Packages, you know that you have but to pick up a telephone or drop an order in the mail to obtain rapid delivery. By the time you get your foundations ready the Homes will be there.

**rail or truck shipment** . . . Gunnison Dealers have their choice of rail, or truck shipments delivered to their building site.

**franchised dealerships** . . . Gunnison Dealers operate on a franchised basis in a specified territory.

Out of tomorrow, GUNNISON brings you their latest . . . the *Catalina* . . . to take its place along side the new '52 series of Coronado and Champion Homes! All GUNNISON HOMES are designed to sell in the \$7,000 to \$12,000 price range . . . America's mass market!

Fresh design and expert planning make all GUNNISON HOMES ideal for project building . . . many elevations, models and floor plans . . . and the only "L" SHAPED home in its price range! These homes feature Quick Erection, High Quality and Strength! They are delivered to the building site complete, except for plumbing, wiring and masonry work.

Here are the homes of tomorrow—your's to sell today! Sell the best—sell GUNNISON!

Investigate the possibility of including GUNNISON HOMES in your building program! For more complete information, write Dept. F 10, GUNNISON HOMES, Inc., New Albany, Indiana.



Coronado with Window Bay

"Gunnison", "Champion", "Coronado" and "Catalina"—trademarks of Gunnison Homes, Inc.



# HERE'S MORE PROOF!

30,000 homes equipped with  
Youngstown Kitchens — built  
and sold by

*National*  
HOMES



Typical National Homes feature sturdy steel Youngstown Kitchens, easily planned and easily installed.



Everything the buyer wants is in a Youngstown Kitchen: Jet-Tower Dishwashing that does a job no man, woman, or other machine can duplicate! Youngstown Kitchens Food Waste Disposer that banishes garbage forever! Plus a full selection of rugged, steel Youngstown Kitchen units.



For custom-built homes and mass-produced homes alike, the best buy is always a Youngstown Kitchen—and we're proving it every day!

Take the makers of National Homes, the nation's largest producers of prefabricated homes. They know what Youngstown Kitchens have done for them in more than 30,000 homes to date.

They have proved conclusively that a Youngstown Kitchen is easier to install, and they have saved much warehousing expense and time because delivery of Youngstown Kitchen units is timed for installation.

Like thousands of other builders and home designers, National Homes has also proved that

consumer acceptance for Youngstown Kitchens is unbelievably high. The brand name recognition of "Youngstown Kitchens" plus "National Homes" has resulted in thousands of sales.

Get the facts on how Youngstown Kitchens can save time and money for you—and help sell houses quicker, too. Contact *Builder Sales Division, Mullins Manufacturing Corporation, Warren, Ohio.*



*Youngstown Kitchens*

MULLINS MANUFACTURING CORPORATION

WARREN, OHIO

WORLD'S LARGEST MAKERS OF STEEL KITCHENS



# Now there are **TWO** NOVA Roller Doors

- silent, fingertip-control, flush doors
- one for closets, partitions,  
storage walls and compartments
- one for passageways,  
complete with wall pocket

Two years of constant research and field testing have produced the simplest, most economical doors to install—yet the finest so far developed.

Gone is the overhead hardware, always difficult to install—and noisy. One major expense eliminated! The new Nova Roller Doors are light, strong and warp-resistant. Two rollers revolving on pins act as guides at the top; the weight of the door is carried on two vulcanized rubber rollers at the bottom. There is no floor track; all hardware except floor guides is installed.

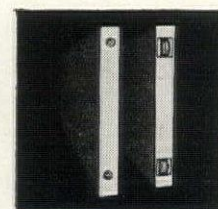
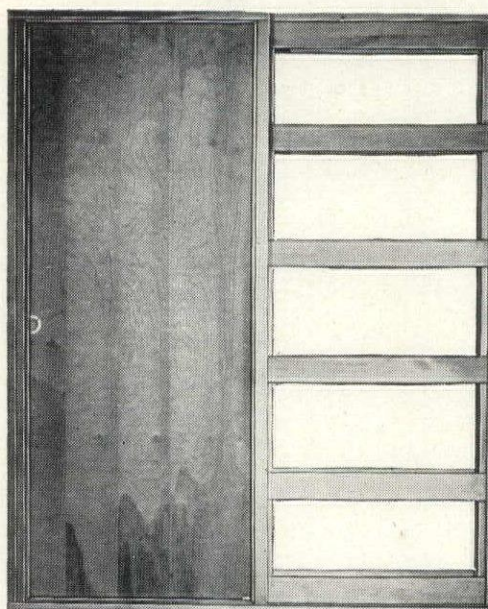
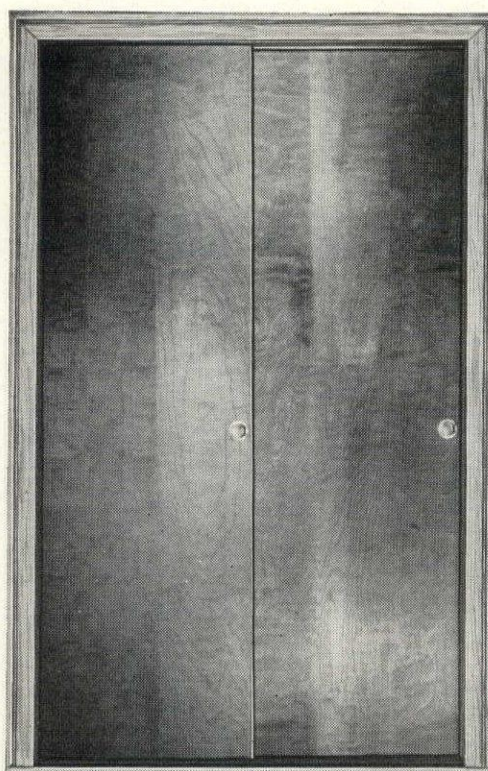
These are hollow core, flush doors—1½" thick—regularly sold in unselected gum, paint grade and in select White Gum, Black Walnut, African or Philippine Mahogany, Birch, Red or White Oak, stain grade.

A closet or storage space may be one of the standard sizes—or extend the width of the room. Two or more doors enclose it entirely. Instead of exposing only part of the interior, as with a swinging door, you have full access. *Nine standard opening sizes: 32", 36", 40", 48", 56", 60", 72", 84", and 96". Five standard heights: 6'0", 6'6", 6'8", 6'10", and 7'0".*

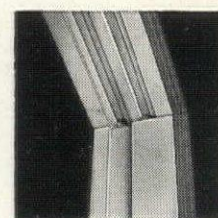
The Nova passageway door comes assembled in its wall pocket, ready to install for either plaster or dry-wall construction. *Five standard opening sizes: 2'0", 2'4", 2'6", 2'8" and 3'0".*

Special sizes to order. Each door—whether for closet or passageway—comes complete in one carton. In 30 minutes' time, one man makes the installation.

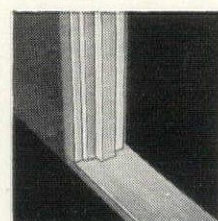
We urge you to write today for the full details. Kindly include the name of your lumber dealer.



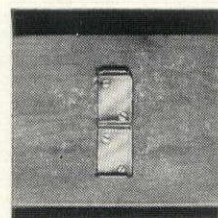
Revolving roller guides operate in head track; vulcanized rubber rollers run on finished floor.



Head tracks are accurately machined for perfect operation of revolving roller guides; side jamb is routed to receive the door.



Passageway door slides easily into wall pocket.



Simple floor guides, installed flush with finished floor, eliminate need for floor track.

**NOVA SALES** *Co.* TRENTON 3, N. J.

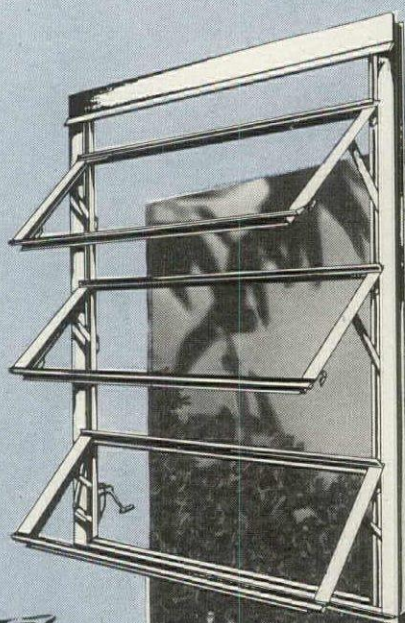
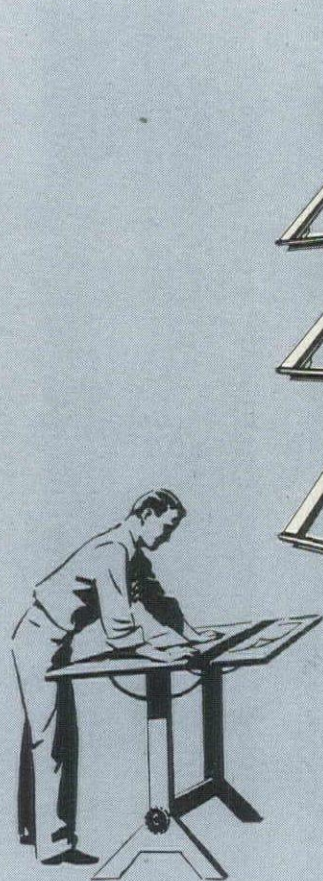
A Novasco Product

« A wholly owned subsidiary of Homasote Company—manufacturers of the oldest and strongest insulating-building board; wood-textured and striated panels; ¾" underlayment for linoleum and wall-to-wall carpeting; 25/32" weatherproof sheathing. »



how an Architect

# FILLED A "PRESCRIPTION" FOR TEXAS NURSES



through

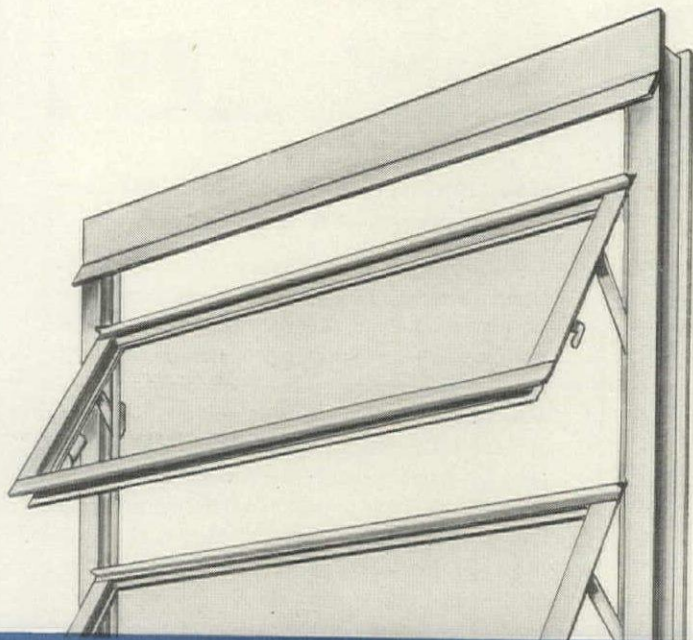
# Auto-Lok

PATENTED

*The perfect window*



Architect: George L. Dahl, Dallas, Texas  
Contractor: Inwood Construction Co.  
Dallas, Texas



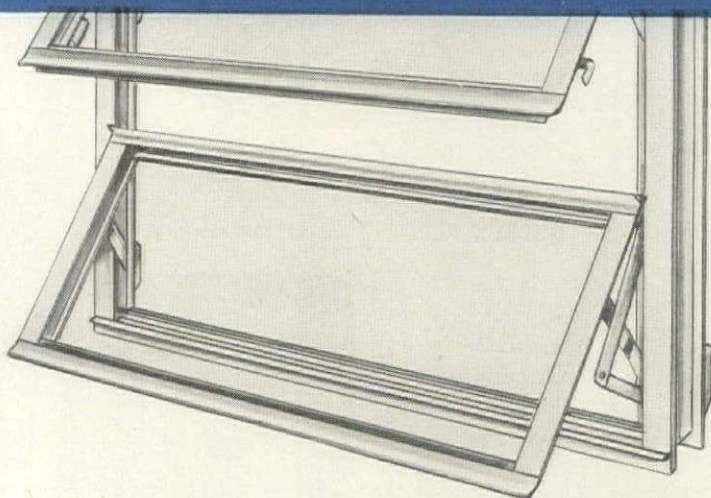
## Auto-Lok HAS EVERYTHING IMPORTANT IN A WINDOW...

- Tightest closing -- sealed like a refrigerator.
- Widest opening -- 100% ventilation.
- Ventilation -- even when it's raining.
- Fingertip control -- as easy to open as to close.
- Automatic locking thwarts intruders -- vents cannot be worked loose or jimmied.
- Draft-free ventilation -- air scooped in and upward.
- Delayed action opening -- 100% control of ventilation.
- Clean the outside from the inside.
- Removable inside screens and storm sash.
- Unobtrusive operator -- no interference with blinds, drapes, etc.
- Precision balanced hardware eliminates need for periodic adjustments, absolute minimum of maintenance.
- Architectural beauty -- modern, clean lines adapt to any type structure.

When designing the Methodist Hospital Nurses' Dormitory in Dallas, Texas, architect George L. Dahl searched out the window requirements with the diagnostic thoroughness of a doctor. He

knew that the busy life of a nurse made it necessary to have a window that virtually "took care of itself" and could be left open at all times, even when it rained. He recognized that health-conscious nurses would appreciate the value of a window that would provide draft-free ventilation plus sealed-like-a-refrigerator closure. Mr. Dahl naturally specified Auto-Lok -- The Perfect Window -- as it is the only window that combines the best features of all window types.

**Auto-Lok**  
PATENTED  
**WINDOWS**  
*aluminum or wood*  
SEALED LIKE A REFRIGERATOR



### ENGINEERING COUNSEL

To supplement their own facilities, architects and designers are daily utilizing our staff's experience in fenestration problems. May we assist you?

For further details on Auto-Lok -- The Perfect Window -- see SWEET'S. Clip the handy coupon for the name of your nearest distributor and the informative booklet, "WHAT IS IMPORTANT IN A WINDOW?"

**TIGHTEST CLOSING WINDOW EVER MADE**

A product of **LUDMAN** Corporation

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Please send me the FREE booklet, "What Is Important In A Window?" and complete details on

- ( ) Auto-Lok Aluminum Windows  
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Box 4541, Miami, Florida

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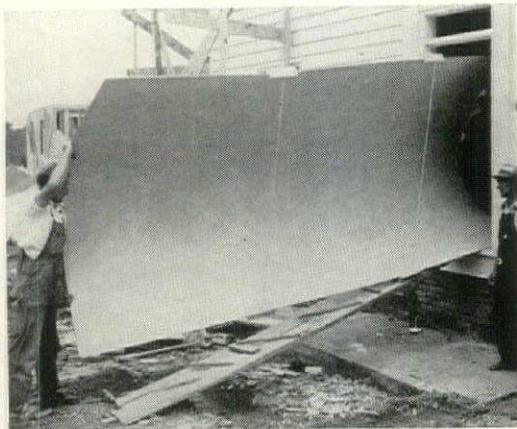
CITY \_\_\_\_\_ STATE \_\_\_\_\_



## PRODUCT NEWS

panels have six times the impact resistance of plaster and more than double its insulation value. Price for large quantities in the factory areas run about 11 cents per sq. ft. with an attached vapor barrier, and 9 cents without the barrier, and considerable labor savings can be realized through the simple seamless application method. The boards also may be used with moldings for ceiling construction.

*Manufacturer:* The Upson Co., Lockport, N. Y.



Easily bent through a doorway, the Upson panels (precut to size) are secured to the studs and ceiling joists without any visible fasteners.



## SEMI-LIGHTWEIGHT CONCRETE MIX combines strength with insulation

A mica-like granular mineral, Vermiculite has met wide acceptance as a lightweight aggregate for plaster and concrete because of its acoustical and thermal insulating properties. While its physical makeup of millions of minute air cells does retard passage of heat and sound, the aggregate is by no means a strong element; in fact, too much Vermiculite (or other lightweight aggregate) tends to make concrete brittle. But now a new "semilightweight" floor concrete mix has been developed by the Zonolite Co. which is an engineering concession to the strength of sand as an aggregate as well as to the desirable qualities of Vermiculite. Prepared in a ratio of 1 cu. ft. of cement to 3 cu. ft. of stabilized Vermiculite concrete aggregate to 2 cu. ft. of sand, the 1:3:2 mix weighs 80 lbs. per cu. ft.—about one-half as much as ordinary sand concrete, and has 4 times the insulation value. It has passed load tests with a wide margin of safety and will probably be used to best advantage in multistory buildings where, by cutting down the dead weight, it can reduce substantially requirements for structural members. The dollar savings in critical steel should far exceed the small premium paid for the mix. It costs about 8 cents per sq. ft. for 2½ to 3" thicknesses—a few cents more than plain sand concrete. Zonolite recommends that the mix also be used for homes built on slab where it will help prevent heat loss to the ground below.

*Manufacturer:* Vermiculite—The Zonolite Co., Chicago, Ill.

## RUBBER FLOOR TILE at modest price

Priced at 22¢ per sq. ft., Fremont's standard gauge rubber tile can be installed at about the same cost as many inexpensive types of floor coverings. The new 1/14" tile thickness is available in several fade-resistant marbled colors. It augments the manufacturer's line of deluxe rubber tile at 38¢ per sq. ft. and medium gauge at 27¢. All prices are f.o.b. factory.

*Manufacturer:* Fremont Rubber Co., Fremont, Ohio.

(Continued on page 236)

# Complete YOUR ROOFING JOBS WITH FOLLANSBEE TERNE METAL

Follansbee Seamless Terne Metal is the ideal weathersealing material for built-up, composition, wood, asphalt or asbestos shingle, slate or tile roofs. Tough, durable and malleable, Terne Metal should be used for copings, eaves troughs, flashings, gravel stops, gutters and valleys.

Properly installed and maintained, Terne Metal will last as long—or longer—than any roofing material with which it is used. Terne can be installed easily and quickly. Write us for additional information.

**Remember, with Follansbee Terne Metal,  
no provision need be made for  
expansion and contraction.**

## FOLLANSBEE STEEL CORPORATION



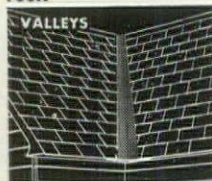
GENERAL OFFICES, PITTSBURGH 30, PA.  
COLD ROLLED STRIP SEAMLESS TERNE ROLL ROOFING  
POLISHED BLUE SHEETS AND COILS

Sales Offices—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. Sales Agents—Chicago, Indianapolis, Kansas City, Nashville, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada.  
Mills—Follansbee, W. Va.

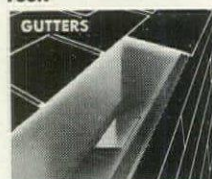
FOLLANSBEE METAL WAREHOUSES  
Pittsburgh, Pa. Rochester, N.Y. Fairfield, Conn.



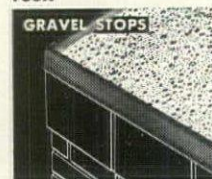
Terne step flashing applied to chimney on slate roof.



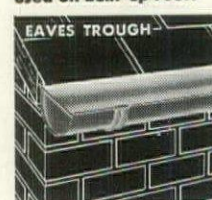
Terne Metal valley applied to asphalt shingle roof.



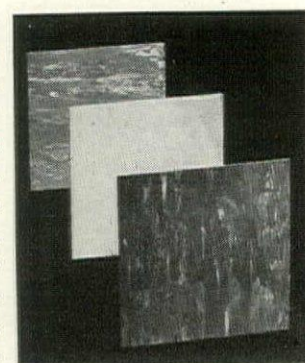
Built-in Terne Metal gutter on home with shingle roof.



Terne Metal gravel stop used on built-up roof.



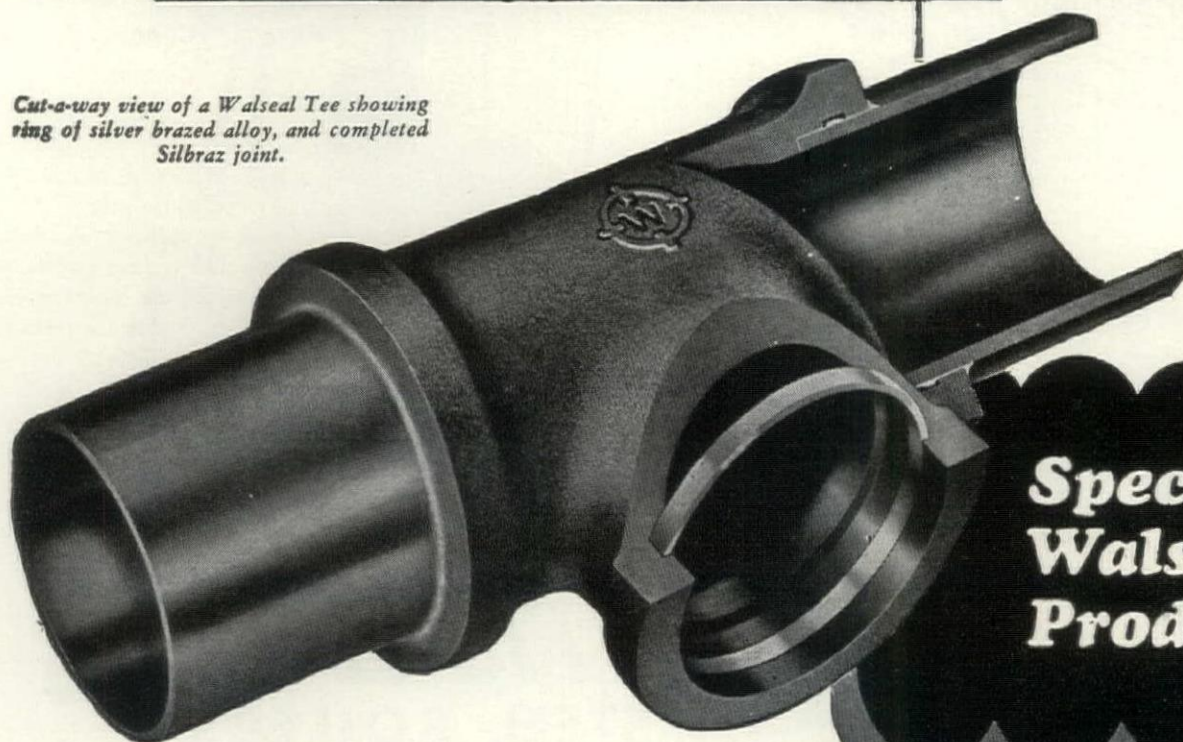
Terne Metal hanging gutter on shingle roof.





