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AMERICAN BUILDER

AND
BUILDING
AGE

THE WORLD'S GREATEST BUILDING PAPER

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JUN 12 1942
DETROIT 4



Levitt workmen speed this war-housing job at Norfolk by applying siding to walls lying flat.

How Levitt & Sons Build Title VI Houses
World's Largest Prefab. War House Job

Let Celotex Experience Help You In Planning

WAR HOUSING



Extensive Research Has Produced Plans Which Conform to Government Requirements

TO SERVE the building industry in this emergency, Celotex engineers gladly make available the results of several years of research in the field of low-cost housing.

For mass production, this research has developed a type of house illustrated above, available in various surface finishes and floor plans. One particularly notable project of 300 houses was completed at the rate of seven to eight houses per day!

For conventional construction, a series of

outline plans meets all Federal specification requirements, as well as the War Production Board's limitations as to critical materials and heat losses.

Both types are designed for defense workers, to fall in the approved \$3000-to-\$5000 price range. They are offered with the thought that they may furnish a source of ideas in connection with your own study of WAR HOUSING. For further information, address The Celotex Corporation, Chicago.

CELOTEX

REG. U. S. PAT. OFF.

BUILDING PRODUCTS

INSULATING SHEATHING, LATH, INTERIOR FINISHES
ASPHALT SHINGLES, SIDING, ROLL ROOFING
HARD BOARDS, ROCK WOOL BATTS, BLANKETS
GYPSUM PLASTERS and LATH and WALL BOARDS

THE CELOTEX CORPORATION • CHICAGO

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There'll be 400 of them!

A SQUARE D MULTI-BREAKER IN EVERY ONE



Proving again that Multi-breakers are a "Natural" for Housing Projects

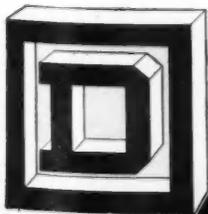
One hundred and thirty homes already built—two hundred and seventy more to follow—in this "Central Manor" housing project in the southwest Chicago area. All of them are in the \$6,000 price class and the fact that they're "selling on sight" speaks for the quality and value which is built into every one.

The Finitzo Brothers have a background of twenty years' successful building. They put into their houses those things which "prove out" in terms of customer convenience and sales appeal. It's on that basis that Square D Multi-breakers are installed in every "Miracle" home instead of ordinary switch and fuse equipment.

The Multi-breaker eliminates fuses completely. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the shock-proof circuit breaker lever restores the current when the danger no longer exists. There are no delays—nothing to replace. The Multi-breaker's cost is about the same as for the fusible equipment it replaces—often actually less.

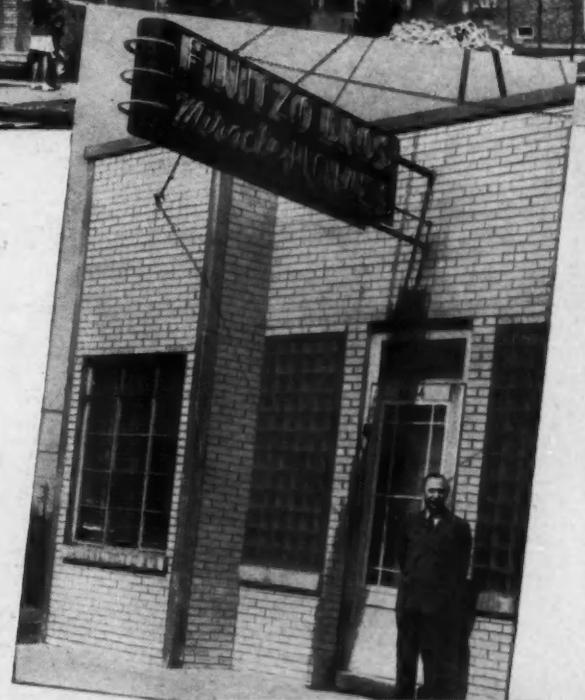
Ask your electrical contractor for the complete Multi-breaker story. Or write us direct for Bulletin CA-4000.

See our Catalog in SWEET'S 23/12

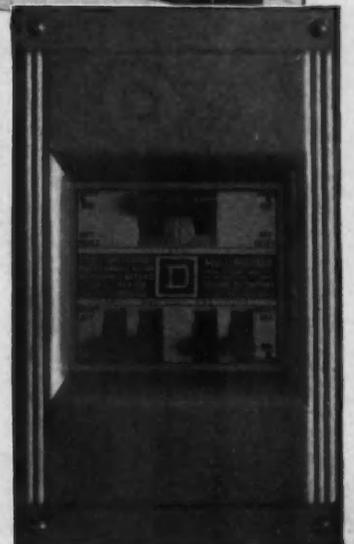


SQUARE D COMPANY

DETROIT - MILWAUKEE - LOS ANGELES
KOLLSMAN INSTRUMENT DIVISION, ELMHURST, NEW YORK
IN CANADA: SQUARE D COMPANY CANADA LIMITED, TORONTO, ONTARIO



Mr. Ralph Finitzo, one of the two brothers who have done an outstanding job in redeeming and developing subdivisions in the southwest Chicago area.



Here is the type of Multi-breaker used in the "Miracle" homes. It provides for a range circuit and four lighting circuits.



BLUE PRINT NO 924

RED CEDAR SHINGLE OVER-ROOFING

WILLIAM J BAIN ARCHITECT A.I.A.

FREE BLUEPRINTS
 We will gladly send you free a complete set of blueprints covering all types of red cedar shingle roof and sidewall application.

HERE'S A BIG REPAIR MARKET

The new ruling which limits remodeling to jobs valued at \$500 or less will change the business outlook for many a builder! During this emergency, no repair market offers better opportunity for "taking up slack" than the vast need for over-roofing with Red Cedar Shingles.

Active builders are maintaining their business volume by going after these re-roofing jobs. They are discovering that, on the average, one house out of every twenty needs a new roof *this year!* You can get a rough idea of your own potential re-roofing market by estimating the number of homes in your territory and dividing by twenty. Just think of it!

You'll find the over-roofing blueprint shown here to be of considerable value in getting these jobs done quickly and accurately. You will find, too, that during their centuries of home protection Red Cedar Shingles have won valuable good will with home owners everywhere, and are therefore easy to sell. They are not a critical war material, and are available, without priority, everywhere.

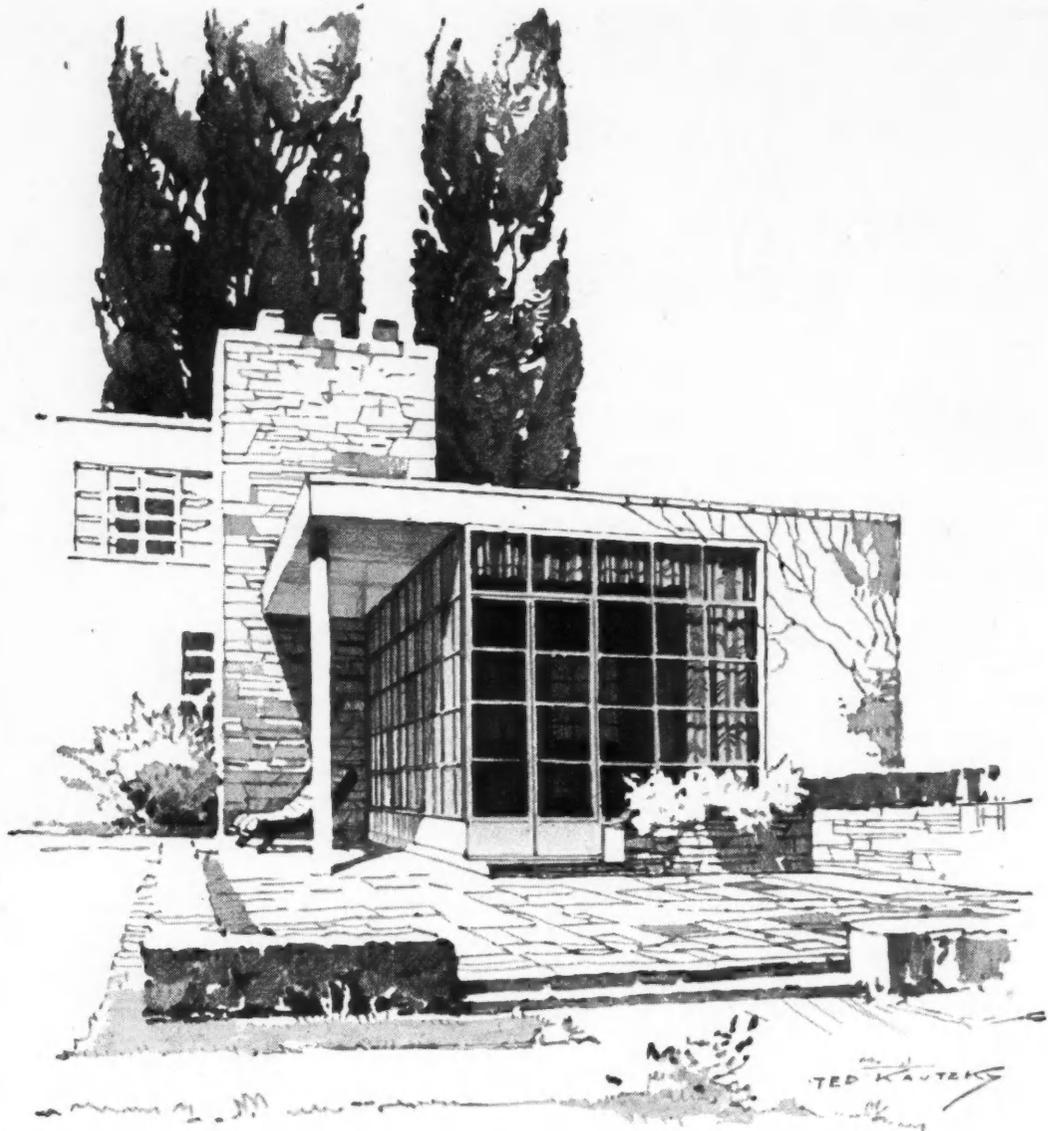
.....

RED CEDAR SHINGLE BUREAU

SEATTLE, WASHINGTON VANCOUVER, B. C.



Red Cedar
SHINGLES



USE "PENNVERNON"
 . . . NOT JUST "WINDOW GLASS"

● Pennvernon Window Glass is clear. It is brilliantly finished on both sides of the sheet. For a sheet glass, it is unusually free from distorting defects. It affords good vision. And its uniformly high quality is reflected in the fact that more architects are specifying Pennvernon today than ever before. More contractors are using it. And more dealers are selling more of it. Pennvernon is readily available the country over, through our many branches and thousands of dealers. Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pa.

PENNVERNON WINDOW GLASS
 PITTSBURGH PLATE GLASS COMPANY

"PITTSBURGH" stands for Quality Glass and Paint



Maintaining Standards

Bradley's reputation for quality in hardwood and pine lumber products has been achieved by constant refinement. As each refinement has proven its worth in use, it has been added to Bradley's standards of manufacture.

Stepped up production for war has not changed this practice. Notwithstanding the increased stress on plant and personnel imposed by the urgency of war, Bradley standards are being maintained. Thus, the heavy percentage of Bradley's total output now going into military needs not only qualifies under Government specifications, but at the same time includes the extra value of Bradley's advanced manufacturing standards.

These standards have been developed over a period of many years. They are the tangible, value-giving evidence of Bradley's purpose to supply each buyer

with a better product... they are responsible for the sustained loyalty of Bradley's long-time customers.

Military needs come first for the duration. While discharging that obligation to the nation, Bradley is continuing its efforts towards still further betterment. In that, it is discharging a self-imposed obligation to its customers of the future, those who will once more look to Bradley products as the Standard of Comparison when peacetime business returns.



BRADLEY LUMBER COMPANY of Arkansas

WARREN, ARKANSAS



Manufacturers of Hardwood Flooring, Timber, Mouldings, Lumber, Specialties and Arkansas Soft Pine Products.





MUSKEGON, MICHIGAN
120 Coleman Floor Furnaces Heat
This War Housing Project!

Coleman Heating Units Priced To Fit New Building Budgets For Small Homes!

9632 INSTALLATIONS IN THESE 16 FAMOUS PROJECTS (Partial List Only)

- ✓ Camp Luis Obispo, Calif. (OH*)
- ✓ Stansbury Estates, Baltimore (FF**)
- ✓ Portsmouth, Va. (OH)
- ✓ Charleston, N. Car. (FF)
- ✓ Columbus, Ga. (OH)
- ✓ Gray Manor, Baltimore (FF)
- ✓ Pearl Harbor, T. H. (OH)
- ✓ 3 Title VI, Wichita, Kans. (FF)
- ✓ Camp Blanding, Ga. (OH)
- ✓ Indian Head, Md. (FF)
- ✓ Augusta, Ga. (OH)
- ✓ Audubon, N. J. (FF)
- ✓ Groton, Conn. (OH)
- ✓ Silver Springs, Md. (FF)
- ✓ Camp Roberts, San Miguel, Cal. (OH)
- ✓ Portsmouth, Va. (FF)

* OH—Oil Heater ** FF—Floor Furnace

Here's The Solution Proved By Hundreds Of Builders...

Now, you can provide, through Coleman, modern circulating heat, oil or gas, with automatic controls optional—*installed* at a price well within the new 1942 small home building budget!

Thousands of installations in war housing projects and in small modern homes prove this to be a *fact*. Hundreds of builders are specifying Coleman, getting the contracts and installing Coleman equipment on these reduced budgets.

Don't think these Coleman Oil Heaters or the amazing Coleman Floor Furnaces are

temporary make-shifts — *they are not!* National use in thousands of homes, built prior to the emergency, points to the fast-growing preference for Coleman equipment. Coleman units are engineered by the finest engineers in the industry. They give permanent satisfaction to the families who use them, season after season.

Coleman is the recognized leader in the field of low cost heating appliances for small modern homes.

FREE TO BUILDERS!

Write today for your free copy of the Coleman Builder's Catalog. Please address Dept. AB-2.



THE COLEMAN LAMP AND STOVE COMPANY
Wichita Chicago Philadelphia Los Angeles OFD-22



Coleman

America's Largest Selling

FLOOR FURNACE

for Oil or Gas

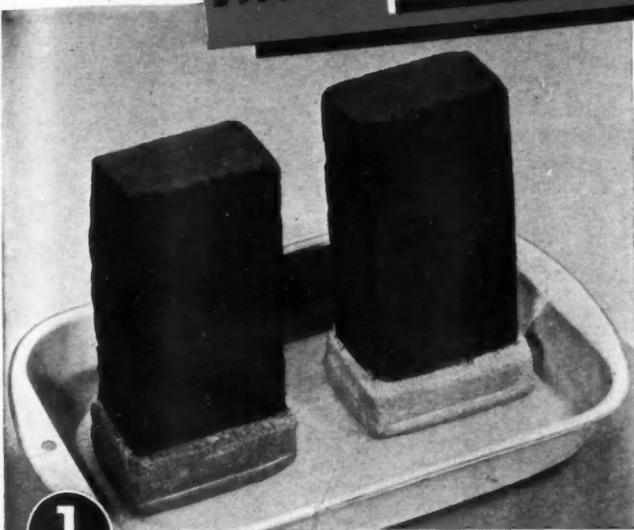
America's Popular

OIL HEATER

with Famous "Furnace-Type" Units



MAKE THIS TEST -
Prove **BRIXMENT IS BEST!**



1 "Cap" one brick with Brixment mortar (left), and one brick with mortar made with 50-50 cement and lime. After mortars have hardened, place both brick in a pan of shallow water. (Photo 1.)

2 Keep about an inch of water in the pan. Even if soluble salts are present in the brick or sand, you will soon be convinced that *Brixment mortar helps prevent efflorescence.* (Photo 2.)

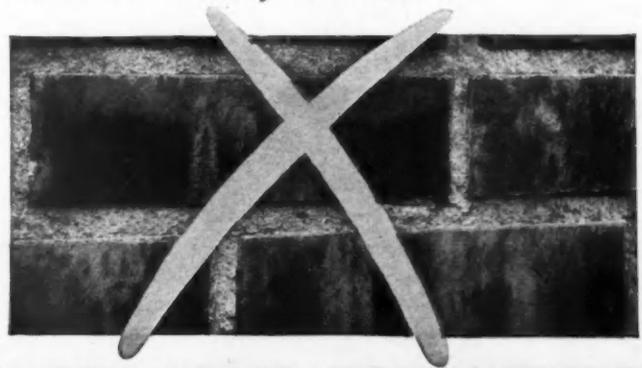
BRIXMENT Helps **Prevent EFFLORESCENCE!**

EFFLORESCENCE is an outcropping of minute white crystals on brickwork. When these crystals occur on colored mortar joints, the condition is sometimes mistaken for *fading*.

Efflorescence is caused by the presence of soluble salts in masonry materials. When reached by water, these salts dissolve, and are drawn by evaporation to the surface of the wall.

Brixment itself *does not cause efflorescence* because it is practically free from soluble salts. Even when such salts are present in the sand or brick, the waterproofing in Brixment mortar usually *prevents*

them from coming to the surface. . . . Bricklayers who have used Brixment mortar for years say they have far less efflorescence with Brixment mortar than with *any other kind.*



BRIXMENT

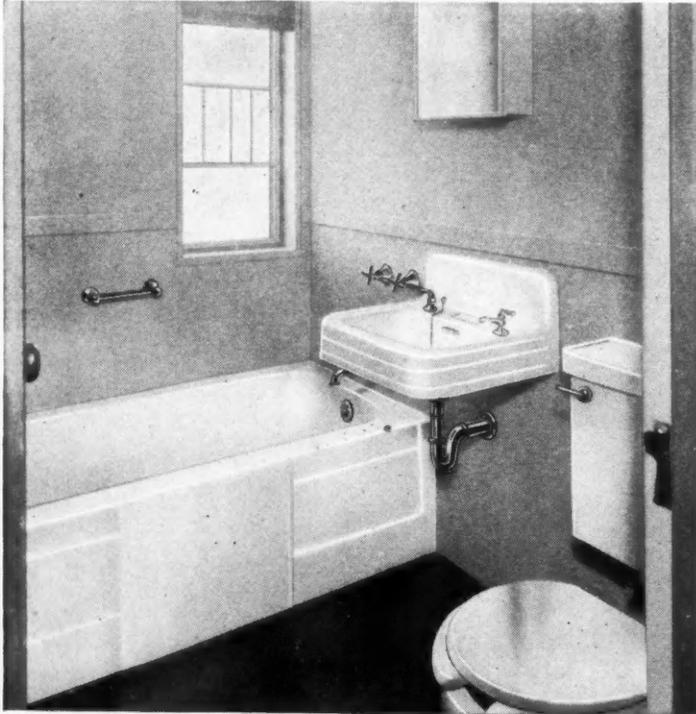
For Mortar and Stucco

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



*Low Cost, Yes!
But High Quality, too*

**IN THESE CRANE-EQUIPPED
DEFENSE HOUSES**



DEFENSE housing means low cost—it means speed in construction; it should mean quality too, for these houses will play an important part in the post-war life of America. That builders are recognizing this responsibility is evidenced by the large number of defense workers' homes in which Crane plumbing has been installed.

The Crane line includes a wide range of fixtures especially designed and manufactured for low-cost homes. Installing Crane plumbing fixtures in the homes you build will add sales appeal and assure the owners of longer, better service.

CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO
VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

NOW! TELL AT A GLANCE THE GRADE OF DOOR YOU'RE SELLING



New Wheeler Osgood "Color-Grading" Called "Greatest Time-Saver in the Industry!"

No more need to hunt for grade, style and size marks on the doors you sell! Wheeler Osgood "Color-Grading" ends all that! Now, every Wheeler Osgood door carries a bright paper label, securely attached to the rail, that tells the whole story at a glance—helps you sell high-grade doors—saves you

time and money keeping track of stock!

Feature Guaranteed Doors!

And the bright blue label on every Wheeler Osgood De Luxe Grade A door also features the famous Wheeler Osgood guarantee! Seeing is believing, when customers spot that guarantee of quality!

FEATURE FIR DOORS! Wheeler Osgood doors are made from the finest Douglas Fir. Super-strong, uniform, resistant to warping and marring. Rot-proofed by Nature, and rare in beauty for all architectural requirements. The handy coupon will bring you free literature by return mail!

TWO NEW LABELS

A *Genuine Guaranteed*
WHEELER OSGOOD DOOR DOUGLAS FIR

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

B *Genuine Guaranteed*
WHEELER OSGOOD DOOR DOUGLAS FIR

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

IMMEDIATE DELIVERY! Wheeler Osgood house doors, as well as many other designs of doors furnished by this pioneer firm, are built in strict accordance with United States Department of Commerce Standards CS73-38 and CS-91-41, and are available for immediate delivery! Specify these better doors today!

WHEELER OSGOOD DOORS



A COMPLETE LINE OF INTERIOR AND EXTERIOR DOORS

FREE

The Wheeler Osgood Sales Corporation
Dept. 13, Tacoma, Washington
Gentlemen: Please send me free literature on Wheeler Osgood "Color-Graded" Fir Doors.

Name _____
Address _____ State _____
City _____

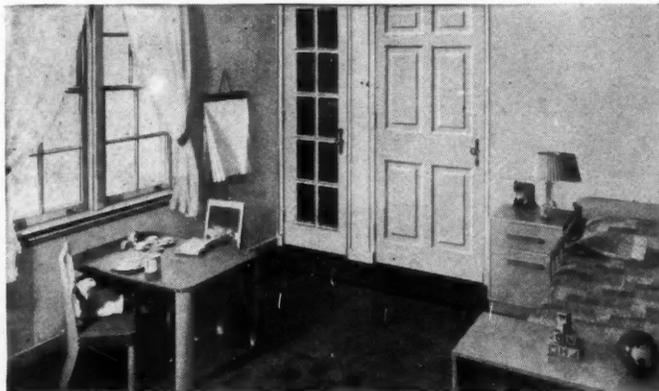
FITTING TODAY'S PICTURE

...MEETING TODAY'S

"musts"



More speed in building. Use of non-critical materials. Flexibility in planning for a variety of new needs. Economy. Those are the "musts" of today's building. And those, too, are the conditions which stock doors, frames and windows of Ponderosa Pine meet so ably and so well!



BETTER DEFENSE HOUSING—FASTER! There's no restriction on beautiful, practical interiors like this! Stock doors, frames and windows of Ponderosa Pine aren't critical materials. They're available! The wide line of designs, sizes and shapes make it easy for you to get what you want—on schedule time.



GREAT FLEXIBILITY OF USE. Shutter or lattice doors of Ponderosa Pine are not only decorative, but provide added circulation. No matter what size or type structure you plan, you will find what you want in Ponderosa Pine Woodwork. Stock doors, frames and windows of almost every style are available—accurately milled, well-fitting and *low in cost*.



ADAPTED TO PRESENT NEEDS. The spirit of this simple interior is well expressed with Ponderosa Pine stock items. Ponderosa Pine doors, windows and frames assure better, more economical building both for defense housing and remodeling. Close grained, non-splitting and non-splintering ends and edges—easy finish—satin-smooth surface after sanding—light weight—ease of working—insulation value—are only a few of Ponderosa Pine advantages.



And now

there's a new "Open House"—another edition of the Ponderosa Pine door and window idea book which last year capitalized on fast-growing public demand for more functional designing. This new edition is full of practical ideas for planning that meets today's restrictions in both new construction and remodeling.

100,000 copies of "Open House" are being read today. Write for *your* copy. PONDEROSA PINE WOODWORK, Dept. XAB-6, 111 West Washington St., Chicago, Illinois.

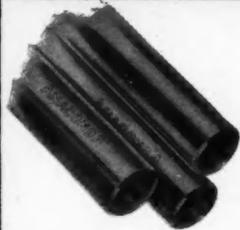
Ponderosa Pine

WOODWORK

YOUR SELECTION OF

Durable Metals

made thousands of homes more livable, more economical



You selected
**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.

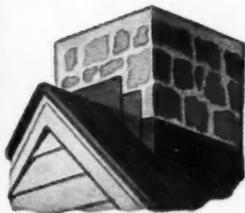


You selected
**EVERDUR* METAL HOT
WATER STORAGE TANKS**

*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.



You selected
**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.

NON-FERROUS product developments which promote efficiency and reduce upkeep will always be the fruit of Anaconda research... a research that is today carrying on with redoubled effort for war purposes... and looking also toward peace, when



Anaconda Copper and Brass... in old and new forms of usefulness... will be ready for a booming building industry.

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

YOU CAN GET 'EM ANDERSEN WOOD

**NARROLINE
DOUBLE-HUNG
WINDOW
UNIT**



**CASEMENT
WINDOW
UNIT**



**COMPLETE
BASEMENT
WINDOW
UNIT**



**HORIZONTAL
GLIDING
WINDOW
UNIT**



**VICTORY
DOUBLE-HUNG
WINDOW UNIT**



**ONLY
13 OUNCES
OF
METAL!**

Andersen

YOU CAN USE 'EM WINDOW UNITS

There is no shortage today of Andersen Wood Window Units. Andersen's huge factory, the nation's largest plant devoted exclusively to the manufacture of wood windows, is able to take care of your window requirements promptly.

Neither is there any government ruling which prevents you from using Andersen Wood Window Units in the Victory homes you are building today.

There are a number of good reasons why you should be using Andersen Wood Window Units today:

- They make minimum use of critical metals.
- They assure you lifetime quality and repair-free operation.
- They are prefitted; you save installation time.
- They are weatherstripped; they conserve fuel.
- They are toxic-treated to prevent decay and damage by termites.

By the thousands, Andersen Wood Window Units are being used in Victory housing projects. Likewise, Andersen Window Units are playing an important role in the remodeling, restyling, modernization and repair of homes already built.

For information regarding Andersen Windows: prices, sizes, stock layouts, deliveries, write Bayport, or see your lumber dealer or millwork distributor.

Andersen Corporation • BAYPORT, MINNESOTA



THIS TYPE OF
REMODELING



...using GLASS and LUMBER
is practical under today's conditions



SEND FOR
YOUR COMPLIMENTARY
COPY OF THIS NEW
LIBBEY·OWENS·FORD
GLASS FEATURES
BOOK

Here the architect has taken the porch of Anyone's Home and converted it into a modern, pleasant livable room. It's a simple idea which can be enjoyed by thousands of homes. It is significant of the modern architectural use of glass.

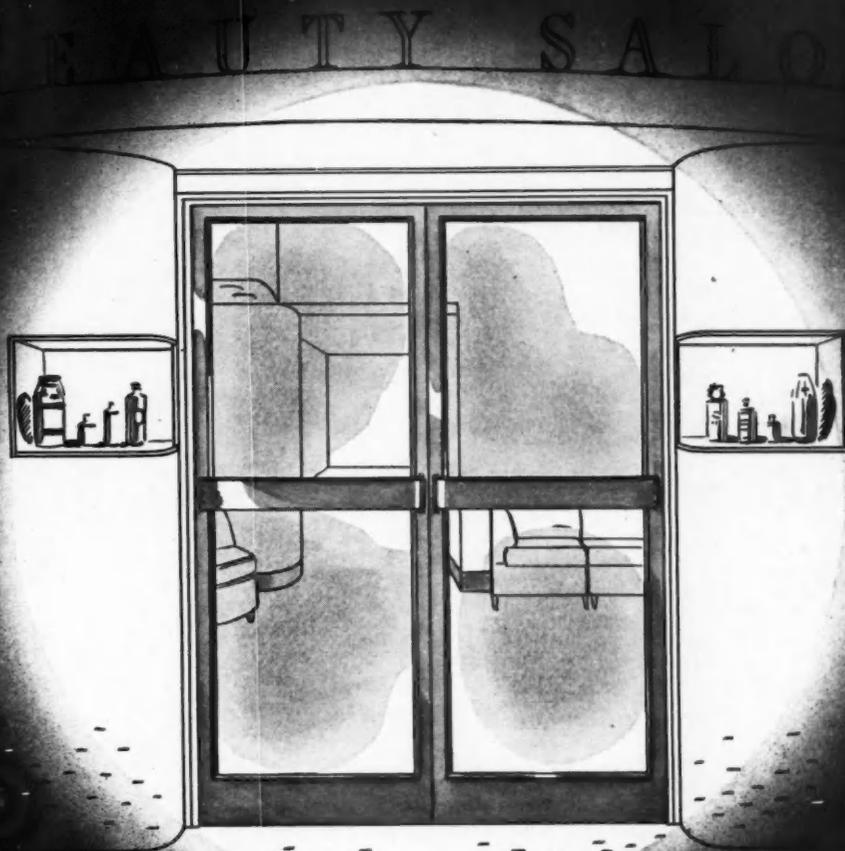
This glass feature is typical of scores of ideas that Libbey-Owens-Ford has recently incorporated into an unusual new book entitled, "Practical Glass Ideas for Today's Homes." This book is designed for homeowners to increase their appreciation for the new livability they can add to their homes through Glass Features.

We think, from an idea standpoint, that Architects and Builders will find much of interest in this book. A complimentary copy will be forwarded upon request. Just write Libbey-Owens-Ford Glass Company, 1212 Nicholas Building, Toledo, Ohio.

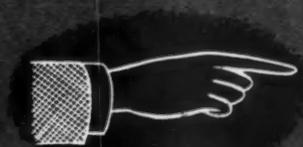


LIBBEY·OWENS·FORD
Quality Flat Glass Products

**WORLD'S LARGEST
MAKERS OF
RUSTLESS METAL DOORS
FOR STORE FRONTS**



Kawneer facilities and experience normally directed to the making of fine rustless metal doors are now harnessed to the national war effort. Before long, we hope, Kawneer will again be making doors and windows. Meanwhile, check with your Kawneer distributor on Kawneer Store Front stocks and metals which are still available.



Kawneer

The Kawneer Company, Niles, Michigan—Manufacturers of Rustless Metal Store Fronts, Doors, and Aluminum Windows.

For the Defense of Health

THE FOUR-PIECE POTOMAC SET
—for war-worker housing



New **POTOMAC** 5-foot cast iron recess wing bath, enameled inside—low sides, wide rim, flat bottom—built-in anti-siphon mixer fitting. **DELTON** 18 x 15-inch enameled cast iron shelf lavatory—1½-gallon basin—two integral soap dishes. **TRYLON** vitreous china close-coupled washdown closet—round front bowl—sanitary TriKo coated seat. **PARKCHESTER** (below) 42 x 22-inch cast iron combination sink—8-inch-deep basin for dishes, 13-inch-deep tub for laundry—mixer fitting, swing spout—acid resisting enamel.



MONTHS AGO, Kohler began to plan strict savings of needed metals to aid the national war economy.

An outstanding example is the new **POTOMAC SET** with lighter built-in wing bath and matching fixtures, all of which save vital metals. The fixtures are full size and embody convenience features and styling unusual

in their low-price range.

The **POTOMAC SET** receives the skill and manufacturing care traditional with Kohler. It suits the price specifications of war-worker housing—and meets the needs for emergency replacements now covered by Preference Rating Order P-84. . . . Kohler Co. *Founded 1873.* Kohler, Wisconsin.

KOHLER OF KOHLER

PLANNED PLUMBING AND HEATING • ELECTRIC PLANTS



**The DOT marks
the SPOT!**

**MONARCH UNI-POINT
RADIAL SAW ENTERS
WORK AT SAME POINT
IN TABLE REGARDLESS
OF CROSS-CUT ANGLE**

Think what this means! No swinging arm to adjust. No need to move material, stops or gauges. Speeds up production enormously and at the same time gives far greater accuracy.

No wonder UNI-POINT is sweeping the country as the greatest advance in machine design in a generation. Other outstanding features contribute further to this popularity:

DIAGRAMS SHOWING UNI-POINT PRINCIPLE PROMOTING GREATER SPEED AND ACCURACY



- 1** UNI-POINT has a telescoping Ram. No long arm to bump the head or block vision. A gentle push on the ram and, presto, table is entirely clear.
- 2** UNI-POINT stops automatically at all common positions with snap-speed accuracy. On all angle cross cutting no need to stop motor, raise or lower saw, fuss with gadgets or time-wasting adjustments.
- 3** UNI-POINT locking features are in "safety zone" in front of and below the table.
- 4** UNI-POINT guide fence is never mutilated on miter cuts—because saw cuts through same spot—always. Eliminates frequent replacements.

Increase Your Volume and Your Profits. Install UNI-POINT. Immediately you'll see the difference!

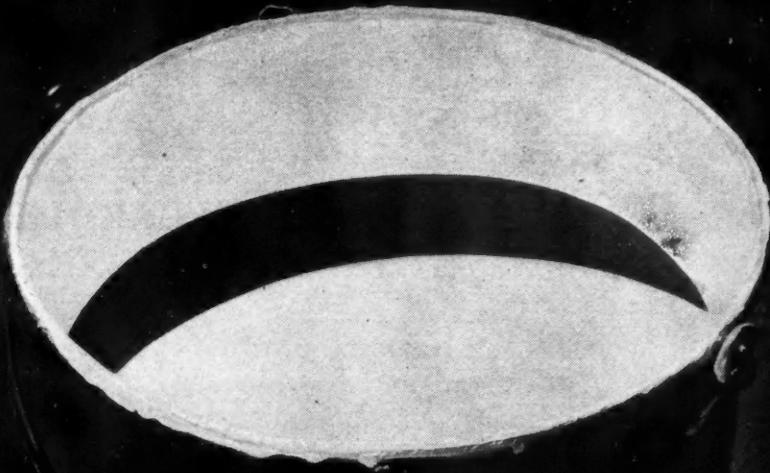
Write for Details

We also manufacture modern designed Saw Benches, Band Saws, Jointers, Planers, Lathes, Shapers, Mortisers, Sanders, Swing Saws, and a complete line of Saw Mill Machinery. Send for Catalog 60.



AMERICAN SAW MILL MACHINERY CO.
HACKETTSTOWN, NEW JERSEY

Specify "war paint"—
and come out ahead!



You're money ahead
when you paint with

White Lead



WHITE LEAD FOR DEFENSE HOUSING—More and more builders are specifying white lead paint to give lasting beauty to low-cost housing. Pictured here is part of the Colonial Village development near Batavia, Ill. Builders: Edward S. Reque Organization, West Chicago, Ill.

THESSE days there's no telling how long the paint you specify for your building jobs may have to last.

So you need to pick a paint that will do three things: first, provide a *long-wearing coat*; second, give *real protection* as long as it lasts; third, you naturally want a paint that will keep your costs down without sacrificing quality. *This is especially important when you're bidding on defense work.*

Add this all up, and the answer to your wartime paint-problem is — *pure white lead paint.*

Remember that there is no shortage of white lead paint and its good quality is unchanged. Enough is available to take care of both war and essential civilian uses.

White lead is made from one of the most durable of all metals — lead. Like lead itself, it resists time and wear. It gives *elasticity* to paint — a quality which prevents brittleness, cracking and scaling even when the painted surface is exposed for years on end to the weathering effects of sun, wind, heat and cold.

And white lead costs no more to use than regular quality paints. It is an outstanding example of the time-tested truth: "the best is cheapest."

LEAD INDUSTRIES ASSOCIATION
420 Lexington Avenue, New York, N. Y.

INFORMATION FOR BUILDERS—Pure white lead is sold by paint stores in two different forms: (1) as a paste, commonly known as "lead in oil," for use in mixing pure white lead paint to order for each job; (2) as pure white lead paint in ready-to-use form, in popular-size containers. You are not confined just to white — white lead can be tinted to a wide range of colors.

White lead is also the backbone of other quality paints. In buying exterior paint it is a safe rule to follow: "*the higher the lead content, the better the paint.*"

GET THIS FREE GUIDE to better painting. Send today for valuable booklet "WHAT TO EXPECT FROM WHITE LEAD PAINT" containing complete information about low-cost quality painting on all types of surfaces.



ARMSTRONG'S MONOWALL

will increase your remodeling business



HERE'S HOW TO MULTIPLY those profitable wartime remodeling jobs! Start sales rolling with Armstrong's Monowall—the gleaming, mirror-smooth finish for walls and ceilings. You'll be surprised how quickly this colorful new material sells itself . . . helps sell complete remodeling jobs.

Businessmen and home owners alike are sure to be impressed by the decorative possibilities of Armstrong's Monowall. It is offered in 33 handsome colorings—in tile-, wood-, and marble-designs, as well as in plain colors, which make it easy to create beautiful interiors.

You'll have the right answer, too, when the question of cost comes up. Monowall is inexpensive to install because it's *quick and easy* to install. The large boards (up to

4' x 12') keep joints and seams to a minimum. Most rooms can be completed, ready for use, in one day.

Moreover, Armstrong's Monowall is durable, an important selling point these days. Its tough, non-cracking surface easily withstands normal use—isn't harmed by ordinary household chemicals. And Monowall is especially easy to clean and keep clean.

In fact, Armstrong's Monowall is right for any room where beauty, durability, and *cleanness* are wanted.

Use it for home bathrooms and kitchens, as well as for restaurants, shops, stores, offices, churches, hospitals, theatres, and showrooms. Then watch it go to work for you, helping you get your share of today's big remodeling business. Remember, there are no priorities on Monowall. It's available *now*.

For full details and a free sample, write to Armstrong Cork Company, Building Materials Division, 979 Concord St., Lancaster, Pennsylvania.



ARMSTRONG'S MONOWALL

TEMSEAL SHEATHING • TEMLOK LATH • TEMLOK DE LUXE INTERIOR FINISH



Next to the Stars and Stripes . . .

AS PROUD A FLAG AS INDUSTRY CAN FLY

Signifying 90 Percent or More Employee Participation in the Pay-Roll Savings Plan

IT doesn't go into the smoke of battle, but wherever you see this flag you know that it spells Victory for our boys on the fighting fronts. To everyone, it means that the firm which flies it has attained 90 percent or more employee participation in the Pay-Roll Savings Plan . . . that their employees are turning a part of their earnings into tanks and planes and guns *regularly*, every pay day, through the systematic purchase of U. S. War Bonds.

You don't need to be engaged in war production activity to fly this flag. Any patriotic firm can qualify and make a vital contribution to Victory by making the Pay-Roll Savings Plan available to its employees, and by securing 90 percent or more employee participation. Then notify your State Defense Savings Staff Administrator that

you have reached the goal. He will tell you how you may obtain your flag.

If your firm has already installed the Pay-Roll Savings Plan, now is the time to increase your efforts: (1) To secure wider participation and reach the 90-percent goal; (2) to encourage employees to increase their allotments until 10 percent or more of your gross pay roll is subscribed for Bonds. "Token" allotments will not win this war any more than "token" resistance will keep our enemies from our shores, our homes. If your firm has yet to install the Plan, remember, **TIME IS SHORT.**

Write or wire for full facts and literature on installing your Pay-Roll Savings Plan now. Address Treasury Department, Section D, 709 12th St., NW., Washington, D. C.

Make Every Pay Day "Bond Day"



U. S. **WAR Bonds** ★ **Stamps**

This Space is a Contribution to Victory by American Builder and Building Age

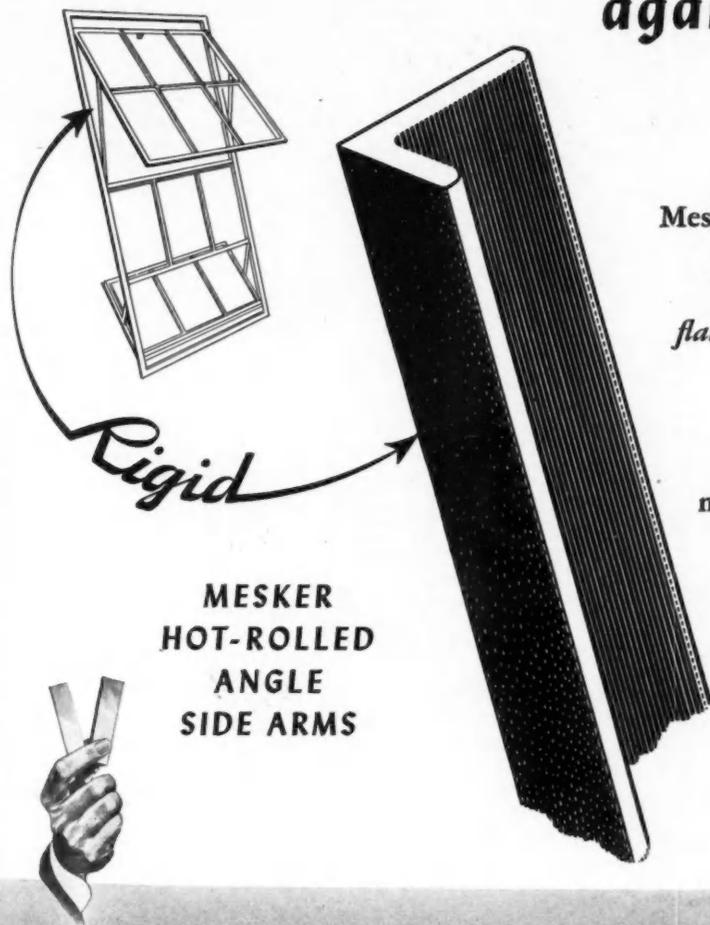


MESKER STEEL WINDOW ENGINEERED
A NEW LARGE ARMY AIR DEPOT
BUILT BY UNITED STATES ENGINEERS

J. Gordon Turnbull and
Sverdrup & Parcel
Consulting Engineers
•
Dunning James & Patterson,
Contractors
•
Roy W. Scovil
Mesker Engineer

FORTIFIED...

against rough treatment



MESKER
HOT-ROLLED
ANGLE
SIDE ARMS

To withstand rough treatment, the ventilators of Mesker Projected Windows are balanced on exclusive *Angle Side Arms*. More rigid; heavier than *flat Side Arms* in common use; balanced... they provide permanent, perfectly-smooth operation of Vents... *permanent weather-tightness*. With maximum rigidity in TWO directions...

NOT *one*... their double strength prevents excessive side-sway and distortion of open vents... in transit, during erection, in use. In the future get the "extras"... at no extra cost... *specify MESKER*.

THE DOUBLE THICK WEATHERING BAR

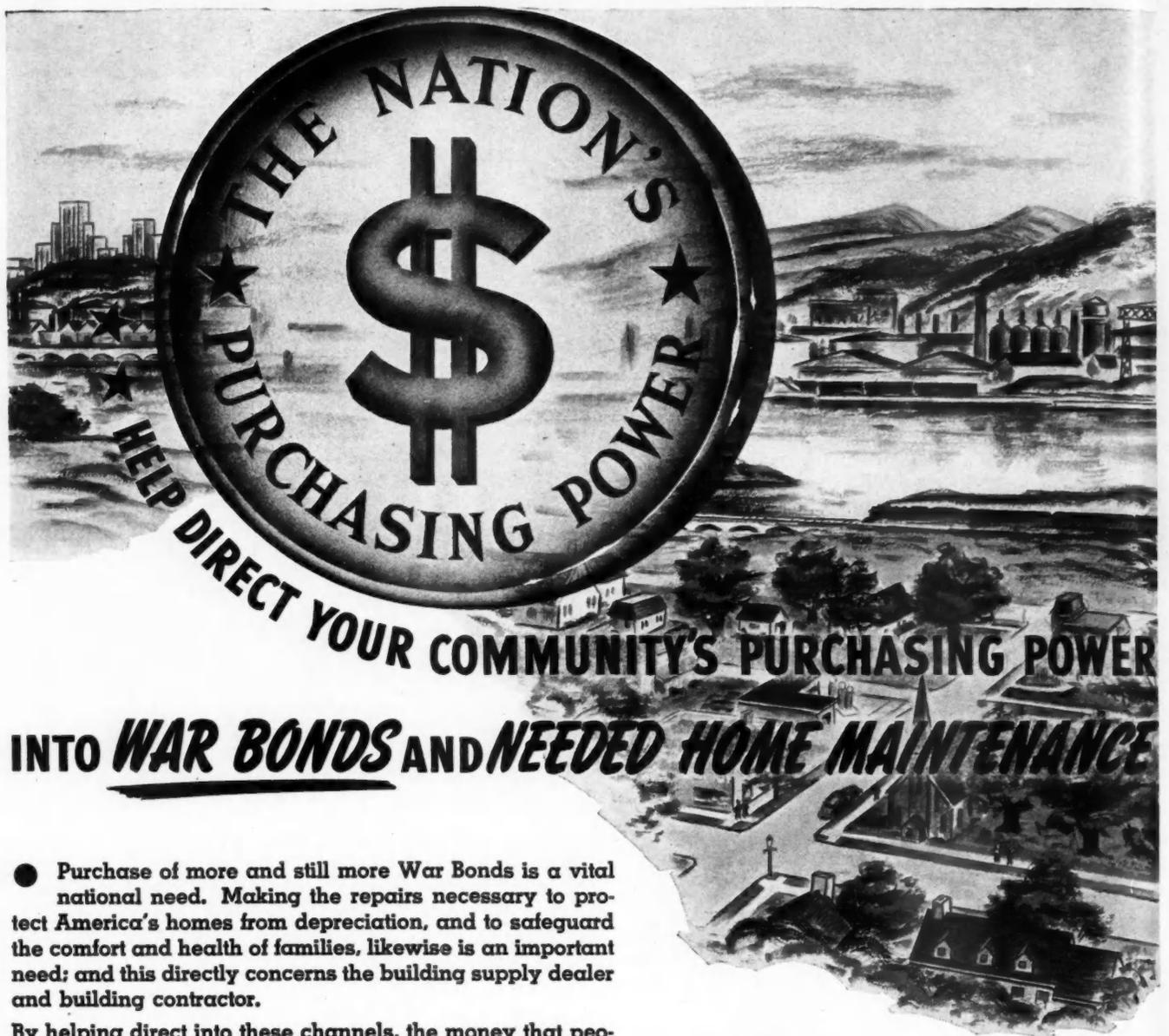
... used on Mesker Industrial Pivoted Sash is $\frac{1}{4}$ " thick... twice that used by others in Industrial Steel Sash. This exclusive feature, so dramatically illustrated by the Visual Test Kit (free upon request), is indicative of the quality built into ALL Mesker products.

Mesker Brothers

STEEL SASH

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

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



HELP DIRECT YOUR COMMUNITY'S PURCHASING POWER INTO WAR BONDS AND NEEDED HOME MAINTENANCE

● Purchase of more and still more War Bonds is a vital national need. Making the repairs necessary to protect America's homes from depreciation, and to safeguard the comfort and health of families, likewise is an important need; and this directly concerns the building supply dealer and building contractor.

By helping direct into these channels, the money that people can't spend for new cars, refrigerators and other merchandise, you can be of real service to your country and your customers; and at the same time help your own business.

By insulating their homes with CAREY Rock Wool, your customers can help conserve the nation's fuel supply, save money for themselves and add to home comfort in summer. They can reroof with fireproof Careystone Shingles, and apply wearproof Careystone Siding to weatherbeaten outside walls. The wide variety of CAREY Products makes possible other home repairs that assure continued maintenance in first class condition.

CAREY backs you with a line of products nationally known and accepted for their dependable quality and low-cost service. Write today for full details of the CAREY Dealer proposition. Address Dept. 10.

THE PHILIP CAREY MFG. CO.

Dependable Products Since 1873

Lockland, CINCINNATI, OHIO

IN CANADA: THE PHILIP CAREY COMPANY, LTD., Office and Factory: LENNOXVILLE, P. Q.

Carey PRODUCTS

ROCK WOOL INSULATION

ASPHALT SHINGLES
(Individual & Strip)

ASBESTOS-CEMENT SIDING

ASBESTOS-CEMENT SHINGLES
(Individual & Strip)

ROLL ROOFINGS

ASBESTOS-CEMENT
WALLBOARD

ROOF COATINGS and CEMENTS



OTHER EXAMPLES OF CURTIS SERVICE



Homes built in Wichita, Kansas, by Womer-Greer Investment Co. . . . All houses have Curtis Silentite Windows and Mitertite Trim. The architects were Overand & Boucher, Wichita. Many more homes of this style and size are going up now and will be Curtis-equipped.

