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AMERICAN BUILDER

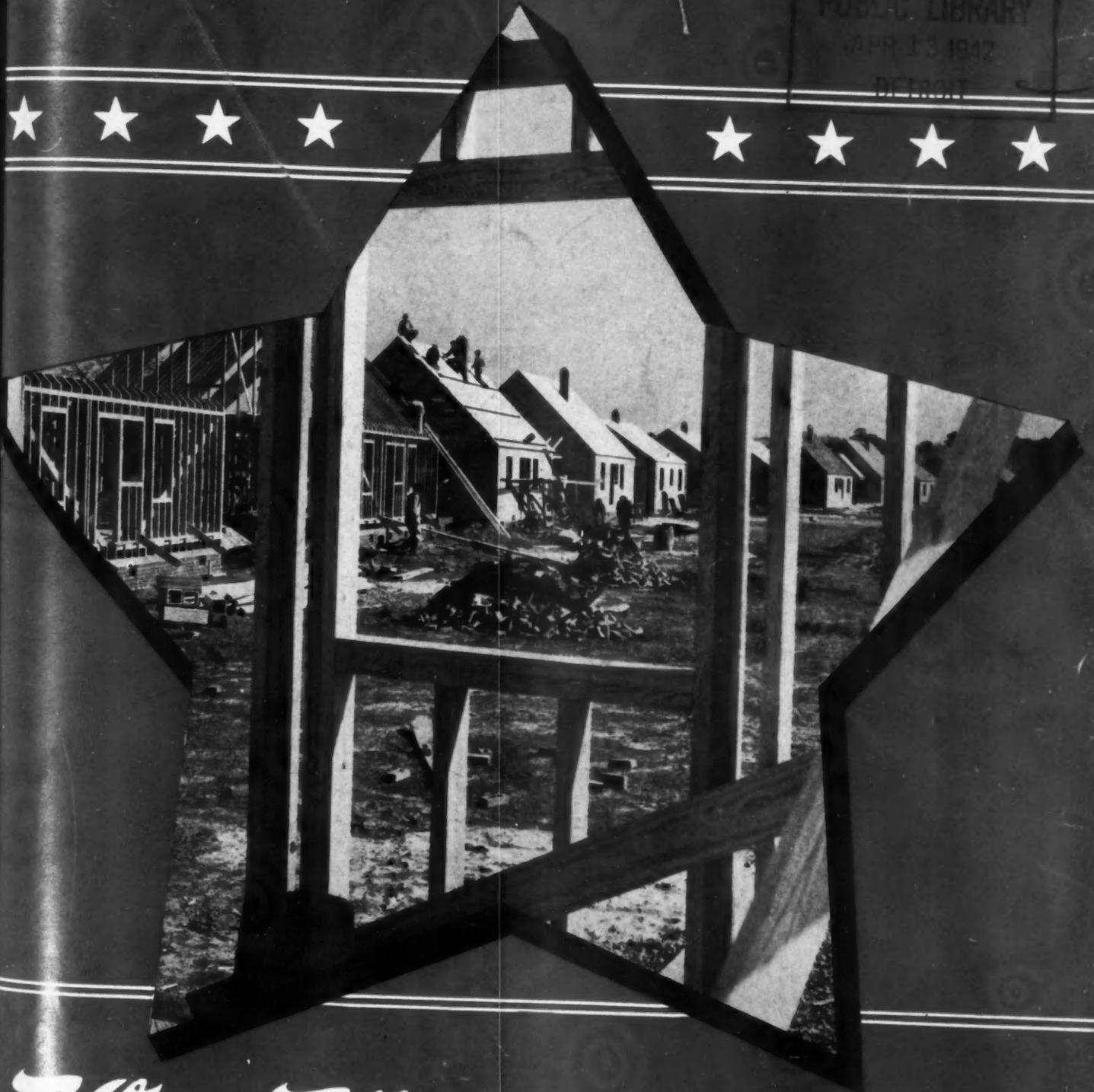
AND
BUILDING
AGE

THE WORLD'S GREATEST BUILDING PAPER

PUBLIC LIBRARY

APR 13 1942

DETROIT



War Market Issue

Nearly Six Million Women Will Be Seeing
THIS CHARMING ATTIC BEDROOM
 — in Their Favorite Magazines! —



— Build Such Rooms Easily, Quickly, Profitably —
 — With Celotex Insulating Interior Finishes

LIVING SPACE is at a premium today, and waste attic space in every part of the country is being converted into attractive quarters like this. This very room, in fact, is appearing in Celotex four-color advertisements—will be seen by millions of readers.

So don't be surprised when women right in your own neighborhood call you and say, "Come over and look at our attic. We want a room like this. How much will it cost?"

Here's how this room is done: Celotex Wainscoting is applied direct to short studs. Walls are 16"

Celotex Finish Plank, vertical and horizontal. Bed base and bookshelves with cabinets below are framed in regular dimension lumber and finished with Celotex Hard Board. Celotex Key Joint Units form the ceiling—contributing efficient insulation as well as handsome appearance.

This room requires *no other decoration* than the actual finish of the Celotex Products used. With these four easily obtainable Celotex Products, a wide variety of lovely interiors can be created—quickly, easily, profitably! See your Celotex Dealer.

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

Published monthly by Simmons-Boardman Publishing Corporation, 105 W. Adams St., Chicago, Ill. Subscription price, United States, Possessions, and Canada 1 year \$2.00; 2 years, \$3.00; foreign countries: 1 year, \$4.00; 2 years, \$7.00. Single copies, 25 cents. Entered as second-class matter Oct. 11, 1930, at the Post Office at Chicago, Illinois, under the act of March 3, 1879, with additional entry as second-class matter at Mount Morris, Illinois. Address communications to 105 W. Adams St., Chicago, Ill.

EVEN OVER A LIVING ROOM DAVENPORT a woman can always open this window with one hand

because

- (1) it swings instead of slides.
- (2) its movable parts are steel
—they never warp, swell,
stick or bind.



The Ordinary Window

It's often almost impossible to open an ordinary sliding window that's warped or swollen from moisture, or stuck with fresh paint, especially over a davenport.

Installed in a Jiffy using Hammer and Nails only



Installed Outside in 5 Minutes



Trimmed Inside in 8 Minutes

Think of the satisfaction your owners will get with the new Fenestra Package Windows that always open easily—even over a living room davenport, even over a dining room buffet, even over a kitchen sink.

They are far more beautiful windows, too—compare the photographs, above. Even more important, they provide more daylight, better ventilation, safe cleaning, permanent weather-tightness, better screens, low-cost storm sash, higher quality and lower upkeep—all at an astonishingly low price.

Especially designed for use in today's low-cost houses, the new Fenestra Package Window is a factory-built unit that includes

a high-grade steel casement, Bonderized and prime-painted, glazed, wood cased and outside trimmed—delivered complete. All hardware included. Pre-fit inside wood trim if desired. It's America's first jiffy-installed, service-free, low-cost unit. It will help you sell your houses a lot faster. Get Fenestra facts and prices. Use coupon.

THE NEW LOW-COST *Fenestra* PACKAGE WINDOW

**DETROIT STEEL PRODUCTS COMPANY,
2260 East Grand Blvd.,
Dept. AB-4, Detroit, Mich.**

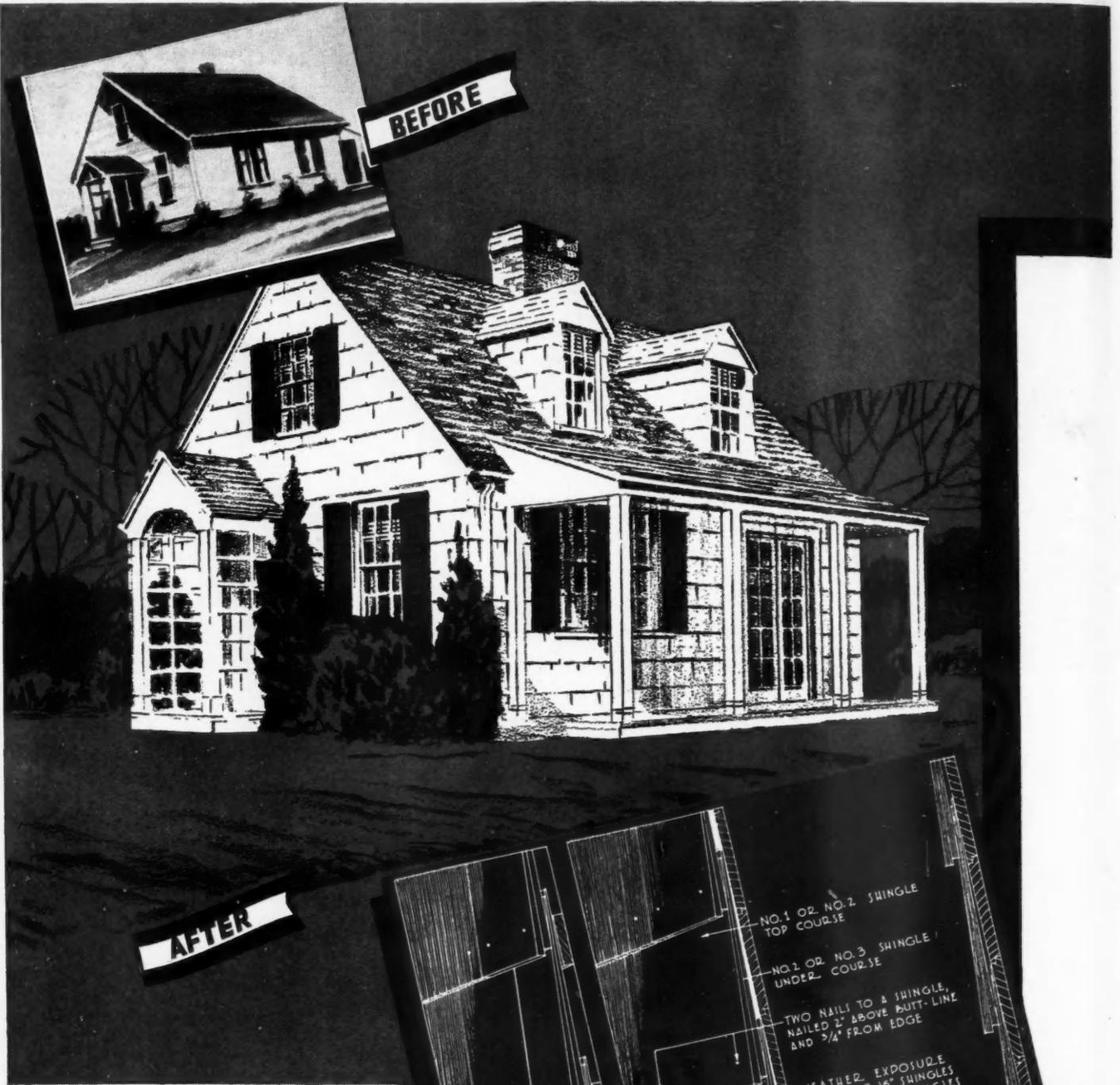
I am a () Contractor () Owner
() Dealer () Architect

Please send me the new Fenestra Package Window catalog and Price List.

Name _____

Address _____

City _____ State _____



BEFORE

AFTER

FREE BLUEPRINTS

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

RED CEDAR SHINGLE BUREAU
5508 White Bldg., Seattle, Wn.
Canadian Office: Vancouver, B.C.

.....



"Swell job of remodelling, Joe"



Do the job . . . do it quickly . . . do it economically . . . do it without using strategic materials required for the war effort!

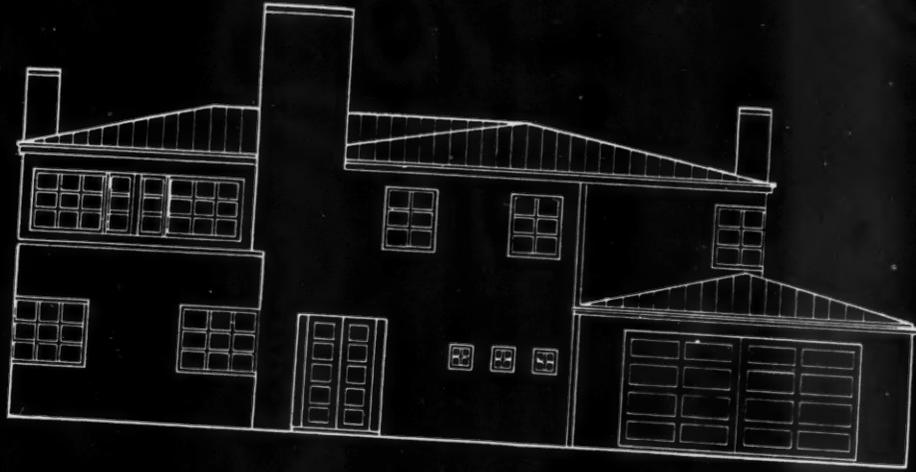
This is the challenge which confronts America's builders today in the face of a vast remodelling and renovating market.

The solution to this problem can be found in Red Cedar Shingles—for remodelling old and unattractive dwellings through over-roofing and over-walling. A surprising transformation from "old" to "new" can be made by a simple re-covering with Red Cedar Shingles.

Old exterior walls of all types can be shingled in much the same manner as new shingle sidewalls. The shingles can be applied directly on old wood siding or they can be fastened to furring strips in covering old stucco or brick sidewalls. In over-walling around windows and doors, new flashings should be applied over window and door heads. If the old casings are thinner than the new wall, moulding strips should be nailed flush with the edges of the old casings, to which the shingles should be jointed.



Red Cedar SHINGLES



The homes that can't be built today
will be better built tomorrow because of

ANACONDA RESEARCH

FROM mines to fabricating plants, production of Anaconda Copper and Brass is devoted whole-heartedly to our country's war program.

But meanwhile, Anaconda Research carries on with redoubled effort... not only for war purposes... but looking also towards the time when—the present emergency over—copper and

brass will again be available for unrestricted use.

The future is bright for the building industry—never in our country's history has such a backlog of needed housing accumulated. One day it will be released.

Anaconda Copper and Brass—in old and new forms of usefulness—will be ready. 4211

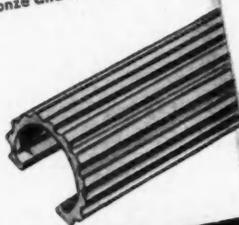


The *American Brass Company*

General Offices: Waterbury, Connecticut, Subsidiary of Anaconda Copper Mining Co.

**1900
EXTRUDED SHAPES**

Introduction and development of the extrusion process for architectural bronze and nickel silver.



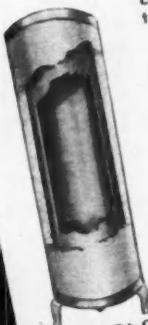
**1922
ANACONDA BRASS PIPE**

Introduced and promoted Brass Pipe for plumbing. Later developed Anaconda 85 Red Brass Pipe after a nationwide 10 year study of water corrosion.



**1927
EVERDUR* METAL**

Commercial development of high-strength, weldable copper-silicon alloys leads to use for water tanks.



*Reg. U. S. Pat. Off.

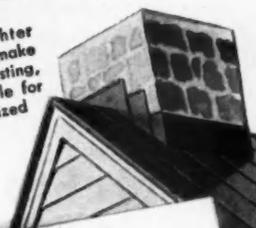
**1932
"ELECTRO-SHEET" COPPER**

New process makes wide, thin copper available for low-cost, lasting, damp-proofing, weather-proofing and concealed flashing.



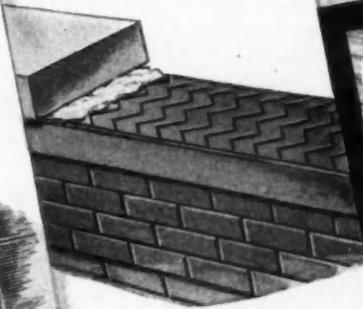
**1934
10-OZ. ECONOMY COPPER ROOFING**

New narrower, lighter weight roofing sheets make economical, long lasting, copper roofs available for small and medium sized homes.



**1935
THROUGH-WALL FLASHING**

Patented new design provides positive protection and easier installation at reduced cost.



**1938
COPPER WALL PANELS**

A new dry-construction, patented wall facing; weather tight, non-absorptive; erected without solder or caulking compounds; allows free movement to prevent buckling. Panel walls can be dismantled and re-erected in another location.



**1940
ANACONDA COPPER REGLET**

Patented reglet to receive flashing in concrete construction—sturdy, efficient and easily installed.



**1942
ANACONDA RESEARCH**

This program of The American Brass Company is carrying on in many varied directions to improve efficiency and usefulness of existing products, and to develop new products and uses which will make building in the coming era more efficient, more lasting.

Highlights of
ANACONDA SERVICE
to the building industry

makers of

Anaconda Copper & Brass

In Canada: Anaconda-American Brass, Ltd., New Toronto, Ontario

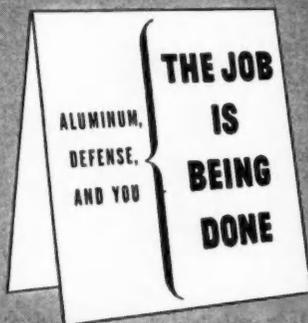
**FORGET
YOUR OLD
ASSUMPTIONS**

IMAGINEERING

IMAGINEERING

IMAGINEERING

IMAGINEERING



IN THESE DAYS an advertisement is no place either for hosannas or sermons about production. Every man knows how well he is doing the job that is before him. Deeds, not words, are the measure.

BUT WORDS CAN BECKON beyond the realms of immediate duty.

IMAGINEERING is such a word. We coined it to make the needs of the future a reality, here and now. It is a way of describing what a man can do about the day when. . .

HOW DO YOU DO IT? You let your imagination soar and then engineer it down to earth. You think about the things you used to make, and decide that if you don't find out some way to make them immeasurably better you may never be asked by your customers to make them again.

YOU FORGET YOUR OLD ASSUMPTIONS. For instance, you may be one who used to assume that aluminum was too expensive. Even if you were right then (and you may not have been) the price trend of aluminum knocks those assumptions into a cocked hat.

WERE YOU ONE who used to assume that structures behaved exactly the way the theory said? Have you looked into the new answers the mammoth testing machine in the Aluminum Research Laboratory has found for that one?

DID YOUR OLD PRODUCT GROW like Topsy? More than one designer is Imagineering with this point of view: My product was in a groove. I couldn't get it out, because I didn't dare get too far away from last year's model. Now's my chance to start from scratch, and let tradition be hanged.

THAT IS THE KIND OF THINKING that will make jobs in the future. It is the kind we can help with: help with ideas and with know-how. Will you invite us?

Aluminum Company of America, 2120 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM



"Bill Twell" goes Colonial to get authentic Colonial designs

Today is "M" Day for American Builders. Defense building in critical areas and remodeling are the order of the day. Bilt-Well Woodwork is your best insurance against customer complaints and "call backs."



BILT-WELL Colonial Front Entrances

Bilt-Well is the name that has identified quality building woodwork since 1866. Seventy-six years of service to Dealers and Home-owners. More than three-quarters of a century devoted to building woodwork that is built well.

Bill Twell, Carr, Adams and Collier's master cabinetmaker, knocked on the doors of early America . . . He studied house plans and elevations, antiques and restorations, and came back loaded down with sketches and photographs . . . then he sat down to his drawing board and drew his plans . . .

Bilt-Well Colonial doors, windows, mantels,

corner cabinets and stairways are the result. Each is an authentic Colonial reproduction—sturdy, weatherproof and wearproof—produced in volume by modern methods and priced to fit *most* building budgets.

Bilt-Well Colonial reproductions make more profitable sales and yet enable you to offer attractive savings to your customers.

BILT WELL WOOD WORK
EST. B. I. 1866

NU-STYLE KITCHEN CABINETS FRONT ENTRANCES COLONIAL MANTELS SUPERIOR WINDOWS CORNER CABINETS CARR-DOOR GARAGE DOORS

CARR, ADAMS & COLLIER COMPANY, Dubuque, Iowa



CARR, ADAMS & COLLIER CO., Dept. 4AB, Dubuque, Iowa
Please send me free complete information on all Bilt-Well Wood Products without cost or obligation.

NAME _____
CITY _____ STATE _____

BILT-WELL WOOD PRODUCTS
The "yardstick of quality"
for more than 76 years



IMMEDIATE CONTRACTORS

Feature Defense Houses... Easy to Build and Finance!

Enlarged in size, vitalized with color, the new 4-Square Book of Homes can be of tremendous help to you in your business today. It is a selling tool that you can use now for today's job and tomorrow's selling effort.

This book presents designs of homes that can be built and sold today in defense areas—they are better defense homes because they are architect-designed and Weyerhaeuser engineered for utmost value.

...the majority of these designs are within the \$6,000.00 price limitation of Defense Housing.

...All designs meet major F. H. A. construction requirements, and with minor alterations can

be adapted to meet special requirements of local offices.

...A number of designs will come under the \$4000.00 price ceiling of Title VI. This is especially true of the M Series of 14 designs, for which special material lists have been prepared calling for an absolute minimum of critical materials.

Here are defense houses you can build now — houses that meet F. H. A. requirements — that give you greater assurance of prompt financing — houses which can later be expanded into larger quarters.

**USE THIS BOOK NOW . . . SEE YOUR
4-SQUARE LUMBER DEALER**

Contractors and Builders outside of defense areas are using the new 4-Square Book of Homes, not only as a





The new
**4-SQUARE
BOOK OF
HOMES**

HELP FOR THE AND BUILDERS

source of ideas for remodeling and home extensions, but also to build a backlog of prospects for tomorrow's business. For they know that today's home planners are tomorrow's home buyers and they are using this book together with its companion piece, Professional Pointers for Home Planners, to earmark a large part of post-war spending for their business.

See your 4-Square Lumber Dealer. Ask to see these books — ask him to explain how you can use them in your business today.

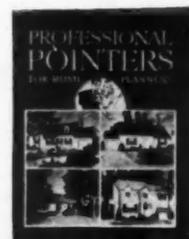
50 DESIGNS OF MODERN HOMES FOR DEMONSTRATING AND MEASURING HOME VALUE

On a large page, 13x16 inches, the complete value of a home can be presented in easily understood and graphic terms. Those features which home owners seek — convenience, comfort, economy and good construction — are visualized perfectly. Ten homes are shown in full natural color — the others in black and white photo-

realism. Isometric drawings give a bird's eye view of room planning and furniture arrangement. Interior and exterior features and construction details are pictured. High points of value are described. Clearly set forth is the extra value of correct, authentic, architectural design and Weyerhaeuser engineering.

"PROFESSIONAL POINTERS" IS THE PERSONAL SALES STORY OF CONTRACTOR AND DEALER

Informally recounted, in intimate chatty terms, is the story of the assistance that home planners receive from the cooperation of contractors and 4-Square Dealers. Profusely illustrated, this book sets forth the important service both of you can give. It is your Sales Story and intended for distribution to your prospects.



WEYERHAEUSER SALES COMPANY
SAINT PAUL, MINNESOTA

**Transportation Is
Vital to Victory!**

**Keep Your Trucks
Serving Dependably with**

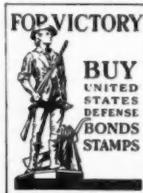
CHEVROLET'S "Truck Conservation Plan"



Your Chevrolet dealer—specialist in "Truck Conservation"—will be glad to cooperate with you in every way to keep your trucks serving dependably and economically. . . . See him today for the new and better kind of service now available to all truck owners under the "Truck Conservation Plan" originated and recommended by Chevrolet.

CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT, MICHIGAN

**ALWAYS SEE YOUR LOCAL CHEVROLET DEALER FOR
SERVICE ON ANY CAR OR TRUCK**



**CONSERVE
TIRES**



**CONSERVE
OIL**



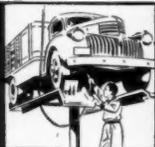
**CONSERVE
ENGINE**



**CONSERVE
BRAKES**



**CONSERVE
EVERY VITAL
PART**



**CONSERVE
COOLING
SYSTEM**



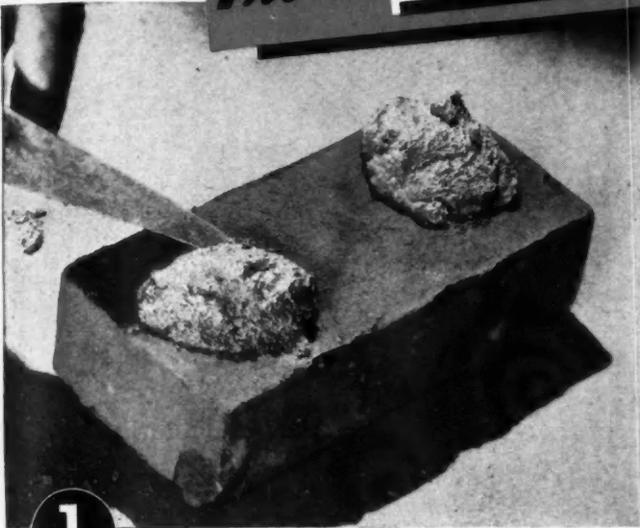
**CONSERVE
TRANSMISSION**



**CONSERVE
GAS**



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



1

Slap a small amount of Brixment mortar, and an equal amount of 50-50 lime and cement mortar, on a brick. Wait a minute, then feel each mortar.



2

Test each mortar. You will find that the Brixment mortar stays plastic *far longer* than the other mortar. This proves *greater water-retaining capacity*.

BRIXMENT Mortar Has Far Greater Water-Retention!

WATER-RETAINING CAPACITY is the ability of a mortar to retain its moisture, and hence its plasticity, when spread out on porous brick.

High water-retaining capacity is of *extreme importance* in mortar. If the mortar does not have high water-retaining capacity, it is too quickly sucked dry by the brick; the mortar stiffens too soon, the brick cannot be properly bedded, and a good bond cannot be obtained.

Brixment mortar has extremely high water-retaining capacity. It strongly resists the sucking action of the brick. Brixment mortar therefore stays smooth and plastic when spread out on the wall.

This permits a more thorough bedding of the brick, and a more complete contact between the brick and the mortar. The result is a better bond, and hence a stronger and more water-tight wall.



BRIXMENT

For Mortar and Stucco

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

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



Bad medicine for big bombers

ONE WAY to spoil a bomber's aim is to hang a curtain of steel over your ship and dare him to come down through it. To get that curtain of steel up there requires quick-firing, flexible guns.

To the plant of the Westinghouse Electric Elevator Company the Navy, a few months ago, brought its plans for such a gun. And to Westinghouse was given the important job of building the mounts that would control the aiming of these batteries of quick-firing guns.

And the Navy said, "Well done!"

Today, over the Westinghouse plant, there floats the Navy's "E" pennant—for excellence—eloquent testimony to the manner in which this Westinghouse plant performed the job. How was this plant able to get into growing production of these mounts so quickly? The answer lies in a Westinghouse characteristic called "know how"—the ability to

get things done in the best possible way.

This Westinghouse "know how" makes itself felt wherever Westinghouse craftsmen build things. Whether for the common defense or the general welfare, this "know how" is doing a job. The same skill and ingenuity that made so many splendid things for peacetime living are now being applied to many important war weapons.

"Know how" will work for you again

We look forward to the day when Westinghouse "know how" will again supply you with electrical equipment to help you build for peace. To speed that day means just one thing to us: to produce, in ever-increasing quantities, the tools with which to get the victory job done.

Westinghouse

For the Common Defense

Sterilamps
Bomb Fuses
Tank Equipment

Military Radio Equipment
Plastic Plane Parts
Naval Ordnance

Navy Ship Turbines and Gears
Blackout Plant Lighting
Equipment

For the General Welfare

Air Conditioning
Lighting

Panel Boards
No-Fuze Load Centers

Lamps
Elevators

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

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, PITTSBURGH, PENNA.

Copyright 1942, Westinghouse Electric & Manufacturing Co.

CHECKED FROM EVERY ANGLE



Bradley's STRAIGHT-LINE

OAK FLOORING

gives extra value...

Extra Value in properly seasoned oak

Extra Value in accurate, clean cut machine work . .

Extra Value in freedom from crook

Extra Value in matching that lays without forcing . . .

Extra Value in 90° end joints that stay put

Extra Value in uniform color and texture

Extra Value in taking applied finishes

Extra Value in beauty of the finished floor

Extra Value in owners' pride and satisfaction

These extra values did not just happen. They are the achievement of continuous years of determined effort to make a better flooring. They symbolize Bradley's purpose to give each user the utmost for his investment in fine flooring. They are the reasons why contractors and floor layers swear by Bradley's Straight-Line Oak Floors after their first installation. Available from your dealer.



BRADLEY LUMBER COMPANY of Arkansas WARREN, ARKANSAS

SAVED:

33% CONCRETING TIME
68% FORM RENTAL COSTS



● Atlas High-Early cement speeded completion of this building in Chicago. *Architect, Holabird & Root; Contractor, Dahl-Stedman Company, both of Chicago.*

See how Atlas High-Early cement cut a whole month off concreting time... eliminated the rental of 85,000 sq. ft. of metal pan forms.

HOW can I save time and speed up construction economically?" That's the question you must answer, now that "Rush" is the order of the day.

Here's another example of "speed-up" building made possible by Atlas High-Early cement.

This structure is approximately 600 feet long by 300 feet wide. The ground floor is concrete. Reinforced concrete beams and girders support the reinforced concrete roof slab, which was constructed with the metal pan system.

The contractor states that three months were estimated for completion of all concrete work using standard portland cement; but by using Atlas High-Early cement, one month was wiped off the sched-

ule—concrete work was completed in two months.

And another thing. Atlas High-Early cement knocked 68% off metal pan form rental cost. With normal portland cement, 125,000 square feet of forms would have been needed. With Atlas High-Early, it was possible to strip the metal pan forms earlier and re-use them. Result: Atlas High-Early concrete required only 40,000 square feet... a straight saving in rental cost of 85,000 square feet of forms.

Don't spar with building schedules. Knock them out *fast* with Atlas High-Early cement. Specify Atlas High-Early cement on your next job. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., N. Y. C.

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

ATLAS HIGH-EARLY CEMENT

A UNIVERSAL ATLAS PRODUCT



AB-H-44

1

BLACK & DECKER ELECTRIC SAW KEEPS 4 MEN BUSY NAILING



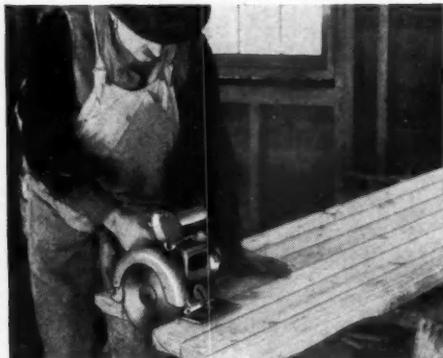
SAWING 50 RAFTERS IN 45 MINUTES with a Black & Decker Electric Saw. By using it to pre-cut framing alone, you can save from \$40 to \$60 on each house you build.

BLACK & DECKER Electric Saws pre-cut lumber so fast—four carpenters have to swing hammers to keep up! That's why they slash time and costs on Defense housing and other vital building. Black & Decker Saws cut easier, speedier and last longer, because they're *Quality-built* by the most famous name in the portable electric tool in-

dustry. Your jobber will gladly demonstrate the four Black & Decker Saw models, with *safe*, ball-bearing telescoping blade guards, quick adjustments for depth and angle of cut—and many other Black & Decker-engineered features. The Black & Decker Mfg. Co., 766 Pennsylvania Ave., Towson, Maryland.



CUT 3 STAIR STRINGERS IN 35 MINUTES with a powerful Black & Decker Saw—compared to the time and cost of a half-day's work with old push-and-pull hand methods.



ALL THE STUDS IN A FEW HOURS—when you use Black & Decker Saws, plus multiple pre-cutting. Model shown is famous Black & Decker one-hand QUICK-SAW.



FAST WORK ON SIDE SHEATHING is easy with Black & Decker Saws cutting on measured angle cuts. These fast Saws also zip through lumber, compositions and tile.

BETTER CARE MEANS LONGER WEAR



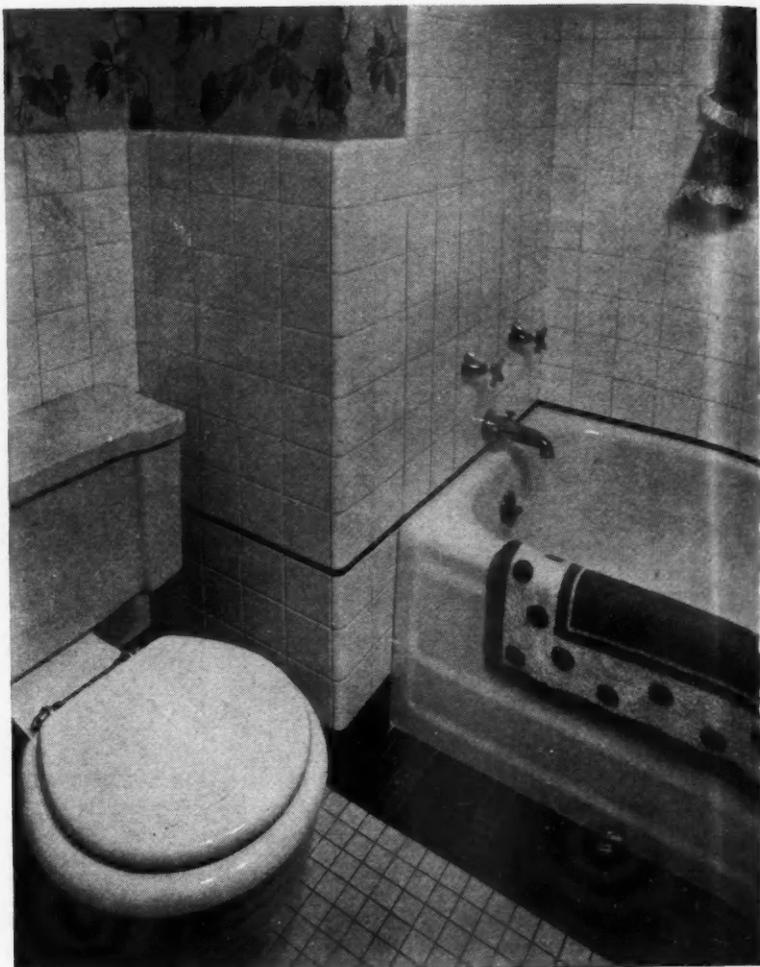
Free booklet, "Care of Electric Tools," is packed with handy tips showing how to get longer life and greater efficiency from your Black & Decker Tools.

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker

PORTABLE ELECTRIC TOOLS

**ALERT BUILDERS
KNOW
IT IS SMART TO
MODERNIZE
WITH TILE**



This bathroom has been modernized with easy-to-clean tile . . . hard usage will not affect its beauty of color or surface.

Mr. and Mrs. America are sold on tile. They know that it is permanent . . . that it is a smart investment to modernize an old bath or kitchen with beautiful, easy-to-clean tile. Tile saves on upkeep year after year . . . never requires re-finishing or re-painting. There is plenty of tile available because it is not affected by shortages of critical materials. It is as simple to install tile in an old house as in a new one. A tiled room is a big talking point when a house is being sold or rented . . . because everyone knows that tile means quality.



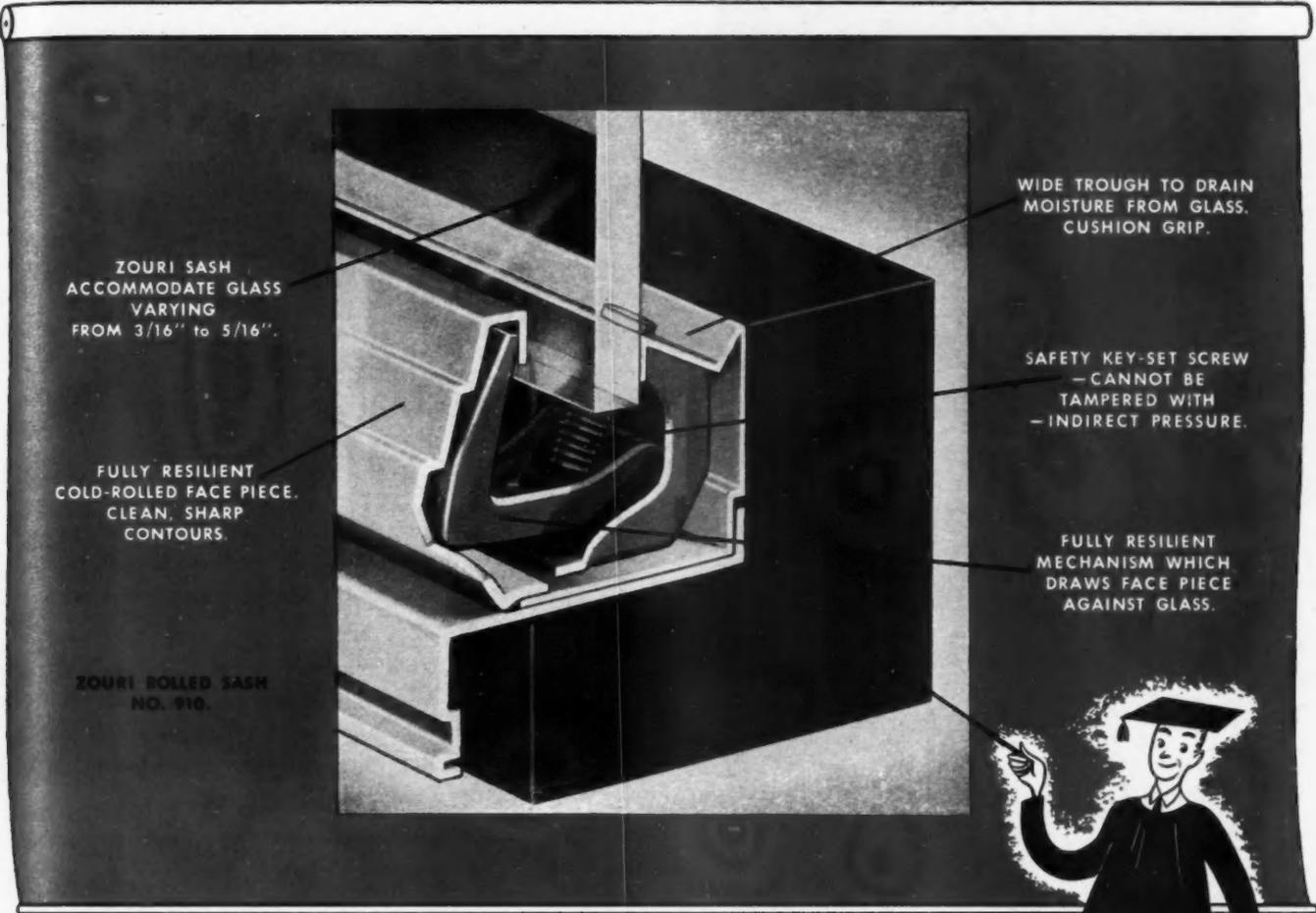
Typical bathroom in Cumberland Village, Arlington, Staten Island, N. Y. Mr. Wm. Tiernan, the developer, says, "You bet we use Tile in our \$4,200 homes . . . it helps to sell them." proving that it's smart to use tile in new homes as well as in modernization jobs.

THE TILE MANUFACTURERS' ASSOCIATION, INC.

50 East 42nd Street



New York, N. Y.



ZOURI SASH
ACCOMMODATE GLASS
VARYING
FROM 3/16" to 5/16".

FULLY RESILIENT
COLD-ROLLED FACE PIECE.
CLEAN, SHARP
CONTOURS.

ZOURI ROLLED SASH
NO. 910.

WIDE TROUGH TO DRAIN
MOISTURE FROM GLASS.
CUSHION GRIP.

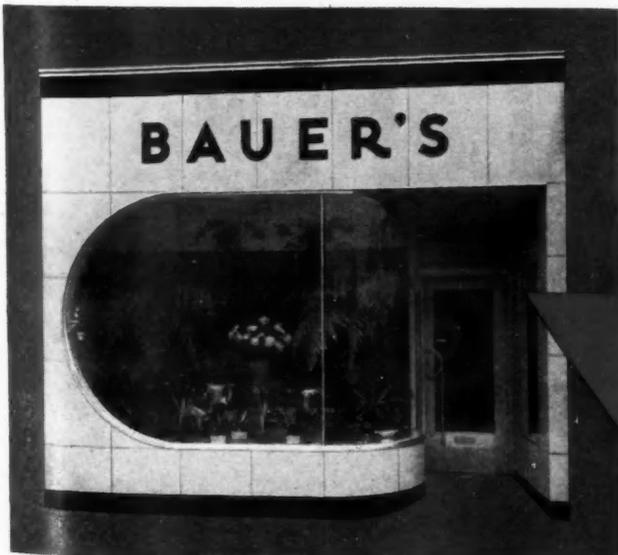
SAFETY KEY-SET SCREW
— CANNOT BE
TAMPERED WITH
— INDIRECT PRESSURE.

FULLY RESILIENT
MECHANISM WHICH
DRAWS FACE PIECE
AGAINST GLASS.



Cushion-Grip ON SHOW WINDOW GLASS!

— MAKES THE BIG DIFFERENCE IN GLASS PROTECTION! —



FOR OVER 30 YEARS Zouri sash have proved safe and dependable in fulfilling the primary function of store front construction—that of holding plate glass in show windows in a firm, secure, CUSHION grip. That's why glass breakage is so rare in ZOURI Store Fronts. And that's why so many architects and builders use Zouri Construction on every job.

The local Zouri distributor will gladly help you on any problems that may arise in the design and installation of your next store front. Check now and find out what stocks and metals are available in your territory. Or write ZOURI STORE FRONTS, NILES, MICHIGAN.

ZOURI *Store Fronts*



FROM BASEMENT TO BRICKWORK . . . ALL LEHIGH CEMENTS!

This addition to the Harrisburg YWCA is one more proof of the fact that with the three Lehigh products you can suit the cement to the needs of any job—and get a bang-up job.

Contractors Alexander & Son report, for instance, that they used both Lehigh Normal and Lehigh Early—as is their custom—the former when normal curing time is adequate to the situation; the latter when quick-service concrete, in key locations, is needed to speed up other work.

Simpson & Carroll will tell you that, by using Lehigh Early for the underpinning and foundation work, they finished the job quicker, had more time to give to other jobs.

And mason contractor Keiser & Co., insisting on a masonry cement of top quality, employed Lehigh Mortar to set up the brickwork.

The experience of contractors everywhere, in all kinds and conditions of work, is proof that you, too, can expect top performance from all three Lehigh cements. If your dealer hasn't them all in stock, he'll gladly get them for you.

YWCA BUILDING ADDITION, Harrisburg, Pa.
GENERAL CONTRACTOR: H. B. Alexander & Son, Harrisburg, Pa.
FOUNDATION CONTRACTOR: Simpson & Carroll, Harrisburg, Pa.
MASON CONTRACTOR: W. F. Keiser & Co., Harrisburg, Pa.
DEALER: Pennsylvania Supply Co., Harrisburg, Pa.

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EARLY STRENGTH
MORTAR

CEMENTS

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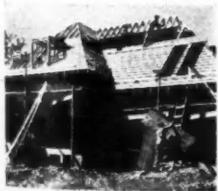


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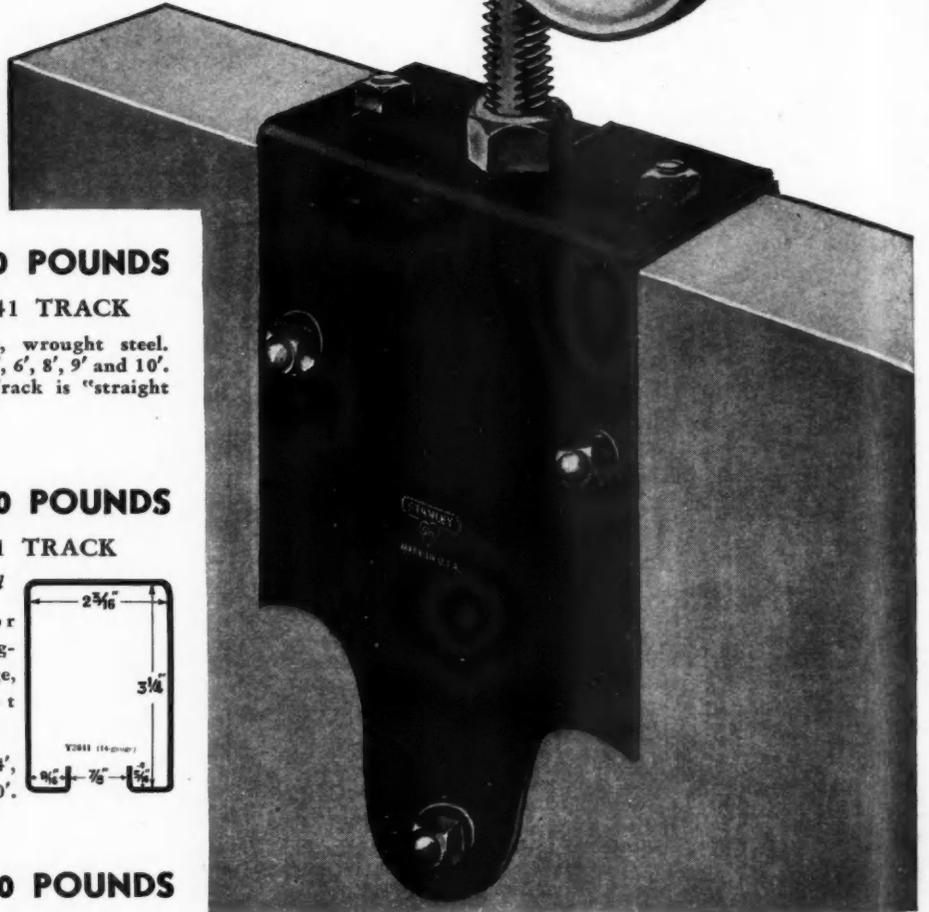
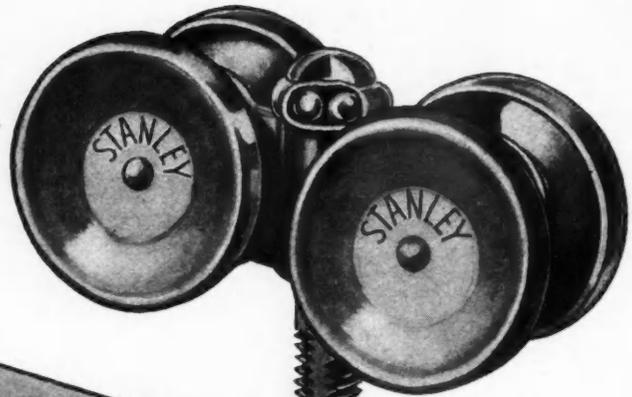
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X2650 HANGER

For doors 1 5/8" 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

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Illustrated

For doors 1 5/8" 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

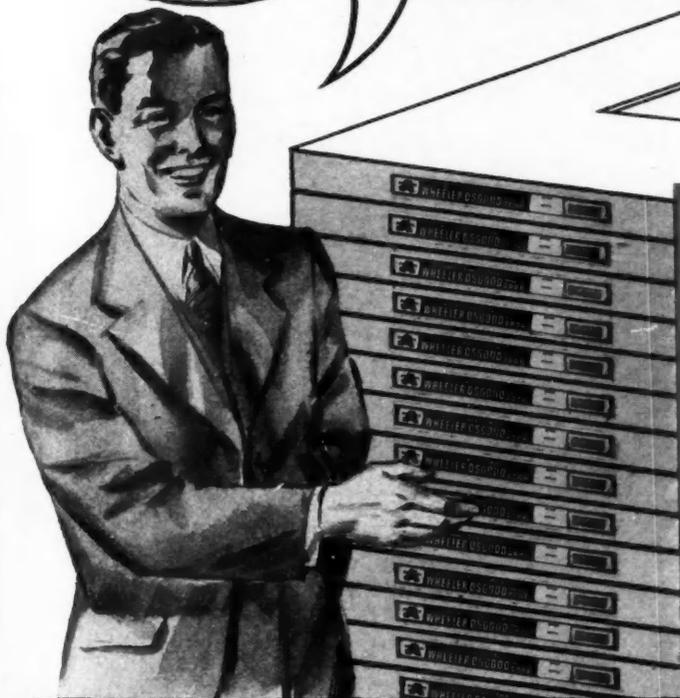
Used with Hanger W2650. 13 gauge wrought steel. Lengths 6', 8' and 10'.

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

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NOW I CAN CHECK AT A GLANCE, THE GRADE OF DOORS I USE ON THE JOB!



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Feature Fir! One of the world's finest woods for door manufacture! The Wheeler Osgood factory is located "next door" to the great Douglas Fir forests. Fir is uniform—super-strong—rot-proofed by nature—highly resistant to marring.

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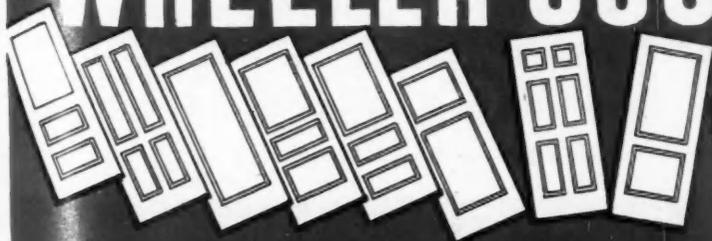
DE LUXE GRADE A—Bright blue label, bearing the grade, size, style, surface and guarantee!



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IMPORTANT! Wheeler Osgood "Color-Graded" Grade A and B Douglas Fir 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 CS91-41. Every De Luxe Grade door backed by Wheeler Osgood's famous guarantee!

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THESE distinctive, weather-defying FIREPROOF roofs—Careystone BLENDED TWINS and TRI-TONE BLEND Strips—are another important development of Carey research—another "first" that is giving Carey Dealers a lead in competition.

Both the Blended Twins and Tri-Tone Blends have authentic wood grain texture and harmonizing color tones. By an ingenious method of pre-blending, proper color distribution is assured with either type. Lay the units as you will, there can be no "bunching" of tones.

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"TRI-TONE BLEND" Strips
 —five in one for maximum thrift and quick application.

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 —two in one for distinctive appearance at moderate cost.

shingles, expertly hand-blended. Both types offer the advantage of reduced cost for a color-blended, fireproof roof.

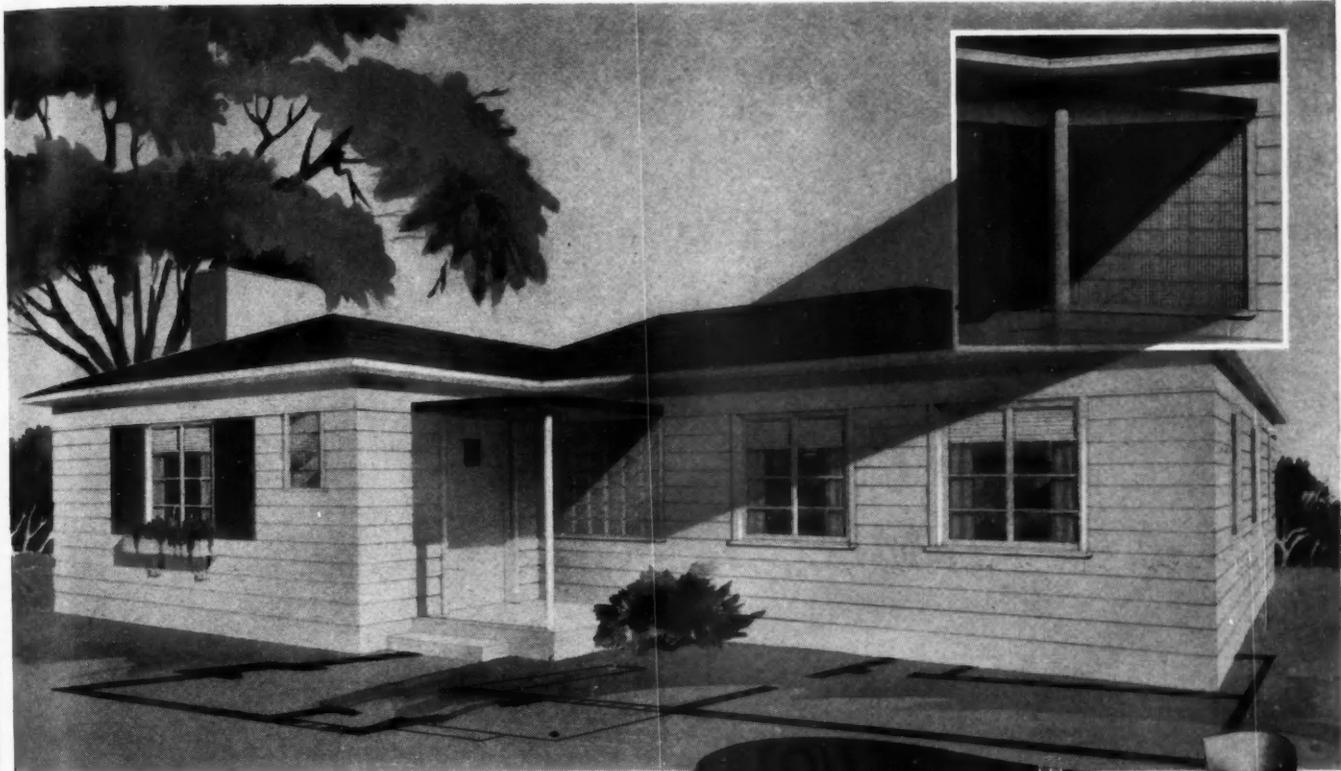
Your customers want the utmost in roof beauty and protection; the utmost in VALUE. Capitalize this desire with BLENDED TWINS and TRI-TONE BLENDS. Remember—these are exclusive CAREY Products. No other shingles duplicate all their advantages. Write today for details. Address Dept. 10.