## FOR LEAKPROOF, TROUBLE-FREE PIPE RUNS

*Cut-a-way view of a Walseal Tee showing ring of silver brazed alloy, and completed Silbraz joint.*



**Specify  
Walseal\*  
Products**

On all types of piping jobs where Type "B" copper or red brass pipe is used, trouble can be avoided by installing Silbraz\* joints — made with Walseal valves, fittings and flanges.

Threadless, patented Silbraz joints are silver brazed (not soft soldered) pipe joints that are leakproof, trouble-free — permanent ... connections that will not creep or pull apart; that literally join with the piping system to form a "one-piece pipe line". Thus, these modern joints eliminate the need for maintenance and costly repairs — especially important where lowered operating costs are imperative.

For complete details on the modern Silbraz joint, made with Walseal products, write for a copy of Walworth Circular 84.

\*Patented — Reg. U. S. Patent Office.

*Make it a "one-piece pipe line" with WALSEAL*

**WALWORTH**  
**valves and fittings**

60 EAST 42nd STREET, NEW YORK 17, N. Y.

### **Recommended for**

**Hot and Cold Water  
Circulating Systems**

**Boiler Feed Lines**

**Steam Return Lines**

**Condensate Lines**

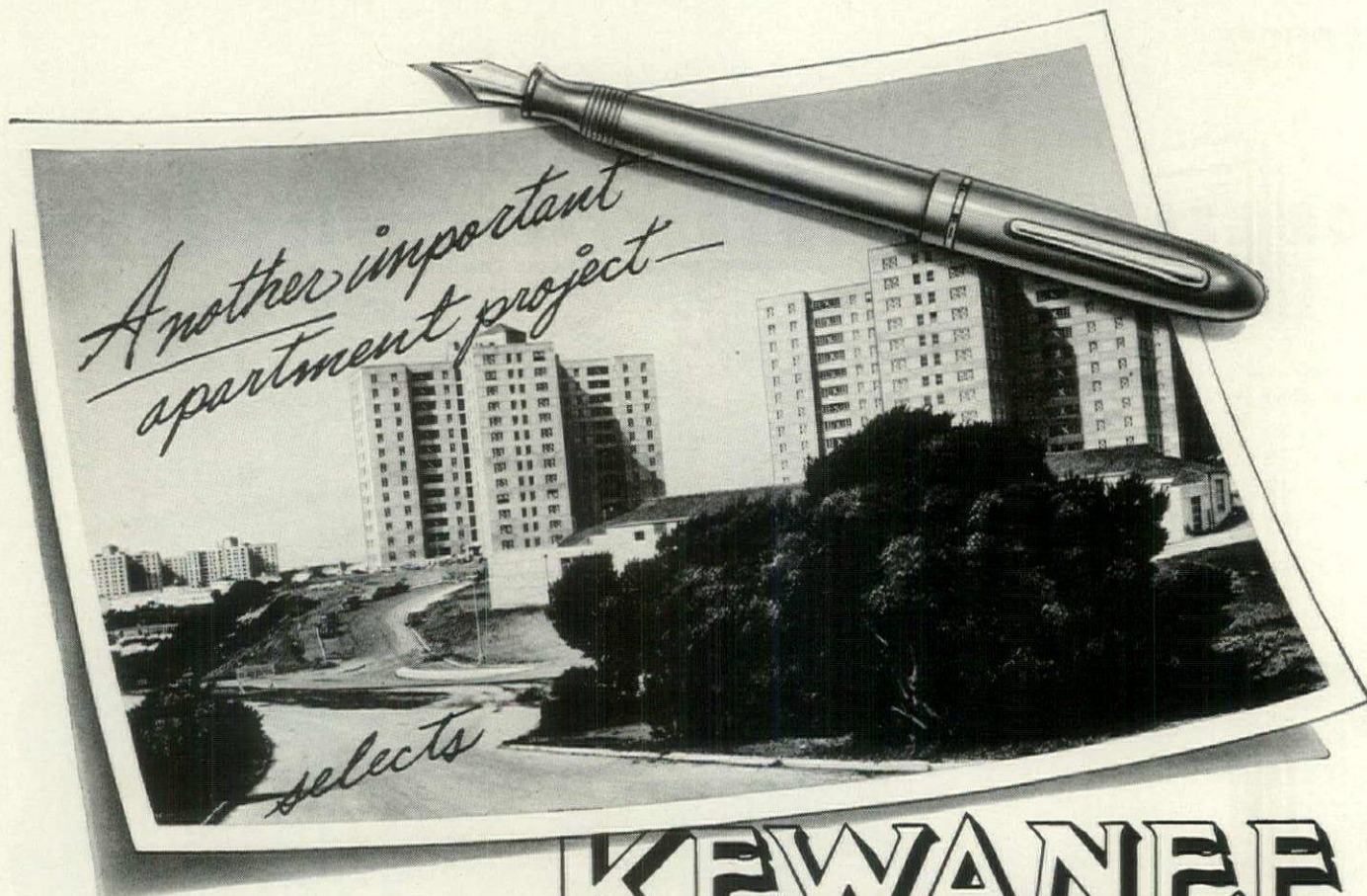
**Low and High Pressure  
Air Systems**

**Lubricating Oil Circulat-  
ing Systems**

**Industrial Gas Piping**

**Solvent and Vacuum  
Piping Systems**

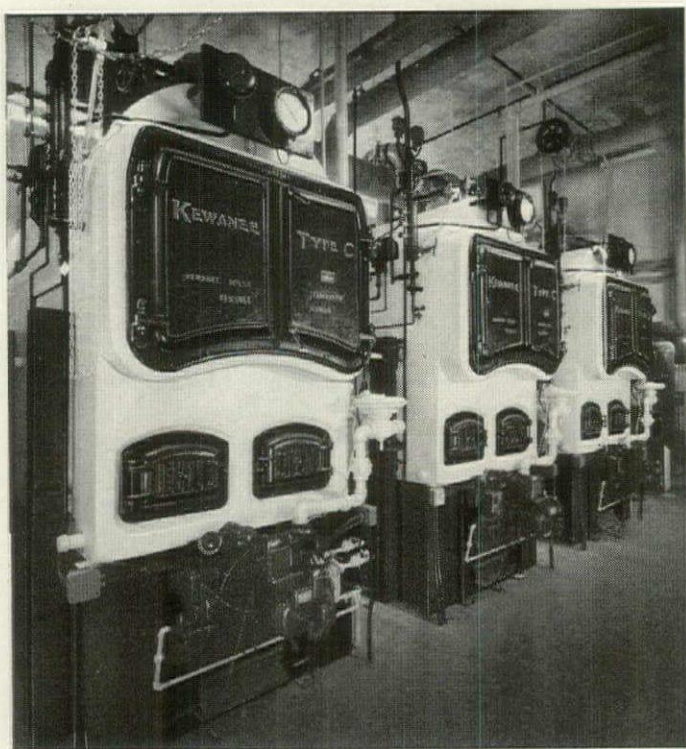




The PARK MERCED Apartments, San Francisco, Calif.  
LEONARD SCHULTZE and ASSOCIATES,  
New York, Architects  
THOMAS B. HUNTER, Engineer  
SCOTT-HASTORF-NETTLES, Inc., Heating Contractor

# KEWANEES

## STEEL BOILERS



One of the 11 Boiler Rooms in the Park Merced . . . each equipped with 3 Kewanee Type "C" Boilers. Each of these Kewanees is rated at approximately 2,500,000 Btu hourly . . . a total of more than 80 million for the entire project.

11 Boiler Rooms—3 Boilers in each—33 Boilers . . . all of them *KEWANEES* . . . were selected to heat this modern group of apartments erected by the Metropolitan Life Insurance Company. Here is the second large project in San Francisco's famous Lake Merced Section which has chosen Kewanee for dependable economical heat.

Providing living accommodations for large masses of people is the building industry's number one problem today. For America's standards of living have been raised to such an extent that the best is demanded though rents are at moderate or even low levels. The only solution is to keep operating costs down and Kewanee Boilers do that job to perfection.

Because the unusual dependability and long life of Kewanee Boilers spread their initial cost over many extra years, they are *most economical to buy*. And ability to save fuel money year after year makes them *most economical to operate*.

KEWANEES BOILER CORPORATION  
KEWANEES, ILLINOIS

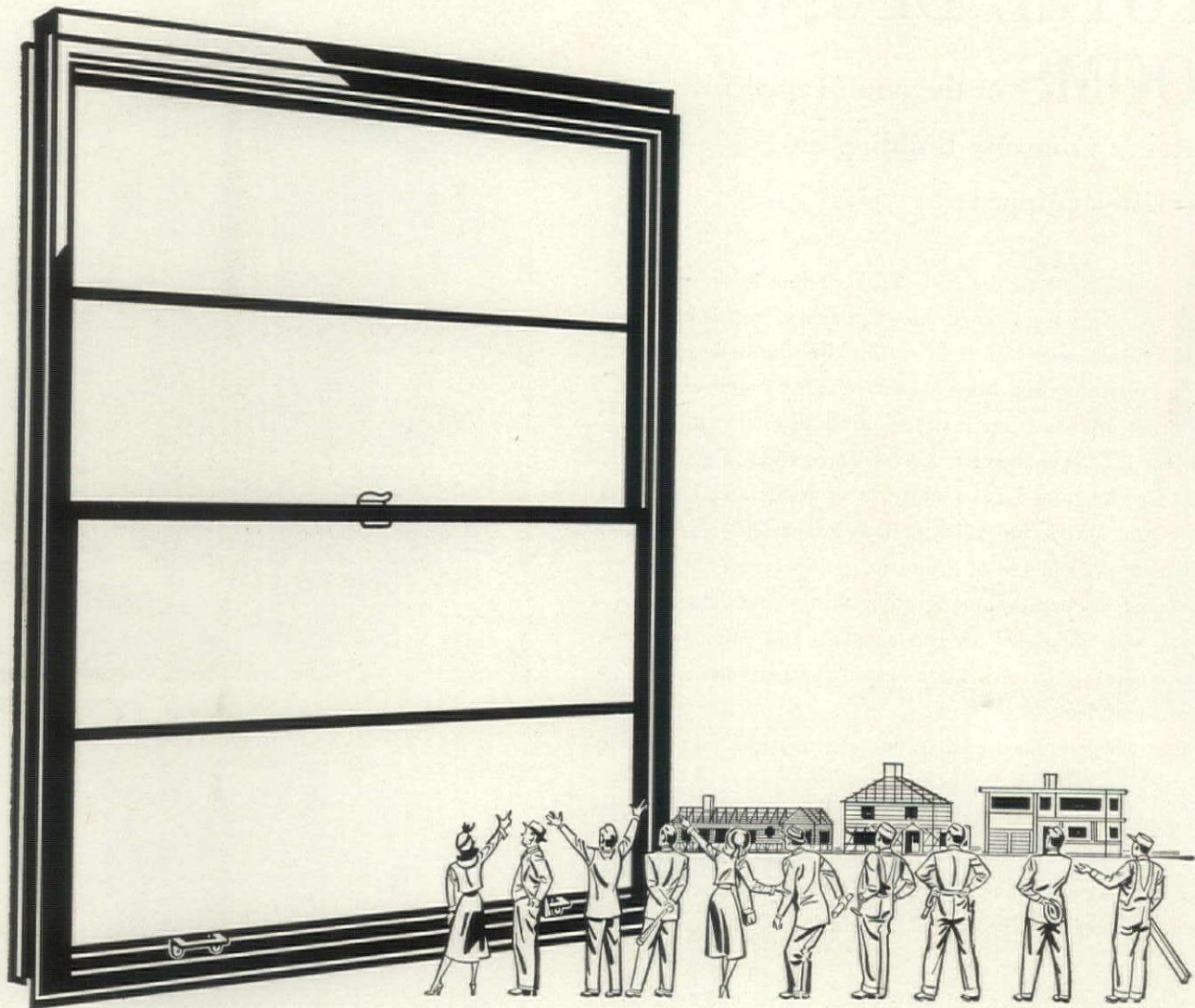
Eastern District Office: 40 West 40th Street, New York City 18  
Division of AMERICAN RADIATOR & Standard Sanitary Corporation

BUILDING  
BETTER  
BOILERS  
OVER  
80 YEARS

*Serving home and industry*  
AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEES BOILERS • ROSS HEATER • TONAWANDA IRON



TRUSCON...a name you can **build** on



the window in demand is the window for **better** business

TRUSCON Series 138 Double-Hung STEEL WINDOWS during the past 12 years have been used in more residential buildings than any other similar type of metal window. Excellent engineering design, adequate strength and weight of materials, and efficient manufacturing methods combine to assure quality and price in a highly saleable unit.

A wide range of styles and sizes in modular standards is available to meet every architectural requirement. Mass production technique results in unbelievably low costs. Prompt service to building supply dealers is available through the 24 nationwide warehouses and sales offices owned and operated by Truscon.

SEE US AT THE NATIONAL HOME BUILDERS SHOW, STEVENS HOTEL, JANUARY 20-24, BOOTH 5-6-7

**TRUSCON® STEEL COMPANY** Youngstown 1, Ohio

*Subsidiary of Republic Steel Corporation*





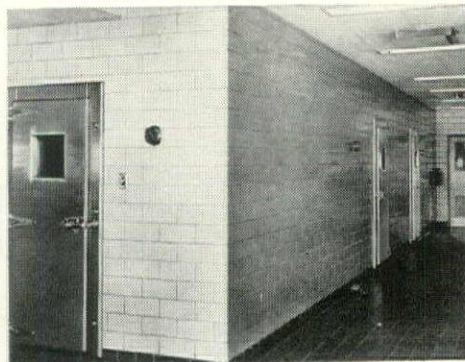
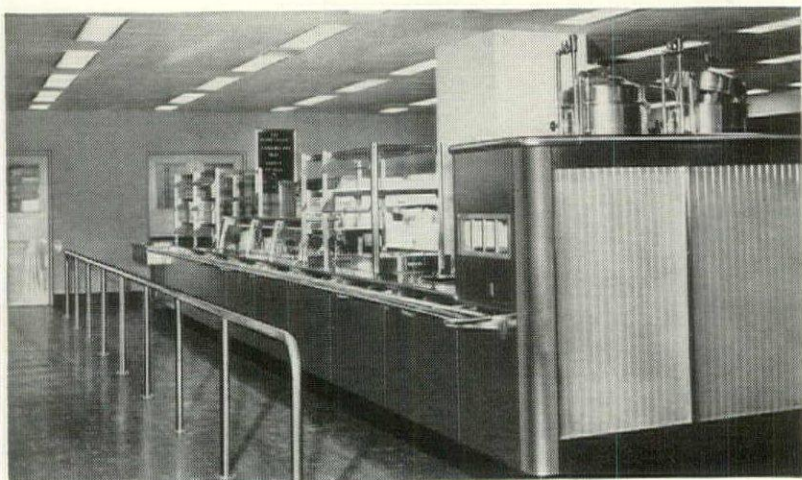
# EMPLOYEE DINING ROOMS in the new Mutual Life Insurance Company Building are Frigidaire-equipped

One of the newest additions to the New York skyline is the modern, 26-story home of the Mutual Life Insurance Company. In this building, every consideration has been given to providing the utmost in pleasant, efficient working conditions for the company's many employees. And the finest of equipment has been installed throughout.

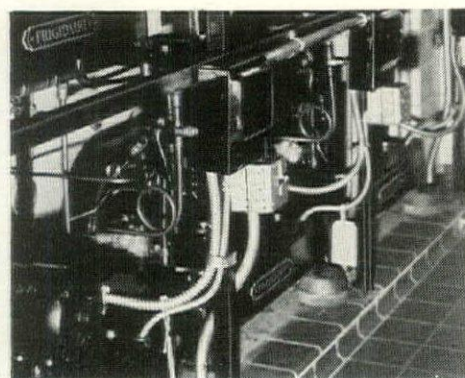
In the employees' cafeteria and executives' dining room, for instance, the dual problem of keeping large quantities of foods and beverages fresh and cool—and providing quick, efficient service—was solved with the installation of 25 pieces of Frigidaire refrigeration equipment. These units are used to operate, among other things, individual refrigerators for meats, vegetables, bakery goods, salads and dairy products. There is even a separate refrigerator for keeping garbage from spoiling until it can be disposed of.

For expert help with unique installations such as this, or with any refrigeration or air conditioning problem, call the Frigidaire Dealer, Distributor or Factory Branch that serves your area. Look for the name in the Yellow Pages of your phone book. See Frigidaire catalogs in Sweet's Files or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Leaside (Toronto 17), Ontario.

*Thousands of Mutual's employees are daily served healthful, nourishing meals in this modern, streamlined cafeteria.*



*Exterior view of refrigerated food storage room on 9th floor, where correct temperatures are constantly kept.*



*Bank of Frigidaire quality-built reciprocating compressors produce maximum refrigeration at low cost.*

## FRIGIDAIRE America's No. 1 Line of Refrigeration and Air Conditioning Products

Refrigerators • Electric Ranges • Home Laundry Equipment  
Food Freezers • Water Coolers • Electric Water Heaters • Air Conditioning  
Electric Dehumidifier • Commercial Refrigeration Equipment

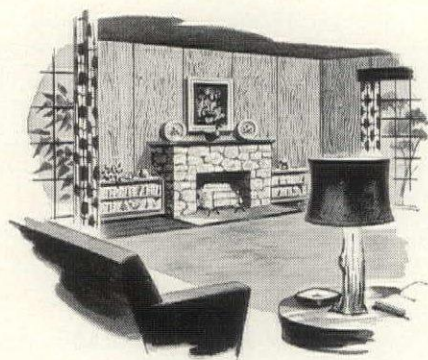
Frigidaire reserves the right to change specifications, or discontinue models, without notice.



# The "Something PLUS" that comes ONLY from Experience



ATLAS FLUSH DOORS



ATLAS PANELS

**A**s an architect, builder, interior designer or industrial designer you well know the value of Experience. Out of Experience, you meet both old and new demands.

The first division of what is now Atlas Plywood Corporation was established in 1892. Since that time more than fifty manufacturing plants, distributing plants and subsidiary companies have been united to build one nation-wide manufacturing and service organization. From standing tree to finished product, every Atlas Panel, every Atlas Flush Door, is produced under one ownership, one standard of control, one responsibility.

Our experience is not measured solely in time. It covers every type of wood suitable for the making of plywoods and veneers—Northern Hardwoods, Southern Hardwoods, Western Fir and exotic woods from every corner of the world. While the basic principles of plywood manufacture are the same for every type of wood, the fact remains that each wood has its own character, calls for its own special type of handling. Whatever you may specify in an Atlas Panel or an Atlas Door, from the least expensive to the most elaborate, you can rely on a quality of materials to which you can safely trust the execution of your plan or design. The "something plus" that comes only from Experience is found in every Atlas product.

Let us send you literature to file on both Atlas Panels and Atlas Doors. We'd like to get acquainted. Kindly address your inquiry to Dept. 29.



## ATLAS PANELS • ATLAS DOORS

### 13 MANUFACTURING PLANTS

|                      |                   |
|----------------------|-------------------|
| Newport, Vt.         | Gladstone, Mich.  |
| Greenville, Me.      | Munising, Mich.   |
| Houlton, Me.         | Portland, Ore.    |
| Patten, Me.          | Brunswick, Ga.    |
| Goldsboro, N. C. (2) | Williamsport, Pa. |
| Plymouth, N. C.      | Laurel, Del.      |

### PANEL AND DOOR DIVISION

# ATLAS

## PLYWOOD CORPORATION

STATLER BUILDING, BOSTON 16, MASS.

2 DISTRIBUTING PLANTS: Los Angeles, Calif.; San Francisco, Calif.

### 11 SALES-SERVICE OFFICES

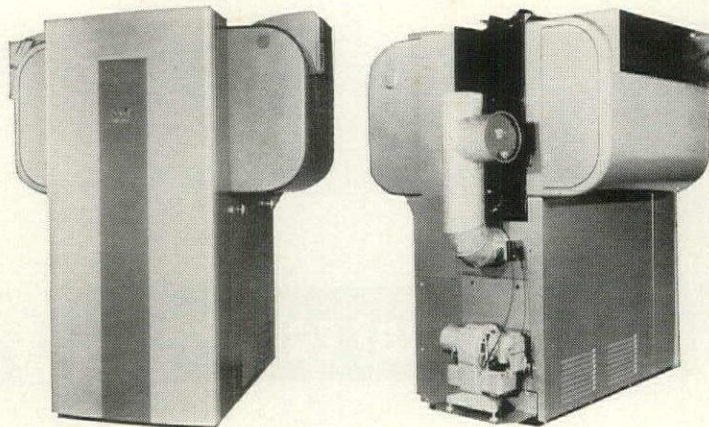
|                  |                       |
|------------------|-----------------------|
| Boston, Mass.    | Pittsburgh, Pa.       |
| New York, N. Y.  | Cleveland, Ohio       |
| Chicago, Ill.    | Goldsboro, N. C.      |
| Dayton, Ohio     | Gladstone, Mich.      |
| Evansville, Ind. | Los Angeles, Calif.   |
|                  | San Francisco, Calif. |



## PRODUCT NEWS

### WINTER-SUMMER AIR CONDITIONER operates on oil the year round

An all-year air conditioner which burns oil for summer cooling as well as winter heating has been announced by Servel. Practical for homes in regions where gas is restricted or unavailable, the new self-contained unit works on the heat absorption principle (as do the firm's gas and steam operated conditioners). Like the other models, the new conditioner has no motor,



The oil-burning air conditioner provides comfort heating and cooling.

## NEW... FACTUAL... COMPREHENSIVE... FIRE PROTECTION BOOKLET



ARCHITECTS • ENGINEERS • BUILDING OWNERS • MANAGEMENT

Here's a chance to get the full story on Engineered Fire Protection. 36 colorfully illustrated pages tell all you need to know about fire safety, including the economies of protecting your business... complete data on installation, operation and maintenance of "Automatic" Sprinkler devices and systems... *valuable information for your files!!* Use the handy coupon below to order your free copy of "The A-B-C of Fire Protection."

"AUTOMATIC" SPRINKLER CORP. OF AMERICA, YOUNGSTOWN 1, OHIO

# "Automatic" Sprinkler

"AUTOMATIC" SPRINKLER CORPORATION OF AMERICA, YOUNGSTOWN 1, OHIO

Please accept my order for the new free booklet, "The A-B-C of FIRE PROTECTION"

Name \_\_\_\_\_ Position \_\_\_\_\_  
Company \_\_\_\_\_ Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

compressor or other moving part in its refrigeration system. In operation, its oil burner, which has an adjustable input capacity of .6 to 3 gal. per hr., heats a compact steam generator which in turn provides the energy for summer cooling and winter warmth. Servel's president, W. Paul Jones, describes the absorption method as "somewhat like a percolator. A dependable source of heat takes the place of moving parts and causes the refrigerant to circulate in the system—like coffee in a percolator."

Having a cooling capacity of 5.4 tons and heating output of 96,000 Btu, the model DE-96-OF will serve a seven or eight room residence with 17,000 to 27,000 cu. ft. of space. It is also suitable for stores and small plants and offices. (Two other sizes will be available for smaller structures and homes with greater heating requirements.) The conditioner may be changed from its heating to cooling phase by the flick of a switch. Or if this task should prove too arduous for the homeowner, an H. G. Wellsian device can be supplied which automatically switches the unit when the temperature reaches a predetermined level. The model also humidifies and dehumidifies the air as required. Electric power consumption is said to be very low. The fan and controls operate on 110-220 V. Any oil tank used for automatic heating meets the fuel storage requirements of the new unit.

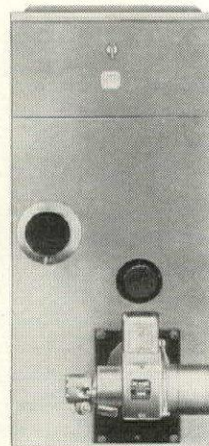
Manufacturer: Servel, Inc., Evansville 20, Ind.

### DOWN-FLOW FURNACE made for heating basementless homes

Quiet Automatic's oil burner model 75 has been designed for use with perimeter warm air systems in homes without basements. It may be placed conveniently in a crawl space or utility room because of its compact dimensions—25" x 26" x 5"—and the location of the flue at the front of the furnace. Its precast combustion chamber is readily accessible. Available in green or blue, the oil burner sells for about \$285 not installed. It has a 75,000 Btu rating.

Manufacturer: Quiet Automatic Oil Burner Corp., 33 Bloomfield Ave., Newark 4, N. J.

(Continued on page 242)





# Brite-Lite AREAWALLS



## FOR GOOD SERVICE...

Your Brainard Supplier can give you fast, dependable service on Brite-Lite Areawalls. He has ample stocks, is backed up by the service-minded Brainard organization.

## FOR MAN-HOUR SAVINGS...

You'll cut labor costs with Brainard Brite-Lite Areawalls. One man can complete an installation in 15 minutes. Clear the space, attach to the wall, back fill, and the job is done. Contrast that with the man-hours used in constructing concrete wells.

Home-owners, too, like the features of Brite-Lite Areawalls. They are galvanized, rust-resisting, attractive, reflect welcome light into basements. Brite-Lite Areawalls last for years, undisturbed by frost or other conditions. Brite-Lite means lower first cost—and permanence. Consult your Brainard Supplier, or write for complete specifications.



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BRITE-LITE  
Super Corrugated-Straight



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For low-cost housing...  
BRITE-LITE Standard



**Brainard**

STEEL COMPANY

WRITE: BUILDING PRODUCTS DIVISION

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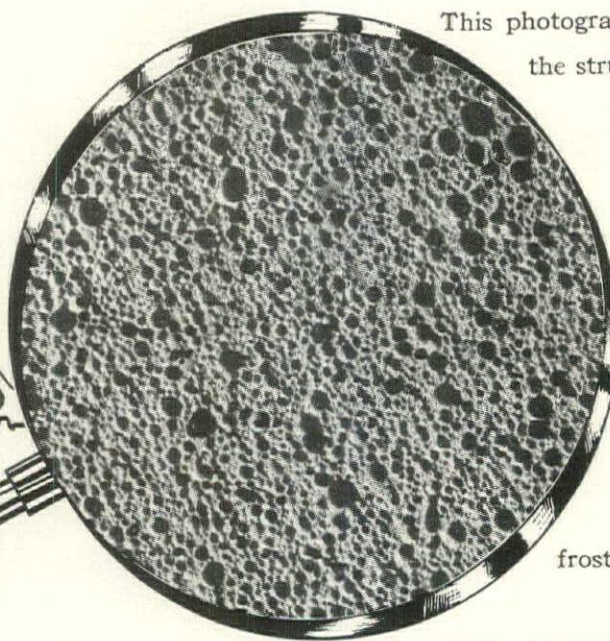


# PORETHERM

Roof Insulation Made of Cement and Air Bubbles



*An Insulating material  
poured on the job*



This photograph is a four fold enlargement of the structure of Poretherm. It shows the unit cell composition which gives it the light weight and the high heat insulating value. Its Advantages: Speedy application because the material is pumped through a hose to the roof; it dries quickly because of the small amount of water which is used to make Poretherm; it is light weight and rigid; fireproof, frost proof, vermin proof and rot-proof.

Write for complete information.

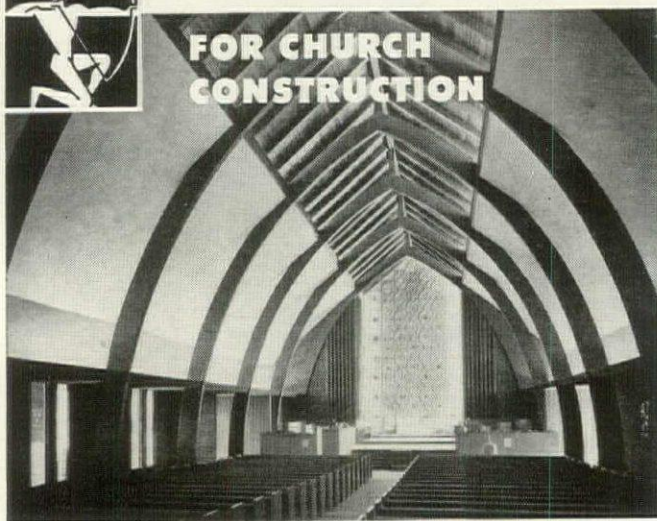
**PORETE MANUFACTURING COMPANY**

NORTH ARLINGTON, NEW JERSEY

## Summerbell



**FOR CHURCH  
CONSTRUCTION**



Oneonta  
Congregational  
Church,  
South Pasadena, Calif.  
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**SUMMERBELL** glued laminated construction combines the practical with the aesthetic and religious. It expresses in the natural beauty and longevity of wood the ultimate in design while the latest developments in manufacture provide maximum economies in construction costs.

Glued Laminated Construction • Summerbell Bowstring Trusses  
Lamella Roofs & All Types of Timber Structures

For quality, economy and satisfaction, specify **SUMMERBELL**

**Summerbell ROOF STRUCTURES**

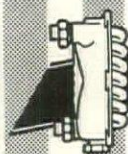
825 EAST 29TH STREET • BOX 218, STATION "K" • LOS ANGELES 11

## HORSE SENSE from TACO



*Install*  
**TACO-VENT**  
THE AUTOMATIC  
HOT WATER AIR VALVE

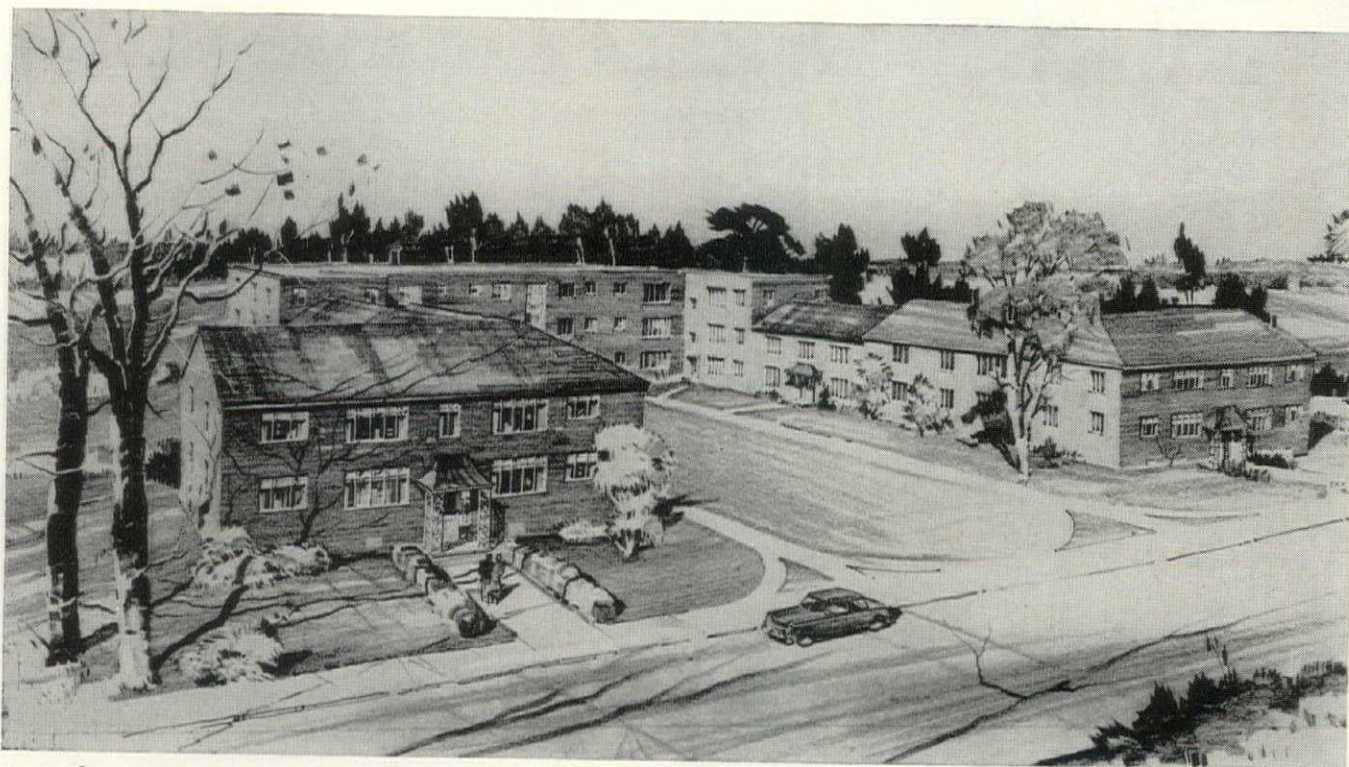
Automatically vents hot water radiators, convectors and baseboard radiation. No adjustment is necessary. Just install and forget. Safety bronze plug safely controls flow of water.



**Better Heating-  
Better with Taco**

**TACO HEATERS, INCORPORATED**  
137 South St., Providence 3, R. I.





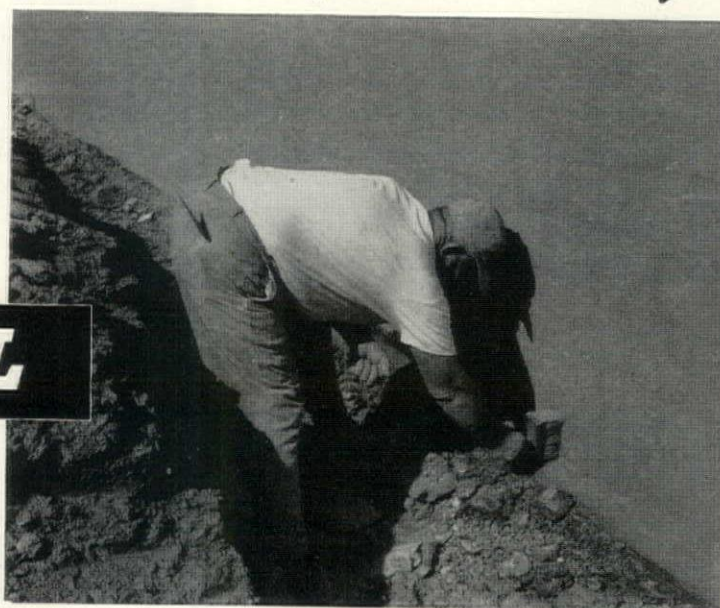
## *A dry foundation for Swifton Village*

1200 UNITS AT THE NEW SWIFTON VILLAGE, CINCINNATI, OHIO.

The above illustration is an architect's conception of a section of the new housing project that will house, when completed, 4,500 people, covering 36 acres

### **THOROSEAL**

Developed and built by The Jonathan Woodner Company, of Washington, D. C., the project, when completed, will total \$25,000,000. The Thoro System materials, used on this project, furnished by the Oakley Coal & Supply Company, through The Nurre Company, Cincinnati.



Al Loreti applies 2 coats of Thoroseal to concrete block foundation, as sure protection against rain and dampness.

**WATERPLUG**  
Stops leaks

**THOROSEAL**  
Seals surface

**QUICKSEAL**  
Beautiful finish

For 39 years, The Thoro System materials have been protecting above and below-grade masonry, where constant dampness, caused by rain, destroys unprotected masonry.

Get our 20-page brochure, pictorially described in detail; also, architect's chart for your wall.

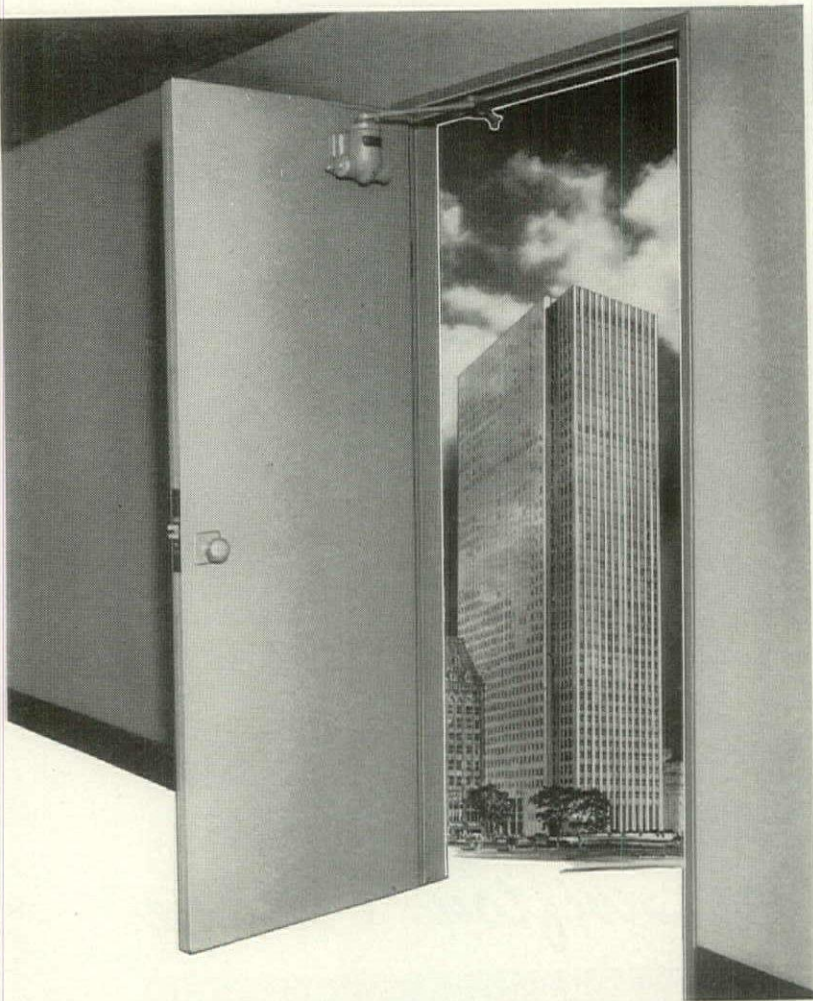


### **STANDARD DRY WALL PRODUCTS**

NEW EAGLE, PENNSYLVANIA • U. S. A.

Phone — MONONGAHELA 67 or 1417





## IN U.S. STEEL'S NEW HOME IT'S THE "Wooster" DOOR

In U. S. Steel Company's new Pittsburgh home—the 525 William Penn Place Corporation's 41-story office building—it's the USF "Wooster" Door! In fact, any modern list of the "blue ribbon" building projects across the nation will show USF "Wooster" Hollow Metal Doors and Frames are the choice of more leading architects, builders and owners than any other make! There's a reason! USF's "Wooster" Doors and Frames are of totally new design and made by new and better methods. Write for descriptive literature.

### USF HOLLOW STEEL DOORS and FRAMES

**FIRST...** To obtain the Underwriters Laboratories Class B Label on 1 3/8" doors.

**FIRST...** To meet the A.S.T.M.—1 1/2 hour fire test specifications.



#### MANUFACTURERS OF

Hollow Metal Doors and Frames  
Prefabricated Metal Buildings  
Corrugated Metal Window Wells  
Highway Guard Rail  
Structural Plate Bridge Flooring  
Corrugated Metal Pipe

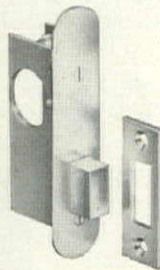
**UNITED STEEL FABRICATORS, INC.**  
WOOSTER, OHIO

ANOTHER ADAMS-RITE INSTALLATION!



## THE STATLER — LOS ANGELES

The versatile Series 970 Minimum Backset Deadlocks by Adams-Rite has been chosen for the interior store doors of this outstanding structure. They can be used in the narrowest stiles and require a depth of only 1 1/2". R. E. McKee, Contractor, West and Company, Distributors, A. J. Bayer, Interior Store Doors.



QUALITY HARDWARE FOR OVER HALF A CENTURY  
**ADAMS-RITE MANUFACTURING CO.**  
540 WEST CHEVY CHASE DRIVE, GLENDALE 4, CALIFORNIA, U. S. A.

## SERVICISED DEEP LIP SAFETY TREAD for SAFETY, APPEARANCE, LONG WEAR



- Easily applied to steel, wood or concrete—old or new.
- Abrasive non-slip surface.
- Reduces Traffic Noise.

● Serviced Deep Lip Safety Treads are made of a tough, resilient rubber compound in which an abrasive aggregate has been securely embedded throughout the wearing surface. Easily applied to any surface—old or new. Deep Lip Safety Tread is 1/4" thick by 3" wide, and comes in lengths up to 84" or less. Lip depth 1 1/4". Available in Buff, Gray, Green, Red or Black.

Write for  
Samples, Prices  
and Complete  
Details



**SERVICED PRODUCTS CORP.**  
6051 W. 65th ST., CHICAGO 38, ILL.



**IF THE DESIGN PROBLEM INVOLVES  
INSULATED PIPING  
THE EFFICIENT ANSWER IS**

**Ric-wil**

**PREFABRICATED INSULATED  
PIPING SYSTEMS**

Architects, engineers and contractors have long recognized the factors that make Ric-wil "the Greatest Name in Insulated Piping".

First, there is the product. Ric-wil Prefabricated Insulated Piping, with all accessories furnished to make a complete distribution system, is carefully built of the finest known protective and insulating materials to insure long and efficient operating life. The accurate prefabrication of Ric-wil units speeds up installation and provides system flexibility possible only with Ric-wil.

The product is backed by forty years of experience spent exclusively in the designing and

production of top-efficiency insulated piping systems. Constant research and development of Ric-wil products have kept pace with all modern design and construction practices.

The specialized Ric-wil Engineering Service provides full technical data, detailed working drawings, and a complete analysis of piping layouts. This assures users of Ric-wil products and services of more efficient systems and consequent substantial savings in installation and final project costs.

When you have a design problem involving insulated piping, contact your nearest Ric-wil representative for the most efficient answer.



For full technical information on Ric-wil Insulated Piping Systems, call or write the Ric-wil office nearest you or Dept. 3-AA in Cleveland, Ohio.

**OVERHEAD • UNDERGROUND**

**RIC-WIL**  
INSULATED PIPING SYSTEMS

**THE RIC-WIL COMPANY • CLEVELAND, O.**

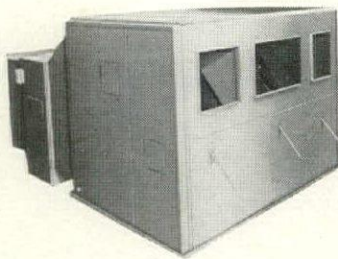
**FOR FORTY YEARS THE GREATEST NAME IN INSULATED PIPING SYSTEMS**



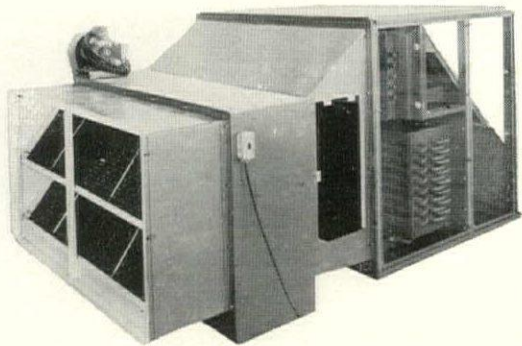
PRODUCT NEWS

YEAR-ROUND AIR CONDITIONER serves six zones

Trane has added new models to its line of air conditioners for multiple zoning which extend applications of the unit to both smaller and larger buildings. Called the Climate Changer, the conditioner employs but one heating coil and one cooling coil to meet the hour-by-hour requirements of as many as six different building areas. Each zone is controlled by dampers so



Thermostatically controlled, the dampers in Trane's Climate Changer enable the unit to cool one building area while heating others.



that one section may be heated while another is cooled. According to the manufacturer, the unit eliminates inaccurate air conditioning during erratic spring and fall months, because it permits gradual changeover from heating to cooling and back again for each zone. Filters and humidifiers, optional equipment, enable the units to do a complete air conditioning job. The new models extend the line from a 1/4 h.p. to a 15 h.p. unit. Air handling capacities range from 1,800 to 23,400 cfm. The over-all line has been revamped: the plenum chamber has been redesigned for more efficient air passage and, consequently, greater heat transfer; the filter section has been enlarged to accommodate three filters instead of two; also, the motor is now situated for easier access at the top instead of the bottom.  
*Manufacturer: The Trane Co., LaCrosse, Wis.*

**SAFeway chooses the BEST WAY**  
*to Comfort-Condition its Newest Supermarket...*



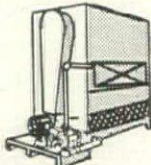
Latest addition to the Safeway Store chain—one of Washington, D. C.'s most modern (and comfortable) shopping centers.

**SELF-CONTAINED AIR CONDITIONER has 7 1/2 ton cooling capacity**

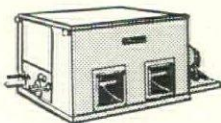
The compact 7 1/2 ton Frigidaire conditioner will cool an average size store or general office having about 2,500 sq. ft. of floor space without ductwork and additional grilles. Although the new Raymond Loewy-styled model has an air delivery capacity of 2,700 cu. ft. per min. with an air throw of 75', it is not much larger than an average 5 ton cooler. It stands 86 3/8" high, is 40" wide and 28" deep. Because the complete mechanism is inside the cabinet, installation is simple: connections are merely made to electrical, water and drain lines. Controls, consisting of an on-off switch and an automatic temperature control

This ultra-modern Safeway Store in Washington, D. C., has selected Marlo equipment to meet its cooling needs ... and to assure complete customer comfort.

With good reason, too! ... Since Marlo cooling equipment has already proved its superior quality in efficiency, economy and consistent performance in 24 other Safeway Store installations.



**EVAPORATIVE CONDENSER** — 25 ton capacity ... designed to assure maximum water savings ... quiet, durable, compact for long-life service.

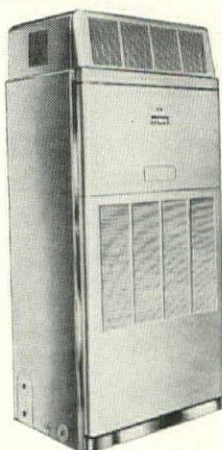


**AIR CONDITIONING UNITS**—one of two such units for supplying the Safeway's entire shopping area with complete summer-winter functions: cooling, heating, ventilating, filtering.

Write for information on the complete Marlo line.



COIL CO. • 6135 Manchester Rd. • St. Louis 10, Mo.  
COOLING TOWERS • EVAPORATIVE CONDENSERS • INDUSTRIAL COOLERS  
AIR CONDITIONING UNITS • MULTI-ZONE UNITS • BLAST HEATING & COOLING COILS



knob, are located behind a small access panel on the cabinet front. The unit's sealed 7 1/2 h.p. compressor, located in the bottom of the cabinet, is a new reciprocating type with direct drive operation and no external moving parts. The middle section houses the cooling coil, con-  
*(Continued on page 250)*



# 1 Douglas Fir doors

\*The quality group of door manufacturers is comprised of mills inspected regularly by the Fir Door Institute inspection service. This service is a check on quality completely independent of individual mill supervision. Doors produced by these manufacturers carry FDI grademarks.

**Acme Door Corporation**  
Hoquiam, Wash.

**Buffelen Manufacturing Company**  
Tacoma, Wash.

**Cruver Door Company**  
Anacortes, Wash.

**Everett Plywood & Door Corporation**  
Everett, Wash.

**M and M Wood Working Company**  
Portland, Ore.

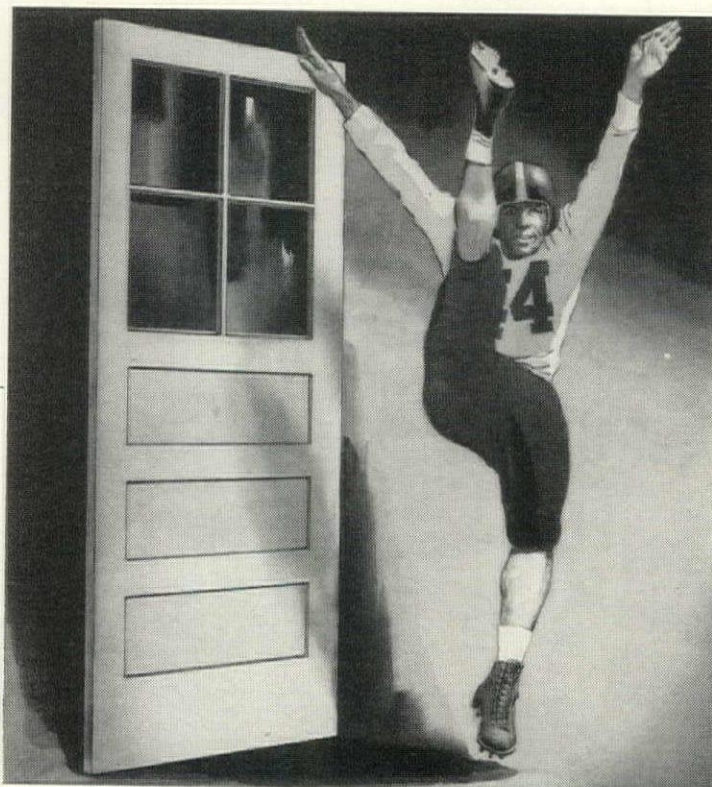
**E. A. Nord Co., Inc.**  
Everett, Wash.

**Puget Sound Manufacturing Co.**  
Tacoma, Wash.

**Simpson Logging Company**  
Seattle, Wash.

**Vancouver Door Company**  
Montesano, Wash.

**The Wheeler Osgood Company**  
Tacoma, Wash.



Shown here is the well-known F-416 design

## For Outstanding Performance In Every Field—Use Douglas Fir Grade-Marked Doors

**QUALITY MANUFACTURED\*** Douglas fir doors are real triple-threat performers. They give you that always-looked-for, seldom-found combination of quality, durability and craftsmanship.

FDI-Inspected doors are manufactured in 21 entrance door designs, 36 interior designs, several garage door designs. Residence, commercial or public building—there's a style, size and grade for every use.

Performance-engineered for perfect alignment, perfect balance . . . doors bearing the FDI Hallmark of quality are manufactured and inspected in strict accord with rigid Department of Commerce quality standards.

**FDI-A**

**FDI-B**

**FDI-BP**

**FDI-C**

**FDI-MR**

Genuine FDI-Inspected doors are stamped with official industry grade-marks shown at left. These marks are far more than grade identification. They are your assurance of uniform quality and craftsmanship. Furnished at buyer's request are notarized Certificates of inspection attesting manufacture and inspection in accord with U.S. Commercial Standard CS73-51 or CS91-41.

**Fir Door Institute**

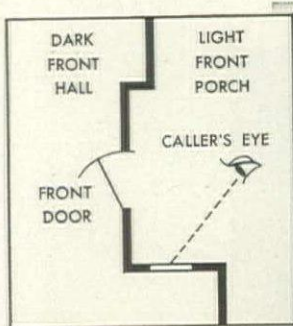
Tacoma 2, Washington



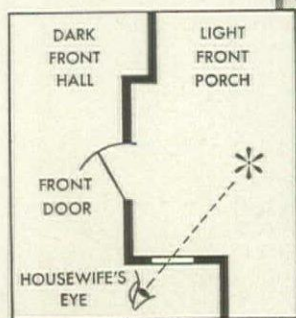


For Sight Unseen . .

## Use MIRROPANE



To the Caller  
IT'S A  
MIRROR



To the  
Housewife  
IT'S A  
WINDOW



Here's an added refinement in home design that adds a lot of appeal for just a few dollars. It permits the resident to see who is at the front door *without being seen*.

To the doorbell ringer it's just an inconspicuous mirror set in a panel on the wall beside the front door. But because it's *Mirropane*\*, the transparent mirror, the person indoors can see through it clearly from the less-brightly lighted interior. Even at night, if the *Mirropane* is on a side wall shielded from the front hall light's direct rays, it functions equally well when a bright porch light is used. This position of the mirror also prevents a direct view of the interior if the porch light is not on.

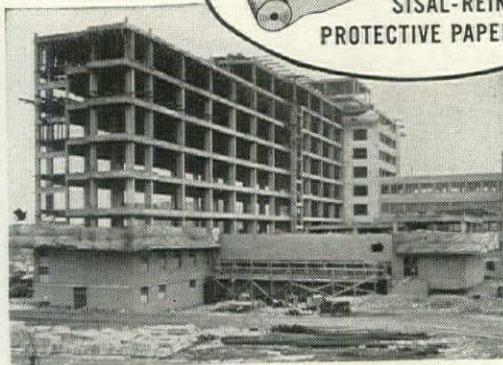
This idea, affording sight unseen, is one you can use in many places. Not only in the home, but in schools, hospitals, institutions, stores, banks, offices—wherever you wish to provide a means for observing people without their suspecting it—*Mirropane* can be highly useful as well as decorative. Viewed from the side having the stronger illumination, it looks like an ordinary mirror. From the dimly lighted side, it's transparent. Write for further information. \*®

# MIRROPANE

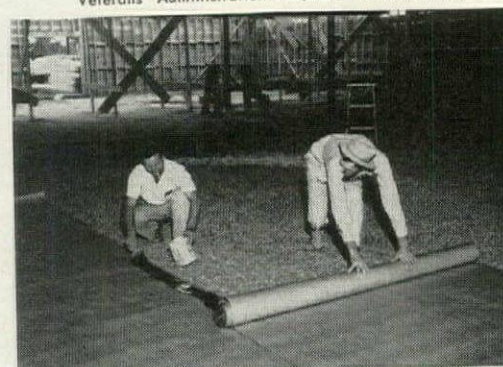


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LIBBEY • OWENS • FORD GLASS COMPANY  
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"CLOSING-IN"  
protection  
in any weather

MANY OTHER USES  
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**WATERPROOF  
MEMBRANE  
BETWEEN SUBFILL  
AND  
CONCRETE SLAB**

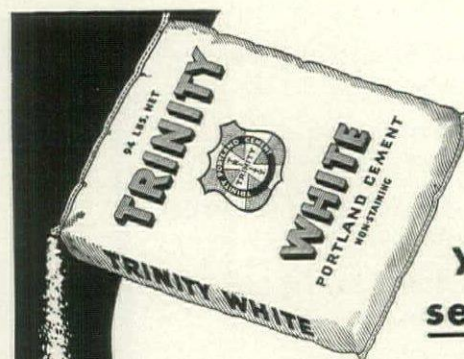
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and protecting  
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*Trinity White*  
is the whitest  
white cement!

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.

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**PARQUETRY**

Patent Pending

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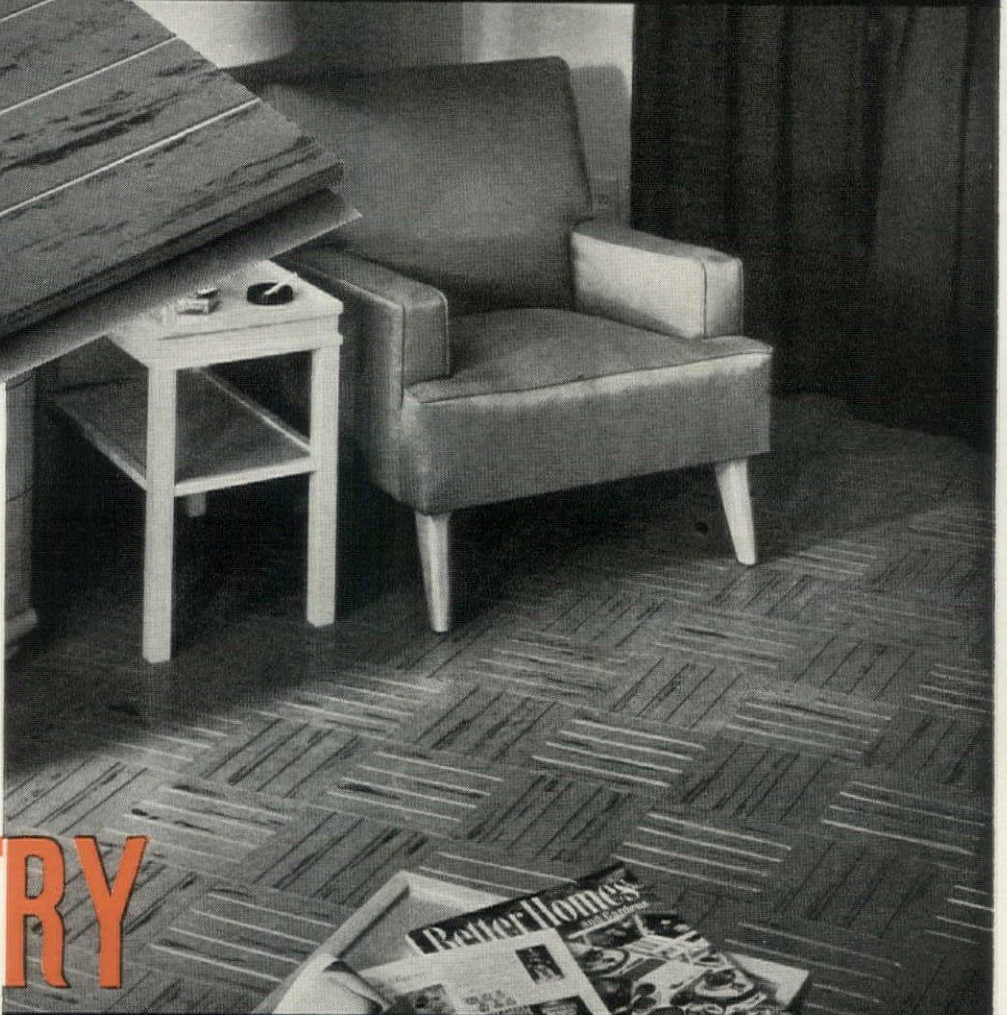
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1A41



Model apartment in State House Apartments, Washington, D. C. • Builder: Jerry Maiatico • Flooring Contractor: Associated Flooring Co., Inc.

For a floor that is both distinctively beautiful and truly economical, look to MATICO Parquetry Tile. MATICO Parquetry creates the luxurious effect of expensive, oak hardwood, parquetry flooring in low cost asphalt tile. It harmonizes readily with any decorative scheme or style of architecture, adds dignity to paneled rooms. You'll find MATICO Parquetry ideal for homes, office buildings, institutions and apartment houses. It assures years and years of wear . . . resists stains, scratches and water . . . is comfortably resilient underfoot . . . and may be installed on, above or below grade. Installation is both simple and fast, because Parquetry goes down tile by tile . . . comes in accurately-sized, precision-cut 9 x 9-inch squares. Be sure to consider MATICO Parquetry for your next job! Write for free samples of MATICO Parquetry on your business stationery!

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612

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**NATIONAL ASSOCIATION OF HOME BUILDERS**  
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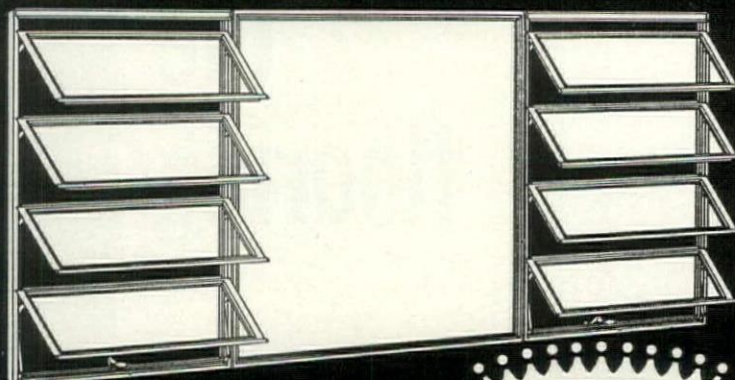
## INSULITE\* structural insulation

INSULITE is made from hardy Northern wood—best for strength, best for durability... best for making structural insulation board!



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EXTRUDED ALUMINUM  
AWNING WINDOWS



**NOW AVAILABLE** in limited quantities.

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AMERICA'S OLDEST CASEMENT WINDOW MANUFACTURER  
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# SAVE THE HOT AIR!

## McQuay DOWN FLOW UNIT HEATERS



### PROVED AND PREFERRED FEATURES!

- RIPPLE-FIN CONSTRUCTION
- DISTINCTIVE STYLING
- NON-FERROUS COIL
- STEAM OR WATER
- CERTIFIED RATINGS
- EFFICIENT PERFORMANCE
- MAXIMUM AIR THROW
- QUIETNESS RATINGS
- LONG LIFE

Save the hot air ordinarily wasted in buildings with high ceilings with a McQuay Down Flow Unit Heater. These vertical unit heaters have the famous Ripple-Fin Coils—providing peak heating efficiency—will lower your heating costs by circulating evenly and gently this normally wasted stratified air.

There are 22 Down Flow Units available to meet your exact requirements. Capacity range from 25,400 to 500,000 Btu per hour. Four styles of directional air diffusers are available to provide any desired air distribution.

Consult the McQuay representative in your city, or write McQuay, Inc., 1609 Broadway St. N.E., Minneapolis 13, Minnesota.

### HORIZONTAL UNIT HEATERS



These unit heaters are offered for normal applications where horizontal air flow is desired. In 24 sizes with capacities ranging from 20,300 to 360,000 Btu per hour.



### BLOWER TYPE UNIT HEATERS

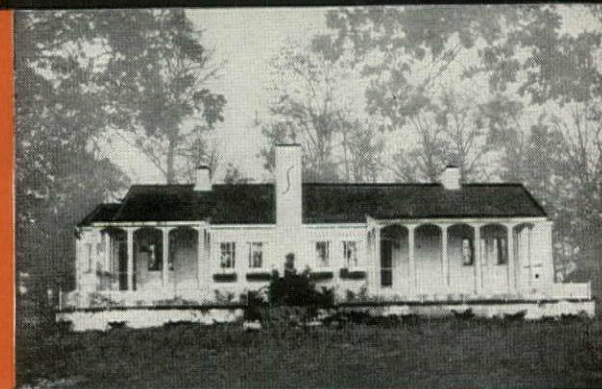
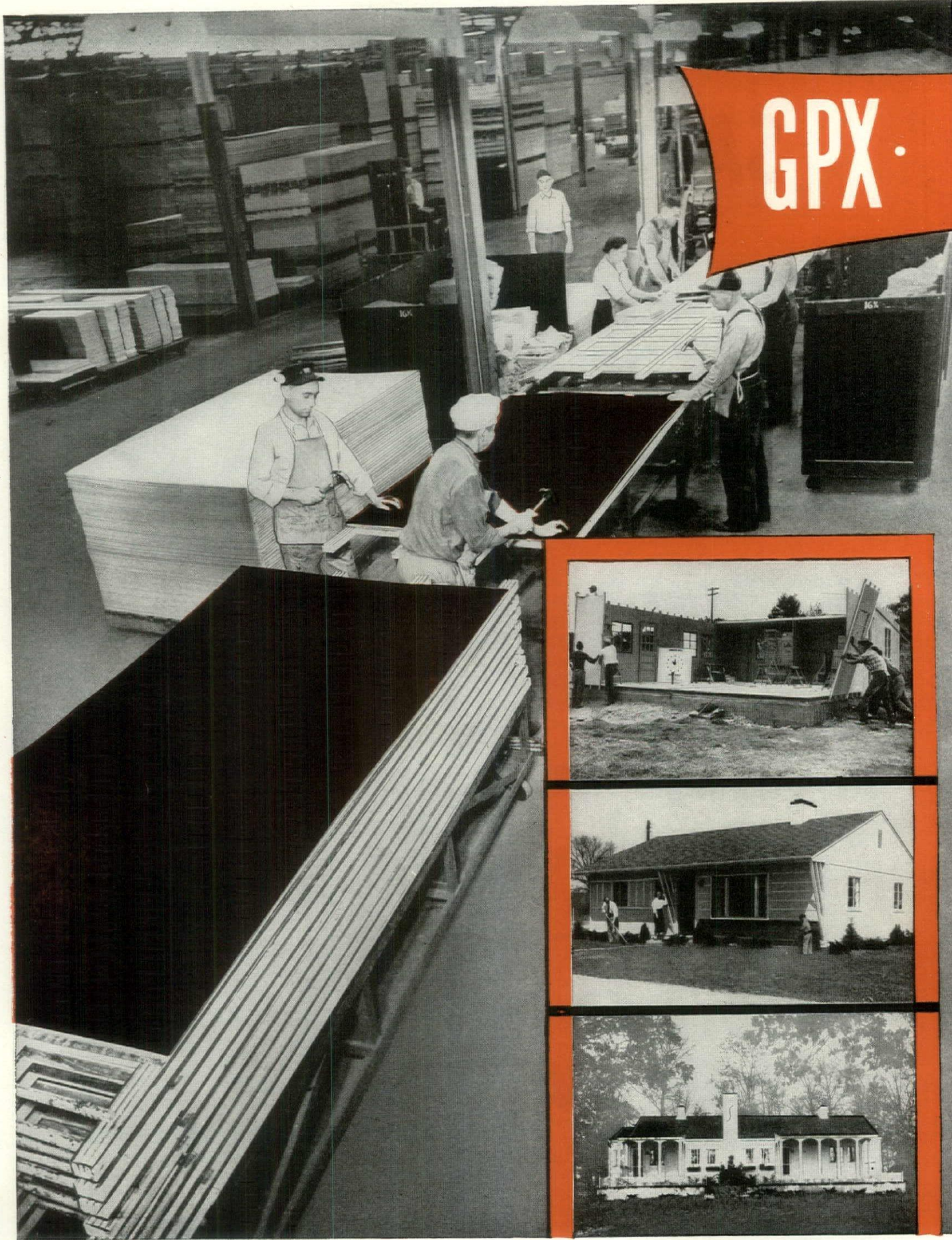
For effective heat distribution over large open areas. Available in 8 sizes . . . in suspended and floor models, with one and two row coils; capacities from 20,600 to 1,600,000 Btu per hour.

# McQuay INC.

HEATING • AIR CONDITIONING • REFRIGERATION









# .. GUNNISON HOMES ..

## and the Revolution in Prefabricated Housing

"A 'new dimension' in construction" . . . "a revolutionary new building material" . . . these comments were made by contractors and builders who have put GPX Plastic-faced Plywood to the test. GPX has already proved itself in such applications as concrete forms and foundry match plates. Subjected to merciless punishment, GPX stands the gaff, working production miracles, slashing labor and material costs to the bone.

And now silky-smooth, armor-hard GPX Exterior Painting Grade has revolutionized prefabricated housing . . . Gunnison Homes, Inc., a leader in the field, is using GPX for siding in their beautiful, mass-produced homes. Every 25 minutes a complete home comes rolling off Gunnison's ultra-efficient production line, thanks, in part, to GPX's easy workability. Large, lightweight, easy-to-handle panels of GPX add greatly to the structural strength of these modern homes.

Gunnison's sales manager has this to say about GPX for siding: "Speed in handling the large sheets of GPX is an obvious advantage. We can honestly say that we have encountered very little difficulty with checking or grain raise. GPX's smooth plastic surface provides excellent weather resistance, facilitates painting and extends the life of the paint to reduce maintenance costs,

and adds a lot to the finished appearance and saleability of our Gunnison Homes."

For further information, write Georgia-Pacific Plywood Company, 611 North Capitol Way, Olympia, Wash., for this new GPX folder, or get in touch with your nearest G-P office.

### OTHER GRADES OF GPX

#### FOR ATTRACTIVE EXTERIORS

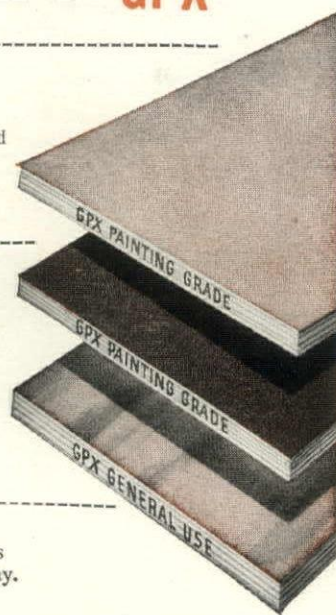
If you want permanently attractive siding, specify natural General Use Grade GPX, or durable Brown Paint-Grade which offers a pre-sealed paint surface that takes paint easier and extends its life.

#### FOR SMART INTERIORS

For interior surfaces that are to be painted, specify GPX White Paint-Grade. Smooth, hard, and long lasting, the White Paint-Grade won't check or crack. Use it for shelves, table tops, counters, closets, kitchen, laundry and work room closets.

#### NATURAL WOOD SURFACES

Specify GPX Natural-Grade if you want attractive natural wood surfaces which are in such great demand today. Use it for sliding doors, panels, all interior surfaces.



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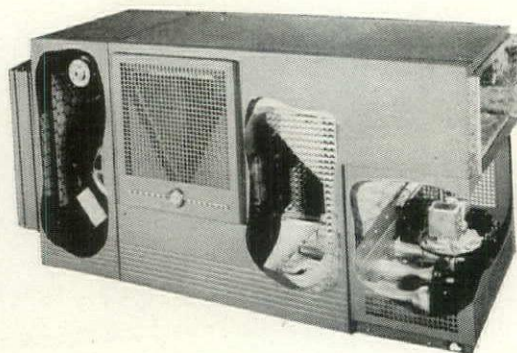
OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Columbia, Louisville, Memphis, Nashville, Newark, Olympia, Orlando, Philadelphia, Pittsburgh, Raleigh, Richmond, Savannah



## PRODUCT NEWS

constructed of  $\frac{5}{8}$ " copper tubing with circular aluminum cooling fins, and an aluminum mesh filter which is kept moist to cleanse the air thoroughly as it passes. Adjustable grilles on all four sides of the upper section may be set to deliver cool air in any direction. The unit also may be installed with ductwork to furnish air for several individual rooms. A steam-heat coil is available for year-round applications.

Manufacturer: Frigidaire Div., General Motors, Dayton 1, Ohio.



Designed for placement in crawl space or attic, the warm air furnace features an efficient "pin point" heat transfer surface (center cutaway).

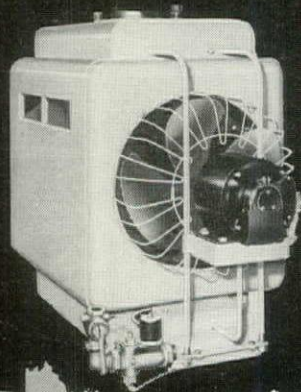
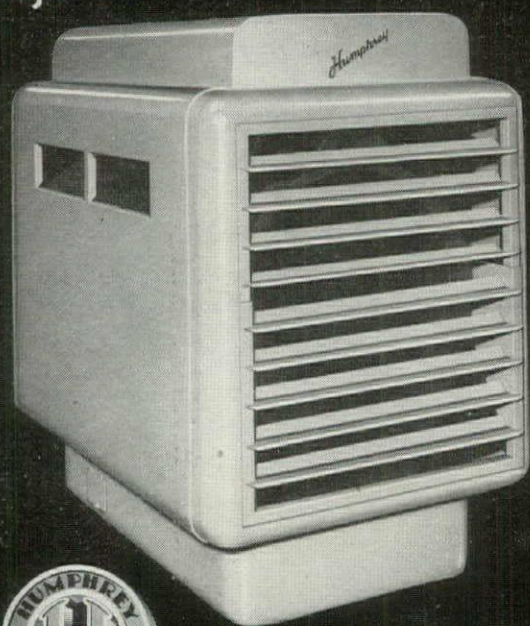
### GAS FURNACE made for installation in waste space

General Electric's new horizontal gas-fired warm air furnace provides automatic heating for homes where floor space is at a premium. It is designed as a component of G-E's economical *Air-Wall* heating system which utilizes small baseboard registers and round prefab ducts and eliminates sheet metal work on the job (*Product News*, April, '50). Only  $28\frac{3}{8}$ " high, the new "tuck-away" furnace may be mounted on an attic floor under the eaves or hung from floor joists in the space under homes without basements. It also may be hung from the ceiling of a conventional basement to free the floor space for other purposes. Its engineering features include a ribbon-type gas burner which ignites and goes out quietly; an automatic shut-off in case the pilot flame fails; and an efficient "pin point" heat transfer surface. The horizontal furnace is being made in two capacities—90,000 and 120,000 Btu input. Price to builders for a complete *Air Wall* system runs from \$650 to \$850, including the furnace. Approved by the American Gas Assn. and Underwriters Laboratories, the furnace also may be used with a conventional forced air system.

Manufacturer: General Electric, Bloomfield, N. J.

SUPERIOR ENGINEERING PAYS OFF IN....

## Humphrey AUTOMATIC GAS UNIT HEATERS



These Humphrey over-head units provide the most satisfactory heating service ever developed for every kind of commercial and industrial installation. They are highly efficient, require a minimum of attention, and have a very long service life. They are good-looking, too... styled and finished to harmonize with all surroundings.

Study the superior engineering features of Humphrey Gas Unit Heaters. We're sure you will agree that Humphreys would be a wise choice for your next job.

### FREE ENGINEERING BULLETIN

Write today for this valuable Manual. Contains full specifications of Humphrey Automatic Gas Unit Heaters, both propeller and rotor types, and full instructions for installation. Ask for your copy now. It's free!



### GENERAL GAS LIGHT COMPANY

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## 7 HUMPHREY IMPROVEMENTS

**Free-Flow Heat Exchanger** — No baffles to impede air circulation. No tubes to clean.

**Tilting Front** — Directs warmth downward to floor level without reducing warm air volume.

**Stainless Steel Burner Tips** — New lifetime burner of highly efficient, dual-flame design.

**Non-clogging Stainless Steel Pilot** — Highly dependable, even in dusty atmosphere.

**Quiet, Durable Fan Motor** — Heavy duty type motor, rubber mounted for quietness.

**Positive Safety Controls** — Including safety shut-off and overload control... standard equipment.

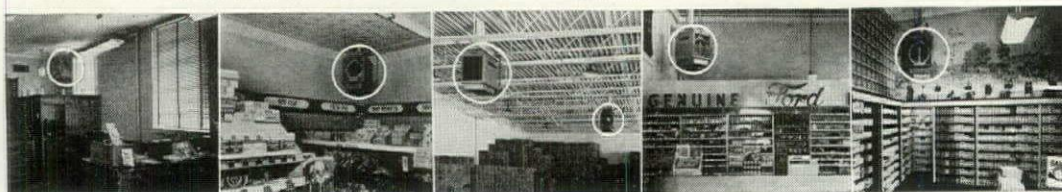
**Handsome Appearance** — Modern "streamline" design, with rich, dust-resisting Ivory baked enamel finish.

### LOW COST INDUSTRIAL FLOOR COVERING is grease resistant

A new low cost utility flooring has been developed by Armstrong. Called Accotred, the flexible material is composed of a rubber-like coating over an asphalt-saturated felt base. It is manufactured in terra cotta color in 3' and 6' widths and sells for about \$1.25 per sq. yd., installed. Grease and solvent resistant, the new material is suitable for use in factories and commercial installations. It has been listed by the U. S. Army Corps of Engineers as an approved material for barracks and other such areas. A special cement has been developed for use with Accotred on grade level concrete floor; it is not recommended however for applications below grade. At present, it is available only on rated orders.

Manufacturer: Armstrong Cork Co., Lancaster, Pa.

(Continued on page 256)







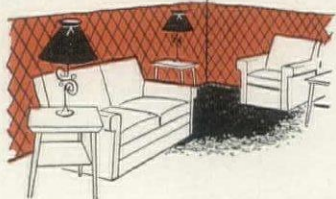
Bar covered with Bolta-Quilt



Dining table and chairs trimmed with Bolta-Quilt



Booth trim and wainscoting in Bolta-Quilt



Bolta-Quilt covered wall in hotel lobby



Desk and swivel chair in Bolta-Quilt

# THIS IS *Bolta-Quilt*

(ELECTRONICALLY QUILTED *Boltaflex*)

The most important development in plastic decorating material in the past 12 months. Check its points of superiority listed below.

- ★ Made with specially formulated Boltaflex for extra durability.
- ★ A three-way "sandwich" — quilted and sealed electronically by our exclusive High-Fusion process.
- ★ Gorgeous decorator shades; sleek modern finishes; rich leather-like grains; remarkable fabric-like textures.
- ★ Tough, washable, resists fading and staining, will not chip or peel.
- ★ Colors match Boltaflex exactly so the two may be used in combination for added luxury.

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on Bolta-Quilt ☐

on Boltaflex ☐

**This label tells the Best from the Rest.**







MODEL R-520

**L & K 27½" KITCHEN**... Complete 27½" kitchen unit combines 4 cu. ft. refrigerator, sink, drain-board, storage drawer, and 3-burner gas range adjustable to natural, manufactured, or bottled (LP) gases. Model R-520 also available with 3 electric burners for 220 v., or 2 electric burners for 110 v. "plug-in" use. 5 year guarantee.

## complete kitchen in 27 ½"

### Complete 48" Kitchen-With-Oven

**L & K 48" KITCHEN**... For the first time here's a 48" kitchen complete with oven—made possible by combining any 20" apartment range with General's L & P Kitchen, Model S-550. Has 4 cu. ft. refrigerator, storage drawer, and features a one-piece 12 x 16 inch porcelain sink-back splash-drainboard. 5 yr. guarantee.



MODEL S-550

## COOK ON YOUR REFRIGERATOR

**GAS-ELECTRIC GENERAL CHEF.** Combines electric refrigeration with cooking top, gas or electric (110 or 220 v.) Requires only 4.1 sq. ft. of space. 5 year guarantee.

Distributors - Dealers - Builders - write:

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air conditioning corp.

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## FASTER Better Service from WISCONSIN'S Hardwood Forests to your Customers' Floors

Whether you need Northern Hard Maple, Oak or Birch flooring, Yawkey-Bissell offers you these advantages:

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- Well balanced inventories of finished flooring available to take care of most orders promptly.
- Mill work second to none, producing strip and block flooring that you will be proud to sell and your customers will be proud to lay.

Let us quote on your current and future flooring requirements. Remember, it's Yawkey-Bissell for Faster, Better Service and Better Flooring!



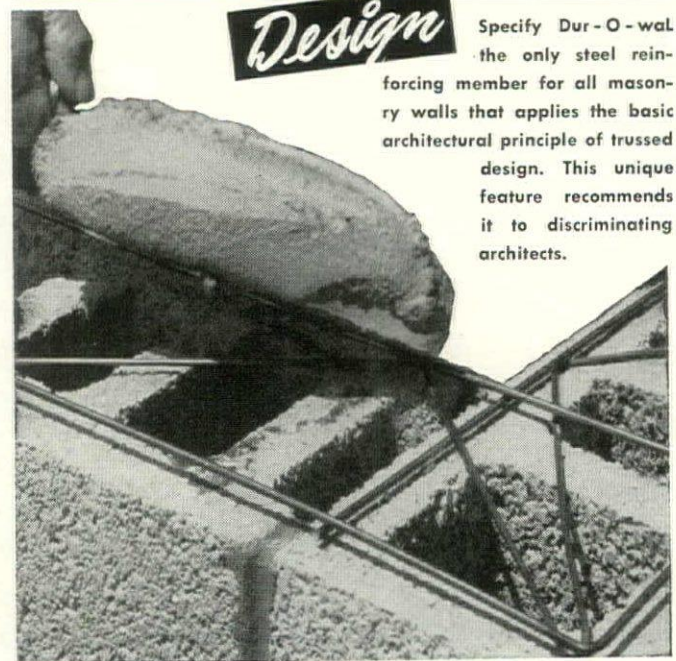
**YAWKEY-BISSELL**  
HARDWOOD FLOORING COMPANY  
WHITE LAKE • WISCONSIN

*the finest floor that grows*

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## NOW! REINFORCE MASONRY WALLS WITH TRUSSED

*Design*



Specify Dur-O-wal—the only steel reinforcing member for all masonry walls that applies the basic architectural principle of trussed design. This unique feature recommends it to discriminating architects.

Patented Dur-O-wal provided a rigid steel reinforcing for all masonry walls. Assures maximum strength, crack-free construction, customer satisfaction. Send for additional information from nearest plant.

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**DUR-O-WAL**

time-test reinforcing for  
BLOCK BRICK TILE



# Save Critical Steel...

with STRUCTURAL FACING TILE



**FACING TILE GIVES YOU MORE FOR YOUR DOLLAR  
THAN ANY OTHER SINGLE BUILDING MATERIAL!**

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- IT GOES UP FAST
- FIRST COST IS LAST COST
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- IT'S "COLOR-ENGINEERED"

*...and it's available!*

**LOOK FOR  
THIS SEAL**

It is your assurance of  
highest quality Facing Tile



LEARN HOW TO GET MORE FOR YOUR BUILDING DOLLAR. Take this first step now. Send for our 3 free booklets on glazed or unglazed Facing Tile, "The Scientific Approach to Color Specification," "Catalog 52-C," "Facing Tile Construction Details." Address your request to any Institute Member or to our main office, Dept. MB-12.

This seal is used only by members of the Facing Tile Institute, these "GOOD NAMES TO KNOW": . . . BELDEN BRICK CO., Canton, Ohio • CHARLESTON CLAY PRODUCTS CO., Charleston 22, West Virginia • THE CLAYCRAFT CO., Columbus 16, Ohio • HANLEY CO., New York 17, New York • HOCKING VALLEY BRICK CO., Columbus 15, Ohio • HYDRAULIC PRESS BRICK CO., Indianapolis, Indiana • MAPLETON CLAY PRODUCTS CO., Canton, Ohio • METROPOLITAN BRICK, INC., Canton, Ohio • McNEES-KITTANNING CO., Kittanning, Pennsylvania • NATIONAL FIREPROOFING CORP., Pittsburgh 22, Pennsylvania • ROBINSON BRICK & TILE CO., Denver 9, Colorado • STARK CERAMICS, INC., Canton, Ohio • WEST VIRGINIA BRICK CO., Charleston, West Virginia • FACING TILE INSTITUTE, 1520 18th Street, N. W., Washington 6, D. C.



Using **Copper** wisely in **Building Design** and

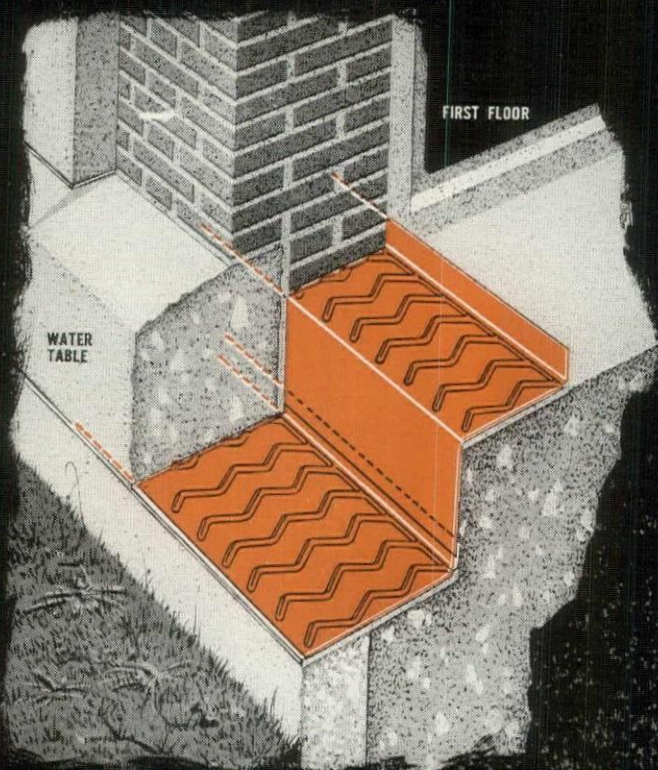
## **ANACONDA** Through-Wall Flashing protects critical areas with minimum metal and labor

6142

### **water table flashing**

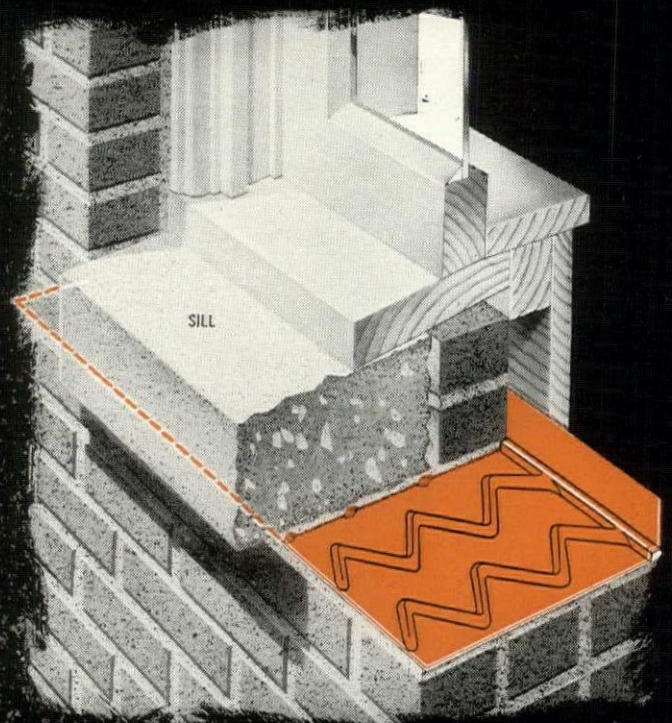
When the water table at the first floor level projects beyond the building wall, the top surface exposed to the weather requires proper flashing.

ANACONDA Through-Wall Flashing installed as shown, with selvage overlapping, absorbs the unevenness that naturally occurs between the two levels. Unlike a one-piece flashing, this provides a solid bearing at both levels and assures positive drainage toward the outside.



### **window sill flashing**

ANACONDA Through-Wall Flashing at the window sill offers positive protection against damage from water seeping below the wood sill and through the joints at the sill ends. The flashing collects and drains the water to the outer face of the building. Extending the flashing 6 inches beyond the jamb is recommended.





# struction

## WRITE FOR DETAIL DRAWINGS

SERIES No. 12 H

Construction details of typical flashing installations are available on 8½" x 11" sheets convenient for filing. Ask for Series 12 H. Suggested methods of installation for unusual flashing requirements will be gladly offered—just submit a sketch of the construction. Write to The American Brass Company, Waterbury 20, Conn.

**for better sheet metal work—**

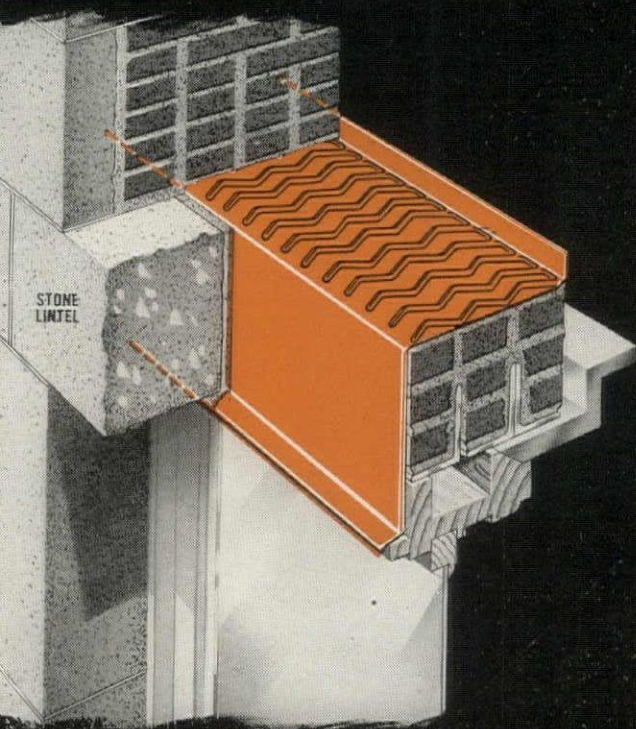
**use**

**ANACONDA<sup>®</sup>**  
**COPPER**

### window head flashing

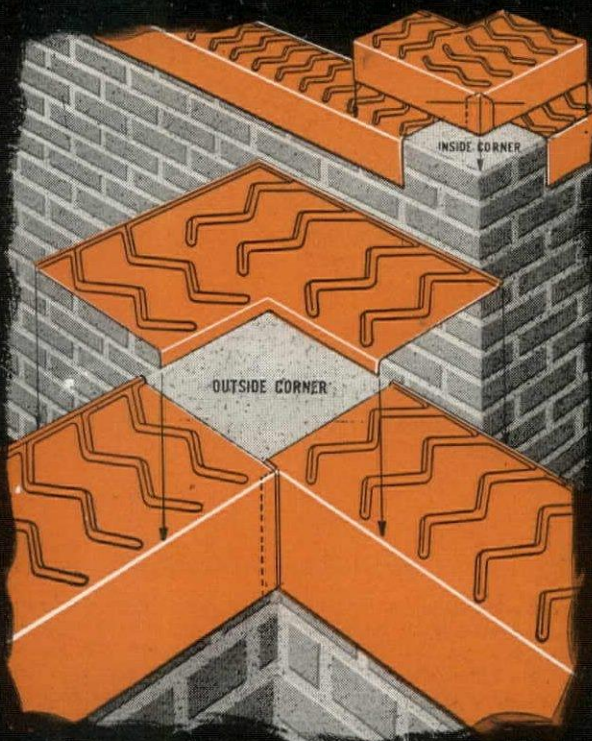
Particular care should be given to adequate through-wall flashing over window heads where leakage can be most damaging.

This suggested method, using ANACONDA Through-Wall Flashing, insures positive drainage to the outside. For wide openings requiring more than one length, overlap the ends one corrugation.



### one-piece corner flashing

The flashing of corners presents no problem when using standard one-piece ANACONDA Flashings which are available for both inside and outside corners. These ANACONDA Flashings interlock and nest perfectly with the adjoining straight lengths—eliminate mitering, soldering or extra-thick mortar joint. Write for publication C-28, "ANACONDA Through-Wall Flashing."

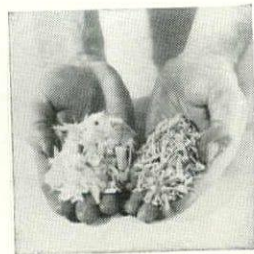
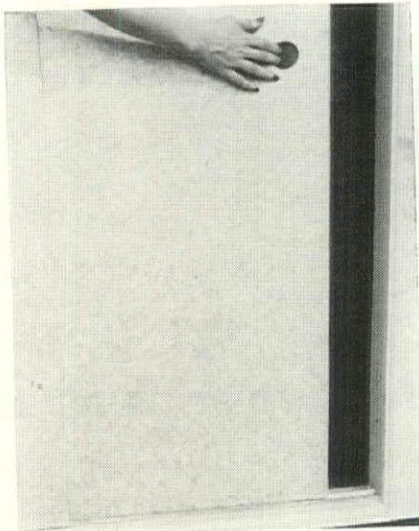




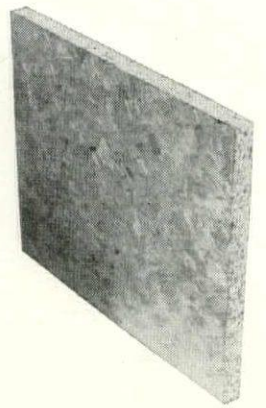
PRODUCT NEWS

WOOD WASTE BOARD has exceptional dimensional stability

U. S. Plywood has taken its biggest step since it first glued and pressed some thin layers of wood together and made the material whose name the company bears. Applying the principle of low pressure laminating to resin-impregnated wood fibers, the company has taken wood shavings out of the tinder box and offers them to the building industry in the form of Novoply.



From wood shavings and chips comes Novoply, U. S. Plywood's answer to a growing building need from a diminishing forest.



a virtually warp-free multipurpose panel. produce the new wood material, a process utilized which had been developed in Europe (where the need for forest conservation is centuries ahead of ours) and had already proven commercially successful for furniture and interior walls. The new product is probably the flattest wood board on the market—and it will stay flat. It is laminated in three piles—two surfaces of thick of thin wood shavings and a core of bits of wood (unusable for lumber or plywood). At present it is made in two thicknesses and costs for about 50 cents per sq. ft. for the 3/4" and 33 cents per sq. ft. for 3/8" unsanded or decorative grade. The sanded or industrial grade is slightly lower. Panel sizes are 4' x 8' and 12'. Because of its excellent dimensional stability (longitudinal and transverse) it is an ideal material for high pressure laminates and veneers. The urea adhesive used in its construction is water resistant rather than waterproof and so it is not recommended for out-door applications. As for its other physical characteristics:

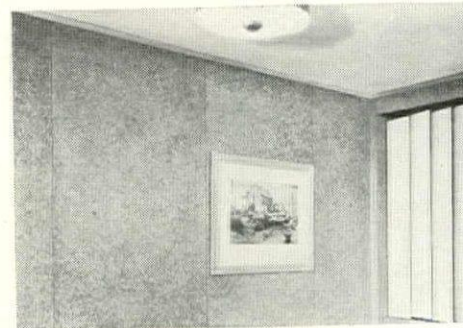
- ▶ It is a good sound barrier. A wall built of thickness of 3/4" Novoply with an air space of 1 1/2" between will reduce exterior noise about 30 decibels.

- ▶ Has good nail and screw holding properties and can be worked with the same tools as ordinary lumber.
- ▶ It takes almost any kind of transparent or opaque finish.

- ▶ Its abrasion resistance is greater than that of plywoods. It also has good resistance to fire.

When exposed to flame, its surface will char but will not break or crack. (In Europe No. 1 doors 1 1/2" thick are classified as fire resistant.)

It possesses better heat insulating qualities than either wood or plywood. Its K factor is

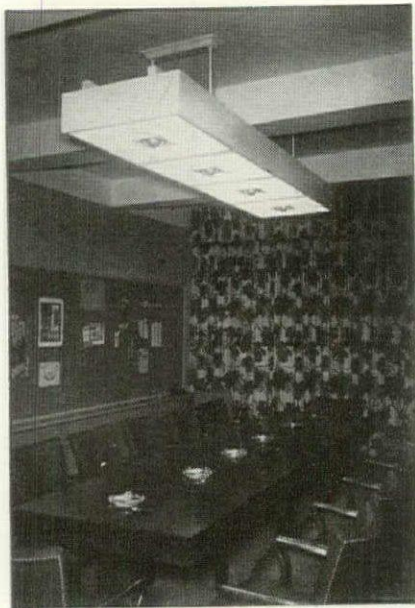


which is about 40% better than fir plywood of the same thickness.

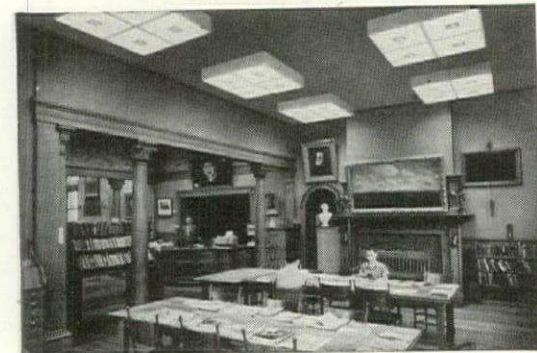
It weighs only 10% more than the wood from which it is produced.

Manufacturer: U. S. Plywood Corp., Wellesley Bldg., New York 18, N. Y.

(Technical Literature, page 262)



Architect Harvey P. Clarkson of Petroff and Clarkson, New York, N. Y. specified this suspended Silvray SKYLIKE installation for the conference room jointly used by the Tea Association and the Tea Bureau, Inc. at 500 5th Ave. Providing a medium lighting intensity of approximately 35 foot-candles, these SKYLIKE units represent an initial investment saving of from 1/2 to 1/4 the cost of competitive equipment offering comparable results. The lighter weight and internal simplicity of the fixtures also permits additional savings in installation time.



This high-intensity installation of surface-mounted SKYLIKE units was selected for the modernization of the Amesbury, Massachusetts Public Library. Note the low brightness levels at the light source . . . the 90° shielding . . . the absence of harsh shadows and sharp light cut-off lines.

SKYLIKE® Lighting — "installation-proved"

IN SCHOOLS, OFFICES, STORES, AND PUBLIC BUILDINGS

Blending the soft, indirect light of silver-bowl incandescent lamps with the modern look of fluorescent-type troffers, Silvray SKYLIKE units offer architects wide latitude in planning lighting layouts. As recessed, surface-mounted, or suspended units . . . in patterned groups or panels . . . for new construction or modernization you'll like the versatility, efficiency, and low cost of SKYLIKE fixtures.

Look at these typical installations!

(unretouched photographs, using room light only, demonstrate the unusually uniform distribution of light provided by SKYLIKE fixtures).



This patterned group of recessed units in the dining room of the Bader Hotel in Spring Valley, N. Y., illustrates the way Silvray SKYLIKE fixtures fit 24" x 24" ceiling tiles. Note how the soft, even distribution of low intensity light helps to create the desired mood of cheerful hospitality.

Send for complete SKYLIKE information. A comprehensive booklet describing the SKYLIKE system is yours for the asking. To get your copy, write Graybar Electric Company, Inc., Graybar Building, 420 Lexington Avenue, New York 17, N. Y. S19-1312

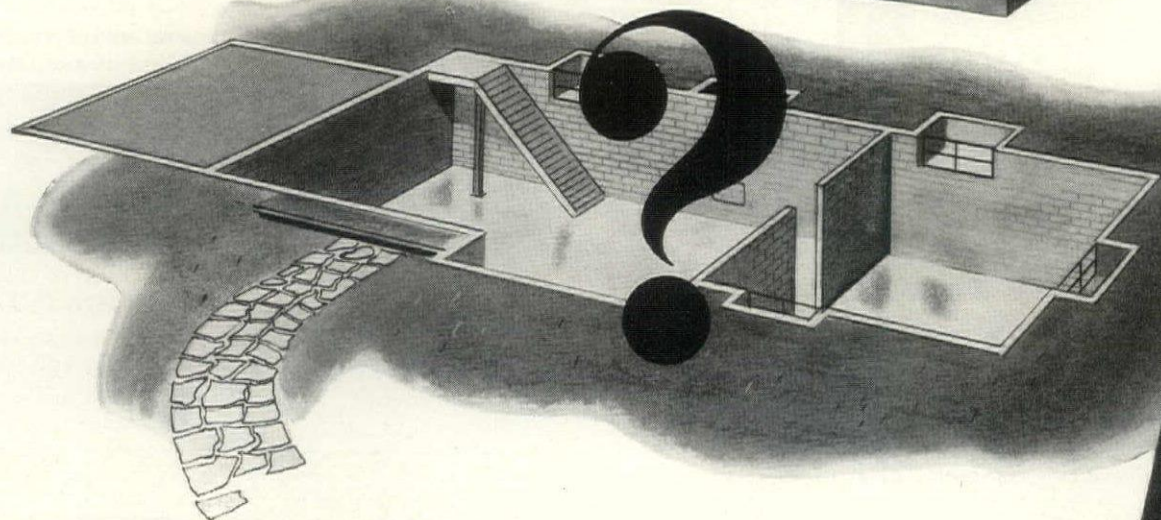
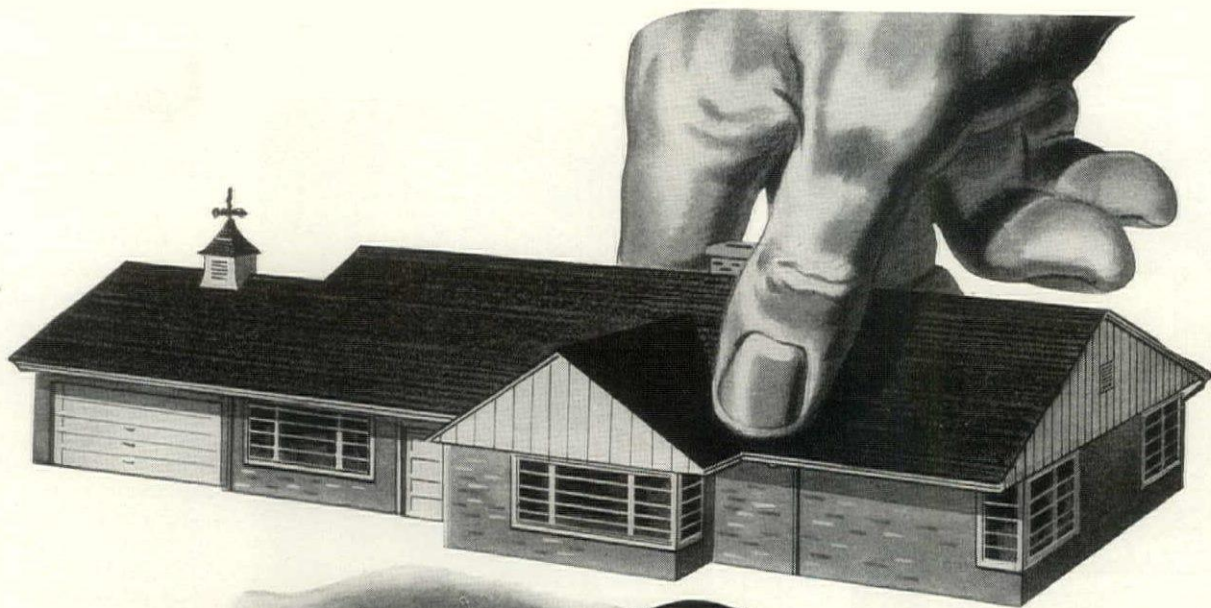
SKYLIKE LIGHTING INC.



... A SILVRAY ASSOCIATED COMPANY







## PROUD of the house **BUT** what about the basement?

You have a right to be proud of those modern houses you are designing, but what about the basements? Do they have beautiful walls and floors? Do they contain waterproofed cements that assure a dry basement for years to come? Yes, within your hands lies the possibility of creating beautiful, dry basements for home owners . . . basements that will thrill them as they see the possibilities of a lovely recreation room . . . a bright laundry . . . or a playroom!

*The cost is much less than you would expect.*  
Simply specify Medusa Portland Cement Paint

for the walls. Made by the cement company that first developed and patented cement paint, this superb masonry paint when properly applied is renowned for its beautiful, non-peeling finish. For the concrete floors, specify Medusa Rubber Base Paint, the paint that "bounces off wear" and stays new indefinitely. And above all, recommend Medusa Waterproofed Cements, gray or white, or Medusa Waterproofing Paste or Powder for all concrete and mortar work. You will be proud of the results. For details on Medusa products for basements, contact your nearest sales office.



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**BETTER** with*



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Builders Demand  
Architects Specify

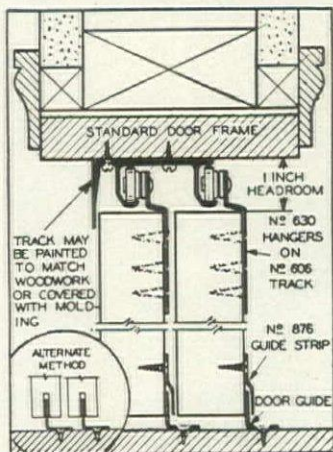


**Sterling**  
HARDWARE

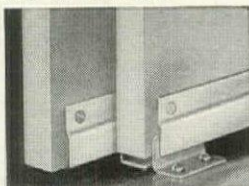
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The 600 Series includes Hangers for both  $\frac{3}{4}$ " and  $1\frac{3}{8}$ " by-passing doors. Track is aluminum.

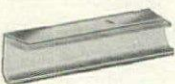


No. 876 Guide Strips eliminate grooving bottom of door. Save installation time and trouble.



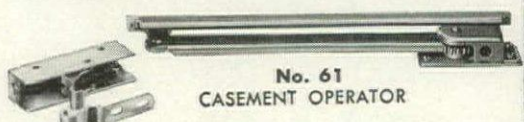
No. 642  
Adjustable Hanger  
For Single Doors

Aluminum or  
Steel Track for  
Single Doors

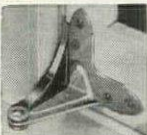


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FOR HEAVY DUTY

### STERLING CASEMENT WINDOW HARDWARE



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CASEMENT OPERATOR



No. 190  
EXTENSION HINGES

No. 165  
PULL-TITE CLOSERS

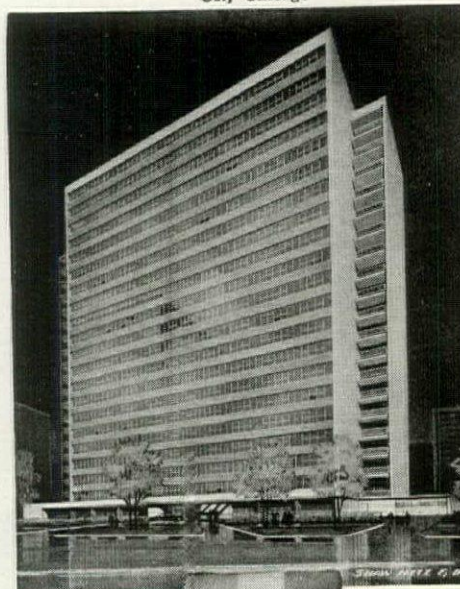
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THE  
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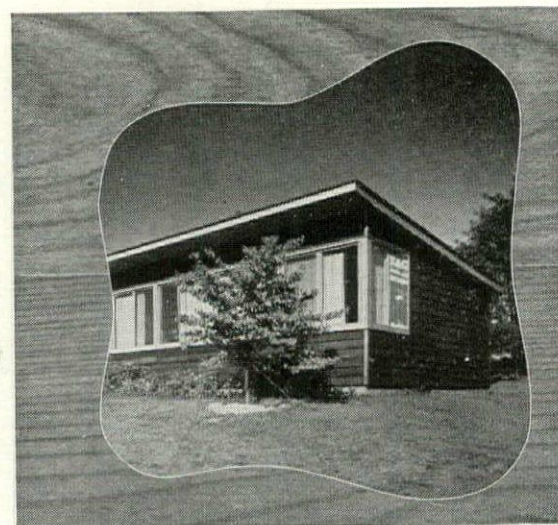
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Architect: William Lescaze, New York

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**Cabot's** creosote stains





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BUILT-INS  
PUT OVER  
SMALL-KITCHEN  
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Says  
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from California  
to the Carolinas



"It's what 80% of the women want," says Mr. Hughes, who equipped this \$9,999 home in Dallas, Texas with Chambers Built-In Cooking Units. "They're won by waist-hi cooking, saved space and the extra storage area around the oven and under the cooking top."

# Chambers

**COOKS WHILE THE COOK'S AWAY®**

CHAMBERS BUILT-INS sell the small, compact kitchen. Making do with *less* space often is necessary in current low-cost building projects. And Chambers Built-Ins make that reduced space actually desirable—by introducing the convenience of counter-level cooking with speedy, dependable GAS. Chambers Built-Ins permit full utilization of compactness and step-saving design. Women are won by the Chambers Oven's unique ability to save kitchen time and drudgery while it "cooks with the gas turned off"

A COMPACT KITCHEN is easy to plan with Chambers Built-In Cooking Units. The spacious Chambers Oven fits into 24 inches of wall space—may be surrounded on 4 sides with wood or metal cabinet groupings. Triple-wall oven insulation enables Chambers to meet the exacting requirements of the AMERICAN GAS ASSOCIATION for this type of installation.

*Originator and Master Builder of Insulated Ranges since 1910*

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Specification Sheet  
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Please send me at once A.I.A. Specification Sheet and other material describing the new Chambers Built-In GAS Cooking Units.

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**GOOD DESIGN**  
by the Museum  
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Guarantee  
on burners and  
cast oven bottom



"IN-A-WALL" Oven is heavily insulated—top, bottom, all sides—utilizing retained heat to "cook with the gas turned off." Its huge, family-size capacity accommodates up to 40 lbs. of roast. Beautifully finished in stainless steel, or stainless with oven doors in choice of seven beautiful decorator colors.



"IN A TOP" 3-Burner Drop-In with plated surface fits into counter top by providing opening of 18½" x 33¾". Individual drip rings may be removed easily for quick cleaning. 4 burner top also available.



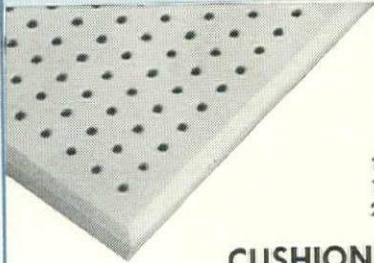
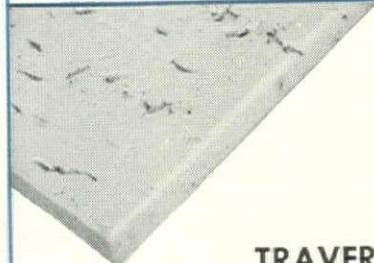
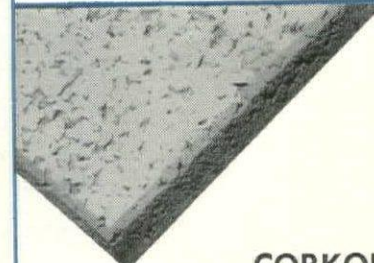
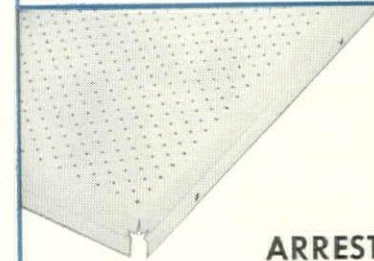
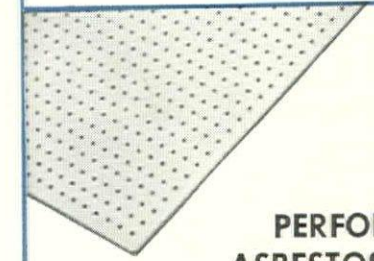
## Points to consider when you specify

WHEN the architect specifies an acoustical material, he is interested, of course, in the reduction or control of sound. A selection based solely upon acoustical efficiency, however, can be needlessly expensive. A difference in ratings of .05 between two materials can't be detected by the human ear while the cost difference might be significant. No one material will meet every architectural problem. For this reason, there are many acoustical materials, each with its own important characteristics. From a complete selection of acoustical materials, the architect must find the one which most nearly matches his design requirements. If insulation and moisture resistance are requirements, he will probably select Armstrong's Corkoustic. If high efficiency and fire resistance are important, he could specify Armstrong's Arrestone. Or if the design demands low cost plus efficiency, he would choose Armstrong's Cushiontone. The chart at right summarizes these and other properties to show how materials in the Armstrong Line rate in each category. Contact your Armstrong Acoustical Contractor for helpful and complete advice on any acoustical problem. He can put a wealth of information at your disposal, and his crews are specially trained to do a fast, efficient job.

SEND FOR FREE BOOKLET, "How to Select an Acoustical Material," which answers many other questions about sound conditioning. Write Armstrong Cork Company, 5412 Stevens Street, Lancaster, Pa.



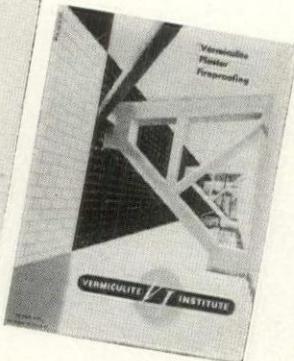
**ARMSTRONG'S  
ACOUSTICAL  
MATERIALS**

| PRODUCTS<br>SIZES AND THICKNESSES                                                                                                                                                                                                                                                                                                                                                                                | HOW<br>INSTALLED                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|  <p><b>Sizes:</b><br/>12" x 12"<br/>12" x 24"<br/>24" x 24"</p> <p><b>Thicknesses:</b><br/>1/2"<br/>3/4"<br/>1"</p> <p><b>CUSHIONTONE®</b></p> <p>A low-density fiber tile with 484 perforations per square foot. Surface and bevels factory-finished with two coats of white paint.</p>                                       | Cemented to existing surface; nailed or screwed to furring strips; mechanically suspended. |
|  <p><b>Sizes:</b><br/>6" x 12"<br/>12" x 12"</p> <p><b>Thicknesses:</b><br/>11/16"<br/>13/16"</p> <p><b>TRAVERTONE</b></p> <p>A fissured mineral wool tile. Finished with two coats of white latex paint. Available with beveled or square edges.</p>                                                                          | Cemented to existing ceiling; mechanically suspended.                                      |
|  <p><b>Sizes:</b><br/>6" x 12"<br/>12" x 12"</p> <p><b>Thickness:</b><br/>1-1/4"</p> <p><b>CORKOUSTIC®</b></p> <p>A textured, pure cork tile. Finished with two coats of white latex paint.</p>                                                                                                                              | Cemented to existing ceiling; mechanically suspended.                                      |
|  <p><b>Sizes:</b><br/>12" x 12"<br/>12" x 24"</p> <p><b>Thickness:</b><br/>1-1/4"</p> <p><b>ARRESTONE®</b></p> <p>Perforated metal pan units backed by mineral wool pads. The pans are 26 gauge cold rolled steel finished with baked-on white enamel.</p>                                                                   | Screwed or nailed to furring strips or studs; mechanically suspended.                      |
|  <p><b>Sizes:</b><br/>12" x 12"<br/>12" x 24"<br/>24" x 24"<br/>24" x 48"</p> <p><b>Thickness:</b><br/>3/16"<br/>(Plus thickness of backing pad)</p> <p><b>PERFORATED<br/>ASBESTOS BOARD</b></p> <p>Large perforated fireproof facing units installed with mineral wool backing. Available with beveled or square edges.</p> | Screwed or nailed to a framework of wood furring strips; mechanically suspended.           |



| EFFICIENCY<br>(Noise-Reduction Coefficient)                 | COST                                                                      | MOISTURE RESISTANCE                                                                                   | LIGHT REFLECTION | FIRE RESISTANCE                                       | INSULATION VALUE*<br>(Thermal Conductance)                                                                                     | MAIN-<br>TENANCE                                                                                   |
|-------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| .55 to .75—Most efficient at high frequencies.              | Low initial cost. Installation cost low to medium, depending upon method. | Moderate. Excessive moisture tends to destroy cement bond and warp most fibrous acoustical materials. | .78              | Slow burning, when ordered with special paint finish. | 1/2" - .83<br>3/4" - .51<br>1" - .40                                                                                           | Repaintable without loss of efficiency. Easily cleaned.                                            |
| .65 to .75—Most efficient over middle and high frequencies. | Medium initial cost. Medium installation cost.                            | Moderate. Not recommended in areas where moisture or humidity is higher than normal.                  | .79              | Incombustible.                                        | 11/16" - .59<br>13/16" - .50                                                                                                   | Easily cleaned with damp cloth or vacuum. Careful spray or brush painting won't affect efficiency. |
| .45—Most efficient at middle frequency.                     | Medium initial cost. Medium installation cost.                            | Excellent. Cork-oustic is completely moisture resistant.                                              | .80              | Slow burning.                                         | 1-1/4" - .21                                                                                                                   | Repaintable without loss of efficiency. Surface will not hold dirt.                                |
| .85—Highly efficient over entire frequency spectrum.        | High initial cost. High installation cost.                                | Moderate.                                                                                             | .76              | Incombustible.                                        | 1-1/4" - .22                                                                                                                   | Repaintable and washable.                                                                          |
| .75—Most efficient at middle and high frequencies.          | Medium initial cost. Medium installation cost.                            | Moisture resistant.                                                                                   | Unpainted.       | Incombustible.                                        | 1" - .24<br>2" - .12<br>3" - .08<br><br>* Thermal conductance figures based upon mean temperature of 90° F. for all materials. | Easily cleaned. May be painted without loss of efficiency.                                         |





**LIGHTWEIGHT AGGREGATES.** Vermiculite Plaster Fireproofing. Vermiculite Institute, 208 S. LaSalle St., Chicago 4, Ill. 18 pp. 8 1/2 x 11".

A summary of recent fire tests on construction assemblies protected by vermiculite plaster is presented in this attractive booklet. Illustrated with photographs and drawings of typical fireproofing details, the publication brings out three important claims by the Vermiculite Institute: 1) that the "ceilings attached or furred to the bottom of primary members obtain the same fire

rating as suspended ceiling, whether attached, furred, or used to protect primary as well as secondary members; 3) ceiling opening limits indicated do not affect value obtained by a similar opening."

**GRANDSTANDS.** Sico Portable Form KP-C. Seating, Inc., 3565 St. Louis Park, Minn. 8 pp. 8 1/2 x 11". This two-color brochure outlines the design of a principle called the "feature" which is said to permit a spectator to be seated at the cost of the rearrangement of the basic section of a footboard and seat. Besides economical expandability, various design features for safety, comfort, and are discussed.

**GLASS.** Mississippi Glass, Catalogue No. 7, Mo. 16 pp. 8 1/2 x 11". To aid architects, engineers, and decorators in their selections of rolled, figured, and glass, the booklet shows close-ups of the products made by Mississippi and photographs of installations. A light distribution chart is included for each pattern as well as technical information on Coolite heat-absorbing and reducing glass, and dimensional data for all company's glass products.

**LIGHTING.** Mitchell Commercial Fluorescent Lighting. Catalog No. 433. Mitchell Mfg. Co., Chicago 14, Ill. 28 pp. 8 1/2 x 11". Mitchell's new catalogue describes the firm's complete line of fluorescent lighting units for schools, restaurants, offices, public buildings and institutions. Featured in the publication are Slimline models; open, glass shielded, and louver shielded troffers; strip lighting units; luminaires; and spotlights.

**INDUSTRIAL FLOORING.** Versatile Open Steel Flooring. Open Steel Flooring Institute, Inc., 2311 First National Bank Bldg., Pittsburgh 22, Pa. 16 pp. 8 x 11". Explaining types and features of open steel flooring, the brochure gives specifications for its proper installation. It presents many good photos which illustrate varied uses of steel grating.

**WALL COVERING.** The Facts About Prefinished Wallpanels. Prefinished Wallpanel Council, Keith Bldg., Cleveland 15, Ohio. 8 pp. 3 x 9". This pamphlet explains briefly how factory-finished tempered hardboard is made and where its durable and colorful surfaces may be used advantageously. It lists several manufacturers who produce it.

(Continued on page 268)

**NO REAL SUBSTITUTE FOR REAL CLAY TILE**

ROMANY hard glazed Wall Tile has demonstrated its outstanding performance time and again in all types of buildings. For long life, for attractive fade-proof colors, for freedom from chipping, spotting, scratch marks—and for ease of cleaning that assures highest sanitary condition—there's really no substitute for ROMANY, the real clay tile. For corridors, entrance halls, cafeterias and restrooms, as well as other areas in hospitals, schools and other institutional buildings, ROMANY will serve you best.

Write for Sample Chart No. 6



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For your copy of our new booklet "Panelboard Planning" B-5260, write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-93463

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The key to this city of America's



How many of America's newest  
YALE-equipped buildings can you name? (SEE PANEL AT RIGHT)



USE AMERICA'S *Number 1* HARDWARE

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DIVERSE IN DESIGN as well as purpose, these monuments of functional beauty are exclusively appointed with YALE quality hardware. They're built by America's leading architects and contractors who know from years of experience that YALE means maximum security, superior styling and unusual durability.

That's why they've made YALE the key to their "city." Make YALE the key to extra quality and economy on your next scheduled job. See your hardware distributor. The Yale & Towne Manufacturing Co., Dept. S-612, Stamford, Connecticut.

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*Contractor:* Haig M. Boyajohn & Associates  
*Hardware:* The Albrecht Hardware Co.

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*Architects:* Reinhard, Hofmeister & Walquist  
*Contractor:* Turner Construction Co.  
*Hardware:* Elmer T. Hebert, Inc.

**3. THE CARLTON HOUSE**

*Architect:* Kenneth D. Norton  
*Contractor:* John Lowry Inc.  
*Hardware:* Atlantic Hardware and Supply Co.

**4. SCHWAB BUILDING**

*Architect:* Sylvan Bien  
*Contractor:* 11 Riverside Dr. Corp.  
*Hardware:* Atlantic Hardware & Supply Co.

**5. CRIPPLED CHILDREN'S HOSPITAL**

*Architects:* Warren, Knight & Davis  
*Contractor:* Day & Richardson  
*Hardware:* Moore-Handley

**6. JOHN HANCOCK BUILDING**

*Architects:* Cram & Ferguson  
*Contractor:* Turner Construction  
*Hardware:* J. B. Hunter Co., Inc.

**7. IOWA STATE OFFICE BUILDING**

*Architect-In-Chief:* Tinsley-Higgins & Lighter  
*Associate Architects:* Anthony-Hunter; Beattler & Arnold; Wetherell & Harrison  
*Contractors:* Kucharo Construction Co.; Johnson, Drake & Piper Inc.  
*Hardware:* Kurtz Hardware

**8. NATIONAL BISCUIT CO. BUILDING**

*Architects:* Ford, Bacon & Davis  
*Contractor:* L. H. Hoffman Co.  
*Hardware:* Contract Hardware Service

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*Architect:* Charles C. Hartmann  
*Contractor:* C. M. Guest & Sons  
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COMPLETE ADAPTABILITY

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They create new kitchen beauty through exclusive decorator colors and new non-tarnish metal finishes.

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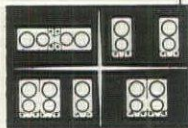
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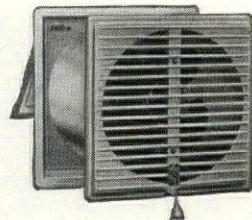
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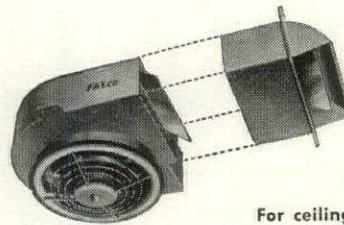
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MB-12



For outside walls



For ceilings  
or inside walls



with dependable

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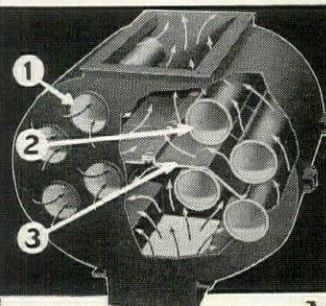
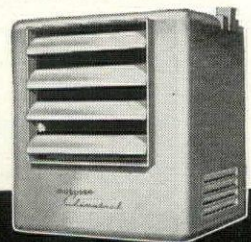
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**FASCO Industries, Inc.**  
ROCHESTER 2, N. Y.

formerly F. A. SMITH MFG. CO., INC.

**Mueller Climatrol**  
space-saving  
gas-fired  
unit heaters

(propeller fan or blower types)



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SUPERIORITY  
← is here**

① One-piece all-welded steel heat exchanger — no tie-rod, bolted, gasketed, or slip joints to leak, separate or crack.

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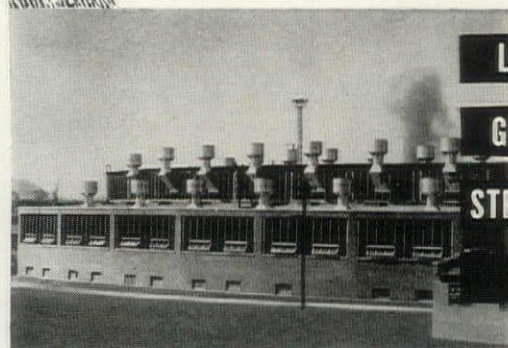
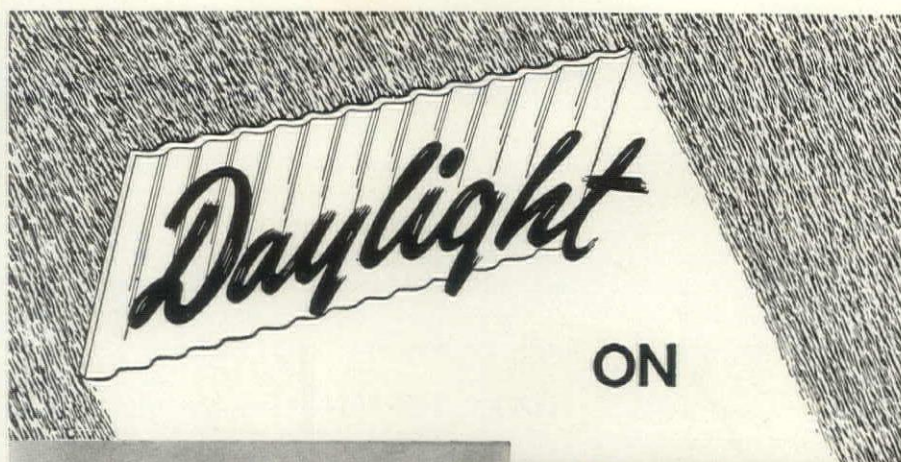
MUELLER gives you a unit to fit every application — 4 sizes: 60,000, 90,000, 120,000 and 150,000 Btu input capacities. A.G.A. and Underwriters' Laboratories approved — with design features that assure longer life, greater economy. These units are shipped assembled and pre-wired for quick, low-cost installation.

E-44

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Designed to fit your plans for Sidewall Construction

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Solid CORRUGATED Wire Glass for Sidewalls supplies today's answer for flexible, efficient industrial plant design. Original CORRUGATED Wire Glass (with wire netting encased) has the solid, heavy-duty strength required for plants housing the most punishing production and vibrating traffic conditions. Maintenance costs practically disappear. Your employees work better—more happily—in well *diffused daylight*. Where glare reduction and heat absorption are special problems, Actinic CORRUGATED Wire Glass is recommended. Whether your requirements call for Sidewall, Skylight or Sawtooth construction, you'll find Pennsylvania Original Solid CORRUGATED Wire Glass easy to install, without supplementary frames, on steel, wood or concrete. Put *daylight* in all your building plans. Architects, plant owners, contractors, and engineers have been specifying Pennsylvania Original CORRUGATED Wire Glass\* for many years. Our **FREE** field engineering service is ready to help you with your plans.



\*Also CORRUGATED GLASS (without wire) for PARTITIONS and SCREENS.

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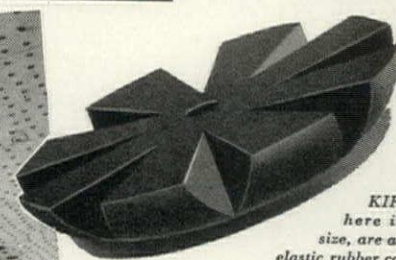
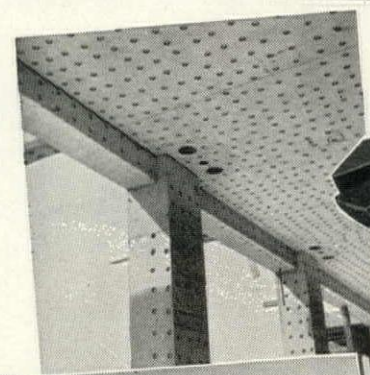
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## KiFS for Bonding Plaster Directly and Permanently to Concrete



KiFS, shown here in actual size, are a durable elastic rubber compound



KiFS are nailed six inches apart on the concrete form boards. Then the concrete is poured. After concrete has hardened, the removal of form pulls the elastic KiFS out of the concrete, leaving clean undercut niches. The kified ceilings, walls, beams, columns are now ready for plastering.

160,000 KiFS used in this 20-floor building, 60 Sutton Place South, New York, N.Y. Architect: Arthur Weiser, General Contractor: Paul Tishman Co.

SEE our catalog in Sweet's: Architectural 3f/Bu, Engineering 3e/Bu. Write for full particulars about this easy, economical method of preparing concrete for direct plastering.

**BUFFALO PRODUCTS, Inc.**  
 A subsidiary of Frontier Industries, Inc.  
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## ATTENTION MANUFACTURERS' AGENTS

THE MAGAZINE OF BUILDING is compiling a new list of Dealers, Distributors and Manufacturers' Agents who are interested in adding new lines (building products, materials, specialties, household appliances, etc.). This list, when completed, will be available on request to interested manufacturers.

If you would like to be listed please write and be sure to tell us what territory you cover and what types of products you would like to handle.

Write: George P. Shutt  
 Director of Advertising  
 THE MAGAZINE OF BUILDING  
 9 Rockefeller Plaza  
 New York 20, New York



**LIGHTING.** Fluorescent Ballast Tells Her Story, GEA 5731. 20 pp. 8½ x 11". Sound-Rated Ballasts, GEA 5672. 4 pp. 8½ x 11". General Electric Co., Schenectady 5, N. Y.

The first of these publications, a three-color cartoon-illustrated booklet, explains in non-technical terms how a fluorescent lamp works and the part the ballast plays in its operation. The second publication deals with G-E's new system of "sound rating" its fluorescent lamp ballasts. Describing how the ballasts are classified accord-

ing to the amount of natural hum they emit, it explains how these ratings can be put to use by electrical contractors, architects, and fixture manufacturers.

**PORCELAIN ENAMEL.** Erie Architectural Porcelain Enamel. The Erie Enameling Co., Erie, Pa. 8 pp. 8½ x 11".

Erie's "complete job" porcelain enamel service for architects and builders is described in this new booklet. The custom service (the company

does not make stock sizes) covers field service, engineering, delivery, and erection of the enameled panels. Eleven installations, including two remodeling jobs, are pictured. The characteristics and advantages of the building material are discussed, and drawings of typical erection details are presented.

**ELECTRIC CONTROLS.** Barcol Overdoors and Electric Operators, Catalogue No. 1406-11. Barber-Colman Co., Rockford, Ill. 16 pp. 8½ x 11".

The booklet contains a complete description of Barcol electrical operators for commercial and residential overhead garage doors. Installation instructions are included.

**WATERPROOFING.** Monoseal, Bulletin No. 126-11. The Monroe Co., Inc., Cleveland 6, Ohio. 10 pp. 8½ x 11".

A technical treatise on the use of silicone base materials, the bulletin contains a study of the water repellency problem and the tremendous annual damage caused by absorption of water into masonry surfaces. It discusses methods of preventing this damage through the use of silicone coatings.

**HEATING CONTROLS.** Controls for Heating and Conditioning, Catalogue F-1753-3. Barber-Colman Co., Rockford, Ill. 46 pp. 8½ x 11".

Well organized and fully illustrated, the catalogue covers the manufacturer's thermostats and motor-operated valves and accessories for heating, ventilating, and air conditioning applications.

**METAL FRAMING.** Unistrut Beam Load Selector. Unistrut Products Co., 1013 W. Washington Blvd., Chicago 7, Ill. 2 pp. 2½ x 6".

Designed like a slide rule, this handy pocket-sized beam load selector enables the designer who plans to use Unistrut metal framing to determine quickly and easily the amount of weight which can be supported by various Unistrut sections under varying conditions of span and unbraced height. The selector also indicates the exact number of sections required to support a given load.

**MATERIALS HANDLING.** Move Materials Faster with Howe Trucks, Form 508-B. Howe Scale Co., Rutland, Vermont.

Specifications are given in this neatly illustrated catalogue for the Howe hand trucks, dollies, lift jack systems, and other materials moving equipment.

**AIR CONDITIONING.** Sturtevant Booklet B-5164. Dept. T, Sturtevant Div., Westinghouse Electric Corp., Hyde Park, Boston 36, Mass. 16 pp. 8½ x 11".

What the line of Westinghouse air conditioning equipment includes, its features and specifications are covered in the first section of this condensed catalogue. Air handling apparatus such as ventilating and heating units and fans are described in the second chapter. The third and final section covers electronic air cleaning equipment.

More Than A Trend . . . Seaporcel Is Permanent



## Any Old Building Can Look as Smart and Modern as This!

**TO TRANSFORM** an old building into a strikingly modern structure follow the nation's leading architects in the swing to SEAPORCEL porcelain enamel.

**LOOK AT** this building (above), though no mere black and white picture can do it justice! Yet BEFORE Clifford A. Lake, Pittsburgh architect had it rebuilt with a SEAPORCEL exterior, it looked "sick" and "weather-beaten"... badly in need of an overall face-lifting.

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**SEAPORCEL Porcelain Enamel**  
is the most notable advance  
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**FLEXI-FLOOR**

FLOORS of RUBBER

**WALL-FLEX**

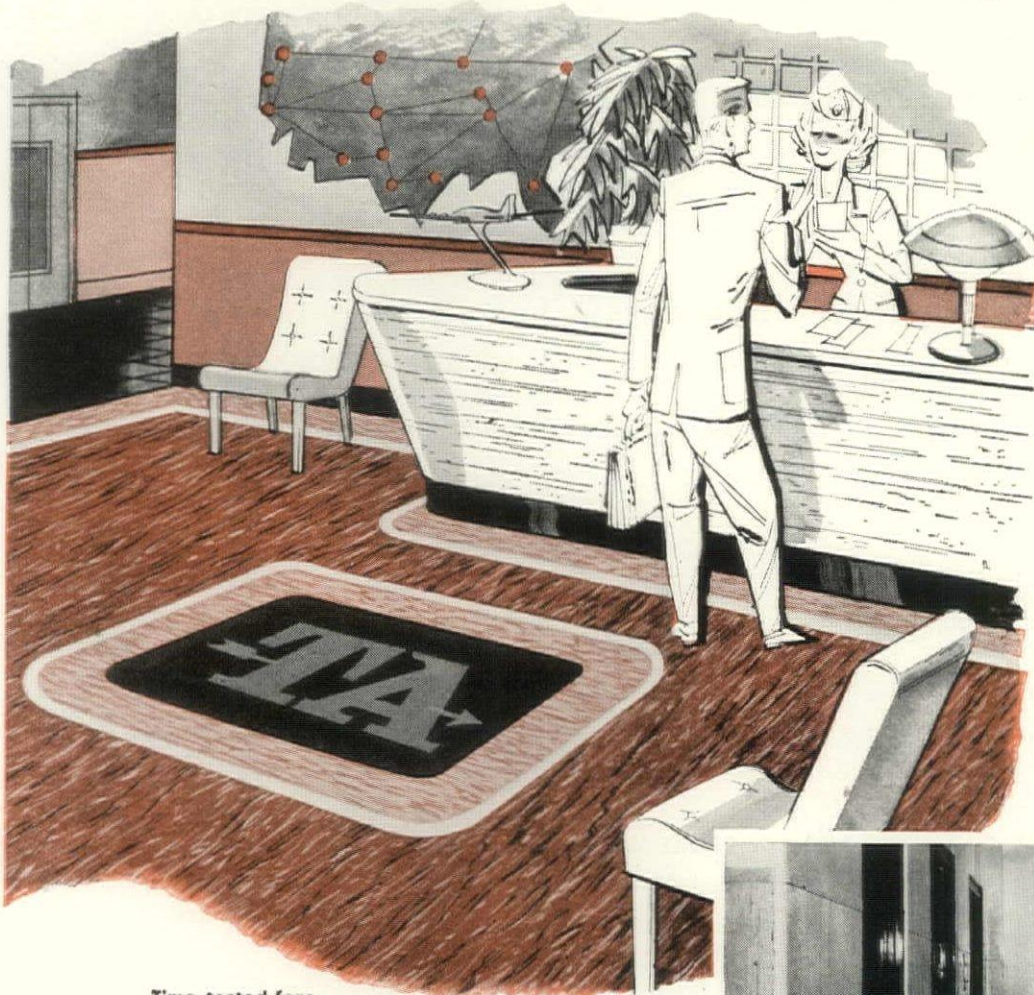
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"the more we're together

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walls of rubber. New — exclusive — flexible 1/16" gauge fabric back rubber in 28 colors. Simple, quick one-man installation with the advantages of continuous corners and curved surfaces, sanitation, low maintenance and economy. You'll want to include the versatility and colorful beauty of Wall-Flex in your plans.

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floors of rubber. Available in 28 colors, sheet or tile form, 3/32", 1/8" and 3/16" gauges. This complete range meets a diversification of uses in addition to floors — counter tops, display tables, drainboards, desk tops, counter facings, etc.

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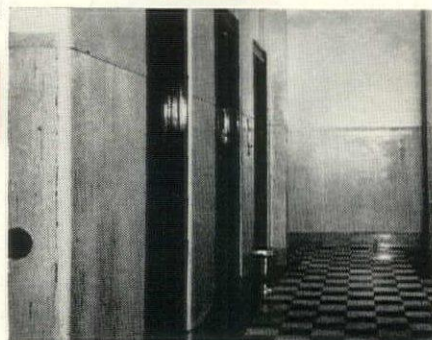
design-planned to complete the ensemble. Feature strips — borders — cove base — corners — and tread runners in the same 28 colors, stair treads for residential and commercial use — all of the same dependable R. C. A. rubber. Everything you need for complete planning.

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# NEXT MONTH...

The Curtain Goes Up On **TWO EDITIONS** OF THE MAGAZINE OF BUILDING

## HOUSE & HOME

... brings you the best new houses of America's outstanding architects and most successful home builders.

## ARCHITECTURAL FORUM

... brings you America's best new factories, stores, schools, hospitals, churches, hotels, apartments and office buildings.

### DON'T MISS—in Vol. I, No. 1 of HOUSE & HOME

**COLOR IN THE \$13,000 HOUSE**—what a leading builder is doing to increase sales with fresh dramatic color combinations inside and out (a full color presentation).

**WIDER LOTS**—a dollar-and-cents study on how to give the one-story house more ground and still build profitably.

**SIX CUSTOM-DESIGNED HOUSES** by top architects from coast to coast, including special projects on remodeling and decoration.

**HOW MUCH HOUSE FOR \$10,000?**—how Midwest Builder Andy Place gives his customers such luxury features as perimeter heating and double glazing throughout the house.

Plus *many other* practical, Money-Saving, Idea-Sparking house planning studies.

### DON'T MISS—in the January issue of ARCHITECTURAL FORUM

**HIGH VS. LOW APARTMENTS**—can the big elevator apartments provide the same kind of "human living" as the garden apartment? FORUM airs both sides of the argument and presents the finest recent examples of both kinds of apartments.

**THE 1951 OFFICE BUILDING**—New York's Sinclair Office Building dramatizes new ways to build faster, to make executive offices do double duty, to make a small economical lobby big and dramatic.

**A STORE WITH A NEW SALES CONCEPT**—how Dallas' Nieman-Marcus got a new kind of store where the goods are brought to the customer instead of the customer to the goods.

**LABORATORY TESTED SCHOOLS**—revolutionary new plans by up-and-coming Architect William Caudill, including an 11 classroom school with gym and cafeteria for \$96,000.

THE MAGAZINE OF BUILDING—

**HOUSE & HOME** Edition

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**The Only Magazines that bring together *All* the elements  
that make for Better Building**



# J & L Junior Beams

## SAVE 11¢ Per Square Foot

### In Steel, Labor and Building Materials

#### AT BALTIMORE'S MARYLANDER APARTMENTS

# J&L STEEL



The Marylander (above) is the joint effort of Victor Frenkel, President of Baltimore Contractors, Incorporated, and J. H. Bodinger, President of The Marylander Apartments, Incorporated. Architect was Hal A. Miller of Baltimore.

A structural design using lightweight J&L Junior Beams continuously over three spans has been selected for floor and roof joists throughout Baltimore's new \$4,500,000 Marylander Apartments. The reason—comparative estimates for floor construction showed that Junior Beams effected a saving of more than 11¢ per square foot of floor area as compared to the nearest competitive floor system.

#### HERE'S HOW THE 11¢ PER SQUARE FOOT SAVING WAS MADE!

1. Lower costs on original material.
2. Lower erection costs due to longer lengths of Junior Beams. Less pieces to handle.
3. Lower costs for outside masonry due to reduced floor thickness—lower over-all height of the building. (The continuity of the Junior Beams effected a saving in floor height

due to the greater stiffness afforded by this type of design. Junior Beams are the lightest weight rolled structural section that can be so used.)

*(The substantial saving on interior partitions, plumbing, utilities and miscellaneous items was not estimated.)*

In addition the engineers' estimates comparing steel to reinforced concrete showed that the latter cost 19¢ per square foot of floor more than the steel design using Junior Beams.

In the final design the continuity made possible through the use of Junior Beams allowed a 60% reduction in the number of pieces to be positioned during erection—further

cut steel costs through the use of shallower depth Junior Beams. Labor costs were reduced because Junior Beams can be easily positioned and shipped direct from the shop to the job site without time consuming shop fabrication.

Why not take a tip from Engineering Counsel, G. E. Carlstrand who, collaborating with the firm of Candela & Resnick, New York, conceived and developed the idea of using Junior Beams' versatility and adaptability to obtain greater simplicity of framework design? Write today for descriptive literature and engineering data on J&L Junior Beams, the modern lightweight structural.



## JONES & LAUGHLIN STEEL CORPORATION

401 Jones & Laughlin Building • Pittsburgh 30, Pennsylvania



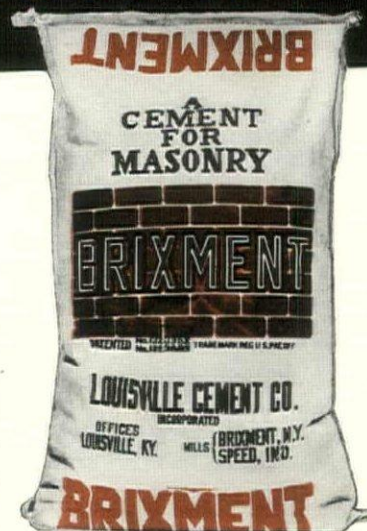


# BRIXMENT

*helps prevent efflorescence!*

**E**FFLORESCENCE is caused by soluble salts which are present in almost all masonry materials. When reached by water, these salts dissolve and may be drawn, by evaporation, to the surface of the wall.

Brixment helps prevent efflorescence. The air-entraining and water-proofing agent in Brixment prevents water from saturating the mortar and dissolving the small amount of salts that it may contain. Moreover, Brixment mortar prevents water from percolating down through the wall, dissolving salts which may be in the brick, and carrying them to the surface.



LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY



# SPECIFICATION AND BUYING INDEX

The advertising pages of THE MAGAZINE OF BUILDING are the recognized market place for those engaged in building. A house or any building could be built completely of products advertised here. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence.

|                                                                             |              |
|-----------------------------------------------------------------------------|--------------|
| Adams-Rite Mfg. Co. ....                                                    | 240          |
| Adams & Westlake Company, The .....                                         | 99           |
| Alliance Ware, Inc. ....                                                    | 162          |
| AlSCO, Inc. ....                                                            | 55           |
| Aluminum Company of America (Alcoa) .....                                   | 156, 157     |
| American Biltrite Rubber Company (Amtico Rubber Floor-<br>ing) .....        | 224          |
| American Brass Company, The .....                                           | 254, 255     |
| American Hardware Corp., The (P. and F. Corbin Division) ..                 | 97           |
| American Houses, Inc. ....                                                  | 94           |
| American Radiator & Standard Sanitary Corporation .....                     | 36, 37       |
| Armco Steel Corporation .....                                               | 216          |
| Armstrong Cork Products Company .....                                       | 56, 260, 261 |
| Atlas Plywood Corp. ....                                                    | 235          |
| Auto-Lok Aluminum Awning Windows (Ludman Corpora-<br>tion) .....            | 228, 229     |
| Automatic Sprinkler Corp. of America .....                                  | 236          |
| Bakelite Company, Division of Union Carbide and Carbon<br>Corporation ..... | 89           |
| Better Homes & Gardens .....                                                | 63           |
| Blue Ridge Sales Division (Libbey-Owens-Ford Glass Com-<br>pany) .....      | 39           |
| Bolta Company, The .....                                                    | 251          |
| Brainard Steel Co. ....                                                     | 237          |
| Bruce, E. L., Co. ....                                                      | 2            |
| Buffalo Products, Inc. ....                                                 | 267          |
| THE MAGAZINE OF BUILDING .....                                              | 267, 270     |
| Cabot, Samuel, Inc. ....                                                    | 258          |
| Cambridge Tile Manufacturing Company, The .....                             | Cover II     |
| Carrier Corporation .....                                                   | 84           |
| Casement Hardware Company, The .....                                        | 8            |
| Ceco Steel Products Corporation .....                                       | 40           |
| Cedar Rapids Block Company (Dur-O-Wal Division) .....                       | 252          |
| Celotex Corporation, The .....                                              | 43           |
| Certain-teed Products Corporation .....                                     | 85           |
| Chambers Corp. ....                                                         | 259          |
| Chicago Tribune .....                                                       | 153          |
| Church, C. F., Mfg. Co. ....                                                | 59           |
| Concrete Reinforcing Steel Institute .....                                  | 54           |
| Corbin Division, P. & F. (The American Hardware Corpora-<br>tion) .....     | 97           |
| Crane Co. ....                                                              | 52           |
| Croft Steel Products, Inc. ....                                             | 246          |
| Curtis Companies .....                                                      | 44           |
| Curtis Lighting, Inc. ....                                                  | 25           |
| Cyclotherm Corporation .....                                                | 77           |
| Detroit Steel Products Company .....                                        | 42           |
| Douglas Fir Plywood Association .....                                       | 69           |
| Dunbar Furniture Manufacturing Company .....                                | 158          |
| Dunham, C. A., Company .....                                                | 6            |
| Dur-O-Wal Division (Cedar Rapids Block Co.) .....                           | 252          |
| Edwards Co., Inc. ....                                                      | 151          |
| Eljer Co. ....                                                              | Cover III    |
| Elkay Manufacturing Co. ....                                                | 258          |
| Facing Tile Institute .....                                                 | 253          |
| Fasco Industries, Inc. ....                                                 | 266          |

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### Beauty

modern design, beau-  
tifully finished.

### Safety

100% automatic

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finest controls, modern  
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insulation, sealed com-  
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tanks 350 lb. test,  
thoroughly galvanized  
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FEATURES**

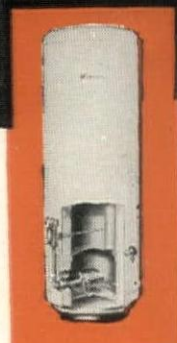
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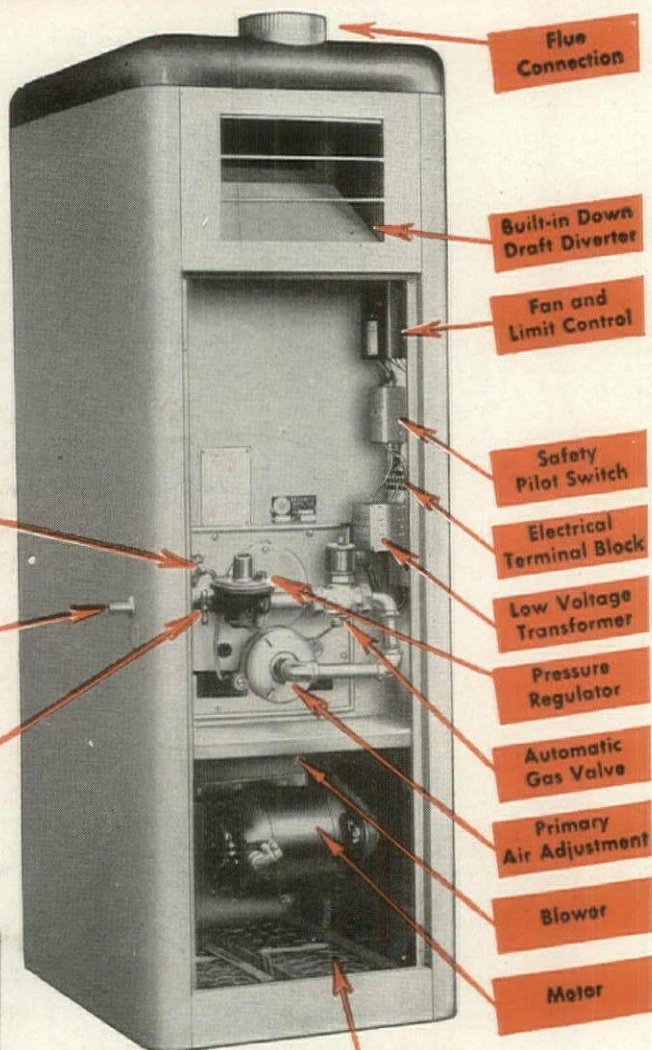
# SECURITY

MODEL SFA AUTOMATIC GAS-FIRED  
HI-LO COMBINATION



## INPUT

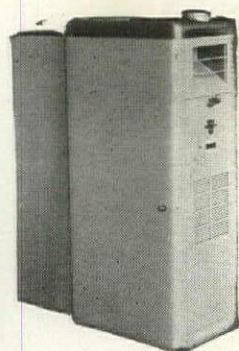
62,500  
80,000  
100,000  
125,000  
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## NOW ... the TWO-IN-ONE Furnace

For Closet Installations

**Eliminates Duplicate Stock ... Completely Factory-Assembled in One Package!**



Yes, sir ... TWO-IN-ONE because only standard Security SFA Furnaces need be kept in stock. Factory-assembled and wired to serve in closet-type or usual basement-type installations. Return air duct connector for basement application is shipped knocked down ... can be attached to the back or to either side in a matter of minutes.

All controls are located in one compartment. Quick, accurate adjustments ... easy replacements are expedited without disturbing other wiring. Built-in filter racks can be placed at installer's option.

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## SPECIFICATION AND

|                                                                             |              |
|-----------------------------------------------------------------------------|--------------|
| Fenwal, Inc. ....                                                           | 45           |
| Fiat Metal Manufacturing Company ....                                       | 90           |
| Fir Door Institute ....                                                     | 243          |
| Flynn, Michael, Manufacturing Company ....                                  | 80           |
| Follansbee Steel Corp. ....                                                 | 230          |
| Frigidaire Division (General Motors Corporation) ....                       | 234          |
| General Air Conditioning Corp. ....                                         | 252          |
| General Electric Company ....                                               | 100          |
| General Gas Light Co. ....                                                  | 250          |
| General Motors Corporation (Frigidaire Division) ....                       | 234          |
| Georgia-Pacific Plywood & Lumber Co. ....                                   | 248, 249     |
| Gerity-Michigan Corporation ....                                            | 48E          |
| Granite City Steel Company ....                                             | 82           |
| Graybar Electric Co. ....                                                   | 256          |
| Great Lakes Steel Corp. (Stran-Steel Division) ....                         | 92           |
| Gunnison Homes, Inc. ....                                                   | 225          |
| Guth, Edwin F., Company, The ....                                           | 81           |
| Hachmeister-Inc. ....                                                       | 74           |
| Haertel, W. J. & Co. ....                                                   | 98           |
| Hauserman, E. F., Company, The ....                                         | 5            |
| Insulite Division (Minnesota and Ontario Paper Co.) ....                    | 75, 246      |
| International Business Machines Corporation ....                            | 11           |
| International Nickel, Inc., The ....                                        | 10           |
| Johns-Manville ....                                                         | 160, 161     |
| Jones & Laughlin Steel Corporation ....                                     | 271          |
| Kaiser Aluminum Co. ....                                                    | 214, 215     |
| Kawneer Co., The ....                                                       | 20, 21       |
| Keasbey & Mattison Company ....                                             | 12           |
| Kelvinator Division (Nash-Kelvinator Corp.) ....                            | 32           |
| Kentile, Inc. ....                                                          | 213          |
| Kewanee Boiler Corporation ....                                             | 232          |
| Koven, L. O. & Bro., Inc. ....                                              | 273          |
| Kwikset Locks, Inc. ....                                                    | 1            |
| Leader Electric Manufacturing Corporation ....                              | 79           |
| Leeson Steel Products, Inc. (Presteline Appliance Division) ..              | 266          |
| Levolor Lorentzen, Inc. ....                                                | 14           |
| Libbey-Owens-Ford Glass Company ....                                        | 22, 23, 244  |
| Libbey-Owens-Ford Glass Company (Blue Ridge Sales Division) ....            | 39           |
| Louisville Cement Company, Inc. ....                                        | 272          |
| Ludman Corporation (Auto-Lok Aluminum Awning Windows) ....                  | 228, 229     |
| Lustewood Process Company, The (Division of Frederick J. Raff Company) .... | 86           |
| McQuay, Inc. ....                                                           | 247          |
| Marlo Coil Co. ....                                                         | 242          |
| Mastic Tile Corporation of America ....                                     | 245          |
| Medusa Portland Cement Company ....                                         | 257          |
| Mengel Company, The ....                                                    | 71           |
| Mesker Brothers ....                                                        | 48A, B, C, D |
| Mills Company, The ....                                                     | 15           |
| Minneapolis-Honeywell Regulator Company ....                                | 154, 155     |
| Minnesota and Ontario Paper Company (Insulite Division) ..                  | 75, 246      |
| Mississippi Glass Company ....                                              | 218          |
| Monsanto Chemical Company ....                                              | 68A          |
| Mueller, L. J., Furnace Company ....                                        | 266          |
| Mullins Manufacturing Corporation ....                                      | 226          |
| Multi-Vent Division (The Pyle-National Company) ....                        | 76           |
| Nash-Kelvinator Corp. (Kelvinator Division) ....                            | 32           |
| National Association of Home Builders ....                                  | 246          |
| National Electric Products Corporation ....                                 | 91           |
| National Fireproofing Corporation ....                                      | 48           |
| National Gypsum Company ....                                                | 219          |
| National Homes Corporation ....                                             | 72           |
| National Store Fronts Co., Inc. ....                                        | 96           |
| Norton Co. ....                                                             | 152          |
| Nova Sales Co. ....                                                         | 227          |



# BUYING INDEX

|                                                                                  |                                 |
|----------------------------------------------------------------------------------|---------------------------------|
| Otis Elevator Company .....                                                      | 65                              |
| Overhead Door Corporation .....                                                  | Cover IV                        |
| Overly Manufacturing Company .....                                               | 150                             |
| Owens-Corning Fiberglas Corporation .....                                        | 276                             |
| Pease Woodwork Company .....                                                     | 220                             |
| Pennsylvania Wire Glass Company .....                                            | 267                             |
| Phillippine Mahogany Assoc. ....                                                 | 152                             |
| Pittsburgh Corning Corporation .....                                             | 26, 27                          |
| Pittsburgh Plate Glass Company .....                                             | 88                              |
| Pittsburgh Reflector Co. ....                                                    | 62                              |
| Porete Mfg. Co. ....                                                             | 238                             |
| Portland Cement Association .....                                                | 50                              |
| Prefabricated Home Manufacturers' Institute .....                                | 158                             |
| Presteline Appliance Division (Leeson Steel Products, Inc.) ..                   | 266                             |
| Pryne & Company, Inc. ....                                                       | 221                             |
| Pyle-National Company, The (Multi-Vent Division) .....                           | 76                              |
| R. C. A. Rubber Company, The .....                                               | 269                             |
| R. O. W. Sales Company .....                                                     | 7                               |
| Raff, Frederick J., Company (The Lustrewood Process Com-<br>pany Division) ..... | 86                              |
| Remington Arms Company, Inc. ....                                                | 159                             |
| Revere Copper and Brass, Inc. ....                                               | 38                              |
| Ric-Wil Company, The .....                                                       | 241                             |
| Robertson, H. H., Company .....                                                  | 4                               |
| Roddis Plywood Corp. ....                                                        | 18                              |
| Rohm & Haas Company .....                                                        | 68                              |
| Rowe Manufacturing Company .....                                                 | 149                             |
| Russell, F. C., Company, The .....                                               | 222, 223                        |
| Sanymetal Products Co., Inc., The .....                                          | 66                              |
| Schlage Lock Company .....                                                       | 68B                             |
| Seaporcel Porcelain Metals, Inc. ....                                            | 268                             |
| Security Mfg. Co. ....                                                           | 274                             |
| Servicised Products Corp. ....                                                   | 240                             |
| Sharon Steel Corporation .....                                                   | 73                              |
| Sisalkraft Co., The .....                                                        | 244                             |
| Standard Dry Wall Products, Inc. ....                                            | 239                             |
| Stanley Works, The .....                                                         | 53                              |
| Steelcraft Manufacturing Co., The .....                                          | 78                              |
| Sterling Hardware Mfg. Co. ....                                                  | 258                             |
| Stran-Steel Division (Great Lakes Steel Corp.) .....                             | 92                              |
| Structural Clay Products Institute .....                                         | 95                              |
| Summerbell Roof Structures .....                                                 | 238                             |
| Swedish Crucible Steel Company .....                                             | 83                              |
| Sylvania Electric Products, Inc. ....                                            | 19                              |
| Taco Heaters, Inc. ....                                                          | 238                             |
| Thyer Mfg. Co. ....                                                              | 217                             |
| Toch Bros., Inc. ....                                                            | 275                             |
| Trinity Portland Cement Co. ....                                                 | 244                             |
| Truscon Steel Company .....                                                      | 233                             |
| Union Carbide and Carbon Corp. (Bakelite Company, Divi-<br>sion) .....           | 89                              |
| United States Plywood Corporation .....                                          | 31, 49                          |
| United States Quarry Tile Co. ....                                               | 262                             |
| United States Steel Corporation .....                                            | 28, 29                          |
| United Steel Fabricators, Inc. ....                                              | 240                             |
| Viking Corporation .....                                                         | 24                              |
| Virginia Metal Products Corp. ....                                               | 30                              |
| Walworth Company .....                                                           | 231                             |
| Wasco Flashing Company .....                                                     | 67                              |
| Westinghouse Electric Corporation .....                                          | 9, 16, 17, 48F, 51, 87, 93, 263 |
| Worthington Pump and Machinery Corporation .....                                 | 58                              |
| Wright Manufacturing Co. ....                                                    | 70                              |
| Yale & Towne Manufacturing Company, The .....                                    | 264, 265                        |
| Yawkey-Bissell Hardwood Flooring Company .....                                   | 252                             |
| Zurn, J. A., Mfg. Co. ....                                                       | 13                              |



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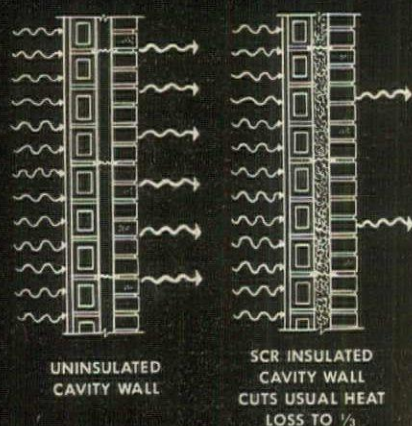
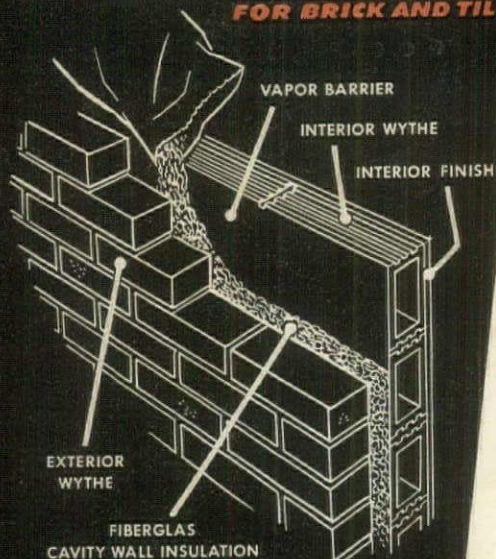
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