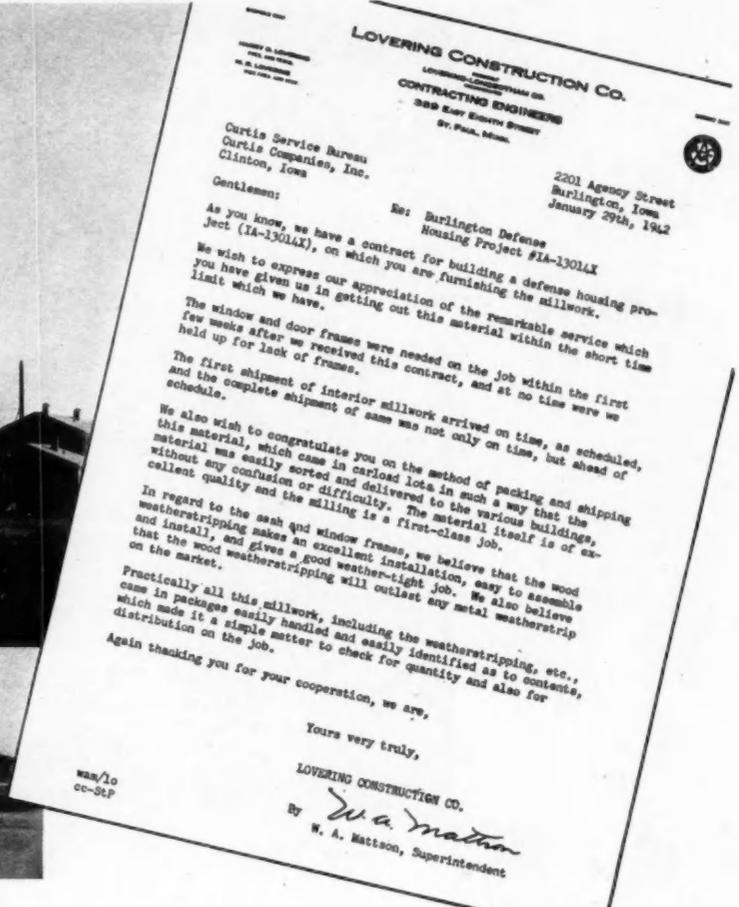


Part of group of large apartment buildings to house government workers being erected at Arlington, Virginia, by Barcroft Inc.—Thomas N. De Lashmutt, builder. Here, again, Curtis Woodwork speeds the job —provides quality at cost well within the building budget.

OTHER CURTIS-EQUIPPED PROJECTS

Here are other large housing projects now under construction or recently completed in which Curtis Silentite windows and Curtis stock architectural woodwork have contributed to speedy completion and satisfactory operation:

- | | |
|-------------------|----------------------|
| Baltimore, Md. | Atlanta, Ga. |
| Wheeling, W. Va. | Canfield, Ohio |
| Tulsa, Okla. | Salt Lake City, Utah |
| Williamsport, Pa. | Cuyahoga Falls, Ohio |
| Amarillo, Texas | Spokane, Wash. |
| Boise, Idaho | Columbia, S. Car. |
| Yakima, Wash. | Indianapolis, Ind. |



... and Curtis is "on time" for defense housing all over the country!

● In Maryland or Idaho—in Virginia or Iowa, Michigan or Kansas—Curtis service and Curtis quality are speeding the nation's big job of defense housing.

In war as in peace, stock Curtis Woodwork and Curtis Silentite Windows are demonstrating their ability to save time on the job—and to give owners of low-cost homes greater dollar value in workmanship and materials.

This page shows only a few of the Curtis installations in defense housing projects throughout the country. If you, too, are interested in building small houses of architectural distinction—soundly constructed, low in cost and economical to operate—we invite you to get full details on how Curtis stock woodwork and Silentite "Insulated" Windows can contribute to better, faster building. Just mail the coupon.



CURTIS COMPANIES SERVICE BUREAU
Dept. AB-6D, 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 _____

**NO GUESSWORK
in this
home-building plant**



**—There isn't time for guesswork when your capacity is
80 machine-perfect houses a day**

In Portsmouth, Virginia—Barrett & Hilp, Contractors, are building a city for 20,000 people. The contract calls for 5,000 Homasote Precision-Built Homes for Portsmouth shipyard workers and their families.

The time limit is *five months*—and Barrett & Hilp are out to beat the promise!

It's a vast job requiring thousands of carloads of materials—and no guesswork on the estimates. It's a *fast* job requiring complete coordination between the site and the prefabricating plant Barrett & Hilp

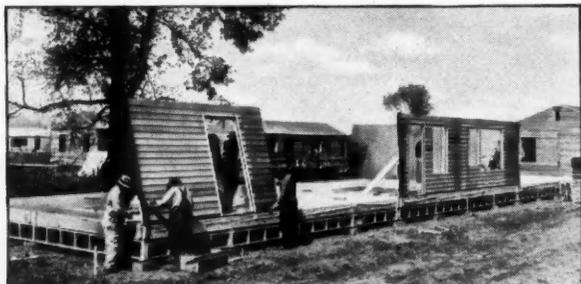
can be used in huge 8' x 14' sheets—saving time and labor, eliminating unsightly batten strips and wall joints. In addition, Homasote provides a perfect surface for paint or paper and a permanently crack-proof, dry wall and ceiling construction.

The Precision-Built Method of Construction is mass production—using local labor and standard materials—and adaptable to any size, any type of house. Homasote Precision-Built Homes are doubly insulated, machine-perfect and—as in the case of the Portsmouth project—demountable, if desired.

Before the emergency en-

listed Homasote in the job of housing war workers, \$6,000,000 of Precision-Built private homes were sold by franchised dealers and built by local contractors.

At the end of the present emergency, fabricating plants throughout the country will again supply local builders with Homasote Precision-Built Homes for non-defense purposes. Speed and efficiency, perfected at such jobs as Portsmouth, will mean new low costs for *quality* homes—widening the builders' market to include millions of Americans who, for the first time, will be able to buy homes at a price they can afford to pay. Write us for the full details.



have set up nearby—and no guesswork on *what* is needed *when* or *where*.

It is made possible by (1) Homasote—the oldest and strongest insulating board on the market—and (2) the Precision-Built Method of Construction which the Homasote Company has been developing for seven years.

Because Homasote has greater tensile and transverse strength than other boards, it



HOMASOTE COMPANY TRENTON, N. J.



ALMOST everybody agrees that flush doors are the most beautiful and desirable kind of doors for *any* kind of building. But if you are under the impression that fine hardwood *flush* doors are too expensive for low-cost housing, you've got a surprise coming to you!

Mengel Flush Doors—made by the world's largest producers of hardwood products—are actually *little if any more expensive than softwood panel doors!* If you include finishing costs, these fine grid-core flush doors actually save you money!

Mengel Flush Doors are resin-bonded in hot-plate presses—are moisture-proof, light, strong and handsome. If your regular source cannot *show* you, *mail the coupon below* for full details!

The Mengel Company, Incorporated
 1124 Dumesnil Street
 Louisville, Ky.

Gentlemen: Please send me full information about Mengel Flush Doors . . . Also about Mengelbord

Name _____

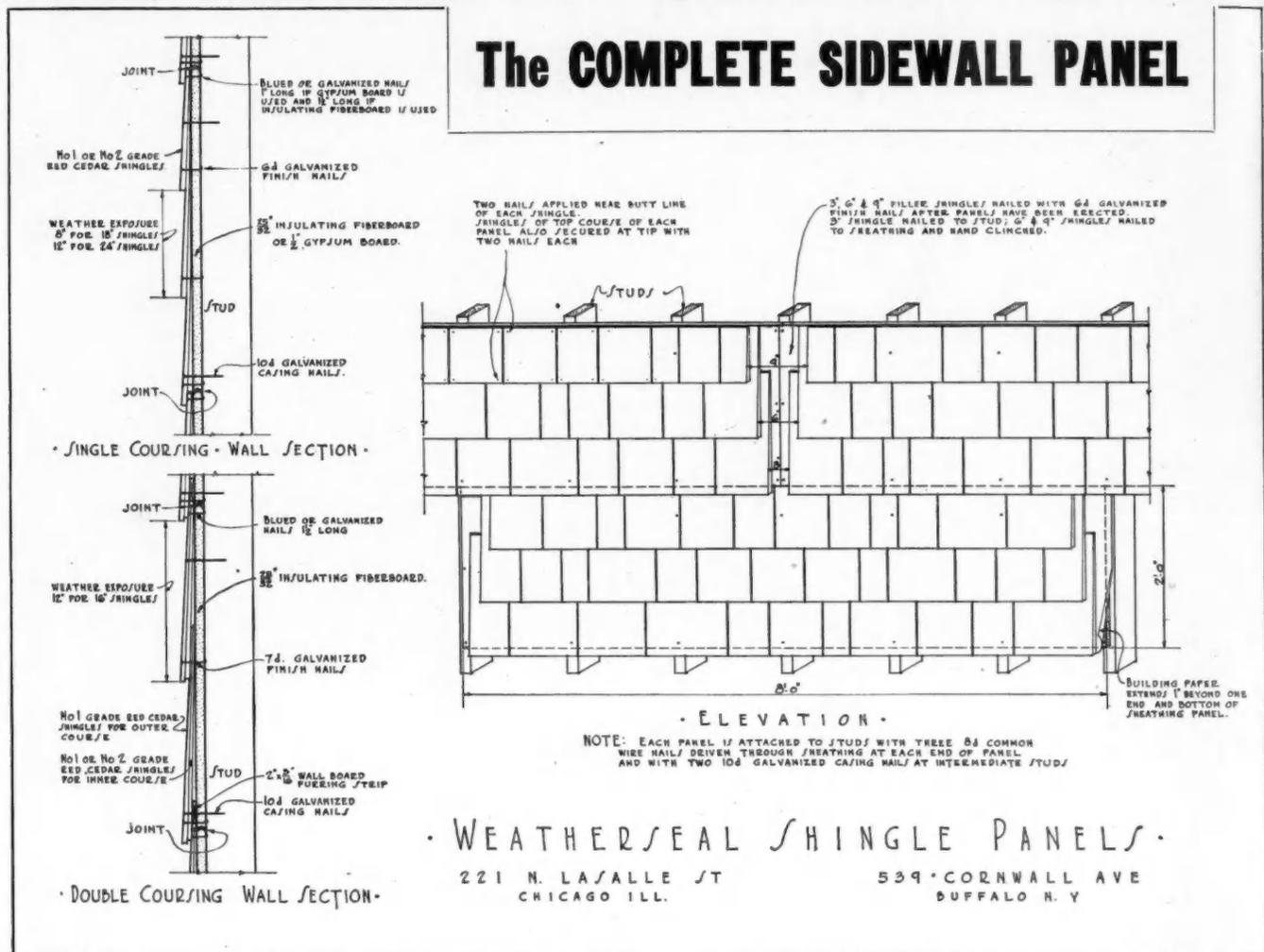
Address _____

City _____ State _____

WEATHERSEAL

SPEED--ECONOMY--APPROVED CONSTRUCTION

The COMPLETE SIDEWALL PANEL



RED CEDAR SHINGLES Used Exclusively on WEATHERSEAL PANELS

WEATHERSEAL is a shop-built Panel made locally by carefully selected reputable concerns under Franchise arrangement. WEATHERSEAL delivery to the job does not depend on over-taxed transportation facilities that are needed for vital war activities. WEATHERSEAL is flexible to any type or design of house or building of stud construction. Panel is standard 2 ft. by 8 ft. size in a COMPLETE unit of Sheathing, Building Paper and RED CEDAR SHINGLES, ready to nail right on the studing. Sheathing may be Gypsum board, Insulation Board or Plywood—All time-tested standard materials. Fabricators operate under WEATHERSEAL Patent 2,256,435. F.H.A. acceptance nationally.

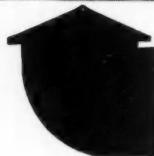
OUTSTANDING OPPORTUNITY—For well rated energetic concerns in many areas to fabricate WEATHERSEAL Panels under an exclusive Franchise arrangement.

Write for FREE Blueprints and Descriptive Literature

WEATHERSEAL SHINGLE PANELS

221 North LaSalle St.
Chicago, Ill.

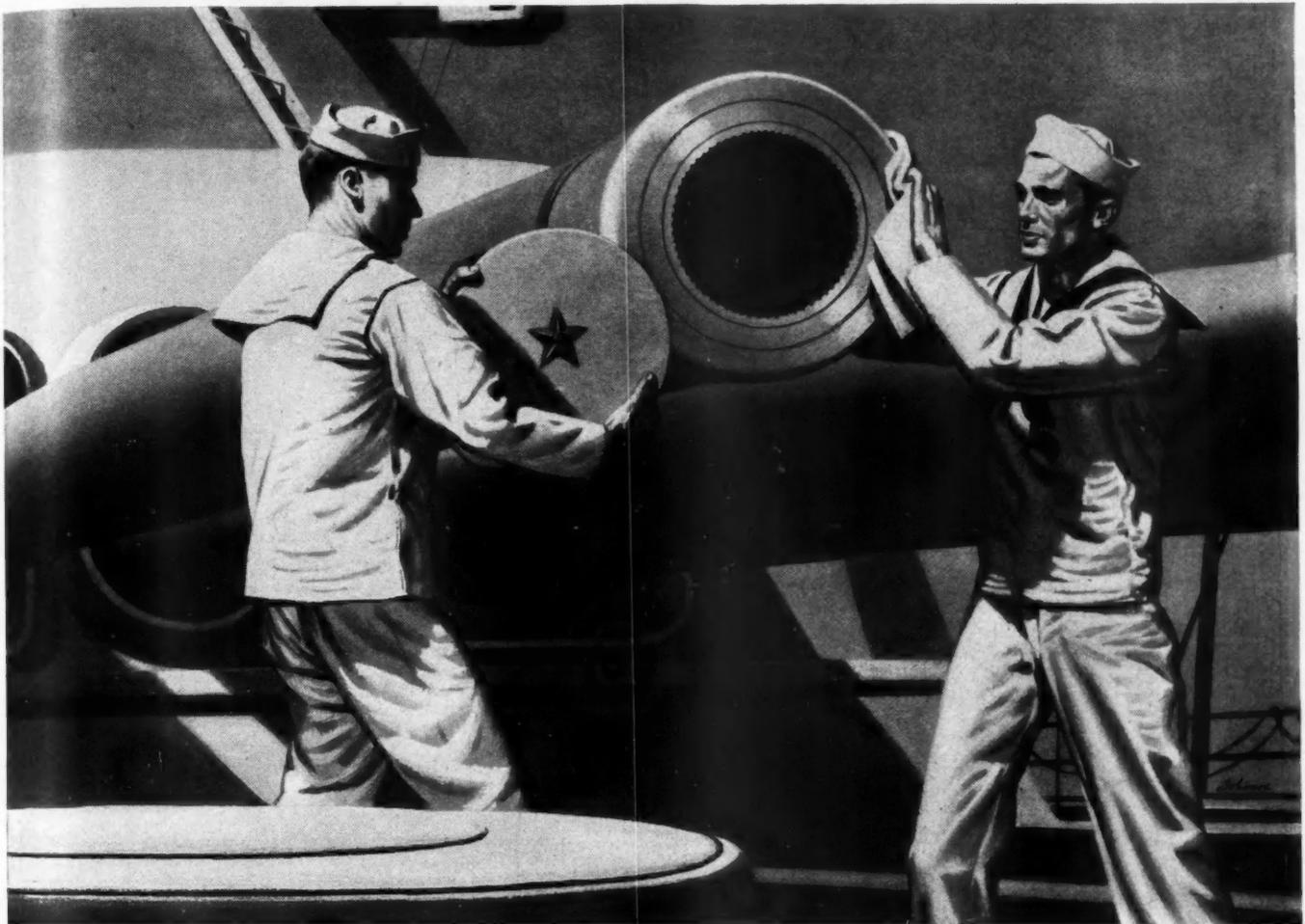
539 Cornwall Ave.
Buffalo, N. Y.



ALL IN ONE UNIT
SHEATHING
PAPER
SHINGLES



"TO PROVIDE FOR THE COMMON DEFENSE, TO PROMOTE THE GENERAL WELFARE"



Throats to speak our nation's piece

THERE'S A VOICE THAT SPEAKS for the men who stood to their guns at Midway and Wake. It's the don't-tread-on-me roar of an aroused America—given voice by the Navy's big guns!

At cities far from the oceans, in brand-new, Westinghouse-operated factories, will be built much of the Navy's ordnance which will sound our nation's determination to preserve this freedom we have worked so long to build.

Here, in 143 days, plants were built, machines were installed, craftsmen were trained, in an outstanding example of the way Westinghouse "know how" is working three shifts a day for our War Program.

What is this Westinghouse "know how" that brought these plants so rapidly from blueprint to production? It is the hard-earned skill of our craftsmen, trained in the Westinghouse tradition. It is experience and industrial ingenuity. It is the ability to get things done in the best possible way.

The same "know how" that worked for you

Today, the Westinghouse "know how" that once worked for your industry serves the common defense by building parts for tanks and aircraft, binoculars and big guns, and lights for airports.

And this is but a small part of a tre-

mendous effort—as varied as it is huge.

An all-out job for Uncle Sam

Now, many products that once bore the Westinghouse trade-mark must wait. We have a more important job to do . . . the job of speeding the day when our "know how" will once again help you build for a future of peace in a victorious America.

Westinghouse

For the Common Defense

Naval Ordnance
Bomb Fuses
Torpedo Tubes

Military Radio Equipment
Navy Ship Turbines and Gears
Armor-piercing Shot

Lighting Equipment for Air Bases
Army Binoculars
Portable X-ray Units

For the General Welfare

Electric Stairways
Precipitrons

Circuit Breakers
Electric Refrigerators

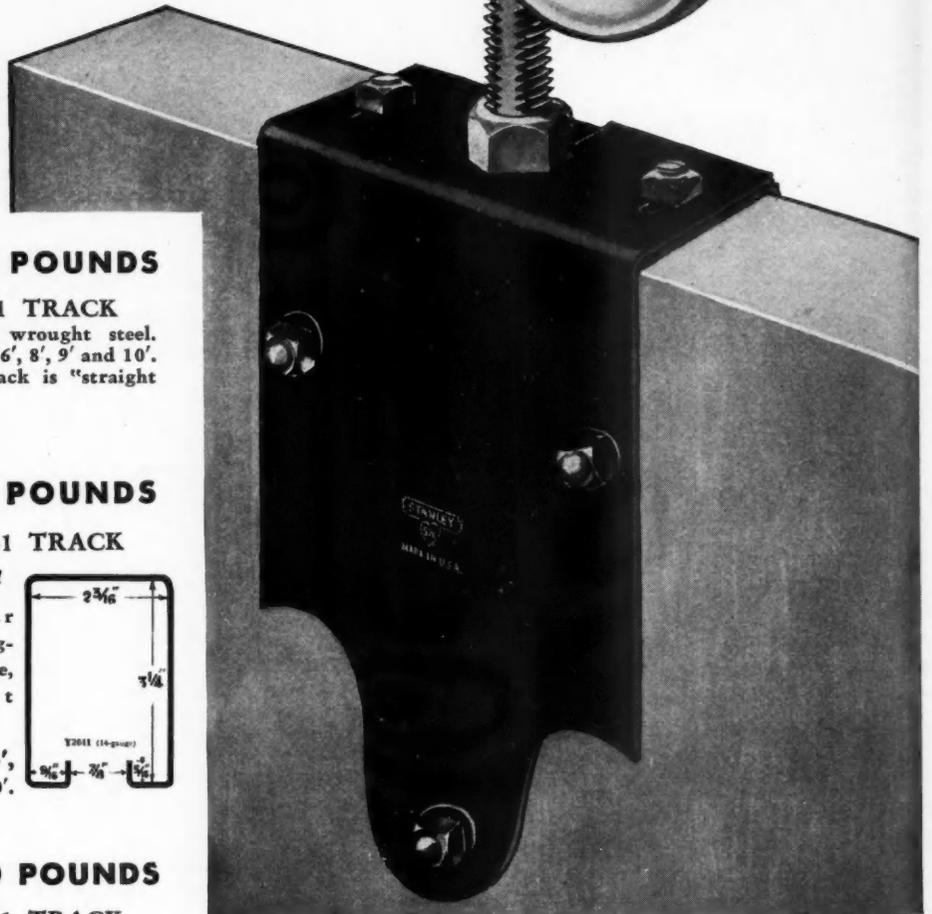
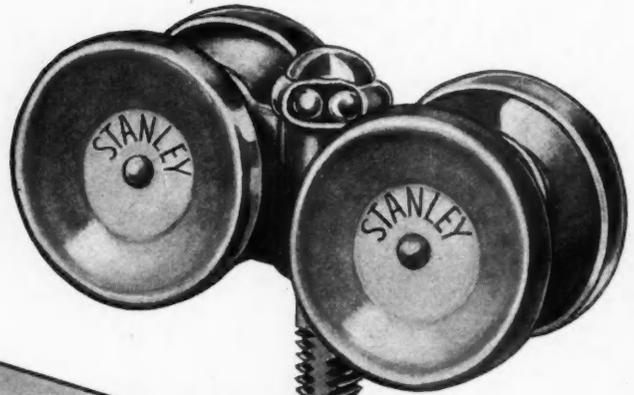
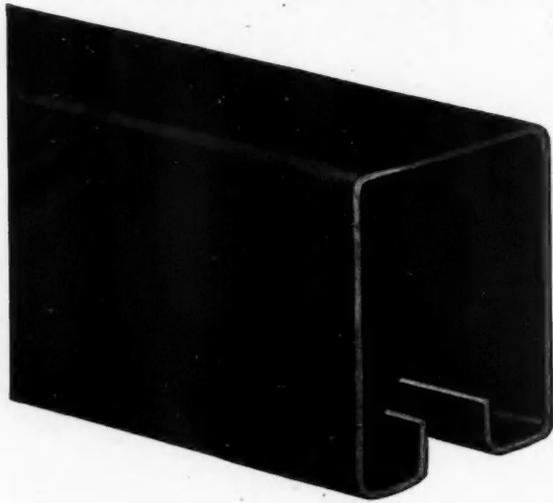
Wiring Devices
Meters

These lists mention only some of the many thousands of Westinghouse products.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, PITTSBURGH, PENNA.

STANLEY HARDWARE

For Rolling or Sliding Doors



FOR DOORS UP TO 350 POUNDS

X2650 HANGER

For doors 1 7/8" to 2 1/2" thick. Ball bearing swivel, roller bearing wheels. Adjustable vertically and laterally. Cadmium plated truck and bolt, 12 gauge japanned apron.

X2641 TRACK

16 gauge, wrought steel. Lengths 4', 6', 8', 9' and 10'. Stanley Track is "straight as a die."

FOR DOORS UP TO 700 POUNDS

Y2650 HANGER

Illustrated

For doors 1 3/8" to 3" thick. Same construction as X2650 but heavier and larger to hold a heavier door. Metal aprons 10 gauge.



Y2641 TRACK

Illustrated

Made for Y2650 Hanger. 14 gauge, wrought steel.

Lengths 4', 6', 8' and 10'.



FOR DOORS UP TO 1000 POUNDS

W2650 HANGER

For doors 2 1/4" to 3 3/8" thick. Extra heavy double truck trolley. 7 gauge wrought steel aprons.

W2641 TRACK

Used with Hanger W2650. 13 gauge wrought steel. Lengths 6', 8' and 10'.

Stanley makes hangers and track to suit, every type of building construction. The Stanley Works, New Britain, Connecticut.

STANLEY HARDWARE

for Carefree Doors

"LET'S GO!
we've got a job to do and a reputation to uphold!"



**Let's give
Defense Homes real
Defense against the Years! . . .**

America needs defense homes . . . needs them *fast*. Builders face new, *tough* requirements. Ceiling prices have been set . . . yet quality and liveableness must not be sacrificed.

What an opportunity for ingenuity and skill—not only in the actual construction but in the choice of materials.

For while these homes will be planned for the emergency, most of them must be built to *sell*—and to *last*. And as you know from your own personal experience, the way to make a home stand up against

the weather is to protect it with good paint.

No need to tell you that white lead hugs tight and long . . . never cracks and scales. But don't let its well-known quality blind you to its genuine low cost.

Remember, paint made from Dutch Boy Paste Lead is definitely in the low price bracket. And it's not only low priced to begin with but its extra durability means rock-bottom cost per year of protection. Also, keep in mind that Dutch Boy is a real all-purpose paint. It can be used for either two or three-coat painting and it gives top performance on any surface—wood, brick, stucco, concrete, or plaster.

So, *let's go!* Any way you look at it, Dutch Boy is the paint for this Defense Housing job!

**New Dutch Boy Paint Unexcelled for Sealing
and Hiding by any Two-Coat Combination**

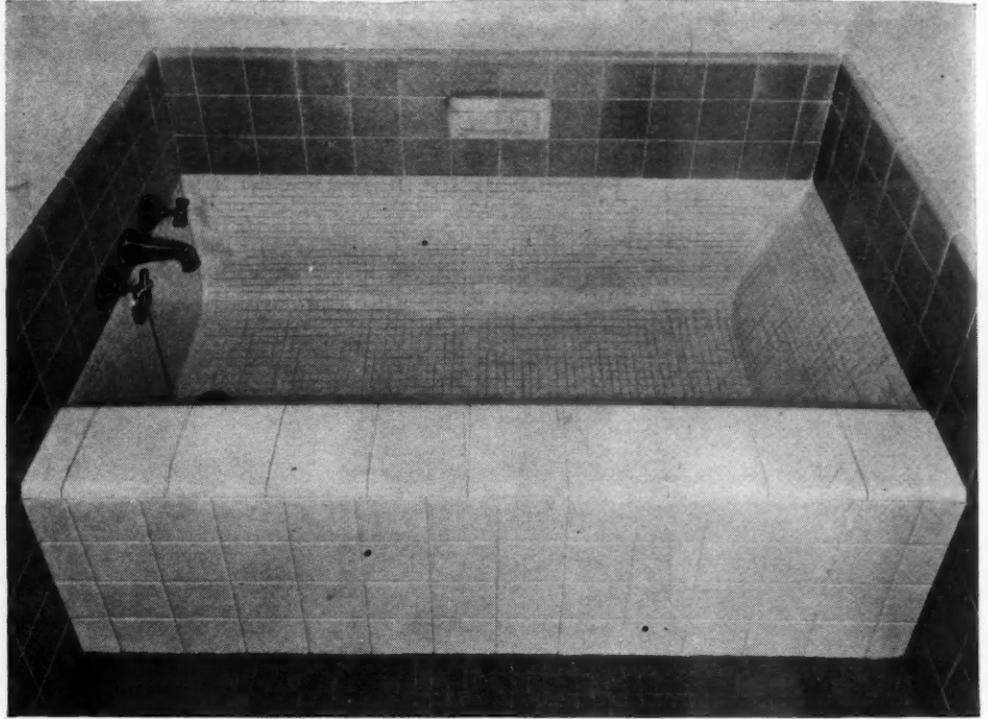
Where ready-to-use paint is desired, remember the new Dutch Boy Pure White Lead Paint provides the proven protection of white lead and, at the same time, offers sealing, hiding and whiteness unsurpassed by any two-coat combination on the market. Its two special forms—Exterior Primer and Outside White—are both pure white lead, all ready to spread. Used together they give a real Dutch Boy job—sparkling and durable — on new or old wood.

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.).



SPECIFY DUTCH BOY PURE WHITE LEAD

NO MORE METAL BATHTUBS..



Tile Bathtub set up in Washington, D.C., by TMA, for the inspection and approval of Federal architects and housing authorities.

INSTALL SMART ALL-TILE TUBS!

Washington has announced a ban on the making and installing of metal bathtubs. Fortunately for the building industry, TILE is not a critical material. Equally fortunate, The Tile Manufacturers' Association has developed the all-TILE bathtub—easy-to-clean, safe, and permanent, with a convenient wide seat at the front.

The American public has always been "sold" on Tile. Home buyers and home-remodelers will realize that a Tile tub is as sound an investment as Tiled floors and walls. Tile is always a big selling point with alert builders.

Inasmuch as the Tile tub is built at the job, valuable transportation space is saved. Many color combinations are possible. The interior of the tub is composed of small pieces of unglazed ceramic tile... practically slip proof, and easy to clean.

You will find your local Tile Contractor ready and willing to install these Victory Tile tubs. The Tile Manufacturers' Association will have other announcements to make soon showing how Tile... readily available... can be used to release more vital metal for ships, tanks and guns.



**TILE BATHS
SELL \$2,900
ST. LOUIS HOMES!**

Mr. N. R. Schuermann, President, Schuermann Building & Realty Co., Wellston, Mo., says: "We have built approximately 3,000 small bungalows and have always used ceramic tile in kitchens and baths. We have even used tile in our lowest priced bungalow, which sold for \$2,900 some time ago. We have found tile kitchens and baths our best selling points in the sale of a house."

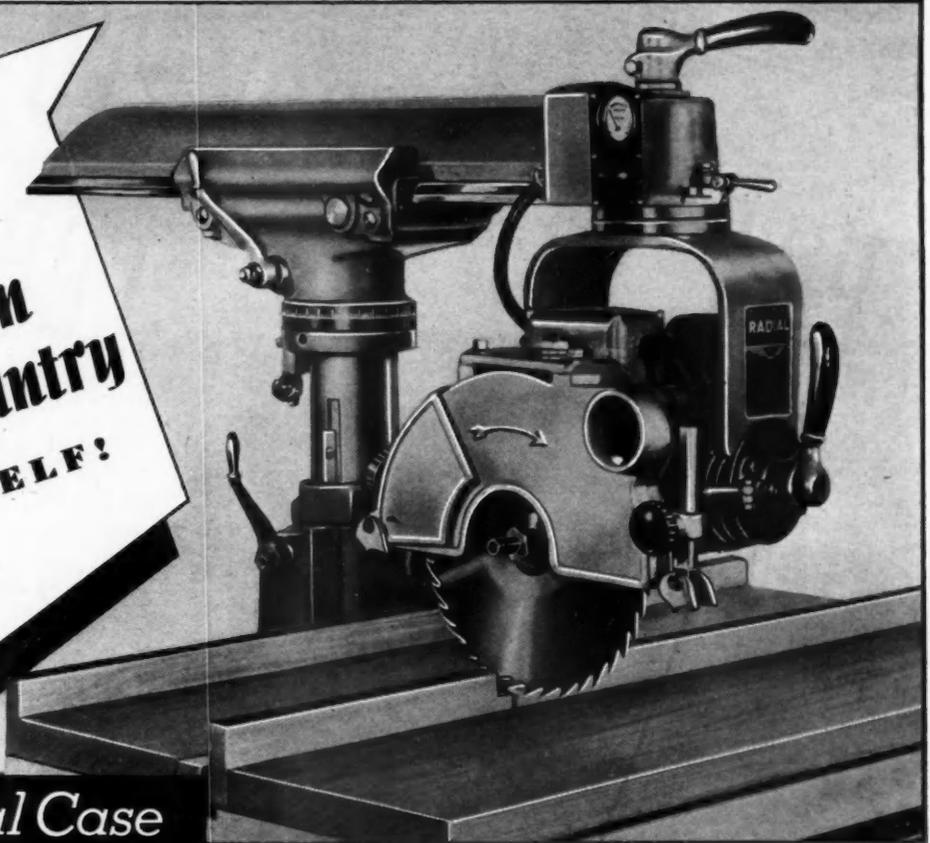
THE TILE MANUFACTURERS' ASSOCIATION, INC.

50 East 42nd Street

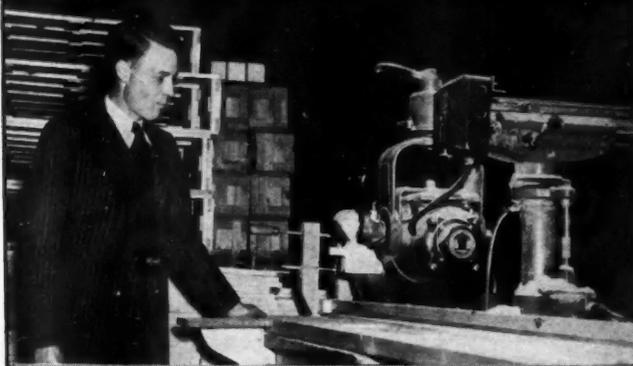


New York, N. Y.

★
 HOW THE
Builder Can
Help His Country
 AND HIMSELF!
 ★



Here's a Typical Case



● War restrictions on building activity, found Winston K. Ogden, of Chatham, N. J., with a well-equipped mill-work shop, 20 years' experience and a determination to keep going. He went after and landed a war contract to make boxes for bombs sufficient to keep his shop busy, night and day, for the next nine months. His Walker-Turner Radial Saw is the key tool in meeting the production demands, uniform cuts and exact fitting required. To further speed the order Mr. Ogden is building a sizeable addition to the plant below.



War Contracts are highly competitive, on such points as *time . . . quality . . . and price.*

- The WALKER-TURNER RADIAL SAW keeps many progressive builders on the "inside track" on *all three* of these important factors. The Patented Geared Motor that enables this machine to make deeper cuts with smaller blades, the ball bearing gliding ram that moves in and out at a finger touch and permits clear view of the work, the low price of **\$354.50**, and the unusually prompt delivery on priority orders, offer you your best chance to join Democracy's battle on the industrial front.

Send now for descriptive literature

Walker-Turner Co., Inc.
 1062 Berckman St., Plainfield, N. J.

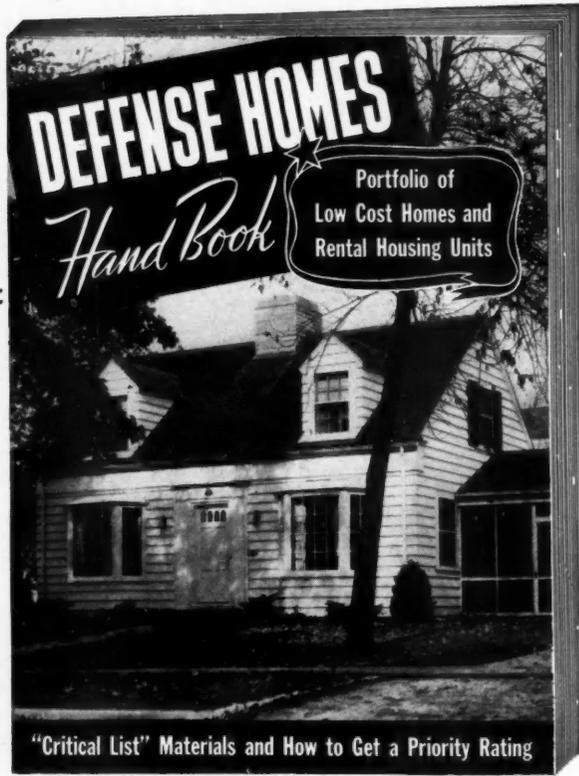


WALKER-TURNER RADIAL SAW

5 MACHINES IN 1

CROSSCUTS AND RIPS • DADOS SHAPES • ROUTS • TENONS

PUT THIS BOOK TO WORK
FOR YOU...



Top-flight Designs
**FOR RAPID LOW COST
HOME BUILDING WORK**



**HOME DESIGNS WITH PROVEN
WAR-TIME SALABILITY—INVALU-
ABLE AS A SOURCE OF PRAC-
TICAL IDEAS FOR REMODELING
AND REPAIR WORK, AS WELL.**

"Defense Homes Handbook" Is Suited To The Needs Of Building Men Everywhere

If you have not as yet received a copy of DEFENSE HOMES HANDBOOK it is really high time you did. Building men who are operating in defense areas are literally wearing the pages of DEFENSE HOMES HANDBOOK ragged by the frequency with which they refer to it. Others in the industry who are so wisely and profitably concentrating their efforts on remodeling and repair work permitted under the new "Conservation Order L-41" are equally as enthusiastic about DEFENSE HOMES HANDBOOK for the innumerable ways it serves them.

It does not matter where you happen to be operating, because the designs in DEFENSE HOMES HANDBOOK were compiled to meet the needs of building men everywhere. They have been selected from the best achieved in home building design in all sections of the country, North, South, East and West. The designs are such as to permit you to use them just as they stand for a complete

home building job or in part for any phase of remodeling or repair work.

"DEFENSE HOMES" designs are attuned to these war times. They are practical designs for homes to sell at a price well within the limits set by Washington. They can be easily and rapidly executed with a minimum of critical materials and labor time. These designs are the answer to building men who want to get away from the humdrum type of defense home that buyers dread the sight of. DEFENSE HOMES HANDBOOK designs sparkle with fresh originality, with touches of ingenuity here and there, combined with the best features of utility and home livability such as will be the envy of all who see them.

Send for a copy of DEFENSE HOMES HANDBOOK now. See if it is not the very thing you have been seeking to turn today's war market your way.

A AMERICAN BUILDER

Get a Copy of This Book and Don't Pay One Cent for the Privilege . . .

Fill in the coupon at the right . . . attach your remittance of \$2 for a one year subscription to AMERICAN BUILDER or \$3 for two years . . . and mail.

As soon as your subscription payment is received, a postpaid copy of DEFENSE HOMES HANDBOOK will be mailed to you *free of charge*.

CLIP AND RETURN THIS COUPON NOW!

AMERICAN BUILDER, 30 Church Street, New York, New York

Enter my subscription for 1 year (\$2) 2 years (\$3)

Enclosed is \$.....in full payment.

New

Renewal

INCLUDE WITH MY SUBSCRIPTION, AT NO EXTRA COST,
A POSTPAID COPY OF DEFENSE HOMES HANDBOOK.

Name

Street City.....

State Occupation.....

This offer is good only in United States, Possessions and Canada

6-42*

180 PAGES . . .
-of Timely Design Ideas . . .
-of Floor Plans and Elevations . . .
-of Construction Details—Job Pointers . . .

Ready for Your Immediate Use

Scan the following partial list of design and article titles included in the 97 chapters of DEFENSE HOMES HANDBOOK. See what a wide variety of material this timely book places at your disposal, ready for your immediate use.

"HOW NEW HAVEN MET SHORTAGE"

Photos and plans of some 72 homes at New Haven built on standard 24' x 30' foundations . . . "Western Style Brought Up To Date"—Broad roof lines, homey porch and livable plan high spot this model home built at West Hartford . . . "One Story Pennsylvania Dutch Home"—This is a very attractive house of field stones and shingles which will serve you with many design ideas . . . Another which will warrant your study is the "New England Colonial 29' x 27' With Flush Board Siding" . . . "Houston Clamors to Buy Well-Built, Easily Maintained Homes"—This is the title of a Texas development which enjoyed phenomenal success in the low-price field.

"EXTENSIBLE HOUSE"

The "Extensible House" idea, which is gaining so much favor now, is presented here with the extensible feature of "upstairs to be finished later." . . . Another in this same category is the "Southern Honey-moon House Built for Future Expansion" . . . You will be interested surely in the "Modern Basementless House" at Gibson,

L. I. and "St. Petersburg Style"—Florida bungalows with Mid-Western appeal.

production methods and merchandising ideas.

"ECONOMY AND VERSATILITY"

Here is an ideal combination you will want to adapt for your own building. Be sure to refer to "Chicago Builder Features Economy and Versatility" . . . A timely lesson in interior design will be learned from the "Interior of California Model Home" . . . Then there is an interesting Ranch-Type home demonstrated at San Mateo.

"SIX ROOM MODEL ATTRACTS THOUSANDS"

"Six Room Model Attracts Thousands" shows how four "pet peeves" were eliminated in an outstanding Dearborn, Michigan demonstration . . . You will certainly be stopped by the features of a beautiful Park Ridge, Ill. home in "Planning Low-Cost Livability" . . . "Pace Setter in Jacksonville" illustrates how high quality can be achieved at low cost by building 10 to 25 at a time . . . "Quality Wins at Summit, N. J." is a candid account of land planning,

"REAL PAYING INVESTMENT"

See how a Montgomery, Ala. builder developed a real paying investment in a "16-Unit Apartment on Old Residential Site" . . . "How a Baltimore Builder Erects Row Houses" . . . "Bungalow Court Type of 9-Units at Portland, Oregon" . . . "Cottage Apartment to Rent"—A Hastings, N. Y. project of eight units.

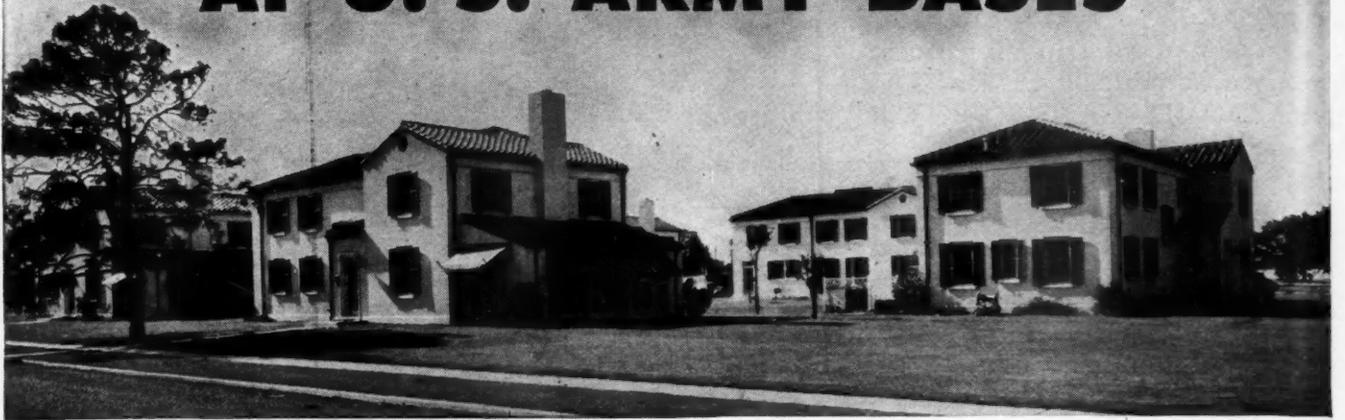
"GARAGES INTO DWELLING"

There is great ingenuity in the means this builder used to "Modernize Garages Into Rent-Paying Modern Dwelling" . . . Note the "Combination of Apartment Building and Store" which resulted in an attractive income property. This is suggestive of many practical applications . . . "Salvaged for Defense" shows how a rehabilitation job on 40 run-down houses in Alabama provides industrial workers with convenient housing units.

The World's Greatest Building Paper

30 Church St., New York

STUCCO SAVES STEEL-LEAD-ZINC AT U. S. ARMY BASES



Above—Officers' Quarters at a U. S. Army Base. Here is effective use of buff colored portland cement stucco made with Atlas White cement.

Durable buildings of concrete block or cinder block or clay tile, finished with white portland cement stucco or white cement paint, provide good construction and save materials and transportation essential for war.

AT SEVERAL U. S. Army bases (names deleted), white portland cement stucco for both exterior and interior facing has been specified and applied over concrete block, cinder block, or tile. Two coats of stucco—scratch coat and finish coat—are applied directly over the walls without steel reinforcing mesh.

This construction saves critical materials—steel for nails, steel for reinforcing, lead and zinc for paint, etc. In addition, concrete products are normally manufactured not far from point of consumption. Short haul assures delivery—not long haul as with some other building materials. Hence, wider use of concrete products relieves transportation facilities.

Here's an up-to-the-minute idea for building defense workers' houses, stores, hospitals, theaters and other buildings essential to community and national welfare. Stucco made with Atlas White cement, plain or waterproofed, has proved a long-lasting, weather-resistant, fire-safe building material that is low in first cost and low in upkeep. It pays to specify it for new work or modernization. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

OFFICES AT: *New York, Chicago, Philadelphia, Boston, Albany, Pittsburgh, Cleveland, Minneapolis, Duluth, St. Louis, Kansas City, Des Moines, Birmingham, Waco.*



● Army Hospital Area under construction at U. S. Army Base. Stucco made with Atlas Waterproofed White cement was applied over hollow tile.



● Newly completed U. S. Army Mess Hall. This use of stucco made with Atlas Waterproofed White cement saved critical materials—lead, zinc and steel.

AB-9-28

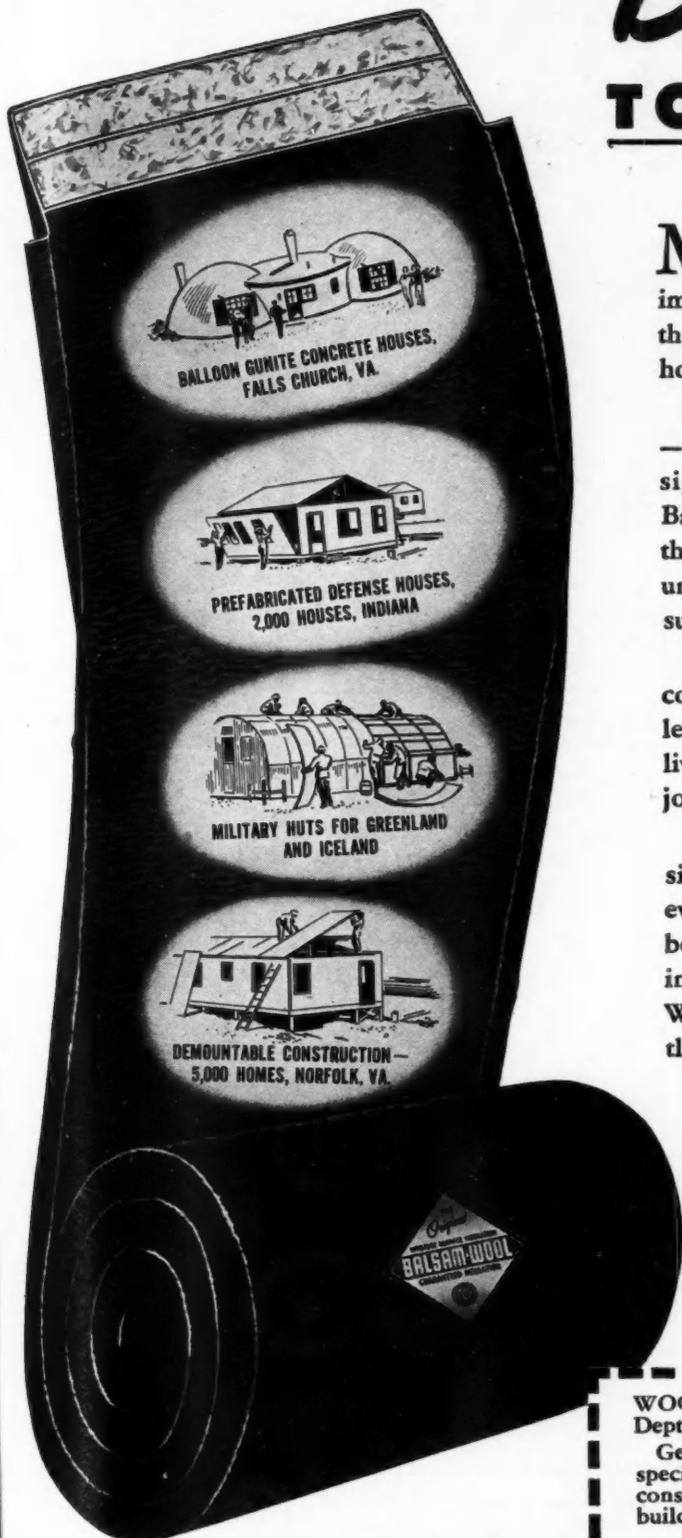
ATLAS WHITE CEMENT

A UNIVERSAL ATLAS PRODUCT



WAR JOBS, BIG JOBS, SMALL JOBS, TOUGH JOBS—A

Balsam-Wool TO FIT THEM ALL!



MILLIONS for war needs—millions of feet of Wood Conversion Company Blanket Insulation for every imaginable type of structure . . . from the Military Huts that keep our boys warm at frigid Arctic outposts—to homes that house our war workers!

In huge projects (35 houses a day at Norfolk, Virginia) —or in a few experimental houses of revolutionary design—Balsam-Wool fits the need exactly. For only Balsam-Wool has the versatility and the toughness—plus the engineering background—to anticipate all the many unusual job conditions to which an insulation may be subjected.

Used for fast, economical application in prefabricated construction requiring special widths, thicknesses and lengths—for Job Site Construction requiring spot delivery on time, using two or more types of blanket on a job—Balsam-Wool proves that it has what it takes.

In war building, the extra safety factor found exclusively in Balsam-Wool becomes more important than ever. Double Moisture Barriers speed up application, because the blanket can be applied from top or bottom, inside or outside of joists, studs or rafters. Tough Double Wind Barriers take abuse—Double Bonding prevents settling in transit, holds the high efficiency mat firmly in place.

No other insulation has pioneered so many improvements—no other insulation has all the advantages which Balsam-Wool provides. You can't afford to assume that you know all about Balsam-Wool—products and production methods have changed to meet new war needs. Get up to date on Balsam-Wool by mailing the coupon today!

WOOD CONVERSION COMPANY
 Dept. 119-6, First National Bank Bldg., St. Paul, Minnesota

Gentlemen: I should like to have more information about the special advantages which Balsam-Wool Insulation offers for war construction. I am especially interested in the following type of building:

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Name.....

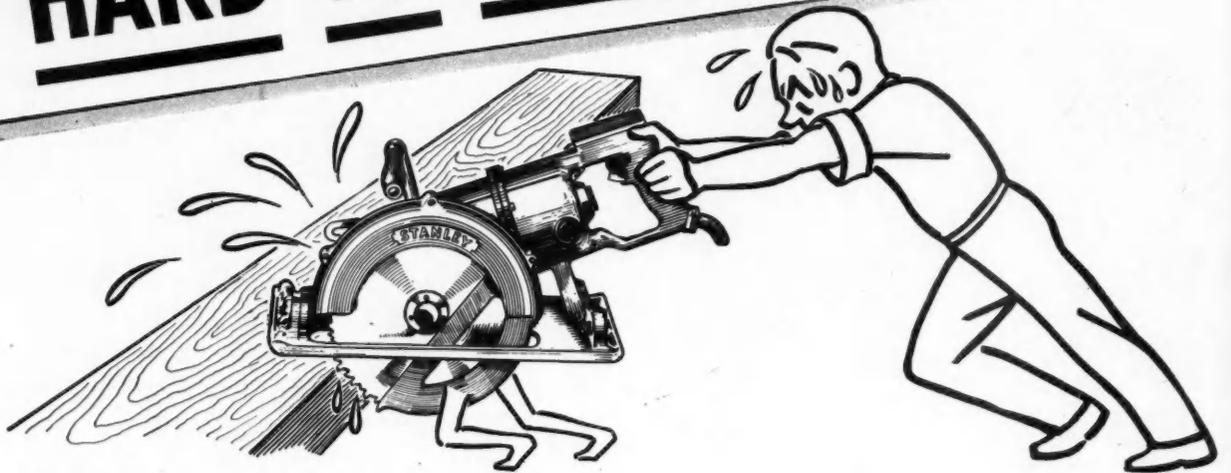
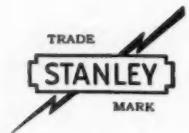
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City.....State.....

BALSAM-WOOL

PRODUCT OF WEYERHAEUSER

Electric Tools are HARD TO REPLACE



Dull blades overload the saw and slow the work. Keep them sharp.

The demand for Stanley Portable Electric Tools for war production work is tremendous and this need must be supplied first. You may find it difficult to get new tools.

With proper care you can get long service from your present tools, and save money on repairs. Instruction sheets for maintenance will be sent on request, if those packed with the tools have been lost.

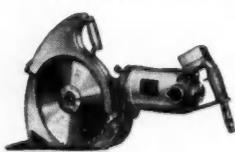
If some parts wear out, don't discard the tools... have them repaired or rebuilt. Everything possible is being done to keep repair service and replacement parts available for all Stanley Electric Tools. Stanley Electric Tool Division, The Stanley Works, New Britain, Connecticut.



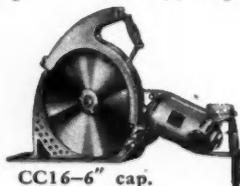
W7-2 1/2" cap.

W8-2 3/4" cap.

W9-3 1/4" cap.



CC12-4" cap.



CC16-6" cap.

PROPER CARE WILL KEEP YOUR STANLEY ELECTRIC SAWS ON THE JOB

★ KEEP BLADES SHARP ★

Dull blades overload the motor and make poor cuts. A little time out for sharpening saves a lot of time and trouble on the job.

★ DON'T OVERLOAD ★

Don't force the saw. Have blade running full speed before contacting the work. Keep blade at high speed for faster work and less wear on motor and machine.

★ KEEP SAWS LUBRICATED ★

Follow instructions received with the saw, being sure to use the proper grease. The finest steels will wear rapidly if lubrication is neglected.

★ KEEP SAWS CLEAN ★

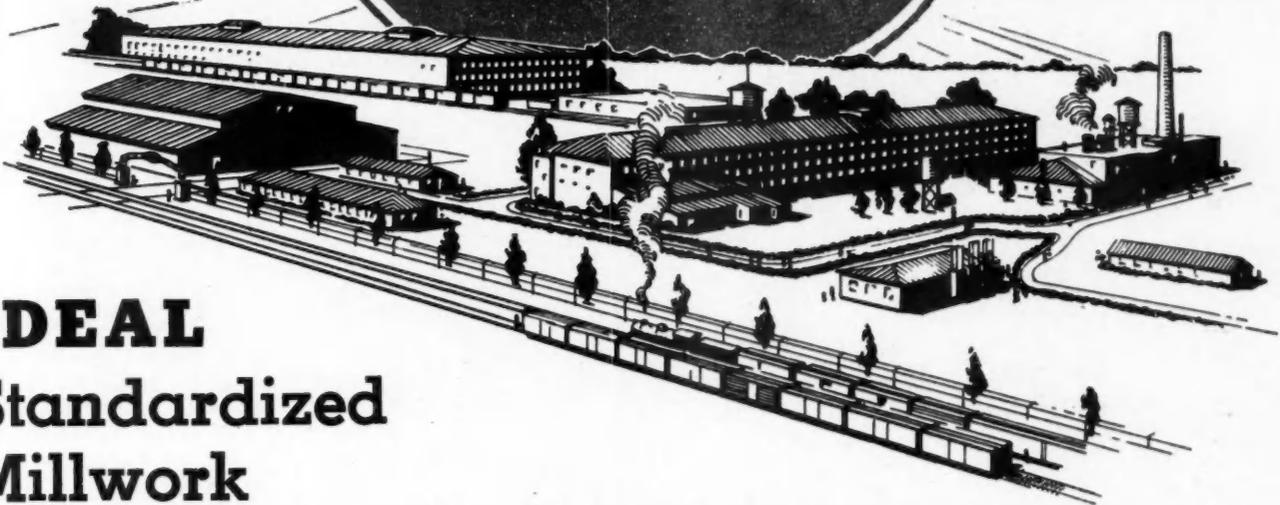
Blow out holes in motor housing with air blast frequently, to remove dirt and sawdust accumulation. Take saw apart for cleaning at least once a month.

STANLEY SAFETY SAWS

**SPEED
WITH**

IDEAL

PRECISION



IDEAL

**Standardized
Millwork**

SPEEDS UP DEFENSE HOUSING

War housing is vitally important to our nation at war! Speed is just as necessary in war housing construction as in training fighting men or making fighting machines.

The giant IDEAL Company factory is geared to SPEED WITH PRECISION in manufacturing complete window units, door units, and other millwork for the construction of dwelling units for war industry workers. These complete IDEAL units are built with perfected production line speed and accuracy in the factory. They arrive on the defense housing construction job completely assembled and ready to be set into the rough wall openings. Installation of one of these units is a matter of only a few minutes. Precious hours of time are saved on each defense house, thereby speeding the day when our enemies will be crushed under the overwhelming might of an aroused America at war.

Train loads of IDEAL Window Units, Exterior Door

Units, and Interior Door Units are going into the 5,000 defense houses being built at Portsmouth, Va., by Barrett & Hilp. With clock-like regularity, these IDEAL Materials leave this largest architectural woodwork manufacturing plant in the South and are timed to reach the construction site in a continuous stream of carloads as needed. When the project is completed, approximately 250 carloads of IDEAL Building Products will have been used.

IDEAL Products have been used in many other defense construction projects. Among these are the following: Camp Barkeley at Abilene, Texas; Camp Walters at Mineral Wells, Texas; Camp Bowie at Brownwood, Texas; Fort Sam Houston at San Antonio, Texas; Fort Sill at Lawton, Okla.; Camp Claiborne at Springhurst, La.; Sheppard Field at Wichita Falls, Texas; and Camp Polk at Leesville, La. Delivery of these huge quantities of building materials was made in every case on or before the dates specified.

IDEAL COMPANY - Waco, Tex.

Manufacturing Division of Wm. Cameron & Co., Inc.

★

FREEDOM'S ROADS MUST BE BUILT

...**FAST!**



CONCRETE ROAD in U. S. Army Camp GENERAL CONTRACTOR: Doyle & Russell—Wise Contracting Co., Inc.
PAVING CONTRACTOR: Rea Construction Co. ENGINEER: Wiley & Wilson

Where building for this war emergency is concerned, dawdling and delay are out of order.

That is why, in making this road that leads to the warehouses of a U. S. army camp, Lehigh Early Strength Cement was used. It makes service-strength cement in 1/3 to 1/5 the normal time. In 1/3 to 1/5 the normal time the concrete was ready for army trucks to roll.

Lehigh Early Strength Cement is one of the many effective tools that builders are employing to finish in record time war construction of all kinds—roads, buildings, cantonments. The speed with which this modern cement brings concrete to service strength is a factor that contractors will not overlook.

For full information inquire of the Lehigh Service Department.

Lehigh

EARLY STRENGTH CEMENT
for service-strength concrete in a hurry

LEHIGH PORTLAND CEMENT COMPANY • ALLENTOWN, PA. . . . CHICAGO, ILL. . . . SPOKANE, WASH.

Doin' Our Part!



It's an old story for Insulite:

Back in 1917, when this country faced the problem of quickly building cantonments and other defense buildings, Insulite answered the call; and we're proud of the fact that many Government buildings were quickly erected, thanks to Insulite, the original wood fibre structural building material.

Today, as in World War I, Insulite is answering the call. Everywhere—in army camps, in munition factories, in defense buildings of all kinds—you'll find Insulite on the job, building soundly, quickly, economically.



← **THIS...**
Not this →

For more efficient war production, defense workers need comfortable, healthy housing. Attics and other unused space can be quickly converted into attractive rooms by merely applying Insulite to studding or existing walls. Only a few hours are required to convert such unused space into serviceable, living quarters. Don't let unused space go to waste—build a "victory apartment" with Insulite.



THE STORY OF TWO CARS:

There is a shortage of railroad cars. We must conserve every bit of shipping space. One carload of Insulite, used in insulating the walls and ceilings of homes, will save a half a tank car of fuel oil during each heating season. Here's a moral we can't overlook: build with Insulite, the material that not only builds stronger, but **INSULATES AS IT BUILDS.**




INSULITE
Minneapolis,
Minnesota

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Paper Company

INSULITE

THE ORIGINAL WOOD FIBRE STRUCTURAL
INSULATING BOARD

EVANSVILLE, INDIANA, APRIL 12, 1942

Still Another STRONG-BILT Project . . .



Designed and built by Bradford Home Inc., Evansville, Ind., Gale Bradford, Pres.

First House completed in 19 days

TODAY in this hustling town on the banks of the Ohio, occurred one more event of high significance to America's builders of homes.

Here, under the observing eyes of FHA officials and prominent civic backers, another acorn was planted for what is destined to become the building industry's sturdiest oak—the small house.

Here in the chill of an early Spring Sunday, over 7,000 Evansville people left the comfort of their homes to stand in line for their chance to inspect a *low-cost* exhibition home, the first of hundreds to be built in this area for incoming war industry workers.

Visitors trooped out in droves, expectant, with hope in their eyes. And they were not disappointed. Here was tangible evidence

Walls and ceilings of enduring beauty which will remain forever free from ugly, creeping cracks.

that it *could* be done. It *had* been done. A fine modern home completed in only 19 days.

And so it happened in Evansville, as it has happened in many another American community during the past few months. Eager, intense interest in a well built home the common man can afford. And among much-praised new features: outspoken appreciation for *crackproof* walls and ceilings of lasting beauty, made with new Strong-Bilt Panels.

Wherever thinking builders fight against costs and cracks, Strong-Bilt Panels receive a warm welcome. For here, indeed, is a product which satisfies the rapidly growing demand of today for dry-built construction.

If you want to have a part in wartime housing—if you want to use now, a method of finishing interior walls and ceilings already firmly established among the newest and most practical of cost-saving methods, write us quickly for details of how it is done. Proved in over 10,000 public as well as privately-built, low-cost houses. The Upson Company, Department 1-D, Lockport, N. Y.

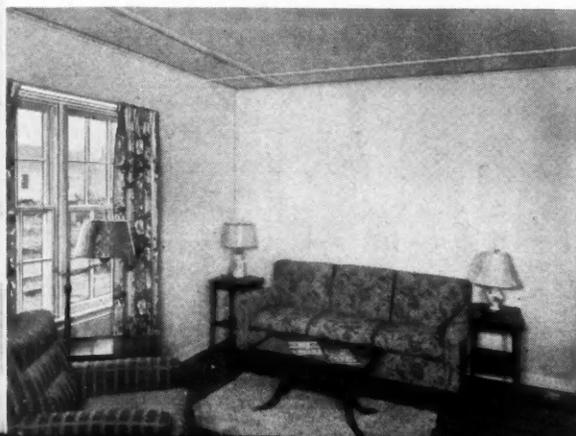


NEW AND ADDED BEAUTY FOR BATHS AND KITCHENS
Upson Dubl-Thik Fibre Tile provides greater beauty, strength and insulation value at approximately one-half the applied and finished cost of similar materials.

*Speed and Economy
with Crackproof*

STRONG-BILT PANELS

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- ★ **Applied with utmost speed.** 40 to 50 man hours for average small home. No waiting for plaster to dry. Building time cut two to three weeks.
- ★ **Full wall construction.** Panels 4' wide . . . or giant panels 8' wide and long enough to cover the entire wall of an average room, without seams or joints.
- ★ **No visible nailing.** The miraculous little Upson Floating Fastener (patented) nailed to studs and joists, grips the panels from the back anchoring them securely.
- ★ **Saves painting cost.** Panels pre-painted at the factory. A single coat of paint is usually sufficient—never more than two.
- ★ **FHA accepted.** New terms streamlined for the duration in war production areas.
- ★ **Pre-Fabrication.** In projects of 100 units or more, needed sizes are pre-cut and numbered at the factory—ready for lifting into place at the site, or in pre-fabricating plant.



**UPSON
STRONG-BILT
PANELS**

(A Simmons-Boardman Publication)

AMERICAN BUILDER

and Building Age

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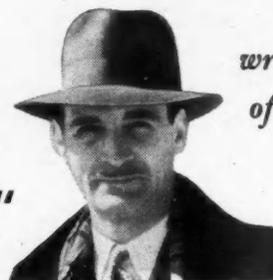
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"HERE'S WHY WE USE THE FLOATING WALL SYSTEM FOR DEFENSE HOUSING CONSTRUCTION..."



writes Joseph Buonodona,
of A. Buonodona, Inc.,
New York City

"WE USED the Gold Bond Floating Wall System at Bellmawr Defense Housing Project, Bellmawr, N. J.", states Mr. Buonodona, "because it reduces room-to-room noise transmission and provides a fire-retardant gypsum lath and plaster wall with a resilient type of construction that protects against cracks caused by expansion, contraction and settling."

Like Mr. Buonodona, thousands of architects and contractors know the Gold Bond Floating Wall System is the best insurance against plaster

cracks. They've found it's a practical way to quiet noise, and know that its one-hour fire rating for walls is a real safety factor. Best of all, the cost is so low you can use this better method of building plaster walls and ceilings in houses selling for less than \$5,000.

FIRST WITH NEW IDEAS

You get the *best things first from Gold Bond*. National Gypsum research has pioneered more than 150 better Gold Bond products for every wall and ceiling use—including plaster, lime, wallboard, lath, wall paint,

insulation, sheathing and sound control materials.

Today, 10,000 Gold Bond dealers, 300 trained representatives, and 21 strategically-located plants are at your service. And there's no buck-passing when you use Gold Bond products exclusively. *All* materials are backed by *one* reliable manufacturer. Write for specifications on the Gold Bond Floating Wall System and other new and better methods of wall and ceiling construction. National Gypsum Company, Buffalo, New York.



NO SPECIAL EQUIPMENT IS NECESSARY to install the Gold Bond Floating Wall System. Any lather can drive the patented nails *between* panels of gypsum lath, providing a resilient tie with the stud as shown in this diagram. Plastering is done in the usual manner.

BUILD BETTER WITH

Gold Bond

Everything - for walls & ceilings



More than 150 products including
WALLBOARD...LATH...PLASTER...LIME
METAL PRODUCTS...WALL PAINT
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PUBLISHER'S PAGE

A Small Builder Asks Help for Small Builders

THE *American Builder*, just before this issue went to press, received from a general building contractor a letter most graphically and significantly describing conditions now existing not only in his own community, but in thousands of communities throughout the country. Its writer signed his name and gave his address, but at his request his identity is not disclosed. However, it is pertinent to state that he lives in a rural town with a population of 5,000, that nearby there is another town of 7,000; and that they are located only about 50 miles from the state capital. The letter follows, italic type being used to emphasize certain points:

"I have been reading your editorials in the *American Builder*. I wish you would help straighten out a very tough situation.

"There are millions of people who need their houses repaired or necessary maintenance work done. Much of it does not amount to much. Or small additions to residences or maybe a garage is needed. Or fences built or even repaired. *They are scared stiff and live in fear of being fined, imprisoned, etc., by the federal officers.* Even in defense districts like ours here they harbor such fears. There is a crying need for houses and rooms here, as a great camp is under construction. Nobody understands that \$500 limit in town, or \$1,000 in the country.

"If you inquire anywhere you find some fellow with his feet up on his desk and his head in his hands with a faraway look on his face. *He blats out a few curt sentences, supposed to be information, and acts as if he expected you should know all these things yourself.* So you go out, knowing less than when you went in, and *naturally you do nothing further about the necessary work. Contractors and sub-contractors are afraid even to figure on work.*

"Now, many of the builders getting along past 50 cannot go out to the army camps to work 70 hours per week on them, like the schedule here. The contractors out there hire and fire, and if they can 'hand it' to a smaller contractor who tries

to hold a job at such places, *they take great pleasure in tying a can to him. Even good journeymen get it.*

"Naturally, we all want to win this war —of course we do. Nevertheless, *we have to live some way. We can't all go on relief or hold a public office job at fat pay. This thing is driving us crazy!*"

THE *American Builder*, in reply, has directed this contractor's attention to the article entitled, "War Board's Building Conservation Order" which appeared in the May issue of this paper, beginning on page 39, and which told in detail what may and may not be done under Order L-41, effective April 9.

Meantime, how completely the letter vindicates what was said on this page in our May issue under the caption, "Helping Small Builders and Dealers to Help." "Government, large contractors and manufacturers," we said, "must do their parts" in helping small builders and dealers to contribute their large share toward the government's building program by informing them *what* they can do and *how* and *with what* they can do it. Instead, the writer of this letter asserts, those wanting work done by small builders are "scared stiff; if you (the small builder) inquire anywhere, you find some fellow" —i.e., some government fellow—"with his feet on his desk" who "acts as if he expected you should know all these things yourself" and "naturally you do nothing further about the necessary work."

DOESN'T sound like the "American way," does it? The small building industry *must* be given full opportunity to participate if the government's huge war building program is to be successful; it is *not* being given this opportunity; it can be given it *only* by the means outlined on this page in our May issue; and if it continues not to be given it, responsibility for the results will belong to the government.

Samuel O. Dunn,

SIMMONS-BOARDMAN PUBLISHING CORPORATION: SAMUEL O. DUNN, CHAIRMAN OF THE BOARD; HENRY LEE, PRESIDENT; BERNARD L. JOHNSON, ROBERT H. MORRIS AND J. S. CRANE, VICE-PRESIDENTS; ROY V. WRIGHT, SECRETARY; E. T. HOWSON, ASSISTANT SECRETARY; JOHN T. DE MOTT, TREASURER; EXECUTIVE AND EDITORIAL OFFICES: 105 WEST ADAMS STREET, CHICAGO; 30 CHURCH STREET, NEW YORK CITY.

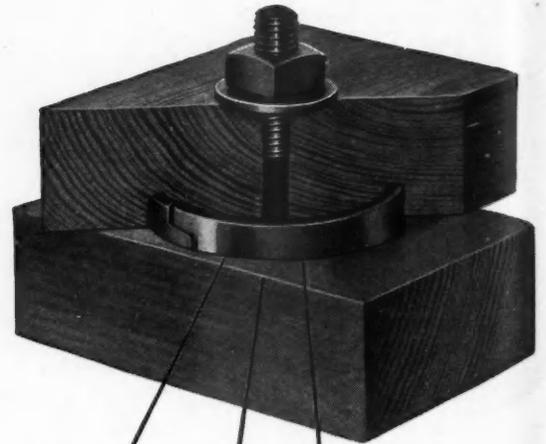
Lumber

Speeds

VITAL CONSTRUCTION

through

IMPROVED METHODS



THE Teco Connector system of wood construction has brought about an epochal advance in the structural use of lumber . . . releasing steel in vast quantities for the war effort . . . presenting an unlimited new field for service and activity to architects, engineers and contractors. Lumber takes over!

As a result of the Teco Connector system of wood construction, lumber can be used more effectively and economically than ever before in designing, engineering and construction. A simple

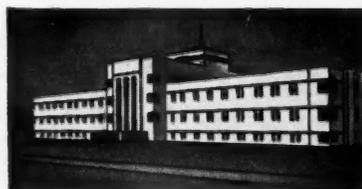
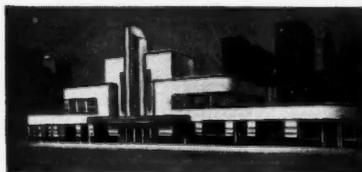
invention, simple to use, the Teco Connector distributes the bearing area of stresses at joints over almost the entire width of the member, giving more rigid and stronger joints *with less material*. It has made possible the swift and economical construction of thousands of defense structures, including large and small factories — army chapels — pre-fabricated houses — hangars — dry docks — wood trusses with clear spans of 180 feet and more — graceful wood towers more than 300 feet high. It opens the way for meet-

ing many of the current requirements for commercial and industrial construction.

Every individual or organization interested in the expanded possibilities of the Teco Connector system of wood construction can make immediate use of practical working material available. Any qualified structural engineer can design for the use of Teco Connectors and competent carpenters can use them in building with commonly available lengths and dimensions of lumber. Write today for full details!

WEYERHAEUSER / SALES / COMPANY

First National Bank Building • Saint Paul, Minnesota



The use of 200 Teco Connectors releases more than a ton of steel, enough for approximately 400 army rifles, or 50 heavy machine guns.

TECO Timber Connectors Save!

SAVE STEEL . . . One pound of Teco Connectors replaces 11½-12 pounds of steel.

SAVE LUMBER . . . 80% to 100% of the working strength of lumber

is utilized instead to from 40% to 60%.

SAVE MONEY . . . There is a saving up to 33½% in cost as compared to steel, and up to 45% as compared to

traditional wood truss construction.

SAVE TIME . . . Trusses can be speedily fabricated on the job out of standard lengths and dimensions of lumber.

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AMERICAN BUILDER AND BUILDING AGE

To Speed the War Building Job

LATE developments on the Washington front indicate that the high tide of *primary* war construction is being reached and that, with the turning of war industry from construction to production, building materials and building labor will soon be released more and more for other important uses—such as housing and homes, farm buildings, and repairs and maintenance.

The present strategy is to speed to early completion the additional needed training camps, bases and largest munitions works, getting them into immediate quantity production, and to cancel or postpone all long range projects that cannot be finished in time to contribute to victory *this year and next*.

This program, while obviously bringing great strain on the construction industry this spring and early summer to speed up and complete the major projects, holds hope of fairly early relief to small builders and dealers in releasing to them materials and equipment for needed local projects to serve the people and contribute to the overall war economy.

Private Industry Home Building Approved

Congress and the Administration have endorsed the service of the private home building industry in a most convincing way by putting through a number of amendments to Title VI of the National Housing Act to facilitate the building in "defense areas" of war industry homes for rent and for sale. These amendments include:

1. Upping of the mortgage insurance limit on one-family dwellings in defense areas from \$4,000 to \$5,400 (which will make an FHA 90% mortgage available on a \$6,000 house);
2. Extending the permissible mortgage term from twenty to twenty-five years;
3. Increasing the amount of mortgage insurance permissible on war housing from \$300 to \$800 million;
4. On large-scale rental housing projects (section 608), increasing the percentage which the mortgage may have to assessed value from 80% to 90%.

These amendments, which incorporate in detail recommendations made some months ago by the Home Builders Emergency Committee representing the home building industry, cut away phraseology that has hampered consideration of war housing realistically on its current merits. They open the way for more liberal administrative regulations and policies.

It seems that *American Builder*—in company with most other builder and dealer publications—was in error in its interpretation (page 39, May) of the farm building restriction in Conservation Order L-41. The present ruling is that the \$1,000 limit applies to all farm construc-

tion on any individual farm within a 12 months' period, and not to each separate farm building.

The lumber secretaries, at their recent meeting, formulated certain definite questions pertaining to L-41, Question 5 reading: "Can a farmer build a horse barn costing \$900 and, within the same twelve-month period, build a hog house costing \$600?" H. R. Northup, secretary of the National, has circulated answers to these questions by William V. Kahler, chief of the Construction Branch, War Production Board. His answer to this Question 5 reads: "A farmer cannot build a horse barn costing \$900 and a hog house costing \$600 within the same twelve-month period without specific authorization, because the barn and hog house are construed to be part of the same agricultural project."

Other questions of general interest were answered:

Q.: Does every application for authority to begin construction have to go to Washington, or can it be acted upon by the Regional Office of the War Production Board and the necessary permission granted?

A.: Authorizations to begin construction are granted only in Washington. The Regional Offices of the War Production Board have not this power.

Q.: With regard to farm construction, who should be contacted as the representative of the Department of Agriculture in order to secure permission to commence construction of farm buildings costing more than \$1,000?

A.: Applications to begin construction of agricultural buildings should be filed with the local Department of Agriculture War Board.

Gasoline for Builders

Workers on war construction jobs in the gas ration areas who need their cars not only to drive back and forth to work, but also to travel from job to job, are assured adequate supplies of gasoline for these purposes, the Office of Price Administration declared on May 16.

Because of a lack of housing facilities near many construction jobs, workers have to be lodged several miles from their place of work. Also, building workmen, including electricians, plumbers and carpenters, have to transport their tools, thus making their cars essential.

The gasoline rationing regulations permit supplemental rations of gasoline, this publication is assured, whenever they are needed for cars that must be driven in pursuit of a gainful occupation. Supplemental rations may also be issued to migrant workers who need their cars to travel from job to job. Application for additional supplies of gasoline is to be made at a local rationing board. The local board is authorized by OPA to issue ration cards providing for the purchase of the necessary gasoline.



NEW NOTE in small homes is set by Levitt's "All-American" designs, featuring carports, exposed rafter ends, natural wood finishes.

Levitt & Sons of Virginia Set New

ANYONE who visits the 200-acre site of Levitt & Sons' new Title VI war-home project "Oakdale Farms" in Norfolk, Va., cannot help but come away with renewed confidence in the ability of private builders and private enterprise to meet the war housing emergency.

Here is perhaps the foremost American example of skill, ingenuity and sound construction experience applied to low-cost war homes.

Uncle Sam does not have a penny invested in this job. Yet attractive, livable two- and three-bedroom homes are being built at a remarkable rate. The Levitts confidently expect to complete 750 by the middle of August, although the job did not start until the latter part of April. A production rate of 50 completed houses a week is expected by midsummer—and by this the Levitts mean a house fully complete, equipped with electric refrigerator, stove, Venetian blinds, with the water turned on and the house ready to live in.

Building war houses under Title VI is no bed of roses. As I sat talking to Bill Levitt in his office, in what will later become a shopping center for Oakdale Farms, we were interrupted by frequent long-distance Washington telephone calls over a problem concerning an A-1-c priority rating needed for copper wire. There have been shortages of nails and other metals and of competent workmen. Yet the job is going ahead rapidly and the first 50 houses were ready for occupancy early in May.

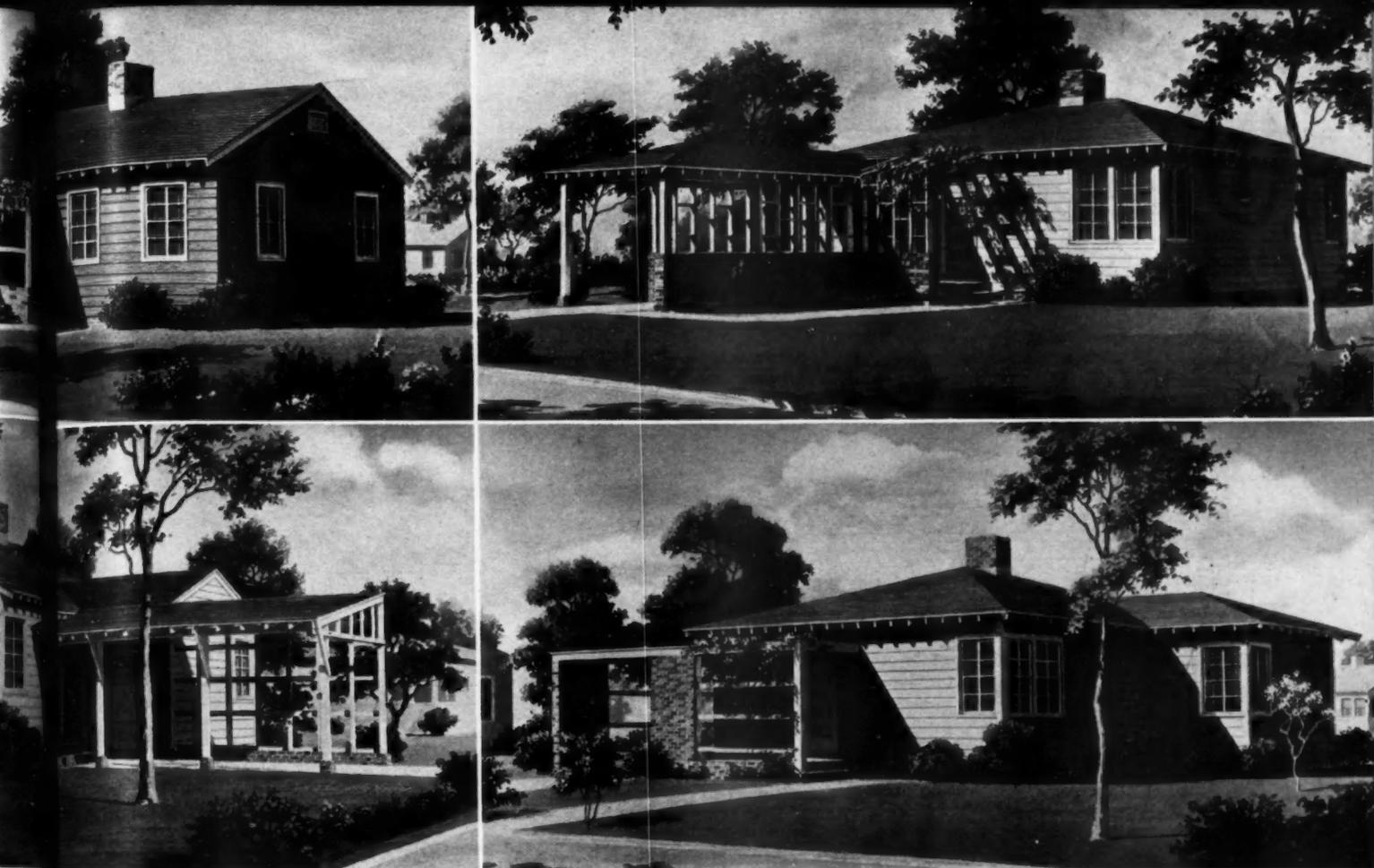
The thousands of perplexing and intricate problems involved in a job of this extent in wartime have called

"All-American" designs, modern floor plans, streamlined construction methods used in building 750 houses for rent to naval officers at \$40 to \$44 a month. Builders have A-2 priority

By Joseph B. Mason

for unceasing hours of hard work by these builders. It would be a fine thing if some of the critics of the private residential construction industry could visit such a job as this to see what it involves in terms of hard work and personal sacrifice. When I visited this job some 300 houses were in various stages of construction, and at that time the builders had approximately a million dollars tied up in the entire project. Not a dollar had yet been turned over to them by the insurance company that is taking the mortgages.

American Builder readers need hardly any further introduction to the Levitt organization, as its work has been frequently described in this publication. The firm is actively managed by William and Alfred Levitt, aged 35 and 31, respectively, who in the past five years have built more than 1,000 houses in their Manhasset communities on Long Island in New York, which they sold at a gross of over 13 million dollars.



ABOVE, Levitt's six basic designs: two-bedroom models, top row; three-bedroom at bottom. Plans and details on following pages.

Standards in Title VI War Homes

An outstanding illustration of the manner in which private builders are using ingenuity, skill and advanced building techniques to provide attractive war homes at low cost; 90% FHA mortgages, \$3650 and \$3950

It was not a desire for profit but for service that led them into the low-cost war house building field with its multitude of headaches. An important contributing factor is their intense desire to show that the private enterprise system can produce good houses at a constantly lower cost. Experience gained in these war houses will enable them to develop low-cost streamlined production methods they hope will prove valuable in the post-war period.

"We want Oakdale Farms to be an indication of what private enterprise can do now for war workers and also to give some idea of what is possible in the future," William Levitt told me.

"After the war we are going to build houses for the 'forgotten families' of low income and give them more house for the money than they have ever had before.

"We believe that private builders today and in the future must keep giving people of low income constantly greater value for their money. Our hope and aim is to make our houses so desirable that people will want to live

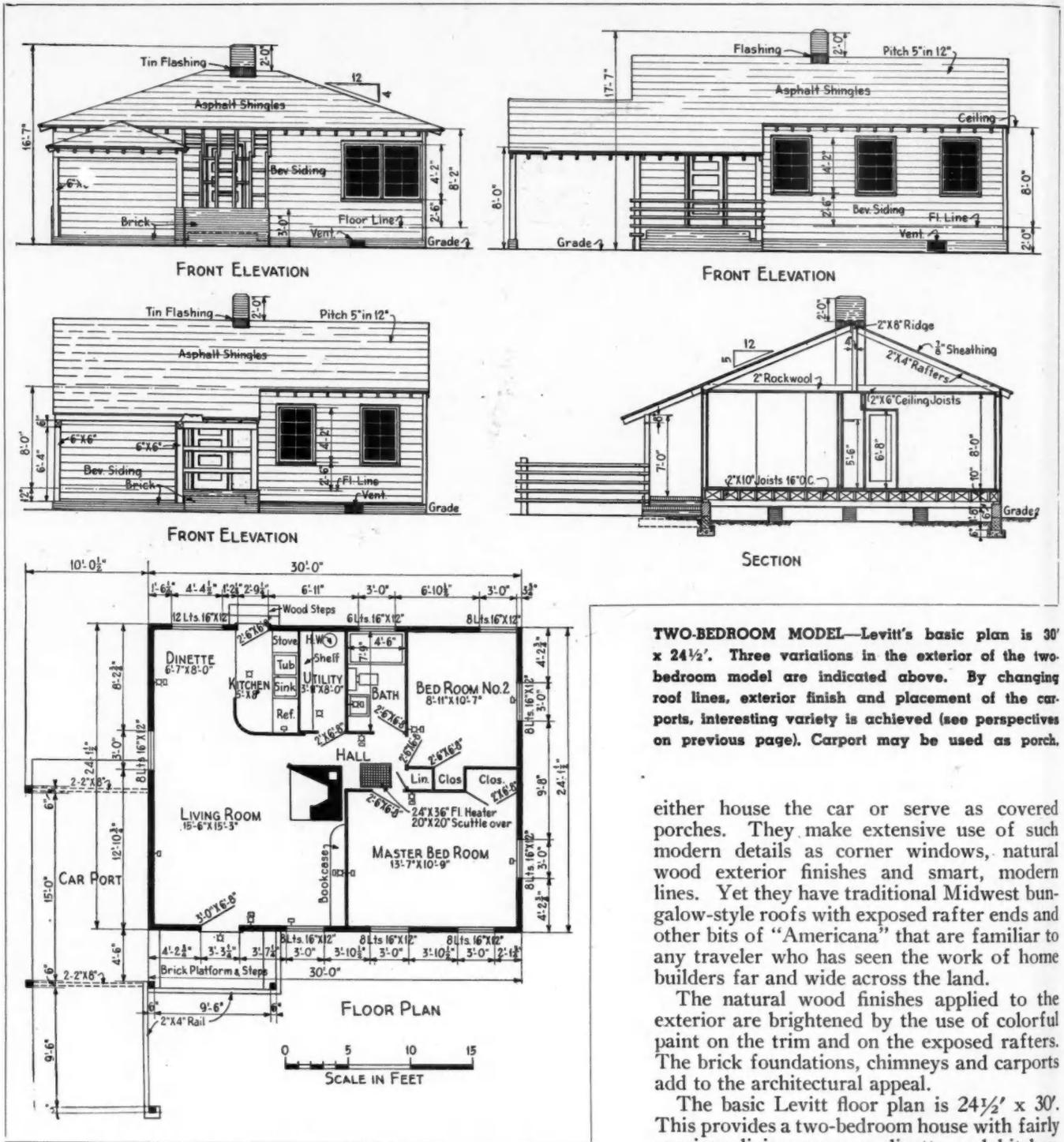
in them regardless of leases or down payments. A small home can be so well designed, nicely landscaped and soundly built that people of low income will not want to turn to public housing projects. That is the job we believe private builders must do."

Certainly the start made by the Levitts in their Oakdale Farms project is a promising one. In the first place, a new style of architecture has been created—a style with a fundamentally American feeling that will undoubtedly create a place for itself. I have called them "All-American" designs because they seem to have captured the tradition of the "wide open spaces" of the West, and then brought to them the modern planning and smart design of Eastern builders. They have interestingly detailed "carports" or semi-enclosed garage space, which may

First of Two Articles on Levitt & Sons

THIS is the first of two articles on America's outstanding private war home building job. The first article was written while construction was in full progress, and so cannot adequately show the attractive finish, landscaping and artistic detailing of the houses. A second article to be presented in a later issue will show the houses when they have been fully completed.

For a comparison with a publicly-financed, prefabricated war-home project, see article on pages 54 to 57.



TWO-BEDROOM MODEL—Levitt's basic plan is 30' x 24½'. Three variations in the exterior of the two-bedroom model are indicated above. By changing roof lines, exterior finish and placement of the carports, interesting variety is achieved (see perspectives on previous page). Carport may be used as porch.

either house the car or serve as covered porches. They make extensive use of such modern details as corner windows, natural wood exterior finishes and smart, modern lines. Yet they have traditional Midwest bungalow-style roofs with exposed rafter ends and other bits of "Americana" that are familiar to any traveler who has seen the work of home builders far and wide across the land.

The natural wood finishes applied to the exterior are brightened by the use of colorful paint on the trim and on the exposed rafters. The brick foundations, chimneys and carports add to the architectural appeal.

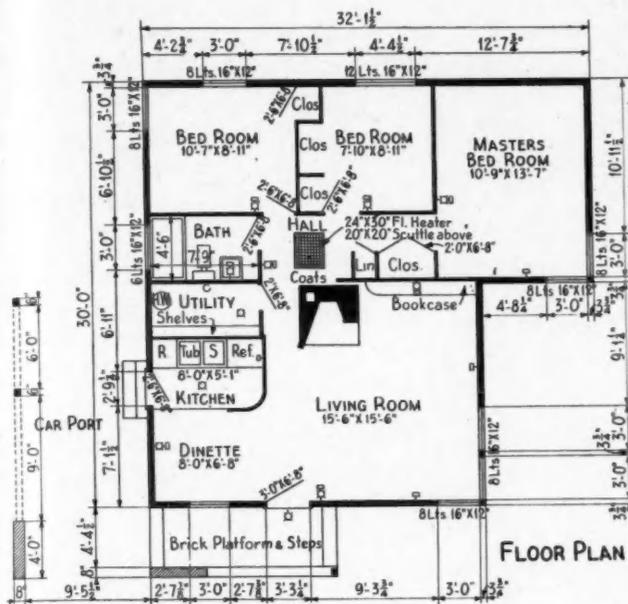
The basic Levitt floor plan is 24½' x 30'. This provides a two-bedroom house with fairly spacious living room, a dinette and kitchen. By the addition of an 8' x 14'-4" projection, a

third bedroom is added to this plan (see details, page 51). By turning these two plans at various angles to the street and by varying the roof lines, the placing of the carports and entrances, a surprisingly interesting variation in exterior appearance is achieved.

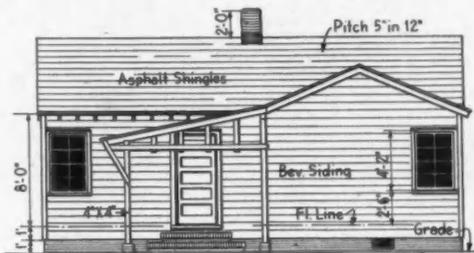
The Levitts have also shown skill and artistic understanding in placing the houses on the plots and have studiously avoided any monotonous regularity. These factors, coupled with the use of a variety of exterior color schemes, result in a most attractive appearance which, when the job is completed, will be greatly heightened by a thorough landscaping job. Previous Levitt projects have been notable for the beauty of the planning and landscaping. Early this fall landscaping crews will move in and do the entire job at once. Sixty carloads of trees and shrubs have been ordered.

TITLE VI Levitt houses feature fireplaces with coal grates, carports, "open plan," floor furnaces, 2" mineral wool insulation, dry-wall construction throughout.

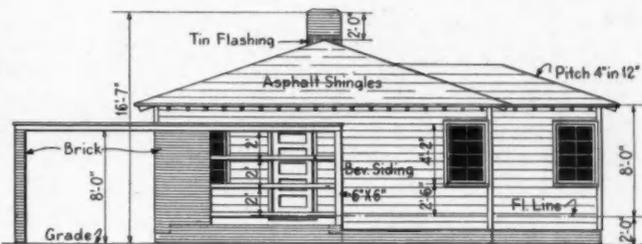
NATURAL wood finishes used throughout. Trim and exposed rafter ends painted cheerful colors. Minimum lots are 60' x 120'.



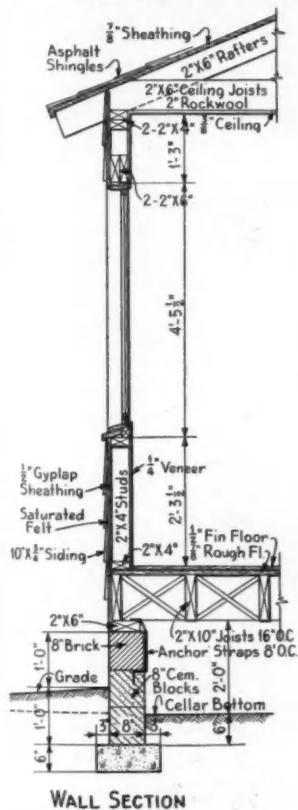
FLOOR PLAN



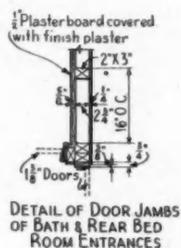
FRONT ELEVATION



FRONT ELEVATION



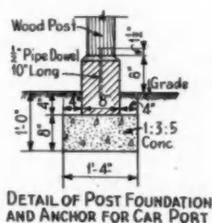
WALL SECTION



DETAIL OF DOOR JAMBS OF BATH & REAR BED ROOM ENTRANCES



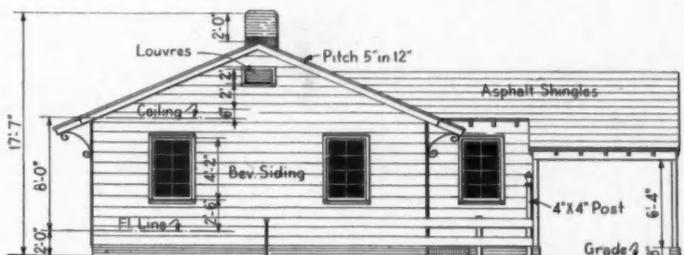
SECTION THRU SILL AT END OF JOISTS



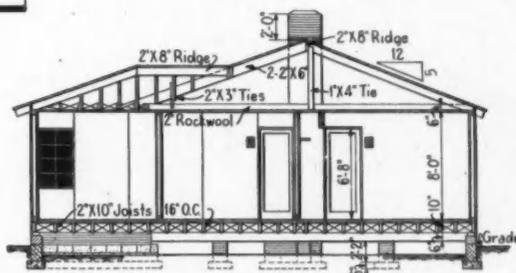
DETAIL OF POST FOUNDATION AND ANCHOR FOR CAR PORT



SCALE IN FEET



FRONT ELEVATION



SECTION

THREE-BEDROOM MODEL—By adding an 8' x 14'-4" projection to the basic 30' x 24 1/2' plan, shown opposite, Levitt produces the three-bedroom house above. Variations in front elevation are achieved by facing different sides of plan towards street.

As to interior arrangement and finish, the Oakdale Farms homes are unique and interesting. An attractive free-standing brick chimney and fireplace rises in the middle of the house and forms one corner of the living room. This is equipped with a Bennett steel recirculating fireplace and flues which deliver heat to adjacent rooms. It is also equipped with a coal grate and damper system which provide constant heat. In addition to the fireplace, International oil-burning floor furnaces are installed in the center halls.

The nature of the plan gives the living room a spacious appearance. At one end it merges into the dining area which is separated from the kitchen by a curved plywood

partition. The interiors of the houses are lined with Douglas fir plywood given a light natural-wood transparent finish.

The kitchen and bathroom are separated by a 3' utility space which provides easy access to the plumbing. The plumbing layout is extremely simple and is a noteworthy contribution to lower cost.

While the actual kitchen area is small, it is unusually well arranged and equipped. A General Electric refrigerator and General Electric steel cabinets both above and below the sink are installed across the entire wall. A quality insulated gas range by J. B. Slattery, with Robertshaw controls, is included in the equipment. The sink is a



A FOREST OF CHIMNEYS rises from the site of the Levitt job as more than 300 foundations are completed before carpenters come on the job. Rough plumbing was installed first.

Construction High Spots of Levitt Job

1. FOUNDATIONS, free-standing chimneys, rough plumbing, all completed before carpenters start work.
2. WALL SECTIONS, complete with windows and exterior siding, built horizontally, then raised.
3. CEILINGS HUNG from roof rafters. Plywood and gypsum board surfaces of exterior walls applied before interior partitions are erected.
4. SIMPLIFIED PLUMBING PLAN centered in utility room between kitchen and bath.
5. SKILLED WORKERS organized in small crews earn \$70 to \$80 a week.
6. LUMBER PRECUT on power saws to exact size.

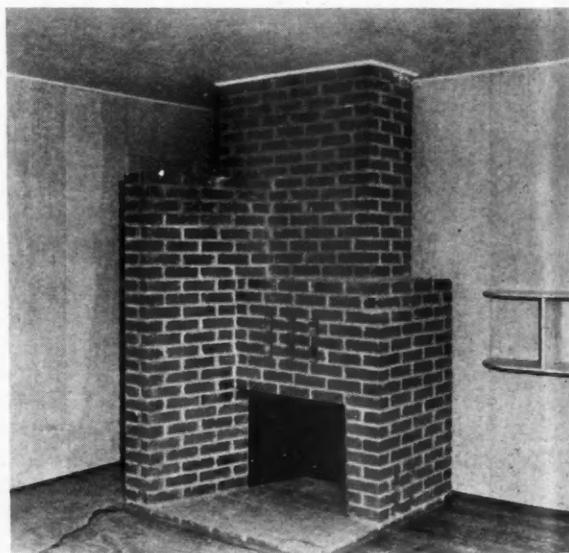


SIGN states rental and preference number. Storage building in the background will later be used as a local shopping center.

large duplex laundry tray and sink combination by American Radiator-Standard Sanitary Corp. Kitchen and bathroom walls are covered with Bird & Sons heavy waterproof Armorwall with glossy, enamel surface.

Other items of interior finish include Bruce streamline factory finished hardwood floors throughout, Acme Venetian blinds, and clever wooden lighting fixtures designed and built by the Levitts, using cellulose acetate (plastic) enclosures. No metal is used in these wooden fixtures and they hook over standard procelain outlets.

Construction operations employed at Oakdale Farms are as forward looking and technically advanced as the designs. The Levitts made an intensive study of prefabrication before starting this present job and have



RECIRCULATING FIREPLACE of attractive brick dominates living room. Walls are of natural finish plywood, floors of factory-finished oak. Coal burning grates may be installed in fireplace.

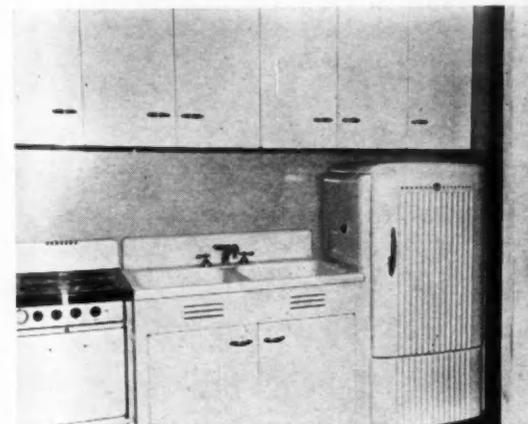
INSTALLING STEEL package windows (left), which are delivered to job complete with frame and trim which have already been given prime coat of paint. Note substantial framing method, including notched corner braces, 2 x 10 floor joists, diagonal rough flooring.



CLEVER construction details of carport and decorative entrance railing. Note brick porch.



COMPLETE FOUNDATION with metal areaway, rough plumbing and oil tank; concrete pit for floor furnace.



LEVITT KITCHEN equipped with electric refrigerator, insulated gas range, duplex combination laundry-sink, metal cabinets above and below. Felt base Armorwall with baked enamel surface is being used on walls.

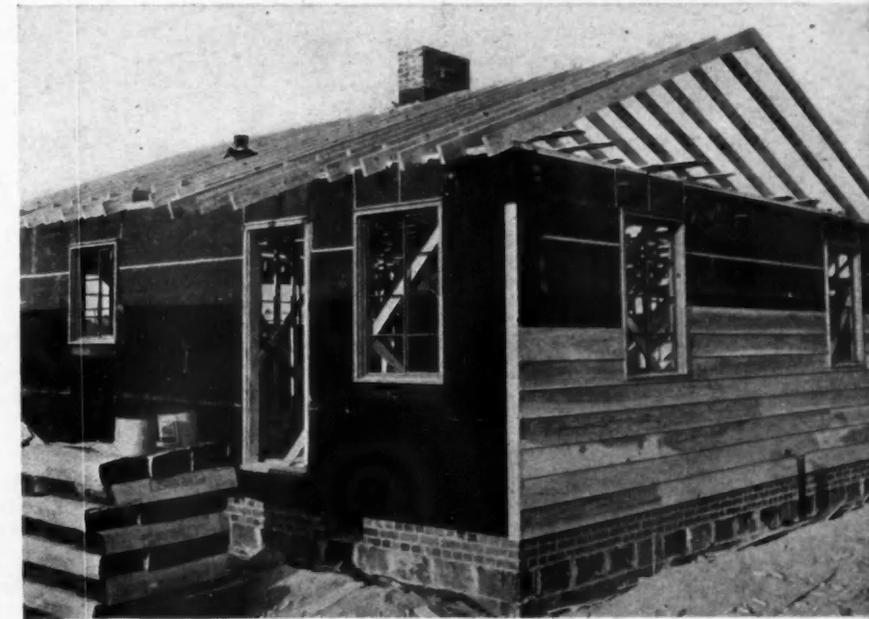
built a number of test prefabricated houses. They rejected this system, however, and instead are using many advanced and improved methods, coupled with successful standard practices. One of the most striking features of the job is the fact that all the masonry work on foundations and chimneys was done far in advance of the carpenter crews. When I visited the job, about 300 foundations and chimneys were completed, and the rough plumbing was installed, presenting a remarkable sight—a "forest of chimneys." Bill Levitt pointed out that except for foundations there is no water used in the construction of these houses. When his
(Continued to page 84)



APPLYING SIDING to exterior wall in horizontal position. Doors and windows are installed and wall is completed before raising.



CEILING HUNG from roof rafters so that interior finish can be applied without fitting around partitions. These are installed *after* gypsum board has been applied to entire ceiling and interior plywood finish to outer walls.



CONSTRUCTION DETAILS include gypsum board sheathing covered with 15 lb. felt, well lapped. Thick-butt asphalt shingles, piled in foreground, are used on roof. Roof rafters are 2 x 6, with 2 x 6 ceiling beams. Houses have 2" of mineral wool insulation in attic floor.



640-FT. FERTILIZER FACTORY converted to building of prefabricated houses—a beehive of activity. At left, Harry Hilp and F. V. Wilson.



BUILDING END GABLES on special jig table. Redwood siding is nailed direct to 2 x 3 studs covered by 30-lb. felt.



JIG TABLE used in building ceiling sections. Half-inch blanket-type insulation installed with tacker.

World's Biggest Prefab Job

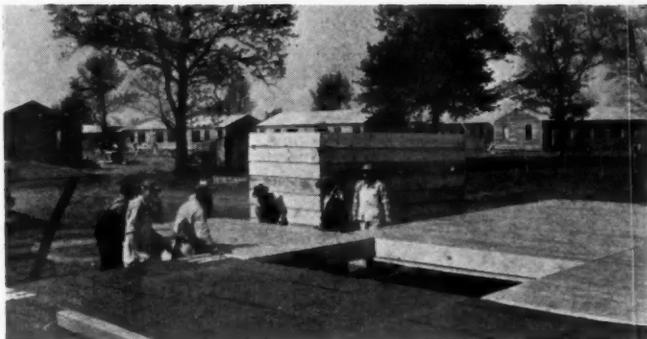
80 houses a day is capacity of Barrett & Hilp plant for 5,000-unit public job at Portsmouth, Va. Demountable sections built in 640 ft. factory are trucked 10 miles to the construction site

THE building of 5,000 houses in a contract time of five months is so colossal an undertaking that neither pictures nor words can describe it. This Barrett & Hilp operation at Portsmouth, Va., ranks high among the spectacular activities of America's construction industry at war.

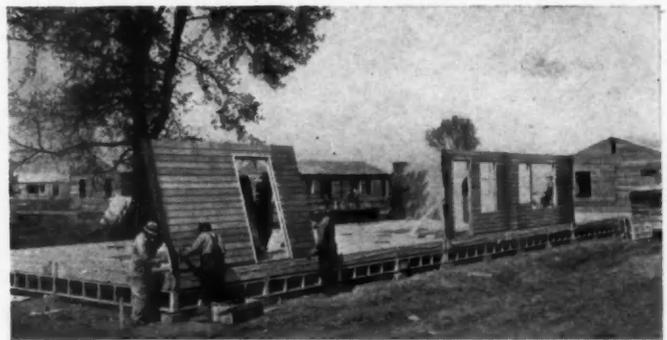
To build the sections for these 24'-3" x 28' war houses a huge abandoned fertilizer plant 640 ft. long by more than 200 ft. wide was rented. Numerous additions were built, special railroad sidings were put in, and today this huge house-building factory presents an amazing scene of activity. An extraordinary amount of power equipment, trucks, cranes, Ross carriers, is required since the sections are handled a truckload at a time, which represents a serious weight problem. An



CEILING SECTIONS on long row of prefabricated demountable units are lifted into place with truck-mounted boom.



FINAL FLOOR SECTION slips neatly into place.



COMMON LABOR quickly erects the wall sections.

individual floor section requires six men to handle, and the eight sections used in one house are a formidable load.

The various wall, floor and roof sections when completed in the factory are loaded upon trailer trucks and hauled ten miles to the site. They are unloaded with truck-mounted cranes and piled in prearranged piles or on sledges which are pulled by tractors. Lighter truck-mounted cranes then move the ceiling, gable and floor sections one or two at a time into place in the houses.

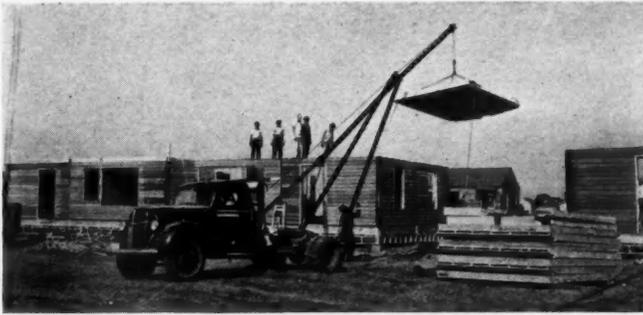
Thus, this world's largest home building operation has become one of the largest users of heavy equipment. For example, six huge Ross carriers are required in moving piles of lumber about the factory, and fleets of trucks move in and out of the factory and to the site. The materials involved mount to astronomical figures. The 5,000 houses require 1,240 carloads of lumber, 533 of Homasote building board, 200 of Bruce Streamline flooring; 15,000 kegs of nails, 43,000 squares of Johns-Manville and Ford asphalt shingles, 199,000 lbs. of Laucks Sote glue, among other items.

When full production is achieved the plant can operate two 10-hour shifts a day and has a capacity of 80 houses a day. Late in April when your *American Builder* correspondent visited this job, there were actually 30



AT FACTORY, floor sections are built two at a time, cut apart by power saw. Units are insulated with ½" blanket, have factory-finished oak floor surface.

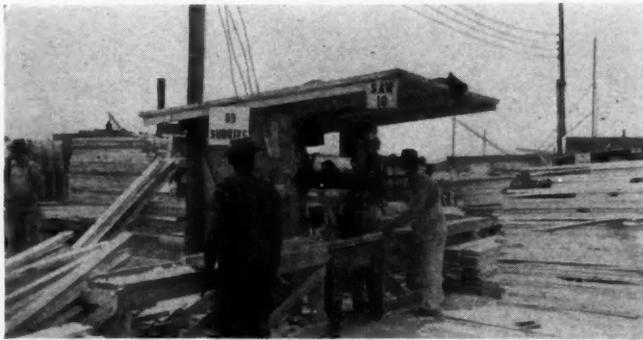
1240 carloads of lumber, 200 of flooring, 533 of building board used on largest house project ever undertaken. More than 15,000 kegs of nails, 43,000 squares of shingles used. Extensive heavy equipment required.



BOOM on truck swings ceiling sections into place.



HEAVY CRANE transfers prefab sections from truck to site.



BATTERIES of power saws are used in precutting lumber.



SIX HUGE CARRIERS transport lumber at factory.



LABORERS slide roof sections into place on long row of demountable units.



SWITCH BOXES, outlets and coils of wire cable are attached to studding in electrical workshop. These studs are then built into wall sections with wires protruding, ready for quick connection at site. All wiring operations have been highly standardized and greatly simplified.

Is this the housing pattern of the future? War gives builders of prefabricated structures opportunity to put into effect undreamed-of mass production techniques. 5,000-house job makes possible production of 80 units a day, using two 10-hour shifts. Cost per unit (house only) is contracted at from \$2,770 to \$2,990

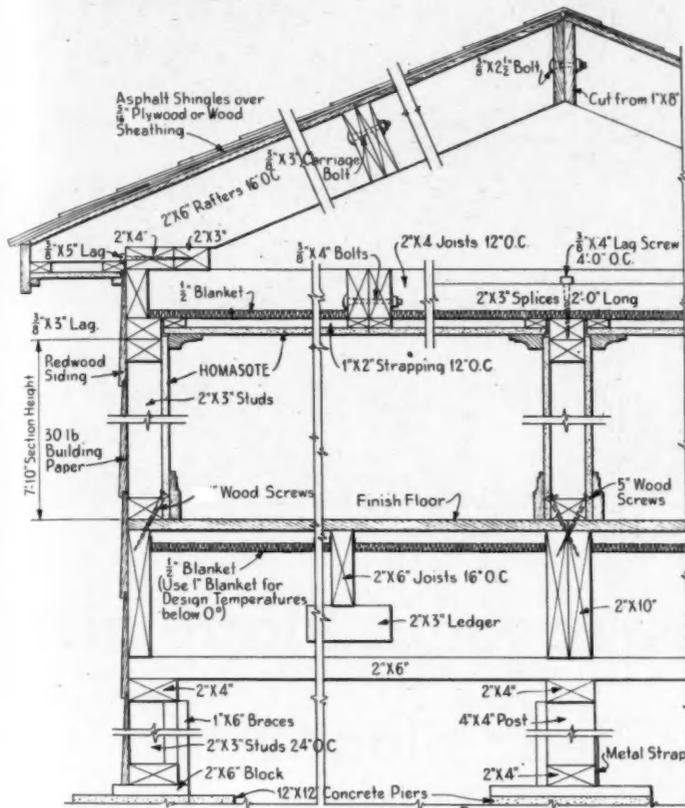
houses a day being produced, but at that time only one 10-hour shift was being worked. Due to governmental changes and delays and site difficulties over which the contractors had no control, they were unable at that time to go into full production, although fully prepared to do so.

Before going further with this article a few facts about the organization and background will be in order. The prefabricated demountable system employed by Contractors Frank Barrett and Harry Hilp is the "Precision-Built" system pioneered and developed by the Homasote Company of Trenton. However, due to the inability of the Homasote Company to produce enough of its building board to meet all war requirements, changes in the construction were made which involved the use of other materials. F. Vaux Wilson, Jr., the energetic vice president and general manager of Homasote Company, is active in an advisory capacity on the job and has with him Griffith S. Clark, Martin Wing, George Appel and W. Henry Neubeck, architect. In the Barrett & Hilp organization George McKeever is general superintendent; James Warn, shop superintendent; and S. A. Brown, field superintendent.

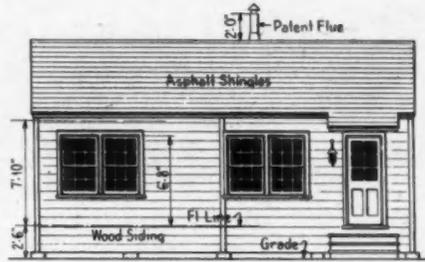
Barrett & Hilp and the Homasote organization have previously co-operated in several large government war housing projects, including the 977-unit Vallejo, Calif., job and the 500-unit project at Fort Leonard Wood, Mo.

It should be made clear that Barrett & Hilp's part in this home building operation involves solely the build-

(Continued to page 108)



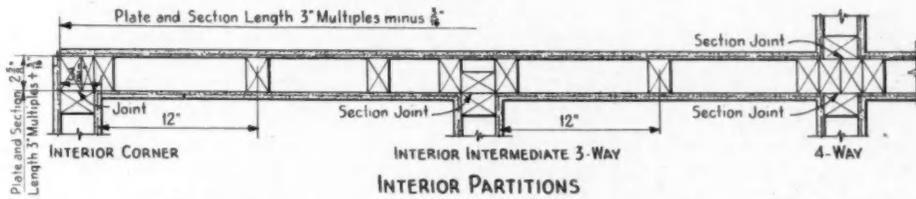
TYPICAL SECTION



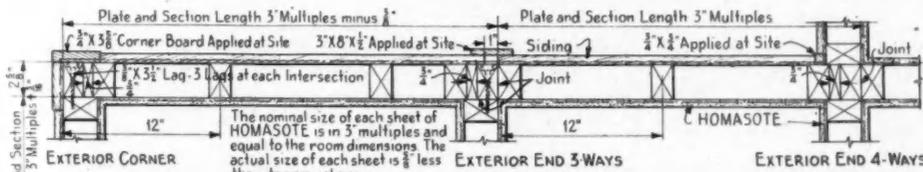
FRONT ELEVATION



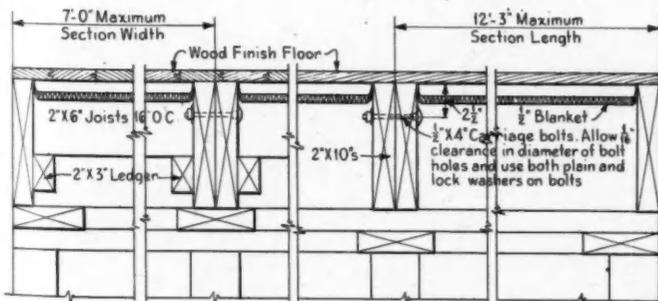
FLOOR PLAN



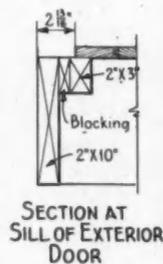
INTERIOR PARTITIONS



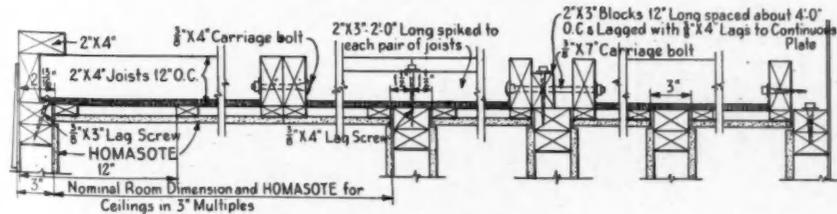
EXTERIOR WALLS



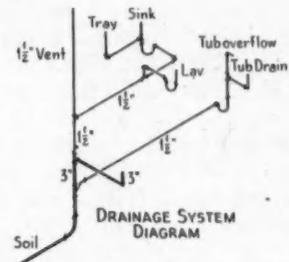
DETAIL OF FLOOR SECTION



SECTION AT SILL OF EXTERIOR DOOR



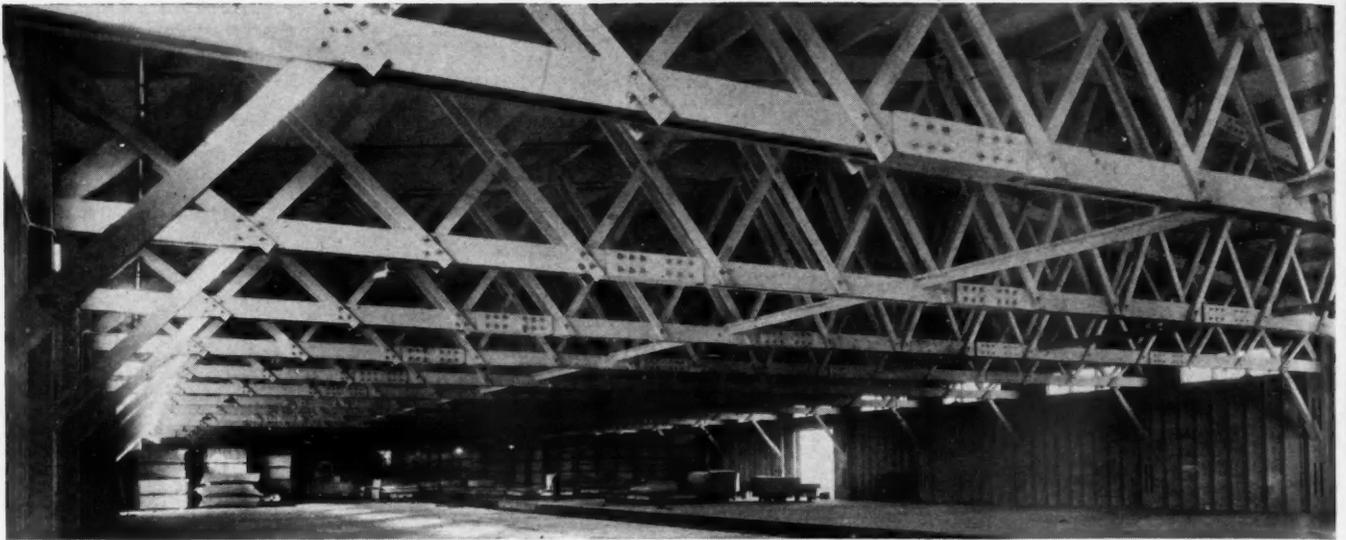
CEILING SECTION



DRAINAGE SYSTEM DIAGRAM

Details of Prefabricated Houses for Norfolk

PRECISION-BUILT prefabrication system details, as prepared by W. Henry Neubeck, Homasote Company architect of Trenton, N. J. Wall sections have exterior of redwood siding nailed directly to 2 x 3 studs covered with 30-lb. felt. Interior surface is of large panels of insulating building board. All sections bolt or screw together so that they may be demounted with minimum loss and moved to other site after the war.



Expansion Provides Tacoma Plant with 113 by 500-foot Clear Floor Area

WITH efficient industrial space for our war needs ranking high as a vital asset, the construction industry is quick to recognize and adapt methods that create it. Such an example is provided by the 200-foot addition that has been built onto the warehouse of the Pacific Forest Industries, a plywood handling concern. A 113 by 500-foot expanse of floor space in which to work has thus been set up on the Port of Tacoma dock, Tacoma, Wash.

Timber trusses, fabricated with Teco split-ring connectors, span the width of the big shed, with no need for center supports. The PFI managing director, Axel H. Oxholm, believes that only with this type of construction would it have been possible to achieve at reasonable cost an impressive safety record—never an accident since the original part of the warehouse was built in 1936.

As is the case here, the handling of plywood panels for any warehousing operation is likely to set up unusual space requirements, because of the large sizes in which plywood is available. In the PFI warehouse all sizes and grades from all mills must be rapidly accommodated, with plenty of space for each car to unload as it arrives. Because the wide, post-free Teco wood trusses support the entire

roof load, transmitting it to wall piers, warehouse trucks, etc., are all operated on a broad, clear floor.

Mr. Oxholm reports that visitors to the warehouse have been greatly impressed by the efficient operation which this type of construction makes possible, and that numerous plywood manufacturers are already using the Teco system in their own construction projects.

The new 200-foot addition, like the original building, was designed by George W. Osgood, Port of Tacoma engineer. The ten Teco trusses were constructed by F. A. Dahlgren, local contractor. The 4-inch by 2½-inch Teco split-ring connectors were supplied by the Northwest Bolt & Nut Company, Seattle.



AT TOP of page: Interior view of Pacific Forest Industries enlarged warehouse showing Teco connector wood trusses. **Right:** End of building where addition was made; new piers, joists, flooring and first truss in place.

Saving Steel in Factory Design

How Use of Concrete Cuts Need for Critical Material

ALTHOUGH the conservation of structural steel is now of even greater importance than a saving in construction costs, savings in both steel and total costs may be accomplished for many types of structures by employing an economical reinforced concrete design. The obvious saving in concrete over steel construction is represented by the structural steel members which are replaced by reinforced concrete. But careful design also offers a definite although less obvious opportunity for still further conservation of steel in reinforced concrete construction by utilizing the very minimum quantity of reinforcing steel to obtain the required structural strength.

Intelligently handled, reinforced concrete design, based on sound engineering principles, offers at least nine ways in which substantial quantities of steel may be saved. These include the following:

1. Elimination of wasteful over-design in either walls, columns, beams of floors, especially in multi-story buildings.
2. Reduction of span lengths in various concrete floor systems.
3. Uniformity in size of floor panels which permits standard-

- ization and saves the contractor both time and material.
4. Use of tied columns rather than spiral columns.
5. Increasing the strength of concrete, especially in

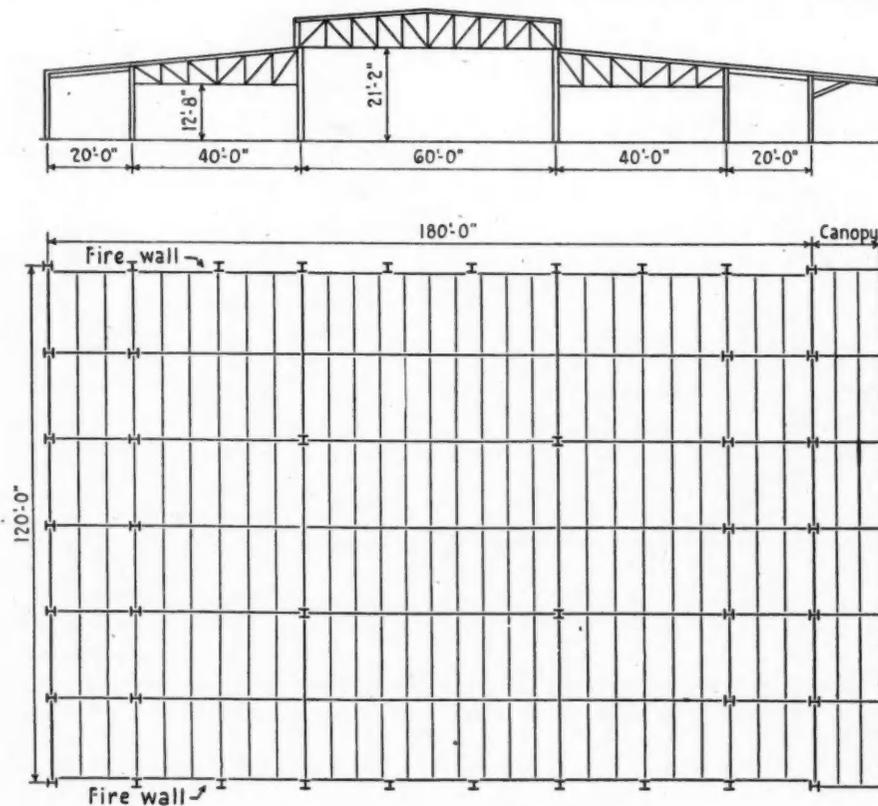


Fig. 1. Conventional layout for steel framing.

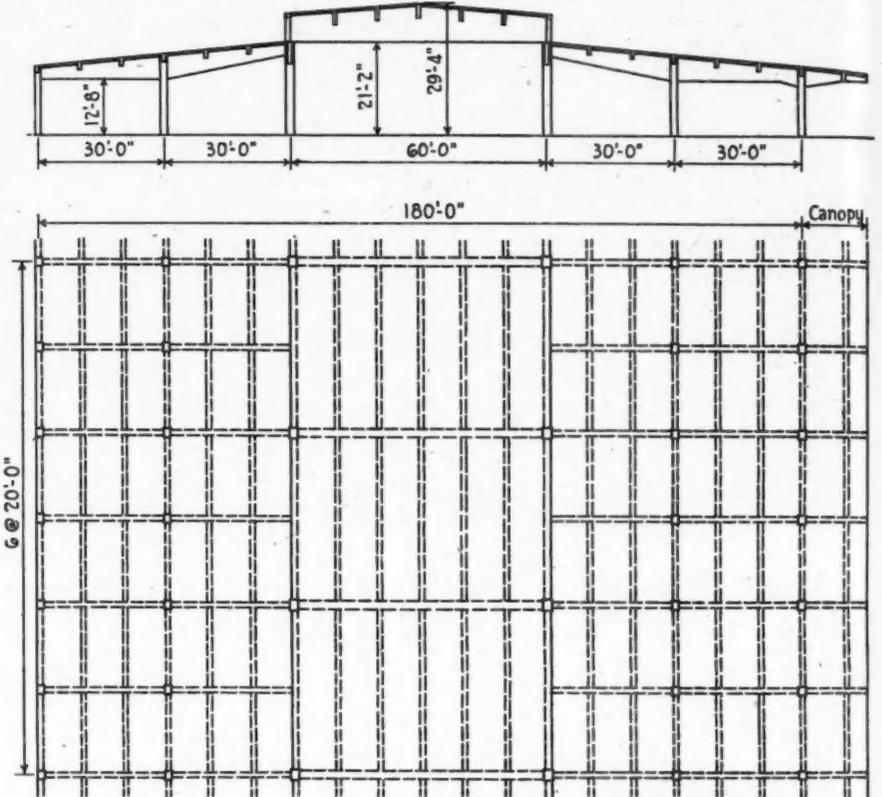


Fig. 2. Redesign for concrete.

4. Use of tied columns rather than spiral columns.
5. Increasing the strength of concrete, especially in
6. Butt splicing of reinforcing bars rather than lapping to insure load transfer from bar to bar.
7. Use of control joints in walls will, if properly placed, reduce wall reinforcement as much as 50 per cent by relieving volume change stresses.
8. Use of plain concrete wherever possible, as, for example, in footings and other below surface construction where slightly thicker concrete will eliminate all steel.
9. Use of continuous design in all important structures, which makes walls, floors, roof and all structural members function as an integral unit.

Some, if not all, of these methods of conserving steel were applied in a recent redesign of five typical military warehouses, each 182 by 1,582 feet, from steel frame to reinforced concrete. The net result was a saving of 4,753 tons of steel or 6.2 lb. per square (Continued to page 106)

HOW TO BUILD

Sabotage and Bomb Protection

BOMB SPLINTERS or the bullets of hidden saboteurs may be kept from electric transformers and other vital equipment or buildings by walls of hollow concrete masonry units with sand-filled cores. This method of protection is effective and has the advantage of conserving cloth sacks commonly used for sand bags, of which there is now a critical shortage. The concrete masonry units also have a high salvage value for other uses. Such walls, when erected without mortar, are easily dismantled after their need has passed.

Requirements for protective installations based on actual war experience in England are as follows:

Walls should be fire-resistant

- be capable of stopping either bomb splinters or high-velocity rifle bullets
- have adequate stability
- be able to resist severe weather exposure
- require minimum upkeep
- be quickly and economically built with local materials and unskilled labor

The English experience has shown that concrete masonry walls with sand-filled cores meet all these requirements. They have to a considerable extent replaced the sand bag walls which were widely used in England at the beginning of the war because it was found that the cloth sacks rotted within a few months, causing the complete collapse of many of the barriers.

Tests Prove Worth of Concrete Block Walls

Tests of the concrete masonry walls with explosives and rifle fire have been made in several parts of the United States in recent weeks. Garand and Springfield rifles, revolvers and machine guns were used with high velocity ammunition in field tests to determine the degree of protection afforded. In no instance did the bullets pierce the



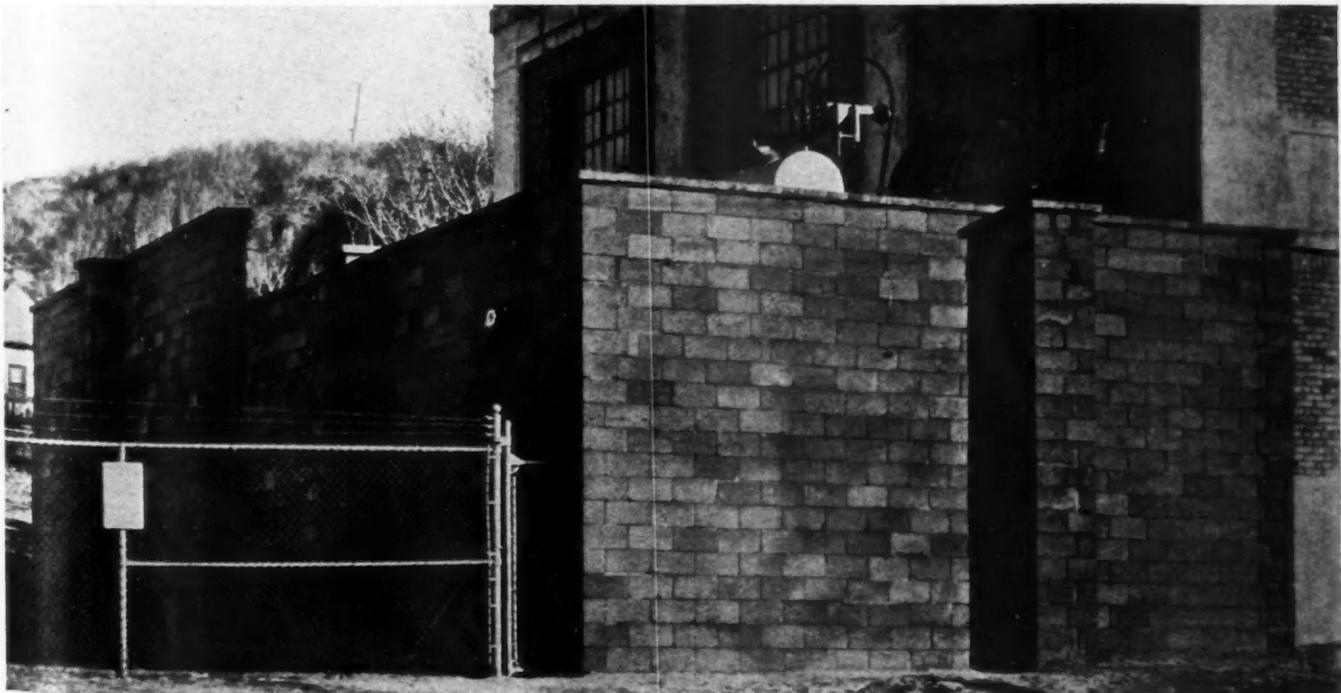
POLICE official is firing with rifle at concrete masonry wall in test at Franklin Park, Illinois.

opposite face shell of the sand-filled concrete units even when successive shots were placed within a 3-in. circle. Eight-inch thick concrete masonry walls laid up with mortar afforded similar protection against attacks.

Electric utility companies in various sections of the country have built concrete masonry walls around transformers and sub-stations. Some factories performing essential war work have installed similar baffle walls around certain areas. Many industrial organizations have materials and specifications ready for quick installation of walls if the need develops.

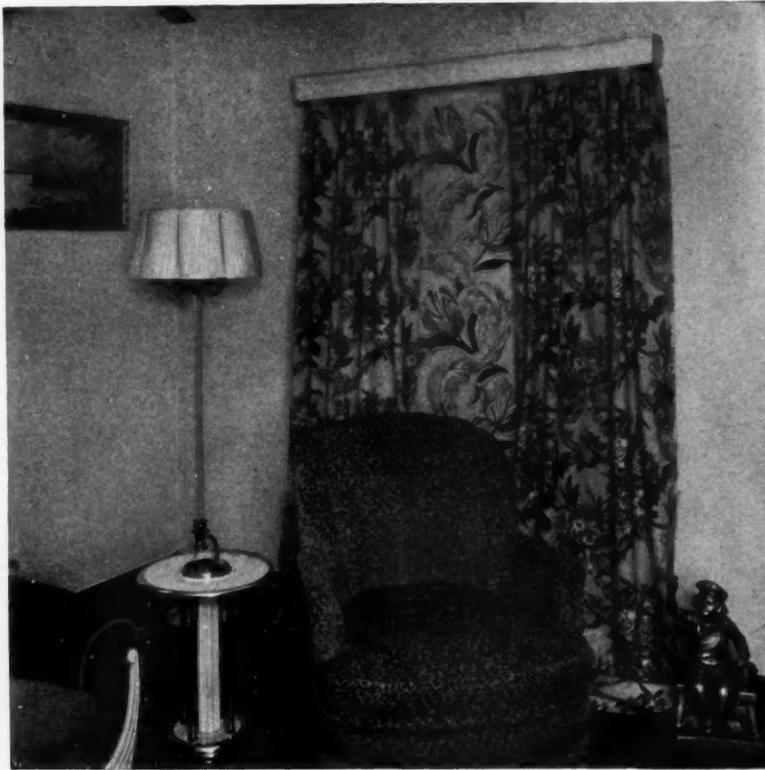
The erection of the masonry walls, either with or without mortar, requires concrete footings to insure stability.

(Continued to page 104)



THIS 12-in. hollow concrete masonry wall protects electric transformers in a power station at Kansas City, Mo. The wall is 13 ft., 8 in. high.

Blackout Panels for Homes Can Be Made Decorative



ABOVE: Blackout panel in position. Note how the decorative treatment conforms to the flowered design of drapes. **RIGHT:** Touching up stencil design to eliminate tie-bars. **CIRCLE:** Placing decorated panel in window opening preparatory to blackout. **BOTTOM:** Panel in window to be kept permanently covered has decorated exterior in popular V-for-Victory design.

Select one room for permanent light-protection and make it attractive



THE USE of weather-resistant wallboard, plywood or similar sheet materials which completely fill window openings and provide a measure of protection against flying glass is one of the obscuration methods suggested in the booklet, "Blackouts," issued by the U. S. Office of Civilian Defense. To insure that the panels will be rain-proof, painting with an oil paint is recommended.

As a means of relieving the drabness of the panels, Frank T. Ross, special representative of National Lead Company on the West Coast, has suggested that they be given a decorative treatment while being painted. Such decoration would be suitable either for panels which are hung on screen fasteners and removed after blackouts or for panels which are to be kept permanently in position in order to facilitate blacking out.

The accompanying photographs, reproduced from the current "Dutch Boy Quarterly," illustrate blackout panels decorated with several types of designs by Mr. Ross. Each panel was cut to size from 3-ply plywood and then primed with white lead and linseed oil paint. A second coat of flat paint, made from white lead and lead mixing oil and tinted to match the wall color, was applied and stippled. The designs were executed with stencils and retouched to eliminate stencil tie-bars.

HOW TO BUILD A Basement Cold Storage Room

THE preservation of fresh vegetables and fruit is just as important as raising them. This is particularly important if the full benefit is to be received from Victory gardens.

Satisfactory low-cost storage can be provided in most basements if insulation and ventilation requirements are met. Partition walls built of lightweight concrete masonry units are economical and will help provide satisfactory insulation, states the Cement Products Bureau of the Portland Cement Association, Chicago, in a recent data sheet for builders.

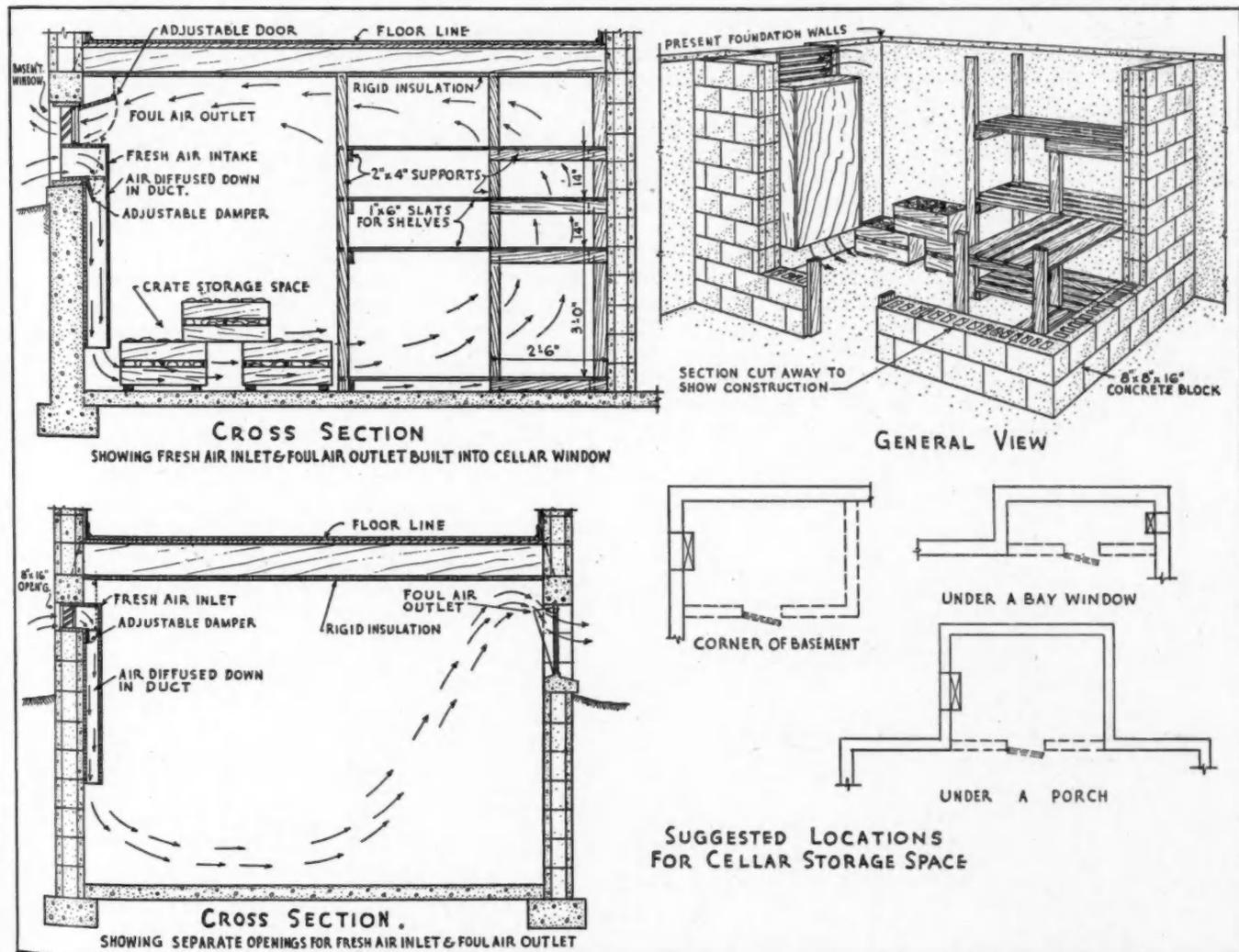
The plans herein show several possible locations for these storages and the details of ventilation and insulation. Very often the construction of only one new wall is needed to enclose a room under a porch or bay window. Only two new walls are needed to enclose a room when built in a corner of the basement. It is advisable to have a window in one outside wall in which a ventilating shaft and louver can be installed. However, the room may be ventilated by two small openings: one with a cold air duct to the floor, the other with a louver. The cross-section

drawings show details of two methods for ventilation. In cold climates provision should be made for closing the openings when necessary for protection against freezing.

The room may be equipped with slatted shelves on which fruit and vegetables may be stored, or crates with open sides or bottoms may be used to hold the fresh produce. These may be stacked up loosely to permit ventilation.

The ceiling should be made tight and insulated. The entrance door should be of double-boarded construction and should fit tightly in the opening to prevent air leakage.

The local concrete products manufacturer will be glad to estimate number and kind of concrete masonry units needed. Use a mortar mix of 1 volume portland cement to 1 volume of lime putty or hydrated lime to 6 volumes of damp loose mortar sand for interior masonry walls not in contact with the soil. For exterior walls in contact with the soil, use a mortar mix of 1 volume portland cement to 3 volumes of damp loose mortar sand to which may be added not more than 10 lb. of hydrated lime or lime putty per sack of cement.



DETAILS of easily built cellar cold room, important adjunct to a Victory Garden. Practically no "critical list" materials are needed for this construction which is adaptable to almost any home basement.

Treated Lumber in Los Angeles War Homes

Nowell Building Co. Finds Quality Helps Sales of Title VI Units in Westport Heights Development

WHEN the workers in war industries in Los Angeles are offered houses of good quality with dozens of added conveniences to enrich their living, it is a safe bet that the builder behind the development is looking ahead to the post-war period, when his defense-project houses will be judged by his peacetime customers. Good workmanship and good materials will always sell houses, now or later on. And builders in defense areas will profitably remember that there is no pressure being put on prospective buyers today by any outside agency—they still have to be sold.

Since its organization in 1924, the Nowell Building company, headed by Silas Nowell, president, and Norman Nowell, sales manager, has based its policy of operation on giving the buyer dollar-for-dollar value. Their project in Westport Heights, Los Angeles, now fifteen months old, offers no exception.

This 400-acre development, featuring houses from \$4,800 to \$5,950, which can be purchased under title VI of the FHA for an average down payment of \$600 and monthly payments of \$35, may well be scrutinized by other builders attempting to make sure that defense workers get attractive and lasting houses.

With their project located within four miles of important war industry plants, the Nowells are experiencing heavy demands for their houses, especially since the government's recent ban on tire sales has made long-distance commuting prohibitive. They plan to complete and sell approximately 4,000 units by 1945.

"Our development, or any other development," declares Silas Nowell, "to succeed must feature quality-built and not competitively-built houses, practical design, and courteous and cheerful compliance with all reasonable requests made by the buyer. Such adjustments, made after the sale is concluded, insure a satisfied owner. And owner-satisfaction is the best kind of advertising."

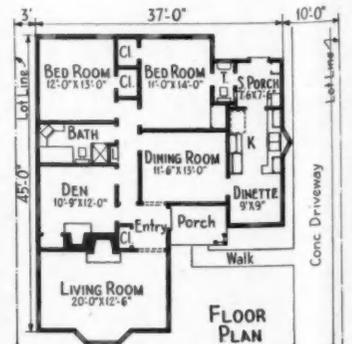
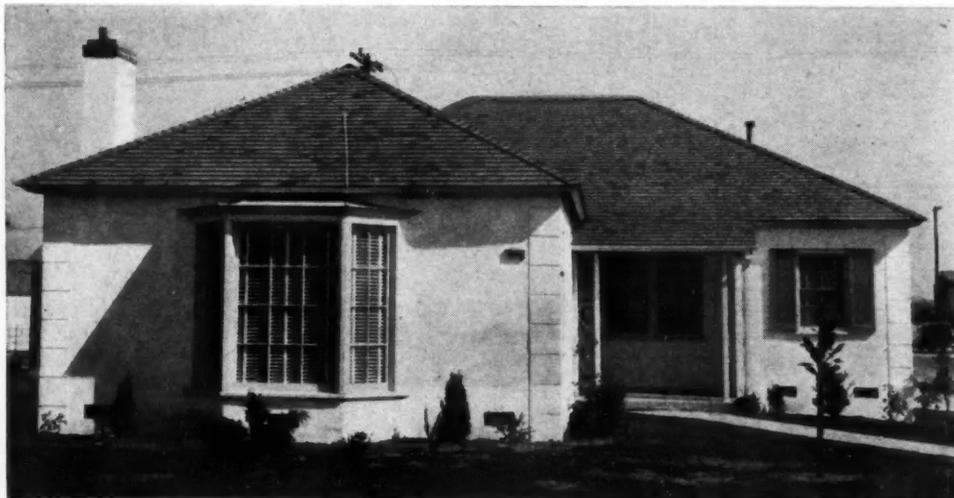
Being able to point out that details of reliable building extend to the many hidden points of construction has, in the opinion of the Nowells, been one of the



THE NOWELL brothers at their office on the tract. Silas Nowell, left, is president; Norman Nowell, right, is sales manager.

best selling arguments at Westport Heights. The extensive use of pressure-impregnated "Wolmanized lumber" is emphasized by salesmen, and prospects are reminded of its presence by display signs. Carpenters on Nowell jobs are experienced in applying this treated lumber properly. Cans of concentrated preservative solution are furnished on every job for brush-coating joints and cut-offs in the treated lumber. Approximately 1,500 feet of this clean, treated material is used in each house for joists, sills, pier blocks, posts, and girders to protect against attack by decay and termites. The material, adding less than 2 per cent to the total cost of each unit, is drawn as needed from the ample stocks at dealer yards.

Floors are quarter-sawned oak in all the rooms of the Nowell houses except in the kitchen, where they are of



TYPICAL Nowell house at left with floor plan above.



NOWELL-BUILT houses sell on quality—careful framing and Wolmanized Lumber in the danger zone insure a sound structure.

inlaid linoleum. The use of No. 1 Certigrade Red Cedar shingles, striking combinations of tile colors in the kitchens and bathrooms, "Daylight" shower doors, solid concrete driveways, two-car garages with upward acting doors, a fireplace in each house, specially designed light fixtures, waterproof exterior stucco, painted roofs, sprinkler systems, iron chain-link fences around each back yard, and electric house numbers are all points of comfort and recognized quality that make these homes attractive to the workers. The "Daylight" shower doors, designed by Frank Thomas, construction superintendent and purchasing agent of the Nowell company, are glass doors that overcome the cramped feeling of an enclosed shower by eliminating darkness and saving space.

Buyers are also attracted by the range of choice offered. They may select any one of 30 floor plans for four or five rooms. Or they may have Frank O'Connor, the Nowell designer, draw up an individual plan, without charge, keeping within the limitations of cost and stock material. It has been the experience of Mr. O'Connor that most people choose a standard plan with variations in elevation. Thus he says: "We aim to give the most flexibility, livability, and utility for the money spent. From previous deals on other developments with several thousand prospective buyers, we have learned what represents the 'typical home' in the public mind."

Another key to their success is the pride which the two Nowells take in rendering service to the owner after the purchase. A complete staff of service men, one expert in each trade, is on call to adjust all complaints until each owner is completely satisfied. Very few salesmen are required. Most of the work of showing houses to prospective buyers is done either by the prospects themselves or by their enthusiastic friends, themselves owners in the tract. And all business is completed at the central office on the ground.

As the houses are finished, they are thrown open for inspection on a sort of "serve yourself" basis. It is interesting to learn that most of them are sold even before completion to the many people who like to select their own colors, tile, paint, trimming, and the like.

In addition to word-of-mouth advertising, the builders rely upon continuous radio and newspaper advertising and publicity to obtain their prospects. Blocks of houses, floodlighted at night to attract the attention of motorists, also are open for inspection.

Approximately 450 houses have been completed since the development was begun in January of 1941. From 60 to 90 days are required to finish each unit. Construction by the crew of 325 workers was boosted recently to 15 houses per week and will be increased again if the demand continues to grow.

Ranking as a defense-housing project, Westport Heights has a high priority rating on materials. This fact, together with the placing of orders for large quantities well in advance, has resulted in the subcontractors experiencing little difficulty in getting all of the required materials.

All but one of the subcontractors have worked with the Nowell Building company over a period of years. The feeling is very much in evidence that the company can depend on good workmanship because the subcontractors know that they can secure mutually satisfactory adjustments as prices change.

As general contractor, the Nowell Building Company buys the lumber for the project. The subcontractors buy all of their own materials. "They are experts in their fields and can do a better job than if we were to venture into their work," Mr. Thomas points out. "Because the service and good will of local dealers mean more to us than any temporary price advantages we might gain by going to outside markets, all material is bought through local dealers. But all the material must be the best!"

Paneling in Knotty Pine

Design Details and Construction—By R. J. Alexander

PINE paneling, as used for a finish for interior walls, dates from early Colonial days. Some of the finest examples of the work of the early house builders, had walls of pine paneling. Houses that have stood for generations, and to this day, offer inspiration to designers and builders.

It is interesting to note that these fine examples of early American architecture were designed and executed by carpenter-builders; artisans who designed as they built. In America today there are a great many communities where builders are expected to design and build houses; or they are called in to do a job of remodeling and are asked to reproduce a room pictured in a magazine. To the carpenter who is going to build in a knotty pine room end, or remodel an attic into a boy's hideaway these suggestions are made.

Uses. In present day residence design the trend is toward simplicity and a home-like atmosphere and knotty pine fits into this picture perfectly. In houses of Colonial design or small cottages, it can well be used in one or more rooms.

One end or side of the living room, all of the walls of a dinette or small dining room, a den or a boy's room can be successfully treated with knotty pine paneling. Recently kitchens, including the cabinet work have been given a knotty pine treatment, but it is suggested that this type of wall covering be used sparingly, and in contrast to other wall finishes.

Selection of Materials. Years ago a board that had a knot in it was used for sheathing or for firewood. Only "clear" lumber was good enough for interior finishing, and so, in some of the old houses the pine paneling was not knotty at all. Clear boards, up to 24" in width were often used.

Today, however, pine paneling means "knotty pine." Some pine mills run this lumber, tongued and grooved, and with the edges moulded. Quite a few lumber yards carry it in stock, although their moulding designs and sizes may be somewhat limited.

Knotty pine paneling that is ready to put on the wall is recommended to the carpenter if it is available. The machining is apt to be better and the lumber will probably have been kiln-dried and therefore less apt to shrink after installation.

Knotty pine paneling can be ordered along with other millwork from the dealer's regular source of supply. Sometimes local shops are equipped to handle work of this kind. If made up special the cost may be a little higher, but the carpenter can specify the width boards he wants, and possibly the design of the moulding.

As mentioned before, the designer should strive for simplicity in design. A great many mouldings are available. Figures 8-A, 8-B, and 8-C show three popular designs. Figures 8-A and 8-C are recommended for most jobs. The designer should also give consideration to the widths of boards used. A large room can stand a larger percentage of wide boards than a small room. Boards of 6", 8" and 10" width make an ideal combination, and are shown in Fig. 1 of the drawing. The size of the knots is not important, but they must be sound. The boards should be free of pitch and should not have too much sap stain.

If the knotty pine is to be run at a local mill, the carpenter can select his own boards. He may have to pull boards from the piles of No. 1, 2 and 3 common, to get

the selection he wants, but a majority of No. 2 should be used.

Preparation of Walls. Knotty pine paneling may be applied over old plaster walls, masonry walls or on new framing. The paneling is usually applied vertically, and so the members to which it is nailed are applied horizontally, as shown in Fig. 2.

Over old plaster walls apply the nail strips directly over the plaster, nailing through the plaster into the studding. On masonry walls it may be possible to nail into the mortar joints, but the use of wood plugs or expansion screws is recommended. On new work 2" x 4" girts can be nailed in between the studding. Nailing strips or girts should be not more than 3' apart.

The bottom and top nailing strips should be wide enough to provide solid backing for the base and cornice. On remodel work the old base will quite often serve as the bottom nailing strip. 1" x 2" strips will be large enough for the intermediate pieces. All of this lumber can be No. 4 common.

On old work it may be necessary to shim up the nailing strips with narrow pieces of wood shingles to get a straight surface. Around door and window openings the nailing strips should be continuous and can be of 1" x 2" material. On new work and over basement walls it is advisable to place waterproof building felt under the nailing strips.

Application of Paneling. The carpenter is advised to start in one corner and continue all the way around the room. Use the narrowest widths of boards in the corners, to minimize shrinkage cracks. Figures 5-A, 5-B and 5-C show various corner treatments. Fig. 5-A, a butt joint, will prove entirely satisfactory. Fig. 5-B is better because shrinkage will not leave a white streak in the corner. Fig. 5-C is least satisfactory of all.

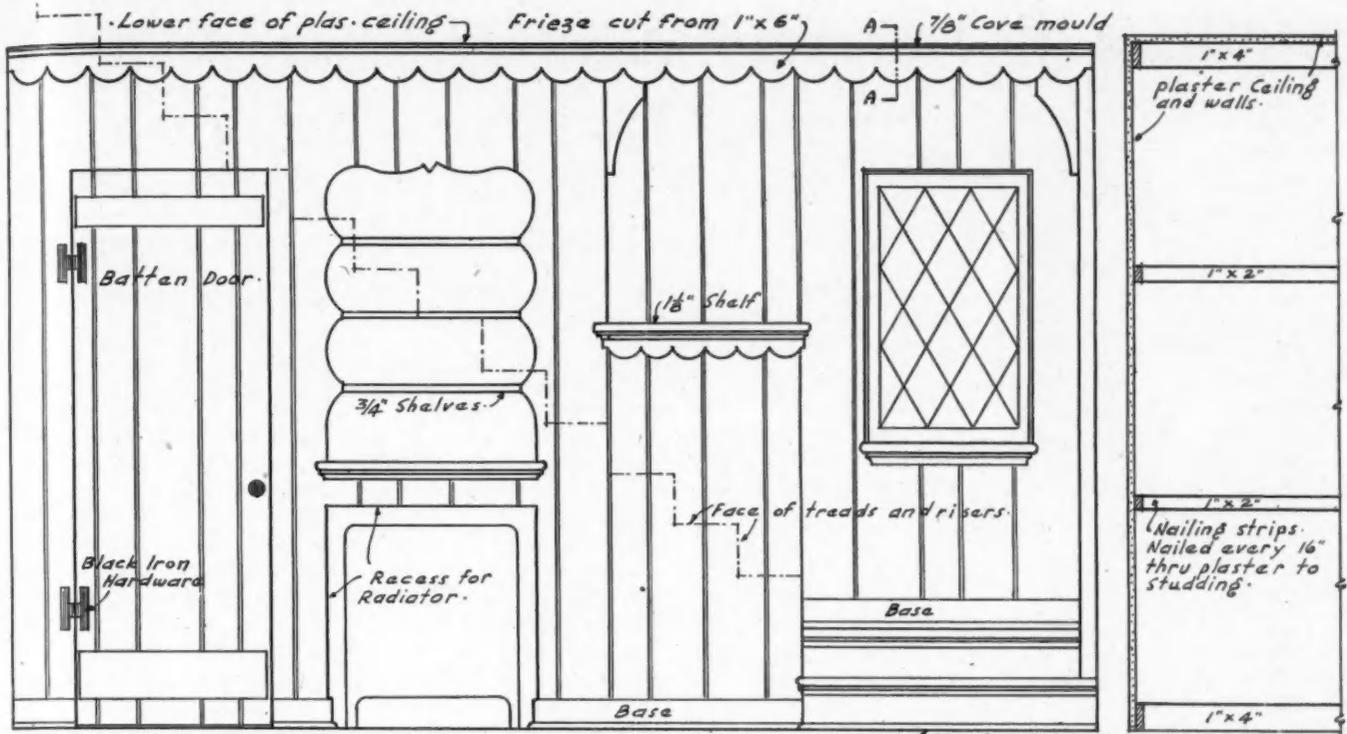
Lay out the work so that the moulded edges of the boards will not come too close to door and window openings. Usually an equal number of each width of board will be used but a more pleasing effect will be obtained if they are not put on according to a rigid schedule of 6", 8", 10", 6", 8" 10", etc.

The tops and bottoms of the boards, where covered by cornice and base can be face-nailed, but when nailing to the intermediate strips they should be blind nailed as for flooring.

Base and Corner Treatments. Figures 7-A, 7-B and 7-C show different methods of applying base. Figures 7-A and 7-B are types most generally used and will require less time. The method shown in Fig. 7-C may be required where standard lengths of paneling will not reach from floor to ceiling, without excessive waste. This latter method requires that the boards be carefully and squarely cut to eliminate any cracks between base and paneling. It is possible also to run the knotty pine close to the floor and finish off with nothing more than a quarter round or floor shoe.

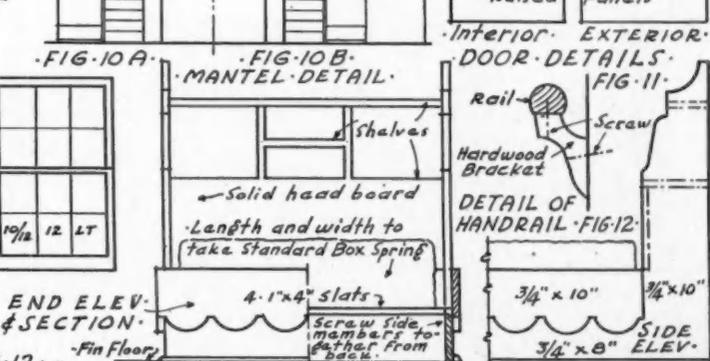
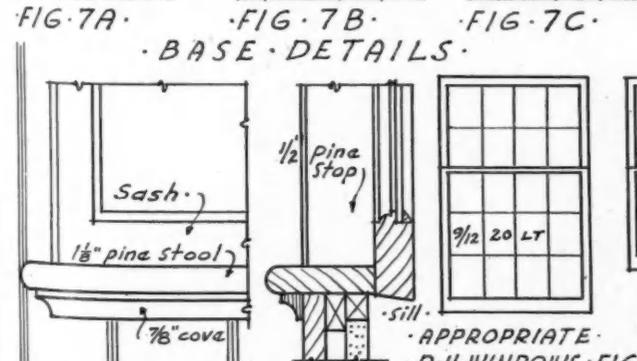
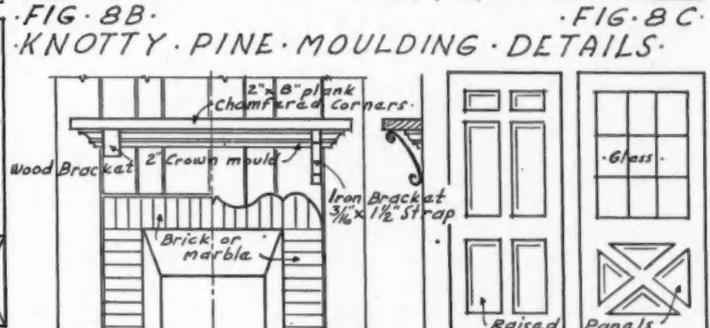
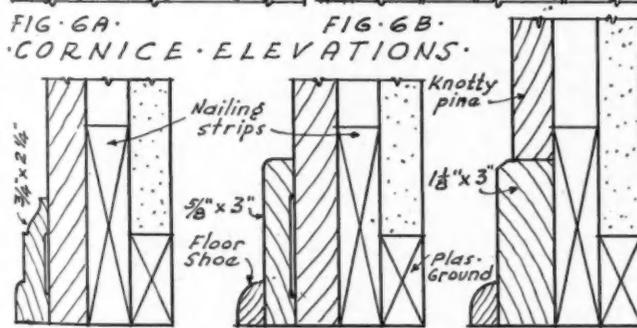
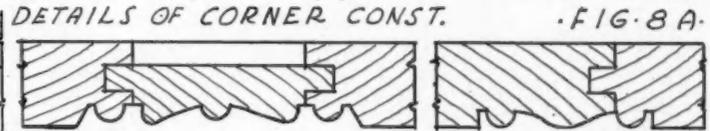
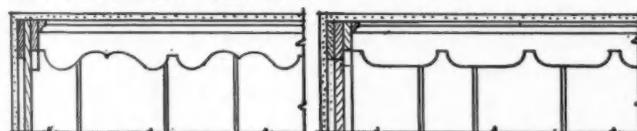
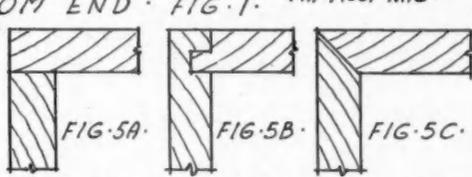
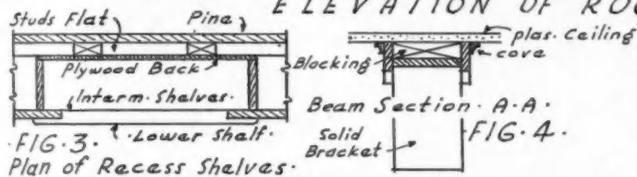
Cornices afford an opportunity for the designer to exercise his originality and skill. But here again the carpenter should be reminded that simplicity is the keynote of good design. The simple designs are easier to make and will prove to be just as attractive as those that are more ornate. The designer will of course want each house to have its individuality and it is in the design of cornices and open shelving that that individuality can be shown. Figures 1, 6-A and 6-B show appropriate cornice or frieze designs.





ELEVATION OF ROOM END - FIG. 1. (Fin. Floor line.)

APPLICATION OF NAILING STRIPS - FIG. 2.



WINDOW TRIM DETAILS - FIG. 9. R. J. P. 3-30-42. END ELEV. & SECTION. - Fin Floor. BUILT-IN BUNK DETAIL - FIG. 13. UNIT 3.

A narrow cornice of simple design, when made of red-wood, will contrast with the lighter color of the pine. The designer should lay out his pattern carefully so that he will have a complete unit at each end of the room.

If the design is made up of small units, as in Fig. 1, 1/2" lumber will be about right. A larger design, as shown in Fig. 6-A would work out better if made of 3/4" lumber, (Continued to page 110)



Seattle War Workers Get Homes—Not Mere Housing

Balch and Setzer are building Title VI jobs that have "everything" in their carefully planned development

AL BALCH, nationally prominent builder and developer, sets the pace for war worker housing in the Northwest.

IT can be done today—a subdivision of low cost homes selling for the most part under FHA Title VI, within a sales bracket of \$5200 to \$6000, yet a residential park of beauty, taste and privacy with houses designed by a first-rate architectural firm and grounds, roads and landscaping laid out by a reputable firm of engineers. Such is Wedgewood, now under construction in Seattle; Balch and Setzer, Inc., are the developers and builders.

So that no two homes will look alike, 25 basic floor plans are being used. The elevations of these 25 plans are being changed so that of the 200 homes, only 4 to 6 will be similar in exterior. In such cases exterior materials and paints will be changed so that there will be no two houses exactly alike in every detail.

Of the 50 houses already completed, 48 have been sold to war workers. Seattle, a defense housing area, is seriously short on homes due to a great influx of industrial manpower. Recognizing this, government authorities have assured Seattle builders that a sufficient supply of critical building materials will be allocated to the area to provide for more construction like that of the Balch and Setzer development. The new War Production Board building order is not expected to interfere with such building.

The floor plans (typical two and three bedroom styles illustrated) and job of superficial changes are being handled by the architectural firm in charge of the work

—Thomas, Grainger and Thomas. A general style of low, rambling frame construction is being used throughout. Garages are attached. All houses are operative built.

The project involves 40 acres of irregular, winding tract, thickly covered with firs and cedars, the majority of which are left standing. Utility poles are placed on the backs of the lots. There will be no poles on the streets. Small lamp posts will be used instead of the usual large ones.

Like any private residential park, Wedgewood has its gates; four of them will cost approximately \$1000 each when finished. One that is finished is made of cut field stone, quite massive, with large planting beds on each side. At the northeast end of the tract, space has been reserved for a community shopping center. All along the main arterial bordering the tract, a cypress planting to form a thick 18 foot screen is being installed. It will continue to bound the perimeter of Wedgewood for

(Continued to page 105)



TYPICAL Balch and Setzer three-bedroom design located in their Wedgewood development has style and charm, as well as practical plan (shown above at right).



Rental Duplex Units Pre-Built on Site

Alabama war housing rushed in power tool equipped shop; living units are placed back-to-back



TOP: General view of 50-duplex house project near du Pont powder plant at Childersburg, Ala. Above: Close-up of one of the duplexes, consisting of two four-room units; entrances are at the ends.

FABRICATION on the site plus demountability are features of Coosa Court, a war industry housing project recently completed at Childersburg, Ala. The project includes 50 duplex houses or 100 apartment units in all, also one community house. It is adjacent to a \$75,000,000 powder plant to be operated by the duPont Company.

Algernon Blair of Montgomery, Ala., was the general contractor and Raymond Sizemore of Montgomery the architect, with Chas. H. McCauley, Birmingham, and Morland G. Smith, Montgomery, as associate architects.

Under the "site fabrication" technique used, a shop was set up on the premises and all panels for walls, ceilings, floors, roofs, partitions and other units built for later erection in the field. In this way factory methods could be effected without any attendant high manufacturing and transportation costs. The panels were bolted together on the job in such a way that demountability and re-erection are possible, with a maximum of salvage. Where it was necessary to nail panel units together, duplex headed nails were used for ease of extraction.

Assembly crews in the shop were generally composed of two carpenters and one laborer working between two jigs or templates. While one panel was being assembled the other jig was being loaded and made ready for the carpenter by the laborer. The first jig as soon as completed was shipped and re-loaded as the second one was being assembled and so on.

Some \$25,000 worth of equipment was used by the contractor on the job. Shop equipment

KITCHEN equipment, as shown at left, includes gas water heater, combination sink and laundry tray, refrigerator and stove (not in view); Algernon Blair was the general contractor.



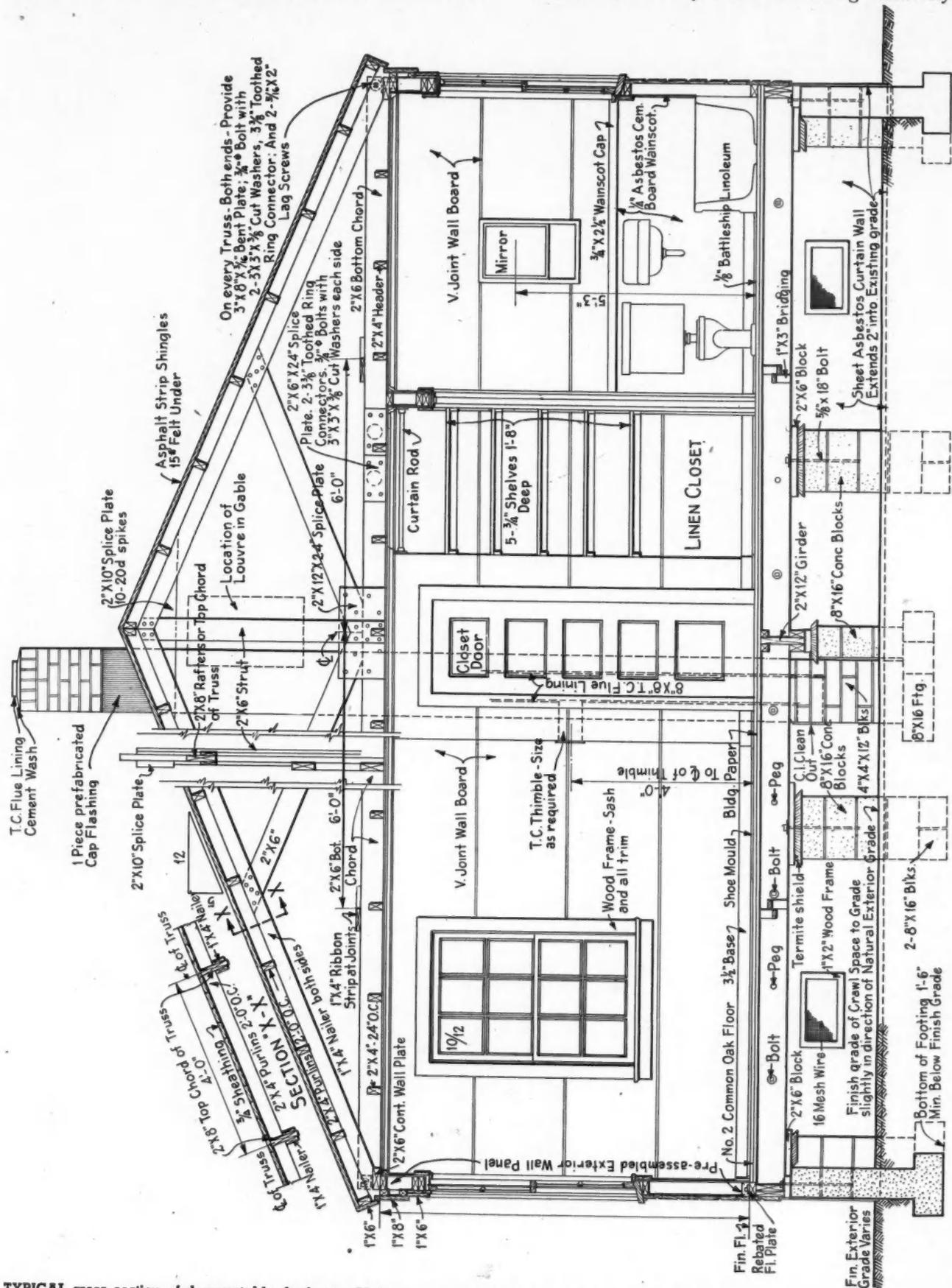
CONSTRUCTION VIEW showing units in various stages; panels are shown being erected; piers for other units seen in background.

included two 7½-HP and two 5-HP DeWalt saws, also a complete Skilsaw line of drill presses, joiners, edgers, nut runners, mortisers, routers and planers.

Field erection crews were divided into varying numbers of skilled and unskilled men, each crew's work be-

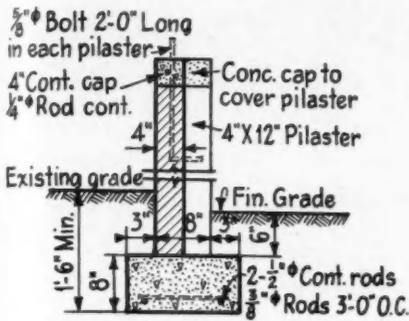
ing specialized as it moved from unit to unit. Pre-assembled panels were moved mostly by hand into place, but for the ceiling and roof units, where height was a consideration, light cranes on a truck were used.

It was estimated by the U.S. Housing Authority that



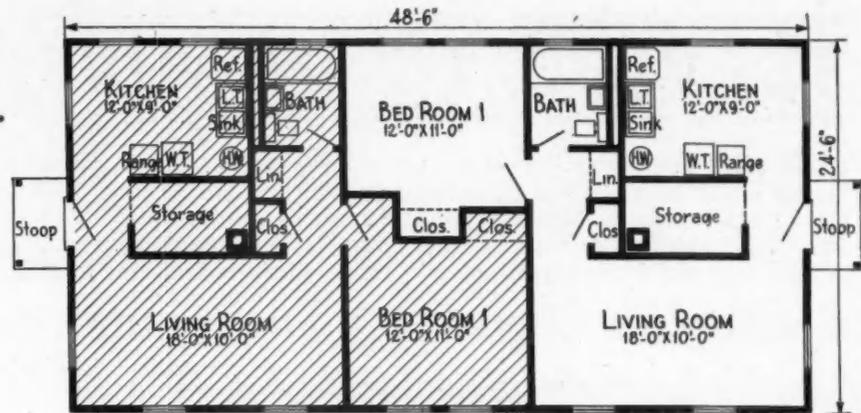
TYPICAL SECTION

TYPICAL cross section of demountable duplex in Alabama war project; note interesting use of timber connectors and asbestos curtain wall.



EXTERIOR CURTAIN WALL DETAIL

ABOVE: Pier and curtain wall detail as used in Childersburg, Ala., housing; right, floor plans of 1-, 2- and 3-bedroom units.



FLOOR PLAN
1-Bed Room Unit

120 days would be required to build the houses, but they were actually built in 76 working days without overtime. Under the method used, one house was chosen as a "guinea pig," panels assembled in the shop and then erected in the field to see that everything fit including doors and windows and openings for plumbing, lighting, etc. This done the "go ahead" order was given and all the houses went from the bench to roof in 84 hours time. It was estimated that each duplex house required 134 skilled man-hours and 122 unskilled man-hours.

Plumbing lines were pre-assembled in approximately the same manner as the house panels including the copper water piping in one assembly and the cast iron soil pipe in another. This piping was not then finally in-

stalled until the side walls were up, so as not to interfere with the free movement of the erectors.

The houses are quite conventional in appearance, the essential difference as noted being in the technique of erection. Entrance to each apartment is at opposite ends of the duplex so that the two families do not come in direct contact with each other.

The houses are erected on concrete cinder blocks. Sheets of asbestos around these blocks form an attractive curtain wall (see detail above at left and on opposite page). The interior finish is of fibre board, this together with the foundations probably being the chief loss in case the houses are moved to another location. Roofing is of composition shingles.

Kitchen appliances supplied for the houses which rent for \$25 to \$30 per month include electric refrigerators and gas ranges and a 30-gallon automatic gas hot water heater. A butane gas system serves the project with fuel for cooking and water heating. The living room of each unit is equipped with a coal heater. Water is supplied from a deep well with electric pump.—George H. Watson.



FLOOR PLAN
3-Bed Room Unit



FLOOR PLAN
2-Bed Room Unit

TYPICAL flooring detail of shop-built demountable duplexes (half plans above and opposite) has sections of diagonally laid sub-floor; tongue and groove removed where sections join.

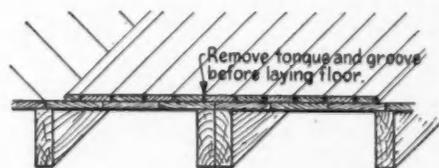


DIAGRAM SHOWING METHOD OF LAYING FINISHED FLOOR

SERVICE TO READERS

EACH ITEM in this department is numbered for convenience of readers. Please use coupon on this page for requesting further product information or new catalogs. Mail coupon to American Builder Reader Service, 105 W. Adams St., Chicago; or write direct to these manufacturers mentioning your profession, occupation or connection with building industry.

NEW TOOLS, MATERIALS AND EQUIPMENT

AB883 Stock millwork conforming to war defense simplification is attractively presented in an 80-page ring-bound catalog, "Gregg Woodwork of Quality," by Gregg & Son of Nashua, N.H. It gives much useful information in the form of price and size tables, section drawings, and artistic sketches—a valuable reference catalog.

AB884 United States Gypsum Co., Chicago, has issued a four-page pictorial progress report on its Remodel Research House—a project of nation-wide interest. This and other bulletins will inform the industry of practical ways of remodeling to get additional housing with a minimum of critical materials.

AB885 Special details on "How to Install Glass Block without Priority Materials" are covered in a 14-page booklet prepared by the Insulux Products Div., Owens-Illinois Glass Co., Toledo, Ohio. Photographs and numerous working drawings indicate how to conserve metal for the defense program through the use of Insulux glass block. This is a revision of the standard construction details.

AB886 A "Paint Priorities Primer" which answers the questions uppermost in the minds of dealers and others with regard to priorities business and the rules governing it has been published by Devoe & Reynolds Co., Inc., New York City. This 24-page booklet explains in simple language what the various priority ratings are, and how to do your part in following them through.

AB887 Valentine & Co., 11 E. 36th St., New York City, has prepared a booklet, "Priorities Simplified for the Paint Dealer." In it, using a question and answer style, the dealer's point of view is clarified in relation to the various specific priority orders that concern the paint business.

AB888 Prefabrication and glue being closely associated subjects in these war days, Casein Co. of America, 350 Madison Ave., New York City, is offering a six-page folder on the subject, "Glued, Prefabricated Houses." Methods of application are described and illustrated; gluing specifications are given.

AB889 Gypsum Association, 211 W. Wacker Drive, Chicago, in an attractive two-color booklet, entitled, "Gypsum Lath Approved by the Nation," gives up-to-date information on gypsum lath, and provides proof of its fire resistance, bond, bracing strength, crack resistance, permanence, speed of erection, and economy.

AB890 "How to Figure Defense Housing Insulation Requirements" has been published by the Architectural Service Department of The Celotex Corp., Chicago. The bulletin describes a quick, accurate method of determining whether proposed dwellings conform to War Production Board heat loss and heating plant standards. By using a chart, all the necessary calculations for proper insulation can be made within 10 or 15 minutes.

AB891 An introductory mailing piece, "Quick Summary of the Advantages of Marlite Plastic-Finish Wall-panels for Wartime Construction," the first one of a campaign, has been prepared by Marsh Wall Products, Inc., Dover, Ohio. The purpose of the campaign is to point out how this product is being used on all types of war building, with saving of critical materials.

AB892 The Portland Cement Assn., Chicago, has put out a new information folder, "Concrete Floors on Ground." It provides complete structural data for the use of concrete floors in many types of building.

AB893 A 68-page manual on "How to Select and Apply Asphalt Roofing Products" is being offered by the Texas Company, New York City. Step-by-step, all the various roofing problems are



covered by generous use of drawings, tables, pictures and text. This new Texaco manual for convenience is divided into five sections, the first on general technical information, the next three on how to apply, select and specify asphalt shingles, roll roofing and built-up roofing; the last, a brief sales plan on "How Texaco Can Help You." The completeness of this guide makes it a valuable aid to builders, architects, designers, craftsmen and lumber dealers.

AB894 A Catalog, No. 41, full of important information on their line of building accessories, is available from Ankortite Products, Inc., 14th & Chestnut Sts., Kansas City, Mo. Metal building products, reinforced concrete accessories, nosings, edgings and thresholds, terrazzo strips and bars are illustrated, together with their proper application and specification.

AB895 Southern Pine Assn., New Orleans, La., is offering copies of a new 119-page textbook, "A Course in Modern Timber Engineering" by H. J. Hansen. The book contains a wealth of information on timber design—fastenings, columns, trusses, arches, etc.; in addition to sketches of many design problems, it presents a number of examples of actual design calculations.

CLIP AND MAIL TO CHICAGO

Readers Service Department, (June, 1942)
 American Builder,
 105 W. Adams St., Chicago, Ill.

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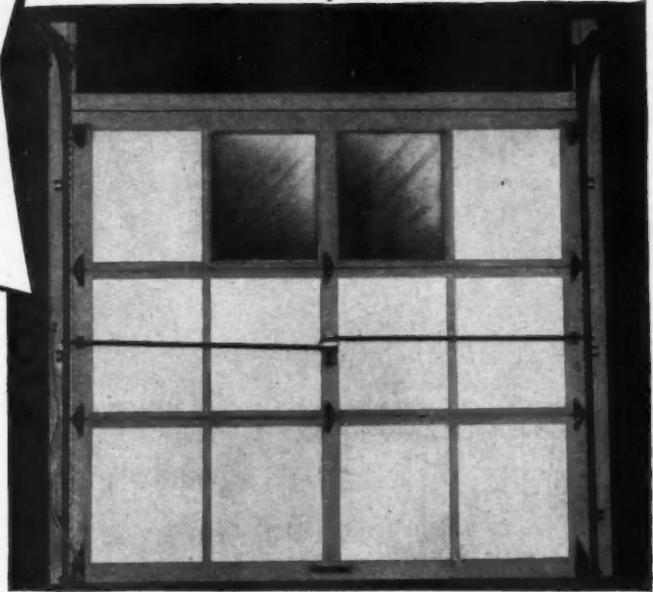
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*Please note that occupation must be stated if full service is to be given



Even a *Low-Cost Home* can now have a *High Quality* **GARAGE DOOR**

This Quiet Operating, Smooth Running **OVERHEAD TYPE DOOR** with Friction-Reducing Track and Full Ball Bearing Rollers is ideal for today's **LOW COST HOUSING JOBS!**



Ro-Way Model "R" Overhead Type Door

Made with 3 or 4 Sections and in Two Sizes 8' x 6' 6" and 8' x 7'

Please do not confuse this Door with tilting type or other one-piece Doors. It's a true Ro-Way Quality Door throughout, has 3 or 4 hinged sections and when opened gives full clearance for drive-in. When closed it locks securely to track at both sides by special device operated from center of door.

Ro-Way makes it possible for you to install this Door at a very low price by producing them in quantities of hundreds at a time and by making every part of the Door, including even the track, rollers and power-springs in Ro-Way's own factory.

Write for Special Ro-Way Model "R" Folder and Prices. Address—

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746 HOLTON STREET, GALESBURG, ILLINOIS, U. S. A.

In addition to the price advantage, note these features, most of which are not available on any other Door of any type, except the more expensive Ro-Way Models.

- 1 "Friction-Reducing Track"** — Rollers ride well away from the track side walls.
- 2 "Double-Thick-Tread"** — Track Rollers with 7 Ball Bearings to each Roller.
- 3 "Extra Bearing Support"** — for the load — Sheave Wheel to prevent side pull or twist — insures extra life and smoother operation.
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There's a RoWay for every Door way!

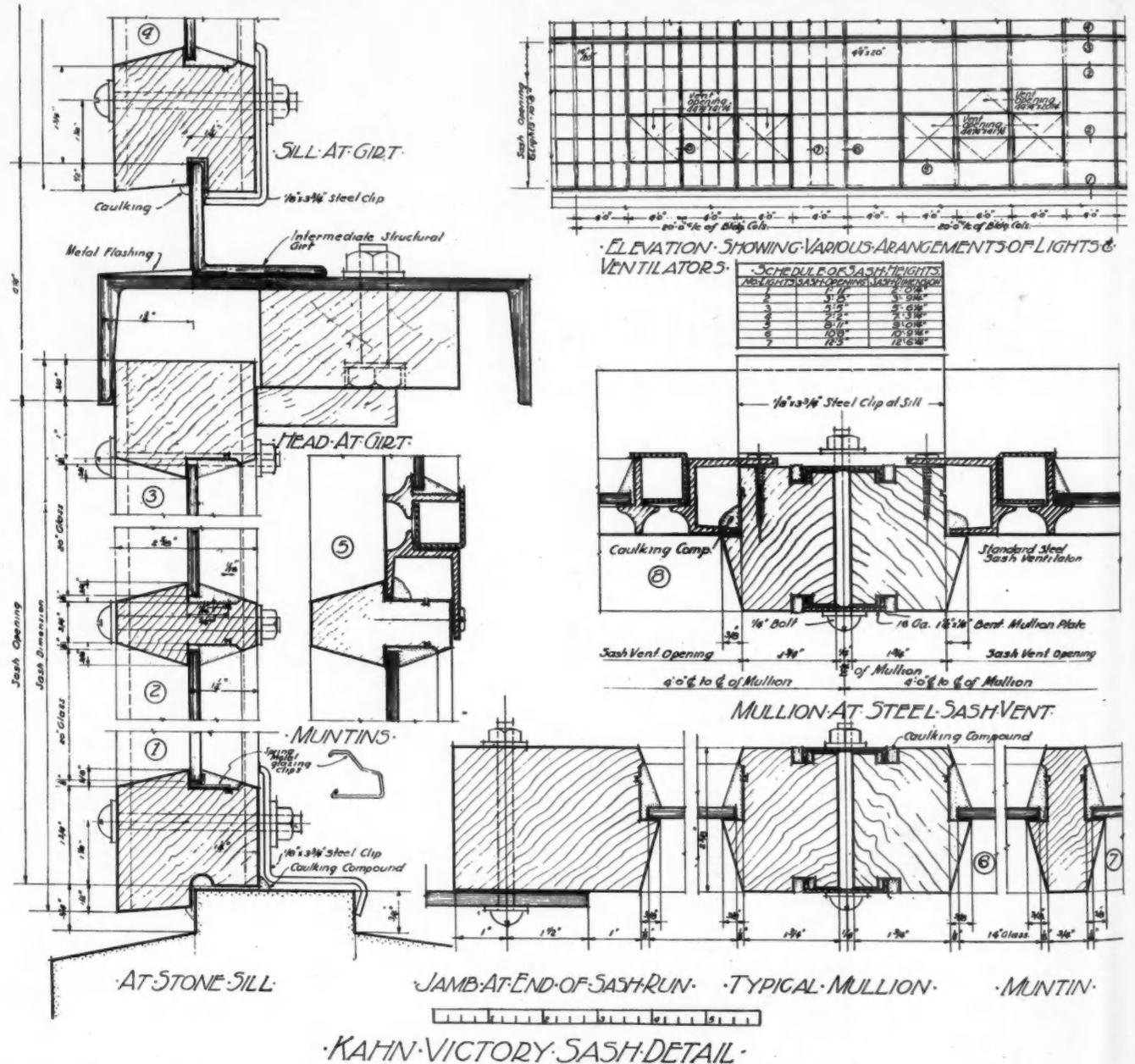
Albert Kahn Offers Wood Industrial Sash

WITH the Government's restriction of the use of steel wherever possible to expedite manufacture of ships, guns and munitions, an entirely new type of wood sash has been developed by a member of the firm of Albert Kahn Associated Architects & Engineers, Inc., Detroit, Mich., which will serve for industrial and other buildings quite as well as the standard steel sash employed these many years.

In order that the new sash may be available to all architects, engineers and contractors engaged in designing and building war production plants, John Schurman, its designer, and the Albert Kahn organization of which he long has been a member, have waived all patent rights to the development. Blueprints describing the new sash in detail are available to the entire war production building industry, it was announced by Albert Kahn, head of the firm.

In creating this new sash, full advantage was taken of experience gained in the development of steel sash, with its simple frame and mullion construction and its simple, compact ventilators, all built up at the factory in standard units. The extreme heights possible in single units mean considerable saving in

(Continued to page 76)



JOHN SCHURMAN, member of the Albert Kahn organization of Architects and Engineers and developer of "Victory Sash," the new steel-saving factory window, shows Albert Kahn (left) how sections are held together by a small metal strip, as illustrated in drawing.



A TIMELY WORD TO MEN WHO SELL ROOFS . . .

● Today offers a better chance to sell re-roofing than any time for many years!

Payrolls are up . . . *way up!* . . . and the supply of many durable goods that home-owners can buy has just about vanished. Now . . . as never before . . . the wise home-owner is ready to use his surplus cash on modernization, on re-roofing, on any improvement that will increase the long term value of his investment!

To help get your share of this waiting market, sign up with Barrett and investigate Barrett's 1942 promotion plan.

It has everything you need to organize your re-roofing campaign—high quality products backed by Barrett's 88 years in the roofing business *plus* the sort of selling tools you can use—direct mail campaigns, aids for personal selling, tested sales suggestions . . .

It's a program keyed to this fast-moving, timely situation. *Send for details today!*



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SHINGLES and SIDINGS • ROLL ROOFINGS • ROCK WOOL INSULATION • PROTECTIVE PAINTS and CEMENTS • BLACKOUT PRODUCTS

Emergency Needs for War-Work Dormitory Housing Outlined by Herbert Emmerich, Commissioner FPHA

WASHINGTON, D.C., May 14.—To provide homes for war workers the public war housing program must be stepped up to provide five times as many homes in a third the time as in any previous public housing effort, Commissioner Herbert Emmerich of the Federal Public Housing Authority declared in an address at the tenth annual meeting of the National Association of Housing Officials in Baltimore, Maryland, May 13.

This unprecedented schedule of construction is necessary, he said, to provide shelter and decent living conditions for the great army of migrating workers demanded by the war industries. These workers must be provided adequate housing if our army and navy and air forces are to be sustained and are to prevail.

"The gravity of our situation," Mr. Emmerich asserted, "is emphasized by three factors—the shortage of materials, the lack of transportation, and the lack of public recognition of the facilities and standards needed to preserve high production rates and faster schedules.

"The shortage of material for new construction is increasing monthly. To talk of priorities has become almost academic at a time when there are less nails being made than we need each month—and in a month when lumber of certain types cannot be had even at its source in the Pacific Northwest—when there is not enough copper for strictly military requirements, let alone essential civilian ones and when the demand for steel necessitated a general limitation order. The strain on our supply of basic materials in a program of this magnitude can hardly be visualized. It has to be felt—and we are feeling it now with a vengeance.

"The situation changes from week to week with such rapidity that it is difficult to keep up with," he continued. "It is so acute that suddenly, not by choice, but by compulsion, we are forced to reconsider our entire war housing policy. Because of material shortages, building must be prevented whenever possible. New methods of enlisting labor—men and women already in communities—must be found. New methods of using existing shelter and spare rooms and spare beds must be employed. Non-war workers may have to swap homes with war workers in war towns. Rents must be controlled. In the housing we cannot avoid building, severe economy must be practiced.

Housing Must Now Be Nearer the Job

"The transportation shortage is our second problem," Mr. Emmerich said. "It not only makes necessary a distortion of community planning and location of shelter for new workers but sharply accentuates the entire housing problem by making unavailable much existing shelter which had been located on the assumption that one could go to work on wheels.

"Our industrial communities have for years been predicated on rolling around on wheels from home to plant and back again," he added. "Suddenly the entire structure is threatened by a tire, gasoline and auto famine. Added to this, it is difficult to obtain rolling stock for buses, or trolley lines or railroad tracks.

"The third point concerns public attitudes needed to preserve high production rates," he declared. "Here we find dual forces at work which cancel each other and may be a more serious threat to war housing than either material shortages or the transportation famine. First is the attitude that we can get ideal and beautiful permanent homes everywhere out of the war housing program. We built some excellent projects in the days of defense housing. I hope we can do good war housing projects as well.

"But the odds are against us from now on to do many permanent family communities. Only in exceptional cases will we be able to build housing which has any prospect of being permanent. It will be made of the wrong material for permanence because of shortages, it will be in the wrong places for permanence because of lack of transportation, it will be for the wrong people for permanence because of the great migration to new plants manufacturing things which we shall not need to make forever. The job tenure and therefore the housing need, of the workers is far from certain in such communities.

"But even more serious than this housing-as-usual attitude," he continued, "is the wave of reaction which threatens all standards of decency, amenity and consideration for the health, welfare, and morale of the civilian population including the industrial army—

as much needed in accomplishing high production rates as these factors are needed for high military efficiency. The patriotic American workers who are straining overtime to accelerate production rates need decent and sanitary shelter, with opportunity for rest and relaxation and recreation and the necessary human amenities. We have today the best fed and housed army ever, with great care for health and recreation. Certainly our industrial army needs no lower a standard. Without decent, healthful shelter and facilities, simple though they are, there will be terrific labor turnover and production lags.

"These standards on which I believe the Federal Public Housing Authority should insist are simple to describe in non-technical terms. There will, of course, be dormitory communities for men and also for women, and war apartments for married couples without children when both are likely to work in nearby plants. These dormitories must provide for health with decent sanitary facilities, they must provide for privacy and quiet for the day shift and the night shift. Children have no place in these communities for they should have freedom in their play which would disturb the sleeping night workers. These communities need social rooms and cafeterias and medical services and space for reading, writing, and for recreation—indoors and outdoors. They need excellent and understanding management, for many men and women will be away from their homes and their own communities for a long period of time. They must have some neatness and orderliness in their appearance and surroundings and some means of enlisting the good will and participation of the occupants in their community problems.

* * *

Albert Kahn Offers Wood Industrial Sash

(Continued from page 74)

horizontal supporting members, allowing maximum light for the amount of material used.

Only two mullion supporting members, each measuring approximately 2 by 4 inches, are used. The great majority of the frame members common to wood sash are eliminated. The 2 by 4's, so-called, now directly hold the glass.

Each unit is built complete in the mill and shipped to the job where it is erected between head and sill. No other frames or sills are required. The wood sash is erected in the field. As the units are erected, the mullions are joined by a coverplate of light pressed metal with a small intervening space for expansion and contraction. Caulking compound furnishes complete weather-proofing. At the sills, the wood sash is secured by metal clips clamped only at the mullions with regular mullion bolts. Calking at these points provides the necessary weathering. The sill is so designed as to eliminate crevices in which dirt and moisture might accumulate.

Sash and muntins in the new sash are very simple in their design and relationship. Moulding cut-outs are eliminated. And thus the maximum wood section is maintained for maximum strength. The wood is beveled to provide a run-off for any moisture that may accumulate.

Glazing is done on the inside, rather than the outside, so that the weaker part of the wood section and the putty are protected from the weather. The glass is secured on the inside by means of standard spring glazing clips such as are used in steel sash. A raised lug is provided on the inside of the mullion and muntin, and this provides a "footing" for a definite thickness of putty. Next to the lug is a glazing clip groove which serves also as a putty anchor. Since putty tends to adhere more firmly to glass, there is far less chance, with this arrangement, for it to curl away from the wood surface.

This new sash has borrowed its ventilator from steel sash practice which, through years of development, has reached a high degree of perfection. The steel ventilator designed for use in wood sash is made complete with hinges, pivots, slides, push bar and chain pull. It can be adapted to gang, hand or motor operation. The amount of steel involved in the ventilator, by comparison with the amount of fixed wood sash in a given building, is small.

One re-roofing job with ASBESTOS shingles sells

6 more!

Baltimore contractor demonstrates the amazing opportunities in the home maintenance and repair market with J-M *American Colonial Asbestos Shingles*.



WITH many sources of business drying up, you'll be interested in the success story of W. E. Miller, Jr., Miller-Davis Co., Baltimore, Md. Using the J-M Sales Portfolio, and recommending J-M *American Colonial Shingles*, he found that re-roofing with Asbestos makes a strong appeal in these times.

Here's Mr. Miller's experience: In one of Baltimore's finest residential sections, there were many prospects for such work. Recognizing the potentialities of the J-M American Colonial, Mr. Miller went to work and sold his first job (above).

So attractive was this roof that it proved just the start. Within three weeks, Mr. Miller had sold three more jobs within a few blocks . . . and within three months, several hundred additional squares on attractive houses as shown at the left.

J-M American Colonials are not only low in initial cost . . . they are easy and economical to apply. And since they are built to last 30 years plus, you can show your prospects that they cost *less per year* than any other roofing material on the market. They provide a roof of outstanding beauty; protection against fire, weather, and wear for the lifetime of the house.

For details on colors and prices, see your J-M Representative, or write Johns-Manville, 22 East 40th Street, New York, N. Y.



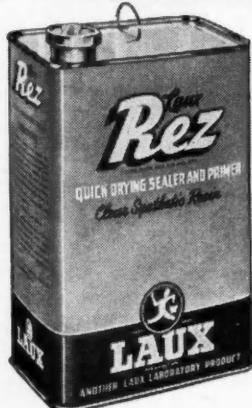
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Asbestos Shingles



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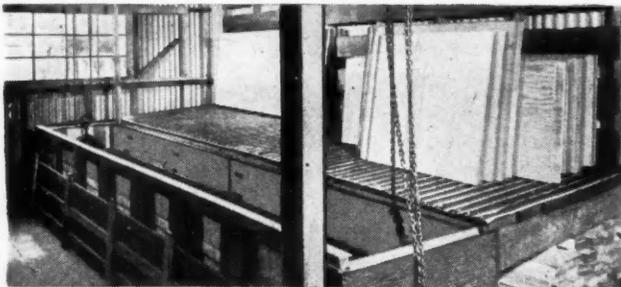
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SWELLING and **W**ARP-
SING caused by moisture

penetration in doors, sash, cabinets, etc., can be controlled by sealing and priming first with Laux REZ, clear synthetic resin sealer.

This water-repellent toxic . . . applied on the job with brush, spray or saturated cloth . . . is also a perfect base for paint or stain on all woods, including fir plywood. REZ checks grain raise and gives a sealed, even surface for decorating.

Lumber, hardware and paint dealers all supply Laux REZ, the first and still the best synthetic resin sealer. Or write to addresses below for full information.



TANKS FOR DEFENSE—Waste helps the Axis. Dry rot, mould, decay in siding, millwork, flooring, sash, doors are being stopped by tanks filled with Laucks Industrial Wood Preservatives . . . tanks built by contractors, dealers, millwork plants. Write today for descriptive brochure on these industrial water-repellents and toxics.

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ON & OFF the RECORD

News, Views and Comments
Washington Developments

by *Structor*

QUARTERBACK TACTICS—To keep in business today a builder has to travel light and move fast. Construction regulations from Washington follow each other with such rapidity it's impossible to know where one stands. *The most recent crisis has been in utilities, with hundreds of builders unable to get water brought into their jobs, or electric light service or gas.* I know one operator with 75 houses completed and no water in them. It's not hard to tell how he feels.

SMALL JOBS SAFEST—The utility situation adds up to the fact that the big operations are having the most trouble because they require new utilities. *The builder in a defense area who can put up a few houses in communities where all the utilities are in, and who makes sure that he has all of his materials on hand before he starts, has eliminated some of the most serious risks.*

SMALL REMODELING—Small remodeling jobs, repairs and farm building can keep a lot of builders in business; but this kind of work has to be aggressively sought after. The average amount spent by farmers in recent years has been pitifully low. Some estimates say \$100 per farm. *Ten times that amount is possible under the WPB ruling.*

TIRES AND GAS—Are builders engaged in constructing war housing entitled to special attention on tires and gasoline allotments? You'll have to talk that over with your local board, but Section 504 (A) (2) of the revised tire rationing regulations says that *a passenger car used principally for the transportation of persons rendering construction, structural or repair service, is eligible for recapping of tires.* If a builder is using his automobile to provide construction that is necessary to the war effort he should have a strong case with both the tire and gasoline rationing boards.

BARRACKS—With material shortages becoming more and more acute, it is rapidly becoming almost impossible to build any kind of decent home, public or private. Almost every day the War Production Board pares down the critical materials a little more—and they have a good reason—there just isn't enough of critical materials to go around. Copper is unbelievably scarce. *There is talk that, where housing shortages are terrifically acute, workers will have to live in temporary barracks.* While that seems drastic, it won't be any tougher on the war workers than on our soldiers and sailors, who don't even have barracks. In the long run, it may prove better for the building industry than to rush a lot of flimsy, shoe-box structures through in a hurry now.

AIR CONDITIONING OUT—One of the most recent war casualties is air conditioning and commercial refrigeration. New installations are banned except for war purposes and essential civilian requirements. Installation of equipment for personal comfort, such as theatres and restaurants, is out.

CONSTRUCTION BUREAU—William V. Kahler has finally got the building sections of the War Production Board pretty well consolidated in one Construction Bureau. He has brought a good many capable men to Washington who know the building industry. The job of the new construction branch is to: (1) Aid construction necessary to the war; (2) recommend priority ratings; (3) conserve essential materials; (4) administer Order L-41 in control of private construction. The housing branch under Sullivan Jones has been transferred to Mr. Kahler's division.

LONG WAIT—As this column is written a Congressional conference committee is still struggling with H.R. 6927, the sorely needed bill to liberalize FHA Title VI. The bill passed both the Senate and the House after running a gauntlet of attempted amendments by A.F.L. and others. It finally came through

little changed, but the delay in getting it passed has been extremely serious, if not fatal. Thousands of builders have been awaiting the go-ahead signal on new war homes which would be given by the passage of this bill. If it doesn't pass pretty soon, builders might as well pack up their kits and go home—or into the Army—until this little argument with Hitler and Hirohito is finished.

PUBLIC HOUSERS' PUBLICITY—The well meaning though often misled advocates of public housing have a flare for publicity that private builders ought to study. The public housers always make the headlines and usually have civic minded big names attached to anything they do. In contrast, anything private builders do is usually described as being the selfish, short-sighted activities of Jerry builders or "real estate interests."

Just recently an exhibit of "wartime housing" in New York City's Museum of Modern Art was widely publicized. It was sponsored by the National Committee on the Housing Emergency, Inc., of which Mrs. Dorothy Rosenman, wife of Judge Samuel Rosenman, is chairman. It is a most effective dramatization of the present need for war housing, but in the whole display there is nothing to indicate that private builders are able to do the job. The emphasis is all on public housing.

Ironically enough, however, figures on public housing are given in the display which reveal that only 109,000 units were contracted for by all the public agencies between November 1, 1940 and April 10, 1942. During those same 18 months the private builders of the country erected approximately 615,000 units, or almost six to one. We will lay a bet too, that the privately built homes were far more livable and attractive than the public jobs.

FIRST THREE MONTHS—During the first three months of 1942 contracts were let for 19,812 housing units by public agencies, using public funds. The total contract value as reported by the Bureau of Labor Statistics was \$67,873,600, or \$3,420 a unit.

During this same three-months period, private builders of the country started 61,053 houses valued at \$210,599,300. Of these the average value of the privately built house was \$3,440, or only \$20 more than the publicly built. Figures are exclusive of land.

Anyone who has seen the little shoe-box cubicles that the public agencies have been building will marvel that they cost as much as the average privately financed house built under strict FHA regulations and according to all local building codes and ordinances, and, also for the most part built well enough to be purchased by an individual ready to use his life savings for it.

In other words, private builders built four times as many war houses without any government subsidy in the first three months of this year as did the public agencies. Private builders have demonstrated that they can provide needed housing if the government will permit them to go ahead.

FARMERS' PROBLEM—The farmers I have talked to complain bitterly about high wages and labor scarcity. They blame the unions and the government. One farmer said that all of his men are now working at fabulous wages on a nearby construction job, although none of them had ever been able to qualify as a skilled worker before.

Near Klamath Falls, Ore., construction workers were earning as high as \$198 a week; even common laborers were getting \$92.

Of course, the unions have done a good job for themselves by establishing such high

rates and by seeing that the "prevailing wage" is paid on all government jobs. But they have made it pretty tough on farmers and private builders.

"Most Beautiful" Steel Bridge Named

THE FOURTEENTH Annual Awards for the most beautiful bridges built of steel during the year have been announced by the American Institute of Steel Construction as follows:

Most beautiful monumental bridge: Rainbow Bridge over Niagara River at Niagara Falls; most beautiful small bridge; Fairmount Boulevard Bridge, Cuyahoga County, Ohio; most beautiful movable bridge: Passaic River Bridge, Kearny, New Jersey.

Dewey Elected a Vice President

FRANK H. DEWEY, general manager of the Gar Wood Air Conditioning Division, has been elected a vice president of Gar Wood Industries, Inc., Detroit. He will continue his duties as general manager of the Air Conditioning Division.

YOU CAN PREVENT THIS SABOTAGE OF MORTAR JOINTS



WITH MEDUSA BRIKSET

Rain, wind, and freezing temperatures are the saboteurs of mortar joints. Rain absorbed into mortar freezes in the tiny pores, causing the mortar to crumble, resulting in the necessity for repointing. Brikset Waterproofed Masonry Cement prevents this sabotage. Its waterproofing lines the pores of the mortar and repels all water at the surface. Too, Brikset properly used assures dry interiors and prevents unsightly efflorescence of mortar joints. Brikset has adequate strength—unusual plasticity and workability—minimum shrinkage—spreads easily and smoothly—permits joints to be struck rapidly,



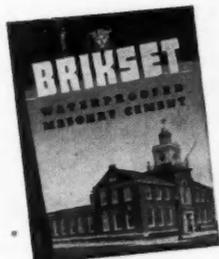
eliminating waste from droppings. No hydrated lime is required; consequently, you eliminate extra labor in mixing. Send coupon for complete information.

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Gentlemen: Please send me a copy of your folder "Brikset Waterproofed Masonry Cement."

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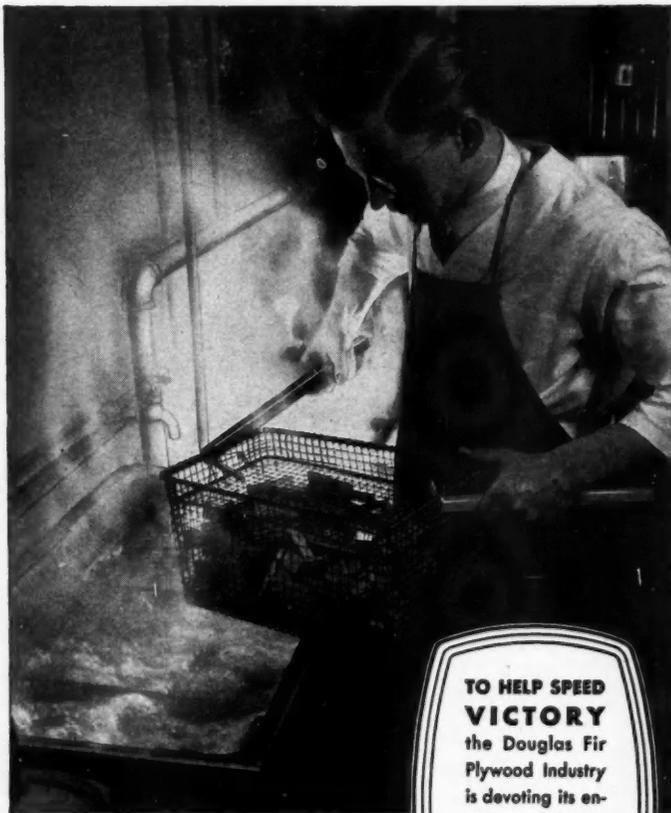
Also made by Medusa Products Company of Canada, Limited, Paris, Ontario



How long would you like your Plywood boiled?

● The answer is *long enough to prove that continued boiling would still have no effect on the phenolic-resin bond between the plies.* You see, boiling is just one of a series of tests to which Exterior-type Douglas Fir Plywood is constantly subjected. We want to make sure that Exterior Plywood will withstand *all* water and weather conditions. We want to determine if there are possible ways of improving its performance.

These tests—important as they are—constitute but a small part of our extensive research program. We are seeking the answers to scores of problems *today* so that *tomorrow*, when all types and grades of Douglas Fir Plywood are again available everywhere, *this engineered lumber will be more useful to you than ever before.* Douglas Fir Plywood Assn., Tacoma, Wash.



TO HELP SPEED VICTORY
the Douglas Fir Plywood Industry is devoting its entire capacity to war production. We know this program has your approval.

DOUGLAS FIR PLYWOOD
Real Lumber
**MADE LARGER, LIGHTER
SPLIT-PROOF
STRONGER**

REMEMBER—there is a grade or type of Douglas Fir Plywood made for every purpose. Every genuine panel bears one of these "grade trade-marks":

- PLYWALL**—wallboard grade
- EXT-DFFPA**—waterproof exterior type
- PLYSCORD**—utility sheathing grade
- PLYPANEL**—cabinet grade
- PLYFORM**—concrete form grade

"A PRODUCT OF AMERICA'S ETERNALLY REPLENISHING FORESTS"

NEWS of the MONTH

Current Building Figures

TOTAL new construction in the first quarter of 1942 was \$2.6 billion. The decline of 16 per cent from the last 3 months of 1941 is substantially accounted for by the severe drop in private construction and by the curtailment in the public nonwar program, but is due in part to winter weather conditions.

A drop of \$40 million in farm construction is explained by the ordinary seasonal decline occurring in the winter months. The volume of residential building was about one-third lower in the first quarter of 1942, but this can be only partially accounted for by seasonal influences.

Public construction during the January-March period of this year was slightly below the level of 1941. The decline in highway construction was largely seasonal, but the remaining non-war items began to show the effect of governmental curtailment of construction not related to the war effort.

Military and naval construction fell somewhat, compared with the previous quarter's total. This again, was partly attributable to weather conditions. By the end of the quarter, however, activity in this field has begun to reflect the huge program inaugurated after the outbreak of war. The construction of public industrial facilities increased more than one-fourth, and in March reached an annual rate of \$2.4 billion.

The Commerce Department's estimates of construction in the first quarter of this year indicate the extent to which the industry is already mobilized for war. Nearly one-quarter of the total in the first 3 months of this year was on cantonments, aeronautic facilities, shipyards, and other direct military projects. Another quarter was devoted to the expansion of public and private plants for war production purposes.

It is estimated that construction expenditures in the last three quarters of 1942 will be moderately greater than in the corresponding period of 1941. This means that, during the last three quarters of the year, construction will average \$500 million a quarter higher than in the first 3 months of 1942. Although certain types of private and public nonwar construction will be sharply curtailed, there will be a more than offsetting increase in the segment directly related to the war effort.

Total private construction during 1942 will be approximately two-thirds of that reached last year. The contraction, however, will not be uniform, since its heaviest effects will be on commercial, industrial, and various types of private institutional buildings. It is estimated that expenditures for these types of construction will be only about two-fifths of the volume reached last year. The decline in private residential building will run about parallel to the general decline in private construction. During the last 6 months of 1942, residential construction will be only about half the amount reached in the like period last year.

NEW CONSTRUCTION ACTIVITY, BY QUARTERS
(In millions of dollars)

Item	1941				1942	
	First quarter	Second quarter	Third quarter	Fourth quarter	First quarter	Estimate for rest of year
Total new construction	2,303	2,641	3,270	3,142	2,637	9,390
Total private	1,053	1,404	1,869	1,346	891	2,729
Residential building ¹ (nonfarm).....	593	696	815	661	450	1,250
Nonresidential building.....	327	318	327	334	190	379
Commercial.....	85	105	113	85	54	116
Industrial.....	188	156	146	189	95	299
All other.....	54	57	68	61	41	60
Farm.....	72	215	322	197	65	600
Dwellings.....	32	95	142	47	29	240
Service.....	40	120	180	60	37	360
Public utility.....	151	175	205	244	166	680
Total public	1,250	1,237	1,601	1,796	1,746	6,660
Residential building.....	75	118	158	128	104	690
Nonresidential building.....	237	490	492	542	662	1,940
Industrial.....	165	336	423	476	608	1,940
All other.....	72	64	69	66	54	160
Military and naval.....	580	318	491	670	600	2,480
Highway.....	208	242	289	274	228	425
Other public works.....	150	169	171	182	162	390

¹Figures for 1941 prepared in the Bureau of Labor Statistics; estimate for first quarter of 1942 preliminary.

The decline in utility and farm construction is not likely to be great. A substantial volume of railroad, electric-power, and other utility construction will be necessary to meet war and essential civilian requirements. A large part of farm construction is either essential or of the sort which will not be affected by the conservation order.

Contrasted with these declines, total military construction, public industrial construction, and public war housing are expected to reach a volume about 85 per cent greater than last year. Military construction during the last half of this year will more than double the rate reached in the first 3 months of 1942. Construction of public production facilities, which increased fivefold from January 1941 to March 1942, will continue slightly above the level reached in the first quarter of the year. The volume of public war housing during 1942 is expected to be more than double that of last year.

New Home for National Gypsum Co.

NATIONAL Gypsum Company's new office headquarters building, Buffalo, N.Y., occupied April 25th, is a three-story structure of modern design, completely air-, sound- and light-conditioned, constructed to a great extent with materials from National's line of 150 related wall and ceiling products. Facade is buff limestone, with dark red granite trimmings, glass blocks and bronze ornamentation. Architects are Backus, Crane and Love; general contractors, George W. Walker, Inc., and decorator, John W. Ullmann, Jr., all Buffalo firms.

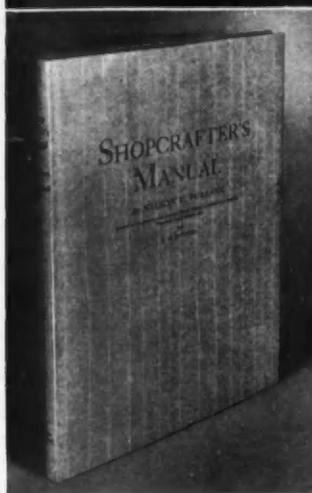
Below is also illustrated the main floor lobby, showing display room at right. Map hung at entrance to display room is done in wood marquetry, shows locations of National's 21 producing plants, and serves partially to screen display room from lobby. Reception desk is at left, with stairs leading to second floor; main entrance is at right. Gold Bond Acoustex used for ceiling quiets the hubbub common to busy office lobbies. There is a terrazzo floor. Air conditioning vents can be seen in ceiling.



NATIONAL Gypsum Co. office, Buffalo.

THERE'S NO PRIORITY ON INGENUITY!

Why Not Build What You Can't Buy Today?



LET THIS NEW BOOK HELP YOU

Shopcrafter's Manual

By Nelson L. Burbank and E. M. Mitchell

One hundred and forty projects—furniture for the home, garden, nursery, lamps, cabinets, chairs, tables, useful articles, novelties and toys made from commercial woods and veneers that you can get today. Large working drawings show construction details. Photographs show the finished article. Material lists and step-by-step instructions.

Here is a manual that will delight the home craftsman, the beginner or the experienced woodworker with power tools. Projects range from simple toys to useful furniture in modern designs and light finishes. Look over the accompanying list of projects, then send the coupon below for your copy of the new SHOP-CRAFTER'S Manual.

142 pages—140 projects—8 1/2" x 11"—\$2.00

Furniture for the Home—56 Projects, including benches, book-cases, cabinets, counter tops, desks, lamps, seats, stools, tables, bath table, desk, lamp, and double bunks.

Garden Furniture—16 projects, including gates, lattices, pergolas, garden seats, chairs and tables, boat, bird houses.

Children's Furniture—12 projects, including a child's bed, chairs, bath table, desk, lamp, and double bunks.

Toys—14 projects, including cut-outs, floating toys, children's play-house, game table, ping-pong table, rocker, sled, toy box.

Novelties—42 projects, including brackets, signs, holders of various kinds, trays, shelves, aquarium, plaques, humidior.

FILL OUT THIS GUARANTEED ORDER FORM

American Builder and Building Age,
30 Church Street, New York, N. Y.

Enclosed find \$2.00, for which send me a copy of Shopcrafter's Manual, and a copy of the American Builder Book Guide FREE. If I do not find the book entirely satisfactory I will return it within 5 days of receipt and you will refund my \$2.00.

Name
Address
City and State

Here's a "NATURAL" for Housing Projects

Looks like a "Million" Dollars—costs but a few. Instant eye appeal. Provides an abundance of steady uniform heat.

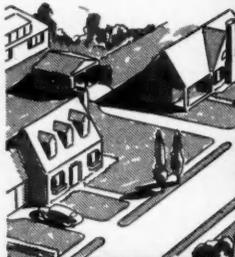
Built to give years of economical carefree service. Streamlined design. Requires minimum amount of floor space.

SAVES • Fuel • Time • Money

Patented Fire Brick Flues and Liners do a better heating job and SAVE CRITICAL METALS FOR VITAL DEFENSE USE!

READILY AVAILABLE—Prompt shipments from centrally located factories, warehouses.

WARM MORNING Cool Heater Model 420

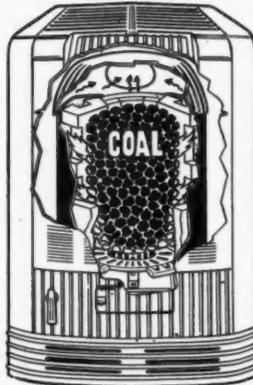


Only Heater of Its Kind in the World

WARM MORNING Coal Heaters have made history throughout the nation. They have been tested and approved by the Anthracite Industries Laboratory—Bituminous Coal Utilization Committee—Household Searchlight—Consumer organizations and more than 100,000 users.

Heats All Day and Night Without Refueling

- Holds 100-pounds of coal.
- Semi-automatic, magazine feed.
- Burns any kind of coal—bituminous or anthracite—no clinkers.
- Start a fire but once a year.
- Requires less attention than most furnaces.
- Solid, substantial, neat in appearance. Cabinet beautiful two-tone brown enamel.



Revolutionary construction principles are responsible for amazing heating results.

AUTOMATIC BAROMETRIC DAMPER—STANDARD EQUIPMENT

WARM MORNING Cabinet Heaters are equipped with an automatic barometric damper which prevents excessive temperatures regardless of chimney height. Saves fuel. Controls burning rate. Safeguards premises.

free BOOK—Get All the Facts—Write today for new book of illustrations and construction details on all models, including 100 and 200-lb. radiant heaters and amazing new water heater.

LOCKE STOVE COMPANY
112 W. 11th Street Kansas City, Missouri

New Insulite Offices in Minneapolis

MINNESOTA and Ontario Paper Company (Insulite) now is located in new headquarters on the fifth floor of Baker Arcade, 733 Marquette Avenue, Minneapolis. The change was made in keeping with steady progress and expansion of M. and O., which had occupied its previous location for 19 years. The new air-conditioned, sound-quieted general office, occupying 16,000 square feet, is arranged on a single floor to assure a maximum of efficiency and comfort for the 150 employes of the Minneapolis office. The office also provided engineers with opportunity to utilize the company's Insulite products in designing the new setup.

An outstanding feature is the reception room with its beautiful photo murals mounted directly upon Insulite depicting the story of paper and Insulite making. Ceilings are of Acoustilite, a low density, high light reflection product.



RECEPTION room murals dramatize paper making.

Certain-teed Welcomed to Chicago

ON APRIL 23 the Board of Directors of the Certain-teed Products Corp. gave a welcoming dinner at the Chicago Athletic Association to the company's officers and staff transferred from New York and to their many friends among Chicago business leaders. The executive officers of the corporation are now at 120 So. La Salle St., Chicago.



READING FROM LEFT TO RIGHT are some of the distinguished guests seated at the speakers' table at the recent dinner held to welcome Certain-teed executives to Chicago: Martin Kennelly, President, Chicago Athletic Association; Ralph Budd, president, Burlington Railroad; General Charles G. Dawes, chairman of the Board of Directors, City National Bank and Trust Co. of Chicago; Harold Van Orman toastmaster; Bror Dahlberg, chairman of the Board of Directors, Certain-teed Products Corporation; Henry J. Hartley, president, Certain-teed Products Corporation.

Hamaker Advanced

THE APPOINTMENT of L. S. Hamaker as assistant general manager of sales of Republic Steel Corporation has been announced by N. J. Clarke, vice president in charge of sales.



L. S. HAMAKER

Mr. Hamaker will transfer his headquarters to Cleveland immediately from the Berger Manufacturing Division of Republic at Canton, Ohio, where he has been general manager since 1934.

In 1925, Mr. Hamaker became advertising manager of United Alloy Steel Corporation, Canton, with which the Berger Manufacturing Company had been merged shortly before. Subsequently, he became advertising manager of Central Alloy Steel Corporation, Massillon, Ohio, when United Alloy was merged with it. Republic Steel Corporation acquired Central Alloy Steel in 1930, and in 1931 transferred Mr. Hamaker to Youngstown as sales promotion and advertising manager.

When the Berger organization was set up as a division of Republic Steel Corporation in 1934, Mr. Hamaker was made general manager and has served in that capacity since. His new duties will involve both the sales of Republic fabricating divisions and the general line of steel products.

M-H Publication Features Priorities

THE CURRENT issue of "Temperature Times," publication of Minneapolis-Honeywell Regulator Company, Minneapolis, for the Automatic Heating Industry, features priorities, with an insert showing the origin of priority business as it flows to jobbers, wholesalers, dealers and manufacturers.

Unusual numbers of requests for additional copies are being received, indicating it has made a "hit" with the trade. Additional copies are available on request.

Stan. Hall Joins Fox

HARRY V. FOX, president of Protection Products Manufacturing Company, Kalamazoo, Michigan, announces the appointment of Stanley O. Hall as sales manager of the company. In his announcement Mr. Fox stated, "Mr. Hall's long experience in and wide acquaintanceship with the millwork industry and its problems fit him ideally for our organization. Our products,



HARRY V. FOX



STAN. O. HALL

Woodlife and Woodyouth, are well and favorably known throughout the lumber and millwork industries and we recognize that the future of wood is inseparably tied to its protection against the ravages of moisture and fungi. Therefore we are naturally pleased to welcome to our organization the man who has been the leader in the vast strides which the millwork industry has made in the preservation of its products. As secretary of the National Door Manufacturers Association he originated and conducted the N.D.M.A. Preservative Minimum Standards Program which is now universally recognized by specifiers and users of quality millwork."

Mr. Hall has taken up his duties in Kalamazoo, having recently returned from temporary service in Washington with the War Production Board. "While I am now identified with the preservative industry," stated Mr. Hall, "I do not feel that I have left the millwork industry, at whose council tables I have served the past eighteen years. Lumber and millwork merchandising will increasingly be allied with preservation and I look forward confidently to a bright future for preservation treated wood products."



MAKES NO DIFFERENCE

You Save
BOTH WAYS
with



A single home . . . an entire defense housing project . . . prefabricated housing with either single or double balance installations . . . an apartment or an industrial plant . . . you **SAVE** on critical materials and you **SAVE** in installation time and cost when you specify or use **GRAND RAPIDS INVISIBLE SASH BALANCES**.

Thousands of Sets Used in Defense Housing

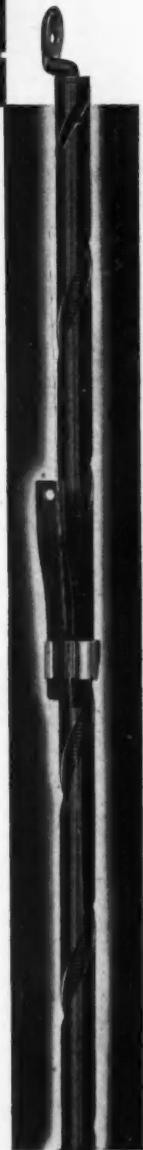
The savings and extra satisfaction realized on **GRAND RAPIDS INVISIBLE** installations are fully substantiated in the experience of scores of leading contractors. Thousands of sets have been used in defense housing projects . . . all have earned enthusiastic endorsement for simplicity of installation; smooth, dependable performance; ease of tension adjustment; absence of tapes or cables; and the actual invisibility of the entire working mechanism.

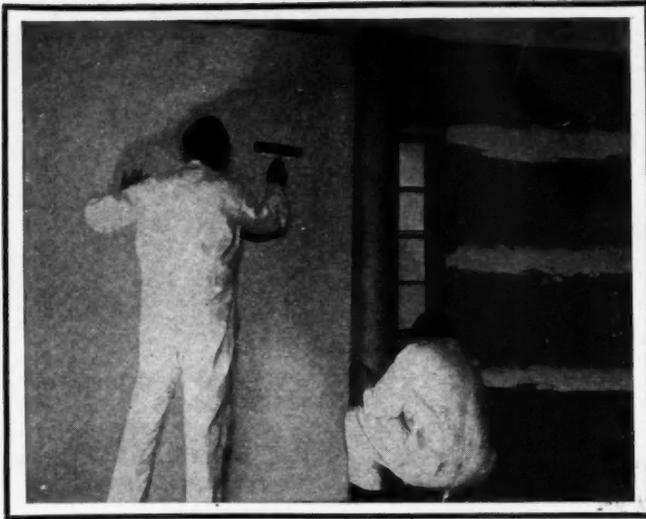
A Word on Deliveries

Production has been stepped up but, of course, as with every other essential product, priorities govern deliveries. Write for new 1942 catalog No. 42-SB-2, and we will gladly give you definite information on deliveries.

GRAND RAPIDS HARDWARE CO.
GRAND RAPIDS • MICHIGAN

"GRAND RAPIDS"
Sash Balancing Equipment
THE STANDARD FOR FORTY YEARS





★ Advantages of DRY WALL CONSTRUCTION WITH BIRD Monacousec

BIRD Monacousec is the newest type of Dry Wall Construction by which seamless, quiet, attractively tinted walls are obtained. Bird Monacousec is not merely a wall covering. It is an integral part of a complete and permanent wall construction. It is a finished and decorative wall which, when desired, may be washed, painted or papered, and has all the desirable features of other permanent wall construction. Made in ceiling height widths and packed in rolls, it is applied as a single, seamless sheet, eliminating joint treatment.

BIRD Armorwall

Bird Armorwall is another Bird Dry Wall Construction for use where water or soiling hazards are present. Made in ceiling height widths and packed in rolls, Bird Armorwall provides a seamless surface finish that avoids difficult joint treatment or paneling. Armorwall has a glossy, baked enamel surface with water-impervious finish in marbled design and pastel wall colorings.

★ USED IN LEVITT MULTIPLE HOUSING PROJECT AT NORFOLK VA. DESCRIBED IN THIS ISSUE — Bird Armorwall is used in kitchens and bathrooms — the newest seamless dry wall construction.

BIRD & SON, inc.

Established 1795

EAST WALPOLE, MASS.

NEW YORK SHREVEPORT, LA. CHICAGO



Levitt & Sons Set New Standards

(Continued from page 53)

carpenter crews move onto a job they are not impeded by masonry work and can go ahead full speed.

The Levitts have brought along their experienced workmen from Long Island who are organized in small crews operating on a contract basis. The average skilled workman makes between \$70 and \$80 a week, rain or shine.

A striking practice employed by one of the carpenter crews is to build completely the exterior wall of a house before erecting it. Sills and plates are measured on the job, then laid in position on an improvised platform (see front cover photo). Studs are then laid in place, window and door frames installed and the complete wall sections nailed together and covered with the exterior siding. It is then erected in one piece. This system is used by only one crew, and so far it is not yet possible to tell whether any appreciable savings were made over the usual method.

Another striking feature of the construction procedure is that partitions are not installed until interior finish has been applied to the ceiling and to the exterior walls. Under the Levitt system the ceilings are supported from the roof rafters, leaving the interior of the house as one large room. Workmen are thus able to apply the gypsum board ceiling rapidly without fitting around partitions. They also install the plywood finish on the exterior walls at this time. When the interior partitions are erected they are wedged firmly into place, but are not actually required to support the ceiling.

Practically all of the lumber is cut in the shop, on power saws. The Fenestra steel casements come to the job complete with frames and both interior and exterior trim, already painted. They are thus installed in a minimum amount of time. The Levitt construction system is well organized and highly efficient and is based on the operation of numerous small crews, each headed by a foreman who is, in effect, a subcontractor. Each crew becomes a specialist in a standardized building operation, and there is a profit incentive for them to produce as many units per day as possible.

The Levitts own a railroad siding to facilitate the wartime handling and delivery of material. They have built an elaborate commissary to feed their workmen and are housing a large number of them in some of the first houses built. The job is operating under an A-2 priority, and practically all the materials are on hand. The huge stock piles of materials required for 750 houses are impressive, and include 4 million feet of lumber. A large building now serving as an administration office and storage center will later be turned into a shopping center to serve the new community of 3,000 persons. Leasing of stores and shops for this building is already well under way.

The Oakdale homes will be 90 per cent rented to Naval officers and an arrangement has been made with the office of Admiral Simons, the Norfolk Naval Commandant, for the placing of Navy personnel. More than 200 applications were on file for the first 14 houses to be made available. Rents are \$40 for the two-bedroom models and \$44 for the three-bedroom. The approximate cost is indicated by the size of the 90% Title VI FHA mortgages, which were \$3,650 and \$3,950 respectively.

In its organization and operation the Oakdale job is one of tremendous proportion. It calls for constant and unceasing effort on the part of both William and Alfred Levitt and their assistants, and is full of headaches, as they point out. But when you penetrate beneath the

noise and the confusion, you find that actually these men are enjoying doing a difficult job that they feel is performing a needed and worthwhile war service.

When I asked Bill Levitt how it compares with building high-priced houses, he said without hesitation, "There is no comparison because it's so much more interesting. It is fascinating and interesting—it is a *production* job not to be compared with the building of large homes.

"For all the headaches," he added, "we enjoy it because we believe we are contributing something important to the war effort."

Included in the builder's specifications of materials and equipment used are the following:

Specification Features

FINISH FLOORING—E. L. Bruce Streamline factory-finished oak.

INTERIOR WALLS—Douglas fir plywood, U. S. Plywood Co., with A. C. Horn Co. natural wood finish.

INTERIOR CEILINGS—Kelly Cork-Gypsum wall-board—Newark Plaster Co.

EXTERIOR SHEATHING—U. S. Gypsum Co. Gyp-lap.

INSULATION—2" American mineral wool blanket in attic flooring.

KITCHEN CABINETS—General Electric steel cabinets.

REFRIGERATOR—General Electric 6 cu. ft. model.

RANGE—J. B. Slattery insulated range with Robertshaw controls.

SINK—Hostess model duplex combination laundry tray and sink by American Radiator-Standard Sanitary.

PLUMBING FIXTURES—American Radiator-Standard Sanitary.

FIREPLACE—Bennett steel recirculating fireplace unit with coal-burning grates.

HEATING—International oil burning floor furnaces, 50,000 B.t.u. capacity. 110-gal. tank.

AREA WALLS—Lux-Right area walls by St. Paul Corrugating Co.

WATER HEATERS—Rheem Blue Bonnett 30-gal. gas automatic, insulated water heater.

WINDOWS—Fenestra steel casements complete with wood frames and trim, Detroit Steel Products Co.

LIGHTING FIXTURES—Wooden frame enclosing luminous cellulose acetate by Monsanto Chemical Co.

Porcelain enamel fixtures throughout.

WALL LINOLEUM—Bird & Son Armorwall—a waterproof felt-base wall covering with glossy, baked enamel surface.

WIRING—General Electric wiring, switches, outlets.

* * *

Job Signs for Authorized Construction

PLACARDS showing that approval has been granted by the War Production Board are being sent to builders of authorized projects to be displayed conspicuously on the premises during construction. Printed in blue on a white background, the placard carries the initials WPB on which are superimposed the words:

**Authorized Construction
War Production Board**

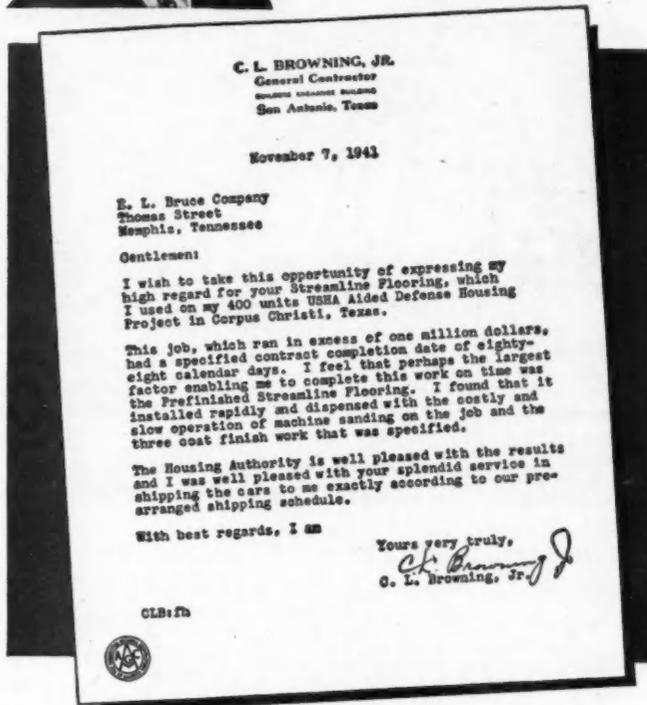
There is space on the placard for a serial number, identifying the individual project, which will be given the project by the War Production Board. The placard may be used only for the particular project for which it is issued and should be destroyed when the project is completed.

Only the War Production Board issues the placards. Applications for authorization to start construction under provisions of Conservation Order L-41 are recommended by several agencies, but final approval is granted only by the WPB.

**\$1,000,000
WAR HOUSING JOB
COMPLETED IN 88 DAYS**



**Read How
STREAMLINE FLOORING
Made This Possible**



Note how Mr. Browning's letter emphasizes that Streamline Flooring enabled him to complete the work on time . . . how it did away with "costly, slow machine sanding on the job, and the three-coat finish specified." Note, too, how he emphasizes the "splendid service in shipping according to schedule." His letter is typical of many received from architects and contractors all over the country. No wonder they consider Bruce Streamline Flooring ideal for war housing. It's the greatest improvement ever made in hardwood flooring!

E. L. BRUCE CO., 1620 Thomas St., Memphis, Tenn.

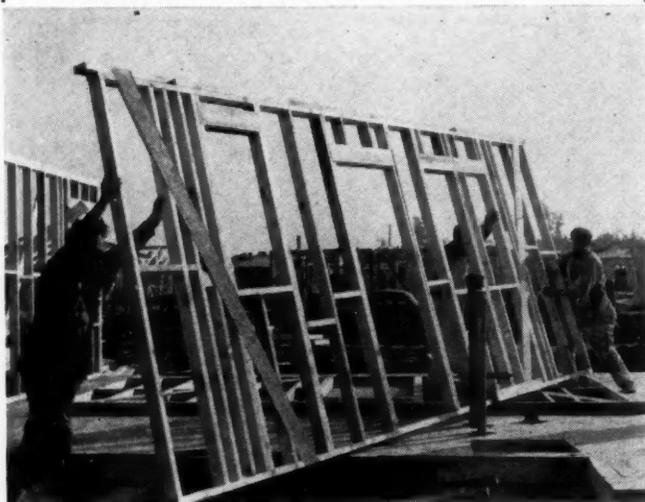
E. L. BRUCE CO.,
1620 Thomas St., Memphis, Tenn.
Please send me a copy of your new book
—"Low Cost Floors for Defense Housing."

SEND FOR
FREE
BOOK

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

BRUCE *Factory-Finished*
STREAMLINE HARDWOOD
FLOORING
FLOOR FINISHES • TERMINIX • LUMBER PRODUCTS

Join the ranks of HOUSE PREFABRICATORS and others who are turning to FRAMING LUMBER OF WESTERN PINES*



Dry, light-weight Western Pines contribute greatly to successful factory prefabrication of houses and unitized wall erection at the building site. Remember the words—Light-weight-Dry.

And framing lumber of Western Pines also is well manufactured and graded. It is seasoned *before* it is surfaced. It's straight . . . easy to saw and nail. Its strength far exceeds the need.

No wonder, then, for speedy construction, lower labor costs and lasting protection, Western Pine framing provides the answer.

The Western Pines will do your next job better. Try them.

Western Pine Association

Yeon
Building



Portland,
Oregon

*Idaho White Pine *Ponderosa Pine *Sugar Pine

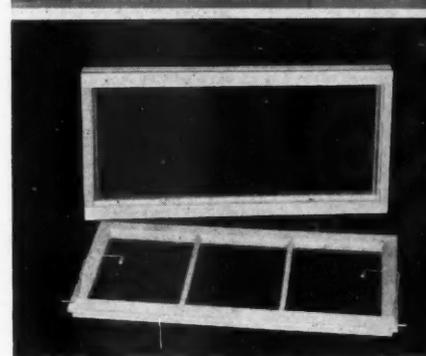
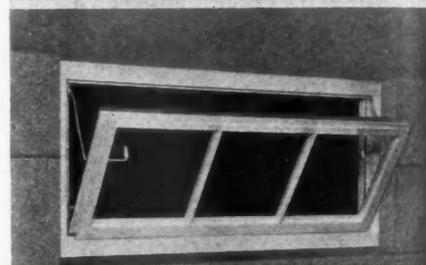
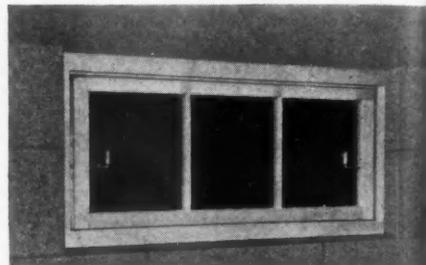
***These Are the Western Pines**

TRENDS in Home Equip- ment, Building Materials

New Idea in Basement Window

A NEW, low-cost, yet stronger wood basement window is announced by Carr, Adams & Collier Co., Dubuque, Iowa, manufacturers of the well known Bilt-Well Woodwork. It is designed to require the minimum of critical defense materials, to be low in cost and functionally equal to or better than other units. These important objectives were attained by designing a wood frame with less weight and bulk yet with as much as two to four times the strength of the standard wood frame, where strength is needed. It is made of clear W. P. pine, in one popular size, 2'-8 $\frac{1}{8}$ " x 1'-3 $\frac{3}{8}$ " overall, which conforms with the mason's practice and standard cement blocks.

Pre-fitted glazed sash are installed at the factory. All wood parts are chemically treated. Especially important at this time is the fact that no hardware is necessary except two pieces of steel rod furnished, which replace both hinges and lock. This unique hinging device permits the sash to be swung in from either the top or bottom and retains the sash in either open position. The sash can be easily removed completely from the frame for painting or reglazing.



NEW Bilt-Well basement window needs no hardware.

Insulux Asphalt Emulsion Offered

COMPLETING its line of auxiliary materials used in the construction of glass block panels, the Owens-Illinois Glass Co., Toledo, has introduced a new product called Insulux Asphalt Emulsion. This is especially prepared to be used with Insulux Glass Block. Herebefore, it has been difficult to obtain asphalt emulsion with the proper consistency for use with glass block, particularly in small communities and in the small quantities which are generally used on the average glass block job.



In glass block construction a heavy coat of asphalt emulsion, 1/32" thick, is painted on the sill on which the glass block are to be laid before the first mortar joint is spread. The asphalt emulsion is used on all sills regardless of the type, such as stone, concrete, brick, steel or wood. The purpose of the asphalt is to form a resilient coating which will break the bond between the mortar joint and the sill, thus permitting the panel to creep slightly as it expands and contracts due to temperature changes. Glass Block are not load bearing and are installed in the structure of the building with expansion joints at both jambs and head. These expansion joints permit the glass panel to come and go with thermal changes in the atmosphere and the surrounding materials and also provide space for building movement such as settlement or deflection without causing loads to be brought on the glass.

The Insulux Asphalt Emulsion which has been prepared for this purpose is a heavy bodied asphalt dispersed in a water medium to give it a smooth plastic consistence that is easily trowelled. When dried by evaporation, it forms a flexible rubber-like film which acts as a bond-breaker. This new emulsion has been given complete tests to assure its efficiency in providing the resilient coating described above, and also for protection against water penetration at the sill, due to cracks which might occur here if the asphalt emulsion were not used. The emulsion will not stain stone sills or other frame-work. The new product is available in 5 gals., 1 gal. and 1 quart size cans.

Curtis Introduces New Low-Cost Woodwork for Defense Houses

CURTIS Companies Incorporated, Clinton, Iowa, announced recently the addition to their line of a full selection of new architect-designed stock woodwork for low cost homes. "New



CURTIS entrance C-1765 was designed by Cameron Clark, architect, New York City.

Woodwork In Tune With the Times" is the title on the cover of a very attractive portfolio showing the new line. The designs include entrance frames, mantels, and china cases—all beautiful in design, well made, and low in cost.

"We feel," stated a Curtis official, "that it is both possible and practical to put good design, beauty, and sound construction into the woodwork for these small homes going up everywhere in defense areas. The trend

for quite a while has been toward the small home. We retained the services of outstanding architects to design for us, for mass production, beautiful little doorways that will grace any home, china cases, and mantels that will add a touch of beauty and comfort to the small houses as well as serve practical purposes.

"In the consideration of design and detail, every thought has been given to economy without sacrificing beauty. We feel that in these small homes are people who are just as much interested in good things today as they ever were. The war has not changed our appreciation for good design in our houses, no matter what the size or cost."

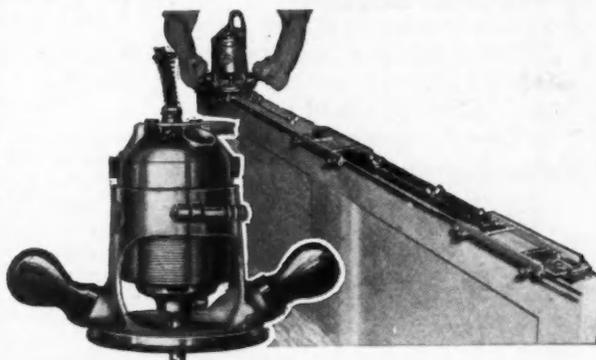
The new Curtis entrances are very good looking and are quite suitable for small homes. There are several styles so one house need not look just like another. The china cases fit low ceiling rooms and small rooms, but each one is stylish and beautiful in detail. The same is true of the new Curtis mantel line.

Texas builder hangs 114 DOORS a day instead of 10



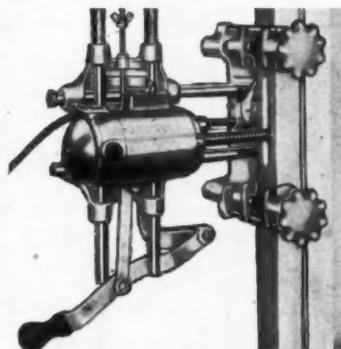
Builders with rush contract jobs today (and what job isn't rush?) can profit by the experience of this Texas builder who substituted Carter Equipment for slow, hand work and speeded up hanging of doors more than 10 times.

FIT DOORS with a Carter J-5 Electric Plane. It planes surfaces up to 2 1/2" wide. Quickly set for any depth up to 3/16". Bevel cuts to 45°. Full 1 H.P. motor turns spiral cutter 18,000 R.P.M. Leaves smooth, finished surfaces.



MORTISE FOR BUTTS in door and jamb with Carter Hinge Butt Router. Accurate depth adjustment up to 1 1/8". 3/8 H.P. motor turns cutting bit at 18,000 R.P.M. Used with Hinge Butt Templet No. T4 for butt mortises, with Lock Face Templet No. T1 for lock face plates.

MORTISE FOR LOCKS with Carter Lock Mortiser—the lightest, easiest-to-handle mortiser. Cuts a lock mortise in about 30 seconds. Simple adjustments for length and depth of mortise. Max. length of stroke 5 1/4"; max. depth of cut 4 3/4". 1 H.P. motor turns cutters at 18,000 R.P.M.



UNCLE SAM is calling for more SPEED . . . here's one way to help. Write for demonstration or descriptive folder. R. L. CARTER DIVISION, The Stanley Works, 133 Elm Street, New Britain, Connecticut.

CARTER TIME-SAVING TOOLS

Monarch Uni-Point Radial Saw Developed

THE AMERICAN Saw Mill Machinery Co., Hackettstown, N. J., has just announced the new Monarch Radial Saw—"The Streamliner"—a modern development in the engineering of wood-working machines. This machine was designed to meet the national trend for the utmost speed and efficiency in production.

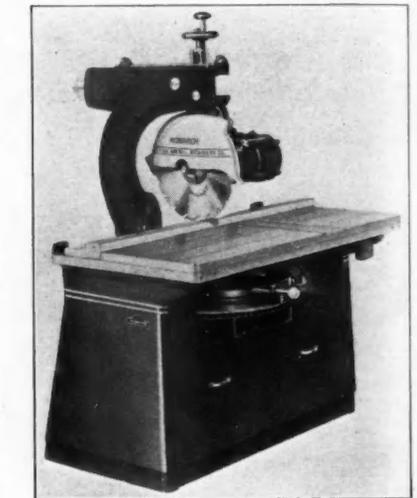
Possessing exceptional beauty of design, with a streamlined arm, guard, and cabinet base, this machine incorporates the famous "Unipoint" principle, permitting the operator to make instant setting for any cross-cut angle, with the saw blade always cutting into the work at the same point in the table. This unique feature enables the operator, with snap-speed accuracy, to set the machine for any cut without raising or lowering the saw or making any other complicated adjustments.

In addition, the machine has a number of new mechanical features which further simplify the operation. The capacity of crosscutting has been considerably increased on all standard mod-

els, to take care of the widest panel-board. Thirty-two roller bearings in the ram housing assure "light-pressure" precision travel of the saw, easy operation, and reduction of wear to a minimum. A spring bumper on the ram housing cushions the backstroke and assists in starting the forward motion of the saw. The adjustable crank-feed bar, which mechanically controls the saw travel for heavy dado work and other difficult cuts, is another unique feature. The feed bar can be locked in any location, so as to place the operating crank in the most convenient position, or it can be pushed back out of the way, when not in use.

The safety features of the new machine are of the utmost importance. All adjustment and locking levers are in front of the machine and below the table, in the "safety zone." When making adjustments, it is never necessary for the operator to reach over the machine, which might result in catching his clothing on the saw, etc. It is not necessary to raise or lower the saw when adjusting for any horizontal, vertical, or compound cross-cut angle. Furthermore, the machine is provided with an adjustable guard, having an effective anti-kick-back device. The guard can be brought down close to the work, for ripping, cross cutting, or performing other operations such as dadoing. Another important safety feature is the telescoping ram which returns the saw behind the fence, leaving the table free and

clear of all obstructions, and eliminating the danger of the operator striking his head or shoulder against the ram.



NEW Monarch radial saw. "The Streamliner."

Among the many other unusual features are the adjustable fence to accommodate extremely wide ripping; automatic spring tension ram-return mechanism; turntable on the large model providing only one saw mark on the table regardless of the angle; automatic stop-locks at zero and 45 degrees for all common angle positions, including mitering, bevel ripping, routing, shaping positions, etc.

New Fiberglas Board for Cold Storage Insulation

PRODUCTION by Owens-Corning Fiberglas Corp., Toledo, of its new AE (asphalt enclosed) Board for low-temperature and roof insulation marks a development of unusual importance for cold storage refrigeration. It is made of glass fibers, compressed to a density of six pounds to the cubic foot, and completely enclosed in a sheath of asphalt that has a high melting point. Its heat conductivity is 0.265 BTU per square foot per hour, per degree Fahrenheit, per inch thickness, at a

STRANGE STORIES

- THAT "STICK"

RECIPE FOR BUILDING

2 TABLESPOONS OF LAUCKS GLUE (1.7 OZS.) DOES THE WORK OF 60 TO 120 NAILS (8.7 OZS.) IN DRI-BILT CONSTRUCTION!

NAVY RECRUIT

LAUCKS WATERPROOF GLUE IS USED IN BUILDING SPEEDY MOSQUITO BOATS, BECAUSE OF ITS STRENGTH AND DURABILITY!

WOOD SAVES STEEL

BEAMS MADE WITH WOOD AND LAUCKS GLUE RELEASE 10 TONS OF STEEL FOR WAR!

U.S.N.A. RECREATION CENTER—SEATTLE, WASH.

I. F. LAUCKS, Inc.
 MANUFACTURING CHEMISTS
 "Leadership through Research"
 Seattle — 911 Western Ave.
 Chicago — 6 North Michigan Blvd.
 Los Angeles — 859 E. 60th Street
 Vancouver, B. C. — Granville Island
 Portsmouth, Va. — Commerce and Broad Sts.

SPEED! Necessity for speed first turned yesterday's doubts about glue in construction into enthusiastic endorsement. Now American builders and prefabricators know that Laucks Construction Glue methods not only are faster . . . but also are stronger . . . and save precious metal for combat use.

On history's biggest housing projects, wall panels are "glue-welded" to joists and studding in assembly line procedures. Glue-laminated arches and beams replace steel . . . and qualify fully for strength. Wood and Laucks Glue are joining forces in scores of new and vital ways in building construction as well as in wartime industries, in aircraft and boat-building . . . to speed America's production for victory.

- SELF-BONDING**—Make permanent bonds without heavy weights or clamps.
- WATER-RESISTANT**—Meet U. S. Army, Navy and Federal aircraft specifications.
- STRONGER**—"Stronger than nails by test" . . . and easier to get.

Contractors, Builders, Dealers, Architects — write Laucks for full information. See REZ advertisement on page 78.



• LAUCKS CONSTRUCTION GLUES •



APPLYING Fiberglas AE Board for cold storage wall.

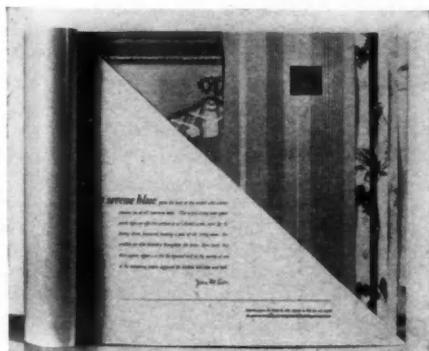
mean temperature of 60 degrees, Fahrenheit. This is one of the best values of all recognized cold storage insulations.

Fiberglas AE Board is made in the "American Standard" size for refrigeration insulation—that is, 12 inches by 36 inches—and in thickness of one, one and a half and two inches. Blocks are formed with true square edges and corners, and the asphalt coating is thoroughly sanded to prevent adhesion of the blocks to one another during shipment or while in storage.

The asphalt coating provides a substantially waterproof seal completely around the Fiberglas insulation. It also increases the stiffness and rigidity of the insulation so that the blocks can be used for the erection of self-supporting partitions, or as load-bearing insulation to carry floors in refrigerated spaces. They can also be used as a promenade surface on flat roof decks.

No Restrictions on Wallpapers

AMPLE PROOF that restrictions in the types of homes that may be built need not restrict imagination or quality of wall treatments is seen in a new sample book just issued by

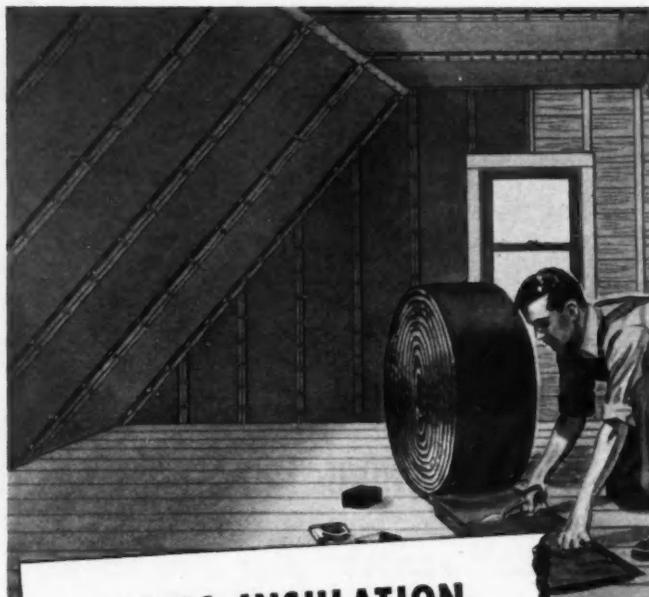


WALLPAPER sample book.

the makers of Imperial Washable Wallpapers, Imperial Paper & Color Corp., Glens Falls, N. Y. The book contains samples of 106 papers, all priced within the budget limitations that apply so widely today and all carrying the manufacturer's usual 3 year guarantee of washability and light resistance.

Of great help is the way in which the papers have been selected and arranged by Jean McLain, Imperial's decorating authority. Eighteen complete decorating schemes, consisting mostly of six papers, have been developed. Each takes a common sense approach to the problem, using the types of colors and designs which are in growing favor. The vogue for ensembling wallpapers for room-to-room harmony is taken into full consideration with papers of individuality in design and continuity of color.

The practical makeup of the book, which includes suitable text covering each scheme, makes it easy to visualize the increased attractiveness and salability that can be added by employment of these preselected schemes. This new sample book is now available in the showrooms of distributors from coast to coast.



ATTIC INSULATION ONE ANSWER TO HOUSING PROBLEM

Makes possible extra bedrooms in existing buildings; adds to fuel economy; meets Government regulations

Under present Government restrictions on new building and remodeling, increased attention is being paid to the extra living space which can be obtained by remodeling millions of unused attics throughout the nation.

Improved type blanket insulation being used

Going a long way toward simplifying attic modernization is Masonite* Cell-U-Blanket,* one of today's most efficient insulations and one that can be installed to roof rafters—*from the inside*—without danger of shrinkage, sagging or settling. The blanket comes in rolls. It is merely cut to size and stapled or nailed to the rafters.

Provides positive vapor barrier

The asphalt-impregnated coverings of Masonite Cell-U-Blanket are wind-proof and moisture-resistant. This insulation provides a positive vapor barrier, effects the fuel economy so vital to our war effort. Masonite Presdwood* Products are also being used for finishing the attic with smooth, durable hard-board walls and ceiling.

Local lumber dealers can procure Cell-U-Blanket in 3 thicknesses, 6 widths and with either asphalt-impregnated coverings on both sides or with a non-metallic reflective surface on the flange side. Mail the coupon for FREE sample and full details.

MASONITE CELL-U-BLANKET



A New and Better Insulation • Sold by Lumber Dealers Everywhere

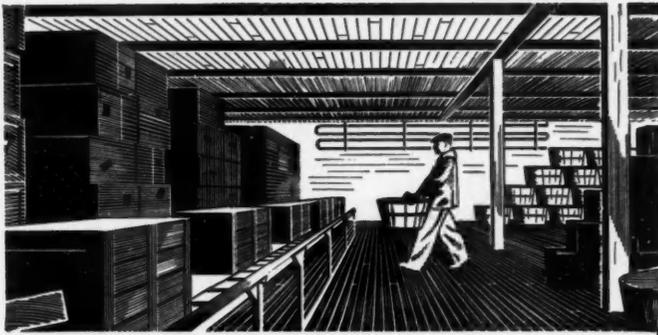
MASONITE CORPORATION, Dept. AB-6, 111 W. Washington St., Chicago, Ill.

Please send me FREE sample and further details about Masonite Cell-U-Blanket Insulation.

Name _____ Address _____

City _____ State _____

*TRADE-MARK REG. U. S. PAT. OFF. "MASONITE" IDENTIFIES ALL PRODUCTS MARKETED BY MASONITE CORPORATION. COPYRIGHT 1942, MASONITE CORPORATION.



Cold Storage Plants Offer Hot Tip On Wood Construction

WOLMANIZED LUMBER* adds long life to the other advantages of wood construction; that's the verdict of cold storage and ice plant operators after observing its fine performance for the past fourteen years. They've used hundreds of thousands of feet of Wolmanized Lumber for cold-room floors, framing and linings.

WOOD CONSTRUCTION puts cold storage within reach of many fruit and vegetable growers, by cutting the initial cost of these plants. Wolmanized Lumber assures low upkeep costs, because this wood is able to withstand the high humidities encountered. Its insulating properties give added operating economies.

WOLMANIZED LUMBER is ordinary lumber which has been made resistant to decay and termite attack by vacuum-pressure impregnation with Wolman Salts* preservative. It adds little to the first cost of a structure—is light, strong, resilient. It goes up quickly and easily and is clean, odorless and paintable.

HAVE YOU A PROBLEM which might be solved with Wolmanized Lumber? We'll gladly send you additional data on its use. Write American Lumber & Treating Company, 1645 McCormick Building, Chicago, Illinois.

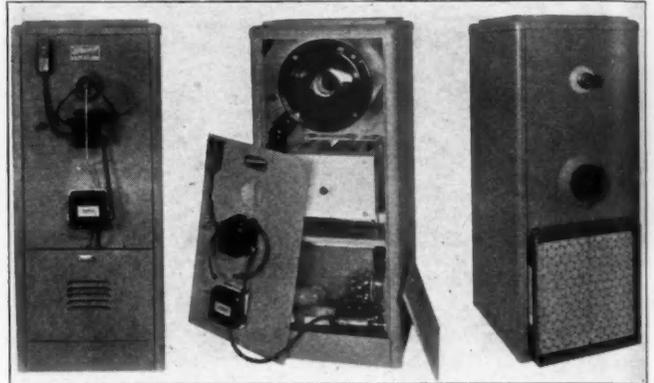
*Registered Trade Mark

WOLMANIZED LUMBER



New Gar Wood Unit for Small Homes

THE AIR Conditioning Division of Gar Wood Industries, Inc., has introduced a new Tempered-Aire heating unit, Model "Seventy-Five." It is a wartime product, stripped down to essentials but without sacrifice of efficiency or dependability. It was designed for installation in small dwellings and defense-type homes and sells at a new, low price. The capacity is 75,000 BTU's per hour at the bonnet. The air delivery is 750 C.F.M. at 160". Model "Seventy-Five" is ample for a house with a heat loss of 60,000 BTU's per hour.



GAR WOOD MODEL 75 Tempered-Aire heating unit. Center view shows front panel with controls and transformer removed. Note blower assembly, at bottom, including fuel unit for burner, and air duct from blower to combustion chamber. (Right) Rear view of unit.

New Armstrong Lining Felt

A NEW IMPROVED semi-saturated lining felt having advantages of both dry and saturated felts has been developed by the floor division of the Armstrong Cork Co., Lancaster, Pa. Known as Armstrong's Lining Felt, this product has unusually high resistance to splitting caused by seasonal sub-floor movements. Lino-strip and linosets can be cut in wet without pulling away any of the material.

Because all its fibres are partially impregnated with asphalt, linoleum paste can penetrate this material only deeply enough to assure a maximum bond, thus helping to save paste. The new product helps save time since its increased flexibility minimizes necessary rolling. An ordinary linoleum knife is the only tool required for its cutting and fitting. It combines increased resistance to scuffing with strength to hold up under faster handling without tearing. It is easy to remove when the linoleum is taken up.

Finally, this new felt offers increased resistance to disintegration and bunching when installed over floors subject to severe foot traffic or the constant rolling of office furniture.



HERE a mechanic is applying Armstrong's new semi-saturated lining felt to be followed by linoleum.

Improved Wonder Mortar Mixer

MANY improvements in the popular "Wonder" plaster and mortar mixer have been announced by Construction Machinery Company, Waterloo, Iowa, to make it more efficient



IMPROVED plaster and mortar mixer.

for jobs in the defense construction program, as they cut cost and speed up production.

Features of the "Wonder" are lower charging height, making for easier and quicker charging, spring mounted Timken bearing wheels for faster trailing, adjustable heavy steel mixing blades for handling mortars, also patent plaster with hair or fibre.

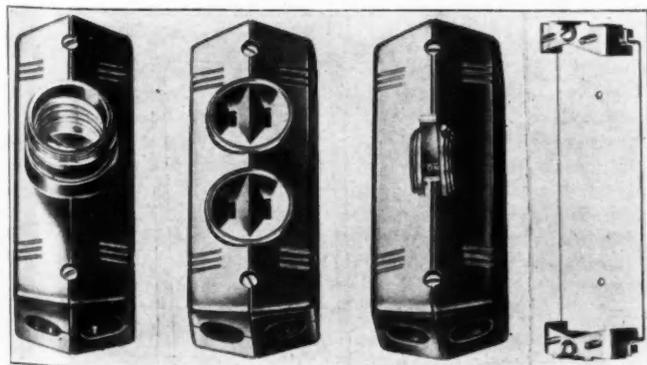
G-E Surface Wiring Devices

A LINE of Moncor surface wiring devices for use in wiring cantonments, warehouses, temporary industrial buildings, war housing, etc., has been announced by the wiring device section of General Electric's appliance and merchandise department at Bridgeport, Conn. These plastics devices can be end-connected or side-connected for surface wiring and back-connected for concealed wiring.

The line includes a duplex convenience outlet, a single-pole "T" rated switch, a 3-way "T" rated switch, a keyless lampholder, a pull chain lampholder and a junction box and rosette. Two accessories are provided to facilitate wiring—a back-connecting strap for use when cables are concealed and a combination clamp and continued ground strap for use with BX. These devices are constructed so they can be easily and quickly wired and are made of brown Textolite. They are light and strong, keep their color and resist moisture and corrosion. They accommodate either No. 12 or No. 14 2- or 3-conductor metallic or non-metallic cable for surface wiring or 12/2 and 14/2 non-metallic cable for concealed wiring. Synthetic insulated non-metallic cable can be used in either No. 12 or No. 14 sizes, 2- or 3-conductor, for surface or concealed wiring. These devices can also be used with knob and tube surface wiring.

The switches in this line are "T" rated. The convenience outlets have contacts that bear on both sides of standard attachment plug blades. The pull chain outlets have Textolite insulating links and tassels. The lampholders accommodate shadeholders both UNO and clamp type.

Knockouts in the devices can be removed with a screw driver. The end knockouts make devices either "through run" or "end run." Knockouts in each side of the devices permit open wiring or extensions, end run or through run. Devices placed beside each other at not too great distance can be wired this way. Four knockouts also are provided on the backs of these devices.



MOUNTING base and some of the fittings in the Moncor surface wiring line.

We are
PLANNING
Your Future
KITCHEN BUSINESS

Today, the Youngstown Pressed Steel presses are turning out the materials of war with the steady rhythm and beat of a marching army—the army of production—marching twenty-four hours every day.

In another department of the plant, skilled planners and researchers are looking past the battle smoke to the blue skies of peace time and are planning more attractive kitchens in line with the trends of home design and construction.

For the years to come, Youngstown Pressed Steel expects to maintain its leadership in the quality, beauty and up-to-the-minute efficiency of its YPS kitchens.



When the pent-up volume of civilian buying is released — WHAT A BUSINESS THAT WILL BE!

Be ready to meet it with YPS kitchen equipment.



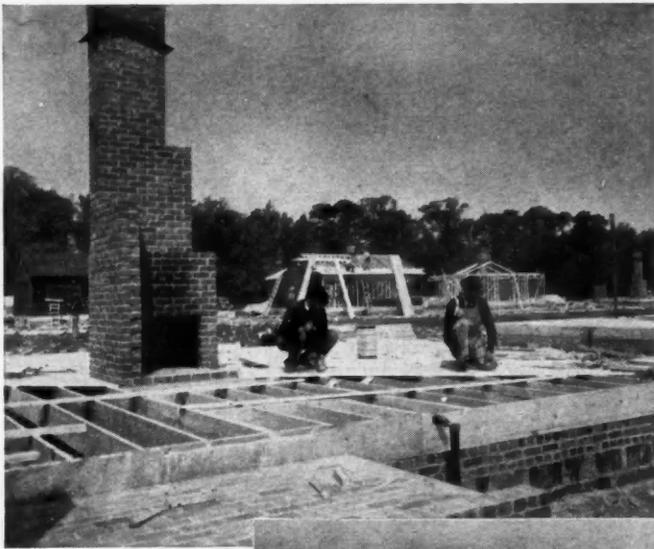
YOUNGSTOWN PRESSED STEEL DIVISION

MULLINS MANUFACTURING CORPORATION

WARREN, OHIO

YOUNGSTOWN PRESSED STEEL DIVISION,
MULLINS MANUFACTURING CORPORATION, WARREN, OHIO
Please keep me informed on Youngstown products.

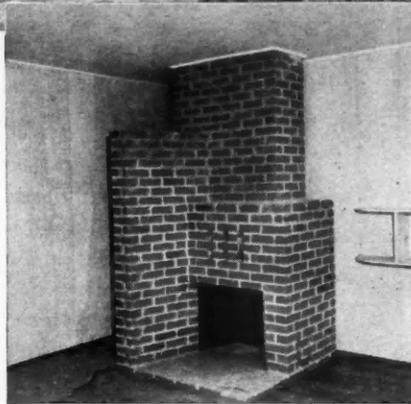
Name _____
Address _____
City _____ State _____



Above—Chimney rapidly erected around Bennett Fireplace Unit.



Right—Showing heat outlets above fireplace opening.



BLAZING NEW TRAILS— High Quality at Low Cost

Again, at Norfolk, Levitt demonstrates the principles which have made his housing developments so successful in the past.

Using equipment from the Blue Book Register, and construction engineering that effects cost economies, he produces High Quality at Low Cost.

As in the automobile industry, such "production" methods vastly increase the market for new units.

He is blazing new trails that will help to expand the construction industry, provide more jobs, in the peacetime period to come.

Bennett Fireplace Units fit perfectly into "speed construction" methods, and provide owners with extra services and values. Particularly interesting at Norfolk, is the use of hard-fuel grates in the heat-circulating Bennett Units, thus furnishing a supplementary source of effective heating in case of fuel oil shortage.

BENNETT FIREPLACE CO., 642 MARKET ST., NORWICH, N.Y.

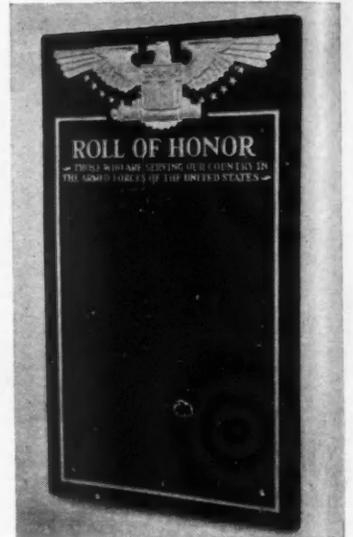
BENNETT
Guaranteed
FIREPLACES

UNITS • FLEXSCREENS •
CONSTRUCTION SUPPLIES

Honor Roll of Black Glass

HERE IS a new "Roll of Honor" plaque designed by the Pittsburgh Plate Glass Company for plants, offices, and other organizations having employes or members serving in the Armed Forces of the United States. The plaque has the dual advantage of providing both a temporary and permanent record of names of those serving their country.

The plaque consists of polished black Carrara glass on which the emblem is sand-carved and painted with varnish-protected gold leaf. The name of the individual company or organization is inscribed at the bottom. As employes or members depart for service their names are painted on the plaque with white or gold paint. When the list is complete the names can be inscribed permanently by sand-blasting, re-arranging them in alphabetical order if desired.



WHITE names on black glass.

Use of glass instead of metal has several advantages. Critical metals are released for more important war needs and the glass provides a permanent memorial that is impervious to the elements, retains its sparkling finish, does not craze, and cannot tarnish.

Modernizing Acoustic Panels for Booths

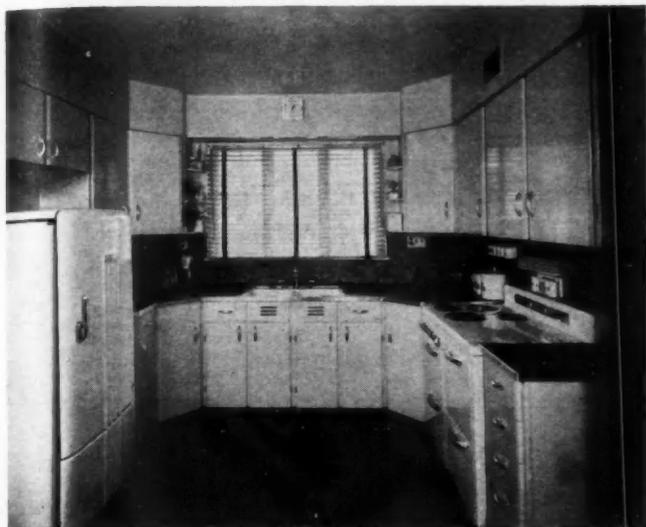
A SERIES of new acoustic wall panels, known as Burgess Acousti-Panels, has just been announced by the Acoustic Division of Burgess Battery Company, 2825 W. Roscoe St., Chicago. These convenient panels offer an easy and inexpensive way of modernizing existing built-in telephone booths in department stores, hotels, and other public buildings. By the use of these panels, old style built-in booths can be easily converted into modern doorless booths which are light, airy, well ventilated, and easily cleaned. Booths which have been modernized with these Acousti-Panels offer quiet and privacy to the telephone user, and no door is necessary. The sound-absorbent panels absorb outside noise and prevent the user's words from being understood outside the booth.



ACOUSTIC panels improve old, noisy telephone booths.

Burgess Acousti-Panels are made of heavy reinforced birch plywood constructed in a unique cellular design, and filled with a thick blanket of sound-absorbing material. The inner side of the panel is perforated so that sound may be absorbed. This combination of perforated facing and sound-absorbent material is a patented Burgess development. These Acousti-Panels are supplied unfinished so they may be decorated to match their surroundings.

Acousti-Panels are 76 inches long, and are provided in 18, 20, 24, 30, and 36 inch widths. The Acoustic Division will be glad to furnish full instructions and recommended dimensions for the modernization of any built-in telephone booth.



NU-STYLE kitchen cabinets by Carr, Adams & Collier.

"Nu-Style" Kitchen Cabinets

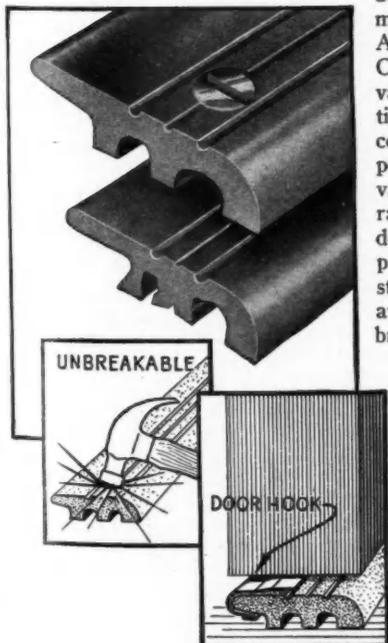
NU-STYLE is the name of a complete line of unit wood kitchen cabinets manufactured by the Carr, Adams & Collier Co., Dubuque, Iowa. They are ideal for new construction in defense areas, or remodeling in non-defense areas. They are individual cabinets, each complete in itself, and are adaptable to any desired arrangement, any size or shaped room. The individual cabinets bolt together in the desired arrangement and fasten to the finished wall without extensive remodeling.

Bilt-Well "Nu-Style" kitchen cabinets of kiln-dried W.P. Pine are smartly modern, and are in perfect harmony with the newest styling of refrigerators and ranges. They provide every convenience, abundant storage space, easy to reach door and drawer handles, broom cabinets, built-in ironing boards, cutlery trays, lid racks, and flour and sugar bins. Doors and drawers overlap the openings forming dust-proof enclosures, and when closed make a smooth flush surface easy to keep clean. They are made in many types and sizes from 15" to 42" wide. They are shipped K.D., put together in the white, or completely assembled and painted.

New Plastic Threshold

KNOWN as Tenite-Two, a cellulose acetate product of Tennessee-Eastman, this new, extruded, plastic threshold is being offered as a really better weatherstripping sill for outside doors, at the same price as metal thresholds by the Allmetal Weatherstrip Co., Chicago.

As fuel conservation is an important wartime problem and as it is conceded that outside door protection is exceptionally valuable, this efficient arrangement of threshold and door hook as illustrated, provides an excellent installation. Two designs are available, both of rich brown colored plastic which harmonizes well with typical floor finishes. The material is practically indestructible and screw and interlocking hook are included. Sold in lengths for standard door widths.



PLASTIC threshold by Allmetal

NEW OIL FURNACE FOR WAR HOUSING PROJECTS

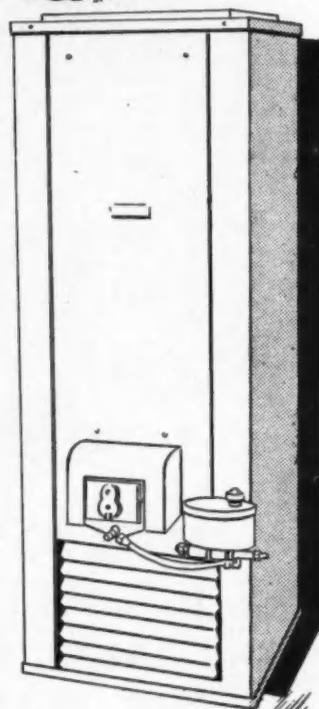


DU 42 and DU 44 PROVIDE OIL HEAT AT LOW COST!

You can solve some of your toughest heating problems with the new H. C. Little DU (Defense Unit) because this oil-fired Furnace Burner Unit is compact—low-cost—and easily installed. It culminates 12 years' experience with furnaces especially adapted to small homes.

MANY USES

Models are available for location in the basement or on the first floor—concealed, recessed, or in the open. They may be used with or without ducts—with or without fans for increasing warm air circulation. Operation can be Manual or fully Automatic. Capacities range from 40,000 BTU output to 70,000 BTU output.



MANY ADVANTAGES

DU Furnaces' upright construction not only saves valuable floor space. It also makes a more efficient unit, in which a large volume of warm air is moved, instead of a small volume of hot air. Less stack draft is required, so lower chimneys may be used successfully. DU Furnaces are modern oil-burning units of practical design and high efficiency, at such low cost that they come within the most restricted budget.

YOU CAN BUY THEM NOW!

H. C. Little DU Furnaces are NOT AFFECTED by Limitation Order L-74 because they use a burner of the vaporizing type. With the correct Preference Rating you can buy DU Furnaces NOW. If you write today for full information, your request will get quick attention.

DU FURNACES ARE LISTED BY THE UNDERWRITERS' LABORATORIES

**H. C. Little
Burner Co.**
SAN RAFAEL
CALIFORNIA

Please send DU Unit literature

Name _____

Address _____

City _____

State _____

RYBOLT



RYBOLT Series 1815 18" Coal-Fired Furnace

THE IDEAL HEATING UNIT FOR WAR HOUSING

Embodying all the quality features that have made RYBOLT furnaces famous, this compact small-capacity 18" coal-fired furnace is ideal for the space and price limitations of War Housing. Sturdy, dependable, and economical, it has ample heating capacity for the small or medium sized house. The radiator, feed section, and ashpit are of one-piece construction, especially desirable in a furnace of small capacity. Duplex ball-bearing grate; waist-high shaking lever, operated without stooping; extra heavy corrugated fire bowl; slip-on front casting construction. Attractive modern design.

**... LOOK TO RYBOLT for your
War Housing Heating Equipment**

Write for complete information



THE RYBOLT HEATER CO.
619 MILLER STREET • ASHLAND, OHIO

PRACTICAL JOB POINTERS AND BUILDING DATA

AN EXCHANGE of ideas and methods in building practice. For individual contributions, two dollars or a year's subscription to *American Builder* is paid when published; state occupation.

Large Coated Sheets to Cut Wall Costs

PLASTIC-COATED wall panels which are completely pre-finished and require no "on-the-job" treatment after installation are a development urged to speed up emergency housing construction and remodeling. Supplied in sheets as large as 4' x 8', the pre-finished boards are a product of Barclay Manufacturing Company, 385 Gerard Avenue, New York City.

Designed for either new structures or for speedy modernizing by covering old walls and ceilings, the sheets are best applied by a waterproof adhesive, but may also be installed with brads. They are available in 10 attractive colors which are permanently bonded to the sheets by heat treatment. The surface is water-proof, stain-proof, dirt proof, vermin proof, and may be cleaned with soap and water.

Available in three types—Tileboard, Panelboard and Streamlined Board (shown left to right in the illustration)—the sheets may be installed by any competent carpenter. Besides the more obvious applications in bathrooms and kitchens, the plastic-coated panels are also being used for playrooms, nurseries, closets, laundries, service stations, barber and beauty shops, meat markets, bakeries, restaurants, hospitals, boats and trailers.



BARCLAY Tileboard, Panelboard and Streamlined Board.

Wood and Glue Beams Replace Steel for War

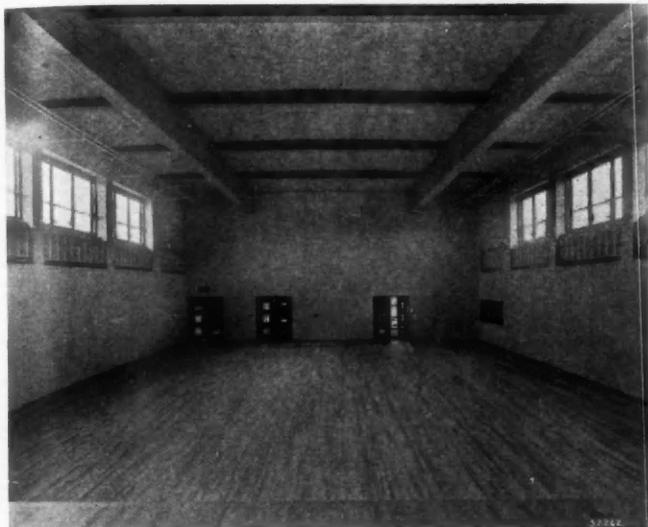
PROVIDING a splendid demonstration of the effectiveness with which the laminated wood beam can supplant a steel beam is the new Recreation Center at the Yesler Terrace (USHA) project, Seattle, Washington.

Here two 67' 2" beams, 14" wide and 40" deep, made up from 7800 board feet of fir and spruce dimension lumber, and 270 pounds of Laucks Construction Glue, took the place of steel girders weighing over 20,000 pounds, saving not only the steel for war, but saving \$76 per beam, in addition.

These wood beams were assembled in five and one-half days, were made in camber, and assembled with scarf joints by clamps and nails. They were delivered by logging truck.

Attwell Construction, Seattle, Washington, manufactured the beams. Mr. Bob Attwell, the manager, has been working with

laminated beams and arches for many years, and worked out the design for the present beams with the help of the University of Washington Forest Products Laboratory and Chester Hogue, technical engineer of the West Coast Lumberman's Association. Approval was given by Art Moses, structural engineer for the City of Seattle. J. C. Boespflug Company was the general contractor for the entire project.



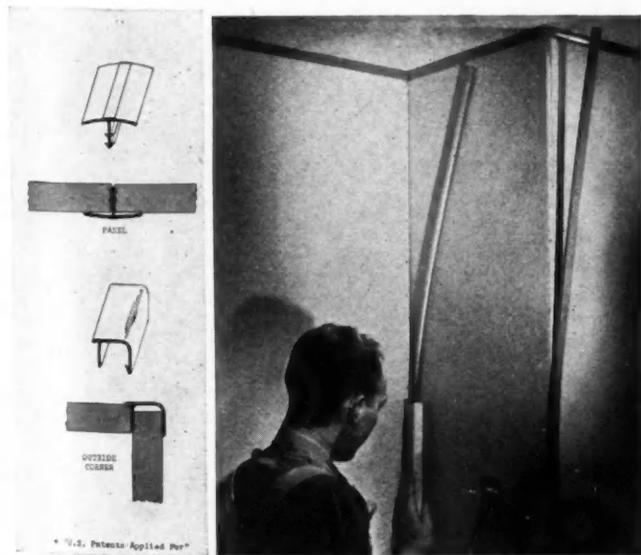
GLUED-UP beams in Seattle recreation center.

Fishhook Attached Joint Moulds

NEW extruded Tenite shapes for use with heavy wallboards and insulation fiber boards are now available. They are designed to cover unsightly seams and joints, and are simplicity itself to install. No nails, adhesives or other means of attachment are necessary. The resilient Tenite strips are so shaped that they become automatically secured when forced into the seams.

Strips are provided for inside corners, outside corners, flat panels and 130° panels. The shatterproof plastic Tenite affords excellent protection for these joints and is also decorative. It comes in all colors and has a smooth lustrous surface, eliminating any need for paint or lacquer finishes. The strips lend themselves readily to wall and ceiling constructions, and offer tremendous possibilities for use in prefabricated and semi-prefabricated houses.

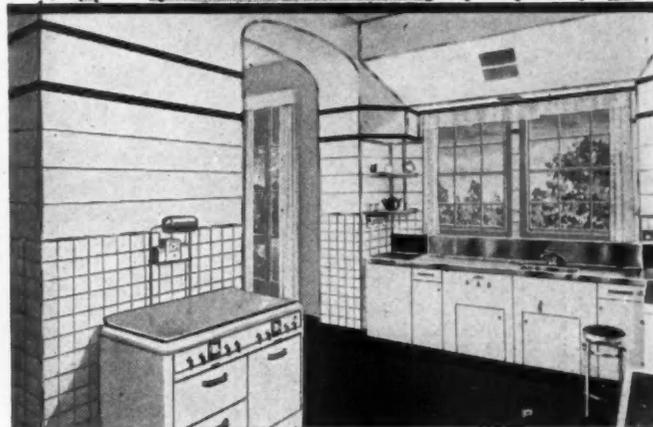
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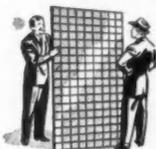
EXTRUDED Tenite strips for covering wallboard seams and joints are easy to apply. No nails, adhesives, or painting are required. The strips are so shaped that they become automatically secured when forced into the seams.

UP IN A HURRY

...ON TO STAY!



These "PANELS of PLASTIC" combine SPEEDY APPLICATION with Top-Notch Quality!



LOW COST! Modern mass-production methods of *prefabrication* cut the initial cost of Barclay Plastic Coated Panels.



LOW UPKEEP! Barclay Panels never need renovating, won't chip, crack, craze or peel. They clean with ease!

SPEED counts first in war building. Quality, too, is a Government demand. Add low-cost (which everyone wants)—and it's easy to see why walls and ceilings of today are being built with Barclay Plastic Coated Panels!

Made in large sheets, Barclay Panels cover big areas in little time. They apply as quickly and easily as ordinary wallboard. Surfaced with a plastic coating, they strike a new note in sleek, colorful, long-lasting beauty. Entirely prefabricated, they're mass-produced with substantial mass-production savings.

Whether you're an architect, contractor or dealer—you'll find these "panels of plastic" fit right into your own particular picture of war-time specification, use or sales! See our catalog in Sweet's.

PROMPT DELIVERIES!

Barclay products are available. All orders—large or small—are being delivered promptly!

BARCLAY

PLASTIC-COATED
PANELS

Barclay Manufacturing Company, Inc., Dept. AB-6, Bronx, N. Y.
Please send me free samples of Barclay Plastic-Coated Panels, and literature.

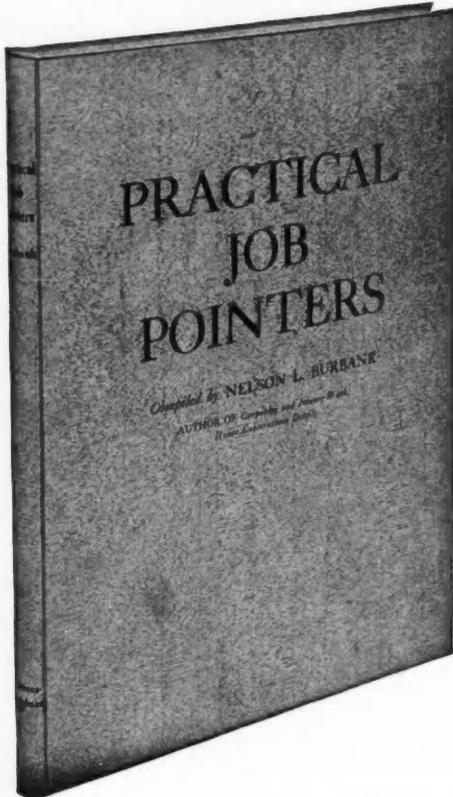
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City..... State.....

New Edition . . .

PRACTICAL JOB POINTERS

Compiled by Nelson L. Burbank

Author of "CARPENTRY AND JOINERY WORK";
"HOUSE CONSTRUCTION DETAILS"



A collection of job pointers, kinks, short cuts and "tricks of the trade" which have appeared in the *Job Pointers* section of *American Builder and Building Age* during the past decade, illustrated with drawing, collated and indexed for ready reference. There are some 600 of these improved methods as compared with 369 in the first edition. The format has been enlarged to 9 x 12 inches and a hard cloth binding used in place of paper. This necessitated raising the price but almost any job pointer found to be an improvement over present methods will save enough in time and satisfaction to more than pay the cost of the book.

Contents

Use and Care of Tools—Workbenches and Attachments—Portable Equipment—Excavations; Foundations; Forms—Sills; Girders; Joists; Sub-Flooring—Exterior Wall Construction; Inside Wall Framing—Exterior Wall Covering—Roof Construction; Bay Construction; Roofing—Cornices and Porches—Interior Wall Covering; Interior Trim—Steps; Stair Construction—Windows—Doors—Closets; Shelves; Built-in Equipment—Finished Flooring—Painting; Finishing—Screen Repairing; Screens—Sanitary Equipment—Electrical Wiring—Scaffolds; Ladders; Hoists—Garage Doors—Short Cuts in Laying Out Work.

130 pages, 600 illus., 9 x 12, cloth, \$2.00

Book Department

AMERICAN BUILDER and BUILDING AGE

30 Church Street

New York, N. Y.

Fishhook Attached Joint Moulds

(Continued from page 95)

At present, these new extruded shapes are stocked in red only, and in 12-ft. lengths. White is expected to be carried in stock shortly, but any desired color may be had upon special order.

These wallboard shapes are extruded by Extruded Plastics, Inc., Norwalk, Conn., from a cellulose acetate butyrate formula of Tenite manufactured by Tennessee Eastman Corp., Kingsport, Tenn. They are distributed by Julius Blum & Co., Inc., 532 West 22nd St., New York, N. Y.

Linaset Map Decorates Ceiling

A HUGE MAP of the Western Hemisphere, exact in every detail and cut from 451 individual pieces of Armstrong's Linowall, has been installed on a ceiling in the Shrine Hospital in San Francisco to help entertain and educate crippled children undergoing corrective treatment in the Physical Therapy Department.

Measuring 32'-7" in length and 12'-6" in width, this novel Linaset—one of the largest and most complex ever installed—shows all the land and waters in the western half of the world. Seventeen different colors of Linowall were used to indicate the various countries and the names of the larger nations were cut in black, the letters ranging from one-and-one-half to two inches in height.

In the part of the map showing the United States, the abbreviations for the names of all states were routed with v-shaped carving tools and filled with black coloring. The same procedure was followed to show the lines indicating longitude and latitude and the names of the fifteen cities in the United States and Canada in which Shrine Hospitals for crippled children are located. In addition, these cities were indicated by discs of Chinese Red Linowall, $\frac{3}{8}$ " in diameter.

The globe was cut from Light Azure Linowall to represent the waters of the Western Hemisphere and set into a field of Bermuda Blue Linowall, designed to indicate the Heavens.

The idea for this educational ceiling inset was conceived by Mrs. Gertrude R. Folendorf, who has been superintendent of the hospital since it was established. The map was designed



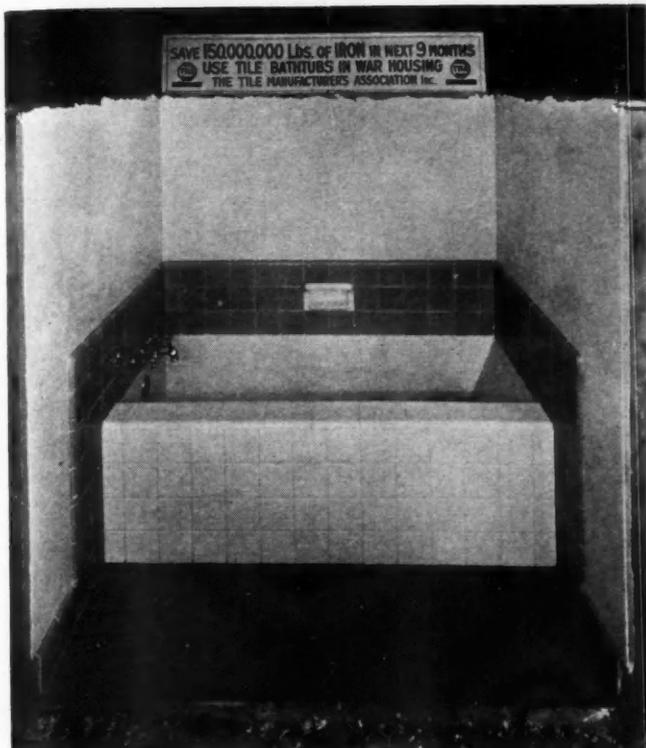
451 pieces of Linowall in this ceiling map.

by John D. McGilvray, Jr., who is associated with an architectural concern in Honolulu, and cut in the Armstrong Cork Company's Floor Division Factory at Lancaster, Pa. Approximately four weeks were required to draw, cut, and package the various pieces that make up the Linoset, and it took four days for two skilled Linowall mechanics of the W. E. Anderson Company of San Francisco to install the job in the hospital.

Tile Bathtub to Save 75,000 Tons of Iron

IN THE INTEREST of an accelerated war production program, the Tile Manufacturers' Association, New York City, has developed an all-ceramic tile bathtub to save metal needed for tanks, guns and other implements of war. The all-tile tub will replace the standard metal tub and a saving of approximately 75,000 tons of iron is indicated within the next 10 months.

As the tile tub is built at the job by a tile contractor there will be a large saving in transportation space which has been



DISPLAY room model of economy tile bathtub.

needed in the past to ship the crated metal tubs from the factory to the house.

On war housing projects it is believed that the cost of the all-tile bathtub will be less than \$50.00. The interior of the tub is composed of small pieces of unglazed ceramic mosaic tile and thus will be slip-proof. Many color combinations are possible with tile.

Ceramic tile is available in large quantities and thousands of tile contractors are ready and willing to install these "victory bathtubs."

New Washable Water Paint Introduced

KEM-TONE, the new oil-less interior wall finish developed by Sherwin-Williams Co., Cleveland, will shortly be available in all sections of the country except the West Coast. Introduction to the trade is being made at a series of dealer demonstrations in key cities, with a national consumer advertising campaign scheduled to begin April 26 and carry through the spring season.

Although Kem-Tone uses water as a thinner, it is not an ordinary paint, but an entirely new product made possible by recent developments in the field of synthetic resins and employing completely new scientific principles. Whereas previous paints used oxidizing oils and solvents to form a vehicle for the pigment, the Kem-Tone vehicle consists of a water-and-synthetic-resin emulsion.

(Continued to page 98)



For
Urgent Building
Needs...

NOW, as never before, essential building calls for economy and rapid erection.

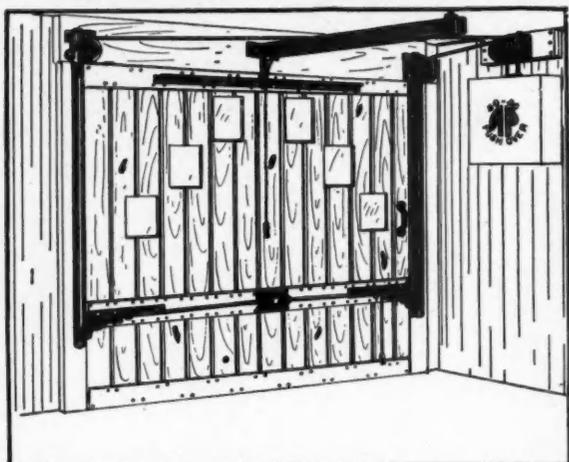
On many urgent types of construction vital to the war effort the judicious use of Knapp Casings speeds completion and permits economy in other materials—without sacrifice of design and durability.

Of course our present activities are restricted to supplying products for essential construction as permitted under the conservation plan.

Knapp Metal Casings are made by the manufacturers of Knapp Corner Beads.

KNAPP METAL TRIM
KNAPP BROS. MANUFACTURING CO.
GENERAL OFFICES • JOLIET, ILLINOIS

ALLITH



Allith-Prouty is at 98% of capacity producing goods for war purposes. We will be soliciting your valued business again—WE HOPE SOON!

ALLITH-PROUTY, INC.
DANVILLE, ILLINOIS

From the WAR with Spain
To WORLD WAR NO. 2

EDWARDS

Sheet Steel

Building Materials

Have served the country well

Forty-five years ago Edwards responded to the Nation's battle cry: "Remember the Maine." Twenty-five years ago the cry was "Remember the Lusitania." Again Edwards placed its resources for the production of Sheet Steel at the command of the Government.

Today, at the call to "Remember Pearl Harbor," Edwards is completely mobilized in the national defense. For the first time we find ourselves unable to accept orders for sheet metal building materials unless they have priority rating.

**When the emergency is over
we hope that you, too, will
remember EDWARDS.**

THE EDWARDS MANUFACTURING CO.

542-562 Eggleston Ave.

Cincinnati, Ohio

New Washable Water Paint

(Continued from page 97)

When applied to a wall, two separate drying processes occur. The first, which takes about an hour, is evaporation of the water, which leaves the surface dry to touch. It is followed by a process known as "polymerization" in which the actual character of the resin itself undergoes a change resulting in a tough, waterproof surface that is completely washable. This "curing" action takes at least 48 hours.

Because of the new principles involved, Kem-Tone is believed to have a scope far greater than former oil and water-paints. It can be applied directly over practically any type of surface except kalsomine without priming. Its most unusual feature is its ability to cover old wallpaper without the preliminary



A PAINTER shows how Kem-Tone, the new water-thinned miracle finish that can be applied directly over old wallpaper, will cover even the most violent floral pattern with a single coat.

mess and expense of removing the paper. It is also possible to Kem-Tone new plaster walls without any priming or sizing coat and without waiting for the plaster to dry thoroughly. Other surfaces which can be Kem-Toned without previous preparations include brick, stucco and cement walls, wall and plaster board, oil-painted surfaces and casein-painted surfaces.

In all these applications Kem-Tone is said to show exceptional covering qualities. In most cases one coat is sufficient, even when using a light pastel shade to cover heavily figured wallpaper or black grease pencil marks. Gloss painted surfaces, too, can be covered with a single coat by using a slightly thicker consistency than normal.

M. C. Neel Appointed Chief of Rilco Engineering Staff

MERVILLE C. NEEL has been appointed chief of the engineering staff of Rilco Laminated Products, Inc., St. Paul, Minn. He recently resigned his position as structural engineer of the Wisconsin Industrial Commission.

Advances in timber engineering and the rapidly expanding use of glued laminated construction have placed wood in the foreground as a structural engineering material. Rilco Laminated Products, Inc., one of the group of Weyerhaeuser companies, has

pioneered in this field for the past several years during which time it has been gradually expanding its production facilities on a national basis. In its several plants, located at strategic points, it is now fabricating glued laminated wood arches, beams and roof trusses suitable for almost any type of urban-commercial structure, Army and Navy construction, and farm buildings.

Converting Old Homes to New Needs



"BEFORE." Outdated, strictly utilitarian, this kitchen has been serving the household for many years. With the upswing in consumer earnings, many home owners are now in position to remodel rooms of this kind. This particular room was renovated, and beautifully, as shown in photo at right.



"AFTER." The same kitchen, without structural changes, made modern with Nairn Linoleum on walls, floors and counter top, a serviceable work surface. The attractiveness of the color correlated Nairn Linoleum in this room will last a lifetime with a minimum of maintenance.

Beautiful Sea Isle Hotel

Miami Beach, Florida

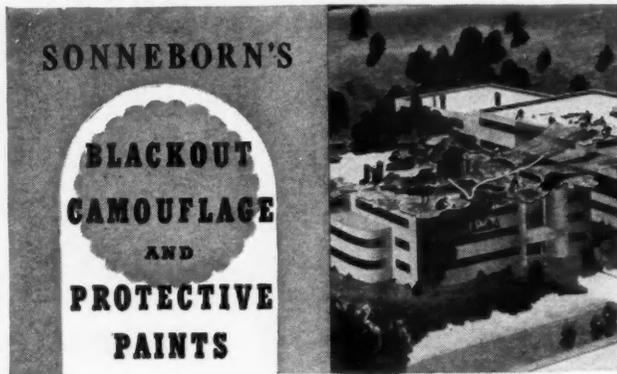
Roy E. France, Architect, Miami Beach; Turchin & Schwinger, general and plastering contractors, Miami Beach. The original Ohio White Finish — always packed in Red Zig Zag Bags — was used on all plastered walls and ceilings.



The walls and ceilings of thousands of the country's outstanding structures stand as mute testimony to the enduring beauty of the original Ohio White Finish. Architects, plastering contractors and dealers don't specify, use and stock this finishing lime for fun. They do it because they know its uniform high quality is dependable.

OHIO HYDRATE & SUPPLY COMPANY, Woodville, Ohio





FOR EFFECTIVE, DOUBLE-DUTY PROTECTION

Wherever security requires blackout or camouflage, you can depend on the extra advantage of Sonneborn paints. These blackout and camouflage products meet fully the Government requirements as to opacity and non-reflecting qualities. They include various types of finishes specified by Government agencies for equipment and maintenance. And when you use Sonneborn paints, you benefit from products that are basically protective coatings—with a long record of lasting effective protection against weather and other sources of corrosion.

Write today for quotations—tell us—your specific problem or the product you require.

Where Results Count—Count on Sonneborn

L. SONNEBORN SONS, Inc.
88 Lexington Avenue New York, N. Y.

LEVITT & SONS SELECT INTERNATIONAL OIL-BURNING FLOOR FURNACES



Builders: Write, wire or phone for information about International Oil-Burning Floor Furnaces for your war housing projects.



Typical Levitt "All American" Home under construction at 200-acre Oakdale Farms, Norfolk, Va. Pit for International Floor Furnace at left; oil tank at right.

INTERNATIONAL OIL BURNER CO.
3800 Park Avenue, St. Louis, Missouri

Pressed Woods Find New Uses in War Economy

ONE of the few large companies relatively unaffected by shortages of raw materials is the Masonite Corp., Chicago, which is producing more than a million square feet of "Presdwoods" per day at its main plant in Laurel, Miss.

The national drive toward economic self-sufficiency has created a strong new demand for products that replace vital steels, aluminum, rubber, cork and asbestos. Masonite, which manufactures several types of wood-fibre boards, has recently increased the Laurel capacity by 30 per cent and is operating the plant on a 24-hour day basis.

Originally most of the Masonite volume was used by the building trades. The demand for replacement materials has created new trade trends, and "Presdwoods" now are used in U.S. army tanks, signal corps trailers, arsenal shell holders, interior finishes for railroad equipment, streetcars and busses, bar and table tops, advertising displays, office equipment, in the communication field, and for stage and motion picture sets.

An outstanding example of the replacement trend is a new ice refrigerator in which more than 90 pounds of steel have been saved by using "Presdwood." The material is heat-resistant and rust-proof. When a similar type of enameled exterior finish is applied, the unit looks exactly like the original.

Among the other war-style "Victory" products just placed on the market is a standard four-drawer filing cabinet made 97.3 per cent of wood and wood products. "Tempered Presdwood" is used for the side and back panels and drawer bottoms of this file, which saves about 135 pounds of steel and has a total metal content of only 37 ounces.

Demands for speed in aircraft production have been met in part through increased use of Masonite semi-plastic die stock for forming, shearing, and router dies. Since most Masonite dies are made in the pattern shop on high speed woodworking equipment, tooling time is greatly reduced, valuable steel is saved, and metal-working equipment is released for direct production purposes. Masonite dies have the added advantage of being six times lighter than steel.

While a substantial portion of Masonite's current output is going into defense housing, the company has not entered the field as a direct contractor. General Fabricators Inc. have developed a prefabricated, demountable house which features "Presdwoods" and Masonite insulating materials.

The outlook for Masonite, and for every other company that makes useful products out of abundantly available natural resources, is quite promising. Each time a vital element of war steps away from the civil-goods front, its place is taken by a more plentiful material. In the tightened economy of the future, substances such as "Presdwood" will continue in strong demand because they have new utility in both the military and civil sense.

Color-Graded Doors Well Received by Active Building Men

TRADE RESPONSE to the Wheeler Osgood new system of "Color-Grading" on doors has been enthusiastically received by lumber dealers, architects and jobbers throughout the United States, according to Norman Cruver, vice president and general manager of the Wheeler Osgood Sales Corp., Tacoma, Washington. "We have been amazed at the popular acceptance of our new grade-identification program," Cruver stated.

In April the Wheeler Osgood Sales Corporation announced a startling new innovation in door grading. Every "De Luxe Grade A" door now carries an attractive Blue label securely fastened to the bottom rail of each door, featuring the grade, size, style, surface and the company guarantee. Every "Master Grade B" door carries a bright Red paper label featuring the grade, size, style and surface. Both labels guarantee U. S. Standard grades and designs.

These bright labels make it possible to see at a glance the grade of door that is specified and purchased.

Attractive sales portfolios with the complete merchandising and advertising plans were mailed to very important dealer and jobber in the United States.

BOOKS on BUILDING

A Review of Current Publications

FOR information about these building books, write American Builder, Book Service Department, 30 Church Street, New York City, or the publishers.

ARCHITECTURAL GRAPHIC STANDARDS—By Ramsey and Sleeper. 1941. 3rd. 344 pages, 315 plates. 9½ x 11¼. cloth. John Wiley & Sons, Inc., New York City. \$6.00.

Third and much enlarged edition of a graphic and diagrammatic assembly of data, standards and information for the use of architects, engineers, decorators, builders, draftsmen, landscape architects, building superintendents, industrial plant managers, and students. The authors have reorganized the physical arrangement of this edition, which is some 48 per cent larger than the previous one, in order to facilitate its use, and have added new subjects, as well as 72 new sheets.

New sheets of special value to those interested in the very practical aspects of building include Nails and Uses, Mathematics and Mensuration, Weights of Materials, Wall Furring, Hardware, and Drainage. Some of the new subjects covered include Brick Cavity Walls, Serpentine Walls, Glass Blocks, Termite Control, Skylights, Wall Partition and Door Vents, Aluminum Windows, Structural Glass, Sound Insulation, Boats and Canoes, Railroad Data, Dimensions of the Human Figure, New Games, Fluorescent Lights, Electric Organs, latest Swimming Pool Data, and three new sheets on Perspective.

HOW TO LANDSCAPE YOUR GROUNDS—by Loyal R. Johnson. 1941. 221 pp., illus. 6 x 9, cloth. A. T. De La Mare Co. Inc., New York City. \$2.75.

This book is a complete guide to the planning, construction and planting of the garden and grounds, especially directed to the hundreds of thousands of home builders and owners in the medium income bracket who are anxious to beautify their home surroundings to the best advantage at small expense. The practical planting plans and keys for all sections of the country were prepared by eight well known landscape architects, and lead the property owner by easy stages from careful planning before planting to the locating of the house, the construction of walks and drives, the grading, construction and maintenance of lawns, the flower garden, the rock and wild garden, the selection of trees and shrubs and the architectural features of the garden.

STEEL SQUARE POCKET BOOK—by Dwight L. Stoddard. 1941. 6th. 191 pages, 185 illus. 4 x 6, flexible. Scientific Book Corp., 15 E. 26th St., New York City. \$1.00.

This new revised and enlarged edition is a handy pocket reference book and illustrates and describes in a simple and concise manner the best practical methods of using the steel square in laying out all kinds of carpentry work, including common, hip or valley rafters for different shaped roofs, jack rafters and roofs of uneven pitch. Simple instructions are also given for obtaining the cuts for hoppers, towers, braces, trestles, stairs, bicycle tracks, etc., as well as for describing various figures such as octagons, circles, ellipses and ovals, and for solving many other knotty problems by the use of the steel square. A novel feature of the book is the absence of reference letters on the illustrations; instead, an exact engraving of the square itself laid on the work is given.

BEACON BOILER REFERENCE BOOK. 1941. 554 pages. Pocket size, paper. Heating Journals, Inc., 232 Madison Avenue, New York City. \$3.00.

A reference book of value to every dealer, jobber, contractor, salesman, service and installation man in the heating field since it contains 7,116 listings of boilers and boiler-burner units up to 2,000 square feet, steam and equivalent hot water, of 195 makes. All data available from manufacturers and existing records is presented in concise, easily readable form, and in the listing for each is given the following information: model number, rating, minimum firing rate, square feet of heating surface, width and length of firebox, floor to crown sheet, grate size, floor area, base height, chimney size and height, and diameter of smoke pipe.

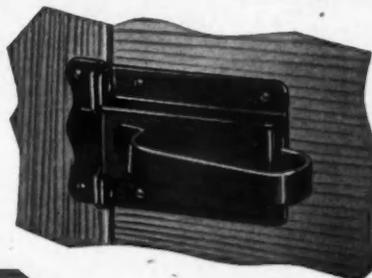
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DANDY REVERSIBLE LATCH NO. 847!

FOR SWINGING DOORS . . . POPULAR PRICED

Center screw covered by latch bar at all times.

Convenient padlock eye for security.



Furnished with back latch to protect door from damage, from wind, etc.

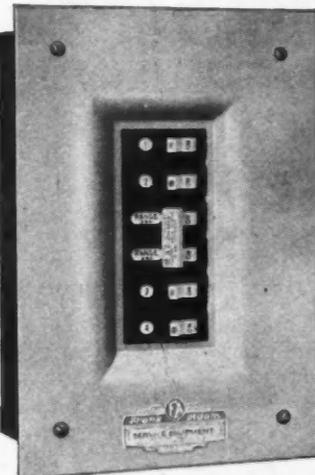
Here is a quickly installed, economical and efficient latch for swinging doors. Fits right or left hand doors without changing spring. Long latch bar permits space up to 5/8" between door and jamb.

WAGNER MANUFACTURING COMPANY
Dept. AB-642, Cedar Falls, Iowa

You pay no more

but you get a bonus when you install

TYPE AC CIRCUIT BREAKER SERVICE EQUIPMENT and LOAD CENTERS



Service Equipment with D.P. 35 Amp. AC Circuit Breaker for range circuit. Also 4 S.P. AC Circuit Breakers for light and appliance Branch Circuits. Cat. No. SE41-3L7F List Price . . . \$11.00

in your home. No premium is charged for these features:

- Modern protection against overload.
- Only two handle positions — ON and OFF — no intermediate position. Breakers reset automatically.
- Interchangeable as to capacities.
- One-piece galvanized box — provides perfect ground connection.
- Bonded (rustproof) cover, with pearl gray lacquer finish.
- Solderless lugs of improved type.
- Ample knockouts.
- Plenty of wiring space.

For 120 volt AC service . . . Capacities: 15, 20, 25, 35, and 50 amperes . . . Approved by Underwriters' Laboratories.

Install Type AC Circuit Breaker Service Equipment in new and modernized homes.

There is a Wholesaler near you

who will make quick delivery from stock. Write us for his name and address — and for illustrated folder.

Frank Adam

ELECTRIC COMPANY
ST. LOUIS

YOU NEED SKILSAW SPEED THESE DAYS!



... TO BUILD SMALL DEFENSE HOMES

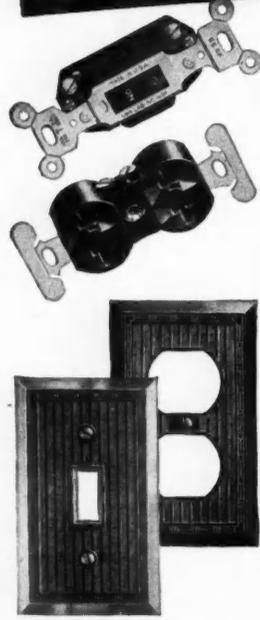
... OR BIGGEST WAR PLANTS!

Big jobs, small jobs, ALL jobs are finished faster with SKILSAW to speed up every sawing cut in wood, metals, tile and compositions. That's why you need SKILSAW more than ever now... to rush essential Defense Homes... to complete vital War Plants sooner!

SKILSAW cuts faster because it is more powerful... yet lighter, more compact, easier to handle. Even inexperienced users start saving time and speeding work *at once* with SKILSAW. 9 POWERFUL MODELS. Ask your distributor for a demonstration.

SKILSAW, INC.
5031 ELSTON AVENUE, CHICAGO

G-E WIRING DEVICES



FOR WAR HOUSING

G-E Wiring Devices are easy to install and will give durable service. Their quality is high. Included in the line are switches, convenience outlets, combination devices, plates, lamp-holders, fuses, circuit breakers, etc.

These devices are handled right in your own territory. G-E Distributors are located at all key points in the country. For further information see the nearest G-E Merchandise Distributor or write for a G-E Wiring Device Catalog. Address Section D623-80, Appliance and Merchandise Department, General Electric Co., Bridgeport, Conn.

GENERAL ELECTRIC

LETTERS from Readers on All Subjects

Facts, Opinion and Advice Welcomed Here

Questions About New Restrictions

New Buffalo, Mich.

To the Editor:

Below are a few questions I would like to have you clear up for me:

1. Last January 10 I took out a contract with a party to remodel and repair his house. I told him at the time that I could do very little toward the work, because I was too busy, but that this spring I would start in. However, one side of the roof leaked very badly and I reroofed that side. I have had a good deal of the material needed in repairing and remodeling stored in the place for some time, and am now ready to go ahead with the work. The repairs and remodeling will run around \$2,000. Can I go ahead with this according to the present building setup?

2. What boundaries in miles would be termed a "defense area" from a munitions plant? And also in regard to plants on defense work?

3. Last November we enlarged a basement for a tavern and dance hall and agreed to go on with the upper floor this spring by making rooms above same. Can I go ahead with work?

Both of the above jobs I term as having been started before the showdown on April 9, and therefore I think I can go ahead, but want to be sure. Please give your opinion as soon as possible.

WILLIAM BOND, Builder.

ANSWER:

As to the first situation, according to our understanding of the War Board's Conservation Order L-41, there is no limit to the amount of actual *repairing* expense that can be incurred without license or permission, to make a building safe and usable. *Remodeling* expense, however, must be limited in residential work to \$500, farm buildings to \$1,000, and commercial buildings to \$5,000. If your analysis of the job indicates a cost greater than \$500 for the remodeling features of this house, you would have to secure a permit from your local FHA office before safely proceeding. However, in the case you mention, since the work was started on January 10, it can be completed without obtaining any special permit. The Order states that where materials have actually been incorporated into the work prior to April 9, the job can be completed.

With reference to your second question, various interpretations have been offered. Since the shortage of private automobile transportation developed, the tendency in most defense areas has been to consider only municipal street car service as being dependable and worth while. Two miles has been given as the maximum walking distance from home to plant or from home to street car line. I suggest that you verify this matter with your nearest FHA district office.

Your third job seems to fall within the commercial classification, and if so, you would be permitted to spend \$5,000 on alterations and improvements without any special permit.

—EDITOR.

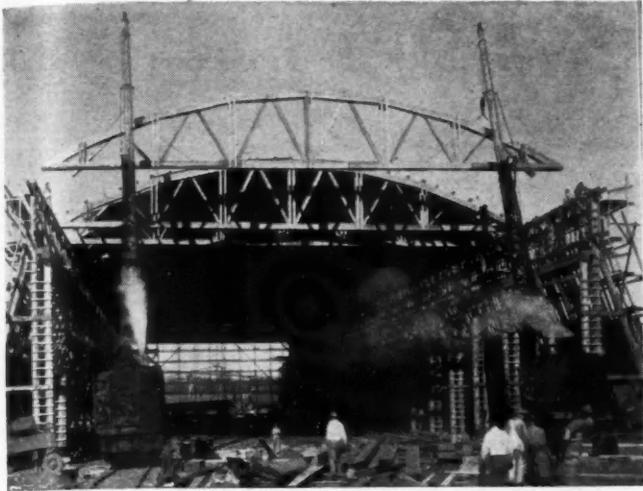
Lumber Production Expands

Westwood, Calif.

To the Editor:

Our plant is operating three shifts; and, with 40-50 million feet of logs stored at the mill, we can carry through on this basis until the spring logging seasons opens. Our product is Ponderosa and Sugar Pine lumber, plywood, mouldings and box-shook, and incense cedar venetian blind slats. A large percentage of our output is moving directly into defense projects.

As an example of industrial plant and shop construction the accompanying photograph may have news value. It shows our surface, rip and trim shop, size 108 by 422 feet as built in 1941; we are now adding to its length. Jack Gilmore is the contractor. His method of braced sidewall construction may



ERECTING TECO timber trusses at Westwood plant, Red River Lumber Co. for big expansion.

interest some. Roof is carried on bow string trusses, 20-ft. centers. Teco connectors make timber trusses practicable for long clear spans and high economy in material, labor and time. We have used Teco-connected trusses on 12 buildings on our Westwood operation during recent years. Incidentally our snow-loads are 50-60 pounds per square foot.

THE RED RIVER LUMBER COMPANY.
By W. B. Laughead.

"—the Best"

Sennett, N. Y.

To the Editor:

I wish to say at this time that no carpenter or builder, regardless of volume of business, should be without the *American Builder*. It's the best building magazine.

CHARLES LAWRENCE, JR.

Government Information Bureau Housed in Wood

THE MUCH discussed Victory Building, an all-wood structure erected in Washington to house the Office of Government Reports, went up in approximately a month. Designed by the Public Buildings Administration and built by the Charles H. Tompkins Company, the structure is set in the heart of downtown Washington, filling the block on Pennsylvania Avenue between 14th and 15th streets.

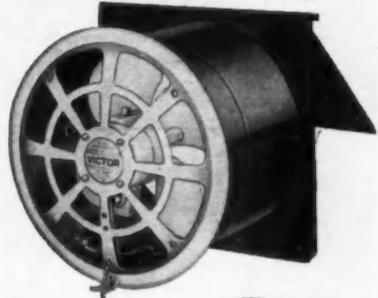
It will be used for emergency office space. A large, central hall will be occupied by an information bureau, conducted by OGR, where business visitors to Washington will be advised and guided through that complex organism, the United States Government; and the transaction of their business expedited—it is hoped!

The roof of this central hall is supported by Teco timber trusses, 48 feet in span with a rise of five feet, placed 16 feet on centers. The trusses are designed for a 50-pound load.



PUBLIC information building under construction.

Called to the Colors



After this job is over, we'll be seeing you again. In the meantime it's all out for **VICTORY** at **VICTOR**.

VICTOR ELECTRIC PRODUCTS, INC.
2950 Robertson Ave., Cincinnati, Ohio

For ALL double-hung window

construction...



Specify Pullman Balances

• "Double-hung wood windows" is the 1942 specification. For this construction, Pullman Balances offer *quickest, lowest cost* assembly. Complete range of sizes, in top and side models, accommodate windows 1 3/4", 1 3/4", 2 1/4", or any other thickness, in weights up to 210 pounds. Pullman Balances, made since 1886, are the up-to-the-minute choice for all construction—industrial, residential or military.

WRITE for descriptive literature, specifications and window detail drawings. Pullman Manufacturing Corp., Dept. A-6, 1170 University Ave., Rochester, N. Y.

Specify **PULLMAN**
Sash Balances

IN THE *Spotlight*
OF
TIMBER
CONSTRUCTION

The TECO Timber
Connector



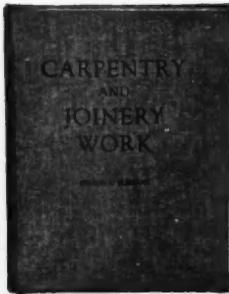
TECO Ring Connectors spread the load on a timber joint over practically the entire cross-section of the wood, cutting time, timber and hardware costs appreciably. Details on request.

Timber ENGINEERING COMPANY
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CARPENTRY and JOINERY WORK

By Nelson L. Burbank

Formerly Instructor, Building Vocational High School
Cincinnati, Ohio



The new second edition has been thoroughly revised.

The manuscript was carefully checked by a former contractor and ex-editor so that this book combines the practical outlook with the author's trade teaching experience. The cardinal principles of modern residential construction are set forth simply and logically with the aid of many photographs and line drawings.

The Second Edition contains 90 revised pages with new illustrations and descriptions of new methods and materials.

The program of study as presented in this latest textbook for students of carpentry work involves class discussion, practical job work and related studies. These include Architectural Drawing, Plan Reading, Carpentry Mathematics, Business English, Applied Science, Civics and First Aid.

280 pages, illustrated, 8 1/2 x 11 inches. Cloth Bound, \$3.00

BOOK DEPARTMENT

AMERICAN BUILDER AND BUILDING AGE

30 Church Street

New York, N. Y.

How to Build Sabotage and Bomb Protection

(Continued from page 61)



WORKMEN are inspecting concrete masonry wall after test with high velocity rifle fire at Franklin Park, Illinois.

These footings may be of plain concrete, at least 8 in. deep and 16 to 20 in. wide. Where the underlying soil is fairly stable the footings may be built of 12-in. concrete masonry units with the cores filled with a cement mortar made with one part of portland cement and three to four parts of sand. The 12-in. units may be used without mortar above grade for a wall as high as 14 ft. which would require 21 courses. Pilaster construction is desirable at corners and at intervals for any wall 30 ft. or more in length.

This type of construction has received serious consideration because it requires no critical building material and offers an easier, more permanent and more economical method of protection than is possible with cloth bags which have other more vital war uses.



HOLLOW 12-in. concrete masonry units laid up without mortar are used to protect basement windows in dormitory building at Radcliff College, Cambridge, Mass., prepared for use as a bomb shelter.

Seattle War Workers Get Homes— Not Mere Housing

(Continued from page 68)

privacy. All homes on the main arterial will be built to face in. Gardner, Gardner and Hitchings, engineers, supervised the platting.

Specifications for Wedgewood show highest quality materials and equipment are used throughout the construction of the houses. Included are concrete foundation; No. 1 and No. 2 Douglas fir frame; red cedar shingles; Bruce No. 1 Com. red oak flooring; asphalt sheathing paper and Pabco kraft paper; Conco automatic oil furnace; "Standard" and Briggs plumbing equipment. Specialties include fans and chimneys.

Saving of cost of construction is made possible by use of a power saw on the job. Studs are precut to exact lengths. Pastel paints give a picturesque touch to houses, each one painted to blend with but never to match another close to it.

Builders Are Well Known

Albert Balch of the firm, Balch and Setzer, is vice-president of the Seattle Real Estate Board and a founder of the National Home Builders Institute. He is also known for his work with Ralph Jones as co-developer of the View Ridge residential district in Seattle.

Maury Setzer, the other member of the firm, has been associated with the United States Securities and Exchange of Commission there for four years.—Theresa Stevens.



ONE of the variations of Balch and Setzer's two-bedroom Title VI homes in their Wedgewood development near Seattle, Wash. This floor plan has been reversed, fireplace moved to side, entrance trim and other details changed to alter appearance to avoid duplication.

STANDARDIZE on the Dependable Saw... Speedmatic



For Instance

In a single order, one contractor on a cantonment job in Colorado specified the following speedmatics: 50 K-88s; 25 K-75s; 25 K-10s; 16 Radial Arms.

★ For two-shift or three-shift war construction jobs, Speedmatic Saws are unequalled. They're faster-cutting, easier-handling, stronger-built . . . designed to stand up under continuous top-capacity operation. Features like the exclusive helical gear drive; oversize motor; true-balanced, extra-wide shoe; and stainless one-hand operation all add up to performance you can depend on *day after day*, job after job!

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NO TIME FOR WASTE

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Use This Gun
With 3 Nozzles and 4 Cartridges of approx. 1 qt. each
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Terms: 2% disc. net cash with order. To approved credits 2% 10 days. 30 days net. F. O. B. Philadelphia, Pa.



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PECOMASTICS FOR STRUCTURAL GLASS INSTALLATION

TAKES THE MATH OUT OF MEASURING

READ INSIDE MEASUREMENT DIRECT — AT TIP OF ARROW

No need to add, subtract or remember when you take inside measurements with Master "Interlox". You read directly from rule.

- "Interlox" is the 6-ft. wood rule that slides open and shut like a telescope—three times as fast as "zig-zag" rules, yet can't slide shut accidentally. You can hold "Interlox" straight up or out—get all measurements more quickly, easily and accurately
- See "Interlox" today at your hardware store or mill supply house — or order direct. Because every stick is replaceable, you'll save money in the long run by treating yourself to this finest of wood rules now.

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WOOD AND TAPE RULES

Master Rule Mfg. Co.
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Enclosed find check, money order, cash for \$1.50 for which send one 6 ft. Master "Interlox" Wood Rule, postpaid.

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Address _____
City _____
State _____

Charles M. Hines Now President

THE Annual Meeting of the stockholders of the Edward Hines Lumber Co. was held at the offices of the company on April 16 and all the directors for the previous year re-elected.

At the election by the Board of Directors of officers for the ensuing year, Ralph J. Hines, who has been president of the company since the death of his father, Edward Hines, was elected chairman of the Board of Directors. His brother, Charles M. Hines, who has been senior vice-president for the same period, was elected president. All the other officers were re-elected to the respective positions held during the previous year.



CHARLES M. HINES

The changes made are due to the fact that Ralph J. Hines left on April 16 to enter the Aviation Volunteer Service to commence training at the U. S. Naval Air Station, Quonset Pt., Rhode Island.

* * *

Saving Steel in Factory Design

(Continued from page 60)

foot. This was a saving of 67 per cent of the steel tonnage required in the all-steel design.

Figure 1 shows the roof framing for part of a building as designed for steel. The transverse spans will be seen to be 20-40-60-40-20 ft., except in the firewalls where they are all 20 ft. The longitudinal column spacings are 20 and 40 ft. The three interior spans have light trusses, and the entire roof has 2-in. wood decking. The building is not fire-resistant, but concrete firewalls divide it into lengths of 120 ft. The design is typical of many one story factory and storage buildings being erected in many parts of the country at present and represents a wasteful use of steel in contrast to the possibilities in reinforced concrete construction.

A redesign of the same building in reinforced concrete is illustrated in Figure 2. The two outer spans which were 20 and 40 ft. in the steel layout are now changed to 30 and 30 ft. A more significant change is the spacing of the columns in the firewalls from 20 ft. to 30-30-60-30-30 as in the other concrete bents. Lengthening the spans in the firewalls was not especially favorable to concrete but it was desirable to have all the bents alike to facilitate removal of the firewalls in the event the building should be remodeled for some other type of occupancy.

Many building contractors have long realized that existing municipal building codes often require drastic over-design for structures of many types of occupancy. This situation involves considerable excess use of steel as well as other materials and is the cause of much concern at present. The underlying cause of excessive live load requirements in building codes is that inspection departments are often under-staffed and require unnecessarily high live load designs in lieu of more rigid inspection service. This subject was investigated by a Building Code Committee appointed by the United States Department of Commerce which made live load recommendations considerably below the usual building code requirements. The following were the Code Committee's recommendations in pounds per square foot live load as compared to the existing codes:

	Recommended	Usual Building Code Requirements
Light manufacturing	75	75 to 125
Wholesale stores	100	100 to 125
Retail salesrooms	75	75 to 125
Garages, all types of vehicles	100	100 to 175
Garages, passenger cars only	80	75 to 175

The Code Committee also pointed to the tendency in many city building codes to require columns to be designed for excessive loads. This is obviously another source of wasteful use of materials. Engineers generally, recognize that for many types of occupancy columns need not be designed for the full live load when there are several stories above the column. The Code Committee prepared and published a table of permissible reductions in floor live loads for designing columns, piers, walls, foundations, trusses and girders in all buildings except those used for storage purposes. The tabulation, expressed in pounds, per square foot is as follows:

Reduction of total live load carried:

Carrying one floor	0
" two floors	10
" three floors	20
" four floors	30
" five floors	40
" six floors	45
" seven or more floors	50

It is well understood that a column in, for example, an eight-story building, need not be designed for more than one-half the live load on all eight levels. Failure to take advantage of these permissible reductions results in over-design of columns and wasteful use of steel and other materials.

Selection of a concrete floor system which requires a minimum of steel is another important consideration under present conditions. Design studies of seven types of concrete floor systems, made before steel became a critical material, showed required quantities of steel for each system in pounds per square foot of floor area. The floor systems included the supporting beams. The studies assumed three live loads, 50, 100 and 150 pounds per square foot and three span lengths, 15, 20 and 25 feet. The quantities of steel required for a 20 foot span and 100 pound loading with each of the seven types of concrete floors are shown below:

1. 20-in. metal pan	2.77
2. 30-in. metal pan	2.58
3. 12-in. masonry filler	3.54
4. 16-in. masonry filler	3.43
5. One-way slab	3.01
6. Two-way slab	3.70
7. Flat slab	2.13

The studies showed that the flat slab, which is a girderless solid slab with drop panels, column capitals and two-way reinforcement, not only required considerably less steel than the other types, but was the most economical in other ways.

Flat slab floor construction does not require lath or plaster on the ceilings. This construction is generally regarded as especially suitable for heavy warehouse loads but will often show a saving both in steel and total cost for light occupancy buildings.

Under the conditions existing in the building industry in the summer of 1942, the availability of materials has become more important than design preferences or adherence to traditional methods. Some of the methods of obtaining fire-resistant construction of industrial and commercial buildings outlined here, are doubtless in conflict with some local building codes and may appear to some designers as radical departures from tradition. But they do conserve steel and may in many localities offer the only means of getting urgently needed structures built. Concrete is not on the critical list. Its principal ingredients, portland cement, sand and stone are readily available in nearly all sections of the country without long freight hauls.

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Speed Up Defense Housing

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Gentlemen:
Send complete details and prices without cost or obligation.

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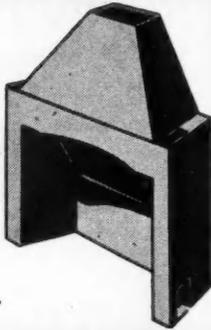
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... and it will
SAVE FUEL, too!

The double-walled steel heating chamber of the Heatilator unit serves as a form for the masonry. It makes the fireplace easier to build, circulates heat, will not smoke.

Some units still available. Ask your building supply or lumber dealer.



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The Old Builder's Estimator

A complete estimating form for one residential job, with a 300 item check list, 7 pages of estimating data and memo sheets for use on the job. With this booklet you can prepare a complete, itemized, accurate estimate. Three columns are provided for checking every line of the detailed estimate. The forms follow the order in which a residential job progresses.

48 pages, 4 x 7 1/2, stiff paper binding, \$.25

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The Small Job Estimating Kit

This Kit contains 10 complete sets of forms for quickly and accurately estimating 10 modernization, repair, maintenance or other small job projects costing under \$500. You fill out the list of items covering labor, materials, sublet, etc., and when the estimate is complete you transfer the figures to the detachable form which is the Letter of Proposal. This is given to the prospect. The record of actual costs of each job is kept on the back of the stub which remains in the Kit.

10 sheets, 11 x 8 1/2 inches, folding to 4 1/4 x 8 1/2, stiff paper cover, \$.35. 4 Kits for \$1.00; 12 Kits for \$2.50.

BOOK SERVICE DEPARTMENT

AMERICAN BUILDER AND BUILDING AGE

30 Church Street

New York, N. Y.

CCC to Purchase Grain Storage Bins

THE U.S. Department of Agriculture announced on May 15 that Commodity Credit Corporation will purchase grain storage bins from whatever sources available to be used in relieving the congested storage situation in the heavy wheat-producing States. The offer provides for the purchase of bins having an individual capacity of from 1,000 to 2,400 bushels and not to exceed a combined capacity of 100,000,000 bushels.

The bins will be used for storing wheat delivered to the Corporation in satisfaction of loans and will also be made available to producers who are unable to make other arrangements for storage of the 1942 crop.

The offer permits the storage structures to be prefabricated or pre-cut and to be made from lumber and other materials ordinarily used in this type construction. The bins or material will be purchased from manufacturers or suppliers on a contract basis. Individuals and firms interested in receiving information should apply to the Washington office of Commodity Credit Corporation.

* * *

World's Biggest Prefab Job

(Continued from page 56)

ing of prefabricated demountable house sections and transporting and erecting them on precast concrete piers at the site. Their contract price is \$2,770 to \$2,990 per unit. This does not include cost of the land, streets, water, sewers, grading, landscaping or other site operations—all of which are separate government contracts.

As a matter of fact, when your *American Builder* representative visited the job he found houses being erected at a remarkable rate, but no sign of even the beginning of a start to put in sewers, water and streets. It would appear that a large number of the houses will be completed before these utilities can be installed. The government contract for these houses was placed by the Federal Works Agency, which has now been superseded by the new Federal Public Housing Authority.

Description of System

The Precision-Built system as modified on this job calls for the use of standard floor, wall, ceiling and roof sections which are either bolted or screwed together in such a fashion that they may be taken apart later without material damage.

Wall Sections—The standard 24'-3" x 28' house has 22 wall sections and 2 gable ends. These are constructed of 2" x 3" studding 12" on center for sidewalls and bearing partitions, 16" on center for non-bearing partitions. Homasote building board is glued and nailed in place for the interior surface, and redwood siding on the outside, nailed directly to the studding over 30-lb. building felt. The typical wall sections are 7'-10" high and are built in lengths of 12 and 14 feet. Despite this considerable size, the nature of the construction is such that they are fairly light and easy to handle. The sections are delivered to the job without doors or windows installed, as experience has shown that too much breakage occurs in handling when preglazed.

Floor Sections—Eight sections 6'-11 7/8" wide by 12'-1 1/4" long make up the floor on a standard house. The floor section is built in the nature of a box with a 2 x 10 framework around the outside and 2 x 6 joists on 16" centers which rest on 2" x 3" ledges. One-half inch of blanket-type insulation is placed between the joists and a finish floor of Bruce Streamline factory-finished flooring laid directly on the joists. At the factory the floor sections are built on special jig tables two at a time and then sawed in two. The fine polished oak finish of the sections is protected by the application of Sisalkraft building paper which remains in place throughout the job.

Ceiling Sections—Thirteen sections make up the ceiling, ranging in width from 2'-9" to 7'-9". Most of the sections are of standard length—12'-1 $\frac{5}{8}$ ". The sections are built of 2" x 4" joists, 12" on center, to which is applied 1" x 2" strapping at right angles to the joists. On this is glued and nailed a ceiling finish surface of Homasote building board. In addition to this insulation, a $\frac{1}{2}$ " builders blanket is placed between the joists.

Roof Sections—Eight roof sections are used for the standard house, 6 of which are 8' wide. These are built of 2" x 6" rafters on 16" centers, with a sheathing of $\frac{5}{8}$ " Douglas fir plywood. Asphalt shingles are applied after the sections are erected.

Under the highly standardized and carefully worked out procedure at the factory, the various sections are built on standardized jigs which accurately locate the placing of the joists or studding while the exterior and interior materials are being applied. Wiring is inserted in the wall sections when they are built. Under a cleverly worked out procedure switch boxes and outlets are attached to studding in a small electrical sub-assembly shop. A coil of wire is attached to the stud, which is dropped into place on the jig table. When the wall section is delivered to the job it is thus completely wired ready for hookup with the rest of the system.

Plumbing also is standardized and sub-assemblies are prepared in the shop and delivered, ready for quick installation at the site.

The factory is so arranged that the Homasote and lumber are delivered at one end and the finished sections move along in what resembles an assembly-line technique. Crews of workmen specialize in simple operations at which they become very proficient. Every table has its complement of power saws and other necessary mechanical equipment to speed operations. The plant is equipped with overhead cranes capable of lifting the carefully piled sections for a house and placing them on the trailer trucks. The entire operation calls for the highest co-ordination since the volume of materials required is so great that if there is a tie-up anywhere along the line they pile up very quickly. It is also important that production in the factory and assembly in the field be closely co-ordinated so that the sections are assembled and erected as fast as they are delivered to the site.

Many Difficult Problems

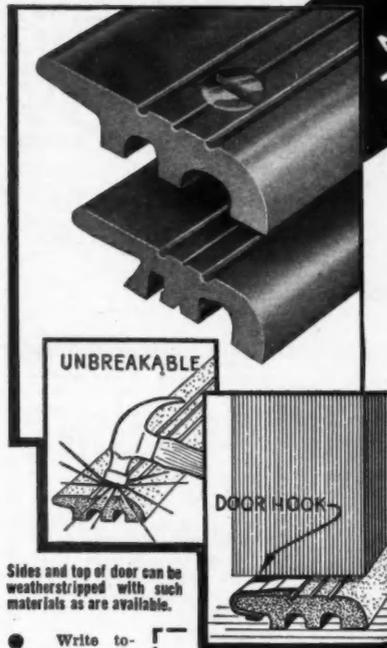
With experience gained on previous large jobs the contractors were well organized and able to go ahead at a phenomenal rate of production. However, due to recent changes in the public housing agencies, there have been numerous delays. Although contracts were signed and work was under way, numerous changes in plans were made following the Rosenman reorganization, and these changes extended even to the details of the pre-fabrication system. While the government housing men dallied over details, the contractors were forced to carry more than a million and three-quarter dollar investment in materials and equipment. Due to these changes and delays the completion date will probably be set back from 60 to 90 days.

The labor problem in Norfolk is one of the most difficult features of this and all other construction jobs there. The bulk of the skilled workers and practically all foremen and superintendents were brought from San Francisco, from Missouri and from other points where Barrett & Hilp have operated. To take care of their labor the firm constructed a dormitory which sleeps 650, a commissary, recreation hall and store, representing an investment of some \$65,000.

(Continued to page 110)

FOR THE MOST IMPORTANT Weatherstripping JOB

use this **NEW PLASTIC THRESHOLD**



FUEL CONSERVATION and wartime building economy demands weatherstripping of outside doors if nowhere else. This extruded plastic sill is the best answer.

DURABILITY and **BEAUTY** are the features of this unbreakable threshold. Allmetal offers two designs as shown, both in rich brown color to match typical flooring materials.

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Sides and top of door can be weatherstripped with such materials as are available.

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- Enables one man to do twice the work
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- Puts house framing on a factory production basis
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- Perfectly balanced for safe one-hand use, easily adjusted for depth and bevel cuts, simple and easy to use

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Asbestos Shingle Siding usually requires a Brilliant White color or Brilliant Light Gray, other colors can also be furnished. Made in several Grades, easily applied with Calbar Pressure Gun. Send for information or order thru your Jobber.



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Authoritative information about the designing, construction and financing of buildings can be found in up-to-date books. We will be glad to recommend suitable books on any subject you are interested in.

BOOK SERVICE DEPARTMENT

AMERICAN BUILDER AND BUILDING AGE

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New York, N.Y.

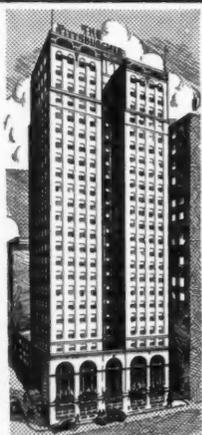
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400 rooms, all with radio, outside view and bath.



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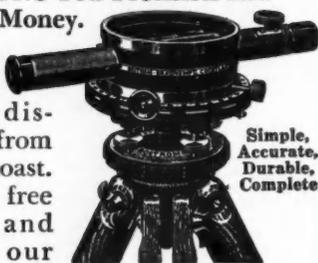


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No. 4 BOSTROM Contractors' Level

Carried in stock by distributors from coast to coast. Write for free booklet and name of our distributor near you.

Simple, Accurate, Durable, Complete

Bostrom-Brady Mfg. Co.

537 Stonewall St.

ATLANTA, GA.

World's Biggest Prefab Job

(Continued from page 109)

A striking picture of the amount of equipment used on this job is given by the following partial list, which includes 6 Ross carriers; 55 pick-up and dump trucks by International, Ford and Chevrolet; 4 FWD truck cranes; 2 Lorain crawler cranes; 2 International-Byers truck cranes; 1 Moto crane; 13 Kohler portable electric light plants; 52 portable Black and Decker and Van Dorn electric drills; 71 Skilsaw and Thor hand saws; 12 Speedmatic hand saws; 105 Markwell and Bostitch staplers; 6 Shaw box crane hoists; 14 DeWalt woodworkers; 4 Multiplex saws; 5 C. H. & E. gas woodworker saw rigs; 14 Black & Decker nut runners; 4 Caterpillar bulldozers; 13 half-ton Budget hoists; 3 transits; 1 arc welder; 1 band saw; 2 air compressors.

Materials and equipment used in the houses include Homasote building board; Bruce Streamline factory-finished flooring; redwood siding; Certain-teed 30-lb. asphalt felt; General Electric wiring and refrigerators; Wood Conversion Company 1/2" builders blanket insulation; Johns-Manville and Ford asphalt shingles; Reading hardware; Sisalkraft building paper for floor protection; Dixie Foundry coal ranges and space heaters; Baltimore Enameling & Novelty Co. metal chimney flues; Ideal Millwork furnished by Ideal Co., the manufacturing division of William Cameron & Co., Waco, Tex.; Briggs Beautyware plumbing fixtures with non-slip tub and combination laundry-sink; Breinig Bros. special primer and sealer for natural wood finishes; Glidden interior flat wall paint; Pabco linoleum by Paraffine Co. of San Francisco; Plyscord Douglas fir plywood; special Homasote nails by Independent Nail & Packing Co., Bridgewater, Mass., and Wickwire Nail Co.

Paneling in Knotty Pine

(Continued from page 67)

and will give a better shadow effect.

The scallops for the cornice frieze, and the trim around open shelving can be cut out on a power band saw, if available, or it can be cut out by hand with a compass or key-hole saw. The edges should be cut square and true and be well sanded.

Door and Window Trim. On pine paneled walls it is possible to get along with very little trim around door and window openings, and the simpler the treatment the more satisfactory will be the final result. Casings as such, are best eliminated. On the windows run the paneling in flush with the inside of the jamb and finish off with a stop made of 1/2" No. 2 pine. A stool of 1" or 1 1/8" material with rounded edges, or half round as shown in Fig. 9, with a small cove in place of an apron, will provide all the trim necessary. Door trim may be equally simple.

Doors and Windows. Stock Colonial designs of doors and windows will be appropriate in pine paneled rooms. Use divided light windows as shown in Fig. 12, or diamond paned sash as shown in Fig. 1. Typical door designs are shown in Fig. 11. Raised panels are recommended for the doors. Particularly well suited to a room with pine paneling are batten doors similar to the one indicated in Fig. 1, and for an alternate exterior design, a Dutch door (divided at the lock rail), would be fine.

Stairwork. Stairs can be of the inexpensive box type. The drawing indicated as Fig. 1 shows a box stair built into the end of a living room. Open stairs of true Colonial design and made up of stock stair parts would be in keeping. Treads and handrails should be of birch, stained walnut, while the risers and face stringers could be made of No. 2 pine. Hand rails can be supported on wood

brackets as indicated in Fig. 12 or on iron brackets.

Cabinet Work. Here again stock items from millwork manufacturers can be used to advantage, provided they are of authentic Colonial design. Their proportionate size in relation to the size of the room should also be considered. Figures 10-A and 10-B show two appropriate mantel suggestions. Smooth red brick, tile or marble should be used for the facing around the fireplace opening and for the hearth.

China cabinets without doors will look well in a knotty pine room. Open shelves for books and china, as detailed in Fig. 1 are always in good taste, and so, also, are corner cabinets made of the knotty pine material.

For a boy's room, with a bunk, shelves for books and treasures, drawers and closets for all his belongings, no material is so well adapted as knotty pine paneling. It will stand plenty of abuse and requires but little care and upkeep. A simple bunk detail and set of book shelves is shown in Fig. 13.

Any hardware used in connection with knotty pine should be of black iron, and if it is hand made it will be particularly pleasing.

Finishing. The finishing of knotty pine paneling should be put in the hands of an experienced painter, as the success or failure of pine walls will depend to a great extent on the finish.

Generally speaking it is advisable to have the pine finished as near natural as is possible. The wood will darken with age and after it has been in place for a year or so will take on a rich honey color. It may appear too white at first, but if stained to the right color when applied it will probably be too dark when the wood has aged.

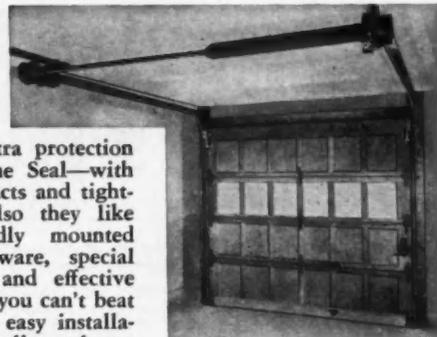
The painter will probably have suggestions as to what finish to apply. A coat of white shellac, followed by two coats of wax, either liquid or paste, will give an entirely satisfactory finish. All nail holes should, of course, be puttied up, and the boards should be shellaced before they are nailed in place. This will not only help keep finger marks from showing, but if the tongues of the boards are shellaced, a slight shrinkage of the boards will not leave a white strip of wood showing at the joints.

After the paneling is in place the shellac should be rubbed down with steel wool and then the wax applied. Then plenty of hard work in rubbing down the successive coats of wax. Old timers obtained a highly satisfactory effect with the use of beeswax.

A touch of bright color can be brought into a pine room by painting the insides of the book recesses or china shelves.

The natural beauty of knotty pine, plus a soft, dull, wax lustre brought about by much rubbing, has made this finish one of the most popular interior wall coverings.

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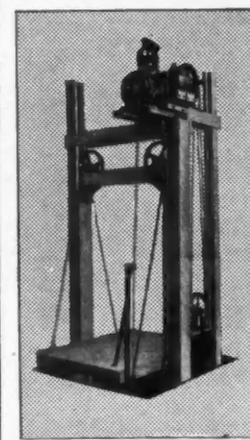


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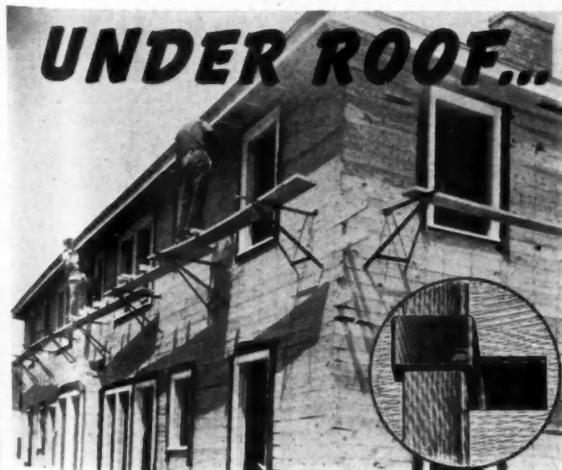
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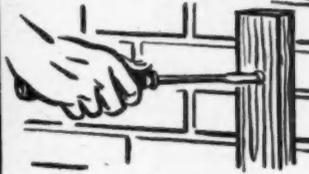



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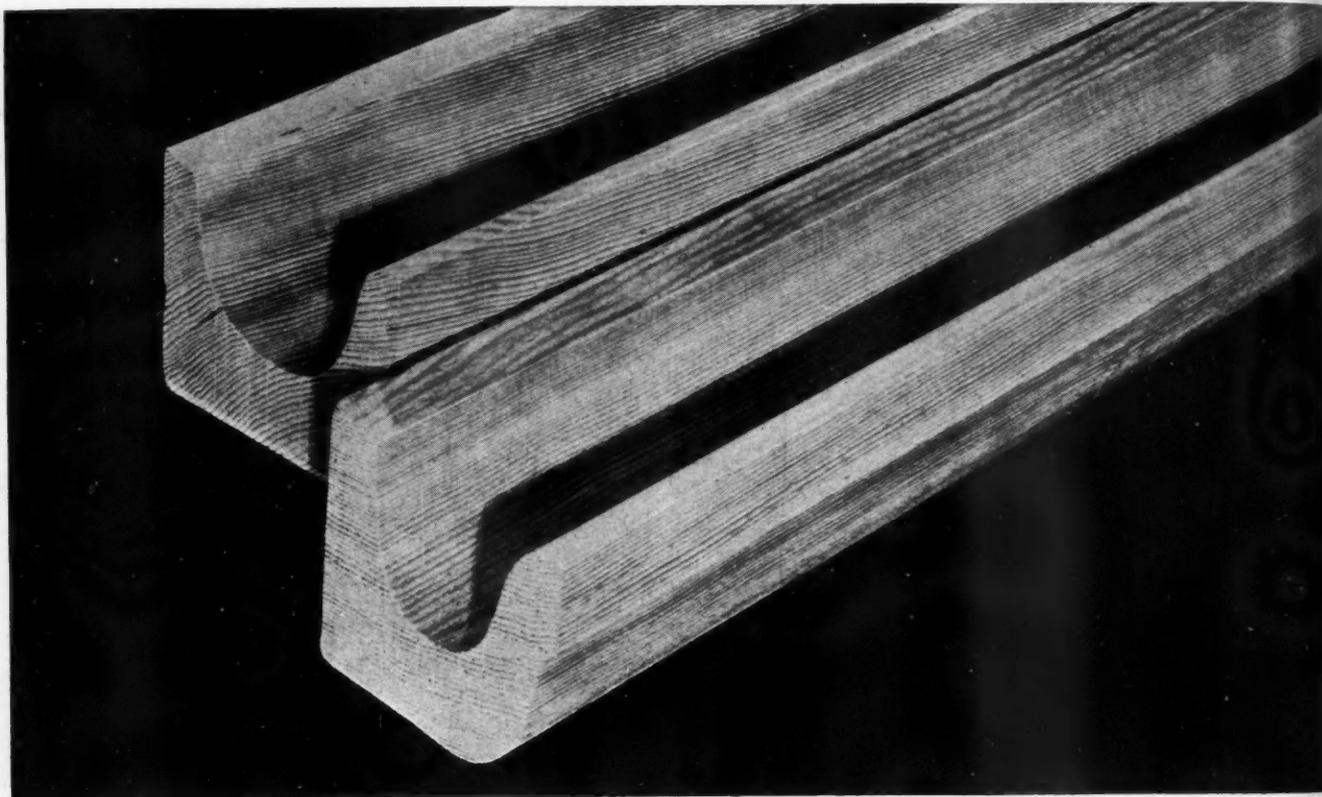
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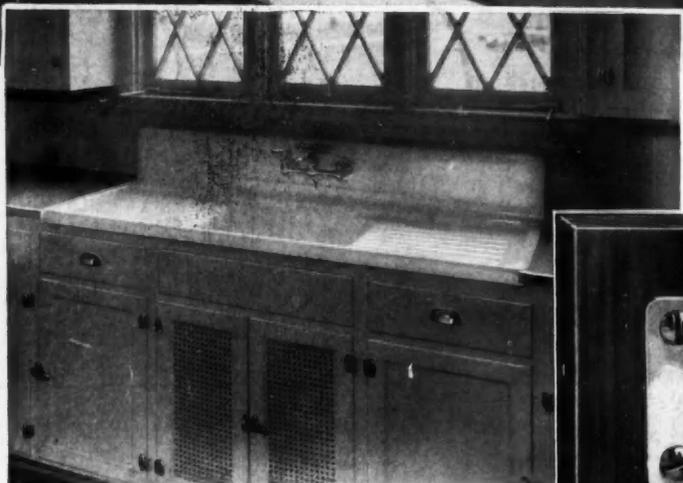
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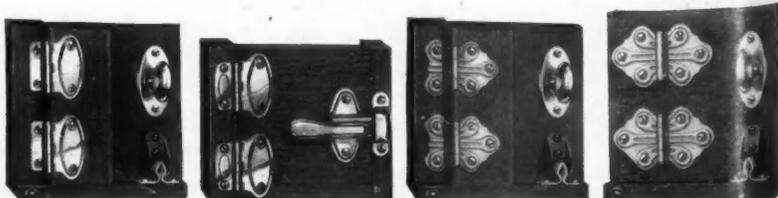
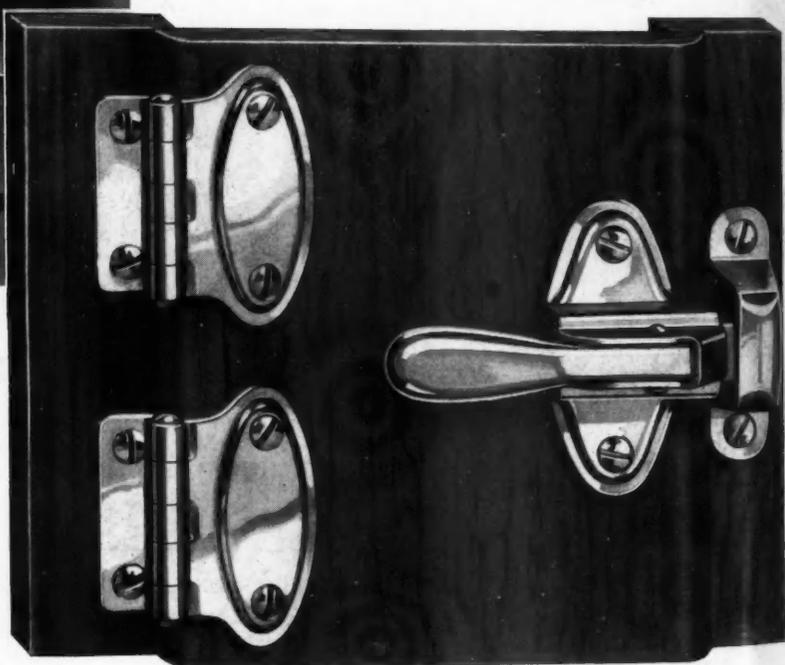
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