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If you're working on "Defense Homes" . . . *this advertisement is for you*

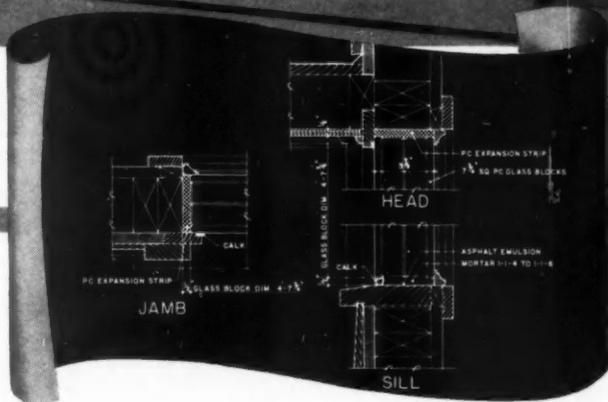


SMART-LOOKING AND PRACTICAL, too, is a small panel of PC Glass Blocks used like this. The panel is in the dividing wall between entrance porch and dining room. The Glass Blocks help to light the dining room . . . but preserve the privacy of the occupants at the same time. A panel like this costs but a few dollars. Note the other small panel of PC Glass Blocks which admits light into a closet.

DEFENSE houses are low-cost houses. And you've got to stay within rigid budget limits. But here's a way to add a lot of extra attractiveness, utility and sales appeal to these homes at a cost that is almost negligible:

Use PC Glass Blocks in small panels for purposes like that shown here. These glass block panels transmit daylight generously. They preserve privacy. They have high insulation value. They're easy to clean. They are very smart and modern in appearance. And they are a cinch to install. (See details.)

Another thing . . . PC Glass Blocks are immediately available. And for small panels, no critical



materials are involved in their installation. Use them for remodeling work as well as defense housing. Take your choice of eight good-looking patterns and three sizes. You'll find PC Glass Blocks are worth many times their modest cost in building better homes. Send the coupon for our free descriptive literature.

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For the Defense of Health!



POTOMAC 5-foot cast iron recess wing bath, enameled inside—low sides, wide rim, flat bottom—anti-siphon mixer fitting. **DELTON** 18 x 15-inch enameled shelf lavatory—1½-gallon basin—two soap dishes. **TRYLON** vitreous china close-coupled washdown closet—round front bowl—sanitary TriKo seat. **PARKCHESTER** 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.

New 4-piece **POTOMAC SET**
meets wartime housing demands



AGAIN Kohler offers first-quality fixtures and fittings designed to serve national health needs. This set conserves critical materials, sells at low cost to suit war housing budgets, yet combines the skill and manufacturing care traditional with Kohler products.

All fixtures are full size, with

convenience and safety features unusual in their low-price range. Fittings are engineered for the fixtures to give maximum efficiency.

Recommend the Potomac Set to those who are building or remodeling to provide housing for workers in defense areas. . . . Kohler Co. Founded 1873. Kohler, Wis.

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YOUR LOW-COST HOME PROSPECTS ARE ALREADY SOLD ON BETTER WINDOWS



Windows are an aid to home decoration—to room beauty. They admit needed light and air. Improved "insulated" windows save fuel; give trouble-free operation; cost less to install; keep out dust and rain!

FOR TEN YEARS, Curtis has told Mr. and Mrs. America, through national advertising, this story about Silentite. It's one of the reasons why home-conscious Americans have changed their minds about windows. Today—they know how important better windows are to home planning—how they bring comfort, charm and economy to the smallest, most inexpensive home. Here's why Silentite is the window for any home.

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Silentite windows are "pre-fit." They can be installed faster than old-fashioned windows—can save as much as 50% in installation costs. This astonishing fact is proved by experience—backed up by tests—made usable for you in the Curtis "Economy Calculator."

Curtis Silentite "Insulated" windows have highly effective, built-in weather-stripping. Owners report year after year fuel savings—up to 25%. They tell, too, of trouble-free window operation with *Silentite*. No weights, pulleys or cords to get out of order; no jamming, sticking, or rattling.

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Silentite "insulated" windows come in stock sizes and popular styles to fit any type of wall construction. They'll help you put more window value into every low-cost home—every home you build or remodel. Let us send you the free "Economy Calculator" to prove Silentite windows save on installation cost and fuel. Just mail the coupon.



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Majestic



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FOR THE MODERN HOME

MISCELLANEOUS NECESSITIES



Majestic manufactures a wide assortment of high-quality castings and other metal building necessities. Such items as Access Doors, Ash Pit Doors, Ash Dumps, Flue Thimbles, Porch Column Bases, Cistern Rings and Covers, Stack Type Clean Out Doors, Ventilating Foundation Grates, Bell Trap Cesspools and Sewer Tile Strainers. For these items call Majestic.

Majestic Steel Basement Sash combines adjustable ventilation, weathertightness and other convenience features with durability.



COAL CHUTES

21 years of leadership makes "Majestic" synonymous with coal chutes—a valuable basement accessory that ends broken windows and ruined sash. A Majestic Chute is also burglar-proof and carefree in service.



A quality chute (at left) offered with solid or glass panels. Glass panels are set in rubber and protected by a steel shield that drops into place automatically when chute is opened. Gravity lock can be operated by convenient pull cord. Heavy steel, covered with asphaltum paint.

Majestic "Special" Chute (at right) has extra heavy rolled steel frame, electrically welded corners, sturdy hinges, automatic burglar-proof lock and heavy pressed steel door. Finished with asphaltum. A real buy in low-cost chutes.



Majestic Grade Line Chutes (at left) put the exterior opening on the grade line. Built for hard service. Special door flange makes this chute practically watertight. Gravity latches operate with chain and pull cord. Body angle iron re-enforced at edges and corners. Finished in rust resisting asphaltum.



INCINERATORS

Majestic Incinerators offer the home the modern, healthful, safe and convenient way to dispose of garbage and rubbish. Offered in types to fit any pocketbook. Attaches to ordinary flue. Does not interfere with heating plant. Small, attractive and built to last for years. Fired only when filled. No odors in basement. Only infrequent ash removal necessary. Surprisingly low in cost.



Model No. 30 (at left) requires no fuel other than the combustible rubbish that the average household places in it when filling. Fired only when filled. Burns wet and dry garbage. Costs nothing to operate. 3 bushel capacity. Low cost will astound you!

Gas fired model (at right) for those who prefer this type. Chimney draft dries garbage so requires only a few cents of gas per week. Other models for coal or wood fuel of similar design and rugged construction are also available.



Items shown on this page are but a few of Majestic's extensive line of quality building products fully described and illustrated in the Majestic catalog which will be gladly sent upon request. You'll find it a valuable buying guide because Majestic has been known to builders, dealers and home owners for quality and as reliable manufacturers for more than 35 years.

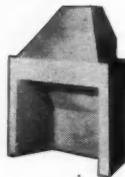
CIRCULATOR FIREPLACES



Majestic "Master" Circulator (at left) has ingenious "Radiant Blades." Adds 91% more heat-generating surface. Also extra efficiency from enclosed smokedome. Constructed of heavy gauge steel; built in damper; angles at side and other quality features.

The Majestic Circulator works on same efficient principle as modern warm air furnace. Constructed of steel and enclosed in any desired mantel design it sends warm air to all parts of the room—can also be piped to other rooms. Cold air is taken in at bottom, heated, and then passes out at top. Choice of artistic opening grilles offered. A fireplace that will not smoke. Saves time, labor and material. Also saves fuel.

Majestic "Special" Circulator (at right) is a low cost quality unit. Heavily constructed; built in damper; and proportioned throughout for efficient operation. All joints are electrically welded. Offered in widths from 28 to 52 inches.



FIREPLACE ACCESSORIES AND FIXTURES



Majestic also offers a selection of grilles for inlets and outlets in circulator fireplaces; cranes, fireplace ornaments, and various sizes of grate baskets. Above is Majestic's ingenious controlled-draft basket grate. Door at bottom regulates fire. Ideal for circulators! Regulates heat and saves fuel. Also check with Majestic for an attractive line of fireplace fixtures including screens, andirons, firesets, coal hods and wood holders in various designs and finishes. Attractively priced.

UNDERGROUND GARBAGE RECEIVERS



A Majestic underground Garbage Receiver "buries" the garbage problem. It is completely hidden in the ground except for the cover. A tight fitting foot-operated lid prevents odors escaping and eliminates other unsightly, unhealthy features of the old garbage can. Garbage will not ferment or freeze.

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The
MAJESTIC COMPANY

786 ERIE STREET

Huntington, Indiana

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Majestic Dampers assure top efficiency, prevent smoking, control draft, close almost air-tight, simplify construction—and feature Majestic quality throughout. Open damper valve forms deflector shield for down draft. Poker control is standard equipment . . . face control at slight

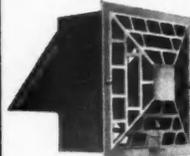


extra cost. Built-on lintels save time, materials, labor. Heat, smoke, soot and rust can't impair efficiency of damper or controls.

Above is the "quality" damper. Accurately designed, cast construction and with ingenious damper. A "Top" value. The "Special," shown at right, has a cast semi-steel body, steel plate valve and furnished with or without built-on lintel.



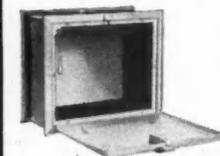
KITCHEN VENTILATING FAN



The Majestic Fan has a four bladed, 10 inch fan and a quiet operating, waterproof motor (A.C. current). Fan and motor quickly removed.

Attractive grille is finished in white enamel. Insulated, weatherproof outside door opens or closes automatically when motor is turned on or off by inside pull chain. Square body is adjustable to various wall thicknesses.

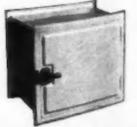
MILK AND PACKAGE RECEIVERS



Majestic's "Deluxe" Package Receiver is of extra heavy construction and beautifully designed. Interior door, when open, forms convenient shelf. Fully insulated. Automatic lock for outside door. Package deliveries can be safely made inside

the house with Majestic Receiver. No tracking in dirt—no unexpected intrusions—no danger of theft. After delivery is made outside door automatically locks. Full insulation keeps out cold and noise and protects deliveries. Harmonizes with any interior. Attractively priced.

Model "P" (at right) a low cost, fully insulated receiver with easily installed adjustable body. Door opens at side. Automatic outside lock. Attractively finished.



OUTDOOR FIREPLACE EQUIPMENT



For building an efficient outdoor fireplace of any exterior design Majestic offers a full line of the required metal equipment; complete units, tops, grates, doors and accessories. Illustrated is a complete unit with adjustable grates for using coal, charcoal or wood. Offered in two sizes with bar type or solid top. Economical.

WHEEL GUARDS



Majestic Wheel Guards deflect wheels and prevent hubs from striking masonry. Offered in corner and jamb type. Heavily designed and made in cast semi-steel. Height 22". Easy to install.

WINDOW WELLS

Majestic Window Wells are guaranteed for 20 years. They save cost when windows are below grade line. Offered in round or straight type and a wide range of sizes. Built of 14 gauge steel with solid steel top edge. Smooth finish eliminates damage from settling and better reflects light.





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 . . . NOT JUST "WINDOW GLASS"

There are varying degrees of quality in window glass, as in almost everything else. That's why the name "Pennvernion" has come to mean so much. It stands for uniformly high quality in window glass. It assures a freedom from distorting defects rare in sheet glass making. It identifies a glass that gives good vision, that is bright and reflective of surface on both sides of the sheet. And it marks a glass which is nationally known and nationally available through our many branches and thousands of dealers. Pittsburgh Plate Glass Company, Grant Bldg., Pittsburgh, Pa.



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DESIGNS *for War-Time Building!*

for LOW COST HOME CONSTRUCTION

for REMODELING WORK

for REPAIRING JOBS

- In the Cities
- In the Suburbs
- On the Farms

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—TO WIN MORE SALES—REDUCE COSTS

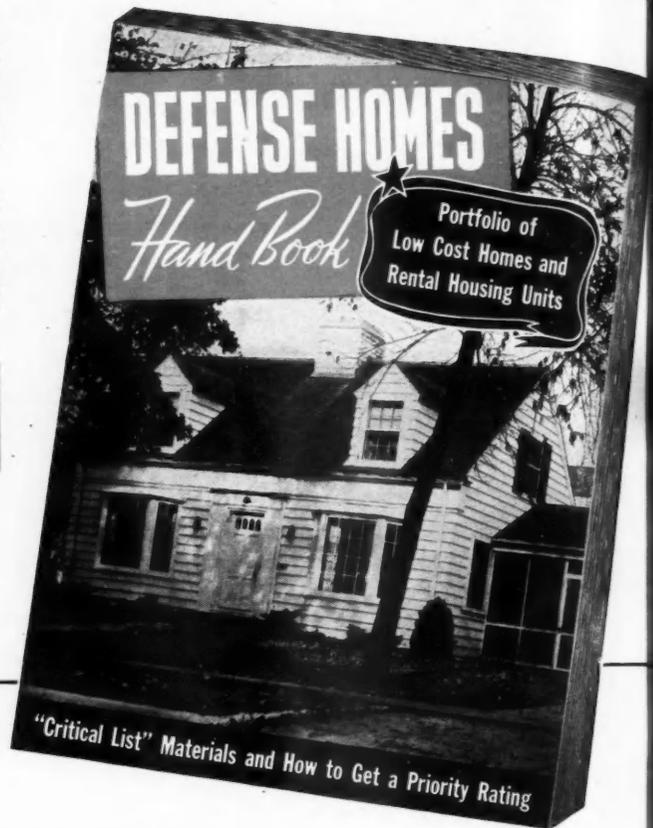
—TO SPEED UP OPERATIONS—TO CUT DOWN ON CRITICAL MATERIALS

DEFENSE HOMES HANDBOOK is a volume that every building man should have today. Our reasons for saying so are these: It recognizes current conditions—the nature of the demand for building which exists today, the limitations under which today's building must be done—and *tells you what to do about meeting them.*

The designs offered in **DEFENSE HOMES HANDBOOK** are such as can be speedily and economically executed. But in no way do they sacrifice the ingredients which go to make up irresistible sales appeal. Each design embodies something new and distinctive in beauty and utility. Some may be a complete departure from the conventional. Others may add a touch here and there capable of revitalizing an entire job.

You will be overwhelmed at the scope of this new book. Not only does it offer a wealth of design ideas for low-cost home construction, but it opens up a vast source of information on ways to do a remodeling job, or a complete job of conversion. If it is help on repairs you are after, we recommend **DEFENSE HOMES HANDBOOK** again. And again, whether your market is in the city, suburb or farm.

Yes, **DEFENSE HOMES HANDBOOK** offers even more! It equips you with the essential, pithy facts on priority regulations—how to get your rating—where you need it—where to go for it. Information on materials and other important data.



180 PAGE BOOK

DEFENSE HOMES HANDBOOK is a big book. It has to be for the tremendous amount of information, photographs, floor plans and elevations it contains. You will find it sturdily bound, well printed. Overall size is 8 1/2 x 11 1/4.

REMEMBER THIS—

Workers need homes quickly. BUT—that does not mean anything with four walls and a roof will suffice. During war times, people will discriminate about what they buy just as in peace times. Today, when it comes to the purchase of a home, you can bet they will look for the best in comfort and beauty that the money they can afford to spend will buy.

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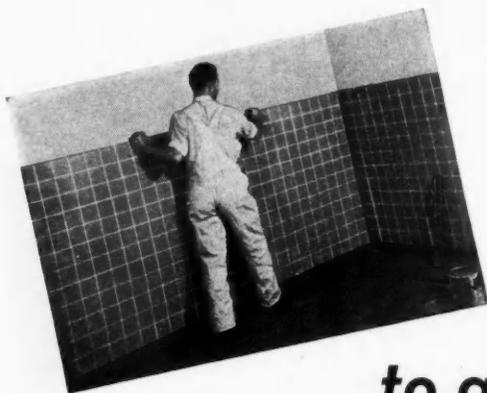
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30 Church St., New York



WHERE THERE'S A WALL THERE'S A WAY . . .

to get profitable wartime business

LOOK to remodeling for an increasing share of your 1942 business! And look to Armstrong's Monowall to help you get it. Home owners and businessmen are quick to see the decorative possibilities of this gleaming, smooth-surfaced wall and ceiling finish. Its 33 harmonious colorings—in tile-, wood-, and marble-designs, and smart plain colors—give almost unlimited scope in planning modern interiors.

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Write today for a free sample and complete information. Address Armstrong Cork Co., Building Materials Div., 979 Concord St., Lancaster, Pa.



A SPARKLING KITCHEN like this would be the pride of any home owner. Builders find that jobs like this are easy to "sell" . . . and that they're profitable jobs as well. In this Buffalo home, Armstrong's De Luxe Monowall—Ivory No. 21—was used for the walls and ceiling. Carl Metz was the contractor; Dohn-Fischer Co. the dealer.

ARMSTRONG'S MONOWALL

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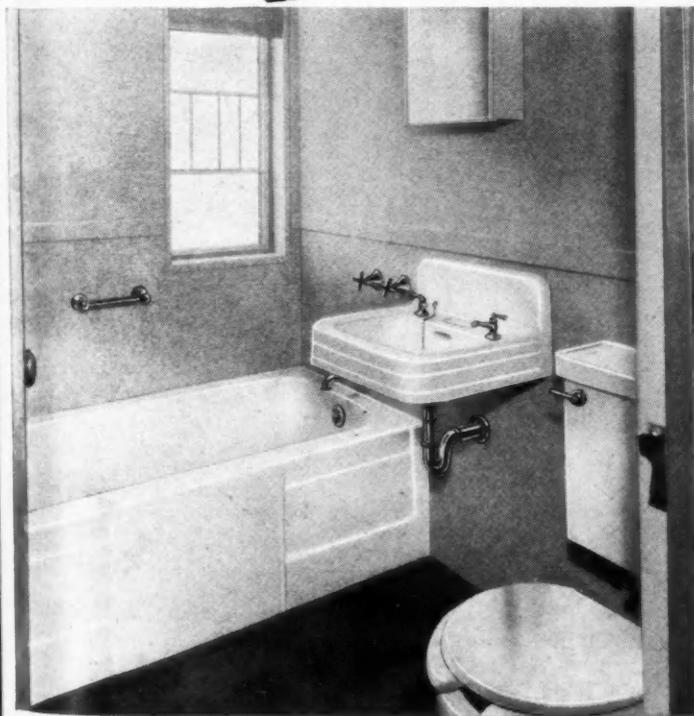


*Low Cost, Yes!
But High Quality, too*

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.



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"Congratulations on a Good **START** ...let's make it a Strong **FINISH**"



Let's give Defense Homes strong Home Defense with White Lead

Today builders must "do the impossible"... give America defense homes *fast*...at restricted prices...yet provide the charm and quality that make houses *homes*. And they've made a real start.

It's a man-size job... takes ingenuity and skill aplenty—not only in design and construction, but particularly in the selection of materials. For, despite shortages and the price limitation, these homes must be built to stand up.

We don't have to tell you that good paint is the best life insurance a house can have—or that good paint's other

name is Dutch Boy White Lead. You know from personal experience that it hangs on with real Dutch tenacity... never cracks and scales.

But, because of the price ceiling on defense homes, we do want to remind you that, in spite of its well-established, well-founded reputation for high quality, paint made from Dutch Boy Paste Lead is actually in the *low price bracket*. In fact it's not only low priced per mixed gallon of paint but downright *thrifty* per year of protection.

And since we're talking about economy remember, too, that Dutch Boy can be used for practically any painting purpose. It's suitable for either two- or three-coat painting—and gives

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Where ready-to-use paint is wanted, we suggest you give professional consideration to the new Dutch Boy Pure White Lead Paint. It combines the stubborn Dutch sturdiness of White Lead with sealing, hiding and whiteness unexcelled by any two-coat combination on the market. Comes in two special forms—Exterior Primer and Outside White—both pure white lead, all ready to spread. Used together they give results you'll be proud of, on new or old wood.

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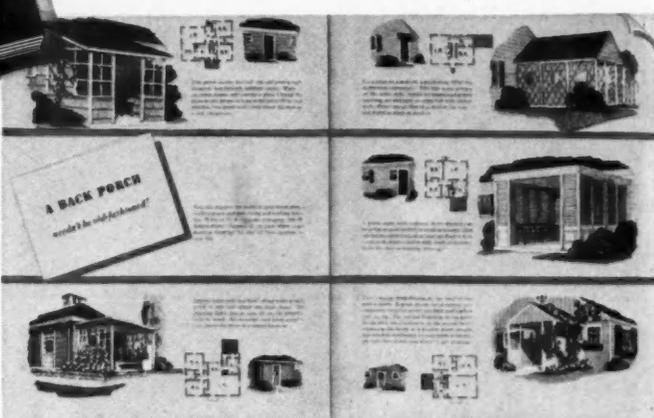


101 REMODELING JOBS YOU CAN DO . . . WITHOUT RESTRICTION

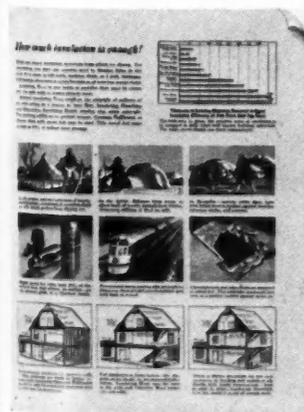
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This famous trademark identifies products of United States Gypsum Company—where for 40 years research has developed better, safer building materials.

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SURE THERE'S A SILVER LINING!

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But there's a bright spot in this picture for those who sell and apply roofings, because new roofs are not only needed — *right now they're available!*

There's a particular advantage for those who sell Barber Genasco Roofs. A Barber Roof, with the matchless added durability of Trinidad Native Lake Asphalt, affords the kind of roof quality that's vital to the protection of America's homes today.

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—says George W. Lipscomb of Wm. P. Lipscomb Co., Inc., Washington, D. C.

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"FAR SUPERIOR FLOOR"

writes Elmer E. Dunlap of Dunlap & Company, Inc., Columbus, Ind.

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writes H. E. White, General Contractor, Tyler, Texas

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writes C. L. Browning, Jr., General Contractor, San Antonio, Texas

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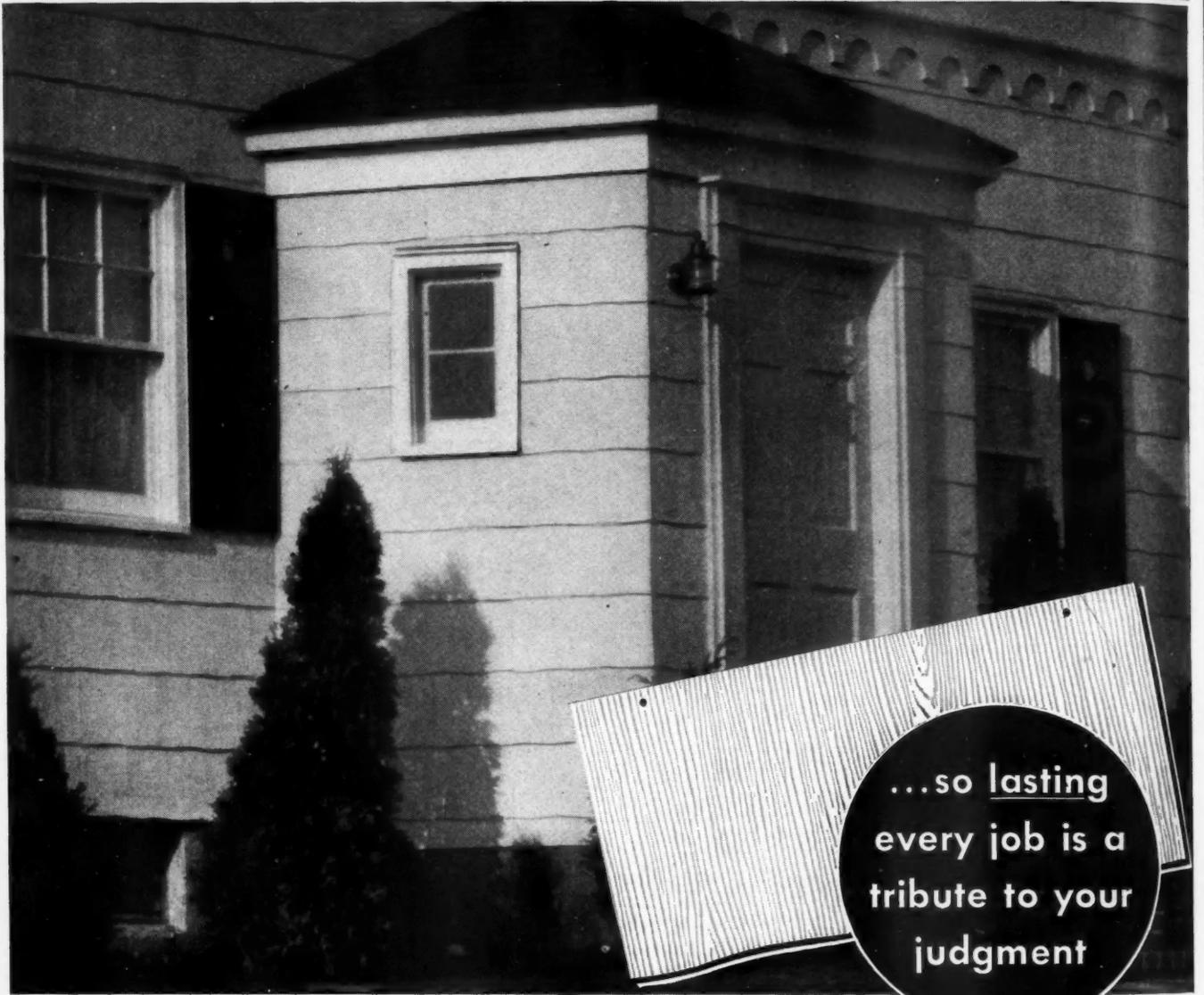
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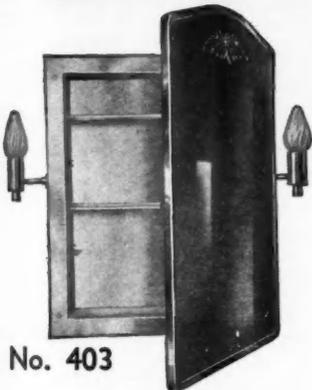
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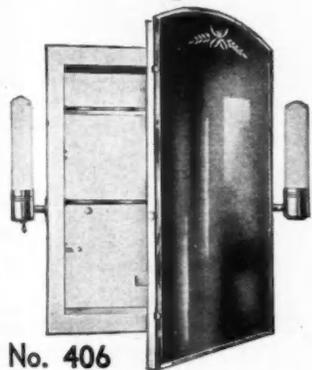
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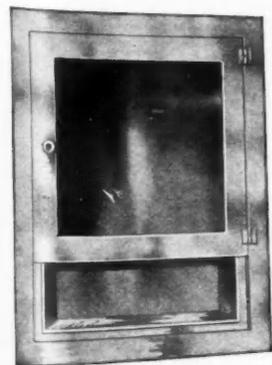
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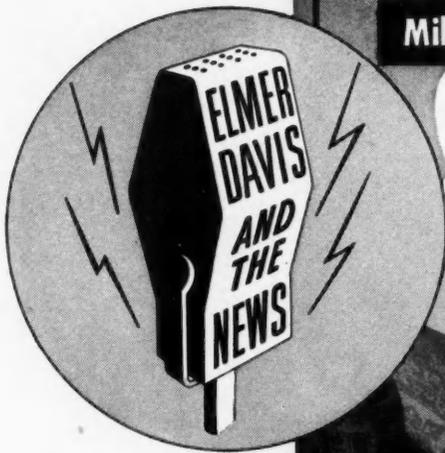


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| "HILLSIDE" <i>New York City</i> | OLD HARBOR VILLAGE <i>Boston, Mass.</i> | VALLEJO, CALIF. (FWA) |
| WILLIAMSBURG <i>New York City</i> | IDA B. WELLS HOUSING <i>Chicago, Ill.</i> | MACON, GA. (USHA) |
| OLENTANGY VILLAGE <i>Columbus, Ohio</i> | LAUDERDALE COURTS <i>Memphis, Tenn.</i> | BALTIMORE, MD. (USHA) |
| ARLINGTON VILLAGE {Gustave Ring} <i>Washington, D. C.</i> | PARKLAWN HOUSING <i>Milwaukee, Wis.</i> | BUFFALO, N. Y. (USHA) |
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| COLLEGE COURT <i>Louisville, Ky.</i> | JUNIATA PARK <i>Philadelphia, Pa.</i> | HARRISON, TWP., PA. (FWA) |
| BRAND WHITLOCK HOMES <i>Toledo, Ohio</i> | TRUMBULL PARK <i>Chicago, Ill.</i> | STOWE, TWP., PA. (FWA) |
| NEW TOWNE COURTS <i>Cambridge, Mass.</i> | MORENO COURTS HOUSING <i>Pensacola, Fla.</i> | RADFORD, VA. (FSA) |
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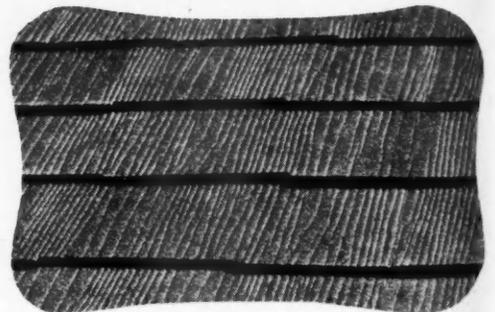
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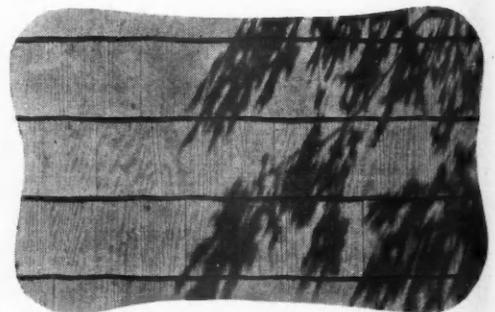
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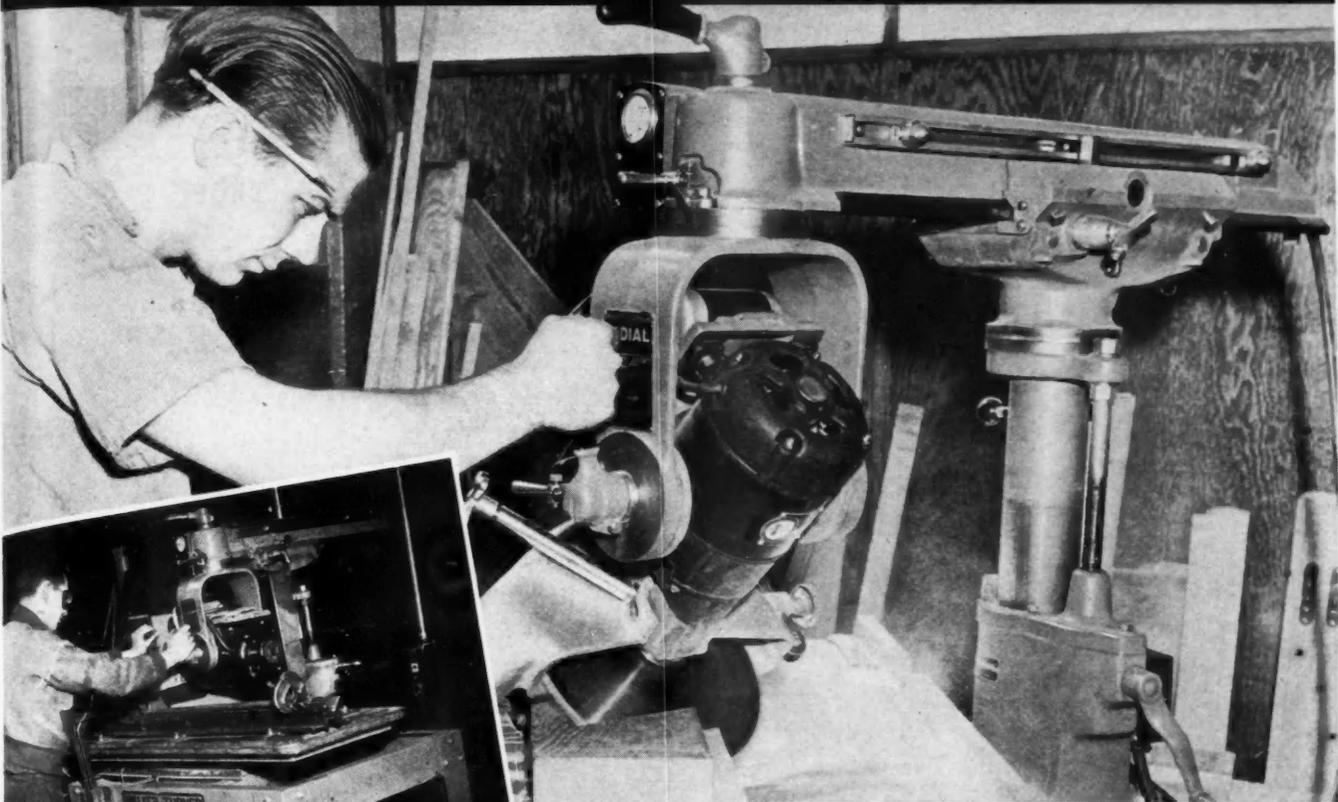


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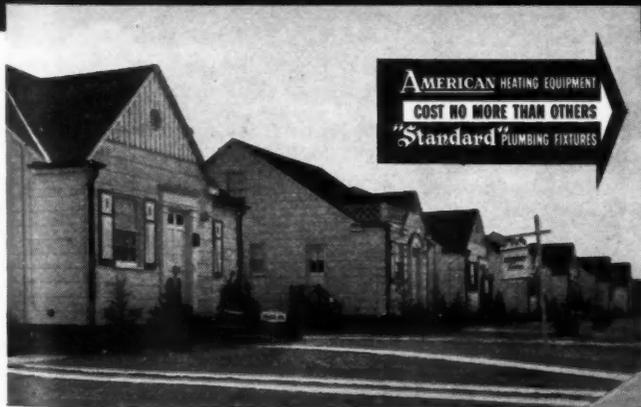
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to
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1. It provides immediate cash used to produce the Army and Navy every equipment to win.
2. It gives every American wage earner the opportunity to participate in National Defense.
3. By saving a few cents for financial participation in our common good while they are saved, thus will reduce the current demand for emergency financing on a sound percentage of Defense financing.
4. It reduces the need for emergency financing on a sound basis.
5. It builds a reserve buying power for the post-war purchase of civilian goods to keep our industries running after the war.
6. It helps your employees provide for their future.

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Have YOU Started the Pay-Roll Savings Plan in YOUR Company?

Like a strong, healthy wind, the Pay-Roll Savings Plan is sweeping America! Already more than 32,000 firms, large and small, have adopted the Plan, with a total of over seventeen million employees—and the number is swelling hourly.

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Do your part by installing the Pay-Roll Savings Plan now. For truly, in this war, this *people's* war, **VICTORY BEGINS AT THE PAY WINDOW.**

Plan Easy to Install

Like all efficient systems, the Pay-Roll Savings Plan is amazingly easy to install, whether your employees number three or ten thousand.

For full facts and samples of free literature, send the coupon below—today! Or write, Treasury Department, Section C, 709 Twelfth Street NW., Washington, D. C.

MAIL THIS COUPON NOW

Treasury Department, Section C
709-12th St., NW.
Washington, D. C.

We want to do our part. Please rush full information regarding the Pay-Roll Savings Plan.

NAME

POSITION

COMPANY NAME

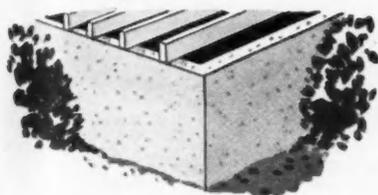
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NUMBER OF EMPLOYEES




MAKE EVERY PAY-DAY . . . BOND DAY! U. S. Defense BONDS ★ STAMPS

This space is a contribution to NATIONAL DEFENSE by American Builder and Building Age



here...

and here...

and here...

it's the extra factor of safety that counts



● From the foundation of a building to the smallest fuse box, it's the *extra* factor of safety that assures permanent safety and serviceability under all conditions. Balsam-Wool insulation, too, includes this extra factor of safety. It is designed for *every* condition which insulation must face when applied. It gives the extra protection you need.

No wonder Balsam-Wool has achieved its amazing record of permanent efficiency. No wonder it has set the pace for other insulations to follow! For complete information about Double-Value Balsam-Wool—and about the extra safety and satisfaction which it assures—mail the coupon.

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- DOUBLE sealing in a tough, protective covering
- DOUBLE wind barriers to stop wind infiltration
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- DOUBLE bonding to prevent settling or packing down
- DOUBLE fastening to eliminate settling . . . fire and termite resistant

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WOOD CONVERSION COMPANY
Dept. 119-4, First National Bank Bldg., St. Paul, Minn.
Gentlemen: Please send me complete information about Balsam-Wool DOUBLE VALUE Insulation.

Name.....

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

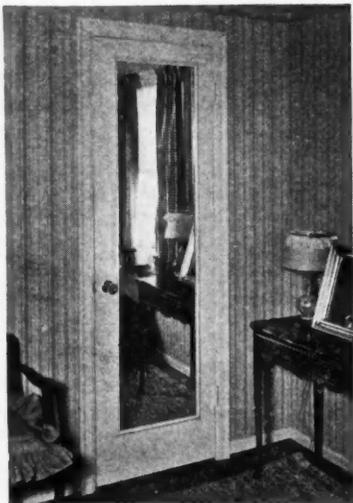
SOLD
33 LIKE THIS IN 2 MONTHS
 Approximately 100 homes based on this original model are being erected in Prairie Village, Kansas City, Mo., by the J. C. Nichols Investment Company. Edward W. Tanner, Architect.



IT WASN'T all DONE WITH MIRRORS
 ... but they helped!



ABOVE—This mirror over the mantel made a big hit. Easy to install.



ABOVE—Every woman wants a full-length door mirror in the bedroom.



ABOVE—Another good idea, a mirror and blackboard in the kitchen.

RIGHT—A shelf and mirror on the closet door provide a vanity.



No single feature sells a house. But plate glass mirrors for beauty and convenience, generous window areas for abundant light, and other glass features are all a big help.

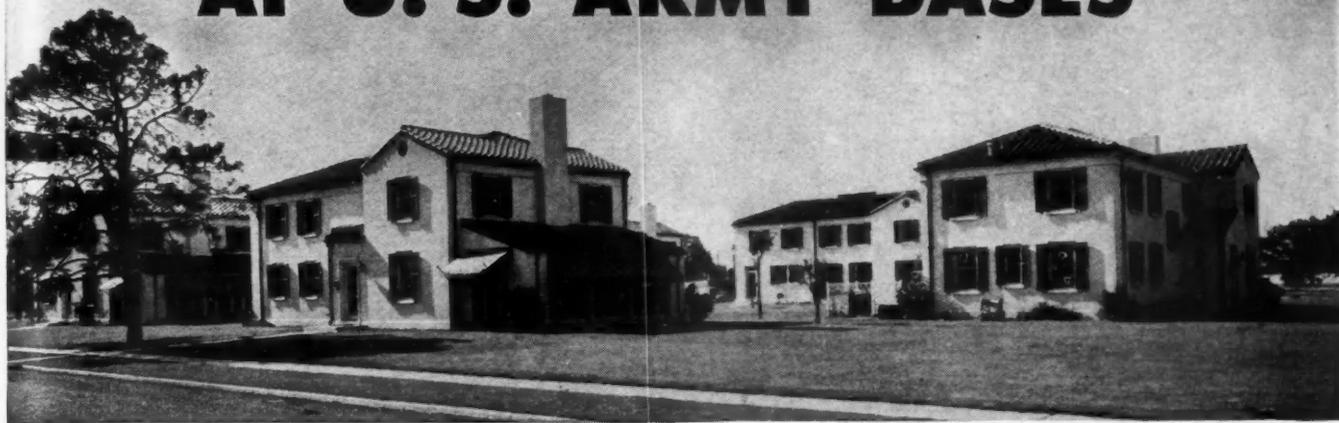
Libbey-Owens-Ford Glass fits your market today in two ways. You can use it freely in small homes, such as the one shown here, and still come within the restrictions that have been set on total cost. And you can GET glass. No priority headaches.

Get complete information on all the types of Libbey-Owens-Ford Glass and the ways you can use them. Write Libbey-Owens-Ford Glass Company, 1211 Nicholas Building, Toledo, Ohio.



LIBBEY · OWENS · FORD
 Quality *Flat Glass* Products

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-5-28

ATLAS WHITE CEMENT

A UNIVERSAL ATLAS PRODUCT



KEEPING A ROOF OVER AMERICA'S HEAD IS YOUR IMPORTANT JOB TODAY!



Texaco gives you America's favorite type of roofing...low cost...weather and fire protection...and a name millions know!

Present war production calls for a huge volume of new building, repairing and maintenance.

Right now, many alert builders are finding that re-roofing, repairs and maintenance provide a substantial source of income.

Texaco roofing products fit today's markets. They combine essential attractiveness of color and design, plus adequate weather and fire protection and low initial cost.

When you specify asphalt roofing products—you are selecting America's 2 to 1 favorite over all other

types combined. When you specify Texaco—you are selecting a famous name that millions know.

Texaco Asphalt Shingles, Roll Roofings, Saturated Felt and Asphalt in bags or drums for built-up roofing, are available to Texaco Roofing Dealers through a large network of Texaco warehouses east of the Rockies.

★ ★ ★

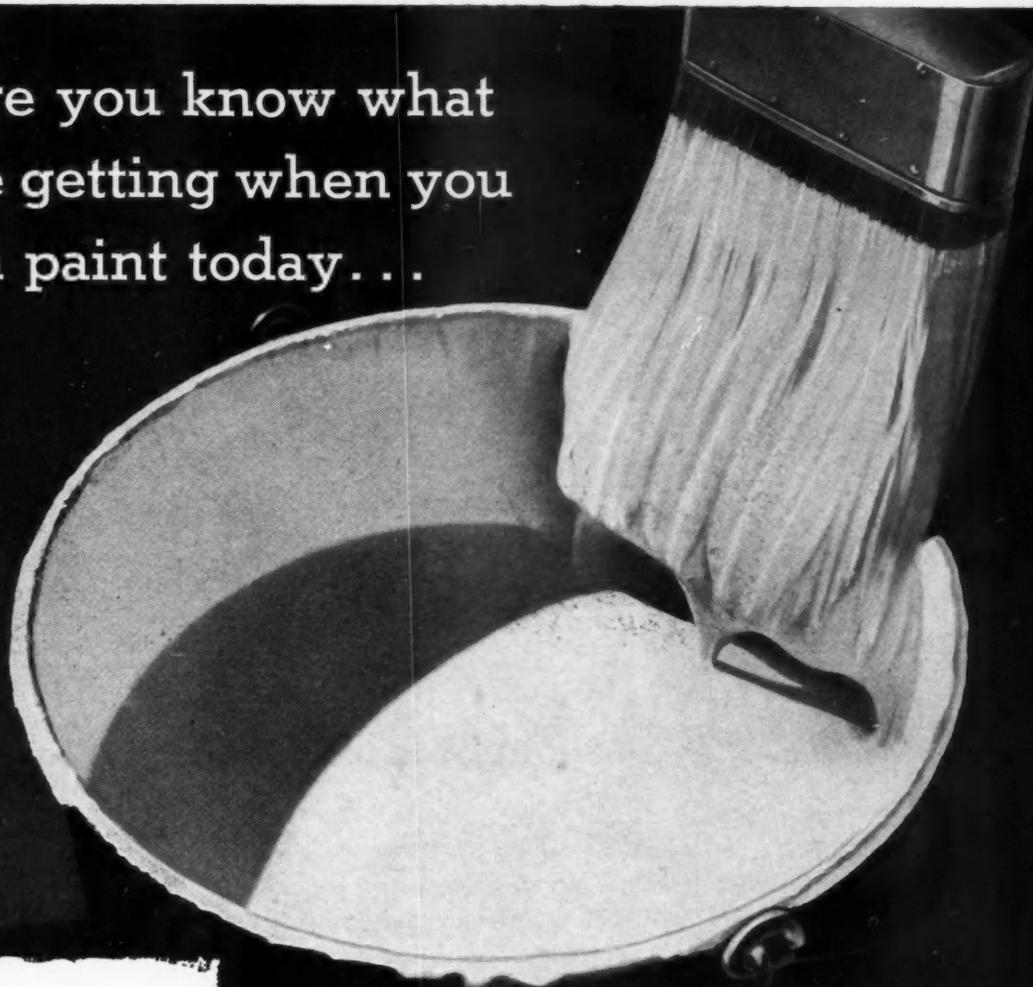
See your Texaco Roofing Dealer today, or write THE TEXAS COMPANY, Roofing Sales Division, 135 East 42nd Street, New York, N. Y.

TEXACO *Asphalt* ROOFINGS

Made with Texaco's own Asphalts 99½% pure



Be sure you know what you're getting when you pick a paint today...



DO you realize that on defense houses, where costs are strictly limited, you can have all the advantages of pure white lead paint—and still keep within your budget?

The fact is, and you can easily verify it, white lead costs no more than regular quality paints.

In addition to its low initial cost, good painters will tell you pure white lead paint has no superior for long, slow, even wear—and generations of experience prove it.

You see, white lead is made from one of the most durable of metals—lead. Like lead, it resists time and wear. It gives paint backbone and elasticity;

prevents cracking and scaling under severest weathering.

Knowing this, it's easy to understand why white lead paint is the best protection against years of summer heat and winter cold—why it keeps its looks and guards the surface so long. It cuts painting costs by spreading them over extra years. This conserves materials, too—important these days.

And when you use white lead you have the satisfaction of knowing that its enduring beauty and the lasting protection it gives your work make it one case where the best is truly cheapest.

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



ARMORED WITH WHITE LEAD PAINT—New low-cost defense housing in Hartford, Conn. White lead paint is lending beauty and permanence to countless developments like 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.



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. Remember 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 specifying exterior paint it is a safe rule to follow: "the higher the lead content, the better the paint."



You're money ahead when you paint with

White Lead



Out of War Housing—Comes a New Era of Better



Interior Walls and Ceilings at Lower Cost

● At Naval Stations, Army Posts and Defense Centers from coast to coast, *startling developments are taking place in war housing.* Of high importance among these achievements is Upson's contribution of *crackproof* walls and ceilings of lasting beauty, making possible substantial savings.

In lots of 100 units or more, Upson Strong-Bilt Panels are delivered numbered and pre-cut to usual wall height and room length—all ready for quick attachment to wood or steel framing by means of Upson

patented Floating Fasteners. There is no waste, no wait, no worry. Upson Strong-Bilt Panels provide high insulation value . . . possess strength and rigidity . . . will not buckle when applied according to simple specifications.

Thus, Upson Strong-Bilt Panels provide the ideal answer for interior walls and ceilings in low cost Defense Housing, including pre-fab and demountable type units.

If you want to have a part in Defense Housing . . . if you want to know how *you*

can use Strong-Bilt Panels to speed-profit advantage in *your own plans* . . . you want to use *now* one method that lead housing to new horizons after war, *write quickly for details.* Success used in over 10,000 public and private built housing units. The Upson Company, Department 1-B, Lockport, New York



UPSON STRONG-BILT PANELS



A 500 unit project in the Southwest built by Brown-Lane Company and Central Contracting Company. Upson Strong-Bilt Panels and Upson Dabl-Thik Fibre-Tile used for walls and ceilings. Flooring by E. L. Bruce Co. Photo by Paralta Studios.

(A Simmons-Boardman Publication)

AMERICAN BUILDER

and Building Age

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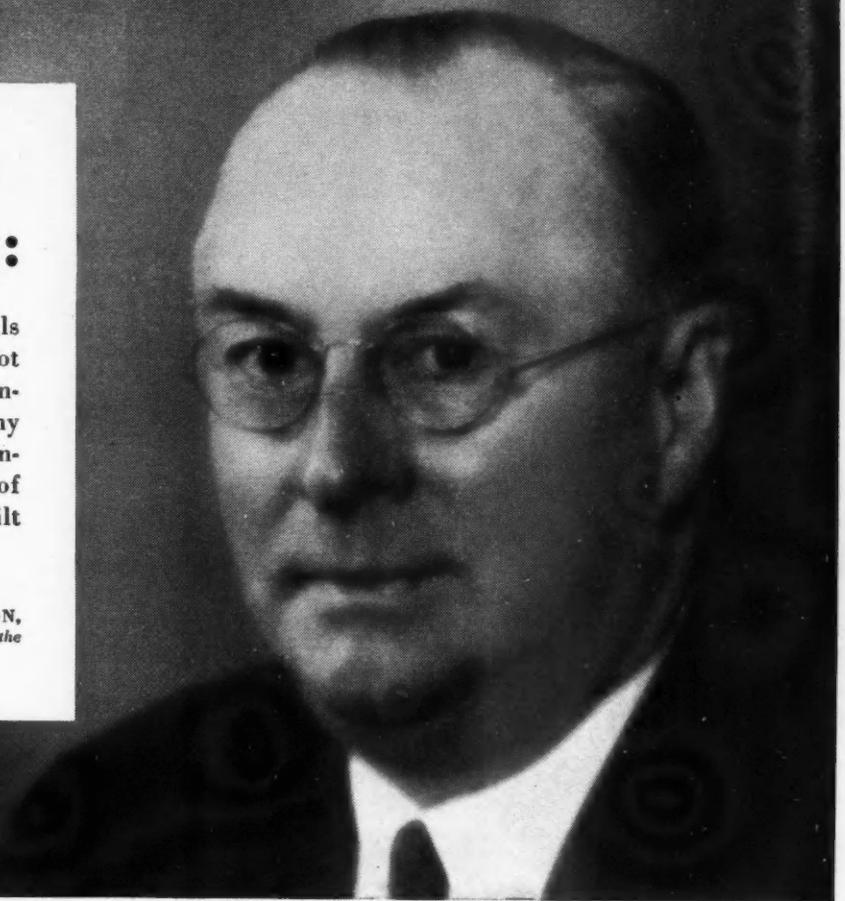
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Mr. Nelson on building:

"Many of the basic materials used in construction are not scarce and hence are not under priorities control. Any building which can be constructed without the use of scarce materials may be built as freely now as before."

From a speech by DONALD M. NELSON, Chairman, War Production Board, before the American Municipal Association.



Your Gold Bond dealer can help you...

Do you want to add a room? Repair your office? Insulate your house? Do you wonder what materials are available to do the job?

Then see your local Gold Bond dealer today.

or gypsum lath and plaster for sturdy fireproof walls and ceilings. He has Gold Bond rock wool insulation which can be easily applied in old buildings and new to increase comfort and save fuel that is vital to our war effort.

He can help you quiet plant and office areas

the use and value of your property. You can turn old structures into good rent-paying buildings. And your Gold Bond dealer can help you do the job.

See your Gold Bond dealer today if you have a building problem. He's the carefully chosen representative of one of the country's largest building material manufacturers—a company specializing in the research and manufacture of modern wall and ceiling building materials — with 21 modern plants strategically located over the entire country. National Gypsum Company, Buffalo, New York.

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**ANOTHER GOLD BOND CONTRIBUTION
TO THE BUILDING INDUSTRY**

THIS March 28th full page in the Post is the first of a new series of advertisements to help the building industry get more modernizing business in 1942. These authoritative messages* from Washington will help clear up public misunderstanding about building.

Tying in with the above campaign, Gold Bond has prepared a FREE merchandising portfolio of timely sales promotion materials. Get details from your local Gold Bond representative.

NATIONAL GYPSUM COMPANY, BUFFALO, NEW YORK.

*A 40" x 60" reproduction of Mr. Nelson's speech, appropriate for your bulletin board or for use in a window display will be sent free upon request. Write today!



**BUILD BETTER WITH
Gold Bond**

Everything - for walls & ceilings



More than 150 products including
GYPSUM...LIME...METAL...ROCK WOOL...
SOUND CONTROL...INSULATION...PAINT

PUBLISHER'S PAGE

Government "Planning" Against Depression

AT A RECENT dinner of the Chicago Building Congress a city official—whose government in this war year has the largest budget in history—told of its large "backlog" of public works on which it will increase expenditures in the *post-war* period. A federal official representing the National Resources Planning Board summarized this Board's plan for preventing a post-war depression by (1) having all industry co-operate *under government direction*, and (2) having the federal government carry out an "adequate program of public improvement projects, including a nationwide development of resources, express highways, urban development * * * a reorganized public housing * * *" and "aid to education, public health, old age pensions and family allowances. * * *"

This plan for huge government post-war spending is based upon an economic premise stated by the Planning Board as follows: "When we organize for maximum production *on the basis of full employment*, without being stopped by the costs, we discover, as have other nations, that *increased production pays the real costs involved*. Doing the job pays the bill." (Italics are ours.)

AS YOU SEE, we must be saved by government. But let us test the foregoing economic premise by a simple illustration. Suppose 10 million unemployed were employed at \$10 a day, each to dig a posthole in the morning and fill it in the afternoon. This would cause (1) full employment, (2) an increase of \$100 million daily in wages and purchasing power, and (3) (assuming 300 days' work) an increase in "national income" of \$30 billion a year. In that case, would "increased production pay the real costs involved" and cause prosperity? Obviously not. Because, with full employment and a great increase in so-called "national income," *there would be no increased production*, therefore nothing to buy with the increased purchasing power—a complete refutation of the Board's *fundamental* economic assumption, upon which its entire plan is based, that if you incur "costs" enough you will get production enough.

Real national income is not determined by what you *spend*. It is not determined by the amount of employment. It is not even determined by the *amount* you produce—if postholes. It is determined by the amount and kinds of necessities, comforts and luxuries produced that the people need and desire. The experience of our own and other nations *has* proved that full employment and a huge so-called "national income" can be achieved by *adding* production for war to production for peacetime uses. But a huge production for war, while at times essential, is *economically* more wasteful than digging postholes and filling them up; and the fact that government spending for war can cause full employment and large production proves *absolutely nothing* about how much employment and *useful* production can be caused by government spending *in peace*.

OUR ECONOMIC problem was solved after World War I *in an entirely different way*. The federal government reduced its expenditures from \$19 billion in the year ended June 30, 1919, to \$3 billion in the year ended June 30, 1922. But employment increased from 38 million in 1921 to 48 million in 1929 and national income produced from \$59 billion to \$87 billion. The increase in total *private* construction from \$2½ billion in 1918 to \$9 billion in 1926 shows partly how this was accomplished. Other *private* business contributed the rest.

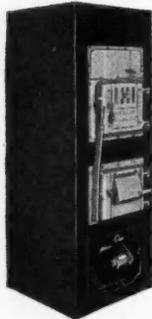
The New Deal tried to cause recovery from the depression by the N.R.A. method of reducing hours of work, advancing wages, and huge government expenditures, which (federal, state and local) increased \$7¼ billion from 1932 to 1939. But we never did actually recover. National income produced in 1939 was still \$16 billion less than in 1929.

How can men of supposed intelligence "plan" in such utter disregard of facts and experience—unless, perhaps, having the objective, not of preventing depression, but of *substituting government for private enterprise?*

Samuel O. Dunn,

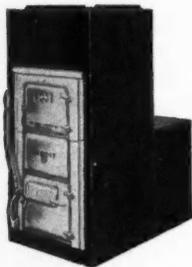
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RYBOLT



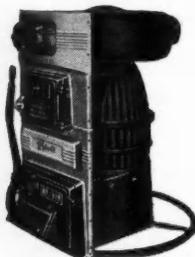
**RYBOLT SERIES DH-615V
HI-BOY FORCED AIR UNIT**

Takes little floor space, Steel coal-fired heating element. Blower underneath heating element. Baked enamel finish.



**RYBOLT SERIES DH-70S
FORCED AIR UNIT**

Very compact, Steel coal-fired heating element. Blower compartment can be mounted on side or rear of heating cabinet. Baked enamel finish.



**RYBOLT SERIES 1815
18" GRAVITY FURNACE**

A compact, small capacity gravity furnace. One-piece radiator, feed section and ashpit. Attractive design.



Look to **RYBOLT**

for War Housing
Heating Units

Builders, both large and small, have a wide open opportunity to participate in the vast 1942 War Housing program, comprising 350,000 privately built houses. In fact, the government insists that private builders must exert every effort to increase their volume of needed houses in defense areas.

Not only is this War Housing program huge and active but it is geared up to an unprecedented speed that taxes the builder's time and facilities to the utmost. He has little time to shop for equipment and must therefore look to manufacturers whose products are absolutely dependable and completely adaptable to the exacting war-time requirements.

Heating units, for example, must be unusually compact, highly efficient, yet low in price. Recognizing this need RYBOLT has added to its complete line a number of units especially designed to meet the *size* and *price* limitations of war-time housing. These units—forced air and gravity—fired by all permitted fuels, are compactly designed to fit in small space without sacrifice of efficiency, convenience or accessibility. They are thoroughly modern and equipped with advanced features, yet priced low enough to come well within War Housing cost limits. *Look to RYBOLT for your War Housing heating equipment.*

WRITE FOR DESCRIPTIVE LITERATURE



THE RYBOLT HEATER COMPANY

COMPLETE LINE OF WARM AIR FURNACES AND WINTER AIR
CONDITIONERS—STEEL AND CAST IRON—FIRED BY COAL, GAS AND OIL

619 MILLER STREET, ASHLAND, OHIO

AMERICAN BUILDER

AND BUILDING AGE

Emphasis on Construction for Victory

EACH DAY America goes more completely to war. Total effort on both the battle front and the industrial front is the present objective.

The forces of the construction industry have an important and patriotic duty to perform, essential to the success of this great campaign. One-fourth, it is estimated in Washington, of the Nation's total war expenditures must go for construction—housing, barracks, bases, plants. Figures as high as 14 billion dollars for 1942 building, both public and private, to meet this year's wartime needs have been publicly announced.

It is only natural that, with such a tremendous volume of construction of urgent war-nature, the War Production Board would be taking steps to assure priorities and other government assistance to those projects and types of building work which it regards as most urgent and essential to its victory program.

The building industry cheerfully accepts the guidance of Washington in these matters, ready and eager to cooperate in any plan or system of allocations, priorities or licensing that may be promulgated.

"Priority" Building Market

In this issue *American Builder* surveys the principal divisions of this urgent wartime building job, especially those parts for which Uncle Sam is depending largely on private building enterprise.

Homes and housing in the defense areas, conversions and repairs to increase shelter accommodations and keep buildings habitable, plant construction and remodeling for industrial change-over to war production, farm building improvements to increase food output; these are some of the patriotic building jobs of nationwide need that especially concern the readers of this publication.

The creation of adequate homes and housing for war industry workers has been and continues to be of greatest urgency. The official program backed by "priority assistance" is being constantly enlarged. New "defense areas" are being added, and quotas are being increased.

The latest boost to the industry's war housing assignment came on March 17, when an additional quota of 350,000 dwelling units was announced by the War Production Board. The official news release from the Division of Industry Operations stated:

"The WPB announced today that it had approved the construction of an additional 350,000 dwelling units for war industry workers, more than doubling the original defense housing program announced last September 19. The program was recommended by the National Housing Agency.

"One hundred and fifty thousand of the newly ap-

proved units will be erected by agencies of the Federal Government, while the remaining 200,000 will be privately financed.

"In addition to preference ratings assigned to the projects, *other appropriate assistance will be given to contractors to assure delivery* of materials essential to approved construction in areas certified by the National Housing Agency as being in need of additional living accommodations.

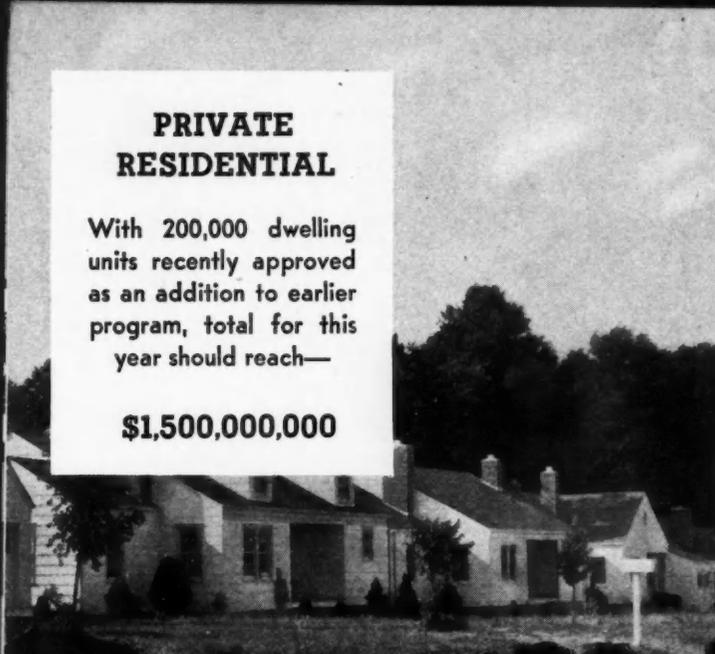
"The Housing Priorities Branch of the WPB, which administers the program, has drawn up a set of broad regulations, based on past experience and designed to assure that the new units to be erected will be made available to war workers at prices which they can afford to pay.

"The maximum permitted charges for housing erected with priority assistance remain at a \$50 rental per unit per month, or a price of \$6,000 per family dwelling, if for sale.

"At least 100,000 of the new privately financed dwellings will be for rent, and will be so spaced as to provide rental housing in every certified defense area, in quantities based on expected immigration of war workers as estimated from the labor requirement figures of war industry plants.

"In addition, the following conditions must be met by owners:

- (1) Exclusive preference for all housing for which priority orders are issued shall be given to defense workers. Such preference shall be in effect for at least 30 days after date of completion, as determined by the Administrator of the National Housing Agency.
- (2) Housing erected under priorities for rental shall be actually for rental, but houses which are sold under lease-option-to-buy contract, under which the purchaser is given at least 30 months in which to pay his down payment, is under no obligation to purchase during said period, and whose total monthly payments are equal to or less than rent for equivalent accommodations, shall be included in the allocation for rental units.
- (3) Applicants for priorities shall specify the rent to be charged on any dwelling. The type of housing to which priorities are granted should in each area be such as to provide shelter for defense workers at a rate not to exceed 20 per cent of the estimated annual earnings of such workers, as pre-determined in the locality program report.
- (4) Specified rents shall be in effect for a minimum term of one year."



**PRIVATE
RESIDENTIAL**

With 200,000 dwelling units recently approved as an addition to earlier program, total for this year should reach—

\$1,500,000,000



**FARM
BUILDING**

Essential to the Victory Food drive, the structural improvements to get and hold peak production on farms would cost

\$600,000,000



The 1942
WARTIME

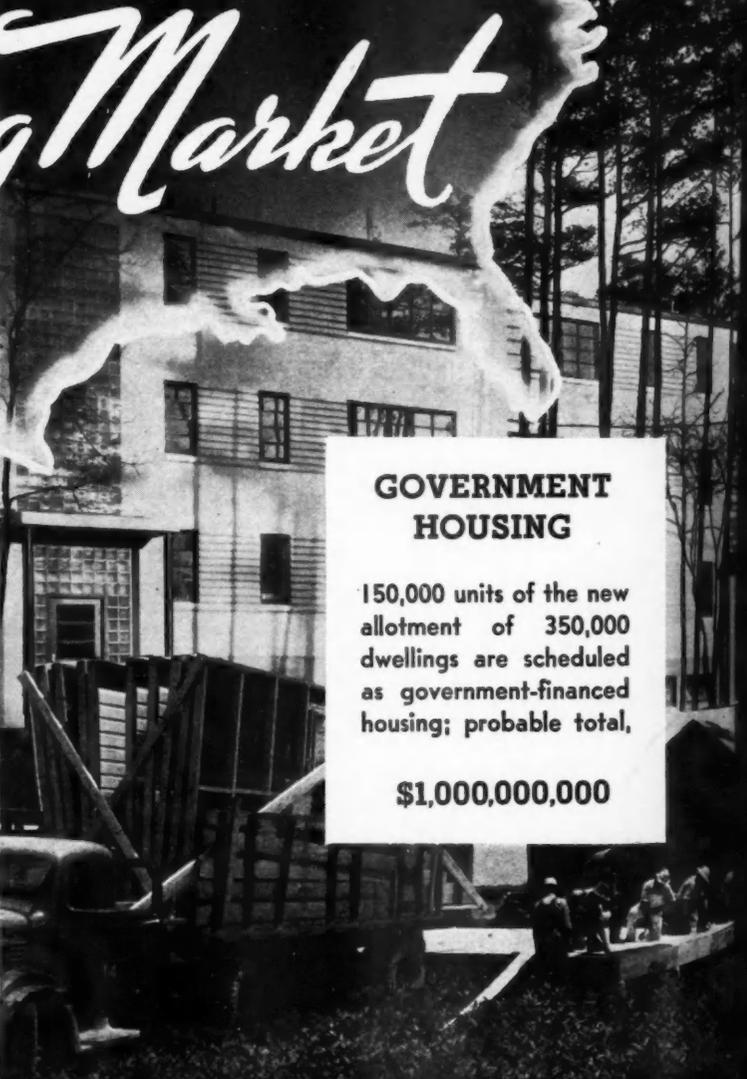
Building Market



**CONVERSION &
MAINTENANCE**

Making the most of what is already built by changing over and keeping in repair will make up a total bill of—

\$2,000,000,000



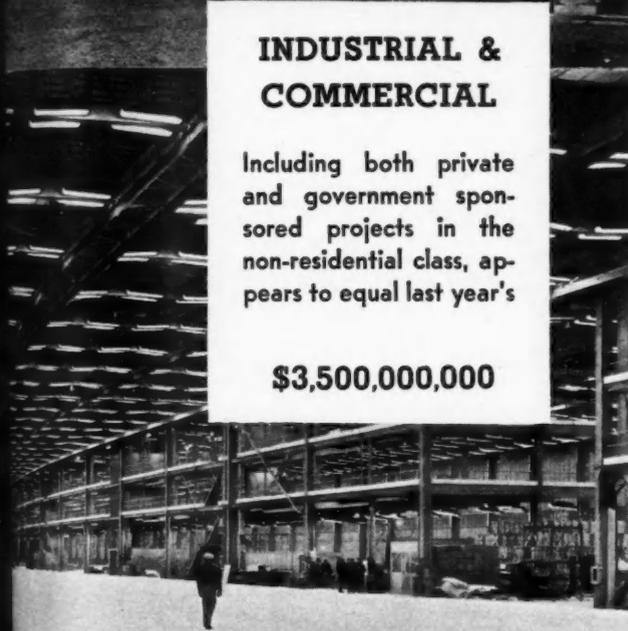
**GOVERNMENT
HOUSING**

150,000 units of the new allotment of 350,000 dwellings are scheduled as government-financed housing; probable total,

\$1,000,000,000



A Survey of War Building to Be Done in the Months Ahead



INDUSTRIAL & COMMERCIAL

Including both private and government sponsored projects in the non-residential class, appears to equal last year's

\$3,500,000,000

Tremendous Construction Job Set for Industry in 1942; Building for War to Require Largest Volume in 14 Years

FOR the better understanding of the stupendous task that has been assigned to the building industry as its essential part of our Victory program, *American Builder* here seeks to dramatize the whole and to break down into its various parts this job in which we are all engaged. On these pages are pictorialized its basic divisions as they affect the readers of this magazine.

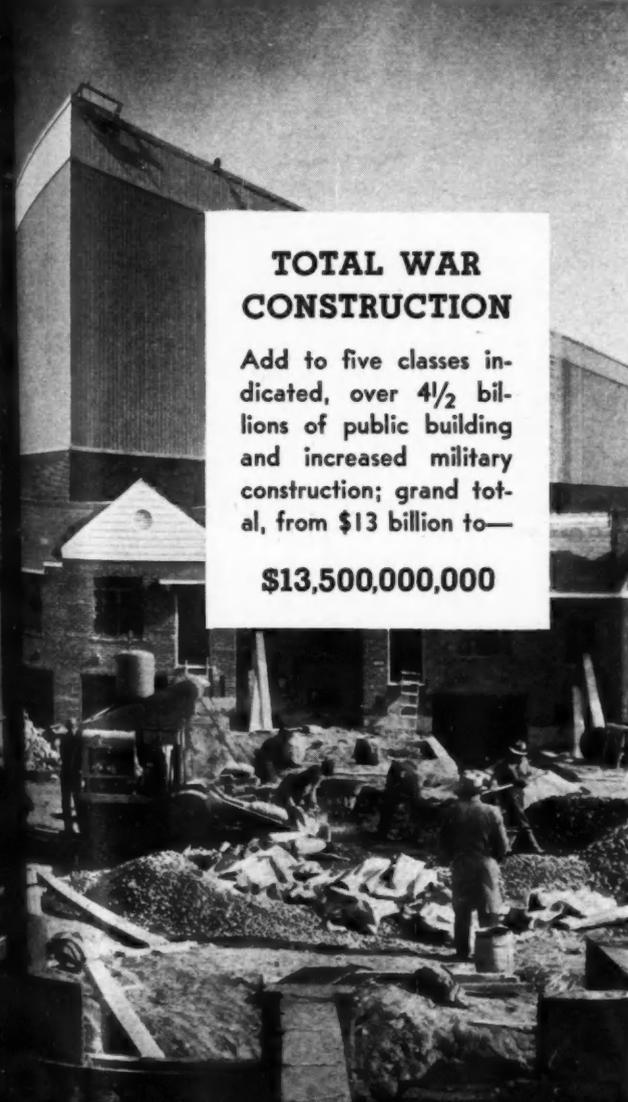
The five main segments—not including direct army or navy building—represent a grouping which follows the natural divisions of specialization and national interest—private residential construction, conversion and repair, farm building, government war housing, industrial expansion. These are shown with statistics to indicate the possible size of each for this year.

The general overall picture is totalled to include the balance of building for specific war purposes and such public construction as is part of this national program. This final figure is large; and it should be remembered that the total minimum volume needed to expedite the war effort calls for the biggest expenditure since 1928.

During the less than four-month period of war, official and unofficial estimates that have been made show, when tabulated, a constant shift in the expected amount of the various types of building to be constructed during 1942. As these revisions have been given out, some brackets have increased at the expense of others; but the total figure is constantly increasing—more, more and more building needed. Sullivan W. Jones, Chief, Housing Priorities Branch, War Production Board, recently stated that construction represents 25 per cent, or one dollar in every four, of the total dollar expenditure for the whole war program.

To consider the parts of the program separately before arriving at any total, however, let's see what some of the war needs in these divisions are. Knowing what specifically is slated to go ahead should put each of us in a better position to decide where he will best fit in to do his utmost.

FIRST, provide residential building. The situation here is gradually being brought to a definite status, the latest word being that the War Production Board has approved an additional 350,000 dwelling units for war industry workers. Of these, 200,000 have been designated to be built by private enterprise and privately financed; half of this portion is to be built for rental housing. The remainder of this new WPB quota is to



TOTAL WAR CONSTRUCTION

Add to five classes indicated, over 4½ billions of public building and increased military construction; grand total, from \$13 billion to—

\$13,500,000,000

be government built. The entire allotment is in addition to the original program authorized last fall.

This type of housing is naturally limited to defense areas; but constant additions to the list of such localities has almost blanketed the more populous and important sections of the country; and there unquestionably will be still more places put into this preferred category for priority assistance on homes for war workers. This list has been constantly growing in step with the expanding nation-wide armament program.

CONSIDERING the whole housing picture, private residential building, according to all authorities, was slated on January 1 for a fair- to good-sized cut—Department of Labor figured it at about 37 per cent, Department of Commerce at 60 per cent, with totals of from \$1,200,000,000 to \$1,700,000,000. Government residential building for 1942, on the other hand, was placed by Department of Labor statisticians at \$1,000,000,000 or up 100 per cent, and by Jesse Jones' calculators at \$700,000,000, or higher than last year by 45 per cent. So the total residential building was estimated to run from 1.9 billion to 2.7 billions. However, FHA figures for February continue to show increases over the same month of last year; so the latter figure looks more nearly correct at this time. With the new program adding \$2,100,000,000, figured at the maximum of the allowed \$6,000 per unit, to what is already completed in 1942 or is still left of the original quota, there will be a man-sized job ahead for those who can be spared from other work.

THE NEXT section of necessary building in this picture of construction volume is the conversion, maintenance, rehabilitation and repair of all kinds of private property. Following late announcements, there has been much speculation and more misunderstanding as to what will or will not be allowed and where such building can be done. The following statement just released at press time to *American Builder* by FHA should clear up many questions:

"... FHA believes that Title I's first and foremost job is to create additional living quarters for war workers. This primary function does not necessarily bar loans in non-defense areas. 'Modernization as usual' for mere beautification or luxury purposes should be postponed. But in all areas, when not inconsistent with war effort, FHA will encourage healthful and sanitary maintenance, and preservation of existing property investment against wasteful deterioration."

So, for this bracket, it looks like there should be about 2 to 2½ billions going into such work. The bulk of this portion of the total is never officially reported, as it is mostly unrecorded, but is now more important than ever under emergency and speed requirements to make the most of what we have and keep existing structures at peak efficiency.

But this division of the building market, like the others, will of course be affected both by advantages of priorities and the restrictions of further orders. A large part of such work would conflict with the balance of building to a minimum extent in both type of labor—older craftsmen on small jobs—and type of material—non-critical at the present time. In the normal stepping-up home ownership process, those who would be in the market for new houses this year will be forced to retain their old homes just as they will their cars. But there will be plenty of money for maintenance and repair; availability of materials, labor and war limitations will be the determining factors affecting this type of building.

The latest figures which might indicate the general trend regarding the above show that in February about

36,000 Title I loans were made for roughly \$400 apiece. This is about two-thirds the 1941 total for the same period. However, it is estimated that only a small fraction of such work is done under FHA Title I, most of it being for smaller residential items paid on a cash basis. As little as an average of \$90 spent this year on each of the more than 30,000,000 U.S. homes alone provides a 3 billion dollar market—the amount estimated as the '41 repair and maintenance bill, including industrial and commercial. To reach the 2 billion total looked for in 1942 would require only \$5 per month per family dwelling to maintain our homes having a total value of 80 billion dollars. So that figure seems modest enough in view of the conversion, plant and other non-residential rehabilitation that will necessarily be done.

MUCH of what has been pointed out above will hold for another section of private construction—farm building. At the time this article was written, the latest U. S. Bureau of Labor Statistics estimate placed the farm market at 600 million dollars. The lowest late figure by others is 550 million; this gives an increase of somewhere between 27 and 77 millions over the average set for '41.

Late revisions on the 1942 total have all been upward; if the needed construction to keep at full strength and even enlarge national farm facilities, which are comprised of a normal 38,000,000 buildings of all kinds, can be and is done, this year will set a new recent high. To provide some idea of the condition of buildings on farms, here are the facts as last reported in the Department of Agriculture's Farm Housing Survey:

55 per cent of American farmhouses were 25 years old or older.

85 per cent had no bathrooms.

83 per cent had no running water piped into the house.

91 per cent had no indoor toilets; nearly 14 per cent had no toilet of any kind.

89 per cent had no bathtubs.

69 per cent had screens in poor condition or not enough of them; 27 per cent had no screens at all.

82 per cent had no electricity.

83 per cent needed more paint; 40 per cent never had any.

THE BALANCE of private building, including non-residential and public utility not covered in the foregoing, faces curtailment, particularly severe in the first of these two classes with most estimates running between 50 and 60 per cent below last year's total. But there again, such construction is not being dropped so radically from the entire picture; some public non-residential and a large amount of public industrial building combined, and added to that of a similar nature forecast for private construction provides a total which the various experts believe will be somewhere near last year's figure—perhaps slightly above or below the 3½ billion dollar mark.

FINALLY, there remains the balance of public construction which this year, because of the approximate doubling of the volume of military building for 1942, will add somewhere from four to over five billion to that listed above.

Again, the overall picture then looks like a 13 or 13½ billion dollar total job for the building industry. Official comments and summaries have included such statements as: "More than 6 billion dollars, or 60 per cent, of the 1942 construction total will be Federally-financed work under the expanded war program. In 1941 similar expenditures were 3.3 billion dollars and accounted for only 31 per cent of the total volume of new construction. Total public outlays for new construction in 1942 should reach

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ON & OFF the RECORD

News, Views and Comments
Washington Developments

by *Structor*

FIFTH MONTH—With the United States entering its fifth month of war, what is happening to building? Despite confusion, it's on the increase. Residential contracts reported by F. W. Dodge in February were \$168,014,000, a 44 per cent increase over last year. For the first two weeks of March the dollar total was about equal 1941 and the number of projects was up 38 per cent. *The priorities system is working, homes are being built at record rates in such defense areas as Norfolk, described in this issue. Farm building, modernizing and small industrial work are booming.*

Most significant are FHA mortgage application figures which in February were 72 per cent ahead of last year, and in March were running even higher. The figures show that builders are rushing into Title VI defense housing. Applications are running three Title VI jobs for every one Title II.

Of course, there has been, and will continue to be, confusion concerning priorities, materials, stop orders and what not. But the latest and most authoritative estimates for 1942 by U. S. officials show an expected total of at least \$11,000,000,000—an increase over last year.

BIG SHAKE-UP—The big news of last month was the housing reorganization which put John B. Blandford, Jr. in as top Administrator of the new National Housing Agency. It will take time to get the confused housing bureaus sorted out.

One of Blandford's first actions was to announce a joint public-private program for construction of 37,261 new dwellings in ten areas. Of the total, 23,735 were assigned to private enterprise, 13,526 to public agencies, or a ratio of 64 per cent to 36 per cent. In other words, Blandford is expecting private builders to do their stuff.

ACTION WANTED—Private builders are being urged by government agencies to get busy. Remodeling to add rooms in defense areas is especially important, as in the case of the Schenectady Victory remodeling described on pages 68 to 70.

Home building quotas in defense areas show that private builders are expected to bear the brunt. In Northern New Jersey, for example, private builders have been asked to build 14,000 homes, as compared with 2,800 public. In the Utica-Rome, N. Y., area private builders are expected to put up 500, public 250. In Seattle private builders are given a quota of 6,300, public 3,278.

As more builders discover the favorable features of Title VI building, this class of work is skyrocketing.

TITLE VI PROFIT—Last month we reported that under Title VI it is possible for a builder to "get all his money out and still own the property." After checking with operators in some of the most active war industry centers, that appears to be an understatement. *Many are figuring on making a 10 per cent profit out of the 90 per cent mortgage.*

CALL THEM "VICTORY"—The term "defense housing" is being replaced by "victory housing." Most Americans are crying for *offense*, not defense, these days. "Victory homes" also suggest that housing is as essential

to final victory as ships, tanks, guns and planes.

Of course, considering the war effort to date, the use of "Victory" may seem a bit premature. Now that MacArthur's taken over, however, we'll be going places.

TITLE VI EQUITY NIL—It looks as though any profit on a Title VI operation will have to be made out of the mortgage. At least that is what many smart builders in mushrooming defense areas have told me. One of them did some quick pencil work as follows:

| | |
|--|----------------|
| Interest and amortization on \$4,000 mortgage, per month | \$26.40 |
| Taxes | 9.00 |
| Insurance and water..... | 2.00 |
| Vacancy reserve (10%)..... | 5.00 |
| Management costs (5%)..... | 2.50 |
| Maintenance and repairs (10%)..... | 5.00 |
| Total | \$49.90 |
| Monthly rent allowable under law..... | \$50.00 |
| Profit | .10c |

These figures, of course, will be different for different towns and different jobs. When you consider that many feel that there is a strong possibility that rentals will go all to pieces after the war *you can see why some builders are skeptical about the value of their equity in Title VI properties.* They feel they should be allowed to make a 10 per cent profit under the 90 per cent mortgage.

And in some areas they are getting it.

DAMP SITES—In one defense area I visited last month most of the land is rather low and inclined to be slightly moist, but there is such a demand for building sites that such land is being sold right and left for basementless houses.

"First I send a man out to walk over the piece of property, and if he doesn't sink out of sight, it looks pretty good," one builder told me.

"Then I send a bulldozer out, and if it doesn't sink, we buy it right away."

TRUCK DRIED—Yes, sir, speed is the order of the day. It's gotten so that some of the big rush housing jobs are using "truck dried" lumber. Growing this morning, nailed tonight! Just so it isn't still sprouting!

PREFAB "MIRACLES"—Once more the public is being deluged with miraculous claims as to the future of prefabricated housing—impossible, far-fetched day dreams that are more nauseous than interesting.

One of the latest appeared in a recent syndicated feature in The New York Times, which describes in glowing terms a house to cost only \$1,950. It has, of course, "spacious" closets, a 14' x 24' living room, two 9' x 12' bedrooms, air conditioning, "attractive modern kitchens and bathrooms with refrigeration." It is "stamped out by machine, like an automobile body."

I expect to see progress in home prefabrication but it is positively criminal to mislead the public with such claptrap as this. It can only cause disappointment and disillusion later on.

HOMES TO HUMUS—Builder Walter Uhl of Flower Hill Estates reports one of the luckiest breaks of the war. Just as he was completing the last of the houses he could construct without priorities, and wondering what he could do with land for some 57 that could not be built, someone discovered "black gold." An 8-ft. bed of rich, natural peat humus was uncovered which has a market value of \$5 a yard or more. It looks as though he has some 300,000 cu. yds.—and that represents a heck of a lot more money than he could have made building houses!

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Title VI Defense Home Boom Hits Norfolk, Va.

Hundreds of houses being rushed to completion by private builders with aid of A-4 priorities. Favorable mortgage terms encourage quick volume. Many Long Island builders there

NORFOLK and its neighboring communities, Portsmouth and Newport News, are like a new Klondike. But the "gold rush" is of a different sort—it is a rush for land, building materials and workmen.

Like hundreds of other war industry areas, this one is having the biggest demand for houses in its history. Builders have not been able to put up houses fast enough, but they are making a valiant attempt.

FHA figures indicate that several million dollars of mortgage commitments have been made recently in this area. Builders have been coming in from other cities and there has been an especially large delegation from New York and Long Island. The lobby of the Monticello Hotel is filled with Long Island builders, their subcontractors and even material suppliers, who are making it temporarily their headquarters. It's like Old Home Week in Queens County.



"BOOM STARTING HERE!" Norfolk billboard declares.



PREFERENCE RATING order prominently displayed.

Prominent among the New York builders who are starting Title VI defense home jobs in the Norfolk-Portsmouth area are William E. Levitt, Wolosoff Brothers, Turner & Noone, George Rosen, Martin Nadelman, James Monaco, J. Brody and Louis Bright, Bertram Bonner, Paterno Brothers, Gustav Bernknopf, Harry Gibbs and many others. Prominent builders have also come in from other territories, but thus far the Long Island group seems to be in the majority and they are going ahead with great speed and vigor, planning and building Title VI jobs from a dozen homes to 500 or 600.

The housing need in the Norfolk area has been estimated in astronomical figures. Although a large number of homes have already been built by private operators, the influx of shipyard workers, naval base employees and numerous other industries, has been so great that estimates indicate a present need of from 25,000 to 40,000 houses. The government has let contracts for 11,000 prefabricated demountable structures, which still leaves a very great demand for the productive capacity of private builders.

In order to stimulate private construction under Title VI to meet the demand for houses to sell or rent, the Federal Housing Administration and the Housing Priorities Board have been both lenient and helpful. While it is officially denied that builders will be allowed to make a profit under the 90 per cent mortgage, indications are that a considerable number of builders are expecting to do so, and the average expectation appears to be 10 per cent.

There is considerable justification for this in the fact that under the \$50 rental allowed on Title VI homes, the

CASE STUDY of a "new Klondike"—a typical expanding war industry area where private builders are showing speed and resourcefulness in getting needed houses built.



AT LEFT—Flourishing Title VI activity at Kasten Homes, one of the numerous small house projects under way by Long Island builders who have transferred to the Norfolk area.

probability of the project paying out over a period of years is doubtful. Most builders do not expect their 10 per cent equities to be worth much.

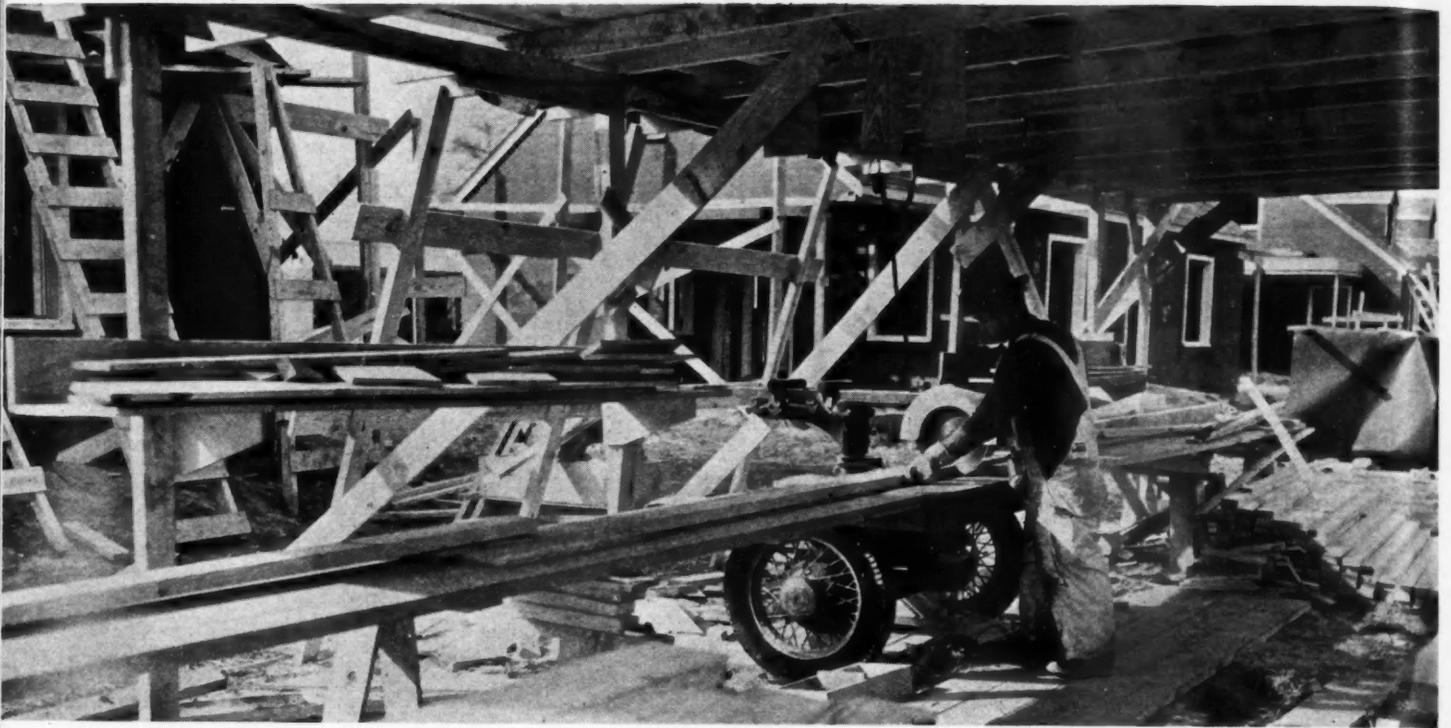
As to materials, there appear to be no shortages except in lumber. Indications are that the demand for lumber in this area has been so great that it is coming in very green. The private builders in the territory have been given the assistance of an A-4 priority rating, which appears to have been adequate in getting the necessary critical materials. The principal bottleneck thus far has been a shortage of surveyors and architects. These must have Virginia licenses.

Private builders operating in the Norfolk-Portsmouth area are following the usual procedures as they have in the past except that there is a great rush for speed. Most houses in the past in Norfolk have been built without basements. The new houses being built by the out-of-town builders from Long Island, Washington, Richmond and other cities are, if anything, better designed and better constructed than have been the low-cost houses in the past. Many have brought their own workmen, and pay them well. One builder guarantees his carpenters a flat \$70 per week.

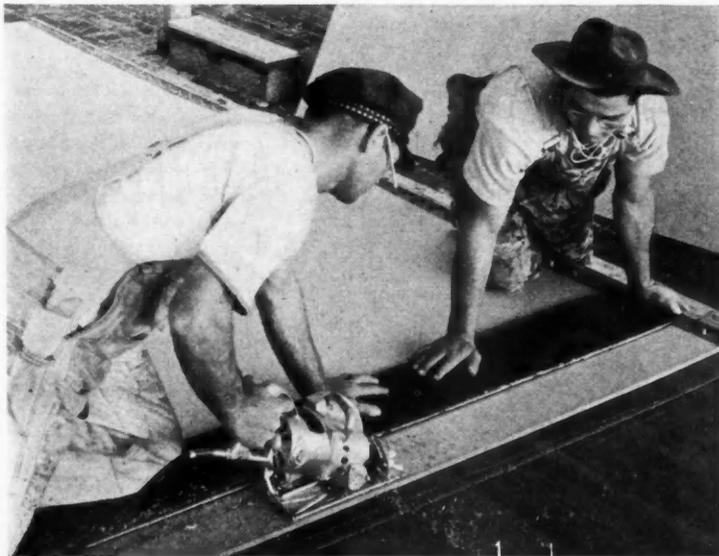
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WAR HOME ACTIVITY—These examples of current building in one of the nation's busy defense areas are so recent that in many cases photographs can only show houses in construction stages. Yet floor plans, details and methods are typical of up-to-the-minute approved procedure by FHA and government authorities. Again American Builder brings its readers latest on-the-job developments.



POWER SAW ON WHEELS is used by Builder George Rosen in rushing work on group of 74 Title VI houses in Norfolk, Va.



FAST PRECUTTING of building board. Barrett & Hilp, contractors.



ON-THE-JOB SAW SHANTY used by V. T. Myers for pre-cutting.

Power Saws Speed Norfolk Victory Homes

NEW records are being made this year by the building industry in getting "victory homes" built for defense workers. No small part of the speed can be attributed to the extensive use of power saws and other fast-moving equipment. In Norfolk, Va., for example, an *American Builder* cameraman observed a power saw on practically every house job. Extremely high wage scales are the cause.

Many New York and Long Island builders who are now operating in Norfolk have installed saws and power equipment that they had not been able to use at home due to union restriction. They are acquiring paint spray devices, which they have long wished to use. Other types of equipment include floor sanders, lock mortisers, hinge butt routers and power planes.

An impressive power saw setup pictured on this and the opposite page is used by Contractor V. T. Myers in his large Monticello home community. Another builder, George Rosen, who recently moved to Norfolk from Long Island, uses a portable saw mounted on wheels, as pictured above, in his Kasten-home job where 74 five-room houses are being built under FHA Title VI.

In addition to the many private home builders there are several large publicly financed projects. One of the most striking of these is the 5,000-home job being built by Barrett & Hilp of San Francisco. They are making extensive use of batteries of saws and other equipment in a completely mechanized plant with a production quota of 60 houses a day.

"Monticello Village"— Fast Moving Title VI Victory Home Job

ONE of the fastest moving home building jobs by a private builder in the Norfolk area is Monticello Village, a well located subdivision within easy reach of the nearby naval base.

Here Contractor V. T. Myers is rushing a large number of homes to completion, as the accompanying photographs show. Some 400 houses are planned, of which less than half have been built. Myers has a head start since due to the mild climate he has been able to operate right through the winter.

When your *American Builder* correspondent visited



FOUR HUNDRED houses are scheduled by Contractor V. T. Myers in his Monticello-home job in Norfolk. Lumber stored in foreground is pre-cut on power saw, trucked to each foundation site. BELOW: Red cedar shingle exteriors being applied. Plans on next page.





CLEVERLY STYLED 24'-6" x 30' cottages have comfortable eye appeal and have sold quickly to Norfolk's war industry workers.

the job in March he found some 50 houses in various stages of construction and additional foundations were being put in.

Myers has standardized on two principal models—a two-story 33' x 26'-6" Colonial and a one-story 24'-6" x 30' cottage. None of the houses have basements—conforming to a long-standing Norfolk custom.

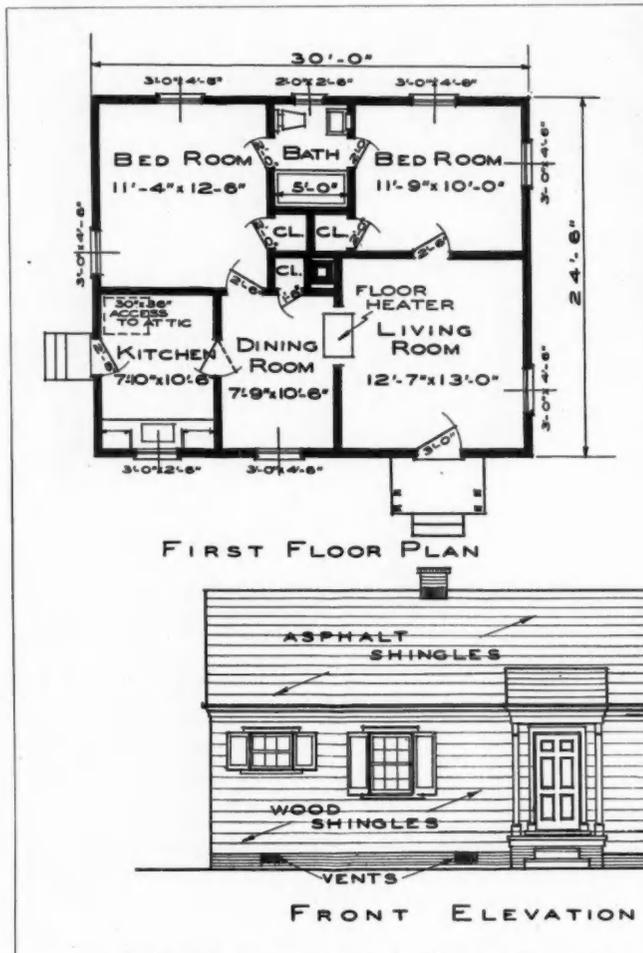
It is necessary to carry foundations down only a short space below ground, and they rest on a 14" x 8" footing. Foundation walls consist of one layer of 4" brick with metal vents at intervals to allow circulation of air on the floor. The weight of the house is carried on brick piers resting on concrete footings.

Standard construction methods are used in the Myers-built houses, but a large part of the lumber is precut on a centrally located power saw operated by a skilled cutter. A well-laid-out cutting table that can easily handle all required sizes has been built and the saw and table are covered with a roof so that operations will not be affected by rain. A large supply of lumber is stacked close by.

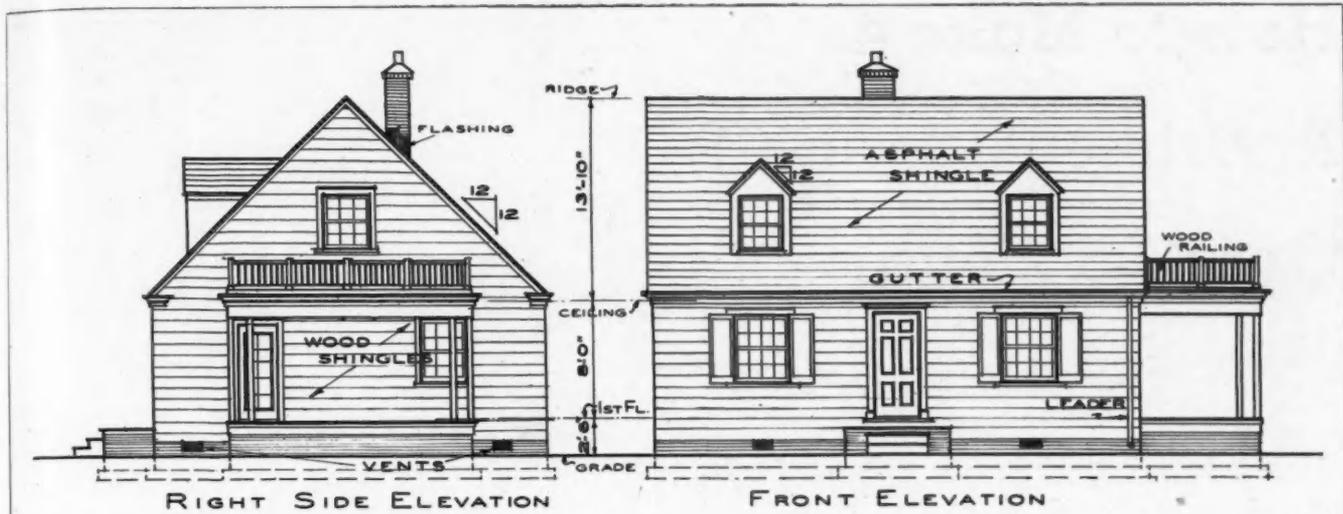
The Monticello two-story model has much to recommend it. Using a 33' x 26'-6" overall foundation, Myers



HEATING PLANT under stairs. In 2-story model illustrated on opposite page Myers installs a compact unit under the stairs with short runs of ducts carried in a furred down ceiling to rooms.



FIVE-ROOM defense home cottage has floor heater, small dining room, connecting bath. V. T. Myers, builder.



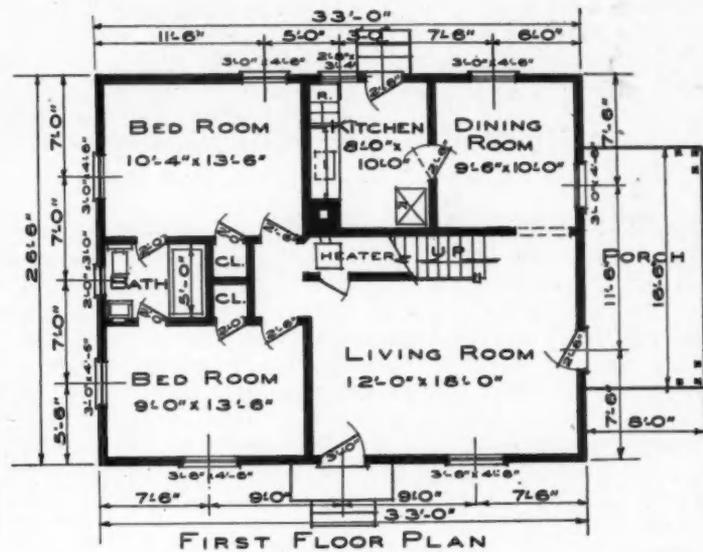
DETAILS of approved two-story Monticello model.
Note heater under stairs, porch, connecting bath.

is able to provide five rooms downstairs and space for two additional rooms upstairs. On most of the models an attractive 8' x 16'-6" porch is built at one end.

An interesting feature of the design is the manner in which the forced warm air heating system is located in a closet space under the stairs. From this centrally located spot extremely short duct runs connect to all the rooms in the house. The ceiling in the hall adjacent to the heater is furred down to accommodate the ducts leading to the bedrooms.

Another little feature of these houses that is different is the manner in which the bathroom has been placed between the two bedrooms with connecting doors to each.

The smaller Monticello model—only 30' x 24'-6" is heated with a floor furnace placed between dining and living rooms.



FIRST FLOOR PLAN



ATTRACTIVE two-story, 33' x 26' Monticello Village house built by V. T. Myers in Norfolk, Va. No basement.

How to Make 4 Apartments from One Old House

**"Victory Remodeling"
at Schenectady, N. Y.,
staged by FHA, shows
builders and home
owners how to get
quick priority aid.**



AN M-3 TANK escorted war worker from nearby American Locomotive Works to new apartment in the remodelled building.

CONTRACTORS and builders can stay in business, keep their men employed, make a reasonable living, and at the same time contribute a worthwhile service to winning the war.

This sounds almost too good to be true, doesn't it?

Yet this is exactly what the government is asking—yes, imploring, builders to do. The builder who takes an old useless building and transforms it into additional living space for defense workers is doing an extremely important job. So important, that this type of work will be given top priority assistance over any other use of building materials.

In Schenectady, N.Y., last month the Federal Housing

Administration sponsored a striking rehabilitation job to bring home to builders and home owners the importance of this type of work. A house owned by Wayne Merriam, a Schenectady business man, was remodeled, using the regular established procedure of the Federal Housing Administration's "Repair for Defense" program. A loan of \$5,000 was made by the local Citizens' Trust Company.

Thomas G. Grace, State FHA Director, said, "I want to emphasize that this job not only shows the possibilities of our 'Repair for Defense' plan, but also illustrates the speed with which such projects can be realized.

"Including approval of the application for priorities and the passing on the credit of the borrower by the bank



HOW THE OLD living room appeared.

LOCAL building workers put on steam to get the job done quickly. Remodeling adds additional living space with minimum materials, helps contractors keep their workers employed.



BEFORE REMODELING, the old house above accommodated one family. Rental income was limited to \$35 per month.



AFTER REHABILITATION (right), the building houses four families each paying from \$38.50 to \$49.50 a month rent. Total rental income now \$208 a month.

and the FHA, less than a week was required to close the deal."

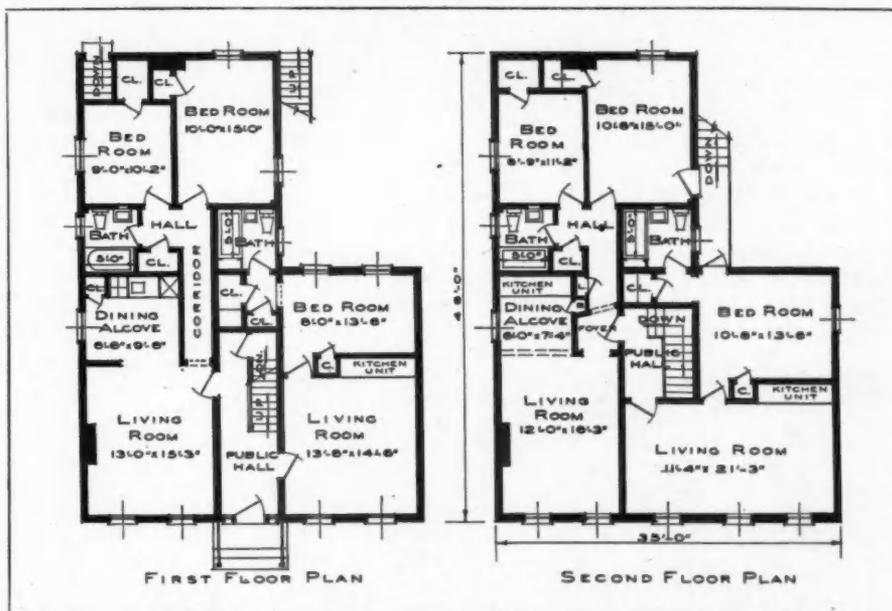
While FHA officials are not stressing the "profit motive" in connection with such work, the fact remains that the old house before remodeling was producing only \$35 a month rent. When the building was remodeled into four apartments, the monthly rental was increased to \$208. Naturally the owner will have many expenses to deduct from this \$208 gross rental, but it does give some indication of the possibilities involved in rehabilitation.

From plans by Architect Giles van der Bogert, the building was modernized into two 1-bedroom apartments, renting for \$38.50 and \$41 respectively, and two 2-bedroom apartments, renting for \$47.50 and \$49.50 each. The reconstruction was carried out with a minimum amount of change in structural members.

The transformation from the old to the new was extremely striking and was particularly well shown in the kitchen where the old and ancient spread-out equipment was replaced by a compact, modern space-saving electric unit, manufactured in the local General Electric plant. Most of the new tenants who moved into the remodeled building were local defense workers—two employed at General Electric and at the nearby American Locomotive Works. The defense workers who moved into the new structures can now walk to work, whereas formerly they had to drive.

So impressive was the Schenectady Victory remodeling job that Washington FHA officials are planning to use it as a national demonstration and to publicize it to FHA field officers as a workable idea.

Local Schenectady organizations took an active part in publicizing the job locally, including the Chamber of Commerce and the local Defense Housing Committee.

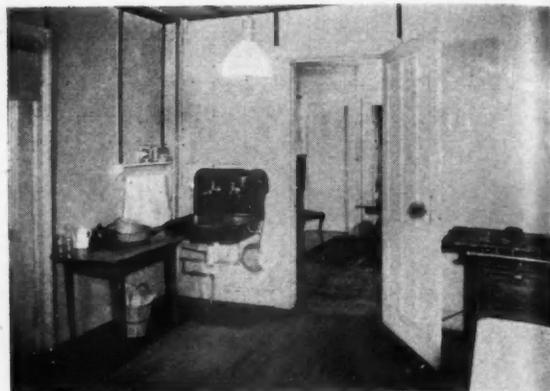


WITHOUT MAJOR structural changes the 35 ft. wide building was remodeled into two 2-bedroom apartments and two 1-bedroom units, as shown in the floor plan above. The architect was Giles van der Bogert. Quick priority assistance was given to the job.

Malcom Wilson, executive manager of the Chamber of Commerce, put his finger on an important fact in his talk at the opening ceremonies when he said, "We like this because it is *fast*. A minimum amount of time was needed. It conserved material and labor and tends to lift the neighborhood—that is, raise property values. It insures against overbuilding. It provides suitable rental housing. It keeps the builders and contractors busy and, in fact, we feel it is an all-around profitable investment."

The formal opening was broadcast over the radio, and was accompanied by the roar of one of the M-3 tanks from the American Locomotive Company, which escorted the new occupants to their new home. Mayor Mills Ten Eyck referred to the Victory house as a "practical solution to the housing problem in our city."

"Where only one family lived before, four are now



MODERN space-saving kitchen, at left, replaced the ancient layout pictured above in the Schenectady "Victory Home" remodeling. Local FHA officials were able to secure prompt priority assistance for the builder, getting needed materials and equipment. Job was widely publicized in newspapers and radio through co-operation of Chamber of Commerce and local Defense Housing Committee, as well as other city organizations.

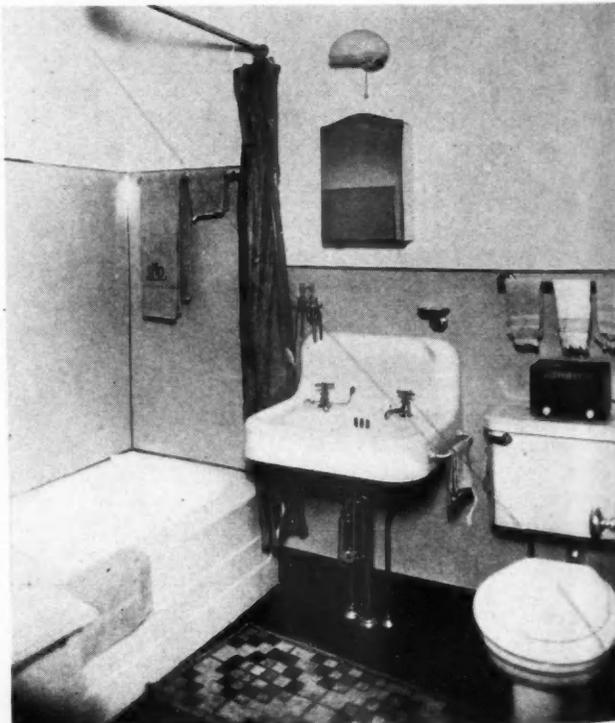
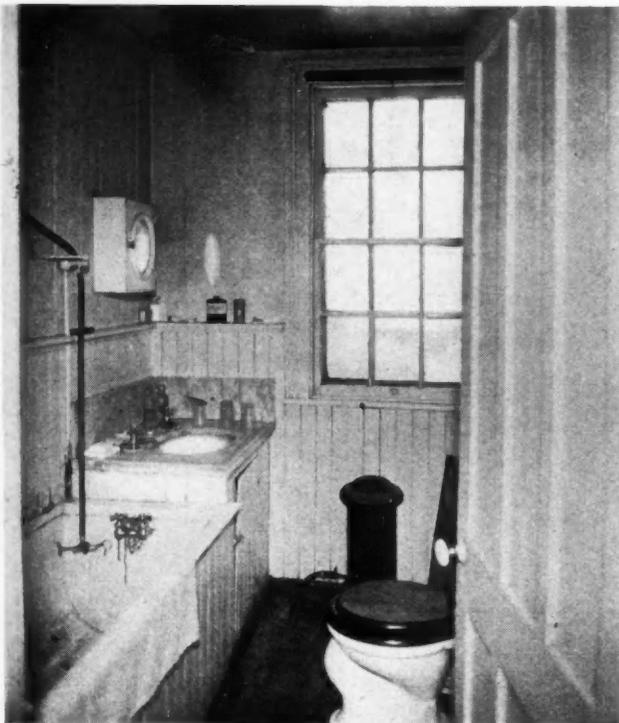
comfortably housed," he said. "It's a permanent improvement to the neighborhood and will restore values."

Alvin F. Nitchman, president of the Schenectady Chamber of Commerce, stressed the fact that the use of older houses such as this saves material as well as time. "Besides that, it will give property and neighborhoods on the way downhill an opportunity to climb back up," he declared.

The remodeling work was as far as possible kept on a practical, economical basis. The old heating plant was renovated but not replaced, although a new and modern

oil burner was installed. The exterior was improved by removing some of the bric-a-brac, and repainting. Inside the space was cleverly cut up to make the most of existing areas without major structural changes. Space saving units were of special value in this respect.

A rough breakdown of the costs involved in the \$5,000 expenditure include \$800 for plumbing, \$1,100 for electrical equipment including the kitchen, \$350 for heating, \$700 for painting and decorating, and \$2,050 for carpentry and general alteration work. Under the FHA financing plan, the \$5,000 loan is to be repaid in 5 years.



OLD BATHROOMS, such as this one at left, are the cause of many vacant structures at a time when livable housing is greatly in demand. At right is shown the "Victory" remodeled bathroom—done without frills and without unnecessary expense or waste of material.

Change Civil War Relic Into 3 World War II Units



THE seemingly hopeless wreck above, dating from Civil War times, was converted by Builder R. L. Fisher into modern housing for three Dayton, Ohio, families at the left.



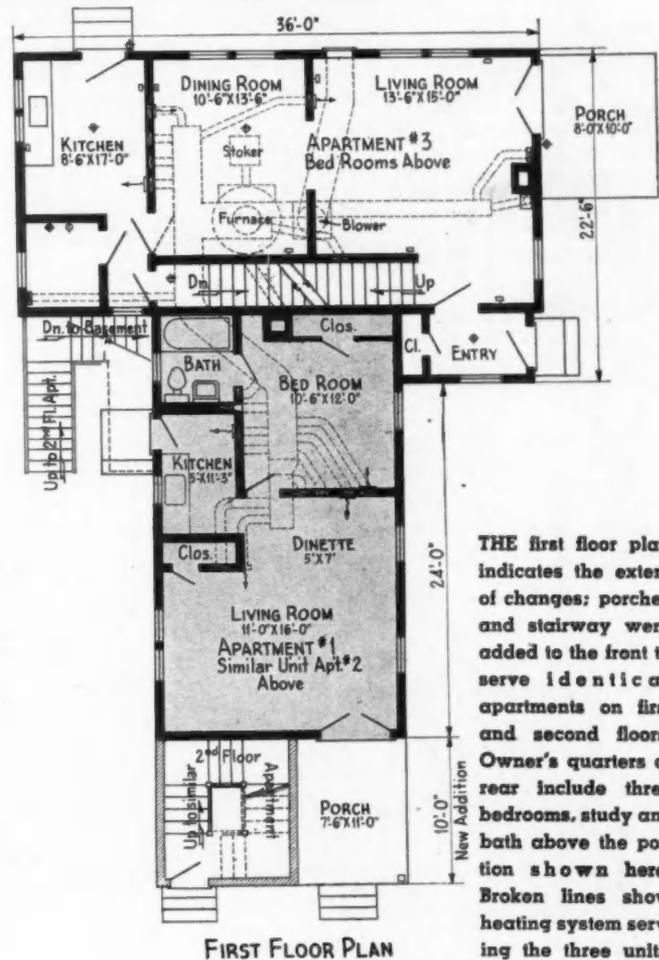
Old-timer in Dayton, Ohio, is salvaged to provide two modern apartments for rent and rear duplex for the owner

FROM Dayton, Ohio, one of the nation's busy war centers and defense areas, comes the interesting example of conversion shown on this page. Built 80 years ago on a remarkable old stone foundation and soundly constructed throughout, it, like many others, has proved to be worth the necessary cost to change over. (Itemized breakdown appears at end of article.)

Luman F. Marsh, a Baptist minister with some good construction ideas, purchased this old vacant ten-room frame dwelling situated in a good residential section at a very modest price. With only slight exterior alterations, Builder R. L. Fisher converted it into an income property for the Reverend Mr. Marsh. The most apparent change was the construction of a 10 x 16 addition at the front to accommodate porches and an enclosed stairway leading to the second floor. With other minor structural changes in partitions, the structure provides two three-room apartments with baths in front and a 7-room apartment in the rear which the owner and his family use for living quarters.

The original building had 10 rooms—six in front and four in the rear. The front section now has one apartment downstairs and one upstairs. Each apartment has a 11 x 16 living room, a 10½ x 12 bedroom and a kitchenette and bath. The two-story apartment in the rear

(Continued to page 124)



THE first floor plan indicates the extent of changes; porches and stairway were added to the front to serve identical apartments on first and second floors. Owner's quarters at rear include three bedrooms, study and bath above the portion shown here. Broken lines show heating system serving the three units.

FIRST FLOOR PLAN

Remodel Research House Shows How to Aid War Effort

MANY types of remodeling jobs are practical with materials that are not on the critical list, and actually can help with the war effort. These facts are being clearly demonstrated at the U.S.G. Remodel Research House at Park Ridge, Illinois, a project of the United States Gypsum Company.

The house selected for this project, like thousands of houses today, had reached a condition that demanded repair. The family living in the house had built a new home, and this property threatened to become vacant and useless. Thus, the repairs that have been carried out are actually making available a new dwelling unit.

However, because of the urgent need for additional

NAILING up gypsum wall lining with the new wider nail spacing 6" to 8" apart.



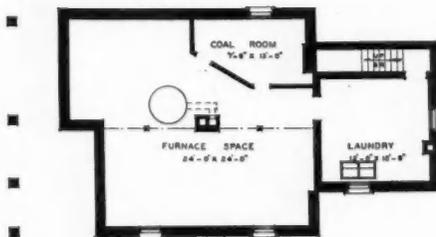
housing, floor plans were revised to increase the capacity of the house, as well as to put it in good, serviceable condition. The "extra" room that is being provided may be rented, or makes available the additional room required by a growing or increasing family. This problem, and its solution, will be examined thoroughly in the report of the project, and ideas that can be used by many who are interested in this possibility will be fully explained when the project has been completed.

The roof provides an important part of the study. There were many spots in the old wood shingle roof that one could actually look through. Regardless of war, such roofs must be repaired if many homes are to continue in use. And, every existing home is needed. The roof study in connection with this research repair job is intended to demonstrate how roofs may be repaired to require a minimum of critical materials.

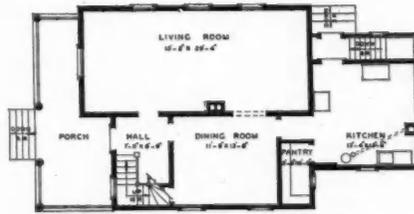
Of almost equal importance, the roof "leaked heat like



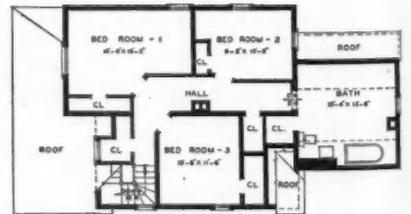
SKETCH shows U.S.G. Remodel Research House as it will look after repairs and changes are made. Eugene Volta was the architect.



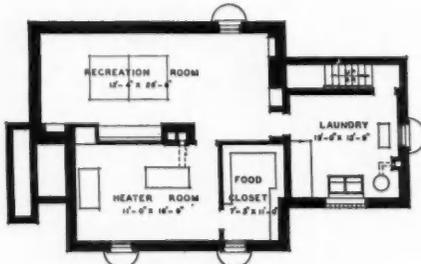
ORIGINAL BASEMENT PLAN



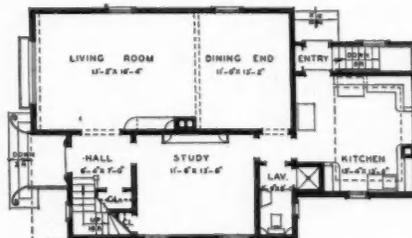
ORIGINAL FIRST FLOOR PLAN



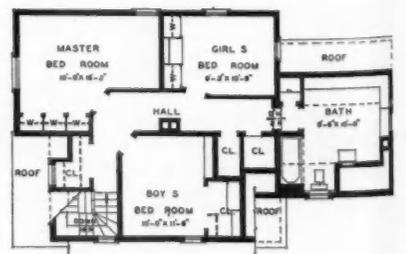
ORIGINAL SECOND FLOOR PLAN



REMODELED BASEMENT PLAN



REMODELED FIRST FLOOR PLAN



REMODELED SECOND FLOOR PLAN



AIR DUCTS are run between joists and are of gypsum board, thereby saving on sheet metal; front hall is finished in Knotty Pine Sheetrock, square edge boards butted tight to make an invisible joint.

a sieve." Fuel must be conserved, the government warns. So, heat waste must be stopped. And, the facts to be derived from this Remodel Research House will show how to do it economically.

The heating plant was a particularly serious problem, for normally new heating plants mean loads of metal. However, by substituting Sheetrock for sheet metal in the new cold air returns, an important reduction was made in the metal requirements, and an important contribution to the war effort was made by releasing metal for more urgent needs. Because of this critical shortage of sheet metal, it was decided to substitute sheet gypsum material for the ducts in the cold air returns, and this was easily done. In addition to eliminating the need for a critical war material, it was discovered that the cost of these ducts was less than the cost of sheet metal, that they could be built more rapidly and that they met all of the requirements of a good return duct. They were erected speedily, and it was a simple matter to conceal them between the studs and joists of walls and floors. (See photo.)

Many other types of jobs that are practical, as this project demonstrates, include interior alterations of rooms from the basement to the attic. For example, foundation repair and raising of houses to provide increased ceiling height in basements, adding recreation rooms, fruit rooms, hobby rooms for men, a boy's room, a girl's room, powder room, modern kitchen or extra closet and storage space.

Throughout the house walls and ceilings are being lined with Sheetrock. The new wider nail spacing, that has just been recommended after extensive research, requires a minimum of nails for wall construction or reconstruction. This specification calls for nails on walls to be from 6" to 8" apart, and nails on ceilings to be from 5" to 7" apart. Nailing should start at the center of the board and edges should be nailed last, for best results.

The front hall of the house is being lined with Knotty Pine Sheetrock, which creates an informal, friendly atmosphere. With this construction, square edge boards are butted tight, and no joint treatment is required. Where nails are to be concealed by trim, 4d cement-coated nails with 1/4" heads are used. In the field, 4d finishing nails spaced 6" to 8" apart are used.

In addition to the direct benefits that are made possible by these non-critical-list structural repairs and improvements, there are many indirect benefits, too. Since 1942 will be a "Stay-at-Home" year for many people, home improvements will boost morale. Dealers and builders who might face a critical situation because of restrictions on new building, can find a worthy outlet for their services at a profit, and will be able to meet their share of the cost of the war.



WORKMEN start tearing away old porch to clean up house front for new modern style facade indicated in the sketch opposite.

How to Modernize Windows in War Shops and Plants

Glass Block Installed with Slight Use of Metals

MAINTENANCE and replacement of factory sash is rapidly becoming a knotty problem as war draws off all new metal and existing stocks are depleted.

A solution is suggested by recent experiments by the Insulux Division of The Owens-Illinois Glass Company in Toledo. Objectives of these tests were to develop a set of emergency specifications that would permit the use of glass block panels in situations where priority materials were not available.

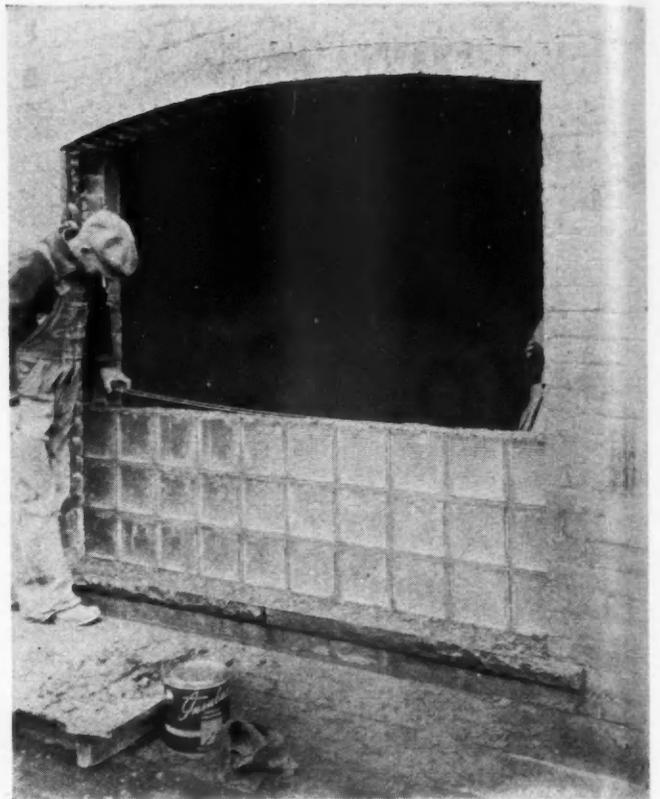
The new "Emergency" specifications go even further towards conserving metal than do earlier standard specifications. Although these employed a minimum of priority materials—much less than other materials which provide fireproof light-transmitting areas—even this small amount of metal has been curtailed in the new specs.

Actual factory openings were studied in the tests. The old sash was first removed, the masonry opening trimmed up and the sill painted with an asphalt emulsion—especially developed by Insulux engineers for use with glass blocks.

Wood chases were then erected at the jambs and head, after which expansion strips were put in place. The glass blocks were then laid up in mortar; the panel edges were caulked tight with Oakum. Cleaning completed the job.

The tests revealed that the use of wood chases and filler strips to compensate for any difference between block units and the size of the existing opening provide a practicable solution. If necessary, these wood members can be easily replaced, or covered with metal after the emergency. In some instances, chases can be cut in existing masonry, eliminating the need for wood chases.

The use of glass block panels has several industrial

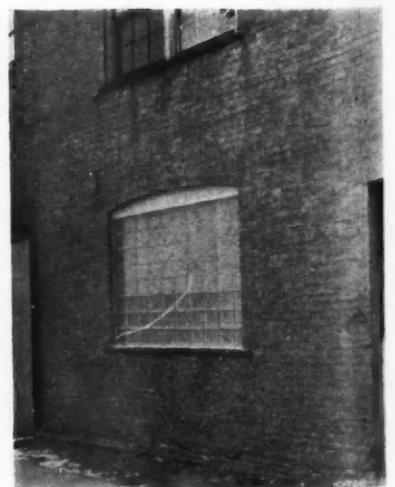
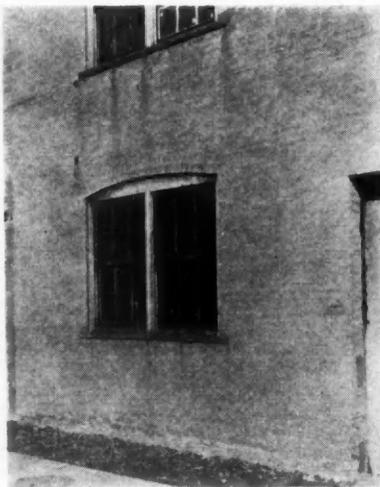


MASON lays in joint reinforcer strip in glass blocking old window.

advantages, in addition to their availability and adaptability. First, rust and corrosion are eliminated, as there are no metal parts to rust in an Insulux panel. Condensation, cause of most rusting and deterioration, is also practically eliminated in all but extreme conditions, for glass block panels have an insulation value approximately 60 per cent better than sheet glass. This sealed, insulating construction permits better control of heating and air conditioning, combined with a reduction in objectionable condensation.

In those cases where it is necessary to provide for ventilation in the panel, this was provided for by means of wood sash in wood frames inset in the glass block panel. The sash opening was so sized that the wood sash and frame could be removed at some later date and refitted with standard size steel sash.

A new development by Owens-Illinois in the glass block field in the past year has been the prismatic, or



THREE STEPS in putting new life (and light) into an old industrial building now needed for armament production.

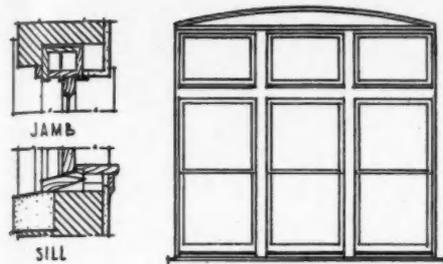
light directional block. This block is advocated for use where it is desirable to bend light rays upward to the ceiling of a room, thus achieving more even diffusion of light by reflection. Experiments have shown that it is possible to obtain a high degree of light efficiency at the farthest interior point of a room by use of this block.

Whereas sun rays shining diagonally downward through clear glass strike the floor and are trapped beneath furniture and equipment, prismatic glass block turn the rays upward, thus capturing them for reflection

from the ceiling to the tops of the desks or work benches, where they are needed.

The defense program has resulted in the renovation of countless numbers of badly deteriorated factory buildings, long out of use. Glass block are especially well adapted for the extensive sash replacement work which is necessary in such rehabilitation projects.

A booklet giving special working details for installing glass block panels without priority materials is available on request.



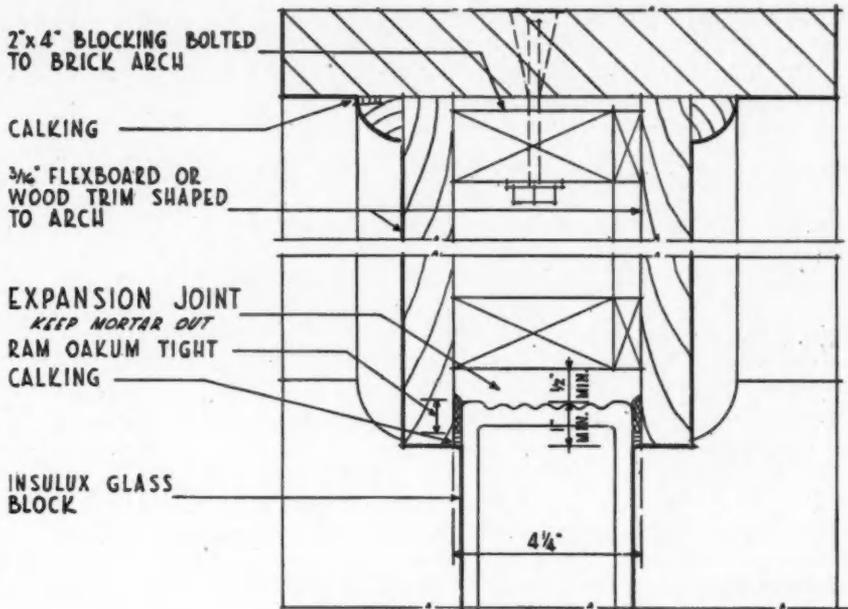
EXISTING CONSTRUCTION

PRESENT ELEVATION WOOD SASH OPENING

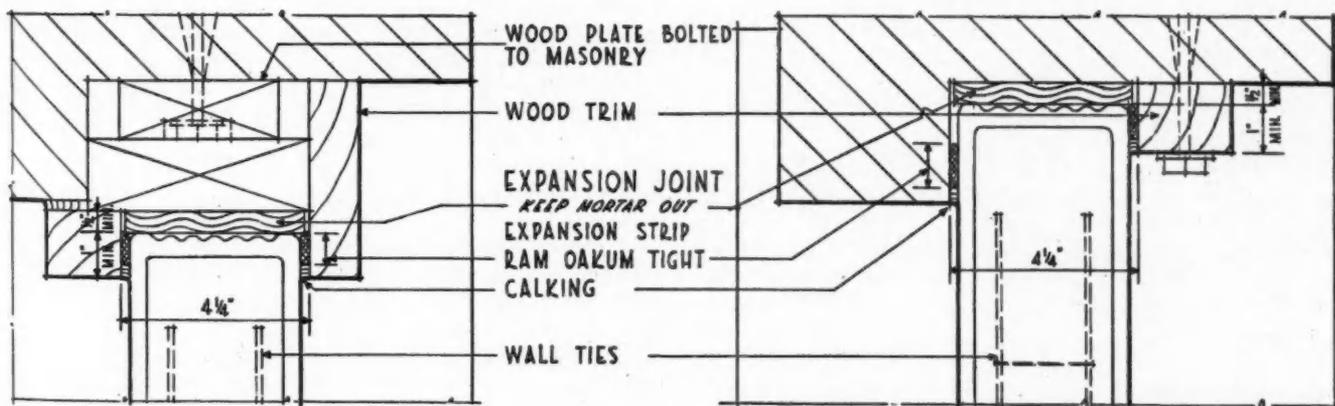
Arched head wood windows may be replaced with glass block by removing the sash and altering the opening as follows:

- (1) SILL. Coat the sill with asphalt emulsion.
- (2) JAMB. Bolt wood stops on interior to form a chase with the existing brick on the exterior. Alternate Jamb. If the masonry opening is too wide, build out with wood to form a chase.
- (3) HEAD. Bolt wood blocking to arched masonry head to take exterior and interior wood trim or Flexboard. Interior trim should be installed after block is in place.

With the opening thus prepared, construct the glass block panel as called for in the brief specifications on page 13 or refer to Sweet's Catalog.

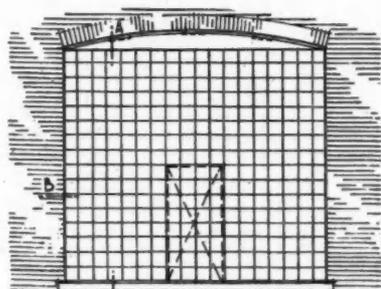


HEAD DETAIL "A"



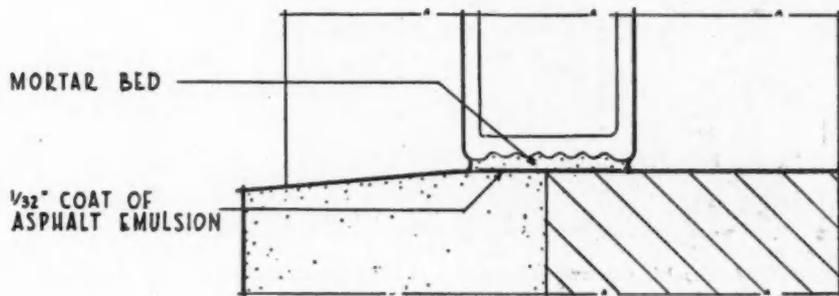
ALTERNATE JAMB DETAIL

JAMB DETAIL "B"



NEW ELEVATION GLASS BLOCK PANEL

DOTTED LINES INDICATE SASH OPNG. IF REQUIRED



SILL DETAIL "C"

CONSTRUCTION DETAILS for replacing arched head wood windows with glass block panels in twelve-inch brick walls.

Emergency Program for Public Schools

Over-Taxed School Facilities in Defense Areas Relieved by Government Building Program

OVER forty million dollars worth of school construction in defense areas has been authorized and partially completed. Another program, which seems certain to be as large as the first, is in the planning stage. Under the combined programs, hundreds of new schools and additions to established schools will be built, predominantly of wood construction, in all parts of the country.

Most of this boom in school building is financed with federal funds through FWA. Some schools have been built by local authorities with an outright grant of 50 to 100 per cent of the total cost from the federal government. In other cases, construction is by the Public Buildings Administration, following either its own plans or those of local authorities.

Whether title is held by the local school district or the federal government, the completed building becomes a part of the local school plan and its use administered by the local school board.

Under the first \$150,000,000 appropriated for Defense Public Works last June, no set sum was earmarked for school construction, but each proposed project was considered in competition, in light of defense needs, with all other proposals and applications. School problems were considered so pressing and important that they won \$32,854,991, about 50 per cent more than any other classification. Combined with \$7,590,399 provided by local school districts, the total \$40,445,390, was used to build and equip 252 new schools and additions.

FWA officials, discussing the second Lanham Act appropriation of \$150,000,000 made in January, predicted that at least as great a proportion would be used for schools as was allocated from the first fund.

The Division of Defense Public Works of FWA outlines its three major responsibilities as: 1. To provide school facilities necessary to make defense areas livable for defense workers; 2. To use Defense Public Works funds only to build or help build schools essential to the war effort; 3. To confine the use of critical materials to the minimum.



EMERGENCY school bungalows adjacent to the Roosevelt Grammar School at Burbank, Calif., built by the Division of Defense Public Works of the Federal Works Agency to keep pace with the increased population drawn to the area by the war industries. Besides the classroom each structure contains closets and cloakroom. Interior finish includes plywood walls, insulation ceiling, wood floors, and composition blackboards. The buildings are readily movable.

Three types of construction are being considered in the new program: masonry, recommended in all areas subject to enemy action, and two classes of wood structure, one purely temporary and the other fire-resistant and semi-permanent.

No federal funds will be allotted for construction of masonry buildings, if a so called "temporary" or semi-permanent one will suffice, even though the applicant proposes to contribute the full amount of the difference.

The entire project is based on unit construction, whether wood or masonry. The basic unit is 22' x 36' and may be one or two stories in masonry, or one-story in wood.

This area may be one large room, such as a class room, or it may be divided by non-bearing partitions into smaller rooms of various sizes and shapes for offices, libraries, health clinics, or other rooms necessary to schools.

As many of these individual units as necessary to accommodate the school "load" can be arranged, like dominoes, in whatever pattern may be dictated by conditions.

Local Plans Used Whenever Possible

One basic plan has been adopted for both types of wood structures. However, plans submitted by local school boards will be used whenever possible and will be altered as little as possible. FWA regional offices will advise local architects that standard bulkheading, plastering, and other practices that make for greater fire resistance and more lasting construction may be included, if local conditions and construction practices agree.

While the applicant will determine the details of interior arrangement, a center corridor plan will be followed along the lines of the pillars.

The floor plan comprises two school rooms with a corridor between. Partitions are non-bearing and can be moved to broaden the corridor into another room or otherwise alter the floor plan so the structure may be used as a public health center, or for other purposes, when it is no longer needed as a school. Timber trussed roof construction may be used.

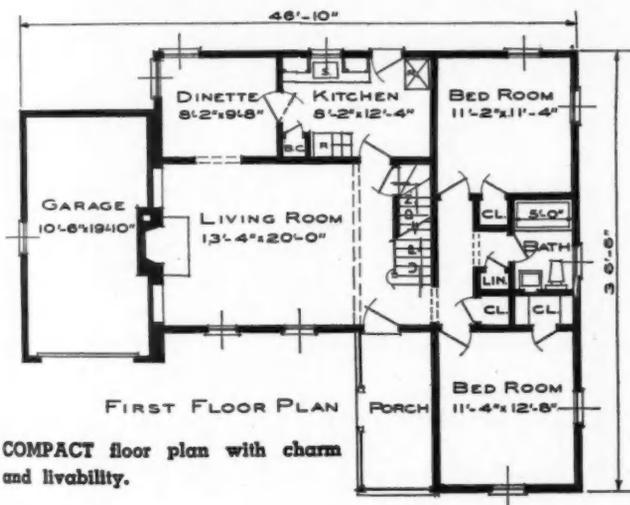
The masonry structures will be fireproof and bomb-resistant. Specifications call for concrete foundation and floor over a gravel fill. Sixteen-inch concrete pillars support a concrete roof. The walls may be of concrete, cinder block, or brick. In the two-story buildings, concrete stairs or ramps will connect the floors. Windows are wood framed, set flush with the outside of the wall.

Regardless of whether the main school building is wood or masonry, gymnasiums and auditoriums (usually the same structure) will be built of wood and connected to the main building by covered passageways. FWA is unwilling to invest funds and materials in large masonry and steel structures which may be of no use when the war ends. The size of these structures will probably be standardized at 35' x 56', 40' x 60', and 40' x 80'. They may be dismantled and the lumber salvaged when they have outlived their usefulness.

The first project completed was a group of portable, wood, "bungalow" schools adjacent to and supplementing the Roosevelt Grammar School at Burbank, California. These buildings may be left in their present location indefinitely, or moved to other parts of the community.



SMALL Southgate Colonial in Williams & Harter's Port Washington, N. Y., project.



How to Sell Homes in Wartime

Faith in the future emphasized in advertising by Williams & Harter of Port Washington, L. I., who still have houses to sell



WILLIAMS and HARTER

THROUGHOUT the land there are many fine homes, both large and small, that were erected prior to the present restrictions on home building. Such houses still have to be sold — even in wartime. What appeals can builders use? Is home ownership still desirable?

The answers to these questions are being aggressively worked out by C. J. Williams and W. J. Harter, developers of the striking New Salem residential community at Port Washington, L. I., N. Y.

Williams & Harter still have a number of fine, well designed Colonial homes for sale. Numerous conferences were held early in the year to arrive at a selling and advertising approach. In conference with Peter J. McKenna of the Metropolitan Advertising Company, New

York City, who is an expert in work of this type for home builders, a theme was worked out which is illustrated in the accompanying advertisements and brochures.

Briefly, it was decided to talk boldly in the New Salem advertising about the war. Instead of avoiding it, the new series of Williams-Harter advertisements played up the fact that "wars come and go," but "lives go on," and home ownership is still highly desirable and worthwhile.

Accompanying a series of newspaper advertisements along these lines has been a series of inexpensive brochures 4 x 9 inches in size, each of which has taken up some aspect of home ownership in the nation's war history. The result is to show that the ownership of a home is even more desirable in wartime than at other times.

Since New Salem has always featured a strong Colonial atmosphere in the designs of its houses, the layout of the project and in promotion matter, it was decided to tie in the Colonial heritage of America, the "Spirit of '76," to home ownership in the present war emergency. For example, one newspaper advertisement runs as follows:

"Our pioneer ancestors fought to establish the Ameri-



America *ALWAYS*
has fought for
LIFE, LIBERTY
and **ITS HOMES**

Our standards of living surpass those of any other nation, and we are willing to fight to uphold them. Until the fight is won, we all must make some sacrifices... but a fine new home need not be one of them! At New Salem and New Salem Southgate there is still a superb selection of Colonial homesteads, reproducing the atmosphere and the staunch durability of the homes of our forefathers. Prices range from \$7,300 to \$11,500... but you had better come out promptly.

New Salem

Williams-Harter CORPORATION
PORT WASHINGTON BLVD. & HAWTHORNE RD.
PORT WASHINGTON, L. I.
Northern Blvd. (25A) to Port Washington Blvd. (Route 101), turn left

ONE of the recent New Salem advertisements used in a program to sell homes during wartime carries a strong current appeal.



**SIX WARS HAVE COME
and gone!**

For the seventh time since this fine old home was built, our country is at war, yet it still is occupied and enjoyed. Always we have emerged from strife victorious, facing a better world. *And we will again!* Perhaps some will wait until then to advance their way of living, but the more foresighted will act now. To these, we still are in a position to offer an extraordinary selection of Colonial homestead-reproductions at New Salem and Southgate priced from \$7,300 to \$11,500. Quick action is essential.

New Salem

Williams-Harter CORPORATION
PORT WASHINGTON BLVD. & HAWTHORNE RD.
PORT WASHINGTON, L. I.
Northern Blvd. (25A) to Port Washington Blvd. (Route 101), turn left

ANOTHER Williams & Harter ad on Port Washington houses.

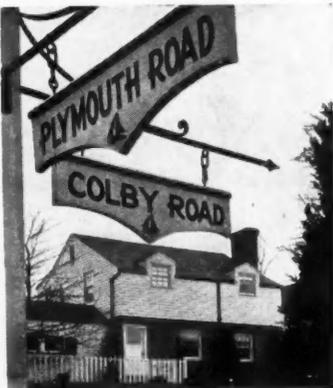
can way of life. Today we are fighting to maintain it. And there's no better time than now to give *your* family the benefits and advantages of finer, higher standards. At New Salem and at Southgate we have left but a few of the homestead reproductions that are built in the manner of our forefathers; the same sincerity of design and construction. Prices range from \$7,300 to \$11,500. Buy yours now. Remember . . . history will repeat itself. Again a victorious America will emerge from the dark clouds of war."

Another advertisement reads as follows:

"Faith—in ourselves, in the American way, in the American home—that is the

richest heritage left us by our country's founders. Around it is built the nation's greatness. We must maintain that faith—by facing the future resolutely, by living sane lives today. Especially in war, the strength and inspiration and contentment of home life are most needed. In trying times you want your loved ones to have all possible happiness. Give it to them—in a new home! At New Salem and at Southgate there are still good selections of

"LIVES will go on," Williams & Harter point out in these folders, and people must eat, sleep and continue to raise their children in the best way they can. A real home is still the best investment.



**A WORD ABOUT
New Salem**



**Let's Face the Future
with CONFIDENCE . . .**

There's a lot to be learned about the future by searching the records of the past. We'll find a pattern—a recurring cycle that has held for the 800 wars of the last 4000 years, and can be expected to hold true again. War or no war, human instincts do not change. And when we've won this war, the world again will enjoy the privileges of freedom for which we are fighting. So we can face the future with confidence . . . and some of us can face it with deep contentment too. For some of us will start now to enjoy new freedom, new and richer standards of living. For

ms-
CORPORATION
PORT WASHINGTON, L. I.

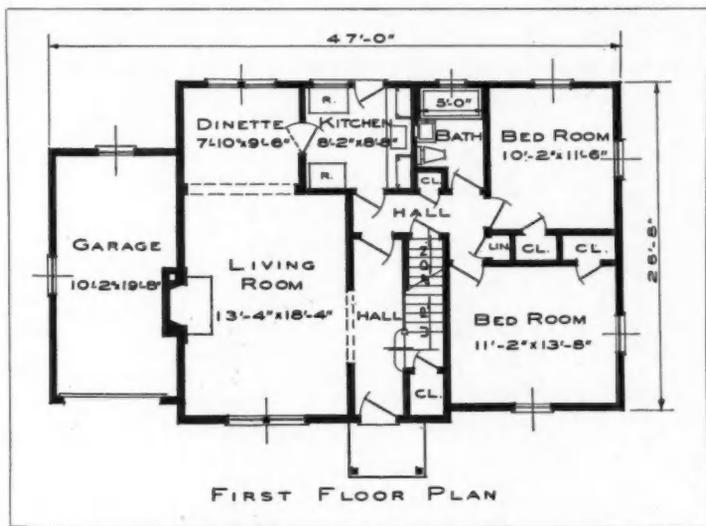
**THE LESSON
WE LEARN FROM
OUR
FIRST SIX WARS . . .**

For the seventh time since our pioneer ancestors built their lovely old homes in the early settlements of the Colonies, our country is at war. They still are occupied—and still enjoyed. Always we have emerged victorious, facing a better world. *And we will again!* In the meantime, our lives will go on. We'll eat, and sleep; we'll raise our children and live in, among proper companions, in refined and friendly environment. These things both New Salem and New Salem Southgate provide in rich abundance. Fortunately we are one old-fashioned in architecture treatment, and lead the modern trend in convenience equipment. Prices range from \$7,300 to \$11,500, so you can see that it is necessary to act without delay. The fact is, to state it bluntly, you must buy now or wait out "the duration."

Sincerely yours,
W. J. Harter
President, Williams-Harter Corp.



"SPIRIT OF '76" is embodied in this unusually compact New Salem home with red-cedar shingle exterior.



SKILLFULLY laid out for high type livability in small floor area.

noted homestead-reproductions. They range in price from \$7,300 to \$11,500. But here, as in other fine communities, no more can be built for the duration. - So I urge you sincerely—whether you buy elsewhere or buy here—*buy now!*"

Still another advertisement illustrated with a Minute Man at Concord reads as follows:

"The 'shot heard 'round the world' is still re-echoing. America again has taken up its arms for the principles of freedom and the American way of life, and again we will emerge victorious. But . . . why delay until then your own 'pursuit of happiness'? At New Salem and New Salem Southgate we still have a good variety of Colonial homesteads expressing the sterling standards and designs

"Wars have come and gone; but this country has always emerged victorious and an increasingly better place to live."

This is the illuminating account of the methods used by a builder to sell new, attractive houses that were constructed prior to present wartime limitations on construction.

of our forefathers. Prices range from \$7,300 to \$11,500. Don't you agree that a new home will help you span the period of war in greater contentment . . . and greater security?"

Copy for one of the mailing pieces illustrated with a dramatic line drawing of the "Spirit of '76" reads as follows:

"HISTORY repeats itself!

"PROGRESS is never without interruption!

"Today in America we enjoy the highest standard of living the world has ever known. It wasn't achieved without struggle and strife.

The path of progress has had many a grim detour since this nation was conceived for freedom. But from wars and depressions alike we always have emerged safely, strongly and victorious. And we will again! Perhaps some will be content to wait until this war is over before advancing their own standards of living. Others will refuse to put off to tomorrow what can be done today. To them we extend an invitation to visit New Salem and Southgate now, while a limited number of fine homes are still to be had. Styled in the manner of Early American homesteads, fully equipped for effortless modern life, they are priced from \$7,300 to \$11,500. Come out and see them. And whether you buy here or

(Continued to page 126)

Prefabrication Rushed with Power Tools

GBH-Way homes are shop-built with modern equipment in Walnut, Ill., plant; make wide use of plywood and are delivered to site with walls finished inside and out

WITH many changes and shifts occurring today in the building market, two factors have once again focused attention on the possibilities of prefabrication of residential units—the need for demountability and anticipated salvage of war housing in certain areas and the need for speed of production which calls for output from all available sources. Consequently, there have been recent announcements of established manufacturing concerns entering this field as well as new businesses being formed to handle such housing.

GBH-Way Homes is one of the latter group and has gone into production within the last year. Although relatively small, it is one of the most up-to-date and most efficiently equipped of the plants employing the Dri-Bilt or Willis-Way plywood technique.

These homes are built in two series, and for the most part are five-room or of five-room utility, such as the two shown below with plan having alternate arrangement.

GBH-Way has its own architectural staff, and besides the standard models, can produce designs for other small homes. Planning of course takes into consideration the facilities of the plant.

Accompanying this article are views which show the fabrication process from start to finish, most of which occurs in the factory rather than at the site. The present facilities include 12,000 square feet of floor space, half of which is used for storage, and which normally can produce two houses a week. Here 72 operations are required up to the time of delivery of each home, about 400-man hours of labor going into the average five-room one-story house.

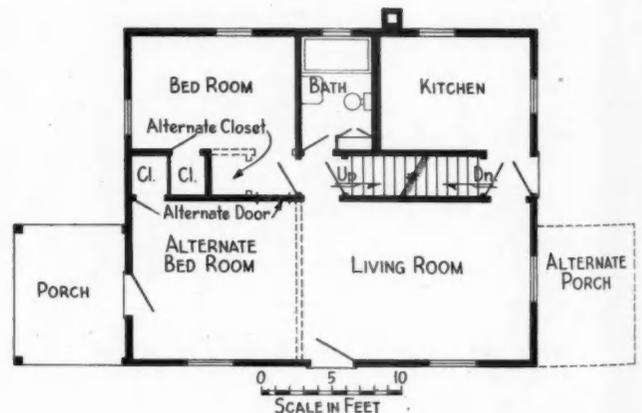
At the site, foundations are prepared in the conventional manner and may be of poured concrete, block or tile. A basement is optional according to design. This work from start to finish generally requires about a week.

Meanwhile, at the plant, the sections are being assembled. Sills and joists are precision-cut from selected lumber against master templates and delivered for bolting to the foundation.

All the assembly operations are made from stock cut to size, milled, etc., with power equipment. Two Wallace radial saws are used to cut plywood, cut and gain all studs, prepare the rafter ends and do such miscellaneous work as nosing stair treads, cutting clothes poles from scrap, mitering, etc. One of the accompanying views shows the large hot plate press which bonds standard sheets of plywood into single wall-length panels ready for attachment to the studs set in jigs.

In appearance, the wall panels are the same as conventional construction; they are full thickness. All joints being resin-bonded, the plywood walls present an unbroken surface on the inside for decoration. On the exterior, the Plyscord sheathing is also glued and nailed to the framing members and covered with heavy asphalt felt. Skilsaws are used to cut out window and door openings. Because of the glued facings, these walls do not require corner bracing. The ceilings of GBH-Way homes are made up room size with unbroken surface, and are self-supporting. At the time of erection, they are leveled and nailed in place to the ceiling joists. Roofs are available in several pitches so that space may be provided for second floor rooms. The roof sections consisting of rafters with plywood sheathing are shingled at the plant with the various panels set in their respective positions. The few shingles which would come over joints are lightly

(Continued to page 126)

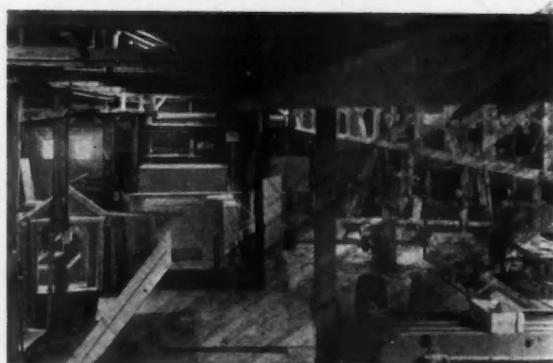


BELOW: Two GBH-Way prefabricated houses, one sided, the other shingled. Typical floor plan possibilities indicated at the right.

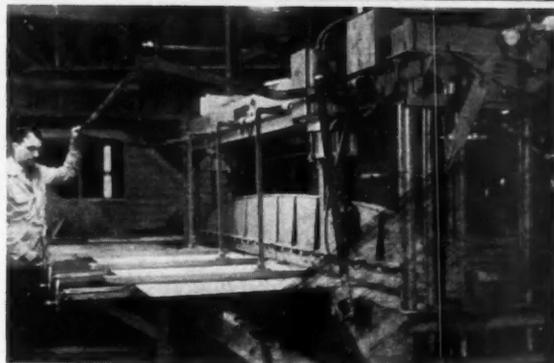


STEPS IN PRODUCTION OF PREFABRICATED HOUSES

GBH-WAY prefabricated house plant was formerly a lumber yard. Far right: General interior view of assembly room. Notice the material stocked in center, equipment installed at the sides.



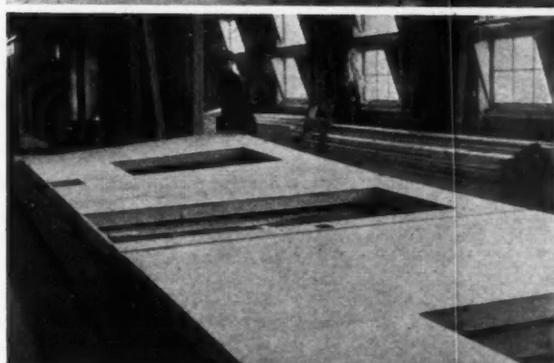
HOT plate press specially built for resin bonding sheets of plywood together to give wall length panel up to 32 feet, and workman using a Wallace radial saw in stair treading operation.



THE same radial saw used above is swung around for ganging operations in studs; cuts are 2½ and 3¾ inches wide, 13/16 deep, made in one pass of cope head. Far right, mitering job.



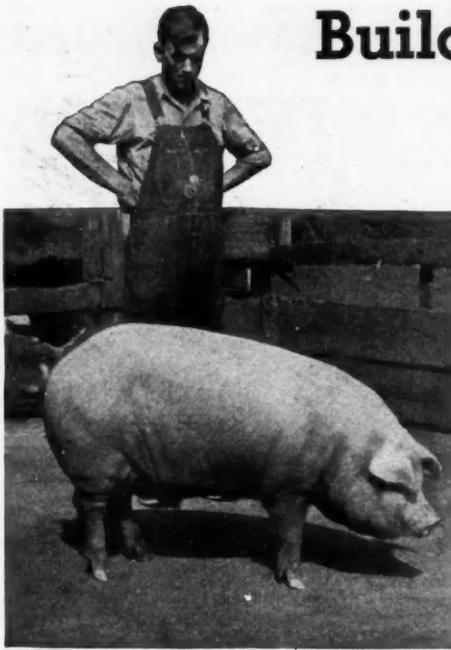
SINGLE sheets of plywood sheathing are laid on jigs holding studs previously spread with glue; faces are nailed for bond. Wall panels then are suspended from overhead track to receive wall finish.



EVEN gable ends are finished complete with windows in place and screens hung. Sections here are ready to move on to loading platform where they will be shipped to site and erected as shown at far right.



Builders Put Hogs on Concrete for Bigger Pork Profits



JOHN H. HENDRIKS and one of his pigs which has never been off concrete.

"Hogs Always on Concrete" Is Newest Farm Improvement Idea

How to Plan and Build Permanent Sanitary Hog House and Feeding Floor

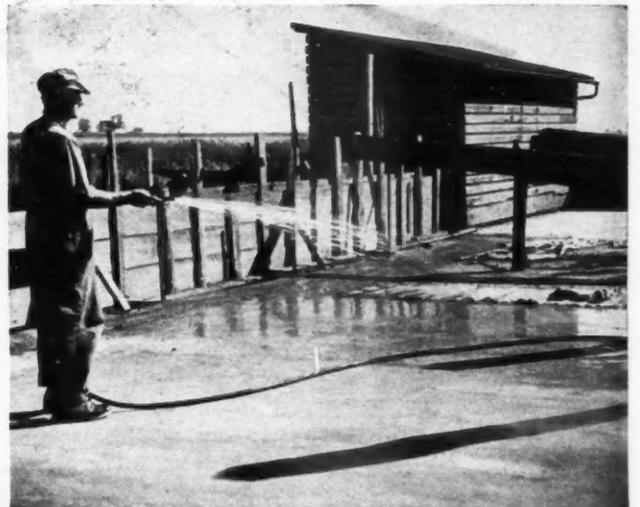
Here Hendriks goes on to explain that any farmer who is "a good hog man" and willing to go the whole way in swine sanitation and observe proper care and feeding can be successful. Management is more important with the confinement method than with other methods, he points out, because hogs must be kept healthy, provided with all necessary food elements.

Since pigs remain on concrete all their lives, good housekeeping is necessary. The fundamental sanitation principles for permanent farrowing houses are followed.

THE "HENDRIKS' System" of raising hogs, with the porkers spending their entire life on concrete, is attracting much favorable attention among farmers and may turn out to be an important factor in the war food production program. The Portland Cement Association, Chicago, has recently issued a bulletin on this subject under the title, "New Method of Raising Hogs," in which John H. Hendriks, operating a farm in the mid-west corn-belt tells in detail, for the benefit of other farmers, the herd management methods he has found successful.

"I raise two pig crops a year, more than 100 head in each crop," writes Hendriks. "Pigs average around 275 lbs. in 6 months. I produce 100 lbs. of pork with 300 lbs. of feed at a cost of about 3 cents per pound of gain. In brief, my system of raising hogs consists of confinement feeding on a concrete floor from farrowing to market, selective breeding, plus careful management. There is plenty of work connected with it; but it has paid me well, even through the years of depression.

"Can everyone raise hogs this way?"



THE NEW concrete floor must be protected from drying out for at least 5 days by sprinkling and covering with sand or canvas. The forms for a concrete manure pit can be seen in the background.



The floors are scrubbed and disinfected periodically with lye and dip. The floor is swept three times a day and washed twice a week. Sunshine disinfects the outside portion of the floor.

The Wisconsin Experiment Station reports that once a farm is infected with swine erysipelas it is almost impossible to clean it up—because the bacteria live and multiply in the soil. On some farms the disease has become so firmly rooted that the operators either have been forced entirely out of the hog business or have had to keep all of their hogs on concrete floors that are frequently washed and disinfected.

Good drainage and proper manure han-

ding facilities are essential around the floor to help maintain sanitary conditions. Water under pressure is also important. Feeders must be cleaned and cared for regularly.

Equipment and Feeding Floor

The plan of the Hendriks permanent hog house and feeding floor is shown. The manure pit and catch basin as placed here have been added to improve the sanitary conditions around the floor.

The paved floor need not be large. Size required is often determined by allowing about 10 sq. ft. of floor per hog. Some feeders consider 15 sq. ft. of floor per hog better. The concrete floor is generally built 4 in. thick; although it should be 6 in. thick if it is to withstand heavy vehicles. If located on fairly well-drained soil, no fill is required under the floor. Where it must be located on poorly-drained ground, provide a well-tamped fill of gravel, cinders or similar material about 6 in. thick to bring the floor above the natural ground level.

Following this preparation the floor is built in sections which measure about 10 ft. square, forms being of 2x4's or 2x6's held in place by stakes. It is good practice to build an apron or cutoff wall extending down into the ground about 18 in. around the sides of the floor to prevent undermining. Final finishing of the concrete should be with a wood float to provide an even, yet gritty, nonskid skid surface. To provide good drainage the floor is given a slope of at least 1/4 in. per ft.

Use a concrete mix of 1 sack of portland cement to 2 1/4 cu. ft. of sand to 3 cu. ft. of gravel with not more than 5 gal. of water added per sack of cement (where average damp sand is used). If sand is dry use 5 1/2 gal. and if the sand is wet use 4 1/2 gal. of water per sack of cement. When only a part of a bag of cement can be mixed at a time in a small mixer a simple method of obtaining the correct proportion of water to cement is

to measure the amount of cement and water in the same size pail, and if the sand is wet use one-half as much water as cement; if the sand is damp use two-thirds as much water as cement; and if the sand is dust dry use three-quarters as much water as cement. Then add the sand and gravel in the proportion of 2 1/4 sand to 3 gravel until the mix is mushy but not soupy.

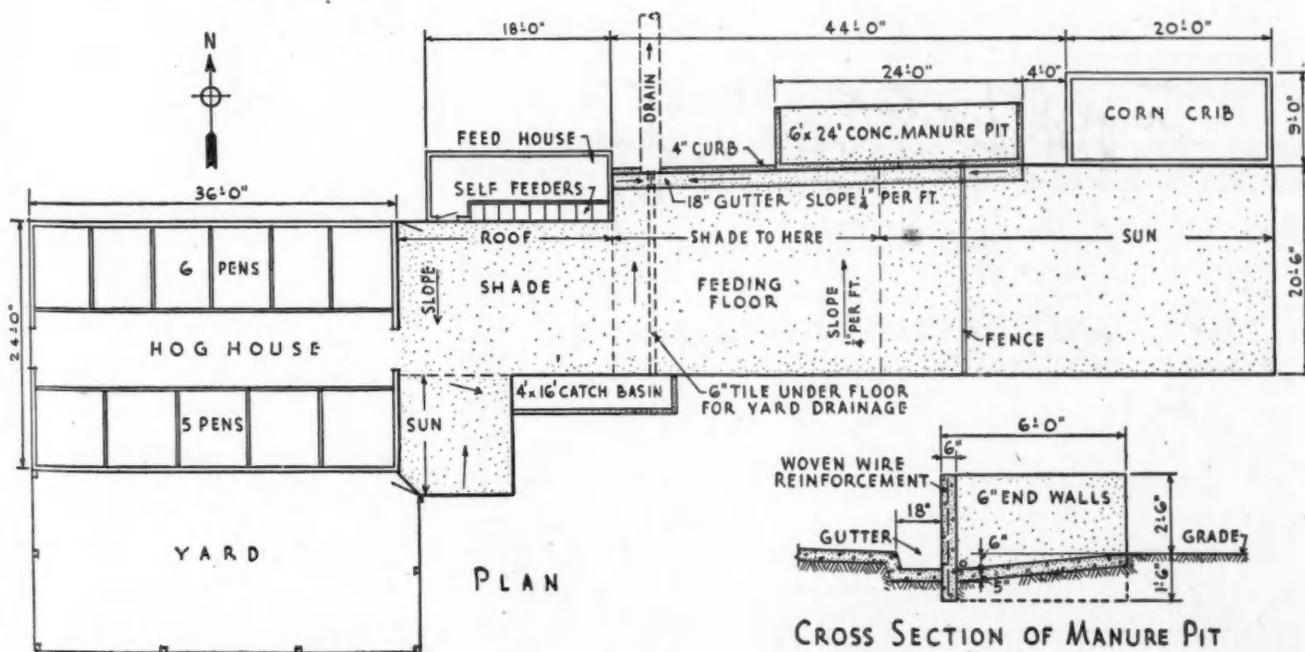
The amount of material required per 100 sq. ft. of 4-in. concrete floor is as follows:

- 7.6 sacks of portland cement
- 0.65 cu. yd. of sand
- 0.85 cu. yd. of gravel

Hendriks further states, "My equipment is all home-made. Except for the permanent house and feeding floor I have a very low investment. I do not need hog-tight fences all over the farm. And I always know where my hogs will be at feeding time."



VIEW of Hendriks hog lot with concrete feeding floor and permanent and temporary shelters. The 11-pen hog house is to the far left, only partly seen in this photo. The feed house with battery of self-feeders is shown at top center, with shaded feeding floor in foreground.



Plan of the Hendriks' System showing the central house, concrete feeding floor, manure pit and other details.

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.

AB856 A new paint specification book of 16 pages containing complete instructions, and specifications for the painting of buildings, interiors and exteriors is offered by Sherwin-Williams Co., Cleveland, Ohio. Colored samples of eight different types of paints and varnishes are included. Information is given on finishing methods used on homes and commercial buildings, and for all interior and exterior industrial maintenance work.

AB857 How to handle the metal shortage of gutters is made clear in a new illustrated folder from the Long Fir Gutter Co., Cadiz, Ohio. This illustrates the "Shadowline" fir gutters furnished by the Long Co., and presents helpful details of construction to show how these wood gutters are properly installed.

AB858 A new 20-page brochure from the Kimberly-Clark Corp., Neenah, Wis., explains "A New, Improved Kimsul Insulation." It demonstrates the improved qualities of this new blanket type insulator, and gives numerous helpful pointers for installing Kimsul for best results.

AB859 "General Electric in the Home—on the Farm" is the title of a new de luxe brochure of 64 pages and covers cataloging all types of important electrical equipment for the farm home now available through General Electric dealers. All items are illustrated and helpfully priced, although in these changing war times, prices are changeable.

AB860 "Low Cost Floors for Defense Housing" is an impressive portfolio from E. L. Bruce Co., Memphis, Tenn., featuring the Bruce "Streamline" flooring for speeding defense housing in defense areas. Eight out of thirteen defense housing projects are now using Bruce Streamline flooring, it is stated. With no sanding and finishing on the job required, this flooring being factory stained and finished, really low costs for installation are being experienced, both in prefabricated houses and in job-assembled houses.

AB861 Fluorescent lighting is very completely explained and demonstrated in a new brochure of 28 pages from the Miralume Div. of the Hygrade Sylvania Corp., Ipswich, Mass. Fluorescent lighting for industrial and commercial buildings is thoroughly covered, with clearly explained details of design, specification and installation features.

AB862 "Simplification of Structural Steel Shapes" is an 8-page pamphlet from the American Iron and Steel Institute, 350 Fifth Ave., New York City. It lists the greatly limited assortment of structural steel shapes now being produced under agreement with the Office of Production Management.

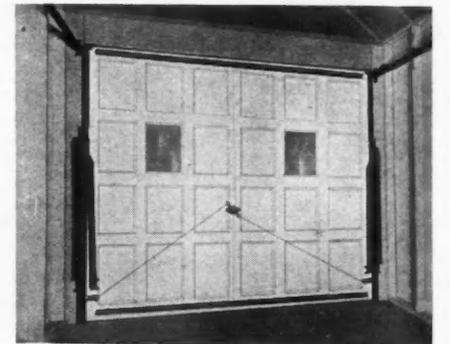
AB863 The new "Korpak" block machine developed by W. E. Dunn Mfg. Co., Holland, Mich., is illustrated and described in a new 16-page catalog. This machine has a very interesting power-driven core packing unit

which is said to combine the desirable features of both the vibration and the tamping method of compacting the block. Korpak is offered as an all-purpose machine for producing both standard plain and rock-faced concrete blocks and specials.

AB864 Tamms Silica Co., 228 North La Salle St., Chicago, has issued a new comprehensive catalog of 24 pages entitled, "Tamms Paints, Sundries, Builders Supplies." It is offered with the statement that it contains complete information on those "hard to get" products that builders and dealers often have difficulty in locating.

AB865 The National Lime & Stone Co., Findlay, Ohio, has issued a helpful data sheet and wall hanger on "Monarch Special White," a masonry paint of tested worth. It is used successfully on any unglazed masonry surface, including stone, brick, concrete, tile and stucco.

AB866 The convenience of automatic opening on popular price overhead garage doors is now readily available, according to the Frantz Mfg. Co., Sterling, Ill. A simple lever and



FRANTZ "Over-the-Top" garage door.

spring attachment, now standard equipment with Frantz "Over-the-top" complete garage door units No. 17, No. 7 and No. 21, does away with complicated and costly devices usually required. All that is necessary to open a door on which the automatic opener has been installed is to turn the handle and the door rises.

AB867 "American Flooring News," a very practical 4-page newspaper, published and distributed free of charge to the floor sanding trade by the American Floor Surfacing Machine Co., Toledo, Ohio, carries in its Winter Issue, 1942, some timely features on how floor sanding jobs are being handled on the huge defense housing projects. To compensate for this as far as non-defense areas and work are concerned, another prominent feature—always of interest—is entitled, "There's plenty of work if you go after it."

AB868 A brand new DeWalt catalog from the DeWalt Products Corp., Lancaster, Pa., is entitled, "DeWalt Cuts Materials Accurately, at Any Angle." It contains 16 pages of well illustrated detailed information on the DeWalt machine and how it is used.

CLIP AND MAIL TO CHICAGO

Readers Service Department
American Builder,
105 W. Adams St., Chicago, Ill.

(April 1942)

Please send me additional information on the following product items, or the catalogs, listed in this department:

Numbers.....

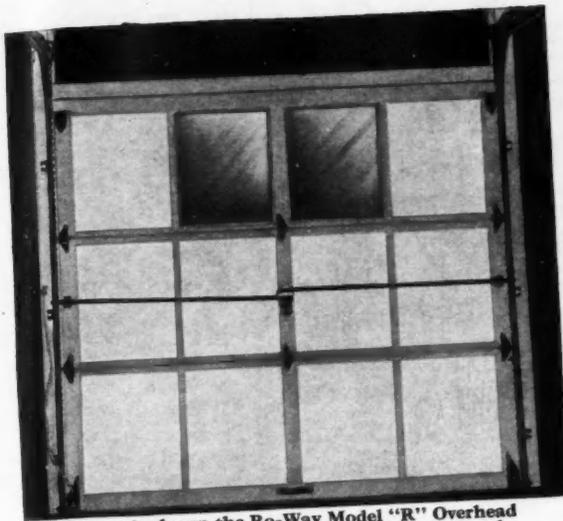
Name.....

Street.....

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

OCCUPATION*.....

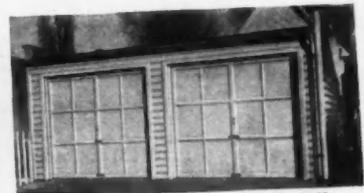
*Please note that occupation must be stated if full service is to be given



Above is shown the Ro-Way Model "R" Overhead Type Door of 3-section type with 2 glass panels. This model is made in either 3 or 4 sections, and in only two sizes—8 ft. x 6 ft. 6 in. and 8 ft. x 7 ft.



Attached Garage with Ro-Way Model "R-4" Door.



2-car Garage with Model "R" Ro-Way Doors.



3-car apartment Garage equipped with Ro-Way Model "R-4" Doors.



Full wood paneled Model "R-4" Ro-Way Door.

Here's the **OVERHEAD TYPE DOOR**
THAT MEETS TODAY'S DEMAND FOR
Quality at Low Cost!

Ro-Way MODEL "R"
OVERHEAD TYPE

First—Note this is a true Sectional Overhead Type Door, with ball bearing rollers and track. Easy to operate and when open provides full drive-in clearance.

Manufactured in quantities of hundreds at a time and packaged in warehouse ready for shipment, these Ro-Way Model "R" Overhead Type Garage Doors are priced to give the utmost value per dollar.

They are completely made in the Ro-Way Factory—even to Hardware, Streamlined Hinges, Double thick Rollers, Friction-reducing Tracking, Sheave Wheels, Springs and Locks.

Model "R" requires 13½" Headroom
 Model "RL" requires 9" Headroom

Both Models are made in only two standard sizes—8' x 6", and 8' x 7'. Regularly supplied with 3 sections as illustrated, but also available with 4 sections. Have 2 center panels open for glass, or may be had without glass panels.

Write for detailed information and prices.

ROWE MANUFACTURING CO.
 742 Holton Street Galesburg, Illinois, U. S. A.

NOTE THESE SIX EXTRA VALUES!

- 1. Track Rollers** made on our own specially-designed machines. All Rollers have "double thick" wearing tread, and full ball bearing (7 to each roller).
- 2. New Friction-Reducing Track.** Track is formed so rollers ride well away from the track side wall, giving extra clearance and easier operation. This track design also gives extra strength and rigidity. No counter-sunk holes in track—no flat head stove bolts used.
- 3. Extra Bearing Support.** The load sheave wheel of this Ro-Way Door is reinforced with an inner bearing support. No opportunity for side pull or twist. Insures long life of smooth, easy operation.
- 4. Rust-proof Hardware.** All Parkerized and Painted after fabrication.
- 5. Streamlined Appearance.** Stiles and rails are of the modern streamlined type. Hinges are streamlined and of rigid anchor type.
- 6. Time-Saving Installation.** Complete pictorial instructions sent with each Door enable any capable carpenter-mechanic to install in 2 or 3 hours.

ROWE MANUFACTURING CO.,
 742 Holton St., Galesburg, Ill.
 Gentlemen: Please send me Free Descriptive Folder and Prices on Ro-Way Overhead Type Doors.

Name

Address

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

There's a RoWay for every Door way!

Wartime Wiring Will Cut Costs and Promote Safety

Porcelain Insulated Wiring System (Knob and Tube) for Homes, Farms and Smaller Industry Buildings Is Approved by National Electrical Code and Saves Many Tons of Steel, Copper, Rubber

THAT PART of the National Electrical Manufacturers Association concerned with standard porcelain and non-metallic outlet and switch box sections prepared a recommended specification for "A Modern Wiring System for Low-Cost Dwelling and Farm Out-Buildings" which was published in the *Bulletin of the Producers' Council* of December 1940. This form of wiring, known commonly as "knob and tube," has been very generally recognized for its simplicity, safety and low cost; and it takes on new importance in today's war market because of the substantial savings its use effects in steel, copper, rubber and zinc.

Edward D. Plesec of Porcelain Products, Inc., Findlay, Ohio, in commenting on this phase of the situation writes,

"The Defense Housing Critical List dated February 24, 1942, as well as the circular letter No. 1245 issued February 21, 1942, by the Office of the Chief of Engineers of the War Department, has listed non-metallic wiring devices for use in defense housing and in War Department construction as a means to conserve critical materials for our war program. Building contractors throughout the United States should not be held up by a lack of this type of material, as porcelain outlet boxes and other wiring devices of non-metallic materials are readily available, as contrasted to the scarcity of similar materials made of metals. Also the fact that Knob & Tube Wiring installations can be made with

fewer materials, less copper, and less rubber, should prove of much interest to building contractors."

It has been estimated by the Edison Electric Institute that approximately 74,000 tons of steel (148,000,000 pounds), 11,100 tons of copper (22,236,000 pounds), 1,400 tons of rubber (2,800,000 pounds), and 600 tons of zinc (1,200,000 pounds) could be conserved annually for defense purposes through the use of non-metallic wiring systems. Those are the amounts of critical materials which can be saved by use of the Porcelain Protected Wiring System in the \$11,000,000,000 volume of defense and civilian building construction estimated as indispensable for 1942. The following memo explains these figures.

We believe the entire subject of interior wiring design is due for some hard-headed reexamination in the light of common sense. The application of realistic thinking is long overdue.

A wiring "job" may be one of two things. It may be a means for safe, simple and economical distribution of electrical energy, or it may be an oblique approach to the sale of extra materials of questionable relationship to the safe and economical distribution of electrical energy. Because the Knob & Tube Wiring System in its simplicity provides the greatest safety, economy and conservation of critical materials, its use is imperative as an integral part of our War Effort.

(Continued to page 88)

| | | | |
|---|---|--|---|
|  |  |  |  |
| LAMP BASE—Keyless No. 8383 3/4"—No. 8384 4" | LAMP BASE with pull No. 8363 3/4"—No. 8364 4" | LAMP BASE—Keyless No. 8388 | SWITCH BOX No. 8310 |
|  |  |  |  |
| DUPLEX RECEPTACLE No. 8353 3/4"—No. 8354 4" | BLANK COVER No. 8323 3/4"—No. 8324 4" | COVER FOR SURFACE MOUNTED DEVICES No. 8343 3/4"—No. 8344 4" | PENDANT COVER No. 6920 3/4"—No. 6921 4" |
|  |  |  |  |
| PENDANT COVER No. 8333 3/4"—No. 8334 4" | TUMBLER SWITCH COVER No. 8378 | PENDANT COVER No. 8338 | SWITCH BOX No. 8311 |
|  |  |  |  |
| CLEAT Two Wire | READY OUTLET BOX No. 8318 | DEEP READY OUTLET BOX No. 8318 1/2 | TUBE (Standard) |
|  |  |  | |
| OCTAGONAL OUTLET BOX No. 8313 3/4"—No. 8314 4" | DUPLEX RECEPTACLE No. 8358 BLANK COVER No. 8328 | ALLIGATOR KNOBS (Split) Nail and Screw | |

IMPORTANT items in the Knob & Tube and Open wiring system line of Porcelain Products, Inc., Ohio.



THE OUTLOOK FOR THE ROOFING BUSINESS

With home-building in 1942 limited to low-cost housing in selected defense areas, the emphasis on the re-roofing market is greater today than ever before. Alert building supply dealers and contractors who have for years profited from pushing re-roofing business are enthusiastic over the volume possibilities the current situation presents.

Home-owners have more money to spend, fewer ways to spend it. All the more reason to invest in re-roofing—a proved method of increasing the long term value of any home investment.

Are you prepared to get your share of the business? There's an easy way to do it.

Feature Barrett Roofings and other building products. Tie in with "the greatest name in roofing." Make use of Barrett's 1942 promotion material. Direct mail campaigns, personal selling aids, job signs and store signs, window displays and product literature are all designed to help you sell.

The combination of quality materials and selling tools is keyed directly to today's conditions. Ask your Barrett salesman, or write today for details.



THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK

2800 So. Sacramento Ave., Chicago

Birmingham, Ala.

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

Ever "ironed" any Plywood?



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

Some day this unique method may help you solve a problem!

● At Oregon State College, Coach E. A. Stevens builds racing shells from 1/8-inch Exterior-type Douglas Fir Plywood. In order to shape the big, flat sheets into the required compound curves, he irons the plywood over the frame with an ordinary household steam iron. It takes but a few minutes to mold the plywood "skin" and have it ready for gluing and nailing to the frame. This method, Coach Stevens' own invention, enables him to build simpler, speedier, more durable shells at lower cost.

All over the nation, alert craftsmen and designers are constantly discovering new ways of using and handling Douglas Fir Plywood. We try to learn of all we can because they supplement in a very practical way the very extensive research program we are carrying on in our laboratory. You may never want to "iron" any plywood—yet the sum total of *all* the new information we learn about Douglas Fir Plywood *today* will *tomorrow* make this modern miracle in wood more useful to you than ever before!

The Douglas Fir Plywood Association welcomes inquiries as to the uses and characteristics of Douglas Fir Plywood. However, non-defense inquiries as to the availability or delivery of Douglas Fir Plywood must be directed to your distributor, Douglas Fir Plywood Ass., Tacoma, Wash.

DOUGLAS FIR PLYWOOD

Real Lumber
**MADE LARGER, LIGHTER
SPLIT-PROOF
STRONGER**

Wartime Wiring Will Cut Costs

(Continued from page 86)

Memorandum of Savings of Critical Materials, By Use of Porcelain Wiring Methods

| STEEL SAVINGS | SAVED |
|--|-----------|
| 1000 Ft. No. 14-2 Armored Cable.....Lbs. Steel | 170 |
| Straps and Nails.....Lbs. Steel | 2 |
| Lbs. Steel 172 | |
| 2000 Ft. No. 14 Code Wire on Knobs and Tubes requires steel only for nails in knobs.....Lbs. Steel | 5.5 |
| Steel Saved per 1000 Ft. 2-Wire Circuit..... | 166.5 LBS |
| * * * | |
| 1000—4" Octagon Steel Outlet Boxes.....Lbs. Steel | 700 |
| 1000—4" Octagon Porcelain Outlet Boxes.....Lbs. Steel | 0 |
| Steel Saved per 1000 Boxes..... | 700 LBS. |
| * * * | |
| 1000—Pull Socket Outlets made up of 1—4" Octagon Steel Outlet Box.....Lbs. Steel | 700 |
| 1—4" Porcelain Pull Receptacle Cover.....Lbs. Steel | 0 |
| | 700 |
| 1000—No. 8460 Pull Receptacle Surfolets.....Lbs. Steel | 0 |
| Steel Saved per 1000 Boxes..... | 700 LBS. |
| * * * | |
| 1000—Keyless Socket Outlets made up of 1—4" Octagon Steel Outlet Box.....Lbs. Steel | 700 |
| 1—4" Steel Plate Receptacle Cover.....Lbs. Steel | 250 |
| | 950 |
| 1000—No. 8420 Receptacle Surfolets.....Lbs. Steel | 0 |
| Steel Saved per 100 Boxes..... | 950 LBS. |

| COPPER SAVINGS | SAVED |
|---|------------|
| 1000 Ft. Armored Cable or Non-Metallic Cable to carry 20 Amperes Load—Size No. 12-2 Cable.....Lbs. Copper | 39.54 |
| 2000 Ft. "R" Code wire on Knob and Tube to carry 20 Amperes Load—Size No. 14 Wire.....Lbs. Copper | 24.86 |
| Copper Saved per 1000 Ft. 2-Wire Circuit..... | 14.68 LBS. |
| * * * | |
| 1000 Outlets—Cable Construction, all branches from boxes—12.25 Ft. Cable per Outlet—12.250 Ft. Cable No. 14-2.....Lbs. Copper | 305 |
| 1000 Outlets—Knob and Tube Construction with one common hot wire and one common return—18.9 Ft. per Outlet—18,900 Ft. No. 14 Wire.....Lbs. Copper | 234.9 |
| Copper Saved per 1000 Outlets..... | 70.1 LBS |

| RUBBER SAVINGS | SAVED |
|---|-----------|
| 1000 Ft.—Armored Cable or Non-Metallic Cable to carry 20 Amperes Load—Size No. 12-2 Cable.....Lbs. Rubber | 24.29 |
| 2000 Ft.—"R" Code Wire on Knob and Tube to carry 20 Amperes Load—Size No. 14 Wire.....Lbs. Rubber | 21.71 |
| Rubber Saved per 1000 Ft. 2-Wire Circuit..... | 2.58 LBS. |

From the foregoing it can be seen that on an army cantonment of one thousand (1000) buildings, and assuming 30 outlets per building, the following savings could be effected with Porcelain Wiring—

| SAVED | |
|---|------------------|
| Saved by reduced footage of wire required by Knob & Tube Wiring..... | 2103 LBS. COPPER |
| Saved by smaller size wire (No. 14) in Knob & Tube Wiring carrying same load as larger wire (No. 12) in cable wiring..... | 5394 LBS. COPPER |
| Copper Savings in One Cantonment.....Total | 7497 LBS. COPPER |
| * * * | |
| Rubber Savings in One Cantonment.....Total | 948 LBS. RUBBER |
| * * * | |
| Steel saved by Knob & Tube Wiring over armored cable wiring..... | 61193 LBS. STEEL |
| Steel saved by Porcelain Outlet Boxes and Surfolets (av.)..... | 24750 LBS. STEEL |
| Steel saved in One Cantonment with Knob & Tube Wiring.....Total | 85943 LBS. STEEL |

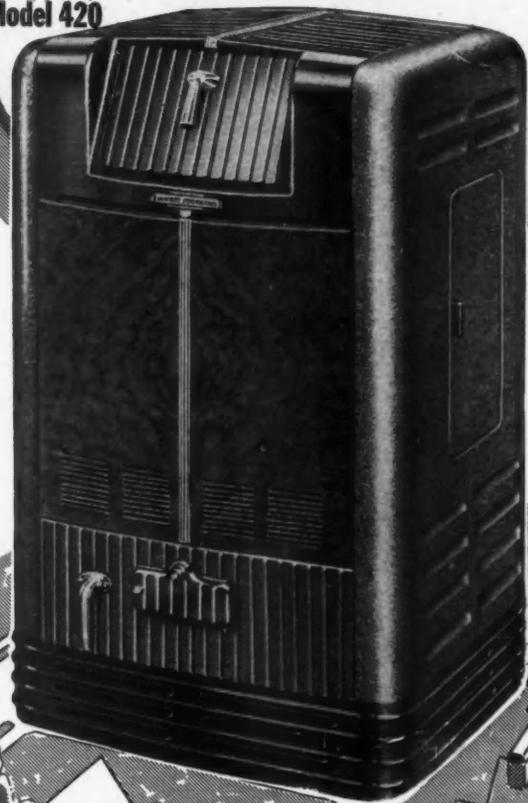
Figures Compiled by Porcelain Products, Inc., Findlay, Ohio.

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free

a "NATURAL" for Housing Projects

WARM MORNING Coal Heater

Model 420



SAVES CRITICAL METAL—Especially constructed fire brick liners and flues save critical metal for vital defense use.

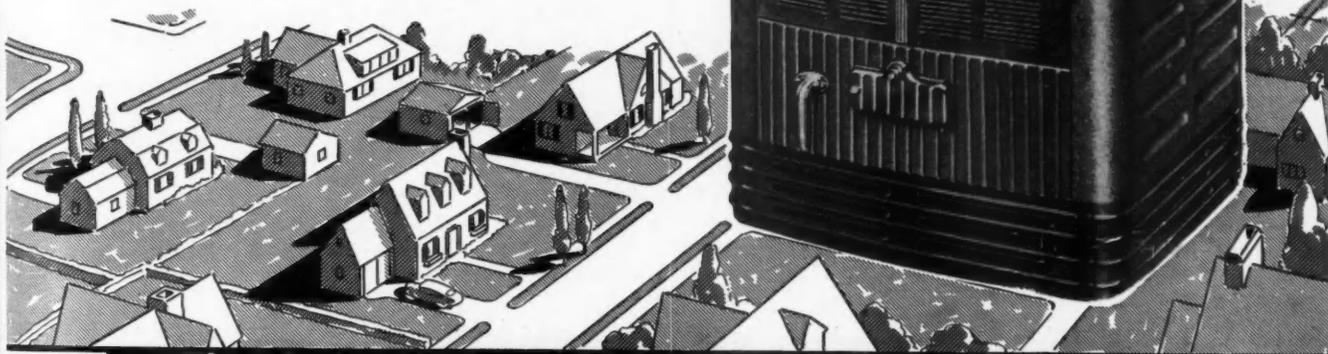
SAVES FREIGHT—Streamlined design saves both space and weight.

SAVES FUEL—Efficient combustion brings about amazing savings in fuel.

SAVES TIME—Comes completely assembled ready for immediate installation.

SAVES MONEY—Requires no special diet. Burns any kind of coal, coke, briquets—no clinkers—economical to buy and operate.

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

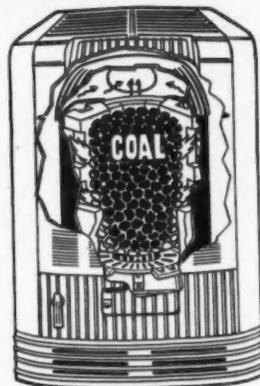


The Only Heater of Its Kind in the World

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 All Night Without Refueling

- Holds 100-pounds of coal.
- Semi-automatic, magazine feed.
- Burns any kind of coal—bituminous or anthracite—no clinkers.
- You need start a fire but once a year.
- Requires less attention than most furnaces.
- Holds fire 24 to 36 hours in coldest weather—several days in mild weather.
- The home is WARM every MORNING regardless of the weather.
- Works on coke-oven principle turning bituminous coal into coke, burning coke without smoke or soot.
- Solid and substantial yet neat in appearance—The cabinet is a beautiful two-tone brown enamel.
- Built to give years of service.
- Materials and workmanship guaranteed.



CROSS SECTION VIEW
Revolutionary construction principles are responsible for amazing heating results. Each heater equipped with humidifier pan. Special top casting increases radiant heat and speeds up circulation.

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 St., Kansas City, Mo.

New Housing Critical List Issued

Specifies All Metal Items on Which Priority Assistance Will be Given for War Housing in "Defense Areas"

A NEW defense housing critical list has been issued by the Housing Priorities Branch of the War Production Board in Washington.

The List, announced February 27, is more specific than the original issued on September 19, 1941 (interpreted September 24, 1941), which it supersedes and nullifies. It is based upon the present critical position of many materials essential to the construction and equipment of housing, and is subject to revision as changes in the situation develop.

Preference ratings assigned to deliveries of scarce materials for defense housing projects may be applied *only* to items appearing on the new critical List, which was drawn up to conform to the limitations placed upon the uses of a number of scarce metals since the issuance of the original list last September.

Some major changes affected by the issuance of the new List are:

STRUCTURAL. Steel bearing plates are eliminated and steel stair construction is further restricted. Tin coating for sheet metal coverings on fire doors is eliminated. The use of metal lath is further curtailed. Detailed specifications are included for builders' hardware so as to reduce the use of the more critical metals to a minimum.

ELECTRICAL. Armored cable, metallic cable, metallic raceways and metal outlet boxes are allowed only where other methods are prohibited by the National Electric Code. Private telephone systems are prohibited.

PLUMBING AND GAS DISTRIBUTION. Quantity and sizes of roughing in materials are limited to meet the minimum requirements of the "Emergency Plumbing Standards" issued by the Defense Housing Co-ordinator, December 26, 1941. Copper coils for hot water generators and heat exchangers are not allowed. Water softeners are allowed for single units.

HEATING. Steam or hot water systems are allowed only for installations serving two or more families. Metal jackets for boilers are not allowed. In view of a contemplated limitation of the use of natural or mixed gas, the requirement is made for the submission of proof of the availability of service for installations of this type.

The complete text of the new List follows:

100 GENERAL PROVISIONS

110 Scope:

- 111 This list supersedes and nullifies the Defense Housing Critical List, PM-1192, dated September 19, 1941.
- 112 This list is based upon the critical positions, at the time of issuance, of materials essential to the construction, allocation and equipment of housing, and is subject to revision by the Director of Industry Operations whenever warranted by a change in the critical position of the materials included.
- 113 Only the materials and products included in this list, and only in such limited quantities and for such limited uses as are herein specified or imposed by an applicable Preference Rating Order, are eligible for procurement by the extension of a Preference Rating Order granted for a housing project.
- 114 Materials not included in this list and not subject to allocation or priority control may be used without restriction or limitation, provided, however, that nothing herein is intended to limit the application of the provisions of Priorities Regulation No. 1.

120 Substitutes:

- 121 Materials or products of the sizes, weights or composition specified in the list may not be immediately procurable due to necessary changes in manufacturing processes or procedure. In such cases, the Preference Rating Order may be extended to secure delivery of similar products or materials previously produced for the same use, provided such delivery is made from the supplier's existing stocks or inventory.

130 Definitions:

- 131 "Applicable code or regulation" means a code or regulation of a public body having jurisdiction, or a regulation or

standard of a housing agency of the Federal Government constructing or aiding the financing of the project.

- 132 "Multi-family dwelling" means a dwelling containing separate living units for three or more families with joint facilities or services or both. For the purpose of the Defense Housing Critical List, the term "joint facilities" means any one or more of the following which serve three or more families: Entrance hall, stairway, storage or laundry facilities, bathroom or toilet, attic, heating plant, hot water generator, and electrical service equipment; the term "joint services" means janitorial and maintenance services.

200 STRUCTURE

210 Reinforcing steel bars, mesh or fabric, tie wire, and accessories—only for reinforced concrete or reinforced masonry:

- 211 Foundation walls, footings, piers and grade beams where reinforcing is required by applicable code or regulation due to varying soil bearing or for earthquake resistance.
- 212 Columns, piers and load bearing walls where required by applicable code or regulation for earthquake resistance or for multi-family structures over two stories high.
- 213 Beams and self-supporting slabs for multi-family dwellings where required for fire or earthquake resistance by applicable code or regulation unless wood construction is permitted.
- 214 Interior stairs for multi-family dwellings over two stories high where required by applicable code or regulation for fire hazard protection or for earthquake resistance.
- 215 Lintels.
- 216 Retaining walls where earthquake resistance is required by applicable code or regulation.
- 217 Bond, tie or perimeter beams where required by applicable code or regulation for earthquake or hurricane resistance.
- 218 Chimneys for large central heating plants or where earthquake resistance is required by applicable code or regulation.
- 219 Structures in Puerto Rico and Virgin Islands.

220 Miscellaneous steel and iron:

- 221 Anchors, dowels, cleats, timber connectors, bolts and tie rods with nuts and washers.
- 222 Plates for framing wood trusses.
- 223 Joist hangers for multi-family dwellings.
- 224 Angle lintels for exterior walls constructed of masonry veneer over wood framing.
- 225 Fireplace dampers—ferrous metal uncoated without metallic throats.

230 Steel stairs, rails, railings and incidental fittings and fastenings—uncoated or non-metallic coated ferrous metal—for multi-family dwellings over 2 stories high where required by applicable code or regulation for fire hazard protection and in such cases only where reinforced concrete is not permitted.

240 Insect screen mesh:

- 241 Painted steel.
- 242 Thin coat galvanized steel.

250 Fire doors including frames for multi-family dwellings where required by applicable code or regulation—wood cored with non-metallic coated 30 gauge ferrous sheet metal covers.

260 Roofing and sheet metal:

- 261 Fittings, fastenings, hangars, and cleats—zinc coated ferrous metal where exposed to weather, otherwise no metallic coating.
- 262 Solder.
- 263 Flashings—ferrous sheet metal not heavier than 26 gauge, no metallic coating, phosphate treated, or zinc coated not to exceed 1¼ ounces per square foot, total coating both sides—2½ pound hard lead, or 4 pound soft lead.
- 264 Gutters (half round) and downspouts—ferrous sheet metal as for 263.
- 265 Wire basket strainers for downspouts connected to sewer lines—ferrous metal zinc coated.
- 266 Scuppers and downspout connections for flat roofs—ferrous metal as for 263.
- 267 Gravel stops for flat roofs—ferrous metal as for 263.
- 268 Roof ventilators of aspirator type—ferrous metal as for 263.
- 269 Termite shields—ferrous metal as for 263.
- 2691 Shields for continuous foundations and for piers and pipes in Florida, Alabama, Mississippi, Louisiana, Texas, and Hawaii.

(Continued to page 92)

**"ZIPS THROUGH
IN ONE-TENTH THE TIME!"**

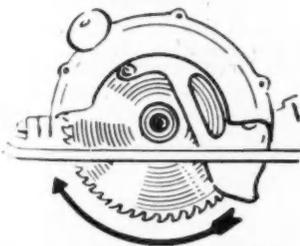


STANLEY W9 SAFETY SAW

The Stanley W9 is a medium capacity Electric Saw with plenty of power and capacity for builders' average needs. Rips or crosscuts 3 1/4" deep. Bevel cuts up to 2 1/4" at 45°. It saves time and money on framing, making cement forms, platform trimming, and a hundred other hard-work jobs with a hand saw.

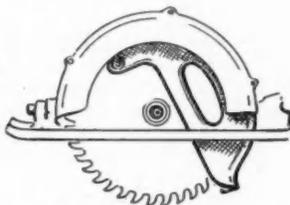
Other Stanley Electric Saws cut from 2 1/2" to 6", for any job from light work to heavy timber sawing. Stanley Electric Tool Division, The Stanley Works, 133 Elm Street, New Britain, Connecticut.

FAST



Blade speed of the W9 is 3300 R.P.M. Powerful Universal type motor. Sealed type ball bearings.

SAFE



Approved Stanley Safety Guard keeps cutting edge covered at all times, regardless of saw's position.

HANDY



Simple depth adjustment. Notched base makes it easy to follow cutting line.



W7 2 1/2" CAPACITY



W8 2 3/4" CAPACITY



W9 3 1/4" CAPACITY



CC12 4" CAPACITY



CC16 6" CAPACITY

DOING OUR BEST!

The widespread demand for Stanley Electric Tools in war production work means that we may not be able to supply you as soon as we would like to.

We have more than doubled our production of a year ago. We're doing our best . . . but priority business must be taken care of first.

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has these advantages



1. NO DEFENSE RESTRICTIONS ON PRODUCTION.
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WESTERN PINE ASSOCIATION

Yeon
Building.



Portland,
Oregon

* Idaho White Pine

* Sugar Pine

* Ponderosa Pine

*** These Are the Western Pines**

New Housing Critical List Issued

(Continued from page 90)

- 2692 Extension of flashing to provide a termite shield where masonry terrace, platform or porch slab and steps abut wood construction at exterior walls.
- 270 Lath and lathing devices:**
- 271 Lath-ferrous metal, no metallic coating—for tile bed-base and cement plaster walls in bathrooms; for partitions, ceilings and soffits required to be fire-resistant by applicable code or regulation in multi-family dwellings over 2 stories high and over and in heater rooms for any multi-family dwelling and only in such cases where non-metallic materials such as gypsum lath and gypsum plaster will not meet the applicable requirements.
- 272 Corner and joint reinforcing—not more than 2½" lap on each surface of internal angles and on each surface where different kinds of plaster base abut each other—ferrous metal, no metallic coating.
- 273 Corner beads for vertical corners only (maximum permissible length 6' each)—ferrous metal, no metallic coating, zinc coated optional in kitchens and bathrooms.
- 274 Sound insulation lathing devices where sound insulation is required by applicable code or regulation—ferrous metal, no metallic coating.
- 275 Exterior stucco fabric or mesh—ferrous metal, no metallic coating; zinc coated before fabrication optional in the State of California except that part of the State north of the San Francisco Bay localities.
- 280 Glazing points—zinc.**
- 290 Builders and cabinet hardware.**—In accordance with the following specifications:
NOTE: For description of finishes and types referred to by number, see the Federal Specifications for Builders' Hardware.
- 291 Finish.**—Door and window trim, except as noted:
- 2911 Bright or dull Brass, U. S. 3 or U. S. 4, with coating of clear lacquer on cylinder only.
- 2912 Black lacquer or Japan, U. S. 18A, U. S. 1 D. on iron or steel.
- 2913 Black lacquer over phosphate treatment, U. S. 18A on iron or steel.
- 2914 Baked enamel colored, for iron or steel.
- 2915 Exterior hardware and exterior hardware fastenings for windows and doors may be zinc coated where used under extreme exposure conditions as interpreted by the field offices processing applications provided that extreme exposure conditions shall not be deemed to exist in areas more than 50 miles distant from the Great Salt Lake or from bodies of salt water on the Eastern and Western seaboard and in island territories or possessions and not more than 100 miles inland from the Gulf of Mexico nor more than 30 miles inland from any of the Great Lakes.
- Applications:**
- 2911 and 2912 optional with manufacturer for interiors.
2911 only on brass for exteriors.
2913 only for iron or steel on exteriors.
2914 only for interior use.
- Die castings** shall meet all requirements on die castings in the effective issue of emergency alternate Fed. Spec. EFGG 106.
- 292 Doors:**
- 2921 Entrance doors.—(a) Common entrance to multi-family dwellings:
Pair butts type 2014½ P primed: Size 3½" x 3½" for 1¾" door; size 4" for 1¾" door.
Mortise-lock set type 88: Type 88, 5 to 6" x 3¼" x ¼" japanned iron case. Backset 2¾". Solid front 8 x 1¼". Latch bolt, minimum 1 x ⅝"; minimum throw ¼". Dead bolt, minimum 1¼ x ½", minimum throw ¼". Lock shall have 1 bronze cylinder, with or without removable and interchangeable core feature, with five or more pin tumblers giving practically unlimited changes. Ferrous front and bolts and wrought steel strike. Two brass keys.
Knobs: Type 210-B, except steel on exterior; glass, porcelain, plastic or steel on interior; minimum diameter 1¾". Wrought steel shank on glass knobs.
Escutcheons: Type 300 outside x 302 inside; wrought steel or cast iron.
Option: Type 150, tubular or type 161, cylindrical, except steel, cast iron or die cast. Solid or two-piece front, ferrous metal for bolt, steel front and strike. Type 154, tubular except steel, cast iron or die cast. Solid or two-piece front, brass 5 pin tumbler cylinder, 2 brass cylinder keys.
Knobs: 210-B except steel on exterior; glass, porcelain, plastic, or steel on interior; minimum diameter 1¾" wrought steel shank on glass knobs.

Escutcheons: Rose $1\frac{3}{4}$ " x 2 or 2 diameter steel or cast iron on exterior; steel, cast iron or plastic on interior.

2922 Interior entrance doors public hall to units in multi-family dwellings:

Pair butts type 2014 $\frac{1}{2}$ P. Primed: size $3\frac{1}{2}$ " x $3\frac{1}{2}$ " for $1\frac{3}{4}$ " door; size 4" for $1\frac{3}{4}$ " door.

Mortise latch set type 28, except japanned iron case $1\frac{3}{8}$ " x $3\frac{3}{8}$ " x $9/16$ "; front wrought steel $3\frac{1}{2}$ " x 1" compression spring, iron hub, ferrous bolt, steel strike. Latch bolt not less than $\frac{5}{8}$ " x $7/16$ " x $\frac{3}{8}$ " minimum throw.

Knobs: Type 210-B, glass, porcelain, plastic or steel; minimum diameter $1\frac{1}{8}$ ". Wrought shank on glass knobs.

Escutcheons: Pendant type, wrought steel—cast iron or plastic approximately 7" x $1\frac{3}{4}$ ".

Option: Type 150, tubular or type 161, cylindrical, except steel, cast iron or die cast. Solid or two-piece front, ferrous metal for bolt, steel front and strike.

Knobs: Type 210-B, except steel on exterior; glass, porcelain, plastic or steel on interior; minimum diameter $1\frac{1}{8}$ ". Wrought steel shank on glass knobs.

Escutcheons: Rose $1\frac{3}{4}$ " x 2", or 2" diameter steel or cast iron on exterior; steel, cast iron or plastic on interior.

Rim night latch: $2\frac{3}{8}$ " x $3\frac{3}{8}$ " cast iron case, ferrous bolt, brass 5-pin tumbler cylinder, 2 brass cylinder keys.

Option: Type 154 tubular, except steel, cast iron or die cast. Solid or two-piece front; brass 5-pin tumbler cylinder 2 brass cylinder keys.

Wood door stop: $2\frac{1}{2}$ " projection, rubber tip, unfinished.

Letter box (only for multi-family dwellings): Group letter boxes in accordance with U. S. Postal Regulations, ferrous metal only.

2923 Entrance door to single units:

Pair butts type 2014 $\frac{1}{2}$ P. Primed: Size $3\frac{1}{2}$ " x $3\frac{1}{2}$ " for $1\frac{3}{4}$ " door; size 4" for $1\frac{3}{4}$ " door.

Mortise latch set type 28, except japanned iron case $1\frac{3}{8}$ " x $3\frac{3}{8}$ " x $9/16$ " frontwrought steel $3\frac{1}{2}$ " x 1", compression spring, iron hub, iron bolt, steel front and strike. Latch bolt not less than $\frac{5}{8}$ " x $7/16$ " x $\frac{3}{8}$ " minimum throw.

Knobs: Type 210-B except steel on exterior, glass, porcelain, plastic or steel on interior; glass knob with wrought steel shank, minimum diameter $1\frac{1}{8}$ ".

Escutcheon: Pendant type approximately 7" x $1\frac{3}{4}$ ", wrought steel cast iron or plastic.

Option: Type 150, tubular or type 161, cylindrical except steel, cast iron or die cast. Solid or two-piece front, ferrous metal for bolt, steel front and strike.

Knobs: 210-B glass, porcelain, plastic or steel, glass knob with wrought steel shank, minimum diameter $1\frac{1}{8}$ ".

Escutcheon: Rose $1\frac{3}{4}$ " x 2" or 2" diameter, steel cast iron or plastic.

Rim night latch: $2\frac{3}{8}$ " x $3\frac{3}{8}$ " cast iron case, ferrous bolt, brass 5 pin tumbler cylinder, 2 brass cylinder keys.

Option: Type 154 tubular, except steel, cast iron or die cast. Solid or two-piece front; brass 5-pin tumbler cylinder, 2 brass cylinder keys.

Wood door stop: $2\frac{1}{2}$ " projector, rubber tip, unfinished.

Letter box: Steel or cast iron, with attachment for holding papers, size approximately $10\frac{1}{2}$ " x $5\frac{1}{2}$ " x $2\frac{3}{4}$ ".

Option: Letter slot, steel or cast iron; spring-or-gravity closing flap. Size approximately 3" x 10" with $1\frac{1}{4}$ " x 7" opening. For single units only.

2924 Rear door:

Pair butts type 2014 $\frac{1}{2}$ P. Primed: Size $3\frac{1}{2}$ " for $1\frac{3}{4}$ " door; 4" for $1\frac{3}{4}$ " door.

Mortise latch set type 28, except japanned iron case $1\frac{3}{8}$ " x $3\frac{3}{8}$ " x $9/16$ "; front wrought steel $3\frac{1}{2}$ " x 1" compression spring; iron hub, ferrous bolt, steel strike. Latch bolt not less than $\frac{5}{8}$ " x $7/16$ " x $\frac{3}{8}$ " minimum throw.

Knobs: Type 210-B, except steel on exterior; glass, porcelain, plastic or steel on interior; minimum diameter $1\frac{1}{8}$ ". Wrought steel shank on glass knobs.

Escutcheon: Pendant type, wrought steel or cast iron, approximately 7" x $1\frac{3}{4}$ ".

Option: Type 150, tubular or type 161, cylindrical, except steel, cast iron or die cast. Solid or two-piece front, ferrous metal for bolt, steel front and strike.

Knobs: Type 210-B, except steel on exterior; glass, porcelain, plastic or steel on interior; minimum diameter $1\frac{1}{8}$ ". Wrought steel shank on glass knobs.

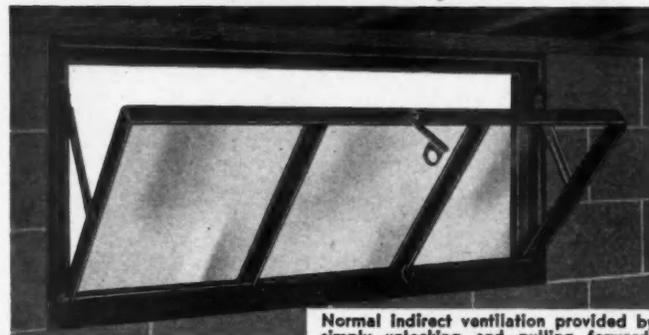
Escutcheon: Rose $1\frac{3}{4}$ " x 2", or 2" diameter steel or

(Continued to page 94)

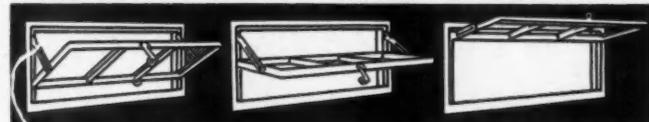
VENTO CHAMPION

Basement Window

*As Superior Today as its
Predecessors were 20 Years Ago*



Normal indirect ventilation provided by simply unlocking and pulling forward.



Any degree of ventilation may be obtained by slight downward pull on ventilator.

Ventilator is perfectly balanced and always works easily.

Window opens from either top or bottom. Ventilator may also be quickly and easily removed.

The VENTO CHAMPION with its two-way operation, perfectly balanced, easy to operate ventilator and all around quality construction is just as superior today as its long line of predecessors were when they pioneered and introduced puttyless glazing, versalator operation and many other of the leading developments in basement window construction.

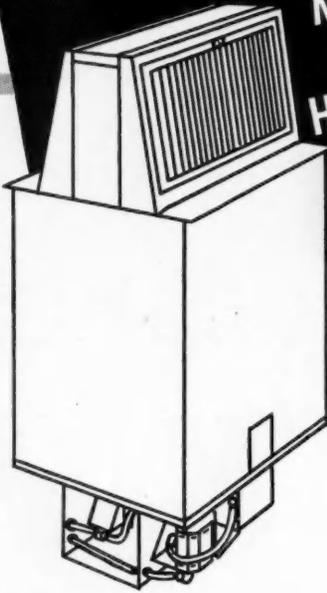
The perfect ventilation it affords, its easy, fussless, nonsticking operation, its puttyless glazing, and many other superiorities (so easy to demonstrate) are a joy to the heart of the prospect and a great aid in getting the signature on the dotted line. May we suggest that you anticipate your needs and take them up with your dealer at once?

ALSO AVAILABLE
Vento Coal Chutes and special section sidewall windows in both puttyless and putty types, as well as Econo puttyless Utility windows and Barn windows are also available.

VENTO STEEL PRODUCTS CO.
Muskegon, Michigan

THIS OIL-BURNING FLOOR FURNACE

Meets Your
Defense
Home Heating
Needs



There are seven reasons why the oil-burning H. C. Little Floor Furnace will fit your requirements for low-cost heat in small defense homes:

1. LISTED by the UNDERWRITERS' LABORATORIES — for cheap No. 3 furnace oil (27° Diesel).
2. O.K. for F.H.A. FINANCING. Thousands already installed on F.H.A. terms.
3. TWO SIZES — The No. 70-41 has a 47,250 B.T.U. Output — The No. 100-41 has a 75,000 B.T.U. Output.
4. TWO STYLES — Single (flat) register or dual (wall) register models.
5. TWO TYPES OF CONTROL — (a) Manual lighting, or (b) Electric Ignition with Automatic Control.
6. CLEAN BURNING — No Pilot Light to smoke, no soot or hard carbon.
7. DEPENDABLE — Many H. C. Little Floor Furnaces have been in continuous use over nine years, with satisfactory results for their users.

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BURNER
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Please send complete data on your oil-burning Floor Furnace.

Name _____

Address _____

City _____ State _____

New Housing Critical List Issued

(Continued from page 93)

- cast iron on exterior; steel, cast iron or plastic on interior.
- Mortise bolt type 1053A steel or cast iron bolt and strike; wrought steel or cast iron turnpiece and plate.
- Rim night latch: 2 3/8" x 3 3/8" cast iron case, ferrous bolt, brass 5-pin tumbler, cylinder, 2 brass cylinder keys.
- Option: Type 154 tubular, except steel, cast iron or die cast. Solid or two-piece front; brass 5-pin tumbler cylinder, 2 brass cylinder keys.
- Wood door stop: 2 1/2" projector, rubber tip, unfinished.
- 2925 Bathroom door:
Pair butts type 2014 1/2 P. Primed: Size 3 1/2" for 1 3/4" door; size 4" for 1 3/4" door.
Mortise latch set type 28, except japanned iron case 1 5/8" x 3 3/8" x 9/16", front wrought steel 3 1/2" x 1", compression spring, iron hub, iron bolt, steel front and strike. Latch bolt not less than 5/8" x 7/16" x 3/8" minimum throw.
Knobs: Type 210-B glass, porcelain, plastic or steel; glass knob with wrought steel shank, minimum diameter 1 1/8".
Escutcheon: Pendant type approximately 7" x 1 3/4" wrought steel, cast iron or plastic; stop on inside to lock against outside; emergency entrance from outside.
Option: Type 150, tubular or type 161, cylindrical, except steel, cast iron or die cast. Solid or two-piece front, steel bolt, front and strike.
Knobs: Type 210-B glass with wrought steel shank, porcelain, plastic or steel; minimum diameter 1 1/8".
Escutcheon: Rose 1 3/4" x 2", or 2" diameter, steel cast iron or plastic; stop on inside to lock against outside; emergency entrance from outside. Stops may be in knob or tubular types.
- 2926 Interior doors, closet doors:
Primed butts type 2014 1/2 P. Primed: Size 3 1/2" for 1 3/4" door; size 4" for 1 3/4" door.
Mortise latch set type 28, except japanned iron cast 1 5/8" x 3 3/8" x 9/16"; front wrought steel 3 1/2" x 1" compression spring iron hub, iron bolt, steel strike.
Knobs: Type 210-B glass with wrought steel shank, porcelain, plastic or steel; minimum diameter 1 1/8". Standard closet spindle.
Escutcheons: Pendant type, wrought steel, cast iron or plastic; approximately 7" x 1 3/4".
Option: Type 150, tubular or type 161, cylindrical, except steel, cast iron or die cast. Solid or two-piece front, iron, steel, or die cast bolt, steel front and strike.
Knobs: Type 210-B glass, with wrought steel shank, porcelain, plastic or steel; minimum diameter 1 1/8"; turn knob head on spindle for closet interiors.
Escutcheon: Rose 1 3/4" x 2" or 2" diameter, steel, cast iron or plastic.
- 2927 Clothes closets: 8 coat and hat hooks steel wire or cast iron.
- 2928 Double acting doors:
Set of steel floor hinges, double acting commercial spring type with wrought steel side plates having prime coat. Push plates—beveled glass or plastic, size approximately 3" x 12".
- 2929 Screen doors:
Spring hinges, shall be cast iron or wrought steel japanned, surface type, size 3" fixed tension coiled spring.
Catches shall be either rim type or tubular mortise type wrought steel or cast iron.
- 293 Cabinets:
Hinges for lipped doors—steel, prime coat, surface type exposed or semi-concealed; for flush doors, concealed pivots may be used. Knobs or pulls shall be glass, plastic, steel with zinc plating or enamel coating of similar color; or hardwood, unfinished.
Catch—friction catch.
NOTES—Flush doors requiring no pulls or knobs preferred.
- 294 Windows:
2941 Double hung sash:
Sash weights and pulleys—ferrous metal.
Spiral and spring balances—ferrous metal.
Sash lock, cast iron, or wrought steel, approximate size 2 1/2" x 3/8".
Hook lift, wrought steel, approximate size 1" x 1 1/4".
- 2942 Casements:
Butts 3 x 3 type 2014 1/2-P, for casements.
Surface bolts type 1060-A, size 6" (for pairs of casements only).

1 only casement fastener, tee formed lever handle projecting 1 1/2", with wrought or cast base, approximately 1 3/8" x 1 7/16".

1 only casement adjuster, type 1000, except steel (1 to each sash).

2943 *Single casements opening out:*

Pr.—half surface steel extension hinges prime coat—to permit cleaning.

Option: Worm and gear type operator—all parts shall be steel except die cast or cast iron housing may be used. Automatic top closer, wrought steel.

2944 *Cellar windows.*—Shall have complete set, wrought steel, japanned; including 1 pair hinges, 1 3/4 x 2 1/4 japanned steel, fast pin 0.06" thick catch B 1137A hook and eye 1601C except japanned and eye for holding open.

2945 *Window Screens:*

Full length, hangers, type 1825 to No. 1825-B, to suit detail; hook and eye type 1601-C, size 1 1/2" (unfinished).

Sliding screens—2 steel springs, japanned, 1223A.

295 *Garage hardware:*

Hinge type, type No. 2209, 12" with steel pin, three to the door.

Thumb latch type 1189A.

Bolt type 1022B 6".

Cane—12" wrought steel.

Padlocked eyes—No. 1540.

296 *Maintenance and management building:*

2961 *Exterior entrance doors to public space:*

To have hardware as specified for entrance doors to single units.

Stationary leaf of double doors to have chain bolt type 1025A 6" at top and foot bolt type 1047A 6" at bottom.

Other exterior door to have hardware as specified for entrance doors, to single units (omit letter box).

Standing half of double doors to have chain bolt type 1025A 6" at top, foot-bolt type 1047A 6" at bottom.

2962 *Doors to manager's office.*

Doors to superintendent's office.

Doors to other rooms indicated as requiring locks with keys, such as store rooms, shops, etc.

To have hardware as specified for interior entrance doors to units in multi-family dwellings.

2963 *Doors to private toilets.*—To have hardware as specified for bathroom doors in dwelling units substituting lock type 17 A EK with wrought steel front and strike.

2964 *Doors to public toilets other interior doors.*—To have hardware as specified for interior doors in dwelling units.

2965 *Cabinets under counter in public space.*—To have hardware as specified for cabinets.

2966 *Windows.*—To have hardware as specified under windows and casements in dwelling units.

297 *Miscellaneous:*

2971 *Padlocks.*—Padlocks for bulkheads, garages and doors to cellar spaces shall be 1 1/2" in size, disc tumbler, or pin tumbler construction with ferrous or die cast case.

2972 *Self-releasing fire exit devices* where required by applicable code or regulation, ferrous metal, no metallic coating.

2973 *Automatic fire door fixtures* where required by applicable code or regulation, ferrous metal, no metallic coating.

2974 *Door closing devices* for multi-family dwellings where required by applicable code or regulation, ferrous metal, no metallic coating.

2975 *Wood-venetian blind hardware*—ferrous metal, no metallic coating.

2976 *Shade fixtures*—ferrous metal, no metallic coating.

2977 *Brackets for wood hand rails*—ferrous metal, no metallic coating.

298 *Rough hardware:*

2981 *Nails and screws*, for rough and finished carpentry—ferrous metal, uncoated or non-metallic coated.

2982. *Zinc coated nails*, optional for all purposes in Hawaii and optional elsewhere for roof covering, exterior sheet metal work and wall ties; electrolytic zinc coated nails optional for exterior side wall finishes.

2983 *Wall ties*—ferrous metal non-metallic coated; zinc coated sheet metal optional for masonry veneer over frame construction.

300 **ELECTRICAL**

310 **General:**

311 *Outlets.*—The number of outlets allowed for fixtures, snap switches, convenience and special purpose receptacles for each dwelling unit shall not exceed the sum total calculated as follows:

a. Bathroom—two outlets.

(Continued to page 96)

Easy to install—just cut, apply and staple

MASONITE* CELL-U-BLANKET*

LIGHT, STURDY CELL-U-FOAM INSULATION IN BLANKET FORM

MASONITE Cell-U-Blanket is a flexible blanket-type insulation with a core of Cellufoam, today's most sensational insulating material. It is designed primarily for application to studs, joists and rafters, as shown at left.

Properly applied, Masonite Cell-U-Blanket provides a positive vapor barrier. It is water and wind proof. It is a permanent insulation material that will not shrink, sag or settle. A *De Luxe* roll, sufficient to cover 125 square feet of area, weighs less than 30 lbs. It is termite-treated, mould-proofed, rot-proofed.

TWO TYPES—There's *Standard* Masonite Cell-U-Blanket, with sturdy asphalt-impregnated coverings on both sides.

And there's *Silver Sheen* Masonite Cell-U-Blanket, with a non-metallic reflective surface on the flange side.

THREE THICKNESSES—*Utility*—approx. 3/8". *Efficiency*—approx. 3/4". *De Luxe*—approx. 1".

SIX WIDTHS—For studs, joists and rafters on 12, 16, 20 and 24 inch centers. Also in 33 and 38 inch widths on special order.



1. A cross-section of Masonite Cell-U-Blanket showing the Cellufoam core and the vapor barrier casing complete with stapling flange.

2. Cut Masonite Cell-U-Blanket 3/4 inches longer than the dimension between top and bottom plates, using sturdy scissors or snips.

3. Then cut casing approximately 2 inches on both sides, fold back the Cellufoam core. Apply by stapling vapor barrier flange to face of plate.

4. For side-wall insulation, staple flange of Masonite Cell-U-Blanket to face of studs, using 1/4-inch-long staples spaced not more than 6 ins. o.c.

5. Allow vapor barrier flaps of Cell-U-Blanket to overlap at plates or headers. Staple flanges securely to insure continuous vapor barrier.

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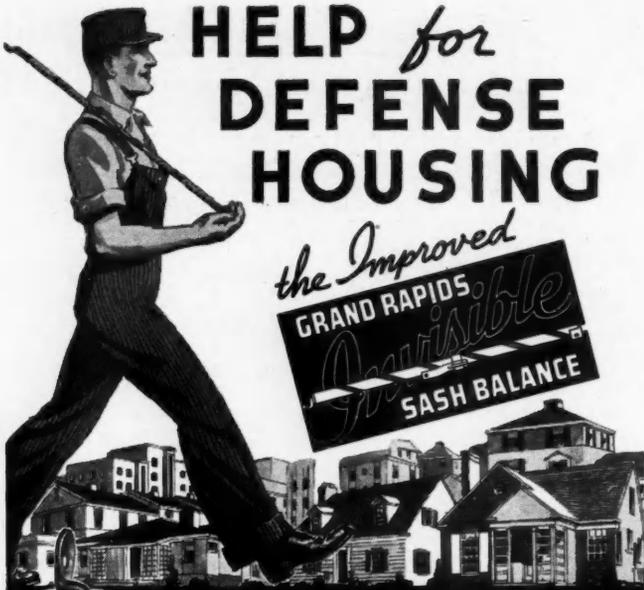
MASONITE
CELL-U-BLANKET
 SOLD BY LUMBER DEALERS EVERYWHERE

MASONITE CORP., Dept. AB-4, Cellufoam Products Div.
 111 W. Washington St., Chicago, Ill.

Please send me a free sample and full information about Masonite Cell-U-Blanket Insulation.

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 Address _____
 City _____ State _____

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HELP for DEFENSE HOUSING

the Improved
GRAND RAPIDS
Invisible
SASH BALANCE

NO TAPES OR CABLES, NO EXPOSED TUBES

Entire balance moves with sash. Always invisible regardless of window position. Tapes and cables eliminated. No interference with neat painting job. No screws or trim to remove for tension adjustment.

EASILY INSTALLED

Only 6 simple steps. Frames require no machining. No cuts in sash, except full height, round-bottom groove in sash stiles. No blocks to fasten on jambs.

ENDORSED FOR FEDERAL HOUSING PROJECTS

Contractors using upwards of 1,000 sets of **INVISIBLE** balances on government housing projects, endorse them for ease and speed of installation and smooth, efficient performance.

Write for



NEW 1942 CATALOG No. 42-SB-2

GRAND RAPIDS HARDWARE COMPANY
GRAND RAPIDS • MICHIGAN

New Housing Critical List Issued

(Continued from page 95)

- b. Kitchen—four outlets.
- c. Dining room or dining space—three outlets.
- d. Living room—four outlets.
- e. Each other habitable room—four outlets.
- f. Each private hall—two outlets.
- g. Each private foyer—two outlets.
- h. Each exterior entrance—one outlet.
- i. Utility room—three outlets.
- j. Basement (1) in dwellings which do not contain a utility room—five outlets; (2) in dwellings which contain a utility room in addition to a basement—three outlets.
- k. Garage—one car, two outlets; two car, three outlets. Multi-family—two outlets for each enclosed car stall.
- l. Other areas, including public stairhalls, service spaces, etc.; number as determined for the individual case by the office processing the application.
- m. Special purpose outlets for ranges, refrigerators and for heating, ventilating, and plumbing appliances and equipment; number as determined for the individual case by the office processing the application. (Where house is piped for gas range outlet is not eligible.)

The following items each count as one outlet provided the wiring device (or devices) is installed in one outlet box: Single snap switch—combination snap switch and convenience outlet—duplex convenience outlet—fixture outlet—combination fixture and convenience outlet—special purpose outlet.

- 312 *Zinc coating*.—Where zinc coated material is permitted; the coating shall not exceed 0.00065 of an inch in thickness.
- 320 Service entrance:**
 - 321 Nonmetallic service cables.
 - 322 Moisture resistant cables only for underground installation in nonmetallic service raceways.
 - 323 Service cable head.
 - 324 Service equipment, panel boards and enclosures—nonmetallic or ferrous sheet metal enclosures: Nonmetallic coated sheet metal; zinc coated sheet metal for exterior use or where imbedded in exterior concrete or masonry. Copper or copper alloy for current carrying parts only. Over-current devices may be fuse or automatic type, thermal or magnetic.
- 330 Interior wiring:**
 - 331 Covered neutral cable.
 - 332 Insulated single conductors.
 - 333 Nonmetallic sheathed cable.
 - 334 Nonmetallic service cable—for range and domestic water heater circuits and for feeders from a master-service cabinet to supply other structures.
 - 335 Armored cable—Federal Specification E-J-C-71 type—only for:
 - 3351 Embedding in plaster.
 - 3352 Chases or hollow spaces in masonry or concrete.
 - 3353 Motor connections from motor outlet to motor terminal.
 - 3354 Fishing in existing concealed spaces.
 - 336 Flexible metal conduit—zinc coated ferrous metal—only for flexible connections to motor terminals as an extension of 337 or 338 following.
 - 337 Electrical metallic tubing—ferrous metal.
 - 3371 Enamelled—only for (a) Embedding in masonry or concrete; (b) housing No. 4 conductors or larger, where exposed.
 - 3372 Zinc coated optional only for (a) embedding in exterior masonry or concrete; (b) housing No. 4 conductors or larger, where exposed on exterior of structure.
 - 338 Rigid conduit—ferrous metal.
 - 3381 Enamelled—optional for uses specified in 3371 above where during installation or afterwards it will be subject to severe mechanical injury.
 - 3382 Zinc coated—optional for uses specified in 3372 above where during installation or afterwards it will be subject to severe mechanical injury.
- 340 Outlet boxes:**
 - 341 Nonmetallic type.
 - 342 Ferrous type, where connected to eligible metallic raceways or armored cable, enamelled; zinc coated optional only for use specified in 3372 and 3382 above.
- 350 Plates and wiring devices**, such as convenience and special purpose receptacles, switches and lampholders; nonmetallic plates, nonmetallic outer shells and covers for lampholders.
- 360 Fittings:**
 - 361 Clamps, lock-nuts, connectors, bushings and nipples—zinc or cadmium coated.
 - 362 Hangers, straps, supports, sleeves and fastenings—ferrous metal—no metallic coating.
 - 363 Cable connectors—Copper and copper alloy for current carrying parts only.

370 Solder.

380 **Lighting fixtures:** Copper or copper alloy for current-carrying parts only; nonmetallic shells and covers for sockets.

381 Interior—nonmetallic type or light gauge ferrous sheets, spun, stamped or drawn with nonmetallic protective coating and nonmetallic shades and reflectors.

382 Exterior—nonmetallic or ferrous fixtures with nonmetallic coating. (Metal posts for supporting fixtures are not allowed.)

390 **Low tension communication assemblies:** such as bells and door lock releases—only for multi-family dwelling structures. Private telephones not allowed.

400 **PLUMBING AND GAS DISTRIBUTION**410 **General:**

411 Eligible materials and quantities are limited to those necessary to meet minimum requirements of the Emergency Plumbing Standards for Defense Housing issued by the Defense Housing Coordinator with an allowance of not to exceed 10 percent where required for variation in layout.

412 Each dwelling unit is eligible for the installation of not to exceed the following fixtures: 1 single or double laundry tray; 1 single compartment kitchen sink or 1 combination sink and laundry tray. Ferrous metal allowed for under sink cabinet only where it is required to support sink—non-metallic cabinet and drain board preferred; choice of a tub or shower stall; 2 water closets; and 1 lavatory.

420 **Fixtures, fixture fittings and trimmings:**421 **Fixtures:**

Vitreous, cast, or stamped ferrous metal, no metallic coating; bonderized, galvanized finish allowed for shower compartments only. No shower stall doors allowed. Ferrous metal single or double laundry trays not allowed.

Nonmetallic fixtures should be used where practicable.

422 **Fixture fittings and trimmings:**

Ferrous or die cast zinc; brass base metal allowed only where former not available.

Exposed metal, where other than rough surface is desired, to be finished by nonmetallic coating. Either gun metal or emery finish for painting or lacquering is suggested.

Escutcheons, closet tank balls and floats to be nonmetallic except for spuds.

No brass or copper is to be used in handles.

All drawn tubing and fittings to be no heavier than 20 gauge. The use of brass for fixture fittings and trimmings is permissible in the fittings described in 4221 through 4226, inclusive, except where materials are specifically designated.

4221 **Bathtub fittings:**

Over rim tub supply fitting with $\frac{1}{2}$ " valves, with or without transfer valve for shower. Copper or brass not allowed for connecting pipes, shower arm, escutcheon or head. Valve inlets to be tapped $\frac{1}{2}$ " I. P. S., no brass or copper, except for sweated adapter, to be used in unions.

Double bath faucet— $\frac{1}{2}$ " valves.

Outlet plug and strainer for waste and overflow.

Trap—ferrous or lead.

4222 **Shower stall fitting:**

Hot and cold shower valve assembly with $\frac{3}{4}$ " valves.

Copper or brass not allowed for connecting pipes, shower arm, escutcheon or head. Valve inlets to be tapped $\frac{1}{2}$ " I. P. S., no brass or copper, except for sweated adapter, to be used in unions.

Receptor shower grid.

Trap—ferrous or lead.

4223 **Lavatory fittings:**

$\frac{1}{2}$ " compression faucets.

Combination lavatory fitting to include also through the back fitting. No pop-up waste assembly.

Wrought outlet plug with $1\frac{1}{4}$ " tailpiece not over 4" long.

Trap—ferrous or lead.

4224 **Water closet fittings:**

Flush valve, not to include overflow pipe. Ball Cock, not to include float or hush tube.

Tubing flush Ell, 2" x 4" x 6".

Seat hinges with either (a) brass bearing surfaces only, or (b) not more than one pair of brass bolts or studs and nuts and one pair of hinges per unit. No crossbars or hinges for cover.

Note.—Rubber Seats Not Allowed.

4225 **Kitchen sink fittings:**

Combination swing spout faucet, either exposed, or concealed for deck installation, no metallic soapdish, no transfer valve, spout to be not over 6" long.

Separate $\frac{1}{2}$ " compression faucets, solid flange, tapped female.

Strainer with metal grid and tailpiece. Where combination sink and tray is used, tailpiece of tray plug to be not more than 4" long.

(Continued to page 98)



YOU NEED THE SPEED OF

SKILSAW

TO MAKE EACH HAND WORK LIKE TEN!

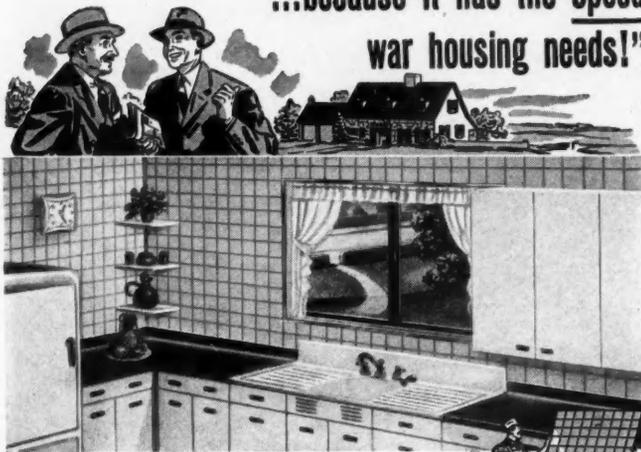
Today, more than ever, you need fast-cutting SKILSAW for every kind of sawing... because skilled hands are scarce . . . because time saved on jobs that need doing means time saved on the road to victory! There are 9 powerful SKILSAWS—to cut every size of lumber you use as well as stone, metal, tile and compositions . . . faster, easier and at lower cost.

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HIGH SPEED! Made in large sheets, Barclay Plastic-Coated Panels are easy to handle, cover large areas in little time. Sheets are readily sawed and nailed. Paneling a room takes but a few hours, may be done by anyone with ordinary carpentry skill.



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TODAY'S building standards are stiff. War workers want beauty, modernity and convenience in their homes. The Government demands low costs. Time is vital . . . high-speed construction the keynote. That's why architects, builders and dealers are sold on Barclay Plastic-Coated Panels for walls and ceilings. In new home building, old home remodeling, these "panels of plastic" meet every construction and use requirement for kitchens, baths and playrooms; for cantonments, hospitals and countless other war-time building projects. Send the coupon for free samples. See our catalog in Sweet's.



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New Housing Critical List Issued

(Continued from page 97)

- Trap—Ferrous or lead.
- 4226 Laundry tray fittings:
 - Combination rough brass swing spout tray faucet, brass limited to valve body assembly and spout.
 - Separate ½" faucets.
 - Wrought outlet plug with tailpiece not over 4" long.
 - Trap—ferrous or lead.
- 430 Sanitary drainage system:
 - 431 Soil pipe, fittings, cleanouts, plugs, floor drains and ferrules—cast iron.
 - 432 Screw pipe and fittings.
 - 4321 Screw pipe—galvanized steel or galvanized wrought iron.
 - 4322 Screw pipe fittings—galvanized malleable iron, or cast iron, no metallic coating.
 - 433 Lead pipe, fittings and solder.
 - 4331 Lead pipe.
 - 4332 Solder nipples and ferrules—brass.
 - 4333 Solder.
 - 434 Caulking lead.
 - 435 Flashing—ferrous sheet metal not heavier than 26 gauge; no metallic coating, phosphate treated, or zinc coated not to exceed 1¼ ounce per square foot total coating both sides, or 2½ pound hard lead or 4 pound soft lead.
 - 436 Hangers, supports and miscellaneous iron—ferrous metal, no metallic coating.
 - 437 Sump pump or ejector assembly.
- 440 Water supply:
 - 441 Water supply pipe—ferrous metal zinc coated or cement lined or lead.
 - 442 Water supply pipe fittings—as for 441.
 - 443 Valves—brass for 1½" size or smaller, ferrous metal with brass stem, seats, and discs for larger sizes.
 - 4431 Shut-off valves.
 - 4432 Relief valves.
 - 4433 Sill cocks, not more than two per dwelling unit for one family, two family and row house structures, and not more than eight per gross acre for multi-family dwellings.
 - 4434 Pressure reducing valves.
 - 444 Hangers and supports and miscellaneous iron—ferrous metal, no metallic coating.
- 450 Domestic hot water heaters and storage tanks—Ferrous metal uncoated or nonmetallic coated or zinc coated where water conditions require it. Copper allowed only for current carrying parts of electric type. Boiler stands, ferrous metal, no metallic coating.
 - No metal jackets for tank insulation.
 - Maximum tank capacity limited to 20 gallons per dwelling unit, except a maximum tank capacity of 30 gallons is permissible for electric type and where tank is used with coal burning equipment without controls.
 - Where the water pressure is under 75 pounds, the tank test not to exceed 250 pounds and the working pressure not to exceed 106½ pounds; where the water pressure is in excess of 75 pounds, the tank test pressure not to exceed 300 pounds and the working pressure not to exceed 127½ pounds.
 - 451 Direct fired coils for boilers or furnaces, with storage tank.
 - 452 Direct fired coil, fin or tube heaters with storage tank.
 - 453 Tank type—direct fired gas, oil or coal; or electric.
 - 454 Direct fired water jacket type with storage tank.
 - 455 Indirect coil type with storage tank or instantaneous.
- 460 Control equipment for domestic hot water heating.—Ferrous metal with brass held to minimum necessary.
 - 4621 Safety valves—pressure relief, temperature relief, or combination pressure and temperature relief.
 - 4622 Operating and safety controls.
 - 4623 Gas shutoff valves.
- 470 Water softeners:
 - 471 Tanks—ferrous metal, no metallic coating.
 - 472 Valves—brass for 1½" size or smaller, ferrous metal with brass stem, seats and discs for larger sizes.
- 480 Gas distribution:
 - 481 Pipe, fittings, hangers, supports and fastenings—ferrous metal, no metallic coating.
 - 482 Regulators—ferrous metal with brass held to minimum necessary.
 - 483 Valves and cocks—brass for 1½" size or smaller, ferrous metal with brass stem, seats, and discs for larger sizes.
- 500 HEATING
- 510 General:
 - 511 The maximum net hourly output capacity of the heating unit or system as determined in 514 or 515 hereof is the capacity—after deductions have been made for piping and pickup, attached domestic water heaters, and non-dwelling heating loads—available to provide for the total hourly heat loss of the dwelling it heats. Such maximum net hourly output capacity in B. t. u. shall not exceed 66 times the dwelling area in square feet or 80,000 B. t. u. per dwelling unit, whichever is the smaller.
 - 512 The total hourly heat loss of dwelling shall not exceed such maximum net output capacity and shall be determined in accordance with the data and methods described in the current edition of the "Guide" of the American

Society of Heating and Ventilating Engineers or by an alternate method which results in not less than the amount determined by the "Guide" method. Such total hourly heat loss shall be based on maintaining 70° F. inside the dwelling when the outside temperature is at the design temperature for the locality. (Spaces such as unheated garages, attic and basementless spaces shall be calculated at outside design temperature.) Storm windows and doors furnished shall be credited with the heat loss reduction they effect.

513 Dwelling area is the total area used for dwelling purposes contained within the exterior walls at each principal floor level excluding garage and unfinished storage space but including only the finished area of any living, sleeping, dining or kitchen space located in the basement or attic.

514 Prior to sixty days after the effective date of this Defense Housing Critical List, the maximum net hourly output capacity shall be determined from catalog ratings in effect on said effective date. On or after sixty days after the effective date of this Defense Housing Critical List only equipment rated in accordance with 515 hereof shall be eligible. Equipment may be rated within a range of specified firing rates selected by the manufacturer if at any firing rate within that range its performance certified by the manufacturer to have been determined by test is within the limitation of the applicable code or standard specified in 515.

515 Except as provided in 514 hereof, the maximum net hourly output capacity is determined as follows:

5151 *Floor furnace:*

Gas-fired—90 per cent of published, listed, or labeled output rating determined in accordance with the current "Commercial Standard" or "Recommended Commercial Standard for Gas Floor Furnace—Gravity Circulating Type," or 90 percent of the A. G. A. output rating.

Oil-fired—90 percent of the manufacturer's certified output rating at 70 percent or higher efficiency.

5152 *Space heater:*

Hand-fired or coal or wood—90 percent of manufacturer's certified output rating at 60 percent or higher efficiency.

Gas-fired—90 percent of A. G. A. output rating.

Oil-fired—100 percent of the published, listed, or labeled rating determined in accordance with the current "Commercial Standard" or "Proposed Commercial Standard for Flue Connected Oil Burning Space Heater Equipped with Vaporizing Pot Type Burners."

5153 *Pipeless gravity furnace:*

Hand-fired coal—90 percent of the manufacturer's certified registered output at 55 percent or higher efficiency.

Oil-fired—90 percent of the manufacturer's certified register output at 70 percent or higher efficiency.

5154 *Gravity furnace:*

Hand-fired coal—110 percent of the manufacturer's certified "Standard Gravity Code" rating in square inches leader area times 136 B. t. u.

Mechanically fired (conversion installations) same as for hand-fired.

Gas-fired (furnace-burner unit) 75 percent of A.G.A. bonnet output rating.

Oil-fired (furnace-burner unit) 75 percent of the manufacturer's certified bonnet output at 70 percent or higher efficiency.

5155 *Forced warm air furnace:*

Hand or mechanically fired coal (gravity rated furnace with fan conversion) 100 percent of the manufacturer's certified "Standard Gravity Code" leader pipe area in square inches times 180 B. t. u.

Gas-fired (fan-burner-furnace unit) 85 percent of A. G. A. output rating.

Oil-fired (fan-burner-furnace unit) 85 percent of the output rating as determined by the "Recommended Code of the N. W. A. H. & A. C. A. for Testing and Rating Oil-Fired, Fan-Furnace Combinations."

Stoker-fired (fan-burner-furnace unit) 85 percent of manufacturer's certified output rating at 70 percent or greater bonnet efficiency.

5156 *Boiler* (only for heating systems serving two or more dwelling units or for extensions of existing plants to service additional living accommodations).

Gas-fired—65 percent of A. G. A. output rating.

Hand-fired or mechanically fired (all fuels) 100 percent of current I. B. R. net rating for cast iron boilers, or 100 percent of net rating certified by the manufacturer to have been obtained by test procedure in accordance with the I. B. R. Testing and Rating Code less (in each case) 12,000 net B. t. u. per dwelling unit for domestic hot water heated indirectly by the heating boiler.

516 *Limitation on gas-fired equipment:* The use of gas-fired equipment for heating space is subject to the availability of natural or mixed natural and manufactured gas from the utility company servicing the project. In addition, in areas where prohibitions or restrictions on deliveries of such gas for gas-fired equipment for heating space are imposed by the War Production Board, proof must be submitted establishing exemption from such prohibitions or restrictions.

PERMISSIBLE INSTALLATIONS

520 *Overflow heaters:*

521 Floor furnaces and pipeless gravity furnaces—ferrous metal—no metallic coating.

5211 Registers—stamped, fabricated or cast ferrous metal—no metallic coating.

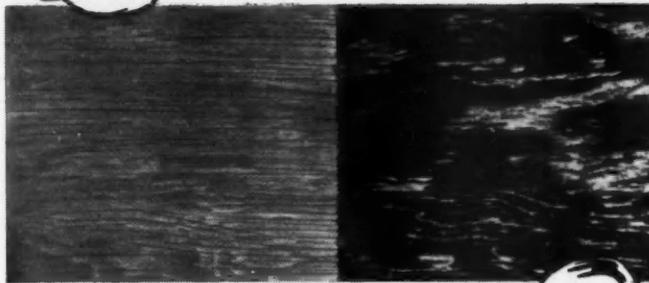
522 Space heaters, stoves and other similar heating devices—ferrous metal—no metallic coating.

530 *Warm air distribution systems:*

531 Furnaces—ferrous metal—no metallic coating.

5311 Fans, blowers and motors—for forced warm air systems.

(Continued to page 100)

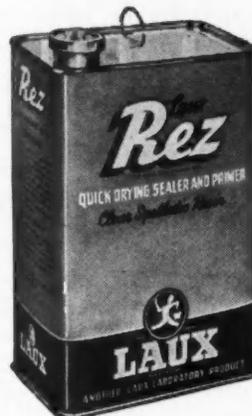


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GRAIN RAISE

with

Laux REZ

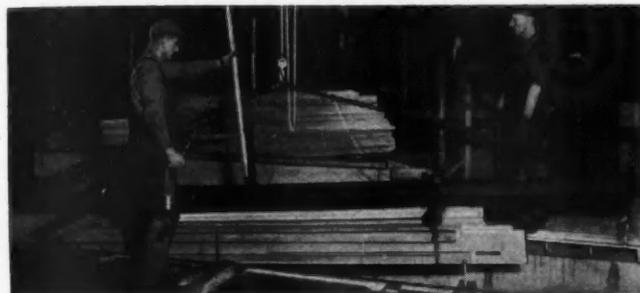


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FIRST step in beautiful wood finishing... as well as wood preservation... is an application of Laux REZ, synthetic resin sealer and primer. On plywood, millwork, sash, doors, flooring... on fir, cedar, pine, redwood, etc., or even hardwood... the same rule applies.

Laux REZ penetrates into the wood, leaving a resin deposit on cell walls. This deposit acts as a scientific barrier to the destructive action of atmospheric moisture... which means control of grain raise, swelling and binding.

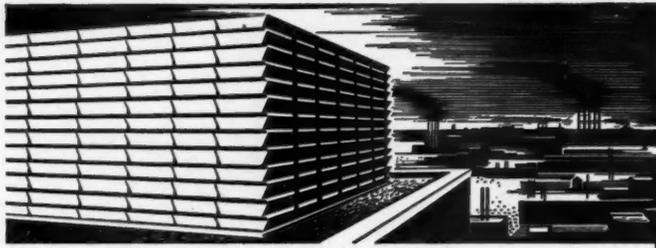
Apply REZ with brush, spray or saturated cloth. It dries quickly. Lumber, paint, or hardware dealers can supply REZ or write your nearest Laucks office for full information.



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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THIS COOLING TOWER, though exposed for eleven years to a constant rain of spray and the weather, is "as good as new" today. Credit Wolmanized Lumber* with another win over the elements; untreated wood often fails within 3 to 4 years on jobs like this.

CONVINCING EVIDENCE is thus again presented that Wolmanized Lumber adds long life to the other advantages of wood construction: lightness, strength, resilience, and low cost. Vacuum-pressure impregnation with Wolman Salts* preservative, under strict laboratory control, gives it the ability to withstand decay and termite attack.

MODERN ENGINEERING practices have developed the very desirable properties of wood construction to best advantage. Wood, given permanence by Wolmanizing, is now employed for a great many industrial structures.

WOLMANIZED LUMBER is handled just like ordinary lumber. It goes up quickly and easily. It is clean, odorless, and paintable. May we send you complete data? American Lumber & Treating Company, 1645 McCormick Building, Chicago, Illinois.

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W O L M A N I Z E D L U M B E R



New Housing Critical List Issued

(Continued from page 99)

- 5312 Filters—for forced warm air systems—nonmetallic containers and filter material with ferrous metal grid.
- 5313 Humidifiers—including parts and piping nonmetallic or ferrous metal—nonmetallic coated except for optional zinc coated piping.
- 532 **Distribution materials:**
- 5321 Ducts, connections, fittings, hangers, and fastenings—
(a) ferrous sheet metal, untreated or phosphate treated; (b) zinc coated ferrous sheet metal fittings for concealed composition duct work.
- 5322 Limitations—eligible materials and quantities limited to those necessary to meet the minimum sheet metal requirements of the current standards of the National Board of Fire Underwriters, Pamphlet No. 90. The following are not eligible: Sheet metal double ducts, sheet metal return ducts beyond 6 feet from the heater, sheet metal heavier than 26 U. S. gauge.
- 5323 Registers and grilles—(a) stamped, fabricated or cast ferrous metal—no metallic coating.
- 540 **Steam or hot water systems** (only for heating systems serving two or more families or for extensions of existing plants to service additional living accommodations).
- 541 Boilers—ferrous metal with brass safety devices and cocks limited to minimum practicable and with pressure gauges for steam boilers and combination temperature and altitude gauges for hot water boilers.
Metal jackets not allowed.
- 542 **Distribution materials:**
- 5421 Piping—ferrous metal—no metallic coating.
- 5422 Fittings—cast ferrous metal—no metallic coating.
- 5423 Valves—no metallic coating—brass for 1½" size and less; ferrous metal elsewhere except seats, discs and stems; (a) flow control valve for forced circulation hot water systems; (b) check, blowoff, gate, globe, cock radiator; (c) air valves.
- 5424 Traps, for multi-family steam systems; (a) radiator—brass, no metallic coating; (b) boiler return, blast, bucket, float and thermostatic.
- 5425 Radiators and convectors—ferrous metal, no metallic coating and no metal enclosure.
- 5426 Hangers, brackets and fastenings—ferrous metal, no metallic coating.
- 543 **Accessories:**
- 5431 Pump assemblies—water circulators, condensation and return line vacuum.
- 5432 Expansion tanks for hot water systems—ferrous metal, no metallic coating.
- 550 **Firing equipment:**
- 551 Oil and gas burners.
- 552 Coal stokers, hopper type—for multi-family systems only. No metallic coating.
- 553 Oil storage tanks—ferrous metal, no metallic coating, size not to exceed 275 gallons capacity for tanks serving three units or less and to not more than 100 gallons per dwelling unit for tanks serving four dwelling units or more.
- 554 Oil line pumps.
- 555 Vent, fill and oil line piping and fittings—ferrous metal, no metallic coating.
- 560 **Control equipment:**
- 561 Electric material as allowed under 330, 340, 350, 360, and 370 of Electrical Section.
- 562 Relays and solenoids.
- 563 Damper regulators.
- 564 Thermostats (room, aquastats, air stats, combination fan and limit controls, combustion safety controls).
- 565 Pressure controls.
- 5651 Pressure reducing valves.
- 5652 Pressure stats.
- 5653 Pressure relief valves.
- 566 Shut off cocks for gas heaters, furnaces and boilers.
- 570 **Breechings and smokepipe.**—Ferrous metal, no metallic coating. Breeching for multi-family heating systems may include necessary clean-out doors.
- 580 **Vents and flues.**—For heating equipment in demountable houses—ferrous metal, no metallic coating. Vents may include necessary casings, supports and connections. "Demountable houses" may include all prefabricated structural enclosures for dwelling purposes.
- 600 **HOUSEHOLD EQUIPMENT**
- 610 Ranges of the type available in the industry.
- 620 Refrigerators of the type available in the industry.
- 630 Incinerator equipment for multi-family dwellings only. Incinerator proper and flue of nonmetallic material.
- 631 Fire and ash doors, gratings, lintels, frames, and anchors—ferrous metal, no metallic coating.

- 632 Chimney screen mesh—ferrous metal zinc coated.
- 633 Hopper doors and hardware—ferrous metal, no metallic coating.
- 634 Firing equipment and connections as allowed in 330, 340, 350, 360, 370 of Electrical Section; 481, 483 of Gas Distribution Section; and 551, 553, 555 of Heating Section.

700 LAND DEVELOPMENT AND UTILITY SERVICE

710 General.—Land development and utility service items purchased or installed by a public utility are not eligible under Housing Preference Rating Orders. The following items are eligible only when they are an integral part of the housing project and are included in the contract for contracting the project.

720 Water supply and distribution:

721 Wells:

7211 Reinforcing steel for dug well slabs. Casings—ferrous metal, no metallic coating or
7212 Zinc coated optional.

722 Pumps and pumping equipment:

7221 Shallow and deep well pumps and pumping equipment, including motors and incidental electric wiring and control equipment.

7222 Pressure tank—ferrous metal, nonmetallic or zinc coated optional. Capacity not to exceed 42 gallons per dwelling unit except where wells yield less than 3 gallons per minute.

723 Pipe and fittings—concrete preferred; asbestos cement, ferrous metal, nonmetallic coated; zinc coated optional for 2 inch and smaller sizes, or lead.

724 Caulking lead and solder.

725 Valves and cocks—ferrous metal with brass stems, seats and discs; brass for 1½" and smaller sizes.

726 Valve and meter boxes and covers—ferrous metal no metallic coating for boxes 6" in diameter and smaller and for covers and frames for all boxes.

727 Fire hydrants—ferrous metal with brass for working parts only.

728 Storage reservoirs, tanks and supports.

7281 Reinforcing steel.

7282 Supports for elevated tanks—ferrous metal, no metallic coating—nonmetallic tanks only.

729 Meters—master only.

730 Gas distribution:

731 Pipe and fittings—ferrous metal, no metallic coating.

732 Valves and cocks—ferrous metal with brass stems, seats and discs; brass for 1½ inch and smaller sizes.

733 Containers for liquified petroleum products—ferrous metal, no metallic coating.

734 Meters—master and individual.

735 Pressure regulators.

736 Valve and meter boxes and covers—ferrous metal, no metallic coating for boxes 6" in diameter and smaller and for covers and frames of all boxes.

740 Electric distribution:

741 Pole hardware and guys—ferrous metal, no metallic coating.

742 Conductors, connectors and fittings—copper or copper alloy for current carrying parts only; otherwise ferrous metal, no metallic coating.

743 Raceways and fittings—nonmetallic underground; zinc coated ferrous metal optional where installed in fill under roads and where exposed.

744 Transformer and protecting equipment—ferrous metal, no metallic coating; copper or copper alloy for current carrying parts.

745 Manhole and vault equipment—ferrous metal, no metallic coating.

746 Auxiliary equipment—ferrous metal, corrosion resisting finish; copper or copper alloy for current carrying parts.

747 Meters—master and individual.

750 Drainage:

751 Reinforcing steel for drainage culverts and inlets.

752 Angles, frames and gratings for drainage inlets—ferrous metal, no metallic coating.

760 Sewerage treatment and pumping plants (metal septic tanks not allowed).

761 Reinforcing steel for structural elements.

762 Pipe and fittings—ferrous metal, no metallic coating.

763 Caulking lead.

764 Valves—ferrous metal with brass stems, seats and discs; brass for 1½" and smaller sizes.

765 Pumps and pumping equipment, including motors and incidental electric wiring and control equipment.

770 Utility service manholes, vaults, and pits.

771 Reinforcing steel for self-supporting slab covers.

772 Manhole covers and frames—ferrous metal, no metallic coating.

773 Step bars—ferrous metal, no metallic coating.

780 Anchors, dowels, tie rods and bolts with nuts and washers.



"But, sir, I just couldn't leave my Church Seat at home!"



No need to bring a CHURCH SEAT along, buddy—there are thousands of them in army camps. Because the Army *knows* quality. It's the same in the Navy—and in *defense construction* of every kind: CHURCH SEATS get the call. We're doing our best to keep up with requirements—and we're doing our best to turn out the best! C. F. CHURCH MFG. CO., HOLYOKE, MASS.

Church Seats

SANI-BLACK • INDESTRUCTIBLE WHITE MOL-TEX • SHEET COVERED

NEWS of the MONTH

President Consolidates War Housing Activities in a Single National Agency

BY EXECUTIVE order of February 24, President Roosevelt merged the Federal housing agencies into the National Housing Agency, under Administrator John Blandford, Jr., formerly assistant director of the budget.

Three main units were established in the National Housing Agency, each to be administered by a commissioner acting under the direction and supervision of the National Housing Administrator:

1. The Federal Housing Administration, under Commissioner Abner Ferguson, present administrator of the Federal Housing Administration.

2. The Federal Home Loan Bank Administration, under Commissioner John H. Fahey, present chairman of the Federal Home Loan Bank Board.

3. The Federal Public Housing Authority, under Acting Commissioner Leon Keyserling, present acting administrator of the U. S. Housing Authority.

The following agencies and functions were consolidated by the order:

The Federal Housing Administration; Federal Home Loan Bank Board; Home Owners Loan Corporation; Federal Savings and Loan Insurance Corporation; United States Housing Authority; functions of the Federal Works Administrator that relate to defense housing; War and Navy Department functions with respect to defense housing for families, except units on military or naval reservations, posts or bases; functions of the

Farm Security Administration and any other agencies providing temporary shelter in defense areas; functions of the Farm Security Administration relating to housing for families not deriving their principal income from operating or working upon a farm; the Defense Homes Corporation; functions of the United States Housing Corporation now in process of liquidation; functions and powers of the Division of Defense Housing Co-ordination and of the Co-ordinator of Defense Housing.

The Central Housing Committee was abolished.

National Home Builders Association Convenes

RECOGNIZING the critical need for consolidation of forces, principals of home building associations in fifty-five principal cities met in Philadelphia at the annual convention and election of the National Home Builders' Association, March 24-27, to prepare a vigorous program for the federal administration and Congress which will enable the private builder to continue volume production of housing units for war workers throughout the nation.

Officers of the national organization, headed by Edward A. Kerr, of Philadelphia, are launching a series of moves calculated to increase the 1942 allocation of 200,000 defense units for private builders. It is felt that the speedy start made by private builders generally in carrying out the assignment of the War Production Board has established the private residential construction industry as the best equipped agency in the land for widespread development of war housing.

Hoped-for new Federal Housing Administration legislation, streamlining the Title VI Defense Housing procedure by increasing the mortgage ceiling on single-family dwellings from \$4,000 to \$5,400 and on duplex rental units from \$6,000 to \$7,500, was under review by committees of the convention.

A committee, headed by Harry J. Durbin, of Detroit, named to succeed Mr. Kerr as association president, is to be dispatched to Washington to outline the organization's stand on the proposed legislation before Congress.

Besides the working sessions at the four-day convention, the meeting included such features as:

1. First-hand inspection of war housing under construction by private builders in Metropolitan Philadelphia Defense Area.

STRANGE STORIES - THAT "STICK"

**CONSTRUCTION GLUE
WITHSTANDS
TORNADO!**

IN A RECENT TORNADO
IN EVANSVILLE, INDIANA
A LAUCKS GLUE CONSTRUCTED
BUILDING WAS NOT DAMAGED
STRUCTURALLY WHILE ORDINARY
CONSTRUCTED BUILDINGS WERE
TOTAL LOSSES



LAUCKS CONSTRUCTION GLUE
MEETS SPECIFICATIONS 3-152-A
OF THE UNITED STATES ARMY
* * *



PLYWOOD SHEATHING GLUED
ON STUDS IS 13 TIMES MORE
RIGID THAN HORIZONTAL
SHEATHING ACCORDING TO U.S. FOREST
PRODUCTS LABORATORY FINDINGS!

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MANUFACTURING CHEMISTS
"Leadership through Research"
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Portsmouth, Va. - Commerce and Broad Sts.

THOUSANDS of jobs in wartime building demonstrate spectacularly what Laucks chemists and engineers have proved for years . . . the superiority of Laucks glue in construction.

Laucks Construction Glues are being used for affixing millions of feet of wall-board to studs, joists, etc., by contractors and prefabricators . . . in making laminated arches and beams for factories, barns, hangars, churches . . . for innumerable "glue-welding" jobs.

Why have Laucks CONSTRUCTION GLUES been selected almost exclusively for this work? Because they are formulated especially for this use. They are . . .

SELF-BONDING . . . no heavy weights or clamps are required, simply good contact.

WATER-RESISTANT . . . meet U. S. Navy and Army, federal aircraft specifications.

STRONGER . . . "stronger than nails" by test—and easier to get! Builders, architects, contractors, dealers—write Laucks for full information!

• **LAUCKS CONSTRUCTION GLUES** •

2. A tour of the very interesting local Defense Housing Show.
3. A symposium of builders attending and national manufacturers exhibiting in the show.

37,261 Additional Homes for Defense Workers Allocated

A JOINT public and private program for immediate construction of 37,261 additional dwelling units for industrial defense workers and civilian and enlisted personnel of the armed forces in 10 widely separated areas was approved March 5 by President Roosevelt on recommendation of John B. Blandford, Jr., Administrator of the National Housing Agency.

The publicly financed portion of the program will provide 13,526 units and the balance, 23,735 units, will be assigned to private enterprise. This is in line with the government's policy of supplying only such defense housing as private interests are unable or unwilling to provide. The bulk of the new public construction in this particular program will be centered on the West Coast to help speed shipbuilding.

The program as approved by the President for these 10 areas follows:

Seattle, Wash., public, 3,278 dwelling units, private, 6,300; Vancouver, Wash., public, 5,000, private, 2,100; Northern New Jersey, public, 2,838, private, 14,000; Alton-East Alton, Ill., public, 400, private, 450; Childersburg, Ala., public, 200, private, 60; Hawthorne, Nev., public, 400, private, 25; New Britain, Conn., public, 900, private, 100; Lemoore, Calif., public, 185, private, 150; Taft, Calif., public, 75, private, 50; Utica-Rome-Ilion, N. Y., public, 250, private, 500.

In the Northern New Jersey area, 2,538 of the newly scheduled defense home units had been planned originally for a slum-clearance program.

A-10 Priority for Plumbing & Heating Repairs

ISSUANCE of an order designed to facilitate the maintenance and repair of existing plumbing and heating installations in farms, residences, and office and apartment buildings was announced on March 14 by J. S. Knowlson, Director of Industry Operations.

The order (P-84) assigns an A-10 preference rating, which may be applied by an installer or supplier, to materials needed for emergency plumbing and heating repairs. The rating may not be applied, however, to obtain copper already fabricated in sheets, wires, rods or tubes or to any scarce materials which can be eliminated by change of design or by substitution.

W. Walter Timmis, Chief of the Plumbing and Heating Branch, said:

"The importance of maintaining existing plumbing and heating facilities is recognized in this order, but because the plumbing and heating industry is chiefly a metal consuming industry, every effort must be put forth to keep consumption of critical materials at the irreducible minimum.

"In other words, this order is not a guarantee that existing plumbing and heating facilities will be maintained in exactly their present state. For instance, a heavy brass chrome plate shower mixing valve would not be replaced by one of the same type. In normal times it has often been found that it is cheaper to replace than to repair.

"Replacement now can be made only if there is no possibility of repair. In cases where replacement is essential it will be found that the items now being produced are severely limited in number of types and styles, that the weight has been reduced, and that in many cases, less critical materials are being used in place of the customary materials.

"The intent of this order is not only to insure maintenance and repair, but also to insure that the products made available for that purpose are used only for *essential* maintenance and repair."

Additional Housing Critical Areas

DURHAM, N. C., has been added to the Defense Housing Critical Areas List.

Also added were Blackstone, Va.; Richmond, Va.; Point Pleasant, W. Va.; Burns City, Ind.; Fremont, Nebr.; Binghamton, Brooklyn and Long Island City, N.Y.; Palacios, Tex.; Gallup, N. Mex.; and Port Townsend, Wash.

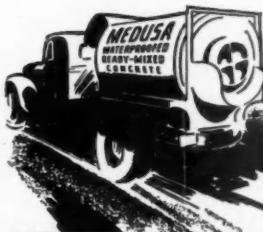
WATERPROOF

your CONCRETE and STUCCO

THIS EASY ECONOMICAL WAY



This bag contains cement and waterproofing, thoroughly mixed, ready to use.



Whether mixed by machine or by hand, Medusa Waterproofed cement is used just like any other gray cement.



Use Waterproofed Cement in stucco, in mortar for masonry above and below grade, in concrete footings and floors.

THERE ARE MANY WAYS to waterproof concrete and stucco. There are various kinds of admixtures, and just as many types of wall and floor coatings. All may have their merits, but—the easiest, most economical and efficient waterproofing to use is Medusa Waterproofed Gray Portland Cement—a cement that has the waterproofing mixed with the cement at the mill during manufacture. This waterproofing in Medusa Waterproofed Gray Portland Cement lines the pores of the concrete or stucco with a waterproofing material which repels all water at the surface.

Medusa Waterproofed Gray Portland Cement is used exactly like regular gray Portland cement. No chance of mistakes at the mixing box due to careless workmen. Economical in first cost, this cement requires no extra labor in application. It's easy to use—it's inexpensive—it's efficient. Try it on your next job. *Note:* When Medusa Waterproofed Gray Portland Cement is not available, use Medusa Waterproofing Powder or Paste. Send the coupon below for a copy of the booklet "How To Waterproof Concrete, Stucco and Masonry."



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1012 Midland Bldg., Dept. C, • Cleveland, Ohio
Gentlemen: Please send me copy of book "How To Waterproof Concrete, Stucco and Masonry."

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Professional Building Group Formed for War Work

FOLLOWING a trend toward consolidation of talent to better handle present types of work, a group of Chicago architects and engineers has pooled its professional facilities to expedite construction planning for armament works.

This group is known as the Great Lakes Associated Architects and Engineers, Inc., with offices at 140 S. Dearborn Street. Its members are R. Harold Zook and D. Coder Taylor, of Zook & Taylor; Carl Hauber; Charles Wheeler Nicol; Cedric Allan Shantz; Walter A. McDougall; John A. Stromberg; Lawrence Monberg and William N. Alderman, architects and engineers; Chance S. Hill, landscape architect, and Raulin B. Wight, civil engineer, who will act in a consulting capacity.

Glass Manufacturer to Produce Pre-Fab Houses for Government

ACTING with the government to relieve the acute shortage of adequate low cost housing for defense workers, Libbey-Owens-Ford Glass Co., Toledo, will soon be producing several hundred prefabricated, demountable defense houses per month in its Ottawa, Ill., plant, providing work for approximately 600 employes.

Faced with the task of rapidly reorganizing a part of its available production facilities and personnel engaged for years in manufacturing laminated safety glass for the automotive industry, the Toledo glass company plans to inaugurate this part of its switch-over into production for defense within a month.

The Government-approved type of houses to be produced by the glass company will include three floor plans for one, two and three-bedroom dwellings. In each group of 100 houses, 14 will have one bedroom, 60 will have two bedrooms, while 25 will be of the three-bedroom type.

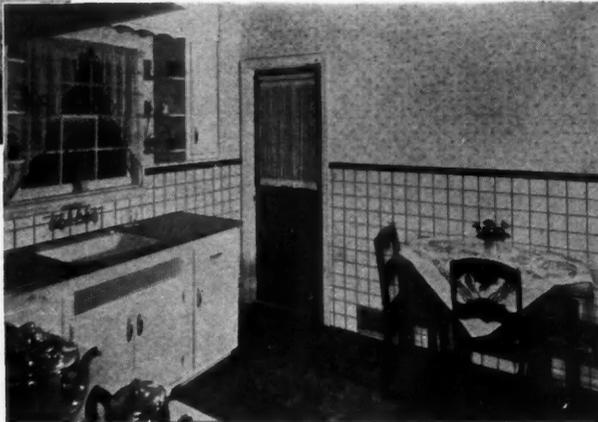
Marlite for Defense Homes

..Low Cost..Speedy Installation

..Minimum Labor



400-Home Blue Ridge Development uses Marlite in all Kitchens and Bathrooms. Homes sell for \$4500 top.



MARLITE is more than adequately meeting the need for a modern, colorful and durable wall treatment for defense home kitchens and bathrooms... one that can be installed quickly and easily. Being Pre-finished, Marlite requires no finishing on the job. Its tough, glass-smooth surface is highly resistant to mild acids, alkalis, soaps and other common deteriorants. Installation requires no special craftsmen. A good carpenter can readily cut the large wall-size panels to proper size and shape and apply in a minimum of time. Available in over 100 colors and patterns. See Sweet's Section 11. Or write for New Catalog.

MARSH WALL PRODUCTS, INC. • 43 Main St., Dover, Ohio



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

Pre-finished WALL PANELS

FOR CREATING BEAUTIFUL INTERIORS

PLAIN-COLORS HORIZONTALINE WOOD-VENEERS • HEATEX •
TILE-PATTERNS MARBLE-PATTERNS • CARSTENITE • MARSH MOULDINGS

Rubber Shortage Will Shift Building to City Centers

PROSPECT of coming lack of rubber for war workers' cars has put new strings upon the location of war industries. That is a change of recent weeks very significant for all war-period urban real estate development. It means a shift of industrial expansion toward localities where there is existing transportation for labor, and a possible tendency toward its centralization near large metropolitan centers, pools of skilled labor. War industry is making every manufacturing plant concerned look for space for expansion. Contrariwise, great producers of civilian goods, forced to stop everything but replacement work, are in the real estate market also. They must find narrower quarters. Contraction of automobile use is bringing a wholly new location problem to all retail merchandising that is dependent upon an automobile-borne clientele. Chain stores are revising their location policies.

With civilian home building coming to a stop, good houses listed as for sale are getting scarcer, a sign of a rising residential market. As always during an inflationary period, investment buying of real estate is increasing in importance.

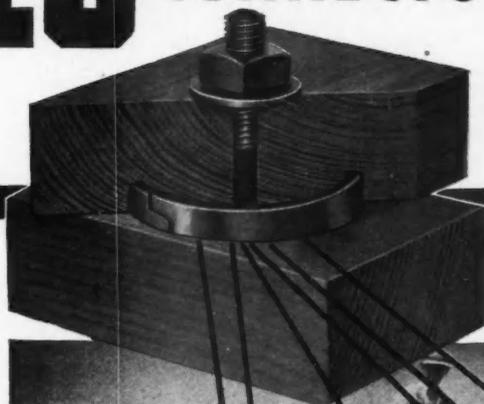
W. W. Herrold Advanced by Armstrong

THE APPOINTMENT of W. W. Herrold as manager of the Building Products and Glass and Closure Creative Section of the Advertising and Promotion Department of the Armstrong Cork Company has been announced by M. J. Warnock, director of advertising and promotion.

This creative section supervises the advertising and promotion of resilient tiles, Temlok, Monowall, and acoustical materials for the Building Material Division, all products of the Glass and Closure Division and the Export Division. Mr. Herrold will also continue to serve as project manager.

Mr. Warnock said that Paul C. Bunker has been named assistant manager of the Building Products and Glass and Closure Creative Section.

If the carpenters can make joints with
nails and bolts . . . **THEY CAN BUILD**
WITH TECO CONNECTORS!



Today's greatest opportunity for contractors, regardless of the size and scope of their operations, comes from wood construction with the Teco Connector.

Because of the Teco Connector system of construction, numerous types of structures that involve the use of other materials are now being built of lumber.

The Teco Connector makes it possible to utilize 80% to 100% of the strength of lumber or timbers at joints, instead of from 40% to 60% as formerly. The joints are more rigid. Buildings go up faster. There is a great saving in materials, both critical and non-critical. A vast new field for *engineering with lumber* is opened to contractors everywhere.

Under the impact of the war effort, with a scarcity of critical materials, the Teco Connector has reinforced the unique structural values of lumber and opened the way to the construction of factories, theaters, recreation centers, garages, hangars, pre-fabricated homes, large churches and buildings of many other types.

Any competent engineer can design for wood construction with Teco Connectors. Competent carpenters are at home working with them.

Write today for the book "*New Jobs in Our Town That Can Best Be Built of Wood*". It's information that every contractor should have.



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 of 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.



Weyerhaeuser Sales Company

MANUFACTURER OF 4-SQUARE LUMBER
FIRST NATIONAL BANK BUILDING • ST. PAUL, MINN.

LETTERS from Readers on All Subjects

Facts, Opinion and Advice Welcomed Here

Hardware for Defense Housing

Grand Rapids, Mich.

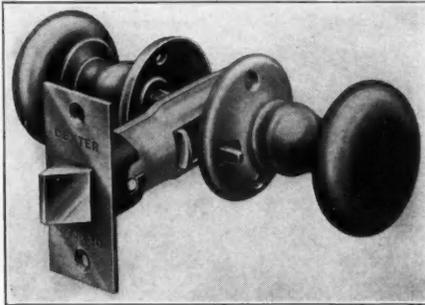
To the Editor:

We are announcing that the Dexter-Tubular line is certified to conform with federal specifications on defense housing. This

means that we warrant that the Dexter-Tubular locks and latches do and will meet all the requirements and specifications as may be from time to time released by the federal agencies. We are assuming the entire responsibility to keep our line in full accord with the specifications.

When the dealer or the contractor includes Dexter-Tubular locks and latches in his bid he is assured that the locks and latches are acceptable even though specifications on hardware may change by the time the bid is awarded to him.

Since these are changing days, there is an ever growing concern regarding quality. In days like these all of us are liable to lose our perspective, and may no longer even use the guide post of branded names to offset these conditions. To show that Dexter continues



TUBULAR lock set simplified.

to be rugged, dependable quality, our lifetime warranty now is extended to include all Dexter-Tubular locks and latches.

We have just received information that tubular and mortise locksets and latchsets are optional in bidding on Government Defense Housing jobs; which means that whether the invitation to bid specifically states the type of hardware and states that tubular or mortise are optional—in any event tubular or mortise may be used in bids on Defense Housing jobs.

Of course, each day brings new information, restrictions and limitations. For example, we do not know at this moment if bright brass plate and dull brass plate will be allowed on the steel goods, but we anticipate that they will. We are going to endeavor to keep abreast with the situation, and serve our dealers with this necessary information.

NATIONAL BRASS COMPANY
by W. W. Peterson, Advertising Manager

40 Years Old—and Still "New"

New York City

To the Editor:

You write that many building industry firms are bringing out new models, pioneering new materials, restyling lines, etc., to adapt them to present war market needs. You request early news together with suitable illustrations, etc.

It occurs to me that something ought to be done to counteract the over-emphasis on *things that are NEW*. The past 20 years from an advertising and merchandising point of view, as you are fully aware, have over-emphasized the principle of obsolescence. We have had a plethora of early models, semi-annual models, special gadgets advertised as new and revolutionary improvements. All of this, you see, comes under the heading of "Pioneering new materials, bringing out new models, restyling lines."

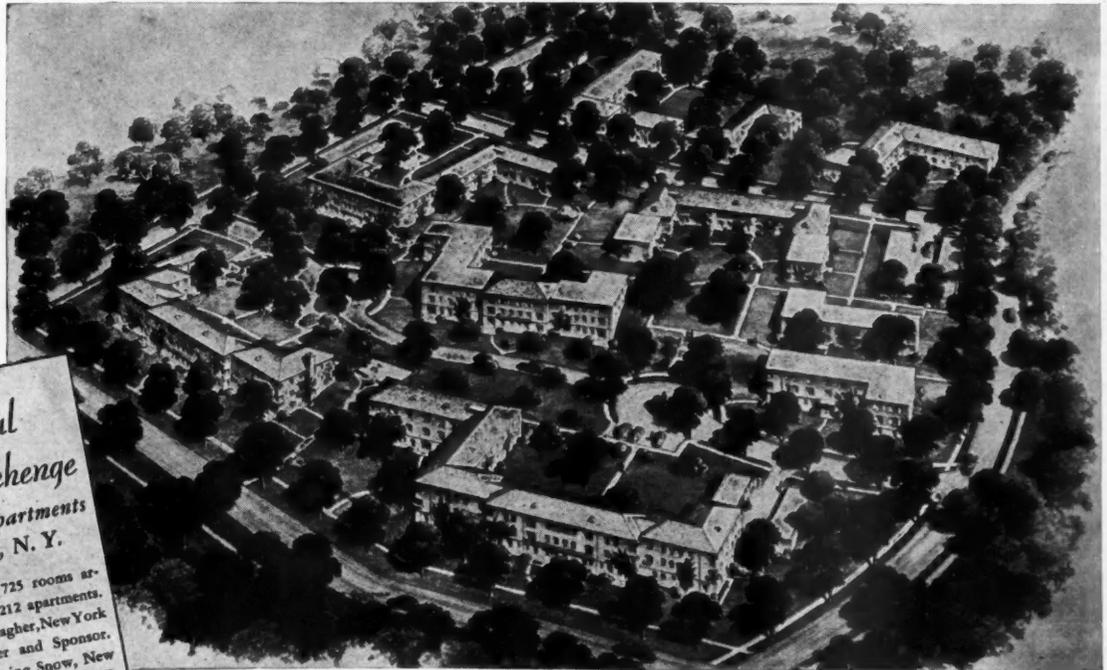
Today, when all indicators point to a dearth of consumer goods of all kinds, it seems to me that our product warrants some special attention and consideration.

For example, Sanitas fabric wall covering as a building material is 40 years old. Essentially its construction has not changed in this almost half a century. Yes, we have kept the designs and the colorings current and more or less in style; but this is

(Continued to page 108)

Beautiful Stonehenge Garden Apartments Albany, N. Y.

—containing 725 rooms arranged into 212 apartments.
Vincent Gallagher, New York City, Owner and Sponsor.
Richard Boring Snow, New York City, Architect. A. E. Stephens Company, Springfield, Mass., Builder. Henderson-Johnson Company, Inc., Syracuse, N. Y., Plastering Contractor. Ohio White Lime Finish used throughout.



An impressive list of prominent plastering contractors—like Henderson-Johnson—rely upon "Ohio" and "Hawk Spread" White Lime Finishes (*always packed in Red Zig Zag Bags*) to insure their reputations for fine plaster work that will last.

Write for our free illustrated booklet
"Hydrate Lime for Plaster and Stucco."

The OHIO HYDRATE & SUPPLY CO.

Woodville, Ohio



AVOID WASTE USE TRIMPAK

Now, when it is most important to avoid waste, TRIMPAK helps you save time, labor, and materials.

TRIMPAK—the ultimate in trim—is America's finest quality, packaged window and door trim. Trimpak is precision cut, perfectly manufactured and delivered to you on the job, in strong cartons, ready for installation.

Trimpak saves important labor for defense work. The new patented lock-joint unified trim saves 44% installation time and assures perfect joint. Trimpak saves transportation, too, by leaving waste material at the mill. And equally important right now, Trimpak involves no critical equipment needed for our war effort.

It will pay you to investigate Trimpak today. Your local lumber dealer will be glad to give you full information or you can write for literature direct to Dept. AB-4, Trimpak Corporation, 44 Whitehall Street, New York, New York.

TRIMPAK

"THE ULTIMATE IN TRIM"

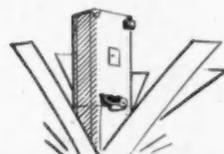
★ DEFENSE HOUSING NEWS ★

Cut Costs 4 Ways!

WITH NORGE OIL HEATING UNITS



1. Lowest FIRST Cost! Norge automatic warm air furnaces give you the finest quality and performance at rock-bottom prices. Sold factory-direct to installer, "middle man" costs are eliminated.



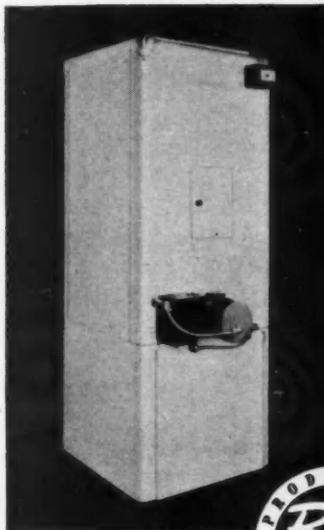
2. Lowest INSTALLATION Cost! Norge units are packaged, factory-wired and factory-assembled for quick, easy installation. Because units fit your specifications, there is a minimum of duct work.



3. Lowest SERVICE Cost! With qualified sheet metal and heating contractors taking full responsibility, with 1 year Service warranty and proper installations, service is kept at a minimum.



4. Lowest OPERATING Cost! The complete line includes the most efficient unit for every type home. Specialists in oil-fired units, Norge engineers know how to provide economical heating.



AS STREAMLINED
AS A NORGE
REFRIGERATOR

MODEL OD-70, blower and furnace, for utility room or closet. Takes but 26 inches square floor space. Automatic controls. Pearl enamel finish.

NORGE HEATING and
Borg-Warner
Corporation



CONDITIONING DIVISION
12345 Kercheval Ave.
Detroit, Michigan

See **NORGE** Before You Buy

FRANTZ
Guaranteed BUILDWARE

FRANTZ MANUFACTURING CO.
Sterling, Illinois

FRANTZ
Guaranteed BUILDWARE

"GLIDE" HANGERS AND TRACK "RUNWEL" HANGERS AND TRACK

FRANTZ MANUFACTURING CO.
Sterling, Illinois

40 Years Old—and Still "New"

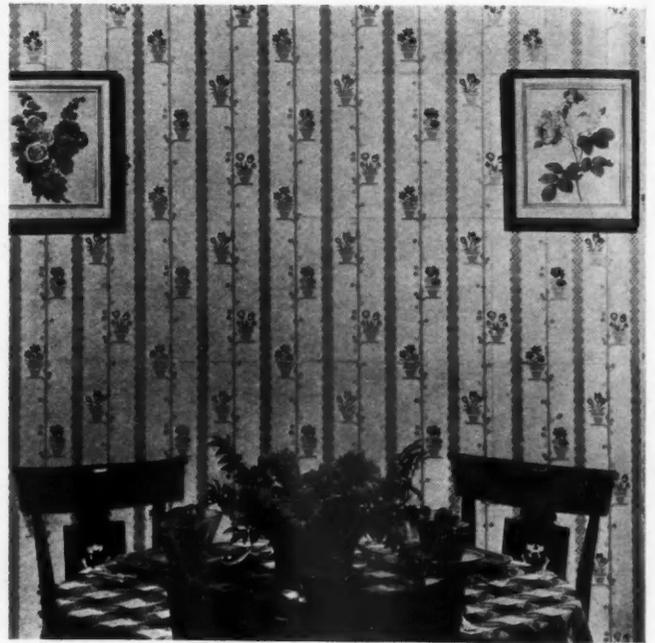
(Continued from page 106)

not the essence of Sanitas. The basic virtues of wall reinforcement, permanent washability, easy maintenance are all results of our unique multi-layer processing. And, as I mentioned above, this is 40 years old.

I received a letter the other day stimulated by one of our consumer ads. Enclosed with the letter was a coupon from the ad, along with an antique sample of Sanitas pulled from a kitchen wall. Dr. Warner, of 76 East Front Street, Red Bank, New Jersey, wrote as follows:

"The enclosed sample of Sanitas was taken from our kitchen wall. It was put on 26 years ago. We want to re-decorate the kitchen and would like the same or similar pattern in blue or white. When can you do it for us?"

This wonderful bit of testimony tells the unchanging story of Sanitas fabric wall covering.



SANTAS fabric wall covering as applied on a dining room wall.

Today more than ever, as long as the present availability of Sanitas fabric wall covering continues, this is the real story.

For builders constructing rental properties Sanitas protects and reinforces the walls; provides decoration; insures easy maintenance, and when the tenant moves out these Sanitas Walls can be washed clean, painted over if necessary—requiring no additional outlay for wall repair or reconditioning.

Sanitas especially meets today's housing needs by offering itself as probably the most effective method for resurfacing old plaster walls in properties which are being renovated and remodeled. Sanitas is also an ideal surfacing for dry walls. It works beautifully over the various wallboards.

It seems to me that if you really want a news story of almost equal impact to "Man Bites Dog" this regeneration of Sanitas fabric wall covering provides such an opportunity.

STANDARD COATED PRODUCTS CORPORATION
by J. L. Arnold, Director of Sales Promotion

Oak Flooring Manufacturers Diversify

Memphis, Tenn.

To the Editor:

In response to yours of the 16th, you will note, first, that we have not succeeded in developing a war baby. We have no new oak flooring products to offer.

Last year 17 per cent of our total shipments went into de-

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defense housing and we figure that this year, if we stay in business, it will be because practically all of our production goes for defense work. We are thoroughly sold on the fact that we will participate extensively in any remodeling work that is done anywhere and when it comes to farm improvements that is right down our alley.

We figure that our production will be cut 50 per cent within six months due to every man under 45 going either to the armed service or to the defense plants. This is already happening and there isn't anything in the picture to stop it in spite of the fact that the bulk of the orders in this industry are for defense work of some kind. It is still difficult to get any of the critical items which our plants need. Our people instead of taking it for granted that Uncle Sam will build the defense houses that he needs and floor them with oak are busy figuring on every defense product that can be made of wood without new machinery. The result has been that we have produced millions of feet of tent stakes, truck body parts for Russia, hundreds of thousands of army cots and are now putting millions of feet of hardwoods into munition boxes and prefabricated, demountable dwellings.

Just as rapidly as we find some product that has been switched from steel or aluminum to wood, we start figuring on it and while our experience has been that we have to quote a hundred times before we get a single order, note, please, that we never stop trying.

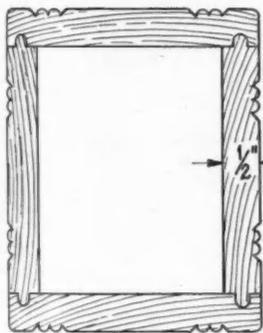
NATIONAL OAK FLOORING MFRS. ASSN.
by Ralph E. Hill

Develops Wood Downspout

Cadiz, Ohio.

To the Editor:

We believe that the most significant thing about fir gutters at this time is the expanding demand for this product as compared with years gone by.



WOOD downspout.

Our sales last year were double those of any previous year, and January and February of 1942 are far ahead of the same 1941 period; to illustrate, we recently received one order calling for 75,000 linear feet of gutter going on one job (about three cars) and have several other orders booked taking one or more cars to the job; another about to be closed takes four cars of gutter, and we believe your readers would be interested in learning of this widely expanding market, due largely, of course, to conserving of metals.

We are now working on a wood downspout to go with our gutters and expect to have this on the market soon; it will be a rectangular downspout, tongue and grooved as shown on attached sketch; shipped KD and much better suited than a round downspout for wood gutters. In addition, it will present a very attractive appearance when installed. Durability, of course, will be a sales factor.

LONG FIR GUTTER COMPANY,
By A. C. Long, President.

Drawings Duplication Service

Chicago.

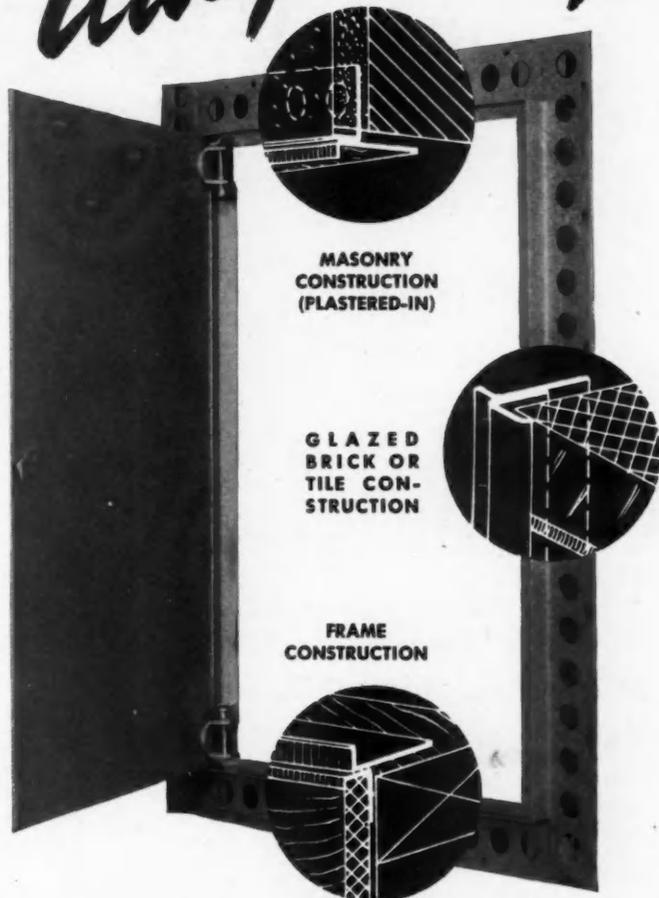
To the Editors:

Under government requirements all holders of defense contracts must file with the government duplicate copies of their drawings of the particular equipment being manufactured. These duplicate copies must take a definite form and must comply with definite specifications.

Many manufacturers are not familiar with these specifications and are searching for help. We are prepared to give these manufacturers the help they require. Through a special process we are prepared to supply originals they require to meet the government specifications. Otherwise they would be forced to make hand drawn tracings losing weeks, and in some cases months, of valuable time.

R. J. TRENKMANN,
The Frederick Post Company.

Adaptable!



KNAPP ACCESS PANELS

YOU can readily see why Knapp Access Panels are so widely used — they easily fit all your conditions in every type of construction job.

They are sturdy pre-assembled units—quick and simple to install. Cam latches and pivot hinges are in non-corrosive metal. They have captive pin type hinges to make it easy to remove the door without risking loss of small parts.

The neat flush-fitting surface of an installed Knapp Access Panel creates an attractive appearance. In Knapp metal access panels you'll find the same ruggedness and high quality that's characteristic of all Knapp products. There is a variety of standard sizes to choose from, and special sizes may be had on

FOR FURTHER INFORMATION

Ask your building supply dealer for prices and details of this and other Knapp products.



KNAPP METAL TRIM
KNAPP BROS. MANUFACTURING CO.
GENERAL OFFICES • JOLIET, ILLINOIS



WHETHER you are building, remodeling or rehabilitating to provide additional living quarters for defense workers, you will want to use a YPS Cabinet Sink.



YPS Cabinet Sinks are produced by America's leading manufacturer of PLANNED KITCHENS. However, for the duration, the steel that was used for wall and base cabinets is now going into war materials. When Victory comes, the kitchens where YPS Cabinet Sinks are installed can be equipped with the additional cabinets to make them beautiful YPS PLANNED KITCHENS.

YPS Cabinet Sinks give the builder these advantages:

- Easy to handle
- quickly installed
- factory finished — no painting necessary
- nationally advertised.

Housewives like YPS Cabinet Sinks because:

- they are comfortable to work at — plenty of knee and toe room
- they save hundreds of steps every day
- they are easy to keep clean.



YOUNGSTOWN PRESSED STEEL DIVISION, Dept. AB-442
Mullins Manufacturing Corporation, Warren, Ohio.
Please send me Cabinet Sink Information.

Name _____
Address _____
City _____ State _____

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.

How to Build a Blackout Panel

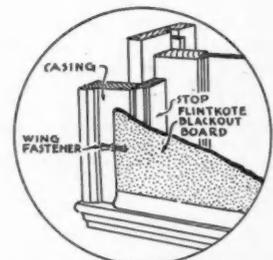
SOME VALUABLE pointers on air raid protection and the blacking out of windows are offered by The Flintkote Co., New York City, based on its own research and the actual experiences of its British subsidiary. Carpenters and builders in this country are now being called on to provide complete window blackouts. Here is the Flintkote method for a simple removable blackout panel.

The double-hung window sketch and details "A" and "A (alternate)" show two methods of attaching Flintkote Blackout Panels to the interior casing of a window so that they can be easily removed when not needed. Although a double-hung type window is illustrated, this method is equally applicable to in-swinging or outswinging casement windows. A Blackout Panel attached in this manner permits shades or Venetian blinds and draperies to remain in place and requires a minimum amount of material, fitting and ingenuity to achieve absolute light obscuration.

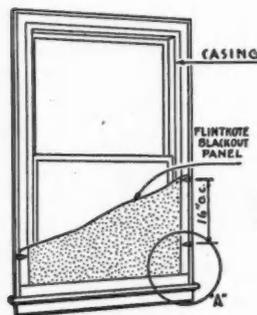
If window casings are un moulded and relatively flat, framed by a simple backband, cut a section of Flintkote Blackout Panel carefully to fit exactly between the backband projections similar to enlarged Detail "A". If distance "X" (backband projection) is less than $\frac{1}{8}$ ", mount fastener on a washer sufficiently heavy to clear the $\frac{1}{8}$ " Panel. If backband projects more than $\frac{1}{8}$ " a small block can be glued to the front of the Panel to assure a tight contact under fastener. Wing fasteners spaced not over 16" apart around the backband will assure good support for the Panel and help prevent any light leakage.

If the window casing is moulded at the edge and it is not feasible to allow the Panel to fit tightly against the backband, Detail "A (alternate)" illustrates an alternate method of applying the Panel to the window casing. Attach wing fasteners about 16" apart around the casing, allowing sufficient clearance to turn the fastener and still leave at least 1" of casing to back up Panel.

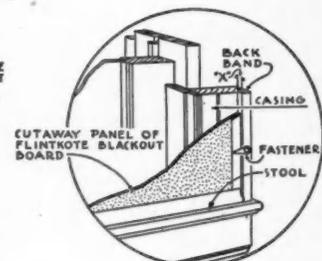
JUST one of several helpful air raid protection details in Flintkote data sheets.



DETAIL "A" (ALTERNATE) ENLARGED



DOUBLE-HUNG WINDOW



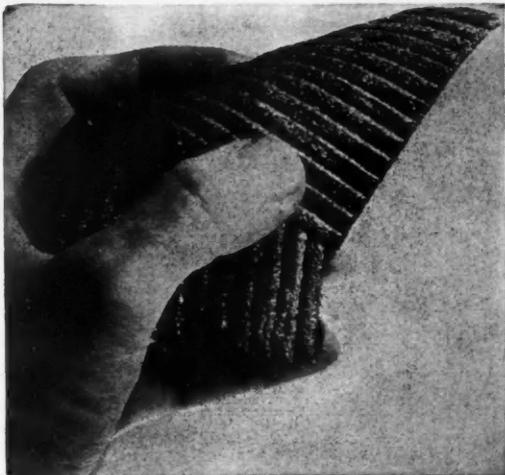
DETAIL "A" ENLARGED

How to Flash Without Metal

A NEW FLASHING that requires no priorities has been designed by the Wasco Flashing Co., Cambridge, Mass., as a substitute for metal flashings. This consists of a felt core

bonded on both sides to asphalt-saturated fabric by means of a ductile mastic. The flashing is tough and durable, and yet so flexible that it can be formed by hand on the job.

Used as through-wall, cap, base and valley flashing, it is also used as

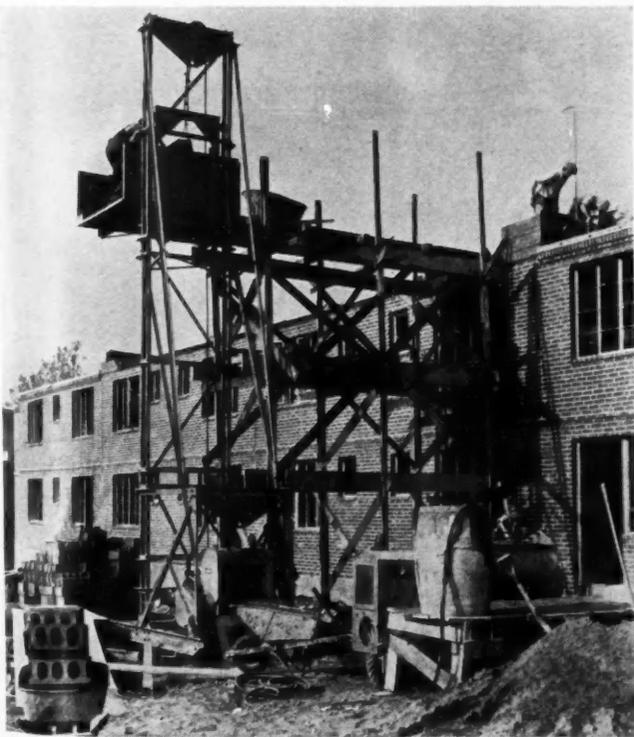


WASCO flashing avoids sheet metal.

a waterproofing for spandrel beams, heads, and sills and as a siding material; shipped in rolls 24 feet long and 36 inches wide. It does the job of metal flashings at a much lower cost.

"Hoister" Hoists Itself

IN VIEW of labor costs and shortages, this Jaeger Self-Raising "Hoister" Tower, from the Jaeger Machine Co., Columbus, O., capable of saving 8 or 9 men on many jobs, is of particular interest to builders. Designed in tubular steel track sections with 17 H. P. Hoist mounted on the sled base, tower can quickly be assembled on ground by 2 men in a couple of hours and then raised into position by its own hoist. Once raised, tower can be moved around job on its skids. Standard height is 37 ft. to which 10 ft. extensions may be added up to 67 ft. height by means of gin pole. Capacity is one ton. Cage measures 69 x 66 inches to take largest size concrete cart or two barrows, plus operator's catwalk, and is equipped with automatic safety device. Unit can readily be disassembled and moved to successive jobs.



JAEGER self-raising tower in use on a federal housing project in Baltimore by Henry Knott, contractor.

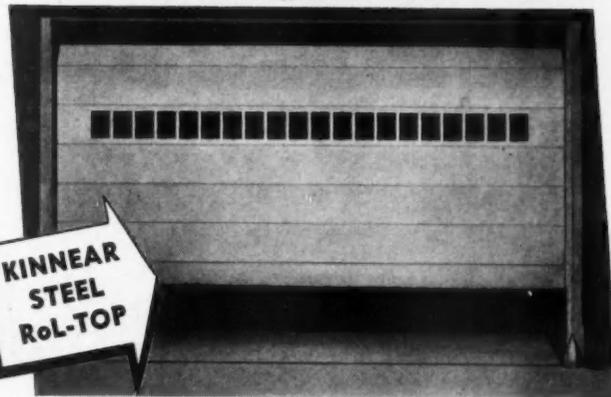
These Two Doors
Meet Today's
EXTRA
Requirements



KINNEAR
ROLLING
DOOR



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Along with all the smooth, upward-acting speed and efficiency owners are demanding, these two doors offer the extra durability and protection of all-steel construction. Kinnear Steel Rolling Doors feature the famous, compactly coiling, inter-locking-slat curtain (originated by Kinnear) They save floor and wall space . . . open out of the way, safe from damage . . . clear all nearby objects . . . resist fire, intrusion, sabotage, storms, and accidental damage! Motor or manual control! And the Kinnear Steel RoL-TOP offers the same general advantages in a sectional-type door—with or without window sections. Write for new catalog just off the press! The KINNEAR Manufacturing Company, 1560-80 Fields Avenue, Columbus, Ohio.

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ROLLING DOORS



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2. EVERY building has to have one
3. Plentiful FINISHED stocks
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Mule-Hide Offers You
These Exclusive Advantages:

PRODUCTS

- Cor-Du-Roy surface speeds application—prevents checks and cracks.
- Roll roofing has 5 inch selvage to increase seam adhesion and speed application—saves labor cost.
- Cold Process BUILT-UP Roofs require no extra equipment for application. EXTRA SALES for you.

SELLING HELPS

- Color Stylist (patent pending) combines full sample line AND consumer pictured sales manual in less than 6 pounds.
- Full-color FARM advertising featuring YOUR NAME mailed direct to Farm Customers.
- Co-operative plan to share local advertising expense.

WRITE FOR THIS COMPLETE CATALOG

with samples of Advertising Selling Helps

It will cost you nothing to look them over and fit them into your 1942 selling plans.



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4425 SOUTH OAKLEY AVENUE
CHICAGO • ILLINOIS

ASPHALT SHINGLES • ROLL ROOFING • WATERPROOFING SPECIALTIES • ROOF COATINGS • BUILT-UP ROOFS

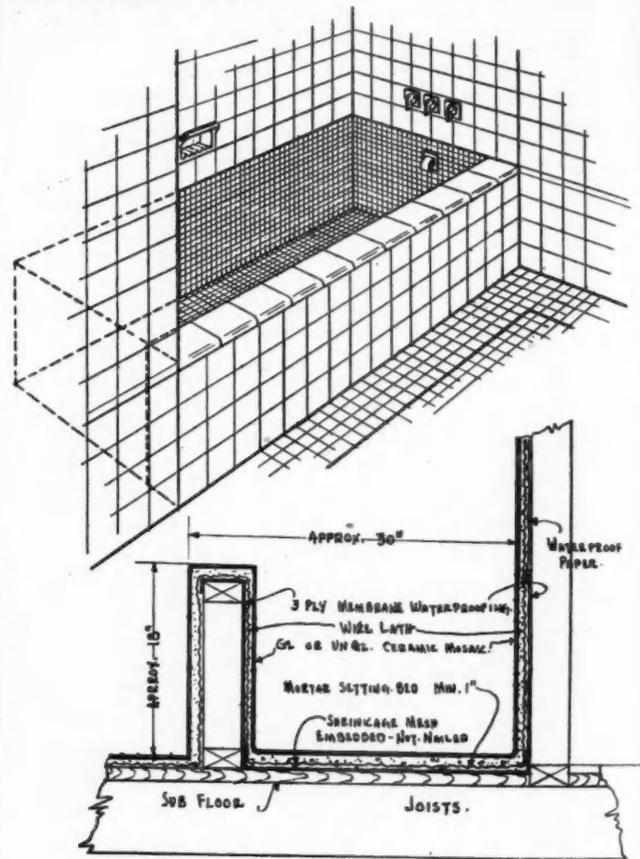
Tile for Tubs and Sinks

THE TILE Manufacturers' Association, Inc., 50 East 42nd Street, New York City, is now installing a tile bathtub in a showroom in Washington, D. C. If the government housing officials approve this idea for all defense housing, there should be a saving of 75,000 tons of iron in the manufacture of bathtubs during the next twelve months, according to an association executive.

The all-tile bathtub opens a field of possibilities for the tile contractor. The tile contractor must not only be sure that the proper tile is selected for lining the tub, but also that the construction and installation will give positive assurance as to ease of cleaning, preventing of cracks and protection against leaking.

The following suggestions will overcome some of the apparent objections and insure a satisfactory job. The same precautions will be applicable to the installation of tiles in sinks and on drainboards.

The contractor should check the design and construction details of the bathroom. The substructure must bear the weight of the mortars without undue settlement or cracking of the tile. Drains and traps must be located to permit the proper slope and drainage to the bottom of the tub. Valves and overflow pipes should be placed where convenient and easily fitted with tile without undue cutting or fitting. Plumbing pipes should pass through the tile mortars at right angles and not be embedded in the tile work. The substructure for the outside wall and rim of the tub must be strong enough to resist deflection and sufficiently narrow to permit the use of double bullnose tile shapes as well as the two tiled vertical surfaces on each side.



CONSTRUCTION details for a tile bathtub.

The height of the tub floor in relation to the level in the balance of the bathroom will depend, of course, on whether the tile mortars are placed on a wood floor covering the joists or on a concrete fill with chamfered or dropped joists. The minimum tile mortar thickness will be at the drains with the proper rise to the back of the tub. The concrete fill, when used, should be leveled to the contour of the floor so that any seepage will follow the waterproofing to the drain. Reinforcing of the concrete fill is recommended so that settlement or shrinkage will not crack the slab, or pass through to the tile.

The best possible type of waterproofing must be used for the tub area. The bottom and inside of the tub should be covered with at least three plies of a membrane or felt waterproofing. Flashing around the drain and overflow pipes is recommended.

Caulking compounds or mastics may be used between the tile work and any metal work. It may be feasible to use the caulking compound as an expansion joint at the tub line around the walls and at the floor line in front of the tub. This will prevent random cracking and insure the tub remaining as one monolithic unit.

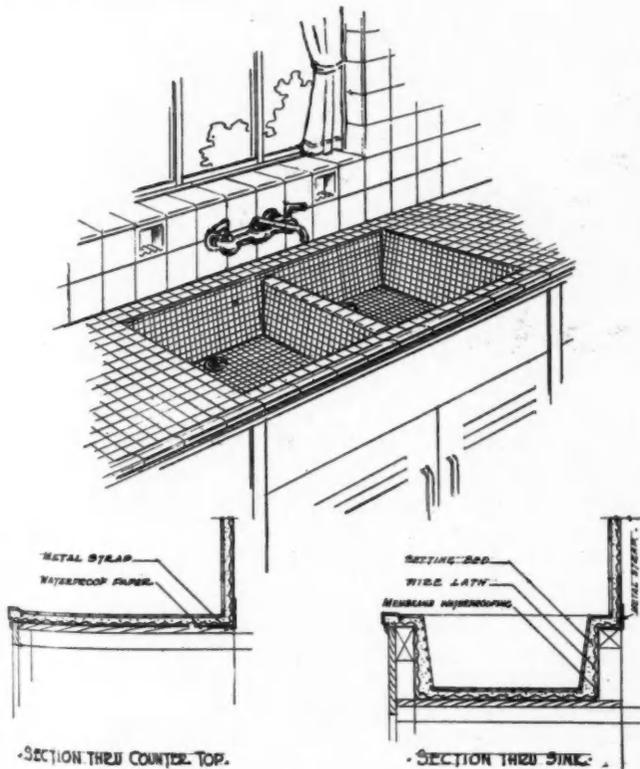
In certain sections of the country, one of the "must haves" in the kitchen of every new home are tile drainboards and counter tops. Such "extras," including tile sinks and table tops, have gained their popularity through the promotional efforts of the contractor, his selection of the proper tile, the method of construction, and above all, satisfied home owners.

Since the tile on sinks, drainboards and counter tops is supported by prefabricated or built-in cabinets and wood substructure, the tile contractor must insist that the framing is properly and securely braced. The framing must be strong enough to support the weight of the tile mortars and the sink filled with water. Strap iron, angles, or hangers should be used to hold the cabinets and wood bracing securely against the wall to prevent settling and cracking at the back of the counters and drainboards. Angles or hangers should also be used to anchor metal or enameled sinks to the cabinet and wall.

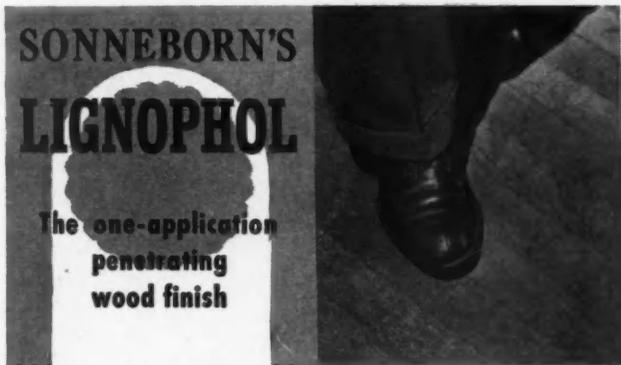
The tops of the wood cabinets to be tiled may be covered with rough or semi-finished boards, either tongue and groove, shiplap or spaced about $\frac{1}{4}$ " apart. These boards must be securely nailed to prevent warping and subsequent cracking of the tile surface. Rough plumbing and outlets should be in place. Excessive cutting and fitting of the tiles can be eliminated if the dimensions and layout of the sink and counters are made to include whole tile units.

Construction of the cabinets for an all tile sink must be the same as for tiled showers and tubs. A metal pan could be fitted into the wood framework for the sink. This metal can be eliminated by using the equally satisfactory lining of two or three ply felt or membrane waterproofing. One or two ply waterproofing will also be satisfactory for the drainboards. Extend the waterproofing up the walls and overlap downward into the sink to prevent possible leakage. Metal lath should cover all this waterproofing but must not be nailed below the water line in the tiled sink.

Tar or building paper must be laid over all wood surfaces to be tiled. The paper can be tacked down, overlapped at edges and extending up the wall and down over the counter fronts. Cover the paper with lightweight lath, overlapped and securely nailed. —Specification compiled by John R. Kauffman for the Tile Industry Research Bureau.



PERSPECTIVE and cross sections of tile sink.



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USE LIGNOPHOL**

Lignophol is no ordinary surface finish, but a beautifying and preservative treatment that penetrates into the wood, assuring exceptionally long wear. Yet Lignophol requires only one application instead of the two or three coats needed with ordinary finishes.

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**FOR ALL 1942 BUILDING
PULLMAN
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**LOWER COST
FASTER CONSTRUCTION
BETTER OPERATION**

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WRITE for descriptive literature, specifications and window detail drawings. Pullman Manufacturing Corporation, Dept. A-4, 1170 University Ave., Rochester, N. Y.

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YOU CAN GET 'EM!



ANDERSEN COMPLETE WOOD BASEMENT WINDOW UNIT

- Complete, prefabricated, pre-fitted basement window unit; carton packed—all set up, glazed, weatherstrip and hardware applied—ready for speedy installation.
- Supply is definitely assured. Uses minimum amounts of critical materials. Large glass areas. Sash can be opened to two positions, and can be removed easily.
- Moderately priced—gives you all the advantages of Andersen Lifetime construction, yet keeps costs for low-price housing in line.
- Toxic Treated—proofed against termites, decay.

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Andersen Corporation BAYPORT, MINNESOTA

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FULLY ADJUSTABLE—QUICKLY, Without Tools

1. Loosen Bolt "A"
2. Raise or lower upright and insert Hook "B"
3. Tighten Bolt "A"

Weight supported on Hook "B" while trestle is adjusted. Position of brace on timber need not be changed. Gives safe, solid base for working platform. Made of rail carbon steel. Eight sizes for heights from 1 foot to 12 feet. Write for prices today.

FOR NEW CONSTRUCTION OR MAINTENANCE WORK Ideal for both inside and outside construction work or factory maintenance where there are objects to straddle, different floor levels and ceiling heights.

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CORNER GOVERNOR and MISSOURI STS. EVANSVILLE, INDIANA

Asbestos Ducts Save Metal.

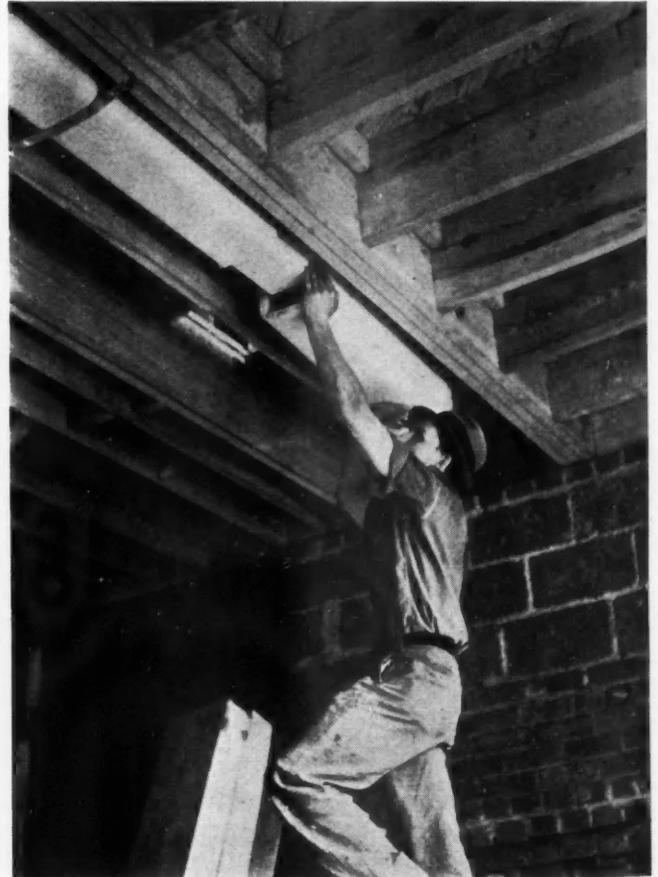
A TIMELY development in all-asbestos prefabricated ducts solves the problem today of installing warm air heat without the use of critical list sheet metal. "Careyduct," a product of the Philip Carey Co., Lockland, Cincinnati, Ohio, combines both duct and insulation in strong, rigid fireproof units. "Careyduct" is a standardized factory-built duct for conveying conditioned air (either hot or cold). It has numerous important advantages over insulated metal duct and solves many difficult problems.

It has an inner core for strength—an outer jacket for insulation. It is made in standard double-layer sections, three feet in length. A section consists of an inner core approximately 3/16" thick of firm, solid asbestos. This inner core is the "backbone" of the duct and provides its mechanical strength. Over this inner core—and making a close, sliding fit—is the outer shell, or insulating jacket, consisting of multiple layers of fine corrugated asbestos, firmly bonded to form a substantial structure of high insulating efficiency.

Total thickness of core and jacket is 1/2" and 1" thick, but thickness can be varied to meet conditions.

The outside surface is hardened for protection against damage. It is finished in smooth, natural white asbestos, suitable for plastering, painting or other decorative finish.

The installation of "Careyduct" is simplicity itself, effecting important savings in time, labor and cost over insulated metal duct. It cuts easily—all fittings may be made on the job, eliminating shop work and reducing overhead. Simple slip-joint construction of the duct and quickly constructed fittings make erection rapid and economical.



"CAREYDUCT" comes in 3-foot sections; easily assembled.

Installing Lead Under the New Emergency Plumbing Standards

IT IS ESSENTIAL that everyone connected with building construction be thoroughly familiar with the materials and methods prescribed by the new emergency plumbing standards issued by the Defense Housing Coordinator, the Lead Industries Association emphasizes in its March magazine, "Lead." These standards, it is understood, will apply to all government construction

and will be used as a basis for issuance of priorities for private defense construction. Since lead is one of the materials that may be used under the emergency standards, some suggestions are given here on adapting lead to their requirements, keeping in mind that the basic purpose of the standards is to conserve material.

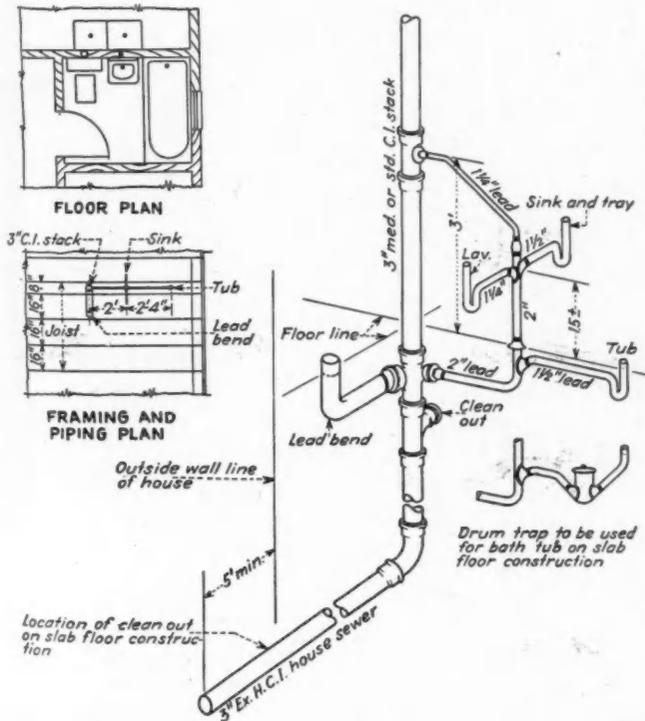
In that connection it should be pointed out that if a complete lead and cast-iron job is done under the emergency standards, the saving in weight of material required may run as high as 8 per cent of that needed for the same layout done in screw pipe. Right there one advantage of using lead may be seen. Because of the flexibility of lead, the layouts may be modified to effect further savings if lead is used.

The emergency standards contemplate nine basic layouts ranging from a one-story, one-family dwelling to a three-story, three-family building. In this article the first mentioned only is discussed in full, since the principles remain the same. It is further contemplated that in lead and cast-iron jobs, lead will be used for all branch wastes and vents 2 in. and less in diameter, bends and traps, except that where a 2-in. vent runs from one story to the next, it will be run in cast iron instead of lead to avoid the necessity of additional support against sagging.

Shown in the drawing is the required rough plumbing layout for a one-family, one-story dwelling. In frame construction, to avoid cutting joists, the side outlet sanitary T is placed at a level which permits the lead bend and waste to pass just below the bottom of the joists. If the bearing joists under the partition between which the cast-iron stack passes are spaced 8 in. on centers, the vertical inlet of the lead bend will just clear the next joist when the center of the inlet is roughed in 14 in. from the finished wall. This assumes that joists, except bearing joists, have the customary spacing of 16 in. on centers.

The horizontal lead waste from the lavatory is just below the space between the bearing joists. A long outlet lead P-trap for the tub is wiped to the vertical lavatory waste above the bend, the space between the bearing joists providing room for it. The lead waste and vent, with P-trap, stubs, and ferrules wiped in, is made up on the bench to provide a 2-ft. center to center spacing between the vertical waste and vent and the stack. Thus usually only one stud will have to be bored or notched to permit the passage of the horizontal vent.

The stubs for the lavatory and combination sink and tray are at the same elevation, which is 15 to 16 in. above the finished floor. The stubs should be branched into the vertical waste with a downward sweep. Long outlet lead P-trap is used to rough-in for the bathtub to save a joint.



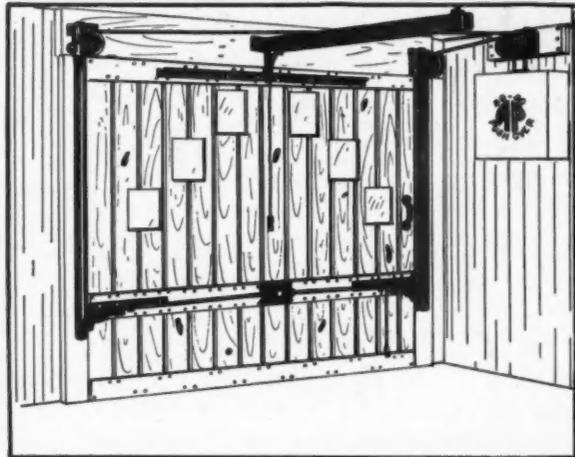
DETAILED drawing of rough plumbing layout for a one-family, one-story dwelling.



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1721-4 N. Salina St., Syracuse, N.Y.
Representatives in Principal Cities in U.S.A.

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We're working day and night! Uncle Sam has found out what you've long known: ALLITH products have what it takes—even in war time!

We can't promise you "all you want" of your favorite 50-50 PUSH-OVER garage door hardware sets—but we'll ship all we can.

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YOU WILL FIND **PECORA** **CALKING COMPOUND** **CHEAPEST IN THE END**

For war-time economy, you can save money for owners by including calking on all repair and alteration work. Calk around all exposed window and door frames and seal all building joints with PECORA, the time-tested compound. Stops leaks and drafts. Cuts fuel costs. PECORA will not dry out, crack or chip when properly applied. And you can save time and money on the job by using the handy High Pressure Calking Gun illustrated. Send for outfit today.



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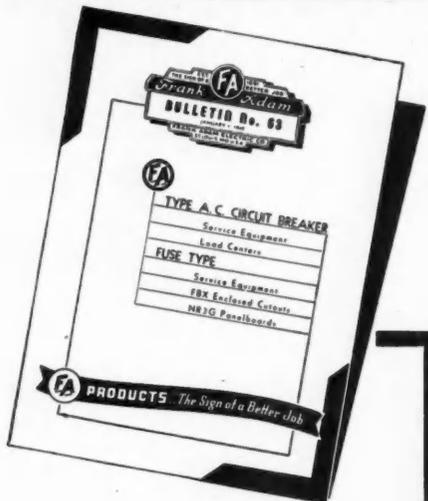


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 Established 1862 by Smith Bowen
 Fourth St. & Reading R. R. Philadelphia

ALSO MORTAR STAINS • SASH PUTTIES • ROOF COATING
 PECOMASTICS FOR STRUCTURAL GLASS INSTALLATION

Write for Bulletin 63 ...



IT WILL HELP YOU in the selection of Service Equipment... You'll find it valuable in the preparation of specifications for Service Equipment, Load Centers, Enclosed Cutouts and Panelboards... Both Type AC Circuit Breaker and Fuse Type Equipment are described — with dimensions, capacities, weights and prices... Write for your copy today.

Frank Adam
 ELECTRIC COMPANY
 ST. LOUIS

TRENDS in Home Equipment, Building Materials

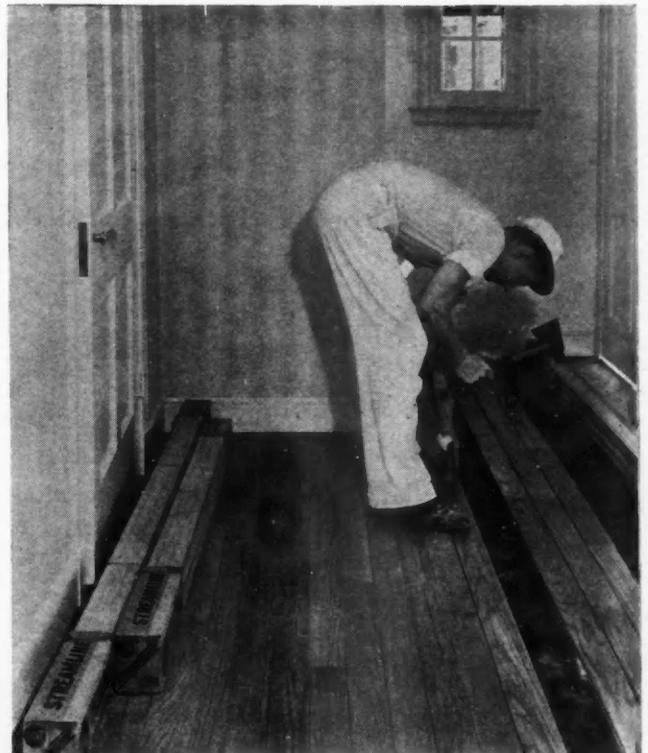
Prefinished Flooring Speeds War Housing

E. L. BRUCE CO., Memphis, Tenn., is finding that its "Streamline" of factory stained and finished hardwood flooring is filling the great need for speed in the present market. It is not only being used in regular home building but is also demonstrating that it fits ideally into the prefabricated housing program. As in the case of other elements in prefabricated house building, most of the painstaking, time-consuming operations on "Streamline" flooring are performed at the factory, under cover, and taking advantage of line production methods.

Hundreds of thousands of feet of "Streamline" flooring have been used in prefabricated houses for defense, as well as in the more expensive types of prefabricated houses for the general market. Because it is prefinished, and because its finish is tough and scratch-resisting—can be walked and worked upon by other trades—"Streamline" works equally well in any of the systems of prefabrication.

"Streamline" flooring is available in oak, maple or beech. This flooring is finished, waxed and polished at the factory by methods that give more beauty, longer life. It has slight bevels which produce a distinctive effect, facilitate installation, and insure the perfect appearance of the installed floor. It comes in 25/32" x 3 1/4", 1/2" x 2 1/2", and 3/8" x 2" for oak; beech: 25/32" x 3 1/4" and 1/2" x 2 1/2"; maple: 25/32" x 3 1/4" only.

Oak is finished medium shade; maple and beech are finished natural. The finish used on "Streamline" penetrates and seals the pores of the wood, keeps out dirt and grime. It resists scratching and marring, lasts for years without the need for refinishing. This finish is applied with special machines under controlled temperature and humidity conditions. (Although minimum Government specifications do not require it, "Streamline" flooring is filled, waxed and buffed, in addition to being sealed with a penetrating finish.) All this assures a finish that is perfectly uniform, superior in every respect to that produced by ordinary on-the-job methods.



WORKMEN like to install "Streamline."

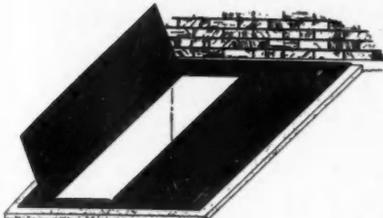
Protection for Openings

WITH ALL minds turning to air raid precautions, the protection value of steel shutters and cellar doors has come into new importance. A prominent supply source for these specialties

is the Cincinnati Iron Fence Co., Cincinnati, O. Two of its popular models are illustrated. The cellar doors are flush type, made with diamond checkered or plain plate, with angle iron frame, with a Tee iron bar at the hinge section, with underneath hinges, equipped with handle and padlock arrangement, and are painted black.

The shutters are made of plain sheet plate, with a flat stiffener all around, using a slamb bar, slide bolt and padlock arrangement, and are painted black.

PROTECTION for cellar and window openings.



New Window Has Wood Pulleys

SCARCITIES of metals because of the war are a headache to nearly every person in America, but what can be accomplished by real study of a tough situation has been amply demonstrated by research experts of the Andersen Corporation, window manufacturers of Bayport, Minnesota.

The Andersen standard double hung window unit, as manufactured for the past several years, contains 25 pounds of critical materials.

Today, after trying, testing and studying designs and materials for more than a year, Andersen research engineers have produced a new window containing less than 8 ounces of critical metals.

This new window operates freely and easily; it is thoroughly weathertight; and the same Andersen construction features which have made its metal-laden window a market leader in the past, have all been retained.

The new window, appropriately called the "Victory," is, in addition, a lower-priced product; thus it opens up new markets for the Andersen Corporation. Already there are strong indications that the new window will be used in many of the low-cost housing developments planned now to relieve housing shortages in industrial areas across the nation. In keeping with the determination of government officials and builders alike, this new window will provide sound construction without getting costs out of line.

In the "Victory" window, pulley wheels and pulley housings, formerly made of metal, are now made of treated wood. Pulley axles are made of Pyrex glass instead of steel. Sash cords are used in place of sash chains. Sash weights, formerly of cast iron, are now made of concrete composed of iron ore and cement.

This window employs an utterly new weatherstripping principle wherein the sash are automatically forced against the parting stop by a pressure-seal wood weatherstrip. Infiltration is effectively stopped, yet sash operation is free and easy at all times, and rattling is prevented.

In this new weatherstripping action, the fool-proof Andersen system of counterbalancing sash with weights is called on for a second important function. In the familiar counterbalanced window, these weights exert a vertical pull on the sash, but in the Victory window, this vertical pull is applied to movable pressure strips attached to the sash. By the use of diagonal action slots in these strips, the vertical force is converted to the horizontal pressure which moves the sash into positive sealing contact with the parting stop.

BOOST YOUR YARDAGE 30% to 40% FASTEST 3 1/2 S ON MARKET



Faster Than a Power Loader -- Merely Lift Gate to Charge Next Batch -- Load Hopper While You Mix and Discharge

Today's leading half bagger, Jaeger Drum gives more thoro criss-cross re-mix, faster discharge -- Syphon Water Tank is accurate, fast -- 3 1/4 H. P. Air-Cooled Engine is light, compact -- End Discharge Design is fast to trail, easy to spot and pour. Get Catalog and prices.

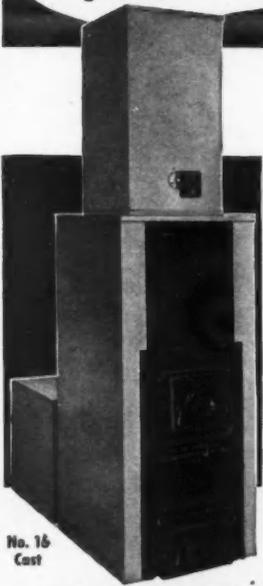


3 1/2 S HIGH SPEED TILTER TRAILER Also Non-Tilt Trailers up to 14S Size -- World's Biggest Selling Line.

THE JAEGER MACHINE CO.
521 Dublin Avenue Columbus, Ohio

JAEGER SPEEDLINE

SPECIALLY DESIGNED FOR DEFENSE HOUSES



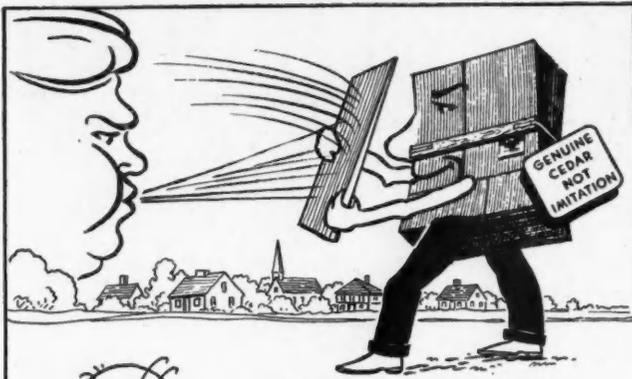
No. 16 Cast

★ Four new Moncrief heating units afford choice of forced air or gravity circulation, cast or steel heating element. Quality made, fine appearing, efficient. Sized and priced to meet defense housing specifications. Send for new illustrated circular.

Illustrated here is the new No. 16 forced air furnace with cast heating element. 60,000 B. t. u. capacity. Made also with steel heating element. Two other types also available.

THE HENRY FURNACE & FOUNDRY CO.
3479 E. 49th St. • Cleveland, Ohio

MONCRIEF CAST and STEEL FURNACES



The papers say "Defend the Right—
Defend what's good and true!"
I'll do my part with all my heart
And know that you will too!

We builders must supply the homes;
We'll do the job together,
Using Robert McNair Shingles
For Defense against the Weather.

* By actual test, a force of 85 pounds is required to pull a properly-applied McNair shingle from a roof! They stand the test in any weather.
See advertisement on pages Four and Five.

ROBERT McNAIR SHINGLE CO.
VANCOUVER, BRITISH COLUMBIA
"OVER 400 DEALERS TO SERVE YOU"

Last Call For EDWARDS METAL CEILINGS

For the duration we can accept no more orders for metal roofings, shingles, Spanish Tile or other sheet metal building materials unless accompanied by priorities. We still have a very limited amount of metal ceilings of attractive designs, already primed. Because these cannot be adapted to any defense uses, we are permitted to dispose of them without priorities.

In fairness to all, none of this stock can be reserved. First come, first served

THE EDWARDS MANUFACTURING CO.

543-562 Eggleston Avenue

Cincinnati, Ohio

Weatherseal Shingle Panels Speed Building

PREFABRICATION is the year's big news story in the construction field and developments under impetus of defense building are coming thick and fast. A recent step in this field is in exterior construction, or the prefabricated shingle panel which also combines another important development—a definite movement toward decentralizing prefabrication production.

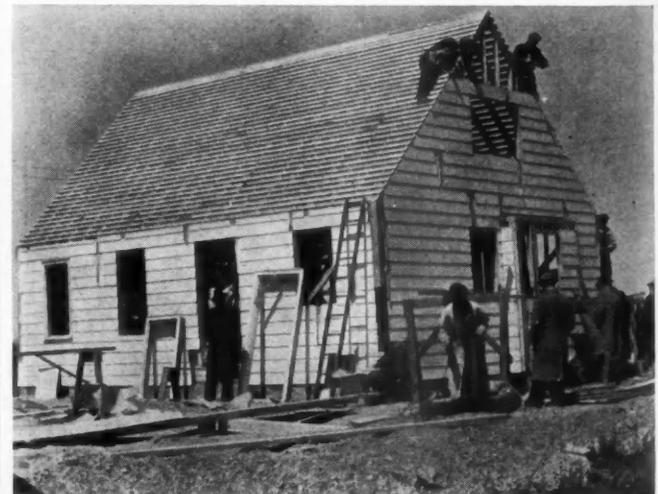
Marketed under the name of "Weatherseal Shingle Panels," this product provides a sturdy, convenient shingle siding, prefabricated into standard 2' by 8' panels ready for nailing to framing members. It combines three time-taking steps: application of insulating sheathing, provision of building paper, and final finish of shingles, all in a single operation.

Licenses are being granted throughout the country to responsible local building material operators to fabricate this new product in their own shops or yards.

Fabricators use standard stock materials—Insulite's Bildrite sheathing board and 16", 18" or 24" wood shingles. This licensed merchandising program thus provides a new personal fabricating service for builders and housing projects, affording savings in cost, speed and shipping delays.

Weatherseal panels are fabricated on specially designed benches, which may be built locally, to provide accuracy and precision in attachment of shingles to the sheathing panel. Specified nailing is engineered to provide tight butt adherence to the wall without danger of "shingle curl."

All nails are automatically clinched on the reverse side of the panel as they are driven. Overall panel dimensions are 2' by 8',



WEATHERSEAL shingle panels speed a Buffalo defense home; (above) C. W. KRAUS congratulates A. R. EXINER (left).



THE Weatherseal panel comes 2 x 8 feet and cuts erection time.

standard size of many popular sheathings. Shingles are of red cedar and the end and top joints are designed for simple finishing, presenting unbroken wall surface.

Weather conditions during construction time will not interfere with exterior wall construction as the panels are fabricated in the shop while framing proceeds on the job site. When framing is completed and window frames set, the entire outside wall is put on in one nailing operation. Because fabrication is done locally, relief is given the heavily taxed shipping facilities.

Weatherseal shingle panels were designed by C. W. Kraus of Buffalo, N.Y. Central Division Company, 221 N. LaSalle St., Chicago, is acting for the licensor in allocating local franchise to fabricate panels. Central Division Company was formed in 1939 by A. R. Exiner as a national sales and merchandising management. Mr. Exiner formerly was with Insulite as sales manager for its central division.

Celotex Offers Granule Surfaced Siding

TO HELP supply the demand for a satisfactory exterior wall surfacing material for emergency defense structures and other buildings, a new product named Celotex Granule Surfaced Siding



CORNER shown cut off to make clear inner structure of new Celotex siding.

has been introduced by The Celotex Corporation, Chicago. It is available in areas east of the Rocky Mountains. The new product combines the functions of insulation, sheathing and siding. Its rigid cane fibre insulating board core provides bracing strength and its weather-sealed mineral granule surface provides an attractive exterior facing. Thus the product combines sheathing material and siding or other surface finishes customarily applied over sheathing.

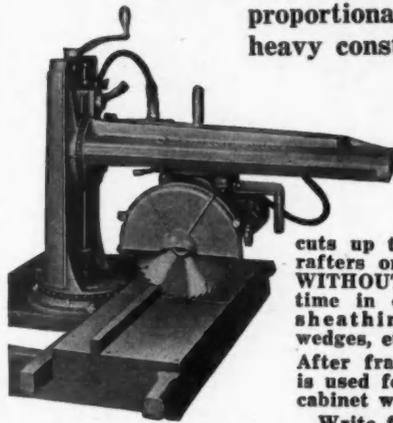
This new material comes $\frac{7}{8}$ inch thick, 2 feet wide and 8 feet long. Its cane fibre core is protected against termites and dry rot by the Ferox process.

The core is coated on all sides and edges with an asphalt compound. On the outside surface is an additional coating of asphalt into which mineral granules are firmly imbedded. The long edges of the boards have T&G joints. The product is applied directly over wood studs spaced 16 or 24 inches on centers. Four surface colors are available—brown, buff, red and green.

FOR SALE

SPEED—ACCURACY—PROFITS

When you buy The Wallace No. 1 Radial Saw you buy SPEED on the job—you buy ACCURACY in crosscutting, mitering, ripping, dadoing, routing, shaping, fluting, grooving, or cutting tile. You buy substantial PROFITS—\$75 to \$200 on small residential contracts, proportionately more on heavy construction.



THE WALLACE NO. 1 RADIAL SAW

cuts up to 4" material. Saws rafters on a production basis, WITHOUT marking. Also saves time in cutting studs, joists, sheathing, cripples, flooring, wedges, etc.

After framing is up, machine is used for making and fitting cabinet work and trim.

Write for latest bulletins.

J. D. WALLACE & CO.
136 S. CALIFORNIA AVE. CHICAGO, ILL.

There's Money for YOU in MODERNIZING Garage Doors



Restored with Stanley "Slide-Up" Hardware, "old-fashioned" doors will last a lifetime . . .



Every home owner is conservation-minded today, and you can cash in on it. Tell him how little it costs to transform his present "sag and drag" garage doors to one easily operated, modern, weather-resistant unit... just like reupholstering an old chair for extra service.

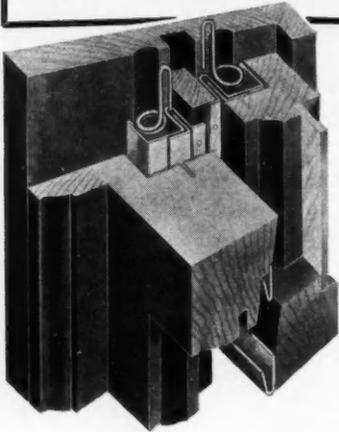
Stanley "Slide-Up" Hardware fits any pair of stock doors... easy to install... lasts a lifetime. Your hardware dealer can supply you, or, write for a descriptive folder. The Stanley Works, New Britain, Connecticut.

STANLEY

TRADE MARK

HARDWARE FOR CAREFREE DOORS

2-IN-1 COMBINATION SPRING BALANCE & WEATHERSTRIP



- Sash move easily
- Prevents all rattles
- Locks out air leaks, dust and moisture
- Permits use of narrow trim

Built To Last a Lifetime

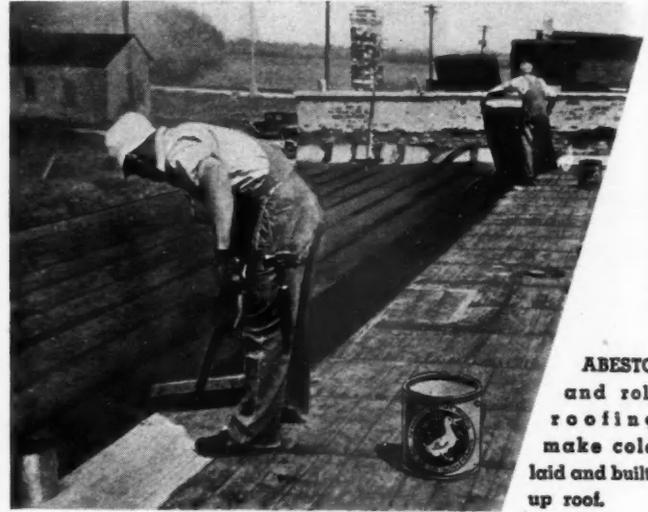
The Dorbin is a perfect two-in-one combination spring balance and weatherstrip for double hung windows. Positive coil spring counterbalance is completely enclosed with 9-gauge zinc housing which interlocks with the sash member, making a perfect weatherstrip. Zinc interlocking weatherstrips are furnished for meeting rails and rib strips for head and sill. Write for further information.

DORBIN METAL STRIP MFG. CO.
2410 S. Cicero Ave., Chicago, Ill.



Abesto Cold Built-Up Roofs

AN INTERESTING development in roofing materials is reported by Abesto Manufacturing Co., Michigan City, Ind. Its product, liquid Abesto, is applied cold, combining with smooth surface roll roofing to form a successful cold application built-up roof. The recommended method, as illustrated in the photo, utilizes plain roll roofing cut in 12-foot lengths, making a 20-inch lap and leaving 16 inches exposed to the weather. The cold liquid Abesto is spread with a squeegee, a very simple application.



ABESTO and roll roofing make cold laid and built-up roof.

"Fight" by Renewing Serviceable Life of Homes and Housing

BETTER side walls on many old houses will put them back into needed use in defense areas; and this can be done without the use of critical list materials. In offering its asbestos-cement siding, "Vitramic," The Ruberoid Co., New York City, points out that as there is no acute shortage in the basic raw materials used in the manufacture of asphalt shingles and roofings and asbestos-cement shingles and sidings, it has not been necessary to develop substitute materials and that, generally speaking, the featured products such as Timbergrain Asphalt Shingles and Vitramic Asbestos-cement Siding are available for defense housing construction, for remodeling and repairs and for farm buildings and remodeling.

The Ruberoid Co., in pioneering the manufacture of asbestos-cement siding, spent years in the research, study and development of Vitramic. It is a siding especially made for the purpose, strong and durable and permanently weatherproof and fireproof; cannot rot or disintegrate, is termite-proof and has

STRAIGHT UP — STRAIGHT OUT "INTERLOX" STAYS OPEN!

You can hold Master "Interlox" straight up or straight out. It can't slide shut accidentally!

This 6 ft. wood rule slides open and shut like a telescope — three times as fast as "zig-zag" rules. Gets all inside measurements direct in one operation and you read them direct (at red arrow)—no marking, adding, subtracting or remembering.

And in the long run, "Interlox" costs less to use because every stick is replaceable. Sticks are made of finest select white maple, finished with glass-hard, friction-proof lacquer. Joints and clips are solid brass.

Start enjoying this quality rule now. You'll do better work faster and more easily with "Interlox" Ask your hardware dealer or mail coupon today.

Read Inside Measurement Direct—at Tip of Arrow

Master Rule Mfg. Co., Inc.
Dep't. J-4, 815 E. 136th St., N. Y. C.

Enclosed find check, money order, cash for \$1.50 for which send one 6 ft. Master "Interlox" Wood Rule, postpaid.

Name _____

Address _____

City _____

State _____

MASTER

WOOD AND TAPE RULES



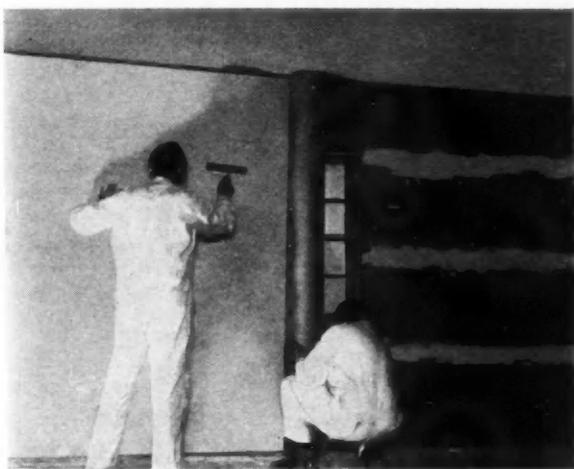
STAINLESS steel face nails are always used with "Vitramic" siding. These nails are of super rust-proof quality . . . the strongest rust-proof siding nails made.

a hard, white, non-porous vitri-ceramic surface fused on it. Made of asbestos rock fibres and portland cement, hydraulically compressed into dense, water-repellent, rigid slabs this material has an integral, vitri-ceramic armored outer surface that will not chalk, blister or crack off. It is equally adapted for use on new homes or for modernizing right over old sidewalls.

Bird & Son, Inc., Offers "Monacousec" for Walls and Ceilings

BIRD "MONACOUSEC" is a late addition to the extensive building materials line of Bird & Son, East Walpole, Mass. It is the newest type of dry wall construction by use of which seamless, quiet, attractively tinted walls are obtained without the customary delays and additional work. Bird "Monacousec" is a flexible sheet having a composition surface of durable plastic material which is a mixture of drying oils, wood flour and mineral colors, combined by calendering to a backing of felted fibres. It is a finished and decorated wall construction. It is commonly used over rigid wall base materials, such as gypsum board, plywood or insulating board. It is not merely a wall covering. It becomes an integral part of a complete and permanent wall construction.

It is made in the following widths, 88", 94" and 108", and packed in rolls up to ninety linear feet; it may be applied in such a way that an entire wall is covered with a single seamless sheet, thus avoiding the difficult joint treatment or panelling often necessary with dry wall constructions. It is furnished in several attractive shades, making further decorative treatment unnecessary. It is washable, and, when desired, it may be either painted or papered and has all of the desirable features of other permanent wall construction.



BIRD "Monacousec" is applied to walls horizontally over uncased openings, which (as illustrated below) are afterwards cut out, and the finish surface washed.

*not how cheap-
but how good!*



WILL WAR-TIME HOUSING PROVE A PEACETIME HEADACHE?

How to put **quality** in a low-cost home is the chief concern of builders who know the necessity of preserving their future equity in homes constructed now.

These homes can be **good** homes, healthful homes. VICTOR In-Bilt VENTILATORS are engineered for the most expensive home, yet priced for low-cost housing.



Note: In dry wall construction particularly, VICTOR In-Bilts serve a vital need. Let us lay the facts before you NOW!

VICTOR ELECTRIC PRODUCTS INCORPORATED

Dept. 1B-34 - 2950 Robertson Ave. - Cincinnati, Ohio



TECO Timber Trusses

The TECO Timber Trusses used on this 50' x 225' truck garage were assembled on the job and quickly hoisted into place by a gasoline crawler crane.

This is typical of many small jobs pictured in new, Free Book.

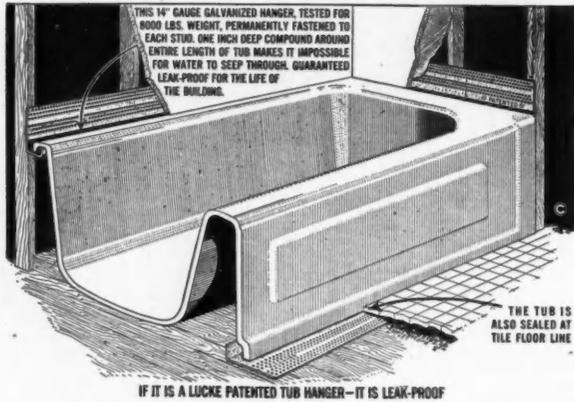
TIMBER ENGINEERING CO., Inc., Dept. H-4
1337 Connecticut Avenue, Washington, D. C.
Gentlemen: Please send me your FREE BOOK.
"New Jobs in Our Town That Can Best Be Built of Wood".

Individual _____
Firm _____
Street _____
City _____ State _____

MAIL COUPON

★ FOR DEFENSE AGAINST ★

- ★ Repair Expense
- ★ Leaks at Bath Tub edge
- ★ Cracks at Bath Tub edge
- ★ Bath Tub Settling



IF IT IS A LUCKE PATENTED TUB HANGER—IT IS LEAK-PROOF

INSTALL A LUCKE FOR PERMANENCE

There is no excuse for cracks, leaks or repair expense in good building—that is why LUCKE (the original Hanger) was designed. Leading Architects, Contractors, and Plumbers today use LUCKE to prevent expense and to guarantee leak-proof bath tub edges.

Sold by all leading Wholesale Plumbing Supply Houses.

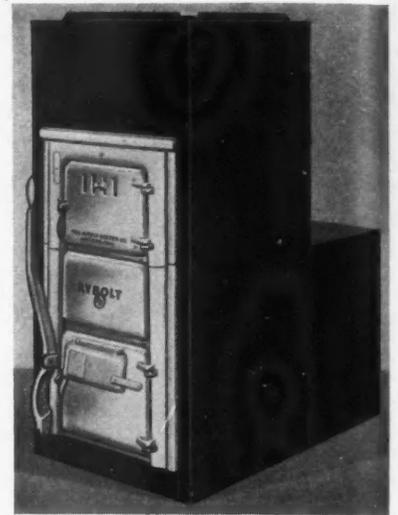
MANUFACTURED BY
WILLIAM B. LUCKE, INC.
514 EAST RAILROAD AVE.
WILMETTE, ILL.



Rybolt Forced Air Unit for Defense Housing

THE RYBOLT Heater Co., Ashland, Ohio, offers the Rybolt Series DH-70S winter air conditioner for the present war housing market. Its specifications are as follows:

1. 10 gauge steel heating element; 20 inches in diameter; height, 50 inches; welded construction.
2. Heating rating at bonnet in accordance with standard code, 71,000 B. T. U.'s.
3. Grate area 1.35 sq. ft.
4. Duplex dumping grate.
5. Heating surface approximately 2900 sq. in.
6. Standard Rybolt 110 blower, 10 3/4 inches diameter by 10 inches wide wheel.
7. 1200 CFM capacity at 560 RPM against 1/4 inch S. P.
8. 1/2 horse power Delco electric motor, long-houred duty with thermal load protection.
9. Heater cabinet 22 gauge steel enameled.
10. Shipping weight approximately 800 pounds.



RYBOLT defense housing heater.

Model Shows Piping for Radiant Heating

TO HELP Mr. and Mrs. America understand the advantages of floor type radiant heating is the purpose of this model house built by the A. M. Byers Company, Pittsburgh.

As shown in the picture, the model house, which is hinged at the back, raises to reveal a translucent Carrara glass floor with a glowing lucite reproduction of a complete hot water heating coil system showing through. Even the boiler itself is in its proper position in a first floor utility room, and a corner of the floor is cut away to indicate the poured concrete floor construction of a typical job.

A. M. Byers Company reports that the system is increasing in popularity daily and that some 400 installations are already reported. Much of its increased use is credited to word of mouth endorsement by enthusiastic home owners.



MODEL house tips up to show heating pipes in floor.

Red Devil For QUALITY

RED DEVIL NO. 30
TAKES 1/2 PINT
TO GALLON CANS



FRESH PAINT IS
FRESHER
WHEN YOU USE
Red Devil
PAINT CONDITIONER

—and RED DEVIL peps
up old paint to a new
freshness in 2 minutes—
1350 shakes a minute
—Cans and labels are
never marred.

Whether for your own
paint jobs, or stock car-
ried for resale, you should
own a RED DEVIL.

Write for Folder



RED DEVIL NO. 33
TAKES 2 TO 5
GALLON CANS

No. 024

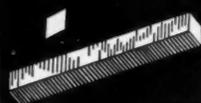
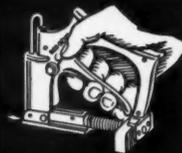


RED DEVIL PLATED GLASS CUTTERS

New standard handles on all modern-line models—perfect finger rest. Heavily plated—cutters literally glide along the rule. Long-life wheel, hard bronze axle. Pregreased. Rust proof.

DIAMOND POINT DRIVER

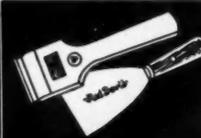
Automatic. Drives points
at machine gun speed
into hardest wood—from
any angle. Holds clip of
100 Diamond points.
Makes glazing easy.



DIAMOND POINTS
Made in 1/4" and 1/2" lengths,
100 to a stick. Will not
corrode. Can be driven in
to hardest wood without
bending. Best made for
sash, frames or mirrors.

TRIANGLE POINTS

Made of pure zinc and zinc
coated in 6 sizes. Handy
packages of 2 oz. to 1 lb.
with free driving tool.



WALL SCRAPERS PUTTY KNIVES WOOD SCRAPERS

Best in performance be-
cause they are best in
quality.



Send for Catalog
LANDON P. SMITH, INC.
IRVINGTON, N. J.





SPEED is the order of the day in Norfolk. Wages are good.

Norfolk Title VI Boom

(Continued from page 63)

The heating system usually consists of a gas or oil-fired floor furnace, although in some cases a compact unit is placed on the first floor in a closet or under the stairs. Since heavy freezing is not encountered, foundations are not carried down very far and the foundation walls permitted are rather light. Most of the new projects are on land in which water, gas and electricity are already easily available. As a rule, septic tanks are installed, and under the FHA Title VI requirements this means that the minimum lot size is 7,000 sq. ft. The usual practice is to place the houses on 60 x 120 ft. plots.

Thus far, financing of Title II and Title VI FHA homes has been done without difficulty. One of the mortgage firms that is doing a large volume of this type of work is Halperin and Company, formerly of New York. A large volume of FHA mortgages is being placed by this firm with Investors Syndicate. Construction loans are also being made on reasonably lenient terms.

The boom for Norfolk home building is just barely getting under way. But already there have been a large number of transactions in real estate which indicate a sharply rising market. One Long Island builder who got to Norfolk ahead of the rest is reputed to have made a quick \$30,000 profit by selling his land to later comers. So rapid has been the increase in activity that many of the local business men themselves are not yet aware of what is happening in their town. In fact, there has been some tendency by the more conservative financial elements to discourage too rapid expansion.

The most conservative in recent months, however, have come to realize that something must be done to accommodate the vast new worker population, and if private builders did not do it the government would have to.

An illuminating picture of what has happened in this area is given in the population figures. Norfolk City itself has increased from 144,300 in 1940 to 222,800 at the end of 1941. An additional 60,000 are expected this year.

The entire population of Norfolk, Portsmouth, Newport News and surrounding area has increased from 384,600 at the end of 1940 to 581,200 at the end of 1941.

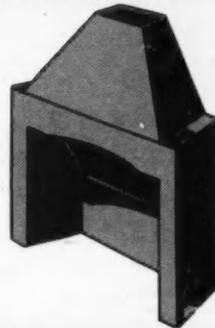
This 200,000 increase has resulted not only in great congestion in the cities but has forced many war workers to drive many miles to neighboring towns for a place to live. Numerous trailer camps have sprung up which your *American Builder* correspondent visited and which seemed to him conclusive proof of the need for more real homes.

There is considerable head shaking and worry among some business men as to the future of Norfolk following the housing expansion that is now getting started and will undoubtedly be continued for several years. Among those who have no fears in this respect is W. B. Shafer, Jr., Norfolk's dynamic one-man Emergency Housing Committee, who believes that the industries of the area will find a way to continue long after the present emergency and that decent housing will continue to be important. Shafer has done probably more than any other man in the city to advertise the need for housing and has even gone so far as to erect large billboards on acreage controlled by himself and associates, announcing "Boom Starting Here!"

GIVES YOU AN A-1
FIREPLACE JOB
IN EVERY HOME!



Yes Sir... the
HEATILATOR is a
FIREPLACE that you can be
sure is going to work properly.
And it CIRCULATES HEAT!



Drop a postcard today
for complete details.

HEATILATOR, INC.
914 E. Brighton Ave.
Syracuse, N Y.

HEATILATOR Fireplace



**GET ROOF ON
FASTER**

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—to multiply their *double* usefulness, scientific research has developed minimum standards of *toxic preservation*—a treatment devised to increase resistance against deterioration that might occur because of the many extremes of climate and temperature to which they are subjected, in their year-round service.

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FOR FURTHER INFORMATION SEE OUR CATALOG IN SWEET'S

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It is necessary to seal Nail Holes, Corners and Openings around Windows and Doors in order to provide a really Waterproof Job—Use Calbar Caulking Compound.
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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Manufacturers of Technical Products
2612-26 N. MARTHA ST.
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Universal Woodworker
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SLIDESA W • UNDERSLUNG
RIP SAW and JOINTER**

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A complete PORTABLE MILL that you can take right on the job and do all your rough and finish work.

JOINTING MITERING RIPPING DADOING ROUTING X-CUTTING SANDING BORING TENONING RABBETING MOULDING GRINDING



ACCURATE POWERFUL DEPENDABLE

The Master Woodworker Manufacturing Company

Established 1917

Brush and Fort

Detroit, Michigan

Change Civil War Relic into Apartments

(Continued from page 71)



VIEW showing opposite side of Dayton, Ohio, conversion; the outside stairway serves rear entrance to second floor apartment.

has three rooms downstairs, with three bedrooms, a study and a bath upstairs.

New pre-weatherstripped type of sash was installed and the building was repainted.

A Sunbeam heating system, as shown in broken lines on floor plan, with built-in blower and stoker and 22 heat risers is used for heating the three apartments. Two front apartments are outfitted with small electric refrigerators and gas stoves.

These apartments rent for \$40 a month each, which is rather a low rental, considering their modern facilities and general desirability. Total cost of changes ran approximately \$6,510 and break down roughly as follows:

| | |
|--|----------------|
| General construction (all changes, moving old partitions, wrecking three chimneys, enlargement of cellar, cement work, new addition to front)..... | \$4,000 |
| Built-in tubs and shower, fixtures, plumbing..... | 1,300 |
| Heating system..... | 810 |
| Wiring and fixtures..... | 270 |
| Screening, storm doors..... | 130 |
| Total | \$6,510 |

A Survey of War Building

(Continued from page 60)

7.1 billion dollars—an all-time high for public construction and an increase of almost 2 billion dollars over 1941.”

“Domestic construction of cantonments, air fields, naval stations and other military facilities will be close to 4 billion dollars this year, more than double the volume in 1941. Industrial and commercial buildings, mostly to expand our output of war goods, will take about 2.9 billion dollars as against 2.3 billion dollars last year. . . . Less essential construction will decline during the year as projects already under way are completed and controls are made more effective.”

“ . . . Most of this decrease will occur in nonfarm residential and nonresidential building. . . . This will not result in a corresponding reduction in total volume because of the increase in military construction.”

Whatever source or group of statistics are taken, the figure at the bottom of the column, when added up, is so large that all portions of America's vast construction army will be called on for all-out effort. Shifts in emphasis, changes in location, making the best of what is available, to be sure; but the same craftsmen, executives, laborers and professionals, plus whatever recruits will fill the ranks, these men will have to do the larger job of this year just as they did the good sized volume of 1941.

On & Off the Record

(Continued from page 61)

BUILDER SHORTAGE—In Portsmouth, Va., a night electrician at the Navy Yard has built 75 houses while still keeping his job. A farmer on the edge of town has put up more than a dozen houses, as a sideline. Many workers living in trailers have bought plots and are tacking on "permanent" additions. There is a shortage not only of building workers but of architects, surveyors and subcontractors.

ADD DEFENSE AREAS—In addition to Wahoo, Nebr., which we mentioned last month, some of the new defense areas announced include Sylacauga and Talladega in Ala.; Toccoa, Ga.; Pasquotank, N. C., and Chicago, Calif.

TIRE-LESS TRAILERS—The War Production Board informs us that the house trailer industry will produce 50,000 units this year—all of which are being directed by WPB to defense worker use. Biggest trouble is lack of tires. WPB says, however, that manufacturers are given enough tires to get the trailer to the site, where it is propped up on wooden blocks. Then the tires are taken back to the factory and used to deliver another unit. WPB hopefully adds that experiments are under way on wooden tires for use on wooden wheels.

LUXURY "REPAIRS"—Abner Ferguson's remark that home repairs "for luxury purposes" must be postponed for the war adds confusion to an already confused situation. A neighbor of mine, whose landlord threatens an increase in rent, wants to buy a house nearby. The house is a little small, however, and to accommodate the family he will have to enlarge one room about 8 ft. He anxiously wants to know whether it is "all right" to go ahead.

Well, Mr. Ferguson, is that a "luxury" repair?

There are ample supplies of lumber, roofing, paint, insulation and other basic building materials in the country. There is an ample supply of building labor—especially in nondefense areas, where many types of construction have been automatically curtailed by lack of metals. It is my opinion that modernization, repairs and improvements that do not use critical materials should not only be allowed but encouraged. And until someone in authority in Washington says contrarily, most builders will assume the same.

RENT CEILINGS—When Leon Henderson applied rent ceilings to some 20 communities, he referred to "inflated rents," "gouging" and "profiteering." Of course, there are undoubtedly some instances of landlords taking advantage of a tight situation. But where Henderson gets the basis for the ceilings established is hard to determine. As everyone knows, most real estate has been for years in a thoroughly deflated state, and even now is for the most part not paying returns on investment.

In one of the cities where ceilings were established, Birmingham, Ala., rents had risen 15 per cent. In that same town, however, food costs had risen 25 per cent; house furnishings, 20 per cent and the Bureau of Labor Statistics cost of living, 16 per cent. It would seem that rents were not out of line. Yet Henderson set the allowable rent increase figure at 6 per cent.

In Cleveland, the rent increase since March 1940 has been 8 per cent, whereas Henderson allows only 3 per cent. Yet food costs in Cleveland are up 23 per cent and the general cost of living index, 14 per cent. In Detroit, rents are up 10 per cent compared with a 15 per cent increase in the cost of living. Henderson sets the rent level at a 2 per cent increase over March 1940.

(Continued to page 126)

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End discharge
Air-cooled engine
Light weight
Welded construction

Anti-friction bearings
Spring mounting
High speed trailing
Write for Bulletin AB

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PORT WASHINGTON . . . WISCONSIN

MAKE BIG MONEY With This AMERICAN FLOOR SANDER



You can be your own boss and make big money with this American floor sanding machine. When new building is slow there is a large amount of work to be done in remodeling and modernization. Every time a partition is moved a floor re-surfacing job can be had.

Investigate the wonderful possibilities of this work today. Be sure to sign and send in the coupon below for complete details and prices—no cost or obligation to you.

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Send complete free details on how I can make big money with an American floor surfacing machine—no obligation.

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ALL-OUT-PROOF
Anchors

In tile, marble, slate, mosaic, brick and wood furring.

You not only save time and effort with these handy PAINE Anchors, but protect yourself against costly wall fractures. These anchors expand uniformly as screw is tightened assuring a firm grip. Fig. 954—Fiber Type and Fig. 950 Lead Type. Your Hardware Dealer can supply 950 you.

THE PAINE CO. 2999 Carroll Ave. Chicago, Illinois
New York Warehouse & Sales: 48 Warren St. Fig. 950

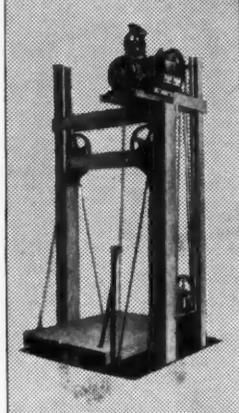


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SAVE MONEY by reducing labor costs,
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WARREN-KNIGHT TRANSIT-LEVEL

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Transit-Level
No. 38-b
\$160.00
Made also without compass
and are at lower prices.
Prompt Delivery



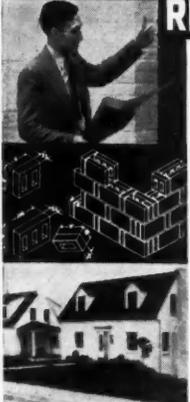
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WE CAN STILL EQUIP YOU with manufacturing machines enabling you to make permanent, attractive building material in many sizes and wide range of colors. Arrange to supply your building trade with this proven material offering permanent construction at price level of good frame.

WRITE TODAY. Learn about this exclusive opportunity by sending for Free Book.

W. E. DUNN MFG. CO.
450 W. 24th St., Holland, Michigan



On & Off the Record

(Continued from page 125)

The danger of freezing rents is that people will no longer trouble to conserve space, landlords will not bother to fix up new quarters and builders will fear to erect new houses. Then when private building is stagnant and the situation gets serious, public housers will clamor that the government must socialize the housing field and do all of the building because private industry has failed to function.

Prefabrication Rushed with Power Tools

(Continued from page 80)

tacked over the adjoining shingles of the same course; later they are nailed into place as the roof is assembled. Gable ends are made up in single units except for the peak which contains the ventilating louver (see illustration showing these and wall sections as they are built in the plant carried vertically on an assembly line track).

All windows are in place, hardware attached, screens, and even window shades fitted. The interior walls of the principal rooms are decorated with Sanitas wall covering; in the few places where wall sections join, this wall covering is turned back from the panel edges for a few inches and enough material has been left so that after the sections have been assembled, paste is applied, the material lapped, and cut with a razor edge to give a perfect seam.

In the schedule for erection covering eight days, the sequence is as follows: First day, house erected; 2nd day, interior doors hung, house trimmed on inside, painter working in kitchen; 3rd day, painter working outside, heating plant installation begun; 4th day, plumber begins connecting; decorator through inside house; 5th day, carpenter through; wiring commenced; basement floor laid; 6th day, linoleum laid in kitchen and bath; 7th day, furnace installed, fixtures installed, job cleaned up; 8th day, final FHA inspection; owner gets possession.

The plant where these homes are manufactured was formerly a lumber yard. With some changes and additions, it provided an ideal setup for prefabrication and many of the production facilities such as tables, jigs, carriers, etc., as devised by Mr. O. Gerbitz, plant superintendent, have attracted a large number of visitors and considerable attention.

Throughout GBH-Way homes, standard materials have been used including such items as Kimsul, Douglas fir plywood, Kolorite and Bird shingles, and fir gutters. From neither the interior nor exterior is there any indication that these houses are other than conventionally built; they are well planned and well specified—the type of home any small family would be proud to own.

How to Sell Homes in Wartime

(Continued from page 79)

elsewhere, I cannot advise too strongly that you buy now. Fine homes cost less than they will next month, or next year, or perhaps even five years from now. Remember, no more homes of this character can be built. And the number available is rapidly dwindling."

There is an interesting story behind the Williams-Harter advertising program which is worth telling. It involves a letter written by Walter J. Harter, which actually sold a home. Here is the chronological record of the exchange of correspondence between Harter and the ultimate buyer:

"Elmhurst, N. Y., January 9, 1942

"Dear Mr. Harter:

It is with extreme regret that I advise you of my final decision,—not to buy any house at the present time. I deeply appreciate your efforts in my behalf.

Yours very truly,"

(Signed) John Smith.

"Port Washington, N.Y., January 10, 1942
 "Dear Mr. and Mrs. Smith:

Under usual circumstances I would, while somewhat disappointed, accept your letter of January 9th as a final decision and let matters, as you mention, drop for the time being; but because of our several visits I rather feel both Mrs. Smith and yourself as friends; and I hesitate to accept your decision. I feel that you have made it principally because of present day conditions, of economic nature, and that conditions are so unsettled, what with a war on and all, it would be better to keep all of your assets intact and postpone this house business until things reached a more normal state.

If I am guessing correctly, it would appear that such reasoning is debatable and with the wealth of data I have at my command—information you could have, I feel sure I can set aside such feelings and have you know as thousands do—that now is the time to buy, also a time to sell. Markets will always fluctuate. Don't let this house urge be set aside pessimistically, rather capitalize and make your future investment as safe as anything in the world—after all, our homes are truly our second line of defense, for now and the future it is basically America's only foundation.

Why don't we do it this way. We are building a new series at once—new designs and plans. I have one that I think will fit you all beautifully. It will be three months before it is finished. Let us go over it carefully and build it as an individual thing for you. It then would be to your ideal—your every wish and individualities would be expressed therein. It is the very smart way to have a new home and will set that lease matter at rest. You will co-operate with us—choosing decorative treatments and all. Many have done it with us and we have most certainly in them ultra-satisfied clients.

Life will go on and so will business—your part and mine is to meet our futures foursquare, and plan to believe in ourselves. Life in the years to come will be more than ever in true relation to our abilities to do the right thing now. The decisions we make today, if made honestly, will stand the acid test no matter what.

Generations long since thought to produce our present world as a better place. We now are passing through a dark period. It too will pass and as dawn approaches, you and I in our respective homes can look high with satisfaction and gratification that our sweat has given us much more than a little bank book.

Sincerely yours,
 (Signed) W. J. Harter."

"Elmhurst, N. Y., January 13, 1942.

"Dear Mr. Harter:

I don't know when I better enjoyed a letter, nor when I received more encouragement than was contained in yours of yesterday.

You know, and I know, that we want a home,—not only a patch of ground and a structure, but something that's been planned, and thought of, and which will endure. Without a doubt that is America's Second Line of Defense, and with that line held, there can be no question of the future however long and rough the sledding may be.

We shall visit you at your office next Sunday morning about 10:15 unless I hear from you to the contrary.

Most sincerely yours,
 (Signed) John Smith."

"Elmhurst, N. Y., February 12, 1942.

"Dear Mr. Harter:

Commencing this Sunday February 15th,—and until we finally take occupancy on March 1st,—I'd like to make deliveries to my house: pictures, china, etc., and I'm wondering if you could have the little odds and ends jobs finished before Sunday?

Also, will you please see that someone removes the sale sign that was still in the living room yesterday afternoon?

Yours very truly,
 (Signed) John Smith."

MAKE YOUR SCREEN DOORS LAST LONGER WITH . . .

KEES SCREEN DOOR GUARDS

(Adjustable Push-Bars)

Wire screen cloth is scarce . . . so do your part for victory. Make yours last longer with Screen Door Guards. Get free catalog. Write today.



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You'll find Kees hardware in cantonments, defense housing, munitions plants, and in army equipment. Subject to stock available, we're still supplying our regular products through retail hardware and building material dealers.

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BOX 93

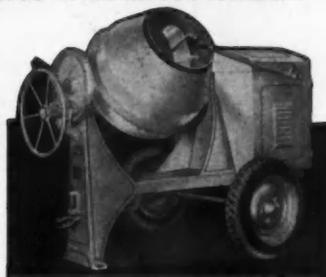
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Office and Factory 3411 SPRING GROVE AVE. CINCINNATI IRON FENCE CO. Inc. CINCINNATI, OHIO

4 Coats of Paint

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does a wallpaper job without using wallpaper
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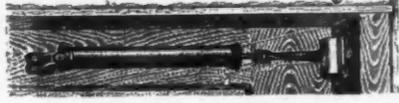
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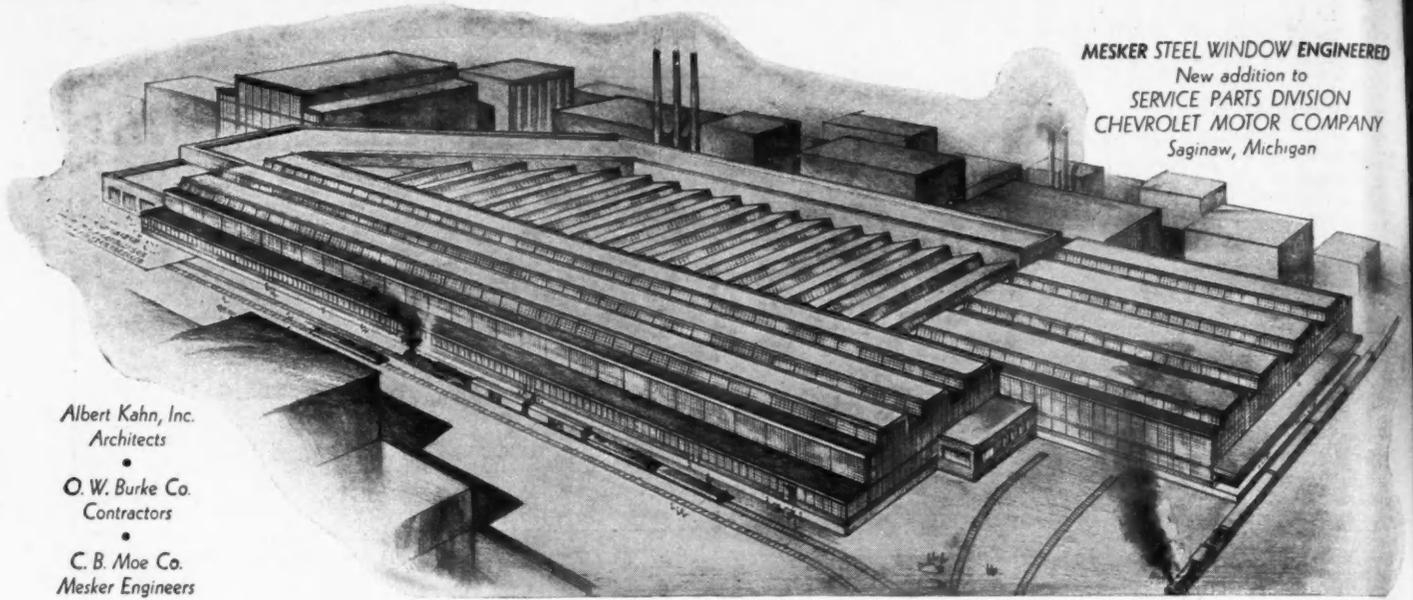
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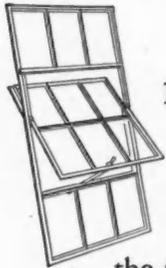
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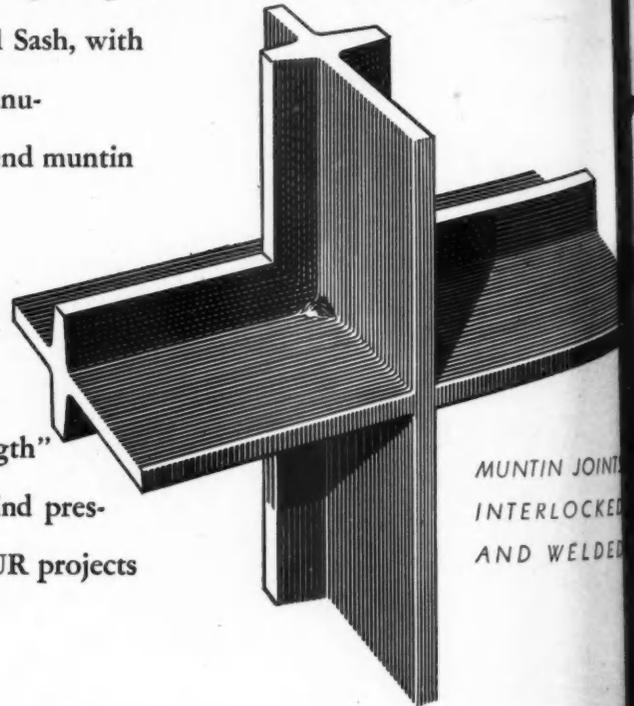
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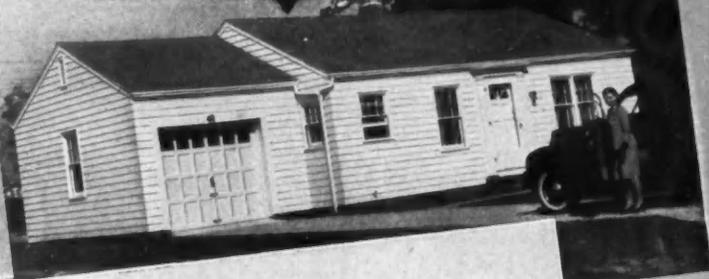
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**I ALWAYS
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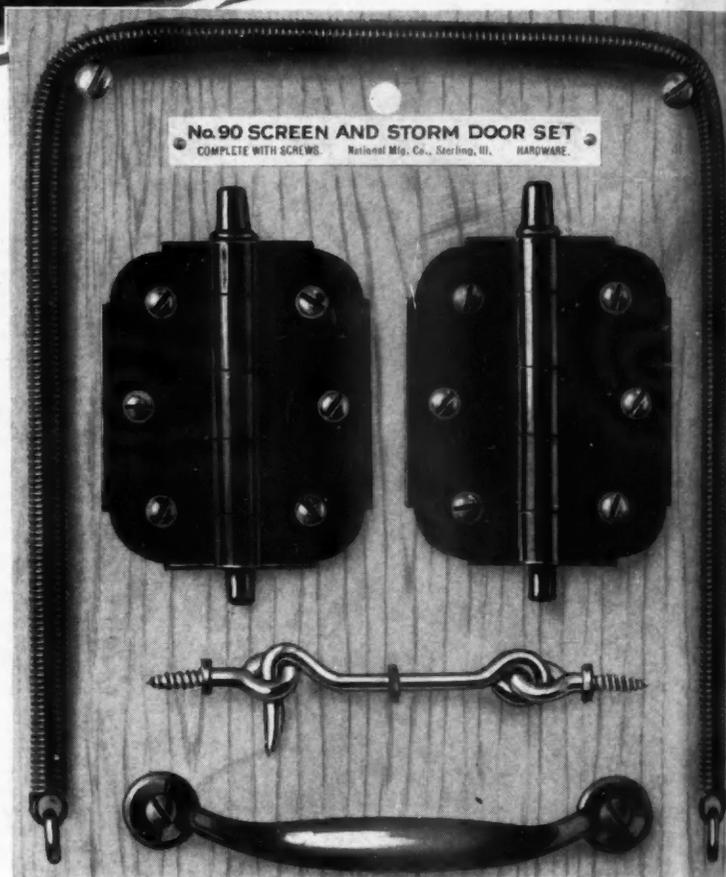
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