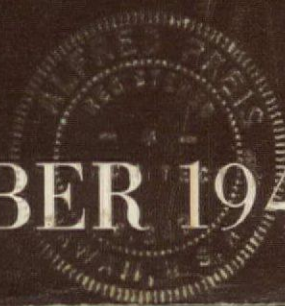


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LIBRARY

# THE ARCHITECTURAL FORUM

OCTOBER 1942





# LET THESE 3 CEMESTO ADVANTAGES HELP YOU SPEED FACTORY CONSTRUCTION With Steel or Wood Framing!



## Cemesto Provides Strength, Efficient Insulation—and Requires No Painting, Inside or Outside!

TODAY, architects are finding Cemesto's three big advantages more important than ever. Cemesto consists of a cane fibre insulation board core, sealed with a special bitustatic compound between two layers of cement asbestos. It combines strength, insulating efficiency, and good appearance. Thus Cemesto replaces *combinations of materials* in such buildings as ordnance plants and hangars, storage buildings and ammunition depots, assembly plants and machine shops!

Celotex Cemesto may be used with steel, wood, or concrete framing. Its gray cement-asbestos surfaces resist weather, resist fire, do away with need for any surface treatment, inside or outside. Now available in standard thicknesses of  $1\frac{1}{8}$ ",  $1\frac{9}{16}$ ", and 2"; width, 4'; lengths, 4', 6', 8', 10', and 12'. Weight, 3.8 lbs. to 5.3 lbs. per sq. ft. Write for complete architectural details and sample!

**CELOTEX**  
**CEMESTO**  
REG. U. S. PAT. OFF.  
**INSULATING WALL UNITS**

The word Celotex is a brand name identifying a group of products marketed by The Celotex Corporation.

THE CELOTEX CORPORATION • CHICAGO



### THE MONTH IN BUILDING

33

Salvage the campaign-of-the month . . . war housing problems spread to Baltimore, Chicago . . . Washington Housing . . . Vincent Astor's real estate switch . . . Lumber and fuel oil still material headaches . . . Remodeling being encouraged by owners, Government . . . Construction order tightened.

### TABERNACLE CHURCH OF CHRIST

35

Architecture's most famous father-and-son team and an enlightened building committee produce an outstanding church.

### A.R.P. IN SCHOOLS

45

A problem of protection for persons rather than property. Systems now used aim at rapid alarms, protected shelter areas within the schools, maintenance of pupil and teacher morale during air raid emergencies.

### HOUSES

51

Three modern houses built in the east, illustrating new trends in the contemporary approach to residence design.

### OFFICE BUILDING

62

A building materials manufacturer uses company products in its own office building to provide optimum working conditions.

### POSTWAR PATTERN, NO. III: INTEGRATION

70

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### SHIPBUILDING YARD

82

Architect-engineer Alonzo Harriman's design for wood frees tons of steel for direct war use.

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Photographs of the remarkable "Warspeed" method of construction for one-story factories in reinforced concrete.

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### BUILDING REPORTER

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### BOOKS

20

Small gardens . . . House planning and remodeling . . . Modern interiors.

### LETTERS

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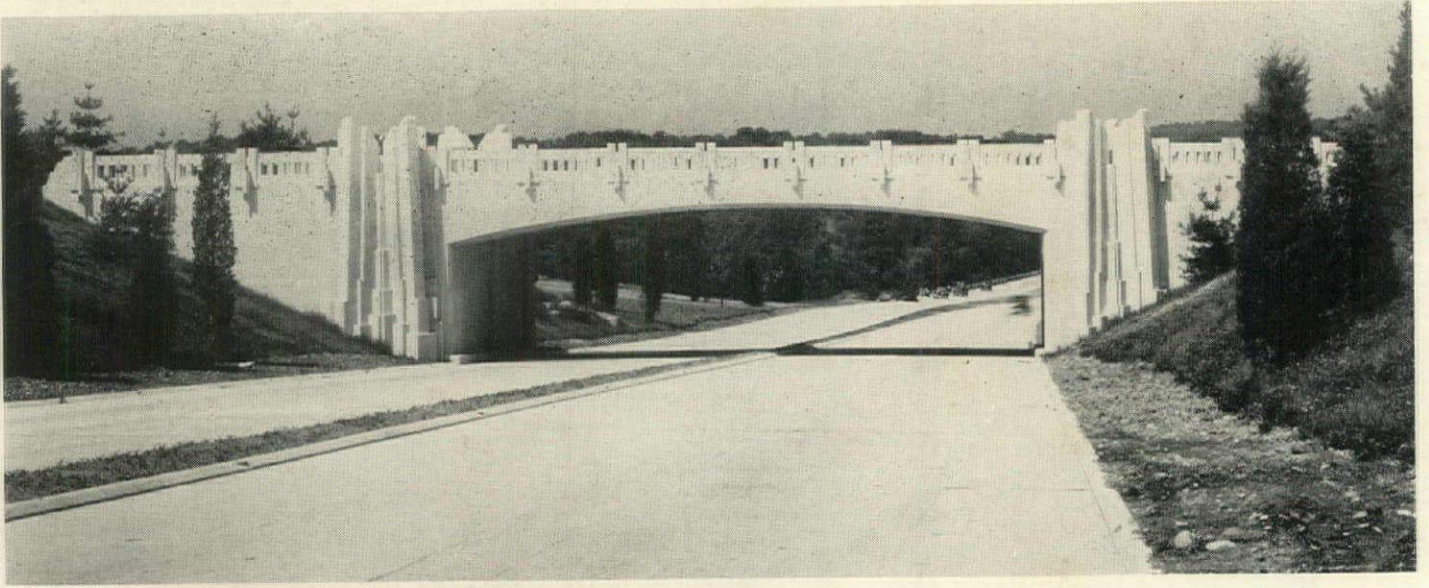
#### In Military Service:

Robert W. Chasteney, Jr.  
Robert Hanford  
Joseph C. Hazen, Jr.  
George B. Hotchkiss, Jr.  
S. Chapin Lawson  
A. Banks Wanamaker

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# FORUM OF EVENTS



## CONNECTICUT BRIDGEWORK

It is almost four years since thrifty citizens of Connecticut were scandalized to find that corruption had entered the land deals for their pride and joy, the \$25,000,000 Merritt Parkway. Equally scandalous, in the eyes of discriminating motorists, are the bridges with which it has been saddled. These remarkable confections, more suggestive of the participation of an imaginative chef than an architect or engineer, are astonishing for their diversity. Hardly a style, from Neo-Nutmeg Classic to the latest in Boogie-Woogie Modernistic, has been omitted. The example above, for instance, might be taken for a copy of last year's fanciest juke box; as it happens, the bridge was done first. At the lower left is one of the milder of the alleged "period" designs. Not available for reproduction, unfortunately, was the bridge covered with what was apparently intended to resemble old Charleston ironwork.

These bridges, not only a waste of taxpayers' money but an insult to their intelligence, were singled out because plans for huge postwar construction are now beginning to be considered. In their field, they are among the finest examples in the U. S. of what not to do. The State Highway Commissioner states that the "different architectural treatment given each bridge is unique in the annals of American bridge building." One of the important jobs for postwar designers will be to see that they remain so.





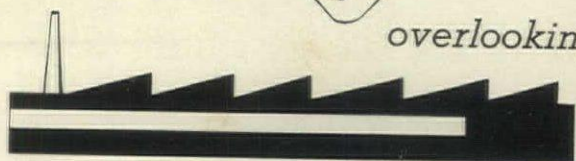
*In thinking of the future of*



*are you*

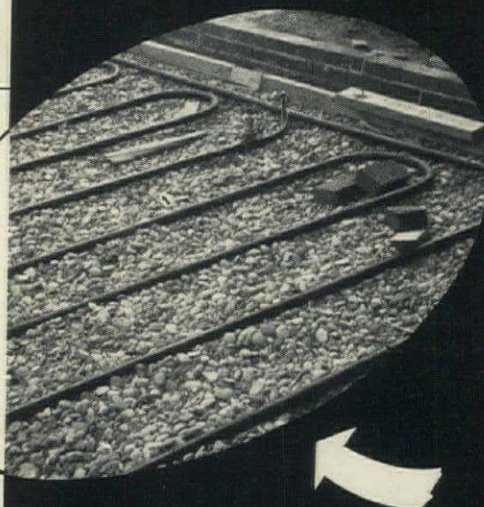


*overlooking*



*its present?*

## RADIANT HEATING



Forward-looking architects and engineers are rightly giving Radiant Heating a prominent place in their planning for the future, but its possibilities are by no means limited to tomorrow. It can do, and is doing, some highly important jobs today.

Radiant Heating, for instance, was installed in two just-completed buildings erected by a large eastern manufacturer. The photograph above shows some of the 1-inch wrought iron pipe coils, bent to 16-inch centers and weld-assembled, laid on a gravel bed just before the 4-inch concrete slab was poured.

The varied and complex activities of war production have created many new construction—and heating—problems, to which Radiant Heating can often provide the simplest and most satisfactory answer. If you have any such problems, you will find it profitable to check the heating needs against what Radiant Heating has to offer.

Where the nature and the importance of the job to be done calls for Radiant Heating, experience very definitely recommends the use of wrought iron.

Wrought iron's superior resistance to the corrosive

attack involved has been demonstrated over periods of many years in hundreds of installations where similar service conditions existed.

Wrought iron's coefficient of thermal expansion is almost identical with that of concrete and plaster. This helps to eliminate cracking of floor, loss of bond, noise and wear. And wrought iron is easily bent and welded, can be pre-fabricated into panels, and quickly assembled on the job with a few field welds.

Whether you are thinking of Radiant Heating in connection with future planning, or for some current emergency project, you will find our technical bulletin, "Byers Wrought Iron for Radiant Heating Installations," of real help. May we send you a complimentary copy?

A. M. Byers Co. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

## BYERS WROUGHT IRON

FOR EXTRA SERVICE

IN CORROSIVE APPLICATIONS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

THE ARCHITECTURAL  
FORUM

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VOLUME 77  
Number 4



# FORUM OF EVENTS

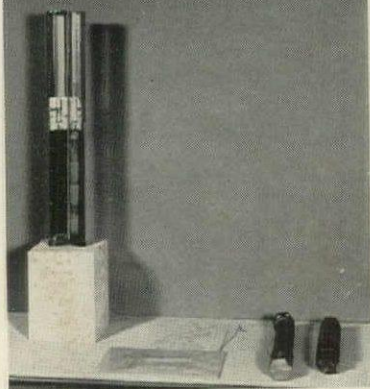
## HONOLULU'S FIRE BOMB SHOW

To Honolulu, with its undimmed recollection of what happened on the seventh of last December, there is nothing remote or theoretical about aerial attack and the damage it can do. With the aim of complete preparedness for all eventualities, which means the participation of a 100 per cent trained civilian population, the Territorial Office of Civilian Defense has prepared a series of exhibitions, one of which is shown here. Cooperating in the program is the Honolulu Academy of Arts, in whose

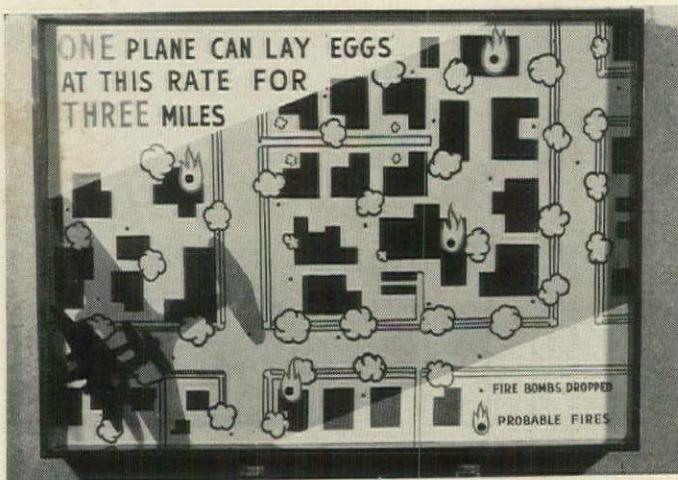
building the exhibitions have been shown. Outstanding feature of these presentations is their vivid simplicity. Each panel, framed in a border of fireman's red, tells one story which can be grasped instantly. How incendiaries are dropped, what a fire bomb looks like, what to do with an incendiary and what not to do are some of the questions answered in this show. Wherever possible, as indicated by the photographs, actual bombs and equipment are shown. Honolulu Painter Ben Norris designed the exhibit.

### THE BOMB FELL ON TOKYO

IT IS AN AMERICAN INCENDIARY USED IN DOOLITTLES RAID IN APRIL 1942



ONE PLANE CAN LAY EGGS AT THIS RATE FOR THREE MILES



FIRE BOMBS DROPPED  
PROBABLE FIRES

THESE EXTINGUISHERS ARE HARMLESS BUT INADEQUATE



# THIS IS A FIRE WAR!

DAMAGE CAUSED BY FIRE IS MORE EXTENSIVE—THAN THAT CAUSED BY ANY OTHER MEANS

## SMALL FIRE BOMBS ARE YOUR JOB

THEY MAY BE OF MANY SIZES  
THEY MAY BE OF MANY KINDS  
ONE PLANE MAY CARRY 2000

## EVERY HOUSE SHOULD BE A FIRE STATION EVERY PERSON MUST BE HIS OWN FIRE MAN

## YOU ARE ON THE FIRING LINE

## WHAT HAVE YOU DONE ABOUT IT

DO NOT USE THESE EXTINGUISHERS ON INCENDIARY BOMBS. THEY MAY GENERATE PHOSGENE GAS



UNCONTROLLED INCENDIARIES MAY MEAN THIS:

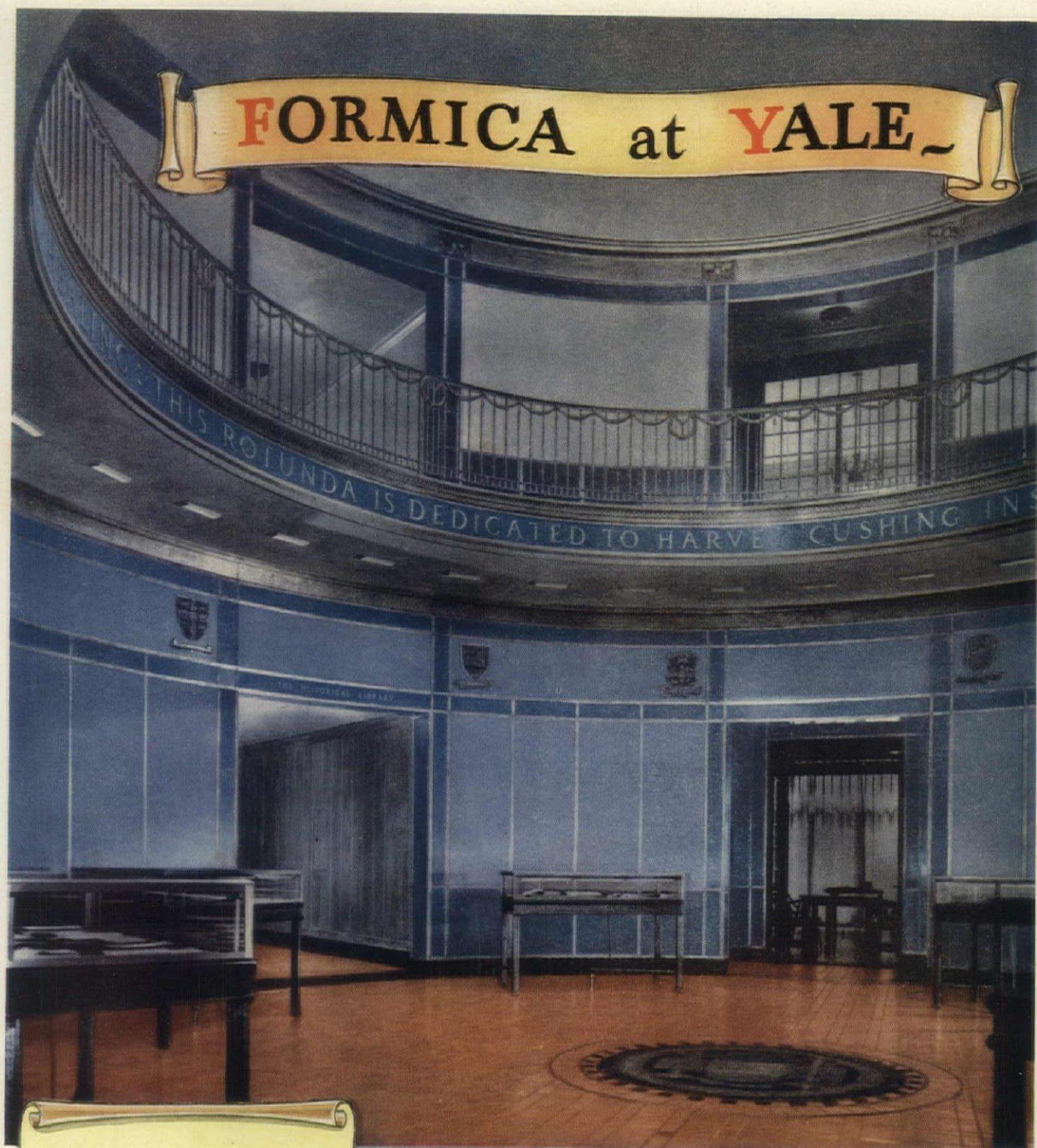


PROPER CONTROL CAN STOP FIRE HERE

PROPER CONTROL CAN STOP FIRE HERE



# FORMICA at YALE



**I**N the rotunda as shown the Formica wall paneling—5/32 inch thick sheets with hard-board centers—extends from the base to the cornice of the balcony soffit. There is a Formica band behind the lettering on the balcony fascia. Formica in the balcony is used for wainscot, trim about the openings and the horizontal band below the cornice.

**I**N designing the rotunda of the new Medical Library at Yale, Grosvenor Atterbury, architect and John A. Tompkins and Frank Dvorak associates, used Formica wall paneling in two shades of blue with metal moldings and hand wrought, applied decoration of aluminum.

The result is restrained, dignified and attractive. It is another demonstration that any decorative effect from the flamboyant to the conservative is possible with this adaptable modern material.

**FORMICA**

The Formica Insulation Company  
4620 Spring Grove Avenue, Cincinnati, Ohio

F O R B U I L D I N G P U R P O S E S





We believe that Americans would rather have the truth — *unvarnished!*

Crucial battles will be lost, lives needlessly sacrificed, unless our men and the men of our allies get *enough* tanks, guns, shells, ships and combat cars to win.

These weapons are made largely of steel. To produce this *new* steel, scrap iron and pig iron must be melted together *half and half* in open-hearth furnaces. The scrap comes from the worn-out iron and steel articles that lie around homes and industrial plants. Because it has already been refined, scrap iron cuts down priceless production time.

This year steel mills must have six million *additional* tons of scrap—or

many furnaces must shut down, produce no war steel. What can *you* do?

#### **PLENTY!**

On your trips, you see old metal bathtubs, water heaters and tanks, abandoned industrial machinery and much else. Urge the owners to turn in these idle materials to a scrap dealer or to the local Salvage Committee. (Steel scrap collected will be purchased by the steel industry at prices set by the Government.)

If you haven't a Salvage Committee, you'll render your country a service by helping to organize one. See the Mayor, City Manager or some other prominent citizen who *gets things done*. Offer to help him and get others to help. Organize house-to-house canvasses.

#### **BACK UP OUR FIGHTING MEN**

Make no mistake about it: This country must go *all out* for war. Your son, brother, other relative or friend may be in the Service now. Many more *from each community* will soon be called.

The *least* you can do is to give them the equipment they must have to win.

Will you? Every minute is precious. Get in the scrap and get it in fast! The American Rolling Mill Company, 2871 Curtis Street, Middletown, Ohio.







# 1941

The simple act of pushing a button brought a thousand conveniences to America's finger tips, symbolized peacetime efficiency, utilized signaling devices for America's standard of living.

**"OKAY, CHARLIE, PUSH IT...  
tell 'em we're here!"**



# 1942

...The familiar push button... the bells and chimes that served homes, schools, factories and hospitals... are all doing an important battle job today. The fighter plane pilot presses a button—yes, an Edwards button—and death spits through the silvery blur of a roaring propeller. The bombardier presses an Edwards button to drop a batch of deadly eggs to blast the Axis. Liberty ships, aircraft carriers, PT Boats... wherever sure-fire electric signaling is needed... Edwards equipment is there.

194?... Today's production at Edwards and Company is at fever pitch for war... but research for tomorrow goes steadily on to assure our distributors the best of peacetime signaling for the contractors and industrials who will reconstruct a war-torn world.  
**EDWARDS AND COMPANY, NORWALK, CONN.**

# EDWARDS



**SPECIALISTS IN  
ELECTRICAL SIGNALING  
SINCE 1872**



# Building Reporter



1. Communication system with interceptor control

For additional information on any product described in this section write directly to the manufacturer.

**COMMUNICATION SYSTEM.** New combination of standard features enables assistant at Monitor station to intercept all incoming calls originating at remote stations (left 1). *Name:* Executive-Monitor Communication System with Interceptor Control.

*Purpose:* For war production plants, military and naval departments.

*Features:* Consists of 2 or more master stations connecting up to 19 remote stations in the system. Both Executive and Monitor stations are equipped with busy signals which illuminate to show when other stations are in use. The Executive station, however, has the optional facility of Right-of-Way over busy stations for emergency use. A paging button enables the user of any master station to call all other stations simultaneously. Persons called can reply remotely without leaving their work to approach the station. High-powered, trumpet-type substations provide extra sound volume to cover large space areas or penetrate high-noise levels. Push-button selection facilitates speed of operation. Electric connection is to 110-120 volts AC or DC current. Power consumption for the entire system is 46 watts. *Manufacturer:* Executone, Inc., 415 Lexington Ave., New York, N. Y.

**LIGHTING** without usual delay and expense of installing permanent installations (left 2). *Name:* Portable Floodlights.

*Purpose:* Low-cost method of lighting night work on construction jobs, routine railroad-checking jobs and emergency uses.

*Features:* Model NC-200 (illustrated) is the largest unit now being made, has two 8,000 candlepower floodlights constructed on swing joints, allowing independent directional control with 16,000 candlepower concentration of light. May be used continuously or intermittently, and is always ready for instant use until carbide charge is exhausted.

*Manufacturer:* National Carbide Corp., 60 East 42nd St., New York, N. Y.

**METER** enables tenants to pay for fuel oil just as they do for gas and electricity (left 3).

*Name:* Vesta Fuel Oil Meter.

*Purpose:* Accurate reading of oil consumption in war housing.

*Features:* Fuel is measured exactly by positive displacement which is not affect-

ed by the speed or volume of oil flow. Each time the chamber of the meter fills the float rises and trips a Veeder-Root counter to record the passage of 1/10 of a gal. The mechanism is accurate within 1/4 of 1%. The counter runs to 9,999 9/10 and then repeats. One hundred and twenty units have been installed in a housing project at Alexandria, Va., measuring the flow of oil to individual houses from four large, centrally located tanks. Manufacturer asserts capital cost of such a pipe line system is far less than if individual tanks were used for each unit, that critical materials are spared.

*Manufacturer:* Fluid Meters, Inc., 60 Wall Tower, New York, N. Y.

**GLASS COATING** safeguards unshielded electric bulbs from welding hazards.

*Name:* Glascote.

*Purpose:* To prevent shattering, pitting or scarring of glass.

*Features:* Water-white in color, clear, does not detract from visibility nor become opaque with age. Can be applied by dipping or brushing. Has proved exceptionally effective in shipyards as protection for high-wattage bulbs against welding spatter and weather conditions, such as the shock of rain water. The maximum number of kilowatt hours can now be obtained from lamps, and the brilliancy of the light is in no way affected or retarded. Has also been used advantageously in eliminating welding spatter damage to portholes, porcelain fixtures and panelboards. Removable by peeling.

*Manufacturer:* John C. Dolph Co., 170-D Emmet St., Newark, N. J.

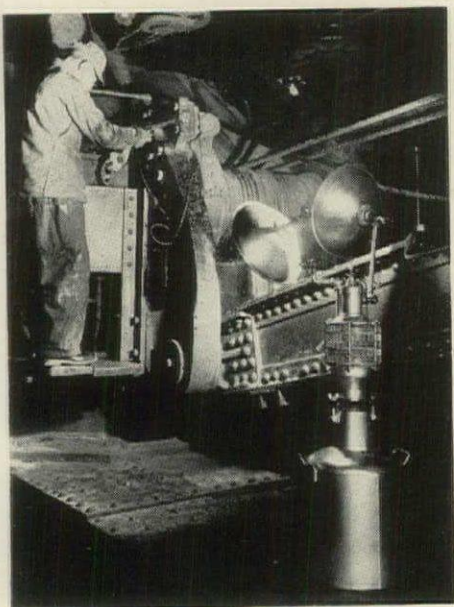
**COATING** protects concrete or wood storage tanks against the infiltration into their contents of gasoline and oil.

*Name:* Carbo Petro-Non-Solv.

*Purpose:* For use by oil companies, soap manufacturers, industries dealing with fatty acids and other places where such a coating is desirable.

*Features:* Will dry hard within 2 or 3 hours. Two or three applications are recommended, depending upon the porosity of the surface to which it is applied; two coats are usually sufficient on steel or wood—three may be necessary on concrete surfaces. The first coat will cover approximately 150 sq. ft. per gal., while on subsequent coats a gal. will cover 200 sq. ft. Containing no oil, it will not saponify when in contact with cement or mortar. Manufacturer states that it is inert to petroleum, coal tar and

(Continued on page 124)



2. Portable floodlights for temporary lighting



3. Meter for measuring tenant's fuel oil



THE NEW PENCIL POINTS — KAWNEER ARCHITECTURAL

# COMPETITION

*"THE STORE FRONT OF TOMORROW"*

## PRIZES

FIRST PRIZE . . . . . \$1,000.00

SECOND PRIZE . . . . . 500.00

THIRD PRIZE . . . . . 250.00

5 HONORABLE MENTIONS, \$100.00 . 500.00

---

**\$2,250.00**

COMPETITION CLOSING JANUARY 4, 1943

WRITE NOW FOR PROGRAM—NEW PENCIL POINTS, 330 W. 42nd ST., NEW YORK, N. Y.

WILLIAM LESCAZE, PROFESSIONAL ADVISOR

## Kawneer

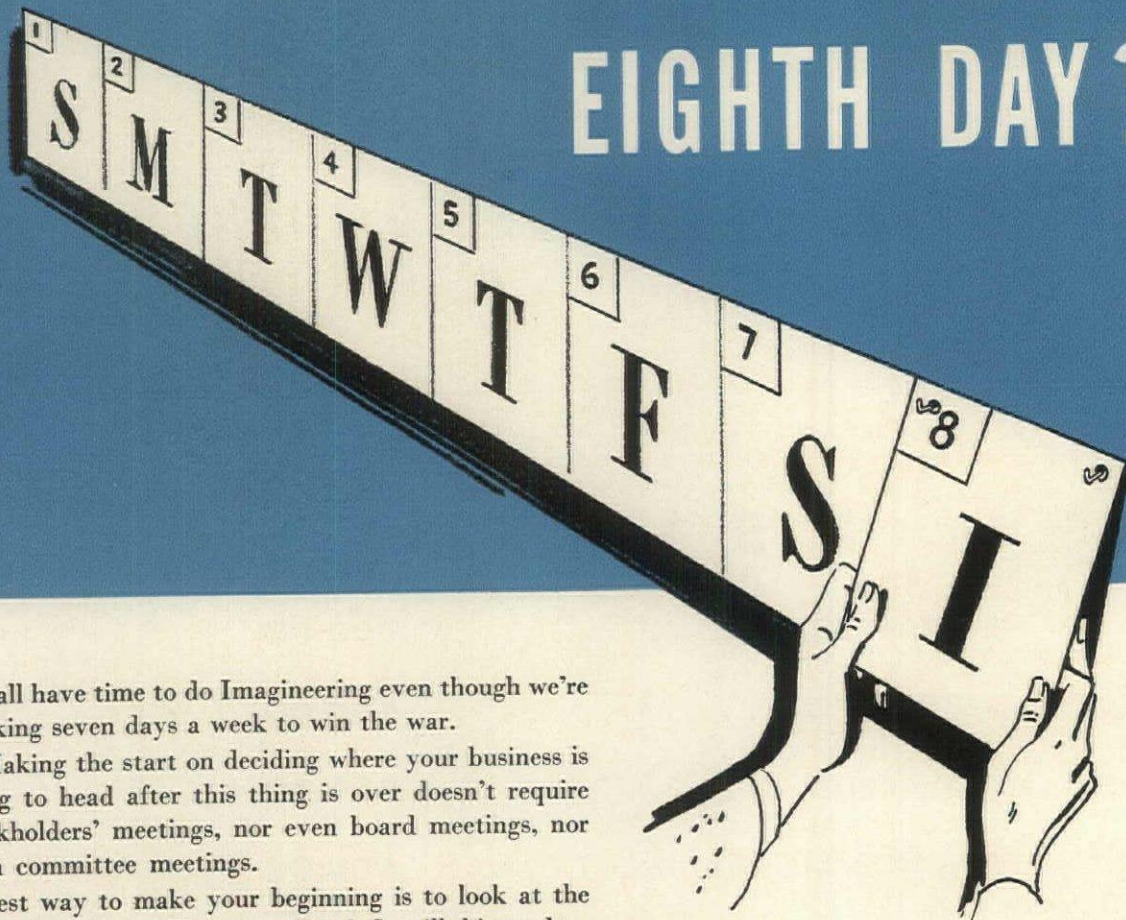
RUSTLESS METAL STORE FRONTS • DOORS • WINDOWS

THE KAWNEER COMPANY • NILES, MICHIGAN



What are you doing with that

EIGHTH DAY?



We all have time to do Imagineering even though we're working seven days a week to win the war.

Making the start on deciding where your business is going to head after this thing is over doesn't require stockholders' meetings, nor even board meetings, nor even committee meetings.

Best way to make your beginning is to look at the future in the large. The war will end. So will this production race on war materiel. Millions now employed at that kind of work will need to keep on working at *something* useful. Other millions will come home from wherever, needing useful and peaceful employment.

In the large, therefore, anyone can see that *new things to make* is a prime need for peacetime.

That makes everyone's individual responsibility clear and direct.

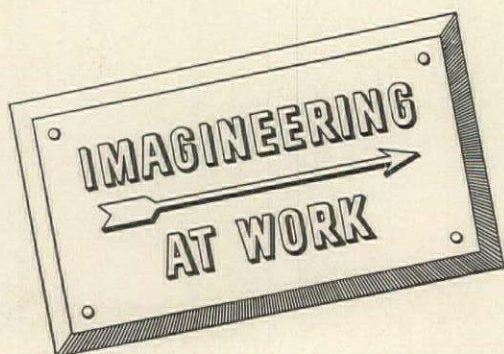
In the eighth day of thinking time everyone has at his disposal, he must produce new ideas for new jobs. He *must* let his imagination soar and engineer it down to earth.

He must, or else—

We believe this deeply at Alcoa. We are using our eighth days that way. We mean that no man shall be out of a job when this thing is over for want of *try* on our part right now.

And if you suspect that some of the results of our future-looking on aluminum would fit into your own Imagineering, let's compare notes for future reference.

ALUMINUM COMPANY OF AMERICA, 2166 Gulf Building, Pittsburgh, Pennsylvania.



ALCOA ALUMINUM





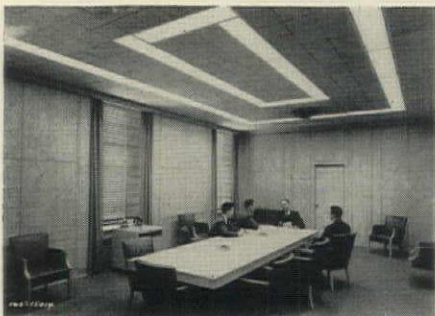
# Guth FLUORESCENT LIGHTING THROUGHOUT NATIONAL GYPSUM CO. BUILDING!



★ The Foyer is lighted by 5 rows of Troffers, on 50-foot centers. Fifty to 55 footcandles is maintained to create a cheerful, comfortable atmosphere for those awaiting business conferences.



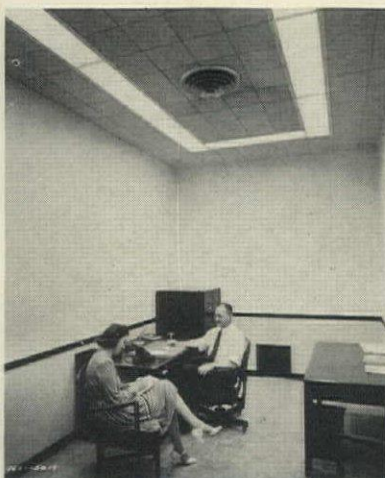
★ The Basement Lunch Room and Recreation Area gets 50 footcandles from its 56 Troffers arranged in a rectangle.



★ The Conference Room is almost unique in its departure from the customary dark "rich" furnishings. Blond oak paneling on walls and table top utilizes full effectiveness of Troffers to deliver about 75 footcandles at working level.

A feature article in a recent issue of General Electric's "Magazine of Light" began "One of the outstanding office-lighting installations of 1942 is found in the new building of the National Gypsum Company."

In this installation, high illumination levels are maintained with engineered GUTH Recessed Troffers. In any lighting problem, our 40 years of experience is your assurance of dependability, efficiency, and top-most performance. Write us for latest helpful literature.

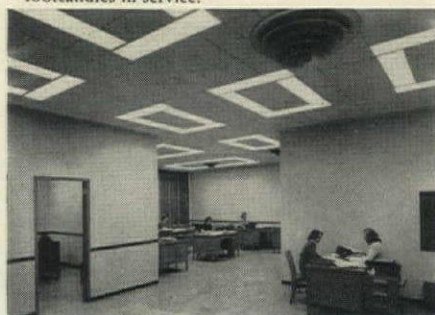


★ This typical Private Office has eight 2-lamp units to produce 50 footcandles in service.

**Today's GUTH Fixtures Conserve Critical Materials for Uncle Sam . . . Without Sacrificing Efficient Light Output!**



★ In the General Office, continuous Troffers, covered at the bottom by Satinol Flurex glass (as are all the Troffers throughout the installation) provide 50 footcandles in service.



★ This Outer Office shows the rectangular Troffer arrangement followed throughout. Fifty to 55 footcandles of light results.

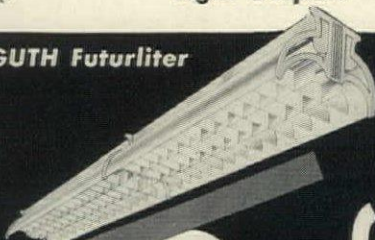


★ Stenographers in the Transcribing Office enjoy 55 footcandles of uniform illumination for quick, accurate work.

**GUTH Deep Troffer**



**GUTH Futurliter**



**GUTH Mazelite**



FORTIETH YEAR OF **Guth** LIGHTING LEADERSHIP

THE EDWIN F. GUTH CO. • 2615 Washington Ave. • St. Louis, Mo.



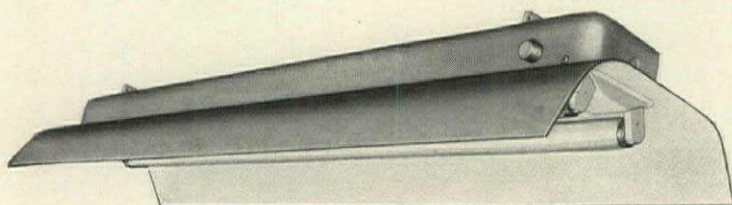
*Now Specify the*

# NEW *Type* V Benjamin Fluorescent Units

**for Productive Lighting**



## **New Reflector Specifications Provide Efficient Lighting for War Production Plants . .**



### **High Lighting Efficiency**

"Type V" units can be depended upon to meet, efficiently and economically, the needs of plants engaged in war production for the high lighting levels and the exceptional seeing comfort that is provided by fluorescent lighting.

### **Guaranteed by Benjamin**

These "Type V" units meet war production plant requirements for good fluorescent lighting. The lamps are adequately shielded for eye comfort. The reflection factor is 80% or more. The reflectors, auxiliary control equipment, sockets and other component parts are engineered for coordinated operation to provide maximum light output and trouble-free operation. "Type V" units are warranted to comply with all recognized illumination, electrical, mechanical and performance standards.

### **Let Benjamin Help You Meet Productive Lighting Needs**

Through these new "Type V" units, Benjamin fluorescent lighting equipment is available to solve many lighting problems confronting plants engaged in, or converting to, War Production. Keener eyes are vital in the produc-

tion drive, because basic to all production is the ability of the employees to see quickly, accurately and easily. Never has the need for good seeing been greater. Night shifts, six and seven day weeks, and sustained high speed production, have put a tremendous tax on the eyes, health and energy reserve of the worker.

### **Importance of Fluorescent Lighting to Production Drive**

Benjamin "Type V" units provide the amount of light and the quality of lighting needed by the employee to perform efficiently, the seeing task which is part of the work he performs. Such lighting plays a most important part in alleviating the tax on the eyes, in improving the seeing ability, and in minimizing fatigue.

### **Send Today for New "Type V" Bulletin**

For more details concerning the new "Type V" Benjamin units, write for new "Type V" Data Bulletin and a copy will be sent you promptly without cost or obligation. Address Benjamin Electric Mfg. Co., Dept. Y Y Des Plaines, Illinois.

**BENJAMIN**  
TRADE MARK

*Type V*  
**FLUORESCENT LIGHTING EQUIPMENT**  
DISTRIBUTED EXCLUSIVELY THROUGH ELECTRICAL WHOLESALERS





Sure we're proud!

Not merely for having won the Army-Navy "E".

Not just because we're working day and night on production essential to the war effort.

That's only part of it!

More important—to us men and women here at Todd—we're part of this nation's mighty production army, doing a job alongside other skilled, civilian specialist corps throughout America. We're standing up and giving our part of the fight everything we've got . . . thereby continuing to earn the right to hold up our heads among free men everywhere!



## **TODD COMBUSTION EQUIPMENT, INC.**

*(Division of Todd Shipyards Corporation)*

601 West 26th Street, New York City

NEW YORK   MOBILE   NEW ORLEANS   GALVESTON   SEATTLE   BUENOS AIRES   LONDON

*For Victory . . . Buy U. S. War Bonds and Stamps*



# How you made thousands of homes more livable, more economical



## ANACONDA BRASS PIPE OR COPPER TUBES

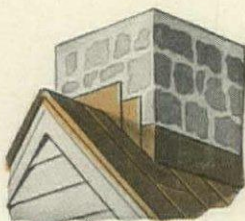
**RESULT:** Owners were saved the inconvenience and expense of pipe repairs and replacements caused by rust. And at the same time they have piping that will deliver a full, rust-free flow of water.



## EVERDUR\* METAL HOT WATER STORAGE TANKS

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

**RESULT:** Owners will never experience the unpleasantness of hot water discolored with tank-generated rust. And they have strong, welded, non-rust tanks to give unexcelled service year after year.



## ANACONDA COPPER FLASHINGS AND VALLEYS

**RESULT:** There can be none of the water damage to a home's interior that rusted metal work so often causes. And, with copper gutters and leaders, the owners have lasting, economical rain disposal systems.



PRODUCT DEVELOPMENTS which promote efficiency and reduce upkeep will always be the aim of the Anaconda Organization.

Although we are now engaged entirely in war production, we are looking also toward the time when Anaconda Copper and Brass . . . in old and new forms of usefulness . . . will be ready for a booming building industry.

4215

### THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Conn.  
Subsidiary of Anaconda Copper Mining Company  
In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

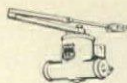


# Anaconda Copper & Brass





## TO HELP CLOSE THIS DOOR FOREVER



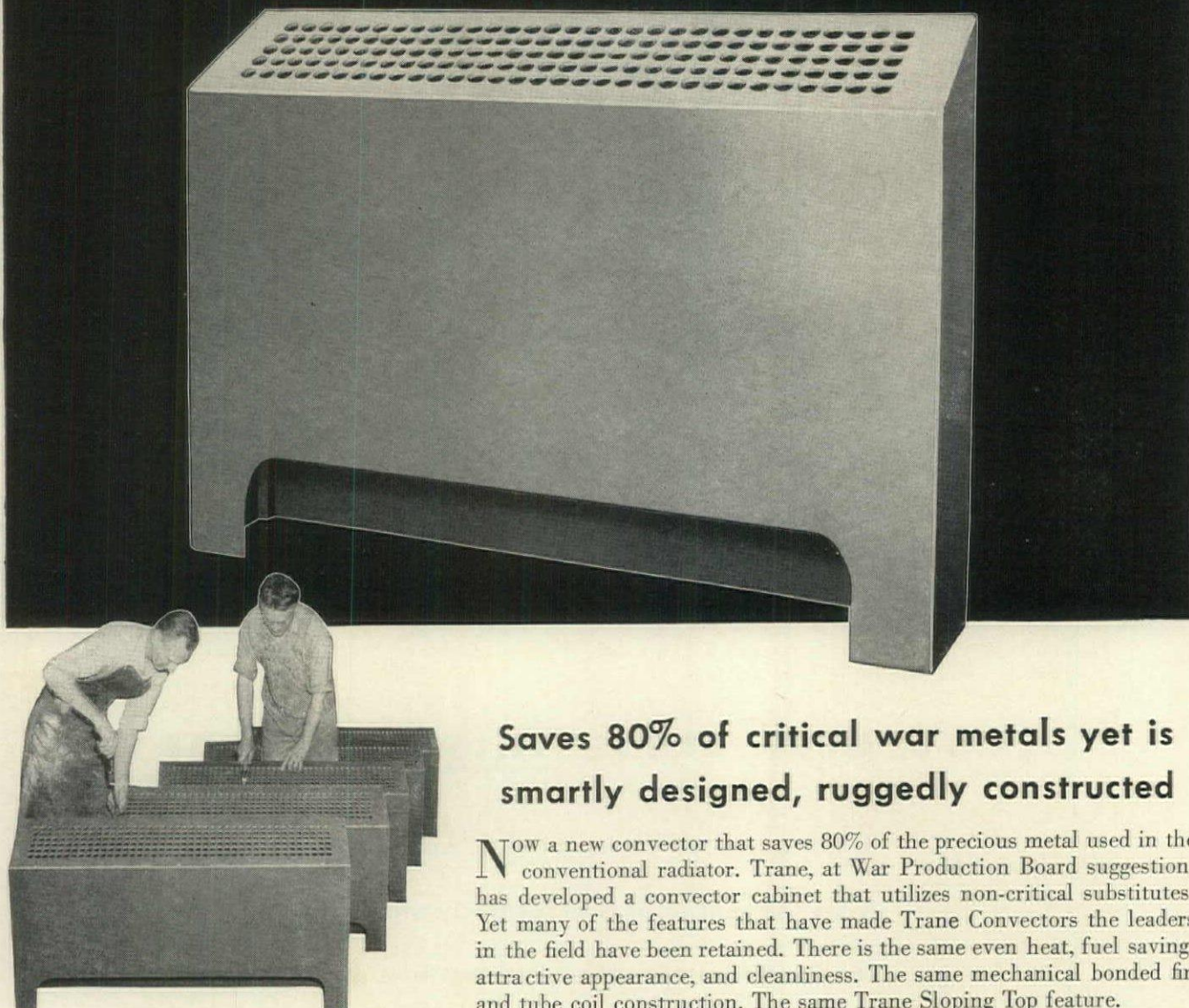
Small parts for tanks, planes, guns, ships—now stream from the machines that formerly made LCN Door Closers for the doors of peace. And the men at these machines, trained for years in the precision methods which are standard at LCN, enabled us to go all-out on this vital job. Yours for Victory now, and yours for even better door closers when Victory is won. LCN, Chicago, Illinois.



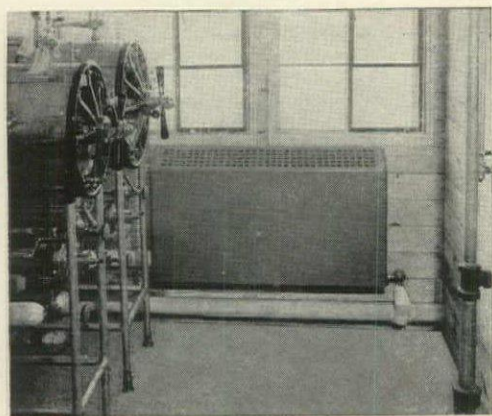
*100% Production for*  **ICTORY**



# ANNOUNCING a new non-metallic cabinet convector by TRANE



*Skilled cabinet makers fabricate the casing of the new Trane Non-Metallic Cabinet Convector. Note the round grille design that permits positive air circulation without sacrificing cabinet strength.*



*Ideal for Army Hospitals, the Trane Non-Metallic Cabinet Convector will save thousands of tons of precious metals in jobs similar to this one.*

**Saves 80% of critical war metals yet is smartly designed, ruggedly constructed**

Now a new convector that saves 80% of the precious metal used in the conventional radiator. Trane, at War Production Board suggestion, has developed a convector cabinet that utilizes non-critical substitutes. Yet many of the features that have made Trane Convectors the leaders in the field have been retained. There is the same even heat, fuel saving, attractive appearance, and cleanliness. The same mechanical bonded fin and tube coil construction. The same Trane Sloping Top feature.

The cabinet is fabricated of a durable non-metallic material, carefully reinforced by hardwood supporting members. Only metal used is a minimum of screws and brads. The easy-to-paint cabinets may be finished as desired when installed.

The steel heating element is carefully supported by means of hardwood corner posts eliminating any strain on the cabinet.

Two cabinet arrangements are available—one for wall suspension and the other of free standing floor type.

Available for war factories, army camps, hospitals, and similar military establishments, this new unit has already saved as much as 300 tons of precious metal on a single job. For further information call the nearest Trane representative or write The Trane Company, La Crosse, Wisconsin.

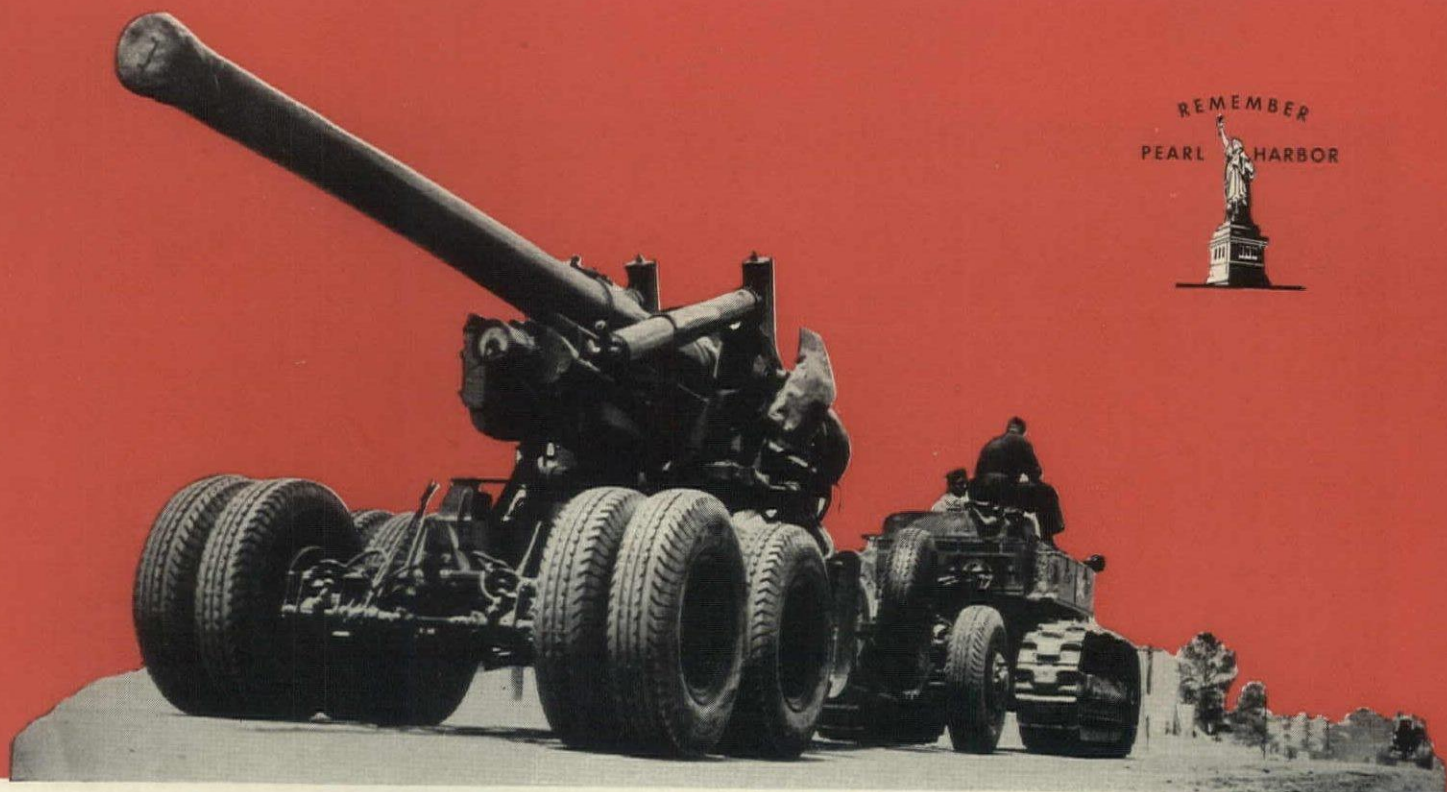
## THE TRANE COMPANY

LA CROSSE,  WISCONSIN

Also TRANE COMPANY OF CANADA LTD., TORONTO, ONTARIO  
HEATING • COOLING • AIR CONDITIONING EQUIPMENT FROM 85 OFFICES



REMEMBER  
PEARL HARBOR



*"Tell me, pretty maiden, are there any more at home like you?"*

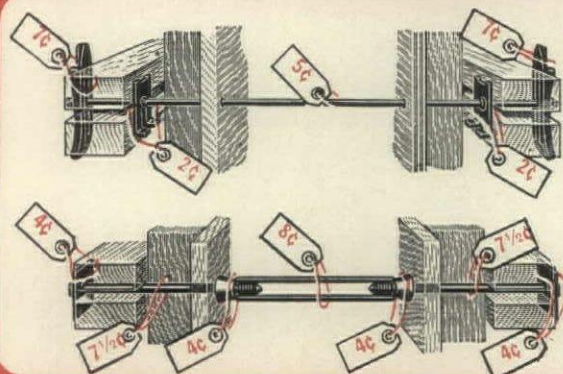
That depends—depends urgently, upon the supply of steel on hand among the makers of these big guns. And, thanks to the ever-growing number of builders and contractors using Richmond's form-tying devices, more steel is being made available for these armaments so vital to our National Victory. Because, as compared, for instance, with "make-shift", "home-made" wire, band or rod ties fabricated on the job—

### **RICHMOND MAKES 1 TON OF STEEL DO THE WORK OF 3 TONS**

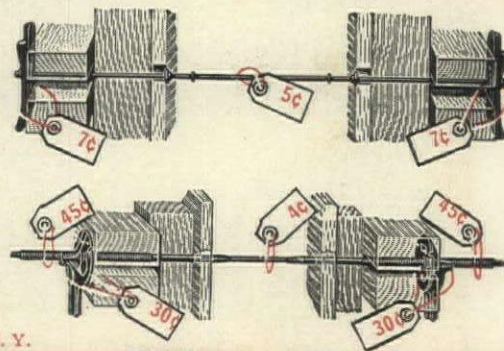
—with specific advantages, that make Richmond form-tying devices and accessories the most economical to use. The "Richmond Way" is the profit-making way, in concrete form work, due to three outstanding features. **First**, a complete line of more than 85 different form-tying devices, specifically engineered for different jobs. **Second**, a free technical and estimating service that saves many hours of weary work by providing completely detailed plans and data especially for your job.

**Third**, an immediate and substantial cash saving in not having to buy working parts, such as Tylags, Tycones, Flat Washers, Tywrenches, etc. Richmond loans them to you! Every builder and contractor who, today, turns to Richmond contributes two tons of steel to National Victory for every ton of Richmond's form-tying devices he uses. The job goes faster. The cost is less. The profit is larger. We welcome any opportunity to provide figures that establish these facts.

**We Sell All Types...We Recommend Only Prefabricated Ties...They Cost Less!**



**Figure it for yourself!  
HERE ARE THE PRICES\***



\*BASED ON A 12" CONCRETE WALL  
ALL PRICES F.O.B. BROOKLYN, N. Y.

# **RICHMOND** SCREW ANCHOR CO., INC.

816-838 LIBERTY AVENUE

BROOKLYN, N. Y.





*Today...* **FOR WAR WORKERS' HOMES**

**RIVERVIEW HOMES**

DEFENSE HOUSING PROJECT  
MIFFLIN TWP. DUQUESNE PA.  
PA. 36221X

FEDERAL WORKS AGENCY  
ALLEGHENY COUNTY HOUSING AUTHORITY  
RAYMOND M. MARLIER ... ARCHITECT  
LLOYDS BUILDERS, INC. ... CONTRACTORS

*Tomorrow...* **FOR EVERYBODY'S HOME**

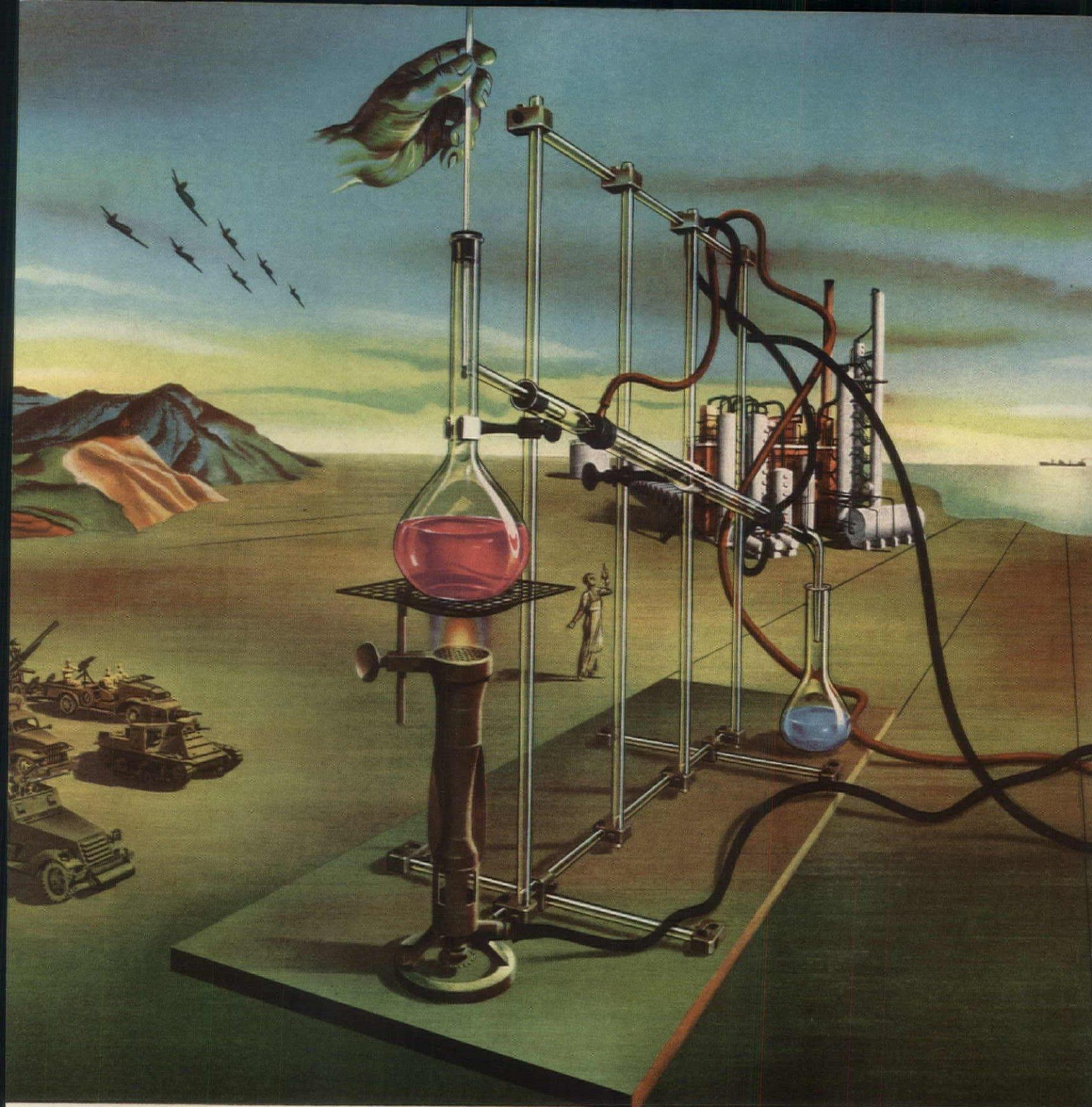


*Factory-Finished*  
**STREAMLINE** **HARDWOOD FLOORING**

Trade-Mark Reg. U. S. Pat. Off.

A PRODUCT OF E. L. BRUCE CO., MEMPHIS, TENN.





## Chemistry is putting miracles on a mass production basis

If ever a "secret weapon" does emerge from all this welter of war, it will most likely be a chemical development. And the American chemical industry has as good a chance of discovering it as any other, for America now has the greatest synthetic organic chemical industry in the world.

This industry looks to coal tar chemicals for almost half the raw materials it uses. Koppers is at the very roots of these chemicals.

Koppers toluene goes into TNT, the principal military bursting charge. Koppers benzene is used in the manufacture of explosive stabilizers, and "boosters" for primers. Koppers naphthalene helps minimize the flash in powders.

Most explosives are made using combinations of nitric and sulfuric acids. Koppers coke ovens produce ammonia and this helps meet the extraordinary demand for fixed nitrogen and increases the amount of nitric acid available for the war effort.

The Koppers Phenolate Process helps the petroleum and the coking industries recover more sulfur which is converted into sulfuric acid.

Koppers tar acids and naphthalene find use in synthetic plastics for airplanes, tanks, etc.; naphthalene is used in chemicals for synthetic and natural rubber. Pyridine is an ingredient in the new process for waterproofing military fabrics for jeep tops, tents, etc. Flotation sulfur is one of the

principal spray materials for fruit crops.

Koppers serves the chemical industry in peace as well as war. Of the hundreds of coal tar intermediates, dyes and medicinals, about 87% are produced in greater or less degree from benzene, toluene, naphthalene, and phenol. Koppers is one of the principal sources of these and other basic materials. —Koppers Company, Pittsburgh, Pa.

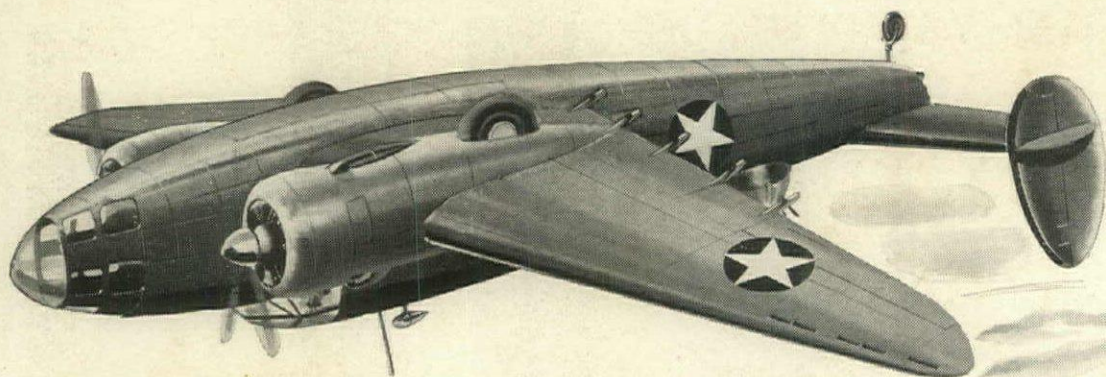
Buy United States  
War Bonds and Stamps

# KOPPERS

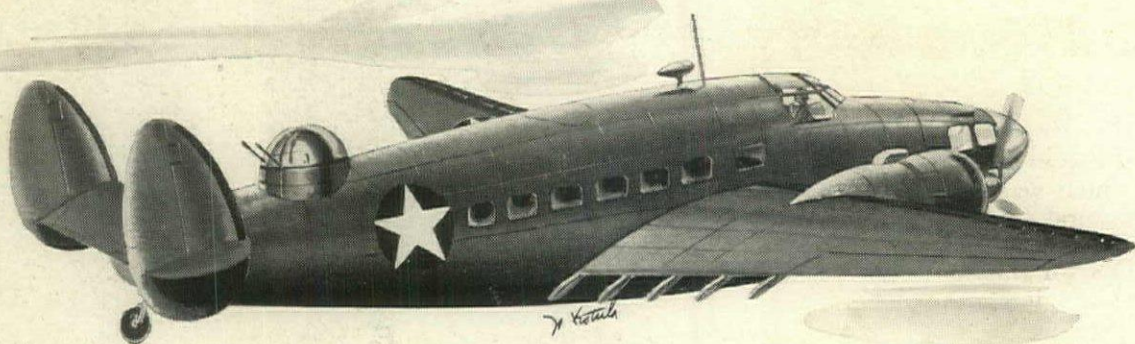
THE INDUSTRY THAT SERVES ALL INDUSTRY

*Workers in our Bartlett Hayward Division are now privileged to wear the Navy "E" emblem*





Upside down or right side up . . .



at 20° below or 100° above

*Without electricity, no modern bomber could ever leave the ground.*

Electricity starts the motors, retracts the landing gear, changes the propeller pitch, works the wing flaps, opens the bomb doors, powers the radio and inter-communication system, operates the instruments, gives light for the crew.

No ordinary electrical apparatus can handle these jobs in a bomber. The whole complicated system must work as well upside down as right side up. It must function in a tropical thunderstorm and in 20° below zero altitudes. And it must be designed to save every precious fraction of an ounce and inch.



Developing electrical equipment for bombers—and producing that equipment in quantity—is a job that's made to order for Westinghouse "know how."

Here are some of the Westinghouse

products that are going into American bombers today:

- Instruments that are designed so one instrument does the work of two, without any increase in size or weight.

- Radio equipment and special blind-flying devices that enable a bomber to fly and navigate under the worst possible weather conditions.



- Electric motors that develop more horsepower per pound than any other motors ever built.

- Instrument lighting that casts invisible rays on dial markings. These rays make the dials glow so softly they don't hinder the pilot's vision as he glances back and forth from the instrument panel to the dark sky.

- Electric generators each of which weighs only 42 pounds, yet produces as much electricity as 35 standard automobile generators weighing 23 pounds each.

*In making these things*, the long-range work of Westinghouse Research and Engineering Laboratories has played a significant part. Discoveries in many fields—in electronics, physics, chemistry, mechanical and electrical engineering—are now bearing fruit in the production of better and more powerful weapons of war.

Many of these discoveries, we believe, will someday help to make a better peacetime world.

★ ★ ★

**This advertisement has been reviewed by Government authorities, and contains no information of military value to the enemy.**



# Westinghouse

PLANTS IN 25 CITIES—OFFICES EVERYWHERE

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, PITTSBURGH, PA.



# Design the Job for **TIMBER FRAMING**

Now, Glued Lamination and Teco Connectors  
give you beams, arches and roof trusses of light weight  
and great strength for wide post-free spans!

**Architects and engineers** are proceeding with essential war-time construction by using wood structural framing members. For great hangars and military chapels, for ship and airplane factories, for almost any type of structure, lumber is being engineered and shaped, formed and joined to meet a wide range of specific structural needs.

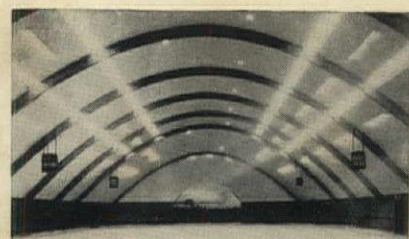
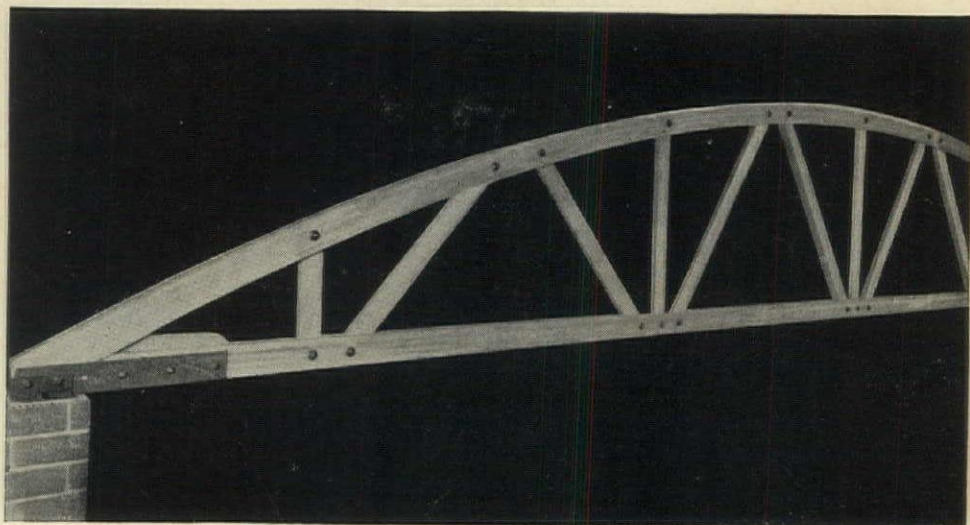
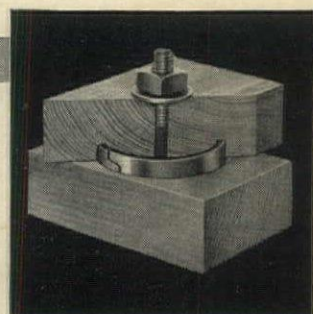
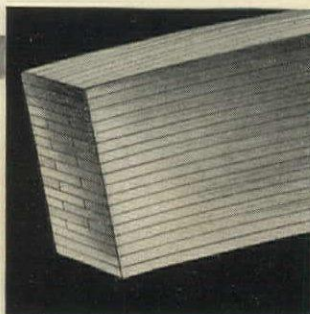
**The Teco connector system** of wood construction makes possible standard timber trusses for spans up to 100' or more, using no timber heavier than 3 x 12. Such trusses can be factory fabricated and often delivered to the job site assembled for ready erection—or the pre-fabricated members can be delivered knocked-down, ready for assembly.

**Glued laminated structural members** are available in a variety of sizes, types and shapes. Beam arches for spans up to 200 feet or more—ply beams for flat roof structures of one and two stories—bowstring trusses, boomerang and utility arches and arch rafters can be designed and factory fabricated for the job you are now planning, regardless of its size or location.

**It is easy to design** the job for wood structural framing members. Complete data is available. Skilled fabricators are making standard timber trusses and glued laminated structural members to exacting specifications, which meet Army, Navy and Building Code requirements—shipping them to the job for speedy erection. Their engineering staffs are ready to cooperate with you . . . Write today for information. Copyright 1942, Weyerhaeuser Sales Company

**WEYERHAEUSER SALES CO.**

First National Bank Building • Saint Paul, Minnesota







ARMY

E

NAVY

FOR

## *Outstanding Achievement*

☆☆ In the air — on land — on the sea and under the sea — precision tools of war manufactured by Minneapolis-Honeywell are proving their accuracy and dependability — just as M-H peace time temperature controls have done since 1885 . . . In recognition of outstanding achievement in war production, the Minneapolis and Wabash plants of Minneapolis-Honeywell were awarded, on July 27, the coveted Army-Navy "E" . . . This tribute to the Minneapolis-Honeywell organization is more than mere recognition. It is a challenge to produce new post-war miracles which will follow the research and engineering achievements produced to meet the war demands.

Minneapolis-Honeywell Regulator Company, 2740 Fourth Avenue S., Minneapolis, Minnesota.

☆

**MINNEAPOLIS-HONEYWELL**  
*Regulator Company*



**FOR**

- ... longer fluorescent lamp life
- ... greater lighting efficiency
- ... full use of your wiring system
- ... **DEPENDABLE SERVICE**

*Specify*  
**fluorescent fixtures using**

## **E·T·L CERTIFIED STARTERS and BALLASTS**



E. T. L. is not a brand but a mark of certification by one of the world's foremost electrical testing laboratories.



When you're planning fluorescent lighting for war work, or making occasional necessary replacements in older installations, it's important to make sure that fixtures use Ballasts and Starters tested and *Certified* by Electrical Testing Laboratories, New York—to assure dependable, trouble-free operation. These "control units" have more to do with the satisfactory performance of fluorescent lamps than any other part of the fixture.

**E. T. L. Certified Ballasts and Starters** are a specified part of every Certified FLEUR-O-LIER fluorescent lighting fixture. All FLEUR-O-LIERS, control equipment included, are built to 50 definite specifications set up by MAZDA Lamp makers for the protection of the user, and for maximum light from the lamps, and are tested and Certified by E. T. L.

**FLEUR-O-LIERS** are made in various sizes and designs by over 45 leading fixture manufacturers located at important points all over the country. This means better service on war plant orders, which, of course, are now filled on necessary WPB priority rating.



This label identifies a genuine FLEUR-O-LIER. When you specify fixtures, be sure to look for it!

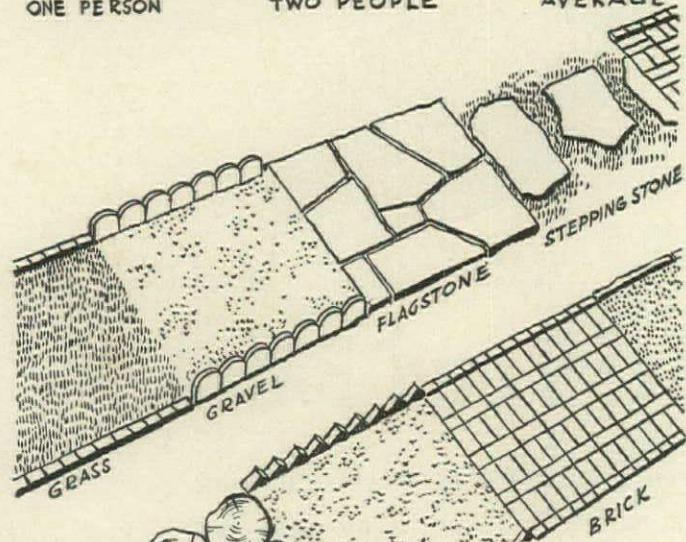
## **FLEUR-O-LIERS**

**CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING**

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements



# BOOKS



WALKS, FROM "RIGHT IN YOUR OWN BACKYARD"

**RIGHT IN YOUR OWN BACKYARD**, by Harold Wallis Steck. George W. Stewart, Inc., New York. 76 pp., 6 x 9. \$1.75

The author is a landscape architect, and his book is a very elementary, readable guide for the amateur garden-maker. Perhaps the greatest single virtue of this little book is that its approach is reasonable. There is no attempt to sell the reader any particular scheme or style of garden, but merely to indicate possibilities which exist to meet a great variety of conditions and personal tastes. "If," says the author, "you are a man who labors all week in anticipation of a few hours of relaxation under the shade of a tree, you should not be forced to cultivate flowers under the broiling sun. If you loathe the sound and feel of a lawnmower, you should have a paved garden with no grass to disturb your hours of self-communion." This comment establishes the general tone of the book. The contents are arranged in a series of brief illustrated chapters on the elements of gardens—gates, pools, steps, etc. The illustrations, black and white drawings by Harrie Wood, are excellent. The quantity of information, the variety of subjects covered and the clarity of the exposition all add up to a really useful reference book for the residential architect and the home owner.

**HOW TO PLAN A HOUSE**, by Townsend and Dalzell. American Technical Society, Chicago. 525 pp., illustrated with photographs and drawings. 5½ x 8½. \$4.50.

To those who think of house planning as an operation which is concerned primarily with the arrangement of living spaces with regard to furniture, circulation, topography, sun and wind, this book's title needs explanation, for planning in the above sense gets comparatively little attention. Actually the book is a very complete collection of information on all phases of house design and construction, including detailing, specification writing and all mechanical equipment. It was prepared for use by laymen, developers and schools primarily, and was written by two architectural engineers. Valuable as the book is, it is distinctly limited by the emphasis on conventional house types, many of which have become virtually obsolete by developments in design during the past five years, and the examples selected are anything but remarkable for their quality. With this reservation, the book will be useful to anyone interested in the procedure of putting together a house.

**HOW TO REMODEL A HOUSE**, by Dalzell and Townsend. American Technical Society, Chicago. 528 pp., illustrated with photographs and drawings. 5½ x 8½. \$4.75.

Written by the authors of the book reviewed directly above, this companion volume discusses remodeling in the same thorough fashion. Every step of the procedure is treated, including a chapter to familiarize the reader with the styles of residential architecture which is subject to the same criticism made above. There is a section on how to read plans, supplemented by ten blueprints, a very useful chapter lists the fundamentals of remodeling, and other fully documented sections cover the structure, insulation, bathrooms, kitchens, wiring, plumbing, heating, etc. The remodeling of separate rooms is given detailed consideration. An excellent feature is the provision of check lists. Illustrations, as shown by the accompanying diagrams, have been selected for simplicity and clarity. There is a comprehensive index and an illustrative example to show the various stages of an average house remodeling.

(Continued on page 116)



CONSTRUCTION PHOTO FROM "HOW TO PLAN A HOUSE"

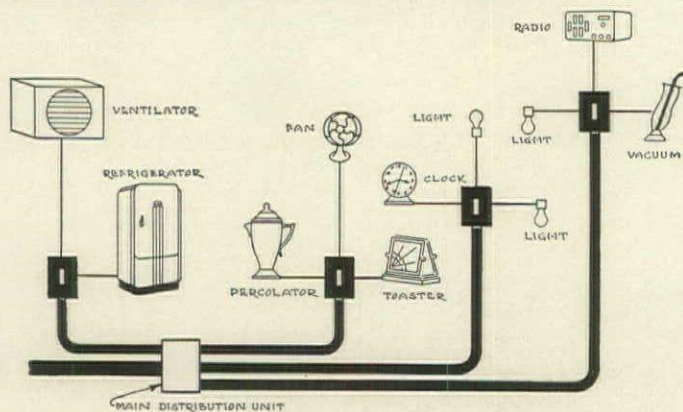
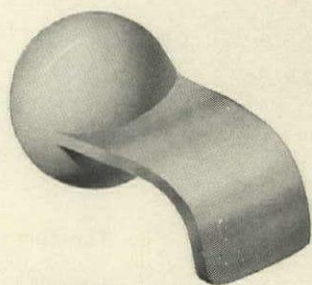


Fig. 249. Proper Arrangement of Lighting Circuits  
DIAGRAM FROM "HOW TO REMODEL A HOUSE"



*"... an ugly doorknob made by hand is a regrettable incident, but a million vulgar doorknobs in use are a calamity."*

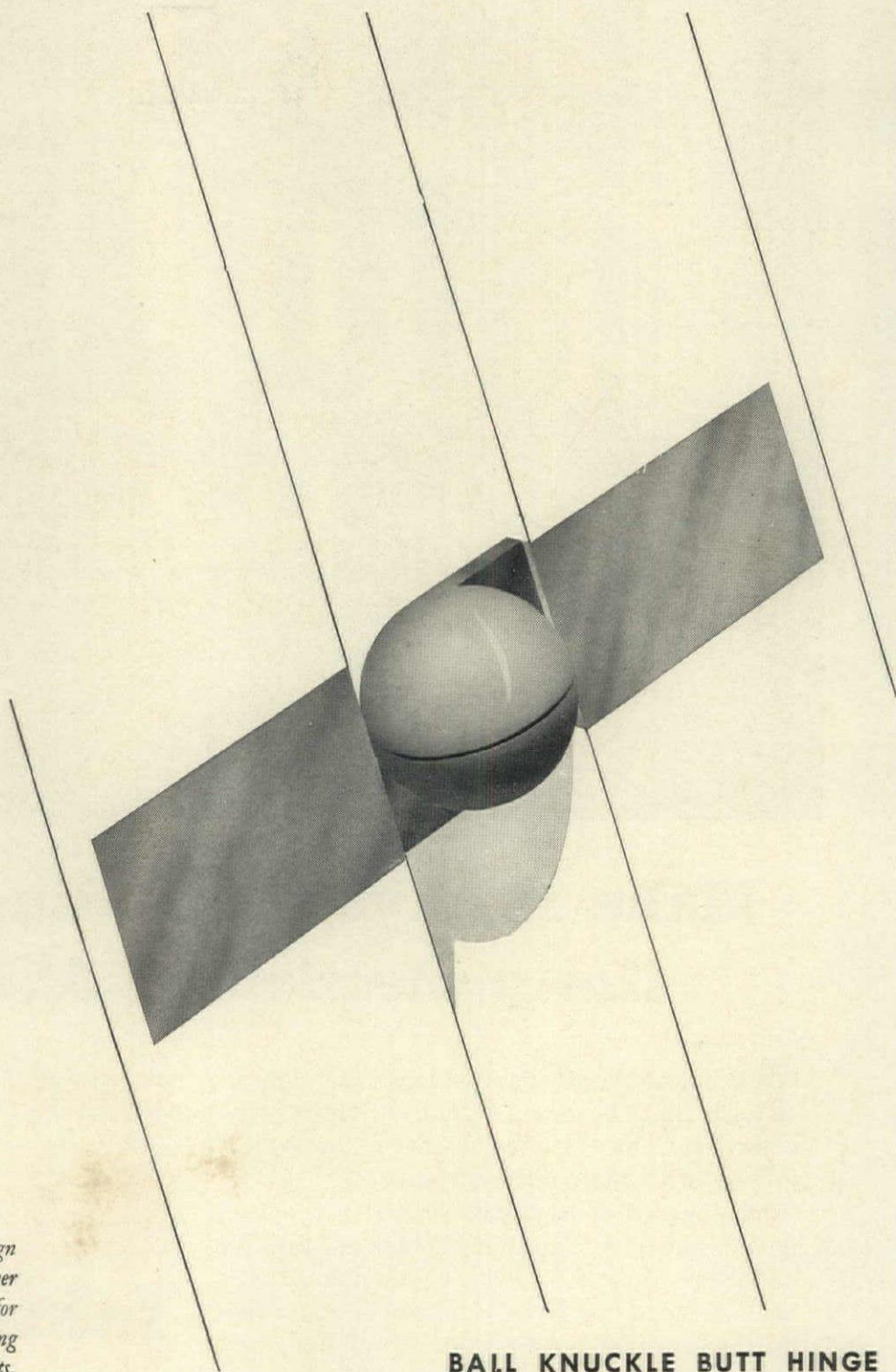
DOUGLAS COCKERELL, London, 1942, at a meeting of the Royal Society of Arts



**DRAWER PULL**



**DOOR PULL**



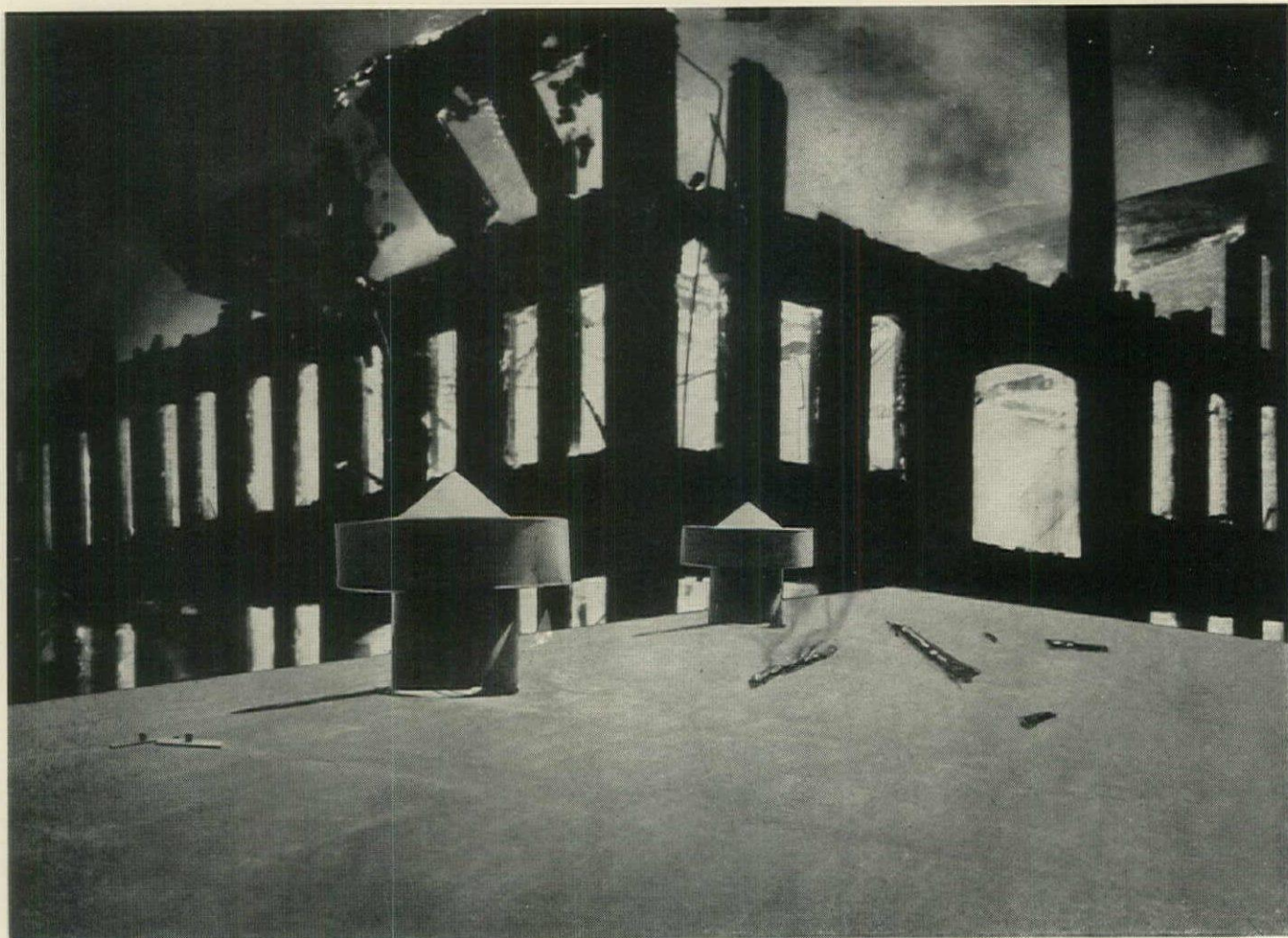
**BALL KNUCKLE BUTT HINGE**

*Architect Harris Armstrong suggests a unique design for a small hinge together with harmonizing drawer and door pulls. Used as a complete ensemble for cabinets, etc., this ball design strikes a refreshing note and gives a pleasing appearance to all units.*

**READING** presents the eighth of a series of hypothetical designs submitted by members of the profession as a stimulus to better design in hardware for building post-war America. **READING HARDWARE CORPORATION, READING, PENNSYLVANIA**



**MORE THAN 60,000 ROOF-COMMUNICATED FIRES A YEAR!\***



## **Make sure your buildings have the fire protection of ASBESTOS!**

**T**ODAY, no plant operator can take chances with fire. This is particularly true of fire caused by embers from a nearby fire which fall on an inflammable type of roof.

The hazard of roof-communicated fires can be minimized by applying a Johns-Manville ASBESTOS Built-Up Roof. That's a fact that's backed up by hundreds of instances in our files in which just such a roof saved buildings from almost certain destruction by outside fires.

**THE REASONS ARE LOGICAL.** The felts used in Johns-Manville Smooth-Surfaced Roofs are ASBESTOS Felts . . . they cannot burn. Because this mineral has the durability of stone, Johns-Manville Asbestos Roofs provide other important advantages as well. They safely withstand long exposure to sun, rain and weather. They are rotproof . . . need no peri-

odic coating. Result: a built-up roof that's as maintenance-free and fire-safe as it can be made!

Before you specify built-up roofing for any type of building, investigate the advantages of these *safer* roofs. For details see our catalog in Sweet's, or write Johns-Manville, 22 East 40th Street, New York, N. Y.

**Johns-Manville**  
*Asbestos*  
**Built-Up Roofs**



\*The National Fire Protection Association has estimated that in 1940, 62,000 fires were caused by sparks falling on inflammable roofs.



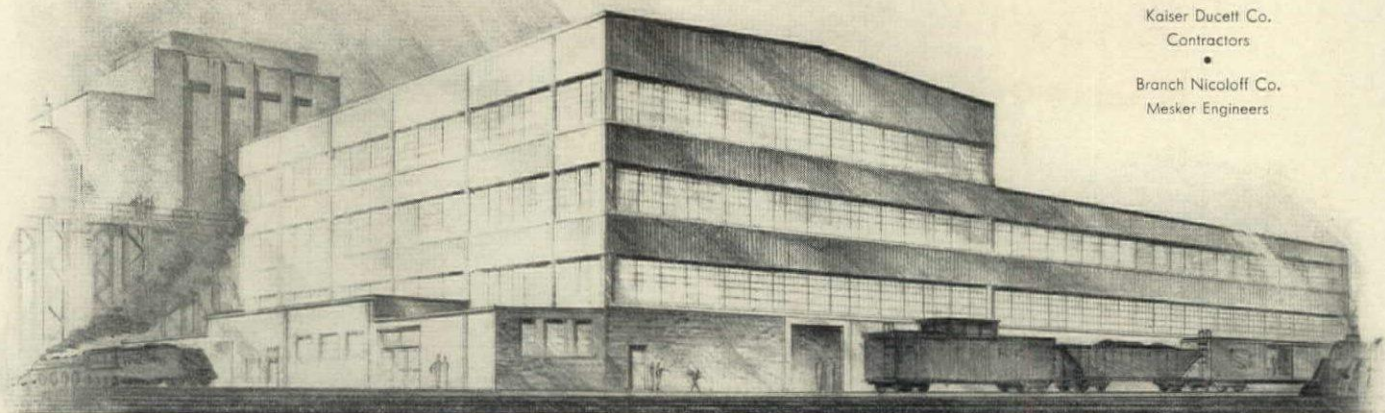
☆ WORTH REMEMBERING...THE STEEL SASH MERIT-METER PROVES MESKER GIVES YOU AT LEAST 35% MORE QUALITY FOR YOUR MONEY! ☆

MESKER STEEL WINDOW ENGINEERED  
PULLMAN STANDARD CAR  
MANUFACTURING COMPANY  
Chicago, Illinois

•  
Burnham & Hammond, Inc.  
Architects

•  
Kaiser Duceff Co.  
Contractors

•  
Branch Nicoloff Co.  
Mesker Engineers



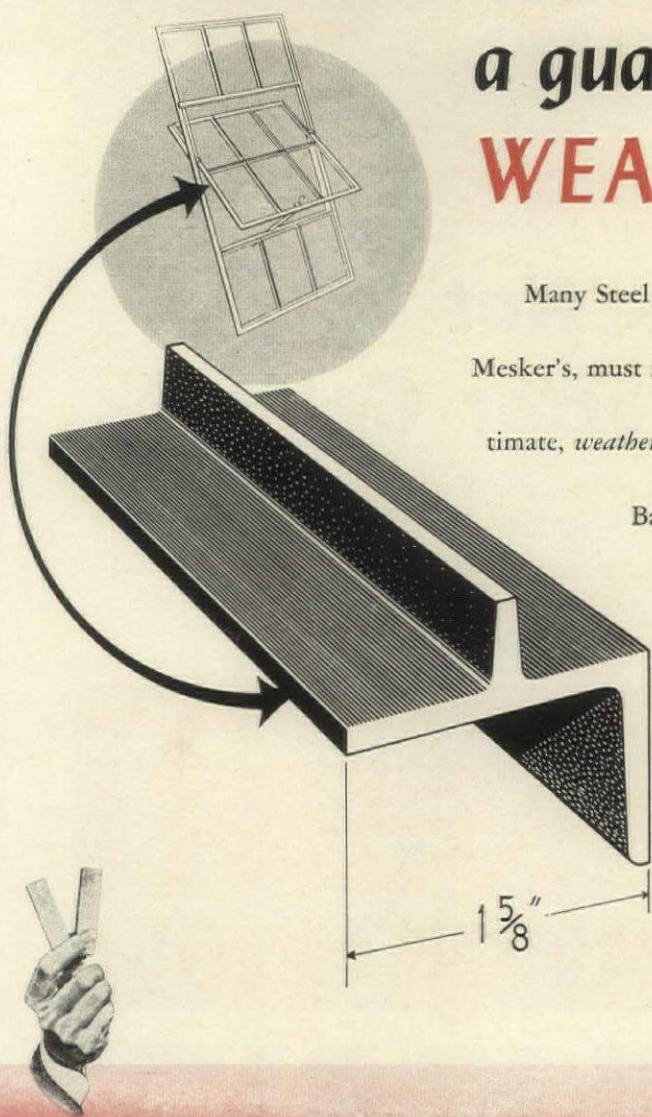
## a guarantee of **WEATHER-TIGHTNESS**

Many Steel Sash manufacturers, using Ventilator Bars far less sturdy than Mesker's, must rely upon hand-fitting to assure the Ventilator coming into intimate, *weather-tight* contact with the Frame. Mesker's heavy 1 5/8" Ventilator

Bar permits exclusive *mechanical fitting*...done on a special machine developed by us, with the human element eliminated.

A "little thing?" Perhaps..."a little thing to look for, a big thing to find"...but another reason why next time you should specify MESKER Weather-tight Industrial Sash.

**VENTILATOR BARS A MINIMUM  
OF 1 5/8" IN DEPTH**



### THE DOUBLE THICK WEATHERING BAR

...used on Mesker Industrial Pivoted Sash is 1/4" thick...twice that used by others in Industrial Steel Sash. This exclusive feature, so dramatically illustrated by the Visual Test Kit (free upon request), is indicative of the quality built into ALL Mesker products.

# Mesker Brothers

## STEEL SASH

424 SOUTH SEVENTH ST., ST. LOUIS, MO.

CASEMENT WINDOWS • MONUMENTAL WINDOWS • INDUSTRIAL WINDOWS  
INDUSTRIAL DOORS • METAL SCREENS • DETENTION WINDOWS



# MAKE THIS TEST - *Prove* **BRIXMENT** is BEST!



**1**

Butter one brick with Brixment mortar, colored with any good black mortar color. Then butter another brick with mortar made with 50-50 lime and cement, and the same mortar color.



**2**

Set both brick aside for a couple of weeks. You'll find that the sample made with Brixment mortar retains its full, rich color (right), while the other turns dull or pale.

## **BRIXMENT Does Not Fade Mortar Colors!**

The permanence of the mortar color in the joint depends not only upon the pigment selected but also upon the mortar materials. Too frequently a good job of brickwork is spoiled by the use of a mortar that fades the color or that leaves a white scum of efflorescence on the mortar joint.

Brixment helps prevent this condition. For Brixment is practically free from the aggressive chemical compounds or soluble salts so frequently the cause of fading and of efflorescence.

The waterproofing material combined with Brixment during manufacture is a further protection to the color because it helps prevent moisture

from penetrating the mortar joint and leaching out the pigments.

Brixment is therefore recommended by manufacturers of both mortar colors and face brick, for use with their products.



# **BRIXMENT** **For Mortar and Stucco**

Louisville Cement Company, Incorporated, Louisville, Kentucky. Cement Manufacturers for Over a Century.



**SHELDEN LAND CO.**  
33121 PLYMOUTH ROAD  
PLYMOUTH, MICHIGAN

February 20, 1942

DETROIT OFFICE  
1212 BURL BUILDING

Curtis Companies Incorporated  
Clinton, Iowa  
Gentlemen:

We are sending you under separate cover a number of photos showing exterior and interior shots of our Rosedale Gardens project also a project recently completed in which we built a group of houses of the defense home type.

The building of defense homes in groups has become a highly skilled and reputable enterprise. We are endeavoring to build into these defense homes, sound construction, good design and as far as possible the same workmanship and material that go into the more expensive homes. In other words, we are attempting to give the small home buyer a top-notch home at a price he can well afford to pay.

As you know, the homes mentioned above have been equipped with Curtis Silentite windows and Curtis Miterite casings and these quality products have proven to be a great help in our disposing of these houses so quickly. I know you will be glad to hear that we have found it possible to use Curtis Silentite windows and Curtis Miterite trim even in our smaller homes and consequently we are specifying your materials in a project of some 200 homes in the defense classification, selling complete with lot from \$4500.00 to \$4650.00.

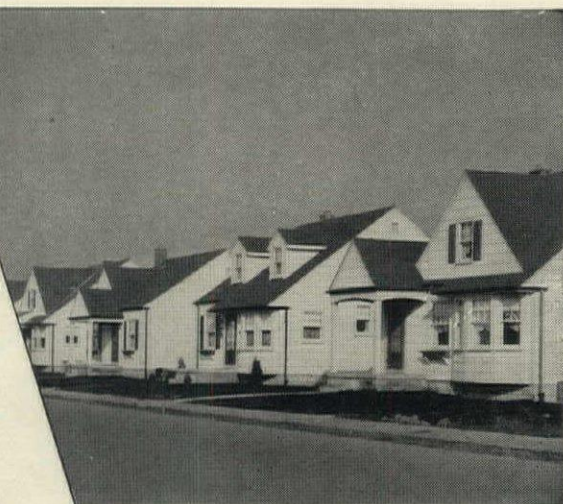
Our organization feels it can be very helpful during this period by doing our part in building a small house of architectural distinction, soundly constructed on a well located lot, economical to operate and a readily saleable investment.

We would like to take this opportunity to thank your Company and particularly its representatives in the field for the cooperation they have given us.

Yours very truly,  
SHELDEN LAND COMPANY

By *Ch. Nelson*

CGW/w



Another view of the  
Rosedale Gardens Project

**OTHER CURTIS-EQUIPPED PROJECTS**

Here are other large housing projects in which Curtis Silentite Windows and Curtis Stock Architectural Woodwork are guarding quality and speeding the job:

Baltimore, Md.	Salt Lake City, Utah
Wheeling, W. Va.	Cuyahoga Falls, Ohio
Tulsa, Okla.	Spokane, Wash.
Williamsport, Penn.	Columbia, S. C.
Amarillo, Texas	Indianapolis, Ind.
Boise, Idaho	Arlington, Va.
Yakima, Wash.	Wichita, Kans.
Atlanta, Ga.	Burlington, Iowa
Canfield, Ohio	

**WHY SO MANY  
DEFENSE HOUSING PROJECTS**

*Choose* **CURTIS**

**T**HIS letter speaks for itself. It shows why Curtis Woodwork and Curtis Silentite Windows are being chosen for defense housing projects throughout the country by builders who want to put *top-notch* value into low-cost homes. Let us give you full details about Curtis Woodwork and Curtis "on time" service. Mail the coupon.



CURTIS COMPANIES SERVICE BUREAU  
Dept. AF-10D, Curtis Bldg., Clinton, Iowa  
I want to know more about how Curtis Woodwork and Curtis Silentite Windows can serve me in defense housing.

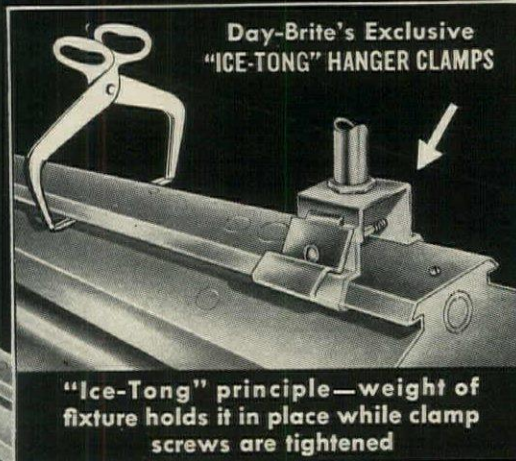
Name.....  
Address.....  
City.....State.....



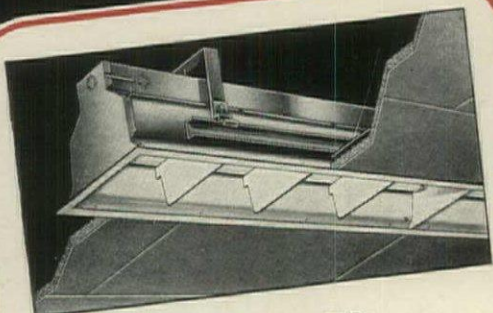
**NEW**  
FLUORESCENT FIXTURES

**The DAY-LINE . . .  
UNIT and CONTINUOUS**

for Industrial installations—  
singly, in parallel batteries,  
or in long, continuous un-  
broken lines. Removable  
non-metallic reflectors

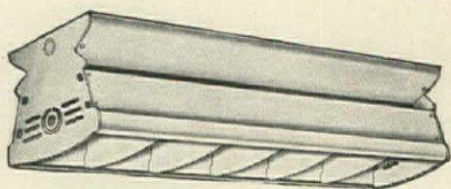


"Ice-Tong" principle—weight of  
fixture holds it in place while clamp  
screws are tightened



**The RECESSED TROFFER**

With non-metallic reflectors and louvers—  
for unit and continuous run installations



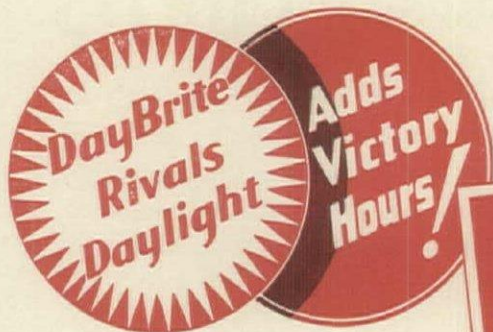
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# LETTERS

## KECK KICK

Forum:

Permit an architect who believes in the logical evolution of architectural design and construction, to comment on the "Portfolio of Modern Houses" published in your issue for August, 1942.

Passing over Mr. Keck's arrogant statement, your own endorsement of this particular group might well be paraphrased as follows:

"All show the same purpose—an evident effort to provide the (best) poorest possible living accommodations in the (simplest) crudest and (most) least effective way."

In the last *Octagon* a writer comments on similar types of design, "One senses a vain effort to be clever."

The Keck contributions, in addition to being institutional rather than domestic in character, and apparently more suitable for housing livestock than human beings, are neither simple nor economic. A house that costs \$4,000 per average room, is an economic abnormality under the present war-burdened conditions.

Mr. Keck is presumably young and enthusiastic, and may be pardoned for his immaturity, which time will remedy. But the approval of a journal possessing the distinction and prestige of THE ARCHITECTURAL FORUM should not be lightly conferred.

HARRIS C. ALLEN

Berkeley, Calif.

THE FORUM has never permitted questions of personal taste to interfere with its publication of forward-looking techniques. Keck's work is interesting, even if one quarrels with his aesthetics. Also we have no quarrel with people who wish to spend \$4,000 a room if they can afford to do so.—Ed.

## PREFAB APPROACH

Forum:

... I come in contact with architects all over the country, and they are deeply intrigued by the whole subject of prefabrication. Their views and ideas are all about the same. The main reason why prefabrication under the war program has been such a disgusting mess is because it has been handled by architects who take what we call the "architectural approach" to the subject... The Government architects have just released a set of plans showing their ideas of what a prefabricated house should be and have asked the manufacturers for comments. The plans so

## 194X RIGHTS

Forum:

Would you be good enough to explain the note at the bottom of page 65 of the September issue: "All rights in this issue are reserved. All designs are copyrighted, and patent applications have been filed related to certain thereof." Does this mean that contributors have no further rights to their own designs without THE FORUM's permission? And were the patent applications referred to taken out by designers or by THE FORUM?

MORRIS KETCHUM, JR.

New York City

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completely violate all fundamental principles of prefabrication that it is utterly discouraging to know where to begin to make an intelligent analysis of it.

I have talked with many architects actively associated with prefabricated house manufacturers. They all admit that they started with the "architectural approach" but after terrific resistance were finally converted. They now look with utter contempt at all those who still persist in approaching the subject as Government architects approach it. . . .

... This industry will have room for thousands and thousands of architects after the war, and they can fit into definite jobs that will pay them many times more than they will ever earn through the normal channels of the profession. The profession has become a marginal business. Only in the most prosperous times can it adequately feed any substantial proportion of its membership.

The prefabricated house architect of the future will be a man with an architectural background who has become a specialist in prefabricated house design. He must have the product designer's point of view. He will not approach the problem with his belly against the drafting board or in wild flights of imagination. He will

become part of a team that manufacturers and sells houses for profit. He will forget entirely what he thinks a house ought to look like or what the public ought to buy. He will forget his slavish adherence to academic architectural theory and will no longer be a proponent or crusader for any particular style of architecture. . . .

To these men architecture is no longer merely a matter of coordinating pretty curves and masses. The "pretty" part of prefabricated house design is such an infinitesimally small section of the whole problem that it is usually done on a paper napkin between bites on a hamburger and yet THE ARCHITECTURAL FORUM has called in the nation's expert designers and is devoting an entire issue to the hamburger-paper napkin portion of the problem. . . .

FOSTER GUNNISON

Gunnison Housing Corp.  
New Albany, Ind.

Forum:

I congratulate the editors for the extremely interesting and stimulating memorandum on the house of 194x in the September issue of THE FORUM.

It is high time that architects and engineers gave this problem serious study if they care to contribute anything at all to a new and planned way of life of the individual and the community after this war. The challenge was great. The result was glorified eyewash.

The program outlined purpose, function, and client of the house of 194x very clearly. The houses shown were not designed for the average American and what he might be able to afford in 194x, but rather for the architects themselves, satisfying their own habits and fancies.

I don't want to bother you with my own ideas or "systems," but it seemed to me that all the 194x house designs that were supposed to be prefabricated ignored or violated advantages and principles of prefabrication. Of course, they can be prefabricated, almost everything can be prefabricated, bricks are prefabricated too. But the way they are supposed to be prefabricated is no different than the one used already, and the result of which we see in the advertising section of the same FORUM. The only difference is the "style."

I also regret that no serious effort has been made to show the house of 194x in relation to its community.

BERNARD WAGNER

Washington, D. C.



★ 2 TO 3 PRECIOUS WEEKS SAVED ★



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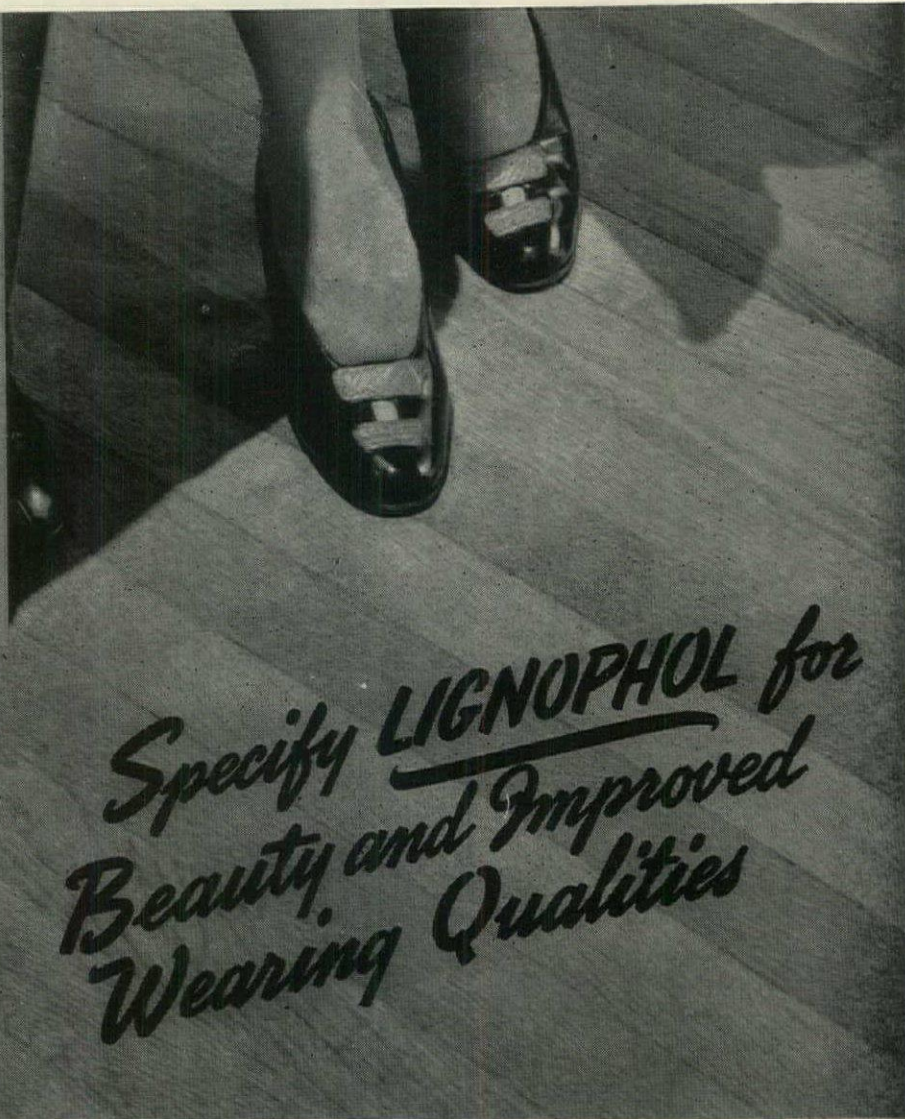


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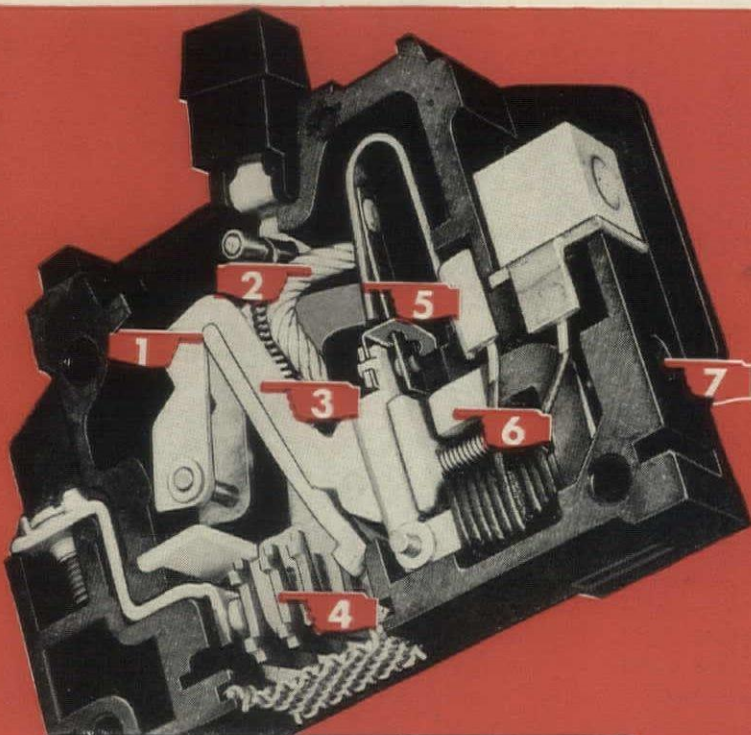
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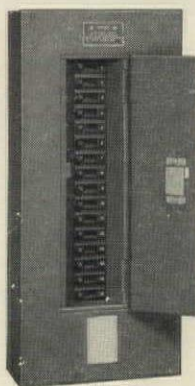


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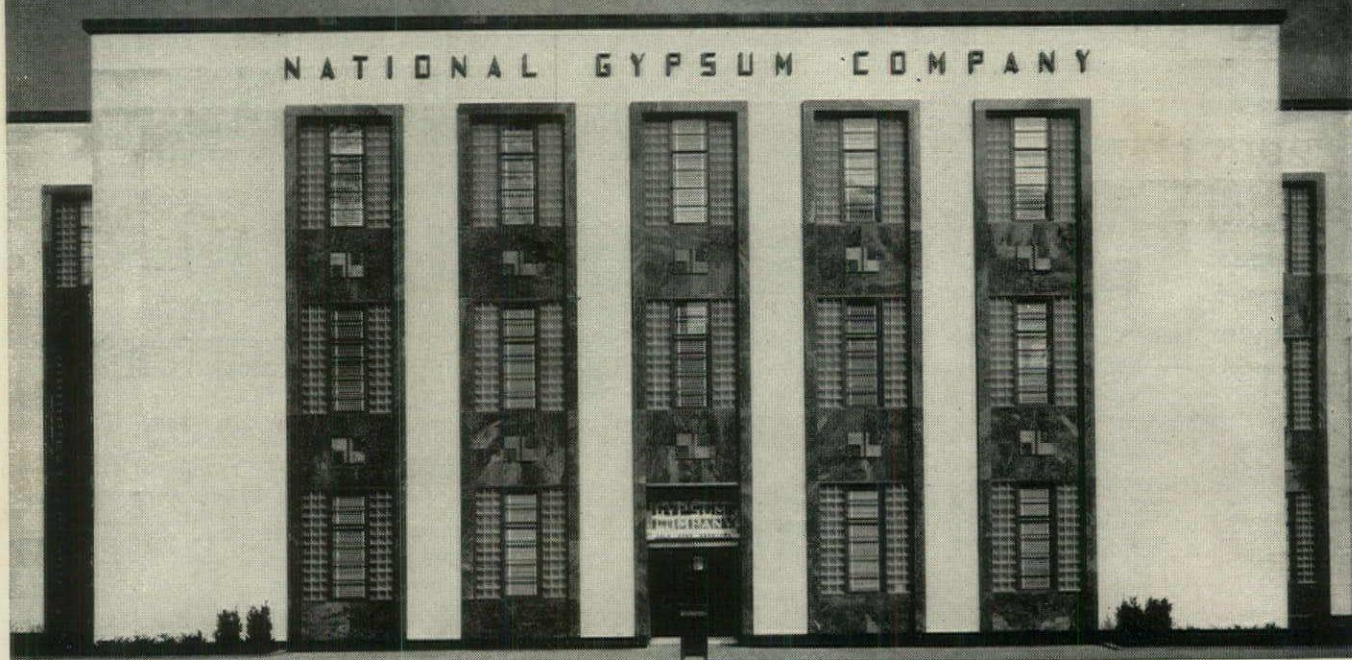
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## THE MONTH IN BUILDING

With steel shortages growing, scrap metal collection drive gets under way . . . War housing in New York City makes giant strides (this page) . . . in and Chicago specific needs not yet met (page 34) . . . Washington housing still behind the demand but many projects in work (page 34) . . . Vincent Astor reverses his real estate holdings (page 94) . . . Lumber still a fly in the ointment of adequate supply of materials (page 98) . . . Government encourages remodeling of homes for war workers (page 100) . . . Fuel-oil rationing coupon system goes into effect (page 102) . . . New construction order cuts down further on new-house building (page 102)

## HOMES, SWEET HOMES

Convinced that neither the new Lanham authorization nor the volunteer War Guest program can adequately house harassed workers, NHA has moved toward leasing of houses for the duration. Applied to usable houses whose owners either could not or would not remodel even with the financial aid of the Federal Home Loan Bank Administration, the new program, under newly appointed Fran Bane, will permit the Government to lease desirable houses, remodel them, return them to owners after the war.

## SALVAGE BLUES

Campaign-of-the-month was for salvage, especially scrap steel. The public suddenly awoke to the fact that tin cans and hair pins would not tip the scales which demanded 17,000,000 tons pronto. Pumping the experts, the answers came quick and fast to the Building industry:

*Query:* Best source of scrap metal?

*Reply:* Uncompleted or abandoned buildings large enough to offer a satisfactory amount of scrap metal. Many such depression casualties yield 200-600 tons, in rare cases even 1,000 tons of metal apiece.

*Query:* Who will pay for the cost of demolition?

*Reply:* If demolition cost is more than salvage value of scrap and other material, the War Metals Company will underwrite the difference—if it is convinced the salvage is worthwhile.

*Query:* Where do I go for such help?

*Reply:* To the local or regional WPB office. To the Special Projects Salvage Section, WPB, Washington, D. C.—or to your local Section.

*Query:* What would I get for scrap?

*Reply:* OPA has fixed prices at \$16-25 per ton depending on kind and state of metals.

*Query:* Are authorized scrap-metal dealers interested in grille work on the outside of a building, ornamental garnishings, metal doors, etc.?

*Reply:* Highly. If you are patriotically prompted you can arrange to remove materials yourself to local collection agencies. If expense of such operations is too great, get in touch with one of the above-named agencies.

## WAR HOUSING



**FT. GREENE HOUSING:** hard by the Brooklyn Navy Yard.

**Dedication in Brooklyn, U. S. A.:** Amid potted palms, school bells and the un auspicious patter of rain outside, Mayor La Guardia, Lieut. Gov. Poletti, Governor Lehman and state housing officials last month dedicated Ft. Greene Houses. 3,501 units in all, 816 have been completed, the rest are awaiting critical materials handouts.

The speeches were brave and full of generous back-patting. Only ominous note came from the Mayor. He pointed out that construction would be interrupted by the drought of materials, but that war's end would see work resumed. More promising was his revelation of New York's public-housing boom: 20,000 persons now being housed, 30,000 condemned multi-family units abolished in eight years (77,000 before that), the contagion of Ft. Greene spreading like a beneficent rash to Brownsville and 6 other city spots.

The day's patriotic note was struck by Borough President Cashmore: the houses were only for "proven" Americans. Edward Weinfeld, State Commissioner of Housing, made a defiant pass at anti-public housers who have used the war program to fight it, said the war program's four freedoms—including freedom from want—implies the right to decent housing.

Ceremonies concluded, sample units were thrown over to the official visitors.



...housing project will ... most of whom will ... and their families ... priority rights on leases. Covering 30 city blocks, about half of the project building (1,428 units) are expected to be finished by December 1, total cost is estimated at \$20,363,000, rents depend on income primarily, in some cases averaging as low as \$5 per week for 2-person families.

Almost simultaneously New York State announced loans to 14 new projects, 7 upstate, 7 in New York City. Niagara Falls is promised 300 units, Schenectady and Elmira 375 each, etc. Thirteen thousand families—50,000 persons,—at a cost of \$110,000,000 will be publicly housed in New York State before year's end—allocations permitting.

Like a virulent epidemic which, stamped out in one place, springs to life in another, the demand for housing aid stilled for the moment in Detroit (FORUM, April, p. 193) and San Diego (FORUM, May, p. 272) thundered in Baltimore and Chicago this month:

**Baltimore's** ultra-conservative *Sun* printed a story, vigorously factual, about housing woes pointedly titled "City Without A Crib." Baltimore, despite the fact that vacancies are rare, has managed to squeeze single persons into rooms when it was necessary, but families with a child or children might as well, according to Mrs. Margaret Ford in the Association of Commerce's registry office, be lepers.

Baltimore has all the major rent troubles plus some ingenious minor ones. Declared a critical area early this year, with rents at April 1, 1941 ceiling, some of its landlords pull the double-take trick: rents listed in the lease at the proper level, but a verbal promise of a monthly side-amount before the lease is signed.

Reduction of services (in one case heat was turned off because landlord said his "service" did not include it) is another "out." Occasional real-estate agents have been found charging fees for listing applicants; occasional tenants turned the tables by renting their apartments to other workers during the twelve hours they are not there.

Differing from its neighbor Washington, (story next column) which is a single-girl housing problem, Baltimore is confronted with the family unit. Solution to its problem of what to do about the 2,000 single-room vacancies now on NHA registry's lists is perhaps an appeal to apartment owners to convert rooms for light housekeeping, after applying to OPA's defense rental office. Another is building—or making available already built—small-house units to accommodate growing press of the family trade.

**Chicago.** Last month NHA said Chicago would get no more new housing until it utilizes all present dwelling units and its local labor supply. Survey had found a surplus of houses, unemployed but already housed workers.

Nettled, the Metropolitan Chicago Home Builders Association spokesman, Robert N. Golding rebutted.

1) War jobs are being created faster than workers can be found, and 22,000 more workers will be needed this year.

2) "Six months" are required to construct adequate housing facilities.

In six months there will be a shortage of workers homes. Building should start now to be ready in March, 1943.

No word of reply from NHA officials has been received, no answer to CHA's poignant query: "Where will they live?"

**Minor epidemic** spread was in WPB additions to its list of defense housing critical areas—11 new ones on September 15, including Bernicio and Varstow, Calif., Terre Haute, Ind., and Sanford, N. C.—10 more on September 22, including Tampa, Fla., and Port Huron, Mich.

**Major epidemic** came early in October with Leon Henderson's announcement that all areas in continental U. S. would henceforth be considered defense rental areas, with rentals stabilized at level of March 1, 1942.

## WASHINGTON WEARY-GO-ROUND

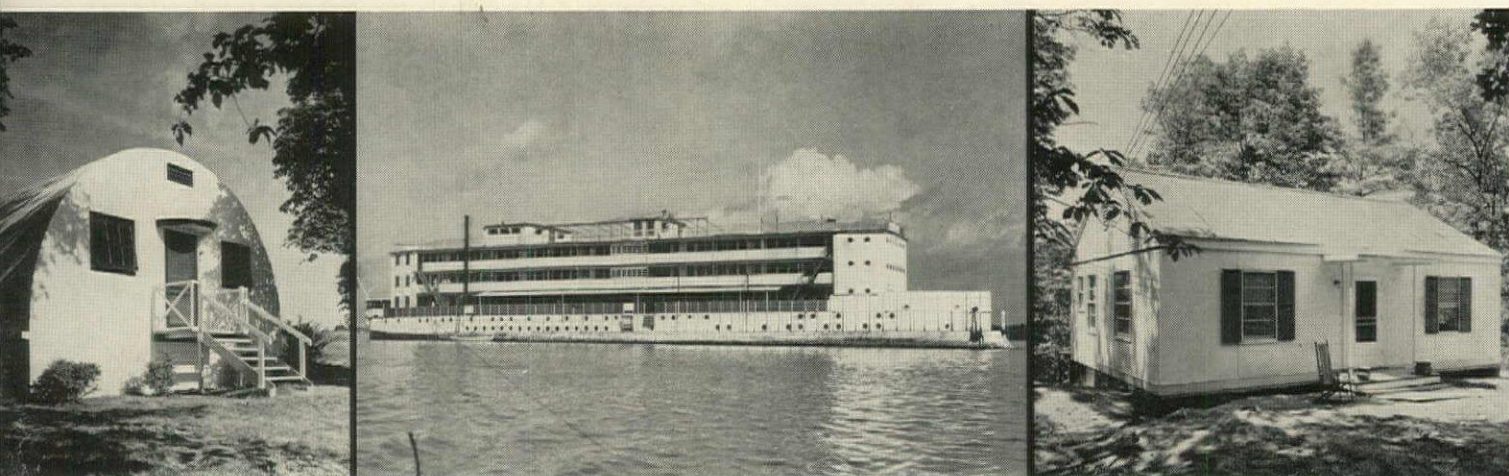
A bitter little story now current in Washington concerns a young lady who saw another young lady sinking rapidly into the Potomac and calling for help. The first young lady shouted, "Who are you and where do you live?" Exasperatedly the drowning girl shouted, "Smith, 417-20 Jackson Street," and went down for the third time. Our heroine on shore dashed to the address, told of the sad fate of the occupant, demanded the room, only to be informed that it had been rented to another girl "who had just pushed her in."

Apocryphal as the story is, it implies one singular aspect of Washington housing headache: about 70% of its in-migrants are single workers and 7 out of 8 are women. This is just the reverse of the usual situation: in most other cities surveyed, 70% of in-migrant workers have families, 30% are single men and women.

Another peculiarity now fortunately suspended for the duration was Civil Service's law's insistence on geographic apportionment. Under it, each state was given a quota of Washington jobs, a measure instituted originally to take such jobs out of the vote-conscious Congressman's grab-bag.

Conditions since December 7 have become steadily worse. It is estimated that about 44% of the in-migrant female workers threw up the sponge and went home to mother. Jammed restaurants, jammed street cars and buses and stores and theatres, poor or non-existent housing, boredom with routine Government work—all these shared the blame for the displacement.

(Continued on page 94)



Acme

**NEWS-MAKING HOUSES** this month included Purdue's low-cost worker's home (left) containing 350 pounds of critical material, and requiring 6 men to build it in one week's time. Cost, \$1,200 to \$1,500, rentals \$25-\$30 per month. Floating Hotel (center) is a 75-room houseboat now anchored in the Potomac intended as a small balm

to Washington's housing troubles (story, see above). Floated up from Lauderdale, Fla., it will house the Capitol's more nautical workers. To the right the Speedway Company's famous "Cotton House" answers doubts about demountability of a demountable house by looking hale and unscathed after re-erection for the fourth time.

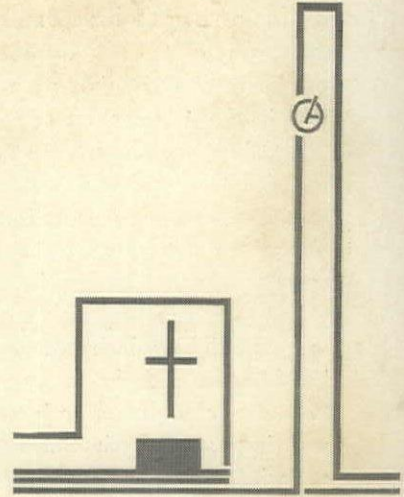


# TABERNACLE CHURCH OF CHRIST

ELIEL AND EERO SAARINEN, ARCHITECTS

E. D. PIERRE AND GEORGE WRIGHT  
ASSOCIATE ARCHITECTS

More than any other building type, and for reasons that require no elaboration, the church has resisted the encroachments of modern design. It is not surprising, therefore, to learn that the question asked most frequently during the designing of this church was, "Why is this church so different in design from any other that I have seen?" Nor is it a particularly flattering commentary on the state of architectural appreciation at the present time that a straightforward solution to an honestly presented program should require involved explanations. But if it is not flattering, neither is it discouraging, for one of the most hopeful indications of contemporary approach to design is the widespread interest it invariably arouses. The Tabernacle Church of Christ is almost unique in the annals of American church building in that it was designed by a distinguished firm of modern architects with the full cooperation of an intelligent building committee which had ample funds at its disposal.



*Photos, Hedrich Blessing*

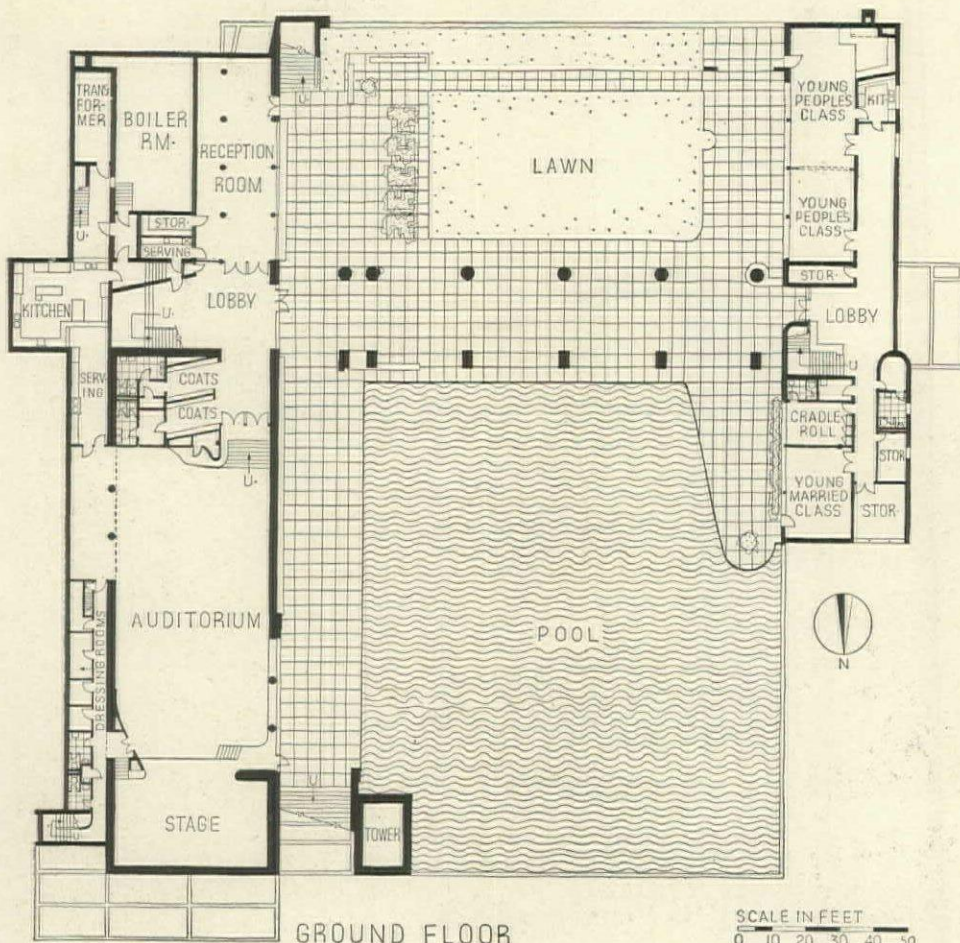
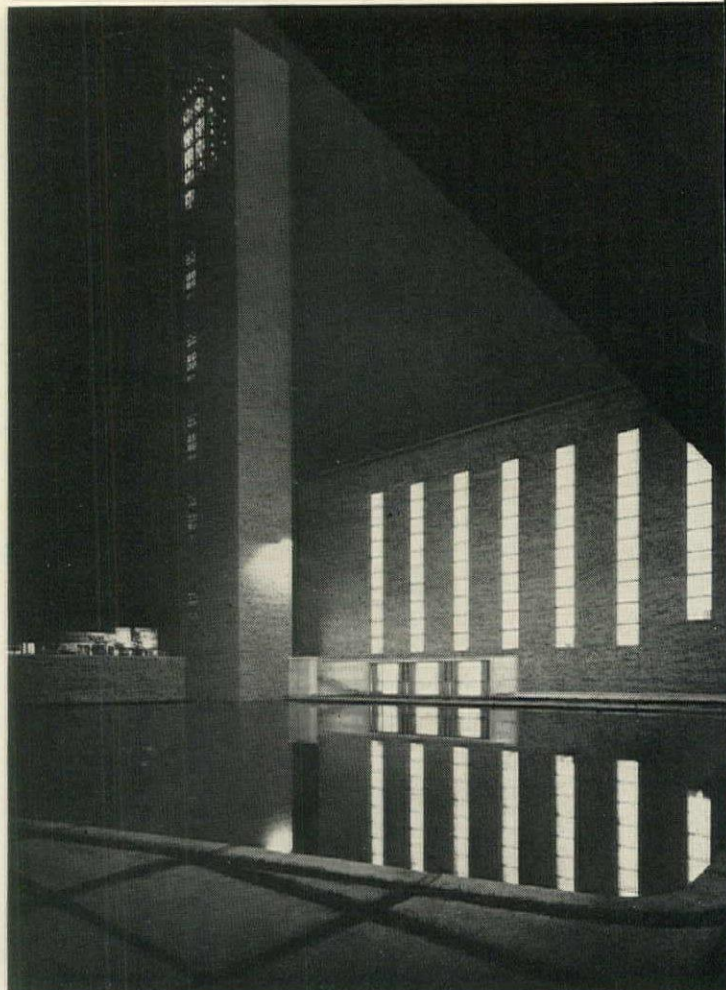




The summary of the church problem, as submitted to the architects by the building committee, does much to explain the remarkably straightforward and cohesive design.

"We attach much importance," wrote the building committee, "to our effort to preach and practice primitive Christianity and nothing else, for we believe that in it lies the hope of the world. . . There are a few elements in our belief that we would like to have emphasized in the church. Because the gospel of Christ's death, burial and Resurrection lies at the heart of our faith, we would like it illustrated in some way in the architecture of the building. . . . We are asking you to build a church which will interpret the spirit of Christ and of the gospel and which will also promote these ideals and assure their perpetuation among us. You may ask why we contemplate building a great church, why we do not spend the same money in Christian work and arrange to worship in less impressive surroundings. Why is a monumental building desirable to the practice of Christianity, the humblest of faiths?"

"A costly church can be justified, in our opinion, only so far as it inspires and stimulates people in living better lives. We are willing to pay for a church which is designed to achieve this end, but we are not willing to pay for luxury and display. Our church is our people and will be as strong as our people or as weak as our people. . . . We are all sensitive to our surroundings, and to participate in a communion service in a place designed to interpret the meaning of that service is to help tremendously in accomplishing the purposes for which the Lord's Supper was established. The same applies to music and to all other phases of our study, work and worship.



ENGINEERS & CONSULTANTS

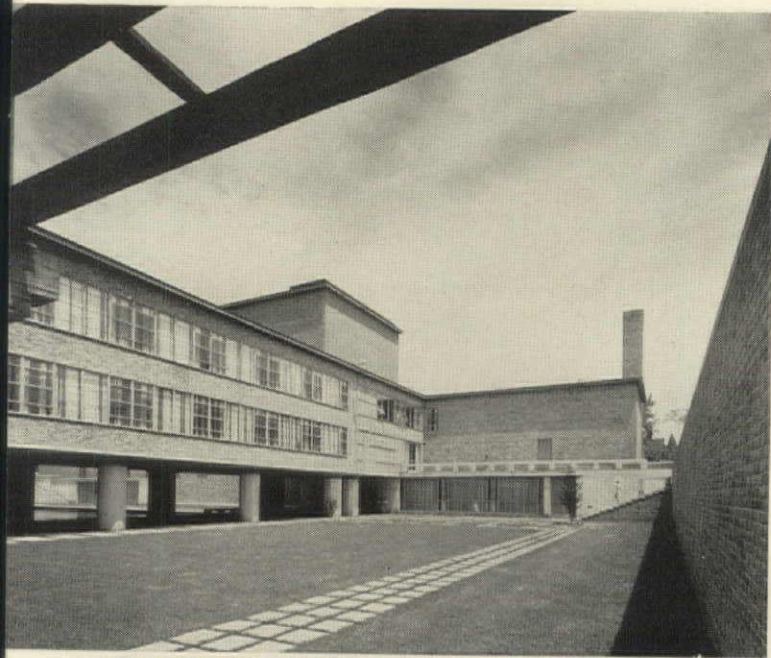
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"A church which embodies and illustrates the truths of Christianity should be a monument in which the affection and inspiration of many generations of Christians are centered. That is why we choose to spend our money in this way. . . So now you see why we want to build our new church and what sort of a church we want you to build."

The architects' reply to the building committee outlines the scheme developed to meet the program.

"In accordance with the wishes of the building committee, our endeavor has been to design, not a mere church, but a church expressing the religious aims of your congregation. Indeed, it is essential to establish such a true relationship between the people themselves and the design of their church. The result is explained in the following paragraphs.

"We have divided the church group into four major features. First we have the East Wing, containing the Church proper, the Chapel and the Auditorium; second, we have the West Wing, containing one portion of the Bible School; third, we have—as we may call it—the Connecting Bridge between the East and West Wings, containing in its two upper floors the remaining portion of the Bible School and having its lower part formed into an open loggia-like feature; and fourth, we have the Tower.

"The Church group has been divided in this four-partite manner in order to achieve a satisfactory balance of masses, and a lively, yet restful skyline."







WEST ELEVATION

From the time when the architects' first sketches were displayed, the Tabernacle Church has provoked discussion, stimulated endless questions. "Why is there no stained glass?

CLASSROOM ENTRANCE



Is this design particularly appropriate to our church? Why are the roofs flat? Is it true that the church has been designed more for future appreciation than for present understanding? Why is the tower to be built apart from the main structure? What is the purpose of the large pool?" To these and other questions the architects gave their answers. The roofs are flat because the interiors demanded flat roofs. There is no imitation of historical styles because any honest, fundamental approach has to be contemporary. The large pool serves the same function that water has always served in conjunction with buildings, as a ceaselessly moving mirror which gives life and atmosphere to the architecture reflected in it.

Thoughtful and intelligent as the answers may have been, it is the building itself which tells the final story. It is evident, particularly in the photographs on this page, that many parts of the building have as much the character of the school or community center as the church. If it looks "different," it certainly differs no more from the Colonial meeting house than does the latter in comparison with a church of the medieval period. Above all, it has vitality. The questions listed above give ample evidence of the profound effect the building has had on the imagination of the community. If the architects did no more than arouse in this one city a new consciousness of the church as an actual social force, they have already justified their efforts.





CORRIDOR



PASTOR'S OFFICE

The chapel is located at the south end of the main building and is oriented in the same manner as the church proper. The treatment of the room is asymmetrical, with a wide aisle on one side and vertical windows in the brick wall on the other. The pastor's office, shown above, is handled in a pleasant, straightforward manner, and is placed for ease of access to both chapel and church.

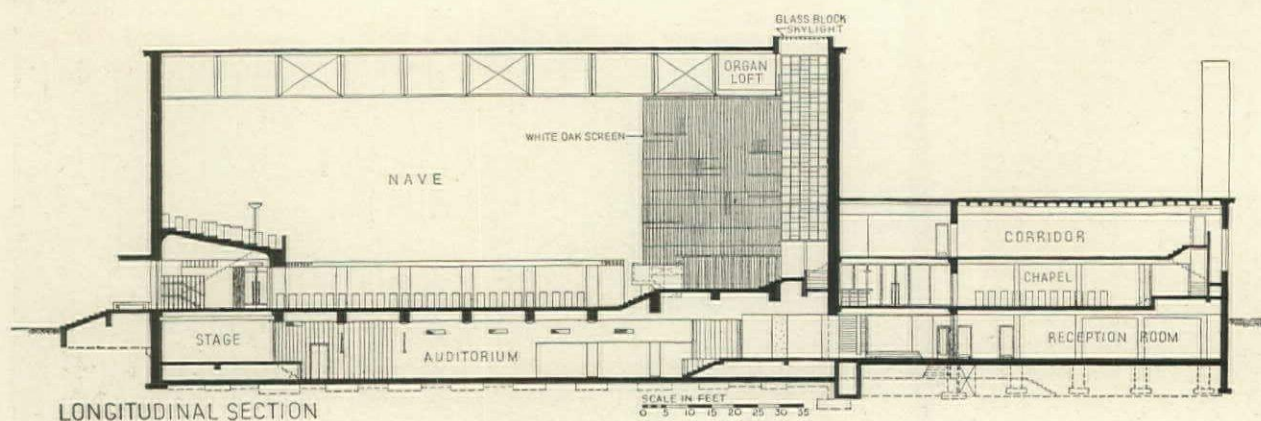
CHAPEL



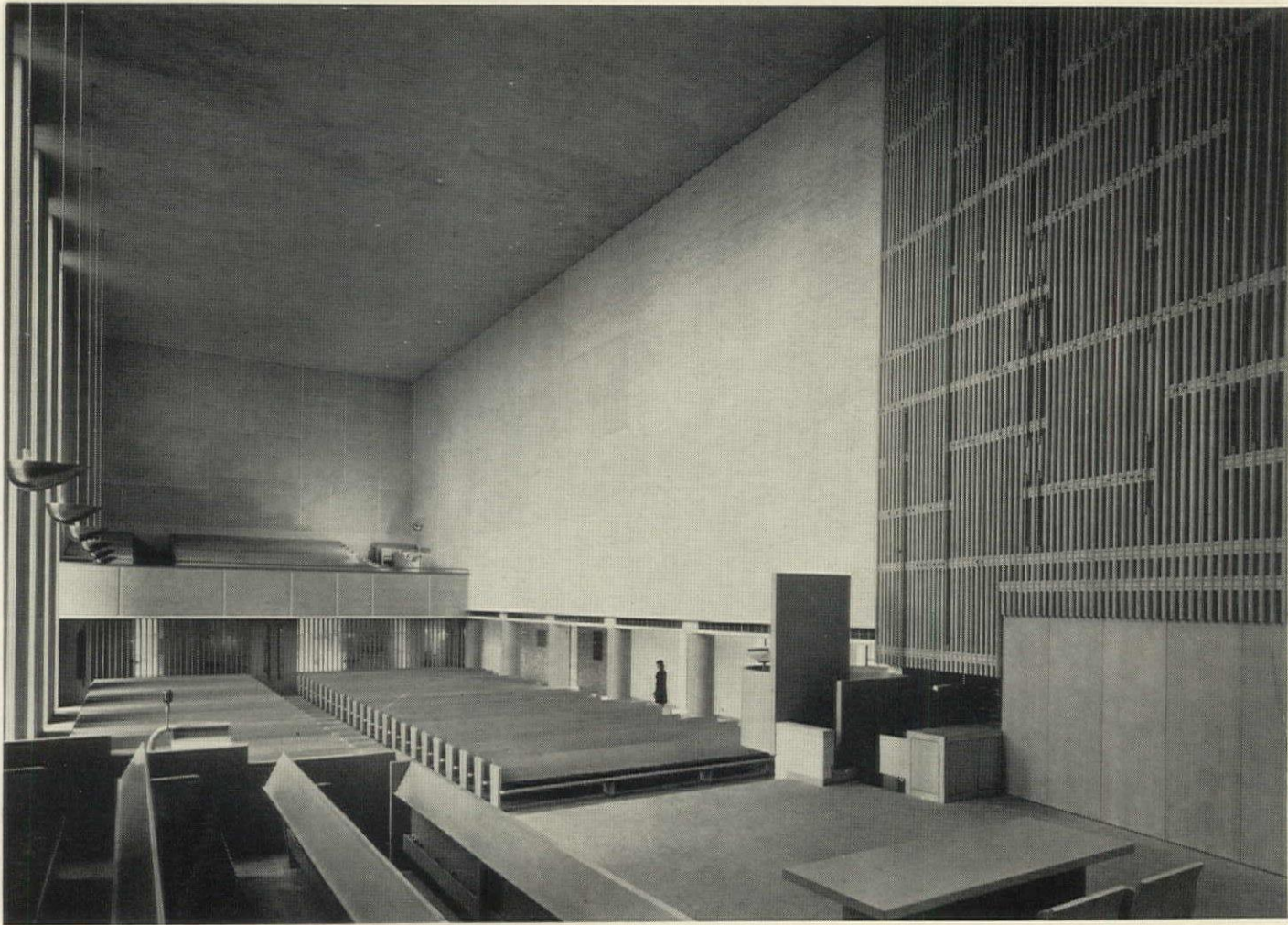
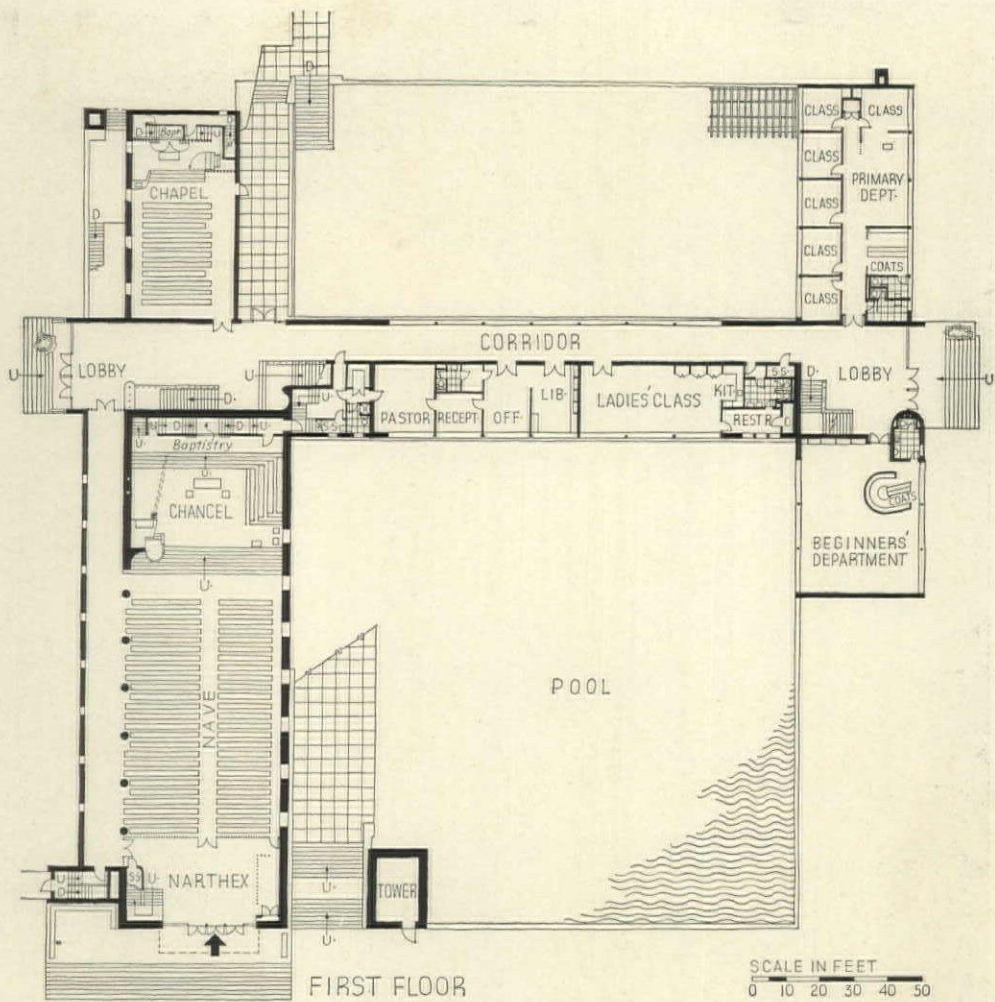




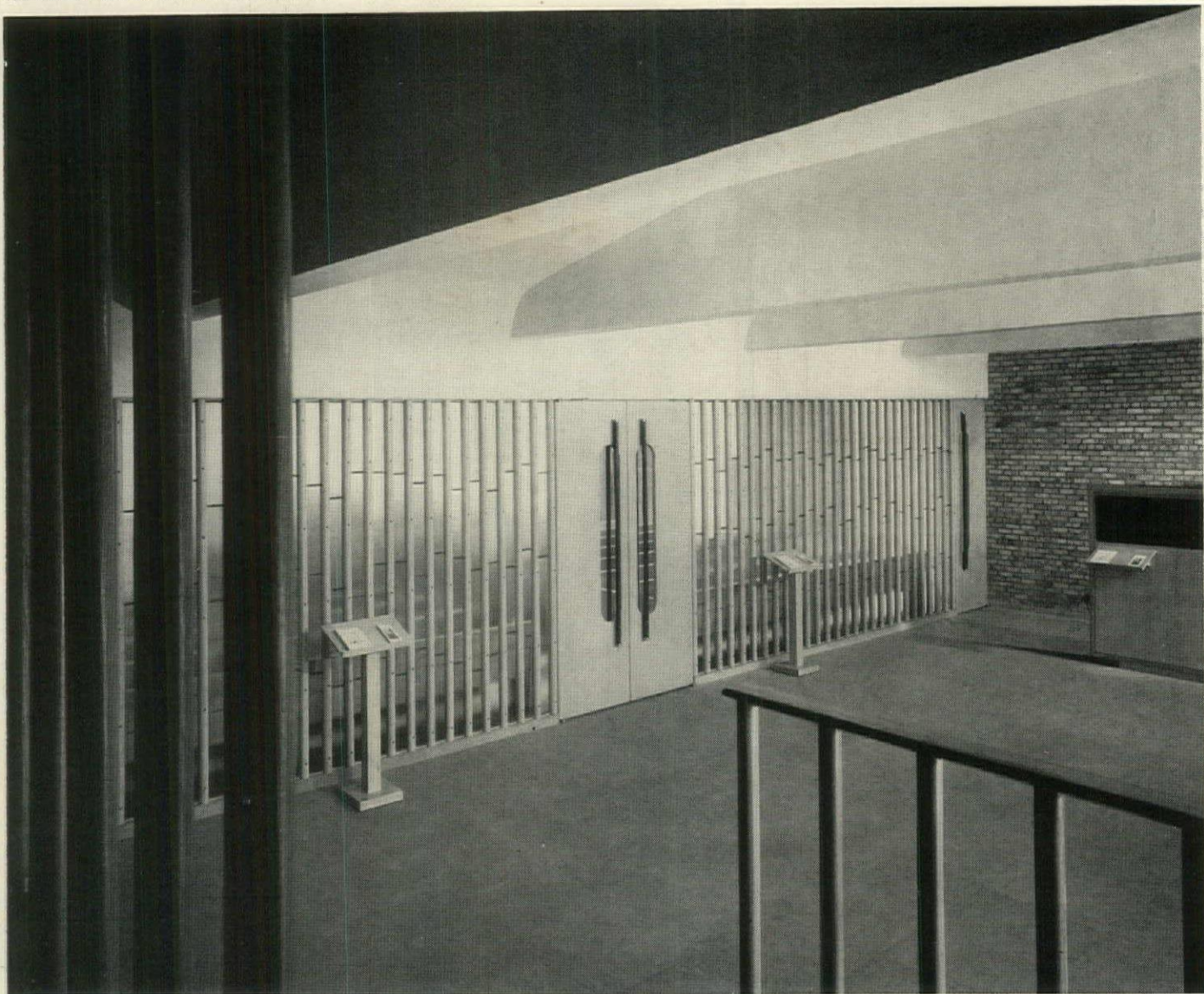
Heart of the entire group of buildings is the church, a monumental, brightly lighted room 45 ft. in height. Like the chapel, it is not symmetrical in treatment, and the architects' comments in this respect are interesting: "We have not been concerned with a symmetrical solution, believing that forced symmetry only creates artificial and sterile conditions. Really, in the case at hand, symmetry was bound to be artificial, for the function of this church, in particular the function of the Chancel, is asymmetrical in its nature. Our endeavor, therefore, has rather been to arrive at a good balance between the various features and points of interest of the room. . . On the whole, our endeavor has been to create a serene, spacious atmosphere, by surface and color treatments, and by regulating the amount, direction and quality of the light from outside. As for this outside light we have a dual scheme: first, to lighten the nave with soft western light during the morning services; second, to bring into the chancel an abundance of the bright morning light in order to focus the eyes and minds towards this spatial flow of light. Such an arrangement, we think, will add a spiritual quality to the service."





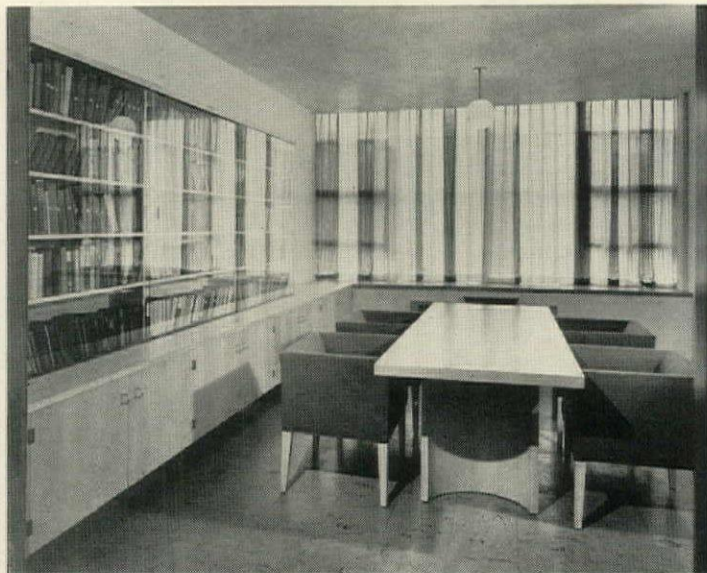






The Narthex is a spacious entry containing a coatroom and the stairs which lead up to the gallery at the rear of the church. There are three doors in the wood and glass screen, two opening into the church and a third going to the side corridor which connects with the chapel and Sunday school. The simple consistency so apparent in the treatment of the church is also evident in this room, where wood, brick, plaster and glass have been combined in a manner which has both dignity and textural richness. Illustrated at the right is the library, which has been handled in the same workmanlike fashion as the other office and school interiors.

LIBRARY



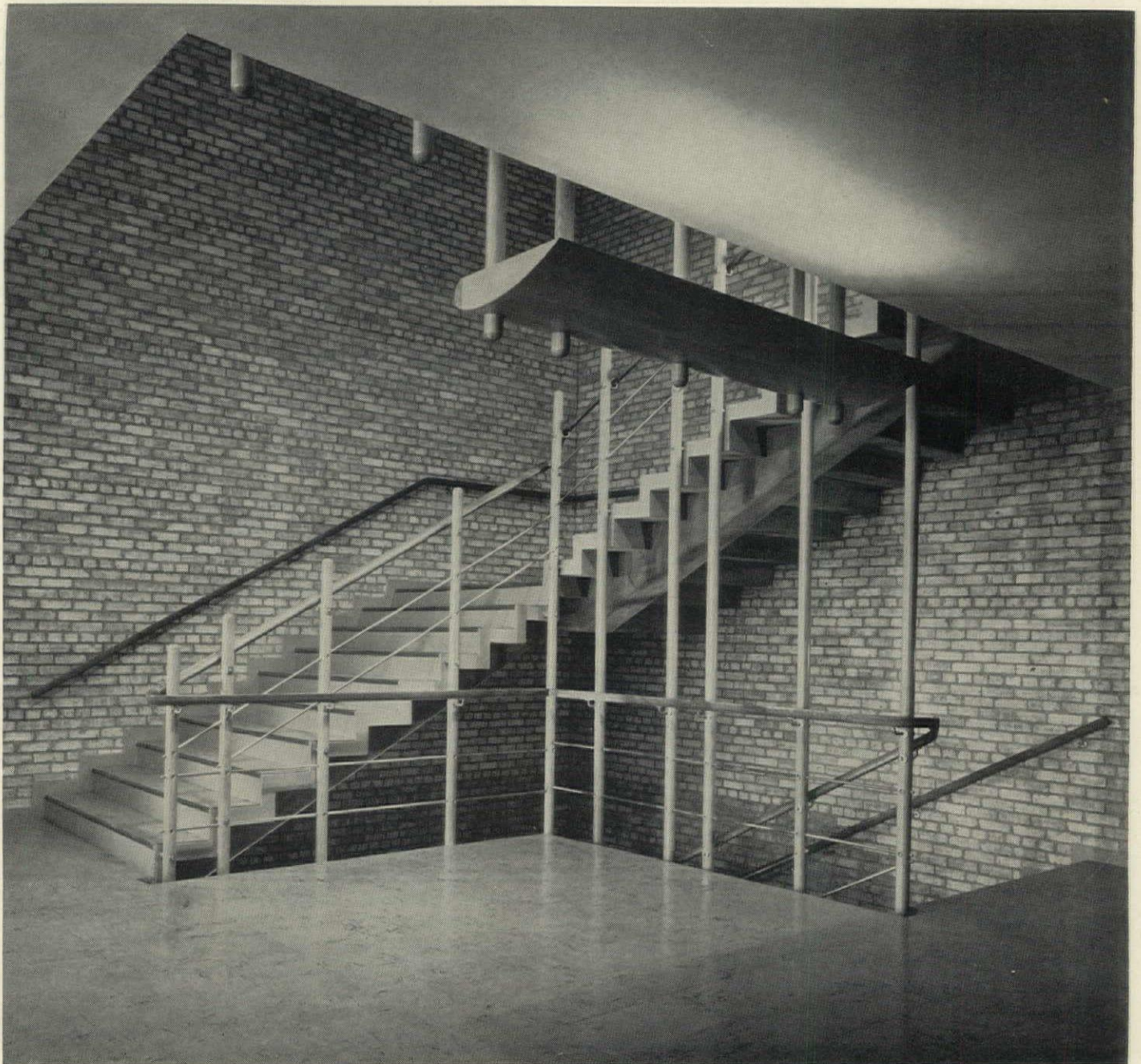


The view of the stairway shows a very fresh and interesting expression, using the same simple vocabulary of wood, brick and plaster followed in the other interiors. The balusters have been developed as the main decorative feature, carrying right through from one run of stairs to the one above, and projecting beyond the handrails for emphasis. They also serve to carry the indirect lighting fixtures.



EAST LOBBY—FIRST FLOOR

WEST LOBBY—FIRST FLOOR

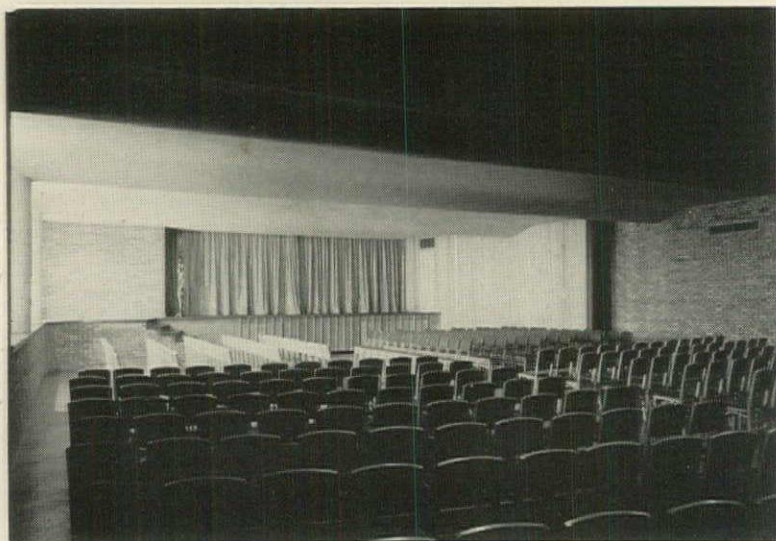




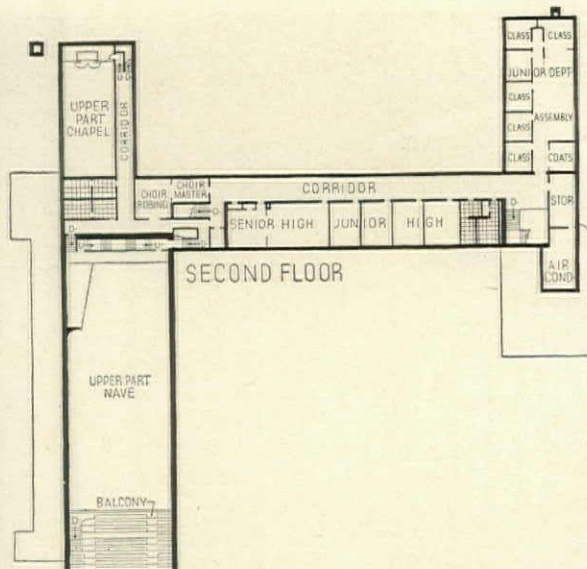


SECOND FLOOR ASSEMBLY ROOM

BASEMENT AUDITORIUM



BASEMENT CLASSROOM



The portion of the group devoted to the school is very well provided with both space and equipment. Classrooms follow the same high standards established by the best of the non-ecclesiastical institutions. Seating is both movable and comfortable, and a high degree of flexibility is provided by the use of sliding partitions between many of the rooms. The basement auditorium was designed to take care of dinners, amateur theatricals, entertainments, etc., and its floor-length windows open on the terrace, greatly extending the room's possibilities in favorable weather.

#### CONSTRUCTION OUTLINE

**STRUCTURE:** Walls—brick, Wyandot Clay Products Co., cement, Louisville Cement Co.; inside—plaster, U. S. Gypsum Co. Structural steel—Fort Wayne Structural Steel Co. Iron—Ornamental Iron Work Co. and Cincinnati Metal Crafts. Waterproofing—Brown & Kerr. Floors—concrete slab, asphalt tile, Johns-Manville; marble, tile and stone, Wege Marble & Tile Co. Roofs: Roof tile, Federal American Cement Tile Co. Lightening protection—Dodd Struthers.

**HARDWARE:** Russell & Erwin Mfg. Co.

**WINDOWS:** Sash—steel, Truscon Steel Co. Glass—Pittsburgh Plate Glass Co. Weatherstripping—Chamberlin Metal Weather Strip Co.

**WOODWORK:** Anderson Woodworking Co. **FURNITURE:** Dunbar Furniture Co. Church seating and organ screens—American Seating Co. Modern fold partitions—New Castle Co.

**PAINTS:** Glidden Co.

**KITCHEN EQUIPMENT:** Southern Equipment Co. Cabinets—Baxter Steel Equipment Co. Ranges and refrigerators—General Electric Co.

**PLUMBING:** Fixtures—American Radiator-Standard Sanitary Corp. Toilet partitions—Sanymetal Co.

**ELECTRICAL INSTALLATION:** Sanborn Electric Co.

**HEATING:** Panel floor heating, humidification; provision made for future cooling. Boilers—Terre Haute Boiler Co. Convectors—Young Radiator Co. Oil burners—Ray Oil Burner Co.

**OTHER EQUIPMENT:** Blackboards—N. Y. Silica Slate Co. Curtain fixtures—H. J. Judd Co. Stage Equipment—Theatrical Equipment Co. Curtains and drapes—A. Dudley Kelly. Chimes and sound equipment—RCA and Power Equipment Co. Clock—Seth Thomas. Pipe organs—Aeolian-Skinner Organ Co.





British Combine

# A. R. P. IN SCHOOLS

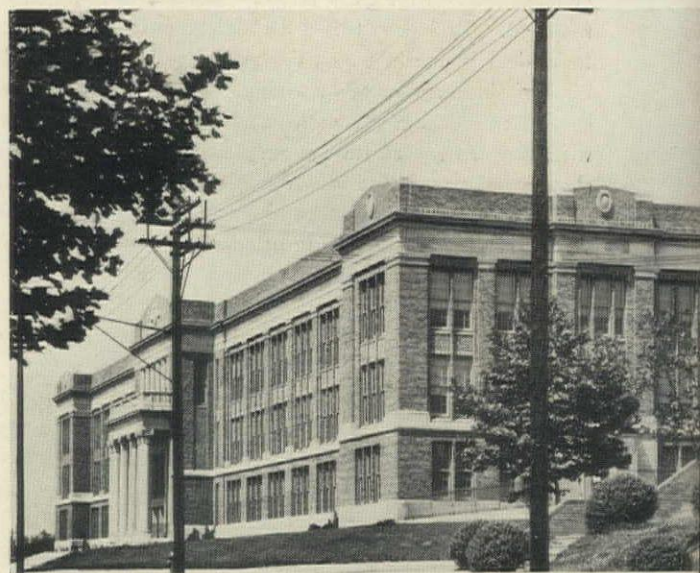
To protect the nation's children from physical injury and morale breakdown is now primary concern of school officials and teachers.

(Previously published A.R.P. material: Nov., '41, *Building For Defense* issue; Jan., '42, *Civilian Defense* issue; June, '42, *A.R.P. in Apartment Houses*; July, '42, *A.R.P. in Hospitals*; Aug., '42, *Industrial Plant Protection*.)

Protection of school buildings is a problem which must be approached from one objective primarily—the protection of *persons*. In THE FORUM's consideration of hospital protection (July, '42), it was clear that, although patient's welfare was important, the hospital had to be first occupied with maintenance of its *services*—regular and emergency—to the public. Protective devices are aimed at keeping operating rooms working under all conditions, retaining at all times full use of emergency entrances and exits.

However, the protection of the nation's schools is protection of the lives and morale of its children. School officials realize that overall precautions for buildings are impossible, so they have adopted the next best device: allocation of relatively safe shelter areas, appointment of "scatter posts" within five minutes of the school if the building is unsafe or congested, careful plans for prevention of panic. The case of the schools in America, unlike that of industrial plants (FORUM, August, '42), differs sharply from the British example. In England, due to the high degree of congestion in industrial cities, and the nearness of those cities to the enemy's starting point, "it was early recognized that a main line of defense would be dispersal, and, in particular, the removal of school children from the congested and more dangerous areas to safer areas." (*The Schools in War-time*, British Board of Education). In the United States the theory of dispersion is utilized only to a limited extent. This is due no doubt to the degree of safety assumed because of our far greater area, which reduces the chances of a direct hit on any given building, as well as to the fact that British experience has shown evacuation to have a depressing effect on morale.

Although all educators are not in complete agreement about the adopted theory of protection, the concept of shelter areas is nationally accepted. Among the dissenters are Newark's officials, who feel that "children should be dispersed to any degree possible so as to reduce the crowding in our so-called security areas." Conforming however, to New Jersey's state ruling that children are to be held in school buildings in case of air raid alarm, Newark's precautions, like those of New York City and Philadelphia, three cities selected as typical in this discussion, are aimed at adequate protection of the shelter areas, dependable systems of alarms and carefully planned programs for morale.



Landsdowne

Typical of the tragedy that has struck in many places in England, regardless of the nature of the objective, is the scene above left of schoolboys regarding a bombed Eton school building. Above right, two types of American schools which must be protected, the older, more difficult (pre-1900) type, and the more modern safer type from shelter point-of-view.



# A. R. P. IN SCHOOLS



Ehrenberg

## SHELTERS

The ideal shelter area is one which contains no glass whatsoever—either an inner corridor built entirely of unbroken walls, or one in which all glass panes, transoms, doors, etc., have been removed. Probably this type exists only in very few cases. Less ideal is one in which the glass has been protected by some kind of shatterproofing or taping. In any case, the area should be two walls from the outside, should contain some connection with the central alarm system (either bells, lights or radio), should be properly provided with ventilation, emergency exits and lighting equipment, and located on intermediate floors. A third type of shelter, resorted to by some schools with no interior corridor, makes use of areas at least 20 feet from the



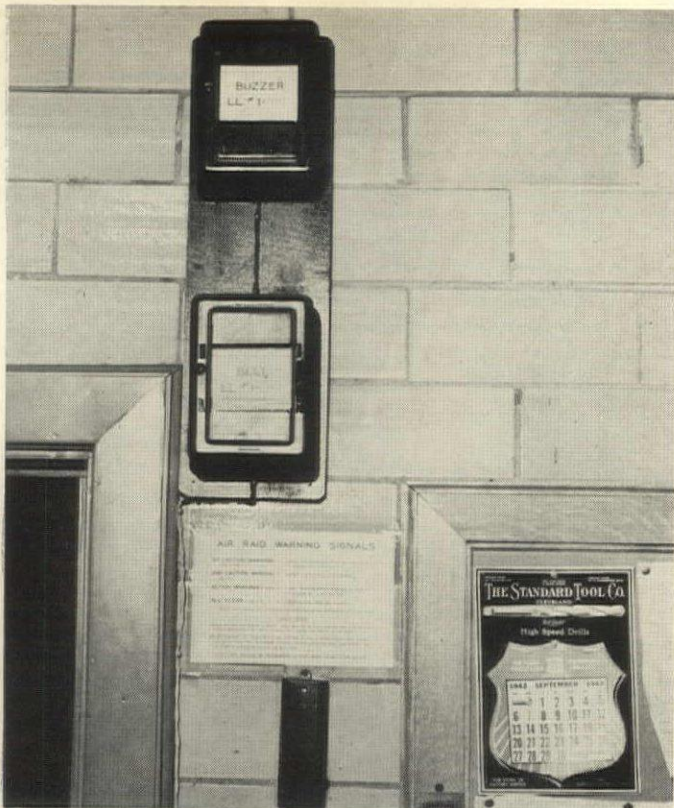
nearest window. This is hazardous, however, and in such cases school authorities have advised evacuation of students to a nearby steel structure building not further than five minutes from the school. In the picture below left, children of a Philadelphia school are shown entering a nearby church which has been adjudged safe by authorities. In New York City, buildings were first surveyed for types (safer: steel construction; less safe: wall-bearing types), and then for relative congestion. At the sounding of a "yellow" signal (which means that 23 minutes remain before an expected attack), children in congested, less safe buildings are removed 1) to their homes if they are within 5 minutes of school, 2) to alternate shelters if they are not. OCD's pioneering bulletin, *Protection of School Children and School Property*, suggests that schools in close proximity to military objectives should consider complete "abandonment for the duration of the war." No such moves have been made as yet, although school officials have made surveys of such dangerously located schools, are prepared to evacuate permanently and transfer students to safer schools at a moment's notice. But even greater danger, they claim is the morale effect on children and parents of such a move.

Upper picture shows a shelter area in Hunter College, New York City. The 2-year-old steel-structure contains admirable shelter areas as each of the 15 floors contains such a corridor. Below is a less perfect but still serviceable area in a Philadelphia public school, showing a class organized to sit along the walls of corridor, and a teacher carrying on school work, thus allowing pupils no time for panic.



Photos, Landsdowne

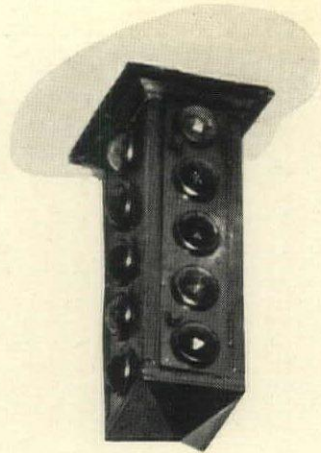




Ehrenberg

## WARNING SYSTEMS

Most important if removal to shelter areas or evacuation from the school is to take place is that a reliable, accurate and distinctive system of alarms be set up in each school, coordinated with the general police or civilian defense alarm system of the city. First requirement is that it be sufficiently differentiated from the ordinary hourly system of bells so that no possible confusion could result. Another is that a subsidiary method of alarm exist in case of breakdown of the major one. It is advisable, too, that one of the subsidiary systems (some schools have three or more) be autonomous and not dependent on city or local power. Best of these is an inter-floor telephone-call wire such as Hunter College's Chattabox system (see right.) Operating like a rural telephone, these are in shelter areas on each floor, allow user to speak into them by switching a lever, enable one floor to call for aid from any other.



New York City's school system has devised an ingenious set of alarms. Taking its cue from a central police control station which in turn receives the alarm from the Interceptor Command, each principal or custodian's office is equipped with a set of boxes (see left), which receives a 1st Caution Warning (yellow), 2nd Caution Warning (blue), Action Warning (red) and all-clear (white) distinguished by various buzzing signals. Strategically placed in hallways are color-warning boxes, see above, which relay alarm.



Ehrenberg

Philadelphia's alarm method resembles New York's, includes parochial and private schools in its relays. Eight district offices are equipped with special short-wave receiving sets, and these offices inform schools in their district by telephone, utilizing the accepted bell-code forms (see above). Signals within the school are given by means of classroom bells, with auxiliary systems devised in case of breakdown. Photo extreme right illustrates complete reception office equipped with radio receiver, buzzer and light systems.

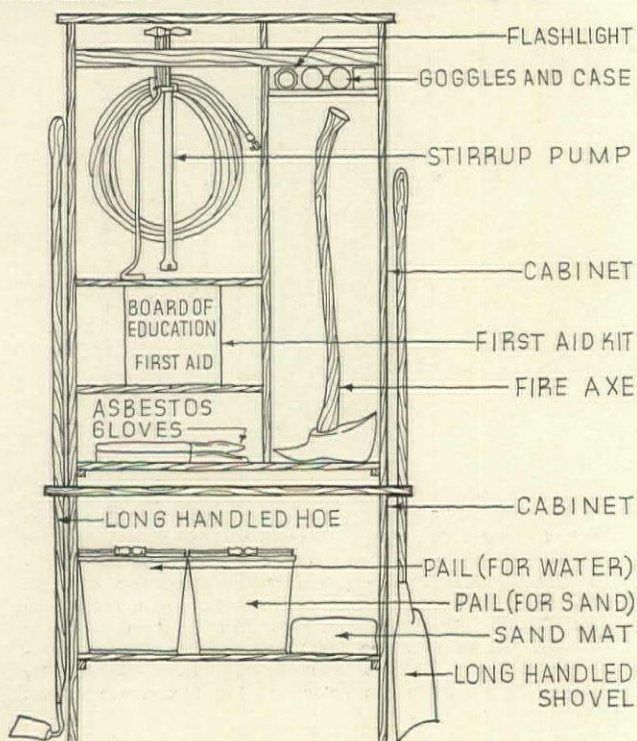


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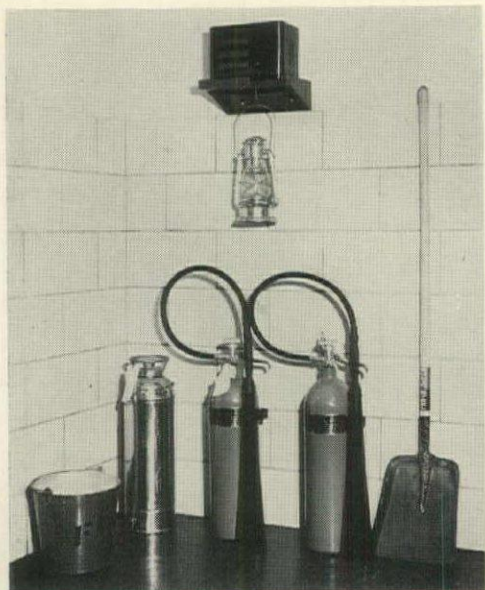
# A.R.P. IN SCHOOLS



## FIRE-FIGHTING EQUIPMENT

Like other such equipment reviewed in previous issues for other building types, fire-fighting material in schools must be 1) conveniently placed, 2) thoughtfully provided, 3) easy to use. In grammar schools most of the use and care will be in hands of teachers or maintenance workers, but in high-school or college buildings, student groups can be taught to deal with emergency fires and bombs.

Typical equipment (see drawing) consists of two types of cabinets, one, the low-cabinet type for use indoors, the other, a high, closed cabinet for roof use. Provisions include axe, stirrup pump, shovel, hoe, pails of sand and water, etc. Each cabinet is uniformly arranged so that students taught with one cabinet can quickly find anything in any other. Cabinets should be fixed to floor, outdoor units must be inspected after every rain, and students should have regular instruction periods or exhibitions (see auditorium exhibit of Philadelphia's equipment below) during which all materials are explained and used in practice drills.

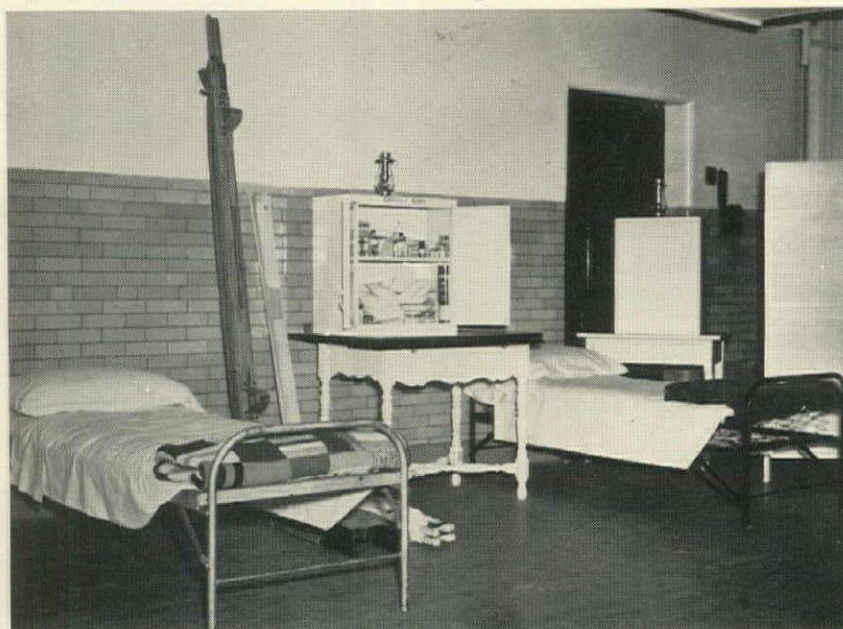


Rhrenberg



## FIRST AID ROOMS

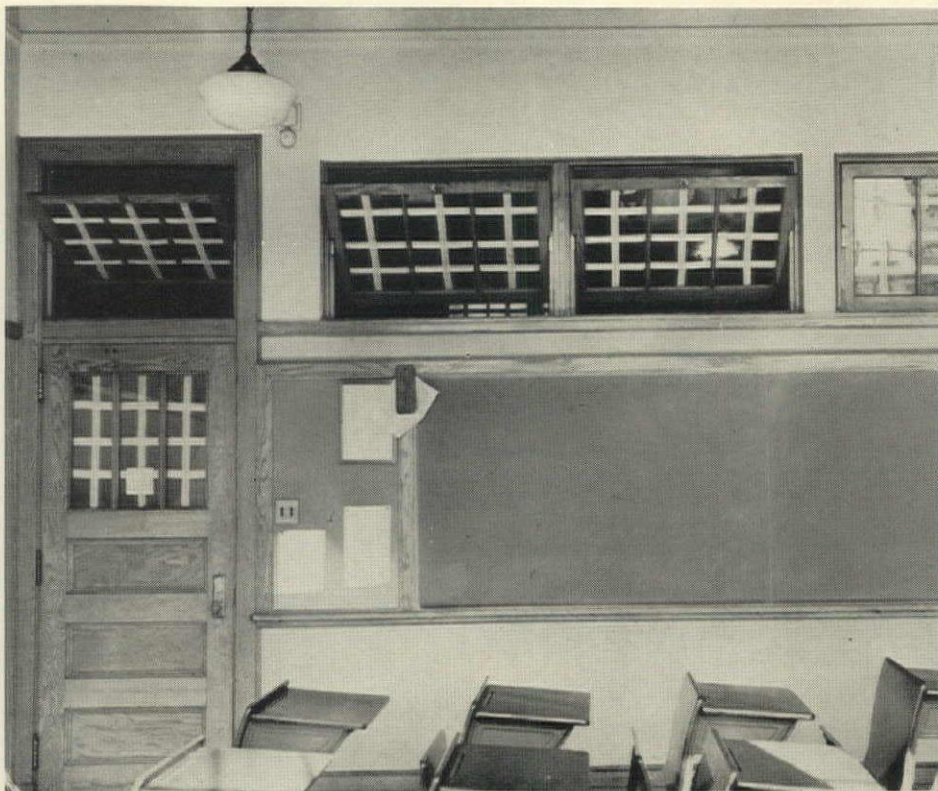
Importance of medical emergency care is great since many students will be harbored within a small area and various minor illnesses often result in confined, slightly panicky groups. First-aid room to the right is typical of those established in most schools. It is advisable to have more than one, strategically placed, but when this is impossible small, portable, first-aid kits are given to at least one teacher within each shelter area. In trade schools where much shop and mechanical work is done, provision for medical care usually has already been set up, and it can be readily utilized for emergencies.



Photos, Landsdowne



Photograph to the right shows a typical New York City school, protected by evenly spaced strips of 1/4" cambric tape applied on the shelter area side of the interior glass and shellacked over with shatterproof liquid. Bottom left shows doors opening onto shelter area from which glass panes have been removed, composition board being substituted. Bottom right is a third type of protection: glass embedded in wire mesh to reduce splintering.



Ehrenberg

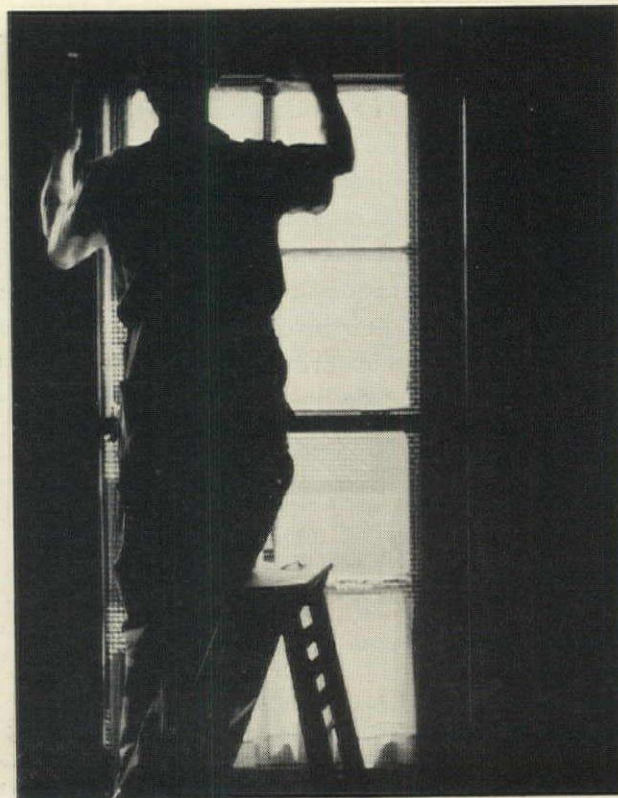
## GLASS PROTECTION

Like a well-built modern hospital, a well-built modern school contains as much window space as possible. It is this peacetime advantage to healthful education that boomerangs into a major wartime hazard. OCD's bulletin warns that "the greatest danger in classrooms results from flying glass and fragments." With removal of students to shelter areas, however, it was de-

cided to protect only that glass which bordered on these areas, whether in transoms, doors or windows. Glass on the outside is protected only by opening bottom sash of windows. Kinds of glass protection vary, and two cities, New York and Newark, have made careful tests of suggested devices. Both concurred with the English practice of using adhesive strips of thick paper or tape reenforced by liquid, shatterproof coating.



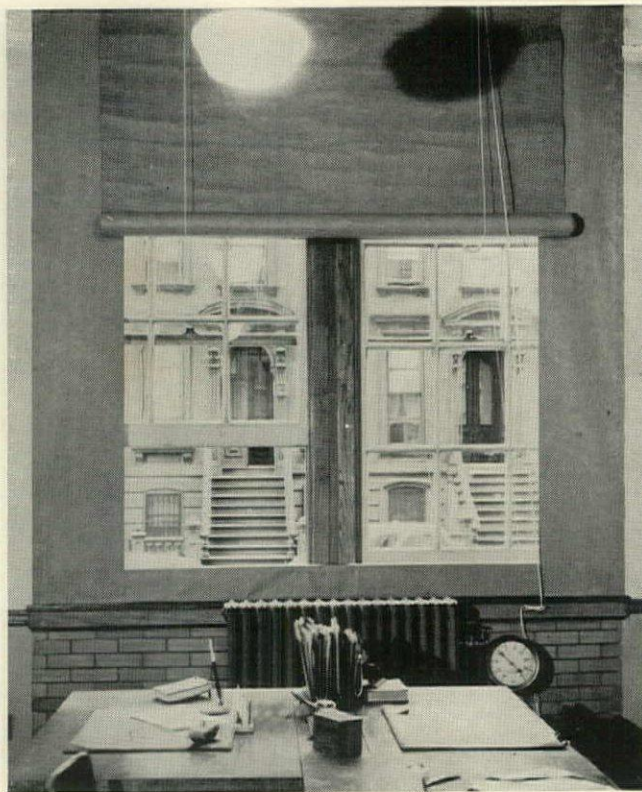
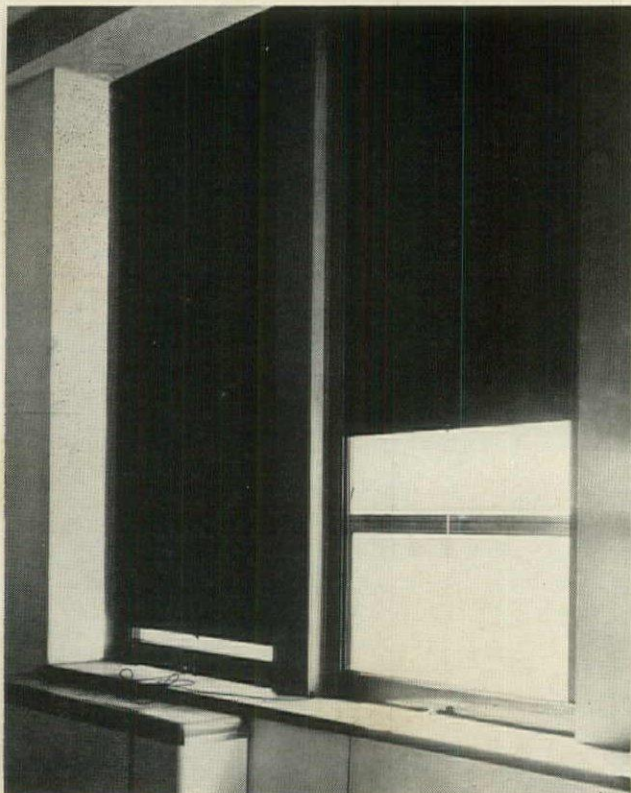
Ehrenberg



Landsdowne



# A.R.P. IN SCHOOLS



Ehrenberg

## BLACKOUT

Problem of obscuration exists only in those schools where night classes are held, but utilization of school buildings for civilian defense meetings, draft board hearings, etc., brings with it the necessity for blackout. Together with the usual blackout shade, two new types have been devised: 1) left, shows Hunter College's system of leatherette shade suspended in a steel envelope. Advantage is that the shade is not part of the window, does not prevent washing or interfere with light and can be used after the war in rooms showing lantern slides, motion pictures, dark rooms, etc. Cost: \$10 a window including in-

stallation. Materials are now unavailable, but economy and neatness of the system suggests that it could easily be duplicated in plastic or other materials.

2) Picture at right shows the kind of installation made in offices, shops and laboratories of New York schools working at night. Here a treated paper material is suspended by a simple cord pulley, and borders of the window are tacked with the paper to prevent any leakage. Cost is very low, installation exceedingly simple, and the result no damage to the window or hindrance to light.

## CONCLUSIONS

The physical methods of protection described above are designed to save persons and property but in a wider sense they have the effect of reassurance. They tell the child who sees the windows of his school blackened, pails of sand and stirrup pumps in his halls, glass doors and windows taped that he is safe and well cared for. His confidence grows and he is ready to face whatever comes.

These physical measures, however, are not always enough. Sensing this, schools throughout the nation have done a first-rate job of practice drills, planning entertainment in shelter areas, utilizing the emergency as a chance to develop

leadership among older students in the use of fire-fighting materials, alarm systems, etc. They have gone about the job of providing students with identification tags, automatic modes of behavior and standards of discipline in a cool, unhurried, unfrantic and entirely admirable fashion.

It was after just such careful planning for morale by the English public schools—at the end of a bad air raid during which excellent "trench" entertainment had been provided for the pupils—that a little girl when she heard the all-clear, produced the historic remark: "Please teacher, may we go on with the air raid?"

## BIBLIOGRAPHY

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**THE SCHOOLS AND CIVILIAN DEFENSE.** Committee on Civilian Defense in the Schools. Board of Education, City of New York. A basic discussion of theory and practice that

has been widely read and used throughout the country.

**THE SCHOOLS AND CIVILIAN DEFENSE—GLASS PROTECTION.** Same Committee as above. Suggests many kinds of protection, giving useful installation details and specifications.

**WAR TIMES.** Official Bulletin, School Committee on Defense Services, Board of Education, Newark, New Jersey. Published on

occasion. The most valuable recent issue from A.R.P. point of view has been Vol. 1, No. 4, dealing with "Reducing Hazards From Glass."

**BALTIMORE BULLETIN OF EDUCATION.** A Journal of the Public Schools of Baltimore, Md. Vol. XIX, No. 3 is devoted to "Training for Civilian Defense," contains an excellent article by Asst. Superintendent John W. Lewis on the Baltimore Program of Protection.



# HOUSES

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## HOUSE IN TARRYTOWN, NEW YORK

ROBERT GREEN, ARCHITECT

*Photos, Robert M. Damora*

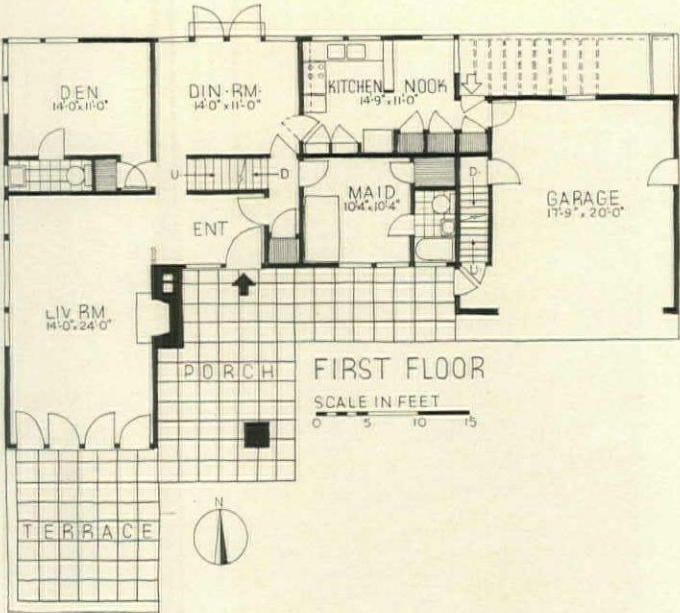
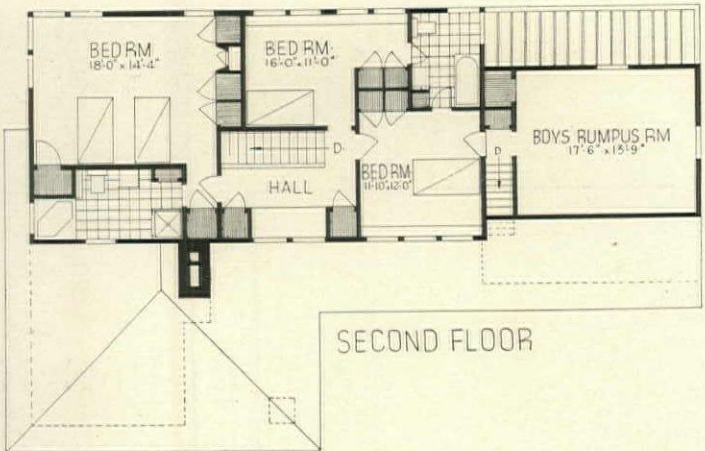




HOUSE IN TARRYTOWN, N. Y.



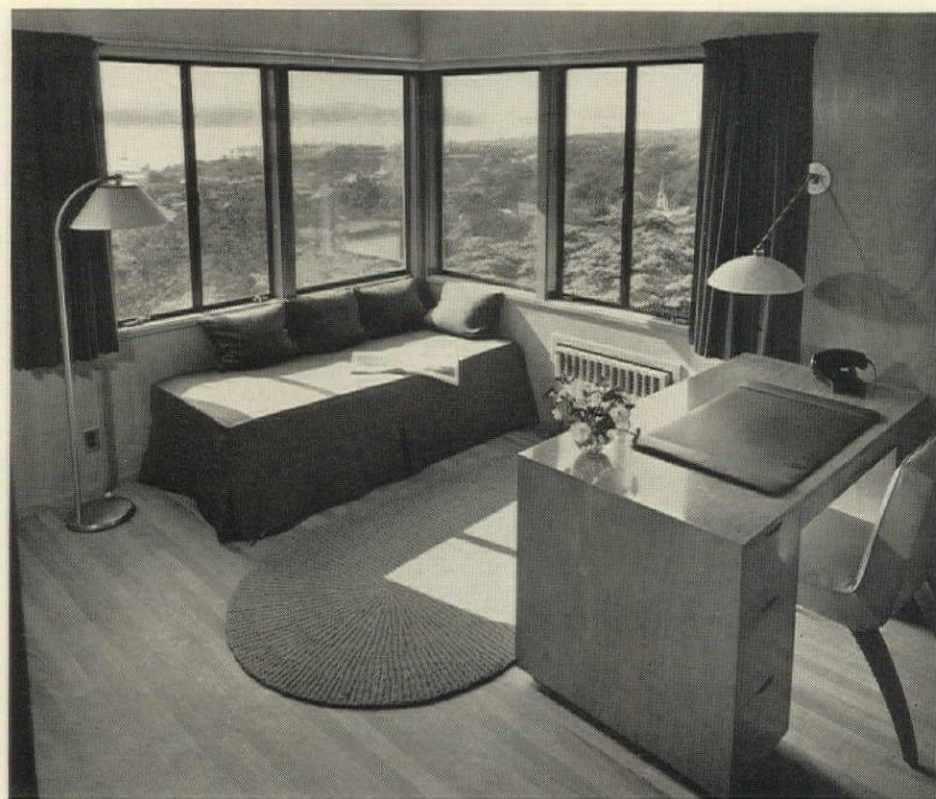
View of the west side of the house (above) taken from the lower terrace. The doors off the terrace open into a recreation room, not shown on the plans. Directly above is the living room, whose large windows overlook the river. Mary A. Green assisted in design of interiors.







The architect states that "the design was influenced by the magnificent view of the Hudson River and by the owner's desire for an unpretentious, modern residence." The terseness of the statement is matched by the simplicity of the house, which not only meets the essential requirements most successfully, but fits into the irregular site with distinction and charm. A good part of this charm is due to the taste with which the simplest of materials and architectural elements have been combined. The plan was designed to be altered as the family grows. The attic over the garage, now used as a child's playroom, is to be converted into a maid's room, releasing the present maid's room for use by guests. An interesting feature is shown in the view of the kitchen, the open storage unit which partly separates the kitchen proper from the dining space.



#### CONSTRUCTION OUTLINE

**FOUNDATION:** Stone. Waterproofing—R. I. W., Toch Bros., Inc.

**STRUCTURE:** Exterior walls — cedar shingles, studs, sheathing; inside and ceiling finish—Duali plywood, U. S. Plywood Corp., or Sheetrock, U. S. Gypsum Co. Floors —white oak.

**ROOF:** Slate shingles.

**INSULATION:** Rockwool, Johns-Manville.

**FIREPLACE:** Damper—H. W. Covert Co.

**SHEET METAL WORK:** Flashing—copper, Anaconda, American Brass Co.

**WINDOWS:** Sash, weatherstripping and screens—Fenestra, Detroit Steel Products Co. Glass—Pittsburgh Plate Glass Co.

**FLOOR COVERINGS:** Alexander Smith & Sons Carpet Co. and Sloane-Bablon Corp.

**WALL COVERINGS:** Living room and halls —Duali plywood, U. S. Plywood Corp. Bed-

rooms—Sheetrock, U. S. Gypsum Co. Kitchen and bathrooms—Marlite, Marsh Wall Products Co., Inc.

**PAINTS:** Pittsburgh Plate Glass Co.

**GARAGE DOORS:** Overhead Door Corp.

**HARDWARE:** P. & F. Corbin Co.

**ELECTRICAL INSTALLATION:** Wiring system and switches—General Electric Co. Fixtures—Kurt Versen.

**KITCHEN EQUIPMENT:** Range—Chambers Mfg. Co. Refrigerator—General Electric Co. Sink—Monel Metal, International Nickel Co., Inc. Cabinets—Murphy Bed Co. Ventilating fans—Victor Electric Products, Inc.

**LAUNDRY EQUIPMENT:** Sink—American Radiator Standard Sanitary Corp. Washing machine—Bendix Home Appliances, Inc.

**BATHROOM EQUIPMENT:** Fixtures—American Radiator-Standard Sanitary Corp. Seat—C. F. Church Mfg. Co. Glass shower stall—Miami Cabinet Div., Philip Carey Co.

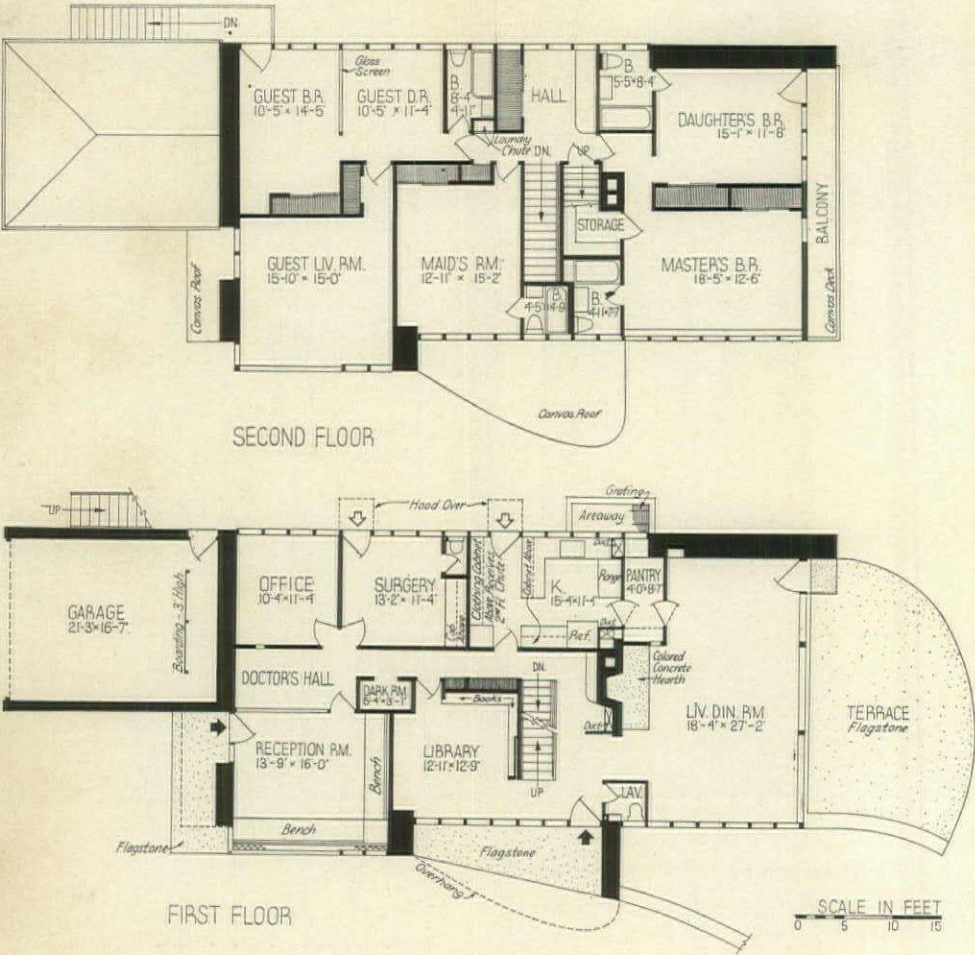
**PLUMBING:** Soil pipes—cast iron. Vent pipes—galvanized iron. Water pipes—Anaconda brass, American Brass Co.

**HEATING:** Hot water system, Burnham Boiler Corp. Regulator—Minneapolis-Honeywell Regulator Co. Water heater—White-

head, The International Nickel Co., Inc.



# HOUSE IN DOWNINGTOWN, PA.



Photos, C. V. D. Hubbard







OFFICE



WAITING ROOM



Built for a doctor and his family, and used as both home and office, this house is an excellent example of an approach that would have been unheard-of a few years back: modern design carried out in the simplest of traditional materials. Only wood, stone and glass count in an important way inside or out; where stone is exposed within the house the walls are sufficiently thick to make furring unnecessary. The office has its own entrance, well removed from the front door, and the three rooms are grouped to form a separate unit on the ground floor. There is a library, so placed that it is equally accessible from the office or the living quarters. An interesting feature of the second floor is the guest suite, which may be used as a private apartment with its own outside stair. Of equal interest is the use of materials: the stone is laid up in large, solid masses, with wood and glass filling the intervening spaces. The effect of this logical combination of light and heavy materials is immediately apparent in the views of the exteriors, while the interiors show a great gain in quality of texture.





The richness of texture mentioned above is very apparent in these views of the main living areas, where wood, both solid and laminated, contrasts sharply with the rough masonry. The bold use of glass further enriches the interior by relating it to the surrounding landscape. A dining area is inconspicuously provided in the living room, while the openness of the connection with the library further enhances the general air of spaciousness.



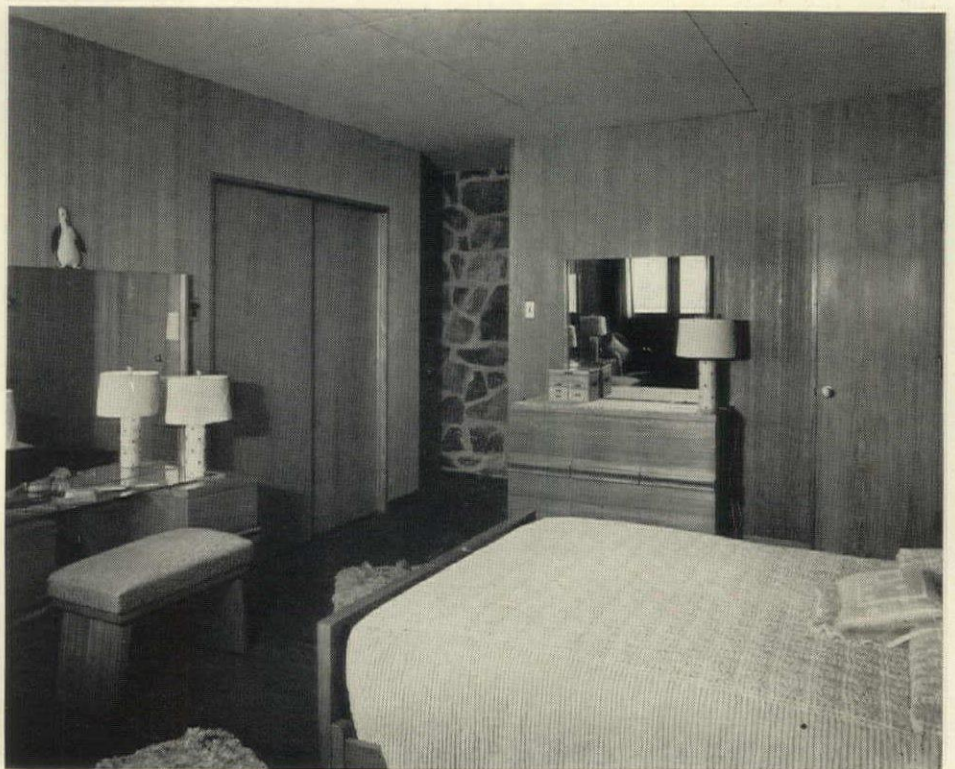




The main stair is of the open type which seems to be favored by a great number of modern architects, and its dramatic quality is emphasized by the omission of an outside handrail. Fortunately, there is a doctor in the house. In the kitchen the usual cabinets over the sink have been given up in favor of more light and a better view. The daughter's room, below, offers another example of the lively contrasts possible with such different materials as polished wood and rough stone work. Also worth noting in this room is the standard closet, shallow, and equipped with doors which give easy access to all of its contents.

#### CONSTRUCTION OUTLINE

FOUNDATION: Granite fieldstone.  
 STRUCTURE: Exterior walls—cypress; inside—Douglas fir plywood. Floors—Douglas fir. Ceilings—Arborite, Atlantic Gypsum Products Co. and gum plywood.  
 ROOF: Cedar shingles.  
 WINDOWS: GLASS—Pittsburgh Plate Glass Co.  
 INSULATION: Rockwool.  
 PLUMBING: Kohler Co.  
 HEATING: Split system General Electric Co.



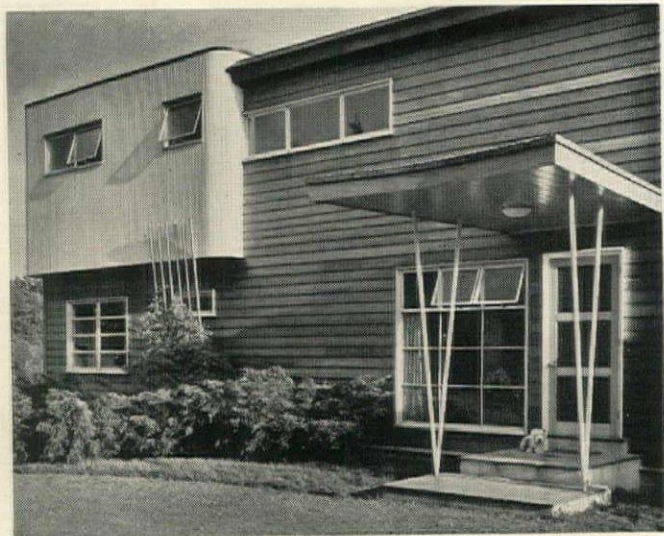


HOUSE IN MORRISTOWN, N. J.

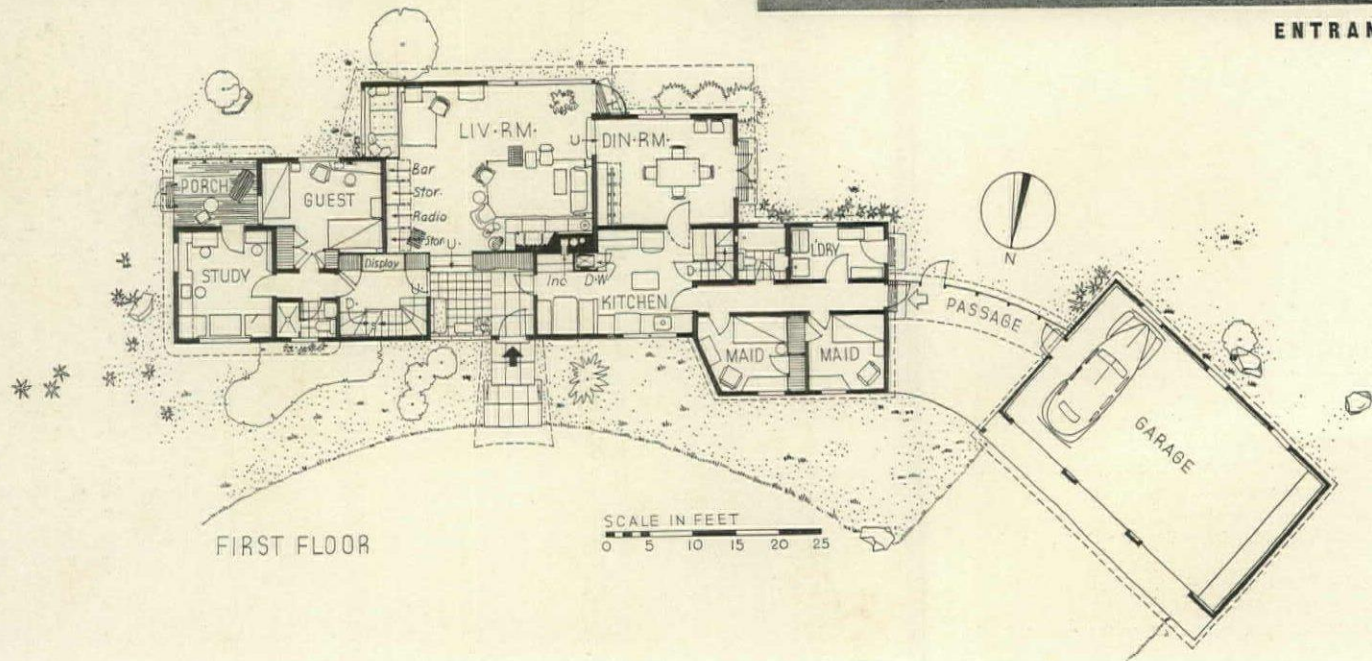


Photos, Rodney McCay Morgan

"If the architect," says Mr. Payer, "builds his own house he has a free hand (unless he is married or needs a mortgage), and his house should show what he will do in an ideal case. . . I had to satisfy the bank that the plan was economical and the construction sound. I agreed with my wife on a certain number of rooms and conveniences. The rest was determined by the site, the trees, the view. In the construction I used as many materials in standard sizes as possible and I chose the 4 x 8 ft. plywood panel as the basis for a module which carries through most of the house. Most studs and joists are used in standard lengths, so we had little cutting or waste. The exterior material is redwood. Sash and trim are light gray, doors and the undersides of the eaves are turquoise, and the vertical boards around the master rooms are lemon yellow. This sounds a lot louder than it looks."



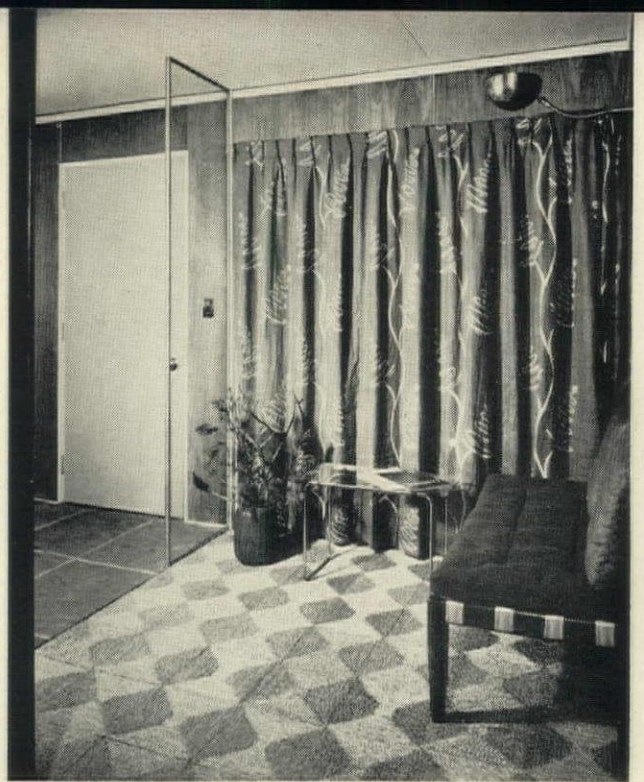
ENTRANCE





## ERNST PAYER, ARCHITECT

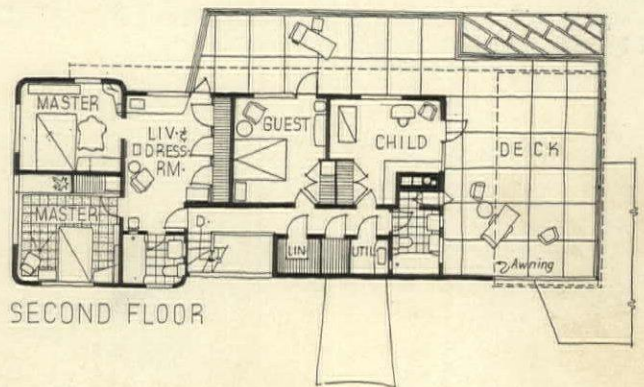
The house is located on a small hilltop, and any general view is therefore from below. Because of its situation there was no possibility of developing a main facade, nor was the architect concerned with producing anything but a three-dimensional entity. The plan, which spreads over the flat part of the hilltop, is admirably adapted to informal, comfortable country living, and the second-floor deck, as indicated by the view directly below, was really designed for use. Bedrooms are arranged in a three-room suite for the owners, with a child's room and guest room opening on the deck. The guest room could easily be converted to a second child's room, as there is another guest room with its own bath on the floor below. One advantage of natural or dark-painted wood is illustrated in the two winter photographs on these pages: even under these conditions the exterior maintains a good deal of its warmth and interest.



VESTIBULE



DECK







LIVING ROOM

DINING ROOM

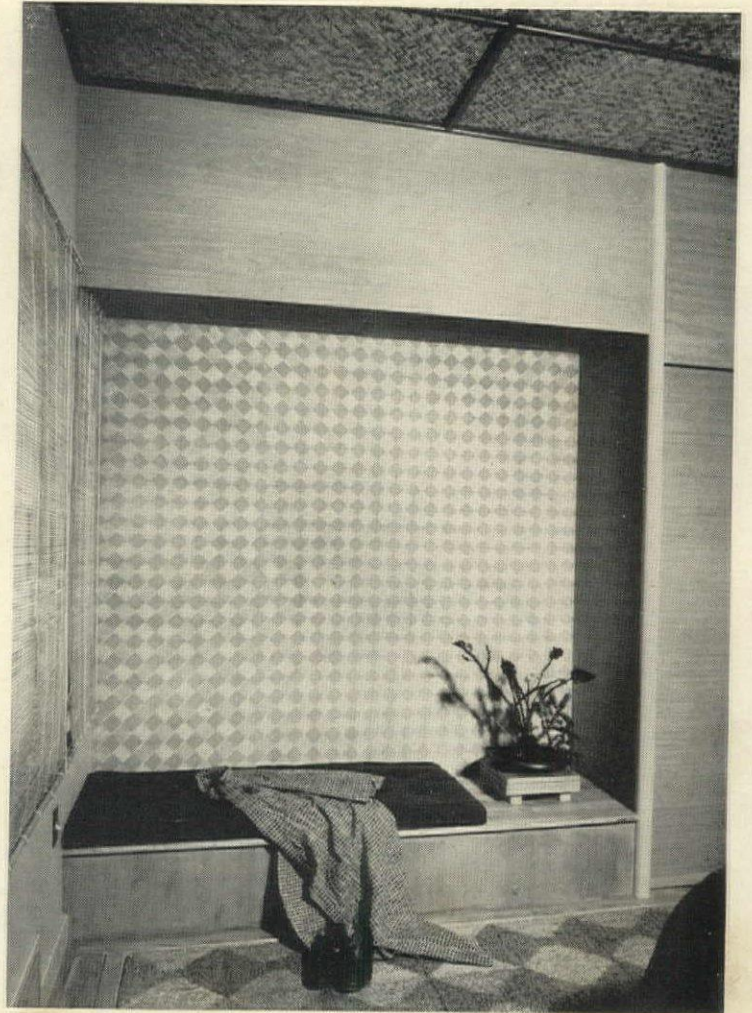


Plywood is the material used most extensively for interior wall finishes. Not only does it appear in the handsome interiors shown here, but in the cabinet doors below, and the dressing table on the opposite page. Most interesting of the many uses is seen in the main stair (opposite), where a sheet of three-quarter-inch plywood forms one of the supports for the treads. Closets were also constructed of this material in various thicknesses, eliminating the usual studs with plaster on both sides. One wall of the living room is composed entirely of cupboards, used for the storage of books, records, radio, bar, etc. Such storage space is not only where it is most needed, but the sliding and hinged doors permit the development of an interesting variety of wall patterns. The combination of authentic period pieces with contemporary furniture and accessories is to be particularly commended.

LIVING ROOM WINDOW SEAT







In the kitchen, ample dining space is provided for the servants. An old-fashioned device used here with superlative good sense is the dumbwaiter, which serves the terrace on the floor above. The alcove above, very much in the traditional Japanese manner, is in one of the master bedrooms.

#### CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—Weyerhaeuser 4-sq. frame, Weyerhaeuser Sales Co., Plyscord, U. S. Plywood Co., Balsam wool bats, Wood Conversion Co., inside—Sheetrock, U. S. Gypsum Co. Ceilings—gum, Greylite, Insulite Div., Minnesota Ontario Paper Co.

**ROOF:** 5-ply Celotex; Traffic Top, Celotex Corp.

**FIREPLACE:** Damper—H. W. Covert Co.

**SHEET METAL WORK:** Josam Mfg. Co.

**WINDOWS:** Croft Window Corp. and Andersen Corp.

**WALL COVERINGS:** Main rooms—walnut Weldboard; halls—Weldtex, U. S. Plywood Corp.

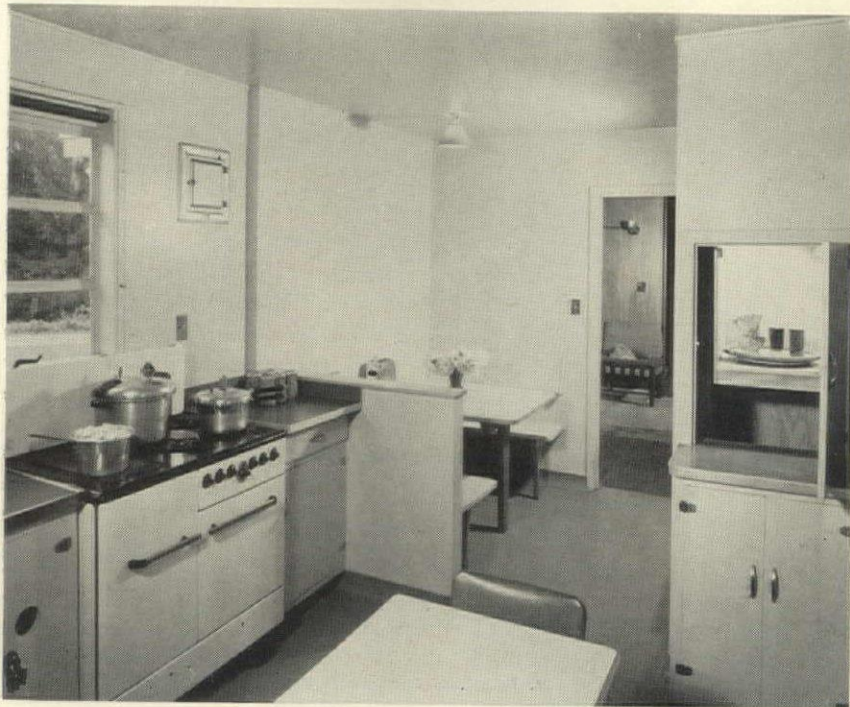
**HARDWARE:** Schlage Lock Co.

**ELECTRICAL INSTALLATION:** Circuit breaker—Square D. Co. Fixtures—Kurt Versen.

**KITCHEN EQUIPMENT:** Range—Anderson Stove Co., Inc. Refrigerator—Westinghouse Electric & Mfg. Co. Disposal unit—General Electric Co. Ventilating fan—Signal Electric Mfg. Co.

**PLUMBING:** American Radiator-Standard Sanitary Corp.

**HEATING:** Warm air system, Thatcher Furnace Co. Burner—May Oil Burner Co. Minneapolis-Honeywell Regulator Co. Water heater—Westinghouse Electric & Mfg. Co.





# OFFICE BUILDING

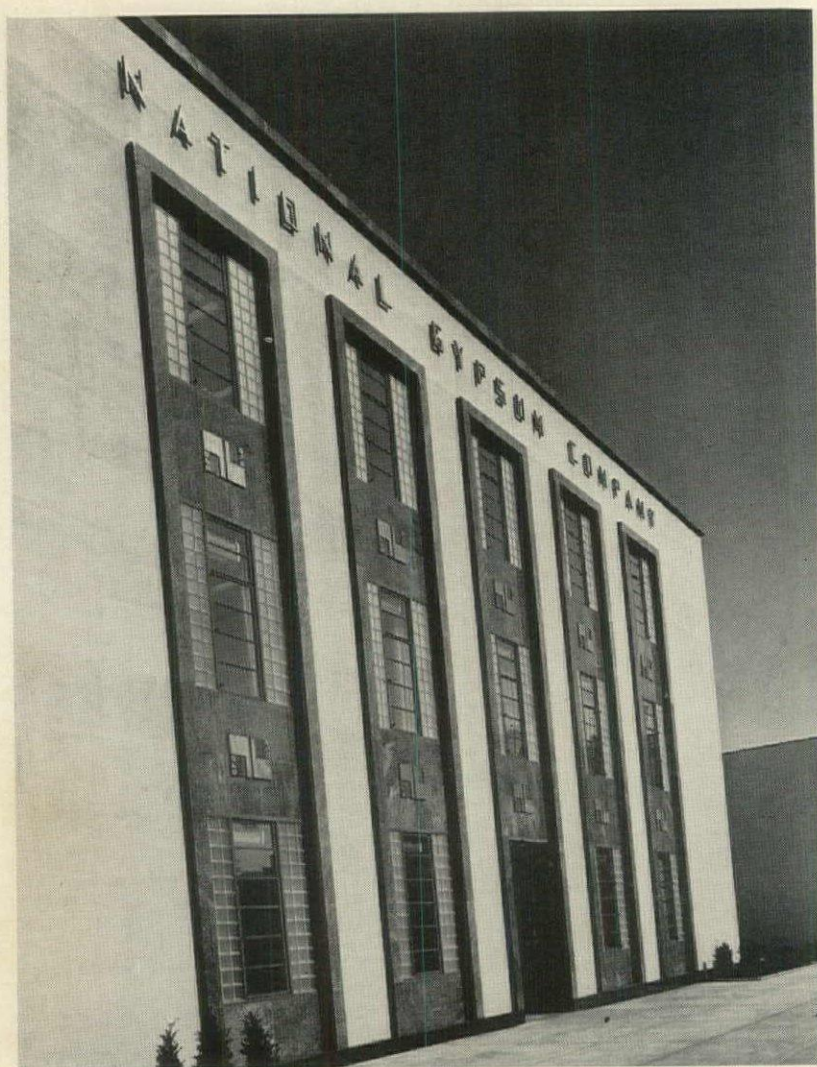
FOR THE NATIONAL GYPSUM COMPANY

BUFFALO, N. Y.

BACKUS, CRANE & LOVE  
ARCHITECTS

DISPLAY ROOM DESIGNED BY  
DON HATCH, ARCHITECT

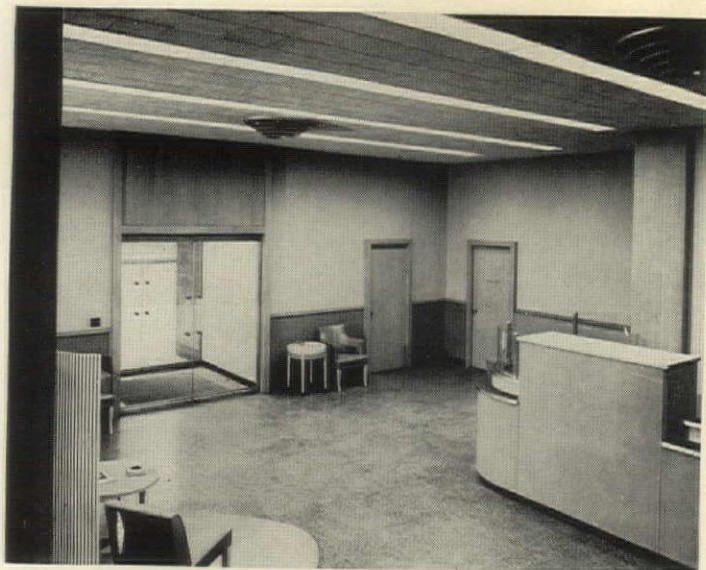
GEORGE W. WALKER, INC.  
GENERAL CONTRACTOR



*The importance of this building rests as much on the idea behind it as on the building itself. Here is a three-dimensional expression of industry's new determination to provide its workers and management with working facilities which reflect the efficient and loyal efforts of the staff, and in fact, which effectively aid those results. It is predictable that many corporations will follow this lead in their postwar developments.*

*Photos, Robert M. Damora*





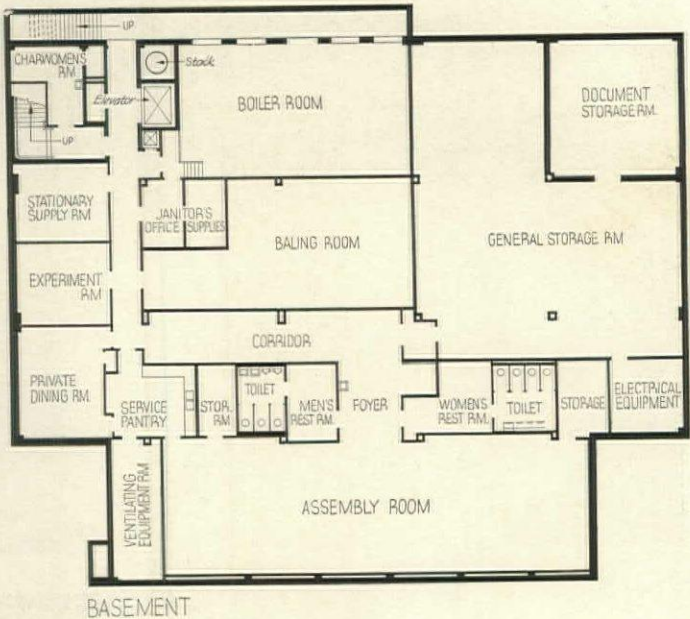
The present headquarters of the National Gypsum Company marks the last of a series of moves made during fifteen years of expansion from a one-product company to a nation-wide organization selling over 150 building products. The client was able to furnish the architects with consultants from the company staff who were familiar with problems of acoustics, light reflection from painted surfaces, insulation, wall and ceiling construction. One result of this collaboration has been an extremely good series of solutions for the modern working interior, clean, attractive and efficient. That such solutions are more than decoration was proven by a series of tests conducted by the Psychology Department of a leading university in the company's old and new offices. Made with the cooperation of a group of women employees, the tests showed an average improvement in accuracy, steadiness and work output of nearly 30 per cent, due to sound control, proper lighting, air conditioning and other amenities provided.



LOBBY



OFFICE BUILDING—BASEMENT

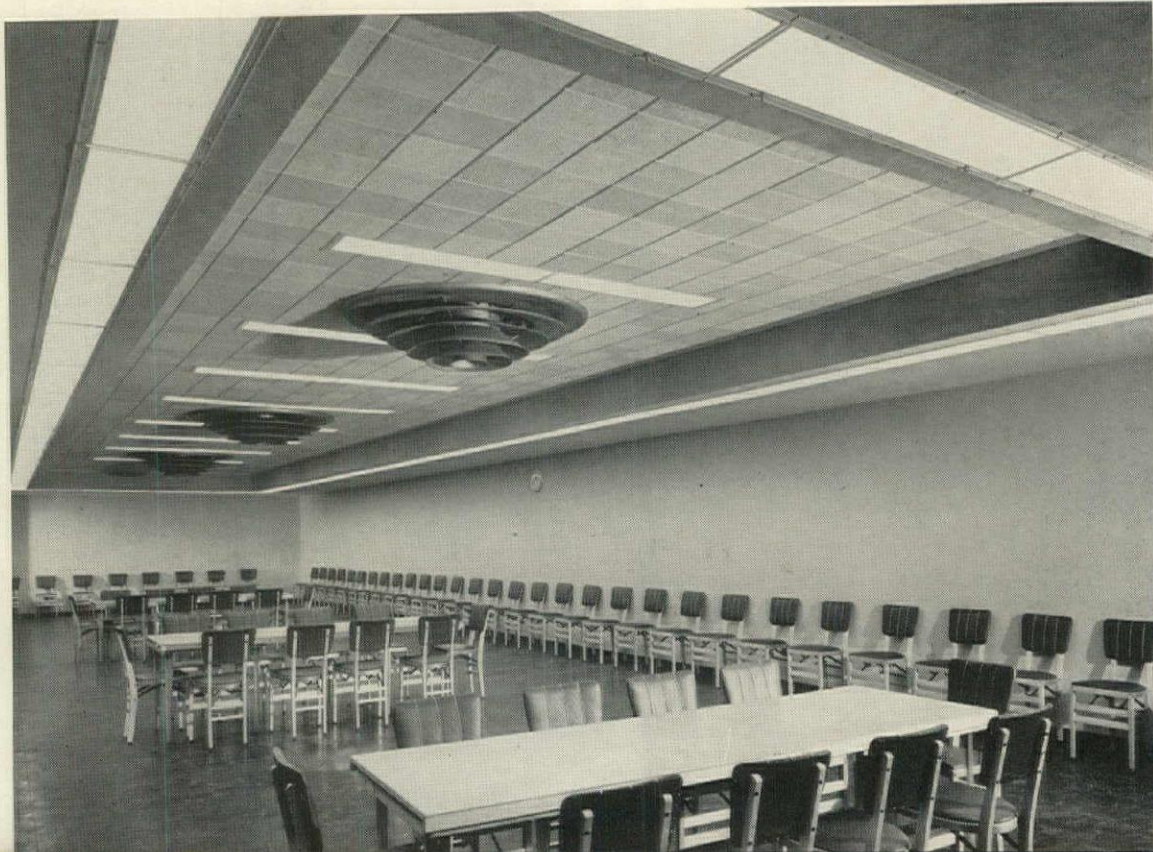


In general, both large and small rooms within the building have a basic uniformity of treatment, which can be recognized below in the combined use of fluorescent lighting units recessed above flush glass panels, acoustical treatment of the ceilings and prominent placing of the conditioned air supply fixtures. Variations will be noted in the photographs of the individual offices, and occasionally a complete departure, as in the dining room at the left, but the essential pattern is largely maintained throughout the building. An interesting special feature is the display room shown on the opposite page, designed primarily for architects, builders and building materials dealers. The instructions given the designer were that the room should convey the idea that the company was a leader in its field, that it made products covering every wall and ceiling need, that the products were of high quality, and that they were available throughout the country.



PRIVATE DINING ROOM AND PANTRY

ASSEMBLY ROOM

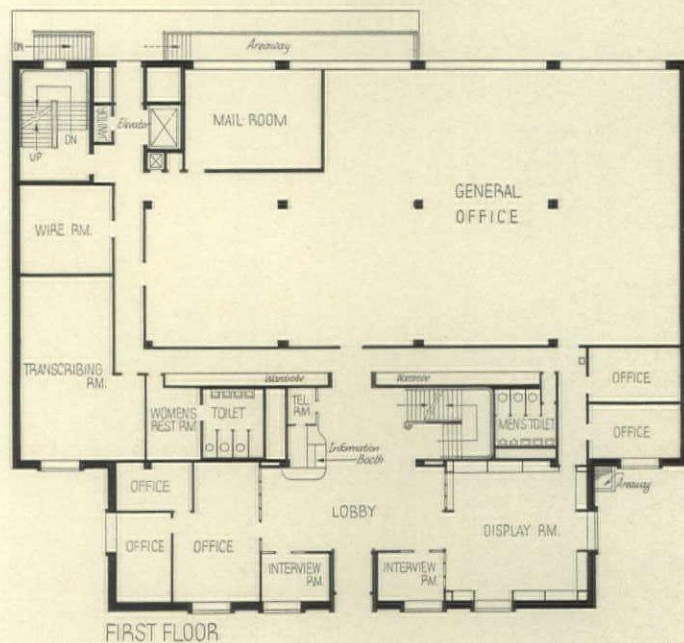






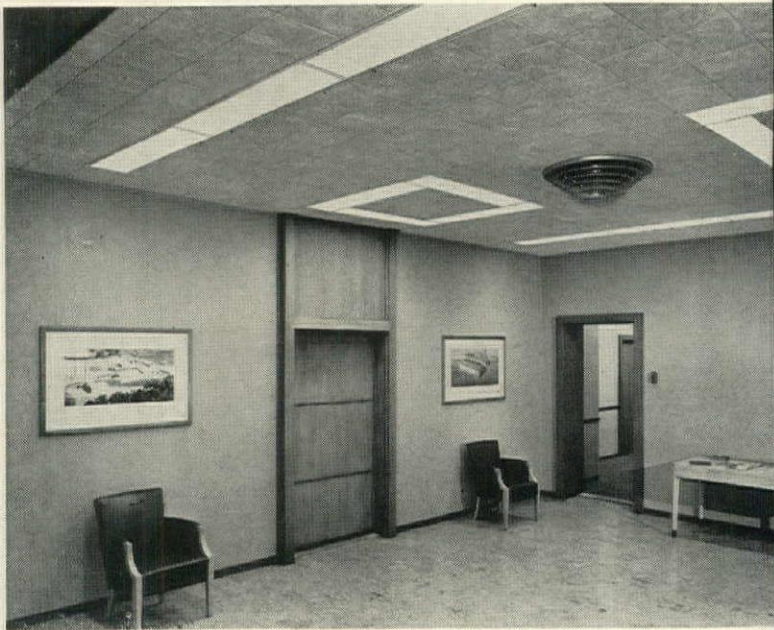
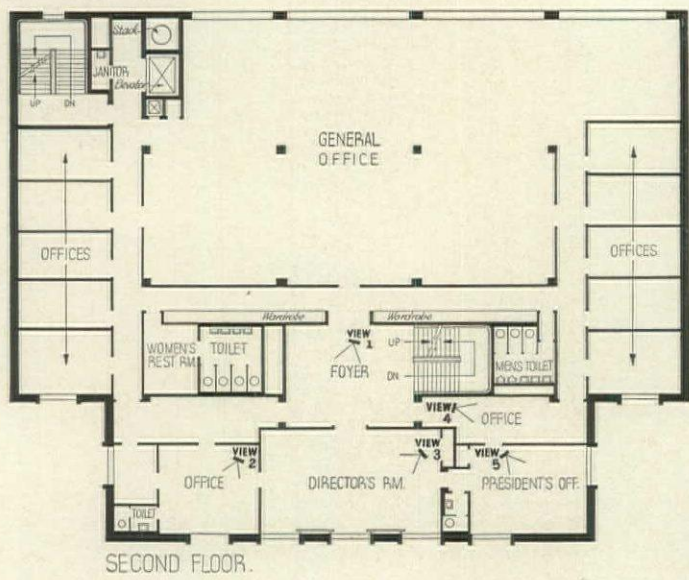
DISPLAY ROOM

Walls are cocoa brown; lath screen is lacquered Chinese red; rugs are jade green; leather upholstery is saddle brown. All exposed wood is limed oak. Lighting is provided by a combination of fluorescent lamps and pin-point spots for the picture boxes.





OFFICE BUILDING — SECOND FLOOR



VIEW 1

VIEW 2



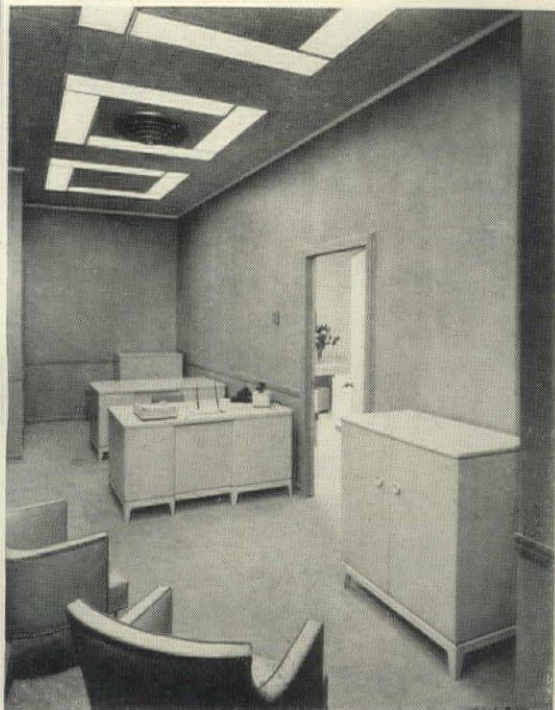




VIEW 3

The second floor of the building contains rooms for the executive staff. Here, as has been already noted, the basic interior treatment carries through, but walls are handled with greater variety and richness. The policy of using the company's own products has been followed wherever appropriate so that prospective builders and other visitors may see these products in actual use. An important factor in the generally agreeable effect of the rooms was the careful selection or design of furniture to harmonize with the wall and ceiling treatments.

VIEW 4



VIEW 5

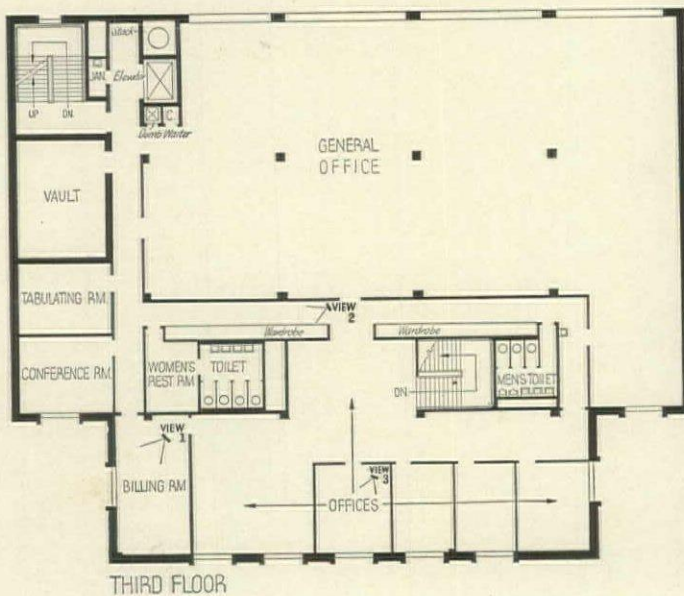






### GENERAL OFFICE

The general design scheme of the interior of the building reaches its most effective expression in the large open room for the clerical staff on each floor. Here the steady repetition of simple units—desks, lighting strips, ceiling panels, windows and air-conditioning supply units—has produced an interior at the same time restful and dramatic. It will be noted that the furred ceiling is lined up with the window heads, a great improvement over the conventional treatment.



### LOBBY







VIEW 1



VIEW 2

In rooms where machines are used, as in the accounting department above, the walls as well as ceilings are acoustically treated. Many of the windows have been executed in a combination of two thicknesses of plate glass and glass block.

VIEW 3



### CONSTRUCTION OUTLINE

**FOUNDATIONS:** Reinforced concrete.

**STRUCTURE:** Exterior walls—2 in. stone or 4 in. brick, 1/2 in. air space, 8 in. hollow building tile, Gold Bond rockwool insulation, metal lath and plaster, National Gypsum Co. Floors—reinforced concrete slab. Ceilings—acoustical tile and plaster, National Gypsum Co.

**ROOF:** Reinforced concrete slab with 5-ply built-up, tar and gravel finish.

**INSULATION:** National Gypsum Co.

**WINDOWS:** Sash—steel, Hope Windows, Inc. Glass—Libbey-Owens-Ford Glass Co. Glass blocks—Pittsburgh-Corning Corp.

**STAIRS AND ELEVATORS:** Stairs—steel. Elevators—Warsaw Elevator Co.

**FLOOR COVERINGS:** Carpet—Bigelow-Sanford Carpet Co. Asphalt tile—Johns-Manville. Rubber tile—Goodyear Tire & Rubber Co.

**WALL COVERINGS:** Offices—Gold Bond insulation tile and knotty pine plaster board, National Gypsum Co.

**FURNISHINGS:** W. J. Sloan Co. and Standard Desk Co., Sikes Chair Co.

**HARDWARE:** Schlage Lock Co.

**PAINTS:** Simplex Casein paint, National Gypsum Co.

**ELECTRICAL INSTALLATION:** Wiring system—conduit. Switches—Powerlite Switchboard Co. Fixtures—Edwin F. Guth Co. Floor duct—General Electric Co. Dumbwaiter—Warsaw Electric Co.

**PLUMBING:** Water pipes—copper, Revere Copper & Brass Co. Toilet fixtures—Crane Co. and W. A. Case Co. Kitchen equipment—Hoosier Cabinet Co. Range and refrigerator—General Electric Co.

**HEATING AND AIR CONDITIONING:** Split system of forced hot water and air conditioning, York Ice Machinery Corp. Boilers—Farrar & Trefts. Convectors and grilles—Modine Mfg. Co. Regulators—Johnson Service Co. Water heater—Ruud Mfg. Co.



This article marks the resumption of the "Building's Postwar Pattern" series inaugurated in the May, 1941 FORUM and interrupted by the events of December. A number of the trends which then were brewing beneath the surface have been pushed to the top by the pressure of war building requirements. But much more must be changed before Building can fully meet its postwar responsibilities and opportunities. The present article explores the reasons which justify that view, attempts to state the major problems still awaiting solution and, finally, in broad outline sketches the new directions Building must travel.

Following the method established with the article on "Planning," in September, 1941 and the article on "Standardization" in November, 1942, comments by THE FORUM's Advisory Editorial Panel appear as marginal notes.—The Editors

## BUILDING'S\* POSTWAR PATTERN

**NO. 3: AN INTEGRATED INDUSTRY** Relentlessly, the necessities of total war have forced vast changes upon Building, changes that will alter its whole course in the postwar period. Local building codes, zoning ordinances, "make work" trade union rules and other impedimenta are being swept aside by the impatient and powerful arm of the Federal Government.<sup>1</sup> Small architectural firms, builders and contractors have been compelled by lack of business to close for the duration, or to combine and form larger firms capable of meeting war demands. Time-hallowed divisions of professional responsibility — such as the distinction between architect and engineer, and the separation of design and construction processes—are, or threaten to become, casualties of war. Meanwhile, industrial building has gone ahead in unprecedented quantity and quality, housing on a community scale is virtually the only type which continues to be built, and house manufacture (prefabrication) has received an enormous boost in the form of capacity Government orders.

In intent, these changes are temporary, unplanned measures necessitated by the prosecution of the war. In fact, like most other aspects of total war, they are certain to have permanent postwar effects. After the war, Government will undoubtedly continue, at least for a time, to initiate an important part of construction activity. Large firms, having grown larger and stronger on war business (and accustomed to dealing with Government agencies), will probably continue to get much of this work. Small firms which

\*Because our language supplies none better, the word "Building" is used in an all-inclusive sense, embracing planning, zoning, design, construction, financing, etc.—Ed.



have gone out of existence will be hard to reestablish. The more efficient building techniques which the war has developed will not easily be abandoned, and private industry, along with Government, will adapt them to their own purposes. Building, having taken so many important steps in the direction of mass production, will neither want nor be able to retrace them.<sup>2</sup>

Nor is it an accident that the changes which the war is forcing upon Building must be viewed by the dispassionate observer, regardless of his personal interest, as steps in a progressive direction. War demands are simply demands that the industry contribute *more efficiently* to war needs and objectives — that is, to the inexorable demands of mankind on the march. That a good many toes have been stepped on in the process does not alter the net result. Measuring by the milestones of accomplishment, Building has moved forward appreciably. Its postwar problem will be to consolidate these gains, rather than to return to a "normalcy" that no longer exists.

Indeed, it is increasingly evident that the outlines of a bold postwar pattern will be established *during the war* — not by a cloistered group of theorists but in the conduct of the struggle itself. Lack of overall planning and lack of standardization, two major failings of the building industry analyzed in the first two articles of this series, have become prime wartime problems which must be solved before victory can be won. Building's heterogeneous structure, a third important shortcoming which will be discussed here, is being at least partially corrected by the same ruthless surgery of necessity.

1

"Unfortunately, local building codes and zoning ordinances cannot be changed by Government mandate, except under an emergency, and after the war I am sure that we will revert to many of the conditions in the industry which we had hoped the war might eliminate. This is the basic criticism of the approach in the article, for the reason that, unless we are able to change some of the conditions which have operated against the industry, we shall not be able to produce the volume of construction we need."

WALTER R. MACCORNACK  
Vice President, A.I.A.  
Cambridge, Mass.

2

"With all the horror of war, there are certain advantages that result from it. Now that normal building has been practically stopped, those of us who are associated with the building industry can, for the first time, sit back with a more or less detached viewpoint and look at Building in its entirety—see and attempt to remedy its many faults. Your third article on 'Building's Post-war Pattern' does just that. It should arouse considerable thought and discussion and result in much benefit to our industry."

ED MENDENHALL  
Realtor  
High Point, N. C.

## IMMEDIATE EFFECTS OF THE WAR

The first effect of the war has been to accelerate the development of most of the advanced planning and construction trends which were evident before hostilities began. Architects and engineer-contractors who had perfected advanced methods for handling industrial building have been flooded with work—even work of a non-industrial character. Contracts for the huge housing projects which have sprouted in all parts of the country have gone to builders with the capital, equipment and experience needed for operations on such a scale—big contractors who formerly operated mostly in the commercial and industrial fields—and have been carried out with characteristic efficiency. Factories intended for all-out, 24-hour production naturally have embodied the most advanced principles of lighting, air conditioning and planning. Simultaneous construction of housing by hundreds, even thousands of units has resulted in widespread application of progressive community-planning techniques, with "loop-circulation" roadways and *culs-de-sac* to discourage through traffic, planned shopping centers with adequate parking facilities and so on. "Site prefabrication," and the use of panel construction



3

"You might stress the fact that the cooperation of labor will be required to a greater degree than ever before. In the past, as you are well aware, limitation of output, stringent union rules on jurisdiction of the different crafts, and hourly wages that are considerably higher than those paid to workers possessing similar skills in factories, have been one of the most serious factors restricting the volume of new construction.

"There is another factor that I believe to be of most fundamental importance that is not discussed, and that is what may be termed the economic background of cities. It is only in those cities or regions where there are natural advantages which would justify the expansion of industry after the war that new building will be required."

HOMER HOYT

Director of Research of the  
Chicago Plan Commission  
Chicago, Ill.

4

"In connection with the list of six essential stages in production, it seems to me that you should bind this together by explaining that a system of finance must be devised which really reflects the peculiar type of exchange which takes place in the building industry. This is concerned with the production of the original building and the maintenance of the building, and the exchange is made with those who actually make use of the building. Mistakes in finance bring about dislocations and misunderstandings. Even if the six functions you mention were adequately performed, should our system of finance continue to be as faulty as it has been, we would not have an industry capable of coordinated production."

ARTHUR C. HOLDEN

Architect  
New York, N. Y.

5

"Quite often necessity becomes the mother of invention and to a great extent I believe that will prove true in this connection due to the fact there are many substitute and alternate materials being used at the present in home building. There is considerable research being done for new and substitute materials, and in some cases these materials will prove better for home build-

with the panels assembled on jig tables at the site rather than in the factory, has become well-nigh universal in projects of more than a few score dwellings. And, since large-scale war building of all kinds has replaced small-scale construction almost entirely, these progressive trends have influenced the *bulk* of building operations in a year which is still officially expected to top all previous records for construction volume and employment.

The war also has rendered ineffectual the natural tendency of individuals and organizations within the industry to oppose such changes on a narrow craft or professional basis. All sorts of efforts to maintain the *status quo*—efforts which hindered Building's prewar development at almost every step—have given way to the national interest or subsided to half-hearted grumbling. The supreme importance of winning the war so far transcends personal, selfish interests that even those sections of Building's personnel who have seen their normal means of earning a living crumble before their eyes have had little but praise for the policies which doomed them to professional or business extinction. Psychologically as well as physically, Building has been prepared for great steps forward; having experienced drastic, overnight change, all sections of the industry are more inclined to credit the probability of future and greater changes, less inclined to stand in their way.<sup>3</sup>

Added to this is the leaven of material shortages, which only recently has begun to have real effects, and is bound to become more of a factor as time goes on. Consequent development of new products and new uses for non-strategic materials, exclusive use of particular classes of products at the expense of traditional competitors, and huge increases in productive capacity—all are leading to experimentation and development work with an eye to the postwar market, and a state of mind which is anything but conservative. Before the war, new ways of building were handicapped simply because they were new; after the peace, old ways of doing things will have to justify their existence by lowered costs, greater speed or better performance.<sup>4, 5</sup>

## POSTWAR OPPORTUNITIES

It is widely recognized that the developments of the war period will place huge postwar tasks before Building, tasks which—like the war itself—will call for the utmost in efficient organization. In the job of maintaining total postwar employment on the basis of wartime increases in productive capacity, economists assign a major responsibility to Building. As production-for-peace takes the place of production-for-war, some form of ballast will be needed, at least temporarily, to keep the economy on an even keel by taking the place of a substantial part of the billion and more dollars a week now going into armaments. That



ballast will inevitably consist of funds for building and rebuilding supplied by the Federal, state and municipal governments, plus huge Government-stimulated investments in other construction activity on the part of quasi-public institutions like the railroads, utilities, insurance companies and savings banks.

Even if this were not the case, the progressive deterioration of the Nation's housing and building "plant," which was allowed to proceed so far during the prewar period and is being accelerated by wartime cessation of normal construction, will create an unparalleled demand for new structures of every type. Estimates of the number of new houses that will be needed annually for at least a decade range from 1,250,000 to 1,600,000—almost double the number built in any prewar year. In the commercial field new housing on such a scale, plus improved standards based on recent technical advances and increased consumption should obsolete much existing construction and create a demand for still more. Only in the industrial field has the possibility of an oversupply of buildings even been suggested, and there are good reasons for belief that an *undersupply* is just as likely. One such reason, voiced by no less authority than Albert Kahn, is that the new war plants are proving so much more efficient than even comparatively modern industrial buildings of prewar origin that they may force the wholesale abandonment of the latter after the war, creating a shortage of factory space capable of operation in competition with up-to-date facilities. Another is the worldwide market for American goods that will be opened up, both for the reconstruction of devastated areas and for the development of hitherto industrially retarded countries such as India, China and the South American republics.<sup>6</sup>

Building has thus been provided with most of the physical and psychological prerequisites of a great postwar advance. It is learning by experience the advantages and techniques of mass production. Its resistance to change is giving way to a conviction that further change is inescapable and perhaps desirable. It has been cast in a role of ever-increasing responsibility and importance. The stage is set. The industry (albeit in the borrowed tights of Government patronage) stands ready in the wings to play the postwar part of a mass-production industry.

## POSTWAR PROBLEMS

Nevertheless, a postwar building boom is not inevitable. Before it can become a reality, there are many problems still to be solved—and wartime necessity, while pointing the way to the solution of many of these, is by no means solving them all. On the contrary, the war's tendency to develop the industry in a lopsided fashion—by building up mass-production techniques and capacity without corresponding improvements in design, merchandising and finance—is creating new and pro-

ing purposes. In one example of plastics, it has been forecast that complete kitchen and bathrooms, and probably complete houses, can be used in the construction of homes, especially the one-story homes."

E. L. CRAIN

President, Garden Oaks Company  
Houston, Texas

6

"Most of what you say has to do with a time when things get reorganized. One of Building's great problems will be to absorb immediately on the armistice as many of the million and one half people who will be discharged every week as it humanly can. To do this, it must know how much building material can be found for immediate use, and where useful building can proceed at once with plans which are already prepared. It is going to be hard to find places for those now engaged in war production in the transition period and Building will have to be ready. How, I don't know.

"One very profitable operation which would employ many people would be the operation of demolition. Surely, we have learned from the past how permanent 'temporary' construction is. Intelligent demolition should begin immediately that demobilization of labor and troops begins and can absorb many for the critical first months if it too is planned in advance."

JOHN E. BURCHARD

Massachusetts Inst. of Technology  
Cambridge, Mass.



"By creating a reservoir of projects now all levels of Government, together with the building and construction industry, will contribute much towards providing work and jobs for those who must transfer from wartime activities to a postwar program.

"Today little is being done by anyone to face and solve the problem. Much has been written and many agencies and organizations have indicated the part they are planning under the head of 'Postwar Planning.' Accomplishments and results to date are nil and discouraging. Municipal officials were led to believe that something sound, tangible and worthwhile was being done and the over-all problem partially solved when the Public Work Reserve was created and placed in operation. Public officials gave their time and directed the departments under their jurisdiction to build a shelf of needed construction projects that could be considered for operation after the war. Unfortunately the Public Work Reserve was discontinued in July, 1942, with many municipal bodies disappointed in the curtailment of the work and the apparent waste of time, money and efforts. The bare facts are that 'Postwar Planning' must be done and will be done by someone—but when?

"Considering the magnitude of the overall problem it seems logical to believe that the Federal Government should be the sponsors, operators and coordinators of such a worthwhile program. Representatives of industry, transportation, commerce, agriculture, construction and labor, should be part of any agency of Government directed to solve this problem."

FRED S. CHILDS

Consulting Civil Engineer  
New York, N. Y.

"Possibly the necessity for the 'integration' of various Federal, state and local tax structures, to the end that inequitable burdens be avoided and financial stability of various Governmental elements assured, is of such importance to all Postwar studies that you might want to include this in some supplementary article. I refer you to House Bill H. J. Res. 326, introduced by Congressman Coffee of Washington."

BYRON T. SHUTZ

Realtor  
Kansas City, Mo.

found difficulties which ultimately must be faced. Wartime building takes place outside the fabric of normal economic relationships, and this fabric, which at its strongest proved incapable of supporting sustained large-scale building activity, is permitted to disintegrate. Thousands of interconnecting threads — joining producer and consumer, banker and builder, manufacturer and market—are broken, never to be retied in exactly the same pattern. Like many war industries, Building acquires a huge plant but loses contact with its customers. <sup>7</sup>

Even if it were possible to reconstruct the vast and complex machinery of distribution which existed before the war, it would not begin to serve the industry's postwar needs. Before the war, also, there were good reasons for large-scale building activity, but such activity did not materialize. The explanation most frequently cited—that the product was overpriced—was a convenient simplification which ignored the fact that even if the price of houses could be halved it would still be necessary to find more convenient places to put them, to provide greater assurance against loss of equity due to vicissitudes of employment, to reduce costs of occupancy such as maintenance, heating and taxes, and to develop a product superior to the present housing supply before a demand of sustained, healthy dimensions could be created.

Nor is this all. Before Building can begin to think in terms of mass production, it must also find the answers to such questions as how to rebuild our already overexpanded cities (large and small), how to attract the long-term investments which everyone agrees the housing field needs, how to establish uniform, easily-understood standards of price and value, and a host of others.

These are all problems which must be faced by the industry *as a whole*. For, all depend for their solution upon inter-relationships between the different sections of the industry rather than upon steps which can be undertaken by any of its component parts. The prefabricator, for example, is powerless to prevent speculative land prices, excessive municipal expenses or high utilities costs from drying up the market for his houses. Similarly, the progressive architect who has ideas for design-improvements which he believes the public wants, is unable to test them as long as any departure from the conventional is penalized by unfavorable financing—and so on.

Despite their diversity, all such problems can be grouped under a single heading. They are all problems of industry *organization*. Until the question of the reorganization of the building industry along modern, integrated lines has been faced, improvements in methods of fabrication and design will be only partially effective. Postwar building can only go on a mass-production basis when Building become an *integrated industry*. <sup>8</sup>



## INTEGRATION—WHAT IT MEANS

The dictionary defines integration as "the bringing together of parts into a whole . . . to pass from a complex and unstable to a relatively simple and stable condition." Both meanings offer an excellent statement of Building's biggest need: a synthesis of its various parts into a better-functioning whole. Viewed separately, the industry's components—the architect, builder, realtor, manufacturer, etc.—operates in a reasonable manner with a fairly efficient technique. Viewed together, and from the all-important standpoint of the consumer, the total picture of the industry is one of complexity, confusion and conflict. This is particularly true since, in most other fields of activity aimed at satisfying basic human wants, the trend in recent years has been so definitely in the direction of simplification. Most manufacturing industries achieved integration in the decades between World Wars I and II. Building must catch up quickly, if it is to realize its true importance in the next period of peace. What does catching up imply?<sup>9</sup>

Typically, an *integrated* industry is one in which the relationships between the essential stages of production and consumption follow a simple, clearly-defined line, involving minimum waste due to the overhead of exchange, with each step carried out at maximum efficiency. In most types of production, these essential stages are six:<sup>10</sup>

1. Exploitation of raw materials.
2. Fabrication of materials into parts.
3. Assembly of parts into useful things, or products.
4. Distribution of the product through an orderly hierarchy of sales agencies to the ultimate consumer.
5. Servicing to enable the consumer to realize the maximum use from the product after it is purchased.
6. Liquidation of worn-out or obsolete goods in consumers hands to create a demand for new and improved products.<sup>11</sup>

In some industries, particularly heavy industries, integration involves vertical control and ownership extending from natural resources to the finished product. This is by no means essential, provided the connections—paths for the flow of goods and services—between the various stages of the production-consumption process are clear and direct.<sup>12</sup>

The building process satisfies this basic condition so far as the first two stages are concerned (exploitation of raw materials, fabrication of

9

*"The dream of an integrated industry would be such a blessing to the public and to the industry that I hope it may come true. Past attempts along these lines have been unsuccessful because the driving forces lacked the stamina to carry on to completion."*

*"The team work in war industry has amply demonstrated the essential methods to attain the well-nigh impossible, and may prove to be the star to hitch the integration wagon to. And the housing picture that you emphasize may well become the trial horse for the effort."*

ERNEST JOHN RUSSELL

Architect

St. Louis, Mo.

10

*"An integrated industry must be smoothly running as a machine in all of its parts. Six component elements of its pattern are listed in the article. One of these must bear watching lest it drag the others to a standstill. This is Item 6, dealing with obsolescence and, perhaps, the least touched upon. The first five items are matters of planning and initiative in setting up the machine; the 6th is the step to keep it rolling. It is obvious that a major adjustment must be made here for continuous flow of the others."*

*"Steel and concrete still are the basic materials of construction and will remain so until substitutes can be produced which are cheaper and better. Their qualities in many ways are too lasting, and void that control of obsolescence upon which is hinged the parity between production and consumption. Here, then, appears the ripe field for radically new materials and methods if this cog in the wheel of integration is to gear smoothly."*

JAMES H. MITCHELL

Architect

San Francisco, Calif.

11

*"For the first time this article presents one of the factors that has been responsible for the continuation of archaic methods of merchandising in housing—namely, the lack of adequate means for liquidation of obsolescence."*

*"When a customer buys a house he becomes imbued with the idea that he is entitled to realize a fantastic fortune. If a customer buys an automobile he expects that the car will depreciate and eventually he will have to dispose of it"*



at a small fraction of the original cost. It appears that a great deal of public education or mind conditioning is in order to bring about the proper attitude toward the liquidation of real estate."

JOSEPH P. DAY

Realtor and Builder  
New York, N. Y.

12

"Isn't something of this kind (integration, mass purchasing, prefabrication, site planning, large-scale development) being accomplished in part by our present Governmental housing activities? Does that point the way, or is that the alternative if the 'industry' fails to become an integrated industry?"

WALTER H. BLUCHER

Executive Director, American Society of  
Planning Officials  
Chicago, Ill.

13

"Intelligent selling of its product, through effective stimulation of demand, will be a major opportunity for the modernized building industry. Millions of the American public could now be owning or renting better housing, if income that might have gone in that direction had not been tempted away by alluring advertisements of less essential luxuries and gadgets. Why not put some real allure into adequate shelter?"

HAROLD S. BUTTENHEIM

Editor, *The American City*  
New York, N. Y.

14

"Do not believe any trained observer could seriously disagree with your general statements regarding the war effort and its effects upon our industry where the two definitely come into intimate contact. On the other hand, there are many communities left untouched by the war effort so far as building is concerned, except for the scarcity of materials. The truth of the matter is that a great many people, both within and without the industry consider wartime building just another form of 'made work' and 'boondoggling'.

"How this integration will be brought about is any man's guess. My

parts), but breaks up into countless conflicting and competing sections, *disintegrates*, before the final stages are reached. As a result, assembly is grossly inefficient, distribution and servicing are chaotic and expensive, and liquidation of worn-out and obsolete structures occurs only by accident and in most cases not at all. Costs skyrocket, there is no opportunity to really sell the product—i. e., actually stimulating demand—and worn-out buildings that have long ceased to be habitable on a sound economic or social basis remain to compete with new construction and to prevent it by monopolizing most of the suitable sites.

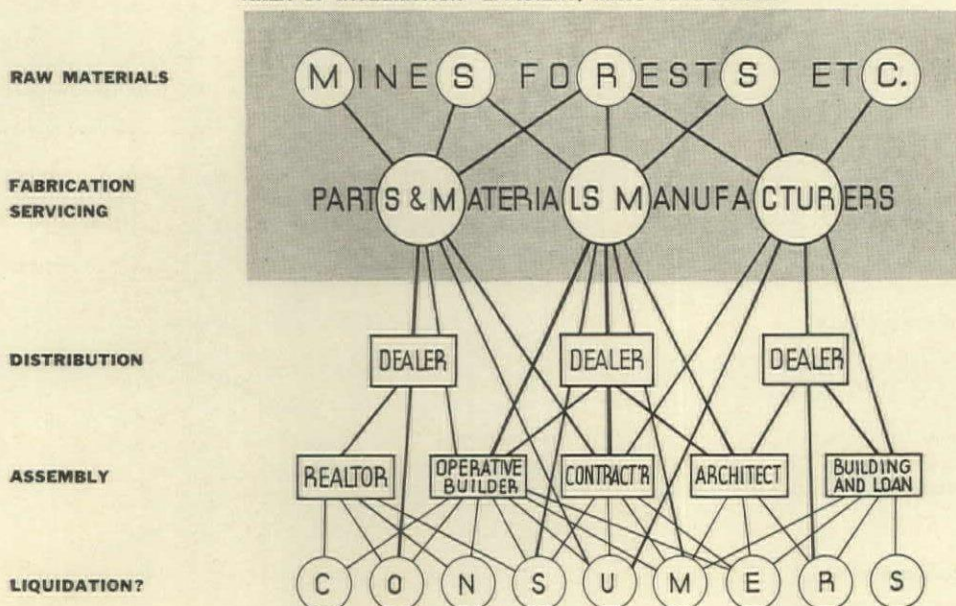
In some respects the nature and effects of this lack of integration are well known and generally recognized; in other respects they are less appreciated and involve some of our most cherished shibboleths. Throughout the industry, the two-or-three-house-a-year "carpenter contractor" is regarded as a symbol of backwardness similar to the wooden plow in agriculture, but few recognize that the idea that every potential home owner is entitled to the individual services of a talented architect is equally comparable to the level of economic development represented by the design-production relationship practiced by Benvenuto Cellini. In the same way, the labor savings made possible by prefabrication were long confidently predicted, but almost no one realized in advance the even greater significance inherent in prefab's direct-from-the-manufacturer, carload-lot purchase of materials. The main reason for these blind spots is that, while each branch of the industry is thoroughly familiar with its own problems, almost no one troubles to examine the whole tree.<sup>13</sup>

Any attempt to analyze industry organization as it now is and as it should be is to venture on virgin territory. At best, such an initial effort must be tentative, and can be advanced only as a basis for discussion. Also, since any analysis would be of little value if it attempted to steer clear of sore spots and delicate feelings, it must at times seem ruthless and arbitrary to those divisions of the industry adversely criticized, or threatened—at the stroke of a typewriter key—with absolute extinction. Nevertheless, it is essential that such an analysis be made, examined from all sides, and modified until it can serve as a basis for the plans and future actions of a better part of the industry's personnel. Only thus can Building extricate itself from the tangle into which circumstances have forced it, and prosper as an equal partner of the other modern industries dedicated to serving the needs of the American people.<sup>14</sup>

Necessarily, also, such an analysis must be extremely general, since it deals with a subject so large and complex. An effort must be made to concentrate on essentials, to the exclusion of detail which must be filled in later on, after a framework has been agreed upon. Finally, it clearly must encompass all phases of the production-consumption process, since a bottleneck at any point in this process is fatal to every other part.



AREA OF INTEGRATION—EFFICIENT, MASS PRODUCTION



What, then, was the organizational picture of the industry as a whole, as it existed at the outbreak of the war? The diagram above attempts to indicate its general outlines. Insofar as possible, this diagram mirrors the complexity and confusion which characterized Building's prewar setup, especially from the consumer's point of view. At the top, within the rectangle designated "area of integration," are the highly-efficient, mass-production enterprises which supplied essential processed materials: lumber, cement, brick, millwork, equipment and so on. Internally, these industries have long since been reorganized along modern lines, and employ straight-line production methods, automatic machinery, and all the devices of science to produce the best possible building products at the lowest possible costs. But, between this area and the ultimate consumer lies a no-man's-land peopled by materials dealers, builders, contractors, architects, realtors and building finance organizations—to any one of which the consumer in search of housing is "free" to apply. And, as if this were not enough, there are also all sorts of cross connections: between realtor and builder, builder and architect, consumer and manufacturer—in fact, in every conceivable direction.

The most glaring flaw in this arrangement is that it provides so many alternative paths for the flow of goods and services, and inevitably results in duplication of effort. It has, however, other and equally important shortcomings. A number of the essential stages of the production-consumption process are out of sequence and one—*liquidation*—is missing altogether. The various parts and materials manufacturers are each required to maintain their own apparatus for *distribution* and also, since no one else has the clear-cut responsibility, their own *servicing* organizations as well. This means, in effect, that many of the hundreds of parts which make up the final product—the house or building—must be sold virtually at retail, and burdens the product with excessive distribution costs and duplicating profits.<sup>15</sup>

own opinion is that we will have building bureaus or congresses in each county or community. These will be made up of realtors, building professions, bankers, material dealers and tradesmen. Basic vocational training for all departments of the industry will be similar, with special courses for the separate departments and sub-departments.

"Financially the industry will probably become a corporate cooperative with members of industry being largely the stockholders on expansion or new building, with ownership shifting to occupants in many cases."

EMIEL J. CHRISTENSEN

Architect  
Columbus, Nebr.

15

"The American family will be adequately housed when the infinitely complicated problems encountered in building a home are coordinated with technological skill by one responsibility. Thus the complete house of 194x is more than an excellent house; it is a technique developed and completely administered by a competent organization.

"I challenge your opening paragraph crediting the 'powerful arm of the Federal Government' with war-prompted virtue. They were only the slaps administered by one who discovers his own mistakes and strikes out irritated as much by his own failure as by the circumstance which hinders him. What about annual wage rates, progressive building, the prevailing wage rate clause, etc., etc.—all ills of the industry which Government has helped to keep active.

"It is to be hoped that the coordinated Government agencies like NHA will recognize that they are the largest single factor in the industry (at present almost the only one) and hence see their problems as industrial problems, attack them as such for the benefit of the entire and otherwise almost impotent whole.

"The key to the whole problem, it seems to me, rests in the need for responsible contact with the consumer. There must be some trade-marked symbol for purchasing power of the consumer's building dollar, whether he buys or rents in Kentucky or Minnesota.

ARTHUR BOHNEN

Builder  
Evanston, Ill.



"I believe that you have correctly interpreted some of the postwar trends of the building industry, although you have perhaps underestimated the factors which will resist a greater integration of the building industry.

"It is undoubtedly true that any rational development of prefabrication will tend to short-circuit many of the distributors of building materials. On the other hand, these distributors will still be necessary as outlets for building materials to be incorporated in conventional construction. Since conventional construction will, for a long time to come, vastly exceed prefabricated construction, the manufacturers of building materials will not be in a position to be too arbitrary with their present distributors.

"It is my personal belief that satisfactory results in prefabrication will not be obtained through handling of the end product by dealers. I believe that the very factor of necessity for integration which you cite with respect to Building as a whole calls for the direct sale to consumer by the prefabricator."

LOUIS JUSTEMENT

Architect  
Washington, D. C.

"There will be objections to THE FORUM analysis of the architect's relationship to the immediate building field, particularly by those who still bask in the faded sunlight of wealthy clients and fat jobs. If we have the stamina and imagination that we must have to exist, there is much meat in this strong fare.

"What should be emphasized as the strong point of the architect's position is his age-long position as coordinator, free of prejudice and free of financial interest. Once this control, used in the client's interests as to quality, design, performance and cost, is lost to a group that is only interested in profit, Building will suffer."

ELY JACQUES KAHN

Architect  
New York, N. Y.

# AREA OF INTEGRATION—EFFICIENT, MASS PRODUCTION

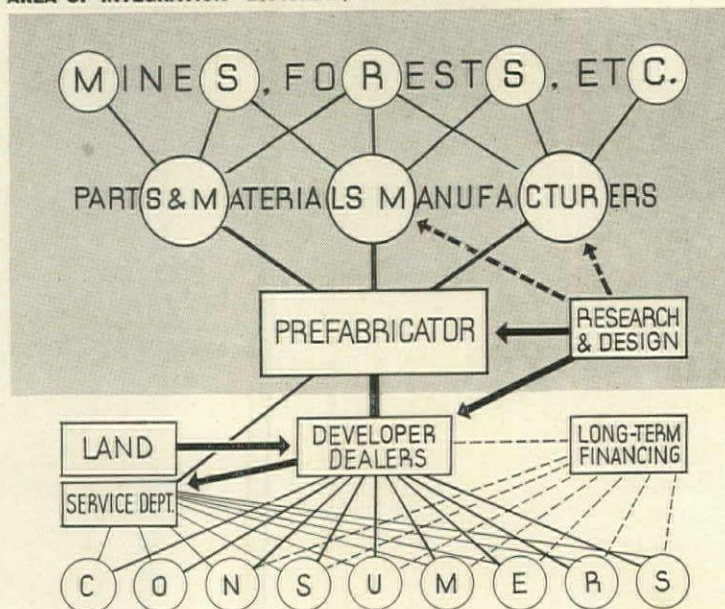
RAW MATERIALS

FABRICATION  
DISTRIBUTION

SUB-ASSEMBLY

FINAL-ASSEMBLY  
DISTRIBUTION  
SERVICING

LIQUIDATION?



The second diagram (above) shows the possible effect on industry-organization of widespread application of the system of production envisioned by the proponents of prefabrication. This arrangement is, first of all, vastly simpler than that which existed before the war. Secondly, it extends the area of integration considerably, so as to include *sub-assembly* (manufacture of wall, floor and roof panels, plumbing units, etc.) as well as a considerable part of the design operation. Distribution is left in the hands of a "dealer," who takes care of *final assembly*, including construction of those parts of the building which are not prefabricated, and presumably also is responsible for site-development, servicing and arranging for long-term financing.<sup>16</sup>

In addition to more efficient utilization of labor, the biggest advantage of this plan, as has already been suggested, is that it centralizes the purchase of building parts. As a result, parts can be obtained at wholesale direct from the manufacturer (relieving him of the headaches of a diffuse dealer-servicing organization) and passed on to the consumer with but one or two, middlemen's profits—based not on the individual parts but on the entire house. A further advantage is that house design is put on a competitive, mass-production basis which should permit and stimulate a vast amount of careful, detailed study which is now impossible under the typical architect-client and builder-buyer relationship—and badly needed if we are to develop houses which can compete on an equal footing with the other products in the highly competitive postwar market place.<sup>17</sup>

Despite these advantages, it is doubtful whether the prefabricators' plan of operations, as presently projected, could become the basis of really extensive postwar building. The reason for this is a fault which it shares with present building procedures: it makes no provision for orderly *liquidation*—that is, for rebuilding. And, at the present stage of our



national and urban development, widespread construction activity is possible only if this factor is provided for. Otherwise, the deadweight of almost a century's accumulation of worn-out, but still habitable buildings will limit the amount of new construction—as it has in the past—to the actual increase in population plus needs arising from immigration and changes in land use such as the expansion of commercial areas into sections formerly occupied by housing. If recent trends are any indication, the sum of all these factors will not be sufficient to sustain a volume of building that will keep pace with the most essential needs, and certainly not enough to create a market for new building on a scale commensurate with mass production. 18

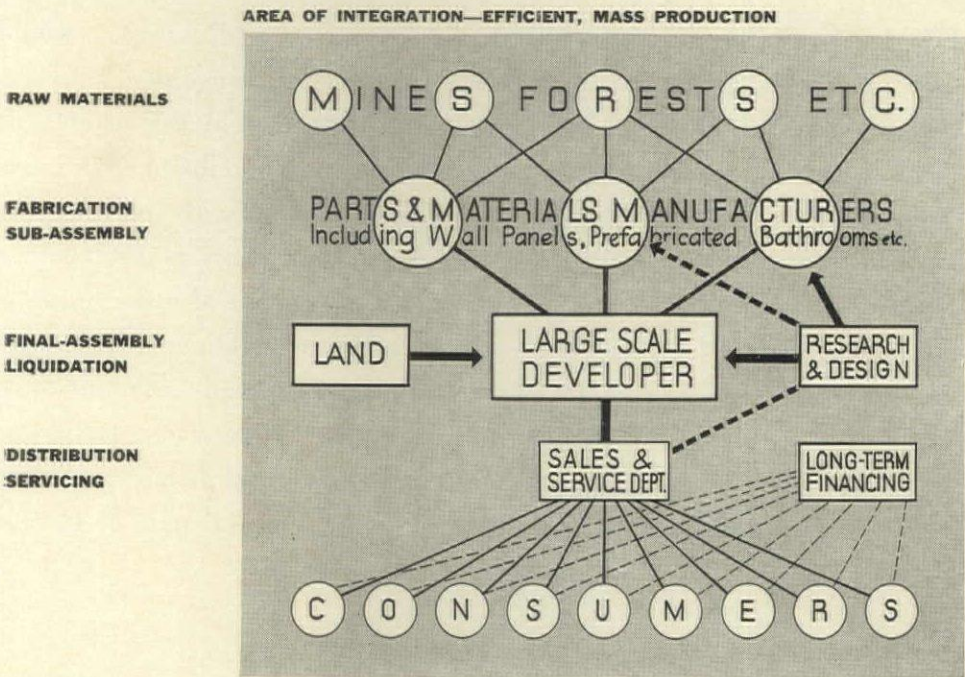
18

"I would like to see more clearly what you mean by 'liquidation' and, especially in this connection have you consider and elaborate on the part that Government 'at all levels' must play in accomplishing it.

"The 'industry,' Government and investor institutions must sit down together soon to consider this great problem."

HENRY BRUERE

President, The Bowery Savings Bank  
New York, N. Y.



19

"I question the soundness of rapid liquidation in order to provide building on a scale commensurate with mass production which means producing an inferior product in order to sell more."

JOHN GAW MEEM

Architect  
Santa Fe, New Mexico

The third diagram (above) shows a possible wedding of the approach of the prefabricator with that of the large-scale operative builder in which, for the first time, complete integration of the entire industry around its real product—the building on a suitable site in a suitable community—becomes possible. The key factor in this picture is the large-scale developer, embracing the functions of *final assembly*, including site development and community planning, *distribution*, including long-term financing, *servicing* throughout the useful life of the community, and finally *liquidation*, that is, by one means or another assuring that existing, worn-out facilities are taken out of occupancy in proportion to new construction, and that municipal services are not ruinously overextended in order to supply purely peripheral development. The principal, but not the only means of accomplishment is by redeveloping existing urban areas. This, and any other method would probably require the active cooperation of local government, but such cooperation is almost a certainty in the postwar period and will undoubtedly take a number of forms. 19, 20

20

"The article clearly suggests the elements in the economic organization of the building process which seem likely to prevail after the war at least to the extent that it is possible for us to see through the uncertainties that lie ahead. Not all of the essential stages which you indicated, however, are inevitable. For example, the liquidation of completely obsolete units which you discuss at some length will not be accomplished automatically in terms of the conditions which are indicated. At the appropriate time, either private business concerns or Governmental agencies must see that these structures are actually withdrawn from the market by physical demolition. As long as they exist they will be a threat to sustained activity in poor times and to continued improvements in living standards."

LOWELL J. CHAWNER

Assistant to Sec'y., Dept. of Commerce  
Washington, D. C.



"For the future (maybe more distant than the one which you are prepared to conceive), I can see the possibility of the druggist being able to buy a prefabricated, finely equipped drugstore, the bank a fine bank, the school an expandable building, etc., etc.—all to fit into the fine scheme of the architect's dream of a not too far distant future."

HENRY DREYFUSS

Industrial Designer  
New York, N. Y.

"The need for integrating the industry at the assembly and marketing levels is the most important task ahead. Both the prefabricators and the large operative builders have made some progress to this end, but the current weaknesses are well set forth. Your suggestion of what is in effect a combination of the two might go far to curing this weakness, especially in the larger communities. This leaves, however, the problem of the erection of scattered houses, both in larger cities and, particularly, in small places and rural areas.

"To my mind one of the most significant paragraphs in the article is that dealing with the question of land tenure and finance. When you say that 'It is doubtful that large-scale activity could be sustained entirely on the basis of outright sale, or financed exclusively by investment funds' you touch on one of the most fundamental problems of house distribution. Even at this stage we have plainly made more progress on the production side than we have on the distribution side, and war opportunities have definitely contributed to this unbalance. The mortgage system, even as modified during the last ten years, still seems to me to be inadequate for the job ahead. I hope you can find the answer."

MILES L. COLEAN

Vice President, Starrett Bros. & Eken,  
Builders  
New York, N. Y.

"There can be no building profession without professional building standards. There can be no professional building standards without architectural leadership. 'Initiating' a program for the integration of the industry is a responsibility of the architectural profession. This may be the last call."

EDWARD D. PIERRE

Chairman A.I.A., Indiana Chapter  
Indianapolis, Ind.

By the logic of this arrangement the prefabricator, as the producer of sub-assemblies, moves up into a position parallel to that of other materials and equipment manufacturers. His products are aimed at the large-scale developer rather than the individual consumer. Such an arrangement is highly probable and, in fact, would be simply a continuation of the wartime trend. An equally likely development would be for the manufacturers of conventional building materials and equipment to engage in a type of prefabrication of their own, with wallboard manufacturers making wall and partition panels, plumbing fixture manufacturers supplying complete bathrooms, kitchen cabinet manufacturers turning' to complete kitchens and enlarging their lines to include prefabricated closets, and so on.<sup>21</sup>

The large-scale developer, by virtue of his function as distributor, would be "in charge" of the industry's relations with the consumer. The answer to the question of whether he would sell or rent the product is probably that he would do both, and neither. It is doubtful that large-scale activity could be sustained entirely on the basis of outright sale, or financed exclusively by investment funds. Certainly neither course has in recent years proven wholly successful. There is also the question of land tenure, which seems certain to undergo fundamental changes as redevelopment becomes the order of the day. Probably some modified form of purchase and ownership will have to be worked out, giving the building-consumer greater control over his equity and at the same time the advantages of ownership, and retiring a substantial part of the developer's investment within a reasonable time.<sup>22</sup>

## A BUILDING PROFESSION

Assuming some sort of organization such as this, what becomes of the building professional—the architect, builder, realtor, financial expert and so on?<sup>23</sup> The simplest answer is that his services would be more in demand than ever. Really large-scale activity cannot go on, according to this pattern or any other, without preempting all of the available brains and talent within the industry and a good deal from the outside as well. The postwar building market will be an experts' market, where intelligent planning, and not gamblers' intuition, will rule. Those building experts who do not become entrepreneurs—either singly or in suitable combinations—will be needed as consultants and employees by materials manufacturers, prefabricators, developers, and by the Government. Real prefabrication implies a greater need for design-talent, and a greater scope for its application, than the upper-crust market, so far tapped by the architect, has ever supplied. Large-scale developers will need economists, real estate experts, appraisers, site-planners, engineers and even sociologists to plan their activities, and all sorts of other technicians to carry them out. Government, which will undoubtedly supervise building activity to an increasing extent, will have its own staff of



experts to coordinate the plans of the various development companies and carry through its own extensive construction programs. Opportunities should be endless—indeed, it is not too much to predict that one of the first effects of the emergence of Building as an integrated industry would be the creation, for the first time, of an integrated Building Profession, comprised of various divisions, including economics, planning, design, the various branches of engineering, etc., but united by a singleness of purpose and a clear understanding of the place of each type of activity in the total Building scheme. 24, 25

## CONCLUSION

Needless to say, it is not suggested that the course sketched here is the only path for Building to follow in the postwar period. There will undoubtedly be others, including the continuation, for some time to come, of various prewar procedures. What is suggested is that there must also be some main path that will unite the industry behind a practicable program of construction activity designed to meet and surmount all of the problems which now confront us. What is needed, for the moment at least, is not so much general agreement on a precise scheme which can be voted into existence and carried out tomorrow, but the freest possible discussion of basic, underlying problems and sweeping proposals—such as that advanced here—that can be the clay pigeons at which explosive comment can be fired. Industry integration is a brand new question, on which no one can pose as an expert. One of the disguised blessings of the wartime hiatus in normal building activity is that more time is at our disposal to thrash out the question than might otherwise have been the case. War building itself provides practical illustrations for a discussion which would otherwise be theoretical in the extreme.

To the extent that the opinions expressed here, and in the accompanying comment by THE FORUM's Panel of Advisory Editors, are indicative of a probable trend, they can provide all factors within the industry with a guide to present activities aimed at the postwar period. We believe that to a considerable extent they can and do. In broadest outline the handwriting on the wall is unmistakable. Architects, builders, manufacturers and the host of Building's personnel can benefit from the trend towards integration, mass production, prefabrication and large-scale development or defy it at their peril. In the last analysis, discussion and opinion will control only the details of this development; forces bigger than the industry itself are likely to determine its general direction. To the extent that the industry is able to adapt itself to these forces, it will be able to determine its own destiny. In any event, the forces moving us forward, like the forces of the war, are likely to prove irresistible. 26, 27

24

*"You say, 'The postwar building market will be an experts' market, where intelligent planning, and not gamblers' intuition, will rule.' The use of the words 'gamblers' intuition' is a very concise description of a great deal of our development work, particularly in the residential field."*

PHILIP W. KNISKERN

President, First Mortgage Corp.  
Philadelphia, Pa.

25

*"Where do you place the responsibility for integrating beauty into the scheme of Building? True beauty should be incidental to other considerations, and perhaps should depend upon the general level of good taste in the policy-making influences of the super-Building organizations which your statement suggests."*

HOWARD DWIGHT SMITH

Columbus, Ohio

26

*"Before such changes argued in the article are won over completely, the public interest must be aroused; it must be convinced that the changes in the industry that are expected to bring new results will ultimately benefit the public at large; that it will do a better job of construction than ever before. Once this interest and need is felt, the problem will solve itself. The fairy tale of hundreds of thousands of miles of highways of twenty years ago has become a reality. Get the people to want the benefits of the best contemporary construction badly enough, and the problems of getting it will evaporate."*

GEORGE FRED KECK

Architect  
Chicago, Ill.

27

*"You quite logically have elected to deal in this article only with broad theories but, to be of most value, you should follow up with specific questions and opinions on the transition and practical operation of the industry in its coming role. I assume that will naturally appear in your subsequent issues and shall look forward to the discussion with keen interest."*

ALFRED RHEINSTEIN

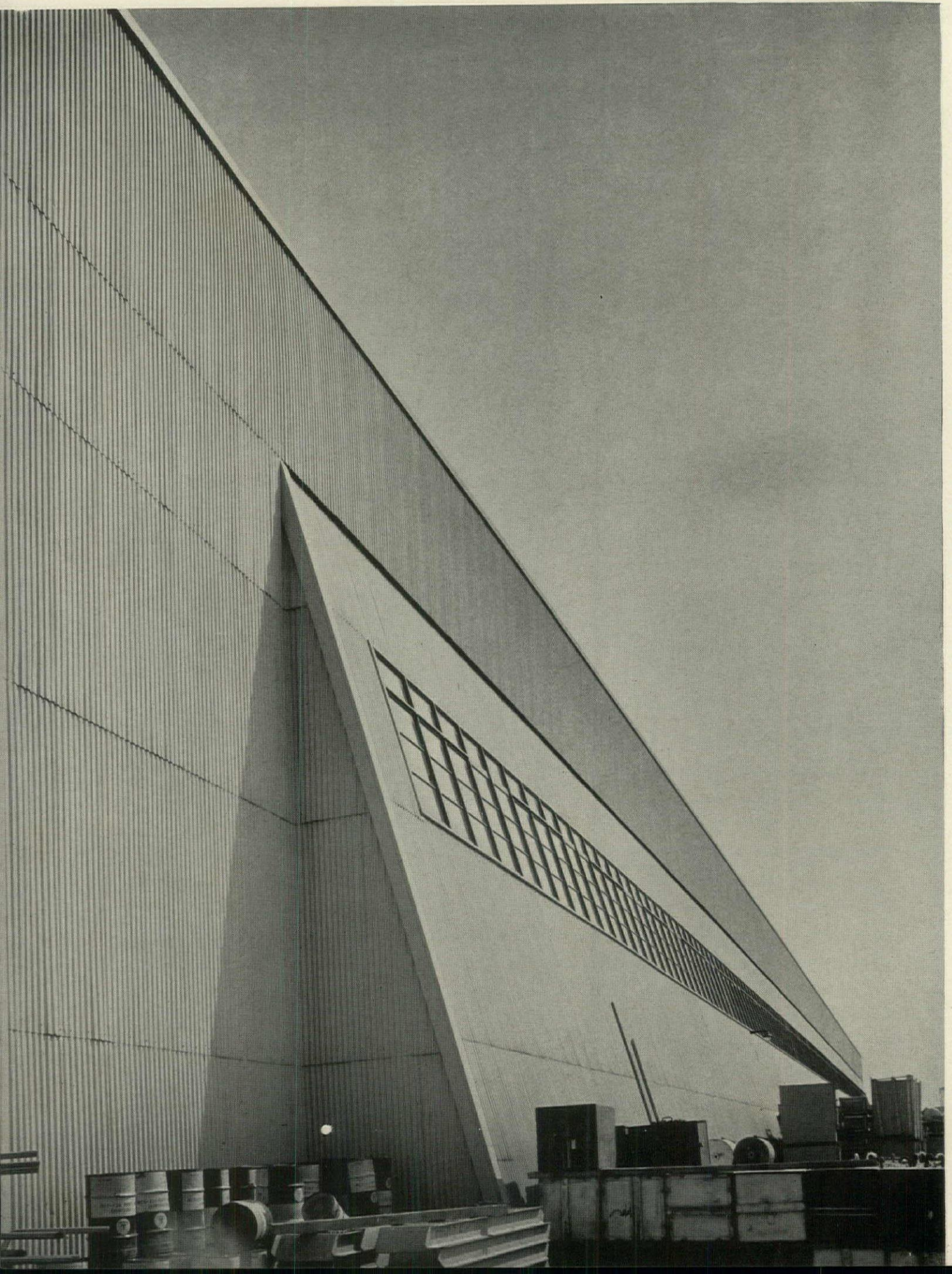
General Contractor, formerly Director  
of New York City Housing Authority  
New York, N. Y.



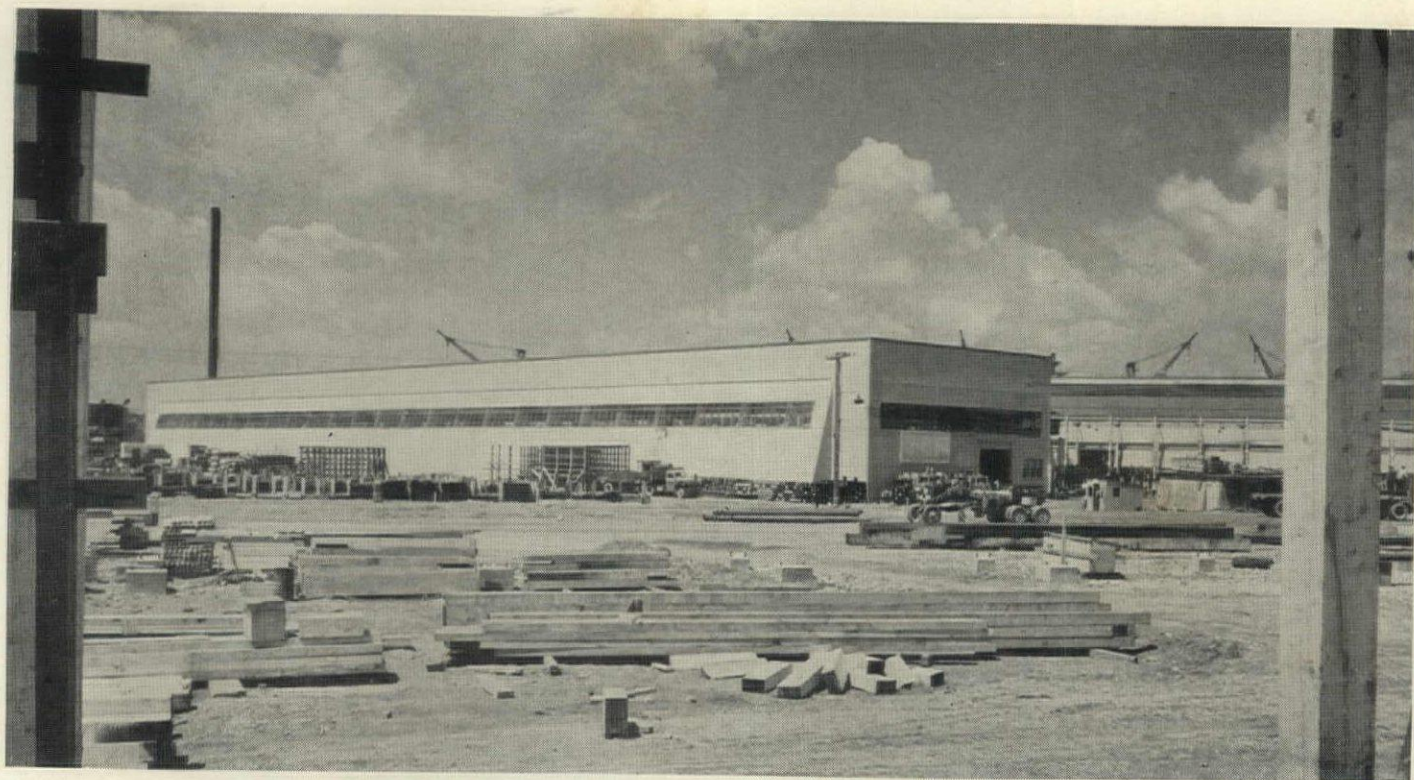
# SHIPBUILDING YARD

ALONZO J. HARRIMAN, ARCHITECT & ENGINEER

STORAGE SHED





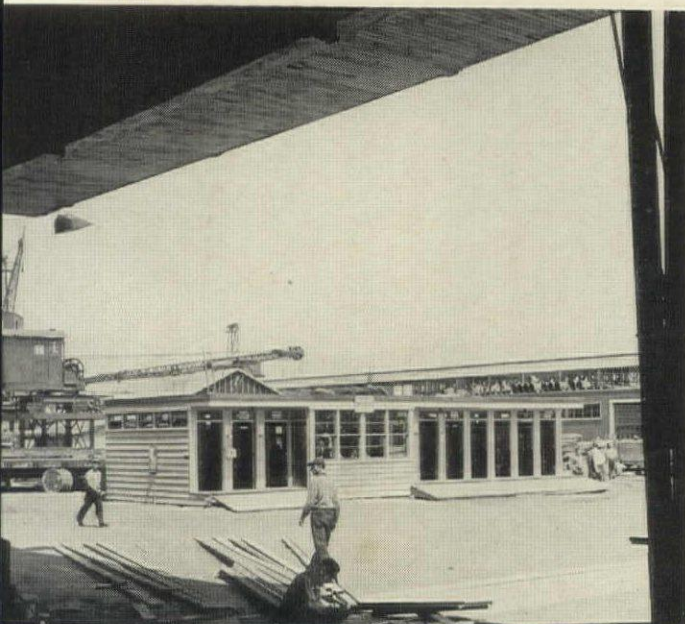


Photos. Ezra Stoller

The site for this shipyard was a large piece of land on a cove, most of which was under water at high tide. After filling with material taken from another site a few miles away, it was graded to an elevation six ft. above high water. Upon completion of this part of the work it was found that the cost of the reclaiming operation showed a saving over the purchase of already improved land in the vicinity.

The interest of the project does not lie in the work of reclaiming flooded land, which presented no remarkable problems, but in the construction of the shipyard itself, where virtually all structural steel has been replaced by wood. It was also desired to keep the use of other critical materials to a minimum. Built for the production of merchant vessels, the yard was established with an assumed useful life of not more than ten years. These requirements were met with admirable efficiency and a distinguished piece of industrial architecture resulted.

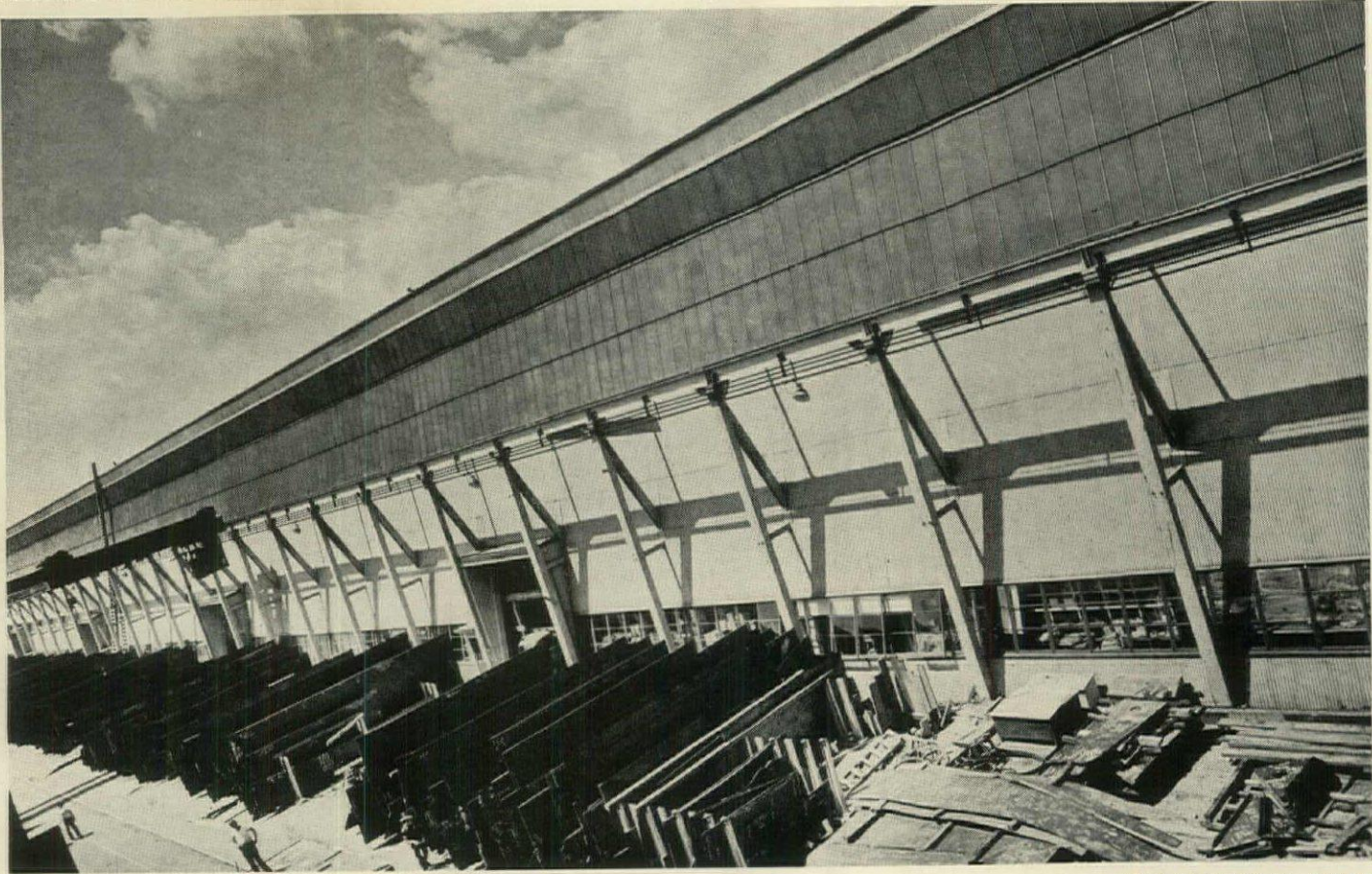
TIME CLOCKS



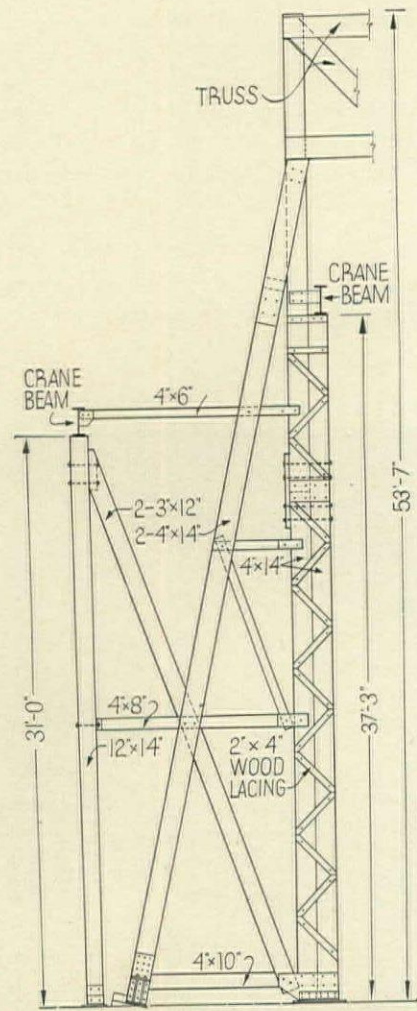
PERSONNEL OFFICE







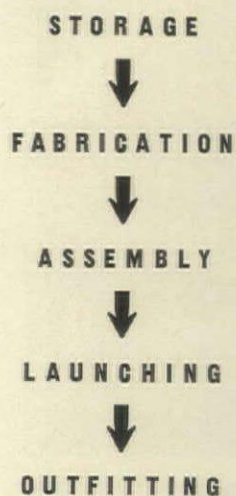
FABRICATION SHOP



SIDE WALL CONSTRUCTION



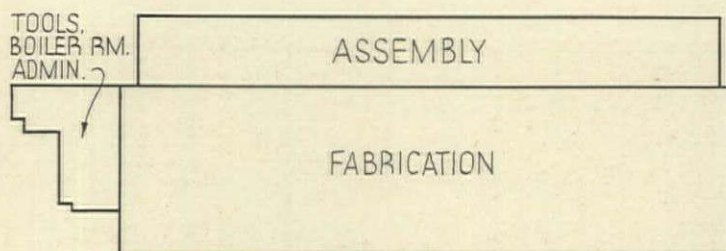
# SEQUENCE OF OPERATIONS



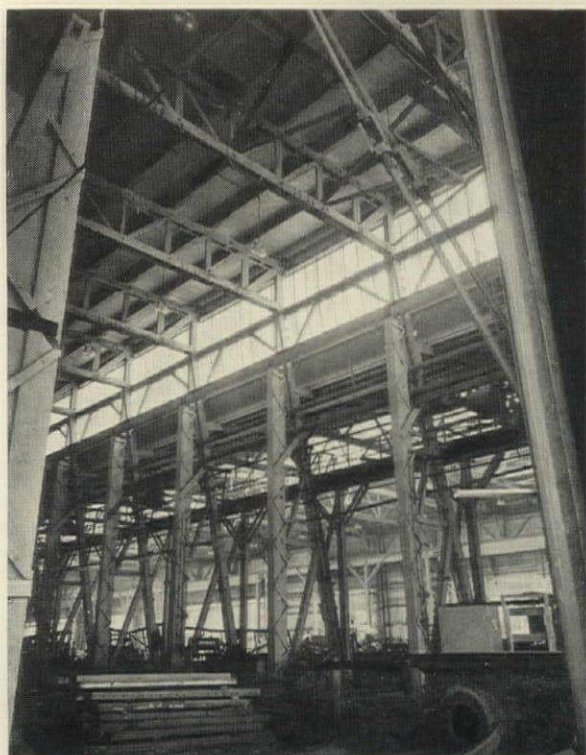
ASSEMBLY BLDG.

The buildings shown here are devoted to fabrication and assembly, and from the latter materials go directly to the ships on the ways. The resemblance between the interiors of these all-wood structures and those of steel-framed buildings is remarkable. On this job wood was actually used as a substitute material: every effort was made to follow steel practice. One of the structural details showing supports for inside and outside cranes, is illustrated on the facing page.

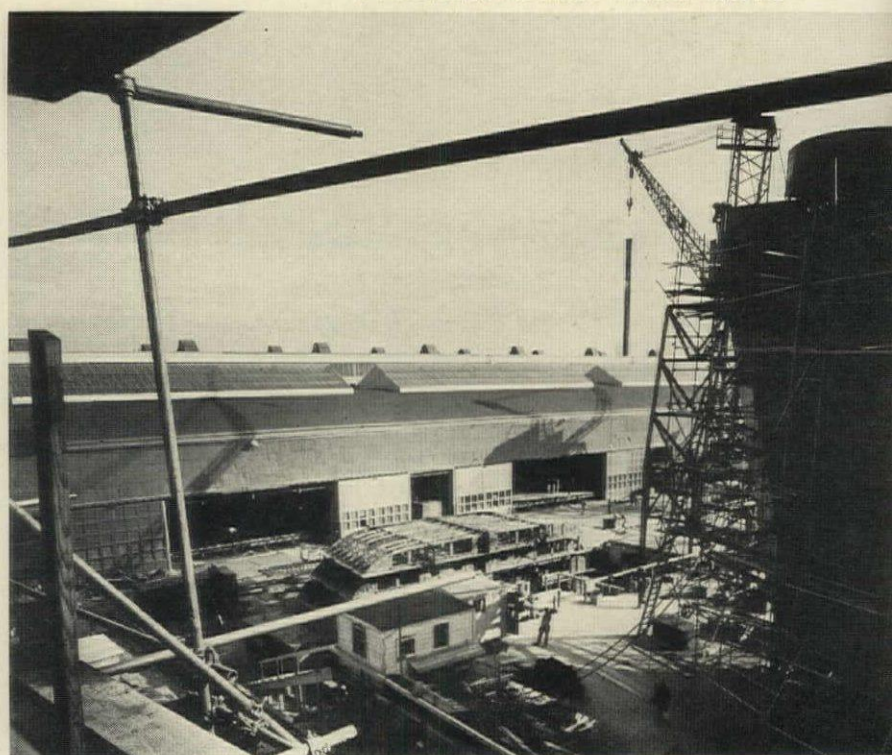
TOOLS.  
BOILER RM.  
ADMIN.



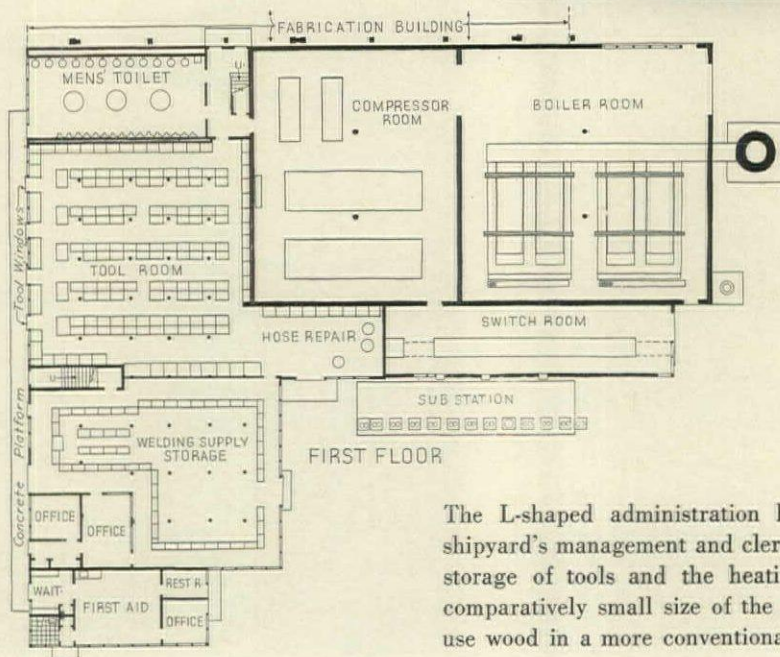
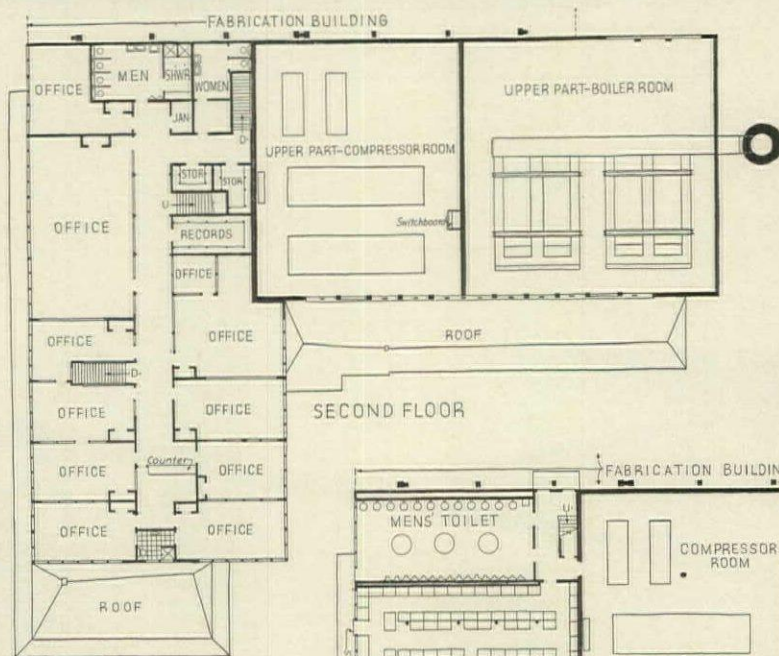
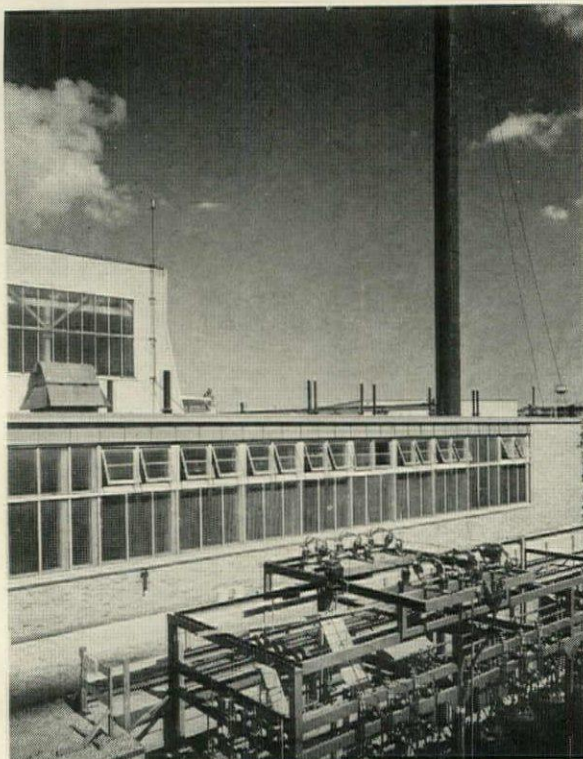
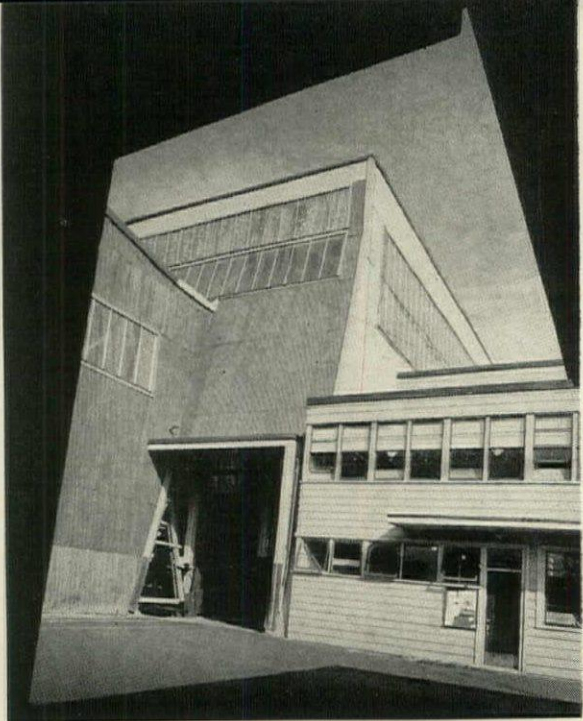
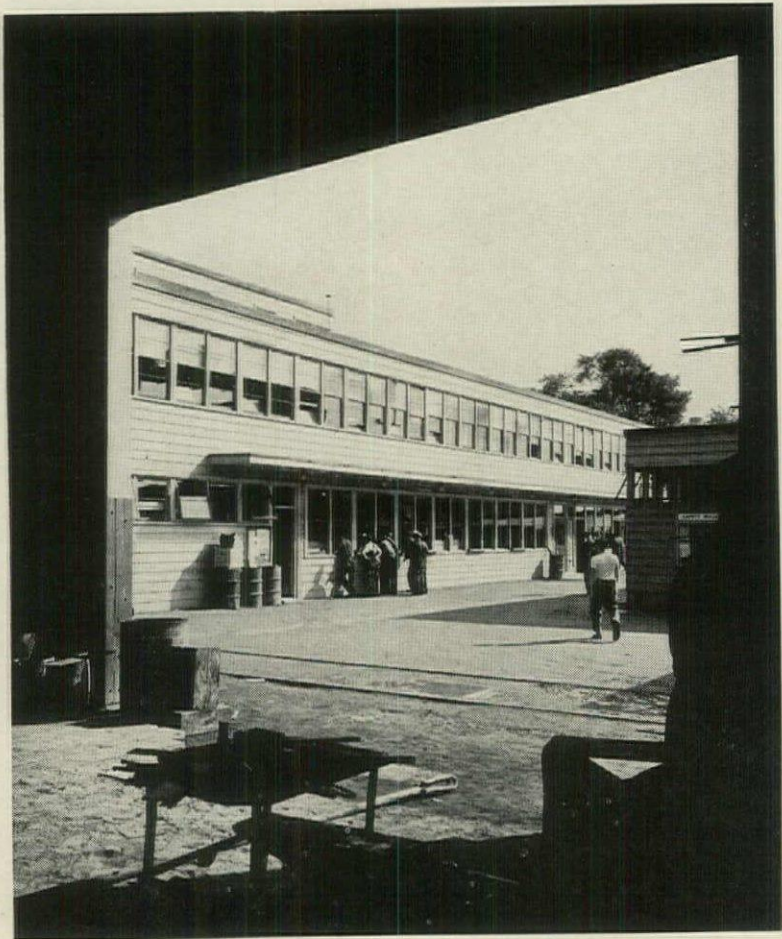
VIEW FROM FABRICATION BLDG.



ASSEMBLY BLDG. FROM WAYS

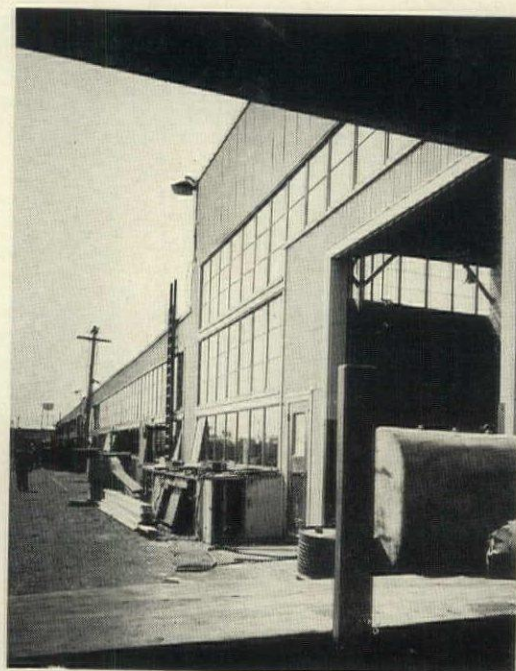
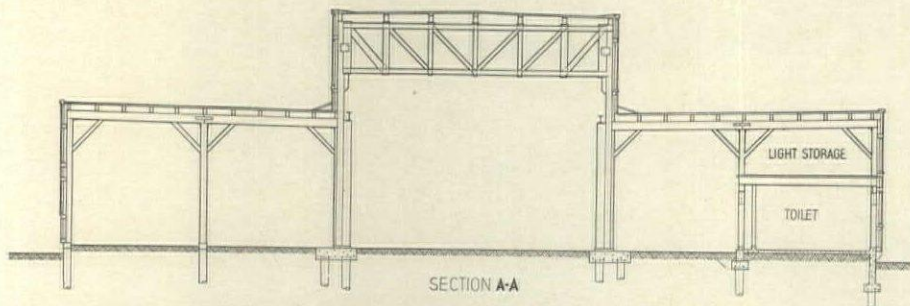
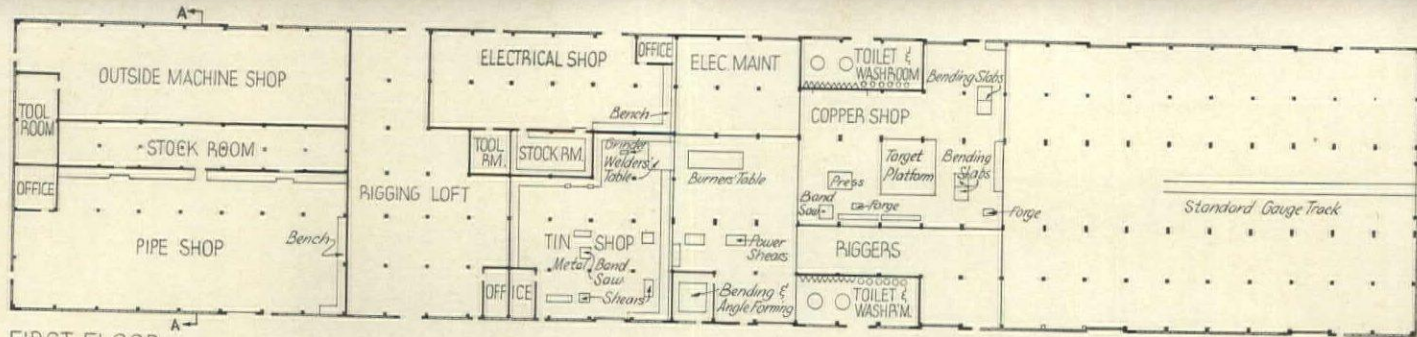




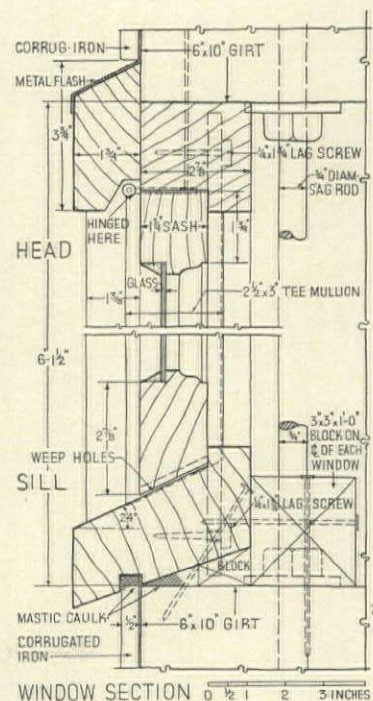
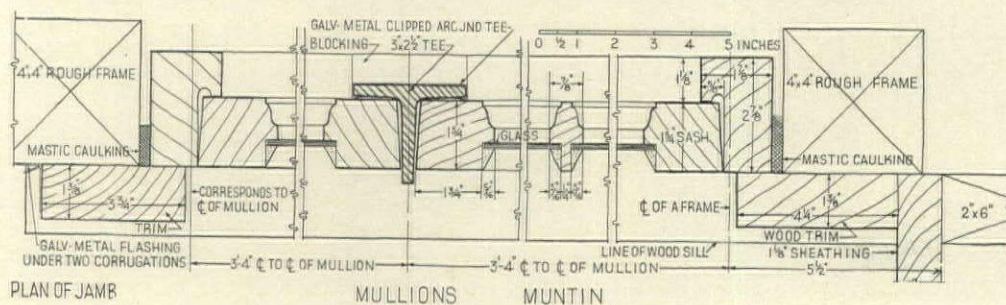


The L-shaped administration building has offices for the shipyard's management and clerical staff on the second floor, storage of tools and the heating plant on the first. The comparatively small size of the building made it possible to use wood in a more conventional manner than in the shops.

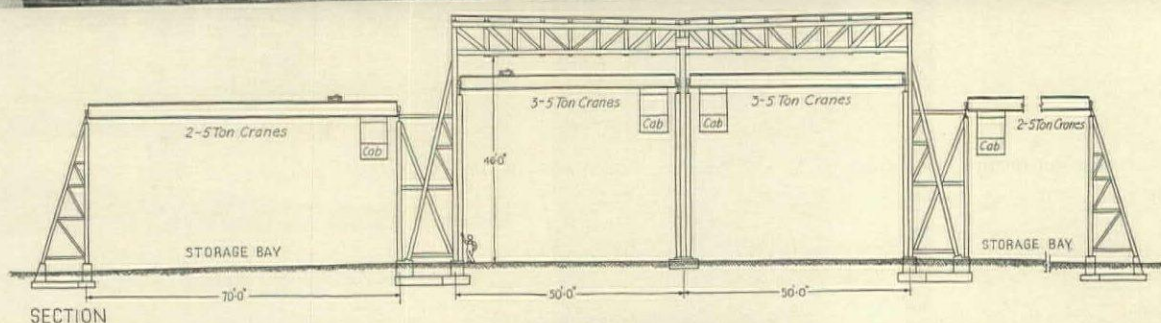
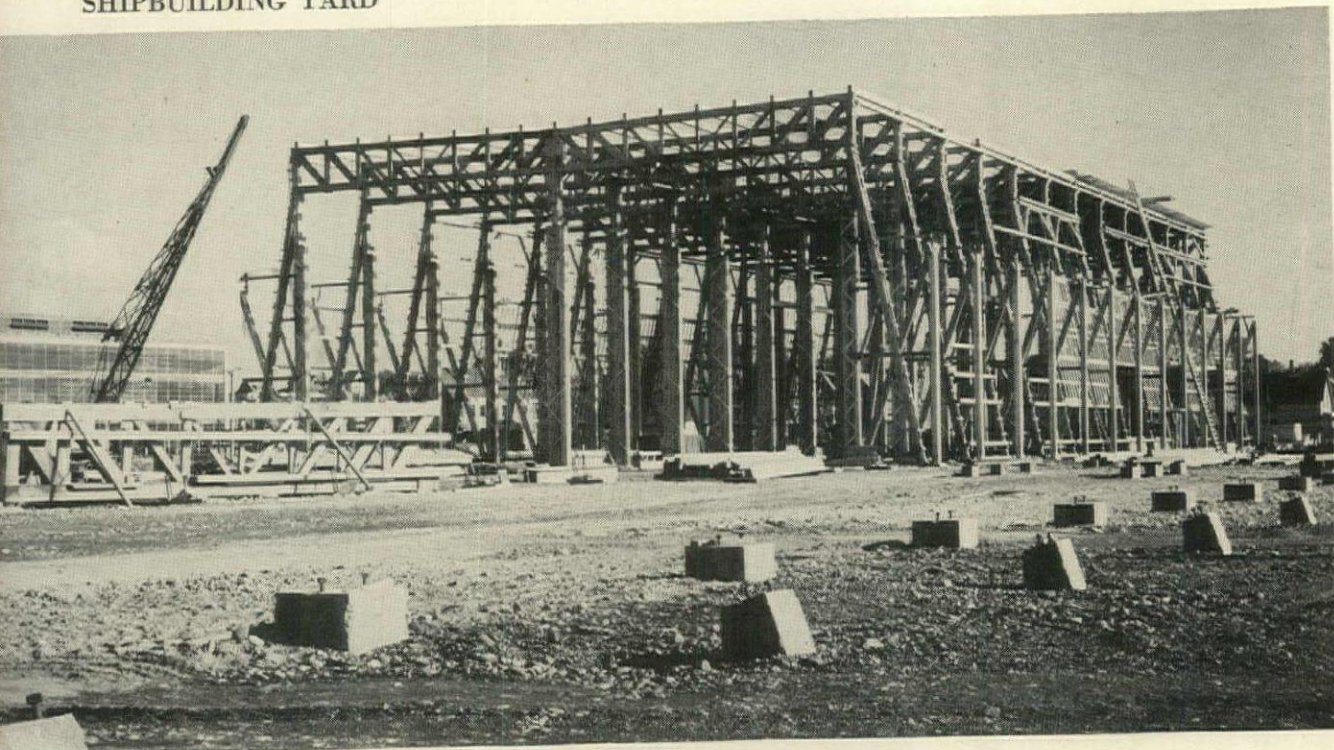




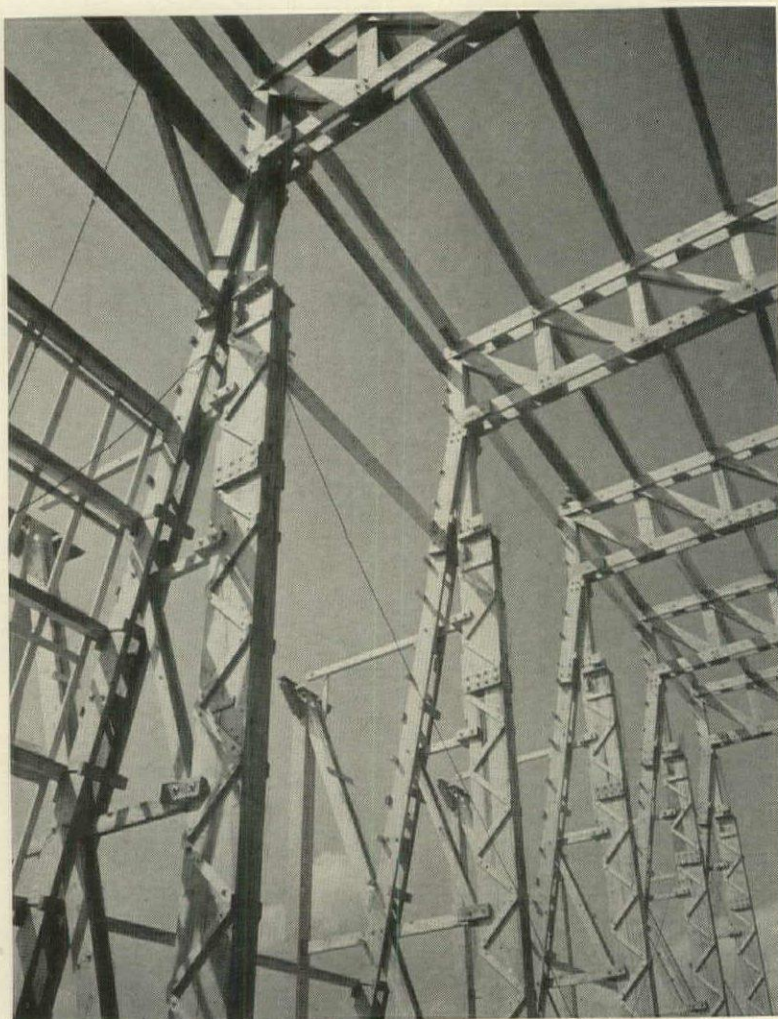
The outfitting shed takes care of finishing ships which have already gone down the ways and have been moored nearby, and the scope of these operations is suggested by the names of the shops which appear on the plan above. The building has four low bays, a higher central bay and a mezzanine for light storage. In accordance with the policy of replacing critical materials where possible, wood sash has been used.







The excellent construction photographs of this new fabricating unit show very clearly the method by which the wood frame is assembled. Note, in the illustration at the left, the manner in which extra bearing for the cranes is provided, also the system of bracing.



#### CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—Cop-R-Loy, Wheeling Steel Corp. Structural steel—Bethlehem Steel Co. Bow-string trusses—McKeown Bros.

**ROOF:** Tar and gravel—Barrett Co.

**SOUND INSULATION:** U. S. Gypsum Co. and Celotex Corp.

**WINDOWS:** Glass—Pennsylvania Wire Glass Co. and Mississippi Glass Co.

**GARAGE DOORS:** Overhead Door Co.

**HARDWARE:** P. & F. Corbin.

**PAINTS:** Benjamin Moore Co. and Cuprinol Inc.

**ELECTRICAL INSTALLATION:** Cables—Okonite Co. and General Cable Corp. Switches and panel boxes—Trumbull Electric Mfg. Co. Fixtures—Holophane Co. Amplifying system—RCA.

**PLUMBING FIXTURES:** Crane Co. American-Standard Sanitary Corp. and Kohler Co.

**HEATING AND AIR CONDITIONING EQUIPMENT:** Herman Nelson Corp. American Radiator-Standard Sanitary Corp., Portland Co., Combustion Engineering Co., Chicago Pump Co., Pennsylvania Pump Co., Patterson-Kelley Co., Inc., Todd Combustion Co., Inc. and Davidson Fan Co.

**SPECIAL EQUIPMENT:** Cranes—Crane Wright Mfg. Co., Harnischfeger Corp., American Hoist & Derrick. Timber connectors—Timber Engineering Co.



# FACTORY CONSTRUCTION

*New "Warspeed" Method of Concrete Roof and Girder Construction*

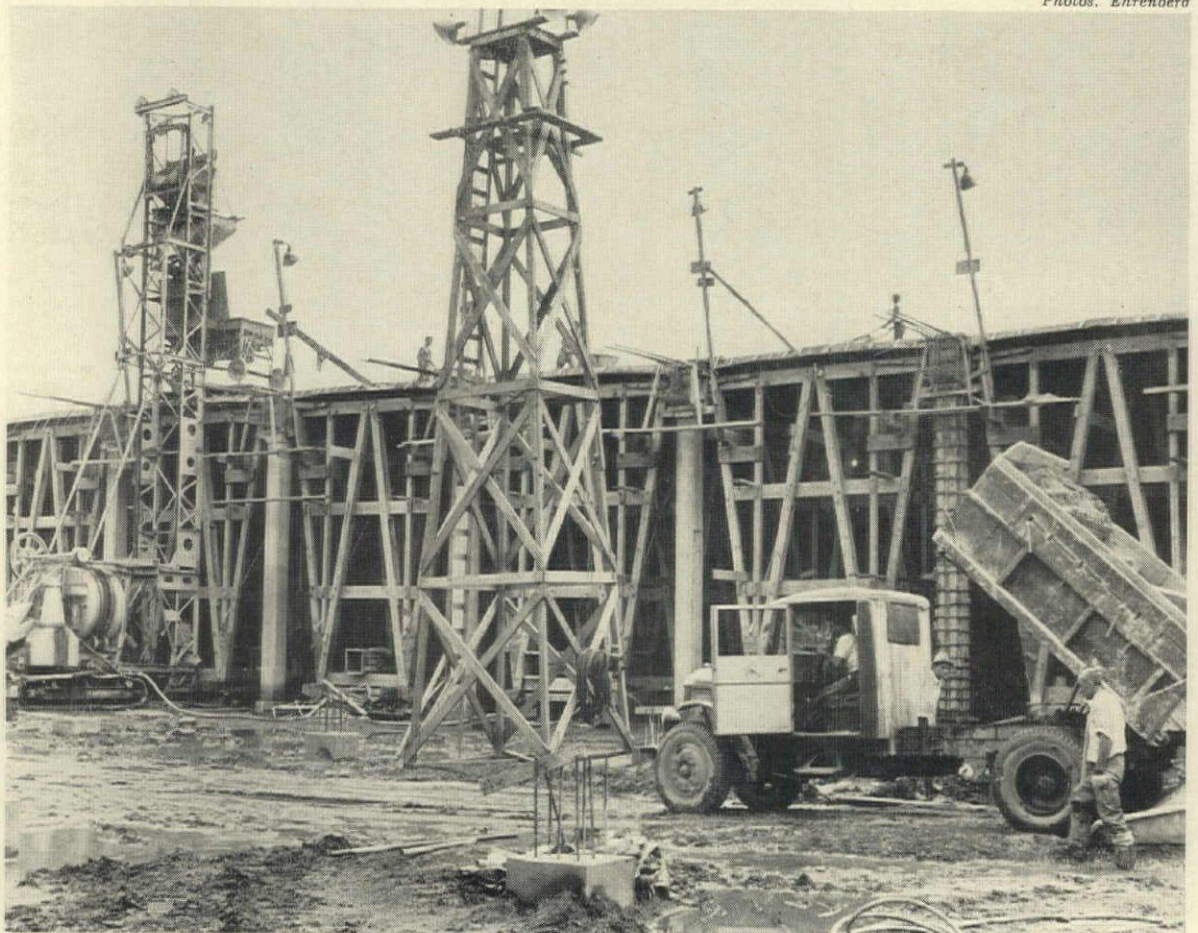
ALBERT KAHN, INC., ARCHITECTS

MAHONY-TROAST CONSTRUCTION CO.

GENERAL CONTRACTORS

The "Warspeed" method of building in concrete, now in use on a number of war plants, has already more than justified its name. In the example shown here, first in which the system has been used, it has permitted the pouring of an acre of roofs and columns per day. The method was the contractor's solution to an exceedingly complex problem, involving the need for speed, fireproof construction, elimination of critical materials and minimum cost. Essence of the method is the use of movable forms and a girder system which permits the forms to be pulled from one set of bays to the next location without encountering obstructions. The ends of these forms are shown in the photograph below. One of the great virtues of the method lies in the fact that the forms can be used ten times or more, not only producing a substantial saving, but what is more important at the moment, materially reducing the number of skilled carpenters required to build the forms. The factory on which the "Warspeed" method was first used is a very large one, so large, in fact, that some departments were in operation at one end of the building before the last bays had been poured. The efficiency of the system on large one-story plants is best expressed by the fact that its cost is substantially under that of wood or steel.

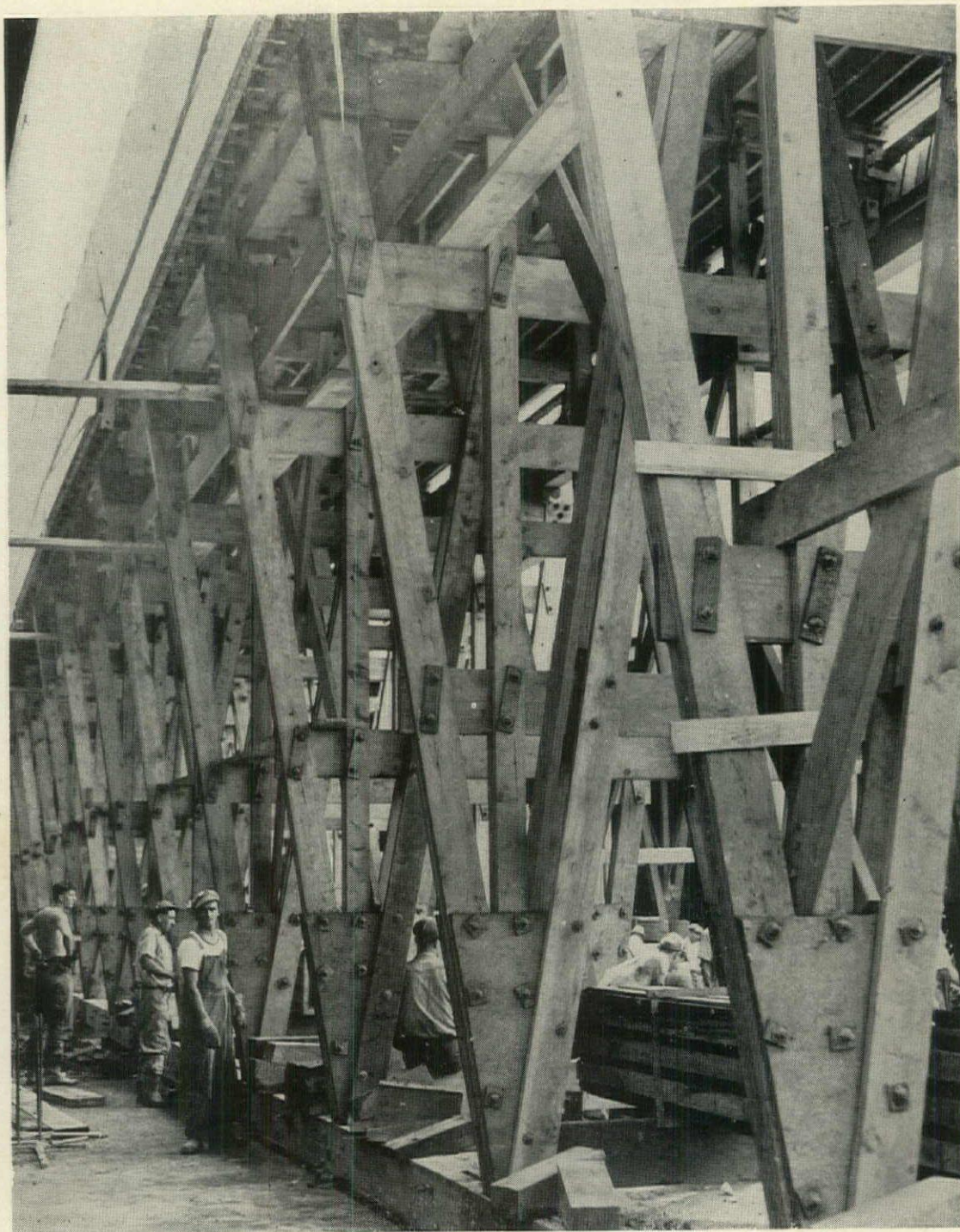
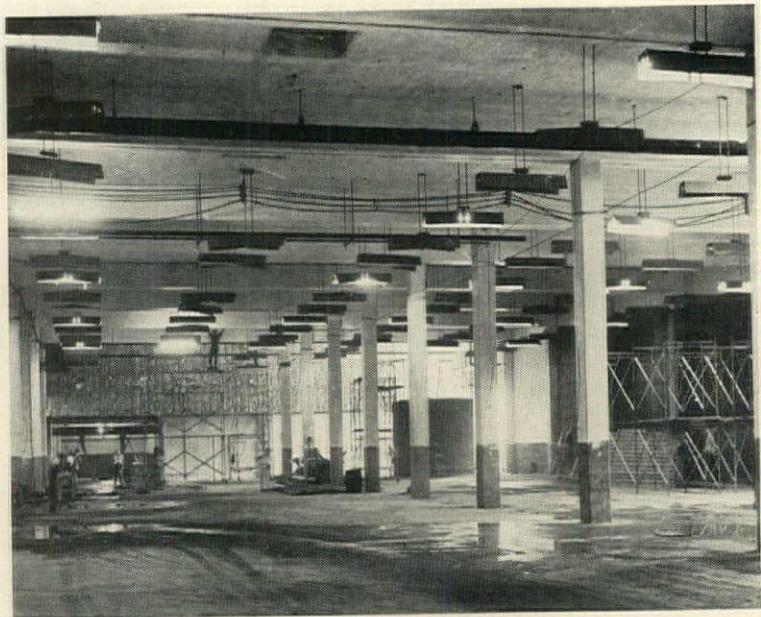
*Photos. Ehrenberg*



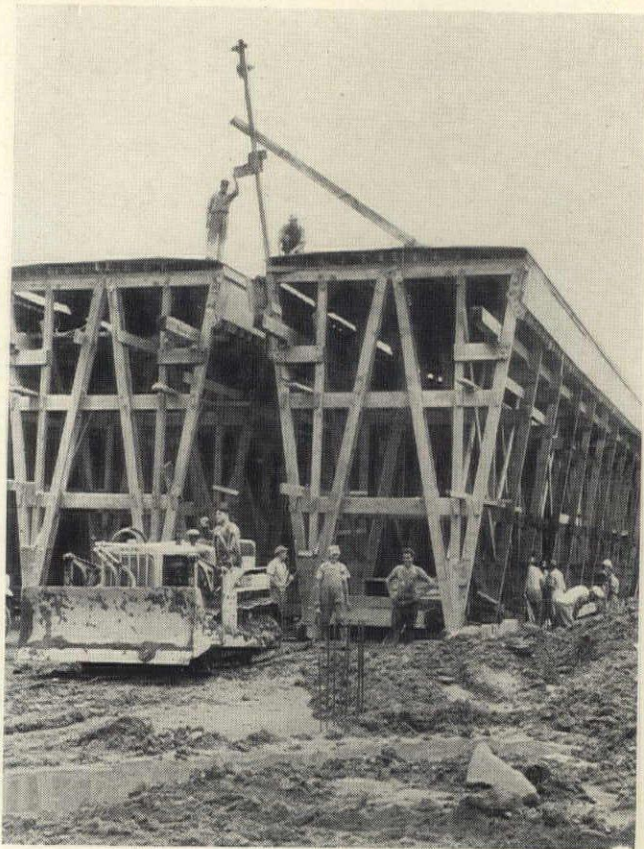


FACTORY CONSTRUCTION

The speed and magnitude of this building operation are shown very clearly by these two photographs. While forms are still being set up at one end of the vast plant, workers and machines are already moving in at the other. The huge wooden forms, whose construction is indicated above, are pulled into position by tractors and jacked into place by crews which have become extremely efficient and fast-moving. The braced design makes it possible for the form to maintain its position even if the mud sill should give way at one or two points. Forms for the girders are hinged so that the form can be moved after the concrete has set.







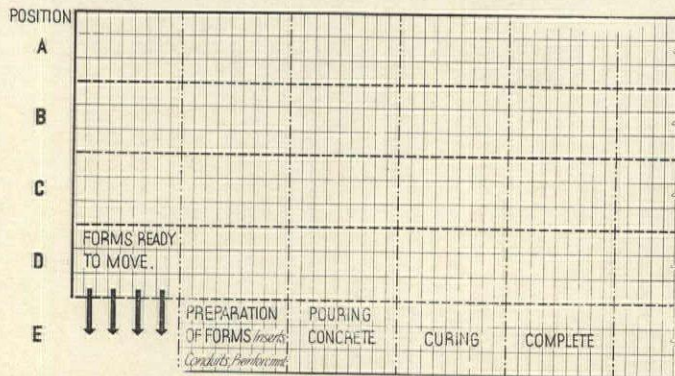
1

1. Moving forms to new position. 2. Locking girder forms into position. 3. Forms squared and reinforcing on roof in place, forms for columns erected, concrete being poured. 4. Leveling and preparing ground for moving next set of forms.



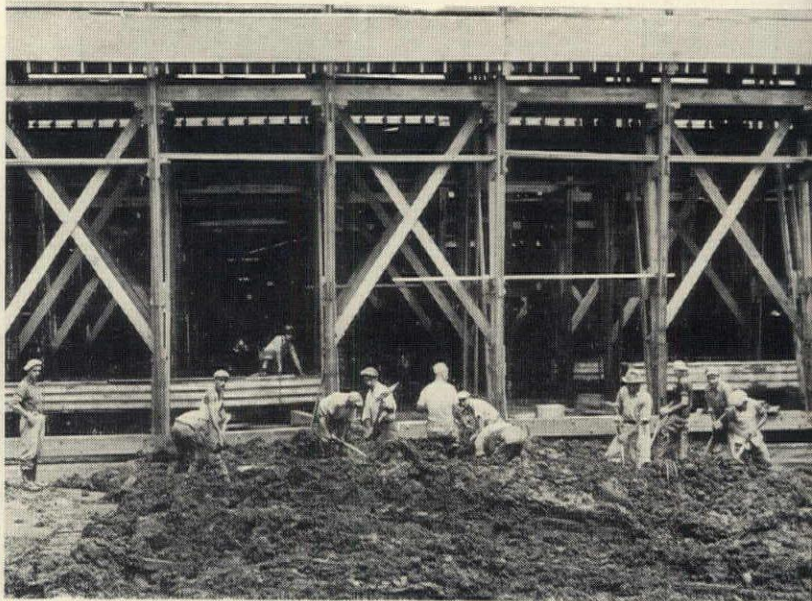
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3



Each rectangle enclosed by solid lines is a bay, 20 by 38 feet. The larger rectangles, enclosed by dotted lines, show an area that is poured in one operation. Forms move the long way of the bays, from A to B and so on. This drawing is not a plan of the factory, but merely a diagram to illustrate the procedures of preparation, pouring, etc.

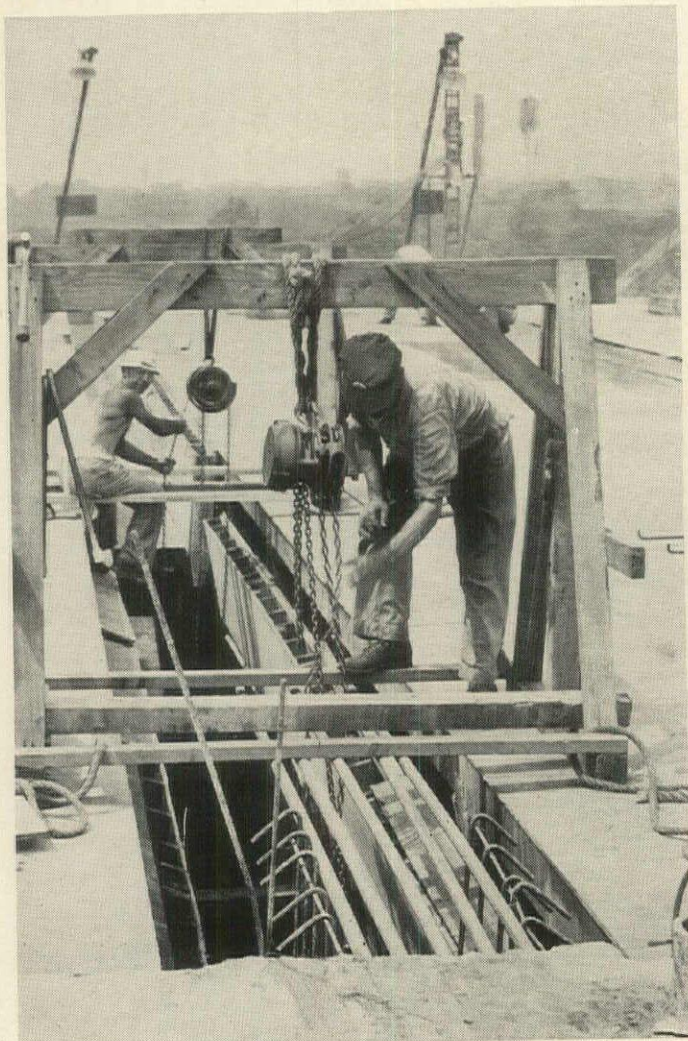
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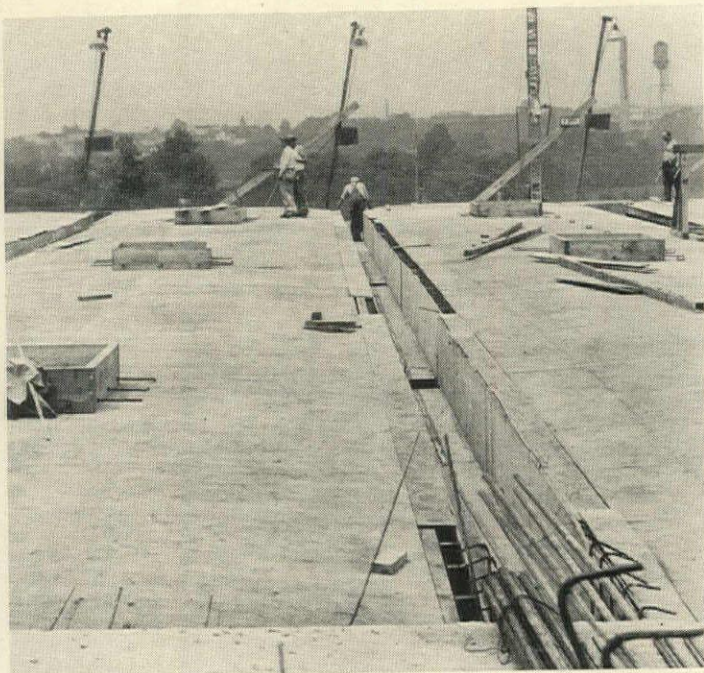
ALBERT KAHN, INC., ARCHITECTS

MAHONY-TROAST CONSTRUCTION CO.  
GENERAL CONTRACTORS



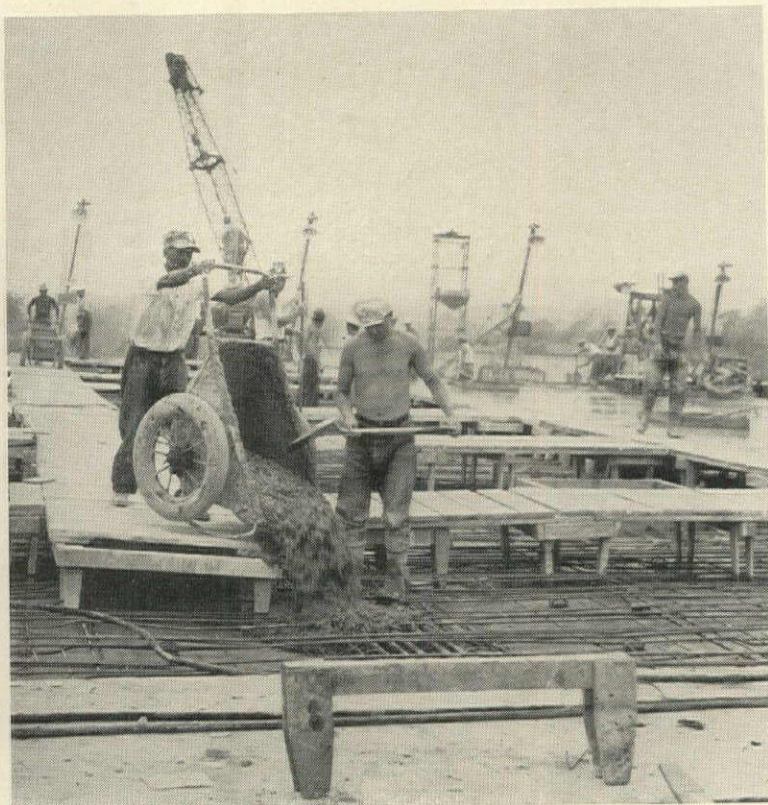
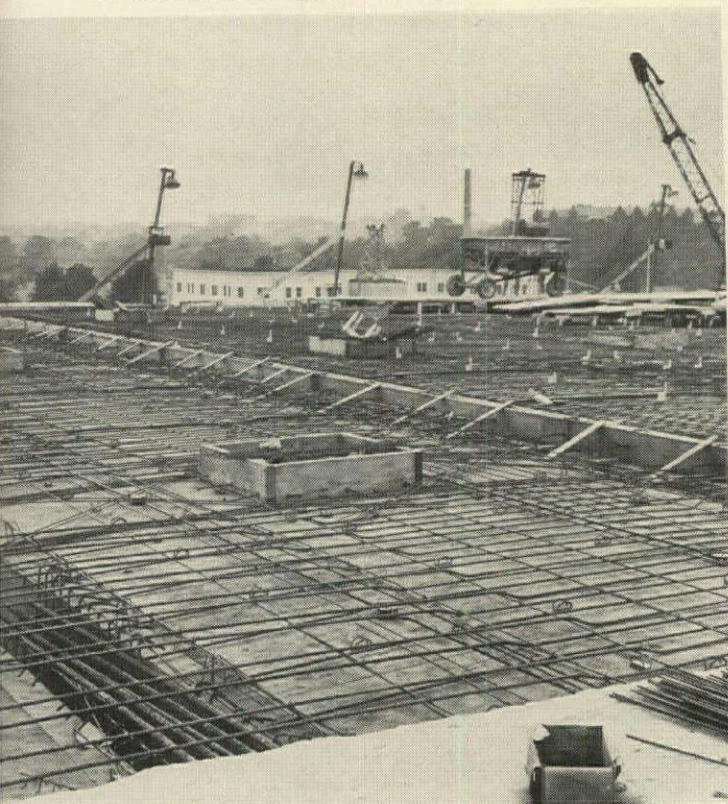
The worker is hoisting reinforcing bars into place. It is possible, on jobs of this extent, to prefabricate column and girder reinforcing and to install it in one or more large units.

This section of the roof is ready to pour. Rods for one of the columns may be seen at the lower left, projecting out of the trough-like forms for the girders.



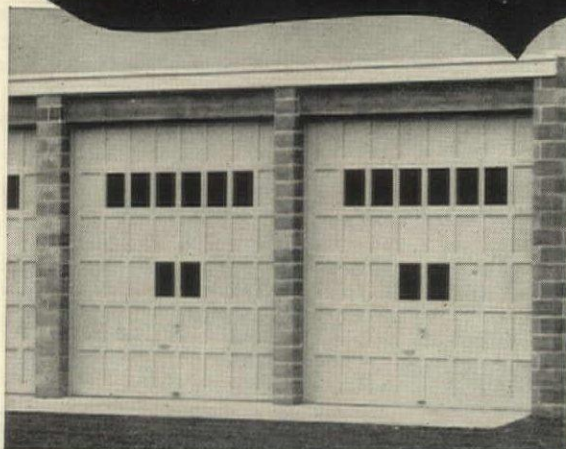
A view of the tops of the forms, before reinforcing bars have been placed for the roof. Note that the hinged forms for girder sides and soffits have been fastened in pouring position.

A series of movable walks are used for the actual pouring. The old method of conveying the concrete from the elevators in wheelbarrows was apparently fast enough to break construction records.





There's a Lot of  
**"FIGHTING SPIRIT"**  
 in these Husky Doors!



State Armories, Framingham, Mass. Equipped with 54 Ro-Way Doors. L. Santucci, Arlington, Mass., Contractors.

**"QUICK"**  
 in Action"

**"QUIET"**  
 in Operation"

**"TOUGH"**  
 in Service"

**"TRIM"**  
 in Appearance"



That's why in the Armed Services and essential War Industries, you will find in use so many ...

## Ro-Way Overhead Type Doors

Today Ro-Way Doors Are Serving America In

Naval Depots	Munition Factories	Armories	Cantonment Camps	Submarine Bases
Air Bases	Torpedo Stations	U.S.O. Buildings	Navy Yards	Marine Bases
Navy Proving Grounds	Coast Guard Bases	Ordnance Plants	Bomber Plants	Army Proving Grounds

### These Exclusive Features Make Ro-Way Doors as Modern as Today's Weapons of War!

**"Crow's Foot" Outer Bearing Support**—Rigidly holds the chain sheave wheel in permanent alignment. No twist . . . no sag to cause friction.

**"Zip-Lock" Adjustment**—Used on Ro-Way Doors having Twin Torsion Spring Power. Permits instant easy adjustment of spring tension.

**"Tailor Made" Springs**—Each spring is individually made for the Ro-Way Door on which it is used. Each is power-metered to the weight of the door.

**Track Rollers**—Made on our own specially-designed

machines. All Rollers have "double thick" wearing tread, and full ball bearing (7 to each roller.)

**New Friction-Reducing Track**—Track is formed so rollers ride well away from the track side wall, giving extra clearance and easier operation. This track design also gives extra strength and rigidity. No counter-sunk holes in track—no flat head stove bolts used.

**Rust-proof Hardware**—All Parkerized and Painted after fabrication.

You will better understand the widespread choice of Ro-Way Overhead Type Doors when you examine these exclusive improvements and see the extra values they give.

Write for Ro-Way's 72-page "Time-saving Specification Book" for Architects. Please attach professional card or letterhead.

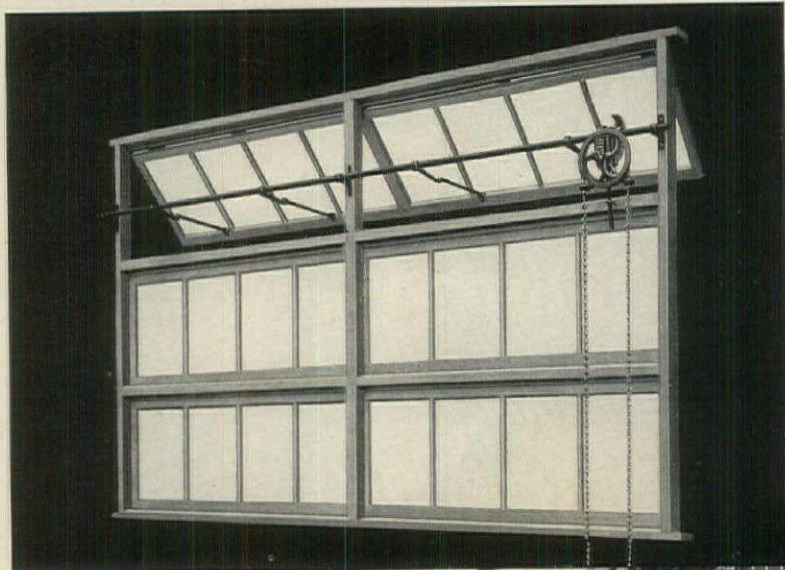
**ROWE MANUFACTURING CO.** 956 Holton Street  
 Galesburg, Ill., U.S.A.

**Ro-Way**

**OVERHEAD TYPE DOORS**

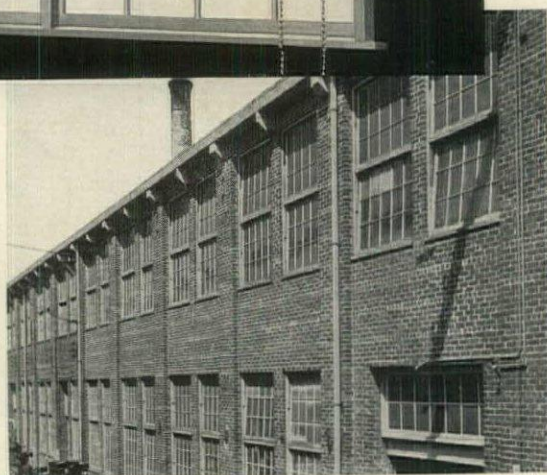
*"There's a Ro-Way for every Door way!"*





## 40 Years Use And Still Going Strong

Standard Side Wall Sash. One or all may be operative. Note sight lines are the same for fixed glazing and operative sash.



Save for painting, not a cent of repairs have been made on these weather-tight sash.

# Cypress INDUSTRIAL SASH

*The Most Durable and Practical  
Window Units Available*

Built for lasting service and minimum upkeep. Sash of clear heart Tidewater Cypress—tank grade. Frames of clear heart California Redwood, complete with hardware and mechanical operators. Everything for the window opening ready for quick installation with the least amount of carpentry work on the job.

Sash are top hung swinging out for trouble-free operation. Extra-heavy hinges at the top, and operator bearers at the bottom, support the sash in a straight plane from its strong-

est members. It cannot warp, twist or bind.

Time-Tested—We have installed hundreds of miles of this sash on greenhouses and other buildings where minimum heat losses and weather-tight construction are essential. Installations made more than 50 years ago are in excellent operating condition.

Engineering service available at all offices. Catalogs and detailed drawings give time-saving information. . . . Ask for copies.

## LORD & BURNHAM COMPANY

*Established Since 1856*

420 Lexington Avenue, New York, N. Y.

Irvington, N. Y.  
Boston, Mass.

Philadelphia, Pa.

Des Plaines, Ill.  
Cleveland, Ohio

## MONTH IN BUILDING

(Continued from page 34)

**What is Being Done:** Some griping, discontent, and a great deal of overcrowding—was anticipated. For this year in the Washington Metropolitan area measures taken by harried Government officials thus far include:

► Under public construction: about 15,000 units: 12,000 dormitory units, 2,000 demountables, 750 hotel rooms.

► Under private construction: about 10,000 family units: 700 row-type, 2-story units. (All figures highly approximate.)

PBA is building temporary dormitories to house 15,000 workers. Present plans are to use these to some extent as reception centers where girls may live until they are broken in to the city.

Other projected and being-built projects: Suburban Gardens, an addition to the Washington Greenbelt project (FPHA), Bancroft units, Metropolitan Life's large rental project — 1,500 units.

**What must be done:** Twenty thousand more girls will be needed in Washington before year's end. With so many units still only in projection or in work stages, the need will be great very soon. Whether it can be met by the quite considerable current program remains to be seen.

**Where-is-the-Lanham-Bill-Dept.:** In the House—having received a "rule" meaning the Rules Committee gave it legislative right-of-way on the floor, the bill passed with no further trouble.

In the Senate—the counterpart to the measure (Senator Thomas' bill, FORUM, September, p. 4) was approved by the Senate Committee on Education and Labor, okayed by the Senate itself soon after.

At the White House: Roosevelt signed the Bill.

Reminder: the Lanham Bill as it now stands is only an authorization. \$600,000.000 is in question. Despite the swift passage after months of delay, Congress may balk at handing it all out at once, may prefer the installment plan.

### MR. ASTOR'S COURSE

Last month came word that Vincent Astor, sixth representative of a great American fortune would sell some of his properties, buy others, reverse investments from local Manhattan Island to national holdings, from high-income Park Avenue properties to bustling Flushing bus terminal and New Jersey chain-store properties. The world of lush living having gone, like a nineteenth-century maiden, into a decline, Commodore Astor was revamping the realty portfolio which had passed down to him from the silver-crossed palm of his ancestor, John Jacob.

Despite press rantings and repetitions of the hoary misbelief that the Astors never sold their land (Kenneth Porter,

(Continued on page 96)





# MEN CAN'T FIGHT on Empty Stomachs!

America's armed forces are the best trained, the best equipped and the best fed men in the world. From the day of their induction into the service to the day of their honorable discharge, the health and welfare of these men is our Government's first consideration. But the preparation of good, wholesome

food requires not only the best meats, vegetables and dairy products, but, also, the most sanitary kitchen equipment. That's why in training stations, in naval and army air bases, in cantonments, and in hospitals, as well as in industrial plants engaged in the preparation of food for our armed forces

## ELKAY "Sturdibilt" Stainless and Galvanized Steel Scullery Sinks

are so widely used. The stain-, acid- and rust-resisting surfaces of ELKAY "Sturdibilt" Scullery Sinks PLUS their sturdy, electrically welded and

heavily reinforced steel construction assure the utmost in sanitation and a lifetime of uninterrupted service and low maintenance cost.

*We invite inquiries from architects, engineers, builders, and plumbing contractors who have projects with an A-1-K or better priority rating to send us their specifications. We have the facilities, the equipment, and more than twenty years experience to render exceptionally prompt service.*

**ELKAY MANUFACTURING CO., 4703-14 Arthington St., Chicago, Illinois**

**COOPERATION WILL WIN THIS WAR—Get Into the Fight With Your Scrap**





## This Wood Has Gone to War in Tough Parts of the World

**WOLMANIZED LUMBER\*** went to war in the tropics years ago, when it joined the rubber and banana planters in their fight against decay and termite attack. Today, because of its highly successful performance on peacetime projects there, it has been drafted for similar wartime service.

**MILITARY AND AIRWAY** structures all along our far-reaching supply lines are employing this wood. It simplifies handling and shipment, and speeds erection. Wood has high insulating value, much needed in the tropics.

**WOLMANIZED LUMBER** is providing all these usual advantages with this plus . . . **LONG LIFE**. Our fighting forces can give all their attention to winning this war, without fear of termites and decay tumbling these buildings down around their heads. Vacuum-pressure impregnation of ordinary wood by the Wolmanizing process gives it this lasting ability.

**PEACETIME USE** of this long-lived wood for the tough jobs in industry can be resumed as Wolmanized Lumber again becomes available. We'll gladly send you data on how and where it has proved its worth. American Lumber & Treating Company, 1647 McCormick Building, Chicago, Ill.

\*Registered Trade Mark

# WOLMANIZED LUMBER



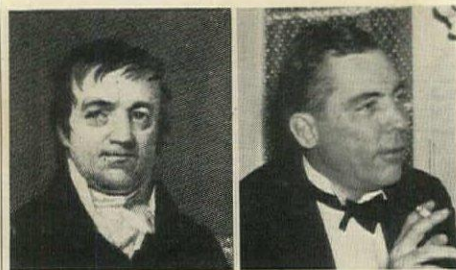
## MONTH IN BUILDING

(Continued from page 94)

authoritative biographer of John Jacob remarked, "Astor's chief care in regard to his New York real estate was to sell it as soon after its purchase as possible."), there was nothing really revolutionary in young Astor's act. With remarkable consistency he was dealing with his holding just as his ancestor had, buying ahead of the anticipated population move, using a transit rather than a divining rod to determine purchase policies, acting on hard facts and shrewd calculation.

Young John Jacob Astor, stout, squarely built, heavily featured Dutchman (see cut) came to America in 1784 with \$25. Old John Jacob Astor, tired and partially paralyzed, died in New York City in 1848 leaving an estate of \$20,000,000.

The story of his fabulous life between those dates is a story of profit through foresight and tight-fistedness, of hard-work, harder heart, but through it all the shrewd vision of a man who bought land when no one wanted it, and owned it all when everybody suddenly did.



Zerbe

### THE ASTORS: one hundred years of consistency.

Before he began to buy Manhattan Island real estate, John Jacob bought and sold furs and tea, was interested in insurance, banking, shipping, later in hotels, railroads, public securities. But to his real estate purchases he brought the Midas touch—and wily calculation based on facts: in 1800 Manhattan had a 60,000 population, in 1790 it had been 33,000. Astor saw the population doubling in 10 years, moving of necessity northward. In the 48 years that followed, he bought property, always a little ahead of the growing city—investing \$715,000 in 252 transactions.

The history of the family fortunes during the next 94 years is one of geometric increase in wealth due to increased property evaluation. Vincent, latest heir, found his job administrative rather than acquisitional, his fortune estimated at close to \$75,000,000.

Interested in social betterment, Vincent Astor, yachtsman and naval commander, developed upper East Side slum properties into high class residences, helped to start New York's first publicly constructed, low-rental houses (First Houses).

Significance of last month's change  
(Continued on page 98)



St. Francis Hospital, Peoria, Illinois

# FIRST HOSPITAL

to install Revolutionary New  
Conduit Weathermaster System  
of Air Conditioning

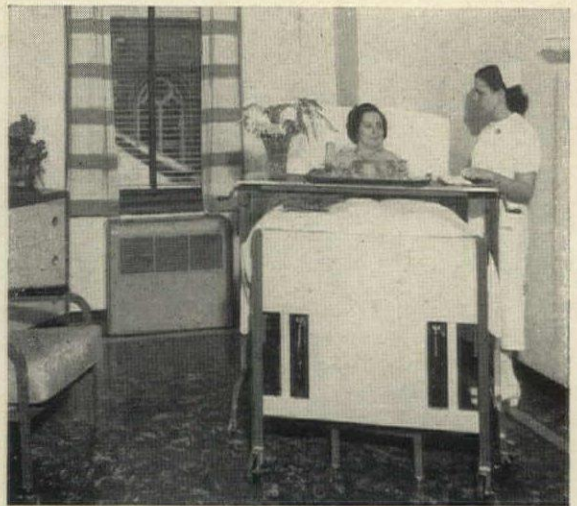
Architect: Hamilton B. Dox • Consulting Engineers: Beling Eng. Co.  
General Contractor: V. Jobst & Sons  
Mechanical Contractor: Crowley Bros., Inc.



**IDEAL LABORATORY CONDITIONS**—Experiments can be carried on free from outside dirt and dust. Outdoor air, cleaned and correctly humidified, is supplied through conduits to this modern laboratory and other rooms in the new wing.



**POST-MORTEMS** are conducted with very latest type equipment in the post-mortem room in the new eight-story addition at St. Francis Hospital. Conditioned air is provided by the revolutionary new Carrier Conduit Weathermaster System. No chance for circulation of disease germs and objectionable odors from one room to another.



**NO DRAFT — NO DUST — NO DIN.** Windows are always closed and the temperature in private patients' rooms in the new wing is always the best for rapid recovery, thanks to the new air conditioning conduit system which permits individual control in each room.

Hospital history was made recently when the new eight-story addition to St. Francis Hospital in Peoria, Illinois was equipped with a new type of air conditioning system which promises to revolutionize the construction of hospital buildings.

All of the private patient rooms, clinical conference rooms, waiting rooms, solariums and offices in the new wing are served by this installation.

#### No Inter-room Recirculation of Air!

The outstanding feature of this new Conduit Weathermaster System developed by Carrier is the elimination of sheet metal ducts. The new system delivers all outside air after cleaning and correctly humidifying or dehumidifying the air in a central station conditioner. This air is delivered in conduits (instead of ducts) to Weathermaster units in the various rooms. *Thus, all recirculation of air between rooms is avoided.* Each Weathermaster unit

takes the place of a radiator and has a Winter-Summer control valve enabling the occupant of each room to enjoy heating or cooling as desired. Proper humidity is maintained at all seasons from the central plant.

Besides offering space saving and low cost advantages, the Carrier Conduit Weathermaster System has other revolutionary features that contribute to the design of multi-room structures,—hospitals, hotels, apartment houses and office buildings. Let us send you detailed information.



*The Navy "E", one of the U.S. Navy's most coveted honors, has been awarded to CARRIER for excellence in war production.*

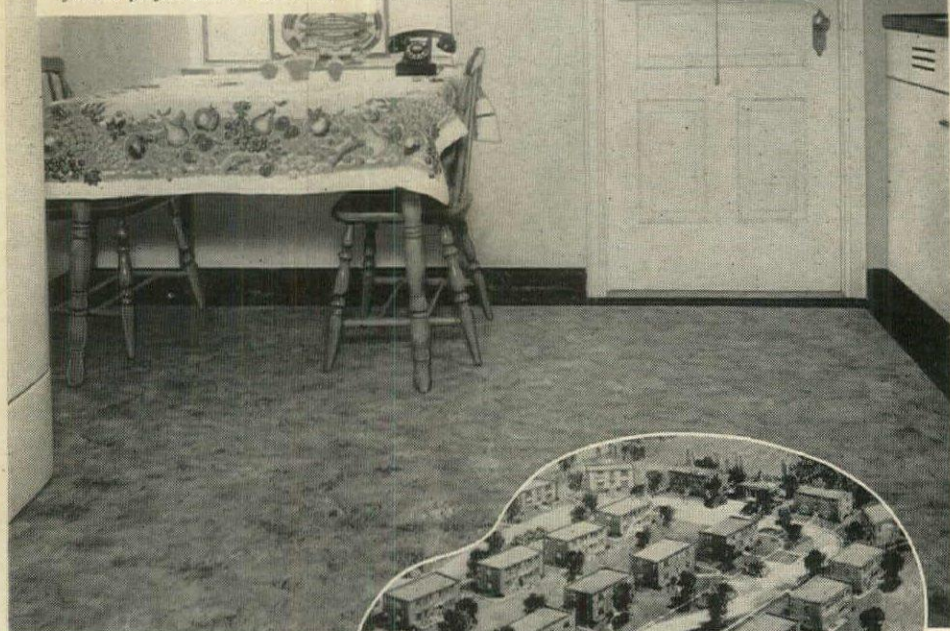
**Carrier**  
**Air Conditioning**

CARRIER CORPORATION  
"Weather Makers to the World"  
Syracuse, N. Y. Desk J29  
Please send information on the Carrier Conduit Weathermaster System.

Name.....  
Firm.....  
Address.....  
City.....



SMART APPEARANCE didn't up the budget of this kitchen in the Lovington Arms Apartments. That's because Armstrong's Linoleum was used; Marbelle Pattern No. 018. General Contractor for the project was W. E. Loving.



OK'd

## FOR WARTIME HOUSING

Read how this durable flooring material is helping to solve America's wartime housing problem

OUT IN FAIRFIELD, OHIO—right next to Patterson Field—a brand-new, low-cost housing project has just been completed. A total of twenty-four apartment buildings was constructed, and Armstrong's Linoleum was used in kitchens and baths of every one of them.

This is additional proof of a fact many architects and builders have long known: that *Armstrong's Linoleum is a practical means of providing good-looking, long-wearing floors at low cost.*

But this flooring has other qualities that are important today. Because it is easily installed over old floors, Arm-

strong's Linoleum is ideal for remodeling work. Armstrong's Linoleum doesn't require expensive refinishing, either now or in the future. Finally, despite wartime restrictions, this smooth-surface flooring is still readily available in a wide range of patterns and colors.

If you are busy with wartime construction of any kind—residential or commercial—it will pay you to investigate further the many advantages of this famous resilient flooring material. Write for free booklet to Armstrong Cork Company, Floor Division, 1203 State Street, Lancaster, Penna.



### ARMSTRONG'S LINOLEUM

MADE BY THE MAKERS OF ARMSTRONG'S LINOWALL AND RESILIENT TILE FLOORS

## MONTH IN BUILDING

(Continued from page 96)

the nature of his holdings is the financial recognition it implies of the end of the plush age of great rents from enormous apartments and of the promise of profit from income-producing properties located in decentralized areas. Deterrent effect of high income taxes on property value, and removal of industry and population to small towns doubtless influenced the change; doubtless, too, the Astor-led trend will spread to other owners, perhaps influence the shape of things to come in postwar real estate investment.

### MATERIAL DIFFERENCES

**Tim-m-ber-ri!** Contra-seasonal decline in lumber production was revealed this month (production estimated at 32 billion feet, demand, 39 billion after eliminating less essential requirements). Reasons were not lacking: manufacturers forced to turn to wood when steel was denied them; transportation difficulties arose when lumber trucks could not get tires; huge labor displacement (FORUM, September, p. 41).

Giant steps taken or indicated by industry and Government to remedy the situation included:

►The Lumber Survey Committee submitted to the Department of Commerce its annual report on lumber movement, (8% below last year), consumption (during second quarter, 13% greater than production), stocks (unfilled orders in softwood regions on August 15 were 78% of gross stocks, 34% in hardwood regions) and anticipated consumption (see above).



►At midmonth WPB's Lord Nelson ordered a 48-hour work week established in Pacific Northwest's lumber industry. Affecting 100,000 men, the ruling is aimed at speeding up lagging production.

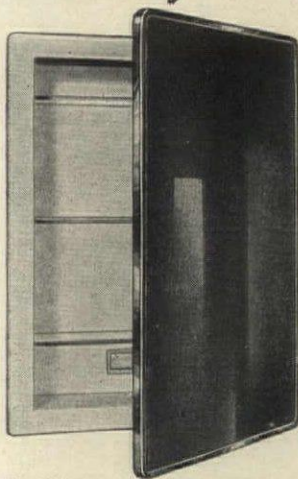
►War Manpower Commission's McNutt

(Continued on page 100)

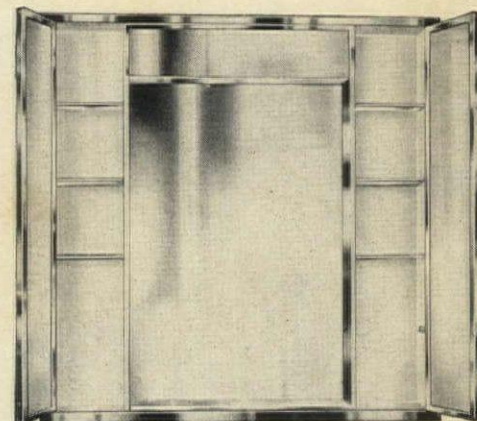


# MIAMI Metal CABINETS and ACCESSORIES

Available for Immediate Shipment **WITHOUT PRIORITIES**

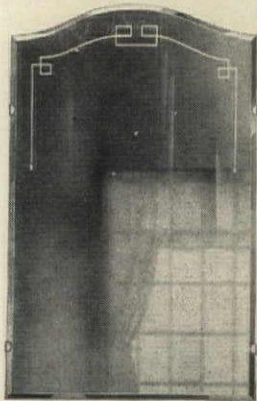


No. 2030  
Master Jr. model, with rounded  
corners. Stainless steel frame.



THE IMPERIAL

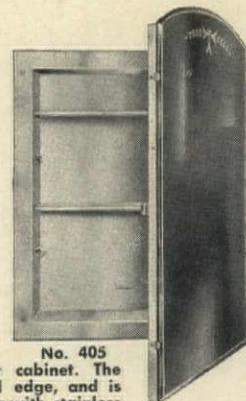
The Imperial is the most luxurious cabinet in the line. Large recessed center mirror flanked by spacious side cabinets. Indirect lighting. Chrome frame around entire cabinet.



No. 400  
The Aristocrat is an all-mirror  
front Venetian type cabinet. The  
frameless mirror is held to the  
door with stainless steel mirror  
clips.

Limited stocks of the famous Miami Steel Bathroom Cabinets and Accessories are available, as long as they last, for repair jobs, replacements and new, essential housing. Further production of steel cabinets will be confined, for the duration, to the requirements of essential marine needs.

Regardless of your cabinet requirements, you may specify MIAMI with every assurance that their reputation for fine craftsmanship and originality will be upheld; that MIAMI will continue to represent the most advanced ideas in the bathroom cabinet field. Write for complete stock list of all available numbers. Address Dept. AF.



No. 405  
An all-mirror front cabinet. The  
mirror has a bevel edge, and is  
attached to the door with stainless  
steel mirror clips.

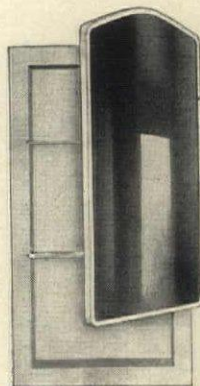
## Wood Cabinets and Wood-Framed Mirrors

For the duration, only wood cabinets will be in production. True to the Miami-Carey tradition, these cabinets are complete in every detail — no doors to hang and fit; no hardware to buy and fit; no mirrors to hang; no painting to do; no shelves to make — even the four installing screws are furnished. Frame around mirrors is STEEL (by permission of War Pro-

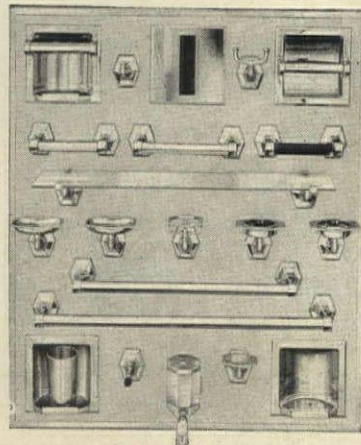
duction Board), finished to match the cabinet — construction that guarantees a door that will fit and not warp, shrink or swell. Whatever your cabinet requirements, you may continue to specify MIAMI with every assurance that these new cabinets will prove worthy of the name.

### COLONIAL ACCESSORIES

Available for immediate shipment. Both recessed and projection types. Made of durable Zamac metal, chromium plated.



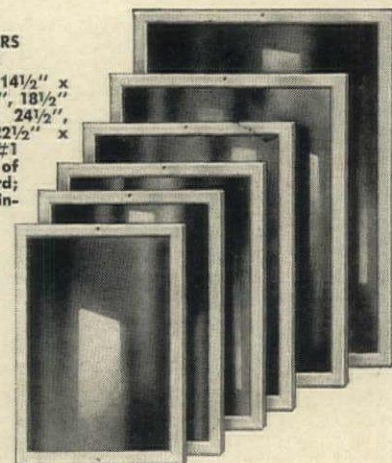
No. 103W  
Kiln dried hardwood;  
joints double locked  
glued and tenoned;  
door back, moisture  
proof composition  
board; steel mirror  
frame; finish, three  
coats baked-on white  
enamel.



### MIAMI MIRRORS

in six sizes:

Overall dimensions 14 1/2" x 20 1/2", 16 1/2" x 22 1/2", 18 1/2" x 22 1/2", 18 1/2" x 24 1/2", 20 1/2" x 26 1/2", 22 1/2" x 30 1/2". Mirrors are #1 plate glass; backs of Carey Utilizit board; hardwood frames finished in three coats of baked-on white enamel.



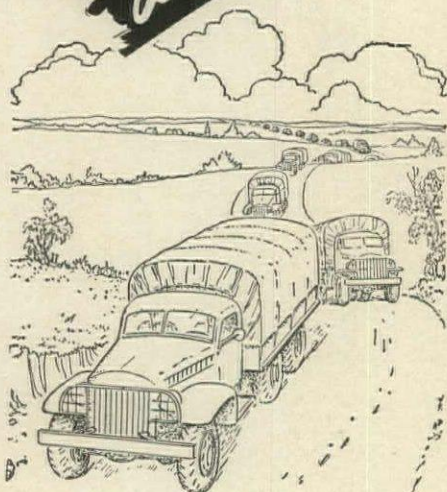
• MIAMI CABINET DIVISION •  
THE PHILIP CAREY MFG. COMPANY

Dependable Products Since 1873



**STEAM Heats  
America—**

**at war!**



**J**eeps, trucks, troop carriers . . .

Half tracks, mobile machine shops . . .

Transportation and supply for an  
Army of three, six, ten million men . . .

That is America's promise to the  
Victory Program—and America is going  
to beat that promise.

It calls for miles and miles of added  
production space.

New buildings to be heated—evenly,  
economically. New plants—requiring  
the finest heating America can provide.

For fifty years, America's best heated  
buildings have used steam as a heating  
medium . . . steam harnessed and  
brought under control with Webster  
Systems of Steam Heating.

Today, the experience of the Webster  
Organization in the heating of 75,000  
buildings is offered to Army, Navy,  
Marine Corps . . . and to architects, en-  
gineers, and heating contractors work-  
ing on war construction.

While Ordnance production has first  
call on our facilities, we are still pro-  
ducing Webster Steam Heating Equip-  
ment for use in the war effort.

Essential repairs for Webster Systems  
are available on A-10 priority, under  
W.P.B. Emergency Repair Order P-84.  
Orders should be limited to actual needs.

Warren Webster & Company, Camden, N. J.  
Representatives in 65 principal Cities

**Webster**  
Steam Heating

## MONTH IN BUILDING

(Continued from page 98)

declared 12 Western states (Arizona, Colorado, Idaho, Montana, Utah, Wyoming, California, Nevada, Oregon, Washington, New Mexico and Texas) a "critical labor area," meaning that men in copper and other non-ferrous metals and lumber industries may not switch to other jobs without "certificate of separation" from the U. S. Employment Service.

Affecting about 200,000 workers, the act will halt wasteful labor pirating, migration of workers—currently 10% flux to armed service, more highly paid berths in shipyards, airplane factories.

►National Lumber Manufacturers Association, formed in the Lumber and Timber Products War Committee issued a series of bright colored, highly persuasive posters (see cut, previous page), appealing to workers to stay at the job. Using imperatives (Log Like Hell!), puns (Let's Deliver the Woods), placating patriotism (The Woods Are Also a Front Line), they told workers clearly that the cry of Timber! could sound victory as clearly as the command to Fire!

### LOST AND PROFOUND DEPT.



House Beautiful—Maynard Parker

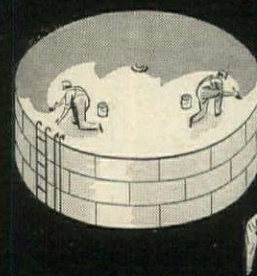
Falling into the current mood, *House Beautiful* says of this bathroom remodeling project: "Encase your fixtures in cabinets and then paint them American-Primitive fashion or any other way you like. . . look over the decalcomania field, or work up a beguiling job of découpage. . . Everybody will talk about how smart you are and you'll feel both patriotic and elated over your thrift."

### FACE-LIFTING

Case history (reported in *The Christian Science Monthly*): A. Wayne Merriam, businessman in an upper New York State City, owned a 1-family, 2-story house, aged 68, inhabited by one tenant who paid \$35 a month (\$420 per year) rent. His expense (taxes, repair, maintenance): \$334. Nearby are two large industrial plants,

(Continued on page 102)

**PAINT THEM DARK**  
*and*  
**KEEP THEM COOL**



### ARCO INFRAY\* DOES BOTH

Arco INFRAY Paint provides the protective concealment of dark, terrain-matching colors for storage tanks and other vital structures. At the same time, INFRAY keeps these structures cool, avoids the excessive evaporation losses commonly associated with dark colors because it is based on a new infra-red reflecting principle. INFRAY—which defies both sunlight and bombsight—is a war-time achievement of Arco Research.

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

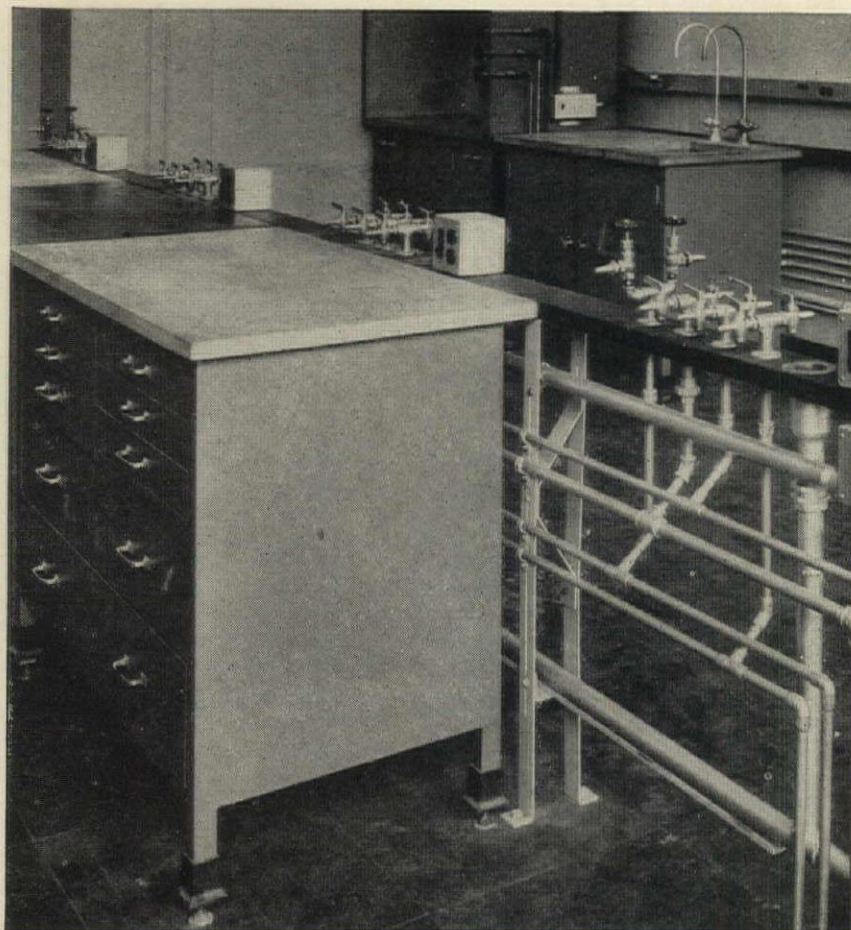
**THE ARCO COMPANY**  
CLEVELAND, OHIO • LOS ANGELES, CALIF.

**ARCO**  
Paints for Industry



# The Bell Laboratory... new and different in design

A new idea in laboratory design, movable individual units with tops of Alberene Stone, created by Bell Telephone engineers and Voorhees, Walker, Foley and Smith, Architects, for Bell Telephone Laboratories, Murray Hill, N. J.



## ...uses time-proven Alberene for working surfaces

Photograph shows four typical units set up, and space for another. The laboratory contains hundreds of them, all with Alberene Stone tops. Some units, such as the one in the background, are equipped with sinks. In addition to supplying this material, we dismantled Alberene Fume Hoods, long used in the Bell Telephone Laboratories in New York City, moved them to

Murray Hill, N. J., and reassembled them; additional proof of the lasting economy of Alberene Equipment.

Despite the heavy demand for our material due to Industry's Victory Drive, ample stocks are available and shipments can be made promptly. Your inquiry will have immediate, executive attention.

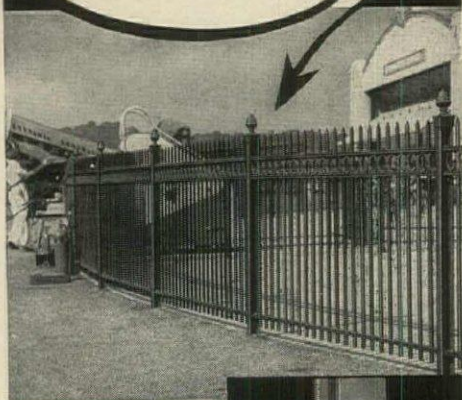
## ALBERENE STONE LABORATORY EQUIPMENT

ALBERENE STONE CORPORATION OF VIRGINIA, 419 FOURTH AVENUE, NEW YORK, N. Y.

Quarries and Mills at Schuyler, Virginia ★ Sales Offices in Principal Cities

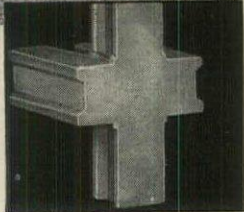


## LOOK HERE.. FOR THE SECRET OF IRON FENCE SUPERIORITY



### This Type of Welded Joint is Stronger

Grooved steel pickets and rails of equal thickness are forced together under heavy pressure and electrically welded at 8 points. Results in a permanent union of great strength and rigidity.



When you specify Iron Picket Fence, include these two important features in your specifications. For they are two specifications that assure a fence which will last for ages, with little or no maintenance cost.

1. Inseparably Welded Joints between Rails and Pickets.
2. Carrying Rails must be the same thickness as the Pickets.

A fence so built does not need ugly cross braces for gates. Nor does it need center supports for its panels. Each panel so constructed will support a distributed load of one ton without showing permanent set. Anchor-Weld Iron Picket Fences meet these specifications. Mail the Coupon below for Catalog and Sample Anchor-Weld (a nice paper weight). No obligation, of course.

**NATION-WIDE SALES AND ERECTING SERVICE**



**ARCHITECTS Mail this Now!**

ANCHOR POST FENCE CO.  
8685 Eastern Ave., Baltimore, Md.

Please send me ( ) Anchor-Weld Iron Fence Manual. ( ) Anchor-Weld Sample Weld. ( ) Name of nearest Anchor Fence Engineer.

Name .....

Address .....

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

## MONTH IN BUILDING

(Continued from page 100)

some of whose workers commuted 70 miles daily.

**Diagnosis:** Mr. Merriam received a \$5,000 FHA-insured loan, hired an architect to draw up remodeling plans, which included conversion to 4 apartments, installation of 3 new bathrooms, modernization of existing one. Time required for renovating, renting: 6 weeks. Rentals: \$38.50-\$49.50.

**Result:** Total yearly expenses now: \$919. Mr. A. Wayne Merriam's income from his property: \$1,577 as compared to the before-picture of \$86. Monthly payments on FHA loan still leave him further in the black than before; in five years he will be debt free, owner of a valuable house.

This happily-ever-after story perhaps accounts for the new enthusiasm for remodeling evidenced by both Government authorities and real-estate men this month. Eligible for necessary material by provisions of Title I, given impetus by the Lanham Bill's sit-down-strike behavior, and aided and abetted by NHA's announcement in July that credit approval could be obtained without trouble if the proposed work is really for "war housing," remodeling advice is coming from housing officials with greater and greater frequency.

### OIL FOR THE BOOK

Coupon books for fuel-oil rationing in 30 states will be in consumers' hands circa October 15. Aim: to cut consumption 25%. Realizing the hardships inflicted on some, the Government issued an important pamphlet, "How to Heat Your Home with Less Fuel This Winter." Advice: 1) Inspect and adjust heating equipment. 2) Insulate walls, and roof or attic. 3) Install storm windows and doors. 4) Weatherstrip and seal air leaks around windows and doors.

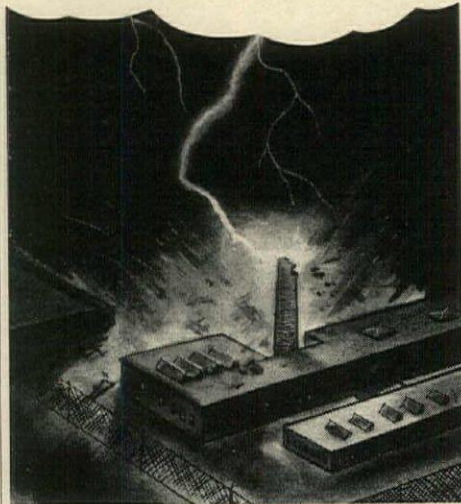
### CONSTRUCTION SQUEEZE PLAY

As in gin-rummy, WPB rules for construction are always changing, always becoming stiffer. Amendment to L-41 issued last month reclassifies types of construction to be controlled, narrows work which can be done without specific authorization during any 12-month period. Previous cost limit for work on residential property housing of less than 5 family units was \$500—now shaved down to \$200. Industrial construction (\$5,000) and farm buildings (\$1,000) limits remain; commercial construction slashed from \$5,000 to \$200 (small stores, auditoriums. Thus home builders saw a virtual housing Götterdämmerung looming large, and the new-house market, by year's end, fallen for the duration into a Brunnhilde-like sleep.

## HOW TO BE SURE

# NATURE'S AIR RAIDS

**WON'T INTERFERE WITH  
VITAL WAR PRODUCTION**



★★★ **A**DEQUATE protection of vital war production against delays or shutdowns due to accident or sabotage is an important consideration today. The hazards of lightning should not be overlooked. Lightning is Nature's method of making an air raid, can act like either an incendiary bomb or a demolition bomb. Yet West Dodd can provide security easily and at reasonable cost.

West Dodd Lightning Protection and static control installations are widely used on Army Ordnance Plants. They are helping safeguard ammunition loading lines, standard magazines, underground magazines and bag loading buildings. Many important industrial plants have equipped their power stacks with West Dodd Protection.

### WEST DODD RELIABILITY

West Dodd represents a consolidation of the 12 old line manufacturers of lightning protection. Including the famous Dodd & Struthers Company, pioneer of modern lightning protection equipment and certified methods of installation. This wealth of experience in designing, building and installing lightning protection, plus a long-proved record of responsibility, are plus factors in choosing West Dodd for the job.

For Further Details Write or Wire.

**WEST DODD**  
**LIGHTNING CONDUCTOR CORP.**

A RELIABLE PROTECTION AGAINST  
A LEADING CAUSE OF FIRE



GOSHEN, INDIANA



After victory . . .  
what kind of HOME will she want?



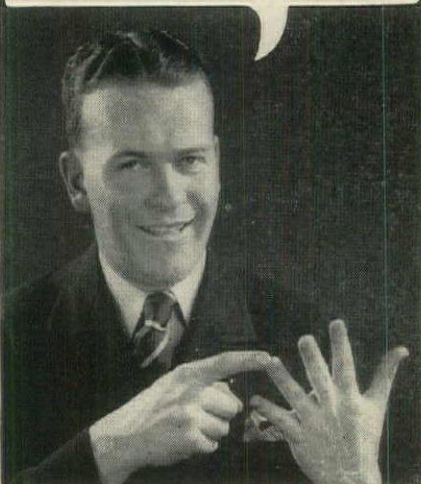
She's going to want Better Living *built-in*. For she and millions of other American women are learning that the *right tools* do the job easier, better, faster . . . and at less cost.

**GENERAL  ELECTRIC**

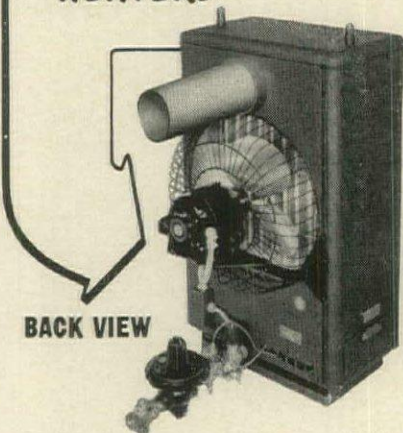
**HOME BUREAU • BRIDGEPORT, CONNECTICUT**



# 5 INSTALLATION ADVANTAGES



## with REZNOR SUSPENDED UNIT HEATERS



**REZNOR** Gas Fired Unit Heaters answer the heating demands of Army and Navy establishments as well as countless industrial factories operating on war contracts. Furthermore, new construction and remodeling call for Reznor's 5 outstanding installation economies: (1) the use of 89% less vital material, (2) the need of fewer men, (3) the reduction of construction time, (4) lower over-all cost, and (5) the complete saving of floor space. Reznor Units are manufactured in a full range of sizes. Write today for complete data.

**REZNOR MANUFACTURING CO.**

203 James St.

Mercer, Penna.

"GAS HEATERS EXCLUSIVELY SINCE 1888"

## FORUM OF EVENTS

(Continued from page 4)



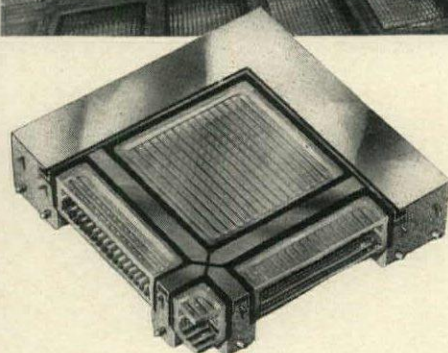
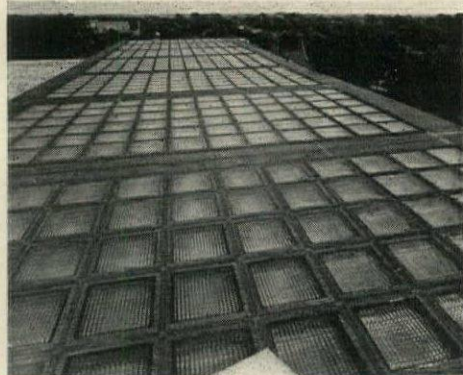
RALPH ADAMS CRAM

1864—1942

Ralph Adams Cram died at the age of 78 on September 22 in Boston. Never very far, physically or spiritually, from the stringent moral and religious concerns of New England, Mr. Cram was born in New Hampshire, educated in Maine, Massachusetts and New Hampshire, began to practice architecture in Boston more than fifty years ago. Cram was as close to the medieval spirit of the fourteenth century as it was possible for a nineteenth-century New Englander to be. Converted to Anglo-Catholicism during the passionate disciplines of a midnight mass in Rome, he found his greatest artistic satisfaction in Gothic architecture, which he used profusely in his many church structures.

Author of many volumes on art history, Mr. Cram taught architecture at M. I. T., was politically active, lectured frequently on architectural, social, political and religious subjects, expressed in his writing, teaching and architectural works a longing for the supposed simplicities of the medieval world, for the guild system in industry, for a spiritual and physical "return to the land," for a new concept of the artist or architect as a rounded social thinker and political man in the da Vinci tradition. At 73, Mr. Cram wrote in his autobiography, *MY LIFE IN ARCHITECTURE*: "Art is revelation. With art in its architectural manifestations I began my self-conscious life." The many churches (among the most famous the redesign of St. John the Divine in New York) and university buildings throughout the country are evidence of this lifelong belief.

(Continued on page 108)



## Mellow White Light

White daylight flows into the Tabernacle Church of Christ, Columbus, Indiana, mellowed and diffused as organ music, through THERMAG semi-vacuum glass blocks, with "Magnalite" lenses, installed in the flat skylight areas of the roof. THERMAG was chosen by the Tabernacle's distinguished architects because:

- Magnalite lenses incorporated in the inner horizontal surfaces of the crystal glass blocks provide **EVEN, FOUR-WAY LIGHT DIFFUSION**
- Thermag Skylights are shown by actual tests to have **LOW SOLAR HEAT TRANSMISSION**
- Thermag Skylights are of air-tight construction which **REDUCES THERMAL HEAT LOSSES**
- Thermag Skylights withstand snow loads because of **RIGID GRID CONSTRUCTION**.
- Thermag Skylights are guaranteed waterproof and **REQUIRE LITTLE MAINTENANCE**
- Thermag Skylights conserve metal and deserve consideration under existing emergency restrictions.

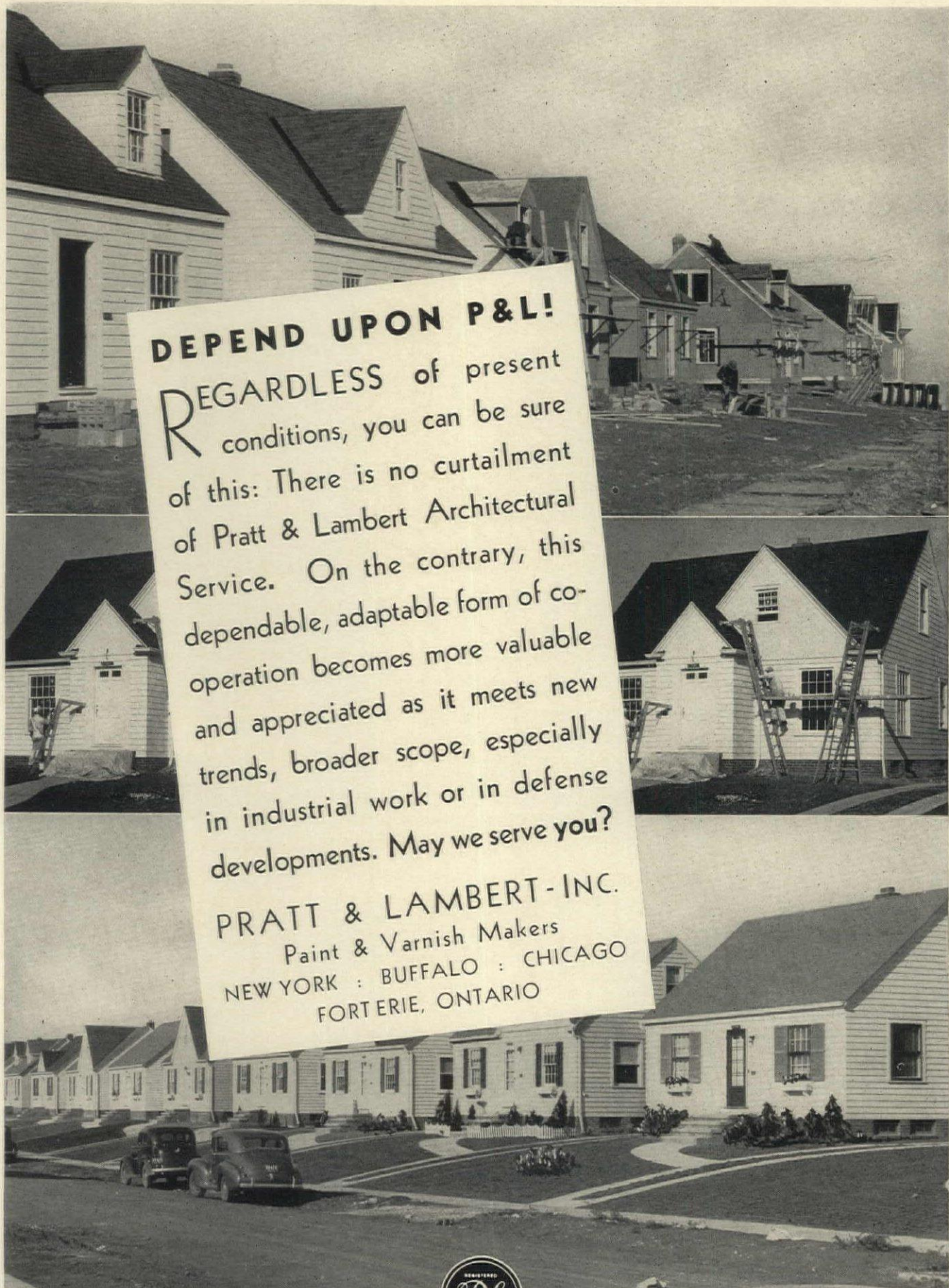
American skylighting cuts costs and increases efficiency with abundant direct daylight, scientifically distributed. The soffit is highly ornamental. For details, see Sweets. For prompt engineering service without obligation, write direct to 2139 West Fulton Street, Chicago.

**Light Up—the AMERICAN Way!**



**AMERICAN 3way Luxer PRISM CO.**  
**CHICAGO NEW YORK**





**DEPEND UPON P&L!**

**R**EGARDLESS of present conditions, you can be sure of this: There is no curtailment of Pratt & Lambert Architectural Service. On the contrary, this dependable, adaptable form of co-operation becomes more valuable and appreciated as it meets new trends, broader scope, especially in industrial work or in defense developments. May we serve you?

**PRATT & LAMBERT-INC.**

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**PRATT & LAMBERT PAINT AND VARNISH**





# Helping to strike

America has never been a country to mark time. If it were, this nation would never so quickly have become the greatest producer on earth. If it were, we might now look forward to the time when the building industry, having satisfied the need of millions for new homes, would find itself with an exhausted, saturated market.

But this is not our way, either as producers or consumers. As new inventions make possible a higher standard of living, we put them into practice, knowing that the public will eagerly accept them.

For this reason, Revere Copper and Brass Incorporated has not hesitated to think beyond the coming era of new homes, and to imagine with far-seeing architects the additional kinds of buildings which large-scale housing is sure to bring in its train. Such a conception is that of Lawrence Perkins for community buildings in tomorrow's neighborhoods.

These projects can offer a new and greater opportunity to the architect, the builder, the manufacturer, the financier. In bringing them before the public now, Revere believes that planning can be given an impetus from which every factor in the building industry will benefit.

## **REVERE COPPER AND BRASS INCORPORATED**

*Founded by Paul Revere in 1801*

*Executive Offices: 230 Park Avenue, New York*

In presenting various conceptions of tomorrow's homes by leading architects and designers, Revere Copper and Brass Incorporated seeks only to stimulate public interest in better housing, confident in the knowledge that the greater use of copper and brass makes any house better to live in, better to own, better to rent or sell. The Revere Technical Advisors are always ready to help you with your problems.





# the spark of planning

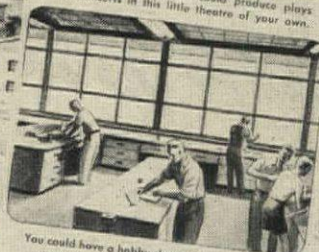
"After total war... total living"



You could read, relax, hold First Aid and other courses in this comfortable meeting room.



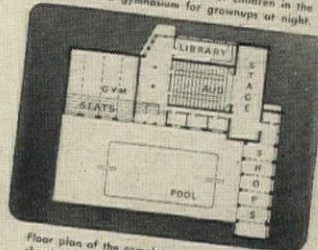
You and your neighbors could produce plays and concerts in this little theatre of your own.



You could have a hobby shop with work benches, power tools, potter's wheels and looms.



A neighborhood fun center for children in the daytime—a gymnasium for grownups at night.



Floor plan of the complete community building, showing how the rooms would be arranged, with the swimming pool outdoors.



"If later single families cannot possibly afford a group of families can easily possess. After the war, we will make the discovery of what this can mean for happy living. Neighbors can have a swimming pool, a gymnasium, a little theatre, a hobby shop with power tools, to a community building within walking distance of everyone's home."

"By working together to win the war, groups of us are learning to be teammates and friends. By acting together afterwards, we can create a secure community spirit through which we can bobbies we have in common, to make them more satisfying and more fun."

"In such a building, rust-proof metals and new plastics will make possible the admission of daylight wherever wanted, while beams of artificial light and heat may be focused where they are needed—not scattered wastefully in the hope of reaching the right spot by accident. Already I am helping to plan several such neighborhood centers, and I know how well we are mastering new techniques and economies that can bring this kind of total living to communities everywhere."

LAWRENCE B. PERKINS  
Perkins, Wheeler and Smith, Architects  
Chicago, Illinois

Almost daily, out of the tremendous effort we are making to win this war, come new reasons why our sacrifices are worth while. New inventions, war, new production techniques and materials—all of these can bring us new homes and better living in days to come.

In this rebirth of living, copper will play an even more important part than it does today. Not only will it protect tomorrow's homes and buildings against weather and termites, insure rust-free water, help reduce heating costs, but it will also help to make possible the new comforts and conveniences which American inventive genius is already planning for us all.

Today the copper industry is working all-out for Uncle Sam. There is no copper available for any purpose except winning the war. But in Revere's laboratories, research is steadily pressing forward in preparation for the better homes and better living that victory can bring.

Naturally, in this limited space, Mr. Perkins could only begin to tell you about his work. But prepared an illustrated booklet giving more information. This, and former booklets describing the low-cost homes conceived by other leading architects, will gladly be sent to you free. Write us:



**REVERE**  
COPPER AND BRASS INCORPORATED

Executive Offices: 230 Park Avenue, New York



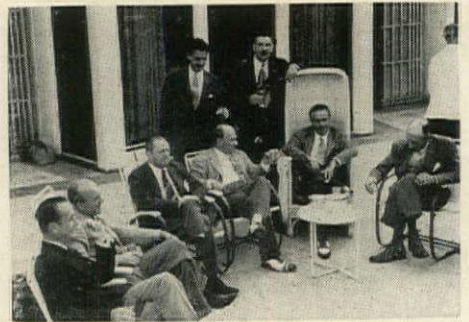
## FORUM OF EVENTS

(Continued from page 104)

### CONFERENCE

Last month, winding up the work of an active year, Chicago's quiet but potent Committee on Post-War Urban Rehabilitation met to weigh the results of past efforts and to map a new program. Host to the committee was its chairman, famed architect and collector Samuel A. Marx, designer of many a noted residence and commercial building. Composed chiefly of architects, with a liberal admixture of artists, educators and forward-looking bank-

ers and industrialists, the Committee has been concerned with the nation-wide problem of restoring our cities to social and financial solvency, and primarily with a study of problems in the Middle West. The extraordinarily complex situation in Chicago, naturally, has come in for special attention. Discussion during the day and evening sessions revolved around problems of municipal financing, traffic in relation to downtown business areas, methods of land acquisition for both public and private housing and new developments in large-scale planning and building techniques. The meeting, photographs of which are shown in the next column, adjourned with the re-election of Chairman Marx.



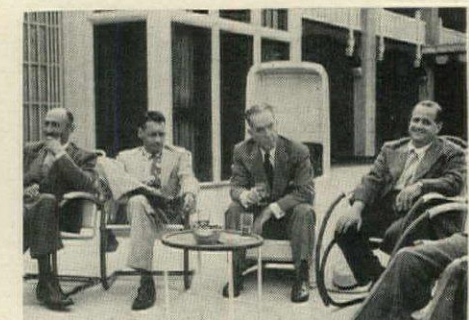
Left to right (seated): Architects Norman Schlossman, Noel Flint, Mies van der Rohe, Samuel A. Marx, Jerrold Loeb and Frederick Hodgdon. Standing: Knight Cowles and Charles W. Schonne.



Left to right: Charles H. Dornbusch of Loeb & Schlossman, official photographer for the meeting, Mies van der Rohe, now professor of architecture at Illinois Institute of Technology, and Jack King of Holabird & Root.

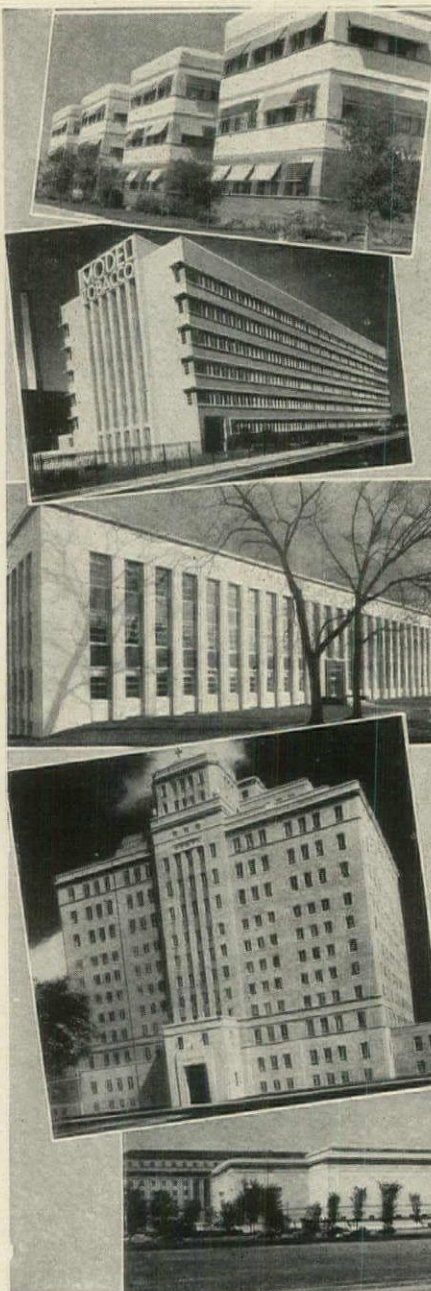


Architects Dornbusch, Loeb and Schlossman, President John Winterbotham of Chicago's Tavern Club, Landscape Architect Franz Lipp, President Alfred MacArthur of the Central Life Insurance Company.



At the afternoon session: Frederick Hodgdon, John Cromelin, President John Frank of ILG Electric Ventilating Co., Franz Lipp.

(Continued on page 112)



Where  
**PERFORMANCE**  
and  
**APPEARANCE**  
were the  
determining factors  
you will find

**uni-flo**

GRILLES and REGISTERS

and

**venturi-flo**

AIR DIFFUSERS

SEE OUR CATALOG  
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**BARBER-COLMAN COMPANY**  
1242 ROCK ST., ROCKFORD, ILLINOIS



# FACED WITH FUEL RATIONING



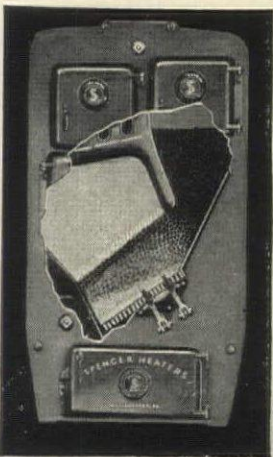
IS IT TO BE THIS . . .  
OR THIS?

You can make them comfortable. Then, whether the heating job is for the average home or the large building—they can contribute their full share to Victory by saving fuel if you specify a



## SPENCER

This automatic gravity stoker has a 50 year reputation for great fuel saving because it burns small size, low cost anthracite or coke. It automatically stokes these fuels—yet has no motor or moving parts. It requires no electricity to operate. A winter's supply of fuel can be laid in at once. And it can be quickly equipped with the Spencer Victory Year-round Hot Water Hook-up.



## Magazine Feed Heater

Immediate deliveries of Spencer Boilers are still permitted for replacement purposes in any area. So—to assure lowest cost heat for your clients' buildings—replace all old, rickety boilers—NOW.

There are a number of Spencer Boiler designs—each for a special purpose. They range in size from the largest (42,500 feet, steam) down to the "K" boiler for the small-home. Ask for catalogs.

SPENCER HEATER

Division — The Aviation Corporation  
Williamsport, Pa.

## SPENCER BOILERS

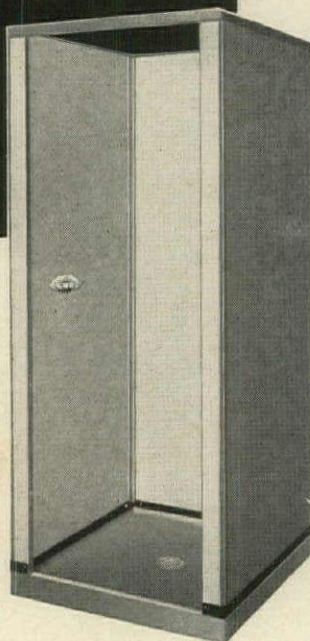
*A Size and Type for Every Fuel and Building*



# High Quality Bathing Facilities . . . for Your Low Cost War Housing Projects!



Before you select the shower cabinet for your housing projects, be sure you have all details on BATHE-RITE VICTORY SHOWER CABINETS! Mass production methods and precision engineering are bringing money and time saving advantages difficult to obtain otherwise.



THREE MODELS . . .  
30 x 30 x 75, 32 x 32 x 75, and  
32 x 32 x 80.

## FAST INSTALLATION . . .

Easy assembly saves 25% of installation time due to BATH-RITE construction. No skilled help needed.

## TIMED DELIVERY . . .

Mass production experience and methods assure delivery of any quantity when and where you need them . . . Cabinet packed for easy handling and quick cleanup.

## WRITE OR WIRE FOR PRICES AND DETAILS NOW!

For complete information, tell us the name of project and number of Cabinets you will need.

**Bathe-Rite division**

**MILWAUKEE STAMPING COMPANY**

8275 South 72nd Street

Milwaukee, Wisconsin

# Architects can **STOP THOSE LEAKS** BEFORE THEY HAPPEN—by specifying **MINWAX CAULKING COMPOUNDS**

AN owner has a right to complain if he has to spend a large sum of money to repair a poor caulking job.

Many of America's leading architects prevent such losses in advance by specifying "MINWAX". Selected on the basis of true economy—years of trouble-free, expense-free service—rather than first cost, MINWAX Caulking Compounds bring PRAISE instead of censure from owners. These compounds offer: PERFECT PLASTICITY—non hardening, stable and permanent; PERFECT ADHESION—the oils harden firmly into the surface; DRY "EGGSHELL" SKIN—a protective surface seal. In addition they are NON-SHRINKING—do not "pull away" to cause leakage—and NON-STAINING—the oils can not "bleed" into the stone.



Rockefeller Center  
Minwax Caulking  
Compounds used

## GET THE FACTS

about Minwax Caulking Compounds by sending for a copy of this



## UNBIASED REPORT

—made by Pittsburgh Testing Laboratory. It's a liberal education in Caulking practice based on scientific information and PRACTICAL experiences.

## THE MINWAX COMPANY, INC.

11 West 42nd Street, New York

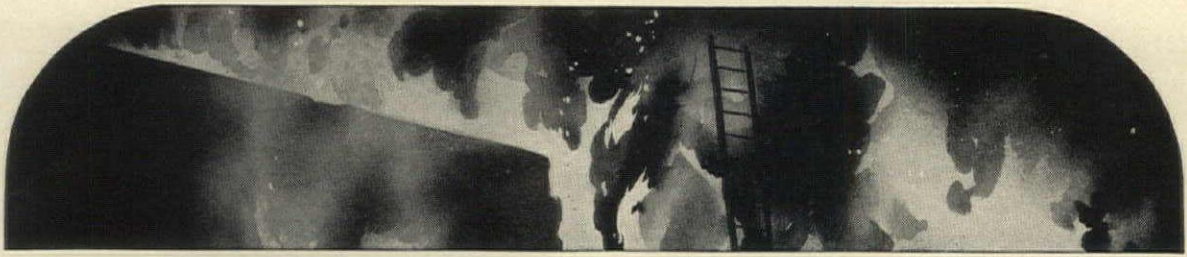


Waterproofings  
Dampproofings  
Caulkings

Wood Finishes  
Waxes  
Protective Coatings

COMPLETE CATALOGUES IN SWEET'S





## BURNED FACTORIES CAN'T MAKE MUNITIONS!



## Protect vital industries with fire-resistant **CONCRETE**

For obvious reasons, fire hazard is greater in wartime.

No type of construction can prevent fires from starting, but concrete *can* help keep them from spreading, and help confine fires to the rooms or buildings in which they originate. And, because flying sparks can't ignite them, concrete buildings in the path of conflagration act as effective barriers.

Concrete doesn't add fuel to the fire. It keeps its strength and stability for relatively long periods of fire exposure which would cause less resistant construction to collapse. Concrete buildings suffer less structural damage from fire and can be restored more quickly.

### CONCRETE OFFERS OTHER WARTIME ADVANTAGES

In addition to firesafety, concrete offers rigid, durable construction with *minimum use of steel*—and with minimum transportation, since the bulk of concrete material is usually found locally.

On all types of war construction our specially-trained technical staff is ready to aid designers and builders in getting maximum service from concrete.

### PORTLAND CEMENT ASSOCIATION

Dept. 10-7, 33 W. Grand Ave., Chicago, Ill.

**BUY WAR SAVINGS STAMPS AND BONDS**



## FORUM OF EVENTS

(Continued from page 108)

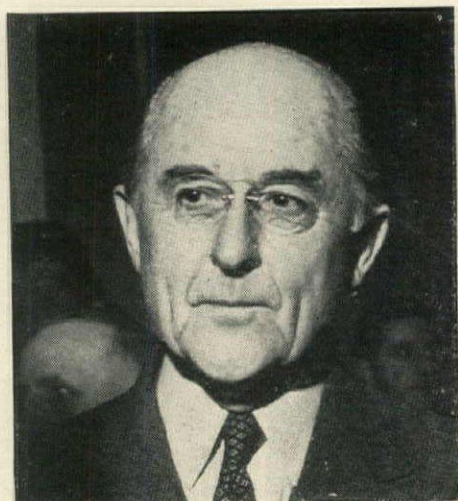
### CONDÉ NAST

Entrepreneur of elegance, Condé Nast died last month at the age of 68. His death signified the passing of a man of taste and cultivation, a man to whom fine houses, fashion's languorous luxury and the seductive allurements of beautiful things were bread and butter, as indispensable as air. To the preferences of Condé Nast, the new world of mass-produced, Sears Roebuck fashions, and mass-produced, prefabricated housing must have seemed incongruous. In this sense,

his death was symbolic of the passing of an era.

Nast had a law degree from Georgetown University, a \$50,000 a year job as business manager of Collier's when he decided, in 1907, to experiment with a pet theory that "a magazine that would be authoritative in matters of taste — whatever it dealt with" could attract to it readers of discrimination and style and advertisers who wished to appeal to those readers. The salad days of the twentieth century were ideal for this purpose; *Vogue*, *House and Garden*, *Vanity Fair* were ideal for the carriage trade of those salad days.

Starting from the simple beginnings of *Home Patterns* in 1912, Nast created a dictatorship in the world of fashion. *Vogue*, in its British or American or



**Condé Nast:** he wanted only gold-tipped readers.

French editions, issued bulls on what was to be worn; *Vogue's* American or French or English readers wore it with no regard to the cost. Poiret and Paquin became protocol to them.

Equally strong was the influence of the seductive half-tones in *House and Garden*. The homes adorning its pages represented the expansive luxury which only now is being converted to soldiers' homes, sailors' rest havens and street cleaners' retreats.

Having built an empire (the capitol: his Greenwich, Conn., printing plant) for society and the world of quality, having made a fortune in fashion, Condé Nast was not unaware of threatening change when, five years ago, he published a new magazine, *Glamour* (the 'u' was Nast's afterthought), devoted to medium-priced, reduced elegance, clothes for *Vogue's* lost generation — the working girl. And as the circulation (now over 231,000) of *Glamour* increased, and more and more of the fabulous homes of *House and Garden* passed into receivership, Condé Nast must have often thought of his early dictum: "I don't want a big circulation; I want a gold-tipped one."

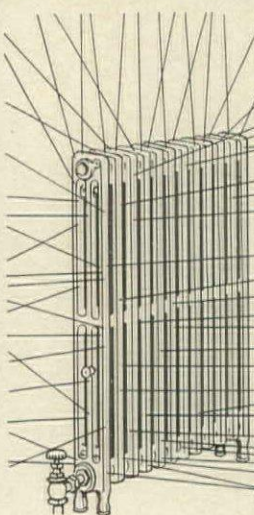
### SIR EDWIN COOPER

Sir Edwin Cooper, 69, architect, in London, England. Architect for such famous English buildings as the Port of Authority Building, Hull Guildhall and Law Courts, the New Library, Oxford, the Lloyd's Royal Mail Building, Sir Edwin is said to have designed more buildings in the old City of London than any other man since Sir Christopher Wren.

### ERRATUM

The material used on the longitudinal wall of the entrance compartment of the VS-44-A airplanes (FORUM, Aug., p. 48) is American walnut-face, Ply-Tech plywood, manufactured by Technical Ply-Woods. Technical Ply-Woods also supplied Ply-Tech and Fybri-Tech for floors, walls, furniture and other parts throughout the airplanes.

## In What Kind Of Straight Lines Does Radiant Heat Travel Straight?



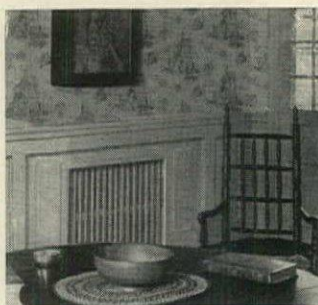
SOME there are, who think they travel horizontally from only the face of a radiator. Such is not so. They travel in all directions from all heating surfaces, at right angles to the surface.

Any irregularity in the surface changes the direction. Therefore, the radiant heat rays add their heating, not only to the lower part and floors, but every part of the room, and everything in it they strike and are reflected back from.

Drafts cannot divert their travel in the least. In no case do they warm the air in their travel. They only heat by reflection exactly as does the sun. They travel at the amazing speed of 186,000 miles a second, the same as does light.

Burnham Slenderized Radiators heat with both convection and radiation. Two heats that quickly blend as one. Radiator heat is the only one having both kinds of heat.

See Sweet's. See For Yourself.



The Burnham Slenderized Radiators are easily recessed, being no deeper than the average side wall construction.

**Burnham Boiler Corporation**

Irvington, N. Y.  
Dept. J

Zanesville, Ohio  
Dept. J

Representatives In All Principal Cities  
of the United States and Canada





**EXTRA LIGHT...**  
**but no Extra Light Bills!**

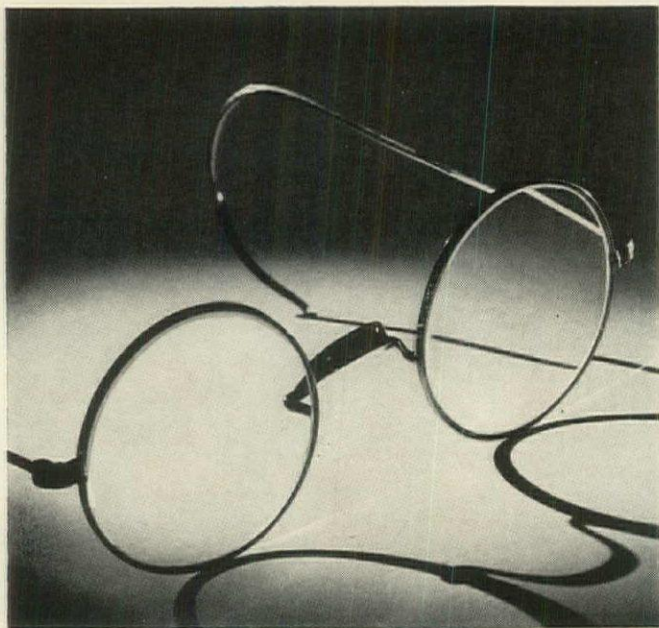
**Specify Pittsburgh's "Glorified  
 Light" Paints — Improve Illu-  
 mination At No Extra Cost For  
 Electric Current.**

WAR INDUSTRIES need good lighting by night as well as by day. And Pittsburgh's "Glorified Light" Paints provide interior finishes that scientifically diffuse and improve the efficiency of available natural and artificial light—increase visibility without glare and at no added cost for current.

Pittsburgh also offers to cooperate with architects and maintenance experts in working out maintenance plans for the scientific protection of plants and equipment. For information on how to obtain this free "Engineering Service," call the nearest Pittsburgh Plate Glass Company office. Addresses of Pittsburgh Branches are listed in Sweet's Catalog. Pittsburgh Plate Glass Company, Paint Division, Pittsburgh, Pennsylvania.

**PITTSBURGH**  **PAINTS**  
 WALLHIDE • FLORHIDE • WATERSPAR • SUN-PROOF  
*Smooth as Glass*





## There will be FEWER OF THESE

Eyeglasses symbolize eyestrain. By reducing eyestrain through proper lighting, your war production can be increased both in quantity and quality. Fewer man-hours will be lost, fewer rejects will come off your production lines.

Silv-A-King offers a complete lighting service—fine equipment (either fluorescent or incandescent) plus skillful engineering to lay out your lighting installation for maximum effectiveness. Our ability to serve you well in lighting comes from 21 years of experience as industrial lighting specialists. A Silv-A-King lighting engineer is at your call wherever you are located.

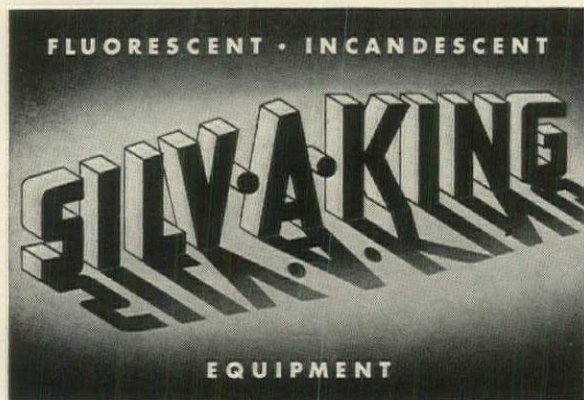
Bright Light Reflector Company, Inc.,  
1037 Metropolitan Avenue, Brooklyn, N. Y.

Quality and dependability through two decades have linked the Silv-A-King name with such famous names-in-industry as:

AC SPARK PLUG • BETHLEHEM STEEL • BUICK • CHEVROLET  
GENERAL MOTORS • FISHER BODY • INTERNATIONAL HARVESTER  
JONES & LAUGHLIN STEEL • PITTSBURGH PLATE GLASS  
RUPPERT BREWERY • WARD BAKING  
and many others



Write for new, 16-page Silv-A-King book:  
"Light Is An Essential Production Tool!"



MAKES *Light* WORK FOR YOU

# DOORS

## ANY AMOUNT..ALL TYPES FOR WAR HOUSING OR REMODELING!



## DELIVERIES NOW BY AMERICA'S LARGEST DOOR MANUFACTURER!

**A** LEADER in the door business for the past 52 years, Wheeler Osgood, America's largest door manufacturer, can supply your order completely and promptly—no matter how large or varied the order. Wheeler Osgood fir doors are uniform, super-strong, rot-proofed by nature and super-resistant to marring . . . Do business with the leader—you will find it to your advantage.

**COLOR GRADED!** Here's a big aid in helping you speed up the handling of war housing orders. Wheeler Osgood's amazing new "Color-Grading" system, called the "greatest idea in the door industry," shows you at a glance the grade, style, size and surface of every door in stock. To the bottom rail of each door is attached a distinctive colored label describing it completely. On de luxe Grade A doors this label features the Wheeler Osgood guarantee.

## COLOR GRADED



**DE LUXE GRADE A** — Bright blue label bearing grade, size, style, surface, guarantee! Helps customers recognize quality.



**MASTER GRADE B** — Bright red label, bearing grade, size, style and surface.

• WHEELER OSGOOD "COLOR-GRADED" Grade A and B Douglas Fir house doors are built in strict accordance with U. S. Department of Commerce Standards CS73-38, CS91-41.

## WHEELER OSGOOD DOORS



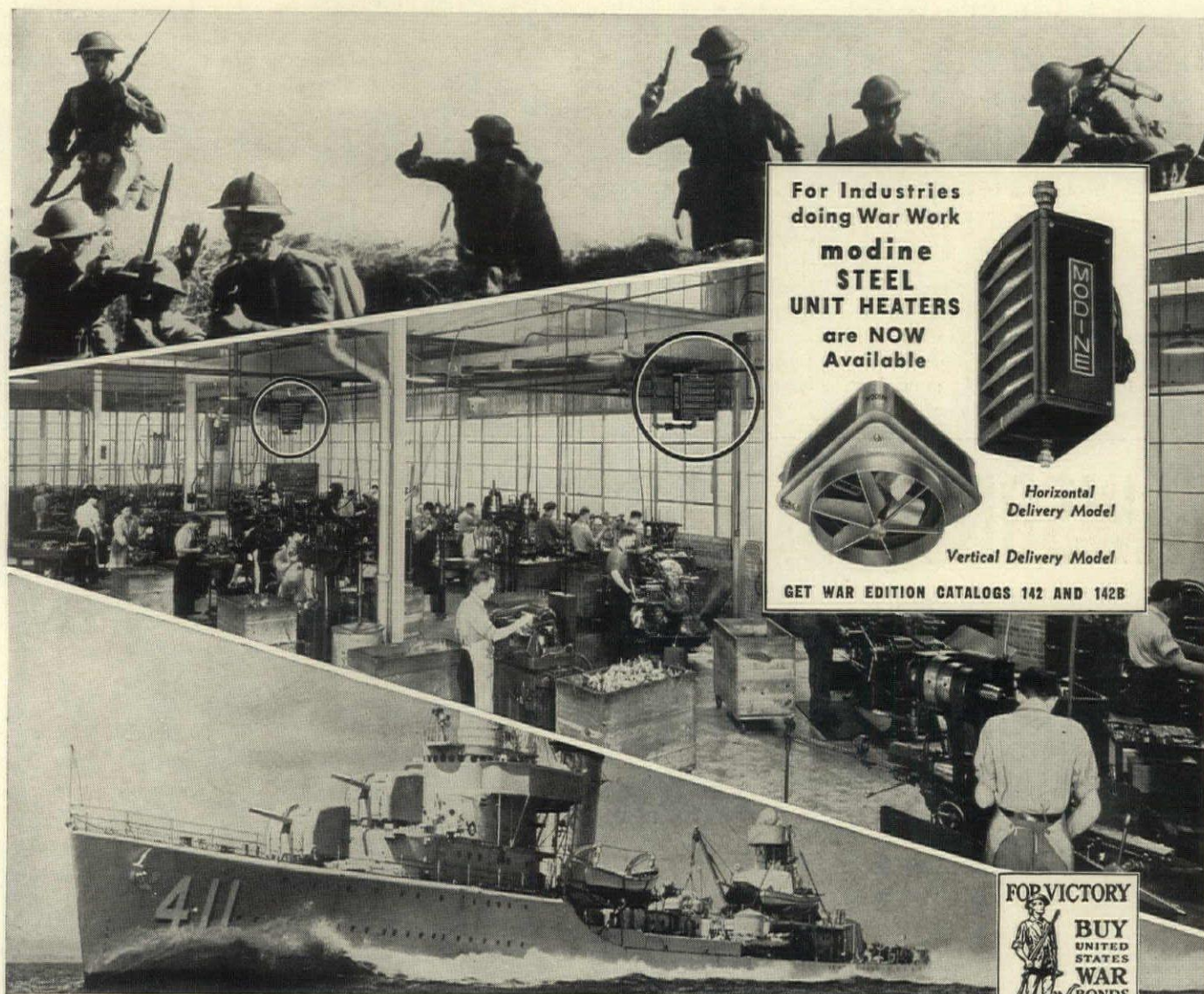
A COMPLETE LINE OF INTERIOR  
AND EXTERIOR DOORS

**FREE** Wheeler Osgood Sales Corp.  
Dept. 10, Tacoma, Wash.

Gentlemen: Please send me free literature  
on Wheeler Osgood "Color-Graded" Doors.

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





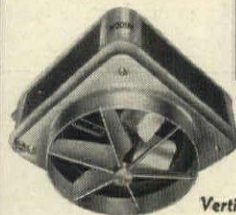
Official U. S. Navy and Official U. S. Army Photographs

For Industries  
doing War Work

**modine**  
**STEEL**  
**UNIT HEATERS**  
are NOW  
Available



Horizontal  
Delivery Model



Vertical Delivery Model

GET WAR EDITION CATALOGS 142 AND 142B



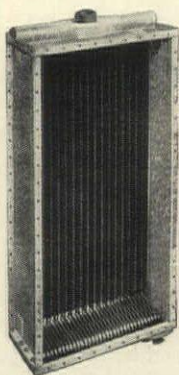
**ON FIGHTING FRONT OR FACTORY FRONT**

# modine



**KEEPS 'EM FIT**

## modine HEATING AND COOLING COILS



are not only bringing comfort to war industry plants, cantonments, air and naval bases, combat and cargo ships... but are accelerating industrial production and food dehydration in processing and drying systems. Write for literature.

To take it, *and* dish it out—fighting men must be *kept* physically fit. On the firing line, or the production line!

In the war plants that are heated with Modine Unit Heaters or Coils, the workers *feel like working!* No chilly drafts stiffen their muscles, or numb their hands and feet. Modine even-temperature heating lessens the fatigue factor; decreases susceptibility to illness.

More man-hours are saved. Production is better—both in quality and quantity.

And morale is higher. Workers are happier as well as healthier—because they work in comfort. And they work to win!

Uncle Sam, too, uses Modine heating equipment—to add to the comfort and to help conserve the health of the armed forces...afloat and ashore.



Look in your phone book for Modine representative's name —"Where to Buy It" section under Heating Apparatus.

MODINE MANUFACTURING COMPANY, 1736 RACINE ST., RACINE, WIS.



## BOOKS

(Continued from page 20)

**DESIGN OF MODERN INTERIORS**, by James Ford and Katherine Morrow Ford. Architectural Book Publishing Company, Inc., New York. 130 pp., 324 illustrations. 9x11. \$5.

Material presented in this picture book will be familiar to most people in the field, as most of the houses have appeared during the past few years in one or another of the architectural magazines. These prior appearances in no way affect

the value of the book, however, as the collection is an easy one to use, and the choice of material is for the most part excellent. Rooms are arranged in use categories (living, dining, sleeping, etc.) and each example is usually accompanied by a detailed caption giving the materials, finishes, colors and other useful information. The authors have apparently taken pains to spread their material: rooms in over 100 houses and apartments in 18 states are shown, and there is no undue emphasis on any particular school of contemporary design. Interesting to note is the fact that most of the furniture in these rooms is custom-designed and built. The furniture industry, apparently, still has a long way to go before it meets the re-

quirements of the modern designer of interiors. There is a section at the end of the book, devoted to comments on contemporary trends, made by a number of architects and designers. Most of them



DINING ROOM, by Richard Stein

agree that the trend is away from "modernistic" to a richer and more human approach.

**FAIR IS OUR LAND**, Edited by Samuel Chamberlain. Hastings House, New York. 252 pages, 375 illustrations. 7x9. \$5.

Having glorified England (*This Realm, This England*) and France (*France Will Live Again*), the tireless Mr. Chamberlain, etcher, photographer and editor, has now applied his formula to the U.S.A. The

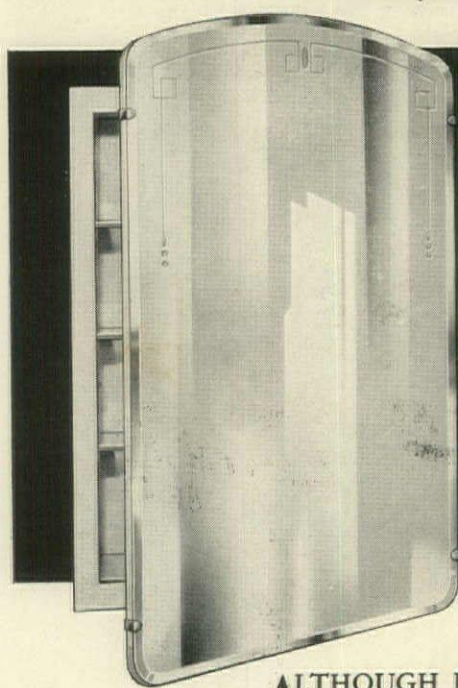


MONTICELLO

formula, it must be admitted, works very well. Aside from the nondescript and sentimental introduction, there is nothing to read, and the pictures are not only very handsome, but appropriate selections to illustrate the theme of the book. The photographs and etchings are grouped in several categories: the seacoast, the West, towns and villages, the countryside, etc. As usual, in such collections, the work of many of the Government agencies, notably Farm Security, bulks large in quantity and excellence. The practice followed in the earlier books, of mixing photographs, etchings, lithographs and other prints has little to recommend it.

(Continued on page 120)

## LAWSON WARWOOD CABINETS



*Look Like Steel!*

**ALTHOUGH** Lawson Warwood Cabinets are quite frankly a wartime substitute, we are mighty proud of them. So skillfully are they designed and so carefully made that they really look like steel. Yet the complete line of Warwood cabinets is constructed of wood and other non-critical materials.

No matter what your requirements may be, you can continue to recommend or specify a Lawson cabinet with the full assurance that it is the finest available not only from the standpoint of design but also of construction. Write today for the new wartime price list showing the complete line of Lawson Warwood Bathroom Cabinets.

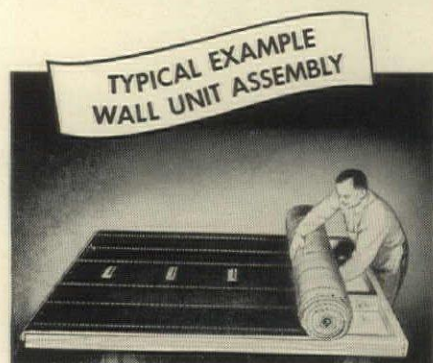


**THE F. H. LAWSON COMPANY**  
Bathroom Cabinet Division • CINCINNATI, OHIO

Lawson "Know How" Is Based Upon 126 Years of Experience

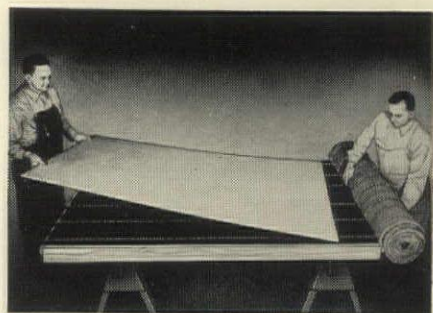


# Kimsul\* Insulation Saves Up to 50% on Installation Time

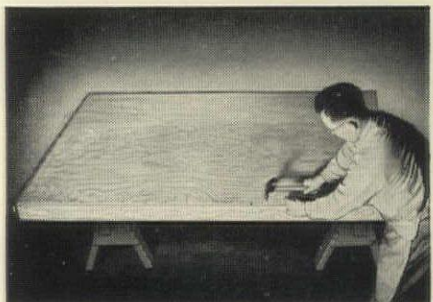


TYPICAL EXAMPLE  
WALL UNIT ASSEMBLY

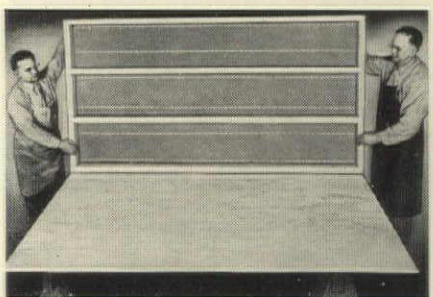
In this picture you see how easily and speedily a 4-foot wide prefabricated wall panel assembly is being covered with the new giant-size blanket of KIMSUL Insulation.



Here you see the inside wall finish being placed directly over the blanket of KIMSUL Insulation.



Here wall finish is nailed through KIMSUL blanket to framing members... KIMSUL blanket is held firmly under compression between framing members and wall finish. KIMSUL "stays put".



Note how KIMSUL is held securely in place. Panel is now ready for application of sheathing. This new method of applying insulation is acclaimed by contractors from coast to coast!

\*KIMSUL (trade-mark) means Kimberly-Clark Insulation

Especially developed to speed up prefabricated construction, KIMSUL\* flexible blanket insulation is now furnished in new and larger dimensions (up to 4 feet wide by 28 feet long) that save up to 50% on time required for installation.



## One Operation Insulates 112 Sq. Ft.

Photo-story at left clearly shows how this huge blanket of KIMSUL Insulation is applied right over a 4-foot wide prefabricated wall panel, covering an area of as much as 112 square feet in *one quick, easy operation*. Wall finish is then attached directly over KIMSUL and prefabricated unit is ready for shipment to the job.

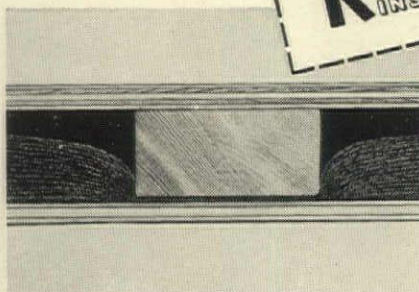
Now—KIMSUL is faster-installing than ever before. And it's still one of the most thermally efficient insulations known to science (conductivity is .27 Btu/hr./sq. ft./deg. F./in.—Peebles).

## KIMSUL Saves Every Way!

Different from all other insulations, KIMSUL comes in rolls compressed to 1/5th its installed length. As compared with non-compressed insulations, KIMSUL Insulation requires only 1/5th as much transportation space... only 1/5th as much storage space... only 1/5th as much handling. And as shown here, KIMSUL cuts up to 50% from installation time.



**KIMSUL**  
INSULATION



KIMSUL in the walls—this sectional view shows how KIMSUL Insulation ply construction compresses uniformly between the framing members and the plywood.

Kimberly-Clark Corporation  
Established 1872 A.F.-1042  
Building Insulation Division  
Neenah, Wisconsin  
☐ Send a representative.  
☐ Send free booklet "A NEW  
AND IMPROVED KIMSUL  
INSULATION".



Name.....

Address.....

City.....

County..... State.....

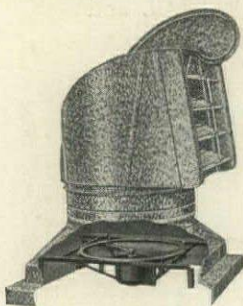


**An important step to  
increase production  
in war plants—**

## **Swartwout** *Controlled* **AIR CIRCULATION**

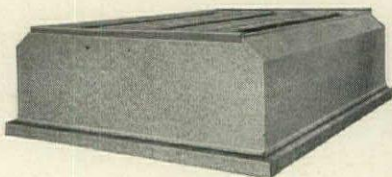
● The Swartwout line of Premium Quality Roof Ventilators provides the style or size to bring you success in licking every ventilation job in commercial or industrial buildings... Swartwout's new Ventilator Catalog File includes a special illustrated bulletin on installation, with time-saving

key to figuring ventilator capacity, size, etc. Write for it—*it's free!*



**Swartwout AIRJECTOR.** High-efficiency power ventilator with rotary head. Combines low-cost power air movement, gravity flow and suction effect. Solves many problems where the ventilating need fluctuates.

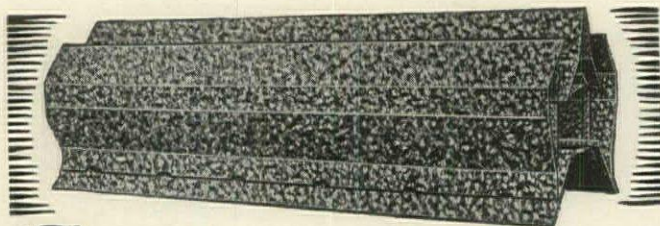
**Swartwout Multiple Heat Valve.** Newest gravity-type ventilator for large-scale air movement. Installed on any roof in multiples of thirty square feet of opening, or can be used in single units over "hot spots." Inexpensive per square foot of opening. Only 32 in. high.



➔ **Swartwout-Dexter Heat Valve.** Provides practically any area of roof opening desired. Economical for general ventilation. Installed in one unit over length of building, or in short sections where needed. Used extensively in government construction.

**The Swartwout Co.**

18617 EUCLID AVENUE • CLEVELAND, OHIO



# **Swartwout**

**VENTILATION SPECIALISTS**

*...For the FUTURE—*



This little HOUSTON HOME can be erected in only two days; it has overhang and is insulated throughout. It's a modern type of quality construction—built to last.

● Our large completely equipped plant—now 100% in production of war contracts—will be on the alert to serve all post-war civilian needs.

**HOUSTON** *Ready-Cut* **HOUSE CO.**  
*25 years Prefabricating Houses*  
POLK AVENUE HOUSTON, TEXAS

**BUILDINGS**  
*to build a Navy*



A large part of Uncle Sam's two-ocean navy will never go to sea. For its shore establishments—naval and air bases, training stations, medical centers—it needs *buildings*, thousands of them. Much of the hardware for this vast construction program is supplied by Stanley.

This, and other war demands, limits the hardware available to buildings which qualify under government restrictions. For those of your projects that get the "green light", make sure of "o.k.'s" right down the line by specifying Stanley Hardware. The **STANLEY** Stanley Works, New Britain, Connecticut. Trade Mark

**STANLEY HARDWARE**



# SPEAK FOR YOURSELVES, *Gentlemen!*

I saved a whole week  
by using Atlas High-Early  
for floors at the  
Henderson Produce Company

The contract didn't call  
for it—but we used Atlas  
High-Early on a housing  
project for stair treads  
to save form lumber

We placed an Atlas High-Early floor at  
**CENSORED** about 4:30 P. M. Next morning  
they had up to 1,600 lbs. of steel  
per sq. ft. on it. Quick work!

**All Atlas High-Early jobs are kin under the surface —  
they're fast and they save you money**

**These three short stories speak for themselves:**

**1. Machinery on floor before building completed.** The Henderson Produce Company in Monroe City, Mo., had to build an addition to their plant in order to separate and dry eggs for shipment. *Speed was essential.* The contractor used Atlas High-Early cement for the floors and estimated one week's saving in time. He was able to place machinery on the floors before the building was finished. The addition was in operation in 60 days!

**2. Running up the stair treads—fast!** Even though the contract did not call for it, the contractor for the stair treads in a Cincinnati Housing Project used Atlas

High-Early. He wanted to speed up the job and save lumber for forms. And he did. Use of Atlas High-Early cement instead of normal portland cement permitted removal of forms from treads in one-half the time. The job went faster and form costs were lower!

**3. Storage room floor made ready overnight.** A new plant at \_\_\_\_\_ needed a floor—on the double quick! Engineers and contractor decided on Atlas High-Early cement. The last concrete was placed about 4:30 P. M. At 8:30 the next morning, steel was being stored on it—as much as 1,600 pounds per square foot. This use of Atlas High-Early saved at least four or five days on an important war job.

\* \* \*

Speed with economy is the reason why Atlas High-Early cement is specified and used so much today—speed in completing defense housing, cantonments, roads, airports, war production plants.

On almost any kind of concreting job where "Rush" is a must, rely on Atlas High-Early. In application, it's like normal portland cement and just as easy to handle. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

**OFFICES:** New York, Chicago, Philadelphia, Boston, Albany, Pittsburgh, Cleveland, Minneapolis, Duluth, St. Louis, Kansas City, Des Moines, Birmingham, Waco.

AP-H-48

## ATLAS HIGH-EARLY CEMENT

A UNIVERSAL ATLAS PRODUCT





# BOOKS

(Continued from page 116)

**FOUNDATIONS OF BRIDGES AND BUILDINGS**, by Henry S. Jacoby and Roland P. Davis. McGraw-Hill Book Company, Inc., New York. 535 pp., illustrated. 6x9. \$5.

This book was first published in 1914 and revised in 1925. The present edition brings up to date this standard reference work, with a great deal of new material on soil explorations and bearing capacity, on piling, cofferdams and caissons, and on grouting. The excellent balance of

text, photographs and diagrams makes it particularly useful as a textbook for engineering schools. A large part of the book is devoted to piles and pile driving, since young engineers are more likely to get their first experience with pile foundations than with any other type.

**A PRIMER OF SCULPTURE**, by Suzanne Silvercrus. G. P. Putman's Sons, New York. 137 pp., illustrated. 5¾x8¼. \$2.75.

A good primer for the beginner, as it takes nothing for granted and explains the most elementary operations. The student is shown the tools of the sculptor, is told how plaster is cast, and there are a number of chapters on the construction and cover-

ing of the armature. Each section is profusely illustrated with photographs which demonstrate the various steps very clearly.



Taken by Kip Ross, these photographs are excellent examples of their kind, and vastly simplify the work of the student.

**TOWN & DAVIS**, by Roger Hale Newton. Columbia University Press, New York. 334 pp., illustrated. 6x9. \$4.

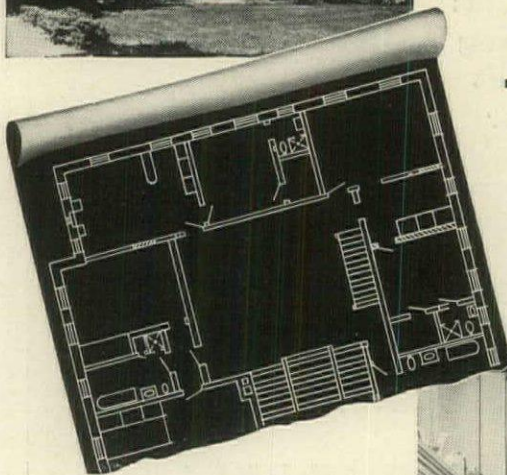
Town and Davis were one of the outstanding architectural firms of the Revivalist period, contemporaries of Minard Lafever, Richard Upjohn and William Strickland. Their partnership lasted from 1829 to 1844. Ithiel Town's contribution to American architecture was his new interpretation of the Classic Greek tradition, and his finest work probably was Center Church in New Haven, built about 1814. Alexander Davis was primarily an artist, and perhaps the best of contemporary renderers. The two illus-



REMODELING PROJECT, LINCOLN WAY EAST MISHAWAKA, IND., C. J. MUMFORD, CONTRACTOR

## HOMES FOR 7 FAMILIES

Where One  
Lived Before



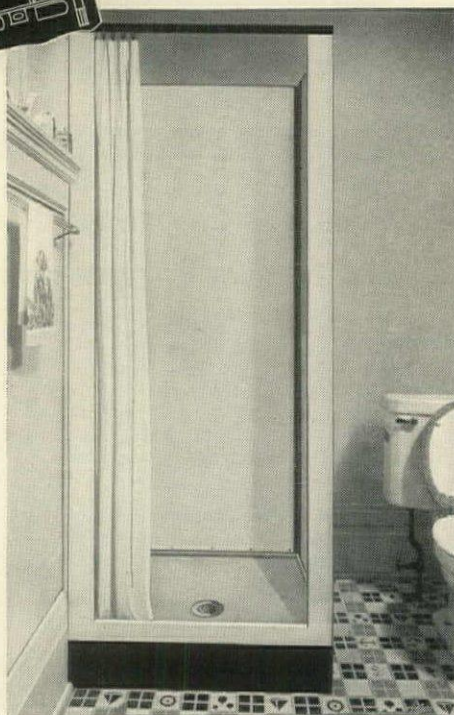
### WEISWAYS SOLVE THE BATH PROBLEM

● Once more Weisway Cabinet Showers give striking proof of their value in creating more living quarters out of present structures—quickly, economically.

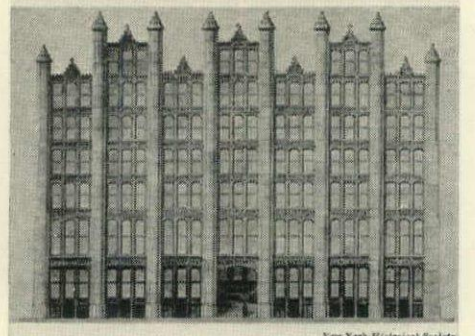
When contractor C. J. Mumford acquired the big one-family "mansion" pictured at the top, to convert it to apartments, one of his chief problems concerned bath facilities. By the use of space-saving Weisways—complete, self-contained bath units—he was able to provide fully modern apartments for 7 families where only one had lived before.

● The section of floor plan above shows how perfectly Weisways are adapted to this remodeling to create more living quarters from present homes. At right is one of the bathrooms. The new Weisway Model V, created to meet the critical material limitations of WPB is available on priority ratings of A-10, or better, for remodeling, for new war housing, and industrial bath requirements. Write for complete information.

**HENRY WEIS MFG. CO., INC.** (Est. 1876)  
1002 Oak St., Elkhart, Indiana



37. "COMMERCIAL EXCHANGE," c.1860  
New York Historical Society

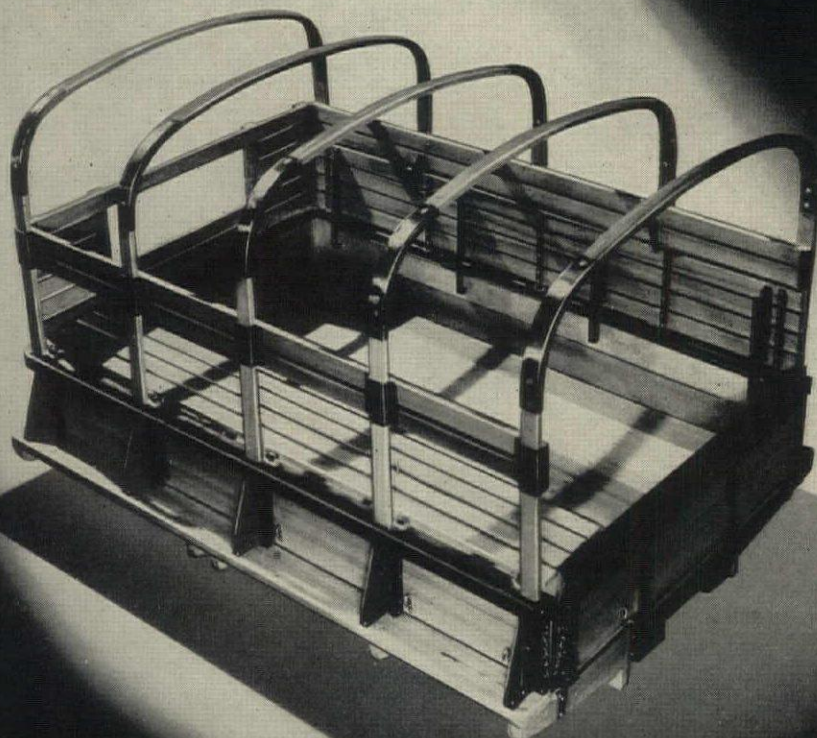


New York Historical Society

trations show projects by Davis. The book is much more than a chronicle of the activities of these two men; it is valuable study of architecture in the 19th century, a period that has not yet received its full share of critical attention.



# HQMB ES No. 743c



WOOD CARGO (TRUCK) BODY  
U. S. ARMY

From Quartermaster Corps Tentative Specification HQMB ES No. 743c CARGO BODIES—WOOD 80" x 144": "Lumber... of 2 in. or greater thickness... may be laminated by using the required number of 4/4 boards... The laminated boards must be bonded by using a non-extended Urea-Formaldehyde glue".

**A**PPLY this technique to your plans which could include beams, arches, columns, any construction or furniture member of any shape or size.

Glue makes big ones out of little ones—makes them stronger and cheaper—and eliminates metal fasteners. We'll be glad to offer expert advice on the glue to use—and how to use it.

## CASEIN COMPANY OF AMERICA

DIVISION OF THE BORDEN COMPANY

Technical Service Dept. 350 Madison Ave., New York, N. Y. Manufacturers of CASCO Powdered Casein Glues, CASCAMITE Urea-formaldehyde Resin Glues, CASCOPHEN Phenol-formaldehyde Resin Glues—for plywood, laminated wood, joint or bag gluing

### SEND FOR THESE BOOKS:

A. I. A. Folder  
"Glued, Laminated  
Wood Beams, Arches,  
Roof Trusses"



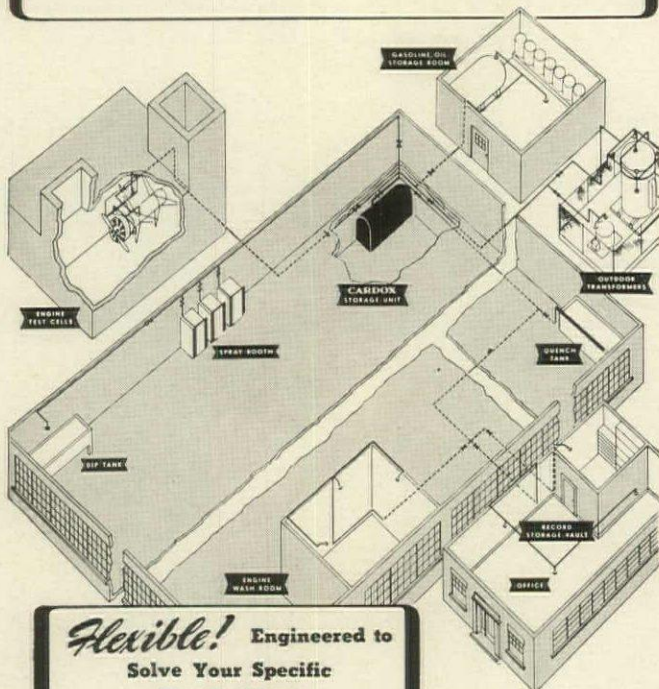
A. I. A. Folder  
"Glued Prefabricated  
Houses"





## A SINGLE SYSTEM

Protecting *One or Many* Fire Hazards



**Flexible!** Engineered to  
Solve Your Specific  
Fire Problems

You, as an architect for war industry, know that war production must face the damaging setbacks that can be caused by fire. But the wide variety of hazards, existing in virtually every plant and shop, presents a difficult problem. Adequate fire protection must be provided for *each*. Differences in hazards, floor space, layout and size call for a fire extinguishing system engineered for over-all plant requirements.

Cardox Systems meet the specification fully. The schematic view shown includes a combination of fire problems so diversified as to be met with infrequently in industry. Yet one Cardox System, with its single storage unit, can be engineered to the job. It provides today's sound method of swift extinguishment, with little or no loss, damage or delay to equipment or production.

The flexibility of Cardox Systems permits easy installation in new construction or existing buildings. Write on your business letterhead for Bulletin 6102.

### CARDOX CORPORATION

BELL BUILDING, CHICAGO, ILLINOIS

District Offices in: New York • Detroit • Pittsburgh • Cleveland  
Kansas City • Atlanta • San Francisco • Los Angeles • Seattle

**CARDOX**  
NON-DAMAGING FIRE EXTINGUISHING SYSTEMS

## Protection against the Menace of Moisture

Absorbed moisture adds tons to the weight of brick or cement building, creates water pressure which eventually threatens building interiors. Stop this menace *before it starts* by applying Cabot's Waterproofings — outside, above grade — where it effectively *shuts out* moisture. Cabot's Waterproofings are low in cost, permanent, easy to apply. Prevent efflorescence on bricks.

**FREE** — Write today for our waterproofing booklet, full of helpful information. Samuel Cabot, Inc., 1277 Oliver Bldg., Boston, Mass.

## Cabot's

Clear Brick Waterproofing  
Clear Cement Waterproofing

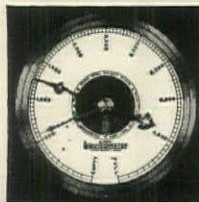
*We Don't Grope Blindly When  
Measuring Valuable Stored  
Liquids... We  
Check  
With*  
**LIQUIDOMETER** Tank Gauges  
*"THEY'RE ALWAYS DEPENDABLE"*

Now, more than ever, industrialists realize the importance of having accurate measurements of their stored liquids available at all times. LIQUIDOMETER Tank Gauges insure true, convenient, hazard-free, 100% automatic readings. No pumps, valves, or auxiliary units required to read them. Models are available so that readings can be taken remotely from or directly at the tank. Remote reading types utilize balanced hydraulic transmission system which completely compensates for

temperature variations on communicating tubing. Accuracy unaffected by specific gravity of tank liquid.

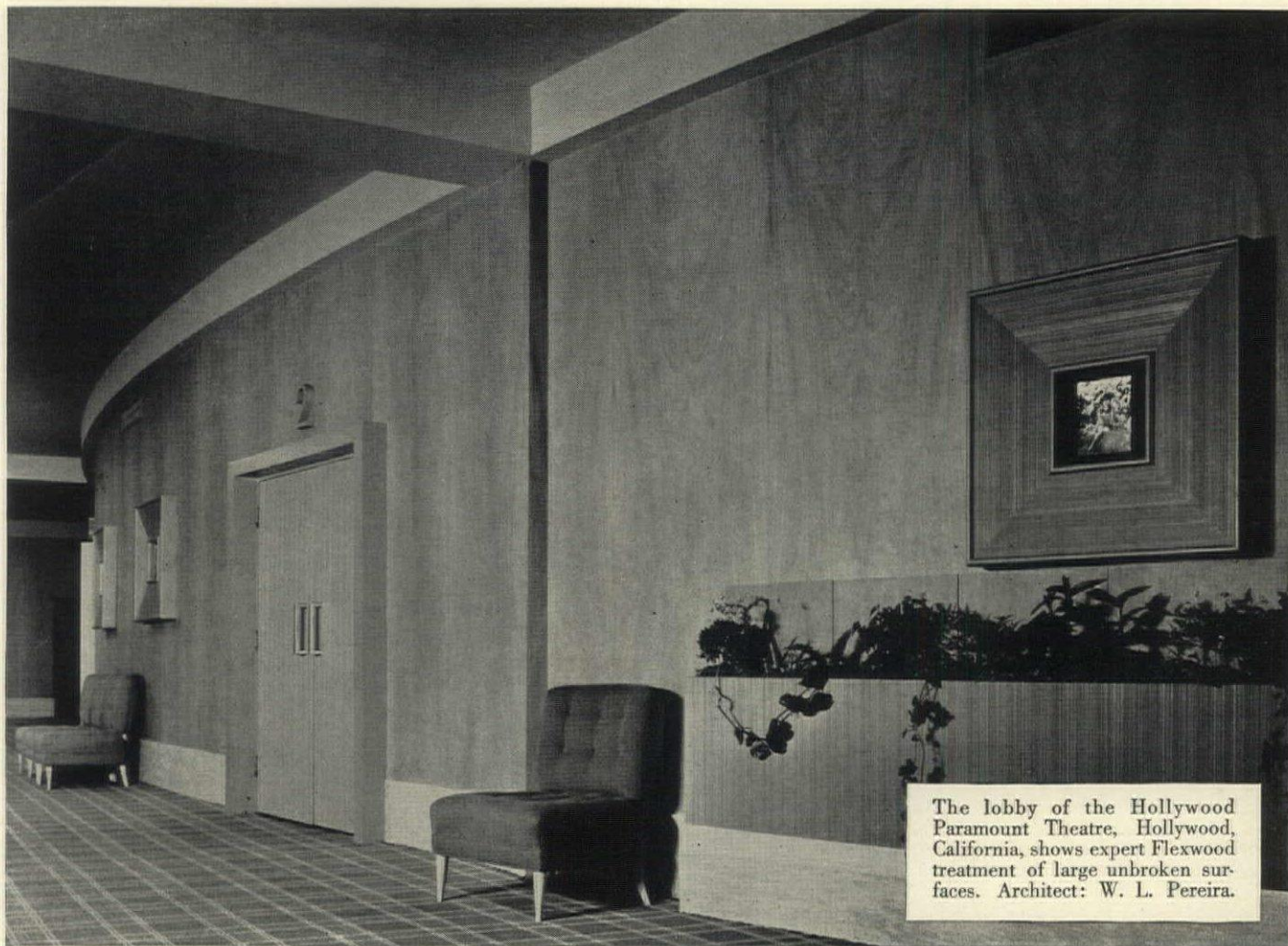
Approved for gauging hazardous liquids by Underwriters' Laboratories and similar groups. Models available to automatically control pumps, motors, signals or other devices for maintaining minimum or maximum liquid levels.

Write for complete details



THE **LIQUIDOMETER** CORP.  
36-30 SKILLMAN AVE., LONG ISLAND CITY, N.Y.





The lobby of the Hollywood Paramount Theatre, Hollywood, California, shows expert Flexwood treatment of large unbroken surfaces. Architect: W. L. Pereira.

## BOTH THE *Beauty of Curves and the Beauty of Wood* DISTINGUISH THIS THEATRE...

The lobby of the Hollywood Paramount Theatre is a good example of the beauty of simple lines and broad curves . . . combined with the beauty of wood, nature's finest medium of expression.

Architect W. L. Pereira chose flat cut Mahogany Flexwood for the job, hanging it flush with the curved walls of the lobby. The large, yet mild pattern of the wood selected is well-suited to the scale of the room. Extensive wall areas are broken up with decorative flower boxes and over-size picture frames made from grainless Weldtex plywood.

Flexwood is selected veneer backed

with fabric. A patented flexing operation makes it so pliable it can be wrapped around a pencil. Naturally, it is the designer's first choice for decorating curved walls and large areas which must be free of mouldings or joints.

Easy to handle and install, Flexwood should commend itself to designers and architects in search of materials



*Genuine Wood made pliable*

immediately available and economical to use. It can be applied to any hard surface—flat or curved—no structural changes needed. More than forty different woods to choose from.

Write today for the Flexwood folder and samples of some of the exotic woods. No obligation! Address:  
**UNITED STATES PLYWOOD CORP.**  
105 Park Avenue, New York, N. Y.

★ ★ ★

**FLEXGLASS**—the Glass that Bends. Genuine glass rectangles mounted on flexible fabric backing. Readily cemented to flat or curved surfaces. Mirrors, dewdrops and opals . . . in many different colors.

Flexwood and Flexglass are manufactured and marketed jointly by The Mengel Company, Louisville, Ky., and United States Plywood Corporation.



## Building Reporter

(Continued from page 6)

manufactured solvents, organic and inorganic oils and fatty acids. Available in red, white, green or blue.

**Manufacturer:** Carbozite Corp., First National Bank Bldg., Pittsburgh, Pa.

**SABOTAGE PROTECTION.** Photoelectric alarm system guards vital plant areas.

**Name:** Control Type A28L with L608 Light Source.

**Purpose:** For long-range protection of indoor and outdoor spaces.

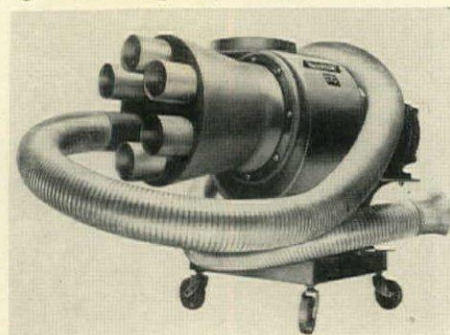


**Features:** The light source with double red filters projects a practically invisible light beam for distances up to 350 ft. Where this beam is not required,

a light source without the red filters provides operating range up to 700 ft. If the light beam is broken, the photoelectric control contacts close, thereby sounding alarms, operating a central station system, turning on flood lights, closing gates, etc. With the optical light shield attachment, the system can operate 24 hours a day—even under conditions of bright sunlight.

**Manufacturer:** Photoswitch, Inc., 21 Chestnut St., Cambridge, Mass.

**VENTILATOR** and exhauster especially designed for temporary working areas.



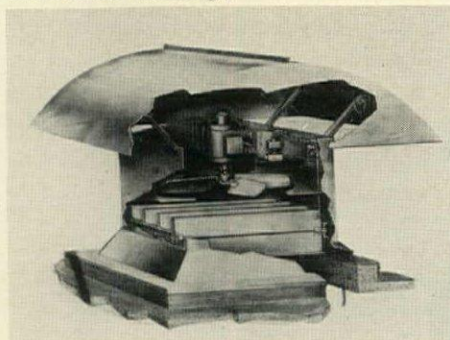
**Name:** Octopus.

**Purpose:** For use in ship holds, mines, sewers, tunnels, welding departments.

**Features:** Unit may be placed or hung in any convenient place between the working area and the open air. Flexible metal hoses connect it to the area to be ventilated. It is powered by a heavy duty, ball-bearing motor equipped with overload protection, and has newly developed blower wheels. The exhauster can be converted into a fresh air ventilator by changing the position of the tube adapter which is part of the equipment. One to six of the nozzles can be used as desired and caps are provided for all nozzles not in use.

**Manufacturer:** Chelsea Fan & Blower Co., 1206 Grove St., Irvington, N. J.

**VENTILATORS.** New series designed for blacked-out buildings.

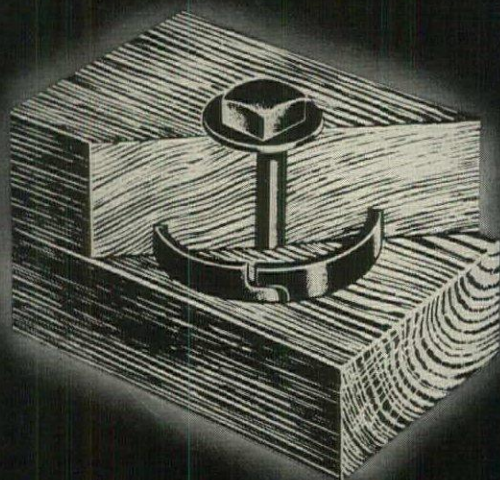


**Name:** War Plant Ventilators.

**Purpose:** To prevent transmission and reflection of illumination from building interiors or the reflection of light from the night sky.

**Features:** Three types are available: 1) Exhaust Ventilators which remove hot humid air from the plant, exhausting it at  
(Continued on page 128)

## This timber joint DOES MORE — COSTS LESS



For more than 8 years TECO Timber Connector Construction has been tested by the U. S. Forest Products Laboratory and at many leading universities. The TECO Timber Connector brings into play the full stamina of each framing member by spreading the load on a joint more equally over the cross-section of the wood.

# Timber ENGINEERING COMPANY

WASHINGTON, D. C.

PORTLAND, OREGON



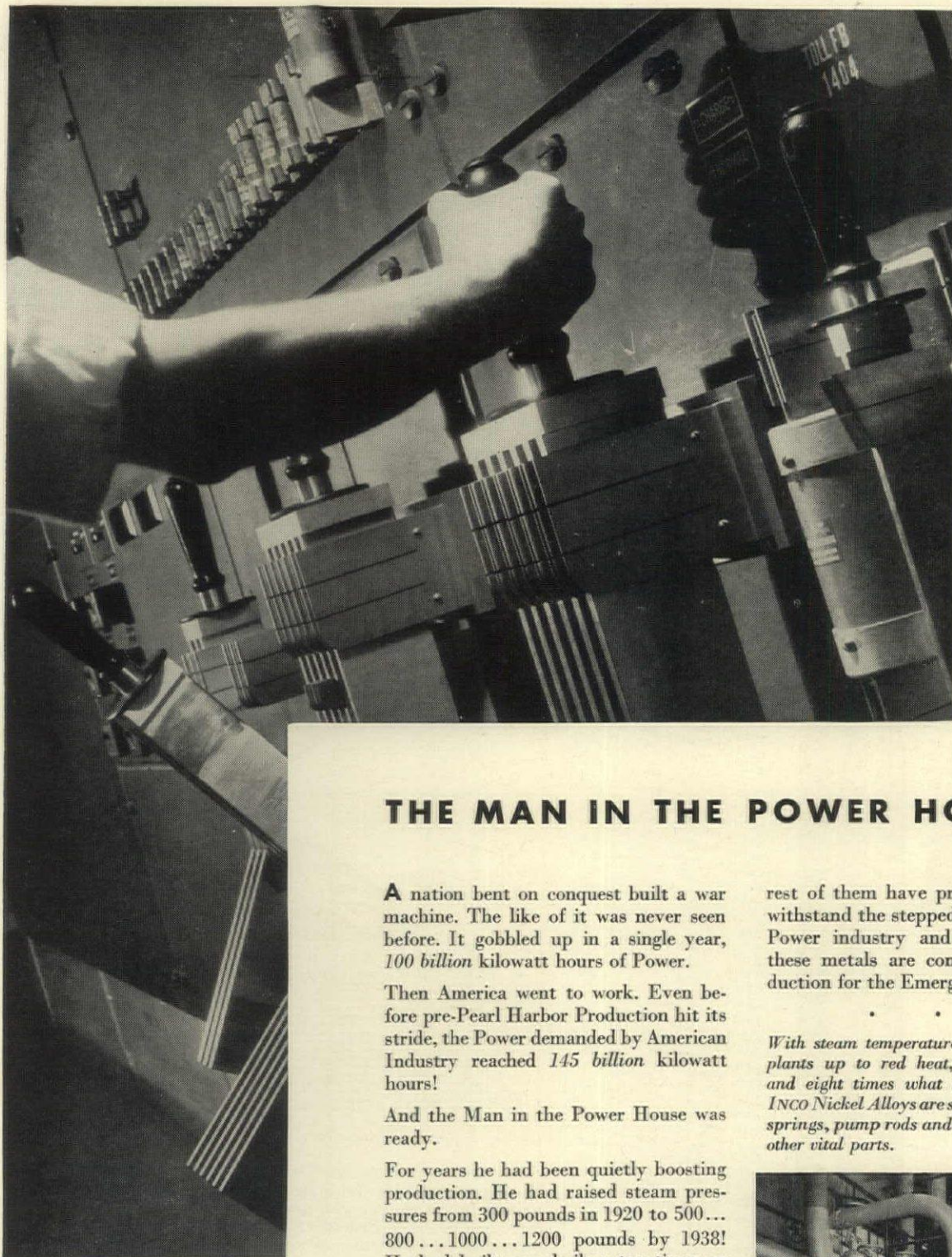


Photo © G. A. Douglas from Gendreau, N. Y.

## THE MAN IN THE POWER HOUSE...

A nation bent on conquest built a war machine. The like of it was never seen before. It gobbled up in a single year, 100 billion kilowatt hours of Power.

Then America went to work. Even before pre-Pearl Harbor Production hit its stride, the Power demanded by American Industry reached 145 billion kilowatt hours!

And the Man in the Power House was ready.

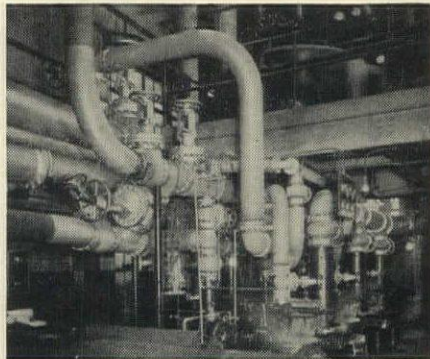
For years he had been quietly boosting production. He had raised steam pressures from 300 pounds in 1920 to 500... 800... 1000... 1200 pounds by 1938! He had built new boilers ten times as powerful as 1920 models of the same size.

He now made a pound of coal produce four times the power it did before!

In this great and continuing Progress of Power *INCO Nickel Alloys* play an important part. Strong, tough, hard, and resistant to heat, corrosion and erosion, Monel, "K" Monel, "S" Monel and the

rest of them have proved well able to withstand the stepped up tempo. In the Power industry and scores of others these metals are contributing to Production for the Emergency.

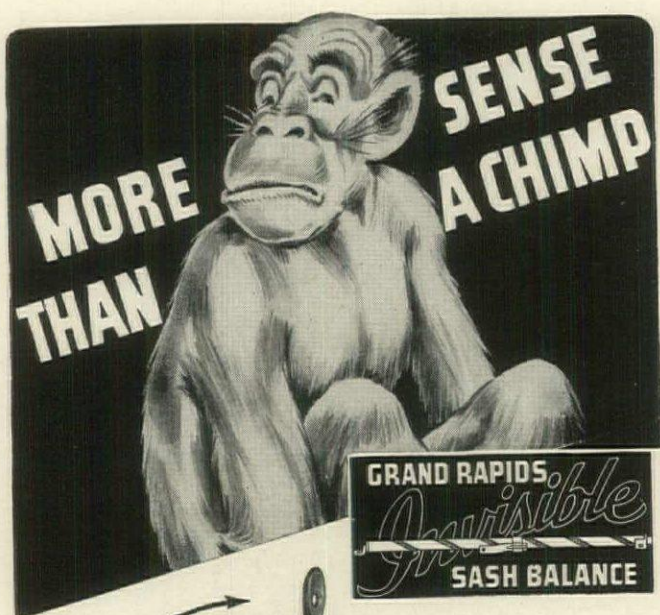
*With steam temperatures in modern power plants up to red heat, and pressures six and eight times what they were in 1920, INCO Nickel Alloys are serving for valve trim, springs, pump rods and impellers and many other vital parts.*



THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall Street, New York, N. Y.



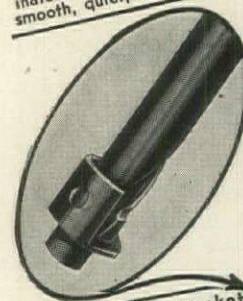




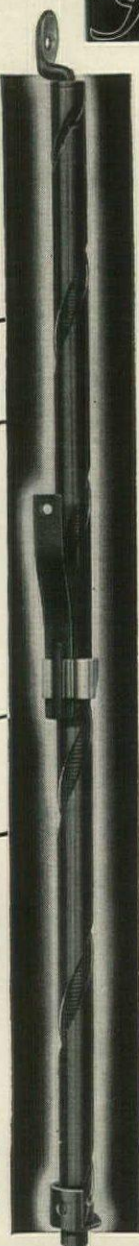
**Simplified Top Fastener.**  
Easier to install. Permanent rigidity with one screw. Eliminates "play." Smoother, quieter operation.



**"Spring-Flex" Bearing Arm.**  
Spring steel arm adjusts automatically to different degrees of sash fit. Practically eliminates wood chatter. Always smooth, quiet, snug.



**Play-Proof Guide Bracket.**  
Guide bracket opening exact diameter of balance bottom, giving close, chatter-proof fit without binding.



No sir, a chimpanzee could not install a Grand Rapids Invisible Sash Balance. And any man who installs a set needs more sense than a chimp.

On the other hand neither must he be a master carpenter. The simplicity of the installation makes the entire operation easy and understandable.

But that is only the beginning. The real test of satisfaction comes with the smooth dependable performance (regardless of relative humidity), ease of tension adjustment, absence of tapes or cables, and the invisibility of the working mechanism.

Scores of contractors have found that the "Invisible" installation saves time and cost and (get this) saves on critical materials. True of double as well as single balance installations. In fact, the Grand Rapids Invisible Sash Balance is endorsed for Federal Housing Projects.

Our raw materials and your deliveries are governed by priorities, as with other essentials, so please furnish proper priority information with order to assist us in replacing the materials used in filling your requirements.

Send for our catalog No. 42-SB-2 for full information on Grand Rapids Invisible Sash Balances.

**GRAND RAPIDS HARDWARE CO.**  
Grand Rapids, Mich.

**"GRAND RAPIDS"**  
*Sash Balancing Equipment*  
THE STANDARD FOR FORTY YEARS

WHEN an architect writes specifications, he is underwriting with his reputation the items he specifies. That is why architects generally so definitely specify — "windows to be hung with Samson Spot Sash Cord . . ." — they know that sash hung with weight, pulley and Spot Cord give long trouble free service — permanently satisfactory.

**SAMSON CORDAGE WORKS**  
BOSTON, MASS.



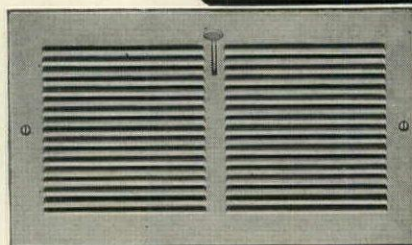
REG. U.S. PAT. OFF.

**SAMSON SPOT**

**SASH CORD**



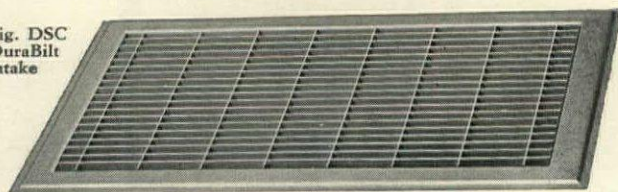
*Specify* **AUER REGISTERS**  
for **LOW-COST HOMES**



There are many Auer warm-air models well suited to low-cost house purposes. The Airo-Flex "7000" design shown above is a single louvre register with downward directional fins, bendable for other angles if desired. The DuraBilt design shown below, furnished for floor registers and intakes, has interlocked cross-bar construction, giving great strength and rigidity.

Complete Auer Register Books sent on request — also Catalog "G" on flat metal grilles.

Fig. DSC  
DuraBilt  
Intake



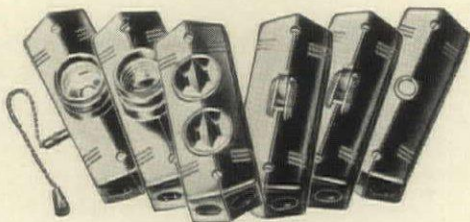
THE AUER REGISTER COMPANY, Cleveland, Ohio.

**AUER REGISTERS**  
& GRILLES · For Air Conditioning and Gravity



# G-E Wiring Material News

## MONCOR Surface Wiring Devices



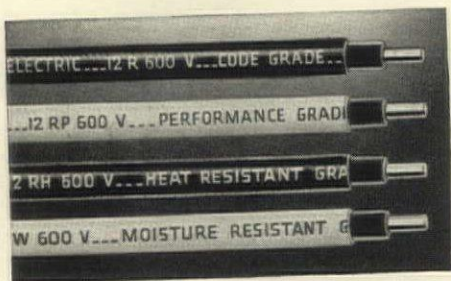
These surface devices can be installed quickly with cables either exposed or hidden. They are made of brown Textolite . . . keep their color . . . resist moisture and corrosion. Line includes single-pole switch, 3-way switch, convenience outlet, three different lampholders and a rosette. They are approved by the Underwriters' Laboratories and in the specifications of different government agencies.

## Catalogs on POWER DISTRIBUTION SYSTEMS

Here are catalogs on two different under-floor distribution systems. Both systems make wiring extremely flexible. G-E Fiberduct is a fiber raceway for installation in concrete floors. G-E Q-Floor Wiring is used in cells of H. H. Robertson cellular steel Q-Floors. Outlets can be installed in the raceways wherever they are needed at any time with both systems.



## 4 Different G-E Building Wires



G-E building wires are high quality. They are carefully made of the best raw materials. Conductors are accurately centered. Wires are marked for easy identification. Four grades are available: Code grade, Type R; Performance grade, Type RP; Heat Resistant grade, Type RH; Moisture Resistant grade, Type RW. G-E building wires can be depended upon to give good service.

## MAIL THIS COUPON

Send this coupon for free catalogs and for information on G-E products described on this page:



General Electric Company,  
Section CDW10210-26,  
Appliance and Merchandise Dept.,  
Bridgeport, Conn.

Sirs:

Please send me information on  
( ) Moncor Surface Wiring Devices;  
( ) G-E Building Wire; or catalog on  
Wiring. G-E Fiberduct; ( ) G-E Q-Floor

Name .....

Address .....

City .....

State .....

# GENERAL ELECTRIC



## Building Reporter

(Continued from page 124)

the roof; 2) Supply Ventilators which replace excessively hot plant air with relatively cooler air from outdoors, drawing air in at the roof and supplying it with uniform circulation to the working areas; 3) Tempering Ventilators which warm and deliver air to the plant, drawing the air in at the roof and providing the needed ventilation with tempered air to prevent drafts and cold spots in the plant during cold weather. Each comes in three stan-

dard capacities: 10,000, 15,000 and 20,000 c.f.m.

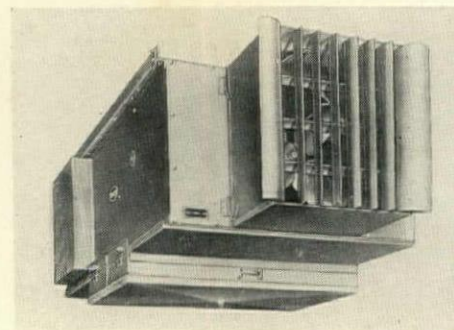
Manufacturer: Carrier Corp., South Geddes St., Syracuse, N. Y.

**AIR CONDITIONING.** New humidifier. Particularly effective for blacked-out buildings.

Name: Industrial Humidifier.

Purpose: To provide humidification and also cooling by evaporation and air circulation.

Features: Requires no floor space, uses no distributing ducts and is easily installed and moved to meet plant changes in production or machine layouts. May be installed with no interruption of production. Boasts accessibility of all parts:



drip pan on ball-bearing rollers moves on a track, giving complete access to the interior of the unit. Humidifying packs can be reached from the bottom; air outlet is hinged to swing aside, affording an opening to the fan and fan motor. Suitable for any size plant.

Manufacturer: Carrier Corp., South Geddes St., Syracuse, N. Y.

**WALL PANELS.** Low-cost, plastic-coated wallboards require no on-the-site finishing.



Name: Chevron Boards.

Purpose: For factory conversions, barracks, war housing, shower stalls, kitchens, baths, canteens, laboratories, trucks, ambulances and sectional units.

Features: The plastic finish is permanently bonded to the compressed wood fiber base at the factory. Manufacturer states it will not warp, chip, craze, crack or peel. The panels are quickly installed, even by untrained workers, by nailing, screwing or cementing to existing walls or new framing. Available in pastel tones in sizes up to 4x8 ft., they come in three designs: tile board, unscored sheets and streamlined.

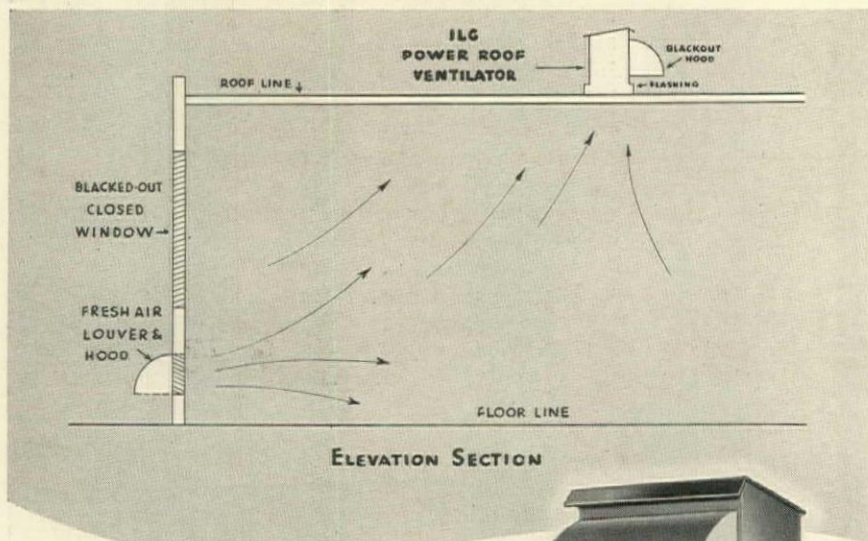
Manufacturer: Barclay Mfg. Co., Inc., 385 Gerard Ave., New York, N. Y.

**SIDING MATERIAL.** Mineral granule surface eliminates painting.

Name: Celotex Mineral Surfaced Backer Board.

Purpose: For use over sheathing—suitable for siding on barracks, other military buildings, factory structures, low-cost housing and temporary structures.

(Continued on page 132)



How to Engineer

Simple, Effective, Low-Cost

## BLACKOUT VENTILATION

As windows are closed and blacked-out in war-crowded plants and offices . . . excessive heat, "worn-out" air, odors, smoke, steam, dust, fumes, etc. *must* be rapidly removed . . . fresh, invigorating air *must* be supplied to speeding workers . . . *without transmitting light!* Get the complete story in new Blackout Bulletin No. 304. Or, if you are faced with a specific job right now, write, wire or phone for dimension drawings on blackout hoods (easily fabricated on location) for standard Ilg Power Roof Ventilators, also Fresh Air Inlets.

ILG ELECTRIC VENTILATING CO., 2899 N. CRAWFORD AVE., CHICAGO, ILL.  
OFFICES IN 40 PRINCIPAL CITIES CONSULT YOUR PHONE DIRECTORY



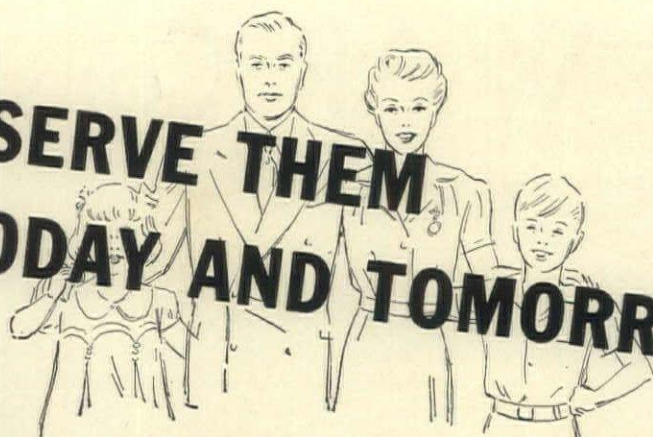
*Vitalized Ventilation*

AND AIR CONDITIONING

AIR CHANGE . . . NOT JUST AIR MOVEMENT!

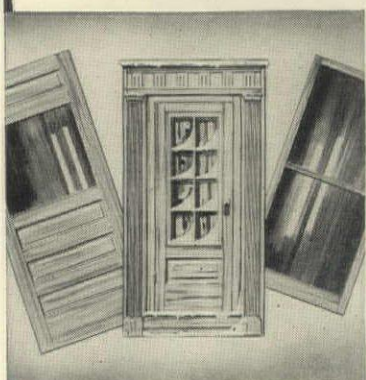


# TO HELP YOU SERVE THEM TODAY AND TOMORROW



**W**AR-TIME conditions have created for you two basic problems in serving the home-loving families of America. First, how can you best serve them today, when expenditures have necessarily been cut to the bare minimum? Second, how can you serve them tomorrow... when they build the post-war home of their dreams? Ponderosa Pine Woodwork can help you to a better solution of both of these problems. Here are a few reasons why...

## TODAY



**FUEL CONSERVATION IS A MUST.** One of the easiest and best ways to conserve fuel is by installing storm sash, storm doors and combination doors of Ponderosa Pine on every outside opening of the home. Ponderosa Pine has natural insulating qualities—excellent weather resistance.

**"DOUBLED UP" FAMILIES** must have space for living. Growing children—war workers—must be accommodated. Here, at very low cost, doors and shelves of Ponderosa Pine were a major aid in filling in an archway to create an extra room, thus taking full advantage of space formerly wasted.



## TOMORROW



**MORE LIGHT AND AIR** are a "must" for the homes of tomorrow—and that means more Ponderosa Pine windows! In the room above, see how the generous corner of Ponderosa Pine windows permits health requirements to be satisfied at low cost. What is more, Ponderosa Pine has the durability which assures years of hard use.

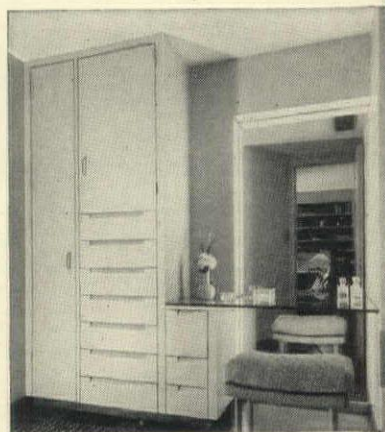
**NEW CONVENIENCE** will make tomorrow's home more livable, more comfortable. Note how, in the room at right, sliding trays of Ponderosa Pine replace the conventional type of drawers. Much of such work can be done with Ponderosa Pine today—more of it will be done tomorrow.



**FOR THE DURATION—AND AFTER**—you'll need the new "Open House"—32 pages of suggestions on making war-time homes

more livable and more useful—as well as for tomorrow's future planning. Your free copy is waiting. Write Ponderosa Pine Woodwork,

Dept. XAF-10, 111 West Washington Street, Chicago, Illinois.

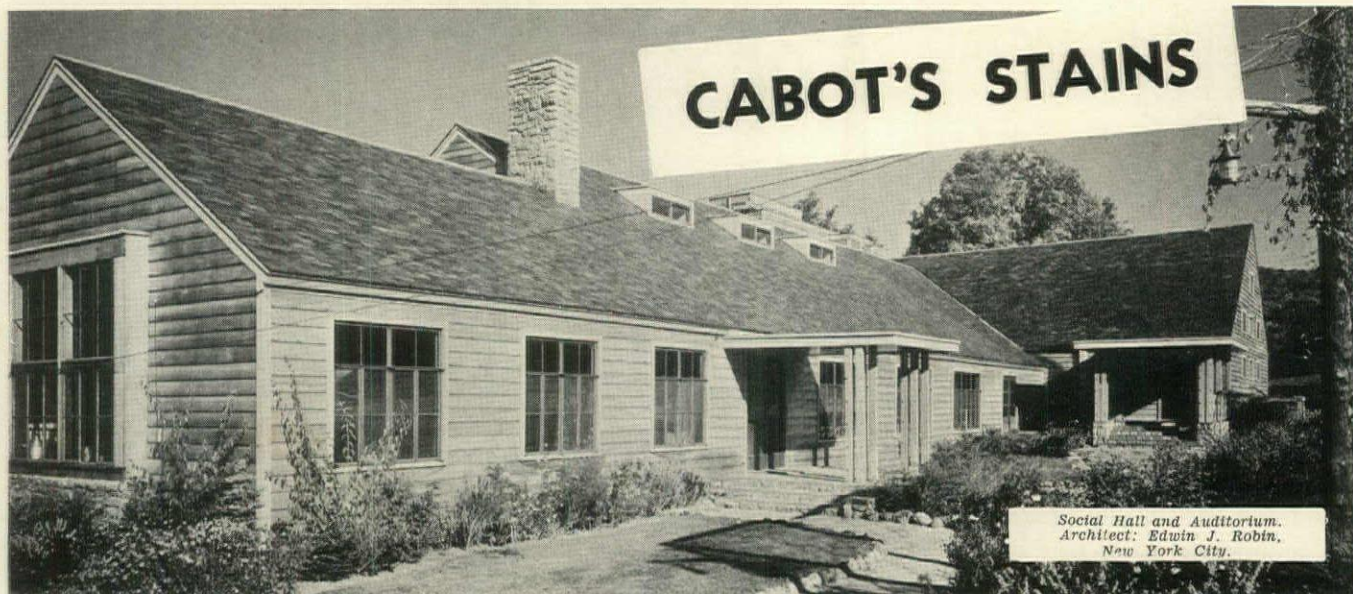


# Ponderosa Pine

WOODWORK



# for WAR Construction . . . .



If you are planning duration dormitories, permanent industrial housing, barracks, airports — consider the advantages of Cabot's Stains for the exterior finish. They are quick and easy to apply. They give maximum protection at minimum cost. They do not peel or blister even when applied on unseasoned lumber, or before the building has dried out.

**FREE BOOKLET**—*Stained Houses*. Contains full information. Write for your copy and color card today. (Or look up Cabot's Stains in Sweet's.) Samuel Cabot, Inc., 1276 Oliver Bldg., Boston, Mass.

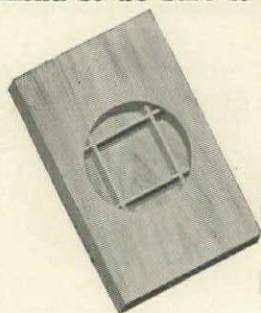
## Cabot's Shingle Stains



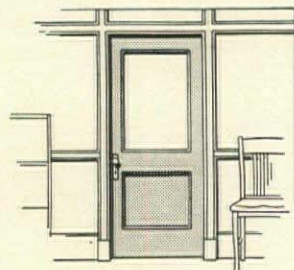
Middletown Housing Project. Geo. Howe, Architect

## FOR Defense BUILDING!

The fact you are designing or building small homes, or home-units in defense areas, should be sufficient reason for using New Londoner Hollow-Core Flush Doors. New Londoners have exceptionally brilliant service records everywhere—records that reveal low cost-per-years-of-service. This is the type of door you will want to recommend so be sure to get the story of New Londoner Hollow-Core Flush Doors. You'll find it interesting as well as enlightening. Send for this information today.



**AMERICAN PLYWOOD Corporation**  
NEW LONDON, WISCONSIN



## IN A SMALL BUT IMPRESSIVE CORNER OF OUR PLANT . .

There's a door that leads to a brighter world, where products of peacetime take new shapes in blueprint and metal—prophesying of days to come.

Beyond this room a plant shrieks of full-time war production.

Out of it all will come—precision manufacture hitherto unreached—new ways of making finer, better products at lower costs.

There will be three Victories at Victor—we promise.

**VICTOR ELECTRIC PRODUCTS, INC.**

Dept. IB-110, Cincinnati, Ohio

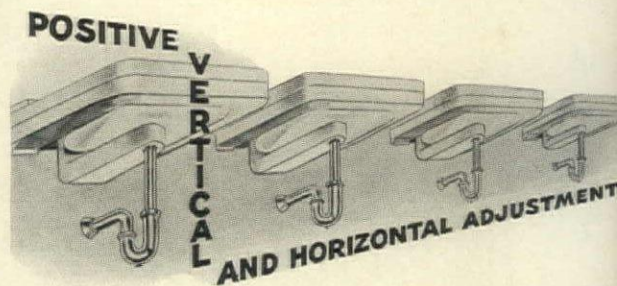
**FANS • VENTILATORS • MOTORS • ????**



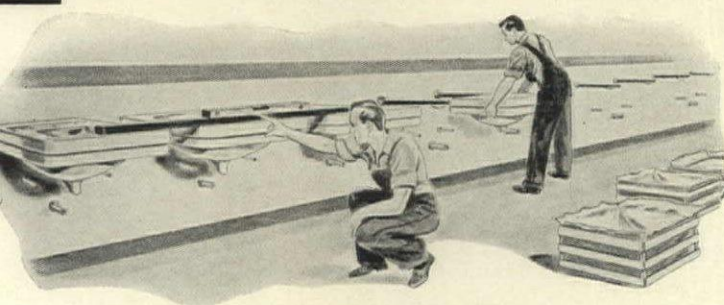
# To make sure of this vital **4** point protection ON WALL FIXTURE JOBS... specify **ZURN** engineered carriers



**2**

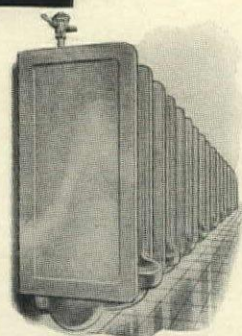


**3** Grief-free installation protects against waste of time and materials



**4**

Perfect, permanent fixture alignment

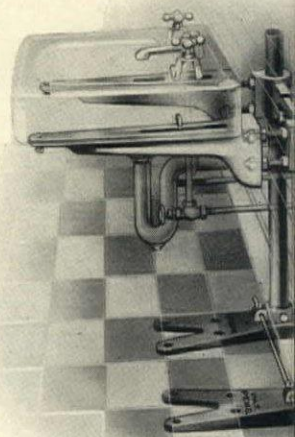


WITH TIME AND LABOR as critical as they are today, no specification of wall type fixtures for use in permanent structures should fail to include a definite provision for their proper installation and support. To make sure of this protection, it is as important to specify the carriers by name as it is the fixtures themselves. Specifying Zurn Engineered Carriers automatically eliminates the risks usually incurred when the method of support is left to pure chance. *No damaging strain on the wall; grief-free installation; positive, horizontal, and vertical adjustment; perfect, permanent fixture alignment*, briefly summarize the essential 4-Point Protection provided by Zurn Engineered Carriers and which distinguishes them from common contrivances never considered worthy of specification. These advanced protective features make Zurn Engineered Carriers fully as worthy of specification as the fixtures they support. All 25 basic styles shown in Zurn Carrier Catalog. Write for your copy.

**J. A. ZURN MFG. CO.** Sales Office and Factory, Erie, Pa., U. S. A.

WHEN YOU SPECIFY WALL FIXTURES—SPECIFY **ZURN** ENGINEERED CARRIERS TO SUPPORT THEM

This phantom view shows how Zurn Engineered Carriers provide 4-Point Protection on wall fixture jobs.



**BUILDING • PLUMBING  
DRAINAGE PRODUCTS**

*Roof to Basement*

J. A. ZURN MFG. CO., Erie, Pa. • U. S. A.

Please send me a copy of the Zurn Carrier Catalog.

Name \_\_\_\_\_ Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

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

No. 4226

P. S. Please attach to your business letterhead



## Building Reporter

(Continued from page 128)

**Features:** Product consists of two sheets of heavy roofing felt, saturated with an asphaltic compound and bound together with a high melting-point asphalt adhesive. An extra coating of asphalt is then added, into which are embedded mineral granules. Can be applied rapidly because the units are large in size and light in weight. For temporary construction, it may be put directly on the framing, provided the studs are on 16-in. centers. Comes in two

widths, 3 and 4 ft.; five lengths, 6, 7, 8, 9 and 10 ft.; 3/16 in. thick. Currently available in buff and brown, can be manufactured to order in large quantities in other colors, including standard camouflage roofing colors.

**Manufacturer:** The Celotex Corp., 120 South LaSalle Bldg., Chicago, Ill.

**CONVECTOR** uses only one-fifth the metal in ordinary radiator.

**Name:** Non-Metallic Cabinet Convector.

**Purpose:** To substitute for all-metal convectors and radiators.

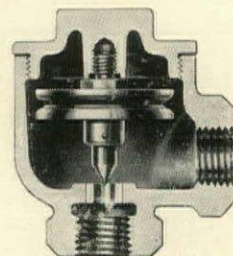
**Features:** Side and top panels are fabricated from rigid fiber board; supporting members, provided at the corners, are of



hardwood; the element is constructed of steel fins and tubes. Two cabinet types are available—one is provided for wall suspension, and the other is of the free-standing floor type. Circular designed grilles are punched in the sloping tops of both cabinets.

**Manufacturer:** The Trane Co., LaCrosse, Wis.

**TRAPS & VALVES.** New line saves many critical materials.



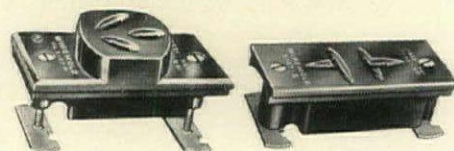
**Name:** "Old Ironsides" Line.

**Purpose:** Connect to radiator with right- and left-hand pipe nipples in order to conserve piping materials.

**Features:** Conforms to the simplification program of the War Production Board. Cast iron bodies and bonnets in natural finish for painting after installation. Traps limited to three sizes: 1/2 in. for 200 sq. ft.; 3/4 in. for 400 sq. ft.; 1 in. for 700 sq. ft. Valves limited to two sizes: 3/4 in. and 1 in., both in angle body with wheel handle standard.

**Manufacturer:** Warren Webster & Co., Camden, N. J.

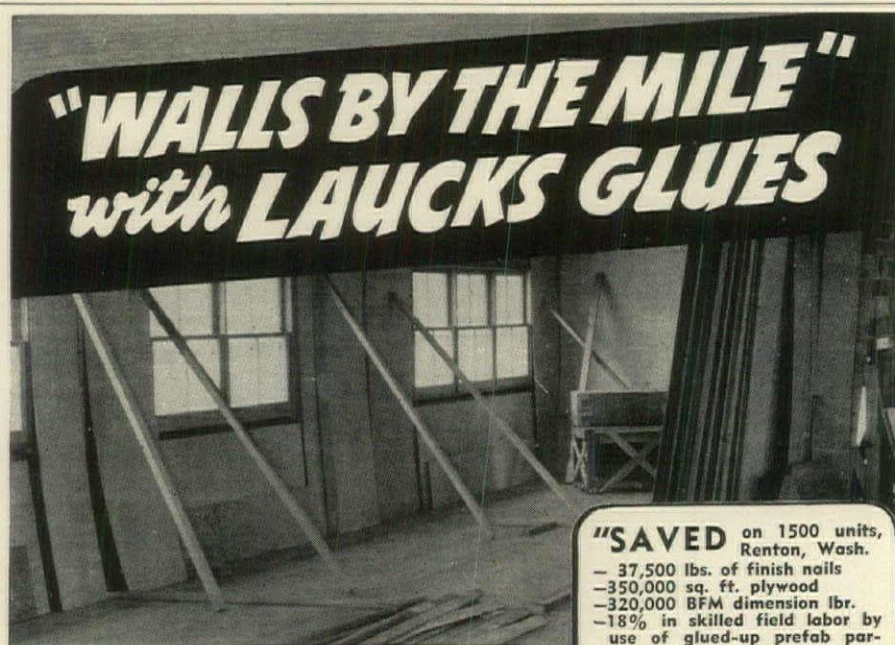
**WIRING.** Receptacles for industrial use.



**Name:** Model #2127P and Model #2127S.

**Purpose:** For installation Wiremold #2100 Plugmold.

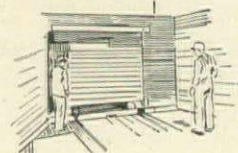
**Features:** These new receptacles greatly increase the general utility of the Plugmold plug-in-anywhere convenience wiring. (Continued on page 136)



**"SAVED** on 1500 units, Renton, Wash.  
— 37,500 lbs. of finish nails  
— 350,000 sq. ft. plywood  
— 320,000 BFM dimension lbr.  
— 18% in skilled field labor by use of glued-up prefab partitions."  
W. C. MILLER, Gen. Supt.  
J. C. Boespflug Const. Co.



ENDLESS LENGTHS OF PLYWOOD MADE POSSIBLE WITH LAUCKS CONSTRUCTION GLUES



"HOTBOX" METHOD OF CONSTRUCTION AT SPEEDWALL CO., SEATTLE



WOOD AND LAUCKS GLUE LAMINATED ARCHES FOR ARMY HANGAR

**Modern "production-line" prefabrication** actually produced walls by the mile for the 1500 Renton Highlands F. P. H. A. wartime homes.

The prefabricating sub-contractor, using LAUXITE RESIN GLUE and the "hot box" method of construction for affixing wallboard to studding, supplied partition wall to J. C. Boespflug Co., general contractors—speedily and economically.

Also supplied to this job were made-to-order sections of board for interior walls cut from endless lengths of plywood joined together with Laucks Glues.

Investigate how Laucks Construction Glues can save time, money and critical materials on your jobs—in laminated arches or beams, in prefabricated and all types of dri-built construction, in farm structures, etc.

For information, write Laucks, where 20 years' laboratory research and experience guarantee the right glue.

**I. F. LAUCKS, Inc.**

In U. S. Address Inquiries to—  
SEATTLE—911 Western Ave. CHICAGO—6 N. Michigan Ave.  
LOS ANGELES—859 E. 60th St.  
Factories: Seattle, Los Angeles, Portsmouth, Va., Lockport, N.Y.

In Canada Address Inquiries to—  
I. F. LAUCKS, LTD., Granville Island, VANCOUVER, B.C.  
HERCULES-LAUX-MERRITT, LTD., STANBRIDGE, QUEBEC

★ Don't forget, LAUX REZ, the pioneer resin sealer and primer, protects wood as rust-proofing protects metal.

**LAUCKS CONSTRUCTION GLUES**  
Consult LAUCKS—America's Glue Headquarters



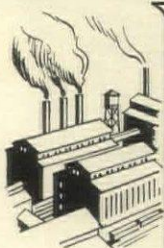


GENERAL  
OFFICES:  
Charles Bruning  
Company,  
Chicago



## In Defense Plant Office Areas... Tile-Tex *can Take it!*

Attractive Tile-Tex installation, Reception Room, Charles Bruning Company



Our constant objective is to furnish the architect with an honest, steadily improved product that will enable him to design architecturally correct floors which can be installed and maintained properly at minimum cost.

War plants throughout the country are finding Tile-Tex asphalt tile flooring ideal for factory office areas. Tile-Tex is made from non-critical asphalt and asbestos—it's a rugged, tough, wear-resisting tile with a performance record longer than any other similar material. Tile-Tex is highly fire-resistant, is unaffected by moisture, and is exceptionally easy to clean and keep clean.

Offices, restrooms, storerooms, recreation areas, and dispensaries are a few of the many floor areas where Tile-Tex is giving trouble-free service today in American war plants. It is quickly and easily installed by approved, competent floor contractors located in all principal cities and towns. For specification data and complete color charts, see Sweets Catalog File Page 11/58, or ask us for a copy of "Floors That Endure" which gives you the complete Tile-Tex story.

### The TILE-TEX Company

101 Park Avenue, New York • Chicago Heights, Illinois

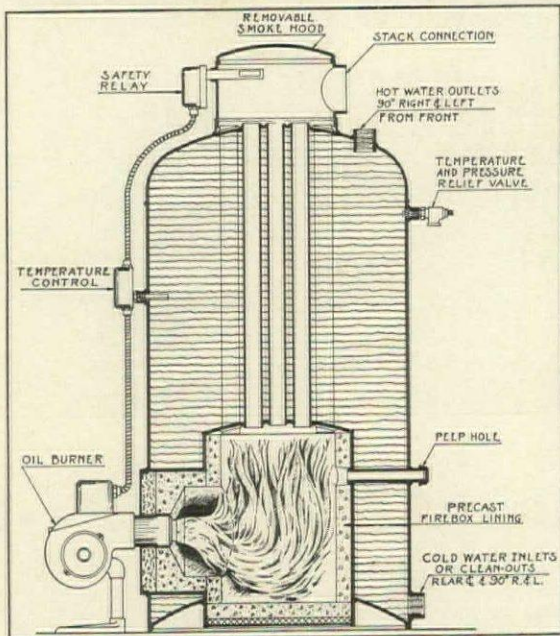
THIS IS THE FIFTH OF A SERIES DEALING WITH THE PART OF TILE-TEX IN THE DEFENSE PROGRAM



Hot water for hundreds of men from  
this new, heavy-duty water heater

built by  
**JOHNSON**

270 g. p. h. capacity. — 230 gallon self-  
storage tank.—Not insulated nor galvanized.



## The **AQULUX-225**

... for Army Barracks, Mess Halls,  
Bathing Facilities, Hospitals,  
Dormitories, War Industries.

Here's the answer to a wartime need . . . a fully automatic water heater that delivers 270 gallons per hour . . . that consumes a minimum of fuel . . . that is built with a minimum of critical materials.

It has the famous Johnson Bankheat Burner with 225,000 btu output to insure high recovery and large volume . . . a burner which carries the Underwriters' and Commercial Standard Label for safety and performance.

The 230 gallon tank is not insulated, nor galvanized, nor encased in a steel jacket (except on special order). In these and other ways, the use of essential materials has been cut to a minimum without sacrificing efficiency or safety.

It is built of black steel plates, electric arc welded; extra heavy steel fire-tubes; and precast refractory lined combustion chamber for oil or gas fuel. Temperature and pressure relief and drain valve are standard equipment. It requires little floor space. Installation is simple and inexpensive.

May we send you the complete data on this wartime "big brother" of the widely known Aquilux-85 and 150 models? Or on the still larger, standard Johnson heaters with capacities up to 600 g.p.h. and special units which we can build to your particular specifications? We'll send it gladly.

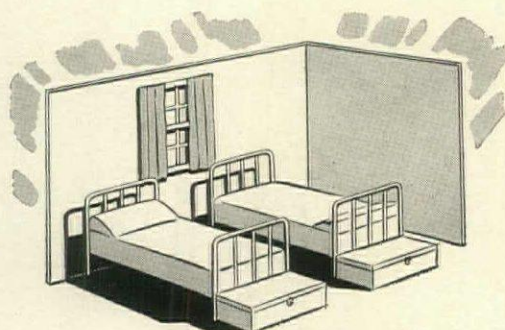
## S. T. JOHNSON CO.

40 years experience in the Engineering  
and Building of Fuel Oil Equipment

940 Arlington Ave.  
Oakland, California

401 No. Broad St.  
Philadelphia, Pa.

FOR WAR-TIME CONSTRUCTION  
...THESE PLASTIC-COATED  
WALL-BOARDS



THEY GO UP IN A HURRY,  
LAST LONG,  
AND COST LESS!

WAR construction calls for low cost, speed, durability. Barclay Plastic-Coated Panels offer just that! They're prefabricated from treated hardboard, coated with a plastic that won't chip, crack or peel. They're easy to clean. Need no renovating.

The Barclay Panel has a highly polished, mirror-like finish; while Chevron Board has a rich, velvety texture. Twelve colors, two finishes, three patterns.

Both types of Barclay Plastic Coated Panels come in large sizes . . . are quick and easy to install, even by semi-skilled labor.

We want you to test a sample. Mail coupon today!

Save time! Save money! Use Barclay  
panels for both walls and ceilings in...

WAR HOUSING	FACTORIES
CONVERSIONS	CANTEENS
NEW CONSTRUCTION	LABORATORIES
BARRACKS	SECTION UNITS
SHOWER STALLS	HOSPITALS
KITCHENS	DORMITORIES
BATHS	LIBERTY SHIPS
TRUCKS AND AMBULANCES	

**PROMPT  
DELIVERIES!**

Barclay products are  
available. All orders —  
large or small — are being  
delivered promptly!



Barclay Manufacturing Company, Inc., Dept. AF-10, Bronx, N. Y.  
Please send me free samples of Barclay Plastic-Coated Panels and literature.

Name.....

Address.....

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





# "A JOB TO BE PROUD OF!"

Let Good Paint help keep it that way"

## Fortify Defense Homes with weather-fighting White Lead

In Defense Housing, architects face challenging problems. The need is urgent. The price is restricted. Yet liveableness and weather-resistance must be provided.

It's a job you can be proud of doing right. Ingenuity and skill are needed—not only in the construction itself but in the choice of materials. For, in spite of the price limitation and material shortages, these homes must be built to take it.

That means, when it comes to *paint*, you'll want the sturdiest possible protection. For you know from personal experience that the first line of home defense

is good paint. No need to remind you that *good paint's other name is Dutch Boy White Lead*. The years have proved to you that Dutch Boy holds the front like a marine . . . never cracks and scales.

But because cost is such a factor these days we do want to emphasize this:

### Dutch Boy is in the Low Price Bracket

Despite its high quality, paint made from Dutch Boy *Paste Lead* is not high in price—in fact, its cost per gallon is actually *low*. And its weather-defying durability means substantial savings per year of protection.

Another economy point: Dutch Boy is an *all-purpose* product—it can be used for

either two- or three-coat painting, and on any surface—wood, brick, stucco, concrete or plaster.

### New Dutch Boy Paint Outstanding for Two-Coat Sealing and Hiding

When it comes to paint that's ready-mixed we invite you to pass professional judgment on the new Dutch Boy Pure White Lead Paint.

It combines the inborn stamina of White Lead with sealing, hiding and whiteness unsurpassed by any two-coat combination on the market. Its two special forms—Exterior Primer and Outside White—are both pure white lead, ready to spread. Together they give results on either new or old wood that will be a credit to you and the nation.



**SPECIFY DUTCH BOY PURE WHITE LEAD**

**NATIONAL LEAD COMPANY**  
New York, Buffalo, Chicago, Cincinnati, Cleveland, St. Louis, San Francisco, Boston (National-Boston Lead Co.), Pittsburgh (National Lead & Oil Co. of Penna.), Philadelphia (John T. Lewis & Bros. Co.).



## Building Reporter

(Continued from page 132)

ing system in providing electrical service along work benches, work tables, inspection and assembly benches, where the use of portable electrical appliances and tools is necessary. Model #2127P is a 3-wire polarized receptacle especially adapted for those installations where a solid ground is required for small tool motors. Model #2127S is designed to take plugs with either parallel or tandem blades. **Manufacturers:** The Wiremold Co., Hartford, Conn.

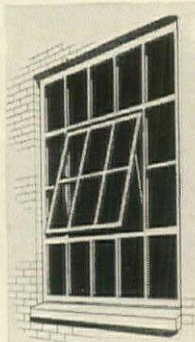
**WOOD SASH** fits standard steel openings.

**Name:** Pella Projected Wood Sash.

**Purpose:** For both old and new construction.

**Features:** Sash and frame are of white pine, toxic-treated and water-repellent. Obtainable in standard units with glass sizes reduced to maintain standard steel opening sizes. Also available with full-size glass and a corresponding increase in opening dimensions.

**Manufacturer:** Rolscreen Co., Pella, Iowa.



FIBBER McGEE: "Our sponsor's mighty busy makin' wax-fortified paints."



MOLLY: "An' they're very good paints, too, McGee!"

## JOHNSON'S

# Wax-Fortified PAINTS

Mill White Gloss — Mill White Flat — Commercial Interior Gloss — Commercial Interior Semi-Gloss — Commercial Interior Flat — Dado & Machine Enamels, etc.



Made by the makers of Johnson's Wax

"Conserve for Victory" is more than a slogan; it's now a necessity. Because Johnson's Wax-Fortified Paints have extra conservation features, more and more architects today specify them. Impregnated with genuine wax, these wear-resisting paints protect man's handiwork, retain light values longer. Wax-fortification makes them dirt resistant, water repellent, mar-and-scratch resistant too . . . advantages which reduce your clients' costs. Application either by brush or spray. For the complete story on these paints, write for new catalog, the "Why and What" of Wax-Fortified Paints.

**S. C. JOHNSON & SON, INC.**

Industrial Maintenance Division — Dept. AF-102  
Racine, Wisconsin

*Get in the Scrap—with your Scrap!*

## NEW PRODUCT LITERATURE

**BLOWERS.** *Performance Data Folder No. 65*, 11 pp., 8½x11, sets forth features of the new line of Lau Single Inlet Blowers (direct or belt driven) for supplying air or for exhausting purposes. The Lau Blower Co., 2001-2029 Home Ave., Dayton, Ohio.

**ELECTRICAL.** *Bulletin 411*. Bound loose-leaf file, 24 pp., 8½x10½, describes and illustrates entire line of Control Centers, including Motor Control Centers and Switchboard Control Centers. The Trumbull Electric Mfg. Co., Plainville, Conn.

**FAN.** *New Hartzite Cooling Tower Fan*. Folder, 4 pp., 8½x11, features fan with reinforced plastic blade which replaces blade of aluminum. Hartzell Propeller Fan Co., Piqua, Ohio.

**FILING.** *AIA Standard Filing System and Alphabetical Index*. Booklet, 64 pp., 8½x11. This latest edition—the first since 1937—attempts a much-needed, up-to-date classification of the rapidly changing field of building materials and equipment. Improvements are numerous. Principally, the alphabetical index has been expanded to facilitate the locating of file numbers. The American Institute of Architects, The Octagon, 1741 New York Ave., Washington, D. C. Price: \$1 a copy.

**FLUORESCENT LIGHTING.** *Fluorescent Lighting Fixtures by Hygrade Sylvania*. Manual, 29 pp., 8½x11. Includes specifications and illustrations of over thirty lighting fixtures as well as a list of recommended minimum standards of illumination, information on how to plan a fluorescent installation, pictures of actual applications, and general engineering and maintenance data. Sylvania Electric Products, Inc., Ipswich, Mass.

**FLUORESCENT LIGHTING.** *Fluorescent Accessories*. Catalog, 16 pp., 8½x11, gives complete descriptions of the many G.E. fluorescent lampholders, starters, starter sockets, etc. Tests made on the starters for starting, performance, timing and radio interference are described in detail. Diagrams giving mounting dimensions of lampholders are shown. Included with the catalog is an insert on the new manual reset Master No-Blink Starter. General Electric Co., Bridgeport, Conn.

**GLUE.** *Laucks Glues for War*. Broadside, 4 pp., 8½x11, details how wood and glue are alternating for steel in the production of vital war materials. I. F. Laucks, Inc., Maritime Bldg., Seattle, Wash.

**HEATING.** Two leaflets on new line of steel-condenser unit heaters that conserve critical materials:  
1) *Bulletin 142* presents complete engineering data on Horizontal Delivery Unit Heaters.  
2) *Bulletin 142-B* covers Vertical Delivery Unit Heaters. These heaters can be purchased under WBP Order L-107. Modine Mfg. Co., Racine, Wis.

**LIGHTING.** *Catalog 42*, 88 pp., 8½x10½. A new and complete handbook giving specifications, foot-candle data, co-efficients of utilization charts, equipment spacing and all other information essential for ordering and installing fluorescent and incandescent lighting. Accompanying this catalog is a special complete price list compiled for convenience in locating prices on the various types of units mentioned. Curtis Lighting, Inc., 6135 West 65th St., Chicago, Ill.

**PLASTIC.** *Koroseal*. Handbook, 23 pp., 8½x10½. Carefully prepared array of technical data on Koroseal, a synthetic elastic with many rubber-like qualities. Illustrations, charts, diagrams, tables. The B. F. Goodrich Co., Akron, Ohio.

**PUMP.** *Bulletin No. 404*, 23 pp., 8½x11, describes the Rex Pumperete (which pumps concrete). Generously illustrated. Chain Belt Co., Milwaukee, Wis.

**ROOFING.** *Tite-On*. Booklet, 13 pp., 4x6½, sets forth features of new "armored texture" designed to improve appearance and increase weather-resistance of Tite-On asphalt shingles. The Ruberoid Co., 500 Fifth Ave., New York, N. Y.

**VENTILATING.** *Bulletin W-F-13*, 4 pp., 8½x11, discusses a new "W-A-R" Model F high-velocity, ceiling-type air diffuser. This is a redesign of the company's standard Kno-Draft diffuser. It retains all the features of the original, uses steel in "conservation" quantity. Dorex Division, W. B. Connor Engineering Corp., 114 East 32nd St., New York, N. Y.

**WIRING.** *Porcelain Protected Wiring Systems*. Installation manual and data book, 28 pp., 4x6½. Timely discussion of Porcelain Protected Knob and Tube Wiring which conserves critical materials. Well illustrated. Porcelain Products, Inc., Findlay, Ohio.



# You'll use more Doorless Telephone Booths

**TOMORROW**

because this  
Acousti-Booth is  
being widely ap-  
plied to the prob-  
lems of



**TODAY**

—in war plants

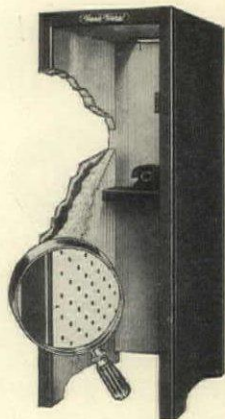
to eliminate  
the noise and  
confusion  
of



**YESTERDAY**



*A built-in Burgess Acousti-Booth makes it easy to telephone—even in busy stores, offices, and other public places.*



*Cut-away photo of Burgess Acousti-Booth, showing perforated walls and sound-absorbent material which soaks up noise.*

It's no longer necessary to provide stuffy, closed-in telephone booths in order to give telephone users privacy. Here's a modern, doorless telephone booth which is ideally suited for built-in use wherever a really quiet booth is needed. It can be finished to match any style of interior decoration which may be planned.

Acousti-Booths are patented units built on the Burgess acoustic principle, which provides a "zone of quiet" for the telephone user without the use of doors. Noise entering the booth strikes the walls—passes through the thousands of tiny perforations—and is soaked up by a thick blanket of sound-absorbent material behind this perforated facing.

The Burgess Acousti-Booth provides ample

room for comfortable use. The absence of doors means there is nothing to jam or cause trouble. With hundreds of these booths already in constant use in busy factories, their satisfactory performance under all kinds of noise conditions is assured.

Burgess Acousti-Booths are available either for built-in use or as a standard telephone booth.



Acoustic panels are also available for lining existing booths. For full information, mail the coupon below.



*Operating under Burgess Patents*

## BURGESS Acousti-Booths



### MAIL COUPON FOR DESCRIPTIVE LITERATURE

Burgess Battery Company  
2821-B West Roscoe Street  
Chicago, Illinois

Please send literature showing construction of all types of Burgess Acousti-Booths.

Name .....

Address .....

City .....

State .....



For beautiful interiors, use



THOSE who seek perfection in things decorative will find in Tufraw Rawhide a material that has an originality rarely found in the products of manufacture . . . a beauty that only Nature can endow. The natural markings of the hide give Tufraw an individuality all its own. The top, apron and keyboard of the Steinway Grand Piano shown to the right, were fashioned in Tufraw Rawhide, studded with antique brass nails. Mr. A. Hemmings of Schulz and Behrle, Newark, N. J., the designers and decorators, comments as follows: "The material not only enhanced the appearance of the piece, but helped considerably to adapt it to its place among the furnishings of the Lodge and Summer Home of one of our most important customers. "We have used 'Tufraw' often, and are very well pleased with its quality, effect and usefulness." We suggest you send for a set of swatches showing Tufraw in the Natural and colors. You will enthuse over its many unique decorating possibilities. Address Dept. F10.



**GUTMANN AND COMPANY, INC.**

Makers of Quality Leathers for Over Half a Century  
Dept. F10, 1511 Webster Avenue  
Chicago



## CORNELL ROLLING DOORS IN WOOD

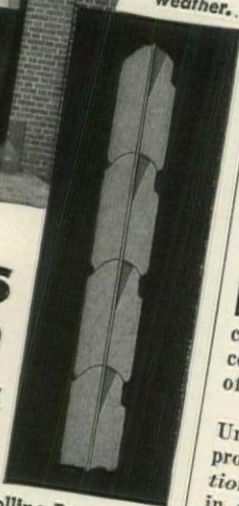
WPB order L-142 limiting use of steel doors, places the tested CORNELL WOOD ROLLING DOORS in the forefront to conserve critical wartime materials. Retain the important rolling door economy of floor space, side wall and ceiling space.

Also ask about  
Cornell Wood  
Vertical-lift doors,  
Canopy and Bi-fold  
doors.

**CORNELL IRON WORKS, INC.**  
36TH AVE. & 13TH STREET LONG ISLAND CITY, N. Y.  
SINCE 1828

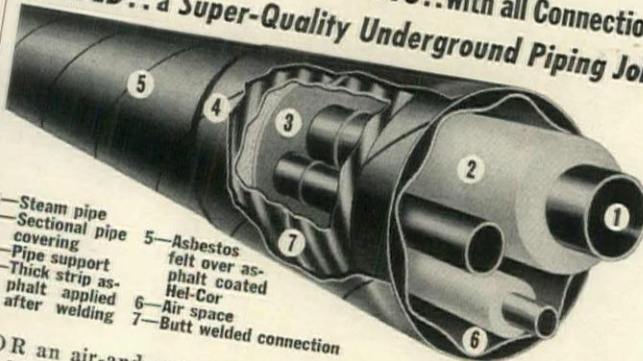
Send for complete details, specifications on Cornell Doors and Grilles. Ask for Catalog X.

(below)  
Section thru  
wood-slat  
curtain.  
Note how  
the design  
sheds  
weather.



Cornell Wood Rolling Doors consist of interlocking wood slats, strung on metal bands placed 2' to 3' apart, and operating plywood guides, with light formed-plywood hood covering the coil. Weather-protected. Can be motor operated.

## RIC-WIL PRE-FABRICATED INSULATED PIPE UNITS..with all Connections WELDED...a Super-Quality Underground Piping Job!



- 1—Steam pipe
- 2—Sectional pipe covering
- 3—Pipe support
- 4—Thick strip asphalt applied after welding
- 5—Asbestos felt over asphalt coated Hel-Cor
- 6—Air space
- 7—Butt welded connection

FOR an air-and-water-tight connection on both pipe line and conduit—use Ric-wil Insulated Pipe Units with all-welded connections! For a perfect seal, for permanence, and for a joint of maximum strength, nothing is superior to welded construction. Ric-wil factory pre-fabricated, pre-sealed Insulated Pipe Units are today's answer to wartime demands for a thoroughly protected and insulated piping system ready for quick installation. Units are delivered complete including the steam pipe, overhead steam, hot water, or oil lines. All expansion loops, conduit fittings, anchors, watertight glands, and other accessories can also be furnished ready to install. Units are pre-insulated to your specifications. For information on Ric-wil welded and other types of piping systems, ask for latest Bulletin 4208.

Engineers on Defense Work Only! Write on your letterhead for Professional Engineering Manual 420A.

**RIC-WIL CONDUIT SYSTEMS**  
THE RIC-WIL CO., CLEVELAND, O.  
Agents in Principal Cities



*Constructed for*  
**THE YEAR 1970 -**

High Service Pumping Station and Emergency Tank  
Contractor: A. Beniley & Sons Co., Toledo

Chemical and Administration  
Building  
Contractor: Jerome A. Utley,  
Detroit

Intake Crib  
Contractor: Watts Construction Co.,  
Toledo

Low Service Pumping Station  
Contractor: A. Beniley & Sons Co.  
Toledo

*Toledo's*

**NEW**

**WATER SUPPLY**

**SYSTEM PROTECTED BY**

*Carey* **BONDED  
BUILT-UP ROOFS**

The Toledo Lake Erie Water Supply system, completed in the fall of 1941, cost \$10,000,000. Incorporating the most advanced engineering and structural methods, it is believed to be the most modern plant of its character in existence.

The crib and conduit are built to meet the estimated needs of the city for the year 2000; the remainder of the system for the year 1970. When you find construction predetermined for such permanence, it is logical that you should find it protected by CAREY Bonded Built-Up Roofs, known the country over for their in-built defiance of time and weather.

A study of the records of thousands of Carey Roofs shows that many are still on the job after 25, 30, some even 35 years of service . . . extra years of protection without extra cost. Whatever your roofing needs, make sure of dependability and rockbottom economy—specify *CAREY Built-Up Roofs*. For details address Dept. 20.

**THE PHILIP CAREY MFG. COMPANY, Lockland, Cincinnati, O.**

*Dependable Products Since 1873*

In Canada: The Philip Carey Company, Ltd. Office and Factory: Lenoxville, P.Q.

Engineers: Greeley & Hansen, Chicago

Consulting Architects: Mills, Rhines, Bellman & Nordhoff, Toledo

Roofing Sub-Contractors: Geo. L. Freeman Co., Toledo



# PHOTOMURAL VISTAS

now dramatized in glass



*The Cottonwood Room, Blackstone Hotel, Omaha. Photomural by Kaufmann and Fabry. Design by Johns H. Hopkins.*

Here's another new and interesting use of polished plate glass in modern interior design. Dramatized with lights of plate glass, this arresting vista in The Cottonwood Room of Omaha's Blackstone Hotel is what is believed to be the first full wall size, full color, illuminated transparency to be installed. It extends over the entire curved wall, seven and one-half feet by fifty-four feet, and is lighted from behind. In addition to its novel decorative effect it provides the illumination for the entire room.

The use of clear Libbey-Owens-Ford glass on both sides of the photomural contributes to the vista effect, provides clear vision, and protects the mural.

Here's a novel technique that offers a fine medium of dramatizing locale . . . scenes, historical points of interest, etc. . . . in reception rooms, foyers, dining rooms, lobbies, corridors and other places in public buildings, such as post offices, libraries, municipal and federal buildings, and in hotels and restaurants.

Here also is an ideal application for Libbey-Owens-Ford Polished Plate Glass. Its smooth, clear surfaces and greater freedom from imperfections and distortion fit it perfectly for installations where clear vision is an essential. Libbey-Owens-Ford Glass Company, 1210-A Nicholas Building, Toledo, Ohio.



**LIBBEY • OWENS • FORD**

QUALITY *Flat Glass* PRODUCTS



# INSULITE

## IN TODAY'S BUILDING

**Today**, the watchword in all types of construction is speed.

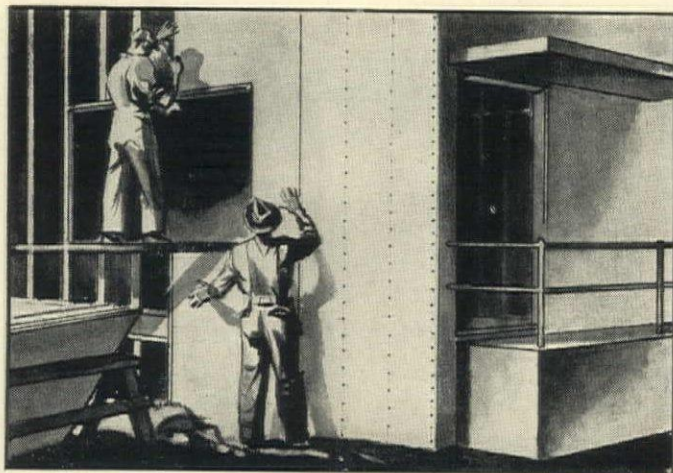
Buildings must be built quickly. Man hours of labor must be saved. In this emergency, Insulite has many advantages.

... Buildings constructed with Insulite go up rapidly, because the large panels of Insulite are quickly, easily applied. This saving in time and labor is highly important for an early victory.

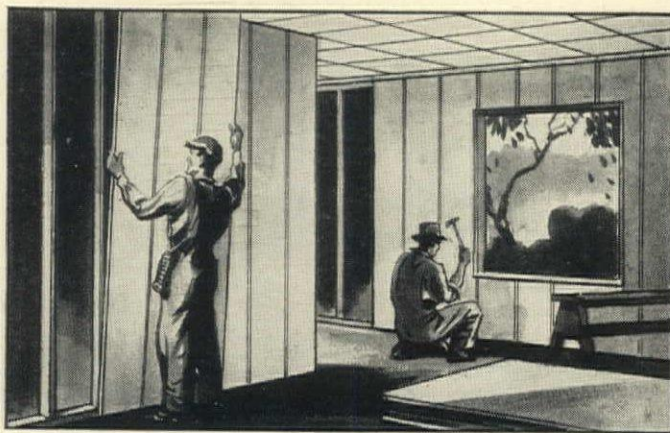
... Homes built with Insulite require less fuel to heat, because Insulite *insulates as it builds*. With fuel being rationed, every saving counts.

... Homes built with Insulite require a minimum of critical materials.

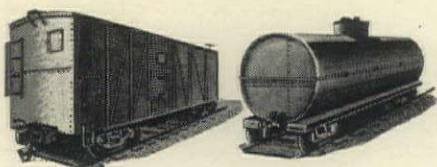
For rapid construction today, for enduring construction through the years to come, build with Insulite.



**Saves Time:** Houses built with Insulite go up in a short time. The large panels of Insulite Bildrite Sheathing are quickly applied and nailed into place.



**More Time Saved:** On interior walls, Insulite again saves time, as Insulite creates serviceable attractive interiors, without plastering, papering or painting. That's a big saving in time.



**Consider Transportation:** Insulite relieves transportation in two ways. First—Insulite requires a minimum of space in freight cars. Second—every car of Insulite used in home construction saves half a car of fuel oil each heating season.



**Consider the Future:** Regardless of how quickly we must build today, remember the future, too. Houses constructed with the Insulite Approved Wall of Protection are houses that will endure for years after the war is over—houses insulated by a *double wall* of protection.

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**INSULITE**  
THE ORIGINAL WOOD FIBRE STRUCTURAL  
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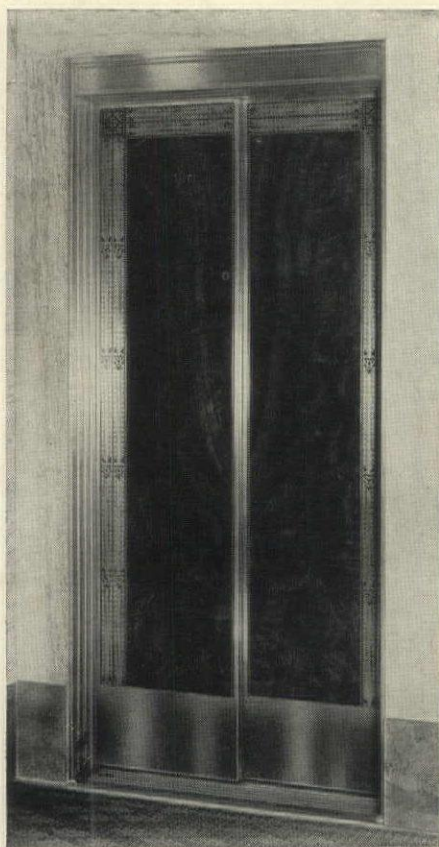


# SPECIFICATION AND BUYING INDEX

The advertising pages of THE ARCHITECTURAL FORUM are the recognized market place for architects and all others engaged in building. A house or any other building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

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# It's a long way *from Toledo\** to Tipperary



It's a long way . . . a long road . . . we all have traveled in the few short months behind us. But it is the only possible road that can lead us to Victory. The tolls which Americans are willingly paying to gain this goal have affected all of us. The same necessary restrictions, which switched Dahlstrom's productive effort from elevator entrances, swing doors and trim to equipment for our armed forces in Ireland and

the far corners of the earth, have drastically curtailed the number of jobs on the drafting boards of Architects. ☆ Victory will be ours, slowly perhaps, but in the end . . . as certain as tomorrow's sun. In the meantime, we at Dahlstrom do two things: work to win, and plan for Peace. If we can help you *now* in planning for a better day, our design and technical facilities are wholeheartedly at your service.

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Just off the press . . . 4 colorful and informative folders on Dahlstrom Elevator Entrances of all types are now available to architects. They include many suggestions and ideas which may prove of great value in your planning for post-war work.

*Write Today.*

\* The Dahlstrom Elevator Entrances in the Toledo Edison Building are an excellent example of both Dahlstrom Craftsmanship in metal and the enhanced values that result from well planned building modernization. Walker & Weeks, Architects.

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Reproduction of the Truscon FORTUNE advertisement  
for October, 1942, emphasizing critical nature of steel.

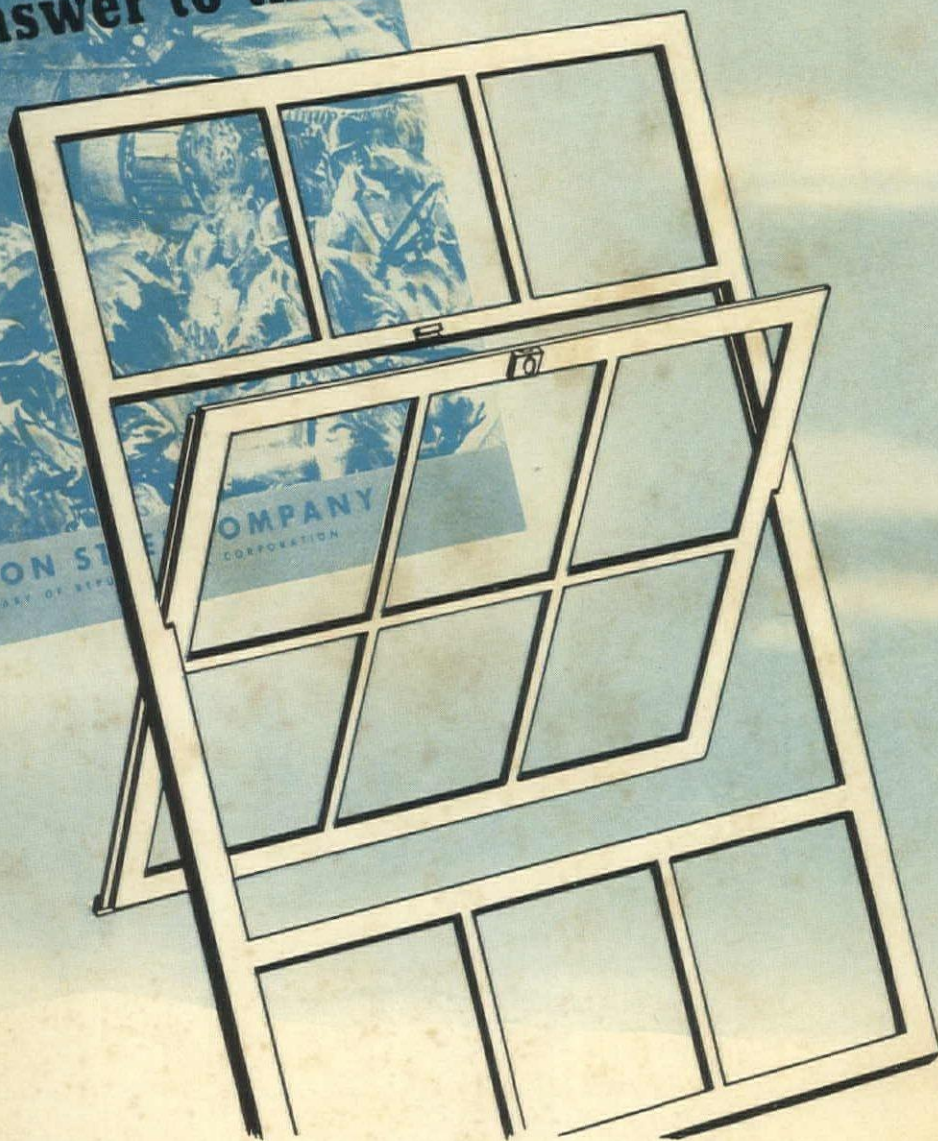
*You wanted  
STEEL WINDOWS  
but the Army needed  
TANKS!*

Monsters of deadly power... quick and agile as a tiger... spreading through  
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Tank parts are but one of Truscon's many contributions to the war effort. In the  
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solving problems of war is developing new knowledge that will aid greatly in  
solving America's post-war needs. Truscon is planning today for the one  
and greater America tomorrow. Truscon Steel Company, Youngstown, Ohio

## TRUSCON DURA-WAR WOOD WINDOWS are the Answer to the Nation's Need for Steel



### The Wood Window with a Steel Window Background

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NOTE: Residential Double Hung Steel Windows and Residence Steel Casements are available for use in homes located in defense areas. The War Production Board has approved their use until existing inventories are entirely liquidated.



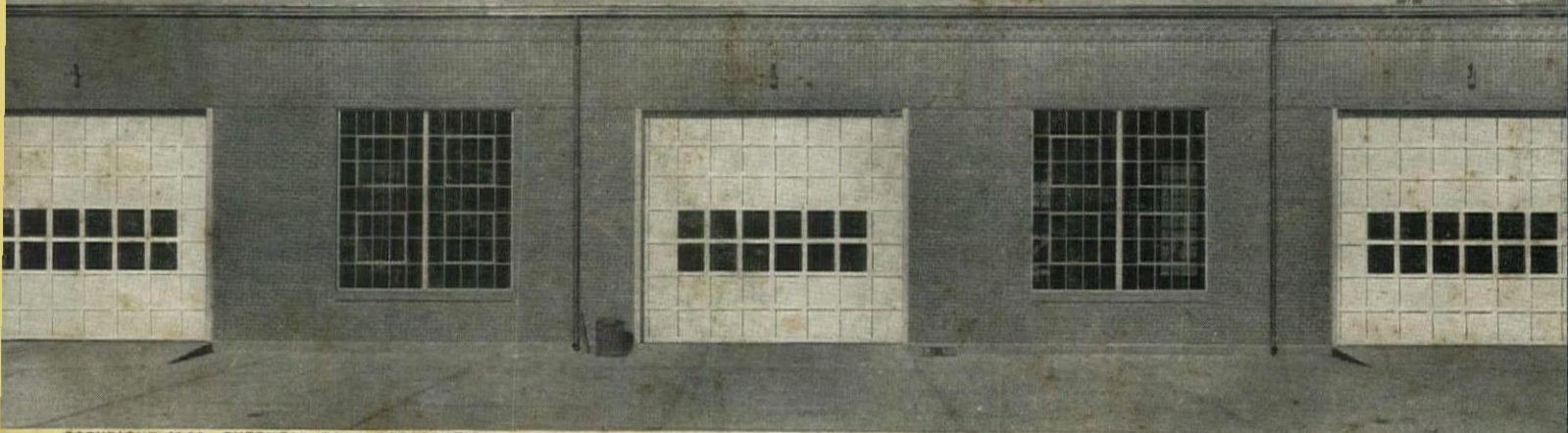
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**WAR BONDS**  
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WITH THE